



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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MultiConnect[®] xDot[™]

Long Range / Secure 868/915 MHz
LoRa[™] Module



ARM[®] mbed[™]

LoRa Alliance Certified

The MultiConnect[®] xDot[™] is a secure, CE/FCC/RCM certified, ARM[®] mbed[™] programmable, low-power RF module, that provides long-range, low bit rate M2M data connectivity to sensors, industrial equipment and remote appliances.

The MultiConnect xDot is LoRaWAN[™] 1.0.1 compliant, providing bi-directional data communication up to 10 miles/ 15 km line-of-sight and 1-3 miles / 2 km into buildings,** using sub-GHz ISM bands in North America, Europe and Australia.

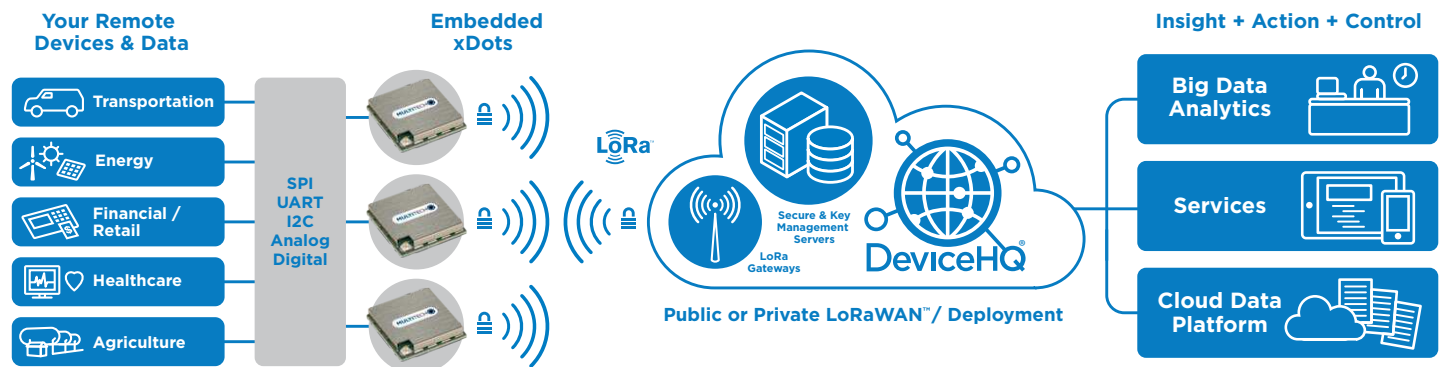
xDots bring intelligence, reduced complexity and a lower overall bill of material cost to the very edge of the network while supporting a variety of electronic interfaces to connect just about any “Thing” for years on battery power.

BENEFITS

- Range of miles
- Deep in-building penetration
- Developer friendly
- Runs for years on batteries

FEATURES

- FCC/CE/RCM end-certified for use in North America, Europe and Australia
- LoRa Alliance Certified[™]
- Optional Gemalto secure element for AES-128 cryptographic encryption
- 2-way duplex communication
- Multiple I/O interfaces for most any “Thing”
- Data rates 293bps-20Kbps+ LoRa[®] up to 300Kbps FSK



EDGE INTELLIGENCE

The xDot™ is ARM® mbed™ compatible meaning applications can be written and compiled quickly online using developer friendly libraries, downloaded and hosted within the xDot. Decision making and control is distributed to the edge, enabling data to be more actionable without the heavy lift required to optimize RF performance, implement complex IoT middleware and security protocols needed to deploy a low touch install. In addition, xDots come from the factory with AT command firmware preloaded. This means you can use the xDot as an AT command driven LoRa modem. No custom software development for the xDot is needed when operating in this mode.

ULTRA SECURE

For enhanced security, the xDot incorporates a hardware tamper resistant secure element from Gemalto, the world leader in digital security, delivering secure key storage for AES-128 cryptographic encryption used in LoRaWAN™ networks as well as secure applications capabilities.

