PulseLARSEN Antennas

TECHNICAL DATA SHEET

Description: GNSS / 2x LTE / 0, 1x, 2x or 3x WiFi Magnetic Mount

Series: RAZORBACK

PART NUMBER: RAZ32011MM, RAZ32012MM, RAZ42111MM, RAZ42112MM, RAZ52211MM, RAZ52212MM, RAZ62311MM, RAZ62312MM

RAZ62311MM (Black)

RAZ62312MM (White)

Features:

- 2x LTE 644-2700MHz (MiMo)
- 0, 1x, 2x or 3x WiFi 2.4/5GHz
- DSRC
- GNSS Active:
  - Beidou, GPS, Glonass
  - RHCP polarization
  - Amplifier Gain 30dBi
- Size: 89.2 x 195.1 x 94.7mm
  3.51 x 7.68 x 3.73 in
- Power withstanding 45W
- Available Models
  RAZ32011MM = 3 Cable, Black
  RAZ32012MM = 3 Cable, White
  RAZ42111MM = 4 Cable, Black
  RAZ42112MM = 4 Cable, White
  RAZ52211MM = 5 Cable, Black
  RAZ52212MM = 5 Cable, White
  RAZ62311MM = 6 Cable, Black
  RAZ62312MM = 6 Cable, White

Applications:

- Vehicular use Telematics
- Fleet management
- Trucking
- Navigation, GIS and survey
- Public safety
- Search and Rescue
- Metering, Utility boxes

Issue: 1742

RoHS COMPLIANT

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ELECTRICAL SPECIFICATIONS

Antenna Type	Monopole, measured on Ø1.02m (40“) ground plane
Frequency (2x LTE)	644-960/1710-2700 MHz
Frequency (1x, 2x or 3x WiFi)	2400-2500/4900-5925 MHz
Nominal Impedance	50 Ω
VSWR	2:1
Radiation Pattern	Omni
HPBW / Vertical Plane (LTE, 644-960)	42°
HPBW / Vertical Plane (LTE, 1710-2700)	31°
HPBW / Vertical Plane (WIFI, 2400-2500)	25°
HPBW / Vertical Plane (WIFI, 4900-5925)	20°
Polarization	Vertical
Average Peak Gain (LTE, 644-960) (LTE, 1710-2700)	4.6/4.9 dBi
Average Peak Gain (WIFI, 2400-2500) (WIFI, 4900-5925)	6/6.6 dBi
Isolation (LTE1 to LTE2)	<-13
Isolation (WiFi1/2, WiF2/3 & WiFi1/3)	<-13
Average Efficiency (LTE)	67 %
Average Efficiency (WiFi)	57 %
Power Withstanding	45 W

GNSS Beidou-GPS-Glonass	
Frequency	1561.098±2.046,1575.42±1.023,1602.5625±4 MHz
VSWR	2:1
Nominal Impedance	50 Ω
Gain (Radiating element)	1 dBic +/- 1dB
Gain (LNA gain)	30 dB +/- 2 dB
Polarization	RHCP

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ELECTRICAL SPECIFICATIONS

Out of Band Rejection	960MHz >65 dB, 1710MHz >60 dB, 2170MHz >65 dB, 2400MHz >65 dB
Noise Figure	< 2.4dB
Operating Voltage	3.3 - 5 Vdc ± 0.5 V
Current Consumption	< 11 mA

MECHANICAL SPECIFICATIONS

Length/Height/Width	195.1mm (7.68")/94.7 (3.73")/89.2mm (3.51")
Weight	856 g (1.9 lbs)
Antenna Color / Material	Black or White / PC/ABS, UV protected
Cable / Connector	2x LTE, 5.2m (17') LMR-195/SMA-Male 1x, 2x or 3x WiFi, 5.2m (17') LMR-195/RP-SMA-Male GNSS, 5.2m (17') RG-174/SMA-Male
Mounting Configuration	Magnetic Mount

ENVIRONMENTAL SPECIFICATIONS

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

OTHER SPECIFICATIONS

Total cable assembly loss for 5.2m (17') LMR-195 @ 850MHz	2.1 dB
Total cable assembly loss for 5.2m (17') RG-174 @ 1575MHz	6.0 dB
Total cable assembly loss for 5.2m (17') LMR-195 @ 1930MHz	3.2 dB
Total cable assembly loss for 5.2m (17') LMR-195 @ 2500MHz	3.7 dB
Total cable assembly loss for 5.2m (17') LMR-195 @ 2450MHz	3.6 dB
Total cable assembly loss for 5.2m (17') LMR-195 @ 5350MHz	5.5 dB

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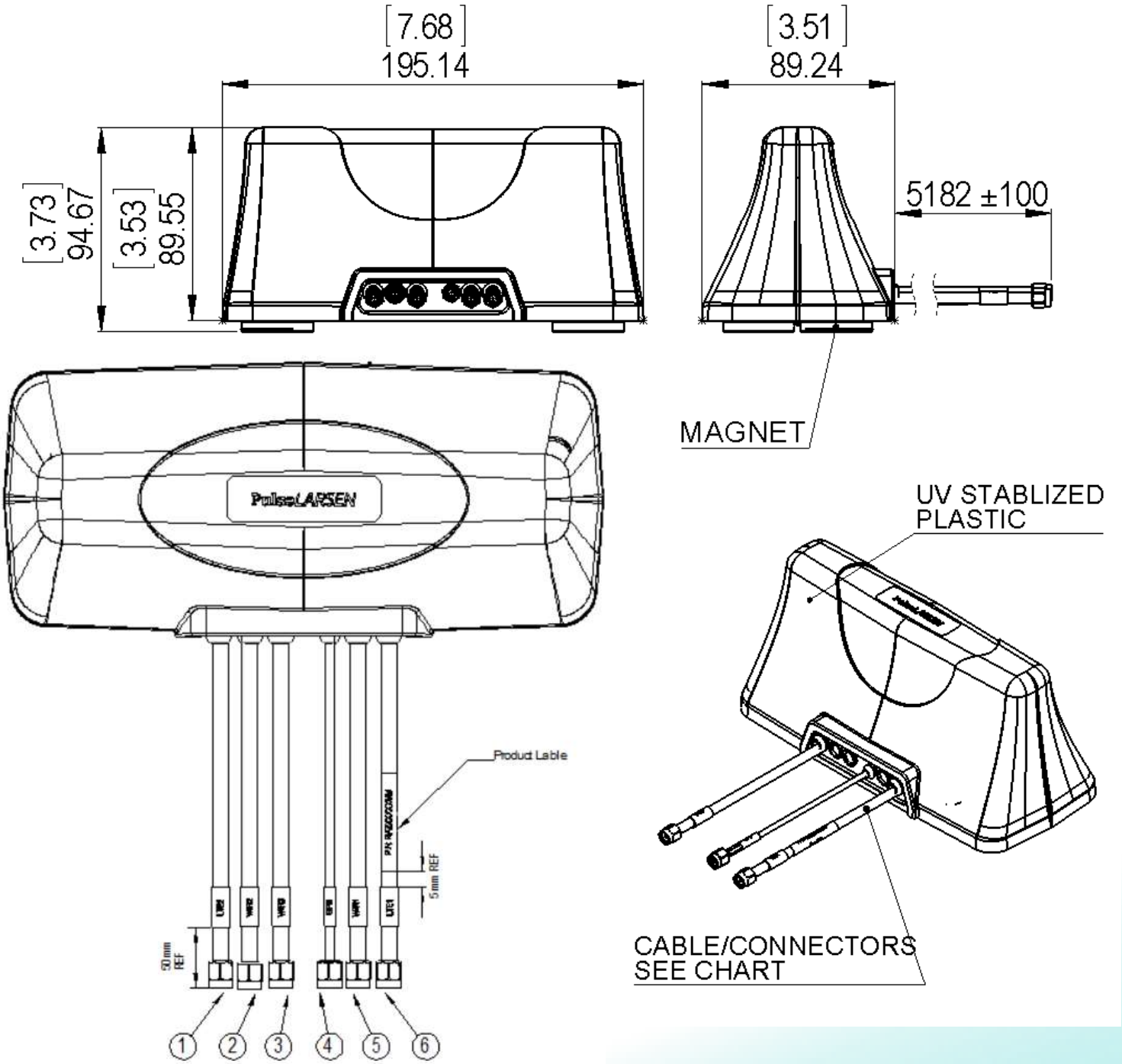
MECHANICAL DRAWING



All dimensions are in mm / inches

Issue: 1742

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MECHANICAL DRAWING

Vehicular Multiband Antenna with Magnet Mount

(Part Number)

RAZ	X	X	X	X	X	MM
1	2	3	4	5	6	7

1	Product ID: RAZORBACK
2	Total Number of Cable leads
3	Total Number of LTE Cable Leads
4	Total Number of WiFi Cable Leads
5	Total Number of GPS Cable Leads
6	The Color of the Plastic Housing 1=Black; 2=White
7	Mounting:Magnet Mount

