SocketModem® Cell
Embedded Cellular Modems
4G-LTE Models

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. 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)
- Global capable Cat 4, Cat 1 and Cat M1/NB-IoT models
- Integrated GNSS/GPS receiver
- Anterix 900 MHz Network Capable
- 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

Your Devices & Data  Connecting Your Devices  Insight + Action + Control

Wireless Service Provider or Anterix Private LTE  Asset Management Platform

Energy  Financial / Retail  Healthcare  Remote Monitoring  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

<table>
<thead>
<tr>
<th>Models</th>
<th>MTSMC-L4G1</th>
<th>MTSMC-L4G1-U</th>
<th>MTSMC-L4N1</th>
<th>MTSMC-L4N1-U</th>
<th>MTSMC-L1G2D</th>
<th>MTSMC-L1G2D-U</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Performance</strong></td>
<td>LTE 3GPP Release 11 (Category 4; 150 Mbps peak downlink/ 50 Mbps peak uplink) with HSPA and 2G Fallback</td>
<td>LTE FDD Cat.4, 3GPP release 10 compliant (Category 4; 150 Mbps peak downlink/ 50 Mbps peak uplink) with 3G Fallback</td>
<td>4G: B2(1900), B4(AWS1700). B5(850), B12(700a), B13(700c), B14(700 FirstNet), B17(700), B19(850), B25(1900), B38(2600), B40(2600), B41(2500)</td>
<td>3G: B1(1900), B4(AWS1700), B5(850), B6(850), B8(900), B19(850) 2G: B2(1900), B3(1800), B5(850), B8(900)</td>
<td>LTE 3GPP Release 10 (Category 1; 10 Mbps peak downlink/ 5 Mbps peak uplink) with 3G/2G Fallback</td>
<td></td>
</tr>
<tr>
<td><strong>Frequency Bands</strong></td>
<td>4G FDD: B1(2100), B2(1900), B3(1800), B4(AWS1700), B5(850), B7(2600), B8(900), B12(700a), B13(700c), B17(700), B19(850), B20(800), B25(1900), B26(850), B28(700) TDD: B38(2600), B40(2300), B41(2500)</td>
<td></td>
<td>4G: B2(1900), B4(AWS1700), B5(850), B12(700a), B13(700c), B14(700 FirstNet), B17(700), B19(850), B25(1900), B26(850), B28(700)</td>
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<tr>
<td><strong>SMS</strong></td>
<td>Mobile Originate, Mobile Terminated and Cell Broadcast / PDU or Text Mode</td>
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<tr>
<td><strong>USB</strong></td>
<td>USB 2.0 high speed compatible (-U Models)</td>
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<tr>
<td><strong>TCP/IP Functions</strong></td>
<td>FTP, HTTP, SMTP, TCP, UDP, SSL</td>
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<tr>
<td><strong>Connectors</strong></td>
<td>Antenna: 3 UFL (Cellular, Rx Diversity/MIMO, GPS) / Mini SIM (2FF); 1.8V &amp; 3V</td>
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<tr>
<td><strong>Dimensions</strong></td>
<td>3.15” x 1.375” (80.010 mm x 34.925 mm)</td>
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<tr>
<td><strong>Power Draw</strong></td>
<td>Serial Model @ 5VDC; 22.6mA sleep, 46mA idle, 562mA average at max power</td>
<td>Serial Model @ 5VDC; 4mA sleep, 20mA idle, 615mA average at max power</td>
<td>Serial Model @ 5VDC; 22mA sleep, 31mA idle, 570mA average at max power</td>
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<tr>
<td><strong>Input Power</strong></td>
<td>3.3V ~ 5VDC</td>
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<tr>
<td><strong>Environmental</strong></td>
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<tr>
<td><strong>Operating Temperature</strong></td>
<td>-40° C to +85° C (-40° F to +185° F)</td>
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<tr>
<td><strong>Storage Temperature</strong></td>
<td>-40° C to +85° C (-40° F to +185° F)</td>
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<tr>
<td><strong>Relative Humidity</strong></td>
<td>20% to 90% RH noncondensing</td>
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<tr>
<td><strong>Certifications</strong></td>
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<tr>
<td><strong>EMC/Radio Compliance</strong></td>
<td>FCC, IC, RED, RCM</td>
<td>FCC, IC</td>
<td>FCC, IC, RED, RCM</td>
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<tr>
<td><strong>Safety</strong></td>
<td>UL/cUL 60950-1 2nd ED, IEC 60950-1 2nd ED</td>
<td>UL/cUL 60950-1 2nd ED</td>
<td>UL/cUL 60950-1 2nd ED</td>
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<tr>
<td><strong>Network</strong></td>
<td>PTCRB</td>
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<tr>
<td><strong>Carrier</strong></td>
<td>AT&amp;T, Verizon</td>
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<tr>
<td><strong>Warranty</strong></td>
<td>2-Years / <a href="http://www.multitech.com/legal/warranty">www.multitech.com/legal/warranty</a></td>
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</tbody>
</table>

