

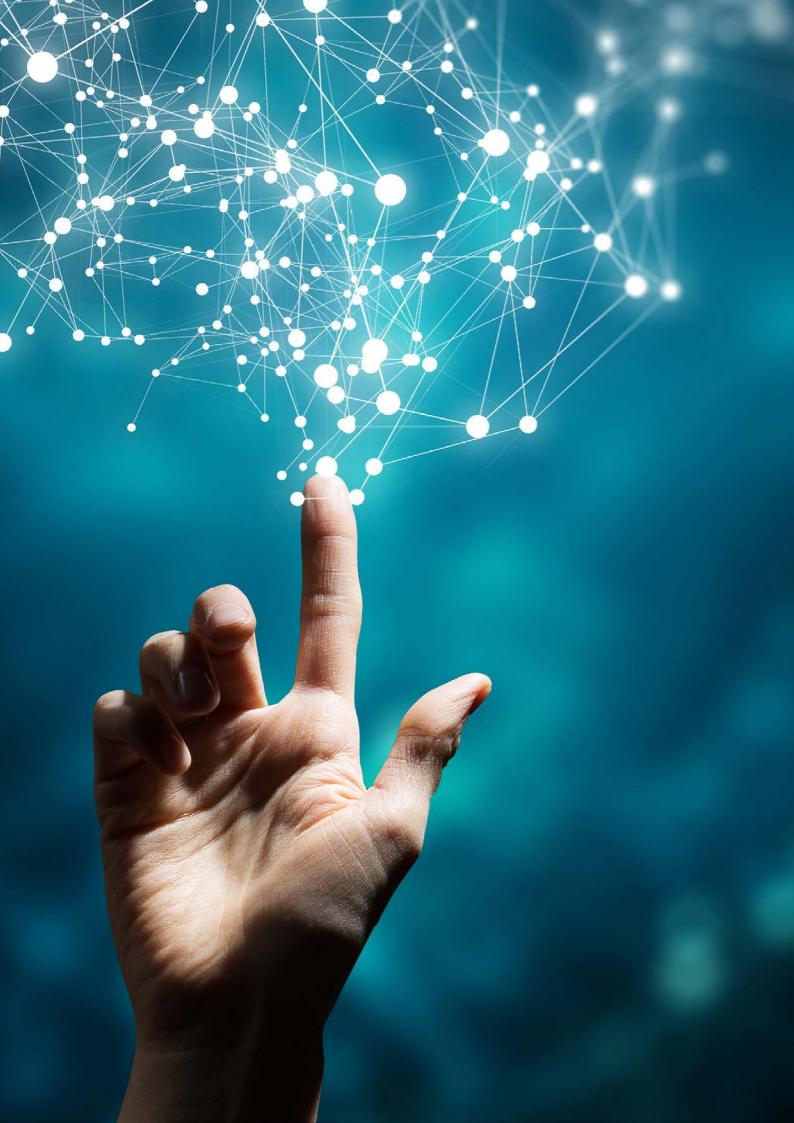


**MAXTENA**

# **Catalogue Doc.2021**

Innovative Antenna Solutions for  
seamless wireless communications

Outstanding performance, high precision, rugged design



Maxtena is a global company engaged in designing, manufacturing, and marketing a comprehensive range of embedded, external and custom antenna solutions for Global Navigation Satellite Systems (GNSS), Machine-to-Machine (M2M), and Mobile Satellite Service (MSS) applications.

Maxtena provides antenna products and consulting services to businesses, the United States and foreign governments, and non-governmental organizations around the world. Our antenna products are ideally suited for portable wireless applications including satellite phones, military radio, handheld navigation, GPS tracking and laptop computers. Our consulting services include feasibility studies, comprehensive antenna testing and prototyping.

We use proprietary and patented technologies to design extremely lightweight and high-performance helix, microstrip and custom antenna solutions for a variety of communications systems. With our industry leading antenna engineering staff, we can provide expert assistance in any antenna integration. We are uniquely positioned to enable OEMs with a quality custom antenna solution that is both quick and cost-effective.



*We are Inventing the Future of  
Wireless Technology*

**MAXTENA**

# Our Values



## ***Commitment to Innovation***

Our management team has a proven record of delivering innovative products to the marketplace. We have the ability to define a market need, research and develop a product, set up production, and execute on production.

## ***Commitment to Our Customers and Partners***

We believe that each product we deliver and service we render should not only meet, but exceed the expectation of our customer. We have a strong record of maintaining existing business relationships in the government and commercial sectors and protecting critical intellectual property through patents and trade secrets.

## ***Commitment to Our Team***

We pride ourselves on building a diverse workforce with exciting opportunities and exceptional benefits for our team members. Our core values – creative, involved, exceptional, and innovative – are the foundation of our collaborative and inventive work environment. We believe that by promoting teamwork and cooperation we will be able to find continued success and promote professional growth.

