



# MC400 Modular Modem



*Shown: MC400-1200M*

## Supported Products: MC400-1200M

- AER2200
- AER1600 Series
- COR IBR1700
- COR IBR900 Series with COR Extensibility Dock
- COR IBR600B/C Series with COR Extensibility Dock
- ARC CBA850

### MC400-1200M LTE Advanced Pro/HSPA+

- Technology: Category 18 LTE Advanced Pro, DC-HSPA+ with SIM-Based Auto-carrier Selection for AT&T/FirstNet and Verizon
- The MC400-1200M is FirstNet Ready™
- Downlink Rates: LTE 1.2 Gbps, DC-HSPA+ 42.2 Mbps\*
- Uplink Rates: LTE 150 Mbps, DC-HSPA+ 5.76 Mbps\*
- MIMO: 2x2 or 4x4 MIMO
- 256 QAM support
- Frequency Bands:
  - LTE Bands
    - LTE FDD: 2, 4(66), 5, 12, 13, 14, 29, 30
    - LTE TDD: 46,48
- Carrier Aggregation: Up to 5CA. [ ] indicates 4x4 MIMO
  - AT&T: 2,4,5,12,14,29,30,66,46; 3G 2, 5
    - 2CA DL carrier aggregation combinations:  
CA\_[2A]-[2A], CA\_[2A]-[4A], CA\_2A-5A, CA\_2A-12A, CA\_2A-14A, CA\_2A29A, CA\_2A-30A, CA\_[2A]-46A, CA\_[2A]-[66A], CA\_2C, CA\_[4A]-[4A], CA\_4A-5A, CA\_4A-12A, CA\_4A-29A, CA\_4A-30A, CA\_[4A]-46A, CA\_5A30A, CA\_5A-66A, CA\_5B, CA\_12A-30A, CA\_12A-66A, CA\_12B, CA\_14A30A, CA\_14A-66A, CA\_29A-30A, CA\_29A-66A, CA\_30A-66A, CA\_[66A][66A], CA\_66B, CA\_66C
    - 3CA DL carrier aggregation combinations:  
CA\_2A-2A-5A, CA\_[2A]-2A-12A, CA\_2A-2A-14A, CA\_2A-2A-30A, CA\_2A2A-66A, CA\_[2A]-4A-4A, CA\_2A-[4A]-[4A], CA\_[2A]-4A-5A, CA\_2A-[4A]-5A, CA\_[2A]-4A-12A, CA\_2A-[4A]-12A, CA\_2A-4A-30A, CA\_2A-5A-30A, CA\_[2A]-5A-66A, CA\_2A-5A-[66A], CA\_2A-12A-30A, CA\_[2A]-12A-66A, CA\_2A-12A-[66A], CA\_2A-14A-30A, CA\_2A-14A-66A, CA\_2A-29A-30A, CA\_2A-30A-66A, CA\_2A-46C, CA\_2A-66A-66A, CA\_[4A]-4A-5A, CA\_[4A]4A-12A, CA\_4A-4A-30A, CA\_4A-5A-30A, CA\_4A-12A-30A, CA\_4A-12B, CA\_4A-29A-30A, CA\_5A-30A-66A, CA\_5A-66A-66A, CA\_5A-66C, CA\_12A30A-66A, CA\_12A-[66A]-66A, CA\_14A-30A-66A, CA\_14A-66A-66A, CA\_29A-30A-66A, CA\_29A-66A-66A, CA\_30A-66A-66A
    - 4CA DL carrier aggregation combinations:  
CA\_2A-2A-5A-30A, CA\_2A-2A-5A-66A, CA\_2A-2A-12A-30A, CA\_2A-2A12A-66A, CA\_2A-2A-14A-66A, CA\_2A-2A-29A-30A, CA\_2A-2A-66A-66A, CA\_2A-4A-4A-12A, CA\_2A-4A-5A-30A, CA\_2A-4A-12A-30A, CA\_2A-5A30A-66A, CA\_2A-5A-66A-66A, CA\_2A-5B-30A, CA\_2A-5B-66A, CA\_2A12A-30A-66A, CA\_2A-12A-66A-66A, CA\_2A-14A-30A-66A, CA\_2A-14A66A-66A, CA\_2A-29A-30A-66A, CA\_[2A]-46D, CA\_[4A]-46D, CA\_4A-4A12A-30A, CA\_5A-30A-66A-66A, CA\_5B-30A-66A, CA\_5B-66A-66A, CA\_12A-30A-66A-66A, , CA\_14A-30A-66A-66A, CA\_29A-30A-66A-66A, CA\_46D-[66A]
    - 5CA DL carrier aggregation combinations:  
CA\_2A-2A-46D, CA\_2A-5B-30A-66A, CA\_2A-5B-66A-66A, CA\_2A-46D66A, CA\_5B-30A-66A-66A, CA\_46D-66A-66A
    - 2CA UL carrier aggregation combinations:  
CA\_2A-12A, CA\_2A-5A, CA\_4A-12A, CA\_5A-66A, CA\_5B, CA\_12A-66A

