Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

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

For more information:

Pulse Worldwide Headquarters
15255 Innovation Drive #100
San Diego, CA 92128
USA
Tel:1-858-674-8100

Pulse/Larsen Antennas
18110 SE 34th St Bldg 2 Suite 250
Vancouver, WA 98683
USA
Tel: 1-360-944-7551

Europe Headquarters
Pulse GmbH & Do, KG
Zeppelinstrasse 15
Herrenberg, Germany
Tel: 49 7032 7806 0

Pulse (Suzhou) Wireless Products Co, Inc.
99 Huo Ju Road(#29 Bldg,4th Phase
Suzhou New District
Jiangsu Province, Suzhou 215009 PR China
Tel: 86 512 6807 9998

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

Series: RAZORBACK

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

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

RoHS COMPLIANT

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

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

RoHS COMPLIANT

PulseLARSEN Antennas

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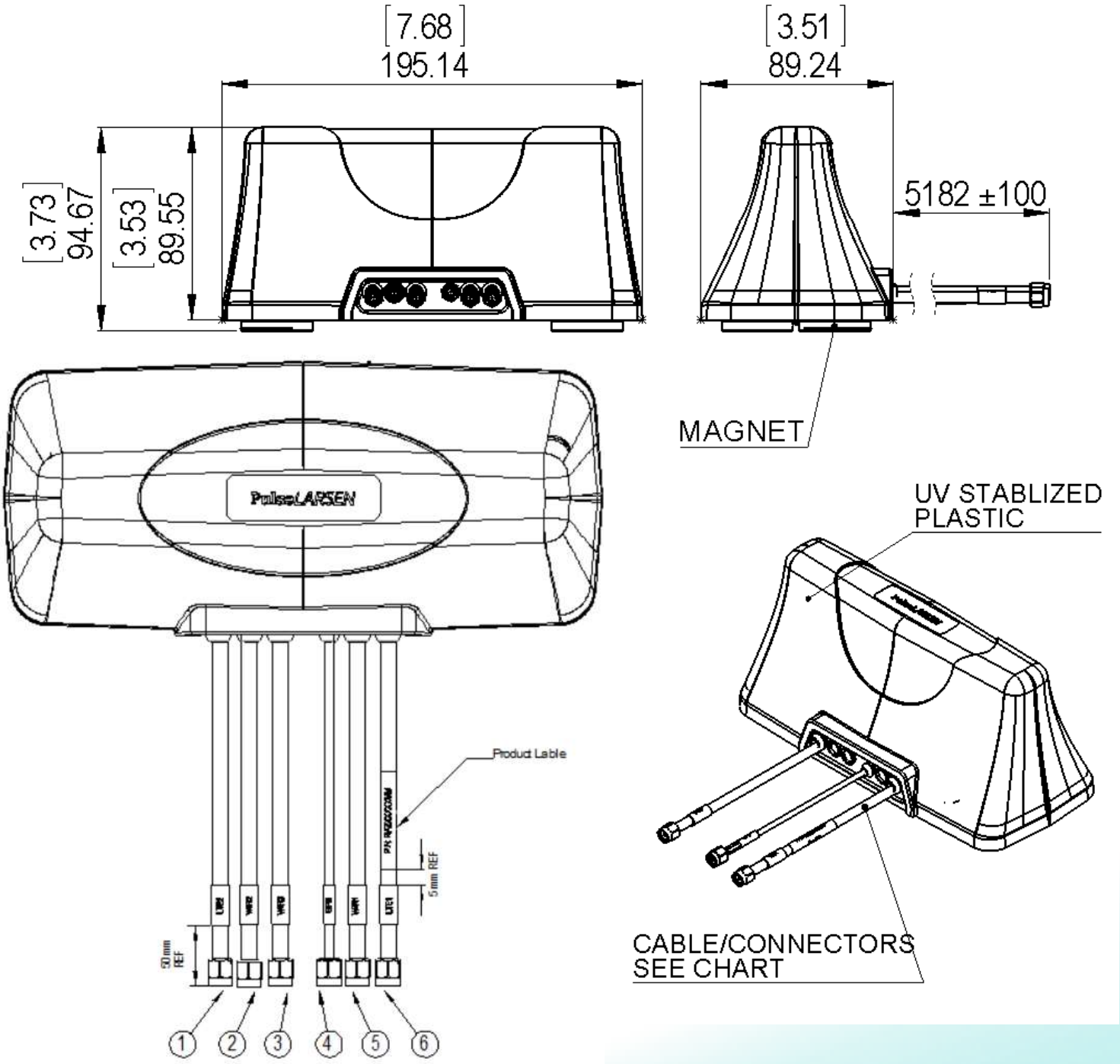
MECHANICAL DRAWING



