



MEA-5in1-SMA

5G NR MIMO, 2.4/5.0/6.0 GHz ISM AND GNSS

Part #: 100-00243-01

Description

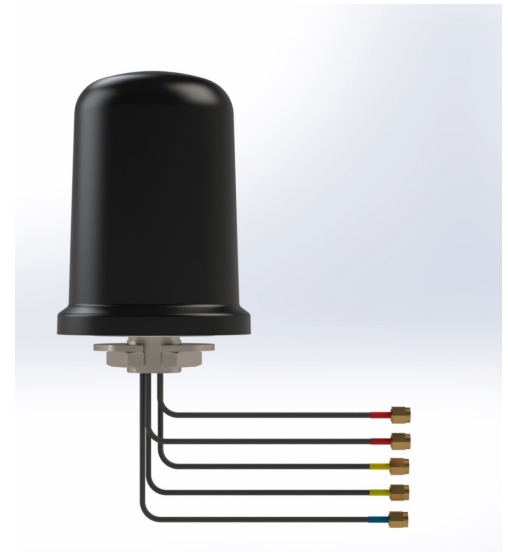
The MEA-5in1-SMA Screw Mount Antenna is a 5-in-1 low profile antenna solution, with a very high-performance ideal for maintaining constant network connectivity. The MEA-5in1-SMA covers all 5G NR, ISM, MIMO and GPS/GLONASS/QZSS/Galileo standard frequencies. This is an ideal antenna for telematics systems, remote surveillance, asset tracking and any IOT system applications. The high performance and low profile make this antenna ideal for the most challenging installations.

This screw mount antenna is easy to install with maximum durability offering IP67 rated housing and anti-rotation mounting. The MEA-5in1-SMA has five cables with a SMA-Male standard connectors, 2m standard cable length and is fully customizable by offering additional connector types, cable lengths and cable types.

Electrical Specifications

Cable 1 - 5G NR Antenna

Parameter	Specification			
Technologies	5G, 4G, 3G and 2G			
Standards	5G NR/4GLTE/FirstNet/CBRS/LPWA/CAT-X/CAT-Mx/CAT-NBx/NB-IoT/3G/2G			
Frequency (MHz)	617-960	1427-2690	3300-5000	5150-5925
Return Loss (dB)	~ -5.5	~ -12.2	~ -15.2	~ -14.2
VSWR	~ 3.7:1	~ 2.0:1	~ 1.5:1	~ 1.6:1
Efficiency (%)	~ 31.0	~ 41.6	~ 41.6	~ 36.6
Peak Gain (dB)	~ 1.3	~ 3.4	~ 4.7	~ 4.0
Average Gain (dB)	~ -5.1	~ -3.9	~ -3.8	~ -4.4
Impedance (Ω)	50			
Polarization	Linear			
Radiation Pattern	Omni-Directional			
Max Input Power (W)	35			
Connector Type	SMA-Male (other connectors available)			
Cable Length	200 cm (custom length available)			
Cable Type	LL195 (other cable type available)			



Features

- 5G NR, 2.4/5.0/6.0 GHz ISM, and GPS/GLONASS/QZSS/Galileo frequency coverage
- Easy mounting: screw mount
- Heavy duty antenna
- High performance
- Ground plane independent
- Anti-rotation mounting
- Customizable cable and connector
- IP67
- IP69
- IK09

Applications

- IoT applications
- Telematics
- Navigation
- Satellite communications
- LTE applications

Cable 2 - 5GNR Antenna

Parameter	Specification			
Technologies	5G, 4G, 3G and 2G			
Standards	5GNR/4GLTE/FirstNet/CBRS/LPWA/CAT-X/CAT-Mx/CAT-NBx/NB-IoT/3G/2G			
Frequency (MHz)	617-960	1427-2690	3300-5000	5150-5925
Return Loss (dB)	~ -5.6	~ -12.7	~ -15.3	~ -16
VSWR	~ 3.7:1	~ 1.9:1	~ 1.5:1	~ 1.5:1
Efficiency (%)	~ 31.2	~ 41.4	~ 42.4	~ 33.1
Peak Gain (dB)	~ 1.2	~ 3.6	~ 4.6	~ 3.2
Average Gain (dB)	~ -5.1	~ -3.9	~ -3.8	~ -4.8
Impedance (Ω)	50			
Polarization	Linear			
Radiation Pattern	Omni-Directional			
Max Input Power (W)	35			
Connector Type	SMA-Male (other connectors available)			
Cable Length	200 cm (custom length available)			
Cable Type	LL195 (other cable type available)			

