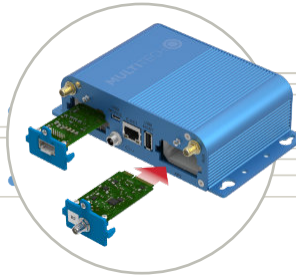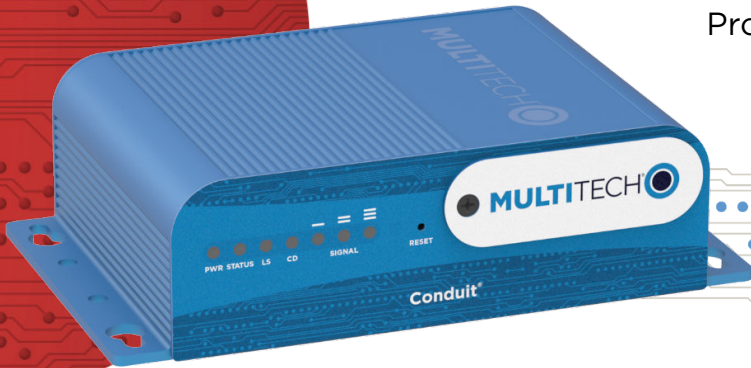# MULTITECH®

CREATE • CONNECT • COMMUNICATE
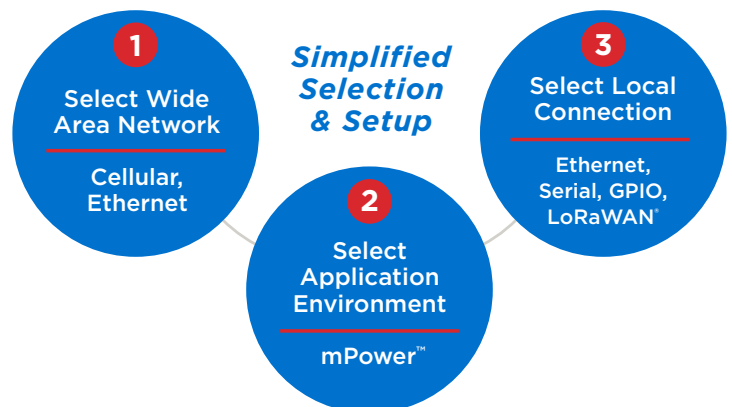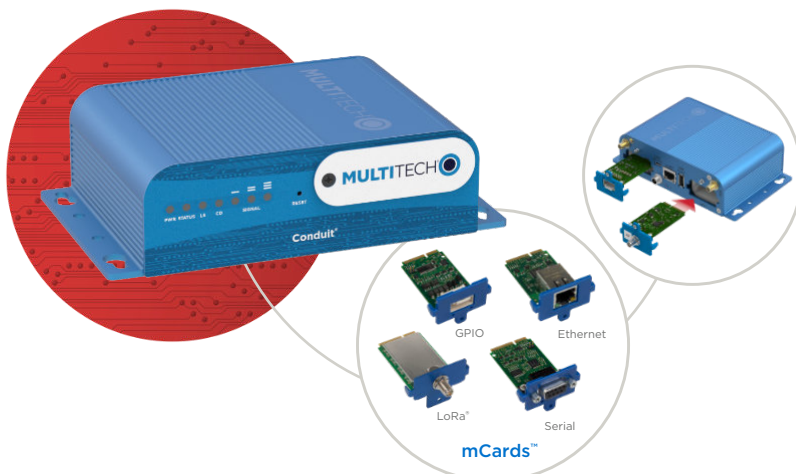
MultiTech Conduit®

Programmable Gateway for the Internet of Things
Global Models

LoRa Alliance®

MultiTech Conduit® is the industry's most configurable, manageable, and scalable cellular communications gateway for industrial IoT applications. Network engineers can remotely configure and optimize their Conduit performance through DeviceHQ®, the world's first IoT Application Store and Device Management platform. The Conduit features Wi-Fi/Bluetooth/Bluetooth Low Energy (BT/BLE), GNSS, and two accessory card slots that enable users to plug in MultiTech mCard™ accessory cards supporting their preferred wired or wireless interface to connect a wide range of assets locally to the gateway.

Available options include an updated LoRaWAN® mCard™ capable of supporting thousands of MultiTech mDot™ and xDot® long range RF modules connected to remote sensors or appliances. Quick-to-deploy and easy to customize and manage, the Conduit communications gateway realizes your IoT application.

GATEWAY BENEFITS

- Global MNO and LoRaWAN support
- Backhaul options include Ethernet and optional 4G-LTE cellular for cost effective deployment
- GNSS module for LoRaWAN packet time-stamping and geo-location capability
- Wi-Fi communication supporting 802.11 a/b/g/n 2.4 GHz and 5 GHz with WPA2 personal transmission security. Wi-Fi Access Point and Client modes are supported simultaneously.
- BT Classic and BLE 4.1 communication supports local connectivity with automatic pairing with target devices utilizing 128 bit link key length security.

