



Product Summary

MPCI-L2 series

Multi-mode LTE Cat 4 Mini PCIe modules with HSPA+ / 2G fallback



Standard



Professional



Automotive

TOBY-L2 in MPCI form factor

- Powerful LTE modules in industry-standard Mini PCIe package
- Highest throughput of up to 150 Mbit/s with LTE Cat 4
- Variants for Americas, Europe, and APAC
- Deliver critical firmware updates over the air
- Industrial temperature range -40°C to $+85^{\circ}\text{C}$
- MPCI-L201 switches automatically between AT&T and Verizon

30.0 × 51.0 × 3.7 mm



Product description

MPCI-L2 series modules support multi-band LTE-FDD, along with DC-HSPA+ and EGPRS.

With 3GPP Rel. 9 and LTE Cat 4, which provides data throughput up to 150 Mbit/s, the modules are ideal for both industrial and consumer applications requiring the highest data rates.

Typical applications are industrial computing, ruggedized terminals, video communication, wireless routers, alarm panels and surveillance, digital signage, and payment systems.

The temperature range of -40°C to $+85^{\circ}\text{C}$ guarantees operation in harsh environments, making the modules suitable for industrial applications.

The modules support DC-HSPA+ guaranteed connectivity, even in areas that do not yet have LTE coverage.

The industry standard Mini PCIe package enables easy integration onto an application board, and is also ideal for manufacturing of small series.

MPCI-L2 modules are manufactured in ISO/TS 16949 certified sites, with the highest production standards and the highest quality and reliability. Each module is fully tested and inspected during production.

The MPCI-L2 series comes in module variants for North America, Europe/ Asia/ Africa, APAC/ South America, and Japan.

USB drivers and RIL software for Android are free of charge.

| | MPCI-L200 | MPCI-L201 | MPCI-L210 | MPCI-L220 | MPCI-L280 |
|--------------------------|----------------------------|-----------------|----------------------|----------------|----------------------|
| Grade | | | | | |
| Automotive | | | | | |
| Professional | • | • | • | • | • |
| Standard | | | | | |
| Regions | | | | | |
| | North America | North America | EU/ APAC | Japan | S. America/ APAC |
| Access Technology | | | | | |
| GSM/GPRS bands | Q | | Q | | Q |
| UMTS/HSPA [MHz] | 850, 900, 1700, 1900, 2100 | 850, 1900 | 850, 900, 1900, 2100 | 850, 900, 2100 | 850, 900, 1900, 2100 |
| LTE FDD bands | 2, 4, 5, 7, 17 | 2, 4, 5, 13, 17 | 1, 3, 5, 7, 8, 20 | 1, 3, 5, 8, 19 | 1, 3, 5, 7, 8, 28 |
| Data rate | Cat 4 | Cat 4 | Cat 4 | Cat 4 | Cat 4 |
| Interfaces | | | | | |
| USB | 1 | 1 | 1 | 1 | 1 |
| Features | | | | | |
| Network indication | • | • | • | • | • |
| Antenna detection | | | | | |
| Embedded TCP/UDP | • | • | • | • | • |
| Embedded FTP/HTTP | • | • | • | • | • |
| Embedded TLS 1.2 | • | • | • | • | • |
| FW update via serial | • | • | • | • | • |
| FOTA | • | • | • | • | • |
| Rx diversity | • | • | • | • | • |
| Dual stack IPv4/IPv6 | • | • | • | • | • |
| MIMO 2x2 | • | • | • | • | • |

Q = Quad-band

Cat 4 = LTE Cat 4 (150 Mb/s download, 50 Mb/s upload)

