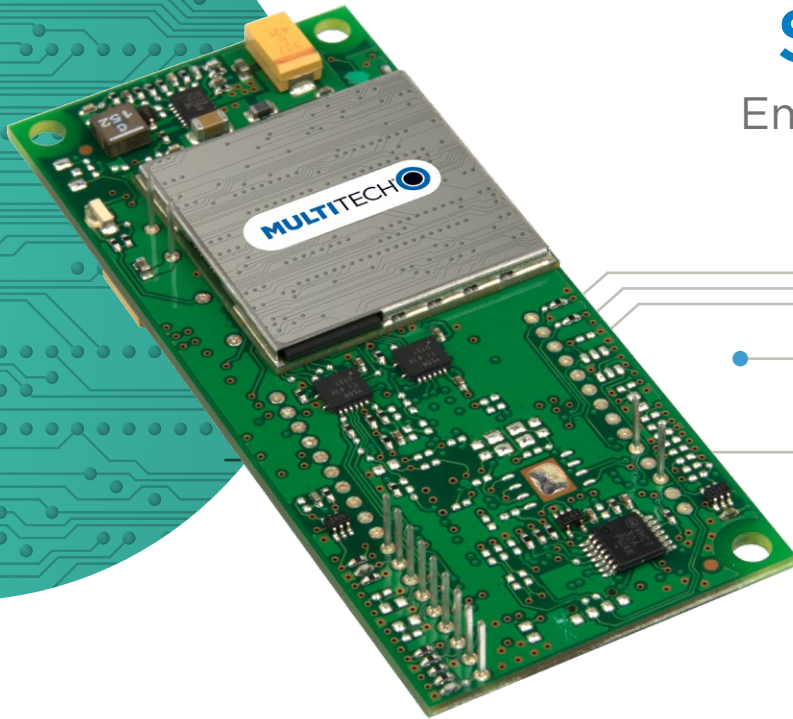


# SocketModem<sup>®</sup> Cell

Embedded Cellular Modems now supporting LPWA LTE Cat M1



## FEATURES

- 4G models (Cat M1, Cat 3 and Cat 1), 3G and 2G
- 4G Cat M1, Cat 3 and Cat 1 Sprint models 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 (3G and 4G models)
- Two-year warranty

## 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

The **SocketModem<sup>®</sup> Cell** embedded cellular modem is a complete, ready-to-integrate communications device ideal for customers looking to add cellular communications to their IoT/M2M solutions.

Choose a carrier approved and end-product certified embedded modem from MultiTech to decrease your time to market and save you money.

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

### Your Devices & Data



### Connecting Your Devices



Wireless Service Provider

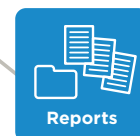


Asset Management Platform

### Insight + Action + Control



Alerts



Reports



Real-Time Management

## 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

Model	MTSMC-LAT1 / MTSMC-LAT1-U MTSMC-LAT3 / MTSMC-LAT3-U	MTSMC-LEU1 MTSMC-LEU1-U	MTSMC-LVW2 / MTSMC-LVW2-U MTSMC-LVW3 / MTSMC-LVW3-U
Performance	LAT1: LTE 3GPP Release 9 (Category 3; 100 Mbps peak downlink/50 Mbps peak uplink) with HSPA+ 21/GPRS fallback LAT3: LTE 3GPP Release 9 (Category 1; 10 Mbps peak downlink/5 Mbps peak uplink) with HSPA fallback	LTE 3GPP Release 9 (Category 3; 100 Mbps peak downlink/50 Mbps peak uplink) with HSPA+ 42/GPRS fallback	LVW2: LTE 3GPP Release 9 (Category 3; 100 Mbps peak downlink/50 Mbps peak uplink) (No fall back) LVW3: LTE 3GPP Release 9 (Category 1; 10 Mbps peak downlink/5 Mbps peak uplink) (No fallback)
Frequency Bands (MHz)	LAT1: 4G: 700(B17)/850(B5)/AWS1700(B4)/1900(B2) 3G: 850(B5)/1900(B2) 2G: 850/1900 LAT3: 4G: 700(B12/B13)/850(B5)/AWS1700(B4)/1900(B2) 3G: 850(B5)/1900(B2)	4G: 800(B20)/1800(B3)/2600(B7) 3G: 850(B5)/900(B8)/2100(B1) 2G: 900/1800	LVW2: 700(B13)/AWS1700(B4) LVW3: 700(B13)/AWS1700(B4)/1900(B2)
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 (LAT1/LVW2): 3 UFL (Cellular, Rx Diversity/MIMO, GPS) Antenna (LAT3/LVW3): 2 UFL (Cellular, Rx Diversity/MIMO) / Mini SIM (2FF); 1.8V & 3V		
Dimensions	3.15" x 1.375" (80.010 mm x 34.925 mm)		
Power Draw*	(LAT1) Serial Model @ 5VDC; 13mA sleep, 20mA idle, 400mA average at max power / USB Model @ 5VDC; sleep N/A, 29mA idle, 560mA average at max power (LAT3) 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	(LEU1) Serial Model @ 5VDC; 4mA sleep, 49mA idle, 610mA average at max power / USB Model @ 5VDC; sleep N/A, 43mA idle, 610mA average at max power	(LVW2) Serial Model @ 5VDC; 4mA sleep, 15mA idle, 445mA average at max power / USB Model @ 5VDC; sleep N/A, 27mA idle, 500mA average at max power (LVW3) 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
Input Power	3.3V - 5VDC		
<b>Environmental</b>			
Operating Temperature	-40° to +85° C		
Storage Temperature	-40° to +85° C		
Humidity	20% to 90% RH, non-condensing		
<b>Certifications</b>			
EMC Compliance	FCC Part 15 Class B	EN55022 Class B, EN55024	FCC Part 15 Class B
Radio Compliance	FCC Part 22, 24, 27	RED, RCM, EN 301 511, EN 301 489-1, EN 301 489-7, EN 301 489-24	FCC Part 27
Safety	UL 60950-1 2nd ED, cUL 60950-1 2nd ED, IEC 60950-1 2nd ED	IEC 60950-1 2nd ED, AS/NZS 60950.1	UL 60950-1 2nd ED, cUL 60950-1 2nd ED, IEC 60950-1 2nd ED
Network	PTCRB	N/A	
Carrier	AT&T, T-Mobile	N/A	Verizon

\* See device guides for additional information.

