

# MultiTech Conduit<sup>®</sup> IP67 Base Station

IP67 Conduit for Outdoor LoRa<sup>®</sup> Deployments  
Global Models



**MultiTech Conduit<sup>®</sup> IP67 Base Station** is a ruggedized IoT gateway solution, specifically designed for outdoor LoRa<sup>®</sup> public or private network deployments. This highly scalable and certified IP67 solution is capable of resisting the harshest environmental factors including moisture, dust, wind, rain, snow and extreme heat, supporting LoRaWAN<sup>®</sup> applications in virtually any environment. The enhanced Conduit IP67 solution can support thousands of LoRaWAN certified end nodes, including the MultiTech mDot<sup>™</sup>\* and xDot<sup>™</sup>\*. This flexible solution provides durable, low-power, wide area connectivity in support of M2M and IoT applications for both LoRa service providers and individual enterprises wanting to expand their LoRa network coverage.

Designed for easy deployment, the solution includes a MultiTech Conduit with an updated LoRa MultiTech mCard<sup>™</sup>, IP67 enclosure, LoRa antenna to improve outdoor range and Ethernet or optional 4G-LTE backhaul.

It can be deployed as part of an existing telecommunications tower, individual stand or wall mount.

\*Represents ideal network configuration and equipment set up. Results vary depending on payload amount, transmission frequency, spreading factor used, as well as terrain, RF interference and obstruction type (e.g., metal, cement, etc.)



## BENEFITS

- Global MNO and LoRaWAN support
- Greatly expands LoRa network coverage
- External antenna increases LoRa connectivity to remote assets
- Improved design enhancing thermal performance and easy external port access to SIM and USB connectors

## FEATURES

- ISM band scanning for optimum LoRa performance
- Listen Before Talk operating protocol
- GNSS for location coordinate information

# mPower™

EDGE INTELLIGENCE

**Programmable embedded software provides enhanced security and enables task execution at the edge for reduced latency and cost optimization.**

mPower™ Edge Intelligence embedded software delivers programmability, network flexibility, enhanced security and manageability for scalable Industrial Internet of Things (IIoT) solutions.

mPower simplifies integration with a variety of popular upstream IoT platforms to streamline edge-to-cloud data management and analytics, while also providing the programmability and processing capability to execute critical tasks at the edge of the network to reduce latency; control network and cloud services costs, and ensure core functionality – even in instances when network connectivity may not be available.

mPower software specifications can be found [here](#).

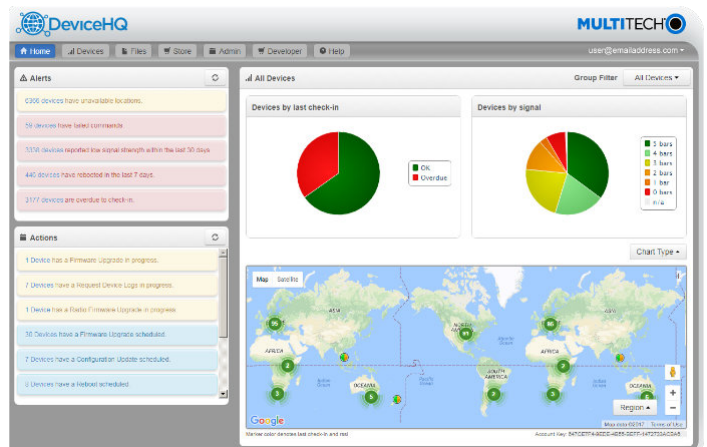
## LENS® Embedded by Network Server & Key Management Toolset for LoRaWAN® Networks

LENS is a hybrid LoRaWAN® network management platform that enables deployment and management of LoRaWAN networks at scale. Designed for private and enterprise networks, LENS provides a site-by-site user account and centralized management for LoRa® end devices, as well as configuration and control of Conduit® gateways. LENS has the capability to assign unique access rights to individual users, add gateways and LoRa end nodes in bulk, or create separate organizations and network segmentation to support different IoT use cases or applications.



**Cloud-based Application Store and IoT Device Management**

MultiTech DeviceHQ® is cloud-based tool set for managing the latest generation of MultiTech devices. It incorporates all the functionality of MultiTech Device Manager, on which so many M2M and IoT applications already rely for remote monitoring, upgrades and configuration of entire device populations – whether one or 1 million. DeviceHQ takes remote device management and maintenance to a new level, by providing an application marketplace, allowing users to browse applications or build their own then easily deploy them to and customize them for remote devices from anywhere.