All dimensions are in mm / inches

Issue: 1742

RoHS COMPLIANT

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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

All dimensions are in mm / inches

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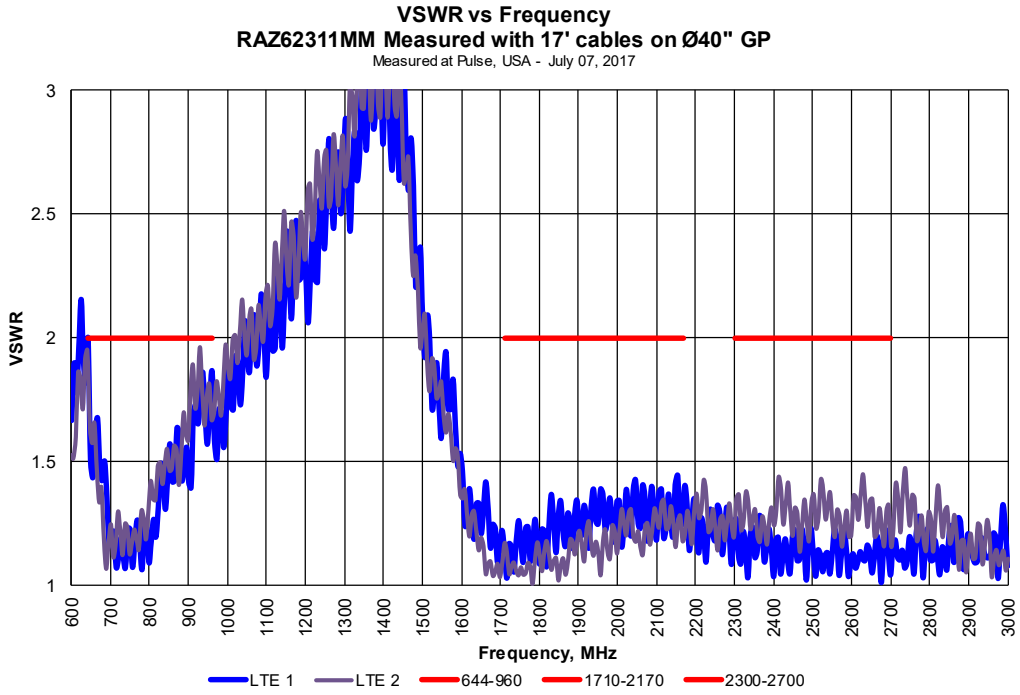
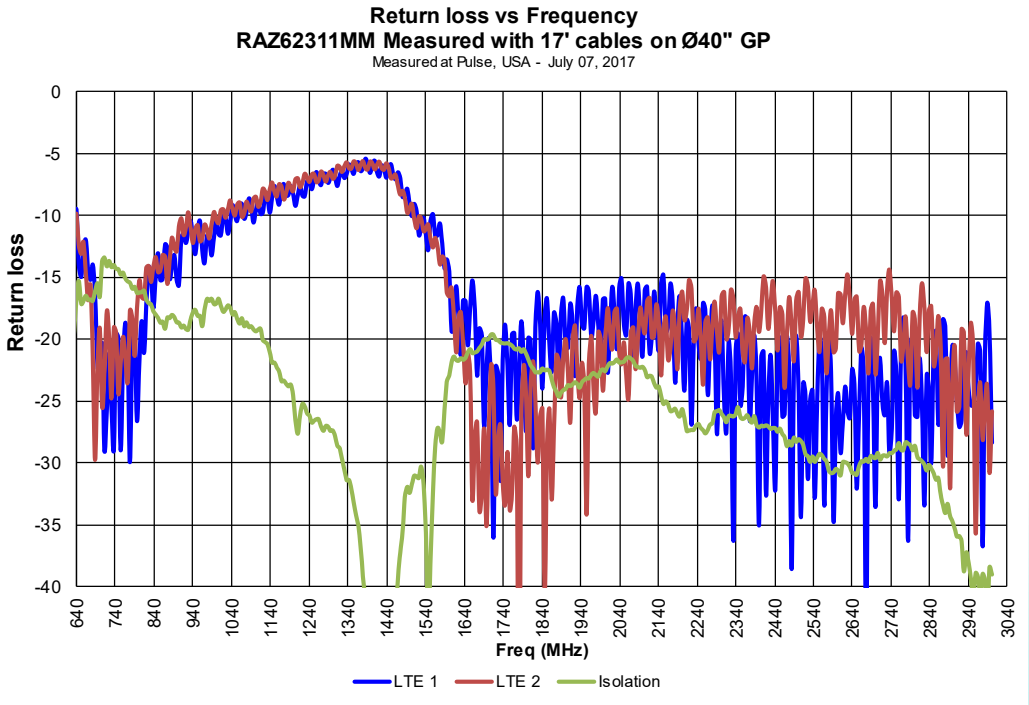
CHARTS

