

Space Activities in 2023

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- Rev 1.0 - initial release
- Rev 1.1 - reclassified SARah as defense, not commercial
- Rev 1.2 - Moved some satellites from Tab4 and App 2(a) to App 2(b)
- Rev 1.3 - Minor typo (2022->2023 on p56)
- Rev 1.4 - Electron launched TROPICS satellites should count as 'Gov' customer in Table 3.
 - Added some GEO retirements

Preface

In this paper I present some statistics characterizing astronomical activity in calendar year 2023. In the 2014 edition of this review [1], I described my methodological approach and some issues of definitional ambiguity; that discussion is not repeated here, and it is assumed that the reader has consulted the earlier document, available at <https://planet4589.org/space/papers/space14.pdf> (The present work may be found as *space23.pdf* at the same location).

Most of the data in this paper is derived from my General Catalog of Artificial Space Objects [2]. Principal sources for orbital data are Space-Track [3], Celestrak [4], Mike McCants’ hobbyist elements [5], and the United Nations [6].

1 Orbital Launch Attempts

1.1 Launch statistics by country

During 2023 there were 223 orbital launch attempts from Earth, with 212 reaching orbit. This does not include several missile flights from North Korea which were suborbital but reached orbital energy, and to which I assigned launch designations 2023-U01 to 2023-U03.

Table 1(a) gives statistics for all orbital attempts; Table 1(b) includes only launches that reached orbit.

Table 1: (a) Orbital Launch Attempts

	2016	2017	2018	2019	2020	2021	2022	2023
USA	22	29	31	21	37	45	78	109
Russia	17	19	17	22	12	16	21	19
China	22	18	39	34	39	56	64	67
Europe	11	11	11	9	10	15	6	3
<i>North Korea</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>3</i>
<i>India</i>	<i>7</i>	<i>5</i>	<i>7</i>	<i>6</i>	<i>2</i>	<i>2</i>	<i>5</i>	<i>7</i>
<i>Japan</i>	<i>4</i>	<i>7</i>	<i>6</i>	<i>2</i>	<i>4</i>	<i>3</i>	<i>1</i>	<i>3</i>
<i>Iran</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>1</i>	<i>2</i>
<i>South Korea</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>1</i>	<i>2</i>
<i>Israel</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>1</i>
<i>New Zealand</i>	<i>0</i>	<i>1</i>	<i>3</i>	<i>6</i>	<i>7</i>	<i>6</i>	<i>9</i>	<i>7</i>
Other	13	13	16	16	16	14	17	25
Total	85	90	114	102	114	146	186	223

Electron is licensed in the USA but launched from New Zealand territory by the New Zealand subsidiary of the US-headquartered Rocket Lab. Electron rocket stages are registered with the UN by New Zealand. (see, e.g. [7].) I go back and forth on this, but for now I consider Electron to be a New Zealand launch of a US-manufactured rocket.

Table 1: (b) Launches Reaching Orbit

	2016	2017	2018	2019	2020	2021	2022	2023
USA	22	29	31	21	34	43	76	104
Russia	16	18	16	22	12	16	21	19
China	21	17	38	32	35	53	62	66
Europe	11	11	11	8	10	15	5	3
<i>North Korea</i>	1	0	0	0	0	0	0	1
<i>India</i>	7	5	7	6	2	1	5	7
<i>Japan</i>	4	6	6	2	4	3	0	2
<i>Iran</i>	0	0	0	0	1	0	1	1
<i>South Korea</i>	0	0	0	0	0	0	1	2
<i>Israel</i>	1	0	0	0	1	0	0	1
<i>New Zealand</i>	0	0	3	6	6	5	9	6
Other	13	11	16	14	14	9	16	20
Total	83	86	112	97	105	136	180	212

1.2 Launch failures and uncataloged orbital launches

During the year there were 11 orbital launch failures. In general I award partial success scores to launches which reach orbit but do not successfully deploy their payloads in the targeted orbit; there was one such case this year.

By a historical quirk, the ‘international designations’ for successful orbital launches are assigned by the US Space Force. I assign special designations for those launches not cataloged by the US. Launches that are marginally orbital or fall just short of orbital are given ‘U’ designations. Launches that completely fail to reach orbit are assigned ‘F’ designations; for details, see GCAT [8],[9]. Four North Korean suborbital missile launches had trajectories whose energy was comparable to orbital flights and they are assigned designations 2023-U01 to 2023-U04; they are not included in the count of orbital launches.

Table 2: F and U launches in 2023

Table 2 (a): 2023 orbital launch failures and partial failures						
Designation	Date	LV Stage	LV	Payload	Type of failure	Launch Score
2023-F01	Jan 9	USA	LauncherOne	Start Me Up	Stage 2 failure	0.00
2023-F02	Jan 10	USA	RS1	Varisat 1A/1B	Stage 1 failure	0.00
2023-F10	Mar 4	Iran	Qaem-100		Unkown failure	0.00
2023-F03	Mar 7	Japan	H3-22S	ALOS 3	Stage 2 attitude failure	0.00
2023-F04	Mar 23	USA	Terran 1	GLHF	Stage 2 failure	0.00
2023-F05	Apr 20	USA	Starship V1.0	Ship 24	St 1 sep failed	0.00
2023-F06	May 30	North Korea	Cheonlima-1	Manligyeong-1 F1	Stage 2 failure	0.00
2023-F07	Aug 23	North Korea	Cheonlima-1	Manligyeong-1 F2	Stage 3 accidental destruct	0.00
2023-F08	Sep 19	New Zealand	Electron	Capella 12 Acadia	Stage 2 electrical arc	0.00
2023-F09	Sep 21	China	Gushenxing 1	Jilin-1 GF04B	Stage 1 failure	0.00
2023-F11	Nov 18	USA	Starship V1.0	Ship 25	St 2 underburn,destruct	0.00
2023-202	Dec 22	USA	Firefly Alpha	Tantrum	St2 failed to restart	0.40
Table 2 (b): 2023 other additional launch designations						
Designation	Date	LV Stage	LV	Payload	Type of launch	Launch Score
2023-U01	Feb 18	North Korea	Hwasong-15	-	Orbital energy	1.00
2023-U02	Mar 15	North Korea	Hwasong-17	Missile 09151775	Orbital energy	1.00
2023-U03	Jul 12	North Korea	Hwasong-18	-	Orbital energy	1.00
2023-U04	Dec 17	North Korea	Hwasong-18	-	Orbital energy	1.00

1.3 Commercial Launches

Of the 223 orbital launch attempts: 78 were carried out by governments; 13 by commercial companies under contract to their host governments, and 132 by commercial companies for commercial customers, including foreign governments.

I count US Commercial Cargo and Crew flights as ‘under contract to host government’; although the launch contract is through a commercial intermediary, the choice of vehicle is negotiated as part of a government contract.

In this table Rocket Lab is counted as a US launch provider, although in other contexts I count the New-Zealand-based launches as belonging to New Zealand, consistent with the UN registration documents.

Here G = Government; CO = Commercial operation of government developed rocket; CG = commercial service provision to government; CX = Fully commercial service (but customers may include govt); C = Fully commercial (no govt involved); A = Amateur, academic, non-profit. See the 2014 document for full discussion; in 2022 the letter codes were altered to the current list and are now used in the online GCAT launch database.

Table 3: Commercial vs. government launches

Launch Provider	Launches	Type	Customers		
			Gov.	Comm.	Other gov
US Launch Providers					
ABLSS RS1	1	C	0	1	0
BOE Delta 4	1	CG	1	0	0
FFLY Alpha	2	C	0	2	0
LM Atlas V	2	CG	1	1	0
NGIS Antares	1	CX	0	1	0
RELSP Terran	1	C	0	1	0
RLAELB Electron	9	C	2	7	0
SPX Falcon 9	91	CX	2	86	3
SPX Falcon Heavy	5	CX	3	2	0
SPX Starship	2	C	0	2	0
VORB Launcher One	1	C	0	0	1
European Launch Providers					
AESP Ariane 5	2	CO	2	0	0
AESP Vega	1	C	0	0	1
Russian Launch Providers					
KHRO Proton	2	G	2	0	0
MORF Soyuz	7	G	7	0	0
ROSK Soyuz	10	G	10	0	0
Chinese Launch Providers					
CALT	1	G	1	0	0
CALT CZ-11	2	G	2	0	0
CALT CZ-2C	6	G	6	0	0
CALT CZ-2F	3	G	3	0	0
CALT CZ-3	5	G	5	0	0
CALT CZ-5	1	G	1	0	0
CALT CZ-7	3	G	3	0	0
CASIC KZ-1A	5	C	0	5	0
CZHJ JL-3	1	C	0	1	0
LANDSP Zhuque-2	2	C	0	2	0
SAST CZ-2C	3	G	3	0	0
SAST CZ-2D	13	G	13	0	0
SAST CZ-4	7	G	7	0	0
SAST CZ-6	3	G	3	0	0
TIANB TL2	1	C	0	1	0
XIDO Gushenxing-1	7	C	0	7	0
XIDO KZ-1A	1	C	0	1	0
XJRY SQ-1	2	C	0	2	0
ZKYT ZK-1	1	C	0	1	0
Other Launch Providers					
ADD ADD TV2	1	G	1	0	0
IRGC Qaem-100	1	G	1	0	0
IRGC Qased	1	G	1	0	0
ISA Shavit	1	G	1	0	0
ISRO GSLV3	1	G	1	0	0
ISRO PSLV/GSLV	1	G	1	0	0
ISRO SSLV	1	G	1	0	0
JAXA H3	1	G	1	0	0
KARI KSLV2	1	G	1	0	0
MHI H-II	2	CG	2	0	0
NADA Cheonlima	3	G	3	0	0
NSIL GSLV3	1	CO	0	1	0
NSIL PSLV/GSLV	3	CO	0	0	3
Total	223		91	124	8

2 Satellite Launch Statistics

2.1 Satellites of the major space powers

Here I give total payloads (1) launched (Table 4) and (2) deployed (Table 5). Some satellites launched in previous years (e.g. to the ISS) were not deployed until 2023.

The 8 ANDESITE Node satellites launched in 2019 attached to the ANDESITE satellite [10] have not been deployed. Neither has the second DRUMS Target nor the CAS-5B amateur radio satellite, as far as I can tell.

Not included are satellites which did not reach orbit due to launch failures.

Also not included in the count, but listed at the end of Appendix 2c, are several objects which are marginal cases.

Note that the correlation of specific satellites from a multi-satellite launch with specific catalog numbers (and thus, tracked objects) is uncertain in some case. This is indicated in the appendices with a question mark following the piece (international) designation.

Table 4: Payloads launched per year

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Russia	34	27	15	24	23	31	22	20	50	67
USA	110	112	94	282	303	281	974	1237	1939	2232
China	26	44	40	36	97	73	74	111	182	211
Europe	28	23	22	42	60	50	134	357	187	252
Other	63	31	50	60	84	64	59	99	127	149
Total	261	237	221	444	567	499	1263	1824	2485	2911

The 2897 satellites listed here and in Appendix 2b as having been deployed during 2023 include some satellites launched in previous years and deployed in 2023.

Table 5: Payloads deployed per year

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Russia	34	27	14	25	23	29	22	19	50	67
USA	96	106	105	288	188	366	985	1234	1943	2233
China	25	44	40	36	95	74	72	113	181	210
Europe	28	23	21	43	57	50	135	355	184	243
Other	57	31	44	65	83	63	58	93	122	144
Total	240	231	224	457	446	582	1272	1814	2480	2897

2.2 Satellite ownership by country

I now break this down by class for 2023 (first the launch powers, then other countries).

In 2023 the satellites deployed were owned by 53 countries.

In general I consider western Europe, loosely defined, as a single 'space power' because of the tight integration of its aerospace industry. Within this view, the four leading space powers are USA, China, Russia and (W) Europe. The second tier of space powers is comprised of Japan and India; all others are lumped as 'Other', further broken down regionally (and arbitrarily) for convenience. The 'Other' powers have limited or no launch capability of their own. (South Korea and Canada have space industries that make them candidates for the second tier in the near future). Countries which owned satellites covered in previous editions of the report are included in the table even if they had no new satellites this year.

Table 6: 2023 payloads launched by owner country and class

		A Academic/ NonProfit	B Business/ Commercial	C Civil	D Defense	SS Spaceship	Total Number
USA		10	2167	5	43	7	2232
China		7	135	24	42	3	211
Russia		21	25	5	10	6	67
E	Spain	3	9	2	0	0	14
F	France	1	7	2	1	0	11
L	Luxembourg	1	12	0	0	0	13
NL	Netherlands	0	2	2	0	0	4
DK	Denmark	1	1	0	0	0	2
FI	Finland	0	10	0	0	0	10
I	Italy	1	20	0	0	0	21
UK	UK	0	151	0	0	0	151
CH	Switzerland	0	4	0	0	0	4
I-ESA	ESA	0	0	3	0	0	3
N	Norway	0	0	1	0	0	1
MC	Monaco	0	1	0	0	0	1
D	Germany	3	6	1	2	0	12
B	Belgium	0	2	0	0	0	2
AT	Austria	1	0	0	0	0	1
S	Sweden	0	1	0	0	0	1
IE	Ireland	1	0	0	0	0	1
Europe (W)		12	226	11	3	0	252
Japan		7	3	5	1	0	16
India		1	1	7	0	0	9
PL	Poland	0	2	0	0	0	2
BGN	PR Bulgaria	0	2	0	0	0	2
UA	Ukraine	1	0	0	0	0	1
CZ	Czech Republic	1	1	0	0	0	2
HU	Hungary	1	1	0	0	0	2
RO	Romania	2	0	0	0	0	2
LT	Lithuania	0	2	0	0	0	2
BY	Belarus	1	0	0	0	0	1
Europe (E)		6	8	0	0	0	14
UY	Uruguay	0	12	0	0	0	12
BR	Brazil	0	2	0	0	0	2
CO	Colombia	0	0	0	1	0	1
AR	Argentina	0	3	0	0	0	3
MX	Mexico	1	0	0	0	0	1
Latin America		1	17	0	1	0	19
TR	Turkey	0	8	2	0	0	10
IL	Israel	2	2	0	1	0	5
KW	Kuwait	1	0	0	0	0	1
UAE	UAE	1	0	2	0	0	3
EG	Egypt	0	0	1	2	0	3
I-ARAB	ARABSAT	0	1	0	0	0	1
IR	Iran	0	0	0	1	0	1
Middle East		4	11	5	4	0	24

		A Academic/ NonProfit	B Business/ Commercial	C Civil	D Defense	SS Spaceship	Total Number
SG	Singapore	5	4	0	1	0	10
TW	Taiwan	3	2	1	0	0	6
KR	South Korea	0	5	4	2	0	11
PH	Phillipines	0	0	2	0	0	2
ID	Indonesia	0	1	0	0	0	1
MY	Malaysia	0	2	0	0	0	2
T	Thailand	0	1	1	0	0	2
KP	North Korea	0	0	0	1	0	1
AM	Armenia	1	0	0	0	0	1
Asia (other)		9	15	8	4	0	36
KE	Kenya	0	0	1	0	0	1
DJ	Djibouti	0	0	1	0	0	1
Africa		0	0	2	0	0	2
Canada		10	8	0	0	0	18
AU	Australia	1	10	0	0	0	11
Australasia		1	10	0	0	0	11
Total		89	2626	72	108	16	2911

Table 7: Mass (tonnes) of 2023 payloads launched by owner country and class

		A Academic/ NonProfit	B Business/ Commercial	C Civil	D Defense	SS Spaceship	Total Mass (tonne)
USA		0.0	1059.3	2.7	26.8	93.4	1182.2
China		1.2	9.6	29.4	52.6	29.4	122.3
Russia		0.1	0.3	10.2	25.1	44.0	79.7
F	France	0.0	0.2	0.0	3.6	0.0	3.8
L	Luxembourg	0.0	7.3	0.0	0.0	0.0	7.4
I	Italy	0.0	1.6	0.0	0.0	0.0	1.6
UK	UK	0.0	32.1	0.0	0.0	0.0	32.1
I-ESA	ESA	0.0	0.0	7.9	0.0	0.0	7.9
D	Germany	0.0	0.0	3.4	3.6	0.0	7.0
Europe (W)		0.0	42.5	11.4	7.2	0.0	61.1
Japan		0.1	0.2	3.4	1.5	0.0	5.2
India		0.0	0.1	7.8	0.0	0.0	7.9
Europe (E)		0.0	0.1	0.0	0.0	0.0	0.1
BR	Brazil	0.0	4.5	0.0	0.0	0.0	4.5
Latin America		0.0	5.0	0.0	0.0	0.0	5.0
EG	Egypt	0.0	0.0	0.3	0.7	0.0	1.0
I-ARAB	ARABSAT	0.0	4.5	0.0	0.0	0.0	4.5
Middle East		0.0	4.6	1.2	1.0	0.0	6.8
SG	Singapore	0.1	0.8	0.0	0.4	0.0	1.2
KR	South Korea	0.0	0.1	0.2	0.8	0.0	1.1
ID	Indonesia	0.0	4.6	0.0	0.0	0.0	4.6
Asia (other)		0.1	5.5	0.9	1.4	0.0	7.8
Africa		0.0	0.0	0.0	0.0	0.0	0.0
Australasia		0.0	0.6	0.0	0.0	0.0	0.6
Total		1.6	1128.0	67.0	115.5	166.8	1478.9

2.3 Satellite manufacture by country

Most countries build only very small (cubesat) satellites, purchasing their larger satellites from one of the main space powers. Here I tabulate the manufacturers of the 26 satellites launched in 2023 with estimated launch masses of 100 kg or more.

HSF is 'Human spaceflight', including related robotic missions such as cargo ships to support ISS. 'Surv.' is surveillance, including early warning and space debris surveillance; visible and radar imaging recon satellites and weather sats are under 'Imaging'. Microgravity research, geodesy and planetary probes are included under Sci (Science). Satellites built in the UK, France, Germany, Italy, Spain and the Netherlands are lumped together as 'EUR' to reflect the integration of the western European aerospace industry.

Table 8: 2023 payloads by manufacturer country - 100 kg and up only

	HSF	Comms	Imaging	Nav	SIGINT	Surv.	Sci	Tech	Total
USA	7	2158	5	1	1	7	1	11	2191
RU	6	1	9	1	1	0	1	0	19
PRC	3	15	34	3	21	1	5	5	87
EUR	0	6	6	0	0	0	2	7	21
Turkey	0	0	1	0	0	0	0	0	1
Lithuania	0	0	0	0	0	0	0	1	1
Australia	0	1	0	0	0	0	0	1	2
South Africa	0	0	1	0	0	0	0	0	1
Japan	0	0	3	0	0	0	2	0	5
Israel	0	0	1	0	0	0	0	0	1
Singapore	0	0	2	0	0	0	0	0	2
India	0	0	1	1	0	0	3	0	5
Taiwan	0	0	1	0	0	0	0	0	1
South Korea	0	0	1	0	0	0	1	0	2
New Zealand	0	0	0	0	0	0	0	1	1
North Korea	0	0	1	0	0	0	0	0	1
Egypt	0	0	1	0	0	0	0	0	1
Total	16	2181	67	6	23	8	15	26	2342

3 Military Space Activities

Military satellites include navigation, communications, and technology development missions in addition to the intelligence gathering activities that I report here. Notably, in Dec 2023 China launched the third flight of its small robotic spaceplane. This was followed later in Dec by the launch of OTV 7 on a Falcon Heavy to an unknown orbit - suspected to be a highly elliptical orbit at an inclination of 50 to 75 deg.

3.1 Space Surveillance

The US Space Development Agency launched 9 Checkmate ‘Transport Layer’ and 10 Wildfire ‘Transport Layer’ communications satellites and four BB ‘Tracking Layer’ satellites with missile tracking payloads. The US Space Force and the National Reconnaissance Office launched three SILENT BARKER monitoring satellites to near-synchronous orbit to monitor activities in GEO.

3.2 Optical Imaging

Two small MISR intelligence satellites were launched in Jun 2023 on a SpaceX Transporter rideshare. China’s Yaogan 37-01 and Yaogan 34-04 are thought to be low orbit imaging satellites. Geo Fen 13-02 is a geostationary optical imaging satellite. Russia launched the small EMKA imaging satellite Kosmos-2568 on Mar 29, and two Bars topographic mapping satellites on Mar 23 and Dec 21. The Russian satellite launched on Nov 25 is thought to be the first Razdan high resolution imaging satellite. The Colombian Air Force’s small FACSAT-2 imager was deployed on an Apr 15 rideshare mission. Two Chinese-developed Horus imaging satellites were launched for Egypt on Feb 24 and Mar 13. South Korea’s Project 425 EO/IR satellite was launched on a Falcon 9 on Dec 1.

The Iranian Revolutionary Guard Corp launched the Noor 3 imaging satellite on Sep 27. North Korea made three launches of the Manligyeong-1 imaging satellite, the last of which - on Nov 21 - was successful in reaching orbit.

On Dec 15 China launched the Yaogan-41 to geostationary transfer orbit. YG-41 is thought to be a large (2 to 4 metre aperture) imaging satellite to placed in geosynchronous orbit.

3.3 Radar Imaging

Japan launched IGS Radar 7 on Jan 26; Israel launched Ofeq-13 on Mar 28. China launched Yaogan 33-03 and 04 on Sep 6 and Sep 26. Germany’s SARah-2 and SARah-3 were launched on Dec 24.

3.4 Signals Intelligence

On Jun 22 the US NRO launched a large geostationary signals intelligence satellite, possibly in the ORION series. Luch-5Kh (Olimp), launched on Mar 12, is a Russian geostationary signals intelligence payload.

In low orbit, Russia launched a Lotos-S1 satellite (Kosmos-2570) on Oct 27. China flew five triplets of low-orbit Yaogan 39 satellites, thought to carry electronic monitoring and location payloads. Yaogan 40-01, launched on Sep 10, may also be for sigint.

The mission of China’s TJS-10, launched to GEO on Nov 3, is currently uncertain.

3.5 USA satellite designations in 2023

The USA satellite designations were introduced in 1984 for US military satellites, to obscure the missions of the secret ones. Here is an index of USA names assigned in 2023, including satellites launched earlier but deployed and cataloged during the year.

The agency abbreviations are:

AFRL Air Force Research Lab
 Del 4 Delta 4, US Space Force
 Del 8 Delta 8, US Space Force
 Del 9 Delta 9, US Space Force
 NRO US National Reconnaissance Office
 SSC Space Systems Command, LAAFB, US Space Force

Table 9: USA satellite designations 2023

Cover name	Other name	Piece name	Agency	Orbit	Notes
USA 340	TETRA 1?	2022-144E	SSC?	35850 x 35851 x 3.2	GEO space tech test
USA 341	ESPASat?	2022-144F	SSC?	36000? x 36000? x 3?	Unknown
USA 342	CBAS 2	2023-008A	SSC	35783 x 35789 x 0.0	Comms
USA 343	GPS SV 79	2023-009A	SSC/Del 8	20172 x 20193 x 5.1	Navigation
USA 344	ESPASat?	2022-144J	SSC?	36000? x 36000? x 3?	Unknown
USA 345	ORION 11?	2023-089A	NRO	35780 x 35790? x 3 ?	Sigint
USA 346	SILENT BARKER	2023-140A	NRO/SSC	36100? x 36100 ? x 0	Surveillance
USA 347	SILENT BARKER	2023-140B	NRO/SSC	36100? x 36100 ? x 0	Surveillance
USA 348	SILENT BARKER	2023-140C	NRO/SSC	36100? x 36100 ? x 0	Surveillance
USA 349	OTV 7	2023-210A	RCO	200? x 38000? x 63?	Spaceplane

4 Special Topics

4.1 Scientific Programs

The major scientific payload launched during the year was ESA's Euclid space telescope, which will measure properties of galaxies and will be stationed at Sun-Earth L2. The Japanese XRISM X-ray observatory was also launched to begin tests of an X-ray microcalorimeter.

A number of small scientific satellites were launched, including the TROPICS satellites for MIT Lincoln Labs, the SNIPE payloads for S Korea, and several radiation monitoring cubesats for Moscow-based universities. Australia's SPIRIT cubesat carries the first Italian-developed HERMES X-ray astronomy detector.

In deep space:

- ESA's JUICE mission was launched towards Jupiter
- India's Chandrayaan-3 lunar mission was launched
- India's Aditya-L1 space physics mission was launched towards the Sun-Earth L1 Lagrange point.
- Russia's Luna-Glob (Luna-25) mission launched to the Moon, but the lander crashed due to a commanding error.
- NASA's Psyche asteroid mission was launched

4.2 Special note: Apstar 6E

The Chinese commercial communications satellite Apstar 6E was launched on 2023 Jan 12. After failure of its main propulsion system, it is using low thrust engines to raise its orbit to GEO.

On Mar 17, US Space Force started to make its orbital elements secret. This decision appears to have been temporarily reversed on Nov 21, and orbital data were released from Nov 21 to Dec 1, when the orbit again became secret. Space Force representatives claimed the object was 'sensitive' for unspecified reasons. However, external analysts (notably Bob Christy and myself) conclude that someone has confused its catalog number, 55239, with that of a Japanese spy satellite, 55329, when entering the latter's 'it's secret' flag in a database. The orbital elements of Japanese military satellites are generally not released by Space Force, while withholding the orbital elements of commercial Chinese satellites is unprecedented and seems inexplicable (except as a mistake).

4.3 Chinese LEO communications satellites

A bewildering variety of poorly documented Chinese low orbit communications satellite systems have debuted in the past six years, including an assortment of test satellites for future Chinese megaconstellations. This table represents a summary of these satellites according to my current, and likely faulty, understanding.

Chinese LEO comms systems 2017-2023

Name	Launches		Status	Operator	Manuf.	Mass kg	Height km	Inc deg	Mvr Y/N	Band	Notes
	First	Number									
Broadband, future big plans											
Guowang-A59	?	0	(6080 planned)	China SatNet	?	?	508,590,600	60,50,85	Y?	Ka?	BB
Guowang-2	?	0	(6912 planned)	China SatNet	?	?	1145	30,40,50,60	Y?	Ka?	BB
G60	?	0	(12000 planned)	Genesat	Genesat	?			Y	Ka/Q/V	BB
Broadband? 1100 km tests (Guowang or Xinwang R&D?)											
Hongyun	2018	1	Merged -> Guowang	CASIC	CASIC	250?	1070	SSO	Y		BB, AIS, ADS-B
Hongyan	2018	1	Merged -> Guowang	CASC DFH Mobile	DFH Shenzhen	500?	1100	50.0	Y?	L,Ka	BB
RSW-1,2 [2021-076A,C]	2021	2	DFH-L Bus test	CAST	CAST	(300?)	1100	86.4	Y	?	BB?
DFH DTSW [2022-056B]	2022	1	? Test	CAST?	DFH Shenzhen	(100?)	1147	86.0	Y	?	?
XQG 1A/B [2023-095A,B]	2023	2	Test	CAST?	CAST?	(300?)	1100	86.5	Y	?	BB
XQG 2A-B [2023-181A-B]	2023	2	Test	SAST	SAST	(300?)	1100	50.0	Y	?	BB
CX-20 [2023-181C]	2023	1	Test	SECM	SECM	(300?)	1100	50.0	Y	?	BB
CX-19 [2023-190A]	2023	1	Test	SECM	SECM	(300?)	910	86.5	Y?	?	BB
HJSW 04 [2023-212A-C]	2023	3	Test	CAST	CAST	(300?)	935	50.0	Y?	?	BB
Broadband? 800-900 km tests (Guowang R&D?)											
RSW-3 [2021-076B]	2021	1	? Bus test	CAST	CAST	(50?)	870	86.4	Y	?	?
CGSTL DTSW [22-056A,C]	2022	2	? Test	Changguang	Changguang	(300?)	881	86.0	Y	?	?
Broadband, misc tests											
Longjiang-3	2023	1	Flat Bus test	Harbin Inst. Tech	Harbin	120	500	49.1	N?	Ka	BB
5G/Broadband, 500 km system											
Yinhe	2020	8	Active	Galaxy Space	SAST	190	500	63.5	Y	Q/V,Ka	5G
IoT,AIS, VDES and ADS-B											
HEAD	2017-*	9	Active	HEAD Aerospace	SAST?	45	500	SSO	N	VHF	AIS
Kaidun-1 (Caton-1)	2017	1		Caton Tech	NJUST	3	540	SSO	N	VHF	VDES
Xingyun	2020	2	?	CASIC Xingyun	CASIC Sangjian	93	570	SSO	Y		IoT
Tianqi	2018	18	Active	Guodian	ASES	40	500	35, SSO	N		IoT
Jiading-1	2018	1		SPACEOK	SPACEOK	50	500	SSO	N		IoT
Dawan Zhitong [2021-91D]	2021	1		Lizheng Sat	Lizheng Sat	103	510	SSO	N	VHF?	VDES, GNSS-A
GNSS augmentation											
Weili Kongjian (Centispace)	2018-*	6	Active	Centispace	IMICAS	97	700	55.0,SSO	Y	L	GNSS-A

5 Space Stations in 2023

5.1 ISS traffic

Table 10 lists arrivals, departures, deployments and spacewalks at ISS during 2023 [11].

Updated: 2024 Jan 16 00:42:27

ISS event log, 2023

Date	Time	Module/VV	Object	Event	Desc
2023 Mar 28	0957:27	ISS	Expedition 68	Expedition Start	-
2023 Jan 6	0802	JEM	SuryaSat (1998-067UY)	Deployed	from J-SSOD No. 24
2023 Jan 6	0900	JEM	OPTIMAL-1 (1998-067VA)	Deployed	from J-SSOD No. 24
2023 Jan 6	0932	JEM	HKSAT-1 (1998-067UZ)	Deployed	from J-SSOD No. 24
2023 Jan 9	2205	PMA-3	Dragon CRS-26	Departed	-
2023 Jan 18	1457	Progress MS-20	ISS TCM-331	Maneuver	dV = 0.9 m/s dt = 591.0 s
2023 Jan 20	1300	Quest	Spacewalk ISS US EVA-84	Depress airlock	EV1 Wakata K. in EMU 3004
2023 Jan 20	1300	Quest	Spacewalk ISS US EVA-84	Depress airlock	EV2 Mann, N.V.A. in EMU 3009
2023 Jan 20	2036	Quest	Spacewalk ISS US EVA-84	Repress airlock	EV1 Wakata K. in EMU 3004
2023 Jan 20	2036	Quest	Spacewalk ISS US EVA-84	Repress airlock	EV2 Mann, N.V.A. in EMU 3009
2023 Jan 31	1725	Destiny	IPA FSE 3A/4A (1998-067VB)	Deployed	from Canadarm-2
2023 Feb 2	1237	Quest	Spacewalk ISS US EVA-85	Depress airlock	EV2 Wakata K. in EMU 3004
2023 Feb 2	1237	Quest	Spacewalk ISS US EVA-85	Depress airlock	EV1 Mann, N.V.A. in EMU 3009
2023 Feb 2	1927	Quest	Spacewalk ISS US EVA-85	Repress airlock	EV2 Wakata K. in EMU 3004
2023 Feb 2	1927	Quest	Spacewalk ISS US EVA-85	Repress airlock	EV1 Mann, N.V.A. in EMU 3009
2023 Feb 3	1030	Progress MS-20	ISS TCM-332	Maneuver	dV = 1.4 m/s dt = 694.0 s
2023 Feb 7	0456:35	Zvezda	Progress MS-20	Departed	-
2023 Feb 11	0845	Zvezda	Progress MS-22	Arrived	-
2023 Feb 18	0226	Poisk	Progress MS-21	Departed	-
2023 Feb 20	0420	Progress MS-22	ISS TCM-333	Maneuver	dV = 1.8 m/s dt = 958.0 s
2023 Feb 25	0058:00	Poisk	Soyuz MS-23	Arrived	-
2023 Mar 3	0640	PMA-3	Dragon Endeavour (Crew-6)	Arrived	+ Bowen, S.G., Bowen, S.G., Hoburg, W.W., Al-Neyadi, S., Al-Neyadi, S., Fedyaev A.V., Fedyaev A.V.
2023 Mar 6	1242	Progress MS-22	ISS TCM-334	Maneuver	dV = 0.7 m/s dt = 376.0 s
2023 Mar 11	0719:26	PMA-2	Endurance	Departed	- Mann, N.V.A., Cassada, J.A., Wakata K., Kikina, A.Yu.
2023 Mar 14	1154	Progress MS-22	ISS TCM-335	Maneuver	dV = 0.3 m/s dt = 135.0 s
2023 Mar 16	1131	PMA-2	Dragon CRS-27	Arrived	-
2023 Mar 28	0957:27	Rassvet	Soyuz MS-22	Departed	- Prokop'ev, S.V., Petelin D.A., Rubio, F.
2023 Sep 27	0754:21	ISS	Expedition 69	Expedition Start	-
2023 Mar 30	1603	Cygnus NG-18	ISS TCM-336	Maneuver	dV = 0.9 m/s dt = 921.0 s
2023 Apr 6	0845:00	Poisk	Soyuz MS-23	Departed	-
2023 Apr 6	0921:44	Poisk	Soyuz MS-23	Arrived	+ Prokop'ev, S.V., Petelin D.A., Rubio, F.
2023 Apr 15	1505	PMA-2	Dragon CRS-27	Departed	-
2023 Apr 19	0117	Poisk	Spacewalk ISS VKD-56b	Depress airlock	02 Petelin D.A. in Orlan-MKS No. 4
2023 Apr 19	0117	Poisk	Spacewalk ISS VKD-56b	Depress airlock	01 Prokop'ev, S.V. in Orlan-MKS No. 5
2023 Apr 19	0950	Poisk	Spacewalk ISS VKD-56b	Repress airlock	02 Petelin D.A. in Orlan-MKS No. 4
2023 Apr 19	0950	Poisk	Spacewalk ISS VKD-56b	Repress airlock	01 Prokop'ev, S.V. in Orlan-MKS No. 5
2023 Apr 21	1122	Unity Nadir	S.S. Sally Ride	Departed	-
2023 Apr 24	1205:00	JEM	ARKSAT-1 (1998-067WC)	Deployed	from NRCSO No. 25
2023 Apr 24	1205:00	JEM	Ex-Altia 2 (1998-067VE)	Deployed	from NRCSO No. 25
2023 Apr 24	1205:00	JEM	LightCube (1998-067WF)	Deployed	from NRCSO No. 25
2023 Apr 24	1215:00	JEM	Aurorasat (1998-067VD)	Deployed	from NRCSO No. 25
2023 Apr 24	1215:00	JEM	NEUDOSE (1998-067VG)	Deployed	from NRCSO No. 25
2023 Apr 24	1215:00	JEM	YukonSat-1 (1998-067WH)	Deployed	from NRCSO No. 25
2023 Apr 28	1300	Quest	Spacewalk ISS US EVA-86	Depress airlock	EV1 Bowen, S.G. in EMU 3009
2023 Apr 28	1300	Quest	Spacewalk ISS US EVA-86	Depress airlock	EV2 Al-Neyadi, S. in EMU 3013
2023 Apr 28	2012	Quest	Spacewalk ISS US EVA-86	Repress airlock	EV1 Bowen, S.G. in EMU 3009
2023 Apr 28	2012	Quest	Spacewalk ISS US EVA-86	Repress airlock	EV2 Al-Neyadi, S. in EMU 3013
2023 Apr 30	0031	Progress MS-22	ISS TCM-337	Maneuver	dV = 1.07 m/s dt = 717.0 s
2023 May 3	1945?7	Poisk	Spacewalk ISS VKD-57	Depress airlock	02 Petelin D.A. in Orlan-MKS No. 4
2023 May 3	1945?7	Poisk	Spacewalk ISS VKD-57	Depress airlock	01 Prokop'ev, S.V. in Orlan-MKS No. 5
2023 May 4	0240:25	Nauka	VKD-57 jettison bundle (1998-067VJ)	Deployed	from Orlan-MKS No. 5
2023 May 4	0315	Poisk	Spacewalk ISS VKD-57	Repress airlock	02 Petelin D.A. in Orlan-MKS No. 4
2023 May 4	0315	Poisk	Spacewalk ISS VKD-57	Repress airlock	01 Prokop'ev, S.V. in Orlan-MKS No. 5
2023 May 6	1123	PMA-3	Dragon Endeavour (Crew-6)	Departed	-
2023 May 6	1201	PMA-2	Dragon Endeavour (Crew-6)	Arrived	+ Bowen, S.G., Bowen, S.G., Hoburg, W.W., Al-Neyadi, S., Al-Neyadi, S., Fedyaev A.V., Fedyaev A.V.
2023 May 12	1527	Poisk	Spacewalk ISS VKD-58	Depress airlock	02 Petelin D.A. in Orlan-MKS No. 4
2023 May 12	1527	Poisk	Spacewalk ISS VKD-58	Depress airlock	01 Prokop'ev, S.V. in Orlan-MKS No. 5
2023 May 12	2037	Poisk	VKD-58 Cleaning towel bundle (1998-067VK)	Deployed	from Poisk
2023 May 12	2104	Poisk	Spacewalk ISS VKD-58	Repress airlock	02 Petelin D.A. in Orlan-MKS No. 4
2023 May 12	2104	Poisk	Spacewalk ISS VKD-58	Repress airlock	01 Prokop'ev, S.V. in Orlan-MKS No. 5
2023 May 18	1643	Progress MS-22	ISS TCM-338	Maneuver	dV = 1.07 m/s dt = 353.0 s
2023 May 22	1312	PMA-3	Axiom Ax-2	Arrived	+ Whitson, P.A., Shoffner, J., Al-Qarni, A., Barnawi, R.
2023 May 24	1618:44	Poisk	Progress MS-23	Arrived	-
2023 May 30	1505	PMA-3	Axiom Ax-2	Departed	- Whitson, P.A., Shoffner, J., Al-Qarni, A., Barnawi, R.

ISS event log, 2023

Date	Time	Module/VV	Object	Event	Desc
2023 Jun 6	0954	PMA-3	Dragon CRS-28	Arrived	-
2023 Jun 6	1320	Quest	Spacewalk ISS US EVA-87	Depress airlock	EVI Bowen, S.G. in EMU 3004
2023 Jun 9	1320	Quest	Spacewalk ISS US EVA-87	Depress airlock	EVI Hoberg, W.W. in EMU 3013
2023 Jun 9	1928	Quest	Spacewalk ISS US EVA-87	Repress airlock	EVI Bowen, S.G. in EMU 3004
2023 Jun 9	1928	Quest	Spacewalk ISS US EVA-87	Repress airlock	EVI Hoberg, W.W. in EMU 3013
2023 Jun 15	1232	Quest	Spacewalk ISS US EVA-88	Depress airlock	EVI Bowen, S.G. in EMU 3004
2023 Jun 15	1232	Quest	Spacewalk ISS US EVA-88	Depress airlock	EVI Hoberg, W.W. in EMU 3013
2023 Jun 15	1818	Quest	Spacewalk ISS US EVA-88	Repress airlock	EVI Bowen, S.G. in EMU 3004
2023 Jun 15	1818	Quest	Spacewalk ISS US EVA-88	Repress airlock	EVI Hoberg, W.W. in EMU 3013
2023 Jun 16	0627	Progress MS-22	ISS TCM-339	Maneuver	dV = 1.2 m/s dt = 770.0 s
2023 Jun 22	1405	Poisk	Spacewalk ISS VKD-69	Depress airlock	02 Petelin D.A. in Orlan-MKS No. 4
2023 Jun 22	1405	Poisk	Spacewalk ISS VKD-69	Depress airlock	01 Prokop'ev, S.V. in Orlan-MKS No. 5
2023 Jun 22	1633	Poisk	Seismoprognoz (1998-067VL)	Deployed	from Orlan-MKS No. 5
2023 Jun 22	1638	Poisk	SVPI (1998-067VM)	Deployed	from Orlan-MKS No. 5
2023 Jun 22	1647	Poisk	TW/TS Unit (1998-067VN)	Deployed	from Orlan-MKS No. 5
2023 Jun 22	1647	Poisk	VKD-59 Cleaning towel?	Deployed	from Orlan-MKS No. 5
2023 Jun 22	2052	Poisk	Spacewalk ISS VKD-59	Repress airlock	02 Petelin D.A. in Orlan-MKS No. 4
2023 Jun 22	2052	Poisk	Spacewalk ISS VKD-59	Repress airlock	01 Prokop'ev, S.V. in Orlan-MKS No. 5
2023 Jun 29	1630	PMA-3	Dragon CRS-28	Departed	-
2023 Jul 3	1835	Destiny	IPA FSE 1A/1B (1998-067VP)	Deployed	from Canadarm-2
2023 Jul 4	2117	Progress MS-22	ISS TCM-340	Maneuver	dV = 1.9 m/s dt = 1130.0 s
2023 Jul 6	0955	JEM	SC-UDIN (1998-067VQ)	Deployed	from MRCSD No. 26
2023 Jul 6	1005	JEM	Moonlighter (1998-067VU)	Deployed	from MRCSD No. 26
2023 Jul 6	1130	JEM	RADSAT-SK (1998-067VS)	Deployed	from MRCSD No. 26
2023 Jul 6	1130	JEM	Urpik-1 (1998-067VT)	Deployed	from MRCSD No. 26
2023 Jul 6	1140	JEM	Iris (1998-067VR)	Deployed	from MRCSD No. 26
2023 Jul 6	1140	JEM	ESSENCE (1998-067VV)	Deployed	from MRCSD No. 26
2023 Jul 6	1140	JEM	Maya-5 (1998-067VW)	Deployed	from J-SSOD No. 26
2023 Jul 19	0700	JEM	Maya-6 (1998-067VX)	Deployed	from J-SSOD No. 26
2023 Jul 19	0700	JEM	ISS TCM-341	Maneuver	dV = 0.5 m/s dt = 302.0 s
2023 Jul 27	1202	Progress MS-22	ISS TCM-342	Maneuver	dV = 0.3 m/s dt = 196.0 s
2023 Aug 3	0203	Progress MS-22	ISS TCM-342	Maneuver	-
2023 Aug 4	0852	Unity Nadir	S.S. Laurel Clark	Arrived	-
2023 Aug 9	1426	Poisk	Spacewalk ISS VKD-60	Depress airlock	02 Petelin D.A. in Orlan-MKS No. 4
2023 Aug 9	1426	Poisk	Spacewalk ISS VKD-60	Depress airlock	01 Prokop'ev, S.V. in Orlan-MKS No. 5
2023 Aug 9	2043:50	Zvezda	RSP1-M shroud bundle (1998-067VY)	Deployed	from RSP1-M
2023 Aug 9	2055:43	Poisk	VKD-60 towel bundle (1998-067VZ)	Deployed	from Poisk
2023 Aug 9	2123	Poisk	Spacewalk ISS VKD-60	Repress airlock	02 Petelin D.A. in Orlan-MKS No. 4
2023 Aug 9	2123	Poisk	Spacewalk ISS VKD-60	Repress airlock	01 Prokop'ev, S.V. in Orlan-MKS No. 5
2023 Aug 11	1435?7	Cygnus NG-19	ISS TCM-343	Maneuver	dV = 1.4 m/s dt = 1368.0 s
2023 Aug 20	2350:30	Zvezda	Progress MS-22	Departed	-
2023 Aug 24	1500	SH ODU	ISS TCM-344	Maneuver	dV = -0.3 m/s dt = 21.5 s
2023 Aug 25	0345:23	Zvezda	Progress MS-24	Arrived	-
2023 Aug 27	1316	PMA-3	Dragon Endurance (Crew-7)	Arrived	-
2023 Sep 3	1105	PMA-2	Dragon Endeavour (Crew-6)	Departed	-
2023 Sep 8	1852	Progress MS-24	ISS TCM-345	Maneuver	dV = 2.0 m/s dt = 1314.6 s
2023 Sep 15	1853:32	Rassvet	Soyuz MS-24	Arrived	-
2023 Sep 27	0754:21	Prichal	Soyuz MS-23	Departed	-
2023 Sep 29	1201	Progress MS-24	ISS TCM-346	Maneuver	-
2023 Oct 19	0346	Progress MS-24	ISS TCM-347	Maneuver	dV = 0.6 m/s dt = 381.7 s
2023 Oct 25	1729	Poisk	Spacewalk ISS VKD-61	Depress airlock	dV = 1.5 m/s dt = 1029.9 s
2023 Oct 25	1729	Poisk	Spacewalk ISS VKD-61	Depress airlock	02 Chub N. in Orlan-MKS No. 4
2023 Oct 25	2320	Nauka	Parus-MCTU (1998-067WA)	Deployed	01 Kononenko O. in Orlan-MKS No. 5
2023 Oct 26	0105	Poisk	VKD-61 Cleaning towel (1998-067VZ)	Deployed	from Parus dispenser
2023 Oct 26	0105	Poisk	VKD-61 Cleaning towel (1998-067WB)	Deployed	from Poisk
2023 Oct 26	0135	Poisk	Spacewalk ISS VKD-61	Repress airlock	from Poisk
2023 Oct 26	0135	Poisk	Spacewalk ISS VKD-61	Repress airlock	02 Chub N. in Orlan-MKS No. 4
2023 Nov 1	1156	Quest	Spacewalk ISS US EVA-89	Depress airlock	01 Kononenko O. in Orlan-MKS No. 5
2023 Nov 1	1433	Quest	Crew Lock bag (1998-067WC)	Deployed	EVI Moghbeli J. in EMU 3003
2023 Nov 1	1847	Quest	Spacewalk ISS US EVA-89	Repress airlock	from Quest
2023 Nov 9	2111	Progress MS-24	ISS TCM-346	Maneuver	EVI Moghbeli J. in EMU 3003
2023 Nov 10	1507	Progress MS-24	ISS TCM-349	Maneuver	dV = 1.4 m/s dt = 905.7 s
2023 Nov 11	1007	PMA-2	Dragon CRS-29	Arrived	dV = 0.5 m/s dt = 316.5 s
2023 Nov 29	0755	Poisk	Progress MS-23	Departed	-
2023 Dec 3	1118:31	Poisk	Progress MS-25	Arrived	-

- Bowen, S.G., Bowen, S.G., Hoberg, W.W., Hoberg, W.W., Al-Neyadi, S., Al-Neyadi, S., Fedyaev A.V., Fedyaev A.V.

ISS event log, 2023

Date	Time	Module/VV	Object	Event	Desc
2023 Dec 18	0835	JEM	BEAK (1998-067WD)	Deployed	from J-SSOD No. 27
2023 Dec 18	1015	JEM	Clark-Sat-1 (1998-067WE)	Deployed	from J-SSOD No. 27
2023 Dec 21	2105	PM-A-2	Dragon CRS-29	Departed	-
2023 Dec 22	1306	Unity Nadir	S.S. Laurel Clark	Departed	-
2023 Dec 23	0155	Progress MS-24	ISS TCM-350	Maneuver	dV = 1.7 m/s dt = 1131.9 s

International Space Station orbital history 2023

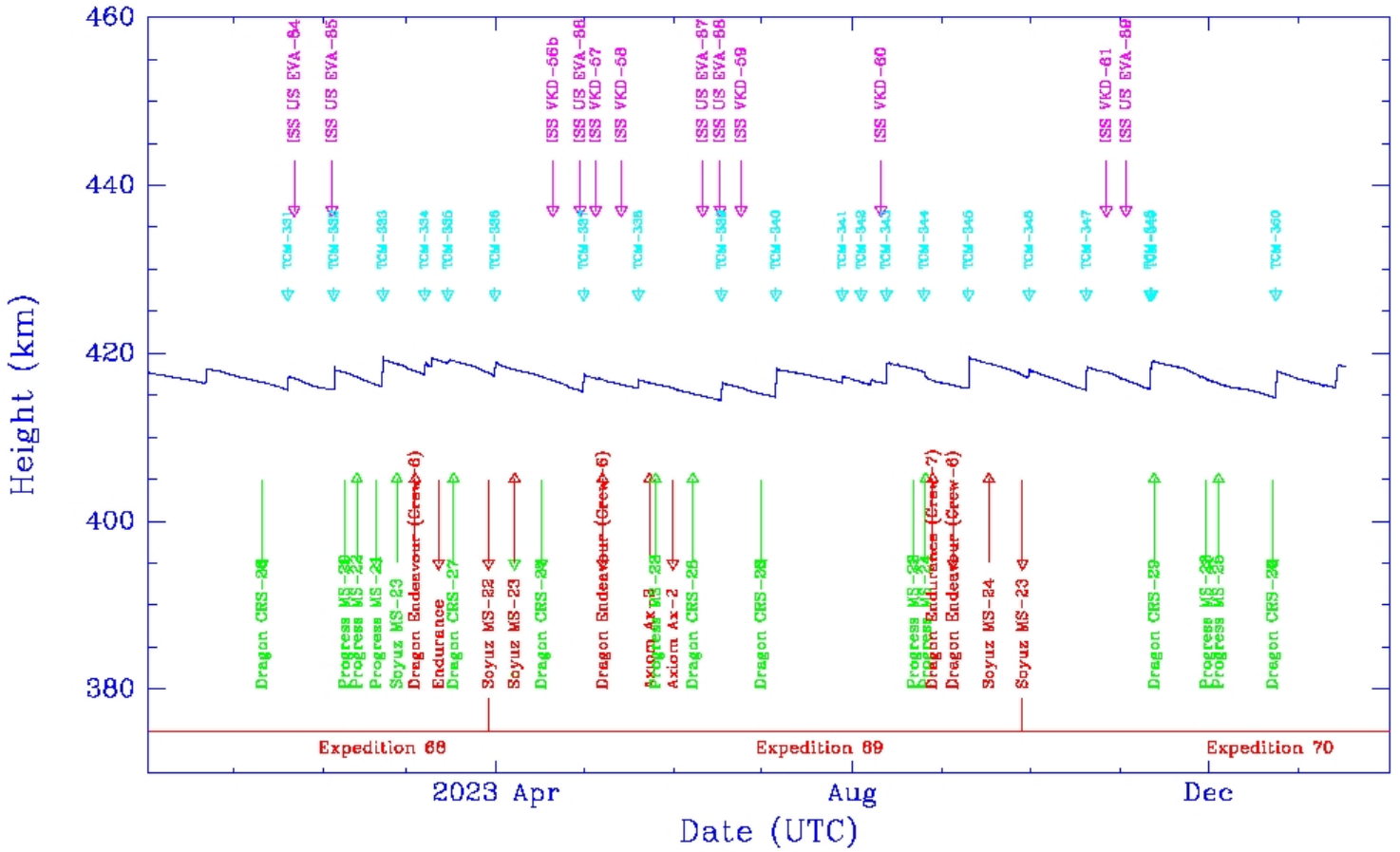


Figure 1: ISS traffic in 2023: Height vs Time plot

5.2 Chinese Space Station

Assembly of the long-awaited Chinese Space Station (CSS) began in 2021 and was completed in 2022 [12],[13],[14],[15].

The overall station is sometimes called the ‘Tiangong station’ (Tiangong Kongjianzhan), which is confusing following the now-completed missions of the simpler Tiangong-1 and Tiangong-2 stations. It is more often just called the ‘Chinese Space Station’ (Zhongguo Kongjianzhan, 中国空间站) and I will refer to it this way (or as CSS).

Expedition 4 (ZaiRen 4) landed in Shenzhou 15 on Jun 3, handing over to the ZaiRen 5 crew of Jing Haipeng, Zhu Yangzhu and Gui Haichao who arrived a few days earlier, on May 30 aboard Shenzhou 16. The handover to ZaiRen 5 occurred on Oct 26 with the arrival of Shenzhou 17 carrying Tang Hongbo, Tang Shengjie and Jiang Xinling; the SZ-16 crew landed on Oct 30.

Notable in 2023 was the secrecy associated with spacewalks from the station. They were announced after the fact and start times and durations were not reported, in contrast to all previous spacewalks from all countries.

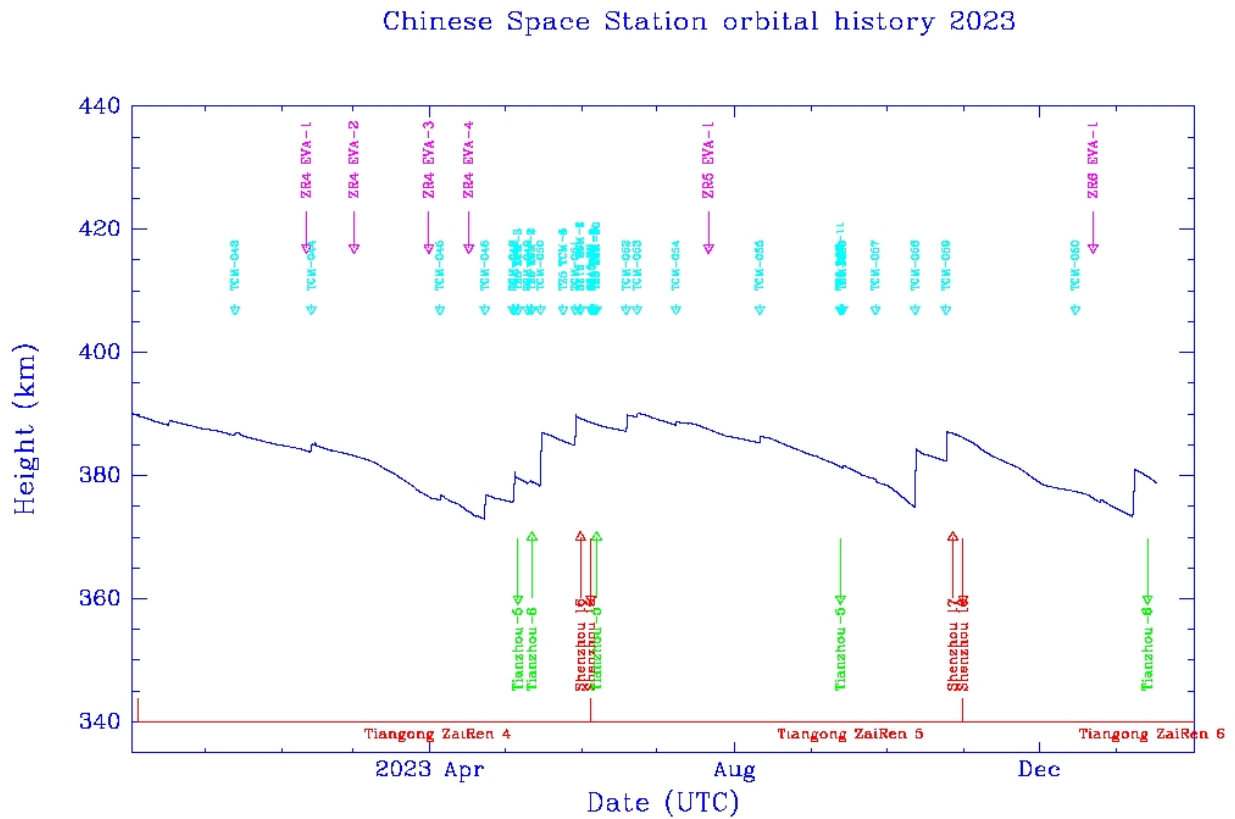


Figure 2: CSS orbital history, showing major events

6 Orbital Traffic, Debris and Decay

At the end of 2023 there were 27896 cataloged objects in orbit or beyond and the total known mass in orbit increased to 12097 tonnes. The breakdown for number of objects is listed in table 11 and for the mass in orbit in table 12. Note that the sum of the individual mass figures falls short of the mass totals by a few tonnes due to complications with spurious catalog entries; but the uncertainties on those totals are probably in any case probably of the order of ten percent due to the uncertainty on masses of individual objects.

I include as active payloads any satellite thought to be still transmitting even occasionally, while other sources may only include those thought to be in full operational service. In either case, distinguishing active from dead payloads is often partly guesswork for those satellites which do not perform regular orbital maintenance maneuvers, and the uncertainty in the total number of active satellites is probably of order 10%.

Many of the active satellites are now members of large LEO constellations, especially Starlink. For details of large constellation activity see the pages at

<https://planet4589.org/space/con/conlist.html>

The category ‘Alt.Pay.’ (alternative payloads) has been added as a bookkeeping convenience to account for objects that are in a marginal category - could arguably be considered payloads but are not counted as such in most lists. They are mostly short lived and so make only a small contribution here.

Figure 3 shows the evolution of the debris population versus time; I mark Starlink satellites as a separate category. In Figure 4 to 7 I show subsets of this data for small and large objects (below/above 100 kg) and for the lower and upper parts of LEO (below/above 600 km), showing the dramatic difference in the population and its evolution for LLEO (Lower LEO, below 600 km) and ULEO (Upper LEO, 600-2000 km).

Prior to the 2023 edition I called out the two biggest debris clouds (the 2007 Chinese antisatellite test and the 2009 Iridium-Strela collision) as separate entries in the tables and plots. I now tabular ASAT-related debris and collision-related debris from all debris clouds.

