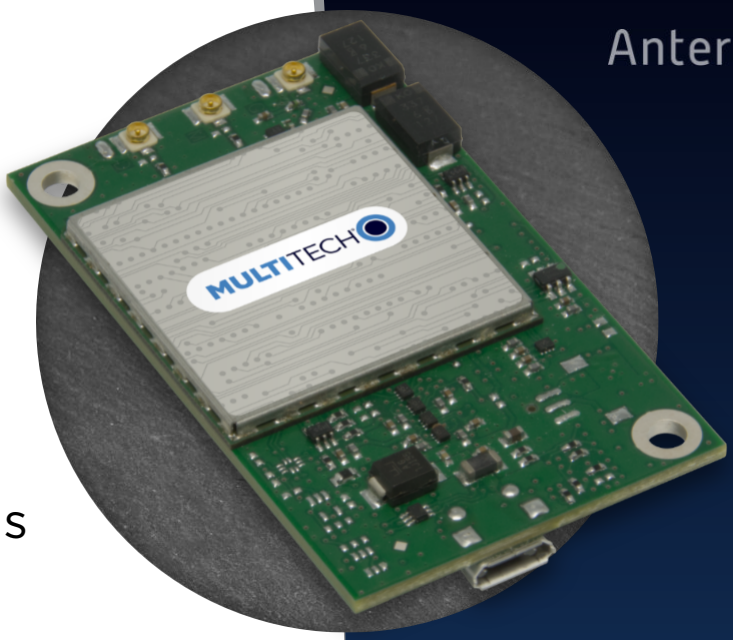
MULTITECH®

Anterix



MultiTech SocketModem® MTQ

Embedded Cellular Modems 4G-LTE Models

MultiTech SocketModem® MTQ embedded cellular modem is a complete, ready-to-integrate communications device ideal for customers looking to add 4G-LTE cellular communications to their IoT/M2M solutions.

SocketModem MTQ connects to a host device through a standard micro USB connector or a 40-pin board-to-board connector. The USB connector provides the quickest time to market and enables basic cellular connectivity. The board-to-board connector provides USB connection to cellular module or access to cellular UART peripheral.

Users can configure and interact with the SocketModem MTQ cellular modem through a set of industry-standard AT Commands, a vital tool for developers, network operators, and system integrators.

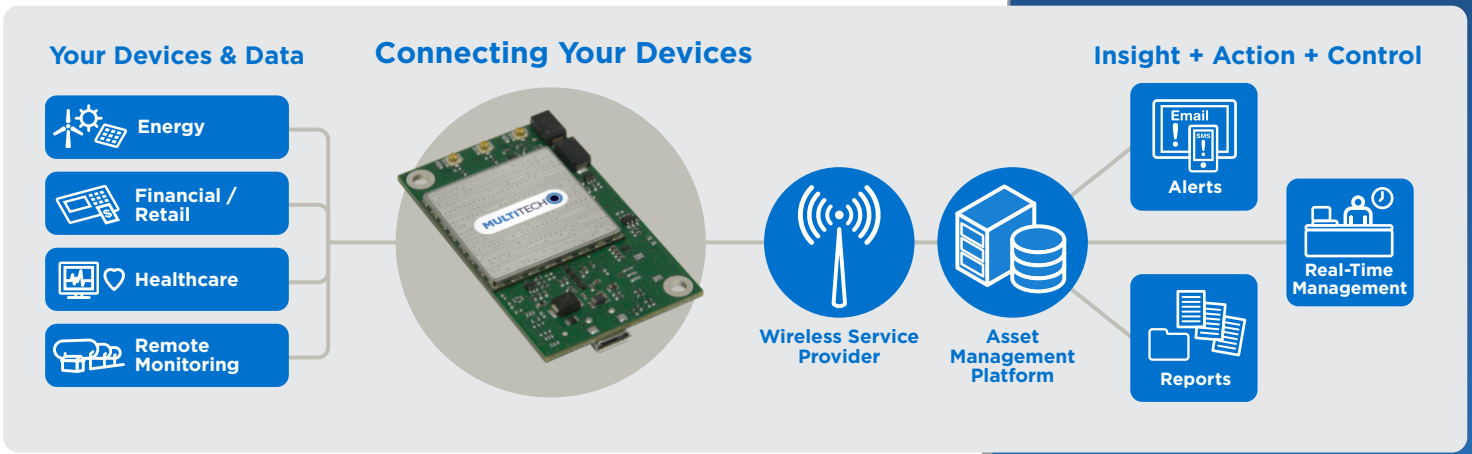
These quick-to-market devices minimize development time and expense when adding wireless communication to a host device or when transitioning to a new cellular technology.

