

Data Sheet


# MC400 Modular Modem

2023 - 03 - 16


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 both LTE Advanced and 5G for fast robust connections.



Product Page



NetCloud Service



Quick Start Guide

## Notable Features

- 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	MC400-1200M-B	MC400-5GB
Temperature:	— Operating: -30 °C to 70 °C (-22 °F to 158 °F)	— Operating: -30 °C to 70 °C (-22 °F to 158 °F)
	— Storage: -40 °C to 85 °C (-40 °F to 185 °F)	— Storage: -40 °C to 85 °C (-40 °F to 185 °F)
Humidity:	— Operating: 5% to 95%	— Operating: 5% to 95%
	— Storage: 5% to 95%	— Storage: 5% to 95%
POWER		
Required:	Provided through USB by the host	Provided through USB by the host
PHYSICAL		

<b>Size:</b>	93 x 74 x 13 mm (3.7 x 2.9 x 0.5 in)	93 x 74 x 13 mm (3.7 x 2.9 x 0.5 in)
<b>Weight:</b>	.104 kg (3.7 oz)	.104 kg (3.7 oz)
<b>CERTIFICATIONS</b>		
<b>Safety:</b>	UL/cUL, CB Scheme, EN 60950-1, EN 62368-1	UL/cUL, CB Scheme, EN 62368-1
<b>Shock/Vibration/Humidity:</b>	Compliant with MIL STD 810G and SAEJ1455 when inserted in an IBR1700 router, a COR Extensibility Dock attached to an IBR900 Series router, or a R1900 router with a RX30-MC Managed Accessory.	Compliant with MIL STD 810G and SAEJ1455 when inserted in an IBR1700 router or R1900 router with a RX30-MC Managed Accessory.
<b>Materials:</b>	WEEE, RoHS, REACH, California Prop 65	WEEE, RoHS, REACH, California Prop 65
<b>COMPATIBILITY</b>		
<b>Supported Endpoints:</b>	<ul style="list-style-type: none"> <li>— AER1600</li> <li>— AER2200</li> <li>— CBA850</li> <li>— IBR1700</li> <li>— IBR900<sup>†</sup></li> <li>— E300</li> <li>— E3000</li> <li>— R1900<sup>††</sup></li> </ul>	<ul style="list-style-type: none"> <li>— AER2200</li> <li>— IBR1700</li> <li>— E300</li> <li>— E3000</li> <li>— R1900<sup>††</sup></li> </ul>

<sup>†</sup>Requires a COR Extensibility Dock.<sup>††</sup>Requires an RX30-MC Managed Accessory.

## Enterprise-Class Modem Specifications

SPECIFICATION	MC400-1200M-B	MC400-5GB
<b>Technology:</b>	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>	5G NR (Low/Mid-Band FR1) and 4G LTE Category 20 LTE Advanced Pro with Dual Connectivity <ul style="list-style-type: none"> <li>— Dual SIM slots, 4FF form factor</li> <li>— SIM-based auto-carrier selection</li> </ul>
<b>3G:</b>	WCDMA/DC-HSPA+	WCDMA/DC-HSPA+
<b>Carrier Aggregation:</b>	Up to 5CA downlink, 2CA uplink Refer to the <a href="#">Modem Carrier Aggregations</a> article.	LTE only; up to 7CA downlink, 2CA uplink ENDC 5G + LTE; downlink and uplink supported Refer to the <a href="#">Modem Carrier Aggregations</a> article.
<b>Peak Downlink Rates:</b>	<ul style="list-style-type: none"> <li>— LTE: 1.2 Gbps</li> <li>— DC-HSPA+: 42.2 Mbps</li> </ul>	Up to 4.14 Gbps — based on 20 Layers LTE + TDD (100 MHz BW, 256 QAM, 4X4)
<b>Peak Uplink Rates:</b>	<ul style="list-style-type: none"> <li>— LTE: 150 Mbps</li> <li>— DC-HSPA+: 5.76 Mbps</li> </ul>	Up to 660 Mbps — based on 2 Layers LTE + TDD (100 MHz BW, 256 QAM, SISO)
<b>MIMO:</b>	4x4 MIMO	4x4 MIMO
<b>Modulation:</b>	Up to 256 QAM	Up to 256 — FR1 QAM

