

M690 M680 M670 M660 M650 M640 M630 Enterprise Series Mobility M2M IoT Antenna Specifications

Multi-Carrier Multi MIMO Cellular 4G LTE CBRS 5G NR / GPS GNSS / Multi MIMO Multi-Band WiFi 7 / WiFi HaLow / Bluetooth (2.4GHz)

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| 4G LTE CBRS 5G NR Frequency Range Bluetooth (2.4GHz) WiFi 7 Frequency Range | 617-960MHz / 1710-7000MHz 2.4-2.5GHz / 4.9-7GHz (Concurrent) |
| 4G CBRS 5G NR Avg. Peak Gain: <i>Isotropic</i> WiFi 7 / Bluetooth Avg. Peak Gain: <i>Isotropic</i> | (5dBi) 617-960MHz / (8dBi) 1710-3800MHz / (9dBi) 4900-7000MHz / (6.5dBi) CBRS LTE 3.5GHz (9dBi) 2.4GHz / (9dBi) 5GHz~7GHz |
| Typical Efficiency 4G 5G Elements | 617-960MHz >65% 1710-3800MHz >75% 4900-7000MHz >85% |
| Typical Efficiency WiFi / Bluetooth Elements | >70% |
| Isolation 4G 5G Elements Isolation WiFi / Bluetooth Elements | >10dB >12dB |
| Correlation Co-efficient 4G 5G Elements Correlation Co-efficient WiFi / BT Elements | <0.2 <0.1 |
| Nominal Impedance | 50Ω |
| GPS GNSS Specifications | GPS Glonass Galileo QZSS BeiDou Compass <i>In-Band Frequency Interference Filter for LTE B13 B14</i> |
| Frequency Range | 1562-1612MHz |
| LNA Gain | 29dB ± 2dB |
| VSWR | <2.0:1 |
| Out of Band Rejection | >45dB (@ > +/- 100MHz f) |
| Typical Noise Figure | <-2dB |
| Notch Filter Rejection @787MHz | 24dB |
| Operating Voltage | 3-5V DC |
| Typical Current | 15mA |
| Mechanical / Environmental Specifications | |
| Antenna Housing | High Impact UV Stable ABS Polymer (Black or White) Housing Height: 114mm (4.5") / Base Diameter: 140mm (5.5") |
| Connector Types | All Standard RF Connectors Available (Including FAKRA Connector Ends) |
| 15ft Coax Cables (All Cables Full Length) | Cellular 4G 5G AGA200 Coax / Multi Band WiFi AGA200 Coax / GPS GNSS AGA100 Coax * Custom cable lengths & connector end options are available (Including FAKRA Connector Ends) |
| Mounting Bolt | Stainless Steel Mounting Bolt: <i>Length 19mm (0.75") / Diameter 25mm (0.98")</i> Stainless Steel Mounting Bolt: <i>Length 19mm (0.75") / Diameter 22mm (0.87")</i> w/Anti Rotation Perma Seal Baseplate Pad |
| Operating Temp | -40° / +80°C (-40° / +176°F) |
| Ingress Protection | IP69K |