Table 11: Debris objects in orbit at end of year, 2014-2023

	Active Payloads	Dead Payloads	Alt Pay.	Rocket Bodies	Op. Debris	ASAT debris	Collision debris	Other debris	Spurious	Total
2014 Dec 31	1296	2526	12	1683	1439	3321	1698	5755	0	17730
2015 Dec 31	1404	2562	13	1721	1446	3248	1580	6367	0	18341
2016 Dec 31	1506	2611	12	1754	1458	3223	1542	6419	0	18525
2017 Dec 31	1815	2697	12	1785	1484	3207	1514	6392	0	18906
2018 Dec 31	2041	2791	16	1846	1536	3193	1490	6559	0	19472
2019 Dec 31	2287	2918	16	1874	1560	3209	1481	6869	1	20215
2020 Dec 31	3262	3096	17	1895	1577	3184	1501	7422	0	21954
2021 Dec 31	4760	3227	20	1925	1651	4918	1482	7495	0	25478
2022 Dec 31	6749	3296	29	1964	1614	3472	1366	8133	0	26623
2023 Dec 31	9115	3146	20	1993	1555	3068	1188	7810	1	27896

Table 12: Mass of objects in orbit at end of year, 2014-2023(tonnes)

	Active Payloads	Dead Payloads	Alt Pay.	Rocket Bodies	Op. Debris	ASAT debris	Collision debris	Other debris	Spurious	Total
2014 Dec 31	2550	1807	1	2919	152	0	0	1	0	7431
2015 Dec 31	2712	1835	1	3027	158	0	0	1	0	7736
2016 Dec 31	2841	1887	1	3113	163	0	0	1	0	8008
2017 Dec 31	2996	1929	1	3222	168	0	0	1	0	8319
2018 Dec 31	3175	1956	1	3396	167	0	0	1	0	8698
2019 Dec 31	3329	1999	1	3449	172	0	0	1	0	8954
2020 Dec 31	3630	2075	1	3502	178	0	0	1	0	9390
2021 Dec 31	4105	2123	1	3553	186	0	0	1	0	9972
2022 Dec 31	4783	2190	2	3644	182	0	0	1	0	10804
2023 Dec 31	5977	2185	1	3756	174	0	0	1	0	12097

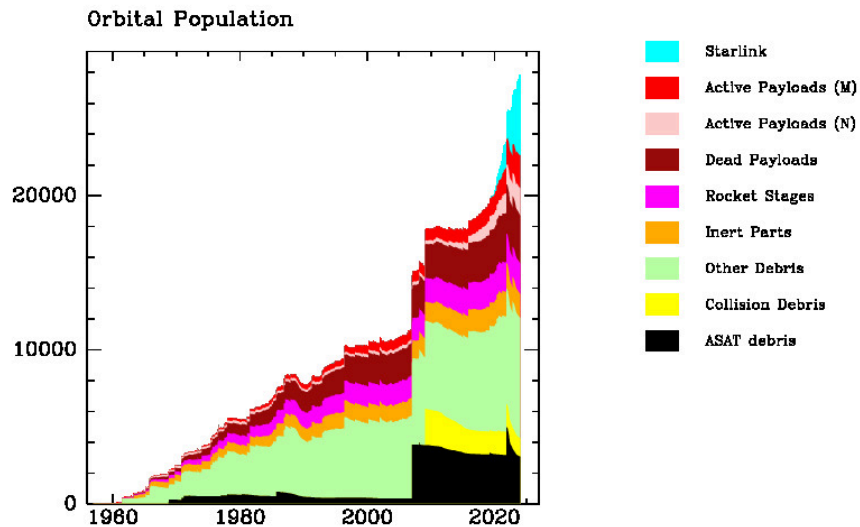


Figure 3: Orbital object population 1957-2023

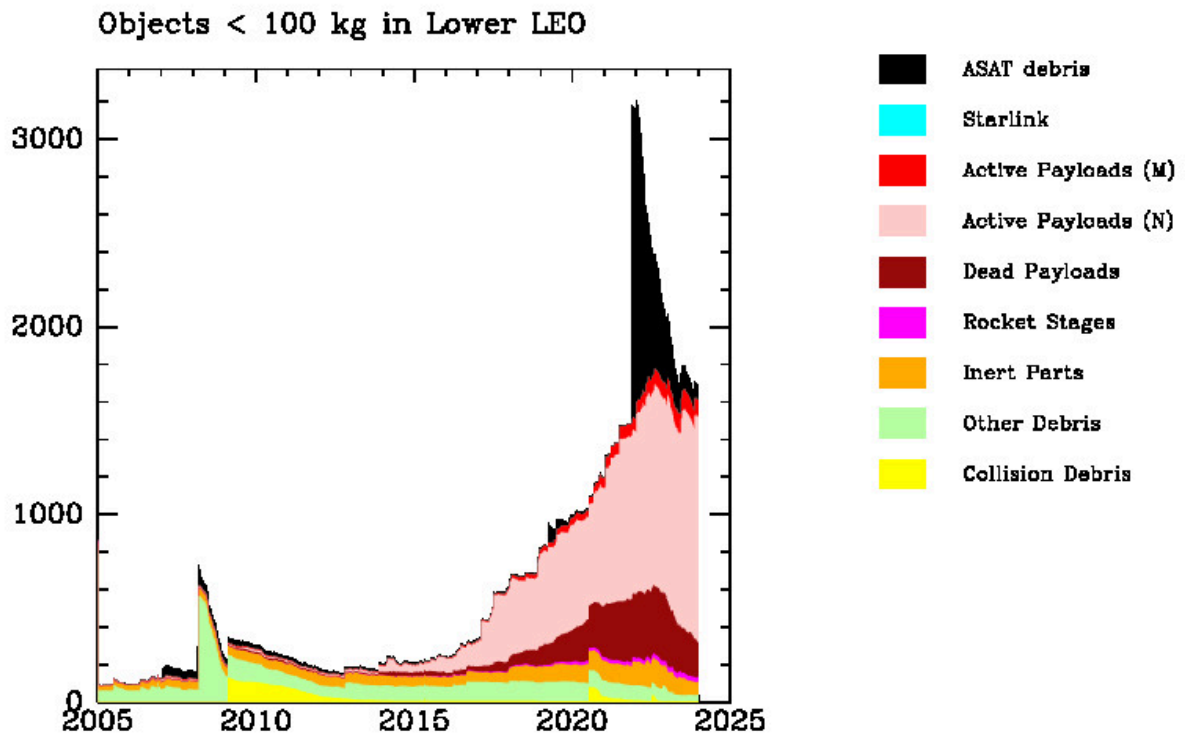


Figure 4: Time evolution of LEO debris and active satellite population (a): Small (<100 kg) objects in lower (< 600 km) LEO

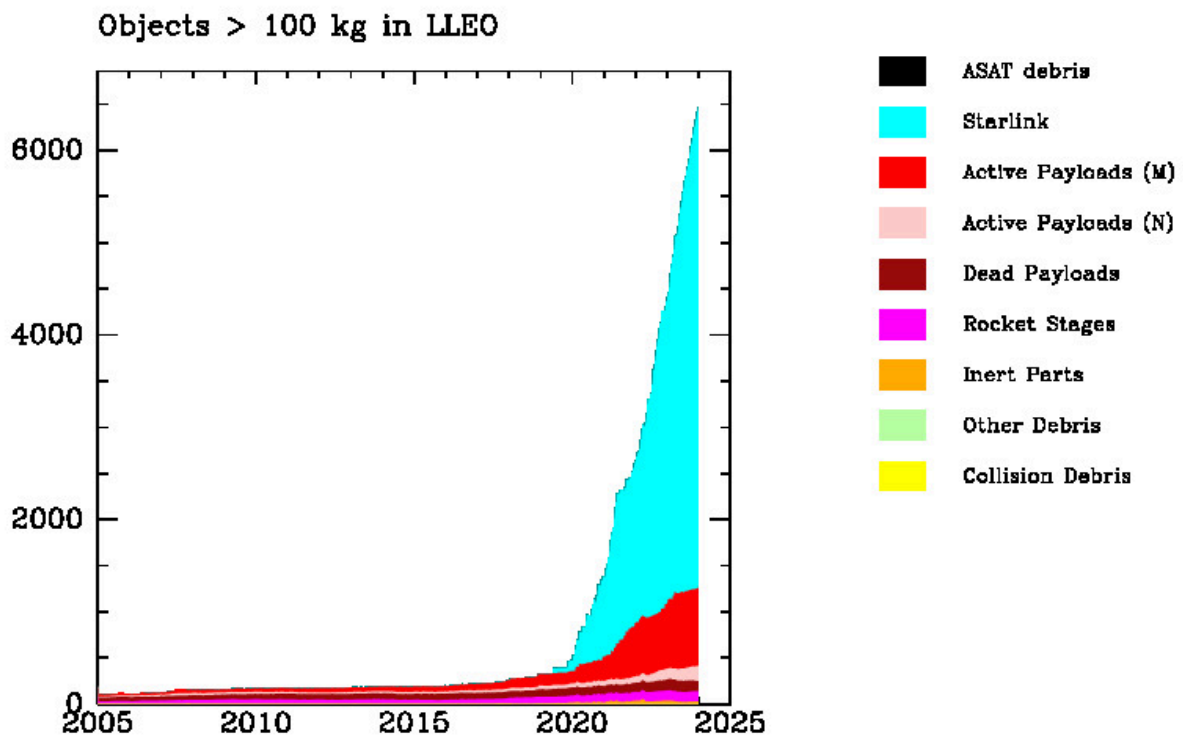


Figure 5: Time evolution of LEO debris and active satellite population (b): Big (>100 kg) objects in lower (< 600 km) LEO

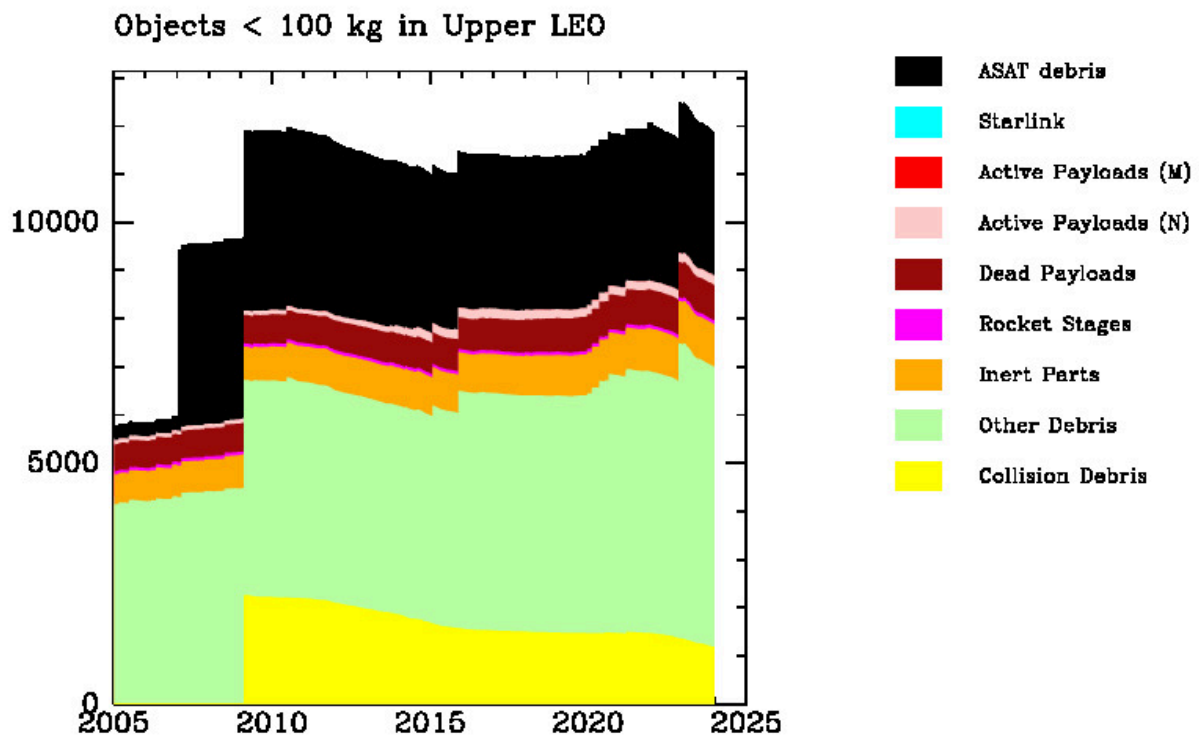


Figure 6: Time evolution of LEO debris and active satellite population (c): Small (<100 kg) objects in upper (> 600 km) LEO

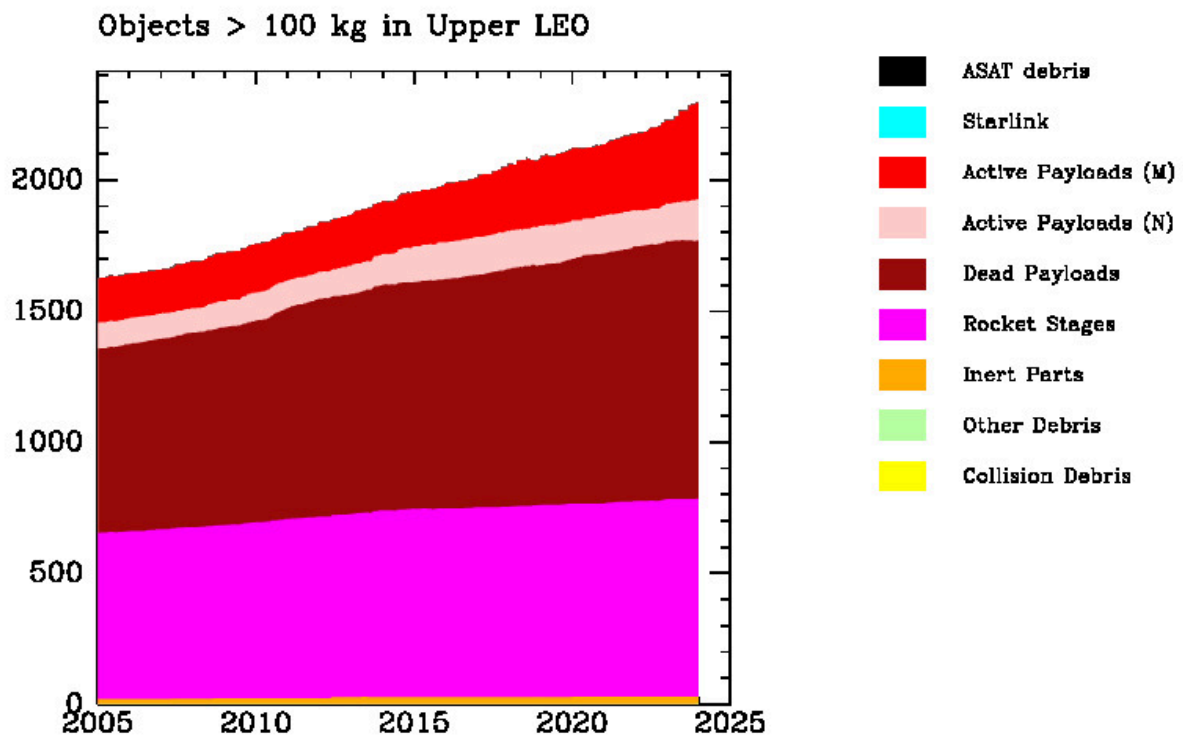


Figure 7: Time evolution of LEO debris and active satellite population (d): Big (>100 kg) objects in upper (> 600 km) LEO

6.1 Disposal of launch vehicle upper stages

For the 212 successful orbital launches I look at which launches went to which type of orbit, and whether rockets disposed of their upper stages in a controlled deorbit or whether they left one or more stages (and possibly associated debris) in orbit to decay naturally. Upper stages that achieve Earth escape are also counted as a controlled disposal.

The main orbit categories are SSO (Sun-synchronous low Earth orbit), ISS (International Space Station launches), LSS (Other low orbit space stations, currently only the Chinese one); Other LEO (Low Earth orbit except for SSO and ISS/LSS); GTO (Geotransfer orbit), Supersync transfer (geotransfer with initial apogee well above GEO); GEO direct (where launch vehicle upper stage deploys payload directly in geostationary orbit), 12-hour circular MEO orbits (as used by GPS), Molniya elliptical orbit, and deep space (beyond about 150,000 km and 'other high orbit').

I will note that some SSO/other LEO launches perform a perigee lowering disposal burn to ensure stage reentry within a few weeks. However, the reentry location is still uncontrolled in these cases. Cases where SSO/LEO perigee lowering is to below 180 km are noted with an asterisk in the table.

Table 13: Launches by orbit and launch-associated Earth orbit debris, 2023

Launch vehicle	Total launches	Launches with up- per stage disposal	Stages left in Earth orbit	Other LV debris
(a) SSO				
AESP Vega	1	1	0	0
CALT CZ-11	2	1	1 (1*)	0
CALT CZ-2F	1	1	0	0
CASIC KZ-1A	3	0	3 (1*)	0
FFLY Alpha	1	1	0	0
KARI KSLV2	1	0	1	0
LANDSP Zhuque-2	2	0	2	0
MHI H-II	1	0	1	0
MORF Soyuz	4	0	4	0
NADA Cheonlima	1	0	1	0
ROSK Soyuz	1	1	0	0
SAST CZ-2C	3	0	3	0
SAST CZ-2D	5	3	2	0
SAST CZ-4	5	0	5	0
SAST CZ-6	1	0	1	0
SPX Falcon 9	6	6	0	4
TIANB TL2	1	0	1	0
XIDO Gushenxing-1	5	2	3 (2*)	0
XIDO KZ-1A	1	0	1 (1*)	0
XJRY SQ-1	2	0	2	0
ZKYT ZK-1	1	0	1	0
Total SSO	48	16	32 (5*)	4
(b) ISS				
NGIS Antares	1	0	1	0
ROSK Soyuz	6	0	6	0
SPX Falcon 9	6	6	0	0
Total ISS	13	6	7	0

Table 13 (cont):				
Launch vehicle	Total launches	Launches with up- per stage disposal	Stages left in Earth orbit	Other LV debris
(c) LSS				
CALT CZ-7	1	0	1	0
Total LSS	1	0	1	0
(d) Other LEO				
ADD ADD TV2	1	0	1	0
CALT CZ-2C	6	0	6	0
CALT CZ-2F	2	0	2	0
CASIC KZ-1A	2	0	2	0
CZMJ JL-3	1	0	1	0
FFLY Alpha	1	0	1	0
IRGC Qased	1	0	1	0
ISA Shavit	1	0	1	0
ISRO SSLV	1	0	1	0
LM Atlas V	1	0	0	0
MHI H-II	1	0	1	0
MORF Soyuz	2	0	2	0
NSIL GSLV3	1	0	1	0
NSIL PSLV/GSLV	2	0	2	0
RLAABL Electron	8	0	16	0
ROSK Soyuz	1	1	0	0
SAST CZ-2D	8	1	7	0
SAST CZ-4	2	0	2	0
SAST CZ-6	2	0	2	0
SPX Falcon 9	68	68	0	56
XIDO Gushenxing-1	1	0	1 (1*)	0
Total Other LEO	113	70	50 (1*)	56
(e) GTO Transfer				
AESP Ariane 5	1	0	1	1
CALT CZ-3	5	0	5	0
CALT CZ-5	1	0	1	0
CALT CZ-7	2	0	2	0
ISRO GSLV3	1	0	1	0
ISRO PSLV/GSLV	1	0	1	0
NSIL PSLV/GSLV	1	0	1	0
SPX Falcon 9	4	0	4	0
Total GTO Transfer	16	0	16	1
(f) SuperSync Transfer				
SPX Falcon 9	3	0	3	0
Total SuperSync Transfer	3	0	3	0
(g) GEO Direct				
BOE Delta 4	1	0	1	0
KHRO Proton	2	0	2	0
LM Atlas V	1	0	1	0
SPX Falcon Heavy	3	0	3	0
Total GEO Direct	7	0	7	0

Table 13 (cont):				
Launch vehicle	Total launches	Launches with up- per stage disposal	Stages left in Earth orbit	Other LV debris
(h) MEO Transfer				
SPX Falcon 9	1	1	0	0
Total MEO Transfer	1	1	0	0
(i) 12-h MEO Direct				
CALT	1	0	2	0
MORF Soyuz	1	0	1	0
SPX Falcon 9	2	0	2	0
SPX Falcon Heavy	1	1	0	0
Total 12-h MEO Direct	5	1	5	0
(j) Molniya				
ROSK Soyuz	1	0	1	0
Total Molniya	1	0	1	0
(k) Deep Space				
AESP Ariane 5	1	0	0	0
ROSK Soyuz	1	0	0	0
SPX Falcon 9	1	0	0	0
SPX Falcon Heavy	1	0	0	0
Total Deep Space	4	0	0	0
Total Overall	212	94	122 (6*)	61

6.2 Orbitaries

Table 14 gives statistics on reentries in 2023, not including deliberate deorbit and landing.
(Acknowledgements to Collin Krum for the revised section name).

Table 14: Uncontrolled Reentries 2023

	Number	Mass (t)
Active Payloads	382	31.7
Dead Payloads	260	23.3
Rocket Bodies	105	179.0
Operational debris	222	28.3
ASAT debris	403	-
Collision debris	183	-
Other fragment debris	393	-

In this table, ‘active payloads’ represents payloads which were thought to be active at the beginning of the year.

Controlled deorbits and landings

90 Starlink satellites reentered during 2023. The satellites orbits were lowered using thrusters but final reentry was uncontrolled.

There were no 20-tonne-class (CZ-5B) uncontrolled reentries in 2023. However, the largest uncontrolled reentries were all of Chinese rocket stages.

In addition to uncontrolled reentries, there were 13 controlled landings and 8 controlled deorbitings of spacecraft during 2023.

One Russian Soyuz ship landed in Kazakhstan, two Crew Dragon and two Cargo Dragon ship splashed down in the Gulf of Mexico and one Cargo Dragon off Florida’s Atlantic coast; one Shenzhou capsule landed near Jiuquan in Inner Mongolia. A Chinese spaceplane made a runway landing at Lop Nor.

Three space station cargo ships (one Cygnus, two Progress) were deorbited destructively, all over the southern Pacific Ocean. The Megha-Tropiques satellite was deorbited over the eastern Pacific.

Three objects reentered and burned up on controlled trajectories associated with landings of spacecraft (Soyuz orbital and Soyuz/Shenzhou propulsion modules). Five Dragon trunks were discarded in orbit; three of these had made uncontrolled reentries by the end of the year. A Dragon trunk jettisoned in 2022 reentered over the Pacific.

Table 15: Most massive uncontrolled reentries, 2023

COSPAR	Spacecraft	Date	Mass/kg	Location	Coords	Life (d)	Type
2014-071B	CZ-2C Y35 Stage 2	2023 Jan 21 1512	4006.0	23E 31N		2989.85	Reentry
2023-005B	CZ-2C Y61 Stage 2	2023 Feb 7 2223	3800.0	141W 18N		26.18	Reentry
2020-014D	CZ-2D Y61 Stage 2	2023 Feb 18 1200?	4006.0	-		1094.62	Reentry
2022-068D	CZ-2D Y64 Stage 2	2023 Mar 8 0333	4106.0	103.6W 30.0N		258.05	Reentry
2022-088B	CZ-2D Y65 Stage 2	2023 Mar 11 1808	4106.0	82E 28N		225.19	Reentry
2022-109E	CZ-2D Y67 Stage 2	2023 Mar 28 0746?	4106.0	80E 26S		203.14	Reentry
2022-100B	CZ-2D Y66 Stage 2	2023 Mar 28 1806?	4106.0	110E 13S?		221.02	Reentry
2021-101C	CZ-2D Y63 Stage 2	2023 Apr 7 0350	4006.0	199E 34N		517.03	Reentry
2022-120C	CZ-2D Y68 Stage 2	2023 May 13 0243	4106.0	131E 33S		228.55	Reentry
2023-063B	CZ-7 Y7 Stage 2	2023 May 21 0557	6000.0	165W 23S		10.69	Reentry
2023-077F	CZ-2F Y16 Stage 2	2023 Jun 12 1728	5500.0	119E 40N		13.66	Reentry
2022-043D	CZ-2C Y70 Stage 2	2023 Jun 20 1800?	3800.0	100E 5N?		417.58	Reentry
2018-002C	CZ-2D Y40 Stage 2	2023 Jun 22 2204	4006.0	16E 53N		1990.78	Reentry
2022-133C	CZ-2D Y69 Stage 2	2023 Aug 16 0321	4106.0	127W 23N		305.34	Reentry
2023-112B	Falcon 9-244 Stage 2	2023 Sep 21 1140	3000.0	103.2W 18.5S		49.28	Reentry
2022-160B	CZ-2D Y89 Stage 2	2023 Oct 24 1700?	4106.0	-		331.19	Reentry
2023-164B	CZ-2F Y17 Stage 2	2023 Nov 3 0306	5500.0	132E 12S		7.99	Reentry
2022-171B	CZ-2D Y80 Stage 2	2023 Nov 6 0939	4106.0	121E 33S		326.63	Reentry
2023-098B	GSLV-3 M4 Stage 2	2023 Nov 15 0943	4400.0	8E 20S		124.03	Reentry
2018-052B	H-2A F39 Stage 2	2023 Dec 8 1204	4000.0	155E 74N		2005.32	Reentry
2017-015B	H-2A F33 Stage 2	2023 Dec 10 2020	4000.0	128E 38S		2459.79	Reentry
2009-073A	Helios IIB	2023 Dec 14 0824	4000.0	121E 78N		5108.67	Reentry
2015-010C	Falcon 9-016 Stage 2	2023 Dec 18 2249	4000.0	136W 29N		3213.79	Reentry
2018-011E	CZ-2C Y36 Stage 2	2023 Dec 23 0128	3800.0	46W 15S		2157.83	Reentry

For rocket upper stages deorbited soon after launch, the target impact zones are often many degrees in length along the orbit track, so the locations given below in Table 17 should not be taken too seriously.

Table 16: Landings and deorbits, 2023

COSPAR	Spacecraft	Date	Mass/kg	Location	Coords	Life (d)	Type
2022-159A	Dragon CRS-26	2023 Jan 11 1019	11000.0	83.9W 28.1N		45.62	Landing
2022-124A	Dragon Endurance (Crew-5)	2023 Mar 12 0202	9500.0	28.1N 83.9W		157.42	Landing
2022-116A	Soyuz MS-22	2023 Mar 28 1145:58	2903.0	47 22N 69 36E		187.91	Landing
2023-033A	Dragon CRS-27	2023 Apr 15 2058	11000.0	28.1N 83.9W		31.85	Landing
2022-093A	Chonfu Shiyong Shiyang HQ 2	2023 May 8 0020?	8500.0	Lop Nor		276.35	Landing
2023-070A	Axiom Ax-2	2023 May 31 0304:24	9500.0	86.2W 29.7N		9.23	Landing
2022-162A	Shenzhou 15	2023 Jun 3 2233	3240.0	100 04E 41 38N		186.31	Landing
2023-080A	Dragon CRS-28	2023 Jun 30 1430	10950.0	80.2W 30.9N		24.95	Landing
2023-027A	Dragon Endeavour (Crew-6)	2023 Sep 4 0417:23	9500.0	80.3W 30.9		185.95	Landing
2016-055	OSIRIS-REx SRC	2023 Sep 24 1452:07?	46.0	113.24W 40.37N		2571.66	Landing
2023-024A	Soyuz MS-23	2023 Sep 27 1117	2903.0	69 40E 47 16N		215.45	Landing
2023-077A	Shenzhou 16	2023 Oct 31 0011:32	3258.0	100 07E 41 39N		153.94	Landing
2023-173A	Dragon CRS-29	2023 Dec 22 1733?	10950.0	84.2W 29.3N?		42.67	Landing
2022-059A	Progress MS-20	2023 Feb 7 0837	4325.0	156W 39S?		248.96	Deorbit
2022-140A	Progress MS-21	2023 Feb 19 0357	4325.0	153W 40S?		116.15	Deorbit
2011-058A	Megha-Tropiques	2023 Mar 7 1331?	950.0	110W 15S?		4164.33	Deorbit
2022-149A	S.S. Sally Ride	2023 Apr 22 0312:40	7076.0	160W 34S?		165.69	Deorbit
2023-018A	Progress MS-22	2023 Aug 21 0335?	4325.0	140W 47S?		192.89	Deorbit
2022-152A	Tianzhou-5	2023 Sep 12 0113	7010.0	175E 14S?		303.97	Deorbit
2016-016A	Resurs-P No. 3	2023 Oct 17 0806?	5800.0	116W 50S?		2773.55	Deorbit
2023-071A	Progress MS-23	2023 Nov 29 1140?	4325.0	138W 47S?		188.95	Deorbit

Table 17: Vehicles deorbited soon after launch, 2023

COSPAR	Spacecraft	Date	Mass/kg	Location	Coords	Life (d)	Type
2023-001	Falcon 9-196 Stage 2	2023 Jan 3 1721?	3604.0	67E 35S		0.10	Deorbit
2023-003	Gushenxing-1 Stage 4	2023 Jan 9 0556?	150.0	92W 40S?		0.04	Deorbit
2023-004	Falcon 9-197 Stage 2	2023 Jan 10 0723:37	3460.0	65E 35S?		0.11	Deorbit
2023-007B	CZ-2D Y71 Stage 2	2023 Jan 15 0400?	4006.0	64W 70S?		0.03	Deorbit
2023-009	Falcon 9-198 Stage 2	2023 Jan 18 1840?	3000.0	30E 50S?		0.26	Deorbit
2023-010	Falcon 9-199 Stage 2	2023 Jan 19 1740	3000.0	115W 42S?		0.08	Deorbit
2023-013	Falcon 9-200 Stage 2	2023 Jan 26 1011	3000.0	36E 43S?		0.03	Deorbit
2023-014	Falcon 9-201 Stage 2	2023 Jan 31 1832?	3000.0	15E 50S?		0.10	Deorbit
2023-015	Falcon 9-202 Stage 2	2023 Feb 2 1012?	3000.0	32E 42S?		0.09	Deorbit
2023-020	Falcon 9-204 Stage 2	2023 Feb 12 0724?	3000.0	39E 41S?		0.09	Deorbit
2023-021	Falcon 9-205 Stage 2	2023 Feb 17 2108?	3000.0	115W 41S?		0.08	Deorbit
2023-026	Falcon 9-207 Stage 2	2023 Feb 28 0127?	3000.0	28E 43S?		0.09	Deorbit
2023-027	Falcon 9-208 Stage 2	2023 Mar 2 0634?	3000.0	126E 50S		0.04	Deorbit
2023-028	Falcon 9-209 Stage 2	2023 Mar 3 2035?	3000.0	112W 44S?		0.08	Deorbit
2023-029	Falcon 9-210 Stage 2	2023 Mar 9 2146:48	3460.0	65E 35S?		0.11	Deorbit
2023-033	Falcon 9-211 Stage 2	2023 Mar 15 0130?	3000.0	130E 50S?		0.04	Deorbit
2023-034	CZ-11 Y11 Stage 4	2023 Mar 15 1230?	500.0	-		0.03	Deorbit
2023-037	Falcon 9-212 Stage 2	2023 Mar 17 2122?	3000.0	114W 44S		0.08	Deorbit
2023-042	Falcon 9-214 Stage 2	2023 Mar 24 1757?	3000.0	39E 40S?		0.09	Deorbit
2023-046	Falcon 9-215 Stage 2	2023 Mar 29 2216?	3000.0	43E 39S?		0.09	Deorbit
2023-047	CZ-2D Y90 Stage 2	2023 Mar 30 1146?	4006.0	82W 30S?		0.04	Deorbit
2023-049B	TL-2 Stage 3	2023 Apr 2 0932?	300.0	62W 77S?		0.03	Deorbit
2023-050	Falcon 9-216 Stage 2	2023 Apr 2 1702?	3000.0	18E 50S?		0.11	Deorbit
2023-054	Falcon 9-218 Stage 2	2023 Apr 15 1018?	3500.0	178E 29S		0.15	Deorbit
2023-056	Falcon 9-219 Stage 2	2023 Apr 19 1642?	3000.0	20E 43S		0.09	Deorbit
2023-058	Falcon 9-220 Stage 2	2023 Apr 27 1536?	3000.0	161W 44S?		0.08	Deorbit
2023-061	Falcon 9-222 Stage 2	2023 May 4 0945?	3000.0	40E 40S?		0.09	Deorbit
2023-064	Falcon 9-223 Stage 2	2023 May 10 2205?	3000.0	114W 44S?		0.08	Deorbit
2023-065	Falcon 9-224 Stage 2	2023 May 14 0717?	3000.0	40E 39S?		0.09	Deorbit
2023-067	Falcon 9-225 Stage 2	2023 May 19 0831?	3000.0	28E 43S?		0.09	Deorbit
2023-068	Falcon 9-226 Stage 2	2023 May 20 1543?	3460.0	23E 43S?		0.10	Deorbit
2023-070	Falcon 9-227 Stage 2	2023 May 21 2251?	3000.0	154W 33S?		0.05	Deorbit
2023-074B	Fregat No. 142-01	2023 May 26 2338?	1000.0	84W 45S		0.10	Deorbit
2023-078	Falcon 9-229 Stage 2	2023 May 31 0758?	3000.0	115W 41S?		0.08	Deorbit
2023-079	Falcon 9-230 Stage 2	2023 Jun 4 1431?	3000.0	22E 44S		0.09	Deorbit
2023-080	Falcon 9-231 Stage 2	2023 Jun 5 1653?	3000.0	155W 35S?		0.05	Deorbit
2023-083	Falcon 9-232 Stage 2	2023 Jun 12 0928?	3000.0	55E 35S?		0.10	Deorbit
2023-084	Falcon 9-233 Stage 2	2023 Jun 12 2355?	3500.0	30E 55S		0.10	Deorbit
2023-085	CZ-2D Y88 Stage 2	2023 Jun 15 0626?	4006.0	82W 30S?		0.04	Deorbit
2023-087	CZ-6 Y12 Stage 3	2023 Jun 20 0412?	1000.0	82W 30S?		0.04	Deorbit
2023-088	Falcon 9-235 Stage 2	2023 Jun 22 0848?	3000.0	173W 41.5N?		0.06	Deorbit
2023-090	Falcon 9-236 Stage 2	2023 Jun 23 1749?	3000.0	40E 40S?		0.09	Deorbit
2023-091	Fregat No. 142-02	2023 Jun 27 1703?	1000.0	121W 6N?		0.23	Deorbit
2023-094	Falcon 9-238 Stage 2	2023 Jul 7 2101?	3000.0	163W 39N?		0.06	Deorbit
2023-096	Falcon 9-239 Stage 2	2023 Jul 10 0614?	3000.0	47E 38S?		0.09	Deorbit
2023-099	Falcon 9-240 Stage 2	2023 Jul 16 0609?	3000.0	60E 32S?		0.10	Deorbit
2023-102	Falcon 9-241 Stage 2	2023 Jul 20 0554?	3000.0	119W 11N?		0.07	Deorbit
2023-104	CZ-2D Y91 Stage 2	2023 Jul 23 0345?	4006.0	82W 30S?		0.04	Deorbit
2023-105	Falcon 9-242 Stage 2	2023 Jul 24 0306?	3000.0	50E 37S?		0.09	Deorbit

Table 17: Vehicles deorbited soon after launch, 2023 (cont)

COSPAR	Spacecraft	Date	Mass/kg	Location	Coords	Life (d)	Type
2023-107	Falcon 9-243 Stage 2	2023 Jul 28 0617?	3000.0	47E 38S?		0.09	Deorbit
2023-113	Falcon 9-245 Stage 2	2023 Aug 7 0456?	3000.0	47E 38S?		0.09	Deorbit
2023-115	Falcon 9-246 Stage 2	2023 Aug 8 0541?	3000.0	120W 12N?		0.07	Deorbit
2023-117H	Gushenxing-1 Y7 Stage 4	2023 Aug 10 0455?	150.0	91W 42S?		0.04	Deorbit
2023-119	Falcon 9-247 Stage 2	2023 Aug 11 0733?	3000.0	50E 37S?		0.09	Deorbit
2023-122	Falcon 9-248 Stage 2	2023 Aug 17 0553?	3000.0	52E 36S?		0.09	Deorbit
2023-124	Falcon 9-249 Stage 2	2023 Aug 22 1129?	3000.0	103W 19S?		0.08	Deorbit
2023-127B	Gushenxing-1 Y8 Stage 4	2023 Aug 25 0550?	150.0	91W 42S?		0.04	Deorbit
2023-128	Falcon 9-250 Stage 2	2023 Aug 26 0841?	3000.0	157W 35S?		0.05	Deorbit
2023-129	Falcon 9-251 Stage 2	2023 Aug 27 0321?	3000.0	51E 36S?		0.09	Deorbit
2023-131	Falcon 9-252 Stage 2	2023 Sep 1 0437?	3000.0	46E 38S?		0.09	Deorbit
2023-133P	Falcon 9-253 Stage 2	2023 Sep 2 1658?	3000.0	18E 48S?		0.11	Deorbit
2023-134	Falcon 9-254 Stage 2	2023 Sep 4 0502?	3000.0	46E 38S?		0.09	Deorbit
2023-138	Falcon 9-255 Stage 2	2023 Sep 9 0528?	3000.0	50E 37S?		0.09	Deorbit
2023-141	Falcon 9-256 Stage 2	2023 Sep 12 0849?	3000.0	106W 15S?		0.08	Deorbit
2023-142B	Alpha FLTA003 Stage 2	2023 Sep 15 0407?	909.0	145W 38N?		0.07	Deorbit
2023-144	Falcon 9-257 Stage 2	2023 Sep 16 0553?	3000.0	51E 37S?		0.09	Deorbit
2023-146	Falcon 9-258 Stage 2	2023 Sep 20 0555?	3000.0	54E 35S?		0.10	Deorbit
2023-147	Falcon 9-259 Stage 2	2023 Sep 24 0555?	3000.0	55E 34S?		0.09	Deorbit
2023-148	Falcon 9-260 Stage 2	2023 Sep 25 1039?	3000.0	105W 16S?		0.08	Deorbit
2023-151	Falcon 9-261 Stage 2	2023 Sep 30 0417?	3000.0	56E 34S?		0.10	Deorbit
2023-153	Falcon 9-262 Stage 2	2023 Oct 5 0754?	3000.0	58E 33S?		0.10	Deorbit
2023-155	Vega AVUM VV23	2023 Oct 9 0404?	718.0	90E 16S?		0.10	Deorbit
2023-156	Falcon 9-263 Stage 2	2023 Oct 9 0935?	3000.0	105W 16S?		0.08	Deorbit
2023-158	Falcon 9-264 Stage 2	2023 Oct 13 0118?	3000.0	55E 35S?		-	Deorbit
2023-160	Falcon 9-265 Stage 2	2023 Oct 18 0255?	3000.0	54E 35S?		0.09	Deorbit
2023-161	Falcon 9-266 Stage 2	2023 Oct 21 1014?	3000.0	105W 16S?		0.08	Deorbit
2023-162	Falcon 9-267 Stage 2	2023 Oct 22 0434?	3000.0	55E 35S?		0.10	Deorbit
2023-166	Falcon 9-268 Stage 2	2023 Oct 29 1051?	3000.0	105W 17S?		0.08	Deorbit
2023-167	Falcon 9-269 Stage 2	2023 Oct 31 0137?	3000.0	55E 35S?		0.09	Deorbit
2023-170	Falcon 9-270 Stage 2	2023 Nov 4 0254?	3000.0	55E 35S?		0.09	Deorbit
2023-171	Falcon 9-271 Stage 2	2023 Nov 8 0722?	3000.0	55E 35S?		0.09	Deorbit
2023-173	Falcon 9-272 Stage 2	2023 Nov 10 0241?	3000.0	158W 35S?		0.05	Deorbit
2023-174	Falcon 9-273 Stage 2	2023 Nov 11 2109?	3508.0	32E 56S?		0.10	Deorbit
2023-177	Falcon 9-275 Stage 2	2023 Nov 18 0722?	3000.0	55E 35S?		0.09	Deorbit
2023-178	Falcon 9-276 Stage 2	2023 Nov 20 1222?	3000.0	105W 17S?		0.08	Deorbit
2023-180	Falcon 9-277 Stage 2	2023 Nov 22 1004?	3000.0	55E 35S?		0.09	Deorbit
2023-181	Yuanzheng-3 Y2	2023 Nov 23 1230?	2000.0	150W 46S?		0.10	Deorbit
2023-183	Falcon 9-278 Stage 2	2023 Nov 28 0636?	3000.0	55E 35S?		0.09	Deorbit
2023-185	Falcon 9-279 Stage 2	2023 Dec 1 2022?	3500.0	161W 38S?		0.09	Deorbit
2023-186	Falcon 9-280 Stage 2	2023 Dec 3 0618?	3000.0	56E 34S?		1.10	Deorbit
2023-191	Falcon 9-281 Stage 2	2023 Dec 7 0724?	3000.0	55E 35S?		0.09	Deorbit
2023-192	Falcon 9-282 Stage 2	2023 Dec 8 0955?	3000.0	104W 19S?		0.08	Deorbit
2023-200	Falcon 9-283 Stage 2	2023 Dec 19 0618?	3000.0	55E 35S?		0.10	Deorbit
2023-203	Falcon 9-284 Stage 2	2023 Dec 23 0750?	3000.0	55E 35S?		0.10	Deorbit
2023-204	Falcon 9-285 Stage 2	2023 Dec 24 1509?	3000.0	146W 43S?		0.08	Deorbit
2023-211	Falcon 9-286 Stage 2	2023 Dec 29 0619?	3000.0	55E 35S?		0.10	Deorbit
2023-210B	Falcon Heavy-009 Stage 2	2023 Dec 29 1245?	4000.0	144W 46N?		0.48	Deorbit
2023-212B	Yuanzheng-1S Y10	2023 Dec 30 0236?	2500.0	155E 50S?		0.10	Deorbit

Table 18: Vehicles deorbited soon after separation, 2023

COSPAR	Spacecraft	Date	Mass/kg	Location	Coords	Sep Life (d)	Type
2022-116	Soyuz MS-22 BO	2023 Mar 28 1122:10	1312.0	44E 33N		0.00	Deorbit
2022-116	Soyuz MS-22 PAO	2023 Mar 28 1122:10	2125.0	44E 33N		0.00	Deorbit
2022-162	Shenzhou 15 Tuijin Cang	2023 Jun 3 2215?	2000.0	89E 41N?		0.00	Deorbit
2023-024	Soyuz MS-23 BO	2023 Sep 27 1055?	1312.0	46E 35N?		0.00	Deorbit
2023-024	Soyuz MS-23 PAO	2023 Sep 27 1055?	2125.0	46E 35N?		0.00	Deorbit
2023-077	Shenzhou 16 Tuijin Cang	2023 Oct 30 2352?	2000.0	84E 40N?		0.00	Deorbit

6.3 New sun-synchronous satellites in 2023

Table 19 lists satellites launched to sun-synchronous orbit in 2023, ordered by the local time of their orbit's descending node (LTDN, format hhmm or hhmm:ss).

Table 19: SSO satellites launched in 2023, ordered by local time of descending node

No	Piece	Name	Operator	Mission	Orbit	LTDN
1	2023-123A	Gao Fen 12-04	PLA SSF	IMG-R	624 x 627 x 97.9	00:02:06
2	2023-136A	Yaogan 33-03	PLA SSF	IMG-R	694 x 694 x 98.2	00:29:21
3	2023-201A	Kosmos-2573	VVKO VKS	IMG	494 x 509 x 97.6	00:33:47
4	2023-149A	Yaogan 33-04	PLA SSF	IMG-R	693 x 695 x 98.1	02:26:09
5	2023-058D	Starlink 5988	SpaceX/Seattle	COM	562 x 563 x 97.7	05:36:00
6	2023-058A	Starlink 6038	SpaceX/Seattle	COM	561 x 563 x 97.7	05:36:00
7	2023-058F	Starlink 6033	SpaceX/Seattle	COM	562 x 563 x 97.7	05:36:01
8	2023-058B	Starlink 5954	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:02
9	2023-058C	Starlink 6039	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:03
10	2023-058K	Starlink 5980	SpaceX/Seattle	COM	560 x 565 x 97.7	05:36:04
11	2023-058H	Starlink 6034	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:04
12	2023-058G	Starlink 6035	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:05
13	2023-058E	Starlink 5876	SpaceX/Seattle	COM	561 x 563 x 97.7	05:36:06
14	2023-058R	Starlink 5093	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:07
15	2023-058P	Starlink 5967	SpaceX/Seattle	COM	562 x 563 x 97.7	05:36:08
16	2023-058M	Starlink 5992	SpaceX/Seattle	COM	561 x 563 x 97.7	05:36:09
17	2023-058J	Starlink 5981	SpaceX/Seattle	COM	562 x 564 x 97.7	05:36:10
18	2023-058N	Starlink 5984	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:12
19	2023-058V	Starlink 5562	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:14
20	2023-058L	Starlink 5997	SpaceX/Seattle	COM	561 x 563 x 97.7	05:36:15
21	2023-058T	Starlink 5548	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:15
22	2023-058Q	Starlink 5991	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:17
23	2023-058S	Starlink 5553	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:18
24	2023-058X	Starlink 5554	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:19
25	2023-058Z	Starlink 5540	SpaceX/Seattle	COM	560 x 564 x 97.7	05:36:20
26	2023-058W	Starlink 5561	SpaceX/Seattle	COM	560 x 564 x 97.7	05:36:20
27	2023-058U	Starlink 5559	SpaceX/Seattle	COM	560 x 565 x 97.7	05:36:21
28	2023-058AA	Starlink 5543	SpaceX/Seattle	COM	560 x 565 x 97.7	05:36:22
29	2023-058AB	Starlink 5955	SpaceX/Seattle	COM	560 x 565 x 97.7	05:36:23
30	2023-058Y	Starlink 5552	SpaceX/Seattle	COM	560 x 565 x 97.7	05:36:24
31	2023-058AD	Starlink 5974	SpaceX/Seattle	COM	560 x 565 x 97.7	05:36:25
32	2023-058AH	Starlink 5888	SpaceX/Seattle	COM	560 x 565 x 97.7	05:36:25
33	2023-058AF	Starlink 5837	SpaceX/Seattle	COM	560 x 565 x 97.7	05:36:26
34	2023-058AC	Starlink 5976	SpaceX/Seattle	COM	560 x 565 x 97.7	05:36:27
35	2023-058AE	Starlink 5979	SpaceX/Seattle	COM	560 x 565 x 97.7	05:36:28
36	2023-058AP	Starlink 5877	SpaceX/Seattle	COM	559 x 566 x 97.7	05:36:28
37	2023-058AG	Starlink 5829	SpaceX/Seattle	COM	560 x 565 x 97.7	05:36:28
38	2023-058AM	Starlink 5885	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:29
39	2023-058AK	Starlink 5886	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:30
40	2023-058AJ	Starlink 5887	SpaceX/Seattle	COM	560 x 565 x 97.7	05:36:30
41	2023-058AL	Starlink 5891	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:31
42	2023-058AT	Starlink 5482	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:31
43	2023-058AR	Starlink 5535	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:32
44	2023-058AS	Starlink 5538	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:33
45	2023-058AQ	Starlink 5533	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:33
46	2023-058AV	Starlink 5549	SpaceX/Seattle	COM	562 x 563 x 97.7	05:36:34
47	2023-058AU	Starlink 5551	SpaceX/Seattle	COM	561 x 564 x 97.7	05:36:35
48	2023-058AX	Starlink 5972	SpaceX/Seattle	COM	562 x 563 x 97.7	05:36:36
49	2023-058AW	Starlink 5550	SpaceX/Seattle	COM	562 x 563 x 97.7	05:36:37
50	2023-058AN	Starlink 5874	SpaceX/Seattle	COM	562 x 563 x 97.7	05:36:37
51	2023-189A	Xingchi-1A	Ellipspace	IMG	491 x 513 x 97.5	05:53:37
52	2023-189B	Jiheng-1	Zhiyu Hangyu	MET	489 x 511 x 97.5	05:53:44
53	2023-206C	Shiyan 24C-03	China Aerospace	TECH	538 x 554 x 97.3	05:56:25
54	2023-206A	Shiyan 24C-01	China Aerospace	TECH	538 x 554 x 97.3	05:56:25
55	2023-206B	Shiyan 24C-02	China Aerospace	TECH	540 x 553 x 97.3	05:56:26

Table 19: SSO satellites launched in 2023, ordered by local time of descending node

No	Piece	Name	Operator	Mission	Orbit	LTDN
56	2023-030A	Tianhui-6 01	G. Cehui dili	IMG-R	887 x 890 x 99.0	06:00:17
57	2023-030D	Tianhui-6 02	G. Cehui dili	IMG-R	886 x 891 x 99.0	06:00:18
58	2023-116A	Huanjing Jianzai	CRESDA	SCI	499 x 504 x 97.4	06:00:22
59	2023-168A	Tianhui-5 01	G. Cehui dili	IMG-R	604 x 606 x 97.8	06:00:23
60	2023-168C	Tianhui-5 02	G. Cehui dili	IMG-R	603 x 606 x 97.8	06:00:24
61	2023-193C	Honghu-2	Hongqing Keji	TECH	452 x 490 x 97.3	06:00:40
62	2023-193B	Tianyi-33	SpaceTy/Hunan UST	TECH	431 x 461 x 97.3	06:01:00
63	2023-193A	Honghu	Hongqing Keji	TECH	427 x 459 x 97.3	06:01:06
64	2023-159A	Yunhai 1-04	SAST	MET	780 x 782 x 98.6	07:12:50
65	2023-205D	Tianmu 1-14	Hangtian Tianmu	MET	517 x 532 x 97.4	07:20:20
66	2023-205C	Tianmu 1-13	Hangtian Tianmu	MET	519 x 533 x 97.4	07:20:23
67	2023-205B	Tianmu 1-12	Hangtian Tianmu	MET	517 x 532 x 97.4	07:20:24
68	2023-205A	Tianmu 1-11	Hangtian Tianmu	MET	517 x 532 x 97.4	07:20:26
69	2023-091J	Impul's-1	QSpace/MISiS	COM	543 x 563 x 97.6	08:57:58
70	2023-091R	Akhmat-1	Chechen State U	COM	540 x 564 x 97.6	08:58:16
71	2023-091K	CubeBel-2	Belarus SU	COM	540 x 560 x 97.6	08:58:23
72	2023-091H	SATURN	Kuban GTU	TECH	540 x 559 x 97.6	08:58:34
73	2023-091L	Katys G.P.	Sitronics	COM	537 x 561 x 97.6	08:58:50
74	2023-091P	Rassvet-1 No. 1	Byuro 1440	COM	540 x 564 x 97.6	08:58:50
75	2023-091AE	Fartushniy V.G.	Sitronics	COM	537 x 561 x 97.6	08:58:52
76	2023-091G	UmKA-1	Shk. 29 Podol'sk	TECH	538 x 561 x 97.6	08:58:52
77	2023-091AC	Chirkin V.N.	Sitronics	COM	537 x 561 x 97.6	08:58:53
78	2023-091AD	Anokhin S.N.	Sitronics	TECH	537 x 560 x 97.6	08:58:58
79	2023-091M	Zorkiy-2M	Sputniks	IMG	538 x 562 x 97.6	08:58:59
80	2023-091AB	Polytech Univers	Polytech	TECH	536 x 562 x 97.6	08:59:00
81	2023-091C	Samsat-ION	SNIU	TECH	538 x 559 x 97.6	08:59:02
82	2023-091S	Monitor-4	MGU	SCI	537 x 561 x 97.6	08:59:08
83	2023-091AV	KuzGTU-1	Kuzbass GTU	TECH	537 x 560 x 97.6	08:59:10
84	2023-091Q	Monitor-3	MGU	SCI	537 x 561 x 97.6	08:59:12
85	2023-091D	ReshUCube-2	SibGAU	COM	539 x 557 x 97.6	08:59:25
86	2023-091N	CubeSX-HSE-3	HSE	IMG/COM	537 x 560 x 97.6	08:59:25
87	2023-091F	Yarilo-4	MGTU Bauman	SCI	538 x 558 x 97.6	08:59:26
88	2023-091E	Rassvet-1 No. 3	Byuro 1440	COM	540 x 556 x 97.6	08:59:28
89	2023-091BA	Stratosat TK-1-D	Stratonavtika/MKS	COM	534 x 556 x 97.6	08:59:38
90	2023-091AX	Stratosat TK-1-B	Stratonavtika/MKS	COM	534 x 556 x 97.6	08:59:41
91	2023-091B	Stratosat TK-1	Stratonavtika	TECH	533 x 554 x 97.6	08:59:52
92	2023-091U	Monitor-2	MGU	SCI	539 x 558 x 97.6	08:59:53
93	2023-091T	Rassvet-1 No. 2	Byuro 1440	COM	539 x 557 x 97.6	09:00:04
94	2023-091AN	CSTP-1.1	STTs	TECH	542 x 556 x 97.6	09:00:08
95	2023-091AY	Stratosat TK-1-V	Stratonavtika/MKS	COM	530 x 552 x 97.6	09:00:15
96	2023-091AW	Stratosat TK-1-A	Stratonavtika/MKS	COM	530 x 552 x 97.6	09:00:17
97	2023-091BB	Stratosat TK-1-E	Stratonavtika/MKS	COM	530 x 552 x 97.6	09:00:19
98	2023-091Y	Khors No. 1	MGTU Bauman	TECH	537 x 555 x 97.6	09:00:21
99	2023-091AF	Avion-Kaluga 650	MGU	SCI	539 x 556 x 97.6	09:00:23
100	2023-091X	Svyatobor-1	Sputniks	IMG	537 x 555 x 97.6	09:00:27
101	2023-091W	CSTP-1.2	STTs	TECH	537 x 554 x 97.6	09:00:36
102	2023-091AH	A-SEANSAT-PG1	ANGKASA-X	COM	536 x 552 x 97.6	09:00:40
103	2023-091V	Sirius-SINP-3U	BG-Optiks	TECH	536 x 553 x 97.6	09:00:44
104	2023-091AG	Khors No. 2	MGTU Bauman	TECH	536 x 553 x 97.6	09:00:46
105	2023-091AP	UTMN-2	TyungU	IMG	536 x 553 x 97.6	09:00:49
106	2023-091AM	Shchukin A.V.	Sitronics	COM	535 x 552 x 97.6	09:00:50
107	2023-091AK	Burdaev M.N.	Sitronics	COM	535 x 552 x 97.6	09:00:52
108	2023-091Z	VIZARD-meteo	VIZARD/OOO NIS	COM/MET	535 x 552 x 97.6	09:01:01
109	2023-091AQ	Smirenniy L.N.	Sitronics	COM	535 x 551 x 97.6	09:01:08
110	2023-091AU	Sheffer Yu.P.	Sitronics	COM	535 x 551 x 97.6	09:01:10
111	2023-091AS	Norbi-2	Novosibirsk SU	SCI	533 x 549 x 97.6	09:01:11
112	2023-091AL	PHI-DEMO	Rashid Space Ctr	TECH	534 x 551 x 97.6	09:01:13

Table 19: SSO satellites launched in 2023, ordered by local time of descending node

No	Piece	Name	Operator	Mission	Orbit	LTDN
113	2023-091AR	ArcCube-01	ANO FIRON	COM	531 x 546 x 97.6	09:01:28
114	2023-091AA	Nanozond-1	OGU	TECH	533 x 547 x 97.6	09:01:29
115	2023-091AZ	Stratosat TK-1-G	Stratonavtika/MKS	COM	523 x 543 x 97.6	09:01:31
116	2023-091AJ	Yarilo-3	MGTU Bauman	SCI	528 x 544 x 97.6	09:02:34
117	2023-091A	Meteor-M No. 2-3	Rosgidromet/VNIIEM	MET	809 x 814 x 98.7	09:07:45
118	2023-001A	STAR VIBE	Scanway	IMG	508 x 522 x 97.4	09:25:41
119	2023-001AB	Lynk Tower 4	Lynk	COM	509 x 525 x 97.5	09:25:56
120	2023-001BE	Skykraft 1C	SkyKraft	COM	510 x 527 x 97.5	09:25:57
121	2023-001BH	Albania-1	URUGUS S.A.	IMG	477 x 494 x 97.3	09:26:04
122	2023-001H	SharedSat 2211	Endurosat	TECH	506 x 521 x 97.4	09:26:09
123	2023-001AP	Lynk Tower 3	Lynk	COM	508 x 525 x 97.5	09:26:19
124	2023-001CZ	Sharjah-Sat-1	Sharjah SAAST	TECH	505 x 521 x 97.5	09:26:40
125	2023-001C	BRO-8	Unseen Labs	SIG	508 x 523 x 97.5	09:26:50
126	2023-001AZ	Vigoride VR-5	Momentus	TECH	510 x 527 x 97.4	09:26:57
127	2023-001AX	Skykraft 1A	SkyKraft	COM	507 x 524 x 97.4	09:27:01
128	2023-001B	Menut	Open Cosmos/IEEC	IMG	507 x 521 x 97.5	09:27:05
129	2023-001AD	Umbra-05	Umbra Labs	IMG-R	536 x 551 x 97.5	09:27:05
130	2023-001AW	EOS SAT-1	EOS DA	IMG	506 x 524 x 97.5	09:27:11
131	2023-001BV	YAM-5	Loft Orbital	TECH	504 x 523 x 97.5	09:27:48
132	2023-001D	Connecta T1.2	Plan-S	COM	503 x 519 x 97.5	09:28:40
133	2023-001AJ	Skykraft 1 Carri	SkyKraft	TECH	500 x 516 x 97.4	09:29:19
134	2023-001AR	Williamina	URUGUS S.A.	IMG	493 x 509 x 97.4	09:29:33
135	2023-101C	Naning 01	Hangtian Tianmu	MET	515 x 526 x 97.4	09:29:39
136	2023-101B	Naxinda-1	Hangtian Tianmu	MET	515 x 526 x 97.4	09:29:55
137	2023-101D	Naning 02	Hangtian Tianmu	MET	513 x 527 x 97.4	09:30:07
138	2023-001G	Birkeland	NLR/NDRE	SIG	501 x 515 x 97.5	09:30:15
139	2023-101A	Xinjiang Nengyua	Hangtian Tianmu	MET	517 x 524 x 97.4	09:30:19
140	2023-001CN	Huygens	NLR/NDRE	SIG	497 x 517 x 97.5	09:30:26
141	2023-001BB	Skykraft 1B	SkyKraft	COM	495 x 511 x 97.4	09:30:54
142	2023-001CY	KuwaitSat-1	Kuwait U.	TECH	498 x 519 x 97.5	09:31:04
143	2023-001AN	Amelia Earhart	URUGUS S.A.	IMG	486 x 501 x 97.4	09:31:18
144	2023-001AQ	Albania-2	URUGUS S.A.	IMG	482 x 497 x 97.4	09:31:18
145	2023-001CD	GAMA Alpha	Gama Space	TECH	493 x 512 x 97.4	09:31:52
146	2023-001DD	Zeus-1	Qosmosys	TECH	491 x 503 x 97.5	09:31:55
147	2023-001CA	PolyITAN-HP-30	Kyiv Polytechnic	TECH	494 x 513 x 97.5	09:32:03
148	2023-001AT	Umbra-04	Umbra Labs	IMG-R	490 x 495 x 97.5	09:32:04
149	2023-001AS	ICEYE-X21	ICEYE	IMG-R	492 x 508 x 97.5	09:32:27
150	2023-001AV	Skykraft 1D	SkyKraft	COM	490 x 505 x 97.4	09:32:59
151	2023-001BF	ICEYE-X27	ICEYE	IMG-R	494 x 513 x 97.5	09:33:22
152	2023-001K	KSF3-C	Kleos Space	SIG	486 x 499 x 97.4	09:33:36
153	2023-001AM	Sternula-1	Sternula	COM	487 x 502 x 97.5	09:33:46
154	2023-001L	KSF3-B	Kleos Space	SIG	489 x 503 x 97.5	09:34:25
155	2023-001CE	KSF3-D	Kleos Space	SIG	487 x 505 x 97.4	09:34:40
156	2023-001AL	Flock 4y-11	Planet	IMG	491 x 505 x 97.5	09:34:50
157	2023-001U	Flock 4y-25	Planet	IMG	489 x 502 x 97.4	09:34:52
158	2023-001M	Flock 4y-24	Planet	IMG	489 x 502 x 97.4	09:34:56
159	2023-001T	Flock 4y-19	Planet	IMG	489 x 502 x 97.4	09:34:59
160	2023-001AK	Flock 4y-33	Planet	IMG	488 x 503 x 97.4	09:35:01
161	2023-001P	Flock 4y-22	Planet	IMG	489 x 503 x 97.4	09:35:02
162	2023-001N	Flock 4y-32	Planet	IMG	488 x 502 x 97.4	09:35:06
163	2023-001X	Flock 4y-29	Planet	IMG	485 x 500 x 97.4	09:35:10
164	2023-001BM	Flock 4y-15	Planet	IMG	486 x 504 x 97.4	09:35:12
165	2023-001CF	KSF3-A	Kleos Space	SIG	488 x 506 x 97.5	09:35:15
166	2023-001AC	Flock 4y-3	Planet	IMG	487 x 504 x 97.4	09:35:16
167	2023-001Z	Flock 4y-7	Planet	IMG	488 x 502 x 97.4	09:35:20
168	2023-001V	Flock 4y-5	Planet	IMG	488 x 503 x 97.4	09:35:22
169	2023-001BC	Orbiter SN1	Launcher Inc	TECH	482 x 497 x 97.4	09:35:25

