

# ME A-3-GLW

## GNSS/LTE/WIFI ANTENNA

Part #: 100-00110-01



### Description

The MEA-3-GLW is a conformal technology solution by Maxtena that combines one LTE antenna, one Wi-Fi antenna and one GNSS antenna. This antenna is ideal for telematics transportation and remote monitoring IOT applications.

It offers a low-profile design with easy mounting and integrated connector of choice. The antenna is designed with rugged IPX7 white plastic housing and is ideal for the most demanding environmental challenges.

### Features

- Low profile
- Excellent noise figure
- Low power consumption
- Easy mounting
- Custom cable length and connector
- IPX7 rating

### Applications

- Tracking
- Transportation
- IOT
- Telematics
- Fleet Management
- Remote Monitoring

#### GNSS Antenna Electrical Specifications

Frequency Range	1575.42 MHz
VSWR	2.0 : 1 Max
Impedance	50 $\Omega$
Polarization	RHCP
Gain @ Zenith	3 dBic @ 1575.42 MHz

#### GNSS LNA Electrical Specifications

Frequency Range (MHz)	1575.42 MHz
VSWR	2.0 : 1 Max
Impedance	50 $\Omega$
Antenna Gain (@ 3.3V)	28 dB / 25 dB Min
DC Power Input	3~5 V
Noise Figure	1.5 dB
Power Consumption (@ 3.3V)	8 mA

### LTE Antenna Electrical Specifications

Frequency Range	698~960 / 1710~2170 / 2300~2690 MHz
VSWR	698~960 MHz ≤ 3.5 1710~2170 MHz ≤ 3.0 2300~2690 MHz ≤ 3.0
Impedance	50 Ω
Peak Gain	2.6 dBi Typ. @698~960 MHz 4.3 dBi Typ. @1710~2170 MHz 3.1 dBi Typ. @2300~2690 MHz
Average Efficiency	698~824 MHz ≥ 25% 824~960 MHz ≥ 15% 1710~2170 MHz ≥ 30% 2300~2690 MHz ≥ 30%

### WiFi Antenna Electrical Specifications

Frequency Range	2400~2500 / 5150~5850 MHz
VSWR	2.0 : 1 Max
Impedance	50 Ω
Peak Gain	0 dBi Typ. @2400~2500 MHz 0.2 dBi Typ. @5150~5850 MHz
Average Efficiency	2400~2500 MHz ≥ 25% 5150~5850 MHz ≥ 15%

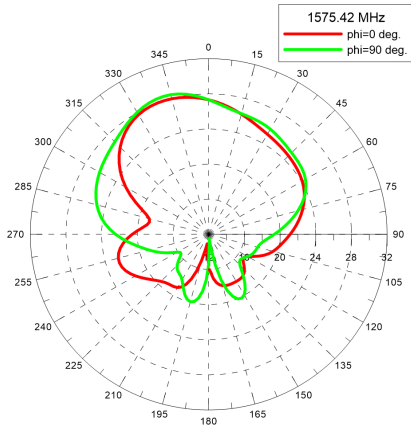
### Mechanical Specifications

Antenna Dimensions	162.81 x 70.71 x 21.7 mm
Mounting Mechanism	Screw Mount
Operating Temperature	-40 °C to +85 °C
Housing Material & Color	PA6+GF & White
Cable	RG-174 (GPS/WIFI) / CFD-200 (LTE)
Cable Length	2 Meters or customer specification
Connector	SMA / FAKRA or customer specification
Environmental	IPX7

