MultiConnect® rCell 100 Series

Cellular Routers supporting LTE Cat 4, Cat M1 & NB-IoT

mPower™ EDGE INTELLIGENCE

DeviceHQ®

MultiConnect® rCell 100 Series of industrial cellular routers, optimized for secure M2M (machine-to-machine)/Internet of Things (IoT) applications, with mPower™ Edge Intelligence embedded software, offering a robust Ethernet or serial network interface platform ready to deploy. The intuitive user interface and cloud device management allows for quick configuration and over-the-air upgrades. Enhanced with features such as WAN failover, secure software updates, advanced firewall and routing configuration, and Certificate Management, the MultiConnect rCell 100 Series creates an ideal environment for secure and redundant communications critical to the reliability of remote monitoring systems in a variety of industries.

BENEFITS

- Lowest total cost of ownership
- Long and stable lifecycles
- Certified and carrier approved

FEATURES

- 4G-LTE (Cat 4, Cat M1 & NB-IoT)
- Optional GPS & Wi-Fi/BT capabilities
- Flexible Web API for developers based on RESTful JSON over HTTPs
- Ruggedized enclosure
- Designed, manufactured and tested in ISO 13485 facilities
- Remotely hosted device management platform
- mPower Edge Intelligence embedded software

www.multitech.com/rcell100

HARDWARE SPECIFICATIONS

Models	MTR-L4G1	MTR-LNA7	MTR-LEU7
Cellular Radio	MTQ-L4G1-B02	MTQ-LNA7-B02	MTQ-LEU7-B02
Cellular Perfomance	4G - LTE Category 4		
Cellular Fallback	3G - HSPA +, 2G - GPRS	3G - HSPA+	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)	**4G:** B2(1900), B4(AWS1700), B5(850), B12(700), B13(700) **3G:** B2(1900), B4(AWS1700), B5(850)	**4G:** B1(2100), B3(1800), B7(2600), B8(900), B20(800), B28A(700) **3G:** B1(2100), B8(900) **2G:** B3(1800), B8(900)
Packet Data*	**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	Up to 150 Mbps downlink / Up to 50 Mbps uplink	
Diversity/MIMO	Rx Diversity and MIMO DL 2x2		
SMS	Point-to-Point Messaging, Mobile-Terminated SMS, Mobile-Originated SMS		
Input Voltage	7V to 32VDC		
Wi-Fi/Bluetooth (-B10 Models)	Wi-Fi: 802.11abng (2.4 & 5 GHz) Bluetooth: Classic 4.1 and BLE		
GPS/GNSS (-B10 Models)	GNSS connections: 3 GNSS Systems Supported: (default: concurrent GPS/QZSS/SBAS and GLONASS)		
LEDs	POWER / STATUS / Modem: CD LED (Carrier Detect), LS LED (Link Status) / Signal Strength: 3 LEDs / Ethernet: Link, Speed / Wi-Fi (-B10 models only)		
Connectors			
CELL1, CELL2	(2) Female SMA (Cellular Antenna)		
WIFI (-B10 Models only)	Reverse polarity female SMA (Wi-Fi/BT Antenna)		
GPS (-B10 Models only)	Female SMA (GPS Antenna)		
SIM	Micro SIM Card (3FF); 1.8V and 3V		
E-NET	Ethernet RJ-45, 10/100 BaseT		
RS-232	DE9 (Serial Connection)		
Power	2.5 mm miniature (screw-on)		