BENEFITS

- Approved by carriers and regulatory agencies saving customers time, money, and protection from the risks associated with pursuing their own certifications
- Quick to market leveraging MultiTech's approvals
- Interchangeable communications devices for easy migration to future networks
- Long solution lifecycle reduces redesign time and cost
- Support from leading experts in IoT/M2M technology

FEATURES

- 4G Models (Cat 4, Cat 1 and Cat M1)
- Select models include GNSS and approved for use globally
- Connects using USB or board-to-board connector
- Short Message Services (SMS)
- AT command compatible
- USB 2.0 high speed compatible
- Two-year warranty

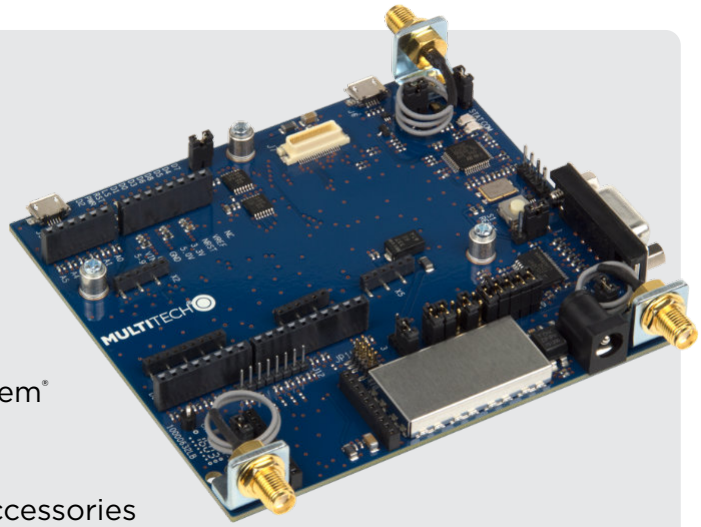


Power Saving Modes (Cat M1 Models)

Extended Discontinuous Reception (eDRX) mode increases the length of time the end device can sleep before it has to check in with the network which saves power. Power Saving Mode (PSM) allows the device to notify the network it is going to sleep or dormant indefinitely only waking up based on user defined timer. Once the device wakes up and transmits it will stay awake for a few frames of time in case the network needs to reach that device. A device using PSM transmitting a small amount of data once per day could last many years using 2 AA batteries.

Developer Kits

Developer Kits allow you to plug in the communications device and use it for testing, programming and evaluation. MTUDK2-ST-CELL.R1 developer kit is designed to work with all of our SocketModem® cellular modems. Developer kits include a development board and all the necessary accessories to get you up and running right out of the box.



