MULTITECH®
CREATE • CONNECT • COMMUNICATE

SocketModem® Cell

Embedded Cellular Modems
4G-LTE Models

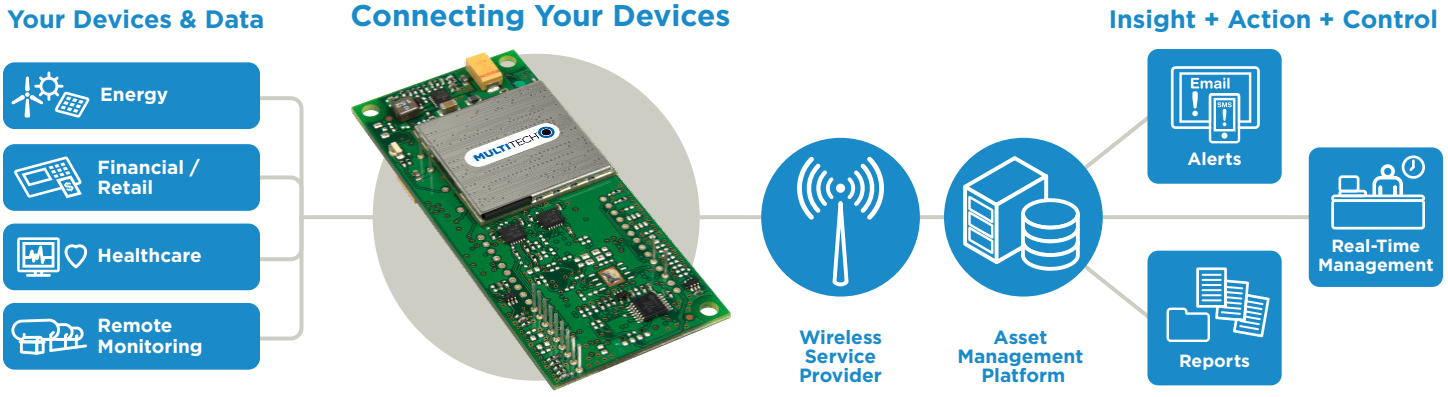
The SocketModem® Cell embedded cellular modem is a complete, ready-to-integrate communications device ideal for customers looking to add 4G-LTE cellular communications to their IoT/M2M solutions. These communications devices enable easy technology transitions and allow developers to add wireless communication to products with a minimum of development time and expense. The SocketModem Cell embedded cellular modems are carrier approved and end-device certified, decreasing time to market while saving customers money.

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)
- 4G Cat 4, Cat 1 Sprint and Cat M1 include GNSS
- Universal Socket connectivity
- Short Message Services (SMS)
- Serial or USB interfaces
- Serial interface supports speeds up to 921.6K bps
- AT command compatible
- USB 2.0 HS compatible
- Two-year warranty



www.multitech.com/smcell

HIGHLIGHTS

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. (Note: Some power saving modes will be available in a future firmware release.)

SPECIFICATIONS

Models	MTSMC-L4N1 MTSMC-L4N1-U	MTSMC-L4E1 MTSMC-L4E1-U
Performance	LTE FDD Cat.4, 3GPP release 10 compliant (Category 4; 150 Mbps peak downlink/ 50 Mbps peak uplink) with 3G Fallback	LTE FDD Cat.4, 3GPP release 10 compliant (Category 4; 150 Mbps peak downlink/ 50 Mbps peak uplink) with 3G/2G Fallback
Frequency Bands (MHz)	4G: B2(1900), B4(AWS1700), B5(850), B12(700a), B13(700c), B14(700 FirstNet),† B66(AWS-3 1700), B71(600) AT&T: B2, B4, B5, B12, B14 Verizon: B4, B13 3G: B2(1900), B4(AWS1700), B5(850)	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)
SMS	Mobile Originate, Mobile Terminated and Cell Broadcast / PDU or Text Mode	
USB	USB 2.0 high speed compatible (-U models)	
TCP/IP Functions	FTP, SMTP, SSL, TCP, UDP	
Connectors	Antenna : 3 UFL (Cellular, Rx Diversity/MIMO, GPS) / Mini SIM (2FF); 1.8V & 3V	
Dimensions	3.15″ x 1.375″ (80.010 mm x 34.925 mm)	
Power Draw*	TBD	Serial Model @ 5VDC; 8mA sleep, 13mA idle, 747mA average at max power USB Model @ 5VDC; 816mA average at max power
Input Power	3.3V – 5VDC	
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	FCC Part 15 Class B FCC Part 22, 24, 27	CE Mark, RED
Safety	UL 60950-1 2nd ED, cUL 60950-1 2nd ED	IEC 60950-1 2nd ED
Network	PTCRB (Pending)	N/A
Carrier	AT&T, Verizon (Pending)	N/A

