Compliance sheet — star-spacepacket

Everything a supplier qualification, a legal review or an export check usually asks about star-spacepacket 0.1.1, in one document.

1. Identity

Document	STAR-PKG-STAR-SPACEPACKET-EN · v2.3 · 2026-11-14
Package	star-spacepacket
Version	0.1.1
Capability	star.ccsds.space-packet
Maturity	Released & Verified (RELEASED)
Python	>=3.9
Source commit	dc09f61d
Source	https://github.com/Andrea07072000/S.T.A.R.-/tree/main/packages/star_spacepacket

2. Licence and obligations

Apache License 2.0. You may use, copy, modify and distribute it, also commercially, and you receive a patent licence from the contributors. When you redistribute it: keep the LICENSE file and the copyright notices (and a NOTICE file, if a future version adds one), and state in modified files that you changed them. You may not use the S.T.A.R. name to endorse your product.

3. What it needs at run time

Nothing beyond the Python standard library: it works offline.

4. Integrity

SHA-256 fingerprints of the files published on this website. Check a downloaded file with:

```
python -c "import
hashlib,sys;print(hashlib.sha256(open(sys.argv[1],'rb').read()).hexdigest())"
star_spacepacket-0.1.1-py3-none-any.whl
```

FILE	SHA-256
star_spacepacket-0.1.1-py3-none-any.whl	c125ed4da0e7df6ba5dfa0a583d89b3f48d1e17b2207eb840d5eba22c9252f7f
star_spacepacket.py	32ac1ffb1eb6bf8e0cc5560ef1480ac2e2298125bd13a80b1ed42d5625d36cb4
star_spacepacket-0.1.1-source.zip	8ad1902ef19d0e6491b70c34aa8b580870d867eef808ccc45c3f97175f2e1052

5. What it does, and its limits

CCSDS Space Packet primary header and packet boundary (CCSDS 133.0-B-2): encode and decode the six header fields, build and read whole packets, split a stream, advance the sequence count; every field checked, nothing masked, a truncated packet refused with the octet where the stream breaks; identical to spacepackets and ccsdspy on 1483 cases.

The primary header and the packet boundary only: no secondary header format (time codes, PUS), no packet error control, no segmentation or reassembly of user data across packets, no check that sequence counts are consecutive, no transfer frames (see star_telemetry for extracting packets from frames). Idle packets (APID 2047) are returned like any other packet. A stream with one damaged length field cannot be resynchronised here: it is refused. Not affiliated with or endorsed by CCSDS; the standard is cited as the source of the layout.

- `encode_header` and `decode_header` convert between the six fields of the primary header and its 6 octets; `encode_packet` and `decode_packet` do the same for a whole packet, the length field being the number of data octets minus one; `split_packets` cuts a stream of packets laid end to end; `next_count` advances the 14-bit sequence count.
- Layout of CCSDS 133.0-B-2, section 4.1.3: version (3 bits, 0), type (1), secondary header flag (1), APID (11), sequence flags (2), sequence count (14), data length (16).
- Measured against two independent libraries, spacepackets and ccsdspy, each in its own interpreter: 701 headers encoded, 701 random headers decoded, 81 streams split into packets (one with the

largest data field, 65536 octets): no difference.

- Every function returns its result or raises `ValueError`: a field that is not an integer in its range (booleans refused; the secondary header flag must be a bool), a header that is not 6 octets, a version other than 0, an empty or oversized data field, a packet whose length disagrees with its header, a stream that ends inside a packet (the message says at which octet).

6. Export, use and certification

The package is published and freely available. That usually takes software out of export-control lists, but not every use of it: read the page on space activities and export control before using it in a controlled programme. It is not certified or qualified for flight; the evidence describes what was tested and how.

7. Citation and bill of materials

```
@software{cavazzini_star_spacepacket_0_1_1,
  author  = {Cavazzini, Andrea},
  title   = {{star-spacepacket}: CCSDS Space Packets, built and read strictly},
  version = {0.1.1},
  year    = {2026},
  url     = {https://andrea07072000.github.io/S.T.A.R.-/software/star_spacepacket/},
  note    = {Apache-2.0. Source: https://github.com/Andrea07072000/S.T.A.R.-, commit dc09f61d}
}
```

CITATION.cff · BibTeX · SBOM CycloneDX 1.5 · SBOM SPDX 2.3

8. Warranty and liability

Provided "as is", without warranties or conditions of any kind (Apache License 2.0, sections 7 and 8), to the extent the law allows. This never excludes liability that the law does not allow to exclude.

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