

## ●● HE 910 Series

UMTS | HSPA+ 21.0/5.76 Embedded



### Product Description

The HE910 is our most compact multi-band HSPA+ LGA module series, with built-in GPS and GSM/EGPRS fallback at 28 x 28 mm. As a member of the xE910 LGA unified form factor family the HE910 series is pin-to-pin compatible with LTE, HSPA, GSM | GPRS and CDMA | EVDO xE910 family counterparts.

Featuring seven-band HSPA+ data rates of up to 21 Mbps (Cat 14) downlink and 5.7 Mbps (Cat 6) uplink, ideal for high performance global roaming.

The HE910 series is well-suited for a wide range of industrial and consumer applications with high data throughput requirements, including, asset & fleet tracking, in-car telematics, PDAs, security surveillance, personal navigation devices, e-readers and consumer electronics in general. Several variants are offered, ranging from low cost tri-band models with reduced throughput, to fully-loaded configurations including receiver diversity and high sensitivity A-GPS functionality.

### Key Benefits

- Seven-band HSPA+ for worldwide coverage
- Design once and deploy globally, thanks to xE910 unified form factor
- LGA package ideally suited for low profile integrated solutions, reducing cost in high-volume applications, as well as saving space and weight in portable devices
- Optional GPS ideal for applications requiring indoor fixes and simultaneous GPS with voice and data
- Perfect platform for a wide range of applications requiring HSPA connectivity

### Family Concept

The xE910 Unified Form Factor family is comprised of pin-to-pin compatible modules in Telit's broadest range of cellular air interfaces and band combinations making it a pillar of the concept "design once and deploy globally".

A one-time design and integration effort enables worldwide or regional device re-use across different data rates and wireless technologies with air interfaces in GSM | GPRS, UMTS | HSPA+, 1xRTT, EV-DO, and LTE (pre-release).

The xE910 family was conceived to enable applications to be easily upgraded in a number of ways. For example: migrating from 2G to 3G or 4G; or upgrading from 2 bands to 3, 4, or more. The family fully preserves the core design of the application or device from launch to phase-out with modules packaged in a common 28.2 x 28.2 mm LGA footprint. It is recommended for mid to high-volume, compact sized applications.

### Telit m2mLOCATE

m2mLOCATE is a Telit cloud-based service that provides a device's position based on observed cellular Cell-IDs. Accessing a database of over 40 million cell-IDs globally, m2mLOCATE can provide a position for every use-case including indoors/underground, outdoors, and boundary situations.



### m2mAIR Ready

This product is capable of supporting the extensive suite of m2mAIR value-added services and connectivity you can use to enhance your application and boost your competitive advantage.

#### AVAILABLE FOR

- EMEA
- North America
- Latin America
- APAC
- Korea
- Australia

#### Combine your Cellular module with

- Short Range modules



[www.telit.com](http://www.telit.com)

#### Complete, Ready to Use Access to the Internet of Things



Telit Modules + m2mAIR Value-Added Services including Connectivity

**m2mAIR**  
by Telit m2m experts

ONE STOP.  
ONE SHOP. NOW, INNOVATE!



	HE910-G*	HE910-DG*	HE910-D	HE910-EUR	HE910-EUD	HE910-EUG	HE910-NAR	HE910-NAD	HE910-NAG
Market	GLOBAL	GLOBAL	GLOBAL	EMEA/APAC/Latinamerica	EMEA/APAC/Latinamerica	EMEA/APAC/Latinamerica	North America	North America	North America
HSPA+ Upload (Mbps)	5.76	5.76	5.76	5.76	5.76	5.76	5.76	5.76	5.76
HSPA+ Download (Mbps)	21.0	21.0	21.0	7.2	7.2	7.2	7.2	7.2	7.2