SPECIFICATIONS

Models	MTQ-L1G2D-B02	MTQ-L4G1-B02	MTQ-LNA7-B02
Regions	Australia Canada European Union United Kingdom United States	Australia Canada European Union United Kingdom United States	Canada United States
Performance	3GPP Release 10 4G-LTE FDD Category 1 10 Mbps peak downlink 5 Mbps peak uplink with 3G/2G fallback	3GPP Release 11 4G-LTE FDD/TDD Category 4 150 Mbps peak downlink 50 Mbps peak uplink with 3G/2G fallback	LTE 3GPP Release 11 4G-LTE FDD Category 4 150 Mbps peak downlink 50 Mbps peak uplink with 3G fallback
Frequency Band (MHz)	**4G LTE FDD (Europe):** B1(2100), B3(1800), B7(2600), B8(900), B20(800) **3G (Europe Fallback):** B1(2100), B3(1800), B8(900) **2G (Europe Fallback):** B2(1900), B3(1800), B5(850), B8(900) **4G LTE FDD (AT&T):** B2(1900), B4(AWS1700), B12(700), B14(700-FirstNet)† **4G LTE FDD (Verizon):** B4(AWS1700), B13(700) **4G LTE FDD (Anterix):** B8(900) **4G LTE FDD (APAC):** B1(2100), B9(1800), B18(800), B19(850), B26(850), B28(700) **3G:** B1(2100), B2(1900), B4(AWS1700), B5(850), B6(800), B8(900), B19(850) **4G LTE FDD Bands:** B25(1900)	**4G LTE FDD (Europe):** B1(2100), B3(1800), B7(2600), B8(900), B20(800), B28(700) **3G (Europe Fallback):** B1(2100), B3(1800), B8(900) **2G (Europe Fallback):** B2(1900), B3(1800), B8(900) **4G LTE FDD (AT&T):** B2(1900), B4(AWS1700), B12(700) **4G LTE FDD (Verizon):** B4(AWS1700), B13(700) **4G LTE FDD:** B5(850), B18(800), B19(800), B25(1900), B26(850) **4G LTE TDD:** B38(2600), B39(1900), B40(2300), B41(2500)	**4G LTE FDD (AT&T):** B2(1900), B4(AWS1700), B12(700) **4G LTE FDD (T-Mobile):** B2(1900), B4(AWS1700), B5(850) **4G LTE FDD (Verizon):** B4(AWS1700), B13(700) **3G:** B2(1900), B4(AWS1700), B5(850)
GNSS	Yes		
SMS	Mobile Originate Mobile Terminated Cell Broadcast PDU or Text Mode	Mobile Originate Mobile Terminated Cell Broadcast PDU or Text Mode SMS storage: ME by default	Mobile Originate Mobile Terminated Cell Broadcast PDU or Text Mode SMS storage: ME by default
USB	Micro USB 2.0 high speed compatible. CMC-ACM compliant		
TCP/IP Functions	FTP, HTTP, SMTP, TCP, UDP, SSL	FTP, SMTP, SSL, TCP, UDP	FTP, HTTP, SMTP, SSL, TCP, UDP
Connectors	Antenna : 3 UFL (Cellular, Auxiliary, GNSS) / Micro SIM (3FF): 1.8V & 3V / Micro USB Pin Header: 40-pin female for USB or UART		
Dimensions	2.300" x 1.375" (58.4 mm x 34.9 mm)		
Power Requirements			
Power Draw USB Only @ 5 VDC (-B02 Models)	Sleep Mode (power down): 20 mA Idle: 49 mA Max Power: 706 mA (average)	Sleep Mode (power down): 9.3 mA Idle: 27 mA Max Power: 539 mA (average)	Sleep Mode (power down): 8.5 mA Idle: 36 mA Max Power: 712 mA (average)
Input Voltage (using micro-USB connector)	5 VDC		
Input Voltage (using 40-pin connector)	3.3 VDC or 5.0 VDC		
Environmental			
Operating Temperature	-40° C to +85° C (-40° F to +185° F)		
Storage Temperature	-40° C to +85° C (-40° F to +185° F)		
Relative Humidity	20% to 90% RH, noncondensing		
Certifications			
EMC & Radio Compliance	CE, FCC, IC, RCM, UKCA		FCC, IC
Safety Compliance	UL/cUL/IEC 62368-1	UL/cUL/IEC 60950-1	
Network Compliance	PTCRB		
Network Operator	Anterix, AT&T, Verizon	AT&T, Verizon	AT&T, Verizon, T-Mobile††
Warranty	2-Years / www.multitech.com/legal/warranty		

* See device guides or AT command guides for additional information.

† All future end-user (OEM) devices will and must go through FirstNet certification prior to being included in the FirstNet device ecosystem.

†† Voice must be deactivated by AT commands for use on T-Mobile Network.