- Verizon: 2, 4, 5, 13, 66, 48; 3G (roaming): 1, 2, 4, 5, 8
  - 2CA DL carrier aggregation combinations:
    - CA\_[2A]-[2A], CA\_[2A]-[4A], CA\_[2A]-5A, CA\_[2A]-13A, CA\_[2A]-[66A], CA\_[4A]-[4A], CA\_[4A]-5A, CA\_[4A]-13A, CA\_5A-[66A], CA\_5B, CA\_13A[66A], CA\_[66A]-[66A], CA\_[66B], CA\_[66C], CA\_[2A]-48A, CA\_13A-48A, CA\_48A-[66A]
  - 3CA DL carrier aggregation combinations:
    - CA\_[2A]-2A-5A, CA\_[2A]-2A-13A, CA\_[2A]-2A-66A, CA\_2A-2A-[66A], CA\_[2A]-4A-5A, CA\_2A-[4A]-5A, CA\_[2A]-4A-13A, CA\_2A-[4A]-13A, CA\_[2A]-5A-66A, CA\_2A-5A-[66A], CA\_[2A]-13A-66A, CA\_2A-13A-[66A], CA\_[2A]-66A-66A, CA\_2A-[66A]-66A, CA\_[2A]-[66B], CA\_[2A]-[66C], CA\_[4A]-4A-5A, CA\_[4A]-4A-13A, CA\_5A-[66A]-66A, CA\_5A-[66B], CA\_5A[66C], CA\_13A-[66A]-66A, CA\_13A-[66B], CA\_13A-[66C], CA\_[66A]-[66C], CA\_[66D], CA\_[2A]-48A-48A, CA\_[2A]-48A-66A, CA\_2A-48A-[66A], CA\_[2A]-48C, CA\_13A-48A-48A, CA\_13A-48A-[66A], CA\_13A-48C, CA\_48A-48A-[66A], CA\_48A-[66A]66A, CA\_48A-[66B], CA\_48C-[66A]
  - 4CA DL carrier aggregation combinations:
    - CA\_2A-48A-48A-66A, CA\_[2A]-48D, CA\_13A-48A-48A-66A, CA\_13A-48A-48C, CA\_13A-48C-[66A], CA\_13A-48D, CA\_48A-48A-66A-66A, CA\_48A-48A-[66B], CA\_48A-48A-[66C], CA\_48A-48C-[66A], CA\_48D-[66A]
  - 5CA DL carrier aggregation combinations:
    - CA\_2A-48E, CA\_13A-48A-48C-66A, CA\_13A-48C-48C, CA\_13A-48D-66A, CA\_13A-48E, CA\_48A-48C-66B, CA\_48A-48C-66C, CA\_48C-48C-66A, CA\_48E-66A
  - 2CA UL carrier aggregation combinations:
    - CA\_2A-13A, CA\_4A-13A
- Fallback: WCDMA/DC-HSPA+ (42/5.76 Mbps): Bands 1, 2, 4, 5, 8
- Power: LTE 23 dBm ± 1, DC-HSPA+ 23 dBm ± 1
- Antennas: SMA & RP-SMA male plugs, torque not to exceed 4 in-lbs
- GPS: active GPS support
- SMS: SMS support
- Industry Standards & Certs: FCC, PTCRB, AT&T, FirstNet Ready, Verizon
- Requires modem doors that accommodate five antenna ports:
  - MA-MC400-1200M modem includes IBR1700 & COR Extensibility Dock doors, no antennas
  - BA-MC400-1200M modem includes AER2200 & AER1600 doors & 4 black antennas
  - BB-MC400-1200M modem includes CBA850 door & 4 white antennas

