



Lena family: PCI Express MiniCard Data Module

Product Description:

The new generation of Lena series is designed for M2M applications in partnership with Gemalto M2M, the worldwide leading supplier of wireless modules for the cellular machine-to-machine (M2M) communication market. This series of devices is based on the miniPCI Express Mini Card standard with a USB 2.0 interface. With a variety of advanced air interfaces supported, Lena series enables any mobile computing device to be a communication tool! It comes two product families: Lena_M & Lena_X.



Key Features:

- Worldwide band coverage
- Spans all technologies: GSM/GPRS/EDGE, HSPA+, EVDO+ HSPA, EVDO, LTE
- Supports the following OS: Windows®8, Windows®7, Linux, Android
- SIM card holder for M2M and vertical applications

Specifications:

- **Air Interface:**
 - GSM/GPRS/EDGE
 - WCDMA/UMTS/HSPA
 - CDMA2000 EV-DO Rev. A
 - LTE FDD
- **Antenna Diversity:**
 - Diversity supported
- **Connectors:**
 - Antenna: U. FL 50 Ohm for 2G/3G
 - Main Connector: 52-Pin Edge
 - Mini-SIM card connector (Option)
- **Interface:**
 - USB 2.0
 - USIM/SIM
 - Wake up
 - Status LED
 - Reset
- **Dimension**
 - Full size form factor
 - 51.0 mm (L) × 30.0 mm (W) × 4.75 mm (H)
- **Weight**
 - < 6g
- **Electrical data**
 - DC Power supply : 3.0~3.6V
- **Environmental :**
 - Operation Temperature : -30°C to +85°C (board temperature)
 - Storage Temperature : -40°C to +85°C
- **GPS (LTE SKU ready in Rel2 version)**
 - Standalone GPS and GLONASS
 - GNSS dedicated AT commands
 - A/GPS support: standalone, XTRA®, CP E911
 - Protocol: NMEA-0183 V2.3

Applications:

- Wireless terminal
- Fleet management
- Tracking
- Utility metering
- In-Vehicle infotainment

Support & Service:

- Evaluation board are available
- Connection Manager
- RIL support

Distributed by:



High Level Specification

miniPCI Express Data Card: Lena_M (LM)				
Product Name	LM_PHS8-P	LM_PXS8	LM_PLS8V-E	LM_PLS8V-US
Gemalto PN	PHS8-P	PXS8	PLS8-E (Rel2.1)	PLS8-US (Rel2.1)
Air Interface	HSPA+	HSPA+/EV-DO Rev A	LTE (Europe)	LTE (America)
Data Speed	DL: 14.4 Mbps UL: 5.76 Mbps	DL: 14.4 Mbps UL: 5.76 Mbps	DL: 100 Mbps UL: 50 Mbps	DL: 100 Mbps UL: 50 Mbps
Frequency band (MHz)				
GSM/GPRS/EDGE	850/900/1800/1900	850/900/1800/1900	900/1800	850/900/1800/1900
HSPA+/UMTS	800/850/900/1900/ 2100	800/850/900/1900/ 2100	900/1800/2100	850/AWS(1700) /1900
CDMAx1 RTT/ EV-Do Rev A		800 (BC0) /1900 (BC1) & 800 (BC10 subclass 2+3)		
FDD-LTE			800/900/1800/2100/ 2600	700/850/AWS(1700)/ 1900
Antenna				
Connector	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Diversity	✓, UMTS	✓, UMTS/CDMA	✓, UMTS/LTE	✓, UMTS/LTE
MIMO			✓, 2x2	✓, 2x2
GNSS & GPS	Option: – Standalone GPS and GLONASS – Active/Passive – GNSS dedicated AT commands – A/GPS support: standalone, XTRA®, CP E911 – Protocol: NMEA-0183 V2.3 – Option for temporary NMEA stream buffering			
Voice	Option	Option	Option	Option
SIM card holder	Option	Option	Option	Option
Control options	AT command	AT command	AT command	AT command
OS compatibility	Windows®8, Windows®7, Windows EC, Linux, Android			

Ordering information

Please email to innocomm@innocomm.com or call +886-3-5781868 for more information.

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