Table 19: SSO satellites launched in 2023, ordered by local time of descending node

No	Piece	Name	Operator	Mission	Orbit	LTDN
170	2023-001R	Flock 4y-14	Planet	IMG	489 x 503 x 97.5	09:35:26
171	2023-001BP	Flock 4y-26	Planet	IMG	486 x 504 x 97.5	09:35:30
172	2023-001BR	EYE	Sony CSL	IMG	485 x 502 x 97.5	09:35:41
173	2023-001Q	Flock 4y-18	Planet	IMG	489 x 502 x 97.5	09:35:46
174	2023-001W	Flock 4y-10	Planet	IMG	489 x 502 x 97.5	09:35:47
175	2023-001AY	Flock 4y-4	Planet	IMG	486 x 503 x 97.5	09:35:48
176	2023-001CB	Flock 4y-34	Planet	IMG	486 x 504 x 97.4	09:35:48
177	2023-001BZ	Flock 4y-23	Planet	IMG	484 x 503 x 97.4	09:35:49
178	2023-001Y	Flock 4y-17	Planet	IMG	489 x 502 x 97.5	09:35:50
179	2023-001BN	Flock 4y-9	Planet	IMG	487 x 505 x 97.5	09:35:54
180	2023-001BY	Flock 4y-13	Planet	IMG	486 x 505 x 97.5	09:35:54
181	2023-001S	Flock 4y-30	Planet	IMG	488 x 502 x 97.5	09:35:54
182	2023-001BT	Flock 4y-2	Planet	IMG	487 x 505 x 97.5	09:35:56
183	2023-001BA	Flock 4y-35	Planet	IMG	487 x 503 x 97.5	09:35:56
184	2023-001BX	Flock 4y-36	Planet	IMG	485 x 503 x 97.4	09:35:56
185	2023-001BQ	Flock 4y-8	Planet	IMG	484 x 502 x 97.4	09:35:59
186	2023-001CK	Chimera LEO-1	Epic	TECH	483 x 501 x 97.5	09:36:02
187	2023-001BG	Flock 4y-20	Planet	IMG	487 x 505 x 97.5	09:36:07
188	2023-001BW	Flock 4y-21	Planet	IMG	486 x 504 x 97.5	09:36:10
189	2023-001BK	Flock 4y-6	Planet	IMG	486 x 503 x 97.5	09:36:15
190	2023-001AH	Flock 4y-16	Planet	IMG	488 x 502 x 97.5	09:36:16
191	2023-001BJ	Flock 4y-12	Planet	IMG	487 x 504 x 97.5	09:36:19
192	2023-001CC	Flock 4y-27	Planet	IMG	484 x 503 x 97.5	09:36:25
193	2023-001BS	TAUSat2	Tel Aviv U.	SCI	482 x 501 x 97.5	09:36:32
194	2023-001AG	Flock 4y-1	Planet	IMG	481 x 494 x 97.4	09:36:54
195	2023-001CT	BDSAT-2	CEITEC/SpaceManic	TECH	480 x 499 x 97.5	09:37:32
196	2023-001J	Lemur-2 SteveAlb	Spire	COM/MET-RO	468 x 477 x 97.4	09:38:53
197	2023-001BU	Flock 4y-31	Planet	IMG	466 x 483 x 97.4	09:39:02
198	2023-001AA	Flock 4y-28	Planet	IMG	476 x 488 x 97.4	09:39:44
199	2023-001CG	SpaceBEE-167	Swarm Tech	COM	469 x 484 x 97.4	09:40:13
200	2023-001CL	SpaceBEE-164	Swarm Tech	COM	466 x 481 x 97.4	09:41:06
201	2023-001F	Lemur-2 Disclaim	Spire	COM/MET-RO	461 x 471 x 97.5	09:41:10
202	2023-001E	Lemur-2 PhilAri	Spire/Lux/ESA	COM/MET-RO	462 x 470 x 97.4	09:41:18
203	2023-001CQ	SpaceBEE-162	Swarm Tech	COM	465 x 481 x 97.4	09:41:26
204	2023-001BD	ION SCV007 GLORI	D-ORBIT	TECH	636 x 652 x 98.0	09:41:30
205	2023-001CR	SpaceBEE-161	Swarm Tech	COM	464 x 480 x 97.4	09:41:36
206	2023-001CV	SpaceBEE-158	Swarm Tech	COM	464 x 480 x 97.4	09:41:41
207	2023-001CS	SpaceBEE-160	Swarm Tech	COM	464 x 480 x 97.4	09:41:43
208	2023-001CP	SpaceBEE-165	Swarm Tech	COM	464 x 479 x 97.4	09:41:45
209	2023-001CU	SpaceBEE-156	Swarm Tech	COM	463 x 479 x 97.4	09:41:56
210	2023-001CJ	SpaceBEE-163	Swarm Tech	COM	461 x 475 x 97.4	09:42:04
211	2023-001CW	SpaceBEE-159	Swarm Tech	COM	459 x 476 x 97.4	09:43:07
212	2023-001CM	SpaceBEE-166	Swarm Tech	COM	459 x 476 x 97.4	09:43:11
213	2023-001CX	SpaceBEE-157	Swarm Tech	COM	459 x 475 x 97.4	09:43:19
214	2023-001DC	Kelpie-1	AAC ClydeSpace	COM	628 x 643 x 98.0	09:44:28
215	2023-001CH	Lemur-2 Fuenteta	Spire	COM/MET-RO	461 x 475 x 97.5	09:44:33
216	2023-001AF	Lemur-2 MMolo	Spire	COM/MET-RO	469 x 485 x 97.5	09:45:32
217	2023-001BL	NSLSat-2	NSLComm/AAC ClydeSpa	COM	453 x 466 x 97.5	09:46:31
218	2023-001AE	Lemur-2 Emmacula	Spire	COM/MET-RO	440 x 452 x 97.5	09:48:31
219	2023-185D	Bane	York Space Sys	TECH	507 x 523 x 97.4	09:59:15
220	2023-185E	uHETSat	SITAEL SpA	TECH	505 x 525 x 97.4	09:59:18
221	2023-185F	Lilium 1	/NCKU	TECH	504 x 523 x 97.4	09:59:21
222	2023-185G	SpIRIT	U Melb.	AST	503 x 525 x 97.4	09:59:22
223	2023-185L	EIRSAT-1	UC Dublin	SCI	501 x 522 x 97.4	09:59:31
224	2023-185J	ENSO	Montpellier	TECH	501 x 522 x 97.4	09:59:32
225	2023-185K	Hayasat-1	BAZOOMQ	TECH	501 x 521 x 97.4	09:59:34
226	2023-185P	MDQubesat-2	Innova Space	COM	550 x 577 x 97.6	10:00:33

Table 19: SSO satellites launched in 2023, ordered by local time of descending node

No	Piece	Name	Operator	Mission	Orbit	LTDN
227	2023-185N	Unicorn-2N	Alba Orbital	IMG	548 x 574 x 97.6	10:00:36
228	2023-185H	ION SCV015 DARIN	D-ORBIT	TECH	550 x 570 x 97.6	10:00:43
229	2023-185R	Unicorn-2L	Alba Orbital	IMG	551 x 575 x 97.7	10:00:43
230	2023-185Q	Unicorn-2M	Alba Orbital	IMG	550 x 574 x 97.7	10:00:44
231	2023-185A	GNOMES-4	PlanetIQ	COM	549 x 569 x 97.6	10:00:44
232	2023-185S	NanoFF B	TUB	TECH	549 x 572 x 97.6	10:00:45
233	2023-185B	Korsat-7	DAPA	IMG	550 x 572 x 97.6	10:00:48
234	2023-185C	KOYOH	Kanazawa U	TECH	550 x 567 x 97.6	10:00:52
235	2023-185M	ALISIO-1	IAC	IMG	549 x 563 x 97.6	10:00:56
236	2023-104A	Kuangda Nanhu	Sixiang Aishu/CUMT	IMG-R	472 x 491 x 97.4	10:01:56
237	2023-104B	Hongkou Fuxing	Sixiang Aishu	IMG	470 x 490 x 97.4	10:02:13
238	2023-104C	Zhongdian Nongch	Sixiang Aishu/CPI	IMG	468 x 501 x 97.4	10:03:29
239	2023-104D	Lingxi-03	Yinhe	COM	457 x 474 x 97.4	10:04:20
240	2023-111A	Feng Yun 3F	CNMSC	MET	825 x 827 x 98.8	10:05:56
241	2023-155C	ANSER FOLLOWER 2	INTA	IMG	563 x 572 x 97.7	10:13:06
242	2023-007F	Jilin-1 Mofang 0	Chang Guang	IMG	474 x 480 x 97.3	10:13:06
243	2023-155D	ANSER FOLLOWER 1	INTA	IMG	563 x 572 x 97.7	10:13:09
244	2023-155G	CSC-1	ISIS BV	TECH	560 x 571 x 97.7	10:13:22
245	2023-155F	CSC-2	ISIS BV	TECH	561 x 571 x 97.7	10:13:23
246	2023-155E	N3SS	CNES	SIG	557 x 572 x 97.7	10:13:24
247	2023-155H	PRETTY	TU Graz	SCI	561 x 564 x 97.7	10:14:03
248	2023-155J	MACSAT	OQ Tech	COM	561 x 564 x 97.7	10:14:09
249	2023-155K	PVCC	ESA	IMG	561 x 565 x 97.7	10:14:12
250	2023-176A	Hai Yang 3-01	Yaogan zhongxin/Chin	SCI	766 x 789 x 98.6	10:14:25
251	2023-155A	THEOS-2	GISTDA	IMG	622 x 624 x 97.9	10:15:04
252	2023-007A	Qilu-2	Shandong changye	IMG	469 x 485 x 97.3	10:15:37
253	2023-155B	FORMOSAT-7R	TASA	IMG/SCI	598 x 603 x 97.9	10:20:10
254	2023-103A	Qiankun-1	Saisi Besi	IMG	442 x 455 x 96.6	10:20:32
255	2023-007E	Jilin-1 Mofang 0	Chang Guang	IMG	454 x 464 x 97.3	10:21:14
256	2023-117C	Diwei Zhineng Yi	Star Vision/Henan Li	IMG	517 x 535 x 97.5	10:21:34
257	2023-117F	Xi'an Hangtou 10	Xi'an Hangtou	IMG	515 x 533 x 97.5	10:21:56
258	2023-117D	Xi'an Hangtou 88	Xi'an Hangtou	IMG	509 x 527 x 97.5	10:22:37
259	2023-117B	Xingchi-1B	Ellipospace	IMG	509 x 526 x 97.5	10:22:41
260	2023-117A	Xiguang 1-01	Xiopm Space	IMG	509 x 527 x 97.5	10:22:43
261	2023-117E	Xi'an Hangtou 96	Xi'an Hangtou	IMG	509 x 526 x 97.5	10:22:48
262	2023-117G	Xi'an Hangtou 11	Xi'an Hangtou	IMG	504 x 524 x 97.5	10:23:40
263	2023-007B	Qilu-3	Shandong changye	IMG	452 x 462 x 97.3	10:24:06
264	2023-081F	LJ-1 Payload A2	Unknown (CN)	TECH	506 x 508 x 97.4	10:24:13
265	2023-007G	Jilin-1 Mofang 0	Chang Guang	IMG	450 x 459 x 97.3	10:25:21
266	2023-081W	Shiyan 24B	China Aerospace	TECH	496 x 520 x 97.4	10:25:39
267	2023-087A	Shiyan 25	DFH	TECH	256 x 285 x 96.5	10:25:45
268	2023-081A	Shiyan 24A	China Aerospace	TECH	507 x 509 x 97.4	10:26:04
269	2023-081B	LJ-1 Payload A1	Unknown (CN)	TECH	509 x 510 x 97.4	10:26:36
270	2023-081L	LJ-1 Payload A3	Unknown (CN)	TECH	507 x 509 x 97.4	10:26:37
271	2023-007C	Haihe-1	Yunyao yuhang/Chang	IMG	428 x 437 x 97.3	10:28:37
272	2023-007K	Beiyou-1	BUPT	TECH	449 x 460 x 97.3	10:28:57
273	2023-174DF	Lemur-2 NanaZ	Spire	SIG	491 x 522 x 97.3	10:29:03
274	2023-081N	LJ-1 Payload A4	Unknown (CN)	TECH	506 x 507 x 97.4	10:29:05
275	2023-174AW	ION SCV013 ULTIM	D-ORBIT	TECH	528 x 557 x 97.4	10:29:19
276	2023-174DG	OSW Cazorla	Odyssey SW	MGRAV	488 x 509 x 97.3	10:29:24
277	2023-007M	Jin Zijing 3	Gang Hang Ke/Jiutian	IMG	443 x 453 x 97.3	10:30:39
278	2023-007L	Jin Zijing 6	Gang Hang Ke/Shandon	IMG	446 x 462 x 97.3	10:30:57
279	2023-174K	PEARL-1H	Foxconn	COM	515 x 531 x 97.5	10:31:03
280	2023-174C	OrbAstro PC1	OrbAstro	TECH	513 x 532 x 97.5	10:31:08
281	2023-174W	GENMAT-1	GenMat	IMG	514 x 530 x 97.5	10:31:11
282	2023-174D	Juba	Spire/Glasgow/GHG	SCI	513 x 532 x 97.5	10:31:11
283	2023-174H	Lemur-2 Good-Vib	Spire	COM/MET-RO	512 x 529 x 97.5	10:31:20

Table 19: SSO satellites launched in 2023, ordered by local time of descending node

No	Piece	Name	Operator	Mission	Orbit	LTDN
284	2023-174A	Connecta T3.1	Plan-S	COM	513 x 530 x 97.5	10:31:20
285	2023-174N	Connecta T3.2	Plan-S	COM	513 x 530 x 97.5	10:31:21
286	2023-174M	Lemur-2 Sanita-V	Spire	COM/MET-RO	511 x 527 x 97.5	10:31:21
287	2023-174BZ	Flock 4q-4	Planet	IMG	514 x 529 x 97.5	10:31:23
288	2023-174BY	PICO-1A-4	Apogeo Space	COM	513 x 529 x 97.5	10:31:23
289	2023-174B	MANTIS	Open Cosmos/ESA	IMG	510 x 529 x 97.5	10:31:24
290	2023-174Y	Flock 4q-19	Planet	IMG	514 x 529 x 97.5	10:31:24
291	2023-174R	Flock 4q-16	Planet	IMG	513 x 530 x 97.5	10:31:24
292	2023-174G	PLATERO	Open Cosmos/Andaluci	IMG/COM	511 x 530 x 97.5	10:31:27
293	2023-174AC	Flock 4q-27	Planet	IMG	514 x 528 x 97.5	10:31:27
294	2023-174V	Flock 4q-12	Planet	IMG	512 x 528 x 97.5	10:31:28
295	2023-174AD	Flock 4q-17	Planet	IMG	512 x 528 x 97.5	10:31:30
296	2023-174T	Flock 4q-11	Planet	IMG	513 x 530 x 97.5	10:31:30
297	2023-174X	TIGER-5	OQ Tech	COM	513 x 527 x 97.5	10:31:30
298	2023-174S	TIGER-6	OQ Tech	COM	513 x 527 x 97.5	10:31:31
299	2023-174CW	Intuition-1	KP Labs	IMG	510 x 531 x 97.5	10:31:31
300	2023-174AH	OMNI-LER1	Int.Think Tank	COM	512 x 527 x 97.5	10:31:32
301	2023-174AM	Falconsat-10	USAF Academy	TECH	513 x 530 x 97.5	10:31:32
302	2023-174E	Lemur-2 Dilightf	Spire	COM/MET-RO	511 x 529 x 97.5	10:31:33
303	2023-174Q	Flock 4q-1	Planet	IMG	513 x 530 x 97.5	10:31:33
304	2023-103B	Taian	Guoxing	IMG	353 x 362 x 96.6	10:31:33
305	2023-174F	Veronika	SpaceManic	COM	510 x 530 x 97.5	10:31:34
306	2023-174J	BRO-11	Unseen Labs	SIG	512 x 531 x 97.5	10:31:34
307	2023-025A	Helusi 1	EgSA	IMG	491 x 498 x 97.4	10:31:34
308	2023-081C	LJ-1 Payload B1	Xi'an Hangtou	IMG	469 x 484 x 97.4	10:31:35
309	2023-174CA	Flock 4q-13	Planet	IMG	513 x 531 x 97.5	10:31:35
310	2023-174AX	Impulse 1	Impulse Space	TECH	516 x 530 x 97.5	10:31:35
311	2023-174BT	ProtoMethee	Promethee	IMG	511 x 527 x 97.5	10:31:36
312	2023-174AA	Flock 4q-28	Planet	IMG	513 x 529 x 97.5	10:31:36
313	2023-174AR	SpaceVan 1	Exotrail	TECH	512 x 529 x 97.5	10:31:36
314	2023-174AN	Umbra-08	Umbra Labs	IMG-R	517 x 537 x 97.5	10:31:37
315	2023-174AZ	Flock 4q-25	Planet	IMG	511 x 527 x 97.5	10:31:37
316	2023-174AT	Umbra-07	Umbra Labs	IMG-R	515 x 541 x 97.5	10:31:38
317	2023-174BC	Flock 4q-22	Planet	IMG	511 x 528 x 97.5	10:31:38
318	2023-174AS	Pelican 1	Planet	IMG	511 x 528 x 97.5	10:31:38
319	2023-174Z	Flock 4q-8	Planet	IMG	513 x 530 x 97.5	10:31:38
320	2023-174BB	Flock 4q-18	Planet	IMG	510 x 527 x 97.5	10:31:39
321	2023-174U	Flock 4q-36	Planet	IMG	513 x 529 x 97.5	10:31:39
322	2023-174AU	SPIP	Aerospacelab	IMG	512 x 530 x 97.5	10:31:40
323	2023-174CB	Flock 4q-21	Planet	IMG	512 x 529 x 97.5	10:31:40
324	2023-174BM	Flock 4q-6	Planet	IMG	511 x 527 x 97.5	10:31:40
325	2023-081J	LJ-1 Payload B6	Unknown (CN)	TECH	469 x 484 x 97.4	10:31:40
326	2023-174CZ	PICO-1A-5	Apogeo Space	COM	507 x 529 x 97.5	10:31:40
327	2023-174P	IRIS-C2	NCKU	COM	510 x 529 x 97.5	10:31:40
328	2023-187B	Xingchi-1 02A	Ellipospace	IMG	625 x 643 x 98.0	10:31:41
329	2023-081AC	LJ-1 Payload B20	Unknown (CN)	TECH	468 x 484 x 97.4	10:31:41
330	2023-174BH	Flock 4q-14	Planet	IMG	511 x 527 x 97.5	10:31:41
331	2023-081G	LJ-1 Payload B4	SpaceTy	TECH	469 x 484 x 97.4	10:31:41
332	2023-174AE	Flock 4q-26	Planet	IMG	512 x 529 x 97.5	10:31:42
333	2023-174L	Djibouti-1A	CERD/Montpellier	TECH	510 x 530 x 97.5	10:31:42
334	2023-187C	Xingchi-1 02B	Ellipospace	IMG	624 x 643 x 98.0	10:31:42
335	2023-187A	MisrSat-2	EgSA	IMG	624 x 643 x 98.0	10:31:42
336	2023-174BL	Flock 4q-24	Planet	IMG	510 x 527 x 97.5	10:31:42
337	2023-174CY	HADES-D	AMSAT-EA	IMG	506 x 528 x 97.5	10:31:43
338	2023-174AB	Aether 1	Kepler Comms	COM	511 x 526 x 97.5	10:31:44
339	2023-174AF	Flock 4q-31	Planet	IMG	512 x 529 x 97.5	10:31:45
340	2023-174AJ	ICEYE-X31	ICEYE	IMG-R	511 x 526 x 97.5	10:31:45

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No	Piece	Name	Operator	Mission	Orbit	LTDN
341	2023-174AG	Flock 4q-30	Planet	IMG	512 x 529 x 97.5	10:31:45
342	2023-174AY	ICEYE-X35	ICEYE	IMG-R	512 x 537 x 97.5	10:31:45
343	2023-174BN	Flock 4q-34	Planet	IMG	509 x 528 x 97.5	10:31:46
344	2023-007D	Jilin-1 GaoFen 0	Chang Guang	IMG	420 x 431 x 97.3	10:31:46
345	2023-174BS	Flock 4q-2	Planet	IMG	510 x 527 x 97.5	10:31:46
346	2023-174BE	Flock 4q-33	Planet	IMG	509 x 527 x 97.5	10:31:47
347	2023-174CC	Heron Mk II	UTor Aero Team	TECH	510 x 524 x 97.5	10:31:47
348	2023-174AV	Aether 2	Kepler Comms	COM	509 x 525 x 97.5	10:31:48
349	2023-081K	LJ-1 Payload B7	Unknown (CN)	TECH	469 x 484 x 97.4	10:31:48
350	2023-174AP	ICEYE-X32	ICEYE	IMG-R	509 x 525 x 97.5	10:31:49
351	2023-174AQ	ICEYE-X34	ICEYE	IMG-R	510 x 526 x 97.5	10:31:50
352	2023-174BU	Flock 4q-9	Planet	IMG	510 x 527 x 97.5	10:31:50
353	2023-174BW	Flock 4q-10	Planet	IMG	510 x 527 x 97.5	10:31:51
354	2023-174DB	PICO-1A-7	Apogeo Space	COM	510 x 524 x 97.5	10:31:51
355	2023-081D	LJ-1 Payload B2	Fucheng Sat	IMG-R	469 x 483 x 97.4	10:31:52
356	2023-174CJ	Elliot	Spire/Glasgow/GHG	SCI	509 x 524 x 97.5	10:31:53
357	2023-081Q	LJ-1 Payload B10	Unknown (CN)	TECH	468 x 485 x 97.4	10:31:53
358	2023-174BF	Flock 4q-35	Planet	IMG	509 x 528 x 97.5	10:31:55
359	2023-174CD	BRO-10	Unseen Labs	SIG	508 x 523 x 97.5	10:31:55
360	2023-174BA	Flock 4q-29	Planet	IMG	510 x 528 x 97.5	10:31:55
361	2023-174DA	Unicorn-2K	Alba Orbital	IMG	501 x 521 x 97.5	10:31:56
362	2023-081AB	LJ-1 Payload B19	Unknown (CN)	TECH	468 x 484 x 97.4	10:31:57
363	2023-174BD	Flock 4q-23	Planet	IMG	509 x 528 x 97.5	10:31:57
364	2023-174BK	Flock 4q-20	Planet	IMG	509 x 528 x 97.5	10:31:57
365	2023-174BQ	Flock 4q-7	Planet	IMG	509 x 528 x 97.5	10:31:57
366	2023-174BR	Flock 4q-15	Planet	IMG	509 x 527 x 97.5	10:31:58
367	2023-174DD	PICO-1A-9	Apogeo Space	COM	505 x 523 x 97.5	10:31:59
368	2023-174BX	Flock 4q-5	Planet	IMG	507 x 526 x 97.5	10:32:00
369	2023-174CF	Lemur-2 The-Clea	Spire	COM/MET-RO	507 x 521 x 97.5	10:32:00
370	2023-174BP	KAFASAT	KAFA	IMG	506 x 524 x 97.5	10:32:00
371	2023-032A	Helusi 2	EgSA	IMG	494 x 496 x 97.4	10:32:01
372	2023-081M	LJ-1 Payload B8	Unknown (CN)	TECH	468 x 484 x 97.4	10:32:01
373	2023-174DE	PICO-1A-6	Apogeo Space	COM	505 x 523 x 97.5	10:32:02
374	2023-174BV	Observer-1A	Nara Space	IMG	510 x 528 x 97.5	10:32:03
375	2023-174CE	Lemur-2 Marapama	Spire	COM/MET-RO	505 x 520 x 97.5	10:32:04
376	2023-174DC	PICO-1A-8	Apogeo Space	COM	504 x 526 x 97.5	10:32:05
377	2023-174BG	Flock 4q-32	Planet	IMG	506 x 524 x 97.5	10:32:07
378	2023-174BJ	Flock 4q-3	Planet	IMG	507 x 524 x 97.5	10:32:08
379	2023-174CN	Vanguard	Spire/Glasgow/GHG	SCI	508 x 524 x 97.5	10:32:08
380	2023-174CP	NinjaSat	RIKEN/Mitsui Bussan	AST	507 x 522 x 97.5	10:32:08
381	2023-174CG	Outpost Mission	Outpost Tech	TECH	508 x 526 x 97.5	10:32:11
382	2023-081R	LJ-1 Payload B11	Unknown (CN)	TECH	468 x 485 x 97.4	10:32:11
383	2023-174CL	Barry-1	Rogue Space	TECH	506 x 521 x 97.5	10:32:12
384	2023-174CQ	PEARL-1C	Foxconn	COM	507 x 524 x 97.5	10:32:15
385	2023-081E	LJ-1 Payload B3	Unknown (CN)	TECH	469 x 483 x 97.4	10:32:17
386	2023-174CH	Lemur-2 Mango 2A	Spire/Jacobs	COM/MET-RO	503 x 517 x 97.5	10:32:19
387	2023-174CX	PICO-1A-3	Apogeo Space	COM	497 x 514 x 97.5	10:32:21
388	2023-174CM	Platform-5	Endurosat	TECH	505 x 522 x 97.5	10:32:24
389	2023-174CK	Lemur-2 Mango 2B	Spire/Jacobs	COM/MET-RO	502 x 518 x 97.5	10:32:31
390	2023-081S	LJ-1 Payload B12	Unknown (CN)	TECH	468 x 485 x 97.4	10:32:37
391	2023-174CS	SpaceANT-D	SpaceIn	COM	499 x 510 x 97.5	10:32:40
392	2023-081H	LJ-1 Payload B5	Unknown (CN)	TECH	468 x 484 x 97.4	10:32:40
393	2023-081T	LJ-1 Payload B13	Unknown (CN)	TECH	468 x 485 x 97.4	10:32:43
394	2023-174CV	PICO-1A-1	Apogeo Space	COM	497 x 508 x 97.5	10:32:46
395	2023-174CR	Hello Test 1	Hello Space	COM	497 x 508 x 97.5	10:32:46
396	2023-174CT	Hello Test 2	Hello Space	COM	497 x 507 x 97.5	10:32:46
397	2023-174CU	Time We'll Tell	TrustPoint	NAV	497 x 507 x 97.5	10:32:47

Table 19: SSO satellites launched in 2023, ordered by local time of descending node

No	Piece	Name	Operator	Mission	Orbit	LTDN
398	2023-081AA	LJ-1 Payload B18	Unknown (CN)	TECH	468 x 484 x 97.4	10:32:48
399	2023-081U	LJ-1 Payload B14	Unknown (CN)	TECH	468 x 485 x 97.4	10:32:49
400	2023-081V	LJ-1 Payload B15	Unknown (CN)	TECH	468 x 485 x 97.4	10:32:51
401	2023-081P	LJ-1 Payload B9	Unknown (CN)	TECH	468 x 485 x 97.4	10:32:51
402	2023-081X	LJ-1 Payload B16	Unknown (CN)	TECH	468 x 485 x 97.4	10:32:54
403	2023-081Y	LJ-1 Payload B17	Unknown (CN)	TECH	467 x 485 x 97.4	10:32:56
404	2023-174AK	OrbAstro TR1	OrbAstro	TECH	496 x 511 x 97.5	10:32:57
405	2023-174AL	PICO-1A-2	Apogeo Space	COM	495 x 509 x 97.5	10:33:02
406	2023-007P	Tianzhi-2D	Inst. Software	COM	434 x 445 x 97.3	10:33:58
407	2023-001DF	Astrocast-0401	Astrocast	COM	528 x 544 x 97.6	10:40:17
408	2023-001DE	Astrocast-0402	Astrocast	COM	531 x 540 x 97.6	10:40:21
409	2023-007N	Jin Zijing 4	Gang Hang Ke/Jiutian	IMG	413 x 421 x 97.3	10:40:23
410	2023-001AU	ION SCV008 FIERC	D-ORBIT	TECH	526 x 541 x 97.6	10:40:59
411	2023-003A	Xiamen Keji 1	Xiamen Tianwei/Xiopm	TECH	499 x 508 x 97.2	10:42:03
412	2023-012A	JSE reda-7 gouki	CSICE	IMG-R	486 x 488 x 97.4	10:44:33
413	2023-007J	Wofuman	Yunyao yuhang/Chang	IMG	377 x 382 x 97.3	10:47:02
414	2023-045A	Kosmos-2568	MO RF	IMG	288 x 292 x 96.4	10:47:37
415	2023-003E	Tianmu-1 qixiang	Hangtian Tianmu	MET	485 x 499 x 97.2	10:52:56
416	2023-003C	Tianmu-1 qixiang	Hangtian Tianmu	MET	487 x 498 x 97.2	10:53:47
417	2023-003B	Nantong Zhongxue	Weixing Keji/Nantong	IMG	468 x 485 x 97.2	10:59:53
418	2023-003D	Tianqi Xingzuo 1	Guodian Gaokeji	COM	452 x 467 x 97.2	11:05:13
419	2023-127A	HKUST-Xiongbin 1	Chang Guang	IMG	521 x 539 x 97.6	11:21:21
420	2023-182A	Kosmos-2572	VVKO VKS	IMG	279 x 318 x 96.6	12:28:03
421	2023-085J	Jilin-1 GaoFen 0	Chang Guang	IMG	523 x 538 x 97.5	12:29:55
422	2023-085AD	Jilin-1 GaoFen 0	Chang Guang	IMG	521 x 539 x 97.5	12:30:04
423	2023-085Y	Jilin-1 GaoFen 0	Chang Guang	IMG	523 x 537 x 97.5	12:30:06
424	2023-085B	Jilin-1 GaoFen 0	Chang Guang/Xi'an Ha	IMG	520 x 533 x 97.5	12:30:07
425	2023-085V	Jilin-1 GaoFen 0	Chang Guang	IMG	523 x 537 x 97.5	12:30:12
426	2023-085A	Jilin-1 GaoFen 0	Chang Guang	IMG	524 x 537 x 97.5	12:30:14
427	2023-085H	Jilin-1 GaoFen 0	Chang Guang/Xi'an Ha	IMG	520 x 533 x 97.5	12:30:14
428	2023-085T	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 534 x 97.5	12:30:14
429	2023-085E	Jilin-1 GaoFen 0	Chang Guang/Xi'an Ha	IMG	520 x 534 x 97.5	12:30:15
430	2023-085AS	Huerguosi-1	Chang Guang/Xinjiang	IMG	519 x 541 x 97.5	12:30:15
431	2023-085K	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 533 x 97.5	12:30:16
432	2023-085AC	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 534 x 97.5	12:30:17
433	2023-085R	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 533 x 97.5	12:30:19
434	2023-085Z	Jilin-1 GaoFen 0	Chang Guang	IMG	521 x 535 x 97.5	12:30:19
435	2023-085C	Jilin-1 GaoFen 0	Chang Guang/Xi'an Ha	IMG	521 x 533 x 97.5	12:30:19
436	2023-085AL	Jilin-1 GaoFen 0	Chang Guang	IMG	521 x 539 x 97.5	12:30:21
437	2023-085L	Jilin-1 GaoFen 0	Chang Guang	IMG	525 x 536 x 97.5	12:30:25
438	2023-085G	Jilin-1 GaoFen 0	Chang Guang/Xi'an Ha	IMG	520 x 533 x 97.5	12:30:26
439	2023-085Q	Jilin-1 GaoFen 0	Chang Guang	IMG	519 x 533 x 97.5	12:30:30
440	2023-085P	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 533 x 97.5	12:30:31
441	2023-085AQ	Jilin-1 Pingtai	Chang Guang	IMG	519 x 535 x 97.5	12:30:32
442	2023-085AN	Jilin-1 GaoFen 0	Chang Guang	IMG	518 x 534 x 97.5	12:30:36
443	2023-085AH	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 534 x 97.5	12:30:36
444	2023-085AB	Jilin-1 GaoFen 0	Chang Guang/Gang Han	IMG	519 x 533 x 97.5	12:30:38
445	2023-085X	Jilin-1 GaoFen 0	Chang Guang	IMG	519 x 533 x 97.5	12:30:39
446	2023-085AM	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 534 x 97.5	12:30:44
447	2023-085F	Jilin-1 GaoFen 0	Chang Guang/Xi'an Ha	IMG	520 x 534 x 97.5	12:30:46
448	2023-085D	Jilin-1 GaoFen 0	Chang Guang/Xi'an Ha	IMG	520 x 533 x 97.5	12:30:51
449	2023-085N	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 533 x 97.5	12:30:52
450	2023-085AA	Jilin-1 GaoFen 0	Chang Guang/Gang Han	IMG	519 x 534 x 97.5	12:30:56
451	2023-085W	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 534 x 97.5	12:30:57
452	2023-085M	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 533 x 97.5	12:30:58
453	2023-085AE	Jilin-1 GaoFen 0	Chang Guang	IMG	519 x 534 x 97.5	12:31:02
454	2023-085S	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 534 x 97.5	12:31:03

Table 19: SSO satellites launched in 2023, ordered by local time of descending node

No	Piece	Name	Operator	Mission	Orbit	LTDN
455	2023-085AG	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 534 x 97.5	12:31:07
456	2023-085AR	Jilin-1 Pingtai	Chang Guang	IMG	519 x 534 x 97.5	12:31:07
457	2023-085U	Jilin-1 GaoFen 0	Chang Guang	IMG	519 x 534 x 97.5	12:31:09
458	2023-085AJ	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 534 x 97.5	12:31:14
459	2023-085AP	Jilin-1 GaoFen 0	Chang Guang	IMG	519 x 534 x 97.5	12:31:17
460	2023-085AK	Jilin-1 GaoFen 0	Chang Guang	IMG	520 x 534 x 97.5	12:31:17
461	2023-085AF	Jilin-1 GaoFen 0	Chang Guang	IMG	518 x 531 x 97.5	12:31:45
462	2023-208B	Tianmu 1-20	Hangtian Tianmu	MET	516 x 531 x 97.4	13:10:35
463	2023-208A	Tianmu 1-19	Hangtian Tianmu	MET	517 x 533 x 97.4	13:10:38
464	2023-208C	Tianmu 1-21	Hangtian Tianmu	MET	516 x 530 x 97.4	13:10:39
465	2023-208D	Tianmu 1-22	Hangtian Tianmu	MET	515 x 529 x 97.4	13:10:42
466	2023-084C	GEI-SAT Precurso	Satlantis	IMG	512 x 524 x 97.5	13:19:40
467	2023-199A	Dier-1-Liangxi	AZSPACE	MGRAV	487 x 503 x 97.4	13:20:11
468	2023-084Y	HOTSAT-1	Satellite Vu	IMG	511 x 528 x 97.5	13:20:15
469	2023-084X	Runner-1	ImageSatIntl/FACH	IMG	509 x 527 x 97.5	13:20:15
470	2023-084M	Carolyn Shoemake	URUGUS S.A.	IMG	497 x 512 x 97.5	13:20:18
471	2023-084N	Cecilia Payne-Ga	URUGUS S.A.	IMG	498 x 512 x 97.5	13:20:19
472	2023-084BU	Antonio de Nebri	URE/AMSAT-EA	COM	498 x 519 x 97.5	13:20:19
473	2023-084BQ	SATLLA-2I	Ariel U	TECH	502 x 522 x 97.5	13:20:24
474	2023-084AJ	ABA First Runner	Azista BST	IMG	510 x 529 x 97.5	13:20:34
475	2023-084BV	MRC-100	BUTE	SIG	496 x 517 x 97.5	13:20:40
476	2023-084AH	ICEYE-X25	ICEYE	IMG-R	504 x 522 x 97.5	13:20:46
477	2023-084AE	Orbiter SN3	Launcher Inc	TECH	510 x 526 x 97.5	13:20:47
478	2023-084B	Otter Pup	Starfish Space	TECH	503 x 515 x 97.5	13:20:52
479	2023-084F	EIVE	IRS Stuttgart	TECH	504 x 515 x 97.5	13:20:56
480	2023-084Z	Blackjack Aces-2	DARPA	COM	503 x 519 x 97.5	13:20:56
481	2023-084AD	W-Series 1	Varda Space	TECH	507 x 524 x 97.5	13:20:58
482	2023-084BZ	Skykraft 3D	SkyKraft	COM	507 x 522 x 97.5	13:20:59
483	2023-084U	Blackjack Aces-3	DARPA	COM	504 x 520 x 97.5	13:20:59
484	2023-084AC	GHOST-3	Orbital Sidekick	IMG	507 x 524 x 97.5	13:21:03
485	2023-084BN	Skykraft 3 Carri	SkyKraft	COM	505 x 520 x 97.5	13:21:13
486	2023-084W	Blackjack Aces-4	DARPA	COM	504 x 520 x 97.5	13:21:27
487	2023-084AA	Blackjack Aces-1	DARPA	COM	503 x 520 x 97.5	13:21:30
488	2023-084Q	Gregoire	Aerospacelab	IMG	507 x 521 x 97.5	13:21:31
489	2023-084AG	Tomorrow-R2	Tomorrow.io	IMG-R	503 x 521 x 97.5	13:21:38
490	2023-084AK	DROID.001	Turion Space	TECH	503 x 520 x 97.5	13:21:40
491	2023-084H	Layan-23	OQ Tech	COM	501 x 512 x 97.5	13:21:47
492	2023-084AQ	Lemur-2 Embriono	Spire/Lux/OroraTech	COM/MET-RO	505 x 526 x 97.5	13:21:51
493	2023-084AL	Maria Wonenburge	URUGUS S.A.	IMG	499 x 516 x 97.5	13:21:58
494	2023-084BK	Outpost Mission	Outpost Tech	TECH	504 x 518 x 97.5	13:22:03
495	2023-084L	XVI	AFRL/RV/ViaSat	COM	502 x 514 x 97.5	13:22:03
496	2023-084BS	ELO-4	AAC ClydeSpace/Eutel	COM	496 x 512 x 97.5	13:22:05
497	2023-084BW	Unicorn-2I	Alba Orbital	IMG	492 x 510 x 97.5	13:22:10
498	2023-084BJ	Ayris-1	NanoAvionics	TECH	498 x 519 x 97.5	13:22:13
499	2023-084BG	Ayris-2	NanoAvionics	TECH	499 x 519 x 97.5	13:22:26
500	2023-084T	ICEYE-X23	ICEYE	IMG-R	499 x 513 x 97.5	13:22:28
501	2023-084K	MDQSAT-1D	Innova Space	COM	499 x 510 x 97.5	13:22:29
502	2023-084BM	Skykraft 3C	SkyKraft	COM	498 x 513 x 97.5	13:22:31
503	2023-084R	ICEYE-X30	ICEYE	IMG-R	498 x 511 x 97.5	13:22:32
504	2023-084AN	Rose Dieng-Kuntz	URUGUS S.A.	IMG	481 x 501 x 97.4	13:22:45
505	2023-084BT	Spei Satelles	PolyTorino/D. Comuni	TECH	497 x 512 x 97.5	13:22:54
506	2023-084BR	Pleiades Squared	Bronco Space	TECH	483 x 500 x 97.5	13:23:07
507	2023-084BB	Skykraft 3A	SkyKraft	COM	495 x 508 x 97.5	13:23:13
508	2023-084AF	ICEYE-X26	ICEYE	IMG-R	494 x 510 x 97.5	13:23:22
509	2023-084P	MDQSAT-1C	Innova Space	COM	493 x 503 x 97.5	13:23:26
510	2023-084BL	Skykraft 3B	SkyKraft	COM	493 x 506 x 97.5	13:23:28
511	2023-084V	AMATERU-III	QPS Labs	IMG-R	493 x 506 x 97.5	13:23:36

Table 19: SSO satellites launched in 2023, ordered by local time of descending node

No	Piece	Name	Operator	Mission	Orbit	LTDN
512	2023-084S	ROM-2	RomSpace	TECH	491 x 502 x 97.5	13:23:41
513	2023-084AU	Lemur-2 Naziyah	Spire	COM/MET-RO	491 x 508 x 97.5	13:23:43
514	2023-084BH	All-Delta	Aurora Insight/AAC S	SIG	490 x 509 x 97.5	13:23:53
515	2023-084AX	Lemur-2 Aadam-AI	Spire	COM/MET-RO	490 x 508 x 97.5	13:23:58
516	2023-084J	MISR-B-2	SOCOM	IMG	489 x 500 x 97.5	13:24:01
517	2023-084AM	MuSat-1	Muon Space	IMG	489 x 505 x 97.5	13:24:18
518	2023-084AP	SpaceBEE-179	Swarm Tech	COM	488 x 504 x 97.5	13:24:59
519	2023-084BC	SpaceBEE-169	Swarm Tech	COM	486 x 504 x 97.5	13:25:00
520	2023-084AT	SpaceBEE-178	Swarm Tech	COM	488 x 505 x 97.5	13:25:04
521	2023-084AR	MISR-A-1	SOCOM	IMG	482 x 497 x 97.5	13:25:10
522	2023-084AV	SpaceBEE-176	Swarm Tech	COM	487 x 504 x 97.5	13:25:16
523	2023-084AZ	SpaceBEE-172	Swarm Tech	COM	486 x 503 x 97.5	13:25:20
524	2023-084AW	SpaceBEE-174	Swarm Tech	COM	486 x 503 x 97.5	13:25:25
525	2023-084BD	SpaceBEE-170	Swarm Tech	COM	487 x 503 x 97.5	13:25:29
526	2023-084AY	SpaceBEE-173	Swarm Tech	COM	486 x 503 x 97.5	13:25:30
527	2023-084AS	SpaceBEE-177	Swarm Tech	COM	485 x 502 x 97.5	13:25:32
528	2023-084BA	SpaceBEE-171	Swarm Tech	COM	486 x 503 x 97.5	13:25:33
529	2023-084AB	ION SCV011 SAVVY	D-ORBIT	TECH	597 x 700 x 98.0	13:25:36
530	2023-084BF	SpaceBEE-175	Swarm Tech	COM	486 x 504 x 97.5	13:25:44
531	2023-084BE	SpaceBEE-168	Swarm Tech	COM	483 x 500 x 97.5	13:25:56
532	2023-084G	FEROX 2	Fossa Systems	COM	471 x 477 x 97.5	13:26:40
533	2023-084E	FEROX 1	Fossa Systems	COM	468 x 475 x 97.5	13:26:51
534	2023-084BY	Kelpie-2	AAC ClydeSpace	COM	595 x 693 x 98.0	13:27:00
535	2023-084D	FEROX 4	Fossa Systems	COM	466 x 471 x 97.5	13:27:03
536	2023-084BX	EPIC Hyper-2	AAC ClydeSpace/WYV	IMG	538 x 560 x 97.7	13:27:44
537	2023-084A	FEROX 3	Fossa Systems	COM	457 x 464 x 97.5	13:28:27
538	2023-084BP	Istanbul	Hello Space	COM	444 x 455 x 97.5	13:29:39
539	2023-100G	Telesat LEO 3	Telesat (Loral)	COM	994 x 1020 x 99.5	13:50:04
540	2023-039B	Tianmu-1 qixiang	Hangtian Tianmu	MET	491 x 503 x 97.4	15:28:51
541	2023-039C	Tianmu-1 qixiang	Hangtian Tianmu	MET	494 x 501 x 97.4	15:29:45
542	2023-039A	Tianmu-1 qixiang	Hangtian Tianmu	MET	489 x 505 x 97.4	15:29:57
543	2023-039D	Tianmu-1 qixiang	Hangtian Tianmu	MET	494 x 500 x 97.4	15:30:06
544	2023-049A	Jinta	Hangsheng	IMG	332 x 346 x 97.4	15:44:45
545	2023-100A	Starling 4	ARC	TECH	563 x 575 x 99.5	16:39:33
546	2023-100D	Starling 3	ARC	TECH	563 x 576 x 99.5	16:39:34
547	2023-100B	Starling 2	ARC	TECH	563 x 576 x 99.5	16:39:53
548	2023-100C	Starling 1	ARC	TECH	564 x 575 x 99.5	16:40:25
549	2023-100F	Lemur-2-Deverill	Spire	COM/MET-RO	551 x 571 x 99.5	16:41:48
550	2023-100E	Lemur-2-Mano	Spire	COM/MET-RO	551 x 572 x 99.5	16:42:07
551	2023-072F	JAC	JUSTEK	IMG	528 x 540 x 97.5	17:56:00
552	2023-072A	NEXTSAT-2	KAIST	AST/TECH	531 x 541 x 97.5	17:56:18
553	2023-072G	LUMIR-T1	Lumir Inc.	TECH	525 x 536 x 97.5	17:56:47
554	2023-072B	SNIFE 4	KASI	AST/SCI	528 x 538 x 97.5	17:58:01
555	2023-072C	SNIFE 2	KASI	AST/SCI	528 x 537 x 97.5	17:58:24
556	2023-072E	KSAT3U	KairoSpace	TECH	526 x 537 x 97.5	17:58:53
557	2023-072D	SNIFE 1	KASI	AST/SCI	525 x 535 x 97.5	17:58:57
558	2023-047A	Hongtu-1 01 zu 0	PIESAT	IMG-R	522 x 524 x 97.5	17:59:17
559	2023-047B	Hongtu-1 01 zu 0	PIESAT	IMG-R	522 x 524 x 97.5	17:59:17
560	2023-047C	Hongtu-1 01 zu 0	PIESAT	IMG-R	521 x 524 x 97.5	17:59:17
561	2023-047D	Hongtu-1 01 zu 0	PIESAT	IMG-R	521 x 524 x 97.5	17:59:18
562	2023-142A	VICTUS NOX	USSF SSC	IMG	443 x 458 x 97.3	18:06:43
563	2023-034A	Shiyan 19	CAST	TECH	483 x 499 x 97.5	18:08:52
564	2023-074A	Kondor-FKA No. 1	NPO Mash	IMG-R	505 x 507 x 97.4	18:29:23
565	2023-179A	Manligyeong-1 F3	North Korea	IMG	487 x 512 x 97.4	22:00:26
566	2023-054W	Umbra-06	Umbra Labs	IMG-R	523 x 526 x 97.4	22:14:49
567	2023-054AZ	AAC-HSI-SAT1	AAC ClydeSpace/WYV	IMG	544 x 558 x 97.5	22:17:25
568	2023-054Q	ION SCV010 MASTE	D-ORBIT	TECH	545 x 560 x 97.5	22:17:37

Table 19: SSO satellites launched in 2023, ordered by local time of descending node

No	Piece	Name	Operator	Mission	Orbit	LTDN
569	2023-054R	Hawk 7B	HawkEye 360	SIG	510 x 523 x 97.4	22:23:49
570	2023-054Y	Hawk 7C	HawkEye 360	SIG	511 x 522 x 97.4	22:25:33
571	2023-054P	Hawk 7A	HawkEye 360	SIG	511 x 522 x 97.4	22:26:45
572	2023-054B	Brokkr-1	OrbAstro/AstroForge	TECH	480 x 492 x 97.4	22:31:04
573	2023-054AB	Joan Clarke	URUGUS S.A.	IMG	475 x 491 x 97.3	22:31:12
574	2023-054AS	Kepler-21	Kepler Comms	COM	481 x 493 x 97.4	22:31:15
575	2023-054H	BRO-9	Unseen Labs	SIG	480 x 492 x 97.4	22:31:20
576	2023-054F	Sateliot-0	Sateliot	TECH	476 x 487 x 97.4	22:32:02
577	2023-054J	Oceane	GHG	SCI	480 x 492 x 97.4	22:32:12
578	2023-054T	GHOST-1	Orbital Sidekick	IMG	479 x 492 x 97.4	22:32:18
579	2023-054V	GHOST-2	Orbital Sidekick	IMG	475 x 489 x 97.4	22:33:15
580	2023-054AH	Gaspard	GHG	SCI	477 x 493 x 97.4	22:33:16
581	2023-054AR	Kepler-20	Kepler Comms	COM	478 x 492 x 97.4	22:33:27
582	2023-054N	Annie Jump Canno	URUGUS S.A.	IMG	472 x 483 x 97.4	22:33:29
583	2023-054AC	Mey-Lin	GHG	SCI	478 x 494 x 97.4	22:33:33
584	2023-054M	It's About Time	TrustPoint	NAV	475 x 488 x 97.4	22:33:35
585	2023-054S	NORSAT-TD	NSC	COM/TECH	472 x 485 x 97.4	22:33:45
586	2023-054Z	Tikvah Alper	URUGUS S.A.	IMG	478 x 492 x 97.4	22:33:56
587	2023-054AJ	Connecta T2.1	Plan-S	COM	471 x 486 x 97.4	22:34:04
588	2023-054D	Kilicsat	GUMUSH/UTAA	COM	469 x 481 x 97.4	22:34:05
589	2023-054AA	Maria Gaetana Ag	URUGUS S.A.	IMG	478 x 493 x 97.4	22:34:20
590	2023-054AW	DISCO-1	Aarhus U.	COM	466 x 482 x 97.4	22:34:24
591	2023-054AG	Taifa-1	Kenya Space/Sayari L	IMG	468 x 482 x 97.4	22:34:31
592	2023-054X	Tomorrow-R1	Tomorrow.io	IMG-R	470 x 484 x 97.4	22:34:50
593	2023-054E	Lemur-2 OnReflec	Spire	COM/MET-RO	461 x 471 x 97.4	22:35:03
594	2023-054G	SSS-2B	TUBITAK-UZAY/APSCO	TECH	467 x 480 x 97.4	22:35:28
595	2023-054C	DEWASAT-2	DEWA	COM	464 x 476 x 97.4	22:35:36
596	2023-054U	Vigoride VR-6	Momentus	TECH	461 x 474 x 97.4	22:35:45
597	2023-054K	ADLER-2	OeWF/Spire/Lux	COM/MET-RO	460 x 470 x 97.4	22:35:57
598	2023-054AV	IRIS-C	NCKU	COM	459 x 473 x 97.4	22:36:07
599	2023-054AD	FACSAT-2	EMAVI	IMG	467 x 485 x 97.4	22:36:16
600	2023-054AY	Revela	Arca Dynamics	IMG	465 x 475 x 97.4	22:36:22
601	2023-054L	CIRBE	Colorado	SCI	456 x 467 x 97.4	22:37:01
602	2023-054AQ	ELO-3	AAC ClydeSpace/Eutel	COM	454 x 461 x 97.4	22:37:09
603	2023-054AU	LLITED A	AERO	TECH	451 x 464 x 97.4	22:37:41
604	2023-054AT	LLITED B	AERO	TECH	451 x 463 x 97.4	22:37:46
605	2023-054AX	VIREO	C3S	TECH	446 x 457 x 97.4	22:38:34
606	2023-209A	Kosmos-2574	MO RF	IMG	348 x 355 x 96.8	22:38:41
607	2023-054AP	VCUB 1	VISIONA Tec.	IMG	454 x 465 x 97.4	22:38:49
608	2023-054AN	LS2f	Lacuna Space/NanoAvi	TECH	452 x 467 x 97.4	22:39:06
609	2023-054AM	Sapling Giganteu	Stanford SSI	TECH	449 x 464 x 97.4	22:39:25
610	2023-054AK	InspireSat-7	LATMOS	SCI	449 x 464 x 97.4	22:40:19
611	2023-054AL	RoseyCubesat-1	OSM	TECH	446 x 461 x 97.4	22:41:16
612	2023-054AF	Pleiades Yearlin	Bronco Space	TECH	444 x 457 x 97.4	22:41:41
613	2023-054A	IMECE	TUBITAK-UZAY	IMG	666 x 679 x 98.2	22:45:27
614	2023-054AE	Lemur-2 Romeo-N-	Spire	COM/MET-RO	407 x 414 x 97.4	22:47:13
615	2023-040A	Kosmos-2567	VVKO VKS	IMG	482 x 497 x 97.6	22:58:55

6.4 New geosynchronous satellites in 2023

Table 20 lists geosynchronous satellites launched or reaching GEO for the first time during 2023 (some from the immediately preceding December are also included, so there is a little overlap with last year’s report). The locations given are their positions at the end of the year.

Table 20: Geostationary satellites launched in 2023, ordered by longitude

Piece	Name	Operator	Location	Mission
2023-060B	Arcturus	Astranis	163.00W	Communications
2023-112A	Galaxy 37	Horizons/Intelsat SA (US)	127.02W	Communications
2023-108A	Jupiter 3	Echostar/HNS/Echostar	95.19W	Communications
2022-170A	Galaxy 35	Intelsat SA (US)	93.13W	Communications
2023-052A	Intelsat IS-40e	Intelsat SA (US)	91.03W	Communications
2022-170B	Galaxy 36	Intelsat SA (US)	88.96W	Communications
2023-060A	Viasat-3 Americas	ViaSat	88.88W	Communications
2023-017A	Amazonas Nexus	Hisparmar/Hispasat	60.99W	Communications
2022-170C	Meteosat 12	EUMETSAT	3.54W	Weather
2023-093A	Heinrich-Hertz-Satellit	DLR	0.50E	Communications
2023-031A	Luch-5Kh No. 3	FSB	2.66E	Com/Sigint
2022-157A	EUTELSAT 10B	EutelsatSA	9.98E	Communications
2023-008A	CBAS 2	USSF SSC	24.36E	Communications
2023-075A	Badr 8	Arabsat	25.96E	Communications
2023-120A	Ludi Tance 4A	CNSA	89.60E	Radar Imaging
2023-172A	Zhongxing 6E	China Satcom	115.53E	Communications
2023-197A	Yaogan 41	PLA GAD/CAST	123.26E	Imaging
2023-023A	Zhongxing 26	China Satcom	125.13E	Communications
2023-076A	NVS-01	ISRO	129.36E	Navigation
2023-086A	Satria	SNT	145.93E	Communications
2023-036A	Gao Fen 13-02	Yaogan Zongti	146.66E	Imaging
2023-066A	Beidou DW 56	CNSA	160.07E	Navigation
2023-060C	G-Space 1	Gravity Space	165.49E	Communications
2023-016A	Elektro-L No. 4	Rosgidromet/Lavochkin	165.81E	Weather
2023-169A	Tongxin Jishu Shiyan 10	PLA SSF	173.26E	Early Warn
2022-144E	USA 340	USSF SSC/Millennium ES	Drift orbit	Technology
2022-144G	LINUSS1	LMSS Denver	Drift orbit	Technology
2022-144H	LINUSS2	LMSS Denver	Drift orbit	Technology
2023-002A	Shi Jian 23	PLA SSF	Drift orbit	Communications
2023-008B	LDPE 3A	AFRL/RV	Drift orbit	Technology
2023-098A	Chandrayaan-3	ISRO	Departed GEO region	Planetary
2023-132A	Aditya-L1	ISRO	Departed GEO region	Astronomy
2023-093B	Syracuse 4B	DGA	Orbit raising	Communications
2023-005A	Apstar 6E	APT Shenzhen	Orbit raising	Communications

6.5 Retirements in the GEO belt

The GEO graveyard is taken to be 300 km or more above GEO (GEO is at 35786 km height.) Counts of objects in various regimes are shown below. The category ‘Below GPZ’ is actually defined to be objects 300 km or more below GEO.

The recommended GEO graveyard orbit begins at an altitude of 36086 km, 300 km above GEO. The table gives perigee and apogee altitude minus the GEO height of 35786 km, and is ordered by perigee.

GEO and the GEO Graveyard

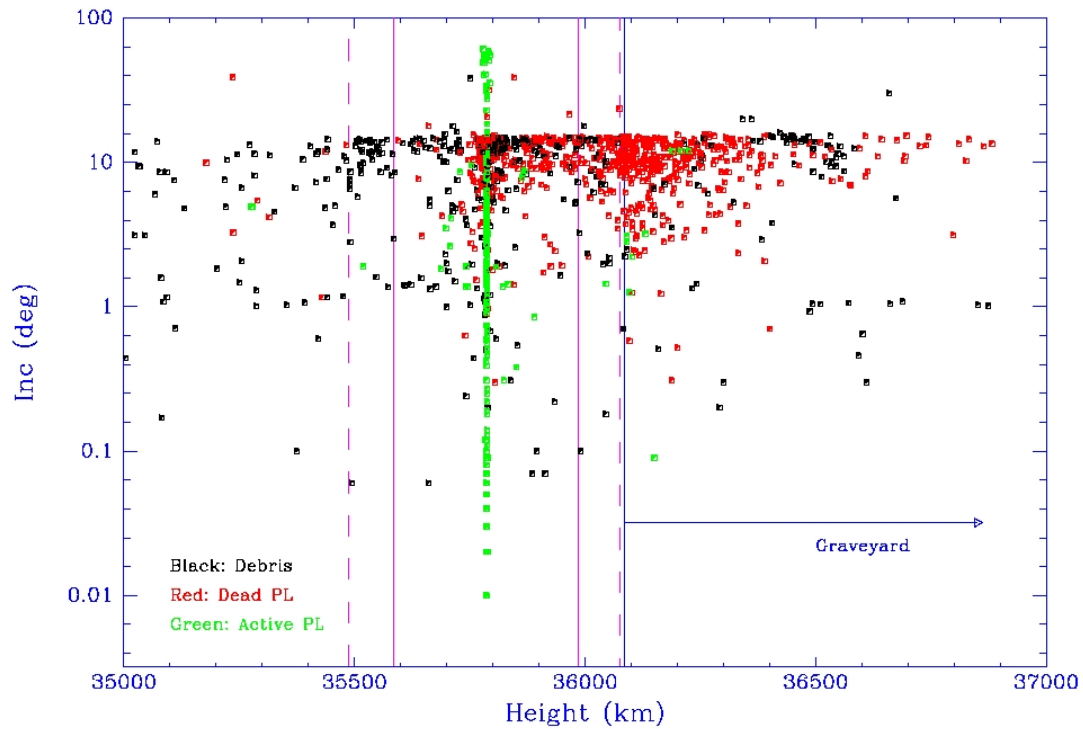


Figure 8: The figure shows log of orbital inclination vs orbital height for objects in the GEO region as of Jan 2021. Eccentricities are neglected. Active satellites (green), dead payloads (red) and debris (black) are indicated. The solid magenta lines are the GEO Protected Zone (GPZ = GEO \pm 200 km). Dashed magenta lines are GPZ \pm 100 km (GEO \pm 300 km) used in the results table. Blue line (GEO+300 km) indicates start of the GEO graveyard.

During 2023, 20 satellites were retired from GEO; however 3 failed to reach the recommended 300 km ‘graveyard’ clearance above GEO.