* See device 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.

Developer Kits

The Developer Kits allow you to plug in the communications device and use it for testing, programming and evaluation.

The MTUDK2-ST-CELL developer kit is designed to work with all versions of our cellular SocketModems as well as the MultiConnect® Dragonfly™ family of cellular SoMs and modems.

Developer kits include a development board and all the necessary accessories to get you up and running right out of the box.

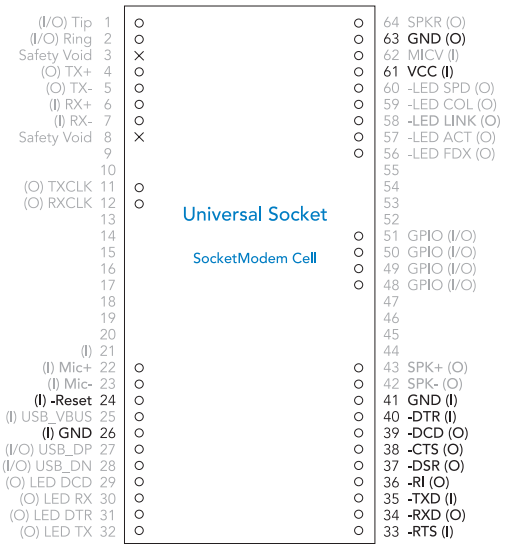
SPECIFICATIONS

Models	MTSMC-LAT3 MTSMC-LAT3-U	MTSMC-LVW3 MTSMC-LVW3-U	MTSMC-LSP3 MTSMC-LSP3-U	MTSMC-MNA1 MTSMC-MNA1-U
Performance	LTE 3GPP Release 9 (Category 1; 10 Mbps peak downlink/ 5 Mbps peak uplink) with HSPA Fallback	LTE 3GPP Release 9 (Category 1; 10 Mbps peak downlink/ 5 Mbps peak uplink) (No Fallback)	LTE 3GPP Release 10 (Category 1; 10 Mbps peak downlink/ 5 Mbps peak uplink)	LTE 3GPP Release 13 (Category M1; Up to 300 Kbps downlink & up to 375 Kbps uplink)
Frequency Bands (MHz)	4G: B12/B13(700), B5(850), B4(AWS1700), B2(1900) 3G: B5(850), B2(1900)	B13(700), B4(AWS1700), B2(1900)	4G: B12(700), B5/25(850), B4(AWS1700), B2/25(1900), B25(1900+)	AT&T: B12(700), B4(AWS1700), B2(1900) Verizon: B13(700), B4(AWS1700)
SMS	Mobile Originate, Mobile Terminated and Cell Broadcast / PDU or Text Mode			
USB	USB 2.0 High Speed			
TCP/IP Functions	FTP, SMTP, SSL, TCP & UDP			
Connectors	Antenna: 2 UFL (Cellular, Rx Diversity/MIMO) / Mini SIM (2FF); 1.8V & 3V	Antenna: 2 UFL (Cellular, Rx Diversity/MIMO) / Mini SIM (2FF); 1.8V & 3V	Antenna: 3 UFL (Cellular, Rx Diversity/MIMO, GPS) / Mini SIM (2FF); 1.8V & 3V	Antenna: 2 UFL (Cellular, GPS) Mini SIM (2FF); 1.8V & 3V
Dimensions	3.15" x 1.375" (80.010 mm x 34.925 mm)			
Power Draw*	Serial Model @ 5VDC; 13mA sleep, 20mA idle, 400mA average at max power USB Model @ 5VDC; sleep N/A, 32mA idle, 432mA average at max power	Serial Model @ 5VDC; 16mA sleep, 19mA idle, 373mA average at max power USB Model @ 5VDC; sleep N/A, 104mA idle, 388mA average at max power	Serial Model @ 5VDC; 7mA sleep, 55mA idle, 551mA average at max power USB Model @ 5VDC; sleep N/A, 69mA idle, 603mA average at max power	Serial Model @ 5VDC; 9mA sleep, 14mA idle, 122mA average at max power USB Model @ 5VDC; sleep N/A, 28mA idle, 151mA average at max power
Input Power	3.3V – 5VDC			
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	FCC Part 15 Class B FCC Part 22, 24, 27	FCC Part 15 Class B FCC Part 27	FCC Part 15 Class B FCC Part 22, 24, 27	FCC Part 15 Class B FCC Part 22, 24, 27
Safety	UL 60950-1 2nd ED, cUL 60950-1 2nd ED, IEC 60950-1 2nd ED		UL 60950-1 2nd ED	UL 60950-1 2nd ED, cUL 60950-1 2nd ED, IEC 60950-1 2nd ED
Network	PTCRB	N/A	N/A	PTCRB
Carrier	AT&T	Verizon	Sprint	AT&T, Verizon