RAZXXXXXMM		CABLE	CABLE LENGTH	CONNECTOR
1	LTE-2 Cable Assy	LMR195	5181 mm / 204" / 17 FT	SMA Male
2	WiFi-2 Cable Assy			RP-SMA Male
3	WiFi-3 Cable Assy			
4	GPS Cable Assy	RG-174		SMA Male
5	WiFi-1Cable Assy	LMR195		RP-SMA Male
6	LTE1 Cable Assy			SMA Male

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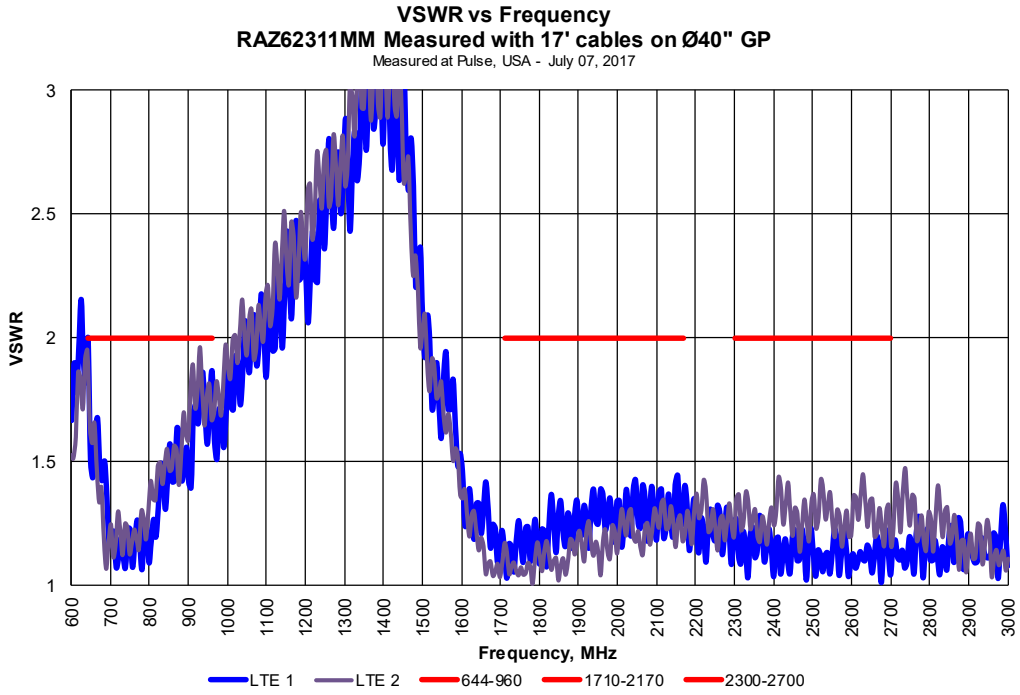
CHARTS

LTE 1 & 2
Measured with 5.2m (17') cable



LTE 1 & 2
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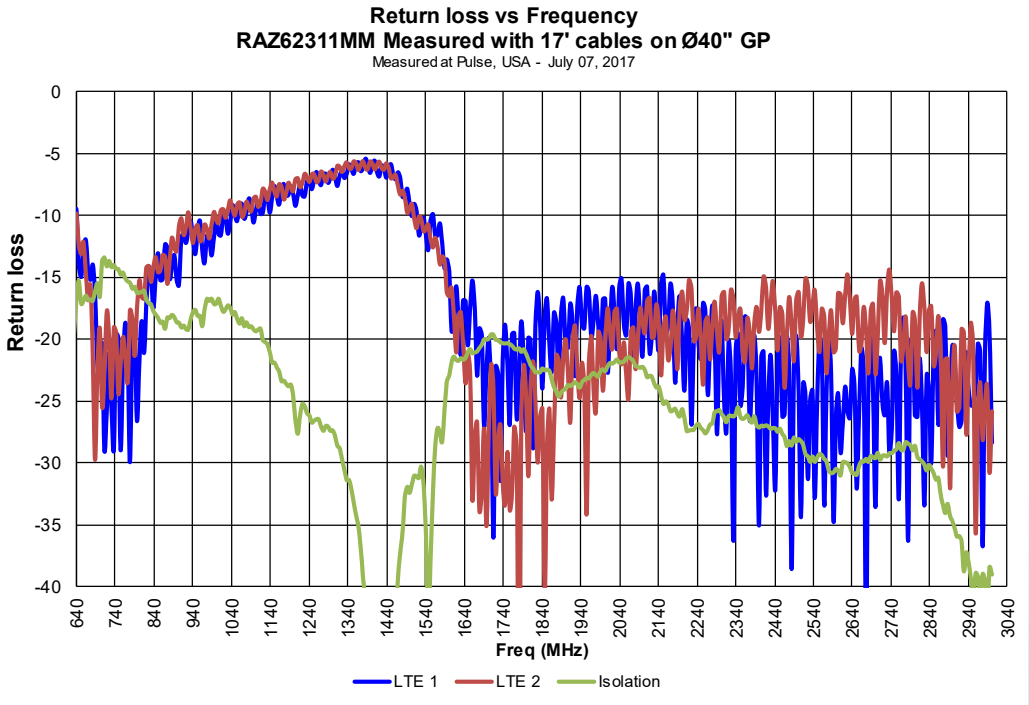

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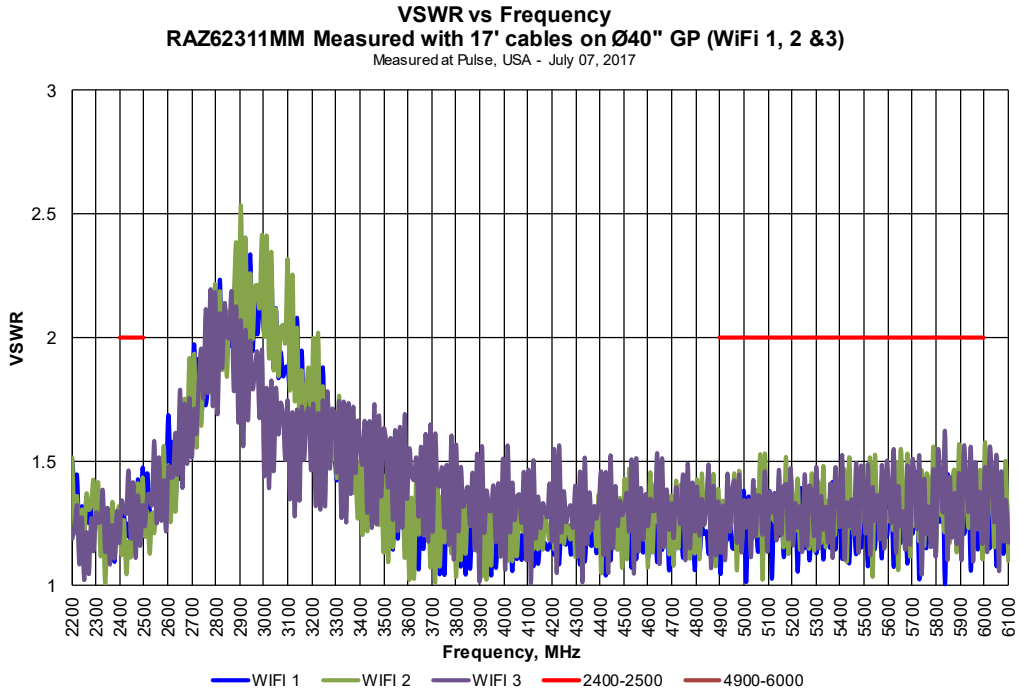
CHARTS