MPCI-L2 series



Features

| | |
|---------------|---|
| LTE | Cat 4 (150 Mbit/s DL, 50 Mbit/s UL) 3GPP Release 9 FDD Bands: – MPCI-L200: 2, 4, 5, 7, 17 (N. America) – MPCI-L201: 2, 4, 5, 13, 17 (USA) – MPCI-L210: 1, 3, 5, 7, 8, 20 (EU/Asia/Africa) – MPCI-L220: 1, 3, 5, 8, 19 (Japan) – MPCI-L280: 1, 3, 5, 7, 8, 28 (APAC/S. America) All channel bandwidths: 1.4 - 20 MHz MIMO 2x2 Rx diversity |
| UMTS/DC-HSPA+ | Bands (in MHz): – MPCI-L200: 850/900/AWS/1900/2100 – MPCI-L201: 850/1900 – MPCI-L210: 850/900/1900/2100 – MPCI-L220: 850/900/2100 – MPCI-L280: 850/900/1900/2100 42 Mbit/s downlink, 5.76 Mbit/s uplink |
| GSM | Bands (in MHz): – MPCI-L200: 850/900/1800/1900 – MPCI-L210: 850/900/1800/1900 – MPCI-L280: 850/900/1800/1900 GPRS & EDGE Class 12 |
| SMS | MT/MO PDU / Text mode SMS over IMS and via SMS-C |

Software features

| | |
|------------------|---|
| Protocols | Dual stack IPv4 / IPv6 Embedded TCP/IP, UDP/IP HTTP/FTP/SSL (Secure Socket Layer) |
| Firmware upgrade | Via USB Via FOTA |

Interfaces

| | |
|--------------|---|
| RF (antenna) | 2 UFL (50 Ω) Connectors (main and diversity) |
| Data | 1 USB 2.0 (high-speed, 480 Mbit/s) |
| (U)SIM | Supports 1.8 V and 3 V, SIM toolkit |

Package

52-pin PCI Express Full-Mini Card Type F2
30.0 x 51.0 x 3.7 mm, 9.7 g (components on top side only)

Electrical data

| | |
|---------------------|---|
| Power supply | DC 3.0 - 3.6 V |
| Consumption current | Connected mode LTE max power: 815 mA Idle mode: 1.8 mA |

Environmental data, quality & reliability

Operating temperature –40 °C to +85 °C (extended range)

RoHS compliant (lead-free)

Manufactured in ISO/TS 16949 certified production sites

Certifications and approvals

| | |
|-----------|---|
| MPCI-L200 | PTCRB, GCF, FCC, ISED (formerly known as IC), RED (formerly known as R&TTE), AT&T, Anatel (Brazil) |
| MPCI-L201 | FCC, ISED (formerly known as IC) |
| MPCI-L210 | PTCRB, GCF, FCC, ISED (formerly known as IC), RED (formerly known as R&TTE), NCC, KCC (Korea), Giteki (Japan), Softbank (Japan), RCM (Australia) Operator approvals |
| MPCI-L220 | Giteki (Japan) |
| MPCI-L280 | PTCRB, GCF, FCC, ISED (formerly known as IC), RED (formerly known as R&TTE), Anatel (Brazil), NCC (Taiwan), RCM (Australia) |

Support products

| | |
|--------------|---|
| RIL software | Available for Android |
| USB driver | Available for Embedded Windows 6.0, 7, 2013 and Windows 7, 8, 8.1, 10 |

Product variants

| | |
|-----------|---|
| MPCI-L200 | LTE Cat 4 modules for North America; 2G and 3G fallback; LTE bands 2, 4, 5, 7, 17 |
| MPCI-L201 | LTE Cat 4 modules for North America; 3G fallback; LTE bands 2, 4, 5, 13, 17 |
| MPCI-L210 | LTE Cat 4 modules for Europe and APAC; 2G and 3G fallback; LTE bands 1, 3, 5, 7, 8, 20 |
| MPCI-L220 | LTE Cat 4 modules for Japan; 3G fall-back; LTE bands 1, 3, 5, 8, 19 |
| MPCI-L280 | LTE Cat 4 modules for APAC and South America; 2G and 3G fallback; LTE bands 1, 3, 5, 7, 8, 28 |

Further information

For contact information, see www.u-blox.com/contact-us.

For more product details and ordering information, see the [product data sheet](#).

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