LE910 Cat.1 Mini PCIe Series

Product Description
The LE910 series of Cat. 1 Mini PCIe (mPCIe) modules are optimized for LTE low category networks and are available in single mode and 3G/2G fallback options. In addition to VoLTE support, the LE910 Cat.1 series are swappable with other modules in the xE910 mPCIe family.

Key Benefits
• Standard Mini PCIe Data-card form factor
• Easy to integrate with peripherals and actuators using USB 2.0 HS, UART and user definable GPIOs
• Battery-friendly 1.8V GPIO
• Ideal platform for IoT applications and mobile data computing devices with ultra-compact design and extended operating temperature range
• Internet friendly with integrated TCP/IP and UDP/IP stacks, as well as HTTP, SMTP, FTP, SSL
• Simple drop-in migration and technology design reuse path to 2G and 3G with any xE910 module
• Over-the-Air firmware update

Family Concept
Longevity and cost efficiency are built right into the developer’s product architecture with the Telit family, “design once, use anywhere” philosophy. Designers looking to add LTE Cat 1 to commercial and industrial computing devices benefit from the simple, yet powerful mPCIe form factor with the flexibility to choose another technology best suited for the application environment from any one of the other models in the xE910 mPCIe series.

IoT Connectivity Ready
This product is capable of supporting the extensive suite of Value Added Services from IoT Connectivity including Module Management and others which make the management of IoT deployments under mobile networks effective, enhancing profitability and reliability. It is also Portal-ready which means that the AT command library in this module includes a set of high-level commands designed exclusively for quick and hassle-free on-boarding of the device to the portal and to back-end systems and servers. Telit Portal-ready modules powered by deviceWISE make application-level data flows and controls simple to program, maintain and improve.

Variants
Different series of variants are available to fulfill the requirements of North American, Japanese and European markets. Multiband configurations, covering different sets of 4G bands as well as MNO certifications, are available.
**LE910 Cat.1 Series**

**Product Features**
- LTE FDD Cat.1, 3GPP release 9 compliant
- Rx Diversity and MIMO DL 2x2
- SIM application Tool Kit 3GPP TS 51.014
- Serial port multiplexer 3GPP TS27.010
- SMS over IMS
- Voice VoLTE

**Data**
- LTE Cat.1
  - Uplink up to 5 Mbps
  - Downlink up to 10 Mbps

**Environmental**
- Dimensions 51 x 30 x 3.2 mm
- Operating and Storage Temperature Range -40°C to +85°C
- REACH and RoHS compliant

**Interfaces**
- 144-pin LGA Interface
- 10 I/O ports (1.8V) including multifunctional I/Os
- USB 2.0 HS
- UART
- 1.8 V / 3 V SIM interface
- RF pad, RX Div. & MIMO pad

**Approvals**
- FCC/IC, PTCRB, GCF (North America)
- R&TTE/GCF (Europe)
- Radio/Telecom Biz Act (Japan)

**Electrical & Sensitivity**
- Output power
  - Class 3 (0.2 W, 23 dBm) @ LTE
  - Class 3 (0.25 W, 23 dBm) @ 3G
  - Class 4 (2W) @ GSM 900
  - Class 1 (1W) @ DCS 1800
- Supply voltage
  - Nominal: 3.8 VDC
  - Range: 3.3 - 4.2 VDC

**Software and Application Development**
- AppZone application resources
  - Programming language: C
  - IDE: Eclipse
  - Dedicated File System: 5 MB
  - Separate App. RAM Space: 2 MB

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**LE910-SV1**
- North America (Verizon)

**LE910-NA1**
- North America (AT&T, T-Mobile)*

**LE910-EU1**
- Europe

**LE910-JN1**
- Japan (NTT DoCoMo)

**Frequencies**

<table>
<thead>
<tr>
<th>4G bands (MHz)</th>
<th>LE910-SV1</th>
<th>LE910-NA1</th>
<th>LE910-EU1</th>
<th>LE910-JN1</th>
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<tbody>
<tr>
<td>B2(1900)W</td>
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<td></td>
<td>B12(1900)</td>
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<tr>
<td>B4(AWS1700)</td>
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<td>B19(1800)</td>
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<td>B13(700)</td>
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<td></td>
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<td>B21(1500)</td>
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<tr>
<td>B2(1900), B4(AWS1700), B5(850), B12/B13(700)</td>
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**3G bands (MHz)**

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<thead>
<tr>
<th>B2(1900)</th>
<th>LE910-SV1</th>
<th>LE910-NA1</th>
<th>LE910-EU1</th>
<th>LE910-JN1</th>
</tr>
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<tbody>
<tr>
<td>B3(1800)</td>
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<tr>
<td>B7(2600)</td>
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<td>B8(900)</td>
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<td>B20(800)</td>
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**2G bands (MHz)**

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<tr>
<th>B3(1800), B8(900)</th>
<th>LE910-SV1</th>
<th>LE910-NA1</th>
<th>LE910-EU1</th>
<th>LE910-JN1</th>
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*Single SKU option available for LE910-NA1 with flexibility to switch between AT&T/T-Mobile and Verizon software configuration and vice versa, due to both operators bands support (B2, B4, B5, B12 for AT&T and B2, B4, B13 for Verizon) featuring a Fast Time Switch from one configuration to the other one.

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