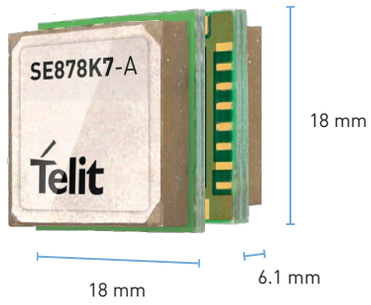
JUPITER **SE878K7**-A

GPS Embedded



Product Description

The Jupiter SE878K7-A GPS antenna module is a complete GPS receiver featuring a high sensitivity 17 x 17 mm patch antenna, SAW filter, additional LNA, flash memory, GNSS core, RTC and TCXO. The SE878K3-A uses Telit's "cavity like" PCB package with an optimized RF path supporting standard SMT mounting without constraining the host PCB, minimizing the antenna detuning.

Telit's commitment to excellence is reflected in the architecture of the SE878K7-A. Competing solutions require a guard in the host PCB around the RF PIN zone in order to minimize interference and antenna detuning.

The SE878K7-A support GPS and QZSS as well as SBAS augmentation system. The SE878K7-A series provides the positioning data though standard UART.

The Jupiter SE878K7-A supports either autonomous than server based A-GPS. Its onboard A-GPS software engine is able to locally predict ephemeris up to 1 days in advance and store this data in the BBRAM.

Easing the development process for designers with little or no RF experience, the SE878K7-A is compliant with regulatory and industry standards specifications. Additionally, it supports the usage of an external antenna through an embedded RF switch. This feature is particularly useful in applications such as personal trackers and alarms in which the main antenna is the external one and the internal antenna is used as backup when the external is broken or compromised.

The SE878K7-A is designed to Telematics, Tracking & Trace and Alarm applications and is pin-to-pin compatible with GNSS the variant SE878K3-A.

Key Benefits

- Standard variant with integrated 17 x 17 x 4mm SMT antenna
- Additional LNA and SAW filter
- SMT mounting not requiring holes on host PCB
- Supports ephemeris file injection (A-GPS)
- Satellite Based Augmentation System (SBAS) compliant
- Embedded RF switch to support external antennas as well

Family Concept

Our positioning product portfolio is the result of over twenty years of experience in GNSS applications. Telit has developed a range of products compatible with the well-known GPS constellation as well as its Russian counterpart GLONASS. Moreover, our portfolio is fully aligned with the upcoming service launch of Europe's Galileo constellation. Valuable features such as Dead Reckoning, Precision Timing, as well as speed and reliability assured by multiconstellation coverage, provide additional benefits for your application.

Your application development effort can also benefit significantly from the seamless integration between Telit's 2G cellular and positioning modules. This bundling of cellular and positioning modules significantly reduces development complexity without adding costs. Multiconstellation positioning products applied together with our eCall/ERA-GLONASS compliant cellular modules bring you ready-to-use emergency automotive tracking solutions for the European and Russian markets.

Typical applications include fleet management systems, European GPS-assisted road tolling systems, cellular base stations, in-car navigation systems, automotive telematics systems, and GPS-based personal sports training monitors.

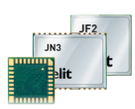
AVAILABLE FOR

EMEA
North America
APAC
Australia

Combine your **Cellular** module with

Short Range modules

GNSS modules



www.telit.com

Complete, Ready to Use Access to the Internet of Things

IoT Modules | IoT Connectivity | IoT Platforms

Connecting the world from the **inside out**

JUPITER **SE878K7**-A

Model	Constellations				Interfaces					Features			
	GPS/ QZSS	GLONASS	Galileo	BDS	UART	I2C	SPI	Add. LNA	SAW	Track. Sensitivity	Acq. Sensitivity	Flash	Size
SE878K3-AL	•	•	•	•	•	•	•	•	•	-165	-148	•	18 x 18 x 6.1
SE878K7-AL	•				•			•	•	-165	-148		18 x 18 x 6.1

Product Features

- 32-pad QFN package with embedded SMT antenna
- Embedded 17x 17 mm SMT antenna
- Frequency Bands: GPS L1, QZSS L1
- Standards: EMEA
- Jamming rejection
- Additional LNA + SAW filter
- A-GPS: ephemeris file injection
- EGNOS, WAAS, GAGAN and MSAS capability embedded with correction of positional errors due to ionospheric and orbital disturbances
- Internal RF switch for external antenna support

Environmental

- Dimensions: 18 x 18 x 6.1 mm
- Weight: <2 g
- Temperature range:
  - Operating temperature: -40 to +85°C
  - Storage temperature: -40 to +85°C

Interfaces

- UART
- PPS for precise timing

Approvals

- RoHS compliant
- RED

Electrical & Sensitivity

- Current consumption
  - Low power tracking: 9mW
  - Full power tracking: <54mW (G+G)
  - Full power acquisition: <61mW (G+G)
- Sensitivity
  - Acquisition: -148 dBm
  - Navigation: -163 dBm
  - Tracking: -165 dBm
- Power supply
  - Range from 3 up to 4.3v
- Positional accuracy (CEP50):
  Autonomous Positional Error = 2.5m