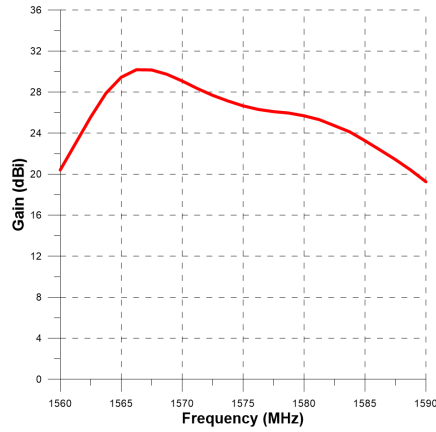
### Radiation Performance

1575.42 MHz

Ettotal vs. Theta



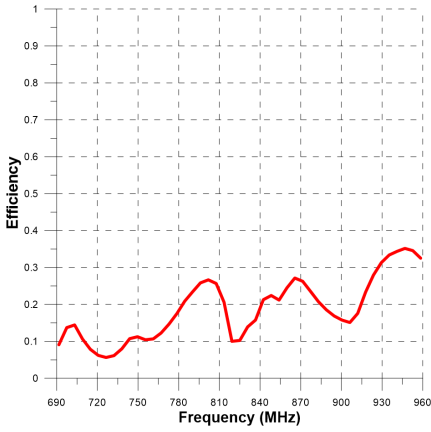
Gain vs. Frequency



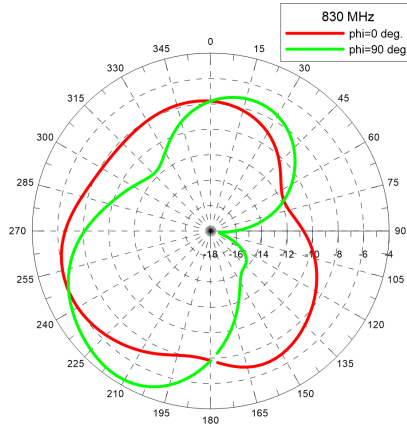
### Radiation Performance

698~960 MHz

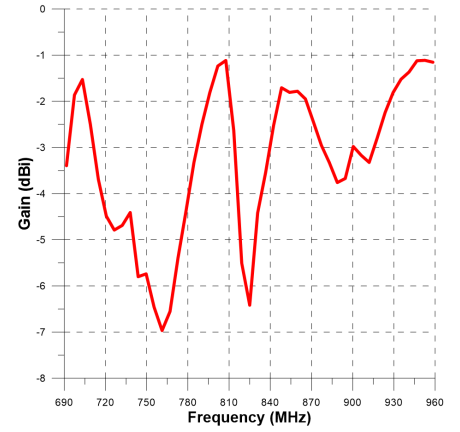
Efficiency vs. Frequency



Ettotal vs. Theta



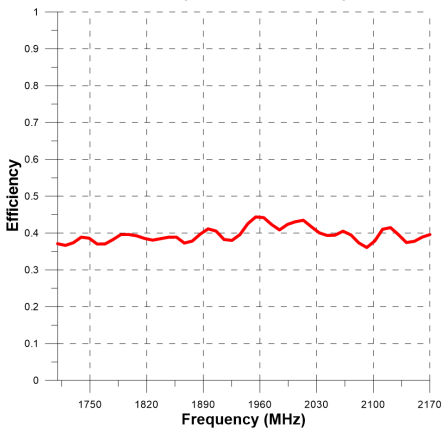
Gain vs. Frequency



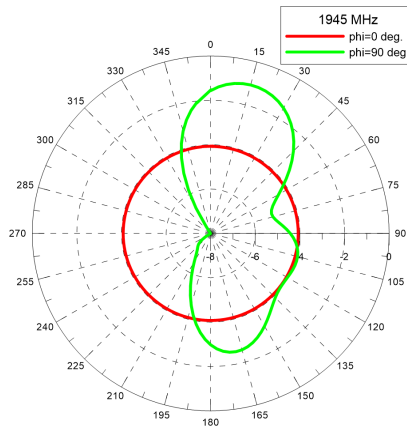