HIGHLIGHTS

Applications

- Securely manage and harvest sensor data
- Control and monitor remote assets and devices
- Low power for 10+ year battery performance

Operating Modes

- Developer friendly ARM mbed libraries provides customization capability for specific applications
- Comprehensive AT command instruction set

xDot LGA Family Footprint



YOU MAY ALSO BE INTERESTED IN: MULTICONNECT® CONDUIT™

MultiConnect® Conduit™ is the industry's most configurable, manageable, and scalable communications gateway for industrial IoT applications. Network connectivity choices to your preferred data management platform include carrier approved 4G-LTE, 3G, 2G and Ethernet. MultiConnect® mCard™ accessory cards deliver FCC/CE certified LoRaWAN™ 8-channel gateway connectivity and plug directly into the rear of the Conduit gateway, capable of supporting thousands of MultiConnect® mDot™ long range RF modules connected to remote sensors or appliances. Available options include LoRaWAN™ Ready mCards for global ISM-Band coverage of 868 MHz (EU) & 915 MHz, (North America and other regions including AU, NZ, S.Kr, SE Asia[†] and Latin America[†]) with 433 MHz (EU & CN), 470 MHz & 780 MHz (CN) coming soon.

[†]Pending certified LoRa Alliance channel plan.



MultiConnect® Conduit™

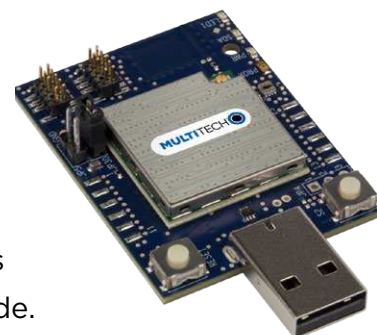
SPECIFICATIONS

| Model | MTXDOT-868 | | MTXDOT-915 | |
|---|---|--|----------------------------|--|
| Region | Europe | | North America / Australia | |
| Communication | LoRaWAN 1.0.1 compliant ARM mbed libraries or AT commands for radio control 868 MHz or 900 MHz | | | |
| Interfaces (pin functions are multiplexed) | Up to 19 Digital I/O, 11 Analog Inputs, 2 DAC Outputs, I2C, SPI, Wake Pin, Reset Pin, Full UART, MBED / simple UART (RX & TX only), MBED Programming Interface | | | |
| Physical Dimensions | 23.6 mm X 23.6 mm (.93" x .93") | | | |
| Radio Frequency | | | | |
| Modulation | LoRa Digital Spread Spectrum | | | |
| Frequency | 860-1020 MHz | | | |
| Performance | | | | |
| CPU | ST32L151CCU6 (ARM® Cortex®-M3) | | | |
| Max Clock | 32 MHz (configurable to power use) | | | |
| Flash Memory | 256 KB | | | |
| RAM | 32 KB | | | |
| Power | | | | |
| Max Transmitter Power Output (TPO) | 14 dBm | | 19 dBm | |
| Max Receive Sensitivity | -137 dBm | | -137 dBm | |
| Link Budget* | 151 dB Point-to-Multipoint | | 145 dB Point-to-Multipoint | |
| Deep Sleep Current | <2uA | | | |
| * Calculation assumes two 0 dBi antennas. North America: Greaterlink budget possible with higher gain antennas. Europe: This is the maximum link budget. Note: Point-to-Multipoint utilizing MultiTech gateway with MTAC-LORA accessory card. | | | | |
| Max Effective Isotropic Radiated Power (EIRP) | 10 dBm | | 36 dBm | |
| Environmental | | | | |
| Operating Temperature | -40° C to +85° C (-40° F to +185° F) | | | |
| Storage Temperature | -40° C to +85° C (-40° F to +185° F) | | | |
| Relative Humidity | 20% to 90% noncondensing | | | |
| Certifications | | | | |
| EMC Compliance | US: FCC Part 15 Class B. EU: EN 55022 Class B, EN 55024. Canada: ICES-003 | | | |
| Radio Compliance | FCC 15.247, IC RSS-210, EU EN 300 220 | | | |
| Safety Compliance | UL/cUL 60950-1 2nd Ed., cUL 60950-1 2nd Ed., IEC 60950-1 2nd Ed., AS/NZS 60950.1 | | | |
| Quality | MIL-STD-810G: High Temp, Low Temp, Random Vibration. SAE J1455: Transit Drop & Handling Drop, Random Vibration, Swept-Sine Vibration. IEC68-2-1: Cold Temp. IEC68-2-2: Dry Heat | | | |

** Actual performance speeds may be affected by a variety of attributes such as distance from gateway, data loads, packet sizes, etc.