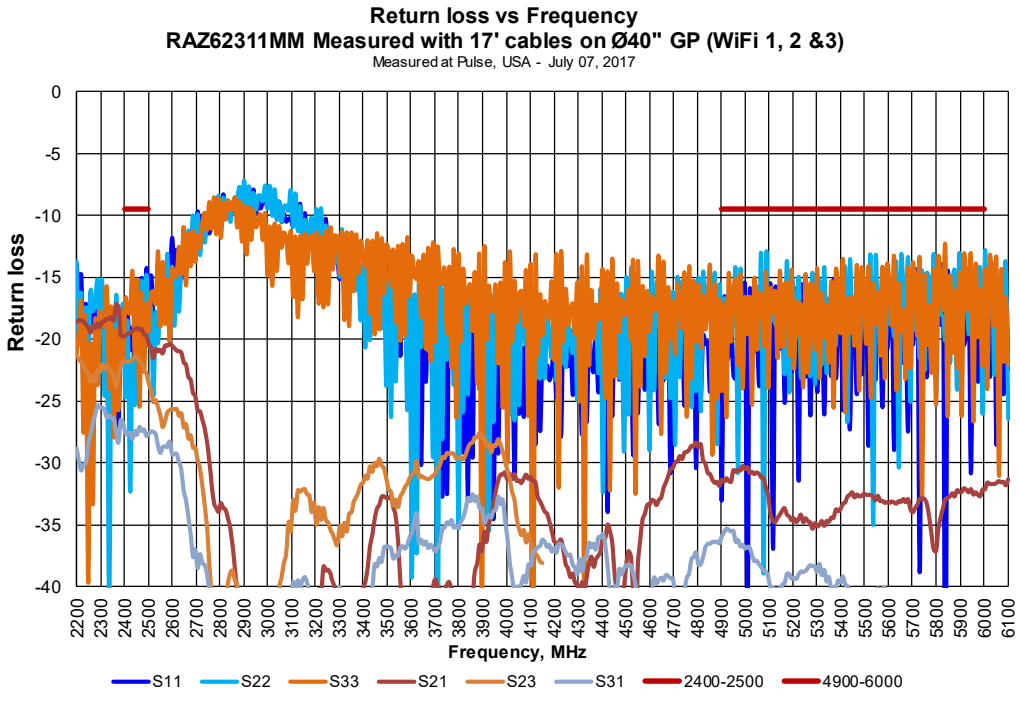
WiFi 1, 2 & 3

Measured with 5.2m (17') cable



WiFi 1, 2 & 3

Measured with 5.2m (17') cable



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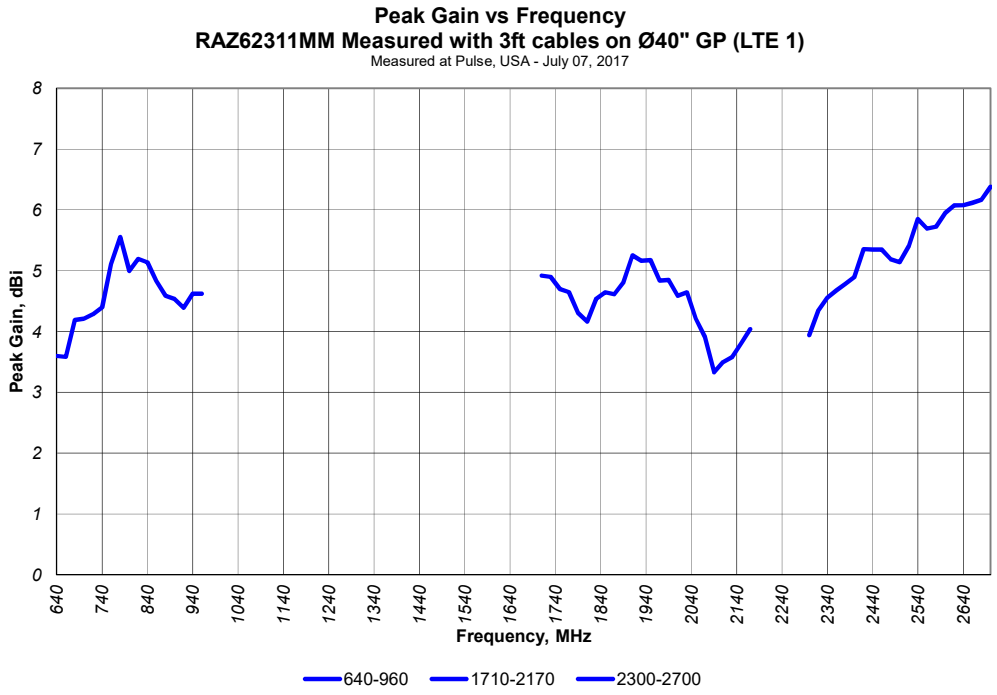
CHARTS

LTE 1
Measured with
914mm (36") cable



LTE 1
Measured with
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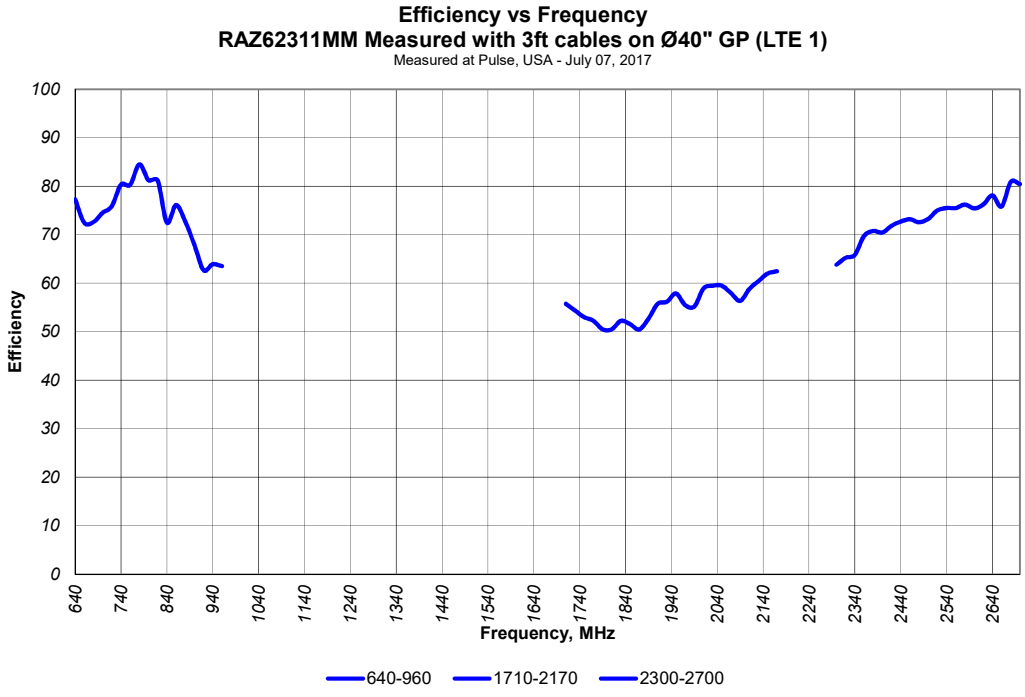

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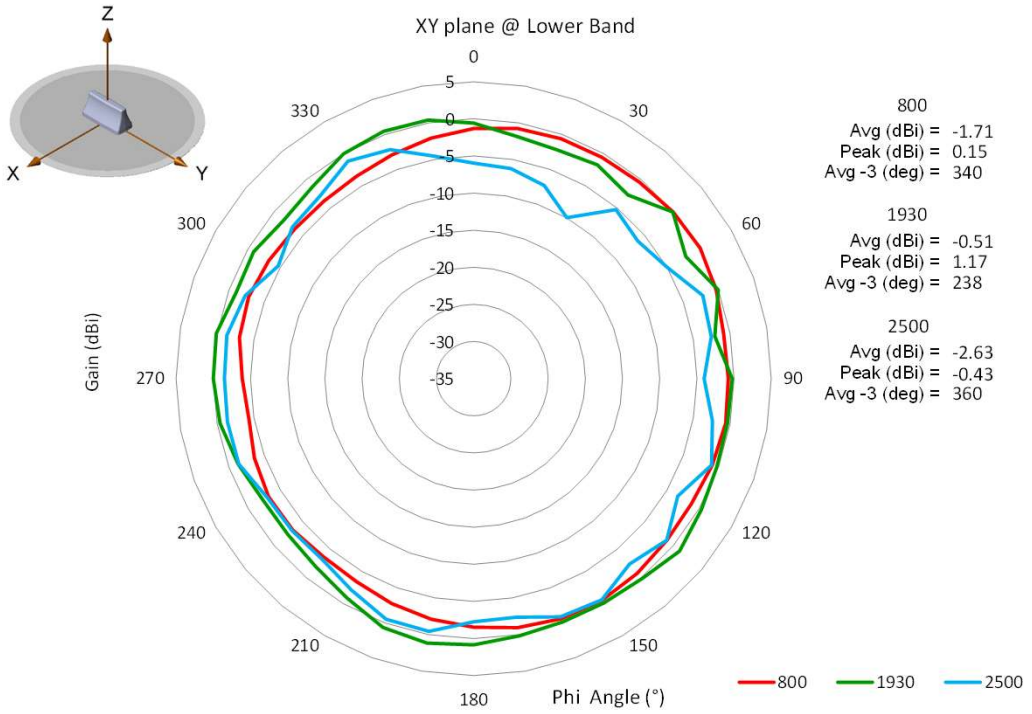

