



## Data Sheet

# MC400 Modular Modem



MC400 Modular Modems allow MC400-capable branch, mobile, and IoT routers to be easily field upgraded with the most recent industry-leading cellular capabilities. The MC400 Modular Modems combine enterprise reliability with industry leading performance. Available modems include LTE Advanced Cat 6 or LTE Advanced Pro Cat 18 for fast robust connections.

## Notable Features

- Greater revenue and cost-saving opportunities with the ability to run advanced bandwidth-intensive applications.
- Better return on investment with the capability to upgrade to the latest modems without replacing the original hardware.
- Higher availability by installing a second modem for failover connectivity.
- Lower data plan costs by automatically switching to the second modem/SIM when the data plan cap on the primary modem/SIM has been reached.
- Certified versions are available for public safety networks worldwide.

## Hardware Specifications

The following features are delivered through the hardware.

ENVIRONMENTAL	
Temperature	-30 °C to 70 °C (-22 °F to 158 °F) operational -40 °C to 85 °C (-40 °F to 185 °F) storage
Humidity	Operating: 5% to 95% Storage: 5% to 95%
POWER	
Required	N/A
PHYSICAL	
Size	93x 70 x 13 mm (3.7 x 2.8 x 0.5 in)
Weight	.104 kg (3.7 oz)
CERTIFICATIONS	
Safety	UL/cUL, CB Scheme, EN 60950-1, EN 62368-1

<b>Shock/ Vibration/ Humidity</b>	Compliant with MIL STD 810G and SAEJ1455 when inserted in an IBR1700 router or a COR Extensibility Dock attached to an IBR900 router.	
<b>Materials</b>	WEEE, RoHS, REACH, California Prop 65	
COMPATIBILITY		
<b>Supported Endpoints</b>		
MC400LP5	MC400LP6	MC400-1200M-B
— AER1600/1650	— AER1600/1650	— AER1600
— CBA850	— CBA850	— AER2200
— IBR600C <sup>†</sup>	— IBR600C <sup>†</sup>	— CBA850
— IBR900 <sup>†</sup>	— IBR900 <sup>†</sup>	— IBR1700
	— E300	— E300
	— E3000	— E3000
		— R1900 <sup>††</sup>

<sup>†</sup> Requires a COR Extensibility Dock.

<sup>††</sup> Requires an RX30-MC Managed Accessory.

## Enterprise-Class Modem Specifications

SPECIFICATION	LP5	LP6
<b>Technology</b>	LTE Cat 6 LTE Advanced (3GPP Rel. 11)	LTE Cat 6 Advanced
<b>Fallback</b>	WSCMA/DC-HSPA+	WSCMA/DC-HSPA+
<b>Carrier Aggregation</b>	Up to 2 x CA uplink Refer to the <a href="#">Modem Carrier Aggregations</a> article.	Up to 2 x CA uplink Refer to the <a href="#">Modem Carrier Aggregations</a> article.
<b>Peak Downlink Rates</b>	LTE: 300 Mbps DC-HSPA+: 42.2 Mbps	LTE: 300 Mbps DC-HSPA+: 42.2 Mbps
<b>Peak Uplink Rates</b>	LTE: 50 Mbps DC-HSPA+: 5.76 Mbps	LTE: 50 Mbps DC-HSPA+: 5.76 Mbps
<b>MIMO</b>	4x4 MIMOL	2x2 MIMO
<b>QAM</b>	Up to 64	Up to 64
<b>LTE Bands</b>	LTE FDD — B1, B3, B5, B7, B8, B11, B18, B19, B21, B28, B38, B39, B40, B41  LTE FDD — B38, B39, B40, B41	LTE FDD — B1, B2, B3, B4, B5, B7, B8, B12, B13, B20, B25, B26, B29, B30, B41
<b>WCDMA Bands</b>	B1, B5, B6, B8, B9, B19	B1, B2, B3, B4, B5, B8
<b>Power</b>	LTE 23 dBm ± 1, DC-HSPA+ 23 dBm ± 1 (typical conducted)	LTE 23 dBm ± 1; DC-HSPA+ 23 dBm ± 1 (typical conducted)
<b>Antennas</b>	SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 4, included)	SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 2, included)
<b>GNSS/GPS</b>	Active GPS	Active GPS
<b>SMS</b>	Yes	Yes
<b>Regulatory</b>	CE (EU), RCM (AU/NZ)	FCC (U.S.), IC (Canada), CE (EU), RCM (AU/NZ)
<b>Telecom</b>	GCF (Worldwide)	PTCRB (U.S., Canada), GCF (Worldwide)
<b>Required Carrier Certifications*</b>	See note <sup>†</sup>	AT&T, Verizon, Sprint, Sprint Curiosity™ IoT <sup>†</sup>
<b>Public Safety Network Certifications</b>	N/A	Verizon Frontline
<b>Private LTE</b>	N/A	N/A
<b>Modem Interface</b>	USB Type A	USB Type A