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



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



RoHS COMPLIANT

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Series: RAZORBACK

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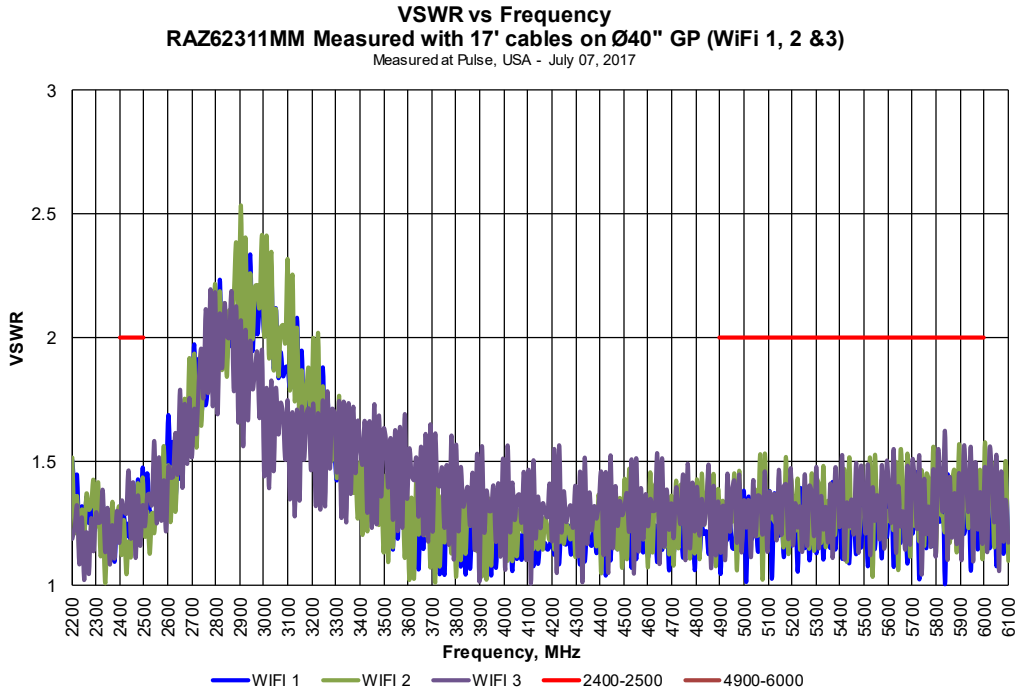
CHARTS

