

M690 M680 M670 M660 Enterprise Series Mobility M2M IoT Antenna Specifications
Multi-Carrier MIMO Cellular 4G LTE CBRS 5G NR / GPS GNSS / MIMO Multi Band WiFi 6 / Bluetooth - 2.4-7GHz

Multi-MIMO Multi-Carrier / Multi-Technology 4G LTE CBRS 5G NR Compliant	Verizon 4G 5G (DSS) Bands: B2 B4 B5 B13 B46 B48 B66 T-Mobile 4G 5G Bands: B2 B4 B5 B12 B25 B26 B41 B66 B71 n25 n41 n66 n71 AT&T 4G 5G Bands: B2 B4 B5 B12 B14 B17 B29 B30 B66 n5 CBRS LTE Band: B48 / 5G NR Bands: n77 n78 n79
4G LTE CBRS 5G NR Frequency Range WiFi 6 / Bluetooth 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 / Bluetooth Avg. Peak Gain: <i>Isotropic</i>	(5dBi) 617-960MHz / (8dBi) 1710-3800MHz / (9dBi) 4900-7000MHz / (6.5dBi) CBRS LTE 3.5GHz (9dBi) 2.4-2.5GHz / (9dBi) 4.9-7GHz
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 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
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 Bluetooth AGA200 Coax / GPS GNSS AGA100 Coax * Custom cable lengths & connector end options are available (Including FAKRA Connector Ends)
Mounting Bolt	M690 M680 Stainless Steel Mounting Bolt: Length 19mm (0.75") / Diameter 25mm (0.98") M670 M660 Stainless Steel Mounting Bolt: Length 19mm (0.75") / Diameter 22mm (0.87") w/Anti Rotation Perma Seal Baseplate Pad
Operating Temp	-40° / +80°C (-40° / +176°F)
Ingress Protection	IP69K



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 Built-In Ground Plane / Bolt Mount
Optional: Rugged M-Lander Adjustable Magnetic Mount Adapter
Optional: L-Bracket Mount w/U-Bolt Set

Antenna Configuration Options

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



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M690 M680 M670 M660 Enterprise Series Antennas Include Built in Ground Plane / Full Length 15ft Coax Cables
 "Built To Spec" Custom Cable Options are Available. Contact us for details.