## 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 new MultiConnect® Dragonfly™ family of cellular SoMs.

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

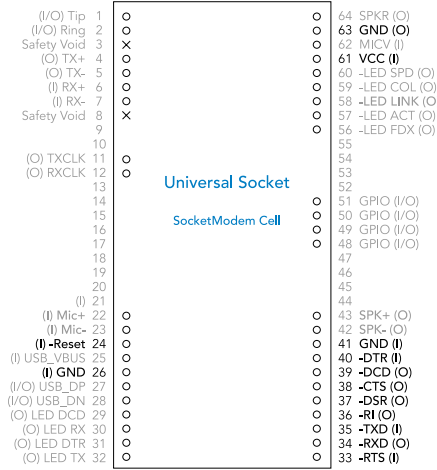
## SPECIFICATIONS

Models	MTSMC-LSP3 MTSMC-LSP3-U	MTSMC-MNA1 MTSMC-MNA1-U	MTSMC-H5	MTSMC-G3
Performance	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)	HSPA+	GPRS Class 10
Frequency Bands (MHz)	4G: 700(B12)/850(B5/25)/AWS 1700(B4)/1900(B2/25)/1900+(B25)	AT&T: 700(B12), AWS1700(B4), 1900(B2) Verizon: 700(B13), AWS1700(B4)	3G: 850/900/1700 (AWS)/1900/2100 2G: 850/900/1800/1900	850/900/1800/1900
SMS	Mobile Originate, Mobile Terminated and Cell Broadcast / PDU or Text Mode			
USB	USB 2.0 High Speed			N/A
TCP/IP Functions	FTP, SMTP, SSL, TCP & UDP			
Connectors	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	Antenna: 2 UFL (Cellular, Rx Diversity) Mini SIM (2FF); 1.8V & 3V	Antenna: 1 UFL Mini SIM (2FF); 1.8V & 3V
Dimensions	3.15" x 1.375" (80.010 mm x 34.925 mm)			
Power Draw*	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	TBD	5VDC; 19mA sleep, 28mA idle, 397mA maximum	5VDC; 32mA sleep, 54mA idle, 358mA maximum
Input Power	3.3V - 5VDC			
<b>Environmental</b>				
Operating Temperature	-40° to +85° C		-35° to +85° C	
Storage Temperature	-40° to +85° C			
Humidity	20% to 90% RH, non-condensing			
<b>Certifications</b>				
EMC Compliance	FCC Part 15 Class B		FCC Part 15 Class B, EN55022, EN55024	EN55024
Radio Compliance	FCC Part 22, 24, 27		FCC Part 22, FCC Part 24, RSS 132, RSS 133, RED, RCM, EN 301 511, EN 301 489-1, EN 301 489-3, EN 301 489-7, EN 301 489-24	EN 301 511, EN 301 489- 1, EN 301 489-3, EN 301 489-7
Safety	UL 60950-1 2nd ED	UL 60950-1 2nd ED, cUL 60950-1 2nd ED, IEC 60950-1 2nd ED	UL 60950-1 2nd ED, cUL 60950-1 2nd ED, IEC 60950-1 2nd ED	IEC 60950-1 2nd ED
Network	N/A	PTCRB	PTCRB	Uses a GCF certified module
Carrier	Sprint	AT&T, Verizon	AT&T, Aeris, T-Mobile, Rogers	N/A

\* 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

### LTE Models

Product	Description	Region
MTSMC-LAT1	LTE Cat 3 Embedded Modem w/Fallback & GNSS (Serial Interface)	US/Can
MTSMC-LAT1-U	LTE Cat 3 Embedded Modem w/Fallback & GNSS (USB Interface)	US/Can
MTSMC-LEU1	LTE Cat 3 Embedded Modem w/Fallback & GNSS (Serial Interface)	Euro/GB/AU
MTSMC-LEU1-U	LTE Cat 3 Embedded Modem w/Fallback & GNSS (USB Interface)	Euro/GB/AU
MTSMC-LVW2	LTE Cat 3 Embedded Modem w/GNSS w/o Fallback (Serial Interface) (Verizon)	US
MTSMC-LVW2-U	LTE Cat 3 Embedded Modem w/GNSS w/o Fallback (USB Interface) (Verizon)	US
MTSMC-LAT3	LTE Cat 1 Embedded Modem w/Fallback (Serial Interface)	US/Can
MTSMC-LAT3-U	LTE Cat 1 Embedded Modem w/Fallback (USB Interface)	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
MTSMC-MNA1-U	LTE Cat M1 Embedded Modem w/GNSS (USB Interface) (AT&T/Verizon)	US

### HSPA+ Models

Product	Description	Region
MTSMC-H5	HSPA+ Embedded Modem (Serial Interface)	Global
MTSMC-H5-U	HSPA+ Embedded Modem (USB Interface)	Global

### GPRS Models

Product	Description	Region
MTSMC-G3-EU	850/900/1800/1900 MHz GSM/GPRS Modem	Euro/GB

### Developer Kits

Product	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)

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

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