

RPHxx-G4-xx-xx Hockey Puck Style Antenna

The RFMAX RHPM is a “hockey puck” style, 2-in-1 antenna that incorporates one GPS element and one 3G/4G/LTE/3G element. The unit is just 1.68” high and 3.97” in diameter. It comes in Direct and Mag mount.

- 4G Antenna
 - 698-960/1710-2700MHz
- Active GNSS antenna:
 - Beidou, GPS, Galileo, Glonass
 - LNA Gain 30dB
 - Pre and post LNA filtering
- RoHS Compliant
- Diameter 100mm
- Magnetic mount onto metal surfaces
- IP67

Applications:

LTE Cat M1 and Cat 1 Devices, FirstNet Band 14 Compliant, Utility Boxes, Smart Metering, Navigation/ Fleet.

Example of Part Numbers:

RHPDM-G4-10-ST

Part Numbers Configurator:

RHP	D	G	4	10	S/T
Model	Direct Mount	GPS	4G/LTE	Coax Length (feet)	Connectors

Part Number Guide:

4 = 1 x 4G/LTE	G = 1 x GPS	S = SMA Male
		T = TNC Male
		R = RP-SMA Male



LTE



GPS / GNSS

ELECTRICAL SPECS

Frequency (GNSS)	1561.098±2.046 MHz
	1575.42±1.023 / 602.5625±4 MHz
Frequency (4G)	698-960 MHz
	1710-2170 / 2300-2700 MHz
Nominal Impedance	50 Ω
VSWR	2:1(4G), 2:1(GNSS)
RHCP Gain at zenith (Radiating element)	-1 dBic ±1 dB
Gain (GNSS LNA gain)	30 dB ±1 dB
Average Gain (698-960/1710-2700)	2.7 / 4.8 dBi
Average Efficiency (4G)	67 / 46.4 / 48 %
Polarization (GNSS)	RHCP
Polarization (4G)	Linear Vertical
Power Rating (4G)	20 W
Out of Band Rejection	
698 MHz >90dB	960 MHz >80dB
1710MHz >70dB	2170MHz >65dB
2400MHz >65dB	2700MHz >75dB
Noise Figure	2.5-5 V DC
Input voltage (GNSS)	IP67
Current Draw (GNSS)	<10 mA

MECHANICAL SPECS

Overall Height	38mm (1.5")
Weight	130g
Antenna Color/Material	Black / PC/ABS, UV protected
Connector type	Customizable
Cable type / Length	Customizable
Fixing system	Magnetic or Direct Mount
Fixing system Magnetic mount Pull Force (in Z direction)	min. 90N (20 lbf)
Side Push Forth (in X/Y direction)	min. 120N (27 lbf)
Connector retention	30 N (6.7 lbf) min.
Strain relief	30 N (6.7 lbf), applied to cable along axis and perpendicular to cable entry

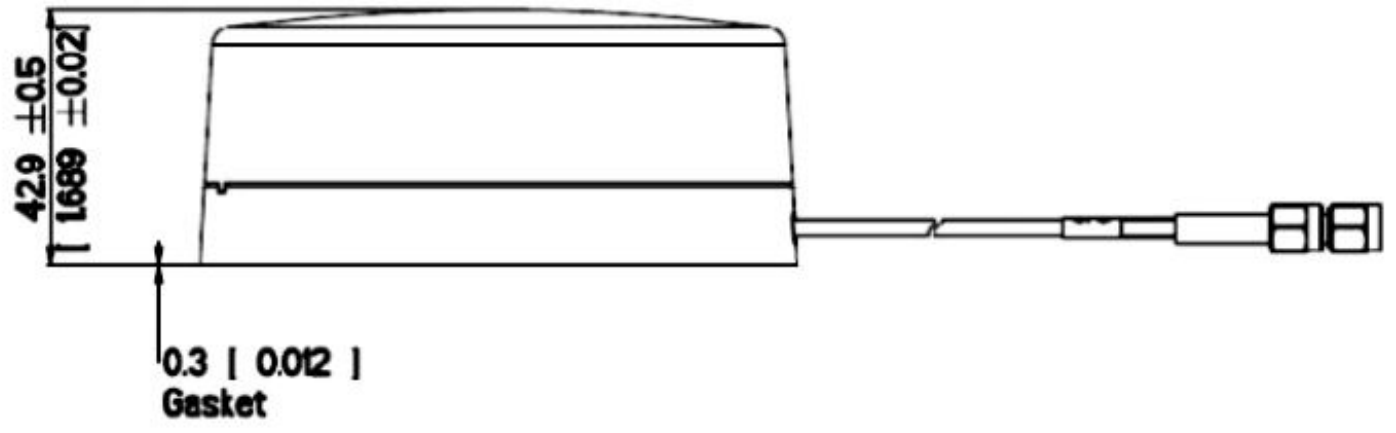
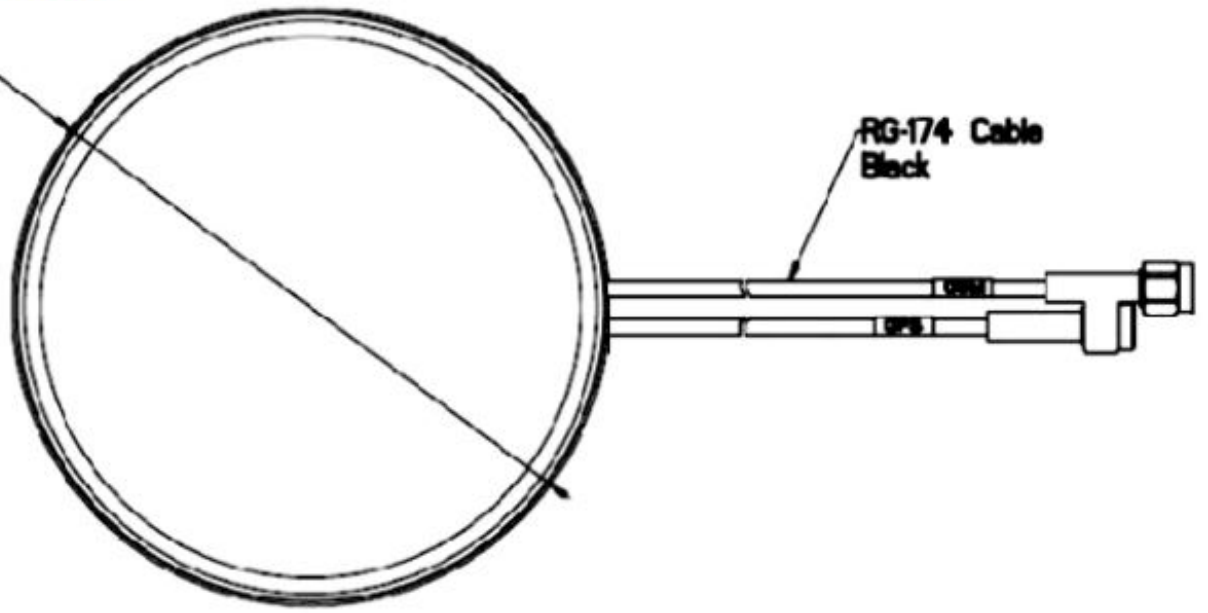
ENVIRONMENTAL SPECS