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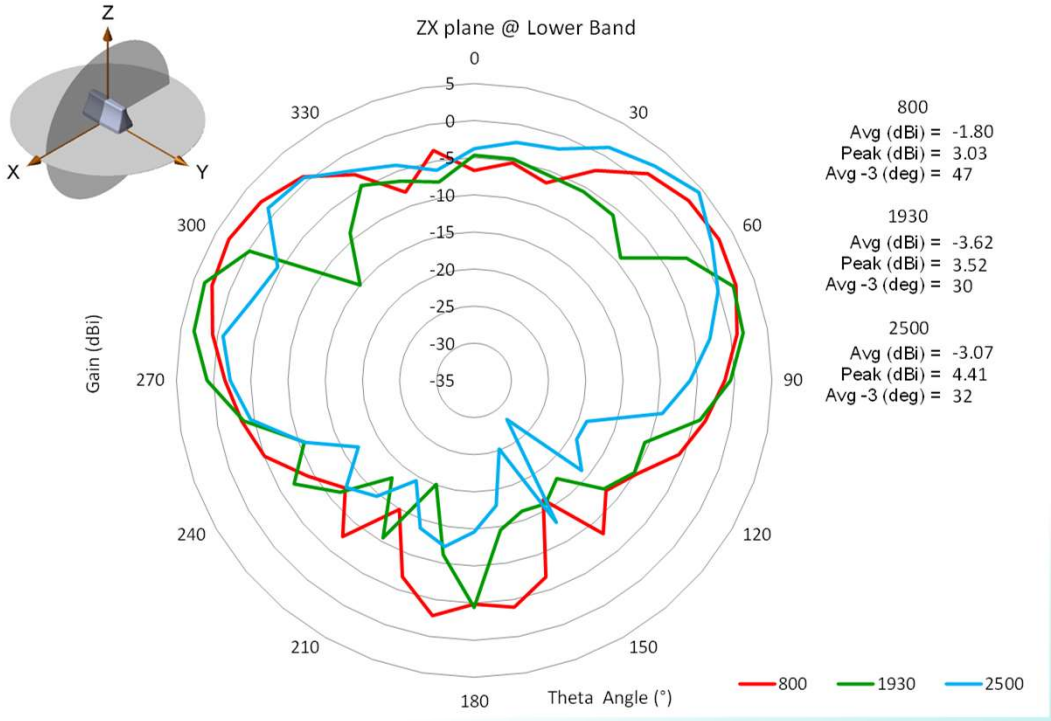

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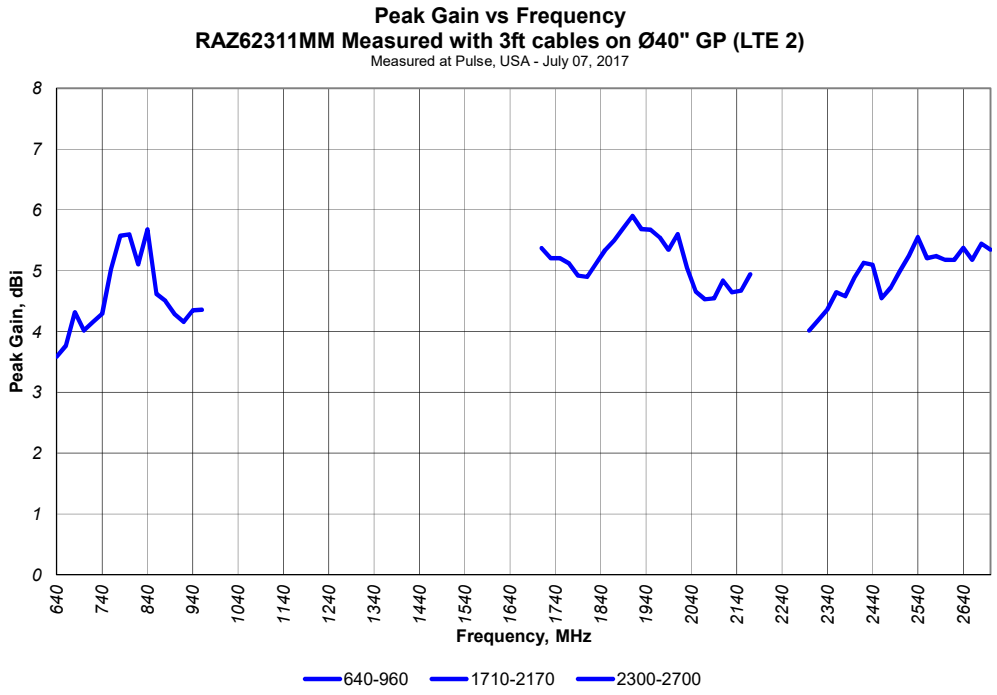
CHARTS

LTE 2
Measured with
914mm (36") cable



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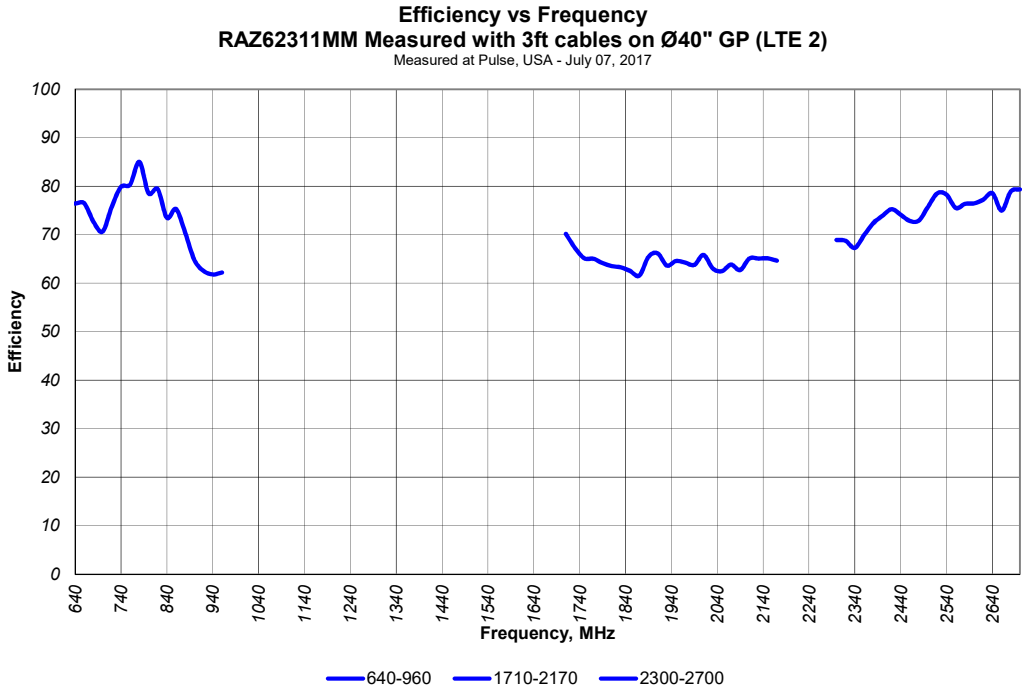

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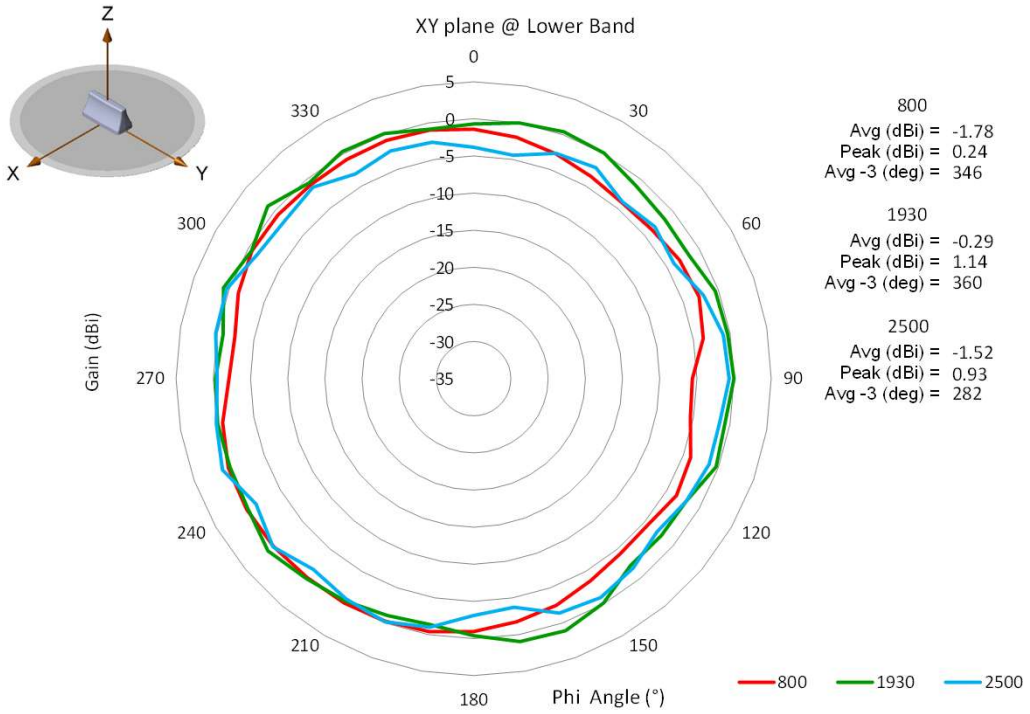

