

# MultiTech Conduit<sup>®</sup> AP

Access Point for LoRa<sup>®</sup> Technology  
EU868 for Europe



**MultiTech Conduit<sup>®</sup> AP** harnesses the power of the LoRaWAN<sup>®</sup> protocol to provide in-building penetration and connectivity to thousands of IoT assets.

Easy to deploy, the Conduit AP extends LoRa<sup>®</sup> connectivity in commercial buildings like hotels, convention centers, offices and retail facilities providing coverage in difficult to reach areas cell tower or rooftop deployments may not penetrate.

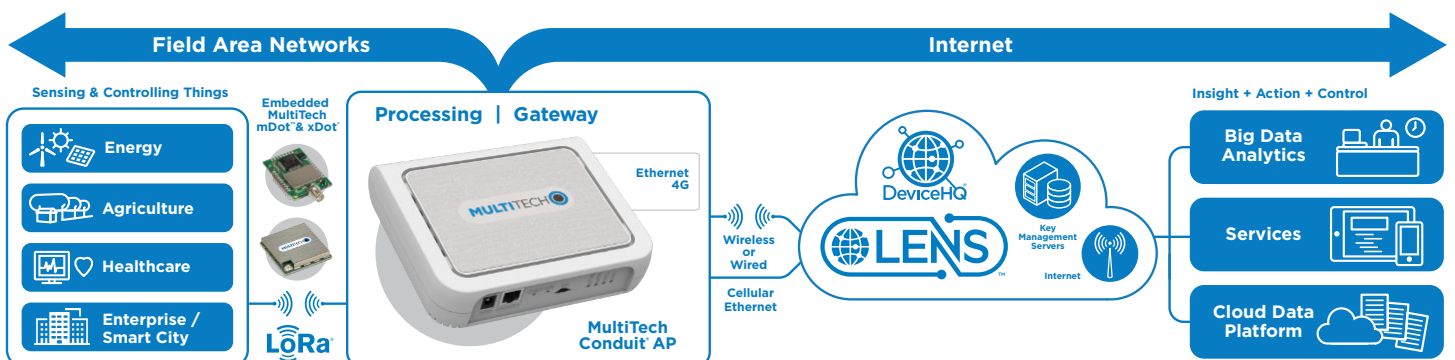
The Conduit AP offers a development environment for software developers and IT professionals alike. mPower<sup>™</sup> Edge Intelligence features an easy-to-use graphical interface set-up and includes a built-in LoRa Network Server and Packet Forwarder to connect locally clustered assets on a private LoRaWAN network directly to your choice of IoT data platforms. The Conduit AP extends complex processing to the edge to reduce upstream communication and operational costs. The Conduit AP provides Ethernet or optional 4G-LTE IP backhaul.

## BENEFITS

- Provide improved service level agreements for LoRa
- Affordable LoRa connectivity in or around commercial buildings
- Ethernet and 4G-LTE interfaces for primary or secondary WAN
- Quick & easy to deploy
- Carrier approved

## FEATURES

- Ethernet RJ-45 10/100 BaseT for IP backhaul
- Optional 4G-LTE IP backhaul
- Models available with external LoRa antenna
- Built-in LoRa Network Server and Packet Forwarder



[www.multitech.com/conduitap](http://www.multitech.com/conduitap)

# 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 is a new embedded software offering, building on its popular application enablement platform, to deliver programmability, network flexibility, enhanced security and manageability for scalable Industrial Internet of Things (IIoT) solutions.

mPower is the unification and evolution of well-established MultiTech smart router and gateway firmware platforms. In addition to ongoing support of the current feature-sets, gateway customers can enjoy the additional security features currently available on the MultiConnect® rCell 100 Series.

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.

In response to evolving customer security requirements, mPower incorporates a host of new security features including signed firmware validation, enhanced firewall and VPN settings, secure authentication and more.

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

## Easily Deploy and Manage Assets Via DeviceHQ®

MultiTech DeviceHQ is the M2M industry's first IoT online application store to enable customers

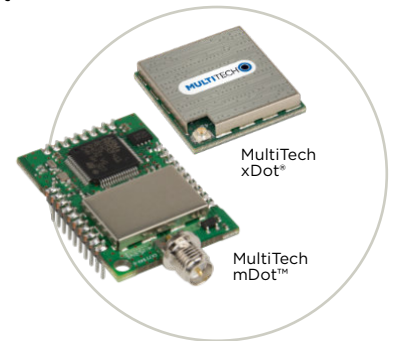
to easily deploy and scale applications to their connected devices. Drag-and-drop tools easily allow customers to create and manage applications for in-field assets. The DeviceHQ application store gives your business the power to innovate operations management and create value-added services.