# SPECIFICATIONS

| Models                                                                    | MTCDTIP-L4G1                                                                                                                                                                                                                                                                                                                                                       |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
|                                                                           | -266A Models                                                                                                                                                                                                                                                                                                                                                       |                                                                                                       | -267A Models                                                                                                                                                                                                |                                                                                                       |
| Models                                                                    | 868                                                                                                                                                                                                                                                                                                                                                                | 915                                                                                                   | 868                                                                                                                                                                                                         | 915                                                                                                   |
| Mobile Network Operator                                                   | European Network Operators                                                                                                                                                                                                                                                                                                                                         | AT&T / Verizon / T-Mobile                                                                             | European Network Operators                                                                                                                                                                                  | AT&T / Verizon / T-Mobile                                                                             |
| Cellular Radio                                                            | MTSMC-L4G1                                                                                                                                                                                                                                                                                                                                                         |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Cellular Performance                                                      | 4G - LTE Category 4                                                                                                                                                                                                                                                                                                                                                |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Cellular Fallback                                                         | 3G - HSPA +, 2G - GPRS                                                                                                                                                                                                                                                                                                                                             |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Frequency Band (MHz)                                                      | <b>4G FDD:</b> B1(2100), B2(1900), B3(1800), B4(AWS1700), B5(850), B7(2600), B8(900), B12/B13(700), B18(850), B19(850), B20(800), B25(1900), B26(850), B28(700)<br><b>4G TDD:</b> B33(2600), B39(1900), B40(2300), B41(2500)<br><b>3G:</b> B1(2100), B2(1900), B4(AWS1700), B5(850), B6(800), B8(900), B19(850)<br><b>2G:</b> B2(1900), B3(1800), B5(850), B8(900) |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Packet Data (LTE)                                                         | <b>4G-FDD:</b> Up to 150 Mbps peak downlink. Up to 50 Mbps peak uplink<br><b>4G-TDD:</b> Up to 130 Mbps peak downlink. Up to 30 Mbps peak uplink                                                                                                                                                                                                                   |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Input Voltage                                                             | 9 VDC 1.7A input provided to 100 - 240 VAC 50/60 Hz external adaptor or fused DC Power Cable                                                                                                                                                                                                                                                                       |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Processor & Memory                                                        | ARM9 processor with 32-Bit ARM & 16-Bit Thumb instruction sets<br>• 400 MHz • 16K Data Cache • 16K Instruction Cache • 128X16 MB DDR RAM • 256 MB Flash Memory                                                                                                                                                                                                     |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Wi-Fi / Bluetooth                                                         | N/A                                                                                                                                                                                                                                                                                                                                                                |                                                                                                       | Wi-Fi: 802.11abgn (2.4 & 5 GHz) / Bluetooth: Classic 4.1 and BLE                                                                                                                                            |                                                                                                       |
| GPS/GNSS                                                                  | GNSS for LoRa Packet Time Stamping<br>Concurrent GNSS connections: 3<br>GNSS Systems Supported: (default: concurrent GPS/QZSS/SBAS and GLONASS)                                                                                                                                                                                                                    |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| LEDs*                                                                     | PR (Power), ST (Status, user-programmable), L1 (user-defined), L2: (user-defined)                                                                                                                                                                                                                                                                                  |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| <b>LoRa Specifications</b>                                                |                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| LoRa Frequency Band                                                       | 868 MHz                                                                                                                                                                                                                                                                                                                                                            | 915 MHz                                                                                               | 868 MHz                                                                                                                                                                                                     | 915 MHz                                                                                               |
| LoRa Channel Plan                                                         | EU868<br>IN865                                                                                                                                                                                                                                                                                                                                                     | AU915 / US915<br>AS923 / KR920                                                                        | EU868<br>IN865                                                                                                                                                                                              | AU915 / US915<br>AS923 / KR920                                                                        |
| Channel Capacity                                                          | 8-channels (half-duplex)                                                                                                                                                                                                                                                                                                                                           |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| LoRa Maximum Output Power before Antenna                                  | 14 dBm - 27 dBm*                                                                                                                                                                                                                                                                                                                                                   | 25.1 dBm                                                                                              | 14 dBm - 27 dBm*                                                                                                                                                                                            | 25.1 dBm                                                                                              |