# Maxtena Technology



Our commitment to innovation is unprecedented. Our technologies power some of today's most cutting-edge wireless solutions. These solutions allow consumers to seamlessly access data from anywhere in the world. Here we take an approach where the next advances in wireless communications will come from looking at fundamental problems from the antenna/electromagnetic perspective. This new perspective lends itself to novel technologies to drive the new Internet infrastructure with smaller and higher efficiency devices, enable more bandwidth and combat interference. Two of our most successful and highly sought-after technologies include Helicore and Microstrip Patch. We are proud to present you with the technologies on which our products are designed and engineered









## *Helical Antennas*

We offer a unique set of helix antennas for satellite communications. Our helical antennas operate across several satellite networks including GPS, Iridium and GLONASS. We also offer several antennas that work across multiple networks. The antennas are available in different sizes and form factors. We produce both external antennas that come in a range of rugged housings, as well as embedded antennas. Our embedded antennas are custom built to fit perfectly in your device's own housing. We have developed countless first-to market helix innovations, and our antennas are currently being used in multiple major Satellite Phones, Tracking and Navigation Devices and Military Communications Equipment.







	Antenna Name	Part Number	Number of cables	Application	Frequency bands														ELECTRICAL SPECS			MECHANICAL SPECS																										
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp																		
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2.4 GHz ISM										5.0 GHz ISM																	
	M1580HCT-P-SMA	100-00180-01	0	Handheld Devices · Military Radios & Manpacks · Asset tracking · Security & Surveillance · IOT applications · Drones & UAV · Navigation devices · Marine	X			X																										≤ 1.5	1.3 dBic (Beidou) 1.8 dBic (GPS) -1.7 dBic (Glonass)	49 x 19 mm	Screw mount	no cable	no cable	SMA	Black	-40°C to 85°C						
	MULTIBAND-HELIX-1539	100-00049-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X			X																												≤ 2:1	1.5 dBic (typical) @1575MHz	29.2 x 17 mm	Embedded	coaxial cable	Pigtail	U.FL	Black & Orange	-40°C to 85°C				
	M1227HCT-A-EMB	108-00044-01	0	Precision navigation · Precision timing · Military & security · Asset tracking · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X	X		X																													<1.5	30 dBic @ 1227 MHz (typical) 28 dBic @ 1575 MHz (typical) 28 dBic @ 1602 MHz (typical)	35.2 x 24 mm	Embedded	no cable	no cable	MMCX	Orange	-40°C to 85°C			
	M4HCT-A-EMB	108-00074-01	0	UAV/ Drones · Unmanned Ground Vehicles (UGV) · Unmanned Systems · High Precision Navigation · Military & Security · Agriculture & FarmTech · Handheld GNSS Devices	X			X		X																												≤ 2:1	30 dB ±3 dB	34.6 x 28.5 mm	Embedded	no cable	no cable	MMCX	Orange	-40°C to 105°C		
	M4HCT-A-SMA	100-00117-01	0	UAV/ Drones · Unmanned Ground Vehicles (UGV) · Unmanned Systems · High Precision Navigation · Military & Security · Agriculture & FarmTech · Handheld GNSS Devices	X			X		X																													≤ 2:1	30 dB ±3 dB	51 x 34 mm	Screw mount	no cable	no cable	SMA	Black	-40°C to 105°C	
	M7HCT-A-EMB	108-00075-01	0	UAV/ Drones · Unmanned Ground Vehicles (UGV) · Unmanned Systems · High Precision Navigation · Military & Security · Agriculture & FarmTech · Handheld GNSS Devices	X	X		X	X	X																														≤ 2:1	30 dB ±3 dB	34.6 x 28.5 mm	Embedded	no cable	no cable	MMCX	Orange	-40°C to 105°C











A photograph of an Iridium satellite in orbit above the Earth. The satellite is a complex of white and gold components, including a large white parabolic dish antenna and several blue solar panel arrays. The Earth's surface is visible below, showing blue oceans, white clouds, and dark landmasses. A red horizontal bar is overlaid on the top left of the image, containing the text 'Iridium Antennas' in white.

## *Iridium Antennas*

From maritime and military, to mining and oil and gas, Iridium technology empowers OEMs, customers and end-users across various industries to manage their heavy equipment fleets more efficiently – optimizing overall performance, improving safety for equipment and crews, and connecting to fleet intelligence.

With Iridium, you and your customers have access to the information you need, when you need it, allowing you to:

- Monitor and optimize equipment use, maintenance and security
- Lower ownership and operating costs
- Reduce equipment failure and downtime
- Improve productivity and resale value
- Maximize and protect investments

Iridium provides real time access to high-value data – letting you or your customers take actions to prevent potential failures and avoid costly consequences.