* 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.
# SPECIFICATIONS

<table>
<thead>
<tr>
<th>Models</th>
<th>MTSMC-MNG2</th>
<th>MTSMC-MNG2-U</th>
<th>MTSMC-MNA1</th>
<th>MTSMC-MNA1-U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>LTE 3GPP Release 13 (Category M1; Up to 300 Kb/s Downlink &amp; up to 375 Kb/s Uplink (NB1; Up to 250 Kb/s Downlink (multi-tone) Up to 20 Kb/s Uplink (single-tone))</td>
<td>LTE 3GPP Release 13 (Category M1; Up to 300 Kbps downlink &amp; up to 375 Kbps uplink)</td>
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<tr>
<td>Frequency Bands (MHz)</td>
<td>4G: B1(2100)/B2(1900)/B3(1800)/B4(AWS1700)/B5(850)/B8(900)/B12(700)/B13(700)/B17(700)/B18(800)/B19(800)/B20(800)/B26(850)/B28(700)/B39(1900)</td>
<td>AT&amp;;: B12(700), B4(AWS1700), B2(1900)</td>
<td>Verizon: B13(700), B4(AWS1700)</td>
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<tr>
<td>Power Draw*</td>
<td>Serial Model @ 5VDC: 6mA sleep, 14mA idle, 191mA average at max power</td>
<td>Serial Model @ 5VDC: 9mA sleep, 14mA idle, 122mA average at max power</td>
<td>USB Model @ 5VDC; sleep N/A, 28mA idle, 15mA average at max power</td>
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</tr>
<tr>
<td>Input Power</td>
<td>3.3V – 5VDC</td>
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<tr>
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<td>Operating Temperature: -40° C to +85° C (-40° F to +185° F)</td>
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- **FCC, IC, RED, RCM**
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- **UL/cUL 60950-1 2nd ED**
- **PTCRB**
- **AT&T, Verizon**
- **2-Years / www.multitech.com/legal/warranty**

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

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**Developer Kits**

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

MTUDK2-ST-CELL developer kit is designed to work with all of our cellular SocketModem® Cell and Dragonfly™ cellular modems.

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

ORDERING INFORMATION

### SocketModem® Cell LTE Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTSMC-L4G1</td>
<td>LTE Cat 4 Embedded Modem w/Fallback &amp; GNSS (Serial Interface)</td>
<td>Global</td>
</tr>
<tr>
<td>MTSMC-L4G1-U</td>
<td>LTE Cat 4 Embedded Modem w/Fallback &amp; GNSS (USB Interface)</td>
<td>Global</td>
</tr>
<tr>
<td>MTSMC-L4N1</td>
<td>LTE Cat 4 Embedded Modem w/Fallback &amp; GNSS (Serial Interface) (AT&amp;T/Verizon)</td>
<td>US/Can</td>
</tr>
<tr>
<td>MTSMC-L4N1-U</td>
<td>LTE Cat 4 Embedded Modem w/Fallback &amp; GNSS (USB Interface) (AT&amp;T/Verizon)</td>
<td>US/Can</td>
</tr>
<tr>
<td>MTSMC-L4E1</td>
<td>LTE Cat 4 Embedded Modem w/Fallback &amp; GNSS (Serial Interface)</td>
<td>Euro/GB</td>
</tr>
<tr>
<td>MTSMC-L4E1-U</td>
<td>LTE Cat 4 Embedded Modem w/Fallback &amp; GNSS (USB Interface)</td>
<td>Euro/GB</td>
</tr>
<tr>
<td>MTSMC-L1G2D</td>
<td>LTE Cat 1 Embedded Modem w/Fallback &amp; GNSS (Serial Interface)</td>
<td>Global</td>
</tr>
<tr>
<td>MTSMC-MNG2</td>
<td>LTE Cat M1/NB/2G Embedded Modem w/GNSS (Serial Interface)</td>
<td>Global</td>
</tr>
<tr>
<td>MTSMC-MNG2-U</td>
<td>LTE Cat M1/NB/2G Embedded Modem w/GNSS (USB Interface)</td>
<td>Global</td>
</tr>
<tr>
<td>MTSMC-MNA1</td>
<td>LTE Cat M1 Embedded Modem w/GNSS (Serial Interface) (AT&amp;T/Verizon)</td>
<td>US/Can</td>
</tr>
<tr>
<td>MTSMC-MNA1-U</td>
<td>LTE Cat M1 Embedded Modem w/GNSS (USB Interface) (AT&amp;T/Verizon)</td>
<td>US/Can</td>
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</table>

**Developer Kit**

<table>
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<th>Model</th>
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<tbody>
<tr>
<td>MTUDK2-ST-CELL.R1</td>
<td>SocketModem® &amp; Dragonfly Developer Kit (DB9 RS-232 Connector and USB)</td>
<td>Global</td>
</tr>
<tr>
<td>MTUDK2-ST-CELL</td>
<td>SocketModem® &amp; Dragonfly Developer Kit - Cellular</td>
<td>Global</td>
</tr>
</tbody>
</table>

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. MTSMC-L4N1-SP)

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