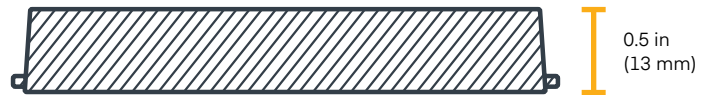
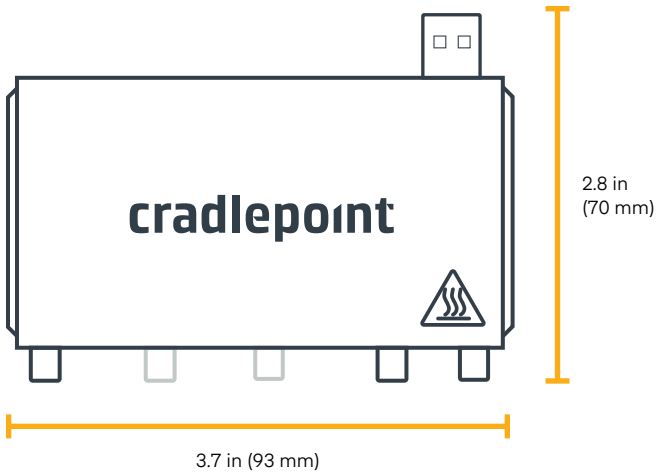
<sup>†</sup> Cellular carriers and operators throughout the world may only require telecom industry certifications, like PTCRB or GCF, to operate on their network. Some carriers require additional testing and approval, beyond telecom certifications. A carrier listed in the approvals section means Cradlepoint completed additional testing and acquired technical approval for that given carrier. Any carrier not listed may not require additional testing or approval beyond telecom industry certifications to operate on their network.

## Enterprise-Class Modem Specifications

SPECIFICATION	MC400-1200M-B
Technology	Cat 18 LTE Advanced Pro (3GPP Rel. 12) <ul style="list-style-type: none"> <li>— Dual SIM slots, 2FF form factor</li> <li>— SIM-based auto-carrier selection</li> </ul>
Fallback	WCDMA/DC-HSPA+
Carrier Aggregation	Up to 5CA downlink, 2CA uplink Refer to the <a href="#">Modem Carrier Aggregations</a> article.
Peak Downlink Rates	LTE: 1.2 Gbps DC-HSPA+: 42.2 Mbps
Peak Uplink Rates	LTE: 150 Mbps DC-HSPA+: 5.76 Mbps
MIMO	4x4 MIMO
QAM	Up to 256
LTE Bands	LTE FDD <ul style="list-style-type: none"> <li>— B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B66, B71</li> </ul> LTE TDD <ul style="list-style-type: none"> <li>— B38, B39, B40, B41, B42, B43, B46, B48</li> </ul>
5G NR Bands:	N/A
WCDMA Bands	B1, B2, B4, B5, B8, B9, B19
Power	LTE 23 dBm ± 1, DC-HSPA+ 23 dBm ± 1 (typical conducted)
Antennas	SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 4, included)
GNSS/GPS	Active GPS
SMS	Yes
Regulatory	FCC (U.S.), IC (Canada), CE (EU), ESN
Telecom	PTCRB (U.S., Canada), GCF (Worldwide)
Required Carrier Certifications*	AT&T, Verizon†
Public Safety Network Certifications	Verison Frontline, FirstNet Ready™ (including Band 14)
Private LTE	Yes, includes FCC Part 96 (CBRS Band 48)

# Hardware

## Physical Measurements



**MC400-1200M-B**



Cellular Antenna Connectors (Female SMA)



USB Plug

SIM Slots

**MC400-LP5 & LP6**



Cellular Antenna Connectors (Female SMA)

GNSS Connector (Female SMA)



USB Plug

SIM Slots

**Correct SIM: Mini SIM — 2FF**



Nano SIM  
(12.3 mm x 8.8 mm)  
4FF



Micro SIM  
(15 mm x 12 mm)  
3FF



Mini SIM  
(25 mm x 15 mm)  
2FF

## Ordering Guide

The MC400 modular modem is an accessory for Cradlepoint routers and adapters that have an expansion slot to accept a modular modem. Activation and use of the MC400 modular modem requires a Cradlepoint endpoint that is licensed to a NetCloud Service Plan.

For details on the features available to a licensed Cradlepoint router or adapter by service plan, refer to the summary on the [NetCloud Service webpage](#) and the detail in the NetCloud Service Features document.

For more details on the MC400 modular modem, see below.