Text about Cellular









# **Cellular Antennas**







*(5G & 3G/4G/LTE antennas)*







	Antenna Name	Part Number	Number of cables	Application	Frequency bands														ELECTRICAL SPECS				MECHANICAL SPECS																			
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp												
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2.4 GHz ISM										5.0 GHz ISM											
	MEA-LGG-AM	100-00163-01	3	Fleet management · Telematics · Monitoring · IOT · Asset tracking · Security and Surveillance · Vending Machines	X																													17:1@ 698-960 MHz 14:1@1710-2170 MHz 15:1 @2500-2700 MHz ≤ 1.4:1 @1575 MHz ≤ 1.4:1 @1616 - 1627 MHz	3.4 dBi @698-960 MHz 3.5 dBi @1710-2170 MHz 3.9 dBi @2500-2700 MHz 28 dB @ 2.7 V @1575 MHz 28 dB @1616 - 1627 MHz	150.5 x 42 x 15.3 mm	Adhesive Mount	LMR195 LMR100	3 m	SMA Male	Black	-40°C to 85°C
	MEA-UWB-01-AM	100-00106-01	1	Automotive · Fleet tracking · IOT · Telematics																														<3.5@698-960 MHz <2.5 @1710-2170 MHz <2.5 @2500-2700 MHz	3.8 dBi Typ. @698-960 MHz 2.9 dBi Typ. @1710-2170 MHz 4.4 dBi Typ. @2300-2700 MHz	105.1 x 30.1 x 6.7 mm	Adhesive Mount	RG-174	1 m	SMA / FAKRA (or other)	Black	-40°C to 85°C
	MEA-GNSS-LTE	100-00103-01	1	Asset Tracking · Telematics · Container & Logistics · Automotive · Industrial Applications · IOT Applications	X		X																											≤ 3.7 @ 698-960 MHz 3.5 @ 1710-2170 MHz ≤ 3.0 @ 2300-2690 MHz	1.0 dBi Typ. @ 698-960 MHz 2.0 dBi Typ. @ 1710-2170 MHz 2.0 dBi Typ. @ 2300-2690 MHz	51.4 x (h) 11.7 mm	Adhesive Mount	RG-175	1 m	SMA / FAKRA (or other)	Black	-40°C to 80°C
	MEA-GNSS-LTE-MM	100-00103-03	1	Asset Tracking · Telematics · Container & Logistics · Automotive · Industrial Applications · IOT Applications	X																													≤ 3.7 @ 698-960 MHz 3.5 @ 1710-2170 MHz ≤ 3.0 @ 2300-2690 MHz	1.0 dBi Typ. @ 698-960 MHz 2.0 dBi Typ. @ 1710-2170 MHz 2.0 dBi Typ. @ 2300-2690 MHz	51.4 x (h) 11.7 mm	Magnet Mount	RG-175	1 m	SMA / FAKRA (or other)	Black	-40°C to 80°C
	MEA-698-3800-SM	100-00132-01	2	M2M applications · IoT applications · Vending machines · Payment terminals · Remote monitoring																														≤ 2.5	5.5 dBi	59 x 71mm	Screw mount	LMR100	2 m	SMA Male	Black	-40°C to 85°C
	MEA-2700-UWB-SM	100-00141-01	1	· Telematics · LTE · Automotive · Fleet tracking · IOT · Telematics																														≤ 2.5	3 dBi	Ø 48 x 82 mm	Screw mount	RG58U	1 m	N-connector	Black	-40°C to 70°C







	Antenna Name	Part Number	Number of cables	Application	Frequency bands																ELECTRICAL SPECS				MECHANICAL SPECS																		
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp													
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2.4 GHz ISM										5.0 GHz ISM												
	MEA-LTE3MM-SMA	100-00185-01	1	Cellular · LTE · and WiMax Applications · Modems · Routers · and Gateways · Security · Asset Tracking · IoT																	X														≤2.1:1 @ 698-960 MHz ≤1.6:1 @ 1710-2170 MHz ≤1.5:1 @ 2300-2690 MHz	2.0 dBi Typ. @ 698-960 MHz 3.9 dBi Typ. @ 1710-2170 MHz 3.5 dBi Typ. @ 2300-2690 MHz	Ø 54 × 80	Magnetic Mount	D302	365 cm	SMA Male	Black	-40°C to 85°C
	MIA-HB-698-2700	100-00160-01	1	IOT · Smart City · Vending Machines · HD Video · Gateways																		X											< 3.5	N/A	120mm x 30mm	Adhesive mount	coaxial cable	130 mm	U.FL	Black	-40°C to 85°C		
	MEA-LW2-SM	189-00061-01	2	· LTE applications · Navigation and telematics systems · IoT applications · Automotive connectivity · Multimedia · Fleet management · HD video and audio streaming														X								X							≤2.1:1 @ 698-960 MHz ≤2.7:1 @ 1710-2170 MHz ≤1.3:1 @ 2500-2700 MHz ≤1.6:1 @ 2410-2490 MHz ≤1.8:1 @ 4920-5925 MHz	2.7 dBi Typ. @ 698-960 MHz 5.1 dBi Typ. @ 1710-2170 MHz 5.3 dBi Typ. @ 2300-2690 MHz 3.4 dBi Typ. @2410-2490 MHz 3. dBi Typ. @4920-5925 MHz	80 x 74 x 43 mm	Screw mount	D302	2 m	SMA Male	Black	-40°C to 85°C		
	MEA-3-GGL	189-00053-01	1	Fleet management · Telematics · Monitoring	X		X													X												≤ 2.0 : 1 @ 698-960 MHz ≤ 5.5 @ 1710-2170 ≤ 4.0 @ 2300~2690 MHz	3.0 dBi Typ. @ 1575.42 MHz 3.5 dBi Typ. @ 1602 MHz 1.5 dBi Typ. @ 698-960 MHz 0.5 dBi Typ. @ 1710-2170 MHz 0.5 dBi Typ. @ 2300-2690 MHz	55 x 55 x 20 mm	Adhesive mount	"RG-174 CFD-200"	1 m	SMA / FAKRA (or other)	Black	-40°C to 85°C			
	MEA-LG-AM	100-00193-01	2	Fleet management · Telematics · Monitoring · IOT · Asset tracking · Security and Surveillance · Vending Machines	X			X											X													≤1.8:1 @ 698-960 MHz ≤1.3:1 @ 1710-2170 MHz ≤2.0:1 @ 2500-2700 MHz ≤1.4:1 @ 1575 MHz-1602 MHz	2.4 dBi Typ. @ 698-960 MHz 1.3 dBi Typ. @ 1710-2170 MHz 0.4 dBi Typ. @ 2300-2690 MHz 28 dB @ 2.7 V. @1575-1602 MHz	83 x 35 x 13.3 mm	Adhesive mount	LMR100	3 m	SMA male	Black	-40°C to 85°C			
	MEA-SW-700-3800	189-00046-01	-	Industrial IoT · Public Safety & Security · Utilities & Smart Connected Cities · Fleet Management & Tracking · FirstNet	X														X													≤ 3.0	4.0 dBi	Ø 41 x 84 mm	Screw mount	N/A	N/A	N-Male	Black	-40°C to 85°C			



