Compliance sheet — star-moon

Everything a supplier qualification, a legal review or an export check usually asks about star-moon 0.1.0, in one document.

1. Identity

Document	STAR-PKG-STAR-MOON-EN · v2.3 · 2026-11-14
Package	star-moon
Version	0.1.0
Capability	star.orbit.moon
Maturity	Released & Verified (RELEASED)
Python	>=3.9
Source commit	dc09f61d
Source	https://github.com/Andrea07072000/S.T.A.R.-/tree/main/packages/star_moon

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_moon-0.1.0-
py3-none-any.whl
```

FILE	SHA-256
star_moon-0.1.0-py3-none-any.whl	e66320c7d8fbca26babb6270cc43cabd9daf12f1b207179f3dba8f33a3378aa5
star_moon.py	ce41f15b68f4841d07880ec30babf3cb98a4e8c80bdb0ec867b6f6a0872cd769
star_moon-0.1.0-source.zip	27e2e2b6a63470b5a39ce9e4158dad977101668b9210c997dda41031dce7c4e1

5. What it does, and its limits

Geocentric Moon position for 1950-2050 from the Astronomical Almanac series; measured within 0.36 deg and 1200 km of JPL DE440 over 2002 dates, with the same envelope against astropy and PyEphem.

Not an ephemeris: 0.36 deg is about 2300 km at the Moon's distance. Good for eclipse and illumination geometry, third-body direction and visibility planning; not for navigation, occultation timing or tide-accurate work.

- `moon_vector_km(jd_day, jd_frac=0)`, `moon_ra_dec_deg`, `moon_distance_km` for Julian dates (TDB) from 1950-01-01 to 2050-01-01; outside, `ValueError`. Reproduces Vallado Example 5-3 within 0.4 m.
- Measured accuracy of the series (2002 dates, three ephemerides): direction within 0.36 deg of JPL DE440 (95 % of the dates within 0.20 deg), distance within 1200 km (288 km on average). astropy and PyEphem give the same envelope.
- Frame: mean equator and equinox of DATE, like `star_sun`; rotate before mixing with J2000/GCRF vectors.
- Every function returns finite floats or raises `ValueError`: non-numeric, boolean, NaN or infinite input, a date outside 1950-2050.

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_moon_0_1_0,
  author  = {Cavazzini, Andrea},
  title   = {{star-moon}: Where the Moon is, to about 0.4 degree (0.2 degree for 95 % of
dates)},
  version = {0.1.0},
  year    = {2026},
  url     = {https://andrea07072000.github.io/S.T.A.R.-/software/star_moon/},
  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