### Radiation Performance

1710~2170 MHz

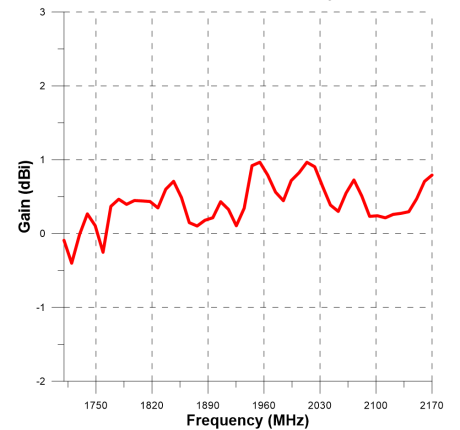
Efficiency vs. Frequency



Ettotal vs. Theta

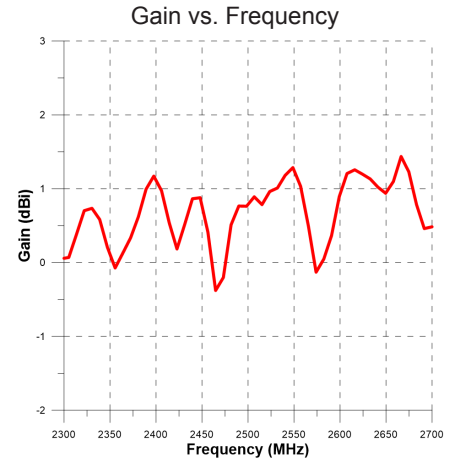
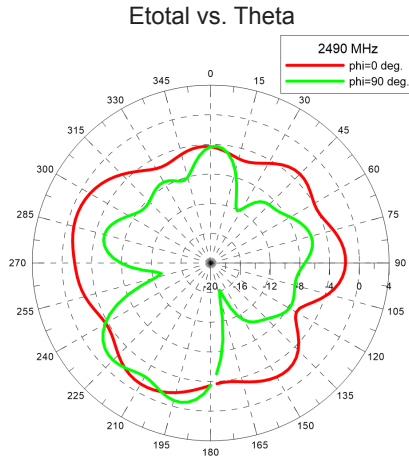
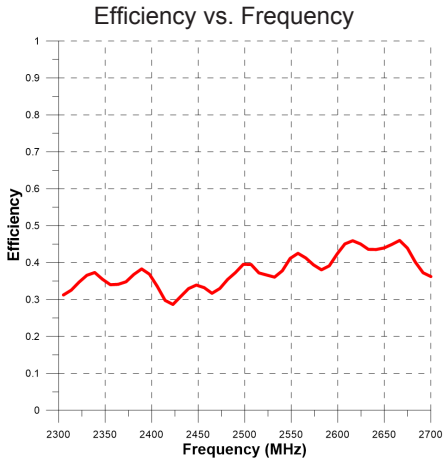


Gain vs. Frequency



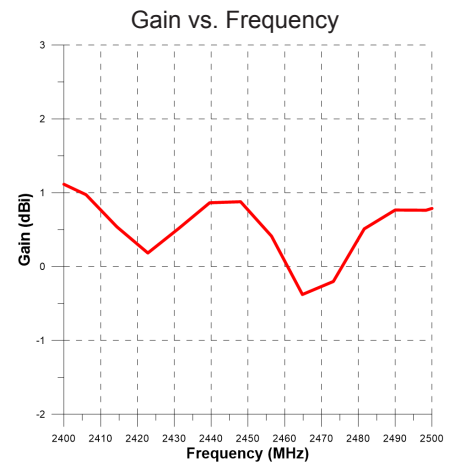
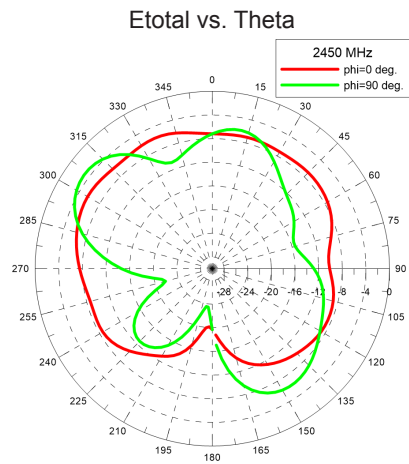
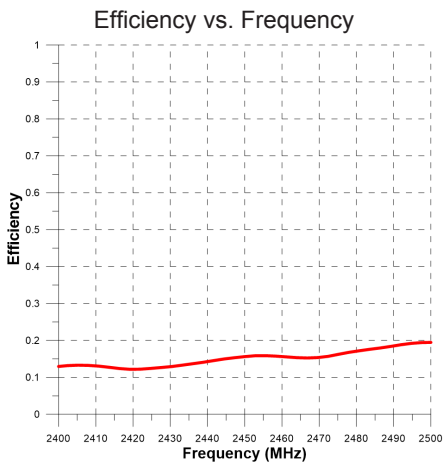
### Radiation Performance

