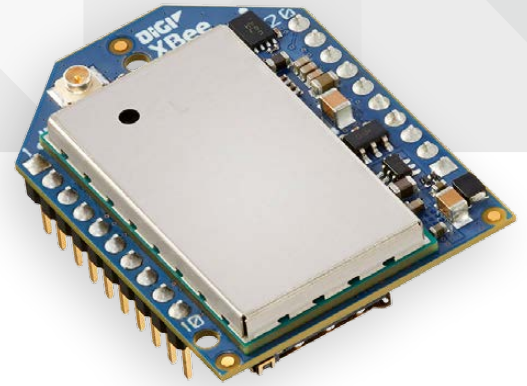


LTE-M CELLULAR
EMBEDDED MODEM
FOR NORTH AMERICA



DIGI XBEE® CELLULAR LTE-M

Digi XBee Cellular LTE-M embedded modems provide OEMs with a simple way to integrate low-power cellular connectivity into their devices.

LTE-M, part of 3GPP's release 13, is designed to address a growing demand in the IoT community for low-power, long-range options for IoT devices. Two new key features included in the LTE-M specification include;

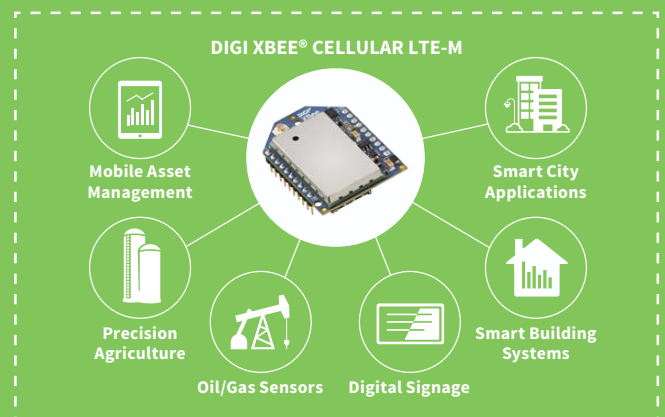
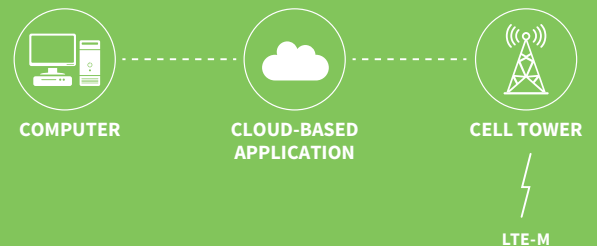
- LTE eDRX (Extended Discontinuous Reception) – Increases the length of time an LTE-M device can sleep in between 'check-ins' with the LTE network.
- LTE PSM (Power Saving Mode) – LTE-M device notifies the network that it is going to sleep indefinitely. When the device wakes up, it can transmit data, then will remain in idle Rx mode for at least 4 frames, then it can go back to sleep indefinitely. LTE-M devices using PSM that transmit once per day should see battery life in the 5-10 year range on simple AA batteries.

The Digi XBee Cellular LTE-M is a low-cost, low power wide area (LPWA) embedded cellular modem. It is FCC and carrier end-device certified which completely eliminates the cost, complexity, and risk involved in the cellular certification process. The modem is programmable, with support for custom MicroPython applications running directly onboard, allowing users to create and run custom applications on their device and eliminating the need for an external microcontroller in certain use-cases. It includes the full suite of standard XBee API frames and AT commands, so existing customers can drop this modem into their existing designs to instantly achieve cellular integration, without the pain and hassle of doing a complete re-design.

BENEFITS

- FCC certified and carrier end-device certified
- Excellent coverage and building penetration
- Digi XBee Transparent and API modes simplify design
- Low power consumption optimized for long battery life
- Direct USB provides easy PPP integration option
- Reduced hardware complexity with only 1 antenna required
- Integrated MicroPython programmability enables custom scripting directly on the modem
- Enhanced with Digi TrustFence® security framework
- Manage and configure with XCTU and Digi Remote Manager®
- Available with Digi provided SIM cards and data plans

APPLICATION EXAMPLE



RELATED PRODUCTS



Development
Kits



ConnectCore®
6UL SBC Pro



XCTU



Digi Remote
Manager®



Digi
TrustFence®

SPECIFICATIONS

Digi XBee® Cellular LTE-M

INTERFACES AND HARDWARE

CHIPSET REFERENCE	u-blox R404M/R410M
SERIAL DATA INTERFACE	UART, SPI coming soon
CONFIGURATION METHODS	AT Commands, API Frames, local or OTA
OPERATING MODES	Transparent, API, Bypass
PROGRAMMABILITY	MicroPython with 8 KB Flash / 24 KB RAM
ANALOG I/O	4 ADC lines (10-bit)
DIGITAL I/O	15 DIO lines
FORM FACTOR	Digi XBee 20-pin through-hole

ANTENNA OPTIONS	1 U.FL
DIMENSIONS	24.38 mm x 32.94 mm
OPERATING TEMPERATURE	-40° C to +80° C

RF CHARACTERISTICS

MODULATION	LTE-M
TRANSMIT POWER	Up to 23 dBm
RECEIVE SENSITIVITY	TBD

NETWORKING AND CARRIER

CARRIER AND TECHNOLOGY	Verizon / AT&T LTE-M
SUPPORTED BANDS	Verizon – 4,13 / AT&T – 2,4,12
SECURITY	Digi Trustfence® security with Secure Boot, Encrypted Storage, Protected JTAG
RF THROUGHPUT	Up to 384 kbps
DOWNLINK/UPLINK SPEEDS	Up to 1 Mbps
DUPLEX MODE	Half-Duplex

POWER REQUIREMENTS

SUPPLY VOLTAGE	3.0 to 4.3 V
TRANSMIT CURRENT	TBD
RECEIVE CURRENT	TBD
IDLE CURRENT (LISTENING)	TBD
DEEP SLEEP	TBD

REGULATORY AND CARRIER APPROVALS

FCC (USA)	Contains FCC: TBD
IC (CANADA)	Contains IC: TBD
END DEVICE CERTIFIED	Verizon, AT&T, and PTCRB

PART NUMBERS

DESCRIPTION

XBC-V2-UT-001	Digi XBee Cellular LTE-M, Verizon, U.FL, TH, USA
XBC-A2-UT-001	Digi XBee Cellular LTE-M, AT&T, U.FL, TH, North America
XKC-V2T-U	Digi XBee Cellular LTE-M Development Kit, Verizon, USA
XKC-A2T-U	Digi XBee Cellular LTE-M Development Kit, AT&T, North America