Table 21: GEO Population

	Active payloads	Dead payloads	Debris
Graveyard	3	19	81
GPZ+-100	586	375	260
Below GPZ	15	351	105
Total	604	745	446

Table 22: GEO retirements

ID	Satellite	Retired	Height above GEO in Jan 2024	Notes Notes
1996-054A	AMC 1	2023 Jun 12	172 x 258	
2015-073A	Zhongxing 1C	2023 Jun 24	293 x 333	
2002-057A	NSS 6	2023 Aug 15	297 x 354	
1999-060A	AMC 4	2023 Feb 15	307 x 339	
1994-084A	DSP F17	2023 Mar 1	317 x 359	
1997-076A	Astra 1G	2023 Jun 13	318 x 380	
2012-040A	Tian Lian 1-03	2023 Nov 6	319 x 446	
2005-041A	Galaxy 15	2023 Jun 1	322 x 435	
2011-032A	Tian Lian 1-02	2023 Nov 5	334 x 389	
2000-081A	Astra 2D	2023 Jan 24	350 x 368	
2003-013B	Galaxy 12	2023 Sep 14	353 x 377	
2002-011A	TDRS 9	2023 Jan 29	354 x 378	
2006-054B	AMC 18	2023 Nov 9	373 x 430	
2011-034A	GSAT-12	2023 Mar 16	380 x 421	
2001-011A	EUTELSAT 133 WEST A	2023 Jun 15	390 x 450	
2006-049A	XM-4	2023 Oct 26	396 x 433	
2008-065B	EUTELSAT 12 WEST E	2023 Sep 9	420 x 437	
2010-064A	Zhongxing 20A	2023 Apr 18	435 x 623	
2002-035A	EUTELSAT 5 WEST A	2023 Jan 13 0957	509 x 584	
2009-016A	EUTELSAT 10A	2023 Nov 29	596 x 632	
Newly cataloged near-GEO debris				
2023-008C	Falcon Heavy-005 Stage 2	2023 Jan 16	-1027 x -538	
2023-008D	deb FH-005	2023 Jan 16	294 x 314	
2023-008E	LPDE 3A adapter	2023 Jan 16	294 x 314	
2023-002C	SJ-23 adapter?	2023 Jan 16	249 x 268	
2023-016B	Blok DM-03 No. 7L	2023 Feb 7	-1201 x -410	
2023-031B	Briz-M No. 99569	2023 Mar 13	80 x 664	
2023-060D	Falcon Heavy-006 Stage 2	2023 May 1	-1260 x -1156	
2023-140D	Centaur AV-102	2023 Sep 11	383 x 591	

6.6 Debris events

There were 4 new breakups during 2023: These included an Orbcomm communications satellite, an old Strela-3 comms satellite, a 1974 Meteor weather satellite and a Vega VESPA adapter. It is possible that some or all of these breakups were due to the impact of small uncataloged objects.

The table indicates the number of objects cataloged so far from each, but note that often more objects are cataloged in later years following an event.

Table 23: Breakups and debris events 2023

2023 Mar 11 0145	S25984	Orbcomm FM36	9	777 x 779 x 45.04	Unknown
2023 Jun 29 0649	S21299	Kosmos-2143	6	1397 x 1417 x 82.57	Collision?
2023 Jul?	S07274	Meteor (M) 22L	9	851 x 878 x 81.21	Unknown
2023 Aug?	S39162	VESPA	7	660 x 789 x 98.71	Unknown

In addition, more fragments were cataloged from the earlier breakups. See the debris catalog [16] at <https://planet4589.org/space/debris/debriscat/debris.html>

7 Acknowledgements

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The author is an employee of the Smithsonian Institution, but the work reported here was performed independently and does not represent the views of the Smithsonian.

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Appendix 1: 2023 Orbital Launch Attempts

LAUNCH ID	Launch date UTC	Launch vehicle	LV Flight ID	Site	Agency
2023-001	2023 Jan 3 1455:56	Falcon 9	196/B1060.15	CC LC40	SPX
2023-002	2023 Jan 8 2200	Chang Zheng 7A	Y4	WEN LC201	CALT
2023-003	2023 Jan 9 0504	Gushenxing 1	Y5	JQ LC43/95A	XIDO
2023-F01	2023 Jan 9 2308:59?	LauncherOne	R07	B747-744 NEWQ RW12/30	VORB
2023-004	2023 Jan 10 0450:17	Falcon 9	197/B1076.2	CC LC40	SPX
2023-F02	2023 Jan 10 2327:31	RS1	1	PSCA LP3C	ABLSS
2023-005	2023 Jan 12 1810	Chang Zheng 2C	Y61	XSC LC3	CALT
2023-006	2023 Jan 13 0700	Chang Zheng 2D	Y73	JQ LC43/94	SAST
2023-007	2023 Jan 15 0314?	Chang Zheng 2D	Y71	TYSC LC9	SAST
2023-008	2023 Jan 15 2256	Falcon Heavy	005	KSC LC39A	SPX
2023-009	2023 Jan 18 1224	Falcon 9	198/B1077.2	CC LC40	SPX
2023-010	2023 Jan 19 1543:10	Falcon 9	199/B1075.1	VSFBS SLC4E	SPX
2023-011	2023 Jan 24 2300:00	Electron	33	MARS Pad 0C	RLABU
2023-012	2023 Jan 26 0150:21	H-IIA 202	H-IIA-46	TNSC Y	MHI
2023-013	2023 Jan 26 0932:20	Falcon 9	200/B1067.9	CC LC40	SPX
2023-014	2023 Jan 31 1615:00	Falcon 9	201/B1071.7	VSFBS SLC4E	SPX
2023-015	2023 Feb 2 0758:20	Falcon 9	202/B1069.5	KSC LC39A	SPX
2023-016	2023 Feb 5 0912:52	Proton-M/DM-3	935-68/7L	GIK-5 LC81/24	KHRU
2023-017	2023 Feb 7 0132	Falcon 9	203/B1073.6	CC LC40	SPX
2023-018	2023 Feb 9 0615:36	Soyuz-2-1A	M 15000-063	GIK-5 LC31	FKA
2023-019	2023 Feb 10 0348	SSLV	SSLV-D2	SHAR FLP	ISRO
2023-020	2023 Feb 12 0510:10	Falcon 9	204/B1062.12	CC LC40	SPX
2023-021	2023 Feb 17 1912:20	Falcon 9	205/B1063.9	VSFBS SLC4E	SPX
2023-022	2023 Feb 18 0359	Falcon 9	206/B1077.3	CC LC40	SPX
2023-023	2023 Feb 23 1149	Chang Zheng 3B	Y93	XSC LC2	CALT
2023-024	2023 Feb 24 0024:29	Soyuz-2-1A	M 15000-060	GIK-5 LC31	FKA
2023-025	2023 Feb 24 0401	Chang Zheng 2C	Y63	JQ LC43/94	CALT
2023-026	2023 Feb 27 2313:50	Falcon 9	207/B1076.3	CC LC40	SPX
2023-027	2023 Mar 2 0534:14	Falcon 9	208/B1078.1	KSC LC39A	SPX
2023-028	2023 Mar 3 1838:50	Falcon 9	209/B1061.12	VSFBS SLC4E	SPX
2023-F10	2023 Mar 4	Qaem-100	-	SHAHR	IRGC
2023-F03	2023 Mar 7 0137:55	H3-22S	H3-TF1	TNSC Y2	JAXA
2023-029	2023 Mar 9 1913:28	Falcon 9	210/B1062.13	CC LC40	SPX
2023-030	2023 Mar 9 2241	Chang Zheng 4C	Y51	TYSC LC9	SAST
2023-031	2023 Mar 12 2313:00	Proton-M/Briz-M	935-72/99569	GIK-5 LC81/24	KHRU
2023-032	2023 Mar 13 0402	Chang Zheng 2C	Y64	JQ LC43/94	CALT
2023-033	2023 Mar 15 0030:42	Falcon 9	211/B1073.7	KSC LC39A	SPX
2023-034	2023 Mar 15 1141	Chang Zheng 11	Y11	JQ LC43/95A	CALT
2023-035	2023 Mar 16 2238:59	Electron	34	MARS Pad 0C	RLABU
2023-036	2023 Mar 17 0833	Chang Zheng 3B	Y90	XSC LC2	CALT
2023-037	2023 Mar 17 1926:40	Falcon 9	212/B1071.8	VSFBS SLC4E	SPX
2023-038	2023 Mar 17 2338:00?	Falcon 9	213/B1069.6	CC LC40	SPX
2023-039	2023 Mar 22 0909	Kuaizhou-1A	Y19	JQ LC43/95A	XIDO
2023-F04	2023 Mar 23 0325:00	Terran 1	1	CC LC16	RELSA
2023-040	2023 Mar 23 0640:11	Soyuz-2-1A	-	GIK-1 LC43/3	VVKO
2023-041	2023 Mar 24 0914:56	Electron	35	MAHIA LC1B	RLABN
2023-042	2023 Mar 24 1543:10	Falcon 9	214/B1067.10	CC LC40	SPX
2023-043	2023 Mar 26 0330:20	LVM3	LVM3-M3	SHAR SLP	NSIL
2023-044	2023 Mar 28 2310	Shavit 2	12	PALB	ISA
2023-045	2023 Mar 29 1957:02	Soyuz-2-1V	-	GIK-1 LC43/4?	VVKO
2023-046	2023 Mar 29 2001:00	Falcon 9	215/B1077.4	CC LC40	SPX
2023-047	2023 Mar 30 1050	Chang Zheng 2D	Y90	TYSC LC9	SAST
2023-048	2023 Mar 31 0627	Chang Zheng 4C	Y49	JQ LC43/94	SAST
2023-049	2023 Apr 2 0848:15	Tianlong 2	Y1	JQ	TIANB
2023-050	2023 Apr 2 1429	Falcon 9	216/B1075.2	VSFBS SLC4E	SPX
2023-051	2023 Apr 7 0400	Shuang Quxian 1	Y6	JQ LC43/95B	XJRY

2023-052	2023 Apr 7 0430:00	Falcon 9	217/B1076.4	CC LC40	SPX
2023-053	2023 Apr 14 1214:29	Ariane 5ECA+	VA260 (5120)	CSG ELA3	AE
2023-054	2023 Apr 15 0647:39	Falcon 9	218/B1063.10	VSFBS SLC4E	SPX
2023-055	2023 Apr 16 0136:30	Chang Zheng 4B	Y51	JQ LC43/94	SAST
2023-056	2023 Apr 19 1431:10	Falcon 9	219/B1073.8	CC LC40	SPX
2023-F05	2023 Apr 20 1333:08	Starship V1.0	B07/S24	STB OLP1	SPX
2023-057	2023 Apr 22 0850	PSLV	PSLV-C55	SHAR FLP	NSIL
2023-058	2023 Apr 27 1340:50	Falcon 9	220/B1061.13	VSFBS SLC4E	SPX
2023-059	2023 Apr 28 2212	Falcon 9	221/B1078.2	CC LC40	SPX
2023-060	2023 May 1 0026	Falcon Heavy	006	KSC LC39A	SPX
2023-061	2023 May 4 0731:00	Falcon 9	222/B1069.7	CC LC40	SPX
2023-062	2023 May 8 0100	Electron	36	MAHIA LC1B	RLABN
2023-063	2023 May 10 1322:51	Chang Zheng 7	Y7	WEN LC201	CALT
2023-064	2023 May 10 2009:00	Falcon 9	223/B1075.3	VSFBS SLC4E	SPX
2023-065	2023 May 14 0503:30	Falcon 9	224/B1067.11	CC LC40	SPX
2023-066	2023 May 17 0249	Chang Zheng 3B	Y87	XSC LC2	CALT
2023-067	2023 May 19 0619:30	Falcon 9	225/B1076.5	CC LC40	SPX
2023-068	2023 May 20 1316:33	Falcon 9	226/B1063.11	VSFBS SLC4E	SPX
2023-069	2023 May 21 0800	Chang Zheng 2C	Y60	JQ LC43/94	CALT
2023-070	2023 May 21 2137:09	Falcon 9	227/B1080.1	KSC LC39A	SPX
2023-071	2023 May 24 1256:07	Soyuz-2-1A	M 15000-064	GIK-5 LC31	FKA
2023-072	2023 May 25 0924	Nuri	3	NARO LC2	KARI
2023-073	2023 May 26 0346	Electron	37	MAHIA LC1B	RLABN
2023-074	2023 May 26 2114:51	Soyuz-2-1A	V 15000-004/ 142-01	VOST PU1S	FKA
2023-075	2023 May 27 0430	Falcon 9	228/B1062.14	CC LC40	SPX
2023-076	2023 May 29 0512	GSLV Mk II	GSLV-F12	SHAR SLP	NSIL
2023-077	2023 May 30 0131:13	Chang Zheng 2F	Y16	JQ LC43/91	CALT
2023-F06	2023 May 30 2127	Cheonlima-1	6	SOHAE LC2	KCST
2023-078	2023 May 31 0602:30	Falcon 9	229/B1061.14	VSFBS SLC4E	SPX
2023-079	2023 Jun 4 1220:00	Falcon 9	230/B1078.3	CC LC40	SPX
2023-080	2023 Jun 5 1547:00	Falcon 9	231/B1077.5	KSC LC39A	SPX
2023-081	2023 Jun 7 0410:02	Lijian-1	Y2	JQ LC130	ZKYT
2023-082	2023 Jun 9 0235:30	Kuaizhou-1A	Y20	JQ LC43/95A	EXPSPACE
2023-083	2023 Jun 12 0710:50	Falcon 9	232/B1073.9	CC LC40	SPX
2023-084	2023 Jun 12 2135:00	Falcon 9	233/B1071.9	VSFBS SLC4E	SPX
2023-085	2023 Jun 15 0530	Chang Zheng 2D	Y88	TYSC LC9	SAST
2023-086	2023 Jun 18 2221	Falcon 9	234/B1067.12	CC LC40	SPX
2023-087	2023 Jun 20 0318	Chang Zheng 6	Y12	TYSC LC16	SAST
2023-088	2023 Jun 22 0719:00	Falcon 9	235/B1075.4	VSFBS SLC4E	SPX
2023-089	2023 Jun 22 0918:00	Delta 4H	D4-44/D388	CC SLC37B	ULAB
2023-090	2023 Jun 23 1535:10	Falcon 9	236/B1069.8	CC LC40	SPX
2023-091	2023 Jun 27 1134:49	Soyuz-2-1B	Kh15000-010/ 142-02	VOST PU1S	FKA
2023-092	2023 Jul 1 1212?	Falcon 9	237/B1080.2	CC LC40	SPX
2023-093	2023 Jul 5 2200:07	Ariane 5ECA+	VA261 (5119)	CSG ELA3	AE
2023-094	2023 Jul 7 1929:50	Falcon 9	238/B1063.12	VSFBS SLC4E	SPX
2023-095	2023 Jul 9 1100	Chang Zheng 2C/YZ-1S	Y52/Y3	JQ LC43/94	CALT
2023-096	2023 Jul 10 0358:50	Falcon 9	239/B1058.16	CC LC40	SPX
2023-097	2023 Jul 12 0100	Zhuque-2	Y2	JQ LC43/96	LANDSP
2023-098	2023 Jul 14 0905:17	LVM3	LVM3-M4	SHAR SLP	ISRO
2023-099	2023 Jul 16 0350:00	Falcon 9	240/B1060.16	CC LC40	SPX
2023-100	2023 Jul 18 0127	Electron	39	MAHIA LC1B	RLABN
2023-101	2023 Jul 20 0320	Kuaizhou-1A	Y22	JQ LC43/95A	EXPSPACE
2023-102	2023 Jul 20 0409:30	Falcon 9	241/B1071.10	VSFBS SLC4E	SPX
2023-103	2023 Jul 22 0507	Gushenxing 1	Y6	JQ LC43/95A	XIDO
2023-104	2023 Jul 23 0250	Chang Zheng 2D	Y91	TYSC LC9	SAST
2023-105	2023 Jul 24 0050:30	Falcon 9	242/B1076.6	CC LC40	SPX
2023-106	2023 Jul 26 2002	Chang Zheng 2D	Y81	XSC LC3	SAST
2023-107	2023 Jul 28 0401:10	Falcon 9	243/B1062.15	CC LC40	SPX
2023-108	2023 Jul 29 0304	Falcon Heavy	007	KSC LC39A	SPX
2023-109	2023 Jul 30 0101:00	PSLV	PSLV-C56	SHAR FLP	NSIL

2023-110	2023 Aug 2 0031:18	Antares 230+	2TRS2S1.18? (18)	MARS Pad 0A	NGIS
2023-111	2023 Aug 3 0347:47	Chang Zheng 4C	Y44	JQ LC43/94	SAST
2023-112	2023 Aug 3 0500	Falcon 9	244/B1077.6	CC LC40	SPX
2023-113	2023 Aug 7 0241:10	Falcon 9	245/B1078.4	CC LC40	SPX
2023-114	2023 Aug 7 1319:25	Soyuz-2-1B	- / 112-23	GIK-1 LC43/3	VVKO
2023-115	2023 Aug 8 0357:00	Falcon 9	246/B1075.5	VSFBS SLC4E	SPX
2023-116	2023 Aug 8 2253	Chang Zheng 2C	Y46	TYSC LC9	SAST
2023-117	2023 Aug 10 0403	Gushenxing 1	Y7	JQ LC43/95A	XIDO
2023-118	2023 Aug 10 2310:57	Soyuz-2-1B	V 15000-003/ 122-10	VOST PU1S	FKA
2023-119	2023 Aug 11 0517:40	Falcon 9	247/B1069.9	CC LC40	SPX
2023-120	2023 Aug 12 1726	Chang Zheng 3B	Y92	XSC LC2	CALT
2023-121	2023 Aug 14 0532	Kuaizhou-1A	Y21	XSC LC4	EXPACE
2023-122	2023 Aug 17 0336:50	Falcon 9	248/B1067.13	CC LC40	SPX
2023-123	2023 Aug 20 1745	Chang Zheng 4C	Y56	JQ LC43/94	SAST
2023-124	2023 Aug 22 0937:30	Falcon 9	249/B1061.15	VSFBS SLC4E	SPX
2023-125	2023 Aug 23 0108:10	Soyuz-2-1A	M 15000-065	GIK-5 LC31	FKA
2023-F07	2023 Aug 23 1850?	Cheonlima-1	-	SOHAE LC2	KCST
2023-126	2023 Aug 23 2345	Electron	40	MAHIA LC1B	RLABN
2023-127	2023 Aug 25 0459	Gushenxing 1	Y8	JQ LC43/95A	XIDO
2023-128	2023 Aug 26 0727:27	Falcon 9	250/B1081.1	KSC LC39A	SPX
2023-129	2023 Aug 27 0105:40	Falcon 9	251/B1080.3	CC LC40	SPX
2023-130	2023 Aug 31 0736	Chang Zheng 2D	Y82	XSC LC3	SAST
2023-131	2023 Sep 1 0221:50	Falcon 9	252/B1077.7	CC LC40	SPX
2023-132	2023 Sep 2 0620:00	PSLV-XL	PSLV-C57	SHAR FLP	ISRO
2023-133	2023 Sep 2 1425	Falcon 9	253/B1063.13	VSFBS SLC4E	SPX
2023-134	2023 Sep 4 0247:20	Falcon 9	254/B1073.10	KSC LC39A	SPX
2023-135	2023 Sep 5 0934:46	Gushenxing 1	Y1	DEFU2 HHAI LP4	XIDO
2023-136	2023 Sep 6 1814	Chang Zheng 4C	Y53	JQ LC43/94	SAST
2023-137	2023 Sep 6 2342:11	H-IIA 202	H-IIA-47	TNSC Y	MHI
2023-138	2023 Sep 9 0312:50	Falcon 9	255/B1076.7	CC LC40	SPX
2023-139	2023 Sep 10 0430	Chang Zheng 6A	Y5	TYSC LC16	SAST
2023-140	2023 Sep 10 1247:00	Atlas V 551	AV-102	CC SLC41	ULAL
2023-141	2023 Sep 12 0657:50	Falcon 9	256/B1071.11	VSFBS SLC4E	SPX
2023-142	2023 Sep 15 0228	Firefly Alpha	FLTA003	V SLC2W	FFLY
2023-143	2023 Sep 15 1544:35	Soyuz-2-1A	M 15000-061	GIK-5 LC31	FKA
2023-144	2023 Sep 16 0338:20	Falcon 9	257/B1078.5	CC LC40	SPX
2023-145	2023 Sep 17 0413	Chang Zheng 2D	Y83	XSC LC3	SAST
2023-F08	2023 Sep 19 0655	Electron	41	MAHIA LC1B	RLABN
2023-146	2023 Sep 20 0338:10	Falcon 9	258/B1058.17	CC LC40	SPX
2023-F09	2023 Sep 21 0459:10	Gushenxing 1	Y11	JQ LC43/95A	XIDO
2023-147	2023 Sep 24 0338:30	Falcon 9	259/B1060.17	CC LC40	SPX
2023-148	2023 Sep 25 0848:20	Falcon 9	260/B1075.6	VSFBS SLC4E	SPX
2023-149	2023 Sep 26 2015	Chang Zheng 4C	Y54	JQ LC43/94	SAST
2023-150	2023 Sep 27 0600?	Qased	-	SHAHR LP1	IRGC
2023-151	2023 Sep 30 0200:00	Falcon 9	261/B1069.10	CC LC40	SPX
2023-152	2023 Oct 5 0024	Chang Zheng 2D	Y84	XSC LC3	SAST
2023-153	2023 Oct 5 0536:30	Falcon 9	262/B1076.8	CC LC40	SPX
2023-154	2023 Oct 6 1806:00	Atlas V 501	AV-104	CC SLC41	ULAL
2023-155	2023 Oct 9 0136:25	Vega	VV23	CSG ZLV	AE
2023-156	2023 Oct 9 0743	Falcon 9	263/B1063.14	VSFBS SLC4E	SPX
2023-157	2023 Oct 13 1419:43	Falcon Heavy	008	KSC LC39A	SPX
2023-158	2023 Oct 13 2301:10	Falcon 9	264/B1067.14	CC LC40	SPX
2023-159	2023 Oct 15 0054	Chang Zheng 2D	Y77	JQ LC43/94	SAST
2023-160	2023 Oct 18 0039	Falcon 9	265/B1062.16	CC LC40	SPX
2023-161	2023 Oct 21 0823:00	Falcon 9	266/B1061.16	VSFBS SLC4E	SPX
2023-162	2023 Oct 22 0217:00	Falcon 9	267/B1080.4	CC LC40	SPX
2023-163	2023 Oct 23 2003	Chang Zheng 2D	Y85	XSC LC3	SAST
2023-164	2023 Oct 26 0314:02	Chang Zheng 2F	Y17	JQ LC43/91	CALT
2023-165	2023 Oct 27 0604:43	Soyuz-2-1B	-	GIK-1 LC43/3	VVKO
2023-166	2023 Oct 29 0900:00	Falcon 9	268/B1075.7	VSFBS SLC4E	SPX

2023-167	2023 Oct 30 2320:30	Falcon 9	269/B1077.8	CC LC40	SPX
2023-168	2023 Oct 31 2250	Chang Zheng 6A	Y4	TYSC LC9A	SAST
2023-169	2023 Nov 3 1454	Chang Zheng 7A	Y6	WEN LC201	CALT
2023-170	2023 Nov 4 0037:20	Falcon 9	270/B1058.18	CC LC40	SPX
2023-171	2023 Nov 8 0505:30	Falcon 9	271/B1073.11	CC LC40	SPX
2023-172	2023 Nov 9 1123	Chang Zheng 3B	Y94	XSC LC2	CALT
2023-173	2023 Nov 10 0128:14	Falcon 9	272/B1081.2	KSC LC39A	SPX
2023-174	2023 Nov 11 1849:00	Falcon 9	273/B1071.12	VSFBS SLC4E	SPX
2023-175	2023 Nov 12 2108	Falcon 9	274/B1076.9	CC LC40	SPX
2023-176	2023 Nov 16 0355	Chang Zheng 2C/YZ-1S	Y56/Y9	JQ LC43/94	SAST
2023-177	2023 Nov 18 0505:50	Falcon 9	275/B1069.11	CC LC40	SPX
2023-F11	2023 Nov 18 1302:53?	Starship V1.0	B09/S25	STB OLP1	SPX
2023-178	2023 Nov 20 1030:40	Falcon 9	276/B1063.15	VSFBS SLC4E	SPX
2023-179	2023 Nov 21 1342:58	Cheonlima-1	-	SOHAE LC2	KCST
2023-180	2023 Nov 22 0747:40	Falcon 9	277/B1067.15	CC LC40	SPX
2023-181	2023 Nov 23 1000:04	Chang Zheng 2D/YZ-3	Y59/Y2	XSC	SAST
2023-182	2023 Nov 25 2058:06	Soyuz-2-1B	-	GIK-1 LC43/4	VVKO
2023-183	2023 Nov 28 0420:00	Falcon 9	278/B1062.17	CC LC40	SPX
2023-184	2023 Dec 1 0925:12	Soyuz-2-1A	M 15000-067	GIK-5 LC31	FKA
2023-185	2023 Dec 1 1819	Falcon 9	279/B1061.17	VSFBS SLC4E	SPX
2023-186	2023 Dec 2 0400:50	Falcon 9	280/B1078.6	CC LC40	SPX
2023-187	2023 Dec 4 0410	Chang Zheng 2C	Y54	JQ LC43/94	SAST
2023-188	2023 Dec 4 0500	ADD TV2	-	SIR? JEJU	ADD
2023-189	2023 Dec 4 2333	Gushenxing 1	Y9	JQ LC43/95A	XIDO
2023-190	2023 Dec 5 1924	Jielong-3	Y2	BRJZ YJ LP1	CZHZ
2023-191	2023 Dec 7 0507:30	Falcon 9	281/B1077.9	CC LC40	SPX
2023-192	2023 Dec 8 0803	Falcon 9	282/B1071.13	VSFBS SLC4E	SPX
2023-193	2023 Dec 8 2339:03	Zhuque-2	Y3	JQ LC43/96	LANDSP
2023-194	2023 Dec 10 0158	Chang Zheng 2D	Y86	XSC	SAST
2023-195	2023 Dec 14 1412?	Chang Zheng 2F	T5	JQ LC43/91	CALT
2023-196	2023 Dec 15 0405:54?	Electron	42	MAHIA LC1B	RLABN
2023-197	2023 Dec 15 1341	Chang Zheng 5	Y6	WEN LC101	CALT
2023-198	2023 Dec 16 0917:48	Soyuz-2-1B	Ya15000-058/ 122-11	GIK-5 LC31	FKA
2023-199	2023 Dec 17 0700	Shuang Quxian 1	Y7	JQ	XJRY
2023-200	2023 Dec 19 0401:00	Falcon 9	283/B1081.3	CC LC40	SPX
2023-201	2023 Dec 21 0848:39	Soyuz-2-1B	-	GIK-1 LC43/4	VVKO
2023-202	2023 Dec 22 1732:30	Firefly Alpha	FLTA004	V SLC2W	FFLY
2023-203	2023 Dec 23 0533:00	Falcon 9	284/B1058.19	CC LC40	SPX
2023-204	2023 Dec 24 1311:00	Falcon 9	285/B1075.8	VSFBS SLC4E	SPX
2023-205	2023 Dec 25 0100	Kuaizhou-1A	Y26	JQ LC43/95A	EXPACE
2023-206	2023 Dec 25 2239	Chang Zheng 11	Y5	BRJZ YJ LP1	CALT
2023-207	2023 Dec 26 0326	Chang Zheng 3B/YZ-1	Y74/Y16	XSC	CALT
2023-208	2023 Dec 27 0650	Kuaizhou-1A	Y27	JQ LC43/95A	EXPACE
2023-209	2023 Dec 27 0703:44	Soyuz-2-1V	-	GIK-1 LC43/4	VVKO
2023-210	2023 Dec 29 0107	Falcon Heavy	009	KSC LC39A	SPX
2023-211	2023 Dec 29 0401:40	Falcon 9	286/B1069.12	CC LC40	SPX
2023-212	2023 Dec 30 0013	Chang Zheng 2C/YZ-1S	Y55/Y10?	JQ LC43/94	CALT

Note: Owner, Agency and Country codes in the tables are defined in <http://planet4589.org/space/lvdb/sdb/Orgs>.
Launch Sites are defined in <http://planet4589.org/space/lvdb/sdb/Sites>.

Appendix 2: Satellite payloads launched or deployed in 2023

LaunchNo	DeployNo	CATID	LAUNCH ID	Name	Launch Date UTC	Deploy date UTC	Owner	Country	Perigee	Apogee	Inc	Status
-	1	A08475	2016-055	OSIRIS-REX SRC	2016 Sep 8 23:05	2023 Sep 24 10:42	JPL	US	203	-40174	29.54	Landed
-	2	S56307	2022-144J	USA 344	2022 Nov 1 13:41	2023 Apr 7	AFRL	US	36080	36100	2.80	In Earth orbit
-	3	S55181	1998-067UY	SuryaSat	2022 Nov 26 19:20:43	2023 Jan 6 08:02	SURYA	ID	411	415	51.64	Reentered
-	4	S55182	1998-067UZ	HSKSAF-1	2022 Nov 26 19:20:43	2023 Jan 6 09:32	HARSEL	J	409	417	51.64	Reentered
-	5	S55183	1998-067VA	OPTIMAL-1	2022 Nov 26 19:20:43	2023 Jan 6 09:00	ARKE/FUKUIU	J	411	415	51.64	Reentered
1	6	S55009	2023-001A	STAR VIBE	2023 Jan 3 14:55:56	2023 Jan 3 15:56:31	SCANW	PL	526	538	97.50	In Earth orbit
2	7	S55010	2023-001B	Mentut	2023 Jan 3 14:55:56	2023 Jan 3 15:56:08	OCOSB/IEEC	E	525	538	97.50	In Earth orbit
3	8	S55011	2023-001C	BRO-8	2023 Jan 3 14:55:56	2023 Jan 3 15:55:57	UNSEEN	F	525	538	97.50	In Earth orbit
4	9	S55012	2023-001D	Connecta TL2	2023 Jan 3 14:55:56	2023 Jan 3 15:55:47	PLNSST	TR	524	539	97.50	In Earth orbit
5	10	S55013	2023-001E	Lemur-2 PhilAri	2023 Jan 3 14:55:56	2023 Jan 3 16:00:43	SPRE/ESA	L	525	537	97.49	In Earth orbit
6	11	S55014	2023-001F	Lemur-2 Disclaimer	2023 Jan 3 14:55:56	2023 Jan 3 15:56:20	SPIRE	US	524	538	97.50	In Earth orbit
7	12	S55015	2023-001G	Birkeland	2023 Jan 3 14:55:56	2023 Jan 3 15:57:58	NLR/NDRE	NL	524	538	97.50	In Earth orbit
8	13	S55016	2023-001H	SharedSat 2211	2023 Jan 3 14:55:56	2023 Jan 3 15:54:31	ENDUR	BGN	524	538	97.49	In Earth orbit
9	14	S55017	2023-001J	Lemur-2 SteveAlbers	2023 Jan 3 14:55:56	2023 Jan 3 15:56:51	SPIRE	US	524	537	97.49	In Earth orbit
10	15	S55018	2023-001K	KSE3-C	2023 Jan 3 14:55:56	2023 Jan 3 15:59:21	KLEOS	L	525	537	97.50	In Earth orbit
11	16	S55019	2023-001L	KSE3-B	2023 Jan 3 14:55:56	2023 Jan 3 15:58:50	KLEOS	L	524	538	97.50	In Earth orbit
12	17	S55020	2023-001M	Flock 4y-24	2023 Jan 3 14:55:56	2023 Jan 3 16:06:51	PLAN	US	517	537	97.50	In Earth orbit
13	18	S55021	2023-001N	Flock 4y-32	2023 Jan 3 14:55:56	2023 Jan 3 16:02:41	PLAN	US	517	537	97.50	In Earth orbit
14	19	S55022	2023-001P	Flock 4y-22	2023 Jan 3 14:55:56	2023 Jan 3 16:07:28	PLAN	US	517	537	97.50	In Earth orbit
15	20	S55023	2023-001Q	Flock 4y-18	2023 Jan 3 14:55:56	2023 Jan 3 16:08:37	PLAN	US	523	537	97.50	In Earth orbit
16	21	S55024	2023-001R	Flock 4y-14	2023 Jan 3 14:55:56	2023 Jan 3 16:07:17	PLAN	US	517	537	97.50	In Earth orbit
17	22	S55025	2023-001S	Flock 4y-30	2023 Jan 3 14:55:56	2023 Jan 3 16:05:24	PLAN	US	524	537	97.50	In Earth orbit
18	23	S55026	2023-001T	Flock 4y-19	2023 Jan 3 14:55:56	2023 Jan 3 16:08:49	PLAN	US	524	537	97.50	In Earth orbit
19	24	S55027	2023-001U	Flock 4y-25	2023 Jan 3 14:55:56	2023 Jan 3 16:01:10	PLAN	US	524	537	97.50	In Earth orbit
20	25	S55028	2023-001V	Flock 4y-5	2023 Jan 3 14:55:56	2023 Jan 3 16:13:36	PLAN	US	523	537	97.50	In Earth orbit
21	26	S55029	2023-001W	Flock 4y-10	2023 Jan 3 14:55:56	2023 Jan 3 16:15:38	PLAN	US	517	536	97.50	In Earth orbit
22	27	S55030	2023-001X	Flock 4y-29	2023 Jan 3 14:55:56	2023 Jan 3 16:01:32	PLAN	US	523	537	97.49	In Earth orbit
23	28	S55031	2023-001Y	Flock 4y-17	2023 Jan 3 14:55:56	2023 Jan 3 16:08:26	PLAN	US	522	537	97.50	In Earth orbit
24	29	S55032	2023-001Z	Flock 4y-7	2023 Jan 3 14:55:56	2023 Jan 3 16:13:46	PLAN	US	522	537	97.50	In Earth orbit
25	30	S55033	2023-001AA	Flock 4y-28	2023 Jan 3 14:55:56	2023 Jan 3 16:04:29	PLAN	US	523	537	97.50	In Earth orbit
26	31	S55034	2023-001AB	Lynk Tower 4	2023 Jan 3 14:55:56	2023 Jan 3 16:15:38	LYNK	US	523	537	97.50	In Earth orbit
27	32	S55035	2023-001AC	Flock 4y-3	2023 Jan 3 14:55:56	2023 Jan 3 16:10:36	PLAN	US	518	537	97.50	In Earth orbit
28	33	S55036	2023-001AD	Umbr-05	2023 Jan 3 14:55:56	2023 Jan 3 16:19:46	UMBRA	US	519	537	97.50	In Earth orbit
29	34	S55037	2023-001AE	Lemur-2 Emmaeulate	2023 Jan 3 14:55:56	2023 Jan 3 15:54:40	SPIRE	US	517	537	97.50	In Earth orbit
30	35	S55038	2023-001AF	Lemur-2 MMolo	2023 Jan 3 14:55:56	2023 Jan 3 15:58:43	SPIRE	US	516	537	97.50	In Earth orbit
31	36	S55039	2023-001AG	Flock 4y-1	2023 Jan 3 14:55:56	2023 Jan 3 16:09:50	PLAN	US	523	537	97.49	In Earth orbit
32	37	S55040	2023-001AH	Flock 4y-16	2023 Jan 3 14:55:56	2023 Jan 3 16:06:38	PLAN	US	517	537	97.49	In Earth orbit
33	38	S55041	2023-001AJ	Skykraf 1 Carrier	2023 Jan 3 14:55:56	2023 Jan 3 16:23:30	SKYKR	AU	521	537	97.50	In Earth orbit
34	39	S55042	2023-001AK	Flock 4y-33	2023 Jan 3 14:55:56	2023 Jan 3 16:05:13	PLAN	US	524	537	97.50	In Earth orbit
35	40	S55043	2023-001AL	Flock 4y-11	2023 Jan 3 14:55:56	2023 Jan 3 16:12:45	PLAN	US	523	537	97.50	In Earth orbit
36	41	S55044	2023-001AM	Sterula-1	2023 Jan 3 14:55:56	2023 Jan 3 16:02:26	STERN	DK	522	537	97.50	In Earth orbit
37	42	S55045	2023-001AN	Amelia Earhart	2023 Jan 3 14:55:56	2023 Jan 3 16:17:36	URUGUS	UY	521	537	97.50	In Earth orbit
38	43	S55046	2023-001AP	Lynk Tower 3	2023 Jan 3 14:55:56	2023 Jan 3 16:15:42	LYNK	US	522	537	97.50	In Earth orbit
39	44	S55047	2023-001AQ	Albania-2	2023 Jan 3 14:55:56	2023 Jan 3 16:17:59	URUGUS	UY	521	537	97.50	In Earth orbit
40	45	S55048	2023-001AR	Williamina	2023 Jan 3 14:55:56	2023 Jan 3 16:20:43	URUGUS	UY	521	537	97.50	In Earth orbit
41	46	S55049	2023-001AS	ICEYE-X21	2023 Jan 3 14:55:56	2023 Jan 3 16:19:00	ICEYE	FI	521	537	97.50	In Earth orbit
42	47	S55050	2023-001AT	Umbr-04	2023 Jan 3 14:55:56	2023 Jan 3 16:19:42	UMBRA	US	521	537	97.50	In Earth orbit
43	48	S55051	2023-001AU	ION SCV008 FIERCE FRANCISCUS	2023 Jan 3 14:55:56	2023 Jan 3 16:22:01	DORBIT	I	520	537	97.50	In Earth orbit
44	49	S55052	2023-001AV	Skykraf ID	2023 Jan 3 14:55:56	2023 Jan 12?	SKYKR	AU	517	536	97.50	In Earth orbit
45	50	S55053	2023-001AW	EOS SAT-1	2023 Jan 3 14:55:56	2023 Jan 3 16:27:06	EOSDA	US	520	537	97.50	In Earth orbit
46	51	S55054	2023-001AX	Skykraf 1A	2023 Jan 3 14:55:56	2023 Jan 12?	SKYKR	AU	513	534	97.51	In Earth orbit
47	52	S55055	2023-001AY	Flock 4y-4	2023 Jan 3 14:55:56	2023 Jan 3 16:14:37	PLAN	US	518	537	97.50	In Earth orbit
48	53	S55056	2023-001AZ	Vigorate VR-5	2023 Jan 3 14:55:56	2023 Jan 3 16:24:06	MOMENT	US	520	537	97.50	In Earth orbit
49	54	S55057	2023-001BA	Flock 4y-35	2023 Jan 3 14:55:56	2023 Jan 3 16:02:54	PLAN	US	517	537	97.50	In Earth orbit
50	55	S55058	2023-001BB	Skykraf 1B	2023 Jan 3 14:55:56	2023 Jan 12?	SKYKR	AU	514	536	97.51	In Earth orbit
51	56	S55059	2023-001BC	Orbiter SNI	2023 Jan 3 14:55:56	2023 Jan 3 16:22:07	LAUN	US	520	536	97.50	In Earth orbit
52	57	S55060	2023-001BD	ION SCV007 GLORIUS GRATIA	2023 Jan 3 14:55:56	2023 Jan 3 16:20:55	DORBIT	I	520	537	97.50	In Earth orbit
53	58	S55061	2023-001BE	Skykraf 1C	2023 Jan 3 14:55:56	2023 Jan 12?	SKYKR	AU	517	536	97.50	In Earth orbit
54	59	S55062	2023-001BF	ICEYE-X27	2023 Jan 3 14:55:56	2023 Jan 3 16:23:27	ICEYE	FI	520	537	97.50	In Earth orbit
55	60	S55063	2023-001BG	Flock 4y-20	2023 Jan 3 14:55:56	2023 Jan 3 16:09:32	PLAN	US	523	537	97.50	In Earth orbit

121	SS5149	2023-004K	OneWeb SL0570	2023 Jan 10 0450:17	2023 Jan 10 0607:45	ONEWEBN	UK	586	602	86.51	In Earth orbit
122	SS5150	2023-004L	OneWeb SL0571	2023 Jan 10 0450:17	2023 Jan 10 0624:54	ONEWEBN	UK	583	601	86.51	In Earth orbit
123	SS5151	2023-004M	OneWeb SL0572	2023 Jan 10 0450:17	2023 Jan 10 0610:08	ONEWEBN	UK	586	602	86.51	In Earth orbit
124	SS5152	2023-004N	OneWeb SL0573	2023 Jan 10 0450:17	2023 Jan 10 0609:29	ONEWEBN	UK	602	606	86.50	In Earth orbit
125	SS5153	2023-004P	OneWeb SL0588	2023 Jan 10 0450:17	2023 Jan 10 0554:43	ONEWEBN	UK	590	602	86.51	In Earth orbit
126	SS5154	2023-004Q	OneWeb SL0598	2023 Jan 10 0450:17	2023 Jan 10 0550:29	ONEWEBN	UK	589	602	86.51	In Earth orbit
127	SS5155	2023-004R	OneWeb SL0599	2023 Jan 10 0450:17	2023 Jan 10 0608:17	ONEWEBN	UK	586	602	86.51	In Earth orbit
128	SS5156	2023-004S	OneWeb SL0614	2023 Jan 10 0450:17	2023 Jan 10 0549:05	ONEWEBN	UK	589	601	86.51	In Earth orbit
129	SS5157	2023-004T	OneWeb SL0616	2023 Jan 10 0450:17	2023 Jan 10 0605:57	ONEWEBN	UK	587	602	86.51	In Earth orbit
130	SS5158	2023-004U	OneWeb SL0617	2023 Jan 10 0450:17	2023 Jan 10 0550:29	ONEWEBN	UK	591	602	86.51	In Earth orbit
131	SS5159	2023-004V	OneWeb SL0618	2023 Jan 10 0450:17	2023 Jan 10 0607:45	ONEWEBN	UK	587	602	86.51	In Earth orbit
132	SS5160	2023-004W	OneWeb SL0619	2023 Jan 10 0450:17	2023 Jan 10 0604:37	ONEWEBN	UK	585	602	86.51	In Earth orbit
133	SS5161	2023-004X	OneWeb SL0620	2023 Jan 10 0450:17	2023 Jan 10 0552:57	ONEWEBN	UK	590	602	86.51	In Earth orbit
134	SS5162	2023-004Y	OneWeb SL0621	2023 Jan 10 0450:17	2023 Jan 10 0549:05	ONEWEBN	UK	591	602	86.51	In Earth orbit
135	SS5163	2023-004Z	OneWeb SL0622	2023 Jan 10 0450:17	2023 Jan 10 0550:29	ONEWEBN	UK	591	602	86.51	In Earth orbit
136	SS5164	2023-004AA	OneWeb SL0623	2023 Jan 10 0450:17	2023 Jan 10 0623:29	ONEWEBN	UK	583	601	86.51	In Earth orbit
137	SS5165	2023-004AB	OneWeb SL0624	2023 Jan 10 0450:17	2023 Jan 10 0623:29	ONEWEBN	UK	583	601	86.51	In Earth orbit
138	SS5166	2023-004AC	OneWeb SL0625	2023 Jan 10 0450:17	2023 Jan 10 0608:17	ONEWEBN	UK	587	602	86.51	In Earth orbit
139	SS5167	2023-004AD	OneWeb SL0626	2023 Jan 10 0450:17	2023 Jan 10 0622:35	ONEWEBN	UK	583	601	86.51	In Earth orbit
140	SS5168	2023-004AE	OneWeb SL0627	2023 Jan 10 0450:17	2023 Jan 10 0625:33	ONEWEBN	UK	583	601	86.51	In Earth orbit
141	SS5169	2023-004AF	OneWeb SL0628	2023 Jan 10 0450:17	2023 Jan 10 0625:33	ONEWEBN	UK	583	601	86.51	In Earth orbit
142	SS5170	2023-004AG	OneWeb SL0629	2023 Jan 10 0450:17	2023 Jan 10 0619:55	ONEWEBN	UK	582	601	86.51	In Earth orbit
143	SS5171	2023-004AH	OneWeb SL0631	2023 Jan 10 0450:17	2023 Jan 10 0622:35	ONEWEBN	UK	584	601	86.51	In Earth orbit
144	SS5172	2023-004AJ	OneWeb SL0709	2023 Jan 10 0450:17	2023 Jan 10 0554:43	ONEWEBN	UK	590	602	86.51	In Earth orbit
145	SS5173	2023-004AK	OneWeb SL0710	2023 Jan 10 0450:17	2023 Jan 10 0619:55	ONEWEBN	UK	584	601	86.51	In Earth orbit
146	SS5174	2023-004AL	OneWeb SL0711	2023 Jan 10 0450:17	2023 Jan 10 0551:22	ONEWEBN	UK	590	602	86.51	In Earth orbit
147	SS5175	2023-004AM	OneWeb SL0713	2023 Jan 10 0450:17	2023 Jan 10 0549:29	ONEWEBN	UK	591	602	86.51	In Earth orbit
148	SS5176	2023-004AN	OneWeb SL0715	2023 Jan 10 0450:17	2023 Jan 10 0552:57	ONEWEBN	UK	590	602	86.51	In Earth orbit
149	SS5177	2023-004AP	OneWeb SL0716	2023 Jan 10 0450:17	2023 Jan 10 0605:57	ONEWEBN	UK	585	602	86.51	In Earth orbit
150	SS5178	2023-004AQ	OneWeb SL0717	2023 Jan 10 0450:17	2023 Jan 10 0550:29	ONEWEBN	UK	589	602	86.51	In Earth orbit
151	SS5179	2023-004AR	OneWeb SL0719	2023 Jan 10 0450:17	2023 Jan 10 0604:54	ONEWEBN	UK	587	602	86.51	In Earth orbit
152	SS5239	2023-005A	Apsara 0E	2023 Jan 12 18:10	2023 Jan 23 1331:17	APTS	UK	228	641	28.51	In Earth orbit
153	SS5242	2023-006A	Shiyan 22 A xing	2023 Jan 13 07:00	2023 Jan 13 0716:67	CASC	CN	512	522	43.20	In Earth orbit
154	SS5243	2023-006B	Shiyan 22 B xing	2023 Jan 13 07:00	2023 Jan 13 0716:67	CASC	CN	512	522	43.20	In Earth orbit
155	SS5244	2023-006C	Yaogan 37 01 xing	2023 Jan 13 07:00	2023 Jan 13 0715:57	ZZB	CN	508	522	43.20	In Earth orbit
156	SS5248	2023-007A	Qilu-2	2023 Jan 15 03:14?	2023 Jan 15 0325:57	SDIIT	CN	488	499	97.38	In Earth orbit
157	SS5249	2023-007B	Qilu-3	2023 Jan 15 03:14?	2023 Jan 15 0325:57	SDIIT	CN	480	497	97.39	In Earth orbit
158	SS5250	2023-007C	Haihe-1	2023 Jan 15 03:14?	2023 Jan 15 0325:57	YAO/CGSTL	CN	493	502	97.39	In Earth orbit
159	SS5251	2023-007D	Jilin-1 GaoFen 03D-34	2023 Jan 15 03:14?	2023 Jan 15 0325:57	CGSTL	CN	491	496	97.39	In Earth orbit
160	SS5252	2023-007E	Jilin-1 Mofang 02A03	2023 Jan 15 03:14?	2023 Jan 15 0325:57	CGSTL	CN	487	492	97.39	In Earth orbit
161	SS5253	2023-007F	Jilin-1 Mofang 02A04	2023 Jan 15 03:14?	2023 Jan 15 0325:57	CGSTL	CN	481	494	97.38	In Earth orbit
162	SS5254	2023-007G	Jilin-1 Mofang 02A07	2023 Jan 15 03:14?	2023 Jan 15 0325:57	CGSTL	CN	478	495	97.38	In Earth orbit
163	SS5255	2023-007H	Luojian-3 01 xing	2023 Jan 15 03:14?	2023 Jan 15 0325:57	WUHAN	CN	485	498	97.38	Reentered
164	SS5256	2023-007I	Wotuman	2023 Jan 15 03:14?	2023 Jan 15 0325:57	YAO/CGSTL	CN	485	495	97.38	In Earth orbit
165	SS5257	2023-007K	Beyou-1	2023 Jan 15 03:14?	2023 Jan 15 0325:57	YOOD	CN	479	494	97.39	In Earth orbit
166	SS5258	2023-007L	Jin Zijing 6	2023 Jan 15 03:14?	2023 Jan 15 0325:57	GHK/SDIIT	CN	481	492	97.37	In Earth orbit
167	SS5259	2023-007M	Jin Zijing 3	2023 Jan 15 03:14?	2023 Jan 15 0325:57	GHK/JHUTS	CN	483	494	97.37	In Earth orbit
168	SS5260	2023-007N	Jin Zijing 4	2023 Jan 15 03:14?	2023 Jan 15 0325:57	GHK/JHUTS	CN	481	492	97.37	In Earth orbit
169	SS5261	2023-007P	Tianzhi-2D	2023 Jan 15 03:14?	2023 Jan 15 0325:57	ISCAS	CN	480	492	97.37	In Earth orbit
170	SS5263	2023-008A	CBAS 2	2023 Jan 15 22:26	2023 Jan 16 0500:07	SFSSC	US	35785	0.03	35786	In Earth orbit
171	SS5264	2023-008B	LDPE 3A	2023 Jan 15 22:26	2023 Jan 16 0500:07	AFKRL	US	35592	0.10	35596	In Earth orbit
172	SS5268	2023-009A	GPS III SV06	2023 Jan 18 12:24	2023 Jan 18 1353	SFSSC	US	20163	20200	55.10	In Earth orbit
173	SS5269	2023-010A	Starlink 5277	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	217	323	70.00	In Earth orbit
174	SS5270	2023-010B	Starlink 5301	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	216	324	70.00	In Earth orbit
175	SS5271	2023-010C	Starlink 5306	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	217	323	70.00	In Earth orbit
176	SS5272	2023-010D	Starlink 5310	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	216	329	70.00	In Earth orbit
177	SS5273	2023-010E	Starlink 5291	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	214	324	70.00	In Earth orbit
178	SS5274	2023-010F	Starlink 5236	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	216	323	70.00	In Earth orbit
179	SS5275	2023-010G	Starlink 5260	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	216	323	70.00	In Earth orbit
180	SS5276	2023-010H	Starlink 5261	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	216	323	70.00	In Earth orbit
181	SS5277	2023-010I	Starlink 5299	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	216	323	70.00	In Earth orbit
182	SS5278	2023-010K	Starlink 5289	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	216	323	70.00	In Earth orbit
183	SS5279	2023-010L	Starlink 5323	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	216	323	70.00	In Earth orbit
184	SS5280	2023-010M	Starlink 5331	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	216	323	70.00	In Earth orbit
185	SS5281	2023-010N	Starlink 5298	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	215	324	70.00	In Earth orbit
186	SS5282	2023-010P	Starlink 5330	2023 Jan 19 1543:10	2023 Jan 19 1612:15	SPXS	US	215	323	70.00	In Earth orbit

187	190	SS5283	2023-010Q	Starlink 5317	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	216	324	70.00	In Earth orbit
188	191	SS5284	2023-010R	Starlink 5337	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	323	70.00	In Earth orbit
189	192	SS5285	2023-010S	Starlink 5338	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	211	327	70.00	In Earth orbit
190	193	SS5286	2023-010T	Starlink 5338	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	216	323	70.00	In Earth orbit
191	194	SS5287	2023-010U	Starlink 5341	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	216	325	70.00	In Earth orbit
192	195	SS5288	2023-010V	Starlink 5341	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	323	70.00	In Earth orbit
193	196	SS5289	2023-010W	Starlink 5320	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	216	323	70.00	In Earth orbit
194	197	SS5290	2023-010X	Starlink 5266	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	323	70.00	In Earth orbit
195	198	SS5291	2023-010Y	Starlink 5327	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	216	323	70.00	In Earth orbit
196	199	SS5292	2023-010Z	Starlink 5325	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	323	70.00	In Earth orbit
197	200	SS5293	2023-010AA	Starlink 5287	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	216	323	70.00	In Earth orbit
198	201	SS5294	2023-010AB	Starlink 5286	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	216	325	70.00	In Earth orbit
199	202	SS5295	2023-010AC	Starlink 5293	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	216	328	70.00	In Earth orbit
200	203	SS5296	2023-010AD	Starlink 5285	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	323	70.00	In Earth orbit
201	204	SS5297	2023-010AE	Starlink 5284	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	322	70.00	In Earth orbit
202	205	SS5298	2023-010AF	Starlink 5272	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	323	70.00	In Earth orbit
203	206	SS5299	2023-010AG	Starlink 5270	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	323	70.00	In Earth orbit
204	207	SS5300	2023-010AH	Starlink 5308	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	323	70.00	In Earth orbit
205	208	SS5301	2023-010AI	Starlink 5319	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	324	70.00	Reentered
206	209	SS5302	2023-010AJ	Starlink 5321	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	322	70.00	In Earth orbit
207	210	SS5303	2023-010AK	Starlink 5322	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	216	325	70.00	In Earth orbit
208	211	SS5304	2023-010AM	Starlink 5318	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	323	70.00	In Earth orbit
209	212	SS5305	2023-010AN	Starlink 5316	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	216	329	70.00	In Earth orbit
210	213	SS5306	2023-010AP	Starlink 5295	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	322	70.00	In Earth orbit
211	214	SS5307	2023-010AQ	Starlink 5288	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	214	323	70.00	In Earth orbit
212	215	SS5308	2023-010AR	Starlink 5292	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	323	70.00	In Earth orbit
213	216	SS5309	2023-010AS	Starlink 5315	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	323	70.00	In Earth orbit
214	217	SS5310	2023-010AT	Starlink 5309	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	323	70.00	In Earth orbit
215	218	SS5311	2023-010AU	Starlink 5312	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	322	70.00	In Earth orbit
216	219	SS5312	2023-010AV	Starlink 5296	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	324	70.00	In Earth orbit
217	220	SS5313	2023-010AW	Starlink 5313	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	213	324	70.00	In Earth orbit
218	221	SS5314	2023-010AX	Starlink 5305	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	322	70.00	In Earth orbit
219	222	SS5315	2023-010AY	Starlink 5315	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	211	328	70.00	In Earth orbit
220	223	SS5316	2023-010AZ	Starlink 5265	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	223	323	70.00	In Earth orbit
221	224	SS5317	2023-010BA	Starlink 5265	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	212	324	70.00	In Earth orbit
222	225	SS5318	2023-010BB	Starlink 5180	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	322	70.00	In Earth orbit
223	226	SS5319	2023-010BC	Starlink 5196	2023 Jan 19 15:43:10	2023 Jan 19 16:12:15	SPXS	US	215	322	70.00	In Earth orbit
224	227	SS5324	2023-011A	Hawk 6B	2023 Jan 24 23:00:00	2023 Jan 24 23:57:18	HE360	US	549	551	40.50	In Earth orbit
225	228	SS5326	2023-011C	Hawk 6C	2023 Jan 24 23:00:00	2023 Jan 24 23:57:18	HE360	US	549	550	40.50	In Earth orbit
226	229	SS5327	2023-011D	Hawk 6A	2023 Jan 24 23:00:00	2023 Jan 24 23:57:18	HE360	US	549	552	40.50	In Earth orbit
227	230	SS5329	2023-012A	JSE reda-7 gouki	2023 Jan 26 01:50:21	2023 Jan 26 02:10:07	CSICE	J	477	479	97.27	In Earth orbit
228	231	SS5331	2023-013A	Starlink 5492	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	336	430	43.00	In Earth orbit
229	232	SS5332	2023-013B	Starlink 5491	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	212	336	43.00	In Earth orbit
230	233	SS5333	2023-013C	Starlink 5493	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
231	234	SS5334	2023-013D	Starlink 5652	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
232	235	SS5335	2023-013E	Starlink 5660	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	212	337	43.00	In Earth orbit
233	236	SS5336	2023-013F	Starlink 5655	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	212	336	43.00	In Earth orbit
234	237	SS5337	2023-013G	Starlink 5667	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
235	238	SS5338	2023-013H	Starlink 5658	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
236	239	SS5339	2023-013J	Starlink 5671	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	212	336	43.00	In Earth orbit
237	240	SS5340	2023-013K	Starlink 5675	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	212	337	43.00	In Earth orbit
238	241	SS5341	2023-013L	Starlink 5670	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
239	242	SS5342	2023-013M	Starlink 5657	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
240	243	SS5343	2023-013N	Starlink 5661	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
241	244	SS5344	2023-013P	Starlink 5662	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
242	245	SS5345	2023-013Q	Starlink 5663	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	212	336	43.00	In Earth orbit
243	246	SS5346	2023-013R	Starlink 5631	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	212	336	43.00	In Earth orbit
244	247	SS5347	2023-013S	Starlink 5669	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
245	248	SS5348	2023-013T	Starlink 5609	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
246	249	SS5349	2023-013U	Starlink 5666	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
247	250	SS5350	2023-013V	Starlink 5668	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
248	251	SS5351	2023-013W	Starlink 5659	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	212	337	43.00	In Earth orbit
249	252	SS5352	2023-013X	Starlink 5547	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
250	253	SS5353	2023-013Y	Starlink 5608	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	212	337	43.00	In Earth orbit
251	254	SS5354	2023-013Z	Starlink 5649	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit
252	255	SS5355	2023-013AA	Starlink 5647	2023 Jan 26 09:32:20	2023 Jan 26 09:51:14	SPXS	US	211	335	43.00	In Earth orbit