| <b>Connectors</b>                                                         |                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Ethernet                                                                  | RJ45 Ethernet jack (10/100 port) (PoE)                                                                                                                                                                                                                                                                                                                             |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| USB HOST*                                                                 | USB 2.0 Type A connector                                                                                                                                                                                                                                                                                                                                           |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| SIM*                                                                      | 3FF Micro SIM                                                                                                                                                                                                                                                                                                                                                      |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Antennas                                                                  | Cellular, GPS, LoRa: female SMA / LoRa: reverse polarity female SMA                                                                                                                                                                                                                                                                                                |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| <b>Physical Description</b>                                               |                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Dimensions (LxWxH)                                                        | 10.31" x 3.58" x 10.12" (262 mm x 91 mm x 257 mm)                                                                                                                                                                                                                                                                                                                  |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Physical Weight                                                           | 6.06 lbs (2.75 kg)                                                                                                                                                                                                                                                                                                                                                 |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Chassis Type                                                              | IP67-Rated, Aluminum                                                                                                                                                                                                                                                                                                                                               |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| <b>Environmental</b>                                                      |                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Operating Temperature                                                     | -40° to +70° C                                                                                                                                                                                                                                                                                                                                                     |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Storage Temperature                                                       | -40° to +85° C                                                                                                                                                                                                                                                                                                                                                     |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| <b>Certifications</b>                                                     |                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| EMC Compliance                                                            | RED,<br>EN 55032 Class A,<br>EN 301 489-3 V2.1.1,<br>EN 301 489-1 V2.2.0,<br>EN 301-489-52 V1.1.0                                                                                                                                                                                                                                                                  | US: FCC Part 15 Class A<br>Canada: ICES-003 Class A<br>Australia: CISPR 32                            | RED,<br>EN 55032 Class A,<br>EN 301 489-3 V2.1.1,<br>EN 301 489-1 V2.2.0,<br>EN 301-489-52 V1.1.0                                                                                                           | US: FCC Part 15 Class A<br>Canada: ICES-003 Class A<br>Australia: CISPR 32                            |
| Radio Compliance                                                          | EN 300 220-1 V3.1.1,<br>EN 300 220-2 V3.1.1,<br>EN 300 328 V2.1.1,<br>EN 301 511 V9.0.2,<br>EN 301 893 V2.1.1,<br>EN 301 908-1 V11.1.1,<br>EN 301 902-2 V11.1.1,<br>EN 301 908-13 V11.1.1,<br>EN 62311-2008                                                                                                                                                        | US: FCC Part 22, 24, 27<br>Canada: ICES<br>Australia: AS/NZS 4268:2012 +<br>A1:2013 MPE Standard 2014 | EN 300 220-1 V3.1.1,<br>EN 300 220-2 V3.1.1,<br>EN 300 328 V2.1.1,<br>EN 301 511 V9.0.2,<br>EN 301 893 V2.1.1,<br>EN 301 908-1 V11.1.1,<br>EN 301 902-2 V11.1.1,<br>EN 301 908-13 V11.1.1,<br>EN 62311-2008 | US: FCC Part 22, 24, 27<br>Canada: ICES<br>Australia: AS/NZS 4268:2012 +<br>A1:2013 MPE Standard 2014 |
| Safety                                                                    | IEC 60950-1 / IEC 62368-1                                                                                                                                                                                                                                                                                                                                          | UL/cUL 60950-1 / UL/cUL 62368-1                                                                       | IEC 60950-1 / IEC 62368-1                                                                                                                                                                                   | UL/cUL 60950-1 / UL/cUL 62368-1                                                                       |
| Regulatory Approvals (Approvals Pending) Contact MultiTech for details    | Anatel (Brazil), IFETEL (Mexico), SRR/CCC/NAL (China), KC (South Korea), NCC (Taiwan, China), JATE/TELEC (Japan), FAC (Russia), NBTC (Thailand), IMDA (Singapore), ICASA (South Africa)                                                                                                                                                                            |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Mobile Network Operator Approvals                                         | GCF, European Network Operators                                                                                                                                                                                                                                                                                                                                    | US: PTCRB, AT&T, Verizon***<br>Australia: RCM, Optus, Telstra, Vodafone                               | GCF, European Network Operators                                                                                                                                                                             | US: PTCRB, AT&T, Verizon**<br>Australia: RCM, Optus, Telstra, Vodafone                                |
| Mobile Network Operator (Approvals Pending) Contact MultiTech for details | -                                                                                                                                                                                                                                                                                                                                                                  | US: T-Mobile, US Cellular<br>Canada: Rogers, Telus,                                                   | -                                                                                                                                                                                                           | US: T-Mobile, US Cellular<br>Canada: Rogers, Telus,                                                   |
| 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                                                                                                                                                                                    |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |
| Warranty                                                                  | 2-Years - <a href="http://www.multitech.com/legal/warranty">www.multitech.com/legal/warranty</a>                                                                                                                                                                                                                                                                   |                                                                                                       |                                                                                                                                                                                                             |                                                                                                       |

\* Maximum EIRP is 14 dBm for most of the band, except 27 dBm at 869.4-869.5

\*\* SIM, LEDs, and USB port accessible under IP67-rated bottom cap cover

\*\*\* MTCMCL4G1 is PTCRB, AT&T, and Verizon approved