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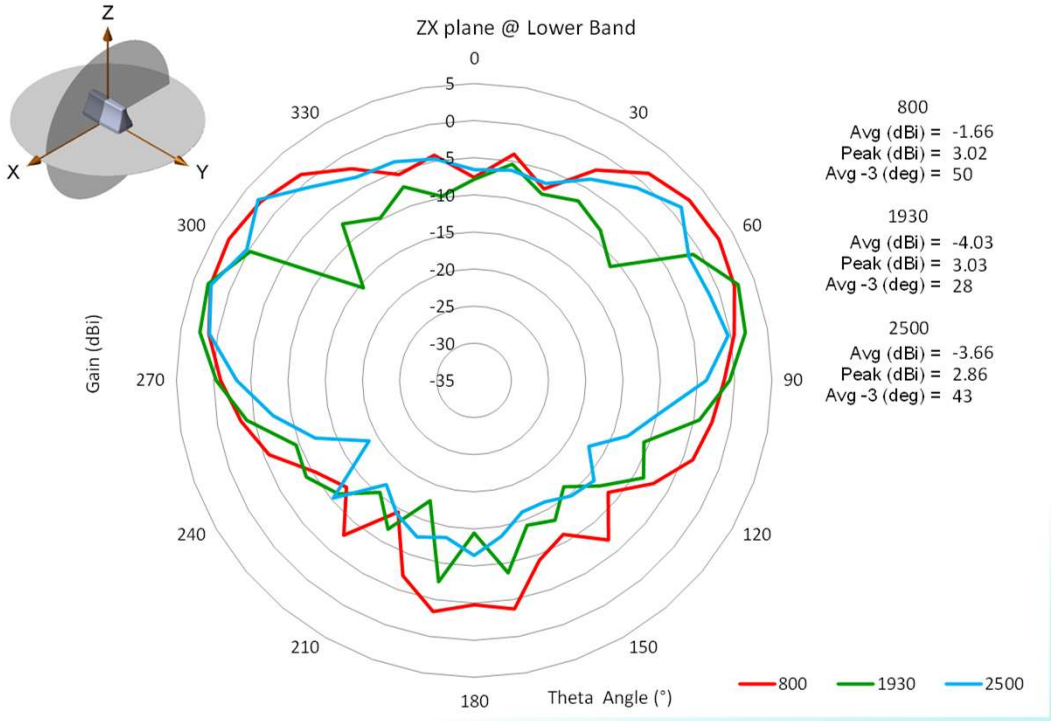

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CHARTS

WiFi 1
Measured with
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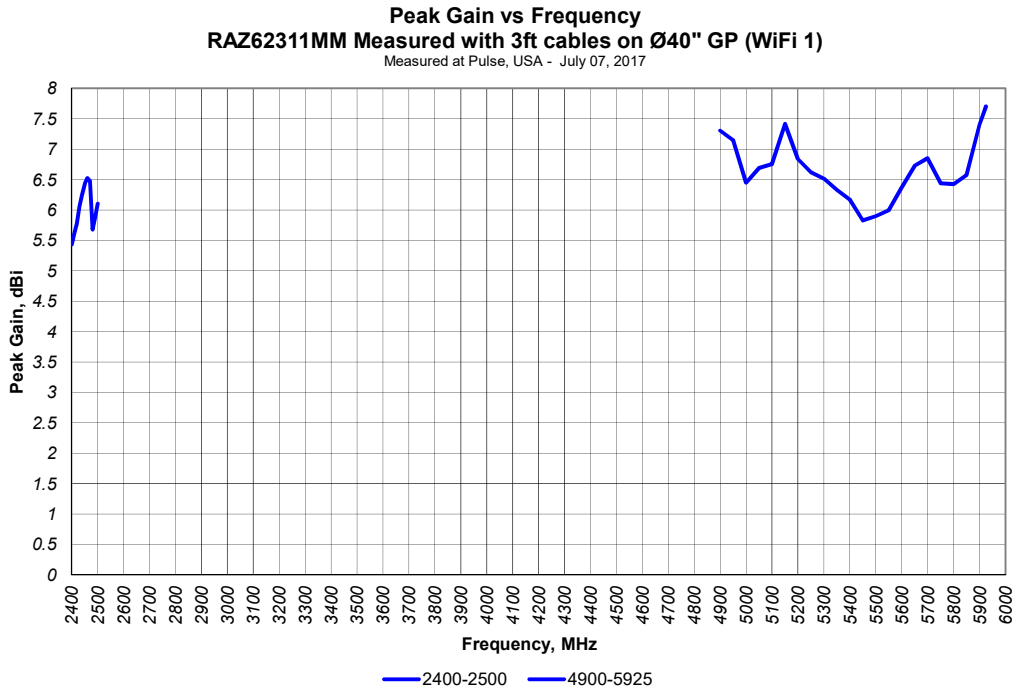

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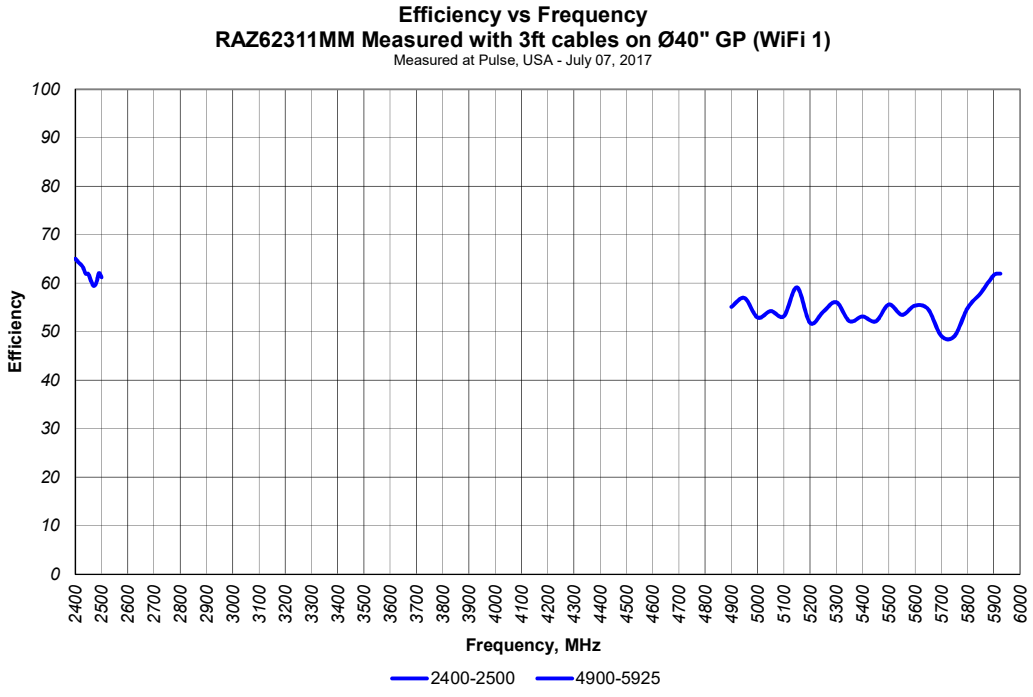

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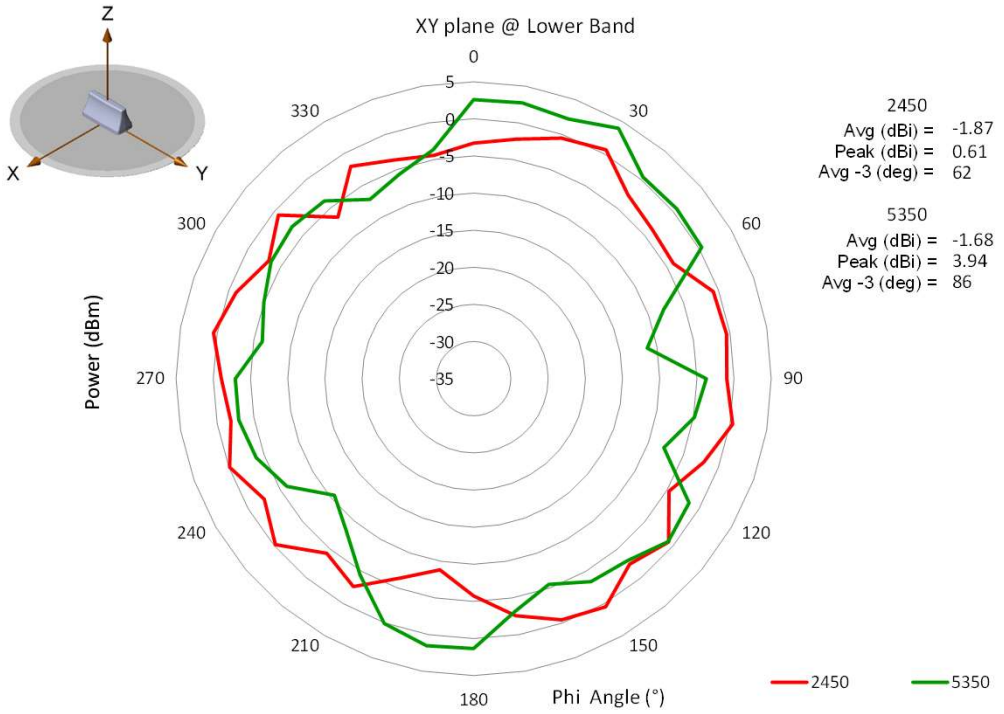