Cable 3 - 2.4/5.0/6.0 GHz ISM Antenna

Parameter	Specification		
Standards	WiFi, BT, ZigBee, ISM		
Band	2.4 GHz	5.0 GHz	6.0 GHz
Frequency (MHz)	2410-2490	4920-5925	5925-7125
Return Loss (dB)	~ -10.4	~ -13.6	~ -11.6
VSWR	~ 1.9:1	~ 1.6:1	~ 1.9:1
Efficiency (%)	~ 58	~ 64	~ 65
Peak Gain (dB)	~ 5.6	~ 5.5	~ 3.8
Average Gain (dB)	~ -2.3	~ -1.9	~ 1.8
Impedance (Ω)	50		
Polarization	Linear		
Radiation Pattern	Omni-Directional		
Max Input Power (W)	25		
Connector Type	SMA-Male (other connectors available)		
Cable Length	200 cm (custom length available)		
Cable Type	LL195 (other cable type available)		

Cable 4 - 2.4/5.0/6.0 GHz ISM Antenna

Parameter	Specification		
Standards	WiFi, BT, ZigBee, ISM		
Band	2.4 GHz	5.0 GHz	6.0 GHz
Frequency (MHz)	2410-2490	4920-5925	5925-7125
Return Loss (dB)	~ -10.4	~ -13.6	~ -13.5
VSWR	~ 1.9:1	~ 1.6:1	~ 1.6:1
Efficiency (%)	~ 58	~ 64	~ 63.1
Peak Gain (dB)	~ 5.6	~ 5.5	~ 3.6
Average Gain (dB)	~ -2.3	~ -1.9	~ -2.0
Impedance (Ω)	50		
Polarization	Linear		
Radiation Pattern	Omni-Directional		
Max Input Power (W)	25		
Connector Type	SMA-Male (other connectors available)		
Cable Length	200 cm (custom length available)		
Cable Type	LL195 (other cable type available)		

Cable 5 - GPS/GLONASS Antenna

Parameter	Specification	
Standards	GPS/QZSS/Galileo	GLONASS
Band (MHz)	1575	1602
Frequency (MHz)	1575.42	1598-1610
Return Loss (dB)	<= -14	
VSWR	<= 1.5:1	
Impedance (Ω)	50	
Polarization	RHCP	
Radiation Pattern	Hemispherical	
Saw Filter	Post-Filter	
Active Gain (dB)	23 @ 3 V, 24 @ 5 V	
Noise Figure (dB)	1.2	
Voltage (V)	2.7 - 5.5	
Current Consumption (mA)	15 - 25	
Power Consumption (mW)	40.5 - 137.5	
Out of Band Rejection (dBc)	~ 32	
Connector Type	SMA-Male (other connectors available)	
Cable Length	200 cm (custom length available)	
Cable Type	LL100 (other cable type available)	

Antenna Measurement Conditions:

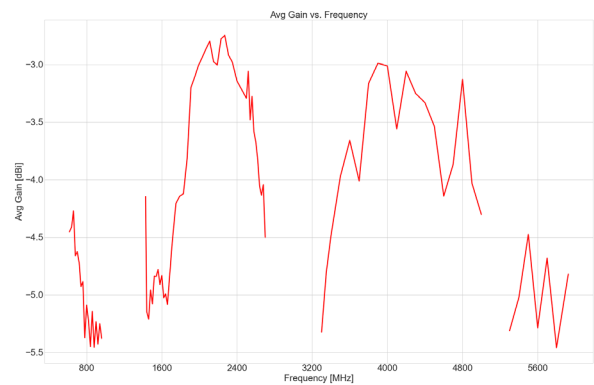
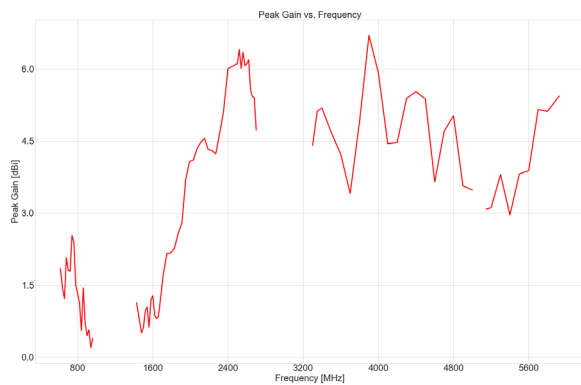
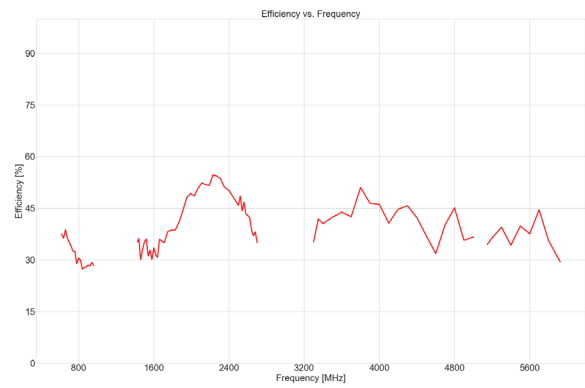
Mounted on metal plate of 30 x 30 cm
 100 cm of cable LL195
 Measured in certified CTIA 3D anechoic chamber

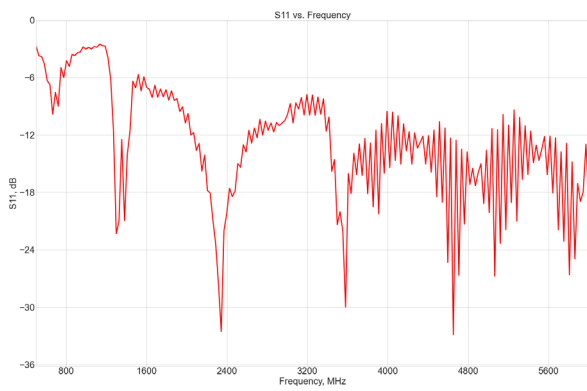
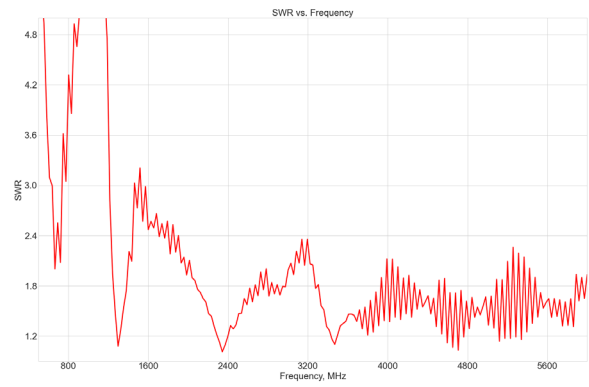
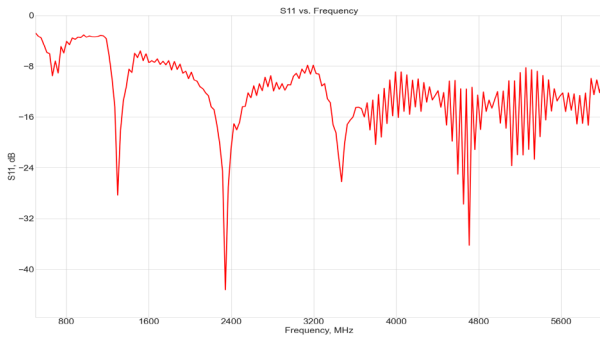
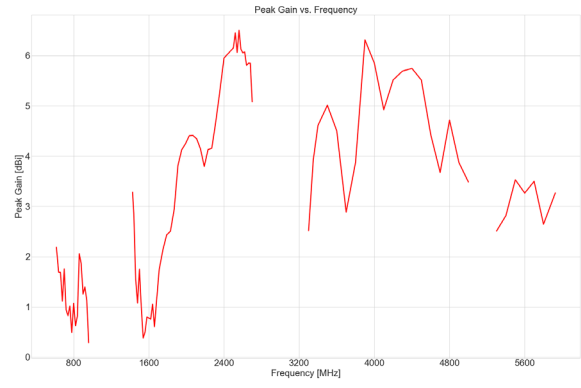
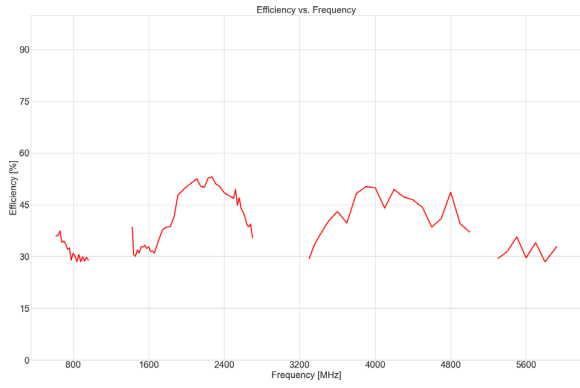
Mechanical and Environmental Specifications