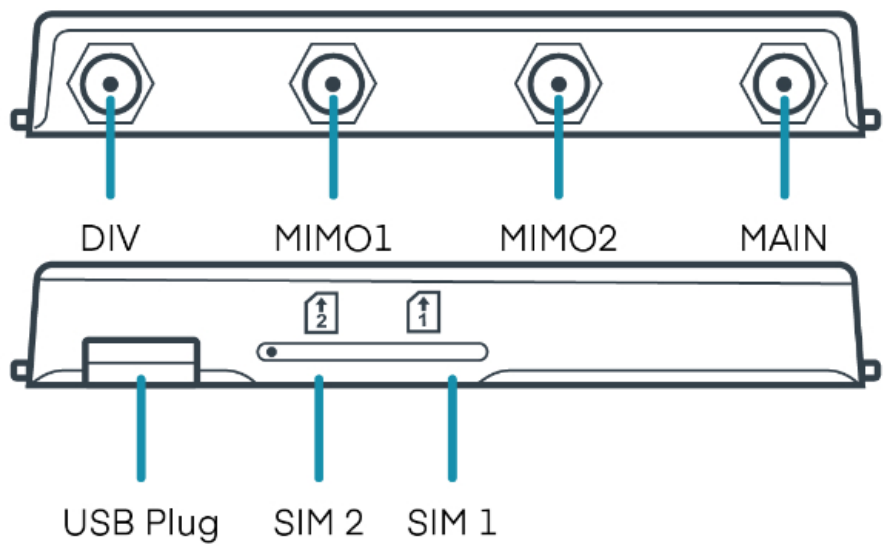
<b>4G/LTE Bands:</b>	LTE FDD — B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B66, B71  LTE TDD — B38, B39, B40, B41, B42, B43, B46, B48	LTE FDD — B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B18, B19, B20, B21, B25, B26, B28, B29, B30, B32, B34, B38, B39, B40, B41, B42, B43, B46, B48, B66, B71
<b>5G NR Bands:</b>	N/A	n1, n2, n3, n5, n7, n8, n12, n20, n25, n28, n38, n40, n41, n48, n66, n71, n77, n78, n79
<b>3G Bands:</b>	B1, B2, B4, B5, B8, B9, B19	B1, B2, B3, B4, B5, B6, B8, B9, B19
<b>Power:</b>	LTE 23 dBm $\pm$ 1, DC-HSPA+ 23 dBm $\pm$ 1 (typical conducted)	— LTE only; 23 dBm $\pm$ 1 (typical conducted) — ENDC 5G + LTE; 20 dBm $\pm$ 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 4, included only with supported Branch routers)
<b>GNSS/GPS:</b>	Active GPS	Passive GNSS (multiplex with DIV/MIMO2 antenna ports)
<b>SMS:</b>	Yes	Yes
<b>Regulatory:</b>	FCC (U.S.), IC (Canada), CE (EU), RCM (AU/NZ)	FCC (U.S.), IC (Canada), CE (EU), RCM (AU/NZ)
<b>Network Operator Standards:</b>	PTCRB (U.S., Canada), GCF (Worldwide)	PTCRB (U.S., Canada), GCF (Worldwide)
<b>Network Operator Certifications:</b>	AT&T, Verizon <sup>†</sup>	AT&T, T-Mobile, Verizon
<b>Public Safety Network Certifications:</b>	FirstNet Capable™, Verizon Frontline	FirstNet Capable™, T-Mobile Connecting Heroes, Verizon Frontline
<b>Private Cellular Network:</b>	Yes, includes FCC Part 96 (CBRS Band 48)	Yes, includes FCC Part 96 (CBRS Band 48)

<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.