2300~2690 MHz



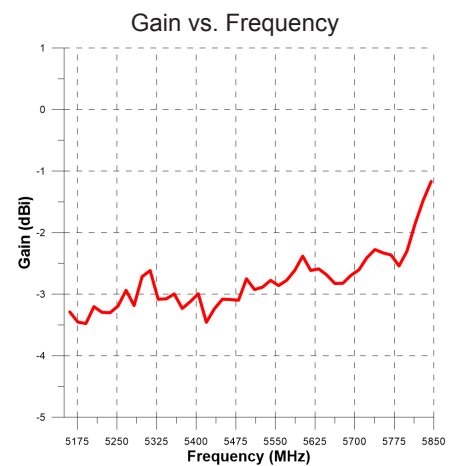
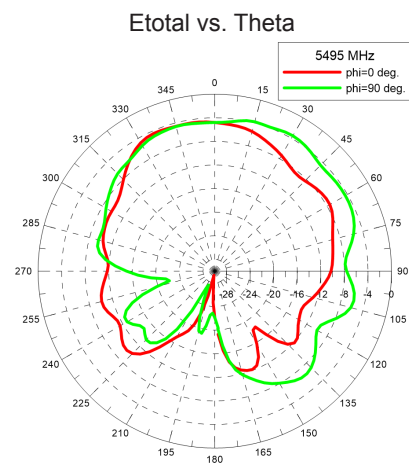
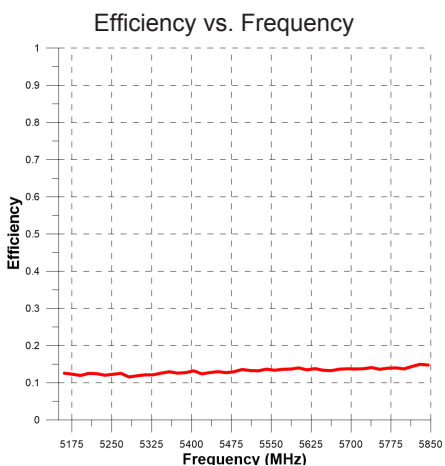
### Radiation Performance

2400-2500 MHz

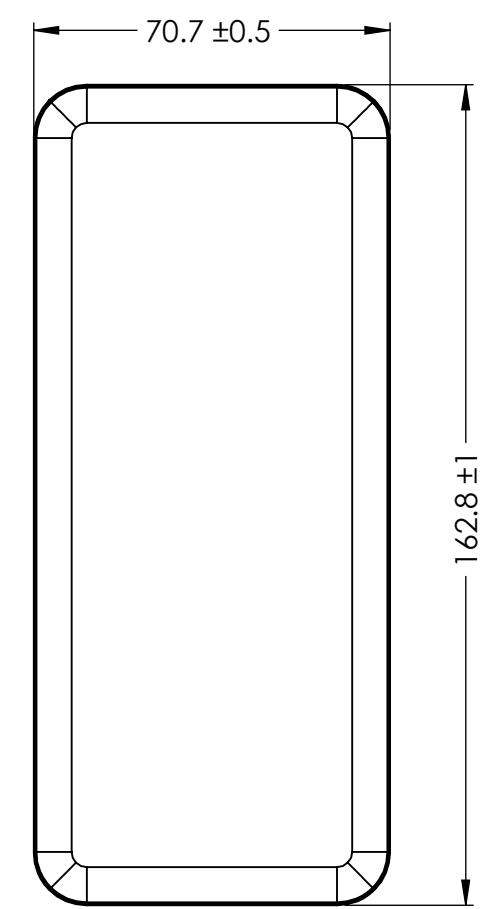
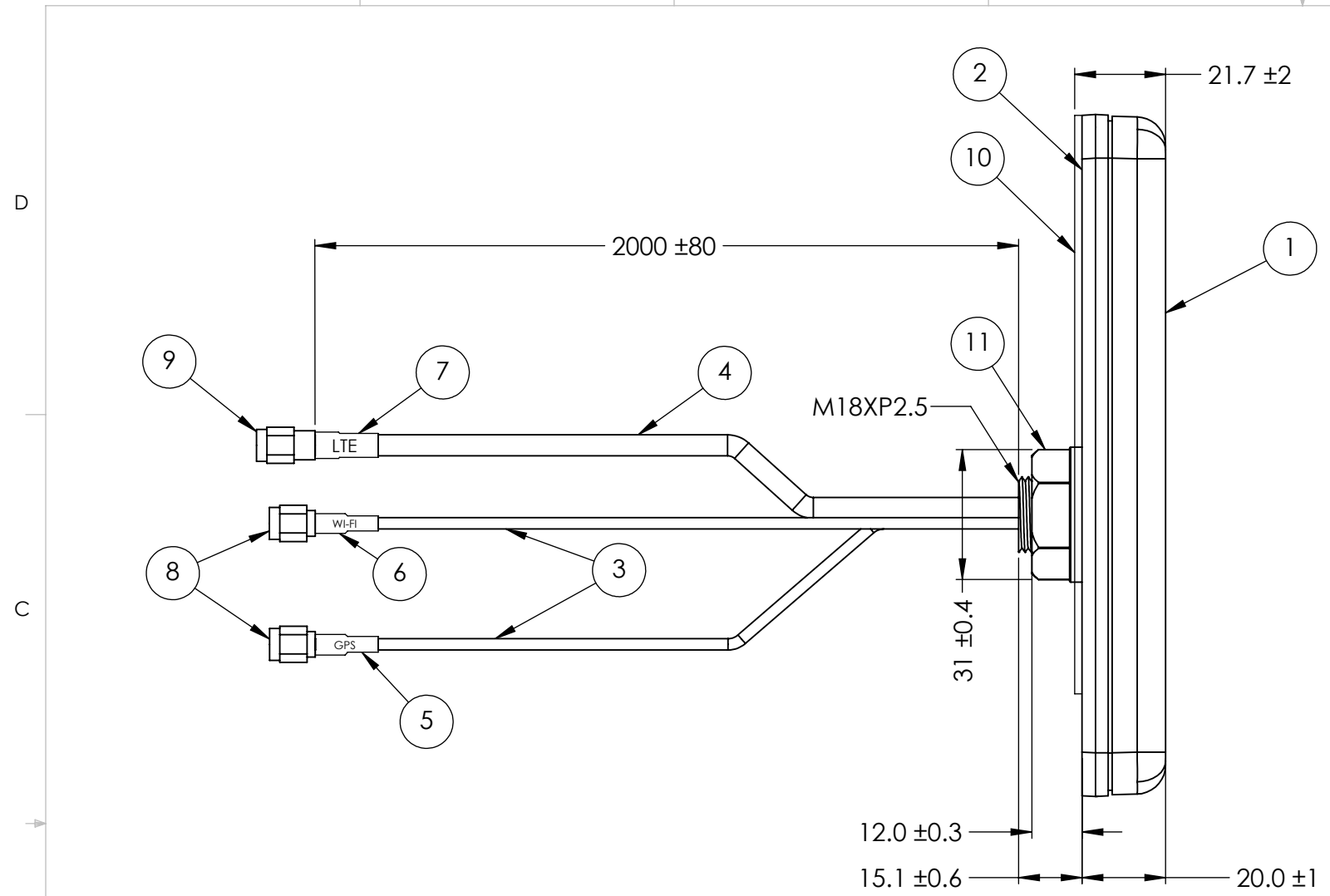