## Supported Products: MC400-600M & LPx

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|------------------|---|--|
| — AER3100 Series | — COR IBR1700                                   | — COR IBR600B/C Series with COR Extensibility Dock |
| — AER2200        | — COR IBR1100 Series with Dual-Modem Dock       | — ARC CBA850                                       |
| — AER2100 Series |   |  |
| — AER1600 Series | — COR IBR900 Series with COR Extensibility Dock |  |

**MC400-600M-C-AT for use on FirstNet—LTE-Advanced/HSPA+ for US AT&T**

- Technology: Category 12 LTE-Advanced Pro, DC-HSPA+
  - The MC400-600M-C-AT is FirstNet Ready
  - Downlink Rates: LTE 600 Mbps, DC-HSPA+ 42.2 Mbps\*
  - Uplink Rates: LTE 150 Mbps, DC-HSPA+ 5.76 Mbps\*
  - Frequency Bands: 2, 4, 5, 12, 14, 29, 30, 46, 66
  - Carrier Aggregation:
    - CA\_2A-2A-12A, CA\_2A-29A-30A, CA\_5B CA\_2A-46A, CA\_5A-30A-66A, CA\_29A-30A-66A, CA\_2A-4A-5A, CA\_2A-66A-66A, CA\_5A-46A, CA\_2A-66C, CA\_4A-4A-5A, CA\_5A-66A-66A
    - CA\_2A-4A-12A, CA\_2C, CA\_4A-4A-12A, CA\_5A-66C, CA\_66A-66B, CA\_2A-4A-29A, CA\_4A-4A-30A, CA\_66A-66C, CA\_2A-5A-30A, CA\_4A-5A-30A, CA\_12A-30A-66A,
    - CA\_2A-5A-66A, CA\_4A-12A-30A, CA\_2A-12A-30A, CA\_4A-29A-30A, CA\_2A-2A-5A, CA\_4A-46A
  - Fallback: WCDMA/DC-HSPA+ (42/5.76 Mbps): Bands 2, 5
  - Power: LTE 23 dBm ± 1, HSPA+ 23 dBm ± 1
  - Antennas: SMA & RP-SMA male plugs, torque not to exceed 4 in-lbs
  - GPS: active GPS support
  - SMS: SMS support
  - Industry Standards & Certs: FCC, PTCRB, AT&T, FirstNet
  - Modem Part Number: MC400-600M-C-AT
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**MC400LP6—LTE-Advanced/HSPA+ for North America & Europe**

- Technology: Category 6 LTE-Advanced, DC-HSPA+
- Downlink Rates: LTE 300 Mbps, DC-HSPA+ 42.2 Mbps\*
- Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps\*
- Frequency Bands:
  - Bands 1-5, 7, 8, 12, 13, 17, 20, 25, 26, 29, 30, 41
  - Verizon: 2, 4, 5, 13 (XLTE support w/carrier aggregation)
  - AT&T: 2, 4, 5, 12/17, 29, 30
  - Sprint: 25, 26, 41 (LTE Plus Support)
  - T-Mobile: 2, 4, 12 (T-Mobile Wideband LTE Support)
- Carrier Aggregation:
  - 1+ 8
  - 2+ 2/5/12 (17 w/MFBI)/13/29
  - 3+ 7/20
  - 4+ 4/5/12 (17 w/MFBI)/13/29
  - 5+ 2/4/30

- 7+ 3/7/20
  - 8+ 1
  - 12 (17 w/MFBI) + 2/4/30
  - 13+ 2/4
  - 20+ 3/7
  - 30+ 5/12 (17 w/MFBI)
  - 41+ 41
  - Fallback: WCDMA/DC-HSPA+ (42/5.76 Mbps): Bands 1, 2, 3, 4, 5, 8
  - Power: LTE 23 dBm ± 1, HSPA+ 23 dBm ± 1
  - Antennas: SMA & RP-SMA male plugs, torque not to exceed 4 in-lbs
  - GPS: active GPS support
  - SMS: SMS support
  - Industry Standards & Certs: CE, FCC, GCF-CC, IC, PTCRB, AT&T, Sprint, Verizon
  - Modem Part Number: MC400LP6
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**MC400LP5—LTE Advanced/HSPA+ for Asia Pacific and Middle East**