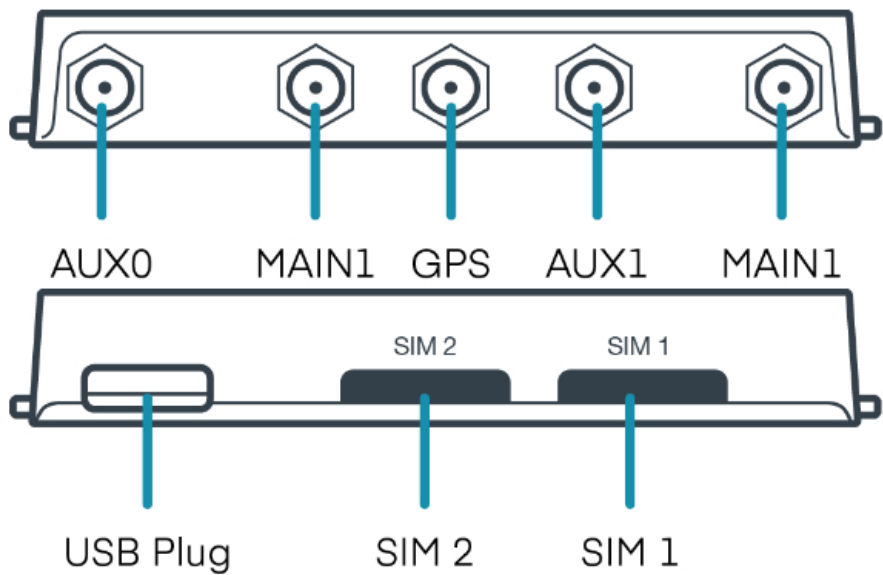
## Physical Measurements & Features



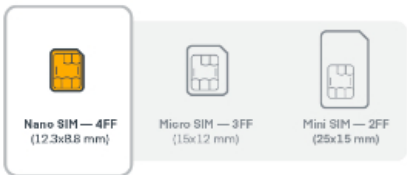
Features — MC400-5GB



Features — MC400-1200M-B



SIM Card Info — MC400-5GB



SIM Card Info — MC400-1200M-B



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.

NetCloud Packages for the MC400 Modular Modem

REGION	MODEM	PACKAGE PLANS	PART NUMBER
All Regions: Asia-Pacific, Australia, Canada, European Union, New Zealand, United Kingdom, and United States	Cat 18 (1200 Mbps)	Upgrade for CBA850 LTE Branch Adapter	BB-MC400-1200M-B
	— Includes 4 Cellular Antennas, White, 700 MHz - 2.7 GHz, SMA, 160 mm		
	Cat 18 (1200 Mbps)	Upgrade for R1900 with RX30-MC, IBR1700, or COR Extensibility Dock	MA-MC400-1200M-B
	— No antennas		
	Cat 18 (1200 Mbps)	Upgrade for E300/E3000 Enterprise Branch Routers	BF-MC400-1200M-B
	— Includes 4 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm (Part #: 170801-000)		
	5G	Upgrade for AER2200 Branch Routers	BA-MC400-5GB
	— Includes 4 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm (Part #: 170801-000)		
	5G	Upgrade for R1900 with RX30-MC or IBR1700 Mobile Routers	MB-MC400-5GB
	5G	Upgrade for E300/E3000 Enterprise Branch Routers	BF-MC400-5GB
	— Includes 4 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm (Part #: 170801-000)		

<b>United States:</b>  <b>Federal Government</b>	Cat 18 (1200 Mbps)  — No antennas	Upgrade for R1900 with RX30-MC, IBR1700, or COR Extensibility Dock	TAA-MA-MC400-1200M-B
	Cat 18 (1200 Mbps)  — Includes 4 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm (Part #: TAA-170801-000)	Upgrade for E300/E3000 Enterprise Branch Routers	TAA-BF-MC400-1200M-B
	5G  — Includes 4 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm (Part #: TAA-170801-000)	Upgrade for AER2200 Branch Routers	TAA-BA-MC400-5GB
	5G  — No antennas	Upgrade for R1900 with RX30-MC or IBR1700 Mobile Routers	TAA-MB-MC400-5GB
	5G  — Includes 4 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm (Part #: TAA-170801-000)	Upgrade for E300/E3000 Enterprise Branch Routers	TAA-BF-MC400-5GB

<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.

## Support & Warranty

The MC400 Modular Modem is only sold as an 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.

## More Information

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