* See device guides for additional information.

SocketModem Cell Pin-Out

The SocketModem Cell cellular modem interfaces easily with existing products through a standard serial communication channel. The serial DTE channel is capable of transfer speeds to 921.6K bps (depending on model) and can be interfaced directly to a UART or microcontroller. The complete on-board RF transceiver interfaces with an antenna for direct connection to wireless data networks. It also includes an onboard LED to display network status.



ORDERING INFORMATION

SocketModem® Cell LTE Models

Model	Description	Region
MTSMC-L4N1	LTE Cat 4 Embedded Modem w/Fallback & GNSS (Serial Interface) (AT&T/Verizon)	US/Can
MTSMC-L4N1-U	LTE Cat 4 Embedded Modem w/Fallback & GNSS (USB Interface) (AT&T/Verizon)	US/Can
MTSMC-L4E1	LTE Cat 4 Embedded Modem w/Fallback & GNSS* (Serial Interface)	Euro/GB
MTSMC-L4E1-U	LTE Cat 4 Embedded Modem w/Fallback & GNSS* (USB Interface)	Euro/GB
MTSMC-LAT3	LTE Cat 1 Embedded Modem w/Fallback (Serial Interface) (AT&T)	US/Can
MTSMC-LAT3-U	LTE Cat 1 Embedded Modem w/Fallback (USB Interface) (AT&T)	US/Can
MTSMC-LVW3	LTE Cat 1 Embedded Modem w/o Fallback (Serial Interface) (Verizon)	US
MTSMC-LVW3-U	LTE Cat 1 Embedded Modem w/o Fallback (USB Interface) (Verizon)	US
MTSMC-LSP3	LTE Cat 1 Embedded Modem w/GNSS w/o Fallback (Serial Interface) (Sprint)	US
MTSMC-LSP3-U	LTE Cat 1 Embedded Modem w/GNSS w/o Fallback (USB Interface) (Sprint)	US
MTSMC-MNA1	LTE Cat M1 Embedded Modem w/GNSS (Serial Interface) (AT&T/Verizon)	US/Can
MTSMC-MNA1-U	LTE Cat M1 Embedded Modem w/GNSS (USB Interface) (AT&T/Verizon)	US/Can

Developer Kit

Model	Description	Region
MTUDK2-ST-CELL	SocketModem & Dragonfly Developer Kit - Cellular	Global

Ordering part numbers as listed are 50 packs. To order a single pack add a –SP to the end of the ordering part number. (MTSMC-LAT1-SP)

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.

Installation Support

MultiTech's Installation Support Service delivers priority service with the ability to work one-on-one with an experienced MultiTech technical support engineer, to guide you through the installation process for our products.

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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