

# MULTIMAX™

## Up to 6-in-1 High Performance External IP65 Antenna

MULTIMAX is an IP65 outdoor antenna designed specifically to provide high performance connectivity for Fleet and Public Safety vehicles and assets connecting to almost any vehicular router or modem. This antenna offers up to two high gain cellular/LTE/MIMO antennas which support LTE Band 14 for FirstNet, up to three high gain dual band Wi-Fi antennas, and a GNSS antenna inside a single robust and compact housing.

- Up to 2 x Wideband Cellular/LTE Elements (MIMO)
- Up to 3 x 2.4 & 4.9-6GHz Wi-Fi Elements (MIMO)
- Optional GNSS Element
- Up to six or less embedded antenna technologies that operate over multiple bands in one housing
- Leading LTE performance while in coexistence with multiple other embedded antenna technologies
- High gain provides bigger cellular footprint
- Must be mounted on metal
- Available in black or white
- US Patent 10109918

### Descriptions/Applications

The MULTIMAX 4G antenna builds on the best in class RF performance, leading design features, and extended operational life of our highly successful Fleet and Public Safety Antenna products. This product line also offers a rugged low-profile design which gives you greater protection against all the natural hazards a vehicle faces including vibration, hot, cold, ice, salt, dirt, car washes, and tree branch sweeps. Our antennas typically outlast the life of a vehicle.



Optimal MIMO Performance for LTE



Compact and Robust UV Resistant Housing



IP65 Outdoor Installation Ready



Customizable Cables and Connectors to Connect to Any Modem



GNSS



Low loss cable accessories



Fast custom turnaround time



Bolt Mount with Adhesive Pad



Adhesive Mount



Magnetic Mount

## Standard Configurations

Configuration	Cellular Elements	Wi-Fi Elements	GNSS	Part Number	Description
6-in-1	2	3	Yes	<b>AP-MMF-CCWWWG-[x]-S222222-RP345-BL</b>	MIMO Cell/LTE x 2, Wi-Fi x 3 & GNSS, SMA on Cell/LTE & GNSS, RP-SMA on Wi-Fi, Black, 15ft coax
5-in-1	2	2	Yes	<b>AP-MMF-CCWWG-[x]-S22222-RP34-BL</b>	MIMO Cell/LTE x 2, Wi-Fi x 2 & GNSS, SMA on Cell/LTE & GNSS, RP-SMA on Wi-Fi, Black, 15ft coax
4-in-1	1	2	Yes	<b>AP-MMF-CCWG-[x]-S2222-RP3-BL</b>	Cell/LTE x 2, Wi-Fi x 1 & GNSS, SMA on Cell/LTE & GNSS, RP-SMA on Wi-Fi, Black, 15ft coax
3-in-1	2	0	Yes	<b>AP-MMF-CCG-[x]-S222-BL</b>	MIMO Cell/LTE x 2 & GNSS, SMA on Cell/LTE & GNSS, RP-SMA on Wi-Fi, Black, 15ft coax
3-in-1	1	1	Yes	<b>AP-MMF-CWG-[x]-S222-BL</b>	Cell/LTE x 1, Wi-Fi x 1 & GNSS, SMA on Cell/LTE & GNSS, RP-SMA on Wi-Fi, Black, 15ft coax
3-in-1	0	3	No	<b>AP-MMF-WWW-[x]-S222-RP-BL</b>	Wi-Fi x 3, RP-SMA on Wi-Fi, Black, 15ft coax
2-in-1	2	0	No	<b>AP-MMF-CC-[x]-S22-BL</b>	MIMO Cell/LTE x 2, SMA on Cell/LTE, Black, 15ft coax
2-in-1	1	0	Yes	<b>AP-MMF-CG-[x]-S22-BL</b>	Cell/LTE x 1, SMA on Cell/LTE & GNSS, Black, 15ft coax
2-in-1	1	1	No	<b>AP-MMF-CW-[x]-S22-BL</b>	Cell/LTE x 1, Wi-Fi x 1, SMA on Cell/LTE, RP-SMA on Wi-Fi, Black, 15ft coax
2-in-1	0	2	No	<b>AP-MMF-WW-[x]-S22-RP-BL</b>	Wi-Fi x 2, RP-SMA on Wi-Fi, Black, 15ft coax
Single 4G Cellular	1	0	No	<b>AP-MMF-C-[x]-S2-BL</b>	Cell/LTE x 1, SMA on Cell/LTE, Black, 15ft coax
Single GNSS	0	0	Yes	<b>AP-MMF-G-[x]-S2-BL</b>	GNSS, SMA on GMSS, Black, 15ft coax
Single Wi-Fi	0	1	No	<b>AP-MMF-W-[x]-S2-RP-BL</b>	Wi-Fi x 1, RP-SMA on Wi-Fi, Black, 15ft coax

Mounting Options [x]	
<b>Q</b>	Threaded Bolt Mount
<b>A</b>	Adhesive Mount
<b>M</b>	Magnetic Mount

*Also available in color white, customizable cable lengths up to 35 feet, and other variations.*

### Electrical Data

Frequency Range	Elements 1 up to 2	698-960/1700-2700 MHz	
	Elements 3 up to 5	2.4/4.9-6.0 GHz	
	Element 6 (optional)	1550~1610 MHz	
Operational Bands	Elements 1 up to 2	LTE/Cellular	
	Elements 3 up to 5	Wi-Fi	
	Element 6 (optional)	GPS L1/GALILEO E1/GLONASS G1/BeiDou B1/QZSS L1	
Peak Gain: Isotropic	Elements 1 up to 2	698-960 MHz	3 dBi
		1710-2700 MHz	6.5 dBi
	Elements 3 up to 5	2.4 GHz, 5.5 GHz	8 dBi, 7 dBi
	Element 6 (optional)	30.50 dBi	
Isolation	Elements 1 up to 2	> 10 dB	
	Elements 3 up to 5	> 30 dB	
Correlation Co-efficient	Elements 1 up to 2	< 0.1	

### Environmental Data

Hazardous Substances	RoHS Compliant
Temperature	-55°C to 85°C (-67°F to +185°F) Operating and Storage conformance to MIL-STD-810G Method 501.5
Humidity (Non-Condensing)	5% to 96% Operating and Storage conformance to IEC 60068
Water Ingress	IP65
Military Spec	MIL-STD 810 conformance to vibration

### Mounting Data

Dimensions	Height	2.47" (62.6mm)
	Width	2.44" (62.1mm)
	Length	6.34" (161mm)
Color	Black (BL) or White (WH)	

### Cable Data- Cell/LTE

Type	CFD195 Low Loss
Diameter	0.195" (4.953 mm)
Length	1 feet (0.3 m)
Termination	SMA Male

### Cable Data- Wi-Fi

Type	CFD195 Low Loss
Diameter	0.195" (4.953 mm)
Length	1 feet (0.3 m)
Termination	RP-SMA Male

### Cable Data- GNSS

Type	RG-174U
Diameter	0.100" (2.54 mm)
Length	1 feet (0.3 m)
Termination	SMA Male

### GNSS Data - Ceramic Patch Antenna Specification

Bandwidth	1561 – 1602 MHz
Gain@Zenith	2.5 dBi
Polarization	R.H.C.P.
Axial Ratio	3.0 dB Typ.

### GNSS Data - LNA Specification

Noise Figure	1.2 dB
Gain	28 dBi
Voltage	3.3V~5.6V
Current	9.6±1mA@3.3V