### Radiation Performance

5150~5850 MHz



DRAWING REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	INITIAL RELEASE	2019-07-23	ZX



GPS ACTIVE ANTENNA:  
 FREQUENCY: 1575.42 MHz.  
 LTE ANTENNA:  
 FREQUENCY: 698~960/1710~2170/2300~2690 MHz.  
 WI-FI ANTENNA:  
 FREQUENCY: 2400~2500/5150~5850 MHz.  
 WATERPROOF: IPX7

NOTES: CRITICAL TO FUNCTION DIMENSION ARE MARK WITH (DIM)

ITEM 100-00110-01 BOM			
ITEM NO	QTY REQD	NOMENCLATURE OR DESCRIPTION	REMARK
1	1	ANTENNA TOP, NYLON + GF	WHITE
2	1	ANTENNA BOTTOM, NYLON + GF	WHITE
3	2	CABLE, RG-174	BLACK
4	1	CABLE, CFD-200	BLACK
5	1	H.S TUBE (RG-174), GPS	BLUE TUBE/WHITE TEXT
6	1	H.S TUBE (RG-174), WIFI	YELLOW TUBE/BLACK TEXT
7	1	H.S TUBE (CFD-200), LTE	RED TUBE/WHITE TEXT
8	2	CONNECTOR, SMA (M) ST	GOLD PLATED
9	1	CONNECTOR, SMA (M) ST	GOLD PLATED
10	1	SEAL FOAM, PORON 2T+3M 9448HK	BLACK
11	1	M18 NUT, NYLON + GF	WHITE

ITEM 100-00110-01 REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	INITIAL RELEASE	2019-07-23	ZX

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UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN MM  
 TOLERANCES:  
 FRACTIONAL ±  
 ANGULAR: MACH ± .1° BEND ±  
 ONE PLACE DECIMAL ± 1.0  
 TWO PLACE DECIMAL ± .50

INTERPRET GEOMETRIC TOLERANCING PER:

THIRD ANGLE PROJECTION  
 DO NOT SCALE DRAWING

CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY.

NAME	DATE
DRAWN ZX	2019-07-23
CHECKED	
ENG APPR. NPC	2019-07-23
MFG APPR.	
Q.A.	

MAXTENA, INC

TITLE: 100-00110-01  
 MEA-3-GLW

SIZE	DWG. NO.	REV
B	117-00293-01	A

CAGE CODE: 5KQH7      SCALE: NONE      SHEET 1 OF 1