- Technology: FDD/TDD (Category 6) LTE Advanced, DC-HSPA+
- Downlink Rates: LTE 300 Mbps, DC-HSPA+ 42.2 Mbps\*
- Uplink Rates: LTE 50 Mbps, DC-HSPA+ 5.76 Mbps\*
- Frequency Bands:
  - LTE Bands: 1, 3, 5, 7, 8, 18, 19, 21, 28, 38, 39, 40, 41
  - TD-SCDMA 39
- Carrier Aggregation:
  - 1 + 8/18/19/21
  - 3 + 5/7/19/28
  - 5 + 3/7
  - 7 + 3/5/7/28
  - 8 + 1
  - 18 + 1
  - 19 + 1/3/21
  - 21 + 1/19
  - 28 + 3/7
  - 38 + 38
  - 39 + 39
  - 40 + 40
  - 41 + 41

- Fallback: WCDMA/DC-HSPA+ (42/5.76 Mbps): Bands 1, 5, 6, 8, 9, 19
  - Power: LTE: 23 dBm  $\pm$  1; DC-HSPA+: 23 dBm  $\pm$  1
  - Antennas: SMA & RP-SMA male plugs, torque not to exceed 4 in-lbs
  - GPS: active GPS support
  - SMS: SMS support
  - Industry Standards & Certs: CE, GCF-CC, RC Australia, others pending
  - Modem Part Number: MC400LP5
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#### **MC400LP4—4G LTE/HSPA+ for North America**

- Technology: Category 4 LTE, DC-HSPA+
  - Downlink Rates: LTE 150 Mbps, DC-HSPA+ 42.2 Mbps\*
  - Uplink Rates: LTE 50 Mbps, DC-HSPA+ 5.76 Mbps\*
  - Frequency Bands:
    - LTE: Band 2 (1900 MHz), Band 4 – AWS (1700/2100 MHz), Band 5 (850 MHz), Band 13 (700 MHz), Band 17 (700 MHz)
    - DC-HSPA+/UMTS Rel. 9, Cat 24: Bands 5 and 2 (850/1900 MHz)
  - Power: LTE 23 dBm  $\pm$  1, DC-HSPA+ 23 dBm  $\pm$  1
  - Antennas: SMA & RP-SMA male plugs, torque not to exceed 4 in-lbs
  - Industry Standards & Certs: FCC, WiFi Alliance (AER1600 only), Verizon, AT&T, PTCRB, carrier Private Networks, IC
  - SIM: two 2FF slots (secured)
  - Modem Part Number: MC400LP4
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#### **MC400LP3-EU—4G LTE/HSPA+ for Europe**

- Technology: LTE, HSPA+
  - Downlink Rates: LTE 100 Mbps, HSPA+ 21.1 Mbps\*
  - Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps\*
  - Frequency Bands:
    - LTE Band 1 (2100 MHz), Band 3 (1800 MHz), Band 7 (2600 MHz), Band 8 (900 MHz), Band 20 (800 MHz)
    - HSPA+/UMTS (800/850/900/1900/2100 MHz)
    - GSM/GPRS/EDGE Quad-Band (850/900/1800/1900 MHz)
  - Power: LTE Band 1/3/8/20: 23 dBm  $\pm$ 1; LTE Band 7: 22 dBm  $\pm$ 1; HSPA+: 23 dBm  $\pm$ 1 (typical conducted)
  - Antennas: SMA & RP-SMA male plugs, 1 dBi (LTE), 2 dBi (Cellular/PCS) gain, torque not to exceed 4 in-lbs
  - GPS: active GPS support
  - Industry Standards & Certs: CE, GCF-CC
  - Modem Part Number: MC400LP3
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**MC400LPE-AT – 4G LTE/HSPA+/EVDO for AT&T**

- Technology: LTE, HSPA+, EVDO Rev A
  - Downlink Rates: LTE 100 Mbps, HSPA+ 21.1 Mbps, EVDO 3.1 Mbps\*
  - Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps, EVDO 1.8 Mbps\*
  - Frequency Bands:
    - LTE Band 2 (1900 MHz), Band 4 – AWS (1700/2100 MHz), Band 5 (850 MHz), Band 13 (700 MHz), Band 17 (700 MHz), Band 25 (1900 MHz)
    - HSPA+/UMTS (850/900/1900/2100 MHz, AWS)
    - GSM/GPRS/EDGE (850/900/1800/1900 MHz)
    - CDMA EVDO Rev A/1xRTT (800/1900 MHz)
  - Power: LTE: 23 dBm ±1; HSPA+: 23 dBm ±1; EVDO: 24 dBm +0.5/-1 (typical conducted)
  - Antennas: SMA & RP-SMA male plugs, 1 dBi (LTE), 2 dBi (Cellular/PCS) gain, torque not to exceed 4 in-lbs
  - GPS: active GPS support
  - Industry Standards & Certs: PTCRB, FCC, IC, AT&T
  - Modem Part Number: MC400LPE
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**MC400LPE-GN – 4G LTE/HSPA+/EVDO (generic – for use on T-Mobile and US Cellular in the U.S. and Rogers, Bell, & TELUS in Canada)**