Physical Description			
Dimensions (L x W x H)	4.17" x 3.0" x 1.15" (10.6 cm x 7.6 cm x 2.9 cm)		
Weight	0.51 lbs (0.231 Kg)		
Chassis Type	Anodized aluminum (blue) / (IP-Rating: Designed for IP30)		
Environmental			
Operating Temperature†	-40° to +176° F (-40° to +80° C)		
Storage Temperature	-40° to +185° F (-40° to +85° C)		
Humidity	Relative humidity 15% to 93% noncondensing		
Certifications			
EMC Compliance	**Australia/New Zealand:** CISPR 32 **Canada:** ICES-003 Class B **Europe:** CE Mark, UKCA, EN 55032:2012/AC:2013 (Emissions), EN 55032:2015+A11:2020, EN 55024:2010 (Immunity) **US:** FCC Part 15 Class B	**US:** FCC Part 15 Class B	**Europe:** CE Mark, UKCA, EN 55032:2012/AC:2013 (Emissions), EN 55032:2015+A11:2020, EN 55024:2010 (Immunity)
Radio Compliance	**Australia/New Zealand:** AS/NZS 4268:2012 + A1:2013 MPE Standard 2014 **Europe:** RED, Article 3.1b EN 301 489-1 V2.2.3 EN 301 489-17 V3.1.1 (-B10 models only) EN 301 489-19 V2.1.0 (-B10 models only) EN 301 489-52 V1.1.0 RED, Article 3.2 EN 303 413 V1.1.1 :2017 (-B10 models only) EN 300 328 V2.2.2 (-B10 models only) EN 301 511 V12.5.1 :2017 EN 301 893 V2.1.1 :2017 (-B10 models only) EN 301 908-1 V13.1.1 EN 301 908-2 V13.1.1 EN 301 908-13 V13.1.1 MPE/RF Exposure: EN 62311:2008 **Canada:** ISED **US:** FCC Part 22, 24, 27	**US:** FCC Part 22H, FCC Part 24E, FCC Part 27	**Europe:** RED, Article 3.1b EN 301 489-1 V2.2.3 EN 301 489-17 V3.1.1 (-B10 models only) EN 301 489-19 V2.1.0 (-B10 models only) EN 301 489-52 V1.1.0 RED, Article 3.2 EN 303 413 V1.1.1 :2017 (-B10 models only) EN 300 328 V2.2.2 (-B10 models only) EN 301 511 V12.5.1 :2017 EN 301 893 V2.1.1 :2017 (-B10 models only) EN 301 908-1 V13.1.1 EN 301 908-2 V13.1.1 EN 301 908-13 V13.1.1 MPE/RF Exposure: EN 62311:2008
Safety	**Australia/New Zealand:** AS/NZS 60950-1 **Canada:** cUL 60950-1, cUL 62368-1 **Europe:** IEC 60950-1, IEC 62368-1 **US:** UL/ 60950-1, UL62368-1	**Canada:** cUL 60950-1 **US:** UL 60950-1 2nd ED, IEC 62368-1	**Europe:** IEC 60950-1:2005 (Second Edition), EN 62368-1:2014 + AC:2017 (Second Edition)
Additional Regulatory Approvals Available (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)	N/A	N/A
Mobile Network Operator Approvals	**Australia:** RCM, Optus, Telstra, Vodafone **Europe:** GCF Approved Module, European Network Operators **US:** PTCRB, AT&T, Verizon	**Canada:** Bell, Telus **US:** PTCRB, AT&T, Verizon	**Europe:** GCF Approved Module, European Network Operators
Additional Mobile Network Operator Certifications Available (Contact MultiTech for Details)	**Canada:** Rogers, Telus **US:** T-Mobile, US Cellular	**Canada:** Rogers **US:** T-Mobile	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 / www.multitech.com/legal/warranty		