## CONNECTING THE “THINGS”

### MultiTech mDot™ & xDot™

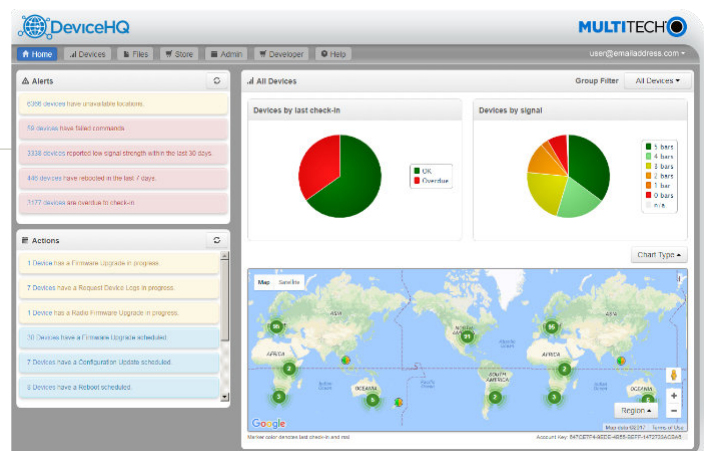
MultiTech mDot and xDot are secure, regulatory-certified, Arm® Mbed™ programmable, low-power RF modules, providing long-range, low bit rate IoT data connectivity to sensors and actuators.



The mDot and xDot are LoRaWAN compliant, providing bi-directional data communication up to 10 miles line-of-sight and 2-3 miles in buildings, using the global sub-GHz ISM radio bands in North America, Europe, and the APAC regions.

The mDot was the first Arm Mbed platform listed on mbed.org that was deployment ready. The mDot supports applications written and compiled in the mbed online environment using developer friendly libraries. Decision making and control can be done at the edge, reducing the need to optimize RF performance and implement complex IoT middleware.

mDots and xDots bring intelligence, reduced complexity and a lower overall bill of material to the edge of the network while supporting a variety of interfaces to connect just about any battery-powered “thing”.



### Benefits

- “Low Touch” asset deployment reduces costs, complexity and time
- Easily scales to your network needs
- Browse and download a wide variety of custom applications tailored to your business needs
- Reduce truck-rolls using remote performance management and asset updates

## HARDWARE SPECIFICATIONS

Models	MTCAP-L4E1-868	MTCAP-868
Mobile Network Operator	European Network Operators	Non-Cellular
Performance	4G-LTE Category 4	
Fallback	3G - HSPA+, 2G - GPRS	
Frequency Band (MHz)	4G: B1(2100), B3(1800), B7(2600), B8(900), B20(800), B28A(700) 3G: B1(2100), B3(1800), B8(900) 2G: B3(1800), B8(900)	N/A
Packet Data (LTE FDD)	Up to 150 Mbps downlink, Up to 50 Mbps uplink	
Input Voltage	5 VDC 2.5A input provided by 100-240 VAC 50/60 Hz 0.4A external adaptor	
Processor & Memory	ARM9 processor with 32-Bit ARM & 16-Bit Thumb instruction sets • 400 MHz • 16K Instruction Cache	• 16K Data Cache • 128X16M DDR RAM • 256 MB Flash Memory
<b>LoRa Specifications</b>		
LoRa Frequency Band	868 MHz	
LoRa Channel Plan	EU868 (EU863 - 870)	
Channel Capacity	8-channels (Half Duplex)	
LoRa Maximum Output Power Internal antenna models	Maximum EIRP: 13.3 dBm - 25.8 dBm*	
LoRa Maximum Output Power External antenna models	Maximum EIRP: 14 dBm - 27 dBm**	
<b>Connectors</b>		
Power	2.5mm, 5 Volt power jack	
Ethernet	RJ45 Ethernet jack (10/100 port)	
SIM	3FF Micro SIM	None
Antennas (-001A Models)	No external antenna connections (All antennas are internal to chassis)	
Antennas (-041A Models)	LoRa: Reverse polarity female SMA / Cellular: No antenna connection, internal only	
<b>Physical Description</b>		
Dimensions (L x W x H)	165 (6.5) x 135 (5.3) x 36 (1.4) mm (in)	
Weight	1.4 (3) kg (lb)	
Chassis Type	PC-ABS (polycarbonate-ABS) Designed for IP30 rating	
<b>Environmental</b>		
Operating Temperature	0° C to +70° C***	
Storage Temperature	-40° C to +85° C	
Relative Humidity	20% to 90%, non-condensing	
<b>Certifications</b>		
EMC Compliance	EN 55032 Class B EN 301 489-3 V2.1.1 EN 301 489-1 V2.2.0 EN 301-489-52 V1.1.0	EN 55032 Class B EN 301 489-3 V2.1.1 EN 301 489-1 V2.2.0
Radio Compliance	EN 300 220-2 V3.1.1 EN 300 328 V2.1.1 EN 301 511 V12.5.1 EN 301 908-1 V11.1.1 EN 301 902-2 V11.1.1 EN 301 908-13 V11.1.1 EN 62311	EN 300 220-2 V3.1.1 EN 300 328 V2.1.1 EN 62311
Safety	IEC 60950-1 , IEC 62368-1	
Mobile Network Operator Approvals	GCF Certified Cell Module	N/A
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 13.3 dBm for most of the band, except 25.8 dBm at 869.4 - 869.65

\*\* Maximum EIRP is 14 dBm for most of the band, except 27 dBm at 869.4 - 869.65

\*\*\* Operating temperature excluding power supply. Power supply UL listed at 40° C.