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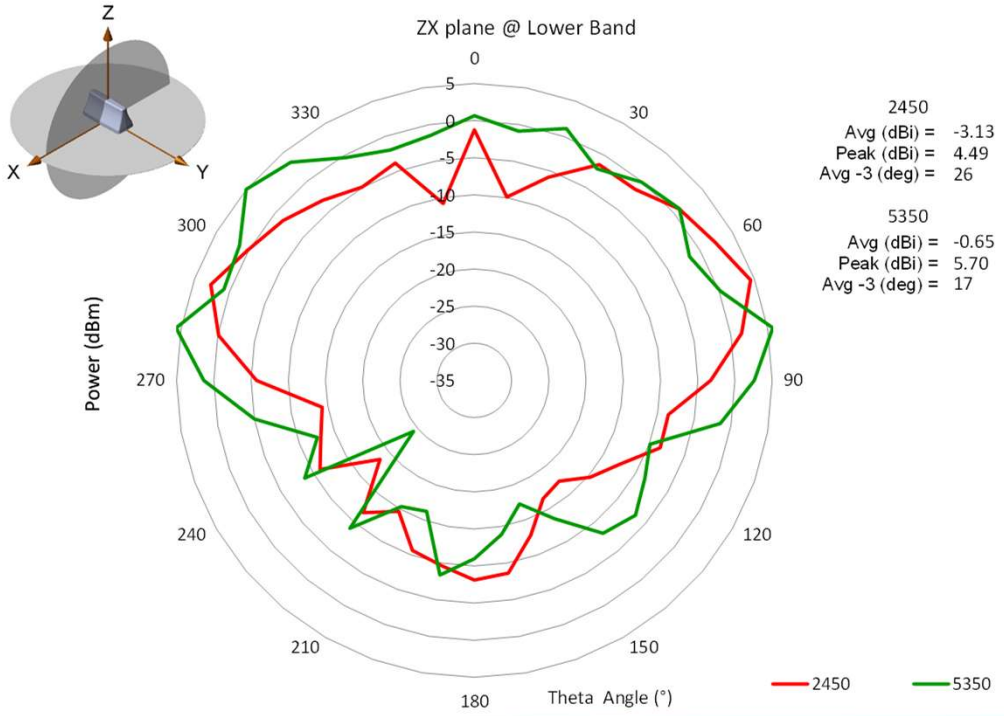

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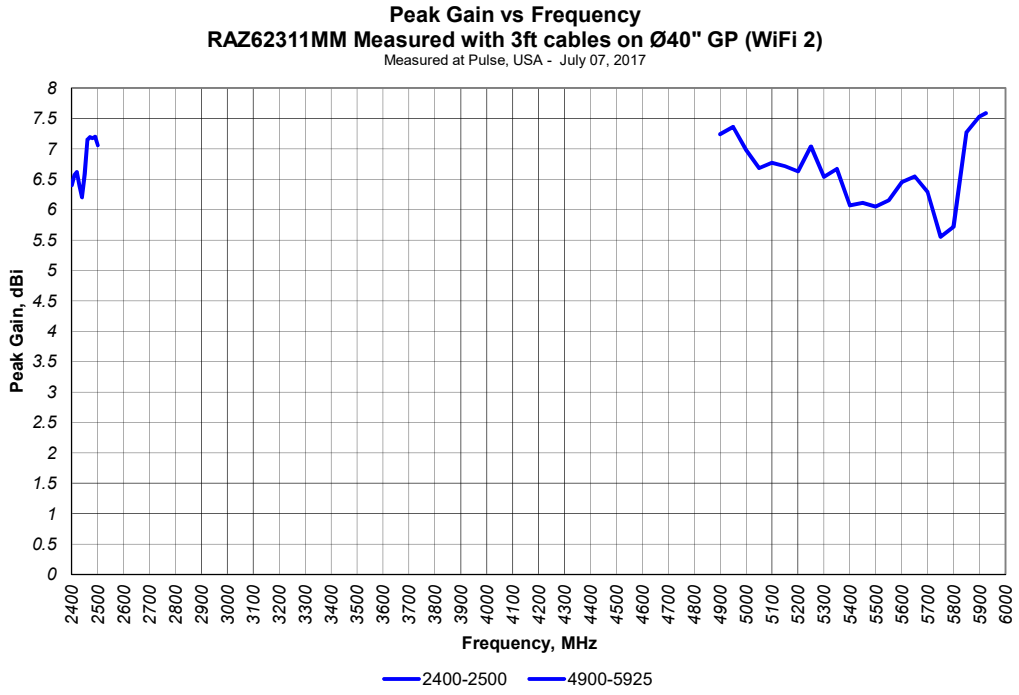
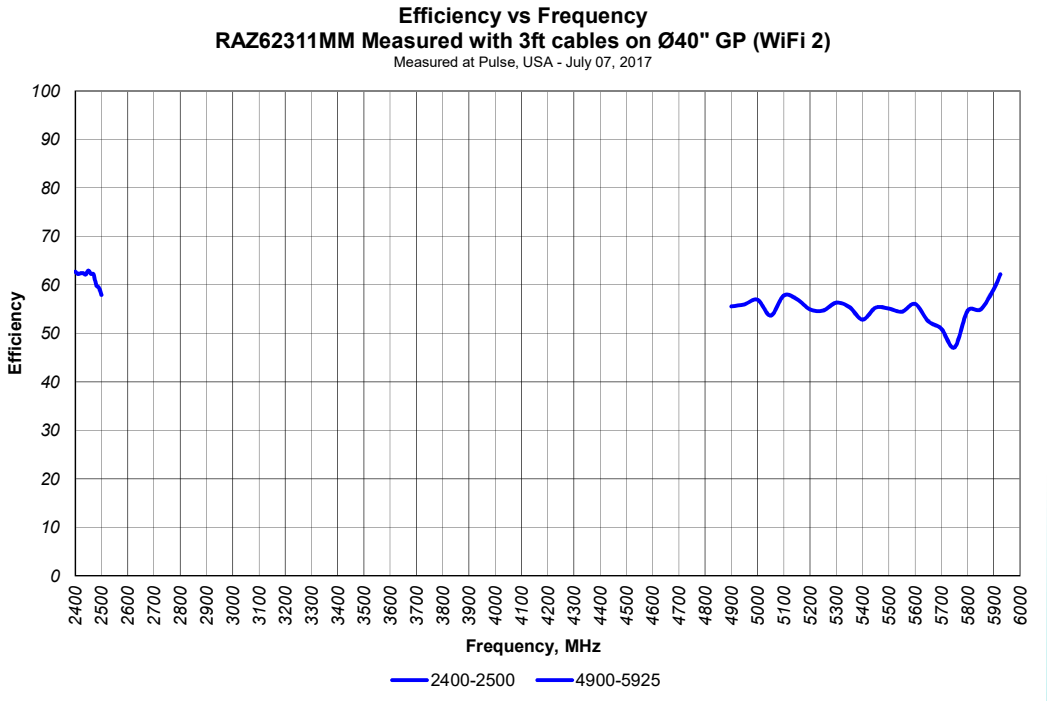
CHARTS

