DIGI

NB-IoT CELLULAR
EMBEDDED MODEM
FOR EUROPE

DIGI XBEE®
CELLULAR NB-IoT

Digi XBee Cellular NB-IoT embedded modems provide OEMs with a simple way to integrate low-power narrow-band cellular connectivity into their devices.

Digi XBee Cellular Narrowband IoT (NB-IoT) is a low-cost, low power wide area (LPWA) embedded cellular modem designed specifically to handle small amounts of data over existing cellular networks, provide improved range, and optimized for maximum battery life.
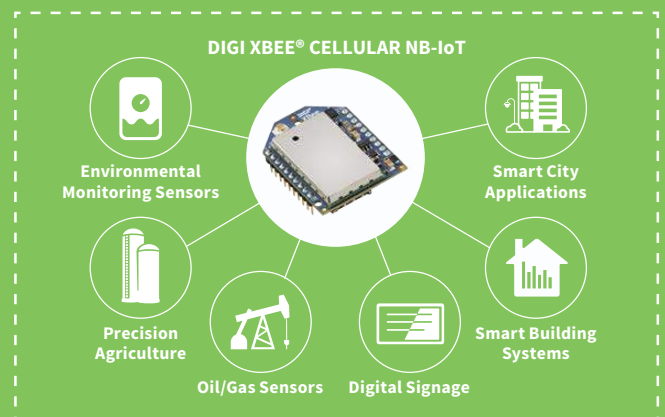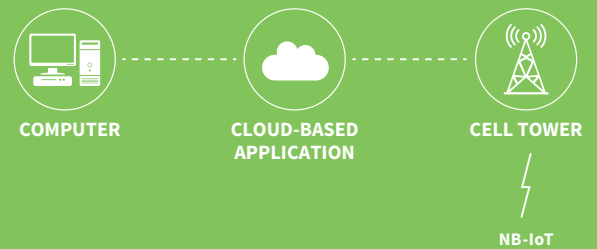
The modem is programmable, with support for custom MicroPython applications running directly onboard, allowing users to more efficiently manage their devices and eliminating the need for an external microcontroller in certain use-cases.

It includes the full suite of standard Digi XBee API frames and AT commands, so existing customers can simply drop this modem into their existing designs to instantly achieve cellular integration, without the pain and hassle of doing a complete re-design. It is also CE/RED certified, making it ideal for use in LPWA applications in Europe.
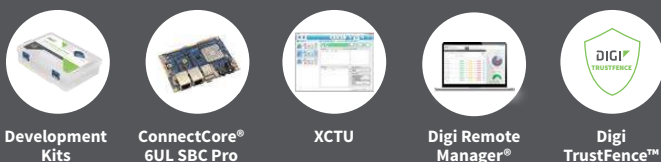
BENEFITS

– Extremely low power consumption for battery life of 10+ years
– Excellent coverage and building penetration
– Reduced hardware complexity with only 1 antenna required
– Transparent and API modes simplify software integration
– Integrated MicroPython programmability
– Enhanced with Digi TrustFence™ security framework
– CE/RED certified and network tested
– Manage and configure with XCTU and Digi Remote Manager®
– Available with Digi provided SIM cards and data plans

APPLICATION EXAMPLE

COMPUTER
CLOUD-BASED APPLICATION
CELL TOWER

NB-IoT

DIGI XBEE® CELLULAR NB-IoT

Environmental Monitoring Sensors
Smart City Applications
Precision Agriculture
Oil/Gas Sensors
Digital Signage
Smart Building Systems

RELATED PRODUCTS

Development Kits

ConnectCore® 6UL SBC Pro

XCTU

Digi Remote Manager®

Digi TrustFence™

SPECIFICATIONS — Digi XBee® Cellular NB-IoT

INTERFACES AND HARDWARE

CHIPSET REFERENCE	u-blox N210
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	-40º C to +80º C

RF CHARACTERISTICS

MODULATION	BPSK/QPSK
TRANSMIT POWER	Up to 23 dBm
RECEIVE SENSITIVITY	TBD

NETWORKING AND CARRIER

CARRIER AND TECHNOLOGY	NB-IoT
SUPPORTED BANDS	Band 20
SECURITY	Digi Trustfence™ security with Secure Boot, Encrypted Storage, Protected JTAG
RF THROUGHPUT	TBD
DOWNLINK/UPLINK SPEEDS	Up to ~100 Kbps
DUPLEX MODE	Half-Duplex

POWER REQUIREMENTS

SUPPLY VOLTAGE	2.5 to 4.2 V
TRANSMIT CURRENT	TBD
RECEIVE CURRENT	TBD
IDLE CURRENT (LISTENING)	TBD
DEEP SLEEP	TBD

REGULATORY AND CARRIER APPROVALS

CE / RED	TBD

PART NUMBERS

PART NUMBERS	DESCRIPTION
XBC-N1-UT-001	Digi XBee Cellular NB-IoT, Band 20, U.FL, TH, Europe
XKC-N1T-E	Digi XBee Cellular NB-IoT Development Kit, Band 20, Europe

The information provided in this document is preliminary and may be subject to change without notice.