## ORDERING INFORMATION

### MultiTech Conduit® AP 4G LTE Models

Model	Description	Region
MTCAP-L4E1-868-041A	LTE Cat 4 mPower Programmable Access Point 8-channel, 868 MHz with external LoRa antenna and Accessory Kit #2 (Europe)	Euro/GB
MTCAP-L4E1-868-001A	LTE Cat 4 mPower Programmable Access Point 8-channel, 868 MHz with internal LoRa antenna and Accessory Kit #3 (Europe)	Euro/GB

### MultiTech Conduit® AP Ethernet-Only Models

Model	Description	Region
MTCAP-868-041A	Ethernet-only mPower Programmable Access Point 8-channel, 868 MHz with external LoRa antenna and Accessory Kit #2 (Europe)	Euro/GB
MTCAP-868-001A	Ethernet-only mPower Programmable Access Point 8-channel, 868 MHz with internal LoRa antenna and Accessory Kit #3 (Europe)	Euro/GB

### Accessory Kit Overview

Description	Accessory Kit #1	Accessory Kit #2	Accessory Kit #3
Power Supply with Region-Specific Blades		●	●
LoRa Antenna	●	●	
Ethernet Cable	●	●	●
Mounting Bracket	●	●	●
Quick-Start Guide	●	●	●

## ADDITIONAL ACCESSORIES

Ordering Part Number	Description	Region
PS-5VCB-SBC-U-Global	100-240VAC/5VDC Power Supply w/Push-on Barrel and region-specific power blades (US, UK, EU, AU/NZ) <ul style="list-style-type: none"><li>• Replacement power supply (-001 and -041 models)</li><li>• Accessory for non-PoE applications (-042 models)</li></ul>	Global
AN868-915A-1HRA	868-915 MHz RP-SMA Antenna, 8" (3.0 dBi) <ul style="list-style-type: none"><li>• Replacement LoRa antenna (-041 and -042 models)</li></ul>	Global
CA-RJ-45	Ethernet Cable (RJ-45, 6 ft) <ul style="list-style-type: none"><li>• Replacement Ethernet Cable</li></ul>	Global

## COMPLIMENTARY PRODUCTS

### MultiTech mDot™

Model	Description	Region
MTDOT-868-X1-SMA	868 MHz X1 LoRa SMA	Euro
MTDOT-868-X1P-SMA	868 MHz X1 LoRa SMA w/Programming Header	Euro
MTDOT-868-X1-UFL	868 MHz X1 LoRa UFL	Euro
MTDOT-868-M1-UFL	868 MHz SMT LoRa UFL	Euro
MTDOT-868-M1-TRC	868 MHz SMT LoRa RF Pad	Euro

### MultiTech xDot®

Model	Description	Region
MTXDOT-EU1-A00-1	868 MHz LoRa Module UFL/TRC (Single Pack)	EMEA

Go to [www.multitech.com](http://www.multitech.com) for detailed product model numbers.

Produced in the U.S. of U.S. and non-U.S. components. Features and specifications are subject to change without notice.

The LoRa® name and associated logo are trademarks of Semtech Corporation or its subsidiaries. Trademarks and Registered Trademarks: MultiTech and the MultiTech logo, MultiConnect, Conduit, mDot, xDot, mPower, DeviceHQ: Multi-Tech Systems, Inc. All other products and technologies are the trademarks or registered trademarks of their respective holders.

2020-12 • 86002212-PV • © 2020 Multi-Tech Systems, Inc. All rights reserved.

## 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.

## 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](http://www.multitech.com/support.go)

## World Headquarters

Multi-Tech Systems, Inc.  
2205 Woodale Drive  
Mounds View, MN 55112 U.S.A.  
Tel: 763-785-3500  
Toll-Free: 800-328-9717  
Email: [sales@multitech.com](mailto:sales@multitech.com)  
[www.multitech.com](http://www.multitech.com)

## EMEA Headquarters

Multi-Tech Systems (EMEA)  
Strata House  
264-270 Bath Road  
Harlington UB3 5JJ  
United Kingdom  
Tel: +(44) 118 959 7774  
Email: [sales@multitech.co.uk](mailto:sales@multitech.co.uk)  
[www.multitech.co.uk](http://www.multitech.co.uk)

**MULTITECH** 