Text about WIFI & MIMO ANTENNAS

# WiFi & MIMO Antennas



Image	Antenna Name	Part Number	Number of cables	Application	Frequency bands															ELECTRICAL SPECS				MECHANICAL SPECS																												
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp																						
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2.4 GHz ISM										5.0 GHz ISM																					
	MEA-2400-SMA	100-00152-01	0	Outdoor monitoring systems · Motion sensors · Vibration sensors · IOT · M2M · Remote monitoring · Tracking															X			X																						≤ 2.0	2 ± 1 dBi	80 x 9.7mm	Screw Mount	N/A	N/A	SMA Male	Black	-40°C to 80°C
	MEA-2400-UWB-SM	100-00155-01	1	Remote mesh networks · Smart metering · IOT Telematics															X			X																						≤ 2.5:1	3 dBi	Ø 48 x 82 mm	Screw mount	RG58U	3 m	SMA Male	Black	-40°C to 70°C
	NETZ 4in1	100-00142-01	4	Fleet Management · Commercial Transport · HD Video Monitoring · Buses · Train & Commerical Applications · Smart Cities															X			X																						2.0:1 @698-960 MHz 1.4:1 @1710-2170 MHz 1.5:1 @2500-2700 MHz 1.6:1 @2410-2490 MHz 1.5:1 @4920-5925 MHz	0.9 dBi@698-960 MHz 3.3 dBi@1710-2170 MHz 4.4 dBi@2500-2700 MHz 4.8 dBi@2410-2490 MHz 3.0 dBi@4920-5925 MHz	96 x 96 x 94mm	Screw mount	LL195 (or custom)	3 m	SMA Male	Black or White	-40°C to 85°C
	MEA-UWB-LTE-90	100-00139-01	-	Infotainment systems - HD video transmission - Dash cameras · Connected cars · Fleet management · Gateways · Routers · Public transportation · Logistics															X																									1:2.2	2.5 / 3.5 dBi	163x22x7mm	Screw mount	N/A	N/A	SMA Male	Black	-40°C to 80°C
	Netz 5in1	100-00095-01	5	Fleet management · Commercial transport · HD video monitoring · Buses · train · and commercial applications · Smart city	X				X										X																									< 2.0 : 1 @ 1561 MHz < 2.0 : 1 @ 31575 MHz < 2.0 : 1 @ 1602 MHz < 4.0 : 1 @ 698-960 MHz < 4.0 : 1 @ 1710-2170 MHz < 4.0 : 1 @ 2300-2690 MHz < 2.0 : 1 @ 2400-2500 MHz < 2.0 : 1 @5150-5850 MHz	3 dBi Typ. @1561 MHz 3 dBi Typ. @1575 MHz 3.5 dBi Typ. @1602 MHz 4.0 dBi Typ. @698-960 MHz 6.0 dBi Typ. @1710-2170 MHz 5.0 dBi Typ. @2300-2690 MHz 4.0 dBi Typ. @698-960 MHz 6.0 dBi Typ. @1710-2170 MHz 5.0 dBi Typ. @2300-2690 MHz 5.0 dBi Typ. @2400-2500 MHz 8.0 dBi Typ. @5150-5850 MHz	Ø 141.98 x 66.5 mm	Permanent Mount	"RG-174 CFD-200"	3 m	SMA / FAKRA (or other)	Black	-40°C to 85°C
	MEA-698-3800-SM	100-00132-01	2	M2M applications · IoT applications · Vending machines · Payment terminals · Remote monitoring															X																									≤ 2.5	5.5 dBi	59 x 71mm	Screw mount	LMR100	2 m	SMA Male	Black	-40°C to 85°C