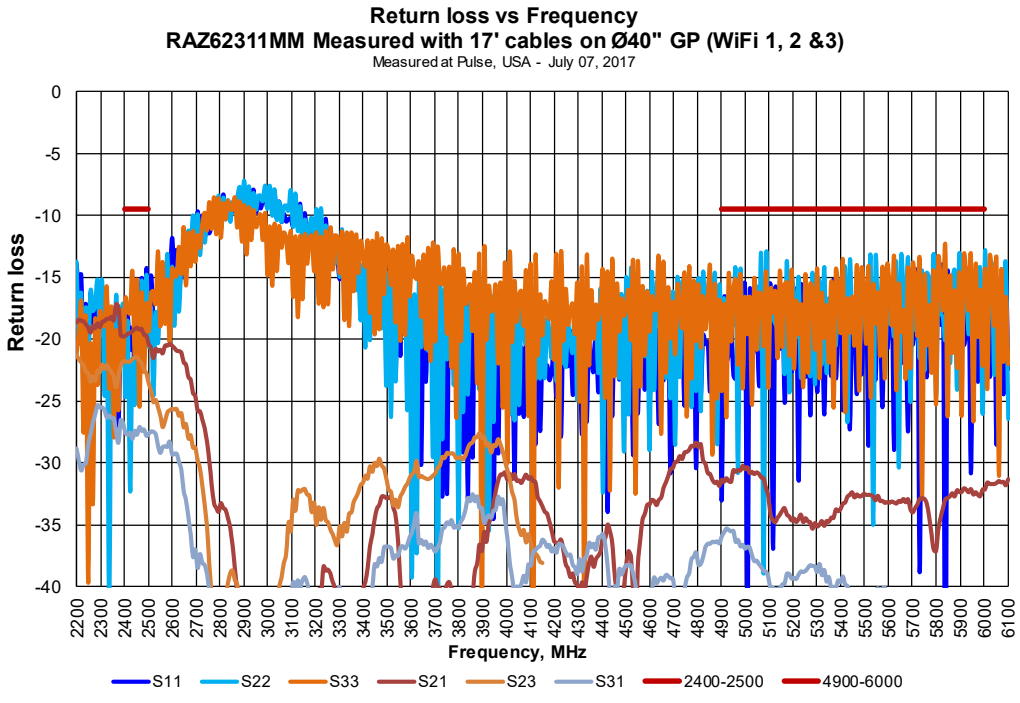
WiFi 1, 2 & 3

Measured with 5.2m (17') cable



WiFi 1, 2 & 3

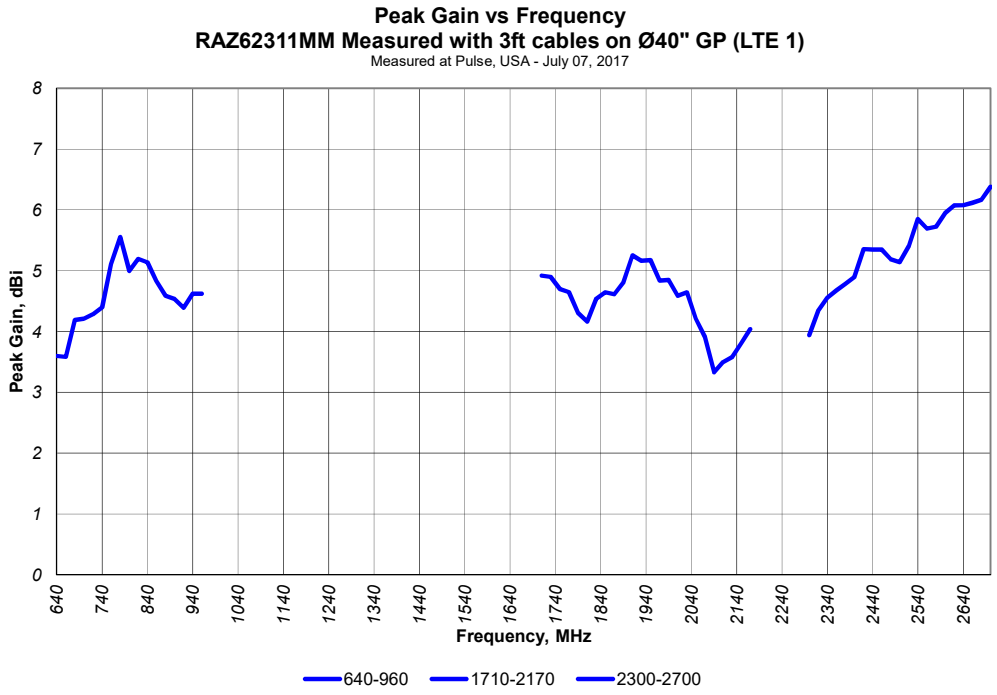
Measured with 5.2m (17') cable



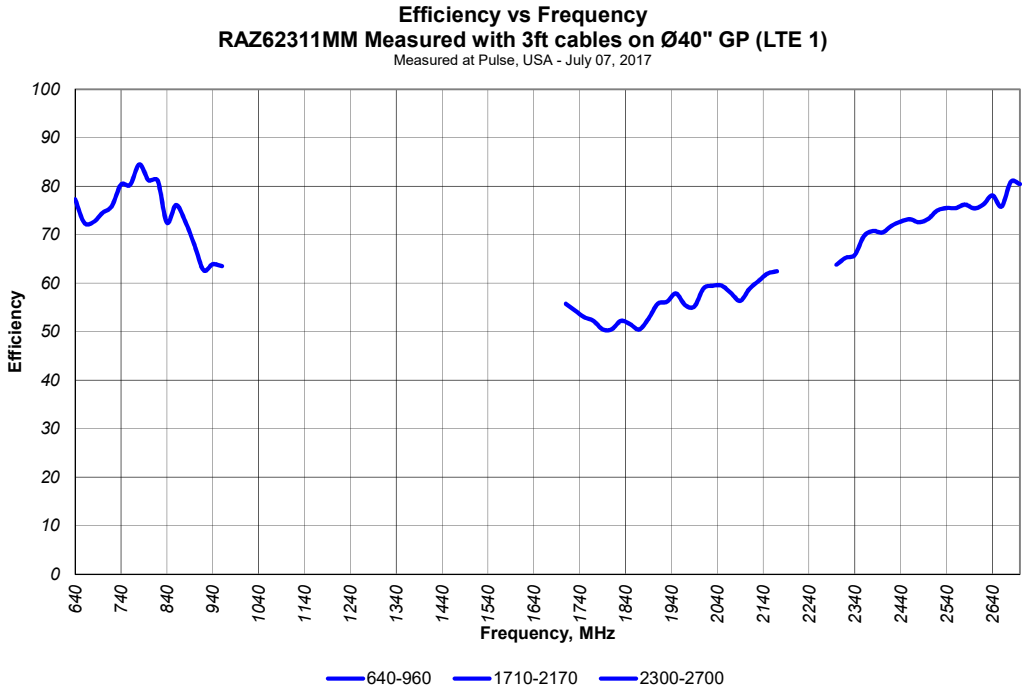
RoHS COMPLIANT

CHARTS

LTE 1
Measured with
