

# M2MAX®

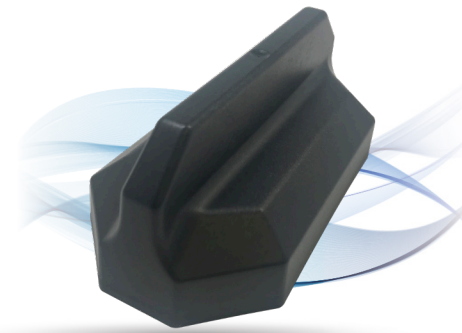
## Up to 5-in-1 High Performance External IP67 Antenna









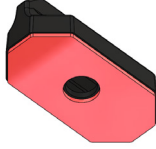
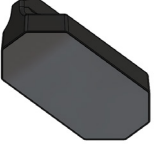
M2MAX is a fully rugged outdoor antenna designed specifically for M2M applications. This antenna provides best in class performance and is configurable, providing up to two high gain cellular/LTE, up to two dual-band Wi-Fi, and an optional GNSS antenna inside a single robust and compact housing.

- Up to 2 x Wideband Cellular/LTE Elements (MIMO)
- Up to 2 x 2.4 & 4.9-6 GHz Wi-Fi Element (MIMO)
- Optional GNSS Element
- Leading LTE performance while in coexistence with multiple other embedded antenna technologies
- Must be mounted on metal
- Available in black or white
- US Patent 10109918

### Descriptions/Applications

The M2MAX antenna builds on the best in class RF performance, leading design, features, and extended product life tradition of our highly successful Fleet and Public Safety Antenna products. Ideal for kiosks, digital signage, wireless ATMs, vending machines, NEMA enclosures, industrial metering and other wireless machine to machine applications. This antenna has been designed to mount externally to an M2M or IoT enabled asset, and requires no servicing through its life time.



	
Optimal MIMO Performance for LTE	Compact and Robust UV Resistant Housing
	
Full Outdoor Installation Ready	Customizable Cables and Connectors to Connect to Any Modem
	
Flexible Mounting Options	Fast custom turnaround time
	
Low loss cable accessories	Bolt Mount
	
Adhesive Mount	Magnetic Mount

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

## Standard Configurations

Configuration	Cellular Elements	Wi-Fi Elements	GNSS	Part Number	Description
5-in-1	2	2	Yes	<b>AP-M2M2-CCWWG-[x]-S22222-RP34-BL-[y]</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	2	1	Yes	<b>AP-M2M2-CCWG-[x]-S2222-RP3-B-[y]</b>	MIMO 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-M2M2-CCG-[x]-S222-BL-[y]</b>	MIMO Cell/LTE x 2 & GNSS, SMA on Cell/LTE & GNSS, Black, 15ft coax
3-in-1	2	1	No	<b>AP-M2M2-CCW-[x]-S222-RP3-BL-[y]</b>	MIMO Cell/LTE x 2 & Wi-Fi, SMA on Cell/LTE, RP-SMA on Wi-Fi, Black, 15ft coax
3-in-1	1	1	Yes	<b>AP-M2M2-CWG-[x]-S222-RP2-BL-[y]</b>	Cell/LTE x 1 & Wi-Fi, SMA on Cell/LTE & GNSS, RP-SMA on Wi-Fi, Black, 15ft coax
2-in-1	2	0	No	<b>AP-M2M2-CC-[x]-S22-BL-[y]</b>	MIMO Cell/LTE x 2, SMA on Cell/LTE, Black, 15ft coax
2-in-1	1	0	Yes	<b>AP-M2M2-CG-[x]-S22-BL-[y]</b>	Cell/LTE x 1, SMA on Cell/LTE & GNSS, Black, 15ft coax
2-in-1	0		No	<b>AP-M2M2-WW-[x]-S22-RP-BL-[y]</b>	Wi-Fi x 2, RP-SMA on Wi-Fi, Black, 15ft coax
Single Wi-Fi	0		No	<b>AP-M2M2-W-[x]-S2-RP-BL-[y]</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

Cable Length [y]	
<b>1</b>	1 foot
<b>3</b>	3 feet
<b>4</b>	4 feet
<b>6</b>	6 feet
<b>10</b>	10 feet
<b>15</b>	15 feet
<b>On request</b>	Other lengths

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

### Electrical Data

Frequency Range	Antennas 1 up to 2	698-960/1700-2700 MHz	
	Antennas 3 up to 4	2.4/4.9-6.0 GHz	
	Antenna 5 (optional)	1550~1610 MHz	
Operational Bands	Antennas 1 up to 2	LTE/Cellular	
	Antennas 3 up to 4	Wi-Fi	
	Antenna 5 (optional)	GPS L1/GALILEO E1/GLONASS G1/BeiDou B1/ QZSS L1	
Peak Gain: Isotropic	Antennas 1 up to 2	698-960 MHz	3.0 dBi
		1710-2700 MHz	6.0 dBi
	Antennas 3 up to 4	2.4 GHz, 5.5 GHz	6.5 dBi, 4.2 dBi
	Antenna 5 (optional)	30.5 dBi	
Isolation	Antennas 1 up to 2	> 10 dB	
	Antennas 3 up to 4	> 30 dB	
Correlation Co-efficient	Antennas 1 up to 2	< 0.1	

### Environmental Data

Hazardous Substances	RoHS Compliant
Temperature	-40°C to 65°C (-40°F to + 149°F) Operating and Storage conformance to IEC 60068
Humidity (Non-Condensing)	5% to 96% Operating and Storage conformance to IEC 60068
Water Ingress	IP67
Military Spec	MIL-STD 810 conformance to vibration

### Mounting Data

Dimensions	Height	2.19" (55.5mm)
	Width	2.56" (65mm)
	Length	4.84" (122.9mm)
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