Text about SigFox/LoRa/ISM antennas

# *Sigfox/LoRa/ISM Antennas*









	Antenna Name	Part Number	Number of cables	Application	Frequency bands															ELECTRICAL SPECS		MECHANICAL SPECS									
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp	
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2.4 GHz ISM										5.0 GHz ISM
	MPA-716-868	189-00069-01	1	Remote mesh networks · Smart metering · IOT · Public Safety · Smart sensors · Supply chain & logistics																X			≤ 1.5	3.0 dBi typ.	82 x 80 x 6.6 mm	Pin mounting	RG178	100 mm	MMCX (MALE)	white	-40°C to 105°C
	MPA-716-915	-40°C to 8+G90:0915°C	1	Remote mesh networks · Smart metering · IOT · Public Safety · Smart sensors · Supply chain & logistics																X			≤ 1.5	3.0 dBi typ.	83 x 80 x 6.6 mm	Pin mounting	RG178	100 mm	MMCX (MALE)	white	-40°C to 105°C
	MEA-915-ISM	189-00184-01	1	Remote mesh networks · Smart m · IoT · Public Safety																X			1.4:1	4.0 dBi	80 x 74 x 25.6 mm	Screw mount	D302	2 m	SMA-Male	Black	-40°C to 85°C
	MEA-868-ISM	189-00198-01	1	Remote mesh networks · Smart m · IoT · Public Safety																X			1.1:1	2.5 dBi	80 x 76 x 13 mm	Screw mount	D302	2 m	SMA-Male	Black	-40°C to 85°C
	MEA-868-SM	189-00154-01	1	Remote mesh networks · Smart m · IoT · Public Safety																X			≤ 2.5:1	3-5 dBi	∅ 48 x 82 mm	Screw mount	RG58U	3 m	SMA-Male	Black	-40°C to 70°C
	MEA-915-SM	189-00156-01	1	Remote mesh networks · Smart m · IoT · Public Safety																X			≤ 2.5:1	3-5 dBi	∅ 48 x 82 mm	Screw mount	RG58U	3 m	SMA-Male	Black	-40°C to 70°C













Image	Antenna Name	Part Number	Number of cables	Application	Frequency bands														ELECTRICAL SPECS			MECHANICAL SPECS									
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp	
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2.4 GHz ISM										5.0 GHz ISM
	MEA-868-915-SMA	189-00153-01	1	Remote mesh networks · Smart m · IoT · Public Safety															X				≤ 2.5	3 dBi	Ø 48 x 82 mm	Screw mount	RG58U	3 m	SMA-Male	Black	-40°C to 70°C
	MEA-2400-UWB-SMA	189-00155-01	1	Remote mesh networks Smart metering IOT Telematics																X			≤ 2.5:1	3 dBi	Ø 48 x 82 mm	Screw mount	RG58U	3 m	SMA-Male	Black	-40°C to 70°C
	MEA-915-SM-LP	189-00171-01	1	Remote mesh networks Smart metering IOT Telematics															X				1.5:1	1.9 dBi	80 x 74 x 14.7 mm	Screw mount	LL100	3 m	SMA-Male	Black	-40°C to 85°C
	MEA-868-SM-LP	189-00172-01	1	Remote mesh networks Smart metering IOT Telematics															X				1.9:1	-0.8 dBi	Ø 50 x 50.8 mm	Screw mount	DACAR100	3 m	SMA-Male	Black	-40°C to 85°C
	MEA-915-01-SMA	189-00159-01	0	Public safety · M2M applications · Wireless applications · Smart m · Transportation															X				≤ 3	3.3 dBi	Ø 9 x 48 mm	Connector mount	N/A	N/A	SMA Male	Black	-40°C to 85°C
	MEA-868-01-SMA	189-00201-01	0	Public safety · M2M applications · Wireless applications · Smart m · Transportation															X				2.1:1	2.5 dBi	Ø 9 x 48 mm	Connector mount	N/A	N/A	SMA Male	Black	-40°C to 85°C


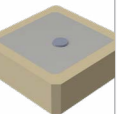


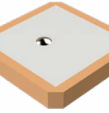


Image	Antenna Name	Part Number	Number of cables	Application	Frequency bands																	ELECTRICAL SPECS		MECHANICAL SPECS										
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp				
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2.4 GHz ISM										5.0 GHz ISM			
	MEA-915-SW-SMA	189-00182-01	0	Remote mesh networks · Smart m · IOT · Public Safety																			X			1.4:1	4.0 dBi	Ø 9 x 48 mm	Screw mount	N/A	N/A	SMA Male	Black	-40°C to 85°C
	MEA-LW2-SM	189-00061-01	2	LTE applications · Navigation and telematics systems · IoT applications · Automotive connectivity · Multimedia · Fleet management · HD video and audio streaming										X									X	X		2.1:1 @698-960 MHz 2.7:1@1710-2170 MHz 1.3:1 @2500-2700 MHz 1.6:1 @2410-2490 MHz 1.8:1@ 4920-5925 MHz	2.7 dBi@698-960 MHz 5.1 dBi@1710-2170 MHz 5.3 dBi@2500-2700 MHz 3.4 dBi @2410-2490 MHz 3.2 dBi @ 4920-5925 MHz	80 x 74 x 43 mm	Screw mount	D302	2 m	SMA Male	Black	-40°C to 85°C
	MEA-2400-MM	189-00173-01	1	WiFi applications · Navigation and telematics systems · IOT · Automotive connectivity · Multimedia · Fleet management · HD video and audio streaming																			X			1.4:1	3.8 dBi	Ø 54 × 14.7 mm	Magnet Mount	LMR100	3 m	SMA Male	Black	-40°C to 80°C
	MEA-868-915-N	189-00045-01	0	Smart Metering · Industrial Monitoring · Remote Control · IOT & M2M · Connected Buildings																			X			≤ 2	6 dBi	Ø 23 x 795mm	Wall mouting (Included)	N/A	N/A	N-male	White	-40°C to 85°C
	MEA-LGI-SMA	189-00065-01	3	IoT applications · Telematic · Navigation · Satellite Communications · LTE applications	X			X			X						X									2.6:1@617-960 MHz 2.4:1@1427-2690 MHz 2.7:1 @3300-5000 MHz 2.5:1@5150-5925 MHz 1.6:1 @1616 - 1627 MHz 1.4:1 @1559 - 1608 MHz	2.3 dBi @ 617-960 MHz 5.1 dBi @ 1427-2690 MHz 2.6 dBi @ 3300-5000 MHz 2.7dBi @ 5150-5925 MHz -1.8 dB @ 1616 - 1627 MHz 28 dB @ 1559 - 1608 MHz	80 x 74 x 25.6 mm	Screw mount	D302	3 m	SMA Male	"Black or White"	-40°C to 85°C
	MEA-LWIG-SM	100-00164-01	4	IoT applications · Telematic · Navigation · Satellite Communications · LTE applications	X												X		X				X	X		1.2:1 @ 1616 - 1627 1.4:1 @ 2410-2490 1.6:1 @ 4920-5925 2.5:1 @ 5925-7125 3.3:1 @ 617-960 2.3:1 @ 1427-2690 2.1:1 @ 3300-5000 1.7:1 @ 5150-5925	28 dB @ GNSS 4.5 dBic @ Iridium 1.2 dBi @ 2410-2490 MHz 0.0 dBi @ 4920-5925 MHz 5.2 dBi @ 5925-7125 MHz -1.7 dBi @ 617-960 -1.7 dBi @ 1427-2690 -1.3 dBi @ 3300-5000 0.6 dBi @ 5150-5925	146 x 31.5 mm	Screw mount	LMR100	2 m	SMA	Black	-40°C to 85°C