**Frequencies**

UMTS   HSPA+ bands (MHz)	800/850, 900, AWS 1700, 1900, 2100	800/850, 900, AWS1700, 1900, 2100	800/850, 900, AWS 1700, 1900, 2100	800/850, 900, 2100	800/850, 900, 2100	800/850, 900, 2100	800/850, AWS1700, 1900	800/850, AWS1700, 1900	800/850, AWS1700, 1900
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**Features**

GSM   GPRS   EDGE Quad-band	●	●	●	●	●	●	●	●	●
Rx Diversity	●	●	●						
Data	●	●	●	●	●	●	●	●	●
Voice	●			●			●		
GNSS	●	●				●			●

\* HE910-G and HE910-DG are certified under the Model and Marketing Name "HE910"

## HE910 Series

### Product features

- Supported frequencies
  - GSM | GPRS | EDGE: 850, 900, 1800, 1900
  - UMTS | HSPA: 800/850\*, 900, AWS1700, 1900, 2100 MHz
 \* Bands B6 and B19 (800 MHz) are a subset of B5 (850 MHz) and supported as well.
- HSPA+ data up to 21.0 Mbps downlink / 5.76 Mbps uplink
- Quad Band GPRS and EDGE
- Optional GPS
- Rx Diversity
- Extended temperature range: specify temp range -40 +85°C
- SIM Access Profile
- 3GPP release 7 compliant
- Control via AT commands according to 3GPP TS 27.005, 27.007 and Telit custom AT commands
- Serial port multiplexer 3GPP TS27.010
- SIM application Tool Kits 3GPP TS 51.014
- Built in UDP/TCP/FTP/SMTP stack
- Digital voice and SMS
- IP stack with TCP and UDP protocol
- eCall compliant
- Standard and extended AT command set

- Downlink up to 21.0 Mbps (high-end variants)
- Downlink up to 7.2 Mbps (low-end variants)

- I2C
- 1.8 V / 3 V SIM interface

### Environmental

- Dimensions 28.2 x 28.2 x 2.2 mm

### Optional GPS Receiver

- SUPL 1.0
- High sensitivity for indoor reception, better than -165 dBm with A-GPS
- GPS Cold Start Autonomous (acquisition sensitivity) -147 dBm
- GPS Hot Start Autonomous -161 dBm
- GPS tracking mode -166 dBm
- Accuracy 3 m
- TTF from Cold Start 42 s
- TTF from Warm Start 30 s
- TTF from Hot Start 1.8 s
- Supports multi-channel GPS
- L1 1575.42 MHz
- GPS NMEA 0183 output format
- Datum WGS-84
- Dedicated GPS AT commands

### Approvals

- CE, GCF (Europe)
- FCC, PTCRB, IC (North America)
- RoHS Compliant

### Electrical & Sensitivity

- Output power
  - Class 4 (2 W, 33 dBm) @ GSM 850 / 900
  - Class 1 (1 W, 30 dBm) @ GSM 1800 / 1900
  - Class 3 (0.25 W, 24 dBm) @ UMTS
  - Class E2 (0.5 W, 27 dBm) @ EDGE 850 / 900
  - Class E2 (0.4 W, 26 dBm) @ EDGE 1800/1900
- Supply voltage
  - Nominal: 3.8 VDC
  - Range: 3.4 - 4.2 VDC
- Sensitivity
  - 111 dBm @ UMTS
  - 109 dBm @ GSM 850 / 900 MHz
  - 110 dBm @ DCS1800 / PCS1900 MHz

### Software

- Python\* version = 2.7.2
- Python\* script interpreter (module takes the application code directly in the Python\* language)
- Memory: 2MB of NV memory for the user scripts and 2 MB RAM for the Python engine usage

### Data

HSPA category 6 in uplink and up to category 14 in downlink

- Uplink up to 5.76 Mbps

### Interfaces

- 10 I/O ports maximum including multifunctional I/Os
- I2S for digital Audio interface
- USB 2.0 HS
- 2 UART
- SPI

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