



Product Description

The SE873K5-D is the dual-frequency evolution of the SE873K5 GNSS receiver. It is the latest addition to the established Telit Cinterion SE873 form factor.

The SE873K5-D is a multiconstellation L1 and L5 receiver encased in a 7 x 7 x 2.25 mm QFN-like package. It includes

- Embedded flash
- RTC and TCXO
- Preselection SAW filter for coexistence
- Adjustable gain for either active or passive antennas

The SE873K5-D can track and navigate all four GNSS constellations (GPS + Galileo + Glonass + Beidou) simultaneously in the signal frequencies L1/E1/G1/B1 and L5/E5/B2, achieving a sensitivity of -165 dBm. Using two frequencies reduces multipath effects and increases accuracy, even in harsh environments. The SE873K5-D provides GNSS information over a serial port (UART, I2C, or SPI* interface) using the NMEA protocol. Its low-power processing core delivers several customizable power-saving modes to optimize current draw. In addition to the standard pin-out, a product variant with a second power supply allows further reduction of consumption for power-sensitive applications.

The receiver supports both local and server-based assisted GNSS (A-GNSS) for improved time to first fix (TTFF).

Satellite-based augmentation system (SBAS) corrections from WAAS, EGNOS, MSAS and GAGAN can be used to increase positioning accuracy. The internal flash memory allows firmware (FW) updates and customization as well as extended ephemeris (EE) storage.

The SE873K5-D is the ideal solution for wearable devices and small, battery-powered portable solutions due to its:

- Compact form factor (7 x 7 x 2.5 mm)
- Latest generation chipset
- Advanced power mode

Key Benefits

- Complete GNSS module, including TCXO, RTC, LNA and flash memory
- Support of all global and regional constellations in the L1 and L5 bands: GPS/QZSS, Glonass, Galileo, Beidou, and NavIC
- Flexible power management modes for improved battery life
- Supports both local and server-based A-GNSS for improved TTFFs
- Satellite based augmentation system (SBAS) corrections increase positioning accuracy
- Ultralow power product variant supports additional power supply for reduced consumption
- SAW filter for better immunity and integrated PGA/LNA for optimal performances

AVAILABLE FOR

Worldwide



Family Concept

Telit Cinterion's positioning product portfolio results from over 30 years of experience in GNSS applications.

Our offering ranges from GPS-only and multiconstellation receivers to best-in-class multifrequency modules.

Our solutions support all major global satellite constellations (GPS, Galileo, GLONASS, BeiDou, QZSS, NavIC) ensuring robust, reliable, and precise location services across diverse environments.

Our modules span single-frequency and multifrequency architectures, including advanced dual-band receivers (L1/E1 + L5/E5) that significantly enhance accuracy and reduce multipath errors in urban settings.

The addition of a dual-frequency module to the SE873 family enhances its scalability while maintaining an ultra compact form factor.

Telit Cinterion's GNSS modules are widely deployed across industries reliability and integration are key. Common applications include:

- Fleet management
- GNSS-assisted Electronic toll collection (ETC)
- Infotainment systems
- GNSS-based sports and fitness devices

Variants

	Main Power Supply	2nd Supply	Pin-2-Pin with SE873K5
SE873K5-DP	1.8 V	N/A	Yes
SE873K5-DB	1.8 V	0.83 V / 0.7 V / 0.65 V	No (2nd Supply Pin)

Product Features

- Frequency Bands: GPS/QZSS L1 + L5, GLONASS L1, Galileo E1 + E5, BeiDou B1+ B2, NavIC L5
- Standards: NMEA
- SBAS (EGNOS, WAAS, GAGAN and MSAS) or QZSS L1S capability
- RTC for efficient power management
- Jammer rejection
- Local and server-based A-GNSS
- Low-power modes
- eLNA for optimal performances
- DGNSS support for submeter accuracy
- 20-pad QFN package

Environmental

- Dimensions: 7 x 7 x 2.25 mm
- Weight: 0.5 g
- Temperature range:
 - Operating temperature: -40 to +85°C
 - Storage temperature: -40 to +85°C

Interfaces

- 1st serial port: UART, I²C, or SPI*
- 2nd serial port: I²C
- 1PPS time mark pulse

Approvals

- RoHS complaint
- RED

Electrical & Sensitivity

- Power supply
 - Range from 1.75 up to 1.85 V
 - Optional second supply at 0.7 V (0.65 V to 0.83V)
- Power consumption: (1.8V) @1Hz **
 - Acquisition: 83 mW
 - Tracking and navigation: 90 mW
 - Hibernate (RTC mode): 36 μW
- Power consumption: (1.8V + 0.83V) @1Hz**
 - Acquisition: 64 mW
 - Tracking and navigation: 64 mW
 - Hibernate (RTC mode): 36 μW
- Power consumption: (1.8V + 0.7V) @1Hz-only**
 - Acquisition: 39 mW
 - Tracking and navigation: 40 mW
 - Hibernate (RTC mode): 36 μW
- Sensitivity
 - Acquisition: -147 dBm
 - Tracking and navigation: -165 dBm
- Horizontal positional accuracy - CEP50: < 1 m
- Time to first fix (90% @ -130 dBm)
 - Hot start: 1 s
 - Cold start: 26 s

*Roadmap
**Preliminary values on early samples

QUESTIONS? VISIT WWW.TELIT.COM/CONTACT-US

 Like Us on Facebook
  Follow Us on LinkedIn
  Follow Us on X
  Subscribe to Our Channel