## *Microstrip Patch Antennas*



We offer a large portfolio of both active and passive microstrip antennas. The antennas are available in several different sizes depending on customer requirements. The active antennas can be customized with different cable lengths and connectors upon request. All of our microstrip antennas offer high performance with a very low profile. The antennas are ideal for GPS handhelds, PDAs and tracking devices. The compact size and lightweight features of the microstrip antennas make them perfect for various commercial and industrial applications. We also have microstrip antenna tuning kits available for our customers. The tuning kits enable the user to find the exact antenna frequency to compensate for downward shifts caused by the devices housing construction and electronic components.

	Antenna Name	Part Number	Number of cables	Application	Frequency bands															ELECTRICAL SPECS			MECHANICAL SPECS											
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp				
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2.4 GHz ISM										5.0 GHz ISM			
	MPA-104-C	189-00080-01	0	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																					1.8	2.5 dBic	10 x 10 x 4.76 mm	Embedded	no cable	no cable	Pin connector	white	-40°C to 85°C
	MPA-124-C	189-00079-01	0	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																					1.2	-3.0 dBic typ.	12 x 12 x 4.2 mm	Embedded	no cable	no cable	Pin connector	White	-40°C to 85°C
	MPA-152-C	189-00036-01	0	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																					1.3:1	4 dBic	14.95 x 2 mm	Embedded	no cable	no cable	Pin connector	White	-40°C to 85°C
	MPA-154-C	189-00006-01	0	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																					1.3:1	4 dBic	14.95 x 4 mm	Embedded	no cable	no cable	Pin connector	White	-40°C to 85°C
	MPA-182	189-00052-01	0	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																					1.3:1	5 dBic	18.2 x 2 mm	Embedded	no cable	no cable	Pin connector	White	-40°C to 85°C

	Antenna Name	Part Number	Number of cables	Application	Frequency bands															ELECTRICAL SPECS				MECHANICAL SPECS													
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp							
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2.4 GHz ISM										5.0 GHz ISM						
	MPA-184	189-00005-01	0	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																								13:1	5 dBic	18.2 x 4 mm	Embedded	no cable	no cable	Pin connector	White	-40°C to 85°C
	MPA-252	189-00004-01	0	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																								13:1	4 dBic	25 x 2 mm	Embedded	no cable	no cable	Pin connector	White	-40°C to 85°C
	MPA-254	189-00003-01	0	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																								13:1	5.5 dBic	25 x 4 mm	Embedded	no cable	no cable	Pin connector	White	-40°C to 85°C
	MPA-134-GPS	189-00056-01	0	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement				X																					≤ 2	-1.5 dBic typ.	13 x 4 mm	Embedded	no cable	no cable	Pin connector	White	-40°C to 85°C
	MPA-356-1516	189-00049-01	0	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																								≤ 1.5	GPS: +3.7 dBi typ. GLONASS: +4.9 dBi typ. Beidou: +5.2 dBi typ.	35 x 6 mm	Embedded	no cable	no cable	Pin connector	White	-40°C to 85°C




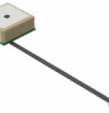
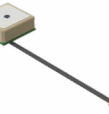
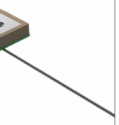
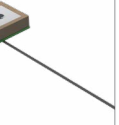
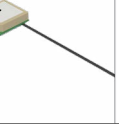
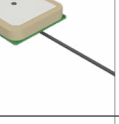