M690 M680 M670 M660 Enterprise Series Antenna Configuration Options

* Contact Us For M19B HaLow WiFi Configuration Options

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| <p>M690 9-Element Configurations</p> <p>Bolt Mount Diameter 25mm</p> | <p>M690-BB-4CG4W: Multi-MIMO 4 x Cellular 4G LTE CBRS 5G NR / GPS GNSS / Multi-MIMO 4 x Multi-Band WiFi 7 – (Black) M690-BW-4CG4W: Multi-MIMO 4 x Cellular 4G LTE CBRS 5G NR / GPS GNSS / Multi-MIMO 4 x Multi Band WiFi 7– (White)</p> <p>M690-BB-6CG2W: Multi-MIMO x 6 Cellular 4G LTE CBRS 5G NR / GPS GNSS / MIMO 2 x Multi-Band WiFi 7 – (Black) M690-BW-6CG2W: Multi-MIMO x 6 Cellular 4G LTE CBRS 5G NR / GPS GNSS / MIMO 2 x Multi-Band WiFi 7 – (White)</p> <p>M690-BB-6C3W: Multi-MIMO x 6 Cellular 4G LTE CBRS 5G NR / MIMO 3 x Multi-Band WiFi 7 – (Black) M690-BW-6C3W: Multi-MIMO x 6 Cellular 4G LTE CBRS 5G NR / MIMO 3 x Multi-Band WiFi 7 – (White)</p> <p>M690-BB-2CG6W: MIMO x 2 Cellular 4G LTE CBRS 5G NR / GPS GNSS / Multi-MIMO 6 x Multi-Band WiFi 7 – (Black) M690-BW-2CG6W: MIMO x 2 Cellular 4G LTE CBRS 5G NR / GPS GNSS / Multi-MIMO 6 x Multi-Band WiFi 7 – (White)</p> <p>M690-BB-8CG: Multi-MIMO 8 x Cellular 4G LTE CBRS 5G NR / GPS GNSS – (Black) M690-BW-8CG: Multi-MIMO 8 x Cellular 4G LTE CBRS 5G NR / GPS GNSS – (White)</p> <p>M690-BB-9C: Multi-MIMO 9 x Cellular 4G LTE CBRS 5G NR – (Black) M690-BW-9C: Multi-MIMO 8 x Cellular 4G LTE CBRS 5G NR – (White)</p> <p>M690-BB-8WG: Multi-MIMO 8 x Multi-Band WiFi 7 / GPS GNSS – (Black) M690-BW-8WG: Multi-MIMO 8 x Multi-Band WiFi 7 / GPS GNSS – (White)</p> <p>M690-BB-9W: Multi-MIMO 9 x Multi-Band WiFi 7 – (Black) M690-BW-9W: Multi-MIMO 9 x Multi-Band WiFi 7 – (White)</p> |
| <p>M680 8-Element Configurations</p> <p>Bolt Mount Diameter 25mm</p> | <p>M680-BB-4CG3W: Multi-MIMO x 4 Cellular 4G LTE CBRS 5G NR / GPS GNSS / MIMO 3 x Multi-Band WiFi 7 – (Black) M680-BW-4CG3W: Multi-MIMO x 4 Cellular 4G LTE CBRS 5G NR / GPS GNSS / MIMO 3 x Multi-Band WiFi 7 – (White)</p> <p>M680-BB-4C4W: Multi-MIMO x 4 Cellular 4G LTE CBRS 5G NR / Multi MIMO 4 x Multi-Band WiFi 7 – (Black) M680-BW-4C4W: Multi-MIMO x 4 Cellular 4G LTE CBRS 5G NR / Multi MIMO 4 x Multi-Band WiFi 7 – (White)</p> <p>M680-BB-2C6W: MIMO x 2 Cellular 4G LTE CBRS 5G NR / Multi MIMO 6 x Multi-Band WiFi 7 – (Black) M680-BW-2C6W: MIMO x 2 Cellular 4G LTE CBRS 5G NR / Multi MIMO 6 x Multi-Band WiFi 7 – (White)</p> <p>M680-BB-6C2W: Multi MIMO x 6 Cellular 4G LTE CBRS 5G NR / MIMO 2 x Multi-Band WiFi 7 – (Black) M680-BW-6C2W: Multi MIMO x 6 Cellular 4G LTE CBRS 5G NR / MIMO 2 x Multi-Band WiFi 7 – (White)</p> <p>M680-BB-8C: Multi-MIMO 8 x Cellular 4G LTE CBRS 5G NR – (Black) M680-BW-8C: Multi-MIMO 8 x Cellular 4G LTE CBRS 5G NR – (White)</p> <p>M680-BB-8W: Multi MIMO 8 x Multi-Band WiFi 7 – (Black) M680-BW-8W: Multi MIMO 8 x Multi-Band WiFi 7 – (White)</p> |
| <p>M670 7-Element Configurations</p> <p>Bolt Mount Diameter 22mm Diameter 25mm</p> | <p>M670-BB-4CG2W: Multi-MIMO x 4 Cellular 4G LTE CBRS 5G NR / GPS GNSS / MIMO 2 x Multi-Band WiFi 7 – (Black) M670-BW-4CG2W: Multi-MIMO x 4 Cellular 4G LTE CBRS 5G NR / GPS GNSS / MIMO 2 x Multi-Band WiFi 7 – (White)</p> <p>M670-BB-2CG4W: MIMO x 2 Cellular 4G LTE CBRS 5G NR / GPS GNSS / Multi-MIMO 4 x Multi-Band WiFi 7 – (Black) M670-BW-2CG4W: MIMO x 2 Cellular 4G LTE CBRS 5G NR / GPS GNSS / Multi-MIMO 4 x Multi-Band WiFi 7 – (White)</p> <p>M670-BB-4C3W: Multi-MIMO x 4 Cellular 4G LTE CBRS 5G NR / MIMO 3 x Multi-Band WiFi 7 – (Black) M670-BW-4C3W: Multi-MIMO x 4 Cellular 4G LTE CBRS 5G NR / MIMO 3 x Multi-Band WiFi 7 – (White)</p> <p>M670-BB-6CG: Multi-MIMO 6 x Cellular 4G LTE CBRS 5G NR / GPS GNSS – (Black) M670-BW-6CG: Multi-MIMO 6 x Cellular 4G LTE CBRS 5G NR / GPS GNSS – (White)</p> <p>M670-BB-6WG: Multi-MIMO 6 x Multi-Band WiFi 7 / GPS GNSS – (Black) M670-BW-6WG: Multi-MIMO 6 x Multi-Band WiFi 7 / GPS GNSS – (White)</p> |
| <p>M660 6-Element Configurations</p> <p>Bolt Mount Diameter 22mm Diameter 25mm</p> | <p>M660-BB-2CG3W: MIMO x 2 Cellular 4G LTE CBRS 5G NR / GPS GNSS / MIMO 3 x Multi-Band WiFi 7 – (Black) M660-BW-2CG3W: MIMO x 2 Cellular 4G LTE CBRS 5G NR / GPS GNSS / MIMO 3 x Multi-Band WiFi 7 – (White)</p> <p>M660-BB-2C4W: MIMO x 2 Cellular 4G LTE CBRS 5G NR / Multi-MIMO 4 x Multi-Band WiFi 7 – (Black) M660-BW-2C4W: MIMO x 2 Cellular 4G LTE CBRS 5G NR / Multi-MIMO 4 x Multi-Band WiFi 7 – (White)</p> <p>M660-BB-4C2W: Multi-MIMO x 4 Cellular 4G LTE CBRS 5G NR / MIMO 2 x Multi-Band WiFi 7 – (Black) M660-BW-4C2W: Multi-MIMO x 4 Cellular 4G LTE CBRS 5G NR / MIMO 2 x Multi-Band WiFi 7 – (White)</p> <p>M660-BB-6C: Multi-MIMO 6 x Cellular 4G LTE CBRS 5G NR – (Black) M660-BW-6C: Multi-MIMO 6 x Cellular 4G LTE CBRS 5G NR – (White)</p> <p>M660-BB-6W: Multi-MIMO 6 x Multi-Band WiFi 7 – (Black) M660-BW-6W: Multi-MIMO 6 x Multi-Band WiFi 7 – (White)</p> |