* Actual performance speeds may be affected by a variety of attributes such as cell tower distance, data loads, packet sizes, etc.
** MTQ-LNA7-B02 is PTCRB, AT&T, Bell, Telus and Verizon approved
† Device has been tested up to +85° C. UL Recognized @ 40° C, limited by AC power supply. UL Recognized @ 60° C when used with the fused DC power cable, part number FPC-532-DC.

HARDWARE SPECIFICATIONS

Models	MTR-MNG2
Cellular Performance	LTE Cat M1 / NB-IoT Dual Mode + 2G Fallback
Cellular Fallback	2G - GPRS
Frequency Band (MHz)	3GPP Rel. 13 **Europe 4G:** B1 (2100), B3 (1800), B8 (900), B20 (800) 2G: B2 (1900), B3 (1800), B5 (850), B8 (900) **North America, Verizon 4G:** B4 (AWS1700), B13 (700) **North America, AT&T 4G:** B2 (1900), B4 (AWS1700), B12 (700), B13 (700)
Packet Data*	Cat. M1: Up to 300 Kbps Downlink Up to 375 Kbps Uplink NB1: Up to 250 Kbps Downlink (multi-tone) Up to 20 Kbps Uplink (single-tone)
Diversity/MIMO	N/A
SMS	Text & PDU, Point-to-Point
Input Voltage	7V to 32VDC
Wi-Fi/Bluetooth (-B10 Models)	Wi-Fi: 802.11a/b/n/g (2.4 & 5 GHz) / Bluetooth: Classic 4.1 and BLE
GPS/GNSS (-B10 Models)	GNSS connections: 3 / GNSS Systems Supported: (default: concurrent GPS/QZSS/SBAS and GLONASS)
LEDs	POWER / STATUS / Modem: CD LED (Carrier Detect), LS LED (Link Status) / Signal Strength: 3 LEDs / Ethernet: Link, Speed / Wi-Fi (-B10 models only)
Connectors	
CELL	(1) Female SMA (Cellular Antenna)
Wi-Fi (-B10 Models only)	Reverse polarity female SMA (Wi-Fi/BT Antenna)
GPS (-B10 Models only)	Female SMA (GPS Antenna)
SIM	Mini SIM (2FF); 1.8 and 3V
LAN	Ethernet RJ-45, 10/100 BaseT
RS-232	DE9 (Serial Connection)
Power	2.5 mm miniature (screw-on)
Physical Description	
Dimensions (L x W x H)	4.17" x 3.0" x 1.15" (10.6 cm x 7.6 cm x 2.9 cm)
Weight	0.51 lbs (0.231 Kg)
Chassis Type	Anodized aluminum (blue) / (IP-Rating: Designed for IP30)
Environmental	
Operating Temperature†	-40° to +176° F (-40° to +80° C)
Storage Temperature	-40° to +185° F (-40° to +85° C)
Humidity	Relative humidity 15% to 93% non-condensing
Certifications	
EMC Compliance	US: FCC Part 15 Class B / Europe: CE Mark, UKCA
Radio Compliance	**Europe:** RED, Article 3.1b EN 301 489-1 V2.2.3 / EN 301 489-17 V3.1.1 (-B10 models only) / EN 301 489-19 V2.1.0 (-B10 models only) / EN 301 489-52 V1.1.0 RED, Article 3.2 EN 300 328 V2.2.2 (-B10 models only) / EN 301 511 V12.5.1 / EN 301 893 V2.1.1 (-B10 models only) / EN 301 908-1 V13.1.1 / EN 301 908-13 V13.1.1 MPE/RF Exposure: EN 62311:2008 **US:** FCC Part 15 Class B, FCC Part 22H, FCC Part 24E, FCC Part 27 **Canada:** IC Class B
Safety	**Canada:** cUL 60950-1 **US:** UL 60950-1 2nd ED, IEC 62368-1 **Europe:** IEC 60950-1:2005 (Second Edition), IEC 62368-1:2014 (Second Edition)
Mobile Network Operator Approvals	**US:** PTCRB, AT&T, Verizon **Europe:** GCF Approved Module, European Network Operators
Additional Mobile Network Operator Certifications Available (Contact MultiTech for Details)	**US:** T-Mobile **Canada:** Rogers, Telus, Bell
Quality	MIL-STD-810G: High Temp, Low Temp, Cold Dwell, Random Vibration and Sine Vibration SAE J1455: Random Vibration and Sine Vibration
Warranty	2-Years / www.multitech.com/legal/warranty

* Actual performance speeds may be affected by a variety of attributes such as cell tower distance, data loads, packet sizes, etc.
† Device has been tested up to +85° C. UL Recognized @ 40° C, limited by AC power supply. UL Recognized @ 60° C when used with the fused DC power cable, part number FPC-532-DC.

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

mPower™ EDGE INTELLIGENCE

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**.

Cloud-based Application Store and IoT Device Management

DeviceHQ®

MultiTech DeviceHQ® is a 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.

HIGHLIGHTS

Security

The MultiConnect rCell 100 Series of cellular routers use IPSec industry standard data encryption to provide high performance, secure LAN-to-LAN VPN connections with 3DES or AES encryption using IKE and PSK key management. Support for five concurrent VPN tunnels. Additionally a private, secure digital signature with integrity check update technique is now available, minimizing file damage, tampering or loading of invalid firmware. MultiTech signs and distributes firmware updates through a secure standard firmware distribution process and verifies the firmware signature before installation of the firmware for maximum device integrity.