DEVELOPER KIT

The MTMDK-XDOT is a USB dongle that allows a developer to plug in a MultiConnect xDot (MTXDOT-XXX) and start developing their application. Its portable design makes it ideal for connecting to a laptop and doing range testing of the LoRa network. This kit includes a development board, integrated LoRa antenna and Quick Start Guide.



ORDERING INFORMATION

North American Models

| Model | Description | Region |
|----------------|---|--------|
| MTXDOT-NA1-A00 | 915 MHz SMT LoRa UFL/TRC | NAM |
| MTXDOT-NA1-A02 | 915 MHz SMT LoRa UFL/TRC w/Secure Element | NAM |
| MTXDOT-NA1-A01 | 915 MHz SMT LoRa TRC | NAM |
| MTXDOT-NA1-A03 | 915 MHz SMT LoRa TRC w/Secure Element | NAM |

Australia / New Zealand Models

| Model | Description | Region |
|----------------|---|--------|
| MTXDOT-AU1-A00 | AU915 MHz SMT LoRa UFL/TRC | AU |
| MTXDOT-AU1-A02 | AU915 MHz SMT LoRa UFL/TRC w/Secure Element | AU |
| MTXDOT-AU1-A01 | AU915 MHz SMT LoRa TRC | AU |
| MTXDOT-AU1-A03 | AU915 MHz SMT LoRa TRC w/Secure Element | AU |

European Models

| Model | Description | Region |
|----------------|---|--------|
| MTXDOT-EU1-A00 | 868 MHz SMT LoRa UFL/TRC | Euro |
| MTXDOT-EU1-A02 | 868 MHz SMT LoRa UFL/TRC w/Secure Element | Euro |
| MTXDOT-EU1-A01 | 868 MHz SMT LoRa TRC | Euro |
| MTXDOT-EU1-A03 | 868 MHz SMT LoRa TRC w/Secure Element | Euro |

Note: All models available as 1 Pk or 100 Pk

Note: Secure Element models available Q2/2017

Developer Kit and Accessories

| Model | Description | Region |
|--------------------|--|--------|
| MTMDK-XDOT-NA1-A00 | 915 MHz Developer Kit, includes a 915 MHz xDot | NAM |
| MTMDK-XDOT-AU1-A00 | AU915 MHz Developer Kit, includes a AU915 MHz xDot | AU |
| MTMDK-XDOT-EU1-A00 | 868 MHz Developer Kit, includes a 868 MHz xDot | Euro |
| AN868-915A-1HRA | 868-915 MHz RP-SMA Antenna, 8" (3.0dBi) | Global |
| CARSMA-UFL | Reverse SMA-to-UFL Coax RF Cable, 6" | Global |

Go to www.multitech.com for detailed product model numbers.

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SERVICES & WARRANTY

MultiTech's comprehensive Support Services programs offer a full array of options to suit your specific needs. These services are aimed at protecting your investment, extending the life of your solution or product, and reducing total cost of ownership. Our seasoned technical experts, with an average tenure of more than 10 years, can walk you through smooth installations, troubleshoot issues and help you with configurations.

INSTALLATION SUPPORT

MultiTech's Installation Support Service delivers priority service with the ability to work one-on-one with an experienced MultiTech technical support engineer, to guide you through the installation process for our products.

TECHNICAL SUPPORT SERVICES

At MultiTech, we're committed to providing you personalized attention and quality service while providing you a quick response to your product support needs. We have several options of support for you to choose from.

For additional information on Support Services as well as other service offerings, please contact your MultiTech representative or visit www.multitech.com/support.go

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