## NetCloud Packages & Plans

REGION	DESCRIPTION	PART NUMBER
North America: U.S. & Canada	LTE Advanced (Cat 6) modem, compatible with AER1600/1650, AER2100, AER3100/3150, CBA850, COR Extensibility Dock and the IBR900, IBR600, IBR600B, or IBR600C	MC400LP6
	— Includes 2 Cellular Antennas, Black, 700 MHz - 2.7 GHz, SMA, 160 mm	170706-000
	LTE Advanced (Cat 6) modem for E300/E3000 Enterprise Routers	BF-MC400LP6
	— Includes 2 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm	170801-000
	LTE Advanced Pro (1200 Mbps) modem upgrade for Branch, compatible with AER1600 and AER2100	BA-MC400-1200M-B
	— Includes 4 Cellular Antennas, Black, 700 MHz - 2.7 GHz, SMA, 160 mm	170706-000
	LTE Advanced Pro (1200 Mbps) modem upgrade for LTE Branch Adapter, compatible with CBA850	BB-MC400-1200M-B
	— Includes 4 Cellular Antennas, White, 700 MHz - 2.7 GHz, SMA, 160 mm	170706-000
	LTE Advanced Pro (1200 Mbps) modem upgrade for Mobile, compatible with IBR1700 and COR Extensibility Dock	MA-MC400-1200M-B
	LTE Advanced Pro (1200 Mbps) modem upgrade for E300/E3000 Enterprise Branch Routers	BF-MC400-1200M-B
— Includes 4 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm	170801-000	
Europe: European Union & United Kingdom	LTE Advanced (Cat 6) modem, compatible with AER1600/1650, AER2100, AER3100/3150, CBA850, COR Extensibility Dock and the IBR900, IBR600, IBR600B, or IBR600C	MC400LP6
	— Includes 2 Cellular Antennas, Black, 700 MHz - 2.7 GHz, SMA, 160 mm	170706-000
	LTE Advanced (Cat 6) modem for E300/E3000 Enterprise Branch Routers	BF-MC400LP6
	— Includes 2 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm	170801-000
	LTE Advanced Pro (1200Mbps) modem upgrade for Branch, compatible with AER1600 and AER2100	BA-MC400-1200M-B
	— Includes 4 Cellular Antennas, Black, 700 MHz - 2.7 GHz, SMA, 160 mm	170706-000
LTE Advanced Pro (1200 Mbps) modem upgrade for LTE Branch Adapter, compatible with CBA850	BB-MC400-1200M-B	
— Includes 4 Cellular Antennas, White, 700 MHz - 2.7 GHz, SMA, 160 mm	170706-000	

<b>Europe (continued):</b> European Union & United Kingdom	LTE Advanced Pro (1200 Mbps) modem upgrade for Mobile, compatible with IBR1700 and COR Extensibility Dock	MA-MC400-1200M-B
	LTE Advanced Pro (1200 Mbps) modem upgrade for E300/E3000 Enterprise Branch Routers — Includes 4 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm	BF-MC400-1200M-B 170801-000
<b>Saudi Arabia, South Africa, United Arab Emirates</b>	LTE Advanced (Cat 6) modem, compatible with AER1600/1650, AER2100, AER3100/3150, CBA850, COR Extensibility Dock and the IBR900, IBR600, IBR600B, or IBR600C — Includes 2 Cellular Antennas, Black, 700 MHz - 2.7 GHz, SMA, 160 mm	MC400LP5 170706-000
	MC400LP5 LTE Advanced (Cat 6) modem, compatible with AER1600/1650, AER2100, AER3100/3150, CBA850, COR Extensibility Dock and the IBR900, IBR600, IBR600B, or IBR600C — Includes 2 Cellular Antennas, Black, 700 MHz - 2.7 GHz, SMA, 160 mm	MC400LP5 170706-000
<b>Asia-Pacific:</b> Asia-Pacific, Australia, New Zealand	LTE Advanced Pro (1200 Mbps) modem upgrade for Branch, compatible with AER1600 and AER2100 — Includes 4 Cellular Antennas, Black, 700 MHz - 2.7 GHz, SMA, 160 mm	BA-MC400-1200M-B 170706-000
	LTE Advanced Pro (1200 Mbps) modem upgrade for LTE Branch Adapter, compatible with CBA850 — Includes 4 Cellular Antennas, White, 700 MHz - 2.7 GHz, SMA, 160 mm	BB-MC400-1200M-B 170706-000
	LTE Advanced Pro (1200 Mbps) modem upgrade for Mobile, compatible with IBR1700 and COR Extensibility Dock	MA-MC400-1200M-B
	LTE Advanced Pro (1200 Mbps) modem upgrade for E300/E3000 Enterprise Branch Routers — Includes 4 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm	BF-MC400-1200M-B 170801-000
<b>All Regions:</b>	MC400-1200M-B LTE Advanced Pro (Cat 12) modem upgrade for Branch	BA-MC400-1200M-B
	MC400-1200M-B LTE Advanced Pro (Cat 12) modem upgrade for LTE Branch Adapter	BB-MC400-1200M-B
	MC400-1200M-B LTE Advanced Pro (Cat 12) modem upgrade for Mobile	MA-MC400-1200M-B
	MC400-1200M-B LTE Advanced Pro (Cat 12) modem upgrade for Enterprise Branch	BF-MC400-1200M-B
	— All MC400-1200M-B Advanced Pro modems come with 4 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm	170801-000

## Support & Warranty

The MC400 modular modem is only sold as an optional accessory.

- All Cradlepoint hardware products are covered by a limited lifetime warranty for as long as they have a subscription license to an active NetCloud Service Plan.

**Find the most up-to-date information at [cradlepoint.com/mc400](https://www.cradlepoint.com/mc400)**