GPIO

Ethernet

LoRa®

Serial

mCards™

Simplified Selection & Setup

① Select Wide Area Network

Cellular, Ethernet

② Select Application Environment

mPower™

③ Select Local Connection

Ethernet, Serial, GPIO, LoRaWAN®

www.multitech.com/conduit

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.
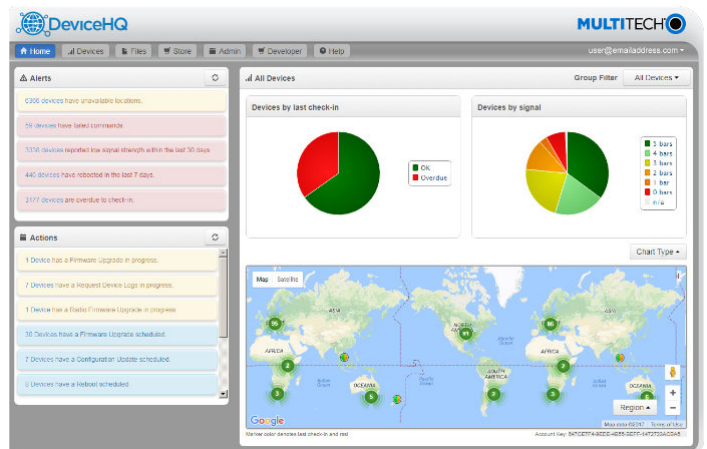
mPower software specifications can be found **here**.

LENS® Embedded 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.

DeviceHQ®

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	MTCDT-L4G1			
Models	-246A Models		-247A Models	
	868	915	868	915
Mobile Network Operator	Europeran Network Operators	AT&T Verizon T-Mobile	Europeran 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)	**4G FDD:** 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) **4G TDD:** B38(2600), B39(1900), B40(2300), B41(2500) **3G:** B1(2100), B2(1900), B4(AWS1700), B5(850), B6(800), B8(900), B19(850) **2G:** B2(1900), B3(1800), B5(850), B8(900)			
Packet Data (LTE)	**4G-FDD:** Up to 150 Mbps peak downlink. Up to 50 Mbps peak uplink **4G-TDD:** 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 and Memory	ARM9 processor with 32-Bit ARM & 16-Bit Thumb instruction sets • 400 MHz • 16K Data Cache • 16K Instruction Cache • 128X16 MB DDR RAM • 256 MB Flash Memory			
Wi-Fi/Bluetooth	N/A		Wi-Fi: 802.11abng (2.4 & 5 GHz) / Bluetooth: Classic 4.1 and BLE	
GPS/GNSS	GNSS for LoRa Packet Time Stamping Concurrent GNSS connections: 3 GNSS Systems Supported: (default: concurrent GPS/QZSS/SBAS and GLONASS)			
LEDs	PWR (Power), STATUS (Power Status), LS (Link Status), CD (Carrier Detect), SIGNAL (Signal Strength)			
LoRa Specifications				
LoRa Frequency Band	868 MHz	915 MHz	868 MHz	915 MHz
LoRa Channel Plan	EU868 IN865	AU915 US915 AS923 KR920	EU868 IN865	AU915 US915 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
Connectors				
Power	2.5 mm miniature barrel jack (screw-on)			
E-NET	RJ45 Ethernet jack (10/100 port)			
USB DEVICE	USB 2.0 Micro B connector			
USB HOST	USB 2.0 Type A connector			
AP1, AP2	MultiTech mCard Gateway Accessory Cards			
SIM (under nameplate)	2FF Mini SIM			
SD Card (under nameplate)	Micro SD Card, 32GB (HSMCI) max (industrial temperature range recommended)			
Antennas	Cellular, GPS, LoRa: female SMA / LoRa: reverse polarity female SMA			
Physical Description				
Dimensions (L x W x H)	6.35" x 4.23" x 1.69" (161.3 mm x 107.4 mm x 42.8 mm)			
Weight	1.0 lbs (0.45 kg) with two accessory cards installed			
Chassis Type	Anodized aluminum (blue)			
Environmental				
Operating Temperature	-30° to +70° C			
Storage Temperature	-40° to +85° C			
Humidity	Relative humidity 20% to 90%, non-condensing			
Certifications				
EMC Compliance	RED, EN 55032 Class A, EN 301 489-3 V2.1.1, EN 301 489-1 V2.2.0, EN 301-489-52 V1.1.0	US: FCC Part 15 Class A Canada: ICES-003 Class A Australia: CISPR 32	RED, EN 55032 Class A, EN 301 489-3 V2.1.1, EN 301 489-1 V2.2.0, EN 301-489-52 V1.1.0	US: FCC Part 15 Class A Canada: ICES-003 Class A Australia: CISPR 32
Radio Compliance	EN 300 220-1 V3.1.1, EN 300 220-2 V3.1.1, EN 300 328 V2.1.1, EN 301 511 V9.0.2, EN 301 893 V2.1.1, EN 301 908-1 V11.1.1, EN 301 902-2 V11.1.1, EN 301 908-13 V11.1.1, EN 62311-2008	US: FCC Part 22, 24, 27 Canada: ISED Australia: AS/NZS 4268:2012 + A1:2013 MPE Standard 2014	EN 300 220-1 V3.1.1, EN 300 220-2 V3.1.1, EN 300 328 V2.1.1, EN 301 511 V9.0.2, EN 301 893 V2.1.1, EN 301 908-1 V11.1.1, EN 301 902-2 V11.1.1, EN 301 908-13 V11.1.1, EN 62311-2008	US: FCC Part 22, 24, 27 Canada: ISED Australia: AS/NZS 4268:2012 + 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), SRRC/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** Australia: RCM, Optus, Telstra, Vodafone	GCF, European Network Operators	US: PTCRB, AT&T, Verizon** Australia: RCM, Optus, Telstra, Vodafone
Mobile Network Operator (Approvals Pending) Contact MultiTech for details	—	US: T-Mobile, US Cellular Canada: Rogers, Telus	—	US: T-Mobile, US Cellular 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 / www.multitech.com/legal/warranty			

* Maximum EIRP is 14 dBm for most of the band, except for 27 dBm at 869.4-869.5
** MTSMC-L4G1 is PTCRB, AT&T, and Verizon approved