



SPACEMANIC

# Celeste

## The GNSS receiver

### SM-GNSS-MSP430-SKTRQ

Multi-GNSS receiver module suitable for nano-satellite position acquisition and determination

#### FEATURES

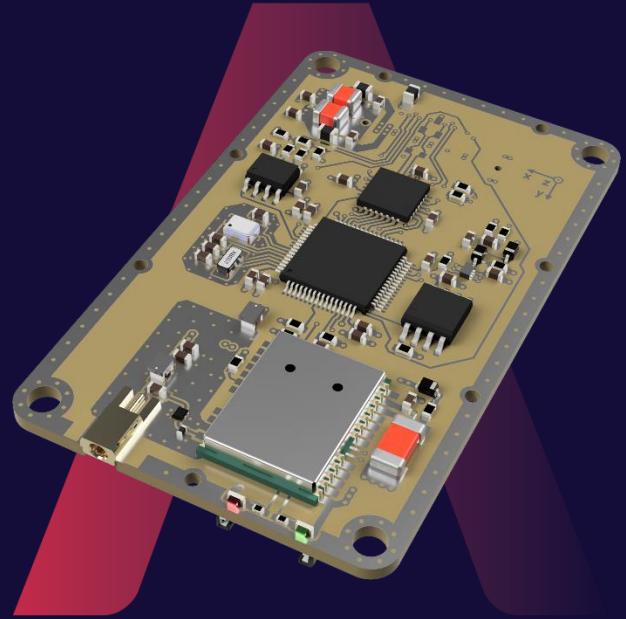
- Plug&Play design
- Compatible with Spacemanic cubesat standard
- Compatible with cubesat components from other vendors
- Robust design
- GPS/GLONASS/BeiDou/Galileo
- Cubesat Space Protocol compatible
- Works directly with active or passive antenna
- New updated version from 2022

#### PRODUCT PROPERTIES

- Operating temperature: -40°C to +85°C
- Dimensions: 67x42x7 mm
- Power supply: 3.3V, 5V
- Mass: 25g
- Power consumption:  $\pm 100$ mW average

#### SOFTWARE

- Cubesat Space Protocol
- Command line interface



#### FUNCTIONAL CHARACTERISTICS

- Maximum velocity 10km/s
- -148dBm cold start sensitivity
- -165dBm tracking sensitivity
- 29 seconds cold start TTFF
- 1 second hot start
- 2m CEP accuracy

#### INTERFACES

- 1 x I2C
- 1 x RS485
- 2 x UART
- 1 x CAN
- 4 x GPIO
- PPS output
- System clock output
- External reset input
- JTAG on separated connector
- SSMCX antenna connector
- Debug LEDs

#### TESTING & HERITAGE

- Flight Heritage Hardware
- Successful vibration & heated vacuum tests
- Radiation tests