

2G | 3G | 4G | GPS

MINI-PCI-E FAMILY

Mini-PCI-E interface

Telit Unified AT Command Set

Python Scripts Engine

Multi Band

RX Diversity

RoHS Compliant

Sierra Wireless MCx Compatible

USB 2.0 High Speed Compatible

Embedded FTP and SMTP Client

Serial Port Multiplexer

28 Channel GPS Receiver

Extended RF Sensitivity

Firmware upgrading over the air

Telit IoT LOCATE

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The cellular Mini-PCI-E module is designed to allow the user easy plug and play options for GSM, UMTS, HSPA, LTE and CDMA. With plug and play options via MiniPCI-E interface supporting the entire range of xE910 modules and options such as analog voice, active or passive GPS, USB, GPIO, SIM holder can easily be fulfilled without the need for re-work or re-design.

By providing a CMOS UART on the MiniPCI-E makes it electrically compatible with SIERRA WIRELESS MC Series, e.g. MC8795/MC8790/MC8780.

In most cases your design needs to provide flexibility depending which region the product is to be deployed and or certified. The MiniPCI-E form factor takes the guess work out of the design by providing a single connector for interfacing the entire range of radio types depending on your needs.

Interface

- USB 2.0 HS
- SIM connection –Class B and class C
- SIM holder (optional)
- CMOS UART, compatible with Sierra Wireless MC Series
- Analog audio (optional)
- RESET (On pin 22, compatible with Sierra Wireless MC Series)
- W_DISABLE
- Direction configurable GPIO
- LED_WWAN
- Serial port multiplexer 3GPP TS27.010
- VCC_MSM26_DIG power output for external level translators
- RESET on pin 22 (optional)

Order Part number

mPCI-HE-GP-6-ADGRS

- | | | | | |
|--|--|--|--|--|
| | | | | → Options |
| | | | | A: Analog Audio enabled (Compatible with MC series) |
| | | | | D: Diversity antenna connector mounted |
| | | | | G: 3 Direction configurable GPIOs enabled |
| | | | | R: Extra RESET on pin 22(compatible with MiniPCI-E standard) |
| | | | | S: SIM holder mounted |
| | | | | → Modem firmware version xx.xx.xx6. |
| | | | | → Modem type, e.g. EUGA: HE910-EUG with active GPS. |
| | | | | EUD: HE910-EUD. |
| | | | | → Modem series, HE/LE/UE/DE/GE/CE910. |

E.g. mPCI-HE-GP-6: MiniPCI-E based on HE910-G with passive GPS.

mPCI-HE-GA-6-AR: MiniPCI-E based on HE910-G with Active GPS, analog audio and RESET on pin 22.

mPCI-HE-EUR-6-A: MiniPCI-E based on HE910-EUR with analog audio.

Note: Pictures on the top is fully loaded, part number: mPCI-HE-DGA-6-ADGRS.



LE910 Mini PCIe

Product Features

Supported frequencies:

- EUG variant (European)
 - LTE: 800 (B20) / 1800 (B3) / 2600 (B7)
 - UMTS | HSPA: 900, 2100 MHz
- NAG variant (NA market – AT&T)
 - LTE: 700 (B17) / 850 (B5) / AWS1700 (B4) / 1900 (B2)
 - UMTS | HSPA: 850, 1900 MHz
 - GSM | GPRS | EDGE: 850, 1900 MHz
- NVG variant (NA market - Verizon)
 - LTE: 700 (B13) / AWS1700 (B4)
 - UMTS | HSPA: 850, 1900 MHz
- AU-V2 variant (Australia)
 - LTE: 700 (B28) / 2600 (B7) / 1800 (B3)
- SV-V2 variant (Verizon)
 - LTE: 1900 (B2) / AWS1700 (B4) / 700 (B13)
- EU-V2 variant (Europe)
 - LTE: 1800 (B3) / 2600 (B7) / 800 (B20) / 2100 (B1) / 900 (B8)
 - UMTS | HSPA: 2100 (B1) / 900 (B8)
 - GSM | GPRS | EDGE: 1800(B3) / 900 (B8)
- Embedded GPS | GLONASS receiver
- Rx Diversity and MIMO 2x2
- 3GPP release 9 compliant
- SIM application Tool Kits 3GPP TS 51.014
- Built in UDP / TCP / FTP / SMTP stack
- IP stack with TCP and UDP protocol
- Standard and extended AT command set

Data

LTE cat 3

- Uplink up to 50 Mbps
- Downlink up to 100 Mbps

HSPA+

- Uplink up to 5.76 Mbps
- Downlink up to 42 Mbps

Electrical & Sensitivity

- Output power
 - Class 4 (2 W, 33 dBm) @ GSM 850 / 900
 - Class 1 (1 W, 30 dBm) @ GSM 1800 / 1900
 - Class E2 (0.5 W, 27 dBm) @ EDGE 850 / 900
 - Class E2 (0.4 W, 26 dBm) @ EDGE 1800 / 1900
 - Class 3 (0.25 W, 24 dBm) @ UMTS

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HE910 Mini PCIe

Product Features

- Supported frequencies:
 - GSM | GPRS | EDGE: 850, 900, 1800, 1900
 - UMTS | HSPA: 800 / 850*, 900, AWS 1700, 1900, 2100 MHz
 - * Bands B6 and B19 (800 MHz) are a subset of B5 (850 MHz) and supported as well.
- Optional high sensitivity GPS | A-GPS receiver (SUPL 1.0)
- Rx Diversity
- 3GPP release 7 compliant
- SIM application Tool Kits 3GPP TS 51.014
- Built in UDP/TCP/FTP/SMTP stack
- IP stack with TCP and UDP protocol
- Standard and extended AT command set
- Available variants:
 - Voice, Data and GPS
 - Data-Only

Data

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

- Uplink up to 5.76 Mbps
- Downlink up to 21.0 Mbps

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: 3.3 VDC +/- 9%
- Sensitivity
 - 108 dBm @ UMTS
 - 107 dBm @ GSM 850 / 900 MHz
 - 106 dBm @ DCS1800 / PCS1900 MHz

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DE910 Mini PCIe

Product Features

- Dual-band EV-DO Rev.A 800 / 1900 MHz
- Dual-mode GPS (standalone and gpsOne®) and GLONASS
- Standard and Telit Unified AT command sets
- RX diversity for increased performance
- Built in UDP/TCP/IP stack
- Full voice support includes
- 2-way SMS support

Data

- CDMA 1xRTT / EV-DO Rev. A
- Air interface IS-95A/B and CDMA 2000
- 1x EVDO (Rev. A) data up to 3.1 Mbps
- Downlink and 1.8 Mbps Uplink

Electrical & Sensitivity

- Supply voltage: 3.3 VDC +/- 9%
- Sensitivity:
 - CDMA 1x: < -108 dBm
 - 1x EV-DO: < -109 dBm
- Maximum RF output power:
 - 24 dBm [typical] for EVDO
 - 24.4 dBm [typical] for 1x

Environmental

- Dimensions:
 - 51 x 30 x 3.2 mm
 - 51 x 30 x 4.8 mm (with optional sim-holder)
- Weight: 10 grams
- Temperature range -40 to +85°C
- REACH and RoHS compliant

Python* application resources

- 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