914mm (36") cable



LTE 1
Measured with
914mm (36") cable



In the effort to improve our products, we reserve the right to make changes judged to be necessary.

RoHS COMPLIANT

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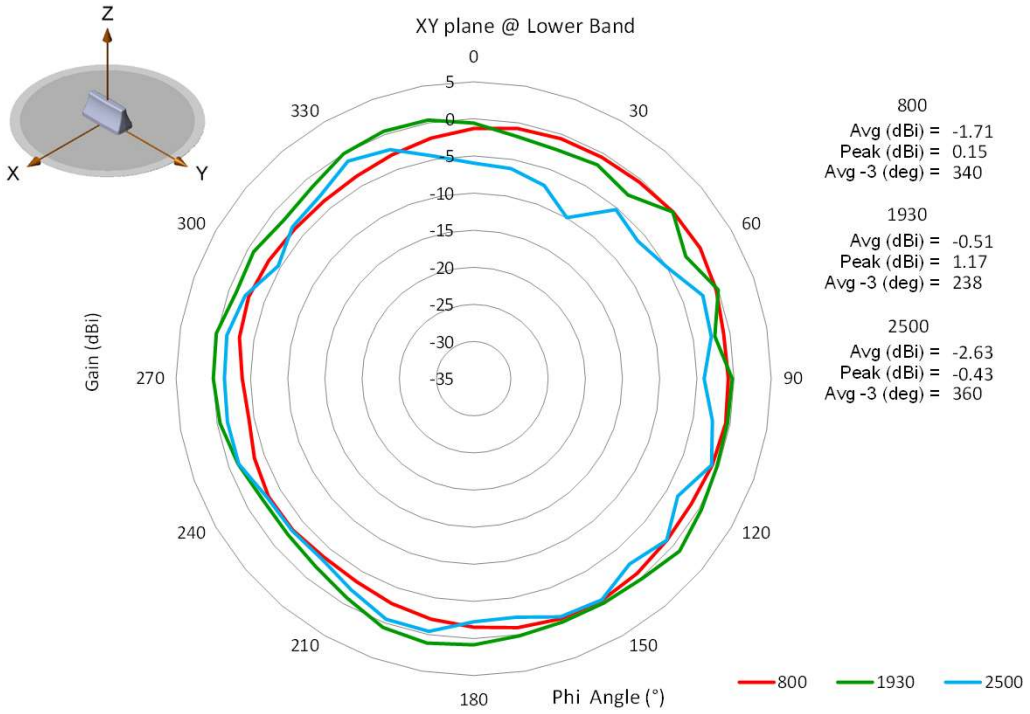
CHARTS

