



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 |

| | |
|----------------------------------|---|
| Shock/ Vibration/ Humidity | Compliant with MIL STD 810G and SAEJ1455 when inserted in an IBR1700 router or a COR Extensibility Dock attached to an IBR900 router. |
|----------------------------------|---|

| | |
|-----------|---------------------------------------|
| Materials | WEEE, RoHS, REACH, California Prop 65 |
|-----------|---------------------------------------|

COMPATIBILITY

Supported Endpoints

| MC400LP5 | MC400LP6 | MC400-1200M-B |
|------------------------|------------------------|-----------------------|
| — AER1600/1650 | — AER1600/1650 | — AER1600 |
| — CBA850 | — CBA850 | — AER2200 |
| — IBR600C [†] | — IBR600C [†] | — CBA850 |
| — IBR900 [†] | — IBR900 [†] | — IBR1700 |
| | — E300 | — IBR900 [†] |
| | — E3000 | — E300 |
| | | — E3000 |
| | | — R1900 ^{††} |

[†] Requires a COR Extensibility Dock.

^{††} Requires an RX30-MC Managed Accessory.

Enterprise-Class Modem Specifications

| SPECIFICATION | LP5 | LP6 |
|---|---|--|
| Technology | LTE Cat 6 LTE Advanced (3GPP Rel. 11) | LTE Cat 6 Advanced |
| Fallback | WSCMA/DC-HSPA+ | WSCMA/DC-HSPA+ |
| Carrier Aggregation | Up to 2 x CA uplink Refer to the Modem Carrier Aggregations article. | Up to 2 x CA uplink Refer to the Modem Carrier Aggregations article. |
| Peak Downlink Rates | LTE: 300 Mbps DC-HSPA+: 42.2 Mbps | LTE: 300 Mbps DC-HSPA+: 42.2 Mbps |
| Peak Uplink Rates | LTE: 50 Mbps DC-HSPA+: 5.76 Mbps | LTE: 50 Mbps DC-HSPA+: 5.76 Mbps |
| MIMO | 4x4 MIMOL | 2x2 MIMO |
| QAM | Up to 64 | Up to 64 |
| LTE Bands | 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 |
| WCDMA Bands | B1, B5, B6, B8, B9, B19 | B1, B2, B3, B4, B5, B8 |
| Power | LTE 23 dBm ± 1, DC-HSPA+ 23 dBm ± 1 (typical conducted) | 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) | SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 2, included) |
| GNSS/GPS | Active GPS | Active GPS |
| SMS | Yes | Yes |
| Regulatory | CE (EU), RCM (AU/NZ) | FCC (U.S.), IC (Canada), CE (EU), RCM (AU/NZ) |
| Telecom | GCF (Worldwide) | PTCRB (U.S., Canada), GCF (Worldwide) |
| Required Carrier Certifications* | See note [†] | AT&T, Verizon, Sprint, Sprint Curiosity™ IoT [†] |
| Public Safety Network Certifications | N/A | Verizon Frontline |
| Private LTE | N/A | N/A |
| Modem Interface | USB Type A | USB Type A |

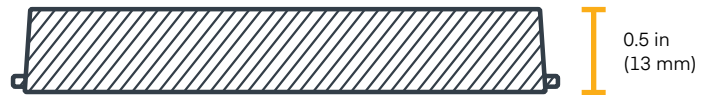
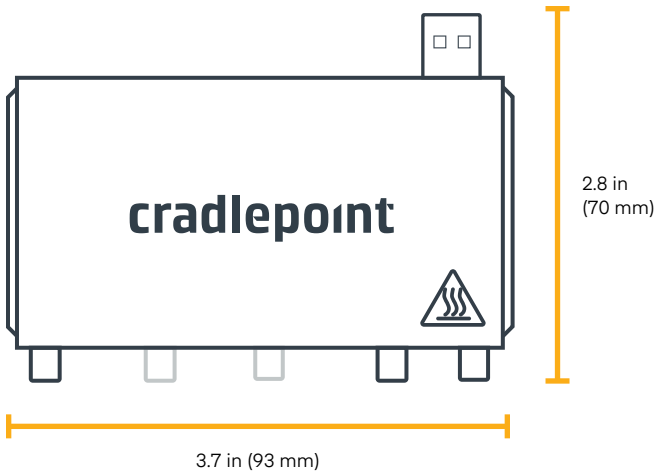
[†] Cellular carriers and operators throughout the world may only require telecom industry certifications, like PTCRB or GCF, to operate on their network. Some carriers require additional testing and approval, beyond telecom certifications. A carrier listed in the approvals section means Cradlepoint 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"> — Dual SIM slots, 2FF form factor — SIM-based auto-carrier selection |
| Fallback | WCDMA/DC-HSPA+ |
| Carrier Aggregation | Up to 5CA downlink, 2CA uplink Refer to the Modem Carrier Aggregations 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"> — B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B66, B71 LTE TDD <ul style="list-style-type: none"> — B38, B39, B40, B41, B42, B43, B46, B48 |
| 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 — Includes 2 Cellular Antennas, Black, 700 MHz - 2.7 GHz, SMA, 160 mm | End of Sale |
| | LTE Advanced (Cat 6) modem for E300/E3000 Enterprise Branch Routers — Includes 2 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm | End of Sale |
| | 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 | End of Sale |
| | 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 |
| | 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 |
| United States: Federal Government | LTE Advanced Pro (1200 Mbps) modem upgrade for Mobile. Includes IBR1700 & COR Dock doors, no antennas | TAA-MA-MC400-1200M-B |
| | LTE Advanced Pro (1200 Mbps) modem upgrade for E300/E3000 Enterprise Branch Routers with doors & 4 charcoal antennas | TAA-BF-MC400-1200M-B |
| | Cellular Antenna, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm | TAA-170801-000 |

| REGION | DESCRIPTION | PART NUMBER |
|---|---|--------------------------------|
| 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 — Includes 2 Cellular Antennas, Black, 700 MHz - 2.7 GHz, SMA, 160 mm | End of Sale |
| | LTE Advanced (Cat 6) modem for E300/E3000 Enterprise Branch Routers — Includes 2 Cellular Antennas, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm | End of Sale |
| | 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 | End of Sale |
| | 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 |
| | 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 |
| Saudi Arabia, United Arab Emirates | 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 |
| Asia-Pacific: Asia-Pacific, Australia, New Zealand | 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 |
| | 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 | End of Sale |
| | 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 |
| | 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 |

| REGION | DESCRIPTION | PART NUMBER |
|---------------------|---|------------------|
| | MC400-1200M-B LTE Advanced Pro (Cat 12) modem upgrade for Branch | End of Sale |
| | MC400-1200M-B LTE Advanced Pro (Cat 12) modem upgrade for LTE Branch Adapter | BB-MC400-1200M-B |
| All Regions: | 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)