M650 M640 M630 Enterprise Series Antenna Configuration Options

* Contact Us For M600 HaLow WiFi Configuration Options

M650 5-Element Configurations

Bolt Mount
 Diameter 22mm

M650-BB-2CG2W: MIMO 2 x Cellular 4G LTE CBRS 5G NR / GPS GNSS / MIMO 2 x Multi-Band WiFi 7 – (Black)
 M650-BW-2CG2W: MIMO 2 x Cellular 4G LTE CBRS 5G NR / GPS GNSS / MIMO 2 x Multi-Band WiFi 7 – (White)
 M650-BB-2C3W: MIMO 2 x Cellular 4G LTE CBRS 5G NR / MIMO 3 x Multi-Band WiFi 7 – (Black)
 M650-BW-2C3W: MIMO 2 x Cellular 4G LTE CBRS 5G NR / MIMO 3 x Multi-Band WiFi 7 – (White)
 M650-BB-4CG: Multi-MIMO 4 x Cellular 4G LTE CBRS 5G NR / GPS GNSS – (Black)
 M650-BW-4CG: Multi-MIMO 4 x Cellular 4G LTE CBRS 5G NR / GPS GNSS – (White)
 M650-BB-4WG: Multi-MIMO 4 x Multi-Band WiFi 7 / GPS GNSS – (Black)
 M650-BW-4WG: Multi-MIMO 4 x Multi-Band WiFi 7 / GPS GNSS – (White)

M640 4-Element Configurations

Bolt Mount
 Diameter 22mm

M640-BB-2CGW: MIMO x 2 Cellular 4G LTE CBRS 5G NR / GPS GNSS / Multi-Band WiFi 7 – (Black)
 M640-BW-2CGW: MIMO x 2 Cellular 4G LTE CBRS 5G NR / GPS GNSS / Multi-Band WiFi 7 – (White)
 M640-BB-2C2W: MIMO x 2 Cellular 4G LTE CBRS 5G NR / MIMO 2 x Multi-Band WiFi 7 – (Black)
 M640-BW-2C2W: MIMO x 2 Cellular 4G LTE CBRS 5G NR / MIMO 2 x Multi-Band WiFi 7 – (White)
 M640-BB-4C: Multi-MIMO 4 x Cellular 4G LTE CBRS 5G NR – (Black)
 M640-BW-4C: Multi-MIMO 4 x Cellular 4G LTE CBRS 5G NR – (White)
 M640-BB-4W: Multi MIMO 4 x Multi-Band WiFi 7 – (Black)
 M640-BW-4W: Multi MIMO 4 x Multi-Band WiFi 7 – (White)