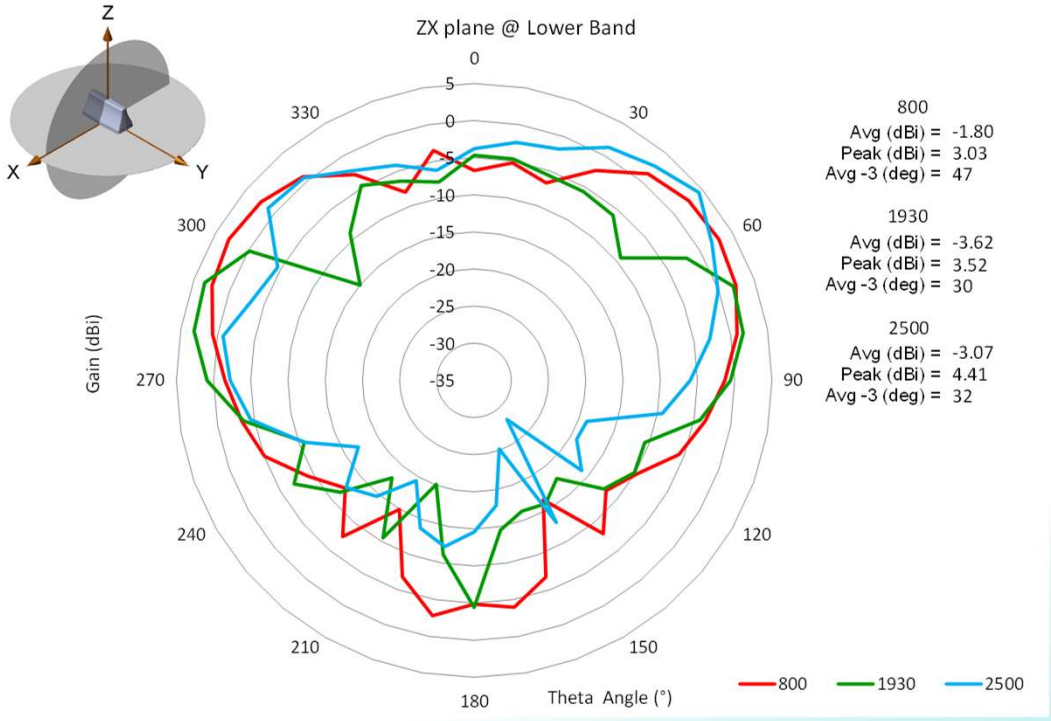
LTE 1

Measured with 914mm (36") cable



LTE 1

Measured with 914mm (36") cable



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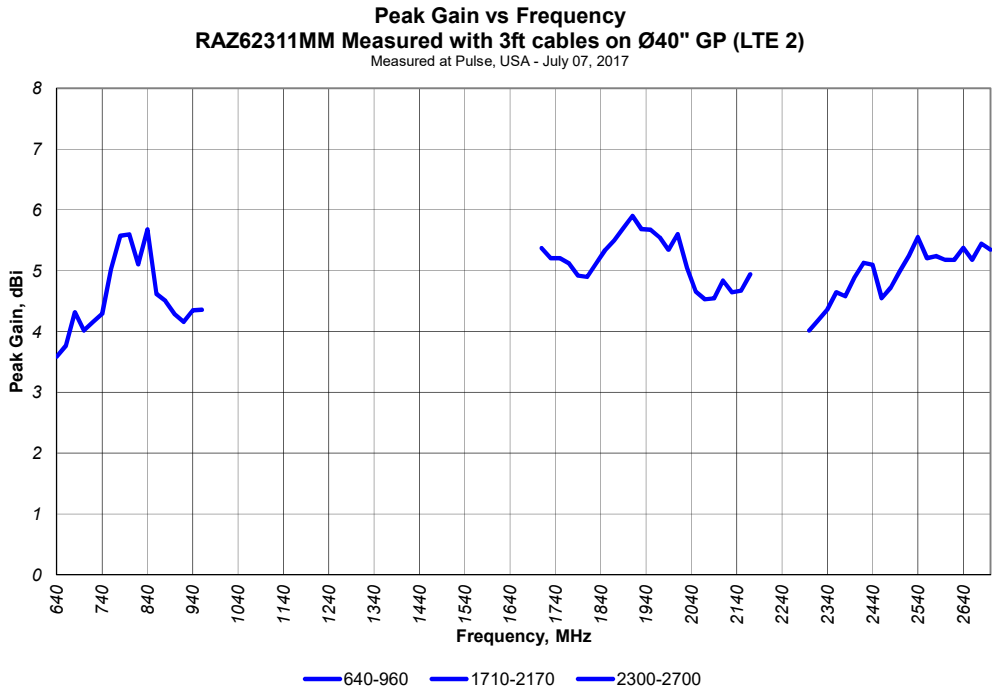
