Compliance sheet — star-aos-c

Everything a supplier qualification, a legal review or an export check usually asks about star-aos-c 0.1.3, in one document.

1. Identity

Document	STAR-PKG-STAR-TELEMETRY-C-EN · v2.3 · 2026-11-14
Package	star-aos-c
Version	0.1.3
Capability	star.telemetry.aos-c
Maturity	Beta (VERIFIED)
Python	>=3.10
Source commit	dc09f61d
Source	https://github.com/Andrea07072000/S.T.A.R.-/tree/main/packages/star_telemetry_c

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_telemetry_c-0.1.3-source.zip
```

FILE	SHA-256
star_telemetry_c-0.1.3-source.zip	11f65f810ceba60b2435b7e216d32aa11d414322f91dd2b4aa811d8363c9a66a

5. What it does, and its limits

CCSDS AOS v2 / TM v1 primary header decode and FECF CRC-16 check in C99, verified identical on 18 emulated ISAs and 12 simulated MCUs / space processors, cross-checked with spacepackets, fuzzed and mutation-tested.

No timing (DWT is not modelled), no radiation behaviour, no flight heritage; simulated and emulated targets only. Defects found by this verification and fixed: TM VC count read from the master-channel octet, OCF read as "replay", OCF and secondary header left in the data (2026-10-04).

- `star_aos_parse(frame, len, has_fecf, &hdr)`: TFVN, SCID, VCID, VC frame count, replay (AOS), FHP; TM: VC count from octet 3, OCF flag (4 octets before the FECF), secondary header skipped (length from its ID octet).
- FECF: CRC-16/CCITT-FALSE over the frame without the FECF; `fecf_valid` only when computed == received.
- Exact layout: `data_offset + data_len + ocf_len (+2 with FECF) == len`; TM data offset 6 or 7 + (ID & 0x3F).
- Errors: NULL inputs -> `STAR_AOS_ERR_NULL`; frames too short for the declared layout -> `STAR_AOS_ERR_SHORT`; never a read outside `[frame, frame + len)`.
- Portability: identical results on every target listed below (byte-wise parsing, no undefined behaviour).

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_telemetry_c_0_1_3,
  author  = {Cavazzini, Andrea},
  title   = {{star-aos-c}: CCSDS AOS/TM transfer-frame check in C99 (S.T.A.R.)},
  version = {0.1.3},
  year    = {2026},
  url     = {https://andrea07072000.github.io/S.T.A.R.-/software/star_telemetry_c/},
  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.

Related: space activities and export control · acceptable use · evidence and limits · licence texts