M630 3-Element Configurations

Bolt Mount
 Diameter 22mm

M630-BB-2CG: MIMO x 2 Cellular 4G LTE CBRS 5G NR / GPS GNSS – (Black)
 M630-BW-2CG: MIMO x 2 Cellular 4G LTE CBRS 5G NR / GPS GNSS – (White)
 M630-BB-2CW: MIMO x 2 Cellular 4G LTE CBRS 5G NR / Multi-Band WiFi 7 – (Black)
 M630-BW-2CW: MIMO x 2 Cellular 4G LTE CBRS 5G NR / Multi-Band WiFi 7 – (White)
 M630-BB-2WG: MIMO x 2 Multi-Band WiFi 7 / GPS GNSS – (Black)
 M630-BW-2WG: MIMO x 2 Multi-Band WiFi 7 / GPS GNSS – (White)
 M630-BB-3W: MIMO 3 x Multi-Band WiFi 7 – (Black)
 M630-BW-3W: MIMO 3 x Multi-Band WiFi 7 – (White)

M600 Enterprise Series Antenna Housing Color Options

Black / White



M600 Enterprise Series Antenna Coax Cable Labels

CELL / WIFI / GPS



Supported Cellular Service Provider Networks

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|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Verizon | <p>Verizon 4G LTE 5G NR Bands 4G LTE: B2 B4 B5 B13 B46 B48 B66 (CBRS B48) 5G NR: N2 N5 N66 N77</p> <p>Carriers (MVNOs) using Verizon Network: <i>Reach Mobile, Red Pocket Mobile, Spectrum Mobile, Ting Total, Tracfone, Twigby, US Mobile, Visible, Xfinity Mobile</i></p> |
| T-Mobile | <p>Mobile 4G LTE 5G NR Bands 4G LTE: B2 B4 B5 B12 B25 B26 B41 B48 B66 B71 (CBRS B48) 5G NR: N25 N41 N66 N71</p> <p>Carriers (MVNOs) using T-Mobile Network <i>Mint Mobile, TextNow, Lyca Mobile, Metro, Red Pocket Mobile Republic Wireless, Simple Mobile, Ting, Tracfone, US Mobile</i></p> |
| AT&T | <p>AT&T 4G LTE 5G NR Bands 4G LTE: B2 B4 B5 B12 B14 B17 B29 B30 B48 B66 (CBRS B48) GSM: 1900MHz 5G NR: N2 N5 N66 N77</p> <p>Carriers (MVNOs) using AT&T Network <i>Cricket Wireless, Net 10 Wireless, Red Pocket Mobile, Straight Talk</i></p> |

Supported Cellular Bands

| | |
|--------------|------------------------------------------------------------------------------------------------------------------------------------|
| 5G NR Bands | n1 n2 n3 n5 n7 n8 n12 n13 n14 n18 n20 n25 n26 n28 n29 n30 n38 n40 n41 n48-CBRS n66 n71 n75 n76 n77 n78 n79 C-band |
| 4G LTE Bands | B1 B2 B3 B4 B5 B7 B8 B12 B13 B14-FirstNet B17 B18 B19 B20 B25 B26 B28 B29 B30 B32 B38 B39 B40 B41 B42 B43 B46-LAA B48-CBRS B66 B71 |
| 3G Bands | B1 B2 B3 B4 B5 B6 B8 B9 B19 |

Supported WiFi IEEE Standards

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|--------------|---------------------------------------------------------------------------------------------------------------------|
| WiFi 1-6 | WiFi 1 WiF 2 (802.11ba) WiFi 3 (802.11g) WiFi 4 (802.11n) WiFi 5 (802.11ac) WiiFi 6 6E (802.11ax) WiFi 7 (802.11be) |
| * WiFi HaLow | WiFi HaLow (802.11ah) * <i>Contact Us For M600 HaLow WiFi Configuration Options</i> |



M600 Enterprise Series Antenna
Dimensions

Height: 114mm (4.5") / Base Diameter 140mm (5.5")

114mm / 4.5"



140mm / 5.5"

Stainless Steel Mounting Bolt
Length 19mm (0.75")
Diameter 22mm (0.87")
Diameter 25mm (0.98")



Stainless Steel Mounting Bolt
Length 19mm (0.75")
Diameter 22mm (0.87")
Diameter 25mm (0.98")

Anti-Rotation Perma-Seal
Adhesive Baseplate Pad

M690 M680 M670 M660 M650 M640 M630 Enterprise Series Antennas
Optional: *M-Lander Magnetic Mount / L-Bracket Mount*
(Sold Separately)

M600 Enterprise Series Antenna
w/ Optional M-Lander Mag Mount
M-Lander Sold Separately



Optional: Rugged Adjustable
M-Lander Magnetic Mount
Sold Separately

M600 Enterprise Series Antenna
w/ Optional L-Bracket Mount
L-Bracket Sold Separately



Optional: L-Bracket Mount
w/U-Bolt Set
Sold Separately