319	SS5426	2023-014AM	Starlink 5638	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	325	337	70.01	In Earth orbit
320	SS5427	2023-014AN	Starlink 5073	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	325	337	70.00	In Earth orbit
321	SS5428	2023-014AP	Starlink 5064	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	325	337	70.00	In Earth orbit
322	SS5429	2023-014AQ	Starlink 5645	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	325	337	70.01	In Earth orbit
323	SS5430	2023-014AR	Starlink 5642	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	325	337	70.01	In Earth orbit
324	SS5431	2023-014AS	Starlink 5643	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	325	337	70.01	In Earth orbit
325	SS5432	2023-014AT	Starlink 5637	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	325	337	70.00	In Earth orbit
326	SS5433	2023-014AU	Starlink 5570	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	325	337	70.00	In Earth orbit
327	SS5434	2023-014AV	Starlink 5621	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	326	337	70.01	In Earth orbit
328	SS5435	2023-014AW	Starlink 5626	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	325	337	70.00	In Earth orbit
329	SS5436	2023-014AX	Starlink 5640	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	326	337	70.00	In Earth orbit
330	SS5437	2023-014AY	Starlink 5080	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	326	337	70.00	In Earth orbit
331	SS5438	2023-014AZ	Starlink 5074	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	326	337	70.01	In Earth orbit
332	SS5439	2023-014BA	Starlink 5634	2023 Jan 31 16:15:00	2023 Jan 31 17:32:08	SPXS	US	326	337	70.00	In Earth orbit
333	SS5440	2023-014BB	ION SCV009/ELECTIC ELENA	2023 Jan 31 16:15:00	2023 Jan 31 17:12:28	DORBIT	I	324	331	70.01	In Earth orbit
334	SS5441	2023-014BH	EBAD Test Mass	2023 Jan 31 16:15:00	2023 Feb 19 12:00:7	EBAD	US	317	326	70.01	Reentered
335	SS5442	2023-015A	Starlink 5699	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
336	SS5449	2023-015B	Starlink 5686	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
337	SS5451	2023-015C	Starlink 5656	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
338	SS5452	2023-015D	Starlink 5683	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
339	SS5453	2023-015E	Starlink 5684	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
340	SS5454	2023-015F	Starlink 5636	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
341	SS5455	2023-015G	Starlink 5680	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
342	SS5456	2023-015H	Starlink 5058	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
343	SS5457	2023-015I	Starlink 5682	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
344	SS5458	2023-015K	Starlink 5020	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
345	SS5459	2023-015L	Starlink 5669	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
346	SS5460	2023-015M	Starlink 5678	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
347	SS5461	2023-015N	Starlink 5646	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
348	SS5462	2023-015P	Starlink 5673	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
349	SS5463	2023-015Q	Starlink 5677	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
350	SS5464	2023-015R	Starlink 5676	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
351	SS5465	2023-015S	Starlink 5674	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
352	SS5466	2023-015T	Starlink 5628	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
353	SS5467	2023-015U	Starlink 5679	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
354	SS5468	2023-015V	Starlink 5672	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
355	SS5469	2023-015W	Starlink 5681	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
356	SS5470	2023-015X	Starlink 5708	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
357	SS5471	2023-015Y	Starlink 5711	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
358	SS5472	2023-015Z	Starlink 5705	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
359	SS5473	2023-015AA	Starlink 5687	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
360	SS5474	2023-015AB	Starlink 5689	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
361	SS5475	2023-015AC	Starlink 5650	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	321	338	42.99	In Earth orbit
362	SS5476	2023-015AD	Starlink 5596	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	Reentered
363	SS5477	2023-015AE	Starlink 5685	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
364	SS5478	2023-015AF	Starlink 5691	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
365	SS5479	2023-015AG	Starlink 5688	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
366	SS5480	2023-015AH	Starlink 5690	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
367	SS5481	2023-015AI	Starlink 5694	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
368	SS5482	2023-015AK	Starlink 5693	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
369	SS5483	2023-015AL	Starlink 5692	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
370	SS5484	2023-015AM	Starlink 5696	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
371	SS5485	2023-015AN	Starlink 5704	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
372	SS5486	2023-015AP	Starlink 5695	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
373	SS5487	2023-015AQ	Starlink 5701	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
374	SS5488	2023-015AR	Starlink 5706	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
375	SS5489	2023-015AS	Starlink 5371	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
376	SS5490	2023-015AT	Starlink 5373	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
377	SS5491	2023-015AU	Starlink 5364	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
378	SS5492	2023-015AV	Starlink 5013	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	322	342	42.98	In Earth orbit
379	SS5493	2023-015AW	Starlink 5362	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	323	342	42.98	In Earth orbit
380	SS5494	2023-015AX	Starlink 5344	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	322	342	42.98	In Earth orbit
381	SS5495	2023-015AY	Starlink 5100	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	322	342	42.98	In Earth orbit
382	SS5496	2023-015AZ	Starlink 5139	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	322	342	42.98	Reentered
383	SS5497	2023-015BA	Starlink 5363	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	322	342	42.98	In Earth orbit
384	SS5498	2023-015BB	Starlink 5365	2023 Feb 2 07:58:20	2023 Feb 2 09:02:21	SPXS	US	322	342	42.98	In Earth orbit

385	SS5499	2023-015BC	Starlink 5366	2023 Feb 2 0758:20	2023 Feb 2 0902:21	SPXS	US	322	342	42.98	In Earth orbit
386	SS5500	2023-015BD	Starlink 5141	2023 Feb 2 0758:20	2023 Feb 2 0902:21	SPXS	US	322	342	42.98	In Earth orbit
387	SS5501	2023-015BE	Starlink 5367	2023 Feb 2 0758:20	2023 Feb 2 0902:21	SPXS	US	322	342	42.98	In Earth orbit
388	SS5506	2023-016A	Elektro-L No. 4	2023 Feb 5 0912:52	2023 Feb 5 1550	RGMS/NPOLO	RU	35797	35797	0.41	In Earth orbit
389	SS5508	2023-017A	Amazonas Nexus	2023 Feb 7 0132	2023 Feb 7 0207:44	HISPM/HISP	BR	2471	64125	19.38	In Earth orbit
390	SS5560	2023-018A	Progress MS-22	2023 Feb 9 0615:36	2023 Feb 9 0624:25	RKKE	RU	2710	64125	51.64	Deorbited
391	SS5562	2023-019A	EOS-07	2023 Feb 10 0348	2023 Feb 10 0401	ISRO	IN	443	460	37.20	In Earth orbit
392	SS5563	2023-019B	AzaadiSAT-2	2023 Feb 10 0348	2023 Feb 10 0403	SKI	IN	444	446	37.20	Reentered
393	SS5564	2023-019C	Janus-1	2023 Feb 10 0348	2023 Feb 10 0402	ANTAR	US	357	442	37.21	Reentered
394	SS5569	2023-020A	Starlink 5749	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
395	SS5570	2023-020B	Starlink 5737	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
396	SS5571	2023-020C	Starlink 5739	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
397	SS5572	2023-020D	Starlink 5732	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
398	SS5573	2023-020E	Starlink 5738	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
399	SS5574	2023-020F	Starlink 5747	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
400	SS5575	2023-020G	Starlink 5745	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
401	SS5576	2023-020H	Starlink 5751	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
402	SS5577	2023-020I	Starlink 5752	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
403	SS5578	2023-020K	Starlink 5713	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
404	SS5579	2023-020L	Starlink 5754	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
405	SS5586	2023-020M	Starlink 5757	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
406	SS5581	2023-020N	Starlink 5753	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
407	SS5582	2023-020P	Starlink 5741	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
408	SS5583	2023-020Q	Starlink 5742	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
409	SS5584	2023-020R	Starlink 5736	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
410	SS5585	2023-020S	Starlink 5769	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
411	SS5586	2023-020T	Starlink 5767	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
412	SS5587	2023-020U	Starlink 5727	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	339	43.00	In Earth orbit
413	SS5588	2023-020V	Starlink 5728	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
414	SS5589	2023-020W	Starlink 5697	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
415	SS5590	2023-020X	Starlink 5762	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
416	SS5591	2023-020Y	Starlink 5760	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
417	SS5592	2023-020Z	Starlink 5759	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
418	SS5593	2023-020AA	Starlink 5703	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
419	SS5594	2023-020AB	Starlink 5750	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
420	SS5595	2023-020AC	Starlink 5740	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
421	SS5596	2023-020AD	Starlink 5729	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
422	SS5597	2023-020AE	Starlink 5743	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
423	SS5598	2023-020AF	Starlink 5756	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
424	SS5599	2023-020AG	Starlink 5761	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
425	SS5600	2023-020AH	Starlink 5755	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
426	SS5601	2023-020AJ	Starlink 5744	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
427	SS5602	2023-020AK	Starlink 5764	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
428	SS5603	2023-020AL	Starlink 5735	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
429	SS5604	2023-020AM	Starlink 5748	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
430	SS5605	2023-020AN	Starlink 5725	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
431	SS5606	2023-020AO	Starlink 5723	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
432	SS5607	2023-020AQ	Starlink 5700	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
433	SS5608	2023-020AR	Starlink 5726	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
434	SS5609	2023-020AS	Starlink 5719	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
435	SS5610	2023-020AT	Starlink 5722	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
436	SS5611	2023-020AU	Starlink 5730	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
437	SS5612	2023-020AV	Starlink 5734	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
438	SS5613	2023-020AV	Starlink 5715	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
439	SS5614	2023-020AX	Starlink 5714	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
440	SS5615	2023-020AY	Starlink 5712	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
441	SS5616	2023-020AZ	Starlink 5710	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.01	In Earth orbit
442	SS5617	2023-020BA	Starlink 5721	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
443	SS5618	2023-020BB	Starlink 5717	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
444	SS5619	2023-020BC	Starlink 5720	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
445	SS5620	2023-020BD	Starlink 5718	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.01	In Earth orbit
446	SS5621	2023-020BE	Starlink 5709	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.00	In Earth orbit
447	SS5622	2023-020BF	Starlink 5702	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.01	In Earth orbit
448	SS5623	2023-020BG	Starlink 5698	2023 Feb 12 0510:10	2023 Feb 12 0613:30	SPXS	US	296	338	43.01	In Earth orbit
449	SS5628	2023-021A	Starlink 5484	2023 Feb 17 1912:20	2023 Feb 17 1927:47	SPXS	US	235	317	70.00	In Earth orbit
450	SS5629	2023-021B	Starlink 5497	2023 Feb 17 1912:20	2023 Feb 17 1927:47	SPXS	US	235	317	70.00	In Earth orbit

451	SS5630	2023-021C	Starlink 5303	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	317	70.00	In Earth orbit
452	SS5631	2023-021D	Starlink 5558	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	317	70.00	In Earth orbit
453	SS5632	2023-021E	Starlink 5546	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	317	70.00	In Earth orbit
454	SS5633	2023-021F	Starlink 5498	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	317	70.00	In Earth orbit
455	SS5634	2023-021G	Starlink 5500	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	318	70.00	In Earth orbit
456	SS5635	2023-021H	Starlink 5495	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	317	70.00	In Earth orbit
457	SS5636	2023-021J	Starlink 5218	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	317	70.00	In Earth orbit
458	SS5637	2023-021K	Starlink 5062	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	317	70.00	In Earth orbit
459	SS5638	2023-021L	Starlink 5507	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	317	70.00	In Earth orbit
460	SS5639	2023-021M	Starlink 5508	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	317	70.00	In Earth orbit
461	SS5640	2023-021N	Starlink 5069	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	317	70.00	In Earth orbit
462	SS5641	2023-021P	Starlink 5065	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	317	70.00	In Earth orbit
463	SS5642	2023-021Q	Starlink 5478	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	317	70.00	In Earth orbit
464	SS5643	2023-021R	Starlink 5483	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	317	70.00	In Earth orbit
465	SS5644	2023-021S	Starlink 5502	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	316	70.00	In Earth orbit
466	SS5645	2023-021T	Starlink 5104	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	236	316	70.00	In Earth orbit
467	SS5646	2023-021U	Starlink 5104	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	317	70.00	In Earth orbit
468	SS5647	2023-021V	Starlink 5510	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	317	70.00	In Earth orbit
469	SS5648	2023-021W	Starlink 5501	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	317	70.00	In Earth orbit
470	SS5649	2023-021X	Starlink 5469	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	316	70.00	In Earth orbit
471	SS5650	2023-021Y	Starlink 5494	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	316	70.00	In Earth orbit
472	SS5651	2023-021Z	Starlink 5506	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	316	70.00	In Earth orbit
473	SS5652	2023-021AA	Starlink 5487	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	235	316	70.00	In Earth orbit
474	SS5653	2023-021AB	Starlink 5067	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
475	SS5654	2023-021AC	Starlink 5070	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
476	SS5655	2023-021AD	Starlink 5267	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
477	SS5656	2023-021AE	Starlink 5326	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
478	SS5657	2023-021AF	Starlink 5328	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
479	SS5658	2023-021AG	Starlink 5307	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
480	SS5659	2023-021AH	Starlink 5477	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	317	70.00	In Earth orbit
481	SS5660	2023-021AI	Starlink 5467	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	317	70.00	In Earth orbit
482	SS5661	2023-021AJ	Starlink 5475	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
483	SS5662	2023-021AK	Starlink 5479	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
484	SS5663	2023-021AM	Starlink 5473	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
485	SS5664	2023-021AN	Starlink 5480	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
486	SS5665	2023-021AP	Starlink 5474	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
487	SS5666	2023-021AQ	Starlink 5457	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	318	70.00	Reentered
488	SS5667	2023-021AR	Starlink 5456	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
489	SS5668	2023-021AS	Starlink 5455	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
490	SS5669	2023-021AT	Starlink 5459	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
491	SS5670	2023-021AU	Starlink 5423	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
492	SS5671	2023-021AV	Starlink 5460	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
493	SS5672	2023-021AW	Starlink 5461	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
494	SS5673	2023-021AX	Starlink 5463	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
495	SS5674	2023-021AY	Starlink 5462	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
496	SS5675	2023-021AZ	Starlink 5232	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
497	SS5676	2023-021BA	Starlink 5300	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
498	SS5677	2023-021BB	Starlink 5324	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	233	316	70.00	In Earth orbit
499	SS5678	2023-021BC	Starlink 5314	2023 Feb 17 19:12:20	2023 Feb 17 19:27:47	SPXS	US	234	316	70.00	In Earth orbit
500	SS5683	2023-022A	Immarsat 6 F2	2023 Feb 18 03:59	2023 Feb 18 04:31	INMRL	UK	3662	46215	17.07	In Earth orbit
501	SS5686	2023-023A	Zhongxing 26	2023 Feb 23 11:49	2023 Feb 23 12:14:7	CHISAE	CN	35770	35801	0.08	In Earth orbit
502	SS5688	2023-024A	Soyuz MS-23	2023 Feb 24 00:24:29	2023 Feb 24 00:33:18	RKKE	RU	193	222	51.64	Landed
503	SS5690	2023-025A	Helios 1	2023 Feb 24 04:01	2023 Feb 24 04:12:7	EGYSA	EG	488	503	97.47	In Earth orbit
504	SS5695	2023-026A	Starlink 30050	2023 Feb 27 23:13:50	2023 Feb 28 00:18:35	SPXS	US	365	372	43.01	In Earth orbit
505	SS5696	2023-026B	Starlink 30038	2023 Feb 27 23:13:50	2023 Feb 28 00:18:35	SPXS	US	365	372	43.01	Reentered
506	SS5697	2023-026C	Starlink 30040	2023 Feb 27 23:13:50	2023 Feb 28 00:18:35	SPXS	US	365	372	43.01	Reentered
507	SS5698	2023-026D	Starlink 30061	2023 Feb 27 23:13:50	2023 Feb 28 00:18:35	SPXS	US	365	372	43.01	Reentered
508	SS5699	2023-026E	Starlink 30055	2023 Feb 27 23:13:50	2023 Feb 28 00:18:35	SPXS	US	365	372	43.01	In Earth orbit
509	SS5700	2023-026F	Starlink 30064	2023 Feb 27 23:13:50	2023 Feb 28 00:18:35	SPXS	US	365	372	43.01	In Earth orbit
510	SS5701	2023-026G	Starlink 30065	2023 Feb 27 23:13:50	2023 Feb 28 00:18:35	SPXS	US	365	372	43.01	In Earth orbit
511	SS5702	2023-026H	Starlink 30042	2023 Feb 27 23:13:50	2023 Feb 28 00:18:35	SPXS	US	365	372	43.01	Reentered
512	SS5703	2023-026I	Starlink 30044	2023 Feb 27 23:13:50	2023 Feb 28 00:18:35	SPXS	US	365	372	43.01	Reentered
513	SS5704	2023-026K	Starlink 30051	2023 Feb 27 23:13:50	2023 Feb 28 00:18:35	SPXS	US	365	372	43.01	In Earth orbit
514	SS5705	2023-026L	Starlink 30057	2023 Feb 27 23:13:50	2023 Feb 28 00:18:35	SPXS	US	365	372	43.01	In Earth orbit
515	SS5706	2023-026M	Starlink 30054	2023 Feb 27 23:13:50	2023 Feb 28 00:18:35	SPXS	US	365	372	43.01	Reentered
516	SS5707	2023-026N	Starlink 30060	2023 Feb 27 23:13:50	2023 Feb 28 00:18:35	SPXS	US	364	372	43.01	In Earth orbit

583	583	2023-029G	OneWeb SL0638	2023 Mar 9 1913:28	2023 Mar 9 2029:08	ONEWEBN	UK	584	600	86.51	In Earth orbit
584	587	2023-029H	OneWeb SL0639	2023 Mar 9 1913:28	2023 Mar 9 2012:40	ONEWEBN	UK	589	600	86.51	In Earth orbit
585	588	2023-029I	OneWeb SL0640	2023 Mar 9 1913:28	2023 Mar 9 2044:08	ONEWEBN	UK	582	600	86.51	In Earth orbit
586	589	2023-029K	OneWeb SL0641	2023 Mar 9 1913:28	2023 Mar 9 2029:08	ONEWEBN	UK	585	600	86.51	In Earth orbit
587	590	2023-029L	OneWeb SL0642	2023 Mar 9 1913:28	2023 Mar 9 2016:08	ONEWEBN	UK	589	600	86.51	In Earth orbit
588	591	2023-029M	OneWeb SL0643	2023 Mar 9 1913:28	2023 Mar 9 2030:56	ONEWEBN	UK	584	600	86.51	In Earth orbit
589	592	2023-029N	OneWeb SL0644	2023 Mar 9 1913:28	2023 Mar 9 2013:40	ONEWEBN	UK	589	600	86.51	In Earth orbit
590	593	2023-029P	OneWeb SL0645	2023 Mar 9 1913:28	2023 Mar 9 2030:56	ONEWEBN	UK	585	600	86.51	In Earth orbit
591	594	2023-029Q	OneWeb SL0646	2023 Mar 9 1913:28	2023 Mar 9 2014:01	ONEWEBN	UK	589	600	86.51	In Earth orbit
592	595	2023-029R	OneWeb SL0648	2023 Mar 9 1913:28	2023 Mar 9 2017:48	ONEWEBN	UK	583	600	86.51	In Earth orbit
593	596	2023-029S	OneWeb SL0649	2023 Mar 9 1913:28	2023 Mar 9 2016:48	ONEWEBN	UK	588	600	86.51	In Earth orbit
594	597	2023-029T	OneWeb SL0650	2023 Mar 9 1913:28	2023 Mar 9 2017:48	ONEWEBN	UK	586	600	86.51	In Earth orbit
595	598	2023-029U	OneWeb SL0652	2023 Mar 9 1913:28	2023 Mar 9 2033:19	ONEWEBN	UK	584	600	86.51	In Earth orbit
596	599	2023-029V	OneWeb SL0653	2023 Mar 9 1913:28	2023 Mar 9 2033:19	ONEWEBN	UK	584	600	86.51	In Earth orbit
597	600	2023-029W	OneWeb SL0654	2023 Mar 9 1913:28	2023 Mar 9 2044:33	ONEWEBN	UK	582	600	86.51	In Earth orbit
598	601	2023-029X	OneWeb SL0656	2023 Mar 9 1913:28	2023 Mar 9 2044:33	ONEWEBN	UK	581	599	86.51	In Earth orbit
599	602	2023-029Y	OneWeb SL0657	2023 Mar 9 1913:28	2023 Mar 9 2032:40	ONEWEBN	UK	585	600	86.51	In Earth orbit
600	603	2023-029Z	OneWeb SL0658	2023 Mar 9 1913:28	2023 Mar 9 2031:28	ONEWEBN	UK	585	600	86.51	In Earth orbit
601	604	2023-029AA	OneWeb SL0660	2023 Mar 9 1913:28	2023 Mar 9 2032:40	ONEWEBN	UK	584	600	86.51	In Earth orbit
602	605	2023-029AB	OneWeb SL0661	2023 Mar 9 1913:28	2023 Mar 9 2046:40	ONEWEBN	UK	582	600	86.51	In Earth orbit
603	606	2023-029AC	OneWeb SL0662	2023 Mar 9 1913:28	2023 Mar 9 2031:28	ONEWEBN	UK	584	600	86.51	In Earth orbit
604	607	2023-029AD	OneWeb SL0663	2023 Mar 9 1913:28	2023 Mar 9 2046:40	ONEWEBN	UK	581	599	86.51	In Earth orbit
605	608	2023-029AE	OneWeb SL0664	2023 Mar 9 1913:28	2023 Mar 9 2048:44	ONEWEBN	UK	581	599	86.51	In Earth orbit
606	609	2023-029AF	OneWeb SL0665	2023 Mar 9 1913:28	2023 Mar 9 2043:06	ONEWEBN	UK	582	600	86.51	In Earth orbit
607	610	2023-029AG	OneWeb SL0666	2023 Mar 9 1913:28	2023 Mar 9 2048:44	ONEWEBN	UK	581	599	86.51	In Earth orbit
608	611	2023-029AH	OneWeb SL0667	2023 Mar 9 1913:28	2023 Mar 9 2043:06	ONEWEBN	UK	581	599	86.51	In Earth orbit
609	612	2023-029AJ	OneWeb SL0669	2023 Mar 9 1913:28	2023 Mar 9 2045:46	ONEWEBN	UK	581	599	86.51	In Earth orbit
610	613	2023-029AK	OneWeb SL0670	2023 Mar 9 1913:28	2023 Mar 9 2045:46	ONEWEBN	UK	582	600	86.51	In Earth orbit
611	614	2023-029AL	OneWeb SL0671	2023 Mar 9 1913:28	2023 Mar 9 2018:05	ONEWEBN	UK	585	600	86.51	In Earth orbit
612	615	2023-029AM	OneWeb SL0672	2023 Mar 9 1913:28	2023 Mar 9 2048:05	ONEWEBN	UK	581	599	86.51	In Earth orbit
613	616	2023-029AN	OneWeb SL0673	2023 Mar 9 1913:28	2023 Mar 9 2014:01	ONEWEBN	UK	588	600	86.51	In Earth orbit
614	617	2023-029AP	OneWeb SL0674	2023 Mar 9 1913:28	2023 Mar 9 2048:05	ONEWEBN	UK	582	599	86.51	In Earth orbit
615	618	2023-029AQ	OneWeb SL0675	2023 Mar 9 1913:28	2023 Mar 9 2012:16	ONEWEBN	UK	587	600	86.51	In Earth orbit
616	619	2023-029AR	OneWeb SL0720	2023 Mar 9 1913:28	2023 Mar 9 2012:16	ONEWEBN	UK	589	600	86.51	In Earth orbit
617	620	2023-030A	Tianhui-6 01	2023 Mar 9 2241	2023 Mar 9 2301:17	GCDX	CN	880	887	99.00	In Earth orbit
618	621	2023-030D	Tianhui-6 02	2023 Mar 9 2241	2023 Mar 9 2301:17	GCDX	CN	879	882	99.00	In Earth orbit
619	622	2023-031A	Luch-SKh No. 3	2023 Mar 12 2231:00	2023 Mar 13 0815	FSB	RU	36130	36135	0.02	In Earth orbit
620	623	2023-032A	Helios 2	2023 Mar 13 0402	2023 Mar 13 0413:19	EGYSA	EG	488	502	97.47	In Earth orbit
621	624	2023-033A	Dragon CRS-27	2023 Mar 15 0030:42	2023 Mar 15 0042:43	SPX	US	210	328	51.65	Launched
622	625	1998-067VC	ARKSAT-1	2023 Mar 15 0030:42	2023 Apr 24 1205:00	UARK	US	412	420	51.64	Reentered
623	626	1998-067VD	AuroraSat	2023 Mar 15 0030:42	2023 Apr 24 1215:00	AURRI	CA	412	420	51.64	Reentered
624	627	1998-067VE	Ex-Alpha 2	2023 Mar 15 0030:42	2023 Apr 24 1205:00	ALB	CA	412	420	51.64	Reentered
625	628	1998-067VF	LightCube	2023 Mar 15 0030:42	2023 Apr 24 1205:00	ASU	US	412	420	51.64	Reentered
626	629	1998-067VG	NEUDOSE	2023 Mar 15 0030:42	2023 Apr 24 1215:00	MCMU	CA	412	420	51.64	Reentered
627	630	1998-067VH	YukonSat-1	2023 Mar 15 0030:42	2023 Apr 24 1215:00	YUKON	CA	412	420	51.64	Reentered
628	631	2023-034A	Shiyan 19	2023 Mar 15 1141	2023 Mar 15 1156:19	CAS7	CN	495	515	97.46	In Earth orbit
629	632	2023-035B	Capella 10	2023 Mar 16 2238:59	2023 Mar 16 2337	CAPSP	US	586	612	44.12	In Earth orbit
630	633	2023-035C	Capella 9	2023 Mar 16 2238:59	2023 Mar 17 0859:19	CAPSP	US	597	602	44.01	In Earth orbit
631	634	2023-036A	Gao Fen 13-02	2023 Mar 17 0833	2023 Mar 17 0859:19	YWZB	CN	35778	35795	2.92	In Earth orbit
632	635	2023-037A	Starlink 5856	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
633	636	2023-037B	Starlink 5859	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
634	637	2023-037C	Starlink 5796	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
635	638	2023-037D	Starlink 5855	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
636	639	2023-037E	Starlink 5867	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
637	640	2023-037F	Starlink 5871	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
638	641	2023-037G	Starlink 5862	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
639	642	2023-037H	Starlink 5861	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
640	643	2023-037I	Starlink 5863	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
641	644	2023-037K	Starlink 5854	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
642	645	2023-037L	Starlink 5849	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	331	70.00	In Earth orbit
643	646	2023-037M	Starlink 5922	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
644	647	2023-037N	Starlink 5921	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
645	648	2023-037P	Starlink 5919	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
646	649	2023-037Q	Starlink 5930	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
647	650	2023-037R	Starlink 5898	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit
648	651	2023-037S	Starlink 5896	2023 Mar 17 1926:40	2023 Mar 17 1942:09	SPXS	US	221	332	70.00	In Earth orbit

649	SS5931	2023-037T	Starlink 5897	2023 Mar 17 1926:40	SPXS	US	221	332	70.00	In Earth orbit
650	SS5932	2023-037U	Starlink 5848	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
651	SS5933	2023-037V	Starlink 5852	2023 Mar 17 1926:40	SPXS	US	221	332	70.00	In Earth orbit
652	SS5934	2023-037W	Starlink 5927	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
653	SS5935	2023-037X	Starlink 5920	2023 Mar 17 1926:40	SPXS	US	221	332	70.00	In Earth orbit
654	SS5936	2023-037Y	Starlink 5882	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
655	SS5937	2023-037Z	Starlink 5913	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
656	SS5938	2023-037AA	Starlink 5909	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
657	SS5939	2023-037AB	Starlink 5918	2023 Mar 17 1926:40	SPXS	US	221	332	70.00	In Earth orbit
658	SS5940	2023-037AC	Starlink 5864	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
659	SS5941	2023-037AD	Starlink 5914	2023 Mar 17 1926:40	SPXS	US	221	332	70.00	In Earth orbit
660	SS5942	2023-037AE	Starlink 5917	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
661	SS5943	2023-037AF	Starlink 5932	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
662	SS5944	2023-037AG	Starlink 5926	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
663	SS5945	2023-037AH	Starlink 5925	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
664	SS5946	2023-037AJ	Starlink 5857	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
665	SS5947	2023-037AK	Starlink 5851	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
666	SS5948	2023-037AL	Starlink 5900	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
667	SS5949	2023-037AM	Starlink 5899	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
668	SS5950	2023-037AN	Starlink 5911	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
669	SS5951	2023-037AO	Starlink 5908	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
670	SS5952	2023-037AQ	Starlink 5893	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
671	SS5953	2023-037AR	Starlink 5889	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
672	SS5954	2023-037AS	Starlink 5892	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
673	SS5955	2023-037AT	Starlink 5878	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
674	SS5956	2023-037AU	Starlink 5883	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
675	SS5957	2023-037AV	Starlink 5884	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
676	SS5958	2023-037AW	Starlink 5928	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
677	SS5959	2023-037AX	Starlink 5929	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
678	SS5960	2023-037AY	Starlink 5938	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
679	SS5961	2023-037AZ	Starlink 5933	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
680	SS5962	2023-037BA	Starlink 5906	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
681	SS5963	2023-037BB	Starlink 5924	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
682	SS5964	2023-037BC	Starlink 5895	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
683	SS5965	2023-037BD	Starlink 5894	2023 Mar 17 1926:40	SPXS	US	221	331	70.00	In Earth orbit
684	SS5970	2023-038A	SES 18	2023 Mar 17 2338:00?	SESSA	L	35709	35718	0.02	In Earth orbit
685	SS5971	2023-038B	SES 19	2023 Mar 18 0015:25	SESSA	L	35734	35741	0.05	In Earth orbit
686	SS5973	2023-039A	Tianmu-1 qixiang xingzou 03	2023 Mar 22 0909	TIANMU	CN	502	517	97.42	In Earth orbit
687	SS5974	2023-039B	Tianmu-1 qixiang xingzou 04	2023 Mar 22 0909	TIANMU	CN	502	517	97.41	In Earth orbit
688	SS5975	2023-039C	Tianmu-1 qixiang xingzou 05	2023 Mar 22 0909	TIANMU	CN	502	516	97.41	In Earth orbit
689	SS5976	2023-039D	Tianmu-1 qixiang xingzou 06	2023 Mar 22 0924?	TIANMU	CN	501	515	97.41	In Earth orbit
690	SS5978	2023-040A	Kosmos-2567	2023 Mar 23 0640:11	VVKOV	RU	337	499	97.64	In Earth orbit
691	SS5982	2023-041B	Global-19	2023 Mar 24 0914:56	BSKG	US	449	457	42.01	In Earth orbit
692	SS5983	2023-041C	Global-5	2023 Mar 24 0914:56	BSKG	US	448	456	42.01	In Earth orbit
693	SS5986	2023-042A	Starlink 5905	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
694	SS5987	2023-042B	Starlink 5915	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
695	SS5988	2023-042C	Starlink 5916	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
696	SS5989	2023-042D	Starlink 5947	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
697	SS5990	2023-042E	Starlink 5946	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
698	SS5991	2023-042F	Starlink 5948	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
699	SS5992	2023-042G	Starlink 5962	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
700	SS5993	2023-042H	Starlink 5969	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
701	SS5994	2023-042J	Starlink 5956	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
702	SS5995	2023-042K	Starlink 5957	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
703	SS5996	2023-042L	Starlink 5903	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
704	SS5997	2023-042M	Starlink 5904	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
705	SS5998	2023-042N	Starlink 5902	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
706	SS5999	2023-042P	Starlink 5901	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
707	SS6000	2023-042Q	Starlink 5910	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
708	SS6001	2023-042R	Starlink 5944	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
709	SS6002	2023-042S	Starlink 5799	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
710	SS6003	2023-042T	Starlink 5789	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
711	SS6004	2023-042U	Starlink 5787	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
712	SS6005	2023-042V	Starlink 5801	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
713	SS6006	2023-042W	Starlink 5794	2023 Mar 24 1648:30	SPXS	US	297	339	43.00	In Earth orbit
714	SS6007	2023-042X	Starlink 5806	2023 Mar 24 1648:30	SPXS	US	296	338	43.00	In Earth orbit

781	856078	2023-043AJ	OneWeb SL0637	2023 Mar 26 0330:20	2023 Mar 26 0445:22	ONEWEBN	UK	446	460	87.43	In Earth orbit
782	856079	2023-043AK	OneWeb SL0647	2023 Mar 26 0330:20	2023 Mar 26 0404:22	ONEWEBN	UK	441	454	87.42	In Earth orbit
783	856080	2023-043AL	OneWeb SL0651	2023 Mar 26 0330:20	2023 Mar 26 0417:42	ONEWEBN	UK	441	457	87.42	In Earth orbit
784	856081	2023-043AM	OneWeb SL0718	2023 Mar 26 0330:20	2023 Mar 26 0404:22	ONEWEBN	UK	441	454	87.42	In Earth orbit
785	856083	2023-044A	'Ofeg-13	2023 Mar 28 23:10	2023 Mar 28 23:20?	DDRD/U9500	IL	220	300	139.20	In Earth orbit
786	856091	2023-045A	Kosmos-2568	2023 Mar 29 1957:02	2023 Mar 29 2008?*	MORF	RU	329	344	96.46	In Earth orbit
787	856093	2023-046A	Starlink 6102	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	335	43.00	In Earth orbit
788	856094	2023-046B	Starlink 6109	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	335	43.00	In Earth orbit
789	856095	2023-046C	Starlink 6090	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	335	43.00	In Earth orbit
790	856096	2023-046D	Starlink 6089	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	297	336	43.00	In Earth orbit
791	856097	2023-046E	Starlink 6077	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	335	43.00	In Earth orbit
792	856098	2023-046F	Starlink 6088	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	335	43.00	In Earth orbit
793	856099	2023-046G	Starlink 6093	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	297	336	43.00	In Earth orbit
794	856100	2023-046H	Starlink 6076	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	297	336	43.00	In Earth orbit
795	856101	2023-046I	Starlink 6095	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
796	856102	2023-046K	Starlink 6075	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	297	336	43.00	In Earth orbit
797	856103	2023-046L	Starlink 6096	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	297	336	43.00	In Earth orbit
798	856104	2023-046M	Starlink 6062	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	297	336	43.00	In Earth orbit
799	856105	2023-046N	Starlink 6066	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	297	336	43.00	In Earth orbit
800	856106	2023-046P	Starlink 6078	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
801	856107	2023-046Q	Starlink 6030	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
802	856108	2023-046R	Starlink 6081	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
803	856109	2023-046S	Starlink 6083	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	297	336	43.00	In Earth orbit
804	856110	2023-046T	Starlink 6084	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	297	336	43.00	In Earth orbit
805	856111	2023-046U	Starlink 6082	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
806	856112	2023-046V	Starlink 6080	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	297	336	43.00	In Earth orbit
807	856113	2023-046W	Starlink 6113	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	297	336	43.00	In Earth orbit
808	856114	2023-046X	Starlink 6103	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
809	856115	2023-046Y	Starlink 6101	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	297	336	43.00	In Earth orbit
810	856116	2023-046Z	Starlink 6114	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
811	856117	2023-046AA	Starlink 6107	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
812	856118	2023-046AB	Starlink 6105	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
813	856119	2023-046AC	Starlink 6091	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
814	856120	2023-046AD	Starlink 6079	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	297	336	43.00	In Earth orbit
815	856121	2023-046AE	Starlink 6092	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
816	856122	2023-046AF	Starlink 6094	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
817	856123	2023-046AG	Starlink 6115	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
818	856124	2023-046AH	Starlink 6126	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
819	856125	2023-046AJ	Starlink 6119	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
820	856126	2023-046AK	Starlink 6124	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
821	856127	2023-046AL	Starlink 6104	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
822	856128	2023-046AM	Starlink 6122	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
823	856129	2023-046AN	Starlink 6121	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
824	856130	2023-046AP	Starlink 6117	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	337	43.00	In Earth orbit
825	856131	2023-046AQ	Starlink 6120	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
826	856132	2023-046AR	Starlink 6071	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
827	856133	2023-046AS	Starlink 5566	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
828	856134	2023-046AT	Starlink 5564	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
829	856135	2023-046AU	Starlink 5563	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
830	856136	2023-046AV	Starlink 5489	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
831	856137	2023-046AW	Starlink 5090	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
832	856138	2023-046AX	Starlink 4774	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
833	856139	2023-046AY	Starlink 5378	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
834	856140	2023-046AZ	Starlink 5375	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
835	856141	2023-046BA	Starlink 5377	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
836	856142	2023-046BB	Starlink 5376	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
837	856143	2023-046BC	Starlink 5016	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
838	856144	2023-046BD	Starlink 5374	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
839	856145	2023-046BE	Starlink 5370	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
840	856146	2023-046BF	Starlink 5111	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
841	856147	2023-046BG	Starlink 5140	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
842	856148	2023-046BH	Starlink 5089	2023 Mar 29 2001:00	2023 Mar 29 2106:02	SPXS	US	298	336	43.00	In Earth orbit
843	856153	2023-047A	Hongtu-1 01 zu 01 xing	2023 Mar 30 1050	2023 Mar 30 1105?	PIESAT	CN	499	512	97.44	In Earth orbit
844	856154	2023-047B	Hongtu-1 01 zu 02 xing	2023 Mar 30 1050	2023 Mar 30 1105?	PIESAT	CN	498	512	97.44	In Earth orbit
845	856155	2023-047C	Hongtu-1 01 zu 03 xing	2023 Mar 30 1050	2023 Mar 30 1105?	PIESAT	CN	497	512	97.44	In Earth orbit
846	856156	2023-047D	Hongtu-1 01 zu 04 xing	2023 Mar 30 1050	2023 Mar 30 1105?	PIESAT	CN	496	511	97.44	In Earth orbit

913	S56288	2023-056C	Starlink 30106	2023 Apr 19 1431:10	SPXS	US	345	352	43.00	In Earth orbit
914	S56289	2023-056D	Starlink 30095	2023 Apr 19 1431:10	SPXS	US	345	351	43.00	In Earth orbit
915	S56290	2023-056E	Starlink 30103	2023 Apr 19 1431:10	SPXS	US	345	351	43.00	In Earth orbit
916	S56291	2023-056F	Starlink 30113	2023 Apr 19 1431:10	SPXS	US	345	351	43.00	In Earth orbit
917	S56292	2023-056G	Starlink 30098	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
918	S56293	2023-056H	Starlink 30099	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
919	S56294	2023-056I	Starlink 30049	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
920	S56295	2023-056K	Starlink 30083	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
921	S56296	2023-056L	Starlink 30089	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
922	S56297	2023-056M	Starlink 30109	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
923	S56298	2023-056N	Starlink 30108	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
924	S56299	2023-056P	Starlink 30104	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
925	S56300	2023-056Q	Starlink 30108	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
926	S56301	2023-056R	Starlink 30101	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
927	S56302	2023-056S	Starlink 30111	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
928	S56303	2023-056T	Starlink 30097	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
929	S56304	2023-056U	Starlink 30099	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
930	S56305	2023-056V	Starlink 30094	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
931	S56306	2023-056W	Starlink 30112	2023 Apr 19 1431:10	SPXS	US	344	351	43.00	In Earth orbit
932	S56308	2023-057A	POEM-2	2023 Apr 22 0850	ISRO	IN	580	589	9.99	Attached to PSLV-C55 PS4
933	S56309	2023-057B	LUMELITE-4	2023 Apr 22 0910	NUS	SG	576	589	9.99	In Earth orbit
934	S56310	2023-057C	TELEOS-2	2023 Apr 22 0850	AGILS	SG	588	618	9.93	In Earth orbit
935	S56317	2023-058A	Starlink 6038	2023 Apr 27 1440:50	SPXS	US	297	349	97.67	In Earth orbit
936	S56318	2023-058B	Starlink 5954	2023 Apr 27 1440:50	SPXS	US	297	349	97.66	In Earth orbit
937	S56319	2023-058C	Starlink 6039	2023 Apr 27 1440:50	SPXS	US	297	349	97.67	In Earth orbit
938	S56320	2023-058D	Starlink 5988	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
939	S56321	2023-058E	Starlink 5876	2023 Apr 27 1440:50	SPXS	US	297	349	97.67	In Earth orbit
940	S56322	2023-058F	Starlink 6033	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
941	S56323	2023-058G	Starlink 6035	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
942	S56324	2023-058H	Starlink 6034	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
943	S56325	2023-058I	Starlink 5981	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
944	S56326	2023-058K	Starlink 5980	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
945	S56327	2023-058L	Starlink 5997	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
946	S56328	2023-058M	Starlink 5992	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
947	S56329	2023-058N	Starlink 5984	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
948	S56330	2023-058P	Starlink 5967	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
949	S56331	2023-058Q	Starlink 5991	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
950	S56332	2023-058R	Starlink 5993	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
951	S56333	2023-058S	Starlink 5553	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
952	S56334	2023-058T	Starlink 5548	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
953	S56335	2023-058U	Starlink 5559	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
954	S56336	2023-058V	Starlink 5562	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
955	S56337	2023-058W	Starlink 5561	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
956	S56338	2023-058X	Starlink 5554	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
957	S56339	2023-058Y	Starlink 5552	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
958	S56340	2023-058Z	Starlink 5540	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
959	S56341	2023-058AA	Starlink 5543	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
960	S56342	2023-058AB	Starlink 5976	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
961	S56343	2023-058AC	Starlink 5974	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
962	S56344	2023-058AD	Starlink 5974	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
963	S56345	2023-058AE	Starlink 5979	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
964	S56346	2023-058AF	Starlink 5837	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
965	S56347	2023-058AG	Starlink 5829	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
966	S56348	2023-058AH	Starlink 5888	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
967	S56349	2023-058AJ	Starlink 5887	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
968	S56350	2023-058AK	Starlink 5886	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
969	S56351	2023-058AL	Starlink 5891	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
970	S56352	2023-058AM	Starlink 5885	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
971	S56353	2023-058AN	Starlink 5874	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
972	S56354	2023-058AO	Starlink 5877	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
973	S56355	2023-058AQ	Starlink 5533	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
974	S56356	2023-058AR	Starlink 5535	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
975	S56357	2023-058AS	Starlink 5538	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
976	S56358	2023-058AT	Starlink 5482	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
977	S56359	2023-058AU	Starlink 5551	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit
978	S56360	2023-058AV	Starlink 5549	2023 Apr 27 1440:50	SPXS	US	296	349	97.67	In Earth orbit

979	S56361	2023-058AW	Starlink 5550	2023 Apr 27 13:40:50	2023 Apr 27 14:40:43	SPXS	US	296	349	97.67	In Earth orbit
980	S56362	2023-058AX	Starlink 5972	2023 Apr 27 13:40:50	2023 Apr 27 14:40:43	SPXS	US	296	349	97.67	In Earth orbit
981	S56367	2023-059A	O3b nPOWER F4	2023 Apr 28 22:12	2023 Apr 29 00:05:19	O3BS	UK	6426	8183	2.82	In Earth orbit
982	S56368	2023-059B	O3b nPOWER F3	2023 Apr 28 22:12	2023 Apr 29 00:12:19	O3BS	UK	5420	7741	3.92	In Earth orbit
983	S56370	2023-060A	Viasat-3 Americas	2023 May 1 00:26	2023 May 1 04:58:27	VIA	US	35779	35779	0.08	In Earth orbit
984	S56371	2023-060B	Arcutius	2023 May 1 00:26	2023 May 1 05:12:37	ASTRAN	US	35781	35791	0.03	In Earth orbit
985	S56372	2023-060C	G-Space 1	2023 May 1 00:26	2023 May 1 05:05:58	GRSP	US	33790	36364	0.18	In Earth orbit
986	S56374	2023-061A	Starlink 6156	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	339	43.01	In Earth orbit
987	S56375	2023-061B	Starlink 6158	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	339	43.01	In Earth orbit
988	S56377	2023-061C	Starlink 6188	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	339	43.01	In Earth orbit
989	S56382	2023-061D	Starlink 6189	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
990	S56378	2023-061E	Starlink 6191	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
991	S56379	2023-061F	Starlink 6157	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
992	S56380	2023-061G	Starlink 6161	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
993	S56381	2023-061H	Starlink 6159	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
994	S56382	2023-061J	Starlink 6160	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
995	S56383	2023-061K	Starlink 6166	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
996	S56384	2023-061L	Starlink 6153	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
997	S56385	2023-061M	Starlink 6173	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
998	S56386	2023-061N	Starlink 5836	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
999	S56387	2023-061P	Starlink 6178	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1000	S56388	2023-061Q	Starlink 6176	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1001	S56389	2023-061R	Starlink 6145	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1002	S56390	2023-061S	Starlink 6300	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1003	S56391	2023-061T	Starlink 6298	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1004	S56392	2023-061U	Starlink 6301	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1005	S56393	2023-061V	Starlink 6303	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1006	S56394	2023-061W	Starlink 6305	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1007	S56395	2023-061X	Starlink 6273	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1008	S56396	2023-061Y	Starlink 6302	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1009	S56397	2023-061Z	Starlink 6271	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1010	S56398	2023-061AA	Starlink 6288	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1011	S56399	2023-061AB	Starlink 6277	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1012	S56400	2023-061AC	Starlink 6267	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1013	S56401	2023-061AD	Starlink 6256	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1014	S56402	2023-061AE	Starlink 6269	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1015	S56403	2023-061AF	Starlink 6284	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1016	S56404	2023-061AG	Starlink 6287	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1017	S56405	2023-061AH	Starlink 6285	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1018	S56406	2023-061AJ	Starlink 6283	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1019	S56407	2023-061AK	Starlink 6289	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1020	S56408	2023-061AL	Starlink 6289	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1021	S56409	2023-061AM	Starlink 6241	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1022	S56410	2023-061AN	Starlink 6281	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1023	S56411	2023-061AP	Starlink 6279	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1024	S56412	2023-061AQ	Starlink 6278	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1025	S56413	2023-061AR	Starlink 6258	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1026	S56414	2023-061AS	Starlink 5136	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1027	S56415	2023-061AT	Starlink 6268	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1028	S56416	2023-061AU	Starlink 6260	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1029	S56417	2023-061AV	Starlink 6261	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1030	S56418	2023-061AW	Starlink 5356	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1031	S56419	2023-061AX	Starlink 5350	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1032	S56420	2023-061AY	Starlink 6272	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1033	S56421	2023-061AZ	Starlink 6270	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1034	S56422	2023-061BA	Starlink 6236	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1035	S56423	2023-061BB	Starlink 6239	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1036	S56424	2023-061BC	Starlink 6242	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1037	S56425	2023-061BD	Starlink 6224	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1038	S56426	2023-061BE	Starlink 5352	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1039	S56427	2023-061BF	Starlink 5724	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1040	S56428	2023-061BG	Starlink 6238	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1041	S56429	2023-061BH	Starlink 6264	2023 May 4 07:31:00	2023 May 4 08:36:04	SPXS	US	297	338	43.01	In Earth orbit
1042	S56430	2023-061BI	TROPICS SV05	2023 May 8 01:00	2023 May 8 01:35	MITLL	US	538	555	32.73	In Earth orbit
1043	S56444	2023-062C	TROPICS SV06	2023 May 8 01:00	2023 May 8 01:35	MITLL	US	535	553	32.73	In Earth orbit
1044	S56446	2023-063A	Tianzhou-6	2023 May 10 13:22:51	2023 May 10 13:33:52	CMSE0	CN	199	317	41.48	In Earth orbit

1111	S56517	2023-065Q	Starlink 5345	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1112	S56518	2023-065R	Starlink 5346	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1113	S56519	2023-065S	Starlink 6313	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1114	S56520	2023-065T	Starlink 6344	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1115	S56521	2023-065U	Starlink 6333	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1116	S56522	2023-065V	Starlink 6327	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1117	S56523	2023-065W	Starlink 6328	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1118	S56524	2023-065X	Starlink 6329	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1119	S56525	2023-065Y	Starlink 6323	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1120	S56526	2023-065Z	Starlink 6317	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1121	S56527	2023-065AA	Starlink 6335	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1122	S56528	2023-065AB	Starlink 6337	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1123	S56529	2023-065AC	Starlink 6307	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1124	S56530	2023-065AD	Starlink 6318	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1125	S56531	2023-065AE	Starlink 6280	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1126	S56532	2023-065AF	Starlink 6319	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1127	S56533	2023-065AG	Starlink 6310	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1128	S56534	2023-065AH	Starlink 6308	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1129	S56535	2023-065AI	Starlink 6309	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1130	S56536	2023-065AJ	Starlink 6312	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1131	S56537	2023-065AK	Starlink 6311	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1132	S56538	2023-065AL	Starlink 6314	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1133	S56539	2023-065AM	Starlink 6135	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1134	S56540	2023-065AN	Starlink 6136	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1135	S56541	2023-065AP	Starlink 6249	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1136	S56542	2023-065AQ	Starlink 6249	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1137	S56543	2023-065AR	Starlink 6266	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1138	S56544	2023-065AS	Starlink 6228	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1139	S56545	2023-065AT	Starlink 6226	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1140	S56546	2023-065AU	Starlink 6086	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1141	S56547	2023-065AV	Starlink 6187	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1142	S56548	2023-065AW	Starlink 6291	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1143	S56549	2023-065AX	Starlink 6244	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1144	S56550	2023-065AY	Starlink 6263	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1145	S56551	2023-065AZ	Starlink 6255	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1146	S56552	2023-065BA	Starlink 6199	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1147	S56553	2023-065BB	Starlink 5802	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1148	S56554	2023-065BC	Starlink 6074	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1149	S56555	2023-065BD	Starlink 6295	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1150	S56556	2023-065BE	Starlink 6252	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1151	S56557	2023-065BF	Starlink 5302	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1152	S56558	2023-065BG	Starlink 6265	2023 May 14 05:03:30	SPXS	US	298	336	43.01	In Earth orbit
1153	S56559	2023-065BH	Starlink 6286	2023 May 14 06:08:45	SPXS	US	298	336	43.01	In Earth orbit
1154	S56560	2023-065BI	Starlink 6286	2023 May 17 02:49	CNSA	CN	35757	35816	2.96	In Earth orbit
1155	S56561	2023-065BJ	Beidou DW 56	2023 May 19 06:19:30	SPXS	US	321	43.00	43.00	In Earth orbit
1156	S56562	2023-065BK	Starlink 30122	2023 May 19 07:24:32	SPXS	US	315	321	43.00	In Earth orbit
1157	S56563	2023-065BL	Starlink 30129	2023 May 19 06:19:30	SPXS	US	315	321	43.00	In Earth orbit
1158	S56564	2023-065BM	Starlink 30124	2023 May 19 06:19:30	SPXS	US	315	321	43.00	In Earth orbit
1159	S56565	2023-065BN	Starlink 30087	2023 May 19 06:19:30	SPXS	US	315	321	43.00	In Earth orbit
1160	S56566	2023-065BO	Starlink 30036	2023 May 19 06:19:30	SPXS	US	315	321	43.00	In Earth orbit
1161	S56567	2023-065BP	Starlink 30067	2023 May 19 07:24:32	SPXS	US	315	321	43.00	In Earth orbit
1162	S56568	2023-065BQ	Starlink 30076	2023 May 19 06:19:30	SPXS	US	315	321	43.00	In Earth orbit
1163	S56569	2023-065BR	Starlink 30126	2023 May 19 07:24:32	SPXS	US	315	321	43.00	In Earth orbit
1164	S56570	2023-065BS	Starlink 30121	2023 May 19 06:19:30	SPXS	US	315	321	43.00	In Earth orbit
1165	S56571	2023-065BT	Starlink 30118	2023 May 19 06:19:30	SPXS	US	314	321	43.00	In Earth orbit
1166	S56572	2023-065BU	Starlink 30130	2023 May 19 07:24:32	SPXS	US	314	321	43.00	In Earth orbit
1167	S56573	2023-065BV	Starlink 30068	2023 May 19 06:19:30	SPXS	US	314	321	43.00	In Earth orbit
1168	S56574	2023-065BW	Starlink 30127	2023 May 19 07:24:32	SPXS	US	314	321	43.00	In Earth orbit
1169	S56575	2023-065BX	Starlink 30053	2023 May 19 06:19:30	SPXS	US	314	321	43.00	In Earth orbit
1170	S56576	2023-065BY	Starlink 30125	2023 May 19 07:24:32	SPXS	US	314	321	43.00	In Earth orbit
1171	S56577	2023-065BZ	Starlink 30117	2023 May 19 06:19:30	SPXS	US	314	321	43.00	In Earth orbit
1172	S56578	2023-065CA	Starlink 30132	2023 May 19 07:24:32	SPXS	US	314	321	43.00	In Earth orbit
1173	S56579	2023-065CB	Starlink 30066	2023 May 19 06:19:30	SPXS	US	314	321	43.00	In Earth orbit
1174	S56580	2023-065CC	Starlink 30080	2023 May 19 07:24:32	SPXS	US	314	321	43.00	In Earth orbit
1175	S56581	2023-065CD	Starlink 30079	2023 May 19 06:19:30	SPXS	US	314	321	43.00	In Earth orbit
1176	S56582	2023-065CE	Starlink 30070	2023 May 19 07:24:32	SPXS	US	314	321	43.00	In Earth orbit
1177	S56583	2023-065CF	Starlink 30071	2023 May 19 06:19:30	SPXS	US	314	321	43.00	In Earth orbit
1178	S56584	2023-065CG	Starlink 30085	2023 May 19 07:24:32	SPXS	US	314	321	43.00	In Earth orbit
1179	S56585	2023-065CH	Starlink 30085	2023 May 20 13:16:33	ONEWEB	UK	613	627	86.68	In Earth orbit

1243	1243	S56795	2023-078AE	Starlink 6061	2023 May 31 0602:30	SPXS	US	222	332	70.01	In Earth orbit
1244	1246	S56796	2023-078AF	Starlink 6049	2023 May 31 0619:58	SPXS	US	221	331	70.01	In Earth orbit
1245	1247	S56797	2023-078AG	Starlink 6058	2023 May 31 0619:58	SPXS	US	222	332	70.01	In Earth orbit
1246	1248	S56798	2023-078AH	Starlink 6068	2023 May 31 0619:58	SPXS	US	221	331	70.01	In Earth orbit
1247	1249	S56799	2023-078AJ	Starlink 5953	2023 May 31 0619:58	SPXS	US	222	331	70.00	In Earth orbit
1248	1250	S56800	2023-078AK	Starlink 6036	2023 May 31 0619:58	SPXS	US	221	330	70.01	In Earth orbit
1249	1251	S56801	2023-078AL	Starlink 6087	2023 May 31 0619:58	SPXS	US	221	330	70.01	In Earth orbit
1250	1252	S56802	2023-078AM	Starlink 6079	2023 May 31 0619:58	SPXS	US	222	331	70.01	In Earth orbit
1251	1253	S56803	2023-078AN	Starlink 6029	2023 May 31 0619:58	SPXS	US	221	330	70.00	In Earth orbit
1252	1254	S56804	2023-078AP	Starlink 6064	2023 May 31 0619:58	SPXS	US	222	332	70.00	In Earth orbit
1253	1255	S56805	2023-078AQ	Starlink 6069	2023 May 31 0619:58	SPXS	US	222	332	70.00	In Earth orbit
1254	1256	S56806	2023-078AR	Starlink 6072	2023 May 31 0619:58	SPXS	US	222	332	70.01	In Earth orbit
1255	1257	S56807	2023-078AS	Starlink 6073	2023 May 31 0619:58	SPXS	US	222	332	70.00	In Earth orbit
1256	1258	S56808	2023-078AT	Starlink 6042	2023 May 31 0619:58	SPXS	US	222	332	70.01	In Earth orbit
1257	1259	S56809	2023-078AU	Starlink 6030	2023 May 31 0619:58	SPXS	US	222	331	70.00	In Earth orbit
1258	1260	S56810	2023-078AV	Starlink 6031	2023 May 31 0619:58	SPXS	US	221	330	70.01	In Earth orbit
1259	1261	S56811	2023-078AW	Starlink 6063	2023 May 31 0619:58	SPXS	US	222	331	70.00	In Earth orbit
1260	1262	S56812	2023-078AX	Starlink 6065	2023 May 31 0619:58	SPXS	US	222	332	70.01	In Earth orbit
1261	1263	S56813	2023-078AY	Starlink 6056	2023 May 31 0619:58	SPXS	US	222	332	70.00	In Earth orbit
1262	1264	S56814	2023-078AZ	Starlink 6059	2023 May 31 0619:58	SPXS	US	221	330	70.01	In Earth orbit
1263	1265	S56815	2023-078BA	Starlink 6057	2023 May 31 0619:58	SPXS	US	221	330	70.00	In Earth orbit
1264	1266	S56816	2023-078BB	Starlink 6067	2023 May 31 0619:58	SPXS	US	221	330	70.00	In Earth orbit
1265	1267	S56817	2023-078BC	Starlink 5982	2023 May 31 0619:58	SPXS	US	221	330	70.01	In Earth orbit
1266	1268	S56818	2023-078BD	Starlink 6028	2023 May 31 0619:58	SPXS	US	222	331	70.01	In Earth orbit
1267	1269	S56823	2023-078A	Starlink 30119	2023 Jun 4 1220:00	SPXS	US	222	331	70.01	In Earth orbit
1268	1270	S56824	2023-079B	Starlink 30120	2023 Jun 4 1325:10	SPXS	US	315	322	43.01	In Earth orbit
1269	1271	S56825	2023-079C	Starlink 30084	2023 Jun 4 1325:10	SPXS	US	315	322	43.01	In Earth orbit
1270	1272	S56826	2023-079D	Starlink 30114	2023 Jun 4 1325:10	SPXS	US	315	322	43.01	In Earth orbit
1271	1273	S56827	2023-079E	Starlink 30151	2023 Jun 4 1325:10	SPXS	US	315	322	43.01	In Earth orbit
1272	1274	S56828	2023-079F	Starlink 30152	2023 Jun 4 1325:10	SPXS	US	315	322	43.01	In Earth orbit
1273	1275	S56829	2023-079G	Starlink 30139	2023 Jun 4 1325:10	SPXS	US	315	322	43.01	Reentered
1274	1276	S56830	2023-079H	Starlink 30134	2023 Jun 4 1325:10	SPXS	US	314	321	43.01	Reentered
1275	1277	S56831	2023-079J	Starlink 30143	2023 Jun 4 1325:10	SPXS	US	314	321	43.01	Reentered
1276	1278	S56832	2023-079K	Starlink 30128	2023 Jun 4 1325:10	SPXS	US	315	322	43.01	In Earth orbit
1277	1279	S56833	2023-079L	Starlink 30131	2023 Jun 4 1325:10	SPXS	US	315	322	43.01	In Earth orbit
1278	1280	S56834	2023-079M	Starlink 30069	2023 Jun 4 1325:10	SPXS	US	314	321	43.01	In Earth orbit
1279	1281	S56835	2023-079N	Starlink 30144	2023 Jun 4 1325:10	SPXS	US	314	321	43.01	In Earth orbit
1280	1282	S56836	2023-079P	Starlink 30142	2023 Jun 4 1325:10	SPXS	US	314	321	43.01	In Earth orbit
1281	1283	S56837	2023-079Q	Starlink 30133	2023 Jun 4 1325:10	SPXS	US	314	321	43.01	In Earth orbit
1282	1284	S56838	2023-079R	Starlink 30123	2023 Jun 4 1325:10	SPXS	US	314	321	43.01	In Earth orbit
1283	1285	S56839	2023-079S	Starlink 30076	2023 Jun 4 1325:10	SPXS	US	314	321	43.01	In Earth orbit
1284	1286	S56840	2023-079T	Starlink 30073	2023 Jun 4 1325:10	SPXS	US	314	321	43.01	In Earth orbit
1285	1287	S56841	2023-079U	Starlink 30078	2023 Jun 4 1325:10	SPXS	US	314	321	43.01	In Earth orbit
1286	1288	S56842	2023-079V	Starlink 30135	2023 Jun 4 1325:10	SPXS	US	314	321	43.01	In Earth orbit
1287	1289	S56843	2023-079W	Starlink 30137	2023 Jun 4 1325:10	SPXS	US	314	321	43.01	In Earth orbit
1288	1290	S56844	2023-079X	Starlink 30136	2023 Jun 4 1325:10	SPXS	US	314	321	43.01	In Earth orbit
1289	1291	S56845	2023-080A	Dragon CRS-28	2023 Jun 5 1547:00	SPX	US	403	407	51.65	Landed
1290	1292	S57312	1998-067VQ	SC-ODIN	2023 Jun 5 1547:00	CONCOR/CSA	CA	412	417	51.64	Reentered
1291	1293	S57313	1998-067VR	Iris	2023 Jun 5 1547:00	UMANI/CSA	CA	413	417	51.64	Reentered
1292	1294	S57314	1998-067VS	RADSAT-SK	2023 Jun 6 1140	SASK/CSA	CA	412	416	51.64	Reentered
1293	1295	S57315	1998-067VT	Ukpik-1	2023 Jun 6 1130	UWO/CSA	CA	412	417	51.64	In Earth orbit
1294	1296	S57316	1998-067VU	Moonlighter	2023 Jun 6 1005	AERO/SFSSC	US	412	417	51.64	In Earth orbit
1295	1297	S57317	1998-067VV	ESSENCE	2023 Jun 6 1140	YORK/CSA	CA	412	416	51.64	Reentered
1296	1298	S57419	1998-067VW	Maya-5	2023 Jun 5 1547:00	DOST/UPD	PH	412	416	51.64	Reentered
1297	1299	S57420	1998-067VX	Maya-6	2023 Jun 5 1547:00	DOST/UPD	PH	412	416	51.64	Reentered
1298	1300	S56846	2023-081A	Shiyun 24A	2023 Jun 7 0426:00	CASC	CN	493	512	97.42	In Earth orbit
1299	1301	S56847	2023-081B	LJ-1 Payload A1	2023 Jun 7 0410:02	UNKCN	CN	490	511	97.42	In Earth orbit
1300	1302	S56848	2023-081C	LJ-1 Payload B1	2023 Jun 7 0426:00	XHT	CN	492	511	97.41	In Earth orbit
1301	1303	S56849	2023-081D	LJ-1 Payload B2	2023 Jun 7 0410:02	FUCHW	CN	492	511	97.41	In Earth orbit
1302	1304	S56850	2023-081E	LJ-1 Payload B3	2023 Jun 7 0426:00	UNKCN	CN	492	511	97.42	In Earth orbit
1303	1305	S56851	2023-081F	LJ-1 Payload A2	2023 Jun 7 0426:00	UNKCN	CN	492	511	97.42	In Earth orbit
1304	1306	S56852	2023-081G	LJ-1 Payload B4	2023 Jun 7 0410:02	CITYK	CN	492	511	97.42	In Earth orbit
1305	1307	S56853	2023-081H	LJ-1 Payload B5	2023 Jun 7 0410:02	UNKCN	CN	492	511	97.42	In Earth orbit
1306	1308	S56854	2023-081J	LJ-1 Payload B6	2023 Jun 7 0426:00	UNKCN	CN	492	511	97.41	In Earth orbit
1307	1309	S56855	2023-081K	LJ-1 Payload B7	2023 Jun 7 0410:02	UNKCN	CN	492	511	97.41	In Earth orbit
1308	1310	S56856	2023-081L	LJ-1 Payload A3	2023 Jun 7 0426:00	UNKCN	CN	491	512	97.42	In Earth orbit