SPECIFICATIONS

Models	MTQ-LEU7-B02	MTQ-LAT3-B02	MTQ-MNG6-B02
Regions	European Union United Kingdom	United States	Australia Canada European Union United Kingdom United States
Performance	LTE 3GPP Release 11 4G-LTE FDD Category 4 150 Mbps peak downlink 50 Mbps peak uplink with 3G/2G fallback	3GPP Release 9 4G-LTE FDD Category 1 10 Mbps peak downlink 5 Mbps peak uplink with 3G fallback	LTE 3GPP Release 14 4G LTE FDD Cat M1 M1: 588 Kbps peak downlink 1 Mbps peak uplink 2G: 264 Kbps peak downlink 210 Kbps peak uplink
Frequency Band (MHz)	**4G LTE FDD (Europe):** B1(2100), B3(1800), B7(2600), B8(900), B20(800), B28A(700) **3G (Europe Fallback):** B1(2100), B8(900) **2G (Europe Fallback):** B3(1800), B8(900)	**4G LTE FDD (AT&T):** B2(1900), B4(AWS1700), B5(850), B12(700), B13(700) **3G (AT&T):** B2(1900), B5(850)	**4G LTE FDD (Europe):** B1(2100), B3(1800), B8(900), B20(800) **2G (Europe Fallback):** B2(1900), B3(1800), B5(850), B8(900) **4G (AT&T):** B2(1900), B4(AWS1700), B12(700) **4G (T-Mobile):** B2(1900), B4(AWS1700), B5(850), B66(AWS-3 1700) **4G (Verizon):** B4(AWS1700), B13(700) **4G LTE FDD (APAC):** B1(2100), B18(800), B19(850), B26(850), B28(700) **4G LTE FDD Bands:** B25(1900), B27(800)
GNSS	No		Yes
SMS	Mobile Originate Mobile Terminated Cell Broadcast PDU or Text Mode SMS storage: ME by default	Circuit-Switching Domain (CS) Packet-Switching Domain (PS)	SMS over NAS
USB	Micro USB 2.0 high speed compatible. CMC-ACM compliant		Micro USB 2.0 high speed compatible
TCP/IP Functions	FTP, HTTP, SMTP, SSL, TCP, UDP		
Connectors	Antenna : 2 UFL (Cellular, Auxiliary) Micro SIM (3FF): 1.8V & 3V Micro USB Pin Header: 40-pin female for USB or UART		Antenna: 2 UFL (Cellular, GNSS) MIcro SIM (3FF); 1.8V & 3V Micro USB Pin Header: 40-pin female for USB or UART
Dimensions	2.300" x 1.375" (58.4 mm x 34.9 mm)		
Power Requirements			
Power Draw USB Only @ 5 VDC (-B02 Models)	Sleep Mode (power down): 9 mA Idle: - Max Power: 792 mA (average)	Sleep Mode: 25 mA Idle: 38 mA Max Power: 510 mA (average)	Sleep Mode: 19 mA Idle: 43 mA Max Power: 383 mA (average)
Input Voltage (using micro-USB connector)	5 VDC		
Input Voltage (using 40-pin connector)	3.3 VDC or 5.0 VDC		
Environmental			
Operating Temperature	-40° C to +85° C (-40° F to +185° F)		
Storage Temperature	-40° C to +85° C (-40° F to +185° F)		
Relative Humidity	20% to 90% RH, noncondensing		
Certifications			
EMC & Radio Compliance	CE, RCM, UKCA	FCC	CE, FCC, IC, RCM, UKCA
Safety Compliance	IEC 60950-1	UL/cUL 62350-1	UL/cUL/IEC 62368-1
Network Compliance	N/A	PTCRB	
Network Operator	N/A	AT&T	AT&T, Verizon, T-Mobile
Warranty	2-Years / www.multitech.com/legal/warranty		

* See device guides or AT command guides for additional information.

† All future end-user (OEM) devices will and must go through FirstNet certification prior to being included in the FirstNet device ecosystem.

†† Voice must be deactivated by AT commands for use on T-Mobile Network.

ORDERING INFORMATION

MultiTech SocketModem® MTQ

Model	Description	Region
MTQ-L1G2D-B02	LTE Cat 1 Embedded Cellular Modem w/Fallback & GNSS	Global
MTQ-L4G1-B02	LTE Cat 4 Embedded Cellular Modem w/Fallback & GNSS	Global
MTQ-LNA7-B02	LTE Cat 4 Embedded Cellular Modem w/Fallback & GNSS (AT&T/Verizon)	Canada/ United States
MTQ-LEU7-B02	LTE Cat 4 Embedded Cellular Modem w/Fallback	Global
MTQ-LAT3-B01	LTE Cat 1 Embedded Cellular SoM* w/Fallback (AT&T)	Canada/ United States
MTQ-LAT3-B02	LTE Cat 1 Embedded Cellular Modem w/Fallback (AT&T)	Canada/ United States
MTQ-MNG6-B02	LTE Cat M1 Embedded Cellular Modem w/GNSS	Global

(*) SoM model. Includes Cortex M4 host processor for hosting IoT applications. See device guides for additional information.

Global models are approved for use in Australia, Canada, European Union, New Zealand, United Kingdom, and United States.

Ordering part numbers as listed are 50 packs. To order a single pack add a –SP to the end of the ordering part number. (i.e. MTQ-L1G2D-B02-SP)

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

Developer Kit

Model	Description	Region
MTUDK2-ST-CELL.R1	SocketModem® Developer Kit (DB9 RS-232 Connector and USB)	Global

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: **multitech.com/product-support**

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