WiFi 2
Measured with
914mm (36") cable



WiFi 2
Measured with
914mm (36") cable



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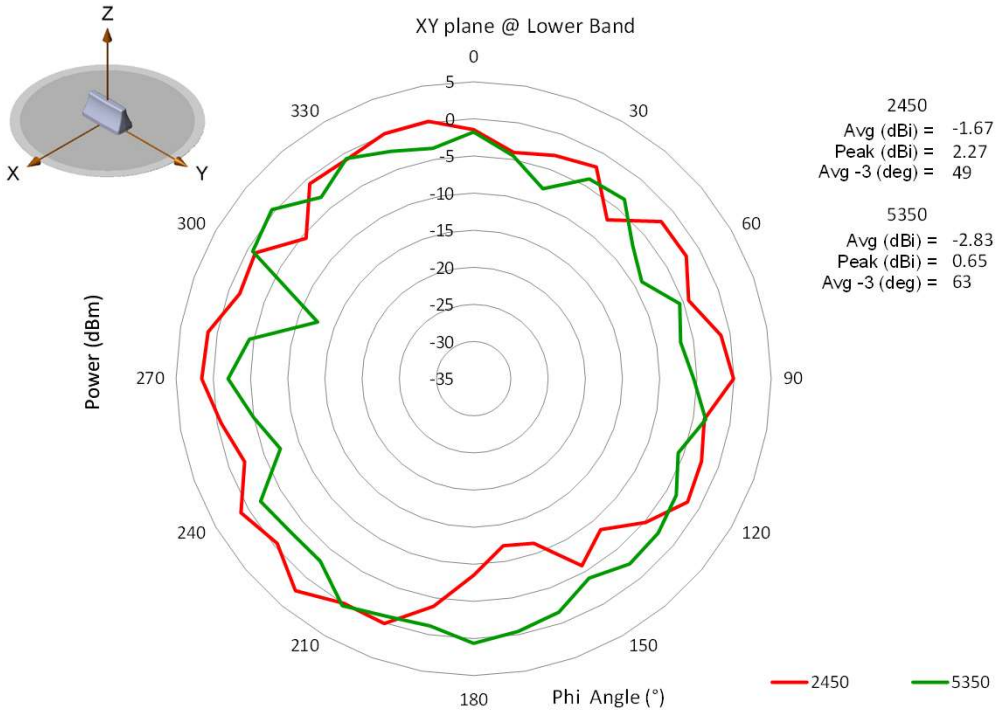
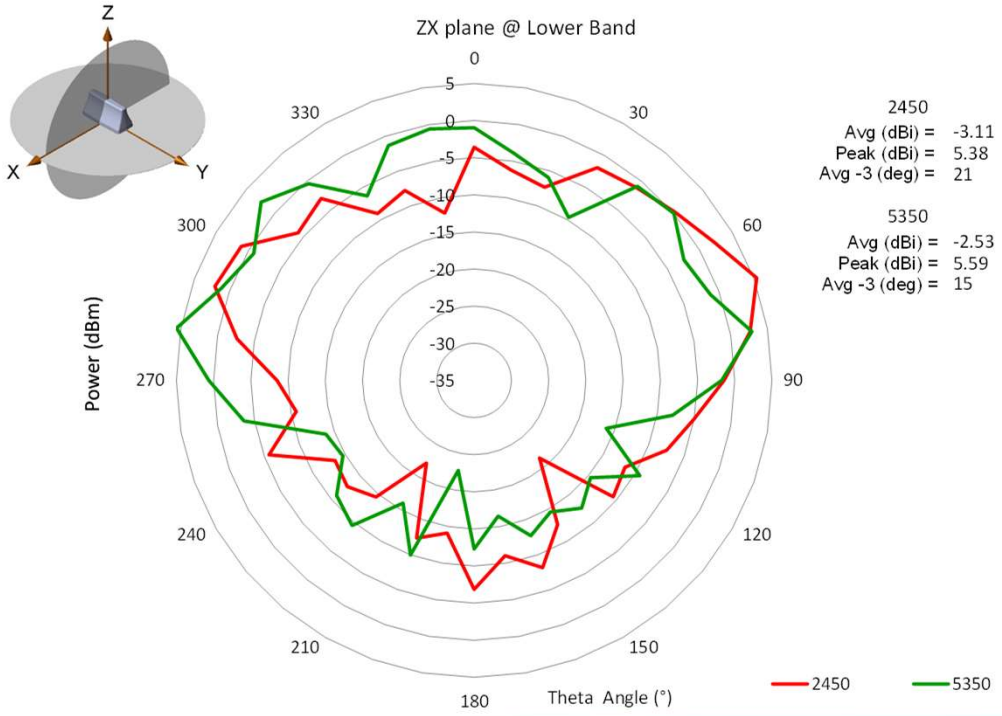
WiFi 2

Measured with 914mm (36") cable



WiFi 2

Measured with 914mm (36") cable



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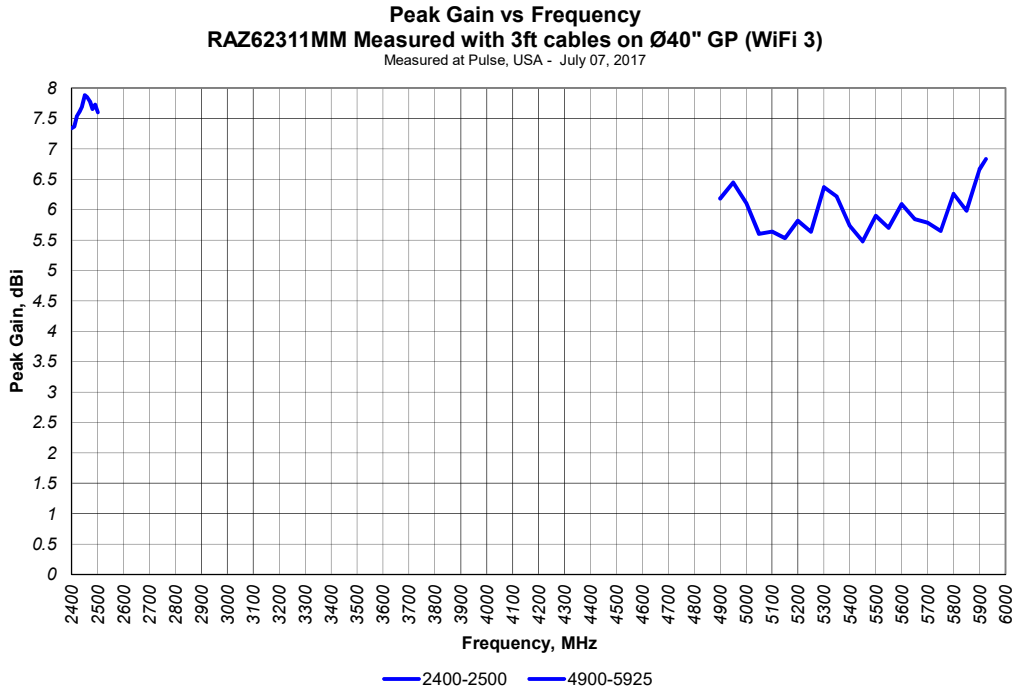
Description: GNSS / 2x LTE / 0, 1x, 2x or 3x WiFi Magnetic Mount

Series: RAZORBACK

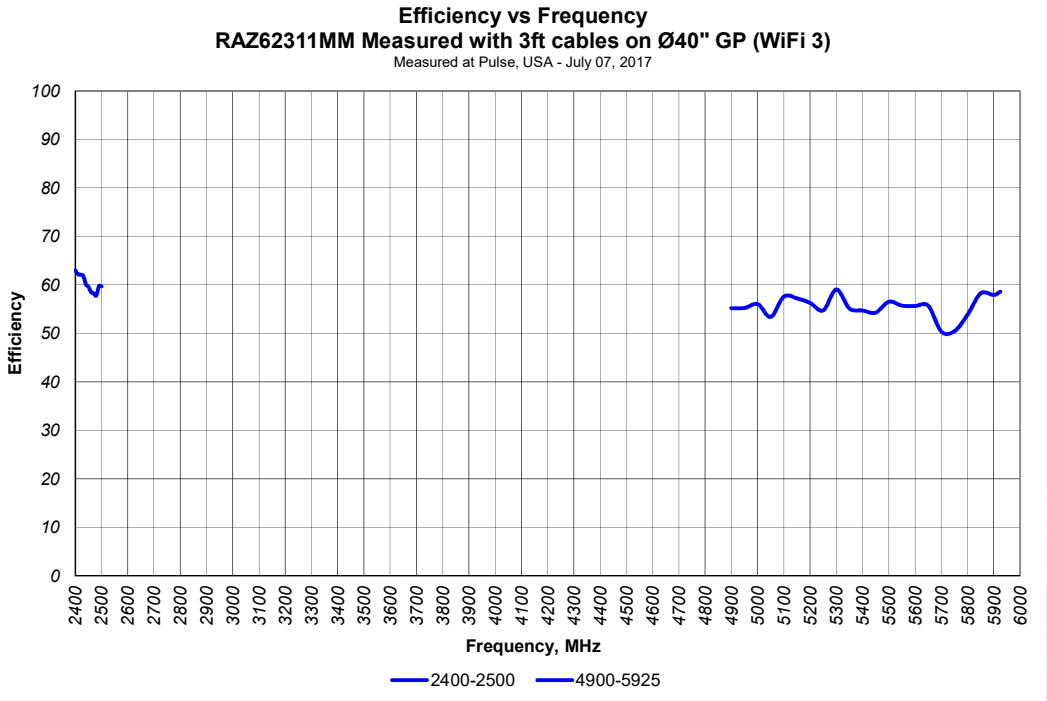
PART NUMBER: RAZ32011MM, RAZ32012MM, RAZ42111MM, RAZ42112MM, RAZ52211MM, RAZ52212MM, RAZ62311MM, RAZ62312MM