1309	1311	S56857	2023-081M	LJ-1 Payload B8	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	491	511	97.41	In Earth orbit
1310	1312	S56858	2023-081N	LJ-1 Payload A4	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	490	511	97.42	In Earth orbit
1311	1313	S56859	2023-081P	LJ-1 Payload B9	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	490	511	97.42	In Earth orbit
1312	1314	S56860	2023-081Q	LJ-1 Payload B10	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	490	511	97.41	In Earth orbit
1313	1315	S56861	2023-081R	LJ-1 Payload B11	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	490	511	97.41	In Earth orbit
1314	1316	S56862	2023-081S	LJ-1 Payload B12	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	490	511	97.42	In Earth orbit
1315	1317	S56863	2023-081T	LJ-1 Payload B13	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	490	511	97.42	In Earth orbit
1316	1318	S56864	2023-081U	LJ-1 Payload B14	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	490	511	97.42	In Earth orbit
1317	1319	S56865	2023-081V	LJ-1 Payload B15	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	490	511	97.42	In Earth orbit
1318	1320	S56866	2023-081W	Shiyun 24B	2023 Jun 7 0410:02	2023 Jun 7 0426:67	CASC	CN	492	512	97.41	In Earth orbit
1319	1321	S56867	2023-081X	LJ-1 Payload B16	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	489	511	97.42	In Earth orbit
1320	1322	S56868	2023-081Y	LJ-1 Payload B17	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	489	510	97.42	In Earth orbit
1321	1323	S56870	2023-081AA	LJ-1 Payload B18	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	491	511	97.42	In Earth orbit
1322	1324	S56871	2023-081AB	LJ-1 Payload B19	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	491	511	97.42	In Earth orbit
1323	1325	S56872	2023-081AC	LJ-1 Payload B20	2023 Jun 7 0410:02	2023 Jun 7 0426:67	UNKCN	CN	491	511	97.42	In Earth orbit
1324	1326	S56873	2023-082A	Longjiang-3	2023 Jun 9 0235:30	2023 Jun 9 0251	HARB	CN	490	499	49.13	In Earth orbit
1325	1327	S56876	2023-083A	Starlink 6206	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.00	In Earth orbit
1326	1328	S56877	2023-083B	Starlink 6209	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.00	In Earth orbit
1327	1329	S56878	2023-083C	Starlink 6182	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1328	1330	S56879	2023-083D	Starlink 5707	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	298	339	43.00	In Earth orbit
1329	1331	S56880	2023-083E	Starlink 6177	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	339	43.01	In Earth orbit
1330	1332	S56881	2023-083F	Starlink 5853	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	298	339	43.00	In Earth orbit
1331	1333	S56882	2023-083G	Starlink 6175	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	298	339	43.01	In Earth orbit
1332	1334	S56883	2023-083H	Starlink 6171	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.00	In Earth orbit
1333	1335	S56884	2023-083I	Starlink 5515	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1334	1336	S56885	2023-083K	Starlink 5095	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	298	339	43.00	In Earth orbit
1335	1337	S56886	2023-083L	Starlink 5496	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	298	339	43.01	In Earth orbit
1336	1338	S56887	2023-083M	Starlink 6180	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	298	339	43.00	In Earth orbit
1337	1339	S56888	2023-083N	Starlink 6181	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	298	339	43.01	In Earth orbit
1338	1340	S56889	2023-083P	Starlink 6169	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	298	339	43.01	In Earth orbit
1339	1341	S56890	2023-083Q	Starlink 5528	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1340	1342	S56891	2023-083R	Starlink 6213	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1341	1343	S56892	2023-083S	Starlink 6219	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1342	1344	S56893	2023-083T	Starlink 6216	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	298	339	43.01	In Earth orbit
1343	1345	S56894	2023-083U	Starlink 6144	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1344	1346	S56895	2023-083V	Starlink 6208	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1345	1347	S56896	2023-083W	Starlink 6202	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	337	43.01	In Earth orbit
1346	1348	S56897	2023-083X	Starlink 6200	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1347	1349	S56898	2023-083Y	Starlink 6205	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	298	338	43.01	In Earth orbit
1348	1350	S56899	2023-083Z	Starlink 6203	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1349	1351	S56900	2023-083AA	Starlink 6207	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1350	1352	S56901	2023-083AB	Starlink 6185	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	298	338	43.01	In Earth orbit
1351	1353	S56902	2023-083AC	Starlink 6195	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1352	1354	S56903	2023-083AD	Starlink 6192	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	298	338	43.01	In Earth orbit
1353	1355	S56904	2023-083AE	Starlink 6193	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	337	43.01	In Earth orbit
1354	1356	S56905	2023-083AF	Starlink 6183	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	337	43.01	In Earth orbit
1355	1357	S56906	2023-083AG	Starlink 6098	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1356	1358	S56907	2023-083AH	Starlink 6110	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	337	43.01	In Earth orbit
1357	1359	S56908	2023-083AI	Starlink 6186	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1358	1360	S56909	2023-083AK	Starlink 5999	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	298	338	43.01	In Earth orbit
1359	1361	S56910	2023-083AL	Starlink 6179	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1360	1362	S56911	2023-083AM	Starlink 6116	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1361	1363	S56912	2023-083AN	Starlink 5805	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	337	43.01	In Earth orbit
1362	1364	S56913	2023-083AP	Starlink 5950	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1363	1365	S56914	2023-083AQ	Starlink 5961	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1364	1366	S56915	2023-083AR	Starlink 5965	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1365	1367	S56916	2023-083AS	Starlink 5973	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1366	1368	S56917	2023-083AT	Starlink 5971	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1367	1369	S56918	2023-083AU	Starlink 5951	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1368	1370	S56919	2023-083AV	Starlink 5966	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1369	1371	S56920	2023-083AW	Starlink 5960	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	337	43.01	In Earth orbit
1370	1372	S56921	2023-083AX	Starlink 5958	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1371	1373	S56922	2023-083AY	Starlink 5937	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	337	43.01	In Earth orbit
1372	1374	S56923	2023-083AZ	Starlink 5952	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1373	1375	S56924	2023-083BA	Starlink 5731	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1374	1376	S56925	2023-083BB	Starlink 5733	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	337	43.01	In Earth orbit

1375	1377	S56926	2023-083BC	Starlink 5746	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1376	1378	S56927	2023-083BD	Starlink 5808	2023 Jun 12 0710:50	2023 Jun 12 0816:19	SPXS	US	297	338	43.01	In Earth orbit
1377	1379	S56226	2023-084BK	Outpost Mission 1	2023 Jun 12 2135:00	2023 Jun 20 1220:00	OUTP	AU	516	537	97.51	In Earth orbit
1378	1380	S56227	2023-084BL	Skykratt 3B	2023 Jun 12 2135:00	2023 Jun 13?	SKYKR	AU	512	535	97.51	In Earth orbit
1379	1381	S56228	2023-084BM	Skykratt 3C	2023 Jun 12 2135:00	2023 Jun 13?	SKYKR	AU	512	535	97.52	In Earth orbit
1380	1382	S56229	2023-084BN	Skykratt 3 Carrier	2023 Jun 12 2135:00	2023 Jun 12 2252:17	SKYKR	AU	512	535	97.52	In Earth orbit
1381	1383	S56230	2023-084BP	Isaambul	2023 Jun 12 2135:00	2023 Jun 21 1050	HELLO	TR	514	533	97.51	In Earth orbit
1382	1384	S56231	2023-084BQ	SATLLA-2i	2023 Jun 12 2135:00	2023 Jun 21 1050	ARIU	IL	515	543	97.51	In Earth orbit
1383	1385	S56932	2023-084A	FEROX 3	2023 Jun 12 2135:00	2023 Jun 12 2234	FOSSA	E	517	535	97.51	In Earth orbit
1384	1386	S56933	2023-084B	Otter Pup	2023 Jun 12 2135:00	2023 Jun 12 2350?	STFISH	US	513	535	97.52	In Earth orbit
1385	1387	S56934	2023-084C	GEI-SAT Precursor	2023 Jun 12 2135:00	2023 Jun 12 2235:44	SAILAN	E	522	535	97.51	In Earth orbit
1386	1388	S56935	2023-084D	FEROX 4	2023 Jun 12 2135:00	2023 Jun 12 2234	FOSSA	E	516	536	97.51	In Earth orbit
1387	1389	S56936	2023-084E	FEROX 1	2023 Jun 12 2135:00	2023 Jun 12 2234:59	FOSSA	E	523	536	97.51	In Earth orbit
1388	1390	S56937	2023-084F	EIVE	2023 Jun 12 2135:00	2023 Jun 12 2236:06	IRKSS	D	522	535	97.51	In Earth orbit
1389	1391	S56938	2023-084G	FEROX 2	2023 Jun 12 2135:00	2023 Jun 12 2234	FOSSA	E	511	535	97.51	In Earth orbit
1390	1392	S56939	2023-084H	Layan-23	2023 Jun 12 2135:00	2023 Jun 12 2239:03	OQT	L	515	535	97.51	In Earth orbit
1391	1393	S56940	2023-084J	MISK-B-2	2023 Jun 12 2135:00	2023 Jun 12 2238:51	SOCOM	US	517	534	97.52	In Earth orbit
1392	1394	S56941	2023-084K	MDQSAT-1D	2023 Jun 12 2135:00	2023 Jun 13 0000?	INNO	AR	516	540	97.51	In Earth orbit
1393	1395	S56942	2023-084L	XVI	2023 Jun 12 2135:00	2023 Jun 12 2238:39	AFRLVIA	US	516	535	97.51	In Earth orbit
1394	1396	S56943	2023-084M	Carolyn Shoemaker	2023 Jun 12 2135:00	2023 Jun 12 2239:17	URUGUS	UY	515	535	97.51	In Earth orbit
1395	1397	S56944	2023-084N	Cecilia Payne-Gaposchkin	2023 Jun 12 2135:00	2023 Jun 12 2239:31	URUGUS	UY	515	535	97.51	In Earth orbit
1396	1398	S56945	2023-084O	MDQSAT-1C	2023 Jun 12 2135:00	2023 Jun 13 0000?	INNO	AR	516	535	97.51	In Earth orbit
1397	1399	S56946	2023-084P	Gregoire	2023 Jun 12 2135:00	2023 Jun 12 2244:43	ASPLB	B	513	535	97.52	In Earth orbit
1398	1400	S56947	2023-084R	ICEYE-X30	2023 Jun 12 2135:00	2023 Jun 12 2251:55	ICEYE	FI	513	535	97.51	In Earth orbit
1400	1401	S56948	2023-084S	ROM-2	2023 Jun 12 2135:00	2023 Jun 22 1210	ROMSP	RO	516	535	97.52	In Earth orbit
1401	1402	S56949	2023-084T	ICEYE-X23	2023 Jun 12 2135:00	2023 Jun 12 2245:42	ICEYE	FI	513	535	97.52	In Earth orbit
1402	1403	S56950	2023-084U	Blackjack Aces-3	2023 Jun 12 2135:00	2023 Jun 12 2259:48	DARPA	US	511	534	97.51	In Earth orbit
1403	1404	S56951	2023-084V	AMATERU-III	2023 Jun 12 2135:00	2023 Jun 12 2254:30	QPS	J	512	535	97.52	In Earth orbit
1404	1405	S56952	2023-084W	Blackjack Aces-4	2023 Jun 12 2135:00	2023 Jun 12 2255:39	DARPA	US	511	535	97.52	In Earth orbit
1404	1406	S56953	2023-084X	Runner-1	2023 Jun 12 2135:00	2023 Jun 12 2254:50	IMAG/FACH	IL	512	534	97.52	In Earth orbit
1405	1407	S56954	2023-084Y	HOTSAT-1	2023 Jun 12 2135:00	2023 Jun 12 2250:47	SATVU	UK	512	535	97.52	In Earth orbit
1406	1408	S56955	2023-084Z	Blackjack Aces-2	2023 Jun 12 2135:00	2023 Jun 12 2254:04	DARPA	US	518	535	97.51	In Earth orbit
1407	1409	S56956	2023-084AA	Blackjack Aces-1	2023 Jun 12 2135:00	2023 Jun 12 2256:33	DARPA	US	510	535	97.52	In Earth orbit
1408	1410	S56957	2023-084AB	ION SCV011 SAVVY SIMON	2023 Jun 12 2135:00	2023 Jun 12 2255:16	DORBIT	I	523	530	97.51	In Earth orbit
1409	1411	S56958	2023-084AC	GHOST-3	2023 Jun 12 2135:00	2023 Jun 12 2252:59	ORESK	US	512	535	97.52	In Earth orbit
1410	1412	S56959	2023-084AD	W-Series 1	2023 Jun 12 2135:00	2023 Jun 12 2257:38	VARDA	US	511	535	97.52	In Earth orbit
1411	1413	S56960	2023-084AE	Orbiter SN3	2023 Jun 12 2135:00	2023 Jun 12 2246:48	LAUN	US	516	541	97.51	In Earth orbit
1412	1414	S56961	2023-084AF	ICEYE-X26	2023 Jun 12 2135:00	2023 Jun 12 2249:43	ICEYE	FI	513	535	97.52	In Earth orbit
1413	1415	S56962	2023-084AG	Tomorrow-R2	2023 Jun 12 2135:00	2023 Jun 12 2243:52	TOMIO	US	518	535	97.51	In Earth orbit
1414	1416	S56963	2023-084AH	ICEYE-X25	2023 Jun 12 2135:00	2023 Jun 12 2247:54	ICEYE	FI	513	534	97.51	In Earth orbit
1415	1417	S56964	2023-084AJ	ABA First Runner	2023 Jun 12 2135:00	2023 Jun 12 2242:57	AZBST	IN	514	535	97.51	In Earth orbit
1416	1418	S56965	2023-084AK	DROID.001	2023 Jun 12 2135:00	2023 Jun 12 2238:23	TURION	US	516	535	97.51	In Earth orbit
1417	1419	S56966	2023-084AL	Maria Wonenburger	2023 Jun 12 2135:00	2023 Jun 12 2241:07	URUGUS	UY	517	542	97.51	In Earth orbit
1418	1420	S56967	2023-084AM	MuSat-1	2023 Jun 12 2135:00	2023 Jun 12 2241:35	MUON	US	515	535	97.52	In Earth orbit
1419	1421	S56968	2023-084AN	Rose Dieng-Kuntz	2023 Jun 12 2135:00	2023 Jun 12 2240:56	URUGUS	UY	515	535	97.51	In Earth orbit
1420	1422	S56969	2023-084AP	SpaceBEE-179	2023 Jun 12 2135:00	2023 Jun 12 2238:13	SWARMX	US	516	535	97.51	In Earth orbit
1421	1423	S56970	2023-084AQ	Lemur-2 Embriionovis	2023 Jun 12 2135:00	2023 Jun 12 2236:20	SPIREL/ORORA	L	520	535	97.51	In Earth orbit
1422	1424	S56971	2023-084AR	MISK-A-1	2023 Jun 12 2135:00	2023 Jun 12 2236:29	SOCOM	US	520	535	97.51	In Earth orbit
1423	1425	S56972	2023-084AS	SpaceBEE-177	2023 Jun 12 2135:00	2023 Jun 12 2238:13	SWARMX	US	517	536	97.51	In Earth orbit
1424	1426	S56973	2023-084AT	SpaceBEE-178	2023 Jun 12 2135:00	2023 Jun 12 2238:13	SWARMX	US	517	535	97.51	In Earth orbit
1425	1427	S56974	2023-084AU	Lemur-2 Naziyah	2023 Jun 12 2135:00	2023 Jun 12 2237:41	SPIRE	US	520	535	97.52	In Earth orbit
1426	1428	S56975	2023-084AV	SpaceBEE-176	2023 Jun 12 2135:00	2023 Jun 12 2238:13	SWARMX	US	517	536	97.51	In Earth orbit
1427	1429	S56976	2023-084AW	SpaceBEE-174	2023 Jun 12 2135:00	2023 Jun 12 2238:13	SWARMX	US	518	536	97.51	In Earth orbit
1428	1430	S56977	2023-084AX	Lemur-2 Adam-Alyiah	2023 Jun 12 2135:00	2023 Jun 12 2237:52	SPIRE	US	520	535	97.51	In Earth orbit
1429	1431	S56978	2023-084AY	SpaceBEE-173	2023 Jun 12 2135:00	2023 Jun 12 2238:13	SWARMX	US	518	535	97.51	In Earth orbit
1430	1432	S56979	2023-084AZ	SpaceBEE-172	2023 Jun 12 2135:00	2023 Jun 12 2238:13	SWARMX	US	519	534	97.51	In Earth orbit
1431	1433	S56980	2023-084BA	SpaceBEE-171	2023 Jun 12 2135:00	2023 Jun 12 2238:13	SWARMX	US	518	534	97.51	In Earth orbit
1432	1434	S56981	2023-084BB	Skykratt 3A	2023 Jun 12 2135:00	2023 Jun 13?	SKYKR	AU	517	536	97.52	In Earth orbit
1433	1435	S56982	2023-084BC	SpaceBEE-169	2023 Jun 12 2135:00	2023 Jun 12 2238:13	SWARMX	US	519	534	97.51	In Earth orbit
1434	1436	S56983	2023-084BD	SpaceBEE-170	2023 Jun 12 2135:00	2023 Jun 12 2238:13	SWARMX	US	519	535	97.51	In Earth orbit
1435	1437	S56984	2023-084BE	SpaceBEE-168	2023 Jun 12 2135:00	2023 Jun 12 2238:13	SWARMX	US	519	535	97.51	In Earth orbit
1436	1438	S56985	2023-084BF	SpaceBEE-175	2023 Jun 12 2135:00	2023 Jun 12 2238:13	SWARMX	US	518	535	97.51	In Earth orbit
1437	1439	S56986	2023-084BG	Ayris-2	2023 Jun 12 2135:00	2023 Jun 12 2236:10	NANAV	LT	521	535	97.51	In Earth orbit
1438	1440	S56987	2023-084BH	All-Delta	2023 Jun 12 2135:00	2023 Jun 12 2235:54	NANAV	US	522	535	97.51	In Earth orbit
1439	1441	S56988	2023-084BI	Ayris-1	2023 Jun 12 2135:00	2023 Jun 12 2235:54	NANAV	US	513	535	97.51	In Earth orbit
1440	1442	S56989	2023-084BR	Pleiades Squared	2023 Jun 12 2135:00	2023 Jun 13 0000?	BRONC	US	516	535	97.52	In Earth orbit

1441	SS6990	2023-084BS	ELO-4	Spe Satellites	2023 Jun 12 21:35:00	2023 Jun 20?	CLAAC/EUTSA	UK	516	537	97.51	In Earth orbit
1442	SS6991	2023-084BT	Spe Satellites		2023 Jun 12 21:35:00	2023 Jun 25?	TORPVAIC	I	516	535	97.51	In Earth orbit
1443	SS6992	2023-084BU	MRC-100	Antenna de Nebraja	2023 Jun 12 21:35:00	2023 Jun 22 12:10	URE/AMEA	E	515	543	97.51	In Earth orbit
1444	SS6993	2023-084BV	Antenna de Nebraja		2023 Jun 12 21:35:00	2023 Jun 22 12:10	BME	HU	516	542	97.51	In Earth orbit
1445	SS6994	2023-084BW	Unicorn-2I		2023 Jun 12 21:35:00	2023 Jun 21 10:50	ALBAD	D	516	541	97.51	In Earth orbit
1446	SS6995	2023-084BX	EPIC Hyper-2		2023 Jun 12 21:35:00	2023 Jul 14 10:00?	CLAAC/WYV	UK	516	537	97.51	In Earth orbit
1447	SS6996	2023-084BY	Kelpie-2		2023 Jun 12 21:35:00	2023 Aug 14 15:00?	CLAAC	UK	599	697	98.04	In Earth orbit
1448	SS7956	2023-084BZ	Skykraft 3D		2023 Jun 12 21:35:00	2023 Jun 13?	SKYKR	AU	512	535	97.52	In Earth orbit
1449	SS7004	2023-085A	Jilin-1 GaoFei	03D 19 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	534	549	97.46	In Earth orbit
1450	SS7005	2023-085B	Jilin-1 GaoFei	03D 20 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL/XHT	CN	534	549	97.46	In Earth orbit
1451	SS7006	2023-085C	Jilin-1 GaoFei	03D 21 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL/XHT	CN	534	549	97.46	In Earth orbit
1452	SS7007	2023-085D	Jilin-1 GaoFei	03D 22 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL/XHT	CN	534	549	97.46	In Earth orbit
1453	SS7008	2023-085E	Jilin-1 GaoFei	03D 23 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL/XHT	CN	533	549	97.46	In Earth orbit
1454	SS7009	2023-085F	Jilin-1 GaoFei	03D 24 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL/XHT	CN	533	549	97.46	In Earth orbit
1455	SS7010	2023-085G	Jilin-1 GaoFei	03D 25 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL/XHT	CN	534	548	97.46	In Earth orbit
1456	SS7011	2023-085H	Jilin-1 GaoFei	03D 26 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL/XHT	CN	533	548	97.46	In Earth orbit
1457	SS7012	2023-085I	Jilin-1 GaoFei	06A 01 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	532	549	97.46	In Earth orbit
1458	SS7013	2023-085K	Jilin-1 GaoFei	06A 02 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	533	548	97.46	In Earth orbit
1459	SS7014	2023-085L	Jilin-1 GaoFei	06A 03 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	534	547	97.46	In Earth orbit
1460	SS7015	2023-085M	Jilin-1 GaoFei	06A 04 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	533	548	97.46	In Earth orbit
1461	SS7016	2023-085N	Jilin-1 GaoFei	06A 05 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	532	548	97.46	In Earth orbit
1462	SS7017	2023-085P	Jilin-1 GaoFei	06A 06 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	533	547	97.46	In Earth orbit
1463	SS7018	2023-085Q	Jilin-1 GaoFei	06A 07 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	532	548	97.46	In Earth orbit
1464	SS7019	2023-085R	Jilin-1 GaoFei	06A 08 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	533	547	97.46	In Earth orbit
1465	SS7020	2023-085S	Jilin-1 GaoFei	06A 09 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	532	547	97.46	In Earth orbit
1466	SS7021	2023-085T	Jilin-1 GaoFei	06A 10 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	532	547	97.46	In Earth orbit
1467	SS7022	2023-085U	Jilin-1 GaoFei	06A 11 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	532	547	97.46	In Earth orbit
1468	SS7023	2023-085V	Jilin-1 GaoFei	06A 12 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	533	546	97.46	In Earth orbit
1469	SS7024	2023-085W	Jilin-1 GaoFei	06A 13 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	532	547	97.46	In Earth orbit
1470	SS7025	2023-085X	Jilin-1 GaoFei	06A 14 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	532	546	97.46	In Earth orbit
1471	SS7026	2023-085Y	Jilin-1 GaoFei	06A 15 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	531	547	97.46	In Earth orbit
1472	SS7027	2023-085Z	Jilin-1 GaoFei	06A 16 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	531	547	97.46	In Earth orbit
1473	SS7028	2023-085AA	Jilin-1 GaoFei	06A 17 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL/GHK	CN	531	546	97.46	In Earth orbit
1474	SS7029	2023-085AB	Jilin-1 GaoFei	06A 18 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL/GHK	CN	531	545	97.46	In Earth orbit
1475	SS7030	2023-085AC	Jilin-1 GaoFei	06A 19 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	531	546	97.46	In Earth orbit
1476	SS7031	2023-085AD	Jilin-1 GaoFei	06A 20 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	530	546	97.46	In Earth orbit
1477	SS7032	2023-085AE	Jilin-1 GaoFei	06A 21 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	530	546	97.46	In Earth orbit
1478	SS7033	2023-085AF	Jilin-1 GaoFei	06A 22 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	531	545	97.46	In Earth orbit
1479	SS7034	2023-085AG	Jilin-1 GaoFei	06A 23 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	531	545	97.46	In Earth orbit
1480	SS7035	2023-085AH	Jilin-1 GaoFei	06A 24 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	530	545	97.46	In Earth orbit
1481	SS7036	2023-085AJ	Jilin-1 GaoFei	06A 25 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	531	545	97.46	In Earth orbit
1482	SS7037	2023-085AK	Jilin-1 GaoFei	06A 26 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	531	545	97.46	In Earth orbit
1483	SS7038	2023-085AL	Jilin-1 GaoFei	06A 27 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	531	544	97.46	In Earth orbit
1484	SS7039	2023-085AM	Jilin-1 GaoFei	06A 28 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	530	544	97.46	In Earth orbit
1485	SS7040	2023-085AN	Jilin-1 GaoFei	06A 29 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	530	544	97.46	In Earth orbit
1486	SS7041	2023-085AP	Jilin-1 GaoFei	06A 30 xing	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	529	544	97.46	In Earth orbit
1487	SS7042	2023-085AQ	Jilin-1 Pingtai	02A01	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL	CN	529	544	97.46	In Earth orbit
1488	SS7043	2023-085AR	Jilin-1 Pingtai	02A02	2023 Jun 15 05:30	2023 Jun 15 05:44?	CGSTL/HXK	CN	529	544	97.46	In Earth orbit
1489	SS7044	2023-085AS	Huerguoshi-1		2023 Jun 15 05:30	2023 Jun 15 05:44?	PSNT	CN	528	545	97.46	In Earth orbit
1490	SS7045	2023-086A	Satira		2023 Jun 18 22:21	2023 Jun 18 22:58	PSNT	ID	10279	62271	8.84	In Earth orbit
1491	SS7047	2023-087A	Shiyun_25		2023 Jun 20 03:18	2023 Jun 20 03:30?	DFHZ	CN	306	320	96.64	In Earth orbit
1492	SS7048	2023-088A	Starlink 5847		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	228	334	43.00	In Earth orbit
1493	SS7049	2023-088B	Starlink 5850		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	228	334	43.00	In Earth orbit
1494	SS7050	2023-088C	Starlink 5845		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	228	334	43.00	In Earth orbit
1495	SS7051	2023-088D	Starlink 5839		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	228	334	43.00	In Earth orbit
1496	SS7052	2023-088E	Starlink 5860		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	229	335	43.00	In Earth orbit
1497	SS7053	2023-088F	Starlink 5865		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	229	334	43.00	In Earth orbit
1498	SS7054	2023-088G	Starlink 5881		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	228	334	43.00	In Earth orbit
1499	SS7055	2023-088H	Starlink 6237		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	229	334	43.00	In Earth orbit
1500	SS7056	2023-088I	Starlink 6353		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	228	334	43.00	In Earth orbit
1501	SS7057	2023-088J	Starlink 6223		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	228	334	43.00	In Earth orbit
1502	SS7058	2023-088K	Starlink 6237		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	228	334	43.00	In Earth orbit
1503	SS7059	2023-088L	Starlink 6217		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	228	334	43.00	In Earth orbit
1504	SS7060	2023-088M	Starlink 6211		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	228	334	43.00	In Earth orbit
1505	SS7061	2023-088P	Starlink 5869		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	228	334	43.00	In Earth orbit
1506	SS7062	2023-088Q	Starlink 5536		2023 Jun 22 07:19:00	2023 Jun 22 07:37:52	SPXS	US	228	334	43.00	In Earth orbit

1507	1509	S57063	2023-088R	Starlink 5832	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1508	1510	S57064	2023-088S	Starlink 5822	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1509	1511	S57065	2023-088T	Starlink 5830	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1510	1512	S57066	2023-088U	Starlink 5827	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1511	1513	S57067	2023-088V	Starlink 5824	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1512	1514	S57068	2023-088W	Starlink 5844	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1513	1515	S57069	2023-088X	Starlink 5821	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1514	1516	S57070	2023-088Y	Starlink 5828	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1515	1517	S57071	2023-088Z	Starlink 5834	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1516	1518	S57072	2023-088AA	Starlink 5843	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1517	1519	S57073	2023-088AB	Starlink 5838	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1518	1520	S57074	2023-088AC	Starlink 5773	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1519	1521	S57075	2023-088AD	Starlink 5542	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1520	1522	S57076	2023-088AE	Starlink 6155	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1521	1523	S57077	2023-088AF	Starlink 6194	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1522	1524	S57078	2023-088AG	Starlink 6246	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1523	1525	S57079	2023-088AH	Starlink 6243	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1524	1526	S57080	2023-088AJ	Starlink 6245	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1525	1527	S57081	2023-088AK	Starlink 6184	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1526	1528	S57082	2023-088AL	Starlink 6248	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1527	1529	S57083	2023-088AM	Starlink 6253	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1528	1530	S57084	2023-088AN	Starlink 6240	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1529	1531	S57085	2023-088AP	Starlink 6232	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1530	1532	S57086	2023-088AQ	Starlink 6247	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1531	1533	S57087	2023-088AR	Starlink 6251	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1532	1534	S57088	2023-088AS	Starlink 6257	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1533	1535	S57089	2023-088AT	Starlink 6259	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1534	1536	S57090	2023-088AU	Starlink 6254	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1535	1537	S57091	2023-088AV	Starlink 6262	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1536	1538	S57092	2023-088AW	Starlink 6225	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1537	1539	S57093	2023-088AX	Starlink 6229	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1538	1540	S57094	2023-088AY	Starlink 6235	2023 Jun 22 0719:00	2023 Jun 22 0737:52	SPXS	US	228	334	43.00	In Earth orbit
1539	1541	S57099	2023-089A	USA 345	2023 Jun 22 0918:00	2023 Jun 22 1502:27	NROC	US	35780	0.00	In Earth orbit	
1540	1542	S57101	2023-090A	Starlink 6132	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	339	43.00	In Earth orbit
1541	1543	S57102	2023-090B	Starlink 6111	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	296	338	43.00	In Earth orbit
1542	1544	S57103	2023-090C	Starlink 6123	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	339	43.00	In Earth orbit
1543	1545	S57104	2023-090D	Starlink 6130	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	339	43.00	In Earth orbit
1544	1546	S57105	2023-090E	Starlink 6097	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1545	1547	S57106	2023-090F	Starlink 6118	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1546	1548	S57107	2023-090G	Starlink 6131	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1547	1549	S57108	2023-090H	Starlink 6099	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1548	1550	S57109	2023-090I	Starlink 6139	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1549	1551	S57110	2023-090K	Starlink 6134	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1550	1552	S57111	2023-090L	Starlink 6140	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1551	1553	S57112	2023-090M	Starlink 6141	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1552	1554	S57113	2023-090N	Starlink 6142	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1553	1555	S57114	2023-090P	Starlink 6125	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1554	1556	S57115	2023-090Q	Starlink 6085	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1555	1557	S57116	2023-090R	Starlink 6129	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1556	1558	S57117	2023-090S	Starlink 6148	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1557	1559	S57118	2023-090T	Starlink 6151	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1558	1560	S57119	2023-090U	Starlink 6150	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1559	1561	S57120	2023-090V	Starlink 6147	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1560	1562	S57121	2023-090W	Starlink 6152	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1561	1563	S57122	2023-090X	Starlink 6149	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1562	1564	S57123	2023-090Y	Starlink 6154	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1563	1565	S57124	2023-090Z	Starlink 6146	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1564	1566	S57125	2023-090AA	Starlink 6100	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1565	1567	S57126	2023-090AB	Starlink 6167	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1566	1568	S57127	2023-090AC	Starlink 6165	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1567	1569	S57128	2023-090AD	Starlink 6163	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1568	1570	S57129	2023-090AE	Starlink 6170	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1569	1571	S57130	2023-090AF	Starlink 6172	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1570	1572	S57131	2023-090AG	Starlink 6162	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1571	1573	S57132	2023-090AH	Starlink 6128	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1572	1574	S57133	2023-090AJ	Starlink 6143	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit

1573	1575	857134	2023-090AK	Starlink 6133	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1574	1576	857135	2023-090AL	Starlink 6127	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1575	1577	857136	2023-090AM	Starlink 6112	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1576	1578	857137	2023-090AN	Starlink 6347	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1577	1579	857138	2023-090AO	Starlink 6336	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1578	1580	857139	2023-090AQ	Starlink 6365	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1579	1581	857140	2023-090AR	Starlink 6354	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1580	1582	857141	2023-090AS	Starlink 6357	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1581	1583	857142	2023-090AT	Starlink 6361	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1582	1584	857143	2023-090AU	Starlink 6358	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1583	1585	857144	2023-090AV	Starlink 6150	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1584	1586	857145	2023-090AW	Starlink 6768	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1585	1587	857146	2023-090AX	Starlink 6791	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1586	1588	857147	2023-090AY	Starlink 6765	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1587	1589	857148	2023-090AZ	Starlink 6788	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1588	1590	857149	2023-090BA	Starlink 6778	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1589	1591	857150	2023-090BB	Starlink 6780	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1590	1592	857151	2023-090BC	Starlink 6776	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1591	1593	857152	2023-090BD	Starlink 6164	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1592	1594	857153	2023-090BE	Starlink 6879	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1593	1595	857154	2023-090BF	Starlink 6106	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1594	1596	857155	2023-090BG	Starlink 6108	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	296	338	43.00	In Earth orbit
1595	1597	857156	2023-090BH	Starlink 6137	2023 Jun 23 1535:10	2023 Jun 23 1640:43	SPXS	US	297	338	43.00	In Earth orbit
1596	1598	857166	2023-091A	Meteor-M No. 2-3	2023 Jun 27 1134:49	2023 Jun 27 1233:52	RGMIS/VNIIEMI	RU	809	816	98.76	In Earth orbit
1597	1599	857167	2023-091B	Stratosat TK-1	2023 Jun 27 1134:49	2023 Jun 27 1410:07	STRAT	RU	544	570	97.67	In Earth orbit
1598	1600	857168	2023-091C	Samsat-ION	2023 Jun 27 1134:49	2023 Jun 27 1410:07	SNIU	RU	543	561	97.67	In Earth orbit
1599	1601	857169	2023-091D	ReshUCube-2	2023 Jun 27 1134:49	2023 Jun 27 1410:07	SIBGAU	RU	544	563	97.67	In Earth orbit
1600	1602	857170	2023-091E	Rassvet-1 No. 3	2023 Jun 27 1134:49	2023 Jun 27 1410:07	B1440	RU	544	564	97.67	In Earth orbit
1601	1603	857171	2023-091F	Yarilo-4	2023 Jun 27 1134:49	2023 Jun 27 1410:07	BAUM	RU	543	562	97.67	In Earth orbit
1602	1604	857172	2023-091G	Umka-1	2023 Jun 27 1134:49	2023 Jun 27 1410:07	S29POD	RU	544	570	97.67	In Earth orbit
1603	1605	857173	2023-091H	SATURN	2023 Jun 27 1134:49	2023 Jun 27 1410:07	KGU	RU	544	569	97.67	In Earth orbit
1604	1606	857174	2023-091I	Impul s-1	2023 Jun 27 1134:49	2023 Jun 27 1410:07	QSP/MISIS	RU	448	493	97.70	In Earth orbit
1605	1607	857175	2023-091K	CubeRel-2	2023 Jun 27 1134:49	2023 Jun 27 1410:07	BSUBY	BY	543	563	97.67	In Earth orbit
1606	1608	857176	2023-091L	Katys G.P.	2023 Jun 27 1134:49	2023 Jun 27 1410:07	SITRO	RU	545	566	97.67	In Earth orbit
1607	1609	857177	2023-091M	Zorkiv-2M	2023 Jun 27 1134:49	2023 Jun 27 1410:07	SPUT	RU	544	568	97.66	In Earth orbit
1608	1610	857178	2023-091N	CubeSX-HSE-3	2023 Jun 27 1134:49	2023 Jun 27 1410:07	VSHH	RU	544	570	97.67	In Earth orbit
1609	1611	857179	2023-091P	Rassvet-1 No. 1	2023 Jun 27 1134:49	2023 Jun 27 1410:07	B1440	RU	544	570	97.67	In Earth orbit
1610	1612	857180	2023-091Q	Monitor-3	2023 Jun 27 1134:49	2023 Jun 27 1410:07	MGU	RU	543	561	97.66	In Earth orbit
1611	1613	857181	2023-091R	Akhmat-1	2023 Jun 27 1134:49	2023 Jun 27 1410:07	CHGU	RU	544	569	97.66	In Earth orbit
1612	1614	857182	2023-091S	Monitor-4	2023 Jun 27 1134:49	2023 Jun 27 1410:07	MGU	RU	544	569	97.66	In Earth orbit
1613	1615	857183	2023-091T	Rassvet-1 No. 2	2023 Jun 27 1134:49	2023 Jun 27 1410:07	B1440	RU	543	564	97.67	In Earth orbit
1614	1616	857184	2023-091U	Monitor-2	2023 Jun 27 1134:49	2023 Jun 27 1410:07	MGU	RU	543	562	97.67	In Earth orbit
1615	1617	857185	2023-091V	Sirius-SINP-3U	2023 Jun 27 1134:49	2023 Jun 27 1410:07	MGU	RU	543	562	97.67	In Earth orbit
1616	1618	857186	2023-091W	CSTP-1.2	2023 Jun 27 1134:49	2023 Jun 27 1410:07	STIS	RU	543	563	97.67	In Earth orbit
1617	1619	857187	2023-091X	Svyatobor-1	2023 Jun 27 1134:49	2023 Jun 27 1410:07	SPUT	RU	545	566	97.67	In Earth orbit
1618	1620	857188	2023-091Y	Khors No. 1	2023 Jun 27 1134:49	2023 Jun 27 1410:07	BAUM	RU	543	562	97.67	In Earth orbit
1619	1621	857189	2023-091Z	VIZARD-meteo	2023 Jun 27 1134:49	2023 Jun 27 1410:07	VIZ/NISYS	RU	545	566	97.67	In Earth orbit
1620	1622	857190	2023-091AA	Nanozond-1	2023 Jun 27 1134:49	2023 Jun 27 1410:07	OGU	RU	544	570	97.67	In Earth orbit
1621	1623	857191	2023-091AB	Polytech Universe-3	2023 Jun 27 1134:49	2023 Jun 27 1410:07	SPBPU	RU	544	562	97.66	In Earth orbit
1622	1624	857192	2023-091AC	Chirkin V.N.	2023 Jun 27 1134:49	2023 Jun 27 1410:07	SITRO	RU	544	568	97.66	In Earth orbit
1623	1625	857193	2023-091AD	Anokhin S.N.	2023 Jun 27 1134:49	2023 Jun 27 1410:07	SITRO	RU	547	568	97.66	In Earth orbit
1624	1626	857194	2023-091AE	Fartushniy V.G.	2023 Jun 27 1134:49	2023 Jun 27 1410:07	SITRO	RU	547	568	97.66	In Earth orbit
1625	1627	857195	2023-091AF	Avion-Kaluga 650	2023 Jun 27 1134:49	2023 Jun 27 1410:07	MGU	RU	544	562	97.67	In Earth orbit
1626	1628	857196	2023-091AG	Khors No. 2	2023 Jun 27 1134:49	2023 Jun 27 1410:07	BAUM	RU	543	561	97.66	In Earth orbit
1627	1629	857197	2023-091AH	A-SEANSAT-PGI	2023 Jun 27 1134:49	2023 Jun 27 1410:07	ANGKX	MY	543	563	97.67	In Earth orbit
1628	1630	857198	2023-091AI	Yarilo-3	2023 Jun 27 1134:49	2023 Jun 27 1410:07	BAUM	RU	543	562	97.67	In Earth orbit
1629	1631	857199	2023-091AJ	Burdakov M.N.	2023 Jun 27 1134:49	2023 Jun 27 1410:07	SITRO	RU	544	570	97.67	In Earth orbit
1630	1632	857200	2023-091AL	PHI-DEMO	2023 Jun 27 1134:49	2023 Jun 27 1410:07	MBRSC	UAE	544	563	97.67	In Earth orbit
1631	1633	857201	2023-091AM	Shekhun A.V.	2023 Jun 27 1134:49	2023 Jun 27 1410:07	SITRO	RU	547	569	97.66	In Earth orbit
1632	1634	857202	2023-091AN	CSTP-1.1	2023 Jun 27 1134:49	2023 Jun 27 1410:07	STIS	RU	544	562	97.67	In Earth orbit
1633	1635	857203	2023-091AP	UTMN-2	2023 Jun 27 1134:49	2023 Jun 27 1410:07	UTMN	RU	543	562	97.67	In Earth orbit
1634	1636	857204	2023-091AQ	Smirenniy L.N.	2023 Jun 27 1134:49	2023 Jun 27 1410:07	SITRO	RU	544	569	97.67	In Earth orbit
1635	1637	857205	2023-091AR	ArCube-01	2023 Jun 27 1134:49	2023 Jun 27 1410:07	FIRON	RU	543	563	97.66	In Earth orbit
1636	1638	857206	2023-091AS	Norb-2	2023 Jun 27 1134:49	2023 Jun 27 1410:07	NOVSU	RU	544	561	97.66	In Earth orbit
1637	1639	857208	2023-091AU	Sheffer Yu.P.	2023 Jun 27 1134:49	2023 Jun 27 1410:07	SITRO	RU	544	569	97.67	In Earth orbit
1638	1640	857217	2023-091AV	KuzGTU-1	2023 Jun 27 1134:49	2023 Jun 27 1410:07	KUZGTU	RU	544	570	97.67	In Earth orbit

1639	2023-091AW	Stratosat TK-1-A	2023 Jun 27 11:34:49	2023 Jul 11	RU	543	569	97.66	In Earth orbit
1640	2023-091AX	Stratosat TK-1-B	2023 Jun 27 11:34:49	2023 Jul 11	RU	543	569	97.66	In Earth orbit
1641	2023-091AY	Stratosat TK-1-V	2023 Jun 27 11:34:49	2023 Jul 11	RU	543	569	97.66	In Earth orbit
1642	2023-091AZ	Stratosat TK-1-G	2023 Jun 27 11:34:49	2023 Jul 11	RU	543	569	97.66	In Earth orbit
1643	2023-091BA	Stratosat TK-1-D	2023 Jun 27 11:34:49	2023 Jul 11	RU	543	569	97.66	In Earth orbit
1644	2023-091BB	Stratosat TK-1-E	2023 Jun 27 11:34:49	2023 Jul 11	RU	543	569	97.66	In Earth orbit
1645	2023-092A	Eucelid	2023 Jul 1 12:12:27	2023 Jul 1 15:52	I-ESA	181	1274012	36.87	SEL2
1646	2023-093A	Hemrich-Hertz-Satellit	2023 Jul 5 22:29:55	2023 Jul 5 22:29:55	D	35772	35800	0.01	In Earth orbit
1647	2023-093B	Syracuse 4B	2023 Jul 5 22:33:32	2023 Jul 5 22:33:32	F	6159	44397	2.29	In Earth orbit
1648	2023-094A	Starlink 5525	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	334	43.00	In Earth orbit
1649	2023-094B	Starlink 5520	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1650	2023-094C	Starlink 5880	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	334	43.00	In Earth orbit
1651	2023-094D	Starlink 5875	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	334	43.00	In Earth orbit
1652	2023-094E	Starlink 5870	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	334	43.00	In Earth orbit
1653	2023-094F	Starlink 5519	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1654	2023-094G	Starlink 5983	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	334	43.00	In Earth orbit
1655	2023-094H	Starlink 6294	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1656	2023-094I	Starlink 6350	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1657	2023-094K	Starlink 5996	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1658	2023-094L	Starlink 6230	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	334	43.00	In Earth orbit
1659	2023-094M	Starlink 6233	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	334	43.00	In Earth orbit
1660	2023-094N	Starlink 6250	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	334	43.00	In Earth orbit
1661	2023-094P	Starlink 5840	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1662	2023-094Q	Starlink 5872	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1663	2023-094R	Starlink 5866	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1664	2023-094S	Starlink 6368	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1665	2023-094T	Starlink 6360	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1666	2023-094U	Starlink 6315	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1667	2023-094V	Starlink 6365	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1668	2023-094W	Starlink 6334	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1669	2023-094X	Starlink 6330	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1670	2023-094Y	Starlink 6351	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1671	2023-094Z	Starlink 6349	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1672	2023-094AA	Starlink 6306	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1673	2023-094AB	Starlink 6346	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	229	333	43.00	In Earth orbit
1674	2023-094AC	Starlink 5610	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1675	2023-094AD	Starlink 5587	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1676	2023-094AE	Starlink 5049	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1677	2023-094AF	Starlink 5039	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1678	2023-094AG	Starlink 5514	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1679	2023-094AH	Starlink 5517	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1680	2023-094AJ	Starlink 5488	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1681	2023-094AK	Starlink 5513	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1682	2023-094AL	Starlink 5511	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1683	2023-094AM	Starlink 5516	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1684	2023-094AN	Starlink 5490	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1685	2023-094AP	Starlink 5481	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1686	2023-094AQ	Starlink 5512	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1687	2023-094AR	Starlink 5503	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1688	2023-094AS	Starlink 5476	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1689	2023-094AT	Starlink 5505	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1690	2023-094AU	Starlink 5026	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1691	2023-094AV	Starlink 5485	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1692	2023-094AW	Starlink 5504	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1693	2023-094AX	Starlink 5509	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1694	2023-094AY	Starlink 5508	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1695	2023-094AZ	Starlink 5890	2023 Jul 7 19:29:50	2023 Jul 7 19:48:46	US	228	333	43.00	In Earth orbit
1696	2023-095A	Huilianwang Jishu Shiyuan W.	2023 Jul 9 11:00	2023 Jul 9 11:40:07	CN	1095	11116	86.50	In Earth orbit
1697	2023-095B	Huilianwang Jishu Shiyuan W.	2023 Jul 9 11:00	2023 Jul 9 11:40:07	CN	1095	11112	86.50	In Earth orbit
1698	2023-096A	Starlink 30198	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	US	314	321	43.01	In Earth orbit
1699	2023-096B	Starlink 30239	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	US	314	321	43.01	In Earth orbit
1700	2023-096C	Starlink 30210	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	US	314	321	43.01	In Earth orbit
1701	2023-096D	Starlink 30235	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	US	314	321	43.01	In Earth orbit
1702	2023-096E	Starlink 30202	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	US	314	321	43.01	In Earth orbit
1703	2023-096F	Starlink 30206	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	US	314	321	43.01	In Earth orbit
1704	2023-096G	Starlink 30238	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	US	314	321	43.01	In Earth orbit

1705	1707	S57297	2023-096H	Starlink 30234	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	314	321	43.01	In Earth orbit
1706	1708	S57298	2023-096J	Starlink 30241	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	321	43.01	In Earth orbit
1707	1709	S57299	2023-096K	Starlink 30199	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	321	43.01	In Earth orbit
1708	1710	S57300	2023-096L	Starlink 30236	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	321	43.01	In Earth orbit
1709	1711	S57301	2023-096M	Starlink 30237	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	321	43.01	In Earth orbit
1710	1712	S57302	2023-096N	Starlink 30233	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	321	43.01	In Earth orbit
1711	1713	S57303	2023-096P	Starlink 30232	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	321	43.01	In Earth orbit
1712	1714	S57304	2023-096Q	Starlink 30211	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	321	43.01	In Earth orbit
1713	1715	S57305	2023-096R	Starlink 30211	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	321	43.01	In Earth orbit
1714	1716	S57306	2023-096S	Starlink 30177	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	321	43.01	In Earth orbit
1715	1717	S57307	2023-096T	Starlink 30209	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	321	43.01	In Earth orbit
1716	1718	S57308	2023-096U	Starlink 30194	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	321	43.01	In Earth orbit
1717	1719	S57309	2023-096V	Starlink 30163	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	321	43.01	In Earth orbit
1718	1720	S57310	2023-096W	Starlink 30184	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	320	43.01	In Earth orbit
1719	1721	S57311	2023-096X	Starlink 30175	2023 Jul 10 03:58:50	2023 Jul 10 05:04:19	SPXS	US	313	320	43.01	In Earth orbit
1720	1722	S57319	2023-097A	Tianyi-30	2023 Jul 12 01:00	-	LANDSP	CN	461	461	97.27	Attached to Zhuque-2 Y2 Stage 2
1721	1723	S57320	2023-098A	Chandrayaan-3	2023 Jul 14 09:05:17	2023 Aug 17 07:45	ISRO	IN	138	36305	21.30	Luna
1722	1724	S57770	2023-098C	Chandrayaan-3 PM	2023 Jul 14 09:05:17	2023 Jul 14 09:21:26	ISRO	IN	276	365001	21.40	Luna
1723	1725	A10997	2023-098	Praayan	2023 Jul 14 09:05:17	2023 Aug 24	ISRO	IN	138	365005	21.30	Luna
1724	1726	S57328	2023-099A	Starlink 6290	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	338	43.01	In Earth orbit
1725	1727	S57329	2023-099B	Starlink 6138	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1726	1728	S57330	2023-099C	Starlink 6212	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1727	1729	S57331	2023-099D	Starlink 6234	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1728	1730	S57332	2023-099E	Starlink 5831	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1729	1731	S57333	2023-099F	Starlink 5585	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1730	1732	S57334	2023-099G	Starlink 5589	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1731	1733	S57335	2023-099H	Starlink 6316	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1732	1734	S57336	2023-099I	Starlink 6320	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1733	1735	S57337	2023-099K	Starlink 6322	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1734	1736	S57338	2023-099L	Starlink 6374	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1735	1737	S57339	2023-099M	Starlink 6332	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1736	1738	S57340	2023-099N	Starlink 6321	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1737	1739	S57341	2023-099P	Starlink 6377	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1738	1740	S57342	2023-099Q	Starlink 6375	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1739	1741	S57343	2023-099R	Starlink 6379	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1740	1742	S57344	2023-099S	Starlink 6380	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1741	1743	S57345	2023-099T	Starlink 6373	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1742	1744	S57346	2023-099U	Starlink 6359	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1743	1745	S57347	2023-099V	Starlink 6378	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1744	1746	S57348	2023-099W	Starlink 6372	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1745	1747	S57349	2023-099X	Starlink 6376	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1746	1748	S57350	2023-099Y	Starlink 6362	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1747	1749	S57351	2023-099Z	Starlink 6331	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1748	1750	S57352	2023-099AA	Starlink 6297	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1749	1751	S57353	2023-099AB	Starlink 6324	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1750	1752	S57354	2023-099AC	Starlink 6293	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1751	1753	S57355	2023-099AD	Starlink 6276	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1752	1754	S57356	2023-099AE	Starlink 6355	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1753	1755	S57357	2023-099AF	Starlink 5600	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1754	1756	S57358	2023-099AG	Starlink 6299	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1755	1757	S57359	2023-099AH	Starlink 6347	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1756	1758	S57360	2023-099AJ	Starlink 6348	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1757	1759	S57361	2023-099AK	Starlink 6340	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1758	1760	S57362	2023-099AL	Starlink 6343	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1759	1761	S57363	2023-099AM	Starlink 6356	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1760	1762	S57364	2023-099AN	Starlink 6338	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1761	1763	S57365	2023-099AP	Starlink 5007	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1762	1764	S57366	2023-099AQ	Starlink 6174	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1763	1765	S57367	2023-099AR	Starlink 6215	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1764	1766	S57368	2023-099AS	Starlink 6218	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1765	1767	S57369	2023-099AT	Starlink 6168	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1766	1768	S57370	2023-099AU	Starlink 5353	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1767	1769	S57371	2023-099AV	Starlink 6032	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1768	1770	S57372	2023-099AW	Starlink 5975	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1769	1771	S57373	2023-099AX	Starlink 6370	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1770	1772	S57374	2023-099AY	Starlink 6369	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit

1771	2023-099AZ	S57375	Starlink 6363	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1772	2023-099BA	S57376	Starlink 6367	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1773	2023-099BB	S57377	Starlink 6358	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1774	2023-099BC	S57378	Starlink 6364	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1775	2023-099BD	S57379	Starlink 6361	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1776	2023-099BE	S57380	Starlink 6366	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1777	2023-099BF	S57381	Starlink 6371	2023 Jul 16 03:50:00	2023 Jul 16 04:55:52	SPXS	US	297	337	43.01	In Earth orbit
1778	2023-100A	S57386	Starling 4	2023 Jul 18 01:27	2023 Jul 18 02:17:14	ARC	US	565	583	99.46	In Earth orbit
1779	2023-100B	S57387	Starling 2	2023 Jul 18 01:27	2023 Jul 18 02:17:44	ARC	US	565	584	99.45	In Earth orbit
1780	2023-100C	S57388	Starling 1	2023 Jul 18 01:27	2023 Jul 18 02:18:14	ARC	US	566	584	99.46	In Earth orbit
1781	2023-100D	S57389	Starling 3	2023 Jul 18 01:27	2023 Jul 18 02:18:44	ARC	US	565	584	99.45	In Earth orbit
1782	2023-100E	S57390	Lemur-2-Mano	2023 Jul 18 01:27	2023 Jul 18 02:19:44	SPIRE	US	564	583	99.46	In Earth orbit
1783	2023-100F	S57391	Lemur-2-Devehill-M-T	2023 Jul 18 01:27	2023 Jul 18 02:19:14	SPIRE	US	560	583	99.46	In Earth orbit
1784	2023-100G	S57392	Telesat LEO 3	2023 Jul 18 01:27	2023 Jul 18 03:13:13	TCANL	CA	994	1019	99.44	In Earth orbit
1785	2023-101A	S57399	Xinjiang Nengyuan 1	2023 Jul 20 03:20	2023 Jul 20 03:35?	TIANMU	CN	516	529	97.41	In Earth orbit
1786	2023-101B	S57400	Naxinda-1	2023 Jul 20 03:20	2023 Jul 20 03:35?	TIANMU	CN	517	529	97.41	In Earth orbit
1787	2023-101C	S57401	Naming 01	2023 Jul 20 03:20	2023 Jul 20 03:35?	TIANMU	CN	517	530	97.41	In Earth orbit
1788	2023-101D	S57402	Naming 02	2023 Jul 20 03:20	2023 Jul 20 03:35?	TIANMU	CN	516	532	97.41	In Earth orbit
1789	2023-102A	S57404	Starlink 30240	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1790	2023-102B	S57405	Starlink 30192	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1791	2023-102C	S57406	Starlink 30195	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1792	2023-102D	S57407	Starlink 30207	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1793	2023-102E	S57408	Starlink 30205	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1794	2023-102F	S57409	Starlink 30222	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1795	2023-102G	S57410	Starlink 30172	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1796	2023-102H	S57411	Starlink 30214	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1797	2023-102I	S57412	Starlink 30182	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1798	2023-102J	S57413	Starlink 30191	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1799	2023-102K	S57414	Starlink 30193	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1800	2023-102L	S57415	Starlink 30208	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1801	2023-102M	S57416	Starlink 30224	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1802	2023-102N	S57417	Starlink 30043	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1803	2023-102P	S57418	Starlink 30021	2023 Jul 20 04:09:30	2023 Jul 20 04:24:17	SPXS	US	284	312	43.00	In Earth orbit
1804	2023-103A	S57421	Qiankun-1	2023 Jul 22 05:07	2023 Jul 22 05:21	SBSZ	CN	486	502	96.62	In Earth orbit
1805	2023-103B	S57422	Taian	2023 Jul 23 02:50	2023 Jul 23 03:05?	GUOX	CN	485	502	96.63	In Earth orbit
1806	2023-104A	S57424	Kuangda Nianhu	2023 Jul 23 02:50	2023 Jul 23 03:05?	XXAK/CUMT	CN	484	503	97.40	In Earth orbit
1807	2023-104B	S57425	Hongkou Fuxing	2023 Jul 23 02:50	2023 Jul 23 03:05?	XXAK	CN	484	503	97.40	In Earth orbit
1808	2023-104C	S57426	Zhongkuan Nongchuan	2023 Jul 23 02:50	2023 Jul 23 03:05?	XXAK/ZDNC	CN	485	503	97.40	In Earth orbit
1809	2023-104D	S57427	Lingxi-03	2023 Jul 23 02:50	2023 Jul 23 03:05?	YINHE	CN	485	503	97.40	In Earth orbit
1810	2023-105A	S57430	Starlink 30189	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1811	2023-105B	S57431	Starlink 30170	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1812	2023-105C	S57432	Starlink 30188	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1813	2023-105D	S57433	Starlink 30105	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1814	2023-105E	S57434	Starlink 30102	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1815	2023-105F	S57435	Starlink 30180	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1816	2023-105G	S57436	Starlink 30183	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1817	2023-105H	S57437	Starlink 30237	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1818	2023-105I	S57438	Starlink 30158	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1819	2023-105J	S57439	Starlink 30173	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1820	2023-105K	S57440	Starlink 30159	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1821	2023-105L	S57441	Starlink 30180	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1822	2023-105M	S57442	Starlink 30166	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1823	2023-105N	S57443	Starlink 30146	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1824	2023-105P	S57444	Starlink 30197	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1825	2023-105Q	S57445	Starlink 30181	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1826	2023-105R	S57446	Starlink 30215	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1827	2023-105S	S57447	Starlink 30162	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1828	2023-105T	S57448	Starlink 30178	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	293	302	43.00	In Earth orbit
1829	2023-105U	S57449	Starlink 30196	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	292	302	43.00	In Earth orbit
1830	2023-105V	S57450	Starlink 30225	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	292	302	43.00	In Earth orbit
1831	2023-105W	S57451	Starlink 30216	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	292	302	43.00	In Earth orbit
1832	2023-105X	S57452	Starlink 30217	2023 Jul 24 00:50:30	2023 Jul 24 01:55:53	SPXS	US	292	302	43.00	In Earth orbit
1833	2023-106A	S57453	Yaogan 36 05 zu 01 xing	2023 Jul 26 20:02	2023 Jul 26 20:17?	ZZB	CN	490	502	34.99	In Earth orbit
1834	2023-106B	S57454	Yaogan 36 05 zu 02 xing	2023 Jul 26 20:02	2023 Jul 26 20:17?	ZZB	CN	488	501	35.00	In Earth orbit
1835	2023-106C	S57455	Yaogan 36 05 zu 03 xing	2023 Jul 26 20:02	2023 Jul 26 20:17?	ZZB	CN	489	501	35.00	In Earth orbit
1836	2023-106E	S57456	Starlink 30165	2023 Jul 28 04:01:10	2023 Jul 28 05:06:36	SPXS	US	314	321	43.01	In Earth orbit
1837	2023-107A	S57457	Starlink 30140	2023 Jul 28 04:01:10	2023 Jul 28 05:06:36	SPXS	US	314	321	43.01	In Earth orbit
1838	2023-107B	S57458	Starlink 30140	2023 Jul 28 04:01:10	2023 Jul 28 05:06:36	SPXS	US	314	321	43.01	In Earth orbit

