# LMU-5541™

## LTE CAT-4

## All-In-One Mobile Communications Solution Tailored for Fleet Telematics and Vehicle Applications

The LMU-5541™ LTE CAT-4 is a feature-rich LTE telematics router that comes equipped with a powerful processor, capable Linux platform featuring CalAmp's PEG™ engine and embedded development environment, enabling intelligence at the edge. A built-in 3-axis accelerometer, multiple power management sleep modes, leading GPS sensitivity tracking and proven vehicle bus capabilities support advanced connected vehicle solutions.

### Features

**Vehicle BUS Support for Light (OBDII) and Heavy Duty (J1939/J1708) Protocols**
**Secure IP Router Functionality**
**Two Ethernet 10/100 Ports**
**Capable Dual-Mode Wi-Fi/BLE External Antenna**

### Software/Services[1]

CalAmp Telematics Cloud (CTC) API
Device Management (PULS™)
Linux OpenWrt OS - SDK for custom app development

### Market Applications

Connected Vehicle Solutions
Vehicle Area Network
Fleet Management

### Accessories

VPOD2 Vehicle ECU Interface
JPOD2 Truck ECU Interface
RS-232 8-wire Adapter Cable
I/O Wiring Harness

### Related Products

LMU-3640
TTU-3640
MDT-7P

L5541Q420DS V5-C

[1] Subscription service enabled. Contact sales rep for additional details.

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# LMU-5541™ LTE CAT-4 Technical Specifications

## Cellular/Network

| | |
|---|---|
| **Global Variant** | |
| LTE CAT-4 | 2100 (B1)/1900 (B2/B25/B39)/1800 (B3)/AWS 1700 (B4)/850 (B5/B26)/2600 (B7)/900 (B8)/700 (B12/B13/B28)/850 (B18/B19)/800 (B20)/2600 (B38)/2300 (B40)/2500 (B40/B41) MHz |
| HSPA/UMTS | 2100 (I)/1900 (II)/AWS 1700 (IV)/850 (V)/800 (VI, XIX)/900 (VIII) MHz |
| GSM/GPRS | 850/900/1800/1900 MHz |

## Data Support

TCP/IP, UDP/IP, DHCP, HTTP, IP Router, PPP, HTTP web server, Telnet DHCP server, DDNS, DDNS Client, NAT, NMEA, TAIP, TSIP, TFTP, IP port forwarding

## Satellite Location (GNSS)

| | |
|---|---|
| **Constellation Support** | Hybrid GPS, GLONASS, SBAS Engine (WAAS, EGNOS, MSAS) |
| **Channels** | 55 Channel |
| **Tracking Sensitivity** | -167 dBm |
| **Acquisition Sensitivity** | -156 dBm (hot start)<br>-148 dBm (cold start) |
| **Location Accuracy** | ~2.0m CEP Open Sky (SBAS 24 hours static) |
| **Location Update Rate** | Up to 4 Hz |
| **AGPS Location assistance capable** | |

## Comprehensive I/O

| | |
|---|---|
| **Digital Inputs** | 7 (high/low selectable 0-30 VDC)<br>1 low bias ignition |
| **Digital Outputs** | 7 relay driver outputs (200mA) |
| **Analog Inputs** | 5 general purpose A/D (0-30 VDC) |
| **Accelerometer** | Built in, triple-axis (driver behavior, impact detection, motion sensing, tilt detection) |
| **1-Wire® Interface** | 2 (driver ID, temperature sense) |
| **Status LEDs** | 5 (Pwr, COMM, GPS, Wi-Fi, BT) |
| **Serial Interface** | 1 DB-9 (RS232/RS485), 1 5-Pin TTL level with switched power |

## Certifications

| | |
|---|---|
| **Industry Certifications** | FCC, CE, IC, PTCRB, RoHS |

## Cloud/Software Services[1]

| | |
|---|---|
| **PULS™** | Monitor, manage, upgrade firmware, configure and troubleshoot devices remotely |
| **CTC** | Device data stream via RESTful APIs |

## Edge Intelligence[1]

| | |
|---|---|
| **PEG™** | Update device functionality or develop new on the edge applications |

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### CALIFORNIA PROPOSITION 65

**⚠ WARNING:** This product can expose you to chemicals including Carbon black and Nickel, which are known to the State of California to cause cancer, and including Bisphenol A and 1,3-Butadiene, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

## Electrical

| | |
|---|---|
| **Operating Voltage** | 12/24 VDC Vehicle Systems<br>9-30 VDC (start-up, operating)<br>8-32 VDC (momentary) |
| **Power Consumption** | Typical <2mA @ 12V (deep sleep)<br>Typical 20mA @12V (radio-active sleep)<br>Typical ~300mA @ 12V (active tracking w/GPS and cell enabled) |

## Battery Pack

| | |
|---|---|
| **Battery Capacity** | Up to 1000 mAh |
| **Battery Technology** | Lithium-Ion |
| **Charging Temperature** | 0° to +45° C |

## Environmental

| | |
|---|---|
| **Temperature** | -30° to +60° C (connected to primary power)<br>-10° to +60° C (operating on internal battery)<br>-20° to +25° C ≤ 6 months (long term storage with battery) |
| **Humidity** | 85% RH @ 50° C non-condensing |
| **Shock and Vibration** | U.S. Military Standards 202G, 810F, SAE J1455 |
| **ESD** | IEC 61000-4-2 (4KV test) |

## Physical/Design

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|---|---|
| **Dimensions** | 5.8 x 4.0 x 1.2" (146 x 102 x 40 mm) |
| **Weight** | 8.0 oz. (227g) |

## Connectors/SIM Access

| | |
|---|---|
| **Power, Ignition, ADC** | 4-Pin Connector |
| **I/O** | 22-Pin Connector |
| **GPS Antenna** | External |
| **Celllular Antenna** | External |
| **Wi-Fi Antenna** | External |
| **Cellular Diversity Antenna** | External |
| **SIM Access** | Internal |
| **Ethernet** | 2x 10/100 Base-T RJ45 |
| **USB** | On-the-go (mini), Host Type A |

## Interface Standards

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|---|---|
| **Bluetooth** | Dual-Mode; Bluetooth classic, BLE 4.2 |
| **Wi-Fi** | 802.11 a/b/g/n/ac (2.4 GHz & 5GHz) (1x1)<br>Supports access point and/or client operations<br>(10 concurrent users) |

## Product Options

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|---|
| All necessary antennas (GPS, cellular, combined GPS/cellular) |
| Serial adapter cable RS-232 8-wire (PPP, AT commands, NMEA GPS output) |
| Internal/External/Optional jPOD™ truck ECU interface |
| Connectorized I/O wiring harnesses |