	Antenna Name	Part Number	Number of cables	Application	Frequency bands															ELECTRICAL SPECS				MECHANICAL SPECS												
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp						
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2,4 GHz ISM										5.0 GHz ISM					
	MPA-406-1227	189-00047-01	0	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement				X	X																			≤ 1.8	-3.8 dBi	40.5 x 6.5 mm	Embedded	no cable	no cable	Pin connector	White	-40°C to 85°C
	MPA-258-L1-L5	189-00057-01	0	IoT applications · RTK · Agriculture · Navigation · Security · Autonomous Vehicles · Transportation	X	X																					≤ 1.8	1.8 dB i typ. @1575.42 ± 1.023 MHz 0.5 dB i typ@1176.45 ± 12 MHz	25 x 25 x 8 mm	Embedded	no cable	no cable	Pin connector	White	-40°C to 105°C	
	MIA-GPS-10	189-00010-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																						≤ 1.3	23 dB @ 2.5 V 26 dB @ 3.5 V	10 x 10 mm	Embedded	(custom)	Pigtail	U.FL (or other)	White	-40°C to 85°C	
	MIA-GPS-12	189-00011-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																						≤ 1.3	26 dB	12 x 12 mm	Embedded	RF 1.37	Pigtail	U.FL (or other)	White	-40°C to 85°C	
	MIA-GPS-12-HC	189-00039-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																						< 2	26 dB	12 x 12 mm	Embedded	RF 1.37	Pigtail	U.FL (or other)	White	-40°C to 85°C	

Image	Antenna Name	Part Number	Number of cables	Application	Frequency bands														ELECTRICAL SPECS				MECHANICAL SPECS													
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp						
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2.4 GHz ISM										5.0 GHz ISM					
	MIA-GPS-15-C	189-00070-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																							< 1.5	5dBic	15 x 6.5 mm	Embedded	RF 1·13	Pigtail	U.FL (or other)	White	-40°C to 85°C
	MIA-GPS-15-HC	189-00040-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																							< 2	26 dB	15 x 4 mm	Embedded	RF 1.37	Pigtail	U.FL (or other)	White	-40°C to 85°C
	MIA-GPS-18	189-00013-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																							≤ 1.3	24 dB @ 2.5 V 28 dB @ 3.5 V	18.4 x 15.9 mm	Embedded	Pigtail	Pigtail	Pigtail	White	-40°C to 85°C
	MIA-GPS-25	189-00014-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																							≤ 2	34 dB @ 2.5 V 34 dB @ 3.5 V	25 x 9 mm	Embedded	Pigtail	Pigtail	Pigtail	White	-40°C to 85°C
	M1559CWT	100-00118-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X																							≤ 2.3:1	28 dB ± 3 dB	75 x 70 x 23 mm	Magnet mount	RG174	5 m	SMA SMB MCX (or other)	Black	-40°C to 105°C


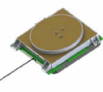

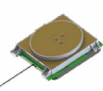












	Antenna Name	Part Number	Number of cables	Application	Frequency bands																ELECTRICAL SPECS		MECHANICAL SPECS							
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2.4 GHz ISM									
	M9706CWT	100-00090-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X	X		X	X	X	X		X									$\leq 2:1 @ 1197-1249$ MHz $\leq 2.3:1 @ 1559-1606$ MHz	28 dB ± 3 dB	75 x 70 x 23 mm	Magnet mount	RG174	5 m	SMA SMB MCX (or other)	Black	-40°C to 105°C
	M9706CWT-UFL	108-00060-02	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X	X		X	X	X	X		X									$\leq 2:1 @ 1197-1249$ MHz $\leq 2.3:1 @ 1559-1606$ MHz	28 dB ± 3 dB	64.6 x 64.8 x 17.1 mm	Embedded	Pigtail	150 mm	U.FL (or other)	Embedded	-40°C to 105°C
	M9806CWT	100-00138-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X	X	X	X	X	X	X		X									$\leq 2:1 @ 1197-1249$ MHz $\leq 2.3:1 @ 1559-1606$ MHz 3:1 @ 1164-1189 MHz	28 dB ± 3 dB	75 x 70 x 23 mm	Magnet mount	RG174	5 m	SMA SMB MCX (or other)	Black	-40°C to 105°C
	M9806CWT-UFL	108-00067-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X	X	X	X	X	X	X		X									$\leq 2:1 @ 1197-1249$ MHz $\leq 3:1 @ 1164-1189$ MHz $\leq 2.3:1 @ 1559-1606$ MHz	28 dB ± 3 dB	64.6 x 64.8 x 17.1 mm	Embedded	Pigtail	150 mm	U.FL (or other)	Embedded	-40°C to 105°C
	MEA-1400-MM	100-00186-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Navigation devices · Oil & gas industries · Mining equipment · LBS & M2M applications · Law enforcement	X		X	X		X	X		X									1.8:1 @1164-1189 MHz 1.6:1@ 1561-1606 MHz	5.1 dBi @1164-1189 MHz 5.2 dBi@ 1561-1606 MHz	Ø 54 x 21.5 mm	Magnet mount	" LL100 (or custom)"	3 m	SMA SMB MCX (or other)	black	-40°C to 85°C

