MULTITECH®

MultiTech Conduit® AP

Access Point for LoRa® Technology
AU915 for Australia

LoRa Alliance®

MultiTech Conduit® AP harnesses the power of the LoRaWAN® protocol to provide in-building penetration and connectivity to thousands of IoT assets. Easy to deploy, the Conduit AP extends LoRa® 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 developers and IT professionals alike. mPower™ 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 mPower extends complex processing to the edge to reduce upstream communication and operational costs. The Conduit AP provides Ethernet or optional 4G-LTE IP backhaul.
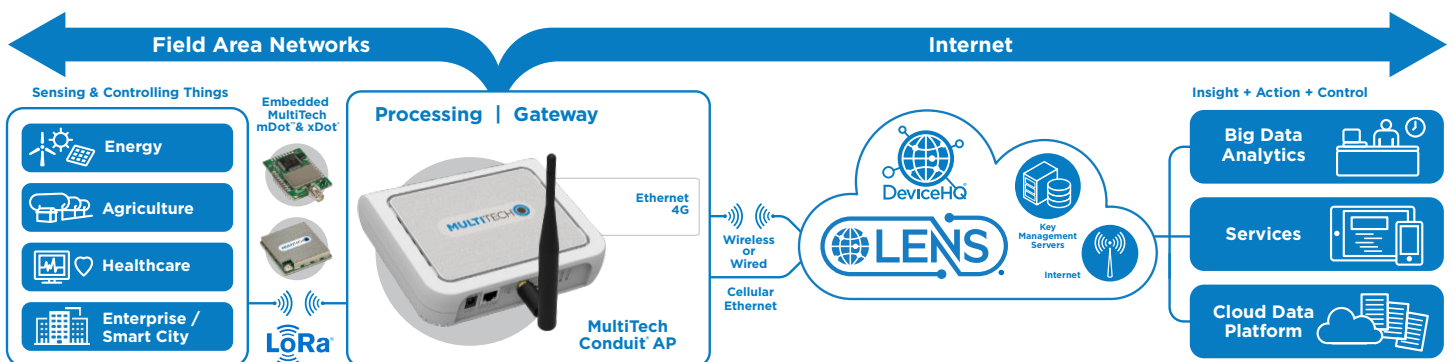
BENEFITS

- Provide improved service level agreements for LoRa
- Affordable LoRa connectivity in or around commercial buildings
- Quick & easy to deploy
- Certified for Australia 915 MHz ISM Bands

FEATURES

- Ethernet RJ-45 10/100 BaseT for IP backhaul
- Ethernet and 4G-LTE interfaces for primary or secondary WAN
- Models available with external LoRa antenna for improved performance
- Built-in LoRa Network Server and Packet Forwarder

Field Area Networks — Internet

Sensing & Controlling Things

Embedded MultiTech mDot™ & xDot™

Processing | Gateway

Insight + Action + Control

- Energy
- Agriculture
- Healthcare
- Enterprise / Smart City

LoRa®

Ethernet 4G

Wireless or Wired

Cellular Ethernet

MultiTech Conduit® AP

DeviceHQ

LENS

Key Management Servers

Internet

- Big Data Analytics
- Services
- Cloud Data Platform

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 embedded software delivers 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**.

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.

MultiTech
xDot®

MultiTech
mDot™

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".

Easily Deploy and Manage Assets Via DeviceHQ®

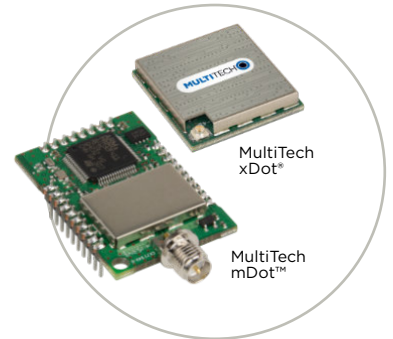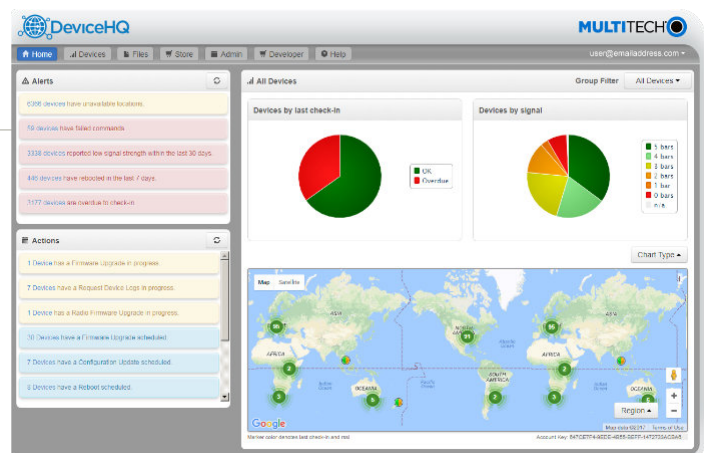MultiTech DeviceHQ is the M2M industry's first IoT online application store to enable customers to easily deploy and scale applications to their connected devices. Drag-and-drop tools easily allow customers to create and manage applications for in-field assets. The DeviceHQ application store gives your business the power to innovate operations management and create value-added services.