1903	1905	S57533	2023-115N	Starlink 30254	2023 Aug 8 03:57:00	SPXS	US	281	292	43.00	In Earth orbit
1904	1906	S57534	2023-115P	Starlink 30264	2023 Aug 8 04:11:44	SPXS	US	281	292	43.00	In Earth orbit
1905	1907	S57535	2023-115Q	Starlink 30262	2023 Aug 8 03:57:00	SPXS	US	281	292	43.00	In Earth orbit
1906	1908	S57519	2023-116A	Huanjing Jianzhi 02-06	2023 Aug 8 04:11:44	ZZVWYZ	CN	487	502	97.40	In Earth orbit
1907	1909	S57580	2023-117A	Xiguang-1-01	2023 Aug 8 23:08?	ZXHJK	CN	524	541	97.52	In Earth orbit
1908	1910	S57581	2023-117B	Xingchi-1B	2023 Aug 10 04:03	STARV/HENAN	CN	523	542	97.52	In Earth orbit
1909	1911	S57582	2023-117C	DiwetZhimeng Yingji 1	2023 Aug 10 04:03	STARV/HENAN	CN	525	541	97.52	In Earth orbit
1910	1912	S57583	2023-117D	XI an Hengrou 88	2023 Aug 10 04:03	XHT	CN	524	541	97.52	In Earth orbit
1911	1913	S57584	2023-117E	XI an Hengrou 86	2023 Aug 10 04:03	XHT	CN	525	540	97.52	In Earth orbit
1912	1914	S57585	2023-117F	XI an Hengrou 104	2023 Aug 10 04:03	XHT	CN	521	540	97.52	In Earth orbit
1913	1915	S57586	2023-117G	XI an Hengrou 104	2023 Aug 10 04:03	XHT	CN	521	540	97.52	In Earth orbit
1914	1916	S57600	2023-118A	Luna-25	2023 Aug 10 04:03	XHT	CN	540	540	97.52	In Earth orbit
1915	1917	S57602	2023-119A	Luna-25	2023 Aug 10 23:10:57	IKI	RU	343	4000000	49.90	Luna
1916	1918	S57603	2023-119B	Starlink 30166	2023 Aug 11 05:17:40	SPXS	US	284	293	43.00	In Earth orbit
1917	1919	S57604	2023-119C	Starlink 30223	2023 Aug 11 05:17:40	SPXS	US	283	292	43.00	In Earth orbit
1918	1920	S57605	2023-119D	Starlink 30218	2023 Aug 11 06:22:57	SPXS	US	283	292	43.00	In Earth orbit
1919	1921	S57606	2023-119E	Starlink 30138	2023 Aug 11 05:17:40	SPXS	US	283	292	43.00	In Earth orbit
1920	1922	S57607	2023-119F	Starlink 30255	2023 Aug 11 06:22:57	SPXS	US	283	292	43.00	In Earth orbit
1921	1923	S57608	2023-119G	Starlink 30252	2023 Aug 11 05:17:40	SPXS	US	283	292	43.00	In Earth orbit
1922	1924	S57609	2023-119H	Starlink 30258	2023 Aug 11 06:22:57	SPXS	US	283	292	43.00	In Earth orbit
1923	1925	S57610	2023-119I	Starlink 30174	2023 Aug 11 05:17:40	SPXS	US	283	292	43.00	In Earth orbit
1924	1926	S57611	2023-119J	Starlink 30248	2023 Aug 11 05:17:40	SPXS	US	283	292	43.00	In Earth orbit
1925	1927	S57612	2023-119K	Starlink 30052	2023 Aug 11 06:22:57	SPXS	US	283	292	43.00	In Earth orbit
1926	1928	S57613	2023-119L	Starlink 30245	2023 Aug 11 05:17:40	SPXS	US	283	292	43.00	In Earth orbit
1927	1929	S57614	2023-119M	Starlink 30041	2023 Aug 11 05:17:40	SPXS	US	283	292	43.00	In Earth orbit
1928	1930	S57615	2023-119N	Starlink 30244	2023 Aug 11 06:22:57	SPXS	US	283	292	43.00	In Earth orbit
1929	1931	S57616	2023-119P	Starlink 30246	2023 Aug 11 05:17:40	SPXS	US	283	292	43.00	In Earth orbit
1930	1932	S57617	2023-119Q	Starlink 30075	2023 Aug 11 05:17:40	SPXS	US	283	292	43.00	In Earth orbit
1931	1933	S57618	2023-119R	Starlink 30148	2023 Aug 11 05:17:40	SPXS	US	283	292	43.00	In Earth orbit
1932	1934	S57619	2023-119T	Starlink 30249	2023 Aug 11 06:22:57	SPXS	US	283	292	43.00	In Earth orbit
1933	1935	S57620	2023-119U	Starlink 30220	2023 Aug 11 05:17:40	SPXS	US	283	292	43.00	In Earth orbit
1934	1936	S57621	2023-119V	Starlink 30141	2023 Aug 11 06:22:57	SPXS	US	283	292	43.00	In Earth orbit
1935	1937	S57622	2023-119W	Starlink 30150	2023 Aug 11 05:17:40	SPXS	US	283	292	43.00	In Earth orbit
1936	1938	S57623	2023-119X	Starlink 30056	2023 Aug 11 06:22:57	SPXS	US	283	292	43.00	In Earth orbit
1937	1939	S57624	2023-120A	Starlink 30100	2023 Aug 11 05:17:40	SPXS	US	283	292	43.00	In Earth orbit
1938	1940	S57626	2023-121A	Ludi Tance 4A	2023 Aug 12 17:26	CNSA	CN	35777	35797	16.04	In Earth orbit
1939	1941	S57627	2023-121B	Jiaotong-6	2023 Aug 14 05:32	HEAD	CN	695	705	45.00	In Earth orbit
1940	1942	S57628	2023-121C	Jiaotong-8	2023 Aug 14 05:32	HEAD	CN	694	704	45.00	In Earth orbit
1941	1943	S57629	2023-121D	Jiaotong-8	2023 Aug 14 05:32	HEAD	CN	694	704	45.00	In Earth orbit
1942	1944	S57630	2023-121E	Jiaotong-9	2023 Aug 14 05:32	HEAD	CN	693	703	45.00	In Earth orbit
1943	1945	S57632	2023-122A	Jiaotong-10	2023 Aug 14 05:32	HEAD	CN	694	703	45.00	In Earth orbit
1944	1946	S57633	2023-122B	Starlink 30309	2023 Aug 17 03:36:50	SPXS	US	284	292	43.00	In Earth orbit
1945	1947	S57634	2023-122C	Starlink 30328	2023 Aug 17 03:36:50	SPXS	US	284	292	43.00	In Earth orbit
1946	1948	S57635	2023-122D	Starlink 30323	2023 Aug 17 03:36:50	SPXS	US	284	292	43.00	In Earth orbit
1947	1949	S57636	2023-122E	Starlink 30329	2023 Aug 17 03:36:50	SPXS	US	284	292	43.00	In Earth orbit
1948	1950	S57637	2023-122F	Starlink 30330	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1949	1951	S57638	2023-122G	Starlink 30311	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1950	1952	S57639	2023-122H	Starlink 30328	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1951	1953	S57640	2023-122I	Starlink 30326	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1952	1954	S57641	2023-122J	Starlink 30324	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1953	1955	S57642	2023-122K	Starlink 30312	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1954	1956	S57643	2023-122L	Starlink 30263	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1955	1957	S57644	2023-122M	Starlink 30280	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1956	1958	S57645	2023-122N	Starlink 30247	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1957	1959	S57646	2023-122P	Starlink 30277	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1958	1960	S57647	2023-122Q	Starlink 30265	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1959	1961	S57648	2023-122R	Starlink 30286	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1960	1962	S57649	2023-122S	Starlink 30243	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1961	1963	S57650	2023-122T	Starlink 30293	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1962	1964	S57651	2023-122U	Starlink 30299	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1963	1965	S57652	2023-122V	Starlink 30294	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1964	1966	S57653	2023-122W	Starlink 30276	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1965	1967	S57654	2023-122X	Starlink 30289	2023 Aug 17 03:36:50	SPXS	US	283	292	43.00	In Earth orbit
1966	1968	S57655	2023-123A	Gao Fen 12-04	2023 Aug 20 17:45	ZLZB	CN	592	599	97.90	In Earth orbit
1967	1969	S57664	2023-124A	Starlink 30267	2023 Aug 22 09:37:30	SPXS	US	284	294	53.06	In Earth orbit
1968	1970	S57665	2023-124B	Starlink 30302	2023 Aug 22 10:40:02	SPXS	US	284	294	53.06	In Earth orbit
1969				Starlink 30298	2023 Aug 22 09:37:30	SPXS	US	284	294	53.06	In Earth orbit
1970				Starlink 30329	2023 Aug 22 10:40:02	SPXS	US	284	294	53.06	In Earth orbit

1969	S57666	2023-124D	Starlink 30301	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	284	294	53.06	In Earth orbit
1970	S57667	2023-124E	Starlink 30275	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	284	294	53.06	In Earth orbit
1971	S57668	2023-124F	Starlink 30278	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	284	294	53.06	In Earth orbit
1972	S57669	2023-124G	Starlink 30271	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	284	294	53.06	In Earth orbit
1973	S57670	2023-124H	Starlink 30322	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	284	294	53.06	In Earth orbit
1974	S57671	2023-124J	Starlink 30296	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	284	294	53.06	In Earth orbit
1975	S57672	2023-124K	Starlink 30274	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	284	294	53.06	In Earth orbit
1976	S57673	2023-124L	Starlink 30316	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	284	294	53.06	In Earth orbit
1977	S57674	2023-124M	Starlink 30314	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	284	294	53.06	In Earth orbit
1978	S57675	2023-124N	Starlink 30317	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	284	294	53.06	In Earth orbit
1979	S57676	2023-124P	Starlink 30313	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	284	294	53.06	In Earth orbit
1980	S57677	2023-124Q	Starlink 30303	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	284	294	53.06	In Earth orbit
1981	S57678	2023-124R	Starlink 30320	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	284	294	53.06	In Earth orbit
1982	S57679	2023-124S	Starlink 30321	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	283	294	53.06	In Earth orbit
1983	S57680	2023-124T	Starlink 30283	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	283	294	53.06	In Earth orbit
1984	S57681	2023-124U	Starlink 30273	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	283	294	53.06	In Earth orbit
1985	S57682	2023-124V	Starlink 30297	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	283	294	53.06	In Earth orbit
1986	S57683	2023-124W	Starlink 30295	2023 Aug 22 0937:30	2023 Aug 22 1040:02	SPXS	US	283	294	53.06	In Earth orbit
1987	S57691	2023-125A	Progress MS-24	2023 Aug 23 01:08:10	2023 Aug 23 01:16:59	RKKE	RU	276	321	51.65	Attached to Soyuz-2-1a No. 065 Blok-I
1988	S58174	1998-067WA	Parus-MGTU	2023 Aug 23 01:08:10	2023 Oct 25 23:20	BAUM	RU	417	418	51.64	In Earth orbit
1989	S57693	2023-126A	Capella II	2023 Aug 23 23:45	2023 Aug 24 00:43	CAPSP	US	637	653	53.01	In Earth orbit
1990	S57696	2023-127A	HKUST-Xionghin I	2023 Aug 26 04:59	2023 Aug 25 05:149	CGSTL	CN	529	568	97.59	In Earth orbit
1991	S57697	2023-128A	Dragon Endurance (Crew-7)	2023 Aug 26 07:27:27	2023 Aug 26 07:39:27	SPX	US	183	268	51.64	Attached to Falcon 9-250 Stage 2
1992	S57698	2023-129A	Starlink 30288	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	284	291	43.00	In Earth orbit
1993	S57699	2023-129B	Starlink 30347	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.00	In Earth orbit
1994	S57700	2023-129C	Starlink 30332	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.00	In Earth orbit
1995	S57701	2023-129D	Starlink 30345	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.00	In Earth orbit
1996	S57702	2023-129E	Starlink 30333	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.00	In Earth orbit
1997	S57703	2023-129F	Starlink 30336	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.00	In Earth orbit
1998	S57704	2023-129G	Starlink 30346	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
1999	S57705	2023-129H	Starlink 30342	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2000	S57706	2023-129I	Starlink 30337	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2001	S57707	2023-129K	Starlink 30327	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2002	S57708	2023-129L	Starlink 30315	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2003	S57709	2023-129M	Starlink 30287	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2004	S57710	2023-129N	Starlink 30335	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2005	S57711	2023-129P	Starlink 30318	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2006	S57712	2023-129Q	Starlink 30348	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2007	S57713	2023-129R	Starlink 30349	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2008	S57714	2023-129S	Starlink 30341	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2009	S57715	2023-129T	Starlink 30300	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2010	S57716	2023-129U	Starlink 30281	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2011	S57717	2023-129V	Starlink 30325	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2012	S57718	2023-129W	Starlink 30338	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2013	S57719	2023-129X	Starlink 30334	2023 Aug 27 01:05:40	2023 Aug 27 02:11:04	SPXS	US	283	291	43.01	In Earth orbit
2014	S57727	2023-130A	Yaogan 39 01 zu 01 xing	2023 Aug 31 07:36	2023 Aug 31 07:509	ZZB	CN	491	502	35.00	In Earth orbit
2015	S57728	2023-130B	Yaogan 39 01 zu 02 xing	2023 Aug 31 07:36	2023 Aug 31 07:509	ZZB	CN	491	502	34.99	In Earth orbit
2016	S57731	2023-130E	Yaogan 39 01 zu 03 xing	2023 Aug 31 07:36	2023 Aug 31 07:509	ZZB	CN	489	502	34.99	In Earth orbit
2017	S57732	2023-131A	Starlink 30375	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	284	292	43.00	In Earth orbit
2018	S57733	2023-131B	Starlink 30310	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	284	292	43.00	In Earth orbit
2019	S57734	2023-131C	Starlink 30365	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	284	292	43.00	In Earth orbit
2020	S57735	2023-131D	Starlink 30371	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	284	292	43.00	In Earth orbit
2021	S57736	2023-131E	Starlink 30352	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	284	292	43.00	In Earth orbit
2022	S57737	2023-131F	Starlink 30344	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	284	292	43.00	In Earth orbit
2023	S57738	2023-131G	Starlink 30351	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	284	292	43.00	In Earth orbit
2024	S57739	2023-131H	Starlink 30242	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2025	S57740	2023-131J	Starlink 30331	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2026	S57741	2023-131K	Starlink 30364	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2027	S57742	2023-131L	Starlink 30308	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2028	S57743	2023-131M	Starlink 30361	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2029	S57744	2023-131N	Starlink 30363	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2030	S57745	2023-131P	Starlink 30362	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2031	S57746	2023-131Q	Starlink 30350	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2032	S57747	2023-131R	Starlink 30307	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2033	S57748	2023-131S	Starlink 30356	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2034	S57749	2023-131T	Starlink 30366	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit

2035	S57750	2023-131U	Starlink 30357	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2036	S57751	2023-131V	Starlink 30370	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2037	S57752	2023-131W	Starlink 30368	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2038	S57753	2023-131X	Starlink 30343	2023 Sep 1 02:21:50	2023 Sep 1 03:27:11	SPXS	US	283	292	43.00	In Earth orbit
2039	S57754	2023-132A	Aditya-L1	2023 Sep 2 06:20:00	2023 Sep 2 07:23:20	ISRO	IN	4701	1377274	32.30	SEL1
2040	S57755	2023-132A	Wildfire 4	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	939	947	80.99	In Earth orbit
2041	S57756	2023-133A	BB 4	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	943	948	81.00	In Earth orbit
2042	S57757	2023-133B	Wildfire 3	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	938	948	80.99	In Earth orbit
2043	S57758	2023-133C	BB 3	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	949	949	80.99	In Earth orbit
2044	S57759	2023-133D	Wildfire 7	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	942	948	81.00	In Earth orbit
2045	S57760	2023-133E	Checkmate 10	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	942	948	80.99	In Earth orbit
2046	S57761	2023-133F	Wildfire 8	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	941	948	80.99	In Earth orbit
2047	S57762	2023-133G	Wildfire 6	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	944	949	80.99	In Earth orbit
2048	S57763	2023-133H	Wildfire 1	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	936	947	81.00	In Earth orbit
2049	S57764	2023-133I	Wildfire 9	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	909	989	81.12	In Earth orbit
2050	S57765	2023-133J	Wildfire 10	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	942	949	80.99	In Earth orbit
2051	S57766	2023-133K	Wildfire 2	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	937	948	80.99	In Earth orbit
2052	S57767	2023-133L	Wildfire 5	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	942	949	80.99	In Earth orbit
2053	S57768	2023-133M	Wildfire 8	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	939	947	81.00	In Earth orbit
2054	S57769	2023-133N	Wildfire 5	2023 Sep 2 14:25	2023 Sep 2 15:28?	SDA	US	939	947	81.00	In Earth orbit
2055	S57770	2023-134A	Starlink 30397	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	284	292	43.00	In Earth orbit
2056	S57771	2023-134B	Starlink 30354	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	284	292	43.00	In Earth orbit
2057	S57772	2023-134C	Starlink 30383	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	284	292	43.00	In Earth orbit
2058	S57773	2023-134D	Starlink 30384	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	284	292	43.00	In Earth orbit
2059	S57774	2023-134E	Starlink 30384	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	284	292	43.00	In Earth orbit
2060	S57775	2023-134F	Starlink 30305	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	284	292	43.00	In Earth orbit
2061	S57776	2023-134G	Starlink 30360	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	284	292	43.00	In Earth orbit
2062	S57777	2023-134G	Starlink 30355	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	284	292	43.00	In Earth orbit
2063	S57778	2023-134H	Starlink 30385	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	284	292	43.00	In Earth orbit
2064	S57779	2023-134J	Starlink 30359	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	284	292	43.00	In Earth orbit
2065	S57780	2023-134K	Starlink 30380	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	283	292	43.00	In Earth orbit
2066	S57781	2023-134L	Starlink 30369	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	283	292	43.00	In Earth orbit
2067	S57782	2023-134M	Starlink 30376	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	283	292	43.00	In Earth orbit
2068	S57783	2023-134N	Starlink 30389	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	284	292	43.00	In Earth orbit
2069	S57784	2023-134P	Starlink 30388	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	283	292	43.00	In Earth orbit
2070	S57785	2023-134Q	Starlink 30381	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	283	292	43.00	In Earth orbit
2071	S57786	2023-134R	Starlink 30382	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	283	292	43.00	In Earth orbit
2072	S57787	2023-134S	Starlink 30378	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	283	292	43.00	In Earth orbit
2073	S57788	2023-134T	Starlink 30387	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	283	292	43.00	In Earth orbit
2074	S57789	2023-134U	Starlink 30372	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	283	292	43.00	In Earth orbit
2075	S57790	2023-134V	Starlink 30373	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	283	292	43.00	In Earth orbit
2076	S57791	2023-134W	Starlink 30367	2023 Sep 4 02:47:20	2023 Sep 4 03:52:40	SPXS	US	283	292	43.00	In Earth orbit
2077	S57792	2023-135A	Tianqi Xingzao 21	2023 Sep 5 09:34:46	2023 Sep 5 09:53?	GUOG	CN	785	802	49.97	In Earth orbit
2078	S57793	2023-135B	Tianqi Xingzao 22	2023 Sep 5 09:34:46	2023 Sep 5 09:53?	GUOG	CN	784	802	49.97	In Earth orbit
2079	S57794	2023-135C	Tianqi Xingzao 23	2023 Sep 5 09:34:46	2023 Sep 5 09:53?	GUOG	CN	784	802	49.97	In Earth orbit
2080	S57795	2023-135D	Tianqi Xingzao 24	2023 Sep 5 09:34:46	2023 Sep 5 09:53?	GUOG	CN	783	802	49.97	In Earth orbit
2081	S57797	2023-136A	Yaogan 33-03	2023 Sep 6 18:14	2023 Sep 6 18:26?	ZLZB	CN	680	687	98.18	In Earth orbit
2082	S57800	2023-137A	XRISM	2023 Sep 6 23:42:11	2023 Sep 6 23:56:32	JAXA/ISAS/J	J	567	580	31.00	In Earth orbit
2083	S57803	2023-137D	SLIM	2023 Sep 6 23:42:11	2023 Sep 7 00:29:50	JAXA/ISAS/J	J	334	98657	30.32	Luna
2084	A11050	2023-137E	LEV-1	2023 Sep 6 23:42:11	-	ISAS/J	J	334	98657	30.32	Attached to SLIM
2085	A11051	2023-137F	LEV-2	2023 Sep 6 23:42:11	-	ISAS/J	J	334	98657	30.32	Attached to SLIM
2086	S57808	2023-138A	Starlink 30304	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2087	S57809	2023-138B	Starlink 30374	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2088	S57810	2023-138C	Starlink 30394	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2089	S57811	2023-138D	Starlink 30379	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2090	S57812	2023-138E	Starlink 30395	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2091	S57813	2023-138F	Starlink 30403	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2092	S57814	2023-138G	Starlink 30413	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2093	S57815	2023-138H	Starlink 30398	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2094	S57816	2023-138I	Starlink 30386	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2095	S57817	2023-138K	Starlink 30391	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2096	S57818	2023-138L	Starlink 30401	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2097	S57819	2023-138M	Starlink 30409	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2098	S57820	2023-138N	Starlink 30390	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2099	S57821	2023-138P	Starlink 30415	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2100	S57822	2023-138Q	Starlink 30417	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2101	S57823	2023-138R	Starlink 30407	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2102	S57824	2023-138S	Starlink 30408	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2103	S57825	2023-138T	Starlink 30377	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit

2101	2101	S57826	2023-138U	Starlink 30422	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2102	2102	S57827	2023-138V	Starlink 30423	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2103	2103	S57828	2023-138W	Starlink 30411	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2104	2104	S57829	2023-138X	Starlink 30418	2023 Sep 9 03:12:50	2023 Sep 9 04:18:06	SPXS	US	283	292	43.00	In Earth orbit
2105	2105	S57830	2023-139A	Yaogan 40 hao 01 xing	2023 Sep 10 04:30	2023 Sep 10 04:45:57	CAS1	CN	797	811	86.00	In Earth orbit
2106	2106	S57832	2023-139C	Yaogan 40 hao 02 xing	2023 Sep 10 04:30	2023 Sep 10 04:45:57	CAS1	CN	795	811	86.00	In Earth orbit
2107	2107	S57833	2023-139D	Yaogan 40 hao 03 xing	2023 Sep 10 04:30	2023 Sep 10 04:45:57	CAS1	CN	795	810	86.00	In Earth orbit
2108	2108	S57836	2023-140A	USA 346	2023 Sep 10 12:47:00	2023 Sep 10 19:00:07	NRO/SFSSC	US	36184	36233	12.04	In Earth orbit
2109	2109	S57837	2023-140B	USA 347	2023 Sep 10 12:47:00	2023 Sep 10 19:00:07	NRO/SFSSC	US	36214	36234	12.04	In Earth orbit
2110	2110	S57838	2023-140C	USA 348	2023 Sep 10 12:47:00	2023 Sep 10 19:00:07	NRO/SFSSC	US	36147	36231	12.04	In Earth orbit
2111	2111	S57840	2023-141A	Starlink 30285	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	284	294	53.06	In Earth orbit
2112	2112	S57841	2023-141B	Starlink 30410	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2113	2113	S57842	2023-141C	Starlink 30435	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2114	2114	S57843	2023-141D	Starlink 30423	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2115	2115	S57844	2023-141E	Starlink 30292	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2116	2116	S57845	2023-141F	Starlink 30419	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2117	2117	S57846	2023-141G	Starlink 30420	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2118	2118	S57847	2023-141H	Starlink 30416	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2119	2119	S57848	2023-141J	Starlink 30426	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2120	2120	S57849	2023-141K	Starlink 30430	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2121	2121	S57850	2023-141L	Starlink 30425	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2122	2122	S57851	2023-141M	Starlink 30405	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2123	2123	S57852	2023-141N	Starlink 30431	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2124	2124	S57853	2023-141P	Starlink 30404	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2125	2125	S57854	2023-141Q	Starlink 30412	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2126	2126	S57855	2023-141R	Starlink 30392	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2127	2127	S57856	2023-141S	Starlink 30291	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2128	2128	S57857	2023-141T	Starlink 30424	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2129	2129	S57858	2023-141U	Starlink 30290	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2130	2130	S57859	2023-141V	Starlink 30414	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2131	2131	S57860	2023-141W	Starlink 30272	2023 Sep 12 06:57:50	2023 Sep 12 08:00:18	SPXS	US	283	294	53.06	In Earth orbit
2132	2132	S57861	2023-142A	VICTUS NOX	2023 Sep 15 02:28	2023 Sep 15 02:40:07	SFSSC	US	475	531	97.32	In Earth orbit
2133	2133	S57862	2023-143A	Soyuz MS-24	2023 Sep 15 15:53:24	2023 Sep 15 15:53:24	RKKE	RU	197	228	51.65	Attached to Soyuz-2-1a No. 061 Blok-I
2134	2134	S57864	2023-144A	Starlink 30427	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	284	292	43.00	In Earth orbit
2135	2135	S57865	2023-144B	Starlink 30432	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	284	292	43.00	In Earth orbit
2136	2136	S57866	2023-144C	Starlink 30393	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	284	292	43.00	In Earth orbit
2137	2137	S57867	2023-144D	Starlink 30439	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	284	292	43.00	In Earth orbit
2138	2138	S57868	2023-144E	Starlink 30442	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	284	292	43.00	In Earth orbit
2139	2139	S57869	2023-144F	Starlink 30441	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	284	292	43.00	In Earth orbit
2140	2140	S57870	2023-144G	Starlink 30460	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	284	292	43.00	In Earth orbit
2141	2141	S57871	2023-144H	Starlink 30444	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	284	292	43.00	In Earth orbit
2142	2142	S57872	2023-144J	Starlink 30446	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	284	292	43.00	In Earth orbit
2143	2143	S57873	2023-144K	Starlink 30445	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	284	292	43.00	In Earth orbit
2144	2144	S57874	2023-144L	Starlink 30447	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	284	292	43.00	In Earth orbit
2145	2145	S57875	2023-144M	Starlink 30434	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	283	292	43.00	In Earth orbit
2146	2146	S57876	2023-144N	Starlink 30429	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	283	292	43.00	In Earth orbit
2147	2147	S57877	2023-144P	Starlink 30284	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	283	292	43.00	In Earth orbit
2148	2148	S57878	2023-144Q	Starlink 30433	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	283	292	43.00	In Earth orbit
2149	2149	S57879	2023-144R	Starlink 30358	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	283	292	43.00	In Earth orbit
2150	2150	S57880	2023-144S	Starlink 30436	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	283	292	43.00	In Earth orbit
2151	2151	S57881	2023-144T	Starlink 30406	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	283	292	43.00	In Earth orbit
2152	2152	S57882	2023-144U	Starlink 30339	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	283	292	43.00	In Earth orbit
2153	2153	S57883	2023-144V	Starlink 30282	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	283	292	43.00	In Earth orbit
2154	2154	S57884	2023-144W	Starlink 30340	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	283	291	43.00	In Earth orbit
2155	2155	S57885	2023-144X	Starlink 30279	2023 Sep 16 03:38:20	2023 Sep 16 04:43:43	SPXS	US	283	292	43.00	In Earth orbit
2156	2156	S57886	2023-145A	Yaogan 39 02 zu 01 xing	2023 Sep 17 04:13	2023 Sep 17 04:30:07	ZZB	CN	490	502	35.00	In Earth orbit
2157	2157	S57889	2023-145D	Yaogan 39 02 zu 02 xing	2023 Sep 17 04:13	2023 Sep 17 04:30:07	ZZB	CN	487	501	35.00	In Earth orbit
2158	2158	S57890	2023-145E	Yaogan 39 02 zu 03 xing	2023 Sep 17 04:13	2023 Sep 17 04:30:07	ZZB	CN	488	501	35.00	In Earth orbit
2159	2159	S57891	2023-146A	Starlink 30465	2023 Sep 20 03:38:10	2023 Sep 20 04:43:34	SPXS	US	288	288	43.00	In Earth orbit
2160	2160	S57892	2023-146B	Starlink 30470	2023 Sep 20 03:38:10	2023 Sep 20 04:43:34	SPXS	US	280	288	43.00	In Earth orbit
2161	2161	S57893	2023-146C	Starlink 30473	2023 Sep 20 03:38:10	2023 Sep 20 04:43:34	SPXS	US	280	288	43.00	In Earth orbit
2162	2162	S57894	2023-146D	Starlink 30443	2023 Sep 20 03:38:10	2023 Sep 20 04:43:34	SPXS	US	280	288	43.00	In Earth orbit
2163	2163	S57895	2023-146E	Starlink 30469	2023 Sep 20 03:38:10	2023 Sep 20 04:43:34	SPXS	US	280	288	43.00	In Earth orbit
2164	2164	S57896	2023-146F	Starlink 30467	2023 Sep 20 03:38:10	2023 Sep 20 04:43:34	SPXS	US	280	288	43.00	In Earth orbit
2165	2165	S57897	2023-146G	Starlink 30474	2023 Sep 20 03:38:10	2023 Sep 20 04:43:34	SPXS	US	280	288	43.00	In Earth orbit
2166	2166	S57898	2023-146H	Starlink 30479	2023 Sep 20 03:38:10	2023 Sep 20 04:43:34	SPXS	US	280	288	43.00	In Earth orbit

2167	2167	S57899	2023-146J	Starlink 30481	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	280	288	43.00	In Earth orbit
2168	2168	S57900	2023-146K	Starlink 30457	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	279	288	43.00	In Earth orbit
2169	2169	S57901	2023-146L	Starlink 30472	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	279	288	43.00	In Earth orbit
2170	2170	S57902	2023-146M	Starlink 30462	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	279	288	43.00	In Earth orbit
2171	2171	S57903	2023-146N	Starlink 30449	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	277	283	43.00	In Earth orbit
2172	2172	S57904	2023-146P	Starlink 30466	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	279	288	43.00	In Earth orbit
2173	2173	S57905	2023-146Q	Starlink 30451	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	279	288	43.00	In Earth orbit
2174	2174	S57906	2023-146R	Starlink 30428	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	279	288	43.00	In Earth orbit
2175	2175	S57907	2023-146S	Starlink 30482	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	279	288	43.00	In Earth orbit
2176	2176	S57908	2023-146T	Starlink 30464	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	279	288	43.00	In Earth orbit
2177	2177	S57909	2023-146U	Starlink 30463	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	279	288	43.00	In Earth orbit
2178	2178	S57910	2023-146V	Starlink 30453	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	279	288	43.00	In Earth orbit
2179	2179	S57911	2023-146W	Starlink 30478	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	279	288	43.00	In Earth orbit
2180	2180	S57912	2023-146X	Starlink 30477	2023 Sep 20 0338:10	2023 Sep 20 0443:34	SPXS	US	279	288	43.00	In Earth orbit
2181	2181	S57913	2023-147A	Starlink 30450	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	284	293	43.00	In Earth orbit
2182	2182	S57914	2023-147B	Starlink 30483	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	284	293	43.00	In Earth orbit
2183	2183	S57915	2023-147C	Starlink 30454	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	284	293	43.00	In Earth orbit
2184	2184	S57916	2023-147D	Starlink 30491	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	284	293	43.00	In Earth orbit
2185	2185	S57917	2023-147E	Starlink 30501	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	284	293	43.00	In Earth orbit
2186	2186	S57918	2023-147F	Starlink 30496	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	284	293	43.00	In Earth orbit
2187	2187	S57919	2023-147G	Starlink 30499	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	284	293	43.00	In Earth orbit
2188	2188	S57920	2023-147H	Starlink 30485	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	284	293	43.00	In Earth orbit
2189	2189	S57921	2023-147I	Starlink 30492	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	284	293	43.00	In Earth orbit
2190	2190	S57922	2023-147K	Starlink 30490	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	284	293	43.00	In Earth orbit
2191	2191	S57923	2023-147L	Starlink 30440	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	283	293	43.00	Reentered
2192	2192	S57924	2023-147M	Starlink 30487	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	283	293	43.00	In Earth orbit
2193	2193	S57925	2023-147N	Starlink 30452	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	283	293	43.00	In Earth orbit
2194	2194	S57926	2023-147P	Starlink 30468	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	283	293	43.00	In Earth orbit
2195	2195	S57927	2023-147Q	Starlink 30459	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	283	293	43.00	In Earth orbit
2196	2196	S57928	2023-147R	Starlink 30448	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	283	293	43.00	In Earth orbit
2197	2197	S57929	2023-147S	Starlink 30475	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	283	293	43.00	In Earth orbit
2198	2198	S57930	2023-147T	Starlink 30476	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	283	293	43.00	In Earth orbit
2199	2199	S57931	2023-147U	Starlink 30488	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	283	293	43.00	In Earth orbit
2200	2200	S57932	2023-147V	Starlink 30471	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	283	293	43.00	In Earth orbit
2201	2201	S57933	2023-147W	Starlink 30461	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	283	293	43.00	In Earth orbit
2202	2202	S57934	2023-147X	Starlink 30458	2023 Sep 24 0338:30	2023 Sep 24 0443:45	SPXS	US	283	293	43.00	In Earth orbit
2203	2203	S57935	2023-148A	Starlink 30712	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	284	293	53.06	In Earth orbit
2204	2204	S57936	2023-148B	Starlink 30716	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	284	293	53.06	In Earth orbit
2205	2205	S57937	2023-148C	Starlink 30400	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	284	293	53.06	In Earth orbit
2206	2206	S57938	2023-148D	Starlink 30710	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	284	293	53.06	In Earth orbit
2207	2207	S57939	2023-148E	Starlink 30714	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	284	293	53.06	In Earth orbit
2208	2208	S57940	2023-148F	Starlink 30711	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	284	293	53.06	In Earth orbit
2209	2209	S57941	2023-148G	Starlink 30715	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	284	293	53.06	In Earth orbit
2210	2210	S57942	2023-148H	Starlink 30455	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	284	293	53.06	In Earth orbit
2211	2211	S57943	2023-148J	Starlink 30456	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	284	293	53.06	In Earth orbit
2212	2212	S57944	2023-148K	Starlink 30708	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	284	293	53.06	In Earth orbit
2213	2213	S57945	2023-148L	Starlink 30705	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	284	293	53.06	In Earth orbit
2214	2214	S57946	2023-148M	Starlink 30704	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	284	293	53.06	In Earth orbit
2215	2215	S57947	2023-148N	Starlink 30706	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	284	293	53.06	In Earth orbit
2216	2216	S57948	2023-148P	Starlink 30709	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	283	293	53.06	In Earth orbit
2217	2217	S57949	2023-148Q	Starlink 30707	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	283	293	53.06	In Earth orbit
2218	2218	S57950	2023-148R	Starlink 30701	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	283	293	53.06	In Earth orbit
2219	2219	S57951	2023-148S	Starlink 30399	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	283	293	53.06	In Earth orbit
2220	2220	S57952	2023-148T	Starlink 30713	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	283	293	53.06	In Earth orbit
2221	2221	S57953	2023-148U	Starlink 30700	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	283	293	53.06	In Earth orbit
2222	2222	S57954	2023-148V	Starlink 30703	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	283	293	53.06	In Earth orbit
2223	2223	S57955	2023-148W	Starlink 30702	2023 Sep 25 0848:20	2023 Sep 25 0951:02	SPXS	US	283	293	53.06	In Earth orbit
2224	2224	S57958	2023-149A	Yaogan 33-04	2023 Sep 26 20:15	2023 Sep 26 20:30:07	ZLZB	CN	685	688	98.07	In Earth orbit
2225	2225	S57962	2023-150A	Noor 3	2023 Sep 27 06:00:7	2023 Sep 27 06:00:7	IRGC	IR	442	455	60.02	In Earth orbit
2226	2226	S57964	2023-151A	Starlink 30396	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	284	293	43.00	In Earth orbit
2227	2227	S57965	2023-151B	Starlink 30524	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	284	293	43.00	In Earth orbit
2228	2228	S57966	2023-151C	Starlink 30521	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	284	293	43.00	In Earth orbit
2229	2229	S57967	2023-151D	Starlink 30528	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	284	292	43.00	In Earth orbit
2230	2230	S57968	2023-151E	Starlink 30495	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	284	292	43.00	In Earth orbit
2231	2231	S57969	2023-151F	Starlink 30484	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	284	292	43.00	In Earth orbit
2232	2232	S57970	2023-151G	Starlink 30494	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	284	292	43.00	In Earth orbit

2233	2233	S57971	2023-151H	Starlink 30498	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2234	2234	S57972	2023-151J	Starlink 30505	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2235	2235	S57973	2023-151K	Starlink 30502	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2236	2236	S57974	2023-151L	Starlink 30489	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2237	2237	S57975	2023-151M	Starlink 30512	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2238	2238	S57976	2023-151N	Starlink 30512	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2239	2239	S57977	2023-151P	Starlink 30509	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2240	2240	S57978	2023-151Q	Starlink 30511	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2241	2241	S57979	2023-151R	Starlink 30508	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2242	2242	S57980	2023-151S	Starlink 30510	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2243	2243	S57981	2023-151T	Starlink 30510	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2244	2244	S57982	2023-151U	Starlink 30507	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2245	2245	S57983	2023-151V	Starlink 30515	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2246	2246	S57984	2023-151W	Starlink 30516	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2247	2247	S57985	2023-151X	Starlink 30519	2023 Sep 30 02:00:00	2023 Sep 30 03:05:20	SPXS	US	283	292	43.00	In Earth orbit
2248	2248	S57986	2023-152A	Yaogan 39 03 zu 01 xing	2023 Oct 5 00:24	2023 Oct 5 00:38?	ZZB	CN	491	501	35.00	In Earth orbit
2249	2249	S57988	2023-152C	Yaogan 39 03 zu 02 xing	2023 Oct 5 00:24	2023 Oct 5 00:38?	ZZB	CN	489	501	34.99	In Earth orbit
2250	2250	S57990	2023-152E	Yaogan 39 03 zu 03 xing	2023 Oct 5 00:24	2023 Oct 5 00:38?	ZZB	CN	488	500	34.99	In Earth orbit
2251	2251	S57991	2023-153A	Starlink 30537	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	283	291	43.00	In Earth orbit
2252	2252	S57992	2023-153B	Starlink 30534	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	283	291	43.00	In Earth orbit
2253	2253	S57993	2023-153C	Starlink 30536	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	283	291	43.00	In Earth orbit
2254	2254	S57994	2023-153D	Starlink 30538	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	283	291	43.00	In Earth orbit
2255	2255	S57995	2023-153E	Starlink 30517	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	283	291	43.00	In Earth orbit
2256	2256	S57996	2023-153F	Starlink 30543	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	283	291	43.00	In Earth orbit
2257	2257	S57997	2023-153G	Starlink 30523	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	283	291	43.00	In Earth orbit
2258	2258	S57998	2023-153H	Starlink 30531	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	283	291	43.00	In Earth orbit
2259	2259	S57999	2023-153J	Starlink 30552	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2260	2260	S58000	2023-153K	Starlink 30545	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2261	2261	S58001	2023-153L	Starlink 30535	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2262	2262	S58002	2023-153M	Starlink 30540	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2263	2263	S58003	2023-153N	Starlink 30546	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2264	2264	S58004	2023-153P	Starlink 30539	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2265	2265	S58005	2023-153Q	Starlink 30530	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2266	2266	S58006	2023-153R	Starlink 30526	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2267	2267	S58007	2023-153S	Starlink 30527	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2268	2268	S58008	2023-153T	Starlink 30522	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2269	2269	S58009	2023-153U	Starlink 30486	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2270	2270	S58010	2023-153V	Starlink 30520	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2271	2271	S58011	2023-153W	Starlink 30497	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2272	2272	S58012	2023-153X	Starlink 30525	2023 Oct 5 05:36:30	2023 Oct 5 06:41:53	SPXS	US	282	291	43.00	In Earth orbit
2273	2273	S58013	2023-154A	Kuiper-Sat-2	2023 Oct 6 18:06:00	2023 Oct 6 18:18	KUIP	US	484	504	29.99	In Earth orbit
2274	2274	S58014	2023-154B	Kuiper-Sat-1	2023 Oct 6 18:06:00	2023 Oct 6 18:18	KUIP	US	484	504	29.99	In Earth orbit
2275	2275	S58016	2023-155A	THEOS-2	2023 Oct 9 01:36:25	2023 Oct 9 02:30:47	GUSTDA	T	603	605	97.93	In Earth orbit
2276	2276	S58017	2023-155B	FORMOSAT-7R	2023 Oct 9 01:36:25	2023 Oct 9 02:30:47	TASA	TW	602	605	97.93	In Earth orbit
2277	2277	S58018	2023-155C	ANSER FOLLOWER 2	2023 Oct 9 01:36:25	2023 Oct 9 03:21?	INTA	E	567	571	97.67	In Earth orbit
2278	2278	S58019	2023-155D	ANSER FOLLOWER 1	2023 Oct 9 01:36:25	2023 Oct 9 03:20:23	INTA	E	567	571	97.67	In Earth orbit
2279	2279	S58020	2023-155E	N38S	2023 Oct 9 01:36:25	2023 Oct 9 03:22?	CNES	F	565	568	97.67	In Earth orbit
2280	2280	S58021	2023-155F	CSC-2	2023 Oct 9 01:36:25	2023 Oct 9 03:21?	ISISBV	NL	567	574	97.67	In Earth orbit
2281	2281	S58022	2023-155G	CSC-1	2023 Oct 9 01:36:25	2023 Oct 9 03:20:23	ISISBV	NL	567	574	97.67	In Earth orbit
2282	2282	S58023	2023-155H	PRETTY	2023 Oct 9 01:36:25	2023 Oct 9 03:22?	TUG	AT	567	568	97.67	In Earth orbit
2283	2283	S58024	2023-155J	MACSAT	2023 Oct 9 01:36:25	2023 Oct 9 03:22?	OQT	L	567	568	97.67	In Earth orbit
2284	2284	S58025	2023-155K	PVCC	2023 Oct 9 01:36:25	2023 Oct 9 03:20:23	ESA	I-E-SA	565	568	97.67	In Earth orbit
2285	2285	S58028	2023-156A	Starlink 30514	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	285	295	53.06	In Earth orbit
2286	2286	S58029	2023-156B	Starlink 30518	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	284	295	53.06	In Earth orbit
2287	2287	S58030	2023-156C	Starlink 30549	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	284	295	53.06	In Earth orbit
2288	2288	S58031	2023-156D	Starlink 30556	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	284	295	53.06	In Earth orbit
2289	2289	S58032	2023-156E	Starlink 30561	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	284	295	53.06	In Earth orbit
2290	2290	S58033	2023-156F	Starlink 30562	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	284	295	53.06	In Earth orbit
2291	2291	S58034	2023-156G	Starlink 30565	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	284	295	53.06	In Earth orbit
2292	2292	S58035	2023-156H	Starlink 30438	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	284	295	53.06	In Earth orbit
2293	2293	S58036	2023-156I	Starlink 30437	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	284	295	53.06	In Earth orbit
2294	2294	S58037	2023-156K	Starlink 30533	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	284	295	53.06	In Earth orbit
2295	2295	S58038	2023-156L	Starlink 30560	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	284	295	53.06	In Earth orbit
2296	2296	S58039	2023-156M	Starlink 30559	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	284	295	53.06	In Earth orbit
2297	2297	S58040	2023-156N	Starlink 30555	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	284	295	53.06	In Earth orbit
2298	2298	S58041	2023-156P	Starlink 30542	2023 Oct 9 07:43	2023 Oct 9 08:45	SPXS	US	284	295	53.06	In Earth orbit

2299	SS8042	2023-156Q	Starlink 30563	2023 Oct 9 0743	2023 Oct 9 0845	SPXS	US	284	295	53.06	In Earth orbit
2300	SS8043	2023-156R	Starlink 30564	2023 Oct 9 0743	2023 Oct 9 0845	SPXS	US	284	295	53.06	In Earth orbit
2301	SS8044	2023-156S	Starlink 30547	2023 Oct 9 0743	2023 Oct 9 0845	SPXS	US	284	295	53.06	In Earth orbit
2302	SS8045	2023-156T	Starlink 30550	2023 Oct 9 0743	2023 Oct 9 0845	SPXS	US	284	295	53.06	In Earth orbit
2303	SS8046	2023-156U	Starlink 30549	2023 Oct 9 0743	2023 Oct 9 0845	SPXS	US	284	295	53.06	In Earth orbit
2304	SS8047	2023-156V	Starlink 30528	2023 Oct 9 0743	2023 Oct 9 0845	SPXS	US	284	295	53.06	In Earth orbit
2305	SS8048	2023-156W	Starlink 30554	2023 Oct 9 0743	2023 Oct 9 0845	SPXS	US	284	295	53.06	In Earth orbit
2306	SS8049	2023-157A	Psyche	2023 Oct 13 1419:43	2023 Oct 13 1522:07	JPL	Sun	794	-36991	30.10	
2307	SS8051	2023-158A	Starlink 30568	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2308	SS8052	2023-158B	Starlink 30575	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2309	SS8053	2023-158C	Starlink 30577	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2310	SS8054	2023-158D	Starlink 30566	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2311	SS8055	2023-158E	Starlink 30544	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2312	SS8056	2023-158F	Starlink 30553	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2313	SS8057	2023-158G	Starlink 30541	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2314	SS8058	2023-158H	Starlink 30573	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2315	SS8059	2023-158I	Starlink 30582	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2316	SS8060	2023-158K	Starlink 30558	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2317	SS8061	2023-158L	Starlink 30579	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2318	SS8062	2023-158M	Starlink 30588	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2319	SS8063	2023-158N	Starlink 30585	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2320	SS8064	2023-158P	Starlink 30587	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2321	SS8065	2023-158Q	Starlink 30576	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2322	SS8066	2023-158R	Starlink 30571	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2323	SS8067	2023-158S	Starlink 30567	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2324	SS8068	2023-158T	Starlink 30569	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2325	SS8069	2023-158U	Starlink 30480	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2326	SS8070	2023-158V	Starlink 30532	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2327	SS8071	2023-158W	Starlink 30513	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2328	SS8072	2023-158X	Starlink 30506	2023 Oct 13 2301:10	2023 Oct 14 0006:25	SPXS	US	282	292	43.00	In Earth orbit
2329	SS8073	2023-159A	Yunhai 1-04	2023 Oct 15 01:07	2023 Oct 15 01:07	SAST	CN	756	773	98.60	In Earth orbit
2330	SS8075	2023-160A	Starlink 30604	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	283	292	43.00	In Earth orbit
2331	SS8076	2023-160B	Starlink 30500	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	283	292	43.00	In Earth orbit
2332	SS8077	2023-160C	Starlink 30613	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	283	292	43.00	In Earth orbit
2333	SS8078	2023-160D	Starlink 30597	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	283	292	43.00	In Earth orbit
2334	SS8079	2023-160E	Starlink 30598	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	283	292	43.00	In Earth orbit
2335	SS8080	2023-160F	Starlink 30603	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	283	292	43.00	In Earth orbit
2336	SS8081	2023-160G	Starlink 30602	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	283	292	43.00	In Earth orbit
2337	SS8082	2023-160H	Starlink 30610	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	283	292	43.00	In Earth orbit
2338	SS8083	2023-160J	Starlink 30551	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	283	292	43.00	In Earth orbit
2339	SS8084	2023-160K	Starlink 30586	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	282	292	43.00	In Earth orbit
2340	SS8085	2023-160L	Starlink 30609	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	282	292	43.00	In Earth orbit
2341	SS8086	2023-160M	Starlink 30583	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	282	292	43.00	In Earth orbit
2342	SS8087	2023-160N	Starlink 30557	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	282	291	43.00	In Earth orbit
2343	SS8088	2023-160P	Starlink 30591	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	282	291	43.00	In Earth orbit
2344	SS8089	2023-160Q	Starlink 30584	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	282	291	43.00	In Earth orbit
2345	SS8090	2023-160R	Starlink 30590	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	282	292	43.00	In Earth orbit
2346	SS8091	2023-160S	Starlink 30608	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	282	292	43.00	In Earth orbit
2347	SS8092	2023-160T	Starlink 30615	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	282	291	43.00	In Earth orbit
2348	SS8093	2023-160U	Starlink 30578	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	282	291	43.00	In Earth orbit
2349	SS8094	2023-160V	Starlink 30574	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	282	291	43.00	In Earth orbit
2350	SS8095	2023-160W	Starlink 30570	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	282	291	43.00	In Earth orbit
2351	SS8096	2023-160X	Starlink 30581	2023 Oct 18 0039	2023 Oct 18 0144	SPXS	US	282	291	43.00	In Earth orbit
2352	SS8097	2023-161A	Starlink 30594	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	285	295	53.06	In Earth orbit
2353	SS8098	2023-161B	Starlink 30614	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	285	295	53.06	In Earth orbit
2354	SS8099	2023-161C	Starlink 30607	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	285	295	53.06	In Earth orbit
2355	SS8100	2023-161D	Starlink 30600	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	285	295	53.06	In Earth orbit
2356	SS8101	2023-161E	Starlink 30605	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	285	295	53.06	In Earth orbit
2357	SS8102	2023-161F	Starlink 30592	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	285	295	53.06	In Earth orbit
2358	SS8103	2023-161G	Starlink 30589	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	285	295	53.06	In Earth orbit
2359	SS8104	2023-161H	Starlink 30617	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	285	295	53.06	In Earth orbit
2360	SS8105	2023-161I	Starlink 30616	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	285	295	53.06	In Earth orbit
2361	SS8106	2023-161K	Starlink 30612	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	285	295	53.06	In Earth orbit
2362	SS8107	2023-161L	Starlink 30421	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	285	295	53.06	In Earth orbit
2363	SS8108	2023-161M	Starlink 30611	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	284	295	53.06	In Earth orbit
2364	SS8109	2023-161N	Starlink 30606	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	284	295	53.06	In Earth orbit

2365	2365	558110	2023-161P	Starlink 30596	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	284	295	53.06	In Earth orbit
2366	2366	558111	2023-161Q	Starlink 30595	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	284	295	53.06	In Earth orbit
2367	2367	558112	2023-161R	Starlink 30593	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	284	295	53.06	In Earth orbit
2368	2368	558113	2023-161S	Starlink 30594	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	284	295	53.06	In Earth orbit
2369	2369	558114	2023-161T	Starlink 30582	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	284	295	53.06	In Earth orbit
2370	2370	558115	2023-161U	Starlink 30580	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	284	295	53.06	In Earth orbit
2371	2371	558116	2023-161V	Starlink 30493	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	284	295	53.06	In Earth orbit
2372	2372	558117	2023-161W	Starlink 30601	2023 Oct 21 0823:00	2023 Oct 21 0925:38	SPXS	US	284	295	53.06	In Earth orbit
2373	2373	558118	2023-162A	Starlink 30795	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2374	2374	558119	2023-162B	Starlink 30765	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2375	2375	558120	2023-162C	Starlink 30768	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2376	2376	558121	2023-162D	Starlink 30799	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2377	2377	558122	2023-162E	Starlink 30759	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2378	2378	558123	2023-162F	Starlink 30781	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2379	2379	558124	2023-162G	Starlink 30756	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2380	2380	558125	2023-162H	Starlink 30766	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2381	2381	558126	2023-162J	Starlink 30767	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2382	2382	558127	2023-162K	Starlink 30790	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2383	2383	558128	2023-162L	Starlink 30787	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2384	2384	558129	2023-162M	Starlink 30785	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2385	2385	558130	2023-162N	Starlink 30786	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2386	2386	558131	2023-162P	Starlink 30783	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2387	2387	558132	2023-162Q	Starlink 30770	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2388	2388	558133	2023-162R	Starlink 30758	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	283	290	43.01	In Earth orbit
2389	2389	558134	2023-162S	Starlink 30761	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	282	290	43.01	In Earth orbit
2390	2390	558135	2023-162T	Starlink 30772	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	282	290	43.01	In Earth orbit
2391	2391	558136	2023-162U	Starlink 30776	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	282	290	43.01	In Earth orbit
2392	2392	558137	2023-162V	Starlink 30782	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	282	290	43.01	In Earth orbit
2393	2393	558138	2023-162W	Starlink 30769	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	282	290	43.01	In Earth orbit
2394	2394	558139	2023-162X	Starlink 30775	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	282	290	43.01	In Earth orbit
2395	2395	558140	2023-162Y	Starlink 30780	2023 Oct 22 0217:00	2023 Oct 22 0322:27	SPXS	US	282	290	43.01	In Earth orbit
2396	2396	558141	2023-163A	Yaogang 39 04 zu 01 xing	2023 Oct 23 2003	2023 Oct 23 2018?	ZZB	CN	491	502	34.99	In Earth orbit
2397	2397	558143	2023-163C	Yaogang 39 04 zu 02 xing	2023 Oct 23 2003	2023 Oct 23 2018?	ZZB	CN	489	501	34.99	In Earth orbit
2398	2398	558145	2023-163E	Yaogang 39 04 zu 03 xing	2023 Oct 23 2003	2023 Oct 23 2018?	ZZB	CN	488	501	35.00	In Earth orbit
2399	2399	558146	2023-164A	Shenzhou 17	2023 Oct 26 0314:02	2023 Oct 26 0324	CMSEO	CN	383	390	41.47	Attached to CZ-2F Y17 Stage 2
2400	2400	558148	2023-165A	Kosmos-2570	2023 Oct 27 0604:43	2023 Oct 27 0615?	VVKOV	RU	239	900	67.14	In Earth orbit
2401	2401	558172	2023-165C	Kosmos-2571	2023 Oct 27 0604:43	2023 Oct 29 0820?	VVKOV	RU	892	914	67.14	In Earth orbit
2402	2402	558428	2023-165D	Kosmos-2571 subalt	2023 Oct 27 0604:43	2023 Nov 23 1400?	VVKOV	RU	891	915	67.15	In Earth orbit
2403	2403	558150	2023-166A	Starlink 30802	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	286	294	53.06	In Earth orbit
2404	2404	558151	2023-166B	Starlink 30834	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	286	294	53.06	In Earth orbit
2405	2405	558152	2023-166C	Starlink 30833	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	286	294	53.06	In Earth orbit
2406	2406	558153	2023-166D	Starlink 30831	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	286	294	53.06	In Earth orbit
2407	2407	558154	2023-166E	Starlink 30797	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	286	294	53.06	In Earth orbit
2408	2408	558155	2023-166F	Starlink 30804	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2409	2409	558156	2023-166G	Starlink 30784	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2410	2410	558157	2023-166H	Starlink 30803	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2411	2411	558158	2023-166J	Starlink 30829	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2412	2412	558159	2023-166K	Starlink 30788	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2413	2413	558160	2023-166L	Starlink 30779	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2414	2414	558161	2023-166M	Starlink 30773	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2415	2415	558162	2023-166N	Starlink 30816	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2416	2416	558163	2023-166P	Starlink 30763	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2417	2417	558164	2023-166Q	Starlink 30814	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2418	2418	558165	2023-166R	Starlink 30815	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2419	2419	558166	2023-166S	Starlink 30789	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2420	2420	558167	2023-166T	Starlink 30811	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2421	2421	558168	2023-166U	Starlink 30812	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2422	2422	558169	2023-166V	Starlink 30771	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2423	2423	558170	2023-166W	Starlink 30764	2023 Oct 29 0900:00	2023 Oct 29 1002:39	SPXS	US	285	294	53.06	In Earth orbit
2424	2424	558171	2023-166X	Starlink 30752	2023 Oct 30 2320:30	2023 Oct 31 0025:58	SPXS	US	285	294	53.06	In Earth orbit
2425	2425	558175	2023-167A	Starlink 30753	2023 Oct 30 2320:30	2023 Oct 31 0025:58	SPXS	US	284	292	43.01	In Earth orbit
2426	2426	558176	2023-167B	Starlink 30824	2023 Oct 30 2320:30	2023 Oct 31 0025:58	SPXS	US	284	292	43.01	In Earth orbit
2427	2427	558177	2023-167C	Starlink 30791	2023 Oct 30 2320:30	2023 Oct 31 0025:58	SPXS	US	284	291	43.01	In Earth orbit
2428	2428	558178	2023-167D	Starlink 30810	2023 Oct 30 2320:30	2023 Oct 31 0025:58	SPXS	US	284	291	43.01	In Earth orbit
2429	2429	558179	2023-167E	Starlink 30819	2023 Oct 30 2320:30	2023 Oct 31 0025:58	SPXS	US	284	292	43.01	In Earth orbit
2430	2430	558180	2023-167F	Starlink 30806	2023 Oct 30 2320:30	2023 Oct 31 0025:58	SPXS	US	284	292	43.01	In Earth orbit

