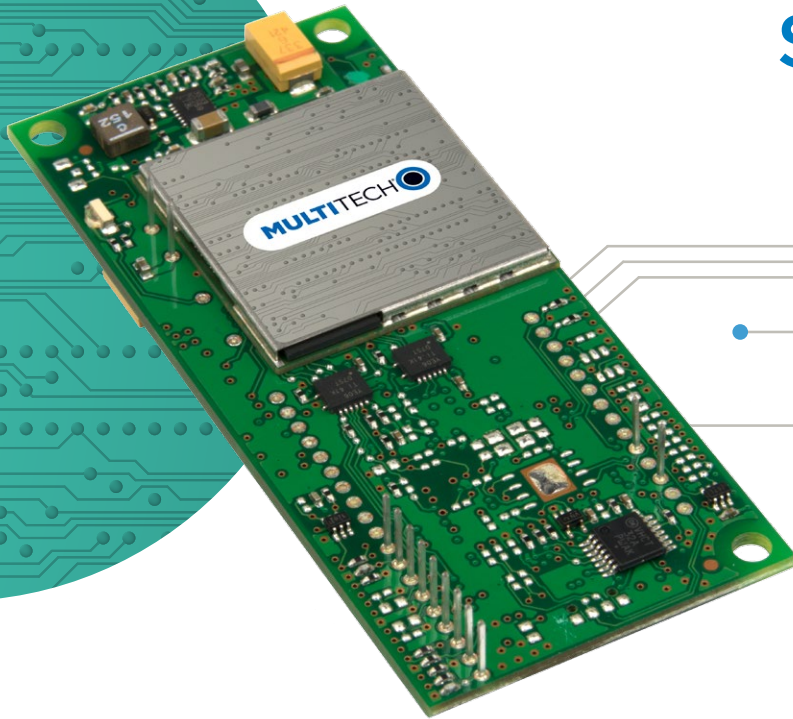


# SocketModem<sup>®</sup> Cell

Embedded Cellular Modem  
Supporting LPWA LTE Cat M1



## FEATURES

- 4G models (Cat M1, Cat 3 and Cat 1), 3G and 2G
- 4G Cat M1 and Cat 3 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

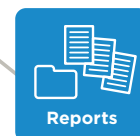


Asset  
Management  
Platform

### 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.)

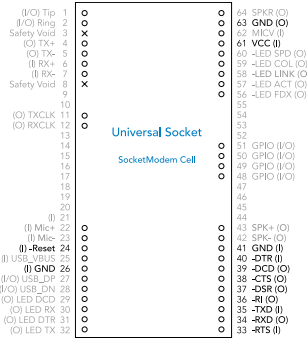
## SPECIFICATIONS

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	<b>LAT1:</b> LTE 3GPP Release 9 (Category 3; 100 Mbps peak downlink/50 Mbps peak uplink) with HSPA+ 21/GPRS fallback <b>LAT3:</b> LTE 3GPP Release 9 (Category 1; 10 Mbps peak downlink/5 Mbps peak uplink) with HSPA fallback	<b>LTE 3GPP Release 9</b> (Category 3; 100 Mbps peak downlink/50 Mbps peak uplink) with HSPA+ 42/GPRS fallback	<b>LVW2:</b> LTE 3GPP Release 9 (Category 3; 100 Mbps peak downlink/50 Mbps peak uplink) (No fall back) <b>LVW3:</b> LTE 3GPP Release 9 (Category 1; 10 Mbps peak downlink/5 Mbps peak uplink) (No fallback)
Frequency Bands (MHz)	<b>LAT1: 4G:</b> 700(B17)/850(B5)/AWS1700(B4)/1900(B2) <b>3G:</b> 850(B5)/1900(B2) <b>2G:</b> 850/1900 <b>LAT3: 4G:</b> 700(B12/B13)/850(B5)/AWS1700(B4)/1900(B2) <b>3G:</b> 850(B5)/1900(B2)	<b>4G:</b> 800(B20)/1800(B3)/2600(B7) <b>3G:</b> 850(B5)/900(B8)/2100(B1) <b>2G:</b> 900/1800	<b>LVW2:</b> 700(B13)/AWS1700(B4) <b>LVW3:</b> 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 ( <b>LAT1/LVW2</b> ): 3 UFL (Cellular, Rx Diversity/MIMO, GPS) Antenna ( <b>LAT3/LVW3</b> ): 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*	<b>(LAT1)</b> 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 <b>(LAT3)</b> 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	<b>(LEU1)</b> 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	<b>(LVW2)</b> 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 <b>(LVW3)</b> 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.