Parameter	Specification
Mounting Type	Screw Mount
Dimensions (mm)	Ø 96 X H 130
Weight (g)	500
Max. Tighten Torque (Nm)	15 Nm
Radome	ASA
Radome Color	White, Black
Antenna Base	Alluminium alloy
Operating Temperature (C)	-40 to +85°
Storage Temperature (C)	-40 to +85°
Protection	IP67, IP69K, IK09
Substance Compliance	RoHS

Radiation Performance

MEA-5in1-SMA





DRAWING REVISION HISTORY

REV	DESCRIPTION	DATE	BY
A	INITIAL RELEASE	2022-01-28	JET

D

D

Ø96

C

C

130

B

B

19

HEX. 41
M27 X 1.5

MAX. TORQUE = 15 Nm

- CABLE 1: 5GNR
- CABLE 2: 5GNR
- CABLE 3: 2.4/5.0/6.0 GHz ISM
- CABLE 4: 2.4/5.0/6.0 GHz ISM
- CABLE 5: GPS/GLONASS

NOTES:

1. FREQUENCY:

- CABLE 1: 617-960 MHz, 1427-2690 MHz, 3300-5000 MHz, 5150-5925 MHz
- CABLE 2: 617-960 MHz, 1427-2690 MHz, 3300-5000 MHz, 5150-5925 MHz
- CABLE 3: 2410-2490 MHz, 4920-5925 MHz, 5925-7125 MHz
- CABLE 4: 2410-2490 MHz, 4920-5925 MHz, 5925-7125 MHz
- CABLE 5: 1575.42 MHz, 1598-1610 MHz

2. DIMENSIONS ARE AFTER MOUNTING

3. CUSTOMIZABLE CABLE AND CONNECTOR TYPE

4. MOUNTING TYPE: SCREW MOUNT

5. MAX. MOUNTING THICKNESS: 8mm

6. MATERIALS:

- RADOME: ASA
- RADOME COLOR: BLACK or WHITE
- ANTENNA BASE: ALUMINIUM ALLOY

7. OPERATING TEMPERATURE: -40° C ~ +85° C

8. STORAGE TEMPERATURE: -40° C ~ +85° C

9. CERTIFICATION: IP67, IP69, IK09

Ø28

MOUNTING HOLE

25

100-00243 CONFIGURATION TABLE

DASH NO	CABLE TYPE	CABLE LENGTH	CONNECTOR TYPE	RADOME COLOR
-01	CABLE 1: LL195	200 CM	SMA-MALE	BLACK
	CABLE 2: LL195	200 CM	SMA-MALE	
	CABLE 3: LL195	200 CM	SMA-MALE-RP	
	CABLE 4: LL195	200 CM	SMA-MALE-RP	
	CABLE 5: LL100	200 CM	SMA-MALE	

DIMENSIONS ARE IN MM
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± .5° BEND ±
ONE PLACE DECIMAL ± 1.0
TWO PLACE DECIMAL ± .50

INTERPRET GEOMETRIC TOLERANCING PER:

DRAWN
CHECKED
ENG APPR.
MFG APPR.
Q.A.

TITLE:

SIZE DWG. NO.

B

ITEM 100-00243 REVISION HISTORY

REV	DESCRIPTION	DATE	BY
A	INITIAL RELEASE	2022-01-28	JET

PROPRIETARY AND CONFIDENTIAL

A

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