Wi-Fi/Bluetooth Specifications

The Wi-Fi interface can be set up in 802.11 a/b/n/g Access Point (AP) or client mode. In AP mode, the router can support up to 5 client connections. The Bluetooth serial interface allows you to set up a transparent data pipe from a Bluetooth device to a remote server. The router can be configured using TCP or UDP protocols and supports client and server modes giving you the flexibility you need for your particular application. RFCOM and SPP profile support. Contact MultiTech about additional Bluetooth profile support.

ORDERING INFORMATION

MultiConnect® rCell 100 Series 4G-LTE Global Models

Model	Description	Region
MTR-L4G1-B07	LTE Cat 4 Router with Fallback, without Accessories (Global)	US/Canada Europe/GB Australia New Zealand
MTR-L4G1-B07-WW	LTE Cat 4 Router with Fallback and Accessory Kit #1 (Global)	US/Canada Europe/GB Australia New Zealand
MTR-L4G1-B10	LTE Cat 4 Router with Fallback and Wi-Fi/BT/GPS, without Accessories (Global)	US/Canada Europe/GB Australia New Zealand
MTR-L4G1-B10-WW	LTE Cat 4 Router with Fallback and Wi-Fi/BT/GPS, and Accessory Kit #2 (Global)	US/Canada Europe/GB Australia New Zealand

MultiConnect® rCell 100 Series 4G-LTE Global Models

Model	Description	Region
MTR-LNA7-B07	LTE Cat 4 Router with Fallback, without Accessories (AT&T/Verizon)	US/Canada
MTR-LNA7-B07-US	LTE Cat 4 Router with Fallback and Accessory Kit #3 (AT&T/Verizon)	US/Canada
MTR-LNA7-B10	LTE Cat 4 Router with Fallback and Wi-Fi/BT/GPS, without Accessories (AT&T/Verizon)	US/Canada
MTR-LNA7-B10-US	LTE Cat 4 Router with Fallback Wi-Fi/BT/GPS, and Accessory Kit #4 (AT&T/Verizon)	US/Canada

MultiConnect® rCell 100 Series 4G-LTE Europe Models

Model	Description	Region
MTR-LEU7-B07	LTE Cat 4 Router with Fallback, without Accessories	Europe/GB
MTR-LEU7-B07-EU-GB	LTE Cat 4 Router with Fallback and Accessory Kit #5	Europe/GB
MTR-LEU7-B10	LTE Cat 4 Router with Fallback and Wi-Fi/BT/GPS, without Accessories	Europe/GB
MTR-LEU7-B10-EU-GB	LTE Cat 4 Router with Fallback Wi-Fi/BT/GPS, and Accessory Kit #6	Europe/GB

MultiConnect® rCell 100 Series LTE Cat M1+NB-IoT Models

Model	Description	Region
MTR-MNG2-B07	LTE Cat M1+NB-IoT Router with Fallback, without Accessories	Global
MTR-MNG2-B07-WW	LTE Cat M1+NB-IoT Router with Fallback, and Accessory Kit #7	Global
MTR-MNG2-B10	LTE Cat M1+NB-IoT Router with Fallback and Wi-Fi/BT/GPS, without Accessories	Global
MTR-MNG2-B10-WW	LTE Cat M1+NB-IoT Router with Fallback and Wi-Fi/BT/GPS, and Accessory Kit #8	Global

Accessory Kit Overview

Accessory kits differ by model number. All accessory kits include: Power supply, Ethernet cable, mounting tab and screws, and quick-start guide

Accessory Kit Number	Kit #1	Kit #2	Kit #3	Kit #4	Kit #5	Kit #6	Kit #7	Kit #8
Cellular Antanna(s)	(2)	(2)	(2)	(2)	(2)	(2)	(1)	(1)
Wi-Fi/BT Antenna		(1)		(1)		(1)		(1)
GPS Antenna		(1)		(1)		(1)		(1)
Power Blade(s)	(4) AU/NZ EU, GB, US	(4) AU/NZ EU, GB, US	(1) US	(1) US	(2) EU, GB	(2) EU, GB	(4) AU/NZ EU, GB, US	(4) AU/NZ EU, GB, US

Use ordering codes for specific build options. 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

World Headquarters

Multi-Tech Systems, Inc.
2205 Woodale Drive
Mounds View, MN 55112 U.S.A.
Tel: 763-785-3500
Email: sales@multitech.com
www.multitech.com

MULTITECH®

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