- Technology: LTE, HSPA+, EVDO Rev A
  - Downlink Rates: LTE 100 Mbps, HSPA+ 21.1 Mbps, EVDO 3.1 Mbps\*
  - Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps, EVDO 1.8 Mbps\*
  - Frequency Bands:
    - LTE Band 2 (1900 MHz), Band 4 (AWS), Band 5 (850 MHz), Band 13 (700 MHz), Band 17 (700 MHz), Band 25 (1900 MHz)
    - HSPA+/UMTS (850/900/1900/2100 MHz, AWS)
    - GSM/GPRS/EDGE (850/900/1800/1900 MHz)
    - CDMA EVDO Rev A/1xRTT (800/1900 MHz)
  - Power: LTE: 23 dBm ±1; HSPA+: 23 dBm ±1; EVDO: 24 dBm +0.5/-1 (typical conducted)
  - Antennas: SMA & RP-SMA male plugs, 1 dBi (LTE), 2 dBi (Cellular/PCS) gain, torque not to exceed 4 in-lbs
  - GPS: active GPS support
  - Industry Standards & Certs: PTCRB, FCC, IC
  - Modem Part Number: MC400LPE
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### MC400LPE-SP – 4G LTE/HSPA+/EVDO for Sprint

- Technology: LTE, HSPA+, EVDO Rev A
  - Downlink Rates: LTE 100 Mbps, HSPA+ 21.1 Mbps, EVDO 3.1 Mbps\*
  - Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps, EVDO 1.8 Mbps\*
  - Frequency Bands:
    - LTE Band 2 (1900 MHz), Band 4 – AWS (1700/2100 MHz), Band 5 (850 MHz), Band 13 (700 MHz), Band 17 (700 MHz), Band 25 (1900 MHz)
    - HSPA+/UMTS (850/900/1900/2100 MHz, AWS)
    - GSM/GPRS/EDGE (850/900/1800/1900 MHz)
    - CDMA EVDO Rev A/1xRTT (800/1900 MHz)
  - Power: LTE: 23 dBm ±1; HSPA+: 23 dBm ±1; EVDO: 24 dBm +0.5/-1 (typical conducted)
  - Antennas: SMA & RP-SMA male plugs, 1 dBi (LTE), 2 dBi (Cellular/PCS) gain, torque not to exceed 4 in-lbs
  - GPS: active GPS support
  - Industry Standards & Certs: FCC, Sprint
  - Modem Part Number: MC400LPE
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### MC400LPE-VZ – 4G LTE/HSPA+/EVDO for Verizon

- Technology: LTE, HSPA+, EVDO Rev A
- Downlink Rates: LTE 100 Mbps, HSPA+ 21.1 Mbps, EVDO 3.1 Mbps\*
- Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps, EVDO 1.8 Mbps\*
- Frequency Bands:
  - LTE Band 2 (1900 MHz), Band 4 – AWS (1700/2100 MHz), Band 5 (850 MHz), Band 13 (700 MHz), Band 17 (700 MHz), Band 25 (1900 MHz)
  - HSPA+/UMTS (850/900/1900/2100 MHz, AWS)
  - GSM/GPRS/EDGE (850/900/1800/1900 MHz)
  - CDMA EVDO Rev A/1xRTT (800/1900 MHz)
- Power: LTE: 23 dBm ±1; HSPA+: 23 dBm ±1; EVDO: 24 dBm +0.5/-1 (typical conducted)
- Antennas: SMA & RP-SMA male plugs, 1 dBi (LTE), 2 dBi (Cellular/PCS) gain, torque not to exceed 4 in-lbs
- GPS: active GPS support
- Industry Standards & Certs: FCC, Verizon
- Modem Part Number: MC400LPE

\* Theoretical

\*\* To be enabled with a future modem software update.

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