LOW-POWER RF
MODULE FOR EUROPE



XBEE® 868LP FOR EUROPE

RF module family operates in the 863-870 MHz range utilizing 30 channels to deliver superior performance and interference immunity at 868 MHz

The XBee 868LP module was designed to provide a high-performance, low-power module at an extremely competitive price point. The XBee 868LP module can run either a proprietary DigiMesh® or point-to-multipoint networking protocol utilizing a low-power Energy Micro microcontroller and an Analog Devices ADF7023 transceiver, which offers industry-leading interference blocking. The XBee 868LP operates between 863-870 MHz, making it deployable in several regions throughout the world including approved European countries and India by utilizing a software selectable channel masking feature.

The XBee 868LP is also the industry's first RF module using 868 MHz and surrounding frequencies for LBT + AFA (Listen Before Talk and Adaptive Frequency Agility). This virtually eliminates interference by listening to the radio environment before any transmission starts, and automatically shifting to a new channel when interference is detected. This patent-pending frequency scan occurs automatically and in a matter of microseconds so as not to impact performance.

The programmable version of the XBee 868LP module makes customizing wireless applications easy. Programming directly on the module eliminates the need for a separate host processor. Because the wireless software is isolated, applications can be developed with no risk to RF performance, security or additional certifications.

BENEFITS

- Industry's first RF module to utilize LBT + AFA for interference immunity
- Modules can operate in DigiMesh or point-to-multipoint wireless networking topologies
- Programmable versions of the XBee 868LP enable custom application development
  - 8-bit Freescale™ S08 microprocessor brings custom intelligence to the module
  - XBee-specific CodeWarrior® development tools for easy programming
- Pin-compatible with other XBee SMT modules
- RF throughput up to 50 Kbps

RELATED PRODUCTS


Gateways

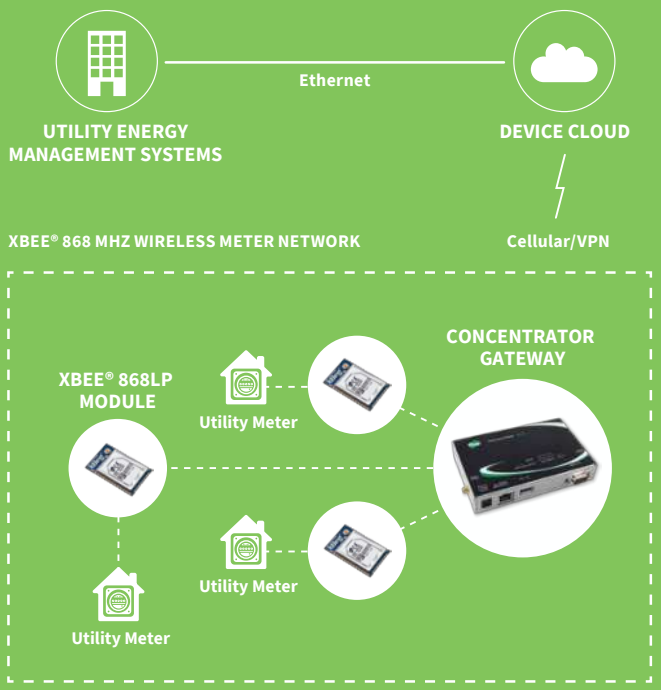

Modules


Digi Device Cloud℠


Technical Services

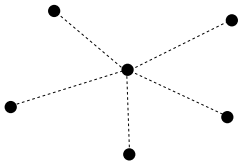

Development Kits

APPLICATION EXAMPLE

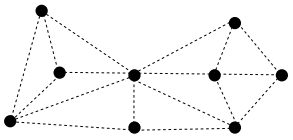


SPECIFICATIONS	XBee® 868LP for Europe	Programmable XBee® 868LP for Europe
HARDWARE		
PROCESSOR	ADF7023 transceiver, Cortex™-M3 EFM32G230 @ 32 MHz	
FREQUENCY BAND	863 MHz to 870 MHz	
ANTENNA OPTIONS	U.FL, RF pad, PCB (PCB antenna only approved with 10 Kbps data rate)	
PERFORMANCE		
RF DATA RATE	10 Kbps or 80 Kbps	
INDOOR/URBAN RANGE	Up to 370 ft (112 m) w/2.1 dBi antenna, up to 46 ft (14 m) w/PCB embedded antenna	
OUTDOOR/LINE-OF-SIGHT RANGE	Up to 5.2 miles (8.4 km) w/2.1 dBi antenna, up to 0.4 miles (.64 km) w/PCB embedded antenna	
TRANSMIT POWER	Up to 14 dBm (25 mW) E.I.R.P. w/ 2 dBi antenna, software selectable	
RECEIVER SENSITIVITY	-101 dBm @ 80 Kbps, -106 dBm @ 10 Kbps	
FEATURES		
I/O	13	
ANALOG INPUTS	4 channels 10-bit	
OPERATING TEMPERATURE	-40° C to +85° C	
NETWORKING TOPOLOGIES	DigiMesh®, Repeater, Point-to-point, Point-to-multipoint, Peer-to-peer	
PROGRAMMABILITY		
MEMORY	N/A	32 KB Flash / 2 KB RAM
CPU/CLOCK SPEED	N/A	HCS08 / Up to 50.33 MHz
POWER		
SUPPLY VOLTAGE	2.7- 3.6 VDC	
TRANSMIT CURRENT	48 mA	62 mA
RECEIVE CURRENT	27 mA	41 mA
SLEEP CURRENT	1.7 uA	2.3 uA
REGULATORY APPROVALS		
ETSI (EUROPE)	CE	
ROHS	Yes	

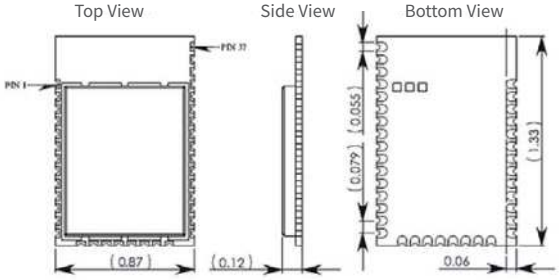
Point-to-Multipoint / Star



DigiMesh



Top View Side View Bottom View



PART NUMBERS	DESCRIPTION
XB8-DMRS-002	XBee 865/868LP RF pad Antenna 80kbps
XB8-DMUS-002	XBee 865/868LP U.FL Antenna 80kbps
XB8-DMPS-002	XBee 865/868LP PCB Antenna 80kbps (Not Approved in Europe)
XB8-DPPS-001	XBee 865/868LP PCB Antenna 10kbps
XB8-DPRS-001	XBee 865/868LP RF pad Antenna 10kbps
XB8-DPUS-001	XBee 865/868LP U.FL Antenna 10kbps
XB8-DMPSB002	XBee DigiMesh 865/868LP PCB Antenna 80Kbps, 32K Programmable (Not Approved in Europe)
XB8-DMUSB002	XBee DigiMesh 865/868LP U.FL Antenna 80Kbps, 32K Programmable
XB8-DMRSB002	XBee DigiMesh 865/868LP RF Pad Antenna 80Kbps, 32K Programmable
XK8-DMS-0	XBee 865/868LP Dev Kit Modules in this kit require additional configuration for use in India. See the Product Manual for more details
XK8-DMSB0	XBee 865/868LP Dev Kit 32K Programmable

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