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-LAP3-915
Mobile Network Operator	Telstra, Optus, Vodafone
Performance	4G-LTE Category 1
Fallback	3G - HSPA+
Frequency Band (MHz)	4G: B1(2100), B3(1800), B5(850), B8(900), B28(700) 3G: B1(2100), B5(850), B8(900)
Packet Data (LTE FDD)	Up to 10 Mbps downlink, Up to 5 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 Data Cache • 256 MB Flash Memory • 16K Instruction Cache • 128X16M DDR RAM
LoRa Specifications	
LoRa Frequency Band	915 MHz
LoRa Channel Plan	AU915
Channel Capacity	8-channels (half-duplex)
LoRa Output Power	24.6 dBm maximum output power before antenna
Connectors	
Power	2.5mm, 5 Volt power jack
Ethernet	RJ45 Ethernet jack (10/100 port)
SIM	2FF Micro SIM
Antennas (-001A Models)	No antenna connections. All antennas are internal to chassis
Antennas (-041A Models)	LoRa: reverse polarity female SMA Cellular: No antenna connection, internal cellular antenna
Physical Description	
Dimensions (L x W x H)	165 (6.5) x 135 (5.3) x 36 (1.4) mm (in)
Weight	0.68 kg (1.5 lb)
Chassis Type	PC-ABS (polycarbonate-ABS)
Environmental	
Operating Temperature	0° to +70°C
Storage Temperature	-40° to +85° C
Relative Humidity	20% to 90%, non-condensing
Certifications	
EMC Compliance	Australia: CISPR 32
Radio Compliance	AS/NZS: 4268:2012 + A1:2013 MPE Standard 2014
Safety	IEC 60950-1, IEC62368-1
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
Warranty	2-Years - www.multitech.com/legal/warranty

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

SOFTWARE SPECIFICATIONS

mPower

- Enhanced closed-source embedded Linux platform
- Graphical web interface for configuration and management
- Seamless integration with DeviceHQ, MultiTech's device management platform
- LoRa network server
- LoRa packet forwarder
- Cellular connection management

- Dynamic DNS
- Secure firewall with NAT and port forwarding
- Static Routing
- Open VPN
- Remote Access
- Configuration backup and restore
- Easy firmware upgrade through graphical web interface
- System and network statistics

- Tool chain for creating custom images
- WAN connection via Ethernet or cellular
- Cellular PPP, DHCP client and server
- Firewall configuration via iptables
- Language support: Python, C, C++, Javascript
- Package upgrade support: Java, Perl, Ruby, Mono C#
- opkg package manager with limited package feed
- Basic router functionality with built-in Linux

ORDERING INFORMATION

MultiTech Conduit® AP 4G LTE Models

Model	Description	Region
MTCAP-LAP3-915-041A	LTE Cat 1 mPower Programmable Access Point 8-channel, 915 MHz, external LoRa antenna, AC power and AU Accessory Kit*	Australia
MTCAP-LAP3-915-001A	LTE Cat 1 mPower Programmable Access Point 8-channel, 915 MHz, internal LoRa antenna, AC power and AU Accessory Kit*	Australia

*AU Accessory Kit includes power supply with AU blade, 6 ft. RJ45 Ethernet cable, external LoRa antenna (-041 model only), mounting bracket and 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) • Replacement power supply (-001 and -041 models)	Global
AN868-915A-1HRA	868-915 MHz RP-SMA Antenna, 8″ (3.0 dBi) • Replacement LoRa antenna (-041 model)	Global
CA-RJ-45	Ethernet Cable (RJ45, 6 ft) • Replacement Ethernet Cable	Global

COMPLIMENTARY PRODUCTS

MultiTech mDot™

Model	Description	Region
MTDOT-915-AU-X1-SMA	AU915 MHz X1 LoRa SMA	Australia
MTDOT-915-AU-X1P-SMA	AU915 MHz X1 LoRa SMA w/Programming Header	Australia
MTDOT-915-AU-X1-UFL	AU915 MHz X1 LoRa UFL	Australia
MTDOT-915-AU-M1-UFL	AU915 MHz SMT LoRa UFL	Australia
MTDOT-915-AU-M1-TRC	AU915 MHz SMT LoRa RF Pad	Australia

MultiTech Dot®

Model	Description	Region
MTXDOT-AU1-A00-1	AU915 MHz LoRa Module UFL/TRC (Single Pack)	Australia

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

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

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