Image	Antenna Name	Part Number	Number of cables	Application	Frequency bands														ELECTRICAL SPECS			MECHANICAL SPECS																							
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp															
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2.4 GHz ISM										5.0 GHz ISM														
	MEA-GPS-GG	189-00015-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Navigation devices · Oil & gas industries · Mining equipment · LBS & M2M applications · Law enforcement	X				X																										1.5:1	30 dB @ 2.5 V 32 dB @ 5 V	48x39x14mm	Magnet mount	RG174	3 m	SMA TNC (or other)	black	-40°C to 85°C		
	MEA-GPS-S	189-00016-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Navigation devices · Oil & gas industries · Mining equipment · LBS & M2M applications · Law enforcement																															≤ 2	28 dB @ 2.5 V 30 dB @ 5 V	48x39x14mm	Magnet mount	RG174	3 m	SMA TNC (or other)	black	-40°C to 85°C		
	MEA-GPS-SM	189-00017-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Navigation devices · Oil & gas industries · Mining equipment · LBS & M2M applications · Law enforcement	X																														≤ 3	26 dB @ 2.5 V 28 dB @ 5 V	15.59x45.50 mm	Magnet mount	RG174	3 m	SMA TNC (or other)	black	-40°C to 85°C		
	MEA-1600-SM	189-00059-01	2	Iridium SBD · Satellite IoT applications · Telematic · Navigation · Satellite Communications · Remote surveillance · Monitoring	X				X												X															≤ 1.4:1 dB @1575.42 MHz ≤ 1.4:1 dB @ 1598-1606 MHz 1.6:1 @1616 - 1627 MHz	28 dB @ 2.7 V@1575.42 MHz 28 dB @ 2.7 V @ 1598-1606 MHz 5.2 dBic@1616 - 1627 MHz	80 x 74 x 25.6 mm	Screw mount	"D100 D302"	3 m	SMA Male	black	-40°C to 85°C	
	MEA-1621	189-00024-01	1	Iridium SBD · Satellite IoT applications · Telematic · Navigation · Satellite Communications · Remote surveillance · Monitoring																		X															- 1.2:1	-4.5 dBic	80 x 76 x 13 mm	Magnet Mount	LMR100	1.5 m	SMA Male	black	-40°C to 85°C
	MEA-1621-AM	189-00067-01	1	Iridium SBD · Satellite IoT applications · Telematic · Navigation · Satellite Communications · Remote surveillance · Monitoring																		X															1.2:1	-4.5 dBic	80 x 76 x 16 mm	Adhesive mount	LMR100	1.5 m	SMA Male	black	-40°C to 85°C



	Antenna Name	Part Number	Number of cables	Application	Frequency bands														ELECTRICAL SPECS			MECHANICAL SPECS																
					GPS			Glonass		Galileo			Beidou	Cellular LTE	L-band	Iridium	Thuraya	5G	ISM/LoRa/ SigFox			VSWR	Peak Gain	Dimension	Mounting Method	Cable Type	Cable Length	Connector	Radome color	Operating Temp								
					L1	L2	L5	G1	G2	E1	E5A	E5B							E6	868/915 MHz	2.4 GHz ISM										5.0 GHz ISM							
	MEA-1621-GGG	100-00098-01	3	Vehicle and fleet tracking · Military & security · Asset tracking · Iridium (SBD) Short Burst Data · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement	X				X																					≤ 2.0 : 1@1575.42 ≤ 2.0 : 1 @ 1602 MHz < 6.0 @824-960 < 4.@1710-2170 MHz ≤ 2.0 : 1 @ 1621 MHz	3 dBi Typ. @ 1575 MHz 2.5 dBi Typ. @ 1602 MHz -0.56-2.69 dBi @ 824-960 MHz 1.69-5.2 dBi @1710-2170 MHz ≤ 3.5 dBic @ 1621 MHz	145 x (H) 32.8 mm	Screw mount	RG-174 CFD-200 CFD-200	1 m	SMA / FAKRA (or other)	black	-40°C to 85°C
	MEA-1621-SM	189-00060-01	1	Vehicle and fleet tracking · Military & security · Asset tracking · Iridium (SBD) Short Burst Data · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement																										1.6:1	4.5 dB	80 x 74 x 43 mm	Screw mount	LL195 (or custom)	2 m	SMA-Male (or other)	black	-40°C to 85°C
	MPA-406-1612	189-00050-01	0	IOT · Remote Monitoring · Telematics · Utilities · Transportation	X																									≤ 1.5	+2.0 dBi (typ.)	40 x 40 x 4.5mm	embedded	no cable	no cable	N/A	White	-40°C to 85°C
	MPA-D254-1621	100-00024-02	1	Vehicle and fleet tracking · Military & security · Asset tracking · Embedded applications · Oil & gas industries · Navigation devices · Mining equipment · LBS & M2M applications · Handheld devices · Law enforcement																										1.3:1	2.5 dBic	45x45mm	Embedded	RG174	100mm	U.FL	White	-40°C to 85°C
	MEA-LGG-AM	100-00163-01	2	Fleet management · Telematics · Monitoring · IOT · Asset tracking · Security and Surveillance · Vending Machines	X				X																					1.7:1 @ 698-960 MHz 1.4:1 @ 1710-2170 MHz 1.5:1 @ 2500-2700 MHz ≤ 1.4:1 @ 1575 MHz ≤ 1.4:1@ 1598-1606 MHz	3.4 dBi @ 698-960 MHz 3.5 dBi @ 1710-2170 MHz 3.9 dBi @ 2500-2700 MHz ≤ 28 dB @ 2.7 V @ 1575 MHz 28 dB @ 2.7 V@ 1598-1606 MHz	150.5 x 42 x 15.3 mm	Adhesive mount	LMR 195 LMR100	3 m	SMA Male	black	-40°C to 85°C