2431	558181	2023-167G	Starlink 30821	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2432	558182	2023-167H	Starlink 30778	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2433	558183	2023-167I	Starlink 30809	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2434	558184	2023-167J	Starlink 30801	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2435	558185	2023-167K	Starlink 30793	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2436	558186	2023-167L	Starlink 30755	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2437	558187	2023-167M	Starlink 30760	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2438	558188	2023-167N	Starlink 30766	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2439	558189	2023-167P	Starlink 30826	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2440	558190	2023-167Q	Starlink 30796	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2441	558191	2023-167R	Starlink 30820	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2442	558192	2023-167S	Starlink 30785	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2443	558193	2023-167T	Starlink 30807	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2444	558194	2023-167U	Starlink 30822	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2445	558195	2023-167V	Starlink 30830	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2446	558196	2023-167W	Starlink 30834	2023 Oct 30 2320:30	SPXS	US	284	291	43.01	In Earth orbit
2447	558197	2023-167X	Starlink 30798	2023 Oct 30 2320:30	SPXS	US	283	291	43.01	In Earth orbit
2448	558199	2023-167Y	Starlink 30762	2023 Oct 30 2320:30	SPXS	US	283	291	43.01	In Earth orbit
2449	558200	2023-168A	Tianhui-5 01	2023 Oct 31 0001:00	GCDX	CN	605	607	97.83	In Earth orbit
2450	558201	2023-168B	Tianhui-5 02	2023 Oct 31 0001:00	GCDX	CN	606	608	97.83	In Earth orbit
2451	558202	2023-169A	Tongxin Jishu Shiyuan 10	2023 Nov 3 1454	ZLZB	CN	35768	35806	0.14	In Earth orbit
2452	558206	2023-170A	Starlink 30800	2023 Nov 4 0037:20	SPXS	US	284	292	43.01	In Earth orbit
2453	558207	2023-170B	Starlink 30845	2023 Nov 4 0037:20	SPXS	US	284	292	43.01	In Earth orbit
2454	558208	2023-170C	Starlink 30841	2023 Nov 4 0037:20	SPXS	US	284	292	43.01	In Earth orbit
2455	558209	2023-170D	Starlink 30839	2023 Nov 4 0037:20	SPXS	US	284	292	43.01	In Earth orbit
2456	558210	2023-170E	Starlink 30846	2023 Nov 4 0037:20	SPXS	US	284	292	43.01	In Earth orbit
2457	558211	2023-170F	Starlink 30838	2023 Nov 4 0037:20	SPXS	US	284	292	43.01	In Earth orbit
2458	558212	2023-170G	Starlink 30837	2023 Nov 4 0037:20	SPXS	US	284	292	43.01	In Earth orbit
2459	558213	2023-170H	Starlink 30813	2023 Nov 4 0037:20	SPXS	US	284	292	43.01	In Earth orbit
2460	558214	2023-170I	Starlink 30805	2023 Nov 4 0037:20	SPXS	US	284	292	43.01	In Earth orbit
2461	558215	2023-170J	Starlink 30851	2023 Nov 4 0037:20	SPXS	US	284	292	43.01	In Earth orbit
2462	558216	2023-170K	Starlink 30816	2023 Nov 4 0037:20	SPXS	US	284	292	43.01	In Earth orbit
2463	558217	2023-170L	Starlink 30786	2023 Nov 4 0037:20	SPXS	US	284	292	43.01	In Earth orbit
2464	558218	2023-170M	Starlink 30818	2023 Nov 4 0037:20	SPXS	US	284	292	43.01	In Earth orbit
2465	558219	2023-170N	Starlink 30874	2023 Nov 4 0037:20	SPXS	US	283	292	43.01	In Earth orbit
2466	558220	2023-170P	Starlink 30835	2023 Nov 4 0037:20	SPXS	US	283	292	43.01	In Earth orbit
2467	558221	2023-170Q	Starlink 30792	2023 Nov 4 0037:20	SPXS	US	283	292	43.01	In Earth orbit
2468	558222	2023-170R	Starlink 30836	2023 Nov 4 0037:20	SPXS	US	283	292	43.01	In Earth orbit
2469	558223	2023-170S	Starlink 30855	2023 Nov 4 0037:20	SPXS	US	283	292	43.01	In Earth orbit
2470	558224	2023-170T	Starlink 30840	2023 Nov 4 0037:20	SPXS	US	283	292	43.01	In Earth orbit
2471	558225	2023-170U	Starlink 30875	2023 Nov 4 0037:20	SPXS	US	283	292	43.01	In Earth orbit
2472	558226	2023-170V	Starlink 30872	2023 Nov 4 0037:20	SPXS	US	283	292	43.01	In Earth orbit
2473	558227	2023-170W	Starlink 30865	2023 Nov 4 0037:20	SPXS	US	283	292	43.01	In Earth orbit
2474	558228	2023-170X	Starlink 30874	2023 Nov 4 0037:20	SPXS	US	283	292	43.01	In Earth orbit
2475	558229	2023-170Y	Starlink 30871	2023 Nov 4 0037:20	SPXS	US	283	292	43.01	In Earth orbit
2476	558230	2023-171A	Starlink 30861	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2477	558231	2023-171B	Starlink 30867	2023 Nov 8 0505:30	SPXS	US	284	293	43.01	In Earth orbit
2478	558232	2023-171C	Starlink 30880	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2479	558233	2023-171D	Starlink 30777	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2480	558234	2023-171E	Starlink 30869	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2481	558235	2023-171F	Starlink 30879	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2482	558236	2023-171G	Starlink 30853	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2483	558237	2023-171H	Starlink 30866	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2484	558238	2023-171I	Starlink 30861	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2485	558239	2023-171J	Starlink 30847	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2486	558240	2023-171K	Starlink 30848	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2487	558241	2023-171L	Starlink 30844	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2488	558242	2023-171M	Starlink 30843	2023 Nov 8 0505:30	SPXS	US	283	293	43.01	In Earth orbit
2489	558243	2023-171N	Starlink 30877	2023 Nov 8 0505:30	SPXS	US	283	293	43.01	In Earth orbit
2490	558244	2023-171P	Starlink 30864	2023 Nov 8 0505:30	SPXS	US	279	288	43.01	In Earth orbit
2491	558245	2023-171Q	Starlink 30854	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2492	558246	2023-171R	Starlink 30849	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2493	558247	2023-171S	Starlink 30886	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2494	558248	2023-171T	Starlink 30850	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2495	558249	2023-171U	Starlink 30823	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2496	558250	2023-171V	Starlink 30873	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2497	558251	2023-171X	Starlink 30808	2023 Nov 8 0505:30	SPXS	US	283	293	43.01	In Earth orbit
2498	558252	2023-171Y	Starlink 30881	2023 Nov 8 0505:30	SPXS	US	284	292	43.01	In Earth orbit
2499	558253	2023-171Z	Starlink 30883	2023 Nov 8 0505:30	SPXS	US	283	292	43.01	In Earth orbit

2497	2497	58253	2023-172A	Zhongxing 6E	2023 Nov 9 11:23	2023 Nov 9 11:48?	CHISAE	CN	35781	35791	0.03	In Earth orbit
2498	2498	58255	2023-173A	Dragon CRS-29	2023 Nov 10 01:28:14	2023 Nov 10 01:40:00	SPX	US	193	209	51.65	Landed
2499	2499	58261	1998-067WD	BEAK	2023 Nov 10 01:28:14	2023 Dec 18 08:35	TOK/ISAS	J	409	414	51.64	In Earth orbit
2500	2500	583613	1998-067WE	Clark-Sat-1	2023 Nov 10 01:28:14	2023 Dec 18 10:15	CMHS	J	409	414	51.64	In Earth orbit
2501	-	T00010	1998-067	STARS-Me2	-	-	SHZ	J	0	0	0.00	Attached to J-SSOD No. 27
2502	-	T00011	1998-067	Kashiva	-	-	CHBA	J	0	0	0.00	Attached to J-SSOD No. 27
2503	-	T00012	1998-067	Yomogi	-	-	CHBA	J	0	0	0.00	Attached to J-SSOD No. 27
2504	-	T00013	1998-067	Dream Sat01	2023 Nov 10 01:28:14	-	OIT	J	0	0	0.00	Attached to J-SSOD No. 27
2505	-	T00014	1998-067	K'oto	2023 Nov 10 01:28:14	-	UNAM	MX	0	0	0.00	Attached to J-SSOD No. 27
2506	2506	58256	2023-174A	CONNECTA T3.1	2023 Nov 11 18:49:00	2023 Nov 11 19:48:09	PLNSSST	TR	517	531	97.48	In Earth orbit
2507	2507	58257	2023-174B	MANTIS	2023 Nov 11 18:49:00	2023 Nov 11 19:43:58	OCOS/ESA	UK	516	533	97.48	In Earth orbit
2508	2508	58258	2023-174C	OrbAstro PC1	2023 Nov 11 18:49:00	2023 Nov 11 19:44:20	ORBAS	UK	517	531	97.48	In Earth orbit
2509	2509	58259	2023-174D	Juba	2023 Nov 11 18:49:00	2023 Nov 11 19:43:01	SPREG/GHG	US	517	526	97.48	In Earth orbit
2510	2505	58260	2023-174E	Lemur-2 Dilightful	2023 Nov 11 18:49:00	2023 Nov 11 19:45:40	SPIRE	US	510	525	97.49	In Earth orbit
2511	2506	58261	2023-174F	Veronika	2023 Nov 11 18:49:00	2023 Nov 11 19:43:33	SPMCS	CZ	515	533	97.49	In Earth orbit
2512	2507	58262	2023-174G	PLATERO	2023 Nov 11 18:49:00	2023 Nov 11 19:43:44	OCOSB/ANDU	E	517	533	97.48	In Earth orbit
2513	2508	58263	2023-174H	Lemur-2 Good-Vibes	2023 Nov 11 18:49:00	2023 Nov 11 19:46:13	SPIRE	US	517	529	97.48	In Earth orbit
2514	2509	58264	2023-174I	BRO-11	2023 Nov 11 18:49:00	2023 Nov 11 19:47:40	UNSEEN	F	517	533	97.48	In Earth orbit
2515	2510	58265	2023-174K	PEARL-IH	2023 Nov 11 18:49:00	2023 Nov 11 19:48:21	FOXC	TW	518	532	97.47	In Earth orbit
2516	2511	58266	2023-174L	Djibouti-1A	2023 Nov 11 18:49:00	2023 Nov 11 19:45:22	CERD/MONTP	DJ	515	533	97.49	In Earth orbit
2517	2512	58267	2023-174M	Lemur-2 Santa-Vetra	2023 Nov 11 18:49:00	2023 Nov 11 19:46:25	SPIRE	US	511	527	97.48	In Earth orbit
2518	2513	58268	2023-174N	CONNECTA T3.2	2023 Nov 11 18:49:00	2023 Nov 11 19:47:59	PLNSSST	TR	517	532	97.48	In Earth orbit
2519	2514	58269	2023-174P	IRIS-C2	2023 Nov 11 18:49:00	2023 Nov 11 19:44:28	NCKU	TW	515	532	97.49	In Earth orbit
2520	2515	58270	2023-174Q	Flock 4q-1	2023 Nov 11 18:49:00	2023 Nov 11 19:52:21	PLAN	US	516	531	97.48	In Earth orbit
2521	2516	58271	2023-174R	Flock 4q-16	2023 Nov 11 18:49:00	2023 Nov 11 19:48:38	PLAN	US	516	531	97.48	In Earth orbit
2522	2517	58272	2023-174S	TIGER-6	2023 Nov 11 18:49:00	2023 Nov 11 20:04:05	OQT	L	513	528	97.47	In Earth orbit
2523	2518	58273	2023-174T	Flock 4q-11	2023 Nov 11 18:49:00	2023 Nov 11 19:52:31	PLAN	US	516	531	97.48	In Earth orbit
2524	2519	58274	2023-174U	Flock 4q-36	2023 Nov 11 18:49:00	2023 Nov 11 20:05:10	PLAN	US	516	530	97.48	In Earth orbit
2525	2520	58275	2023-174V	Flock 4q-12	2023 Nov 11 18:49:00	2023 Nov 11 19:52:58	PLAN	US	517	530	97.48	In Earth orbit
2526	2521	58276	2023-174W	GENMAT-1	2023 Nov 11 18:49:00	2023 Nov 11 19:49:42	GENMAT	US	510	526	97.49	In Earth orbit
2527	2522	58277	2023-174X	TIGER-5	2023 Nov 11 18:49:00	2023 Nov 11 20:04:16	OQT	L	512	529	97.49	In Earth orbit
2528	2523	58278	2023-174Y	Flock 4q-19	2023 Nov 11 18:49:00	2023 Nov 11 19:57:01	PLAN	US	517	530	97.48	In Earth orbit
2529	2524	58279	2023-174Z	Flock 4q-8	2023 Nov 11 18:49:00	2023 Nov 11 19:52:08	PLAN	US	516	531	97.49	In Earth orbit
2530	2525	58280	2023-174AA	Flock 4q-28	2023 Nov 11 18:49:00	2023 Nov 11 20:01:21	PLAN	US	516	530	97.48	In Earth orbit
2531	2526	58281	2023-174AB	Aether 1	2023 Nov 11 18:49:00	2023 Nov 11 20:04:35	KEPLER	CA	516	529	97.48	In Earth orbit
2532	2527	58282	2023-174AC	Flock 4q-27	2023 Nov 11 18:49:00	2023 Nov 11 20:02:29	PLAN	US	516	529	97.48	In Earth orbit
2533	2528	58283	2023-174AD	Flock 4q-17	2023 Nov 11 18:49:00	2023 Nov 11 19:57:11	PLAN	US	516	529	97.48	In Earth orbit
2534	2529	58284	2023-174AE	Flock 4q-26	2023 Nov 11 18:49:00	2023 Nov 11 20:01:08	PLAN	US	515	530	97.48	In Earth orbit
2535	2530	58285	2023-174AF	Flock 4q-31	2023 Nov 11 18:49:00	2023 Nov 11 19:55:18	PLAN	US	515	530	97.49	In Earth orbit
2536	2531	58286	2023-174AG	Flock 4q-30	2023 Nov 11 18:49:00	2023 Nov 11 19:51:17	PLAN	US	515	531	97.49	In Earth orbit
2537	2532	58287	2023-174AH	OMNI-LERI	2023 Nov 11 18:49:00	2023 Nov 11 19:49:19	ITTANK	US	511	526	97.48	In Earth orbit
2538	2533	58288	2023-174AJ	ICEYE-X31	2023 Nov 11 18:49:00	2023 Nov 11 20:05:31	ICEYE	FI	515	529	97.48	In Earth orbit
2539	2534	58289	2023-174AK	OrbAstro TIR1	2023 Nov 11 18:49:00	2023 Nov 11 19:44:03	ORBAS	UK	517	532	97.48	In Earth orbit
2540	2535	58290	2023-174AL	PICO-1A-2	2023 Nov 11 18:49:00	2023 Nov 29	APOGEO	I	510	525	97.49	In Earth orbit
2541	2536	58291	2023-174AM	Falconsat-10	2023 Nov 11 18:49:00	2023 Nov 11 20:14:30	USAF	US	516	530	97.48	In Earth orbit
2542	2537	58292	2023-174AN	Umbra-08	2023 Nov 11 18:49:00	2023 Nov 11 20:05:29	UMBRA	US	514	526	97.48	In Earth orbit
2543	2538	58293	2023-174AP	ICEYE-X32	2023 Nov 11 18:49:00	2023 Nov 11 20:12:58	ICEYE	FI	514	529	97.48	In Earth orbit
2544	2539	58294	2023-174AQ	ICEYE-X34	2023 Nov 11 18:49:00	2023 Nov 11 20:07:15	ICEYE	FI	514	529	97.48	In Earth orbit
2545	2540	58295	2023-174AR	SpaceVan 1	2023 Nov 11 18:49:00	2023 Nov 11 20:14:15	EXOTR	F	515	530	97.48	In Earth orbit
2546	2541	58296	2023-174AS	Pelican 1	2023 Nov 11 18:49:00	2023 Nov 11 20:13:04	PLAN	US	515	530	97.48	In Earth orbit
2547	2542	58297	2023-174AT	Umbra-07	2023 Nov 11 18:49:00	2023 Nov 11 20:06:16	UMBRA	US	517	530	97.47	In Earth orbit
2548	2543	58298	2023-174AU	SPIP	2023 Nov 11 18:49:00	2023 Nov 11 20:06:54	ASPLB	B	514	530	97.48	In Earth orbit
2549	2544	58299	2023-174AV	Aether 2	2023 Nov 11 18:49:00	2023 Nov 11 20:04:10	KEPLER	CA	513	529	97.48	In Earth orbit
2550	2545	58300	2023-174AV	ION SCV013 ULTIMATE HUGO	2023 Nov 11 18:49:00	2023 Nov 11 20:13:28	DORBIT	I	514	529	97.48	In Earth orbit
2551	2546	58301	2023-174AX	Impulse 1	2023 Nov 11 18:49:00	2023 Nov 11 20:04:42	IMPUL	US	513	530	97.48	In Earth orbit
2552	2547	58302	2023-174AY	ICEYE-X35	2023 Nov 11 18:49:00	2023 Nov 11 20:06:21	ICEYE	FI	513	529	97.48	In Earth orbit
2553	2548	58303	2023-174AZ	Flock 4q-25	2023 Nov 11 18:49:00	2023 Nov 11 19:51:05	PLAN	US	514	529	97.48	In Earth orbit
2554	2549	58304	2023-174BA	Flock 4q-29	2023 Nov 11 18:49:00	2023 Nov 11 19:50:46	PLAN	US	513	530	97.49	In Earth orbit
2555	2550	58305	2023-174BB	Flock 4q-18	2023 Nov 11 18:49:00	2023 Nov 11 19:53:47	PLAN	US	514	528	97.48	In Earth orbit
2556	2551	58306	2023-174BC	Flock 4q-22	2023 Nov 11 18:49:00	2023 Nov 11 19:57:48	PLAN	US	513	529	97.48	In Earth orbit
2557	2552	58307	2023-174BD	Flock 4q-23	2023 Nov 11 18:49:00	2023 Nov 11 19:59:11	PLAN	US	512	530	97.48	In Earth orbit
2558	2553	58308	2023-174BE	Flock 4q-33	2023 Nov 11 18:49:00	2023 Nov 11 20:03:11	PLAN	US	512	528	97.48	In Earth orbit
2559	2554	58309	2023-174BF	Flock 4q-35	2023 Nov 11 18:49:00	2023 Nov 11 20:04:31	PLAN	US	512	529	97.48	In Earth orbit
2560	2555	58310	2023-174BG	Flock 4q-32	2023 Nov 11 18:49:00	2023 Nov 11 19:54:40	PLAN	US	512	529	97.49	In Earth orbit
2561	2556	58311	2023-174BH	Flock 4q-14	2023 Nov 11 18:49:00	2023 Nov 11 19:49:58	PLAN	US	513	528	97.48	In Earth orbit
2562	2557	58312	2023-174BJ	Flock 4q-3	2023 Nov 11 18:49:00	2023 Nov 11 19:51:14	PLAN	US	512	528	97.48	In Earth orbit

2563	2558	S58313	2023-174BK	Flock 4q-20	2023 Nov 11 1849:00	2023 Nov 11 1959:01	PLAN	US	512	529	97.48	In Earth orbit
2564	2559	S58314	2023-174BL	Flock 4q-24	2023 Nov 11 1849:00	2023 Nov 11 1958:00	PLAN	US	513	529	97.48	In Earth orbit
2565	2560	S58315	2023-174BM	Flock 4q-6	2023 Nov 11 1849:00	2023 Nov 11 1954:09	PLAN	US	513	529	97.48	In Earth orbit
2566	2561	S58316	2023-174BN	Flock 4q-34	2023 Nov 11 1849:00	2023 Nov 11 2003:22	PLAN	US	512	529	97.48	In Earth orbit
2567	2562	S58317	2023-174BP	KAFASAT	2023 Nov 11 1849:00	2023 Nov 11 2009:20	KAFASAT	KR	511	528	97.48	In Earth orbit
2568	2563	S58318	2023-174BQ	Flock 4q-7	2023 Nov 11 1849:00	2023 Nov 11 1955:08	PLAN	US	512	529	97.48	In Earth orbit
2569	2564	S58319	2023-174BR	Flock 4q-15	2023 Nov 11 1849:00	2023 Nov 11 1950:54	PLAN	US	512	529	97.48	In Earth orbit
2570	2565	S58320	2023-174BS	Flock 4q-2	2023 Nov 11 1849:00	2023 Nov 11 1954:23	PLAN	US	512	529	97.48	In Earth orbit
2571	2566	S58321	2023-174BT	ProtoMedhee	2023 Nov 11 1849:00	2023 Nov 11 1949:25	PROM	F	515	530	97.48	In Earth orbit
2572	2567	S58322	2023-174BU	Flock 4q-9	2023 Nov 11 1849:00	2023 Nov 11 1954:34	PLAN	US	512	529	97.48	In Earth orbit
2573	2568	S58323	2023-174BV	Observer-1A	2023 Nov 11 1849:00	2023 Nov 11 1954:59	NARAST	KR	516	533	97.48	In Earth orbit
2574	2569	S58324	2023-174BW	Flock 4q-10	2023 Nov 11 1849:00	2023 Nov 11 1950:40	PLAN	US	512	529	97.48	In Earth orbit
2575	2570	S58325	2023-174BX	Flock 4q-5	2023 Nov 11 1849:00	2023 Nov 11 1954:55	PLAN	US	512	529	97.48	In Earth orbit
2576	2571	S58326	2023-174BY	PICO-1A-4	2023 Nov 11 1849:00	2023 Nov 29	APOGEO	I	516	530	97.48	In Earth orbit
2577	2572	S58327	2023-174BZ	Flock 4q-4	2023 Nov 11 1849:00	2023 Nov 11 1953:08	PLAN	US	517	531	97.48	In Earth orbit
2578	2573	S58328	2023-174CA	Flock 4q-13	2023 Nov 11 1849:00	2023 Nov 11 1948:03	PLAN	US	515	531	97.48	In Earth orbit
2579	2574	S58329	2023-174CB	Flock 4q-21	2023 Nov 11 1849:00	2023 Nov 11 1955:59	PLAN	US	516	530	97.48	In Earth orbit
2580	2575	S58330	2023-174CC	Heron Mk II	2023 Nov 11 1849:00	2023 Nov 11 2004:38	UTAT	CA	513	526	97.47	In Earth orbit
2581	2576	S58331	2023-174CD	BRO-10	2023 Nov 11 1849:00	2023 Nov 11 1945:29	UNSEEN	F	512	526	97.48	In Earth orbit
2582	2577	S58332	2023-174CE	Lemur-2 Maripamasi	2023 Nov 11 1849:00	2023 Nov 11 1949:37	SPIRE	US	514	527	97.48	In Earth orbit
2583	2578	S58333	2023-174CF	Lemur-2 The-Cleaner	2023 Nov 11 1849:00	2023 Nov 11 1947:30	SPIRE	US	516	529	97.48	In Earth orbit
2584	2579	S58334	2023-174CG	Outpost Mission 2	2023 Nov 11 1849:00	2023 Nov 11 1946:14	OUTP	US	511	528	97.49	In Earth orbit
2585	2580	S58335	2023-174CH	Lemur-2 Mango 2A	2023 Nov 11 1849:00	2023 Nov 11 1950:56	SPIRE/JACOBS	US	509	526	97.48	In Earth orbit
2586	2581	S58336	2023-174CI	Elliot	2023 Nov 11 1849:00	2023 Nov 11 1943:40	SPIREG/GHG	US	516	533	97.48	In Earth orbit
2587	2582	S58337	2023-174CK	Lemur-2 Mango 2B	2023 Nov 11 1849:00	2023 Nov 11 1951:22	SPIRE/JACOBS	US	512	526	97.48	In Earth orbit
2588	2583	S58338	2023-174CL	Barry-1	2023 Nov 11 1849:00	2023 Nov 11 1944:26	ROGUE	US	510	525	97.48	In Earth orbit
2589	2584	S58339	2023-174CM	Platform-5	2023 Nov 11 1849:00	2023 Nov 11 1944:52	ENDUR	BGN	516	536	97.49	In Earth orbit
2590	2585	S58340	2023-174CN	Vanguard	2023 Nov 11 1849:00	2023 Nov 11 1944:08	SPIREG/GHG	US	516	526	97.48	In Earth orbit
2591	2586	S58341	2023-174CP	NinjaSat	2023 Nov 11 1849:00	2023 Nov 11 1943:04	RIKEN/MITSUI	J	511	525	97.48	In Earth orbit
2592	2587	S58342	2023-174CQ	PEARL-1C	2023 Nov 11 1849:00	2023 Nov 11 1945:57	FOX3	TW	509	527	97.48	In Earth orbit
2593	2588	S58343	2023-174CR	Hello Test 1	2023 Nov 11 1849:00	2023 Nov 11 1948:02	HELLO	TR	513	527	97.48	In Earth orbit
2594	2589	S58344	2023-174CS	SpaceANT-D	2023 Nov 11 1849:00	2023 Nov 29 09:14	SPCN	MY	508	519	97.48	In Earth orbit
2595	2590	S58345	2023-174CT	Hello Test 2	2023 Nov 11 1849:00	2023 Nov 11 1948:02	HELLO	TR	508	519	97.48	In Earth orbit
2596	2591	S58563	2023-174CU	Time We'll Tell	2023 Nov 11 1849:00	2023 Dec 27	TRPT	US	508	518	97.48	In Earth orbit
2597	2592	S58564	2023-174CV	PICO-1A-1	2023 Nov 11 1849:00	2023 Nov 29	APOGEO	I	508	519	97.48	In Earth orbit
2598	2593	S58565	2023-174CW	Intuition-1	2023 Nov 11 1849:00	2023 Nov 29	KPL	PL	517	529	97.48	In Earth orbit
2599	2594	S58566	2023-174CX	PICO-1A-3	2023 Nov 11 1849:00	2023 Nov 29	APOGEO	I	508	526	97.48	In Earth orbit
2600	2595	S58567	2023-174CY	HADES-D	2023 Nov 11 1849:00	2023 Nov 28 09:25?	AMEA	E	516	530	97.48	In Earth orbit
2601	2596	S58568	2023-174CZ	PICO-1A-5	2023 Nov 11 1849:00	2023 Nov 29	APOGEO	I	511	533	97.48	In Earth orbit
2602	2597	S58569	2023-174DA	Uniform-2K	2023 Nov 11 1849:00	2023 Nov 28 09:25?	ALBAD	D	511	531	97.48	In Earth orbit
2603	2598	S58570	2023-174DB	PICO-1A-7	2023 Nov 11 1849:00	2023 Nov 29	APOGEO	I	512	526	97.48	In Earth orbit
2604	2599	S58571	2023-174DC	PICO-1A-8	2023 Nov 11 1849:00	2023 Nov 29	APOGEO	I	507	520	97.48	In Earth orbit
2605	2600	S58572	2023-174DD	PICO-1A-9	2023 Nov 11 1849:00	2023 Nov 29	APOGEO	I	509	528	97.48	In Earth orbit
2606	2601	S58690	2023-174DE	PICO-1A-6	2023 Nov 11 1849:00	2023 Nov 29	APOGEO	I	506	526	97.48	In Earth orbit
2607	2602	S58696	2023-174DF	Lemur-2 NanaZ	2023 Nov 11 1849:00	2023 Dec 21 09:00?	SPIRE	US	493	524	97.24	In Earth orbit
2608	2603	S58697	2023-174DG	OSW Cazorla	2023 Nov 11 1849:00	2023 Dec 3?	ODYSS	US	491	511	97.25	In Earth orbit
2609	2604	T00009	2023-174DV	Tartarus-Artibeus 2	2023 Nov 11 1849:00	2023 Nov 29?	CMU	US	0	0	0.00	In Earth orbit
2610	-	T00023	2023-174CW	EPIC Hyper-3	2023 Nov 11 1849:00	-	CLAAC/WYY	UK	0	0	0.00	Attached to ION dispenser
2611	-	T00024	2023-174CX	Ymir-1	2023 Nov 11 1849:00	-	AACCS	S	0	0	0.00	Attached to ION dispenser
2612	2605	T00024	2023-174CX	ROM-3	2023 Nov 11 1849:00	2023 Nov 28 09:25	ROMSP	RO	0	0	0.00	In Earth orbit
2613	-	T00032	2023-174DF	Satellit-2?	2023 Nov 11 1849:00	-	STIOT	E	0	0	0.00	Attached to ION dispenser
2614	-	T00033	2023-174DH	Cryptot3	2023 Nov 11 1849:00	-	CRYPTO	US	0	0	0.00	Attached to ION dispenser
2615	2606	T00043	2023-174DT	Uniform-2J	2023 Nov 11 1849:00	2023 Nov 28 09:25?	ALBAD	D	0	0	0.00	In Earth orbit
2616	2607	S58346	2023-175A	O3b mPOWER F5	2023 Nov 12 21:08	2023 Nov 12 23:08	O3BS	UK	2736	7037	8.46	In Earth orbit
2617	2608	S58347	2023-175B	O3b mPOWER F6	2023 Nov 12 21:08	2023 Nov 12 23:15	O3BS	UK	2728	7037	8.49	In Earth orbit
2618	2609	S58349	2023-176A	Hai Yang 3-01	2023 Nov 16 03:55	2023 Nov 16 04:10?	GYZ/CASC	CN	768	788	98.65	In Earth orbit
2619	2610	S58351	2023-177A	Starlink 30901	2023 Nov 18 05:05:50	2023 Nov 18 06:11:17	SPXS	US	284	291	43.01	In Earth orbit
2620	2611	S58352	2023-177B	Starlink 30896	2023 Nov 18 05:05:50	2023 Nov 18 06:11:17	SPXS	US	284	291	43.01	In Earth orbit
2621	2612	S58353	2023-177C	Starlink 30902	2023 Nov 18 05:05:50	2023 Nov 18 06:11:17	SPXS	US	284	291	43.01	In Earth orbit
2622	2613	S58354	2023-177D	Starlink 30832	2023 Nov 18 05:05:50	2023 Nov 18 06:11:17	SPXS	US	284	291	43.01	In Earth orbit
2623	2614	S58355	2023-177E	Starlink 30903	2023 Nov 18 05:05:50	2023 Nov 18 06:11:17	SPXS	US	284	291	43.01	In Earth orbit
2624	2615	S58356	2023-177F	Starlink 30905	2023 Nov 18 05:05:50	2023 Nov 18 06:11:17	SPXS	US	284	291	43.01	In Earth orbit
2625	2616	S58357	2023-177G	Starlink 30842	2023 Nov 18 05:05:50	2023 Nov 18 06:11:17	SPXS	US	284	291	43.01	In Earth orbit
2626	2617	S58358	2023-177H	Starlink 30858	2023 Nov 18 05:05:50	2023 Nov 18 06:11:17	SPXS	US	284	291	43.01	In Earth orbit
2627	2618	S58359	2023-177J	Starlink 30878	2023 Nov 18 05:05:50	2023 Nov 18 06:11:17	SPXS	US	284	291	43.01	In Earth orbit
2628	2619	S58360	2023-177K	Starlink 30897	2023 Nov 18 05:05:50	2023 Nov 18 06:11:17	SPXS	US	284	291	43.01	In Earth orbit

2629	S58361	2023-177L	Starlink 30885	2023 Nov 18 0505:50	2023 Nov 18 0611:17	SPXS	US	284	291	43.01	In Earth orbit
2630	S58362	2023-177M	Starlink 30890	2023 Nov 18 0505:50	2023 Nov 18 0611:17	SPXS	US	284	291	43.01	In Earth orbit
2631	S58363	2023-177N	Starlink 30909	2023 Nov 18 0505:50	2023 Nov 18 0611:17	SPXS	US	284	291	43.01	In Earth orbit
2632	S58364	2023-177P	Starlink 30904	2023 Nov 18 0505:50	2023 Nov 18 0611:17	SPXS	US	284	291	43.01	In Earth orbit
2633	S58365	2023-177Q	Starlink 30918	2023 Nov 18 0505:50	2023 Nov 18 0611:17	SPXS	US	284	291	43.01	In Earth orbit
2634	S58366	2023-177R	Starlink 30892	2023 Nov 18 0505:50	2023 Nov 18 0611:17	SPXS	US	284	291	43.01	In Earth orbit
2635	S58367	2023-177S	Starlink 30891	2023 Nov 18 0505:50	2023 Nov 18 0611:17	SPXS	US	284	291	43.01	In Earth orbit
2636	S58368	2023-177T	Starlink 30889	2023 Nov 18 0505:50	2023 Nov 18 0611:17	SPXS	US	284	291	43.01	In Earth orbit
2637	S58369	2023-177U	Starlink 30870	2023 Nov 18 0505:50	2023 Nov 18 0611:17	SPXS	US	284	291	43.01	In Earth orbit
2638	S58370	2023-177V	Starlink 30888	2023 Nov 18 0505:50	2023 Nov 18 0611:17	SPXS	US	284	291	43.01	In Earth orbit
2639	S58371	2023-177W	Starlink 30859	2023 Nov 18 0505:50	2023 Nov 18 0611:17	SPXS	US	284	291	43.01	In Earth orbit
2640	S58372	2023-177X	Starlink 30884	2023 Nov 18 0505:50	2023 Nov 18 0611:17	SPXS	US	284	291	43.01	In Earth orbit
2641	S58373	2023-177Y	Starlink 30852	2023 Nov 18 0505:50	2023 Nov 18 0611:17	SPXS	US	284	291	43.01	In Earth orbit
2642	S58374	2023-178A	Starlink 30911	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	292	53.06	In Earth orbit
2643	S58375	2023-178B	Starlink 30894	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	292	53.06	In Earth orbit
2644	S58376	2023-178C	Starlink 30910	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	292	53.06	In Earth orbit
2645	S58377	2023-178D	Starlink 30914	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	292	53.06	In Earth orbit
2646	S58378	2023-178E	Starlink 30920	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	292	53.06	In Earth orbit
2647	S58379	2023-178F	Starlink 30882	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	291	53.06	In Earth orbit
2648	S58380	2023-178G	Starlink 30915	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	291	53.06	In Earth orbit
2649	S58381	2023-178H	Starlink 30923	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	291	53.06	In Earth orbit
2650	S58382	2023-178J	Starlink 30927	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	291	53.06	In Earth orbit
2651	S58383	2023-178K	Starlink 30921	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	291	53.06	In Earth orbit
2652	S58384	2023-178L	Starlink 30825	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	284	293	53.06	In Earth orbit
2653	S58385	2023-178M	Starlink 30930	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	284	293	53.06	In Earth orbit
2654	S58386	2023-178N	Starlink 30929	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	291	53.06	In Earth orbit
2655	S58387	2023-178P	Starlink 30898	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	292	53.06	In Earth orbit
2656	S58388	2023-178Q	Starlink 30913	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	291	53.06	In Earth orbit
2657	S58389	2023-178R	Starlink 30938	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	284	293	53.06	In Earth orbit
2658	S58390	2023-178S	Starlink 30868	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	284	293	53.06	In Earth orbit
2659	S58391	2023-178T	Starlink 30916	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	291	53.06	In Earth orbit
2660	S58392	2023-178U	Starlink 30937	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	292	53.06	In Earth orbit
2661	S58393	2023-178V	Starlink 30939	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	292	53.06	In Earth orbit
2662	S58394	2023-178W	Starlink 30887	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	291	53.06	In Earth orbit
2663	S58395	2023-178X	Starlink 30934	2023 Nov 20 1030:40	2023 Nov 20 1133:17	SPXS	US	283	291	53.06	In Earth orbit
2664	S58400	2023-179A	Maanhyeong-1 F3	2023 Nov 21 1342:58	2023 Nov 21 1354:13	KP	US	492	512	97.43	In Earth orbit
2665	S58402	2023-180A	Starlink 30964	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	283	292	43.01	In Earth orbit
2666	S58403	2023-180B	Starlink 30844	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	283	292	43.01	In Earth orbit
2667	S58404	2023-180C	Starlink 30876	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	283	292	43.01	In Earth orbit
2668	S58405	2023-180D	Starlink 30919	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	283	292	43.01	In Earth orbit
2669	S58406	2023-180E	Starlink 30925	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	283	292	43.01	In Earth orbit
2670	S58407	2023-180F	Starlink 30954	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	283	292	43.01	In Earth orbit
2671	S58408	2023-180G	Starlink 30906	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	283	292	43.01	In Earth orbit
2672	S58409	2023-180H	Starlink 30940	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	283	292	43.01	In Earth orbit
2673	S58410	2023-180J	Starlink 30933	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	283	292	43.01	In Earth orbit
2674	S58411	2023-180K	Starlink 30919	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	283	292	43.01	In Earth orbit
2675	S58412	2023-180L	Starlink 30924	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	283	292	43.01	In Earth orbit
2676	S58413	2023-180M	Starlink 30931	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	283	292	43.01	In Earth orbit
2677	S58414	2023-180N	Starlink 30922	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	283	292	43.01	In Earth orbit
2678	S58415	2023-180P	Starlink 30949	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	282	292	43.01	In Earth orbit
2679	S58416	2023-180Q	Starlink 30967	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	282	292	43.01	In Earth orbit
2680	S58417	2023-180R	Starlink 30955	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	282	292	43.01	In Earth orbit
2681	S58418	2023-180S	Starlink 30895	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	282	292	43.01	In Earth orbit
2682	S58419	2023-180T	Starlink 30917	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	282	292	43.01	In Earth orbit
2683	S58420	2023-180U	Starlink 30899	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	282	292	43.01	In Earth orbit
2684	S58421	2023-180V	Starlink 30902	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	282	292	43.01	In Earth orbit
2685	S58422	2023-180W	Starlink 30912	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	282	292	43.01	In Earth orbit
2686	S58423	2023-180X	Starlink 30908	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	282	292	43.01	In Earth orbit
2687	S58424	2023-180Y	Starlink 30908	2023 Nov 22 0747:40	2023 Nov 22 0853:02	SPXS	US	282	292	43.01	In Earth orbit
2688	S58425	2023-181A	Xingwang Qinxie Guidao 2A	2023 Nov 23 1000:04	2023 Nov 23 1012:27	CASC	CN	1091	1111	50.00	In Earth orbit
2689	S58426	2023-181B	Xingwang Qinxie Guidao 2B	2023 Nov 23 1000:04	2023 Nov 23 1012:27	CASC	CN	1092	1108	50.00	In Earth orbit
2690	S58427	2023-181C	Xingwang Qinxie Guidao 2C	2023 Nov 23 1000:04	2023 Nov 23 1012:27	CASC	CN	1091	1107	50.00	In Earth orbit
2691	S58435	2023-182A	Kosmos-2572	2023 Nov 25 2058:06	2023 Nov 25 2108:37	VVKOV	RU	299	320	96.63	In Earth orbit
2692	S58437	2023-183A	Starlink 30869	2023 Nov 28 0420:00	2023 Nov 28 0525:28	SPXS	US	284	292	43.01	In Earth orbit
2693	S58438	2023-183B	Starlink 30969	2023 Nov 28 0420:00	2023 Nov 28 0525:28	SPXS	US	285	292	43.01	In Earth orbit
2694	S58439	2023-183C	Starlink 30951	2023 Nov 28 0420:00	2023 Nov 28 0525:28	SPXS	US	285	292	43.01	In Earth orbit

2695	2686	S58440	2023-183D	Starlink 30950	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	285	292	43.01	In Earth orbit
2696	2687	S58441	2023-183E	Starlink 30942	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2697	2688	S58442	2023-183F	Starlink 30959	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2698	2689	S58443	2023-183G	Starlink 30971	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	293	43.01	In Earth orbit
2699	2690	S58444	2023-183H	Starlink 30963	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2700	2691	S58445	2023-183I	Starlink 30961	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2701	2692	S58446	2023-183K	Starlink 30975	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	283	295	43.01	In Earth orbit
2702	2693	S58447	2023-183L	Starlink 30976	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2703	2694	S58448	2023-183M	Starlink 30926	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2704	2695	S58449	2023-183N	Starlink 30943	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2705	2696	S58450	2023-183P	Starlink 30946	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2706	2697	S58451	2023-183Q	Starlink 30944	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2707	2698	S58452	2023-183R	Starlink 30928	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2708	2699	S58453	2023-183S	Starlink 30957	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2709	2700	S58454	2023-183T	Starlink 30966	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2710	2701	S58455	2023-183U	Starlink 30935	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2711	2702	S58456	2023-183V	Starlink 30960	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2712	2703	S58457	2023-183W	Starlink 30958	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2713	2704	S58458	2023-183X	Starlink 30962	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2714	2705	S58459	2023-183Y	Starlink 30977	2023 Nov 28 04:20:00	2023 Nov 28 05:25:28	SPXS	US	284	292	43.01	In Earth orbit
2715	2706	S58460	2023-184A	Progress MS-25	2023 Dec 1 09:25:12	2023 Dec 1 09:34:00	RKKE	RU	394	400	51.59	Attached to Soyuz-2-1a No. 067 Blok-I
2716	2707	S58462	2023-185A	GNOMES-4	2023 Dec 1 18:19	2023 Dec 1 18:25:7	PLANQ	US	554	569	97.64	In Earth orbit
2717	2708	S58463	2023-185B	Kosat-7	2023 Dec 1 18:19	2023 Dec 1 18:30:7	DAPA	KR	554	569	97.64	In Earth orbit
2718	2709	S58464	2023-185C	KOYOH	2023 Dec 1 18:19	2023 Dec 1 18:30:7	KANA	J	508	524	97.45	In Earth orbit
2719	2710	S58465	2023-185D	Bane	2023 Dec 1 18:19	2023 Dec 1 18:30:7	YORKSS	US	553	567	97.64	In Earth orbit
2720	2711	S58466	2023-185E	uHEIsat	2023 Dec 1 18:19	2023 Dec 1 19:30:7	SITAEI	I	509	524	97.45	In Earth orbit
2721	2712	S58467	2023-185F	Lilium 1	2023 Dec 1 18:19	2023 Dec 1 18:30:7	UNISTW/NCKU	TW	554	569	97.64	In Earth orbit
2722	2713	S58468	2023-185G	Spirit	2023 Dec 1 18:19	2023 Dec 1 19:30:7	MELB	AU	524	524	97.45	In Earth orbit
2723	2714	S58469	2023-185H	ION SCV015 DARING DIEGO	2023 Dec 1 18:19	2023 Dec 1 18:30:7	DORBIT	I	506	524	97.46	In Earth orbit
2724	2715	S58470	2023-185J	ENSO	2023 Dec 1 18:19	2023 Dec 1 19:30:7	MONIP	F	506	524	97.46	In Earth orbit
2725	2716	S58471	2023-185K	Huyesat-1	2023 Dec 1 18:19	2023 Dec 1 19:30:7	BAZMQ	AM	509	524	97.45	In Earth orbit
2726	2717	S58472	2023-185L	EIRASAT-1	2023 Dec 1 18:19	2023 Dec 1 18:28:7	UCDB	IE	506	524	97.46	In Earth orbit
2727	2718	S58562	2023-185M	ALISIO-1	2023 Dec 1 18:19	2023 Dec 1 19:30:7	IAC	E	552	564	97.65	In Earth orbit
2728	2719	S58642	2023-185N	Unicorn-2N	2023 Dec 1 18:19	2023 Dec 22 11:55	ALBAD	D	552	578	97.64	In Earth orbit
2729	2720	S58665	2023-185P	MDQubesat-2	2023 Dec 1 18:19	2023 Dec 22 11:55	INNO	AR	552	577	97.65	In Earth orbit
2730	-	S58726	2023-185Q	Unicorn-2M	2024 Jan 5 08:30:7	2024 Jan 5 08:30:7	ALBAD	D	552	574	97.65	In Earth orbit
2731	-	S58727	2023-185R	Unicorn-2L	2023 Dec 1 18:19	2024 Jan 5 08:30:7	ALBAD	D	552	575	97.66	In Earth orbit
2732	-	S58755	2023-185S	NanoFF B	2023 Dec 1 18:19	2024 Jan 10 05:15:30	TUB	D	549	572	97.64	In Earth orbit
2733	-	T00051	2023-185R	NanoFF 1	2023 Dec 1 18:19	-	TUB	D	0	0	0.00	Attached to ION dispenser
2734	-	T00052	2023-185T	LOGSATS	2023 Dec 1 18:19	-	PATIN	T	0	0	0.00	Attached to ION dispenser
2735	2721	S58473	2023-186A	Starlink 30947	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	285	292	43.01	In Earth orbit
2736	2722	S58474	2023-186B	Starlink 30995	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2737	2723	S58475	2023-186C	Starlink 30941	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2738	2724	S58476	2023-186D	Starlink 30980	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2739	2725	S58477	2023-186E	Starlink 30965	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2740	2726	S58478	2023-186F	Starlink 30990	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2741	2727	S58479	2023-186G	Starlink 30974	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2742	2728	S58480	2023-186H	Starlink 30984	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2743	2729	S58481	2023-186I	Starlink 30956	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2744	2730	S58482	2023-186K	Starlink 30997	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2745	2731	S58483	2023-186L	Starlink 30994	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2746	2732	S58484	2023-186M	Starlink 30991	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2747	2733	S58485	2023-186N	Starlink 30979	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2748	2734	S58486	2023-186P	Starlink 31005	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2749	2735	S58487	2023-186Q	Starlink 30987	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2750	2736	S58488	2023-186R	Starlink 31000	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2751	2737	S58489	2023-186S	Starlink 30993	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2752	2738	S58490	2023-186T	Starlink 30978	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2753	2739	S58491	2023-186U	Starlink 30953	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2754	2740	S58492	2023-186V	Starlink 30986	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	292	43.01	In Earth orbit
2755	2741	S58493	2023-186W	Starlink 30985	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	291	43.01	In Earth orbit
2756	2742	S58494	2023-186X	Starlink 30981	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	291	43.01	In Earth orbit
2757	2743	S58495	2023-186Y	Starlink 31002	2023 Dec 2 04:00:50	2023 Dec 3 05:06:15	SPXS	US	284	291	43.01	In Earth orbit
2758	2744	S58496	2023-187A	MisrSat-2	2023 Dec 2 04:00:50	2023 Dec 4 04:20:7	EGYS	EG	626	642	98.01	In Earth orbit
2759	2745	S58497	2023-187B	Xingchi-1 02A	2023 Dec 2 04:00:50	2023 Dec 4 04:20:7	TYSK	CN	642	642	98.01	In Earth orbit
2760	2746	S58498	2023-187C	Xingchi-1 02B	2023 Dec 2 04:00:50	2023 Dec 4 04:20:7	TYSK	CN	626	642	98.01	In Earth orbit

2761	2747	S58500	2023-188A	Doory-Sat	2023 Dec 4 0500	2023 Dec 4 0510?	HANWHIA	KR	638	650	46.98	In Earth orbit
2762	2748	S58502	2023-189A	Xingchi-1A	2023 Dec 4 2333	2023 Dec 4 2350?	TYSK	CN	494	512	97.46	In Earth orbit
2763	2749	S58503	2023-189B	Jiheng-1	2023 Dec 4 2333	2023 Dec 4 2350	ZHK	CN	493	511	97.46	In Earth orbit
2764	2750	S58505	2023-190A	WHLSW 03	2023 Dec 5 1924	2023 Dec 5 1940?	CASC	CN	904	921	86.49	In Earth orbit
2765	2751	S58508	2023-191A	Starlink 31026	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.01	In Earth orbit
2766	2752	S58509	2023-191B	Starlink 31020	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2767	2753	S58510	2023-191C	Starlink 30989	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2768	2754	S58511	2023-191D	Starlink 30968	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2769	2755	S58512	2023-191E	Starlink 30982	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2770	2756	S58513	2023-191F	Starlink 30998	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2771	2757	S58514	2023-191G	Starlink 30983	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2772	2758	S58515	2023-191H	Starlink 31017	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2773	2759	S58516	2023-191J	Starlink 31028	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2774	2760	S58517	2023-191K	Starlink 31011	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2775	2761	S58518	2023-191L	Starlink 31021	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2776	2762	S58519	2023-191M	Starlink 31010	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2777	2763	S58520	2023-191N	Starlink 31003	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2778	2764	S58521	2023-191P	Starlink 31015	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2779	2765	S58522	2023-191Q	Starlink 31023	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2780	2766	S58523	2023-191R	Starlink 30952	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2781	2767	S58524	2023-191S	Starlink 30992	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2782	2768	S58525	2023-191T	Starlink 30948	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2783	2769	S58526	2023-191U	Starlink 31013	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2784	2770	S58527	2023-191V	Starlink 31001	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2785	2771	S58528	2023-191W	Starlink 31004	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2786	2772	S58529	2023-191X	Starlink 30988	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2787	2773	S58530	2023-191Y	Starlink 31009	2023 Dec 7 0507:30	2023 Dec 7 0612:52	SPXS	US	284	291	43.00	In Earth orbit
2788	2774	S58531	2023-192A	Starlink 31012	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	295	53.17	In Earth orbit
2789	2775	S58532	2023-192B	Starlink 31035	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	295	53.17	In Earth orbit
2790	2776	S58533	2023-192C	Starlink 31036	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	295	53.17	In Earth orbit
2791	2777	S58534	2023-192D	Starlink 30936	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	294	53.17	In Earth orbit
2792	2778	S58535	2023-192E	Starlink 31032	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	295	53.17	In Earth orbit
2793	2779	S58536	2023-192F	Starlink 31037	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	295	53.17	In Earth orbit
2794	2780	S58537	2023-192G	Starlink 31041	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	295	53.17	In Earth orbit
2795	2781	S58538	2023-192H	Starlink 31014	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	294	53.17	In Earth orbit
2796	2782	S58539	2023-192I	Starlink 31055	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	295	53.17	In Earth orbit
2797	2783	S58540	2023-192K	Starlink 31019	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	295	53.17	In Earth orbit
2798	2784	S58541	2023-192L	Starlink 31045	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	295	53.17	In Earth orbit
2799	2785	S58542	2023-192M	Starlink 31030	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	294	53.17	In Earth orbit
2800	2786	S58543	2023-192N	Starlink 31049	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	294	53.17	In Earth orbit
2801	2787	S58544	2023-192P	Starlink 31048	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	294	53.17	In Earth orbit
2802	2788	S58545	2023-192Q	Starlink 31057	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	294	53.17	In Earth orbit
2803	2789	S58546	2023-192R	Starlink 31050	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	294	53.17	In Earth orbit
2804	2790	S58547	2023-192S	Starlink 31063	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	285	294	53.17	In Earth orbit
2805	2791	S58548	2023-192T	Starlink 31016	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	284	294	53.17	In Earth orbit
2806	2792	S58549	2023-192U	Starlink 31053	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	284	294	53.17	In Earth orbit
2807	2793	S58550	2023-192V	Starlink 31056	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	284	294	53.17	In Earth orbit
2808	2794	S58551	2023-192W	Starlink 30999	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	284	294	53.17	In Earth orbit
2809	2795	S58552	2023-192X	Starlink 31046	2023 Dec 8 0803	2023 Dec 8 0906:15	SPXS	US	284	294	53.17	In Earth orbit
2810	2796	S58553	2023-193A	Honghu	2023 Dec 8 2339:03	2023 Dec 8 2352?	HONGQO	CN	432	461	97.26	In Earth orbit
2811	2797	S58554	2023-193B	Tianyi-33	2023 Dec 8 2339:03	2023 Dec 8 2352?	CTYK/HNUST	CN	433	461	97.26	In Earth orbit
2812	2798	S58555	2023-193C	Honghu-2	2023 Dec 8 2339:03	2023 Dec 8 2352?	HONGQO	CN	433	461	97.26	In Earth orbit
2813	2799	S58557	2023-194A	Yaogan 39 05 zu 01 xing	2023 Dec 10 0158	2023 Dec 10 0208?	ZBK	CN	491	502	35.00	In Earth orbit
2814	2800	S58559	2023-194C	Yaogan 39 05 zu 02 xing	2023 Dec 10 0158	2023 Dec 10 0208?	ZBK	CN	489	501	35.00	In Earth orbit
2815	2801	S58561	2023-194E	Yaogan 39 05 zu 03 xing	2023 Dec 10 0158	2023 Dec 10 0208?	ZBK	CN	489	501	35.00	In Earth orbit
2816	2802	S58563	2023-195A	Chonit Shiyong Shiyuan.HQ 3	2023 Dec 14 1412??	2023 Dec 14 1422?	ZLZB	CN	332	348	50.00	In Earth orbit
2817	2803	S58578	2023-196A	Tsukuyomi-1	2023 Dec 15 0405:54?	2023 Dec 15 0502	QPS	J	574	583	42.02	In Earth orbit
2818	2804	S58582	2023-197A	Yaogan 41	2023 Dec 15 1341	2023 Dec 15 1418?	ZBK/CASIT	CN	35731	35838	4.98	In Earth orbit
2819	2805	S58584	2023-198A	Arktika-M No. 2	2023 Dec 16 0917:48	2023 Dec 16 1401:52	ROSK	RU	1390	39270	63.25	In Earth orbit
2820	2806	S58586	2023-199A	Dier-1-Liangxi	2023 Dec 17 0700	2023 Dec 16 0714?	ZYK	CN	490	504	97.40	In Earth orbit
2821	2807	S58589	2023-200A	Starlink 31044	2023 Dec 19 0401:00	2023 Dec 19 0506:30	SPXS	US	284	292	43.01	In Earth orbit
2822	2808	S58590	2023-200B	Starlink 31062	2023 Dec 19 0401:00	2023 Dec 19 0506:30	SPXS	US	284	291	43.01	In Earth orbit
2823	2809	S58591	2023-200C	Starlink 31045	2023 Dec 19 0401:00	2023 Dec 19 0506:30	SPXS	US	284	292	43.01	In Earth orbit
2824	2810	S58592	2023-200D	Starlink 31096	2023 Dec 19 0401:00	2023 Dec 19 0506:30	SPXS	US	284	291	43.01	In Earth orbit
2825	2811	S58593	2023-200E	Starlink 31094	2023 Dec 19 0401:00	2023 Dec 19 0506:30	SPXS	US	284	291	43.01	In Earth orbit
2826	2812	S58594	2023-200F	Starlink 31075	2023 Dec 19 0401:00	2023 Dec 19 0506:30	SPXS	US	290	293	43.01	In Earth orbit

2893	S58674	2023-211H	Starlink 31124	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	283	292	43.00	In Earth orbit
2894	S58675	2023-211J	Starlink 31126	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	283	292	43.00	In Earth orbit
2895	S58676	2023-211K	Starlink 31066	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	284	292	43.00	In Earth orbit
2896	S58677	2023-211L	Starlink 31058	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	284	292	43.00	In Earth orbit
2897	S58678	2023-211M	Starlink 31125	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	283	292	43.00	In Earth orbit
2898	S58679	2023-211N	Starlink 31110	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	283	292	43.00	In Earth orbit
2899	S58680	2023-211P	Starlink 31112	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	284	292	43.00	In Earth orbit
2900	S58681	2023-211Q	Starlink 31147	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	283	292	43.00	In Earth orbit
2901	S58682	2023-211R	Starlink 31144	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	284	292	43.00	In Earth orbit
2902	S58683	2023-211S	Starlink 31095	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	283	292	43.00	In Earth orbit
2903	S58684	2023-211T	Starlink 31107	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	284	292	43.00	In Earth orbit
2904	S58685	2023-211U	Starlink 31121	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	283	291	43.00	In Earth orbit
2905	S58686	2023-211V	Starlink 31137	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	283	292	43.00	In Earth orbit
2906	S58687	2023-211W	Starlink 31109	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	283	291	43.00	In Earth orbit
2907	S58688	2023-211X	Starlink 31139	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	283	292	43.00	In Earth orbit
2908	S58689	2023-211Y	Starlink 31106	2023 Dec 29 0401:40	2023 Dec 29 0507:09	SPXS	US	283	292	43.00	In Earth orbit
2909	S58691	2023-212A	Hulianwang Jishu Shiyuan W.	2023 Dec 30 0013	2023 Dec 30 0028?	CASC	CN	929	941	50.00	In Earth orbit
2910	S58692	2023-212B	Hulianwang Jishu Shiyuan W.	2023 Dec 30 0013	2023 Dec 30 0028?	CASC	CN	929	936	50.00	In Earth orbit
2911	S58693	2023-212C	Hulianwang Jishu Shiyuan W.	2023 Dec 30 0013	2023 Dec 30 0028?	CASC	CN	929	939	50.00	In Earth orbit
Appendix 2(b): Payloads not included in annual statistics											
-	S55685	2021-102M	DRUMS Target 1	2021 Nov 9 0055:16	2023 Feb 14?	KAWA	J	538	568	97.50	In Earth orbit
1	A10872	2023-001	Transporter-6	2023 Jan 3 1455:56	-	SPX	US	521	537	97.50	Reentered Att to Falcon 9-196 Stage 2
2	A10873	2023-001	RROCI	2023 Jan 3 1455:56	-	SFSSC	US	521	537	97.50	Reentered Att to Transporter-6
3	A10880	2023-001	Pleides-Yearling	2023 Jan 3 1455:56	-	BRONC	US	520	536	97.50	Attached to Orbiter SNI
4	A10881	2023-001	Dibu Martinez	2023 Jan 3 1455:56	-	INNO	AR	520	536	97.50	Attached to Orbiter SNI
5	A10882	2023-001	Juana Uzuruz	2023 Jan 3 1455:56	-	INNO	AR	520	536	97.50	Attached to Orbiter SNI
6	A10883	2023-001	Sapling Sempervirens	2023 Jan 3 1455:56	-	STANSI	US	520	536	97.50	Attached to Orbiter SNI
7	A10884	2023-001	Unicorn-2G	2023 Jan 3 1455:56	-	ALBA	UK	520	536	97.50	Attached to Orbiter SNI
8	A10885	2023-001	Unicorn-2H	2023 Jan 3 1455:56	-	ALBA	UK	520	536	97.50	Attached to Orbiter SNI
9	A10890	2023-001	ICEYE-X22	2023 Jan 3 1455:56	-	ICEYE	FI	519	537	97.50	Reentered Att to Transporter-6
10	A10921	2023-049B	Tianlong 2 dummy payload	2023 Apr 2 0848:15	-	TIANB	CN	478	496	97.40	Reentered Att to TL-2 Stage 3
11	A10923	2023-052A	TEMPO	2023 Apr 7 0430:00	-	LARCN/SAO	US	35667	35695	0.01	Attached to Intelsat IS-40e
12	A10926	2023-054	Transporter-7	2023 Apr 15 0647:39	-	SPX	US	496	509	97.42	Reentered Att to Falcon 9-218 Stage 2
13	A10967	2023-072	SNIPE 3	2023 May 25 0924	-	KASI	KR	511	545	97.50	Attached to Falcon 9-218 Stage 3
14	A10968	2023-081	CXPD	2023 Jun 7 0410:02	-	XIDA	CN	492	511	97.41	In Earth orbit
15	A10979	2023-084	Transporter-8	2023 Jun 12 2135:00	2023 Jun 7 0426?	SPX	US	520	536	97.51	Reentered Att to Falcon 9-233 Stage 2
16	A10980	2023-084A	W-Series 1 Reentry Vehicle	2023 Jun 12 2135:00	-	VARDA	US	520	536	97.51	Attached to W-Series 1
17	A11059	2023-155	ANSER LEADER	2023 Oct 9 0136:25	-	INTA	E	567	573	97.67	Reentered Att to SSMS Mission 3
18	A11060	2023-155	ESTCube-2	2023 Oct 9 0136:25	-	TARTU	EE	565	568	97.67	Reentered Att to SSMS Mission 3
19	A11079	2023-174	Transporter-9	2023 Nov 11 1849:00	-	SPX	US	514	526	97.48	Reentered Att to Falcon 9-273 Stage 2
20	A11098	2023-174	AMAN-1	2023 Nov 11 1849:00	-	MTCIT/ETCO	OM	517	529	97.48	Reentered Att to Transporter-9
21	A11099	2023-174	Picacho	2023 Nov 11 1849:00	-	LUNASD	US	516	530	97.48	Reentered Att to Transporter-9
22	A11100	2023-174	JinjuSat	2023 Nov 11 1849:00	-	CONTEC	KR	516	530	97.48	Reentered Att to Transporter-9
23	A11105	2023-199	Dier-1 RV	2023 Dec 17 0700	-	ZYK	CN	490	504	97.40	Attached to Dier-1-Liangxi