

## LTECube-M - CAT M1/NB-IoT LTE Cube Gateway

The LTECube-M was engineered specifically for the small size, low cost, and low power requirements of the IoT & M2M applications that are surging across the globe. The LTECube-M provides robust and reliable LTE Category M1/NB-IoT connections with speeds up to 375 kbps. The LTECube-M features Ethernet, USB, and Tunneling Capabilities all while retaining low power consumption.

*LTE CATM - 375 kbps*

*NB-IoT*

*Low Cost!*

*Optional WIFI*

*IPv6 & IPv4 Support*

*USB 2.0 Port*



**Only 1.75" x 1.75" x 1.35"!**

## Features

- Robust & Reliable LTE CATM Operation
- Engineered for IoT Applications
- Low Cost & Ultra Low Power Consumption
- Up to 375 kbps Download / 375 kbps Upload
- Data Usage & Systems Alerts (Email, SMS)
- Firewall with ACL Security, DMZ & Port Forwarding
- IPSec, GRE / VPN Tunneling
- 10/100 Ethernet
- Optional Enterprise Class WiFi ( more than 200 clients)
- High Power 1W WiFi (Long Range)
- Full IPv6 & IPv4 Support
- MQTT Support
- Wide Operating Temperature (-40°C to +85°C)
- User interface via SSH or HTTP/HTTPS web browser
- Microhard NMS Support



Can be USB powered!

# LTE<sup>3</sup>-M

# Specifications

<b>Supported Bands</b>	3GPP Release 13 LTE Cat M1 Half-Duplex LTE NB1 Half-Duplex  LTE FDD Bands: B12(700), 17(700), 28(700), 13(700), 20(800), 26(850), 5(850), 19(850), 8(900), 4(1700), 3(1800), 2(1900), 25(1900) LTE TDD Bands: 39(1900)	<b>Input Voltage</b>	5 - 30VDC PoE (Passive - Max 24V) USB Powered (5V, 1.5A)																																				
<b>Cellular Data Features*</b> <small>*Module Standalone Laboratory Performance</small>	LTE Category M1: - up to 375 kbps UL - up to 375 kbps DL LTE Category NB1: - up to 62.5 kbps UL - up to 27.2 kbps DL	<b>Connectors:</b>	Antenna SMA Female Data RJ-45 (Ethernet) 4 PIN Interlock (Vin) USB Micro-AB SIM Nano (4FF) 1.8 / 3.0V																																				
<b>WiFi Features</b> <small>(WiFi Optional)</small>	802.11b/g/n (2.4 GHz)	<b>Environmental</b>	Operating Temperature -40°C to +85°C -40°F to +185°F Humidity 5-95%, non-condensing																																				
<b>WiFi Performance</b> <small>(WiFi Optional)</small>	<table border="1"> <thead> <tr> <th>Rate</th> <th>Mode</th> <th>Tx (dBm)</th> <th>Rx (dBm)</th> </tr> </thead> <tbody> <tr> <td>1 Mbps</td> <td>b</td> <td>30</td> <td>-97 ± 1</td> </tr> <tr> <td>11 Mbps</td> <td>b</td> <td>30</td> <td>-92 ± 1</td> </tr> <tr> <td>6 Mbps</td> <td>g</td> <td>30</td> <td>-94 ± 1</td> </tr> <tr> <td>54 Mbps</td> <td>g</td> <td>26</td> <td>-75 ± 1</td> </tr> <tr> <td>MCS0</td> <td>n (HT20)</td> <td>30</td> <td>-96 ± 1</td> </tr> <tr> <td>MCS7</td> <td>n (HT20)</td> <td>26</td> <td>-75 ± 1</td> </tr> <tr> <td>MCS0</td> <td>n (HT40)</td> <td>30</td> <td>-94 ± 1</td> </tr> <tr> <td>MCS7</td> <td>n (HT40)</td> <td>26</td> <td>-73 ± 1</td> </tr> </tbody> </table>	Rate	Mode	Tx (dBm)	Rx (dBm)	1 Mbps	b	30	-97 ± 1	11 Mbps	b	30	-92 ± 1	6 Mbps	g	30	-94 ± 1	54 Mbps	g	26	-75 ± 1	MCS0	n (HT20)	30	-96 ± 1	MCS7	n (HT20)	26	-75 ± 1	MCS0	n (HT40)	30	-94 ± 1	MCS7	n (HT40)	26	-73 ± 1	<b>Weight</b>	Approx. 90 grams
Rate	Mode	Tx (dBm)	Rx (dBm)																																				
1 Mbps	b	30	-97 ± 1																																				
11 Mbps	b	30	-92 ± 1																																				
6 Mbps	g	30	-94 ± 1																																				
54 Mbps	g	26	-75 ± 1																																				
MCS0	n (HT20)	30	-96 ± 1																																				
MCS7	n (HT20)	26	-75 ± 1																																				
MCS0	n (HT40)	30	-94 ± 1																																				
MCS7	n (HT40)	26	-73 ± 1																																				
<b>Ethernet</b>	10/100 BaseT, Auto - MDI/X IEEE 802.3	<b>Dimensions</b>	Approx. 1.75" x 1.75" x 1.35" (45mm x 45mm x 35mm)																																				
<b>USB</b>	USB 2.0 Tethering	<b>Approvals</b>	FCC/IC PTCRB Carrier Specific Approvals																																				
<b>SMS</b>	SMS to/from Ethernet via Telnet SMS Alerts SMS Remote Reboots	<b>Order Options</b>																																					
<b>Carrier Connection</b>	ICMP Keep Alive, DDNS	<b>Models</b>	LTECube-CATM LTECube-CATM-Kit LTECube-CATM-WIFI LTECube-CATM-WIFI-Kit																																				
<b>Network Protocols</b>	IPv4, IPv6, TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Modbus Slave (TCP), MQTT																																						
<b>Security</b>	VPN, IPSec with IKE/ISAKMP; Multiple tunnel support; 3DES and up to 256-bit AES Encryption, Site to Site Tunneling, L2TP, Open VPN), GRE, HTTPS, RADIUS																																						
<b>Firewall</b>	NAT, NAT-T VPN tunneling, Port forwarding, VPN/GRE pass-through; Access control lists (IP/MAC filtering), Data origin / integrity Authentication, DMZ																																						
<b>Management</b>	Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), RADIUS authentication, AT Command Interface (Telnet), Microhard NMS Support, Data Usage Alerts, SSH																																						
<b>Diagnostics</b>	RSSI, Ec/No, Temperature, Remote diagnostics, Watchdog, UDP Event Reporting, SMS Alerts, Netflow																																						

## Contact Information

Microhard Systems Inc.  
150 Country Hills Landing N.W.  
Calgary, AB, Canada T3K 5P3

Email: [info@microhardcorp.com](mailto:info@microhardcorp.com)  
Tel: (403) 248-0028  
Fax: (403) 248-2762

Copyright 2018 Microhard Systems Inc.  
Specifications subject to change without notice.