## 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.



## 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.

The MTSMI-UDK developer kit is designed to work with all Universal Socket devices including cellular and analog SocketModems as well as SocketEthernet IP® and SocketWireless® Bluetooth® device servers.

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

## SPECIFICATIONS

Models	MTSMC-MAT1 / MTSMC-MAT1-U MTSMC-MVW1 / MTSMC-MVW1-U	MTSMC-H5	MTSMC-G3	MTSMC-C2
Performance	LTE 3GPP Release 13 (Category M1; Up to 300 Kbps downlink & up to 375 Kbps uplink)	HSPA+	GPRS Class 10	CDMA2000 1xRTT
Frequency Bands (MHz)	<b>MAT1:</b> 700(B12), AWS1700(B4), 1900(B2) <b>MVW1:</b> 700(B13), AWS1700(B4)	<b>3G:</b> 850/900/1700 (AWS)/1900/2100 <b>2G:</b> 850/900/1800/1900	850/900/1800/1900	800/1900 Band Class 10 (-N2 only)
USB	USB 2.0 High Speed		N/A	
TCP/IP Functions	FTP, SMTP, TCP, & UDP		FTP, SMTP, TCP, & UDP	FTP, SMTP, TCP, & UDP
Connectors	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	1 UFL
Dimensions	3.15" x 1.375" (80.010 mm x 34.925 mm)			
Power Draw*	TBD	5VDC; 19mA sleep, 28mA idle, 397mA maximum	5VDC; 32mA sleep, 54mA idle, 358mA maximum	5VDC; 32mA sleep, 45mA idle, 552mA maximum
Input Power	3.3V - 5VDC		3.3V - 5VDC	3.3V - 5VDC
<b>Environmental</b>				
Operating Temperature	-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	FCC Part 15 Class B
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	FCC Part 22, FCC Part 24
Safety	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	UL 60950-1 2nd ED, cUL 60950-1 2nd ED, IEC 60950-1 2nd ED
Network	MTA1 - PTCRB	PTCRB	Uses a GCF certified module	N/A
Carrier	MAT1 - AT&T MVW1 - Verizon	AT&T, Aeris, T-Mobile, Rogers	N/A	Verizon, Aeris, Sprint

\* See device guides for additional information.

## 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-MAT1	LTE Cat M1 Embedded Modem (Serial Interface) (AT&T/PTCRB)	US
MTSMC-MAT1-U	LTE Cat M1 Embedded Modem (USB Interface) (AT&T/PTCRB)	US
MTSMC-MVW1	LTE Cat M1 Embedded Modem (Serial Interface) (Verizon)	US
MTSMC-MVW1-U	LTE Cat M1 Embedded Modem (USB Interface) (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

### CDMA Models

Product	Description	Region
MTSMC-C2-N2	CDMA2000 1xRTT Modem (Serial Interface) (Sprint)	US
MTSMC-C2-N3	CDMA2000 1xRTT Modem (Serial Interface) (Verizon)	US
MTSMC-C2-N16	CDMA2000 1xRTT Modem (Serial Interface) (Aeris)	US

### Developer Kits

Product	Description	Region
MTUDK2-ST-CELL	SocketModem & Dragonfly Developer Kit - Cellular	Global
MTSMI-UDK	Universal Socket Developer Kit - Cellular, Analog, Bluetooth, Ethernet	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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Produced in the U.S. of U.S. and non-U.S. components. Features and specifications are subject to change without notice.

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