CHARTS

WiFi 3
Measured with
914mm (36") cable



WiFi 3
Measured with
914mm (36") cable



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WiFi 3

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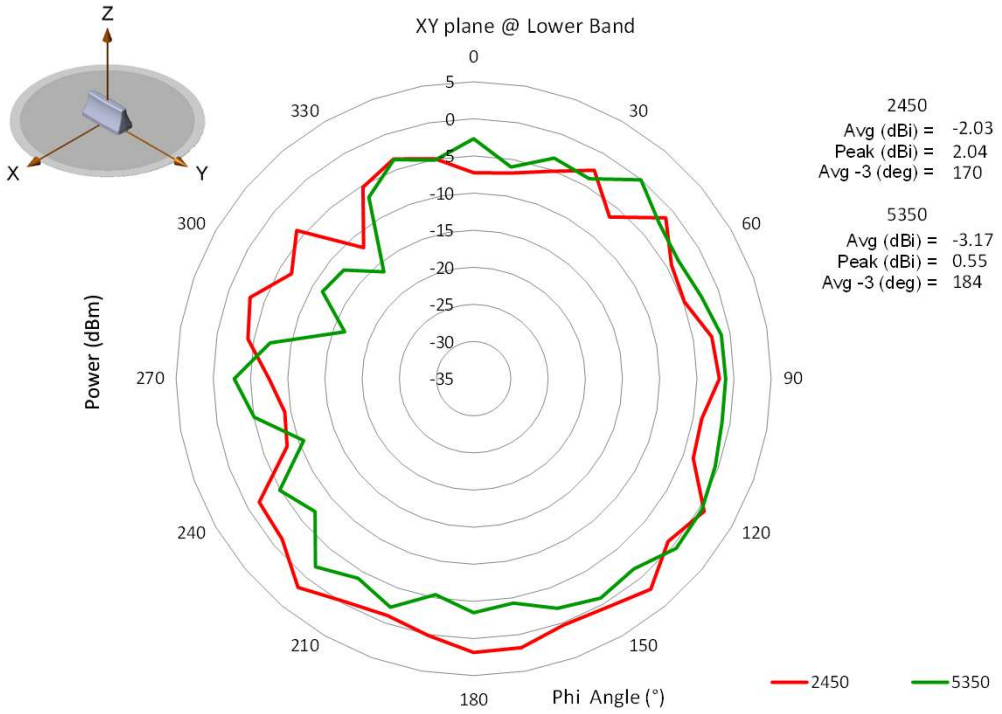
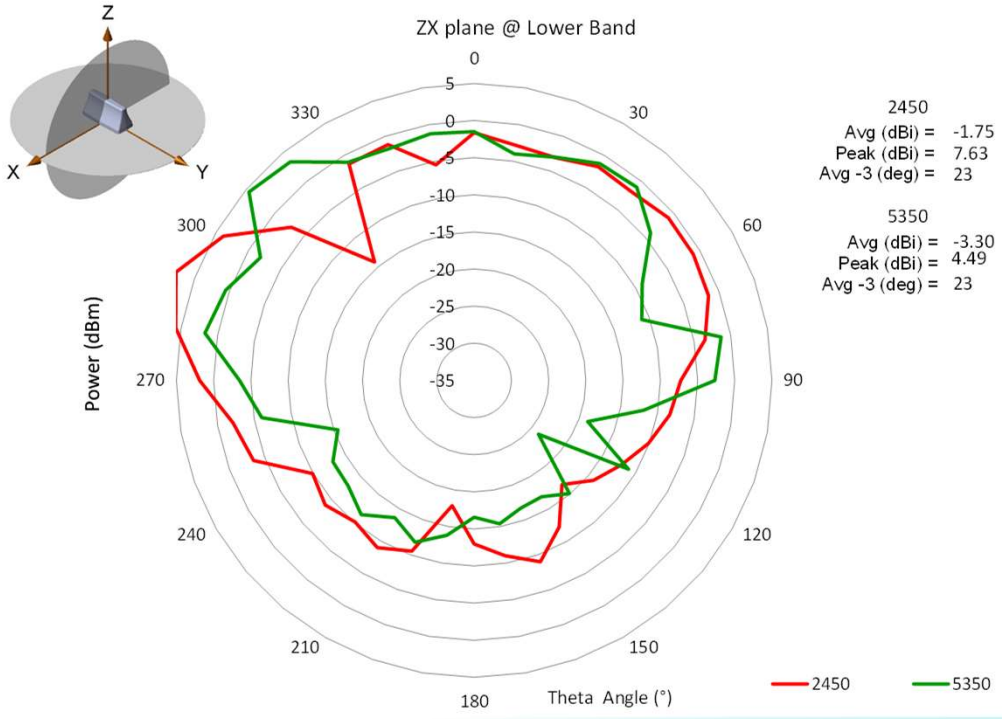


WiFi 3

Measured with 914mm (36") cable



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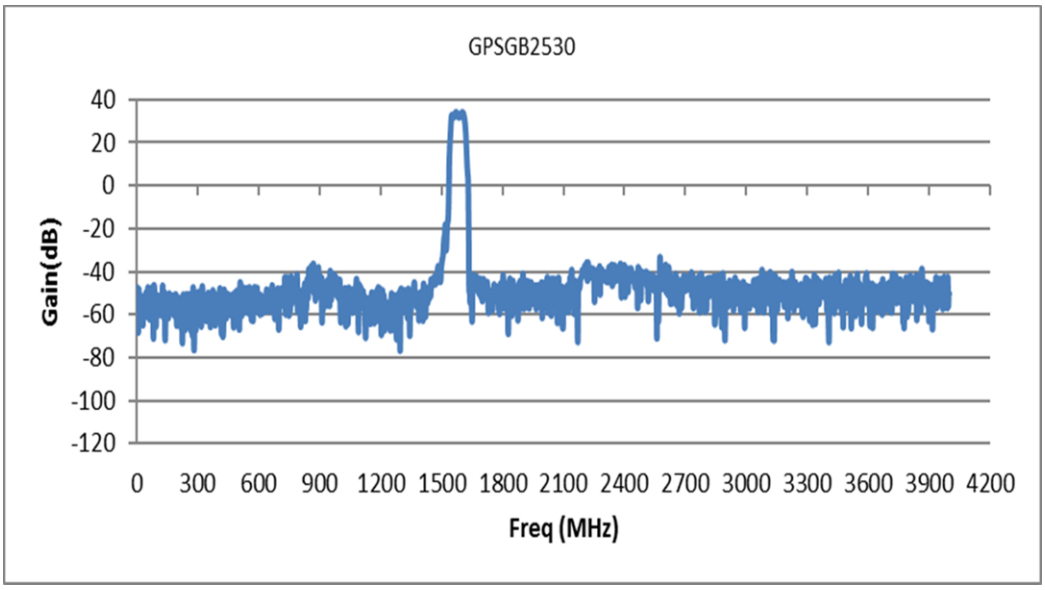
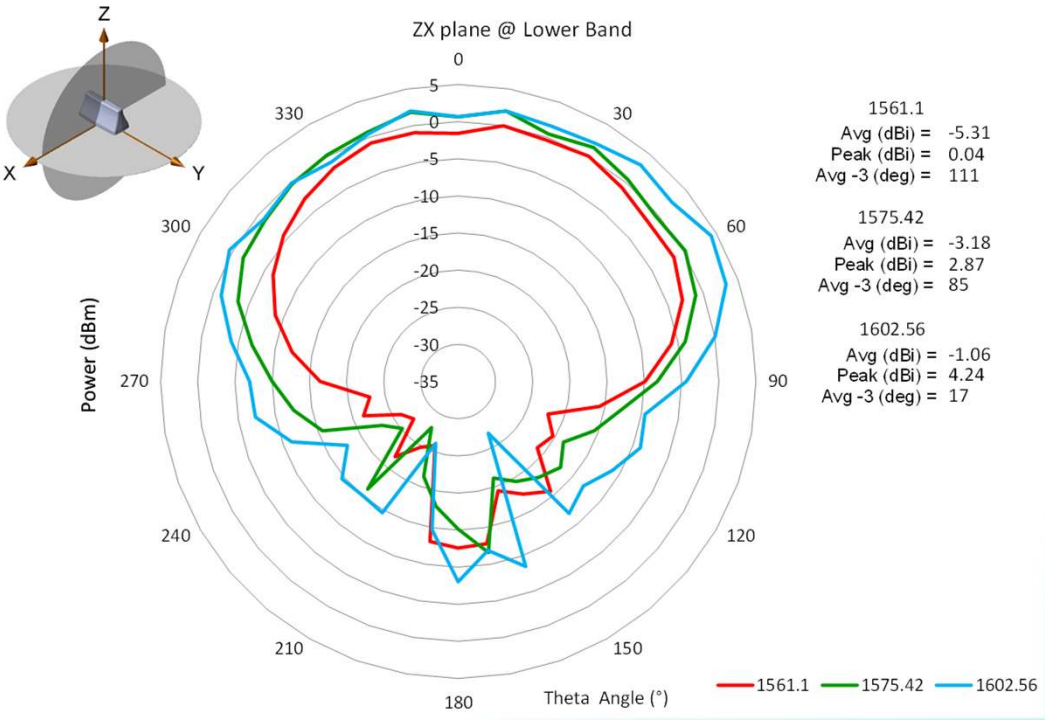
CHARTS

GNSS LNA Gain and out-of-band rejection



GNSS

Passive Measurement
Measured with 152mm (6") cable



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PACKAGING

1pcs antennas per foam bag

6pcs antennas per package box

Total 6pcs antenna per package box

Package box: 558mm*386mm*210mm

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Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

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