Operating Temperature	-40 ~ 85° C
Ingress Protection	IP67
RoHS Compliant	Yes

MECHANICAL DRAWING

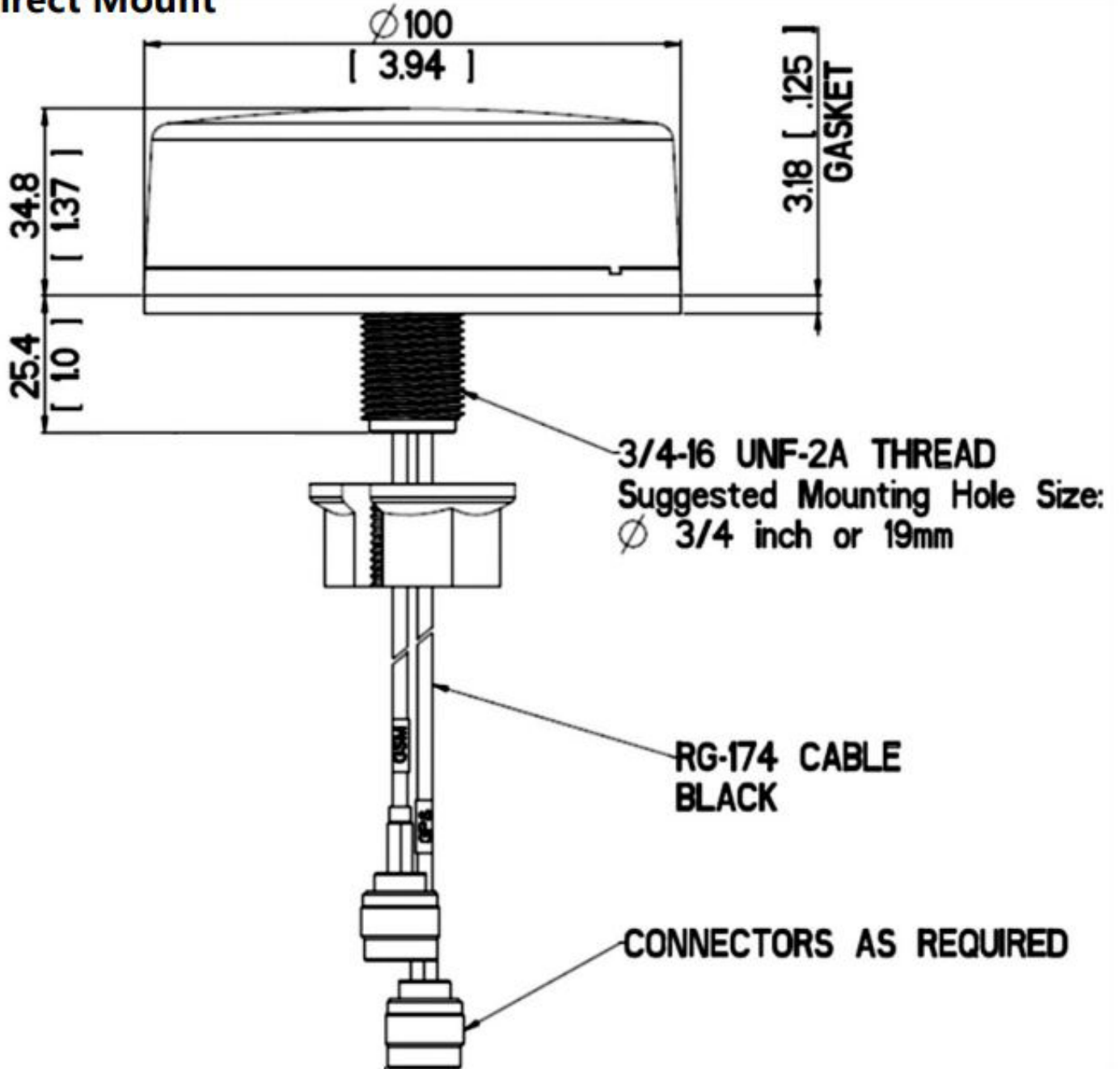
Magnetic Mount

$\varnothing 100.8 \pm 0.5$
| 3.97 ± 0.02 |



MECHANICAL DRAWING

Direct Mount

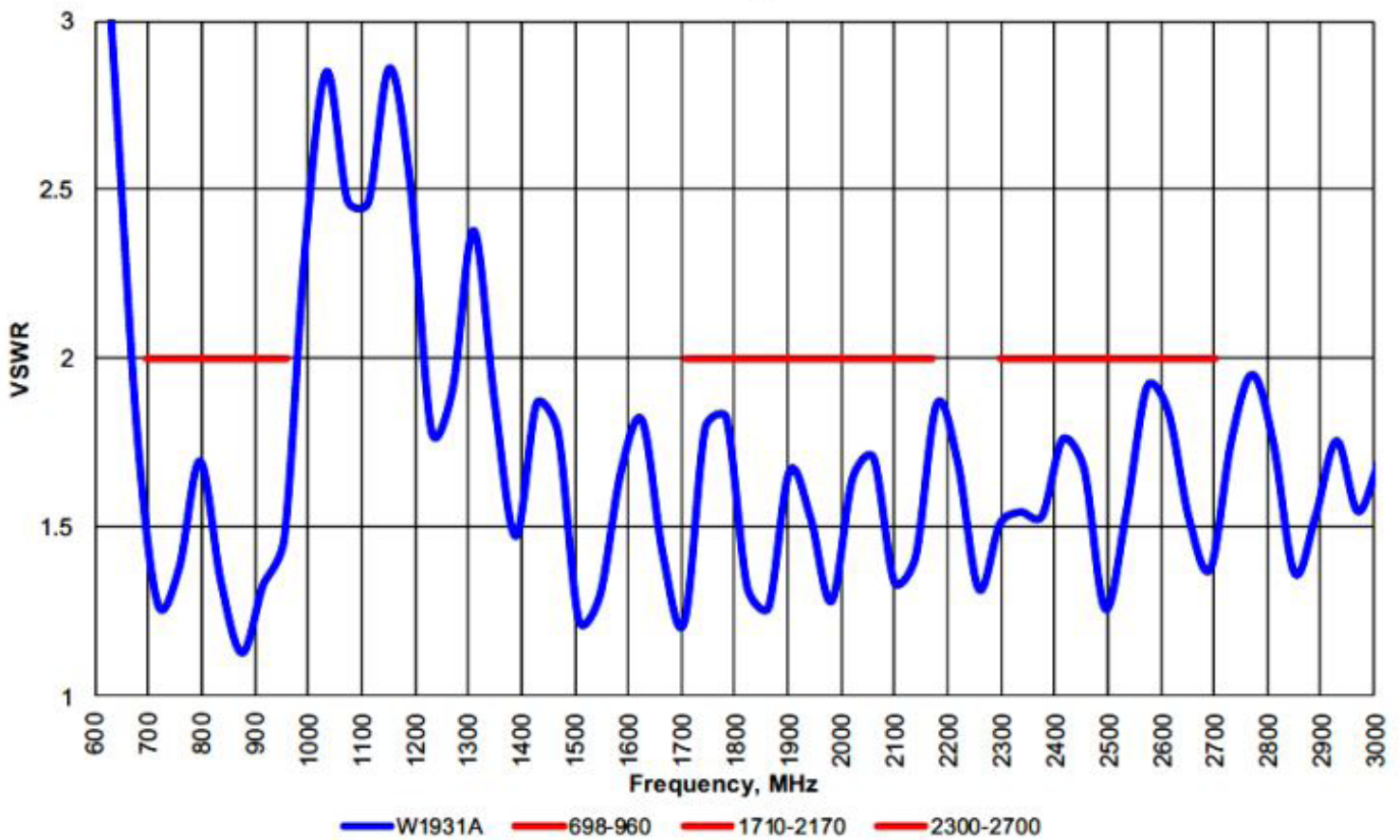


All dimensions are in mm / inches

CHARTS

VSWR vs Frequency

RHPMM-G4-10-ST Measured with 10' RG-174 cable on 12" SQ GP

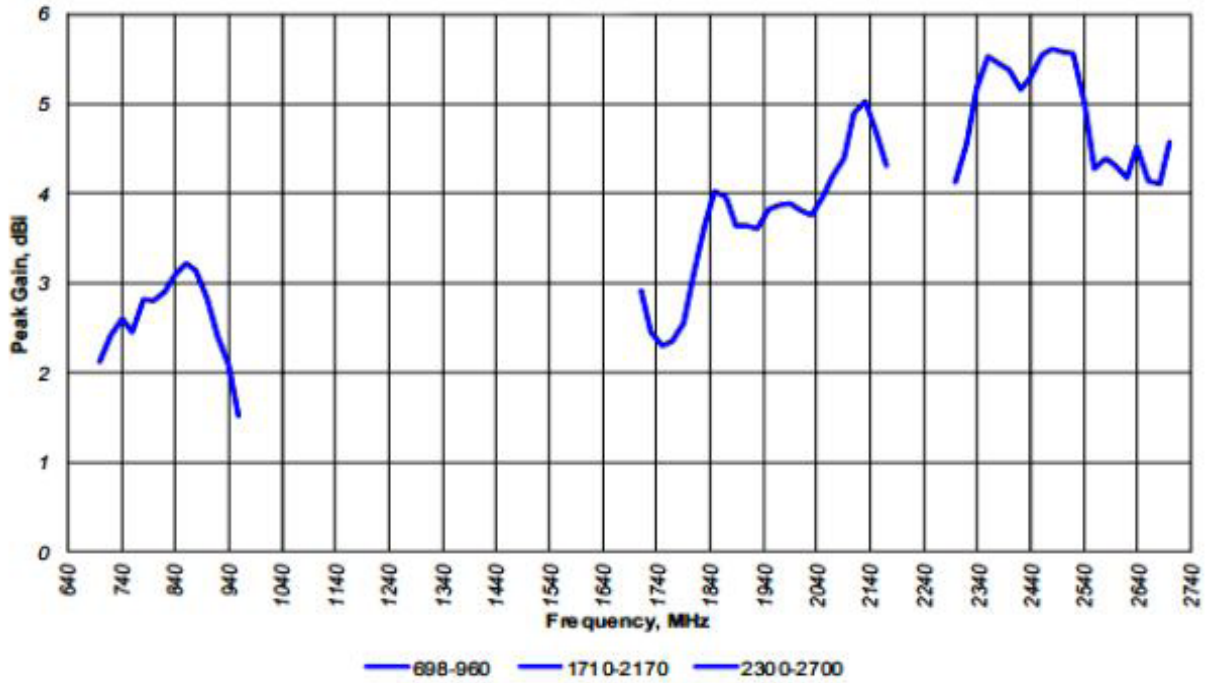


LTE

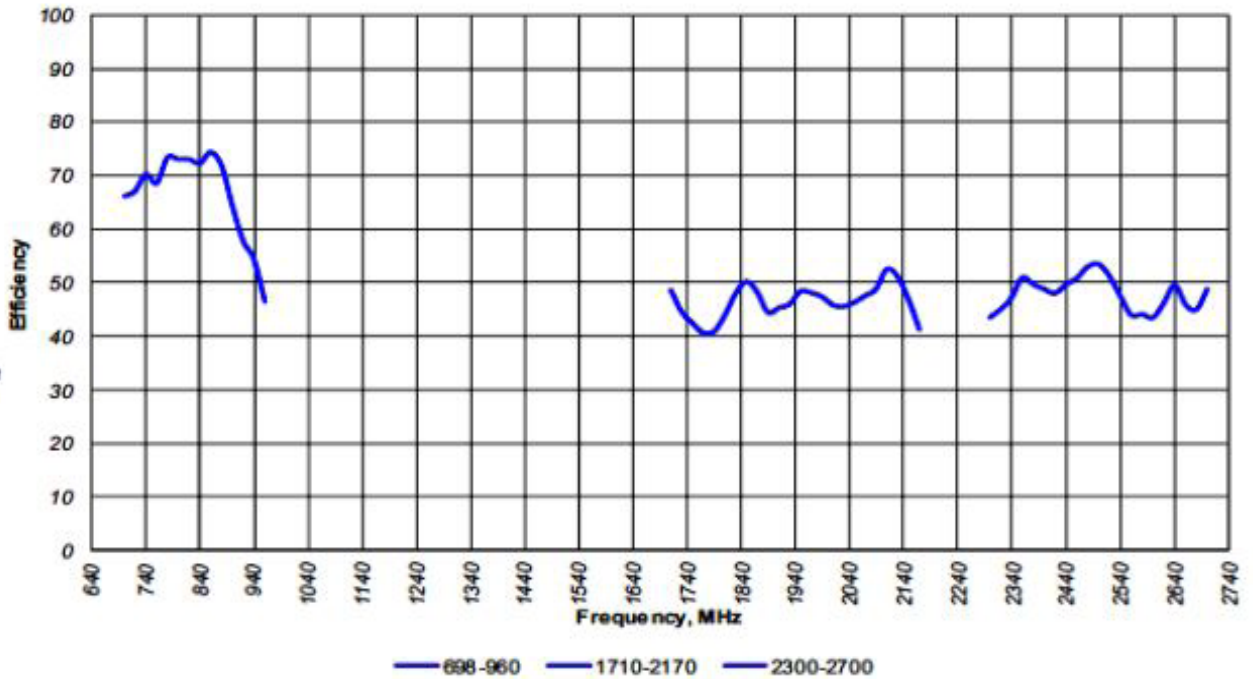
Measured with 3048mm (10') cable

CHARTS

Peak Gain vs Frequency
Measured with 21" RG-174 cable on 12" SQ GP



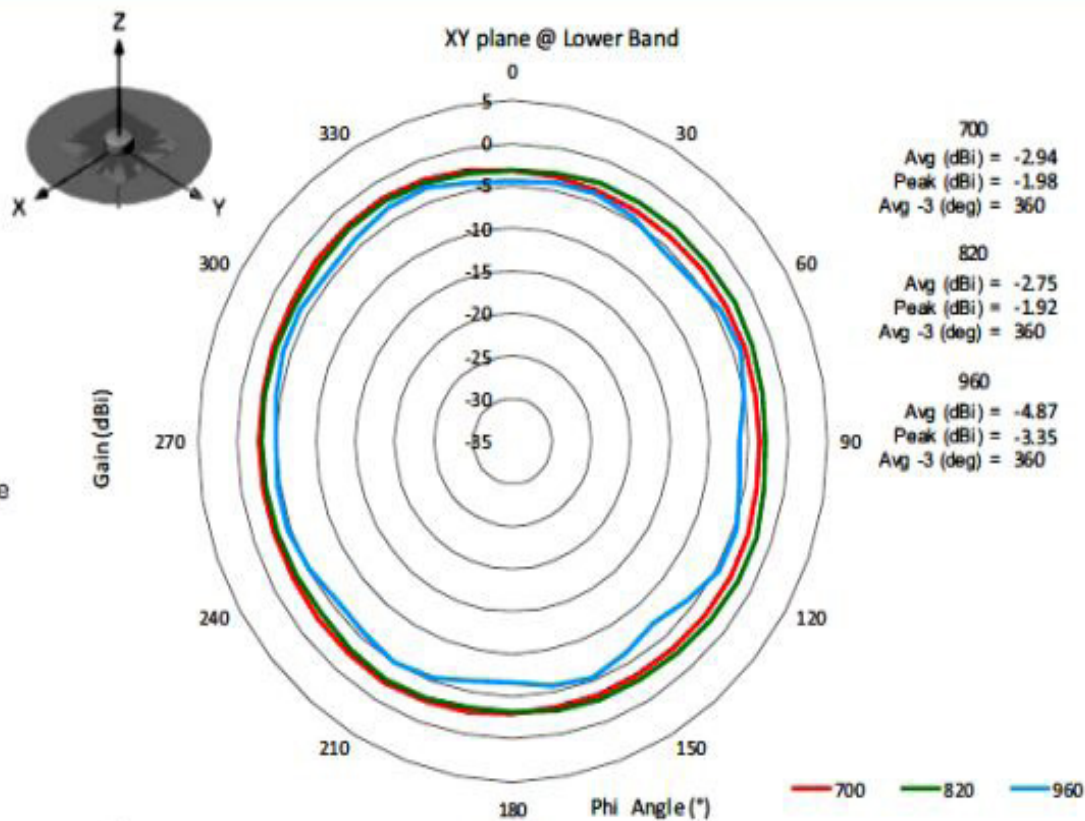
Efficiency vs Frequency
Measured with 21" RG-174 cable on 12" SQ GP



CHARTS

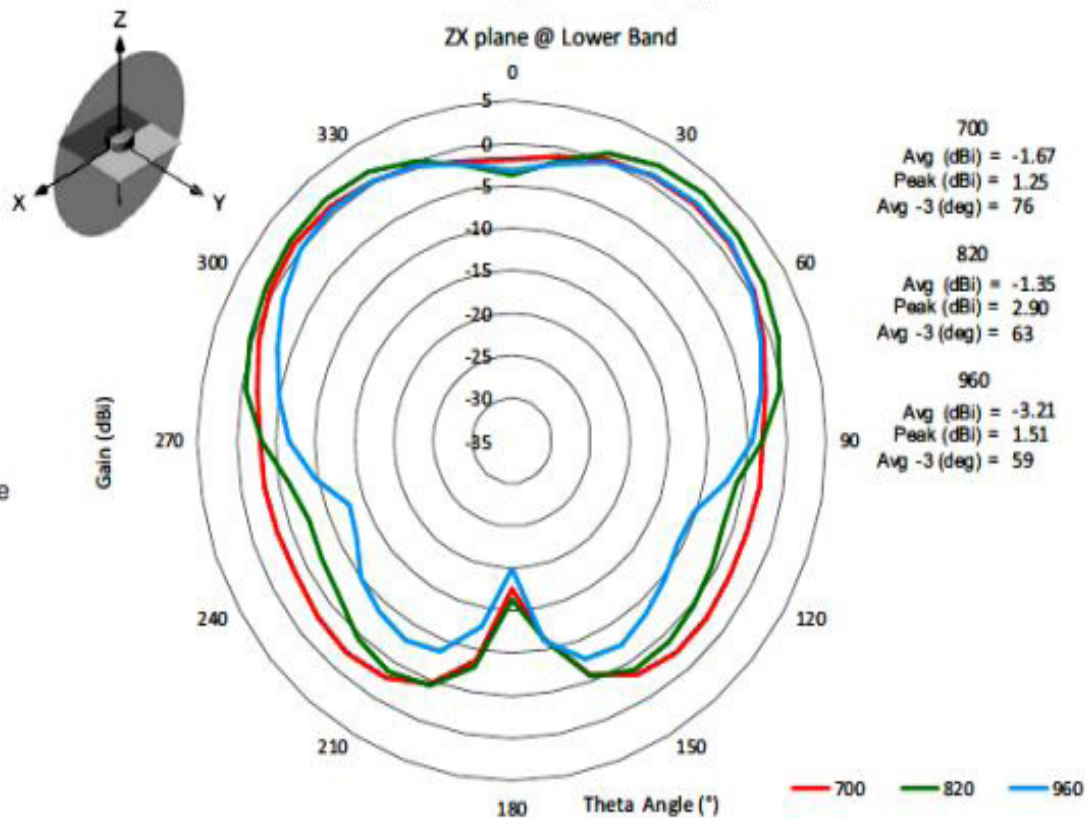
LTE

Measured with
533.4mm (21") cable



LTE

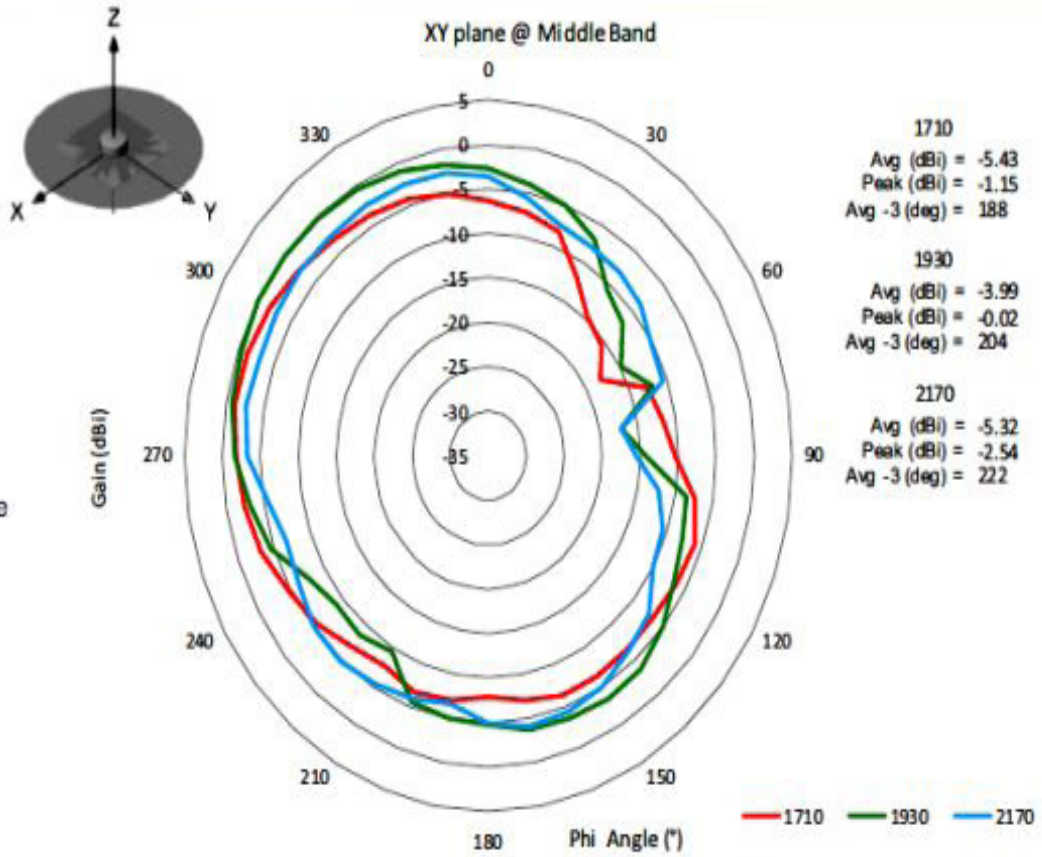
Measured with
533.4mm (21") cable



CHARTS

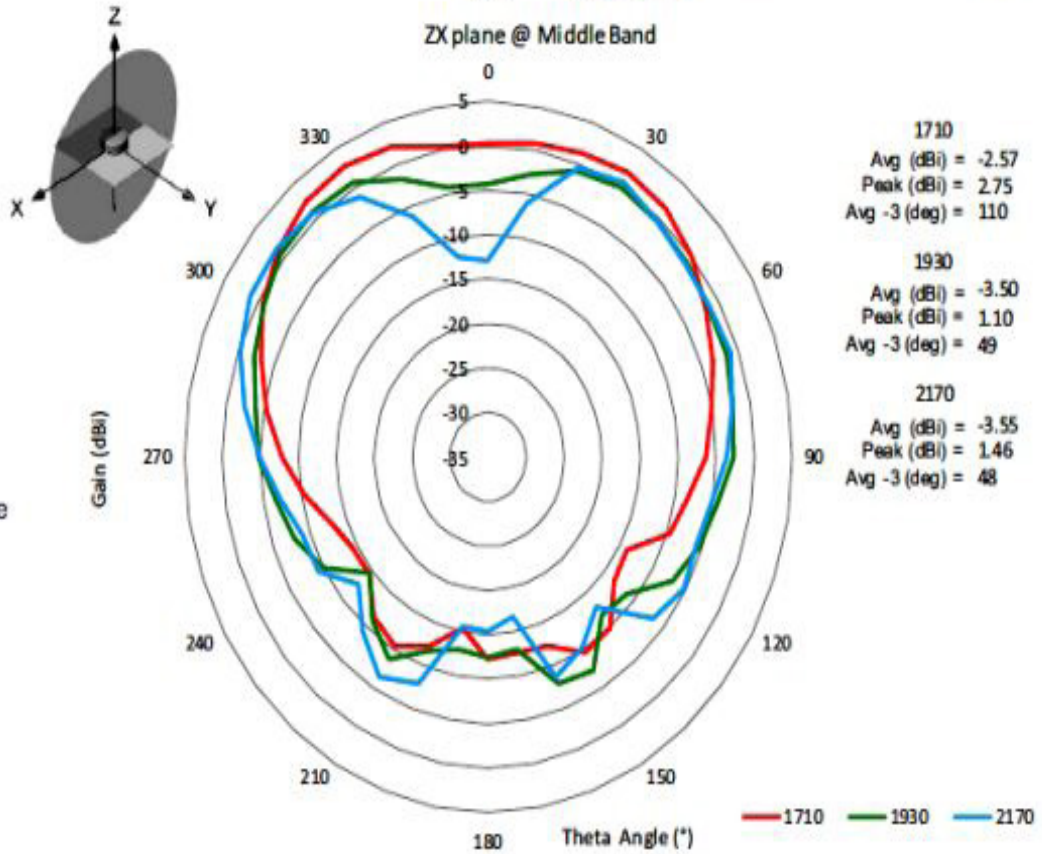
LTE

Measured with
533.4mm (21") cable



LTE

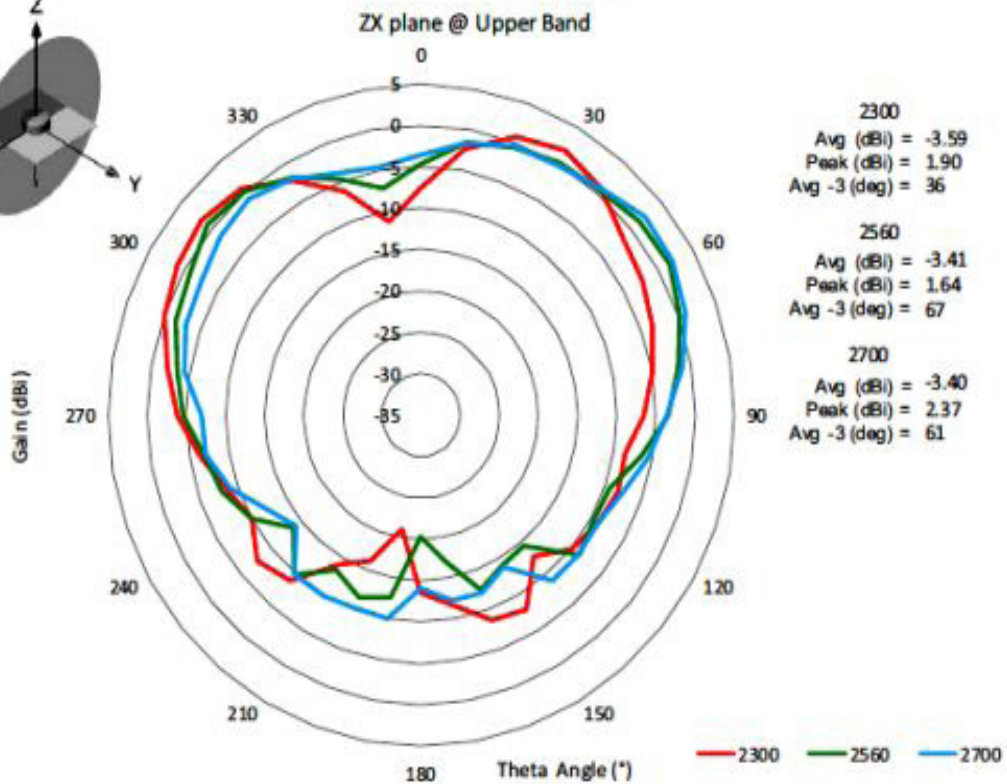
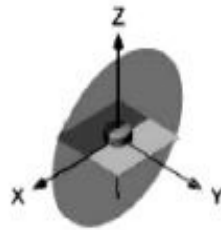
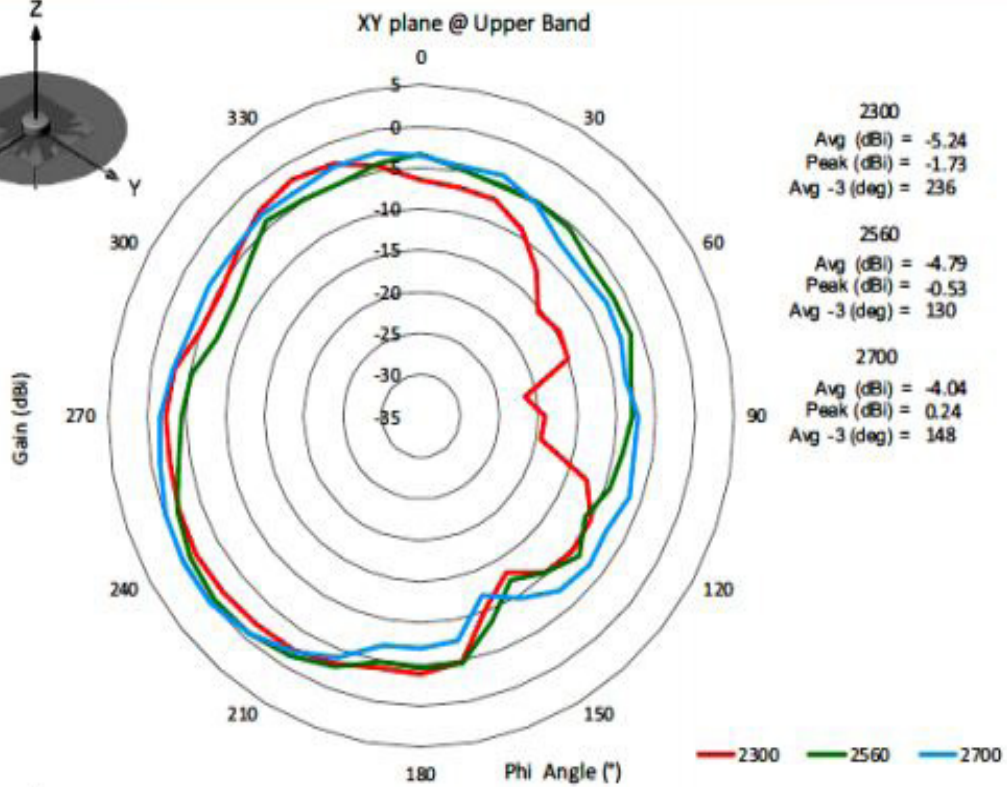
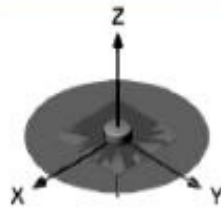
Measured with
533.4mm (21") cable



CHARTS

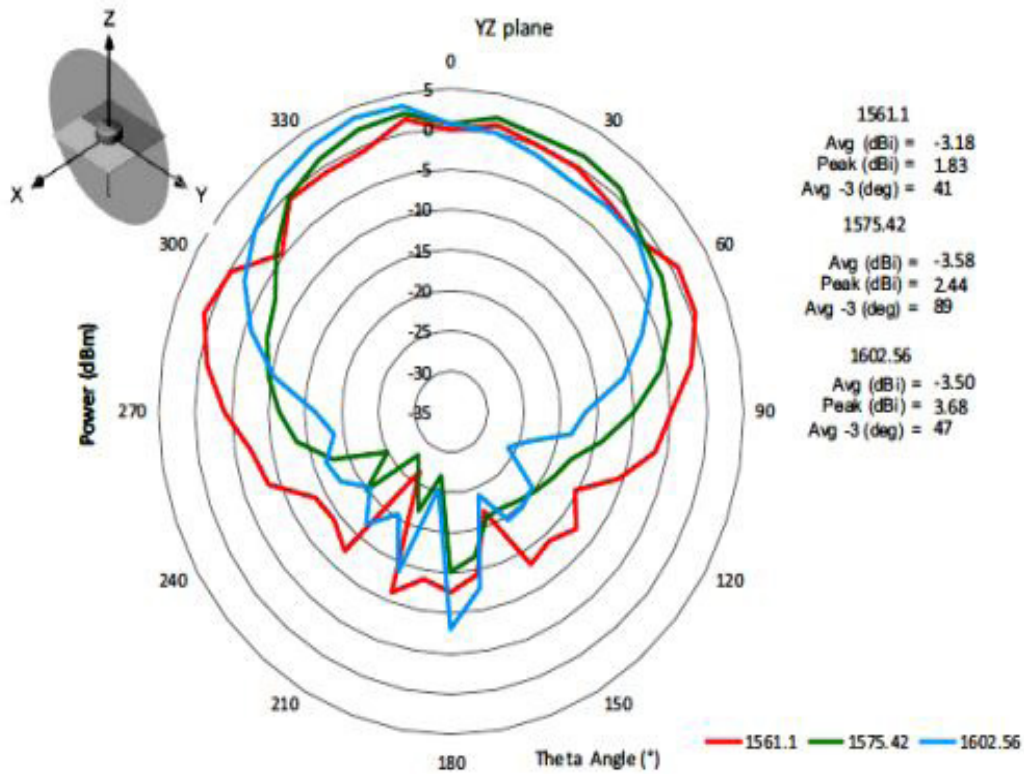
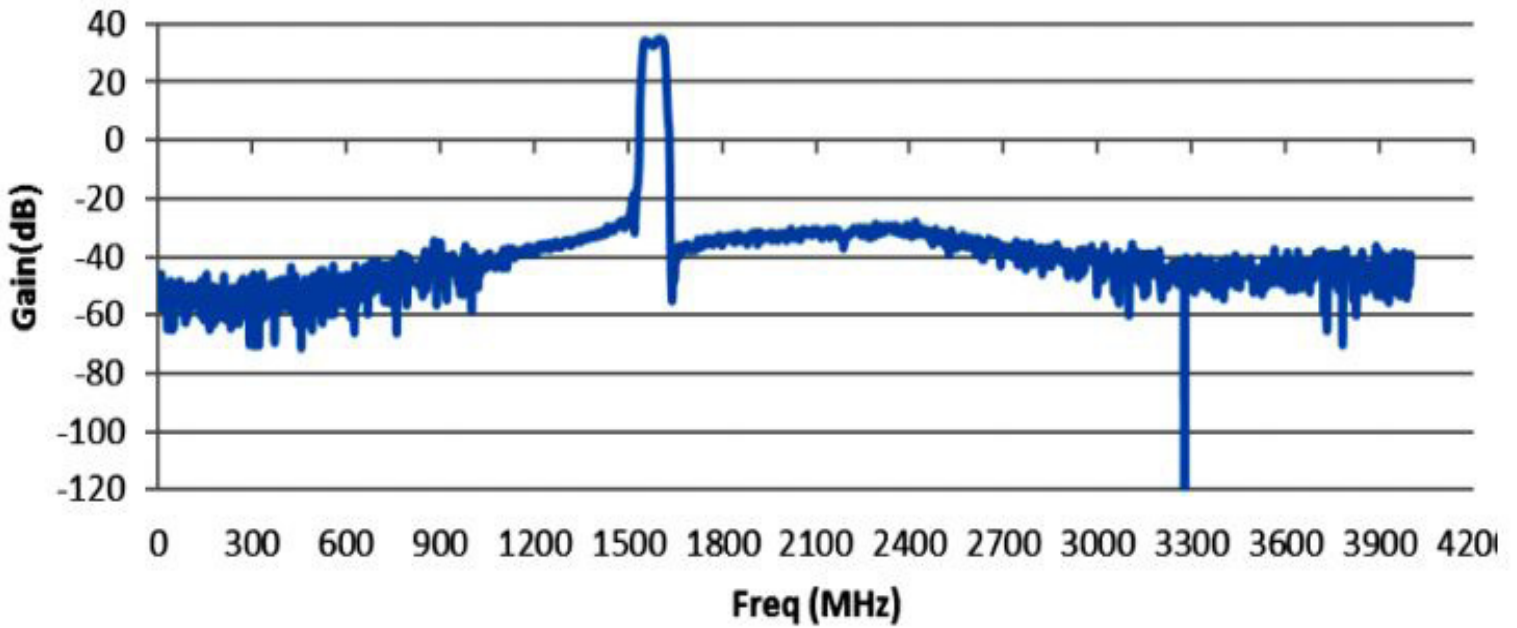
LTE

Measured with
533.4mm (21") cable



CHARTS

GNSS LNA Gain and out-of-band rejection



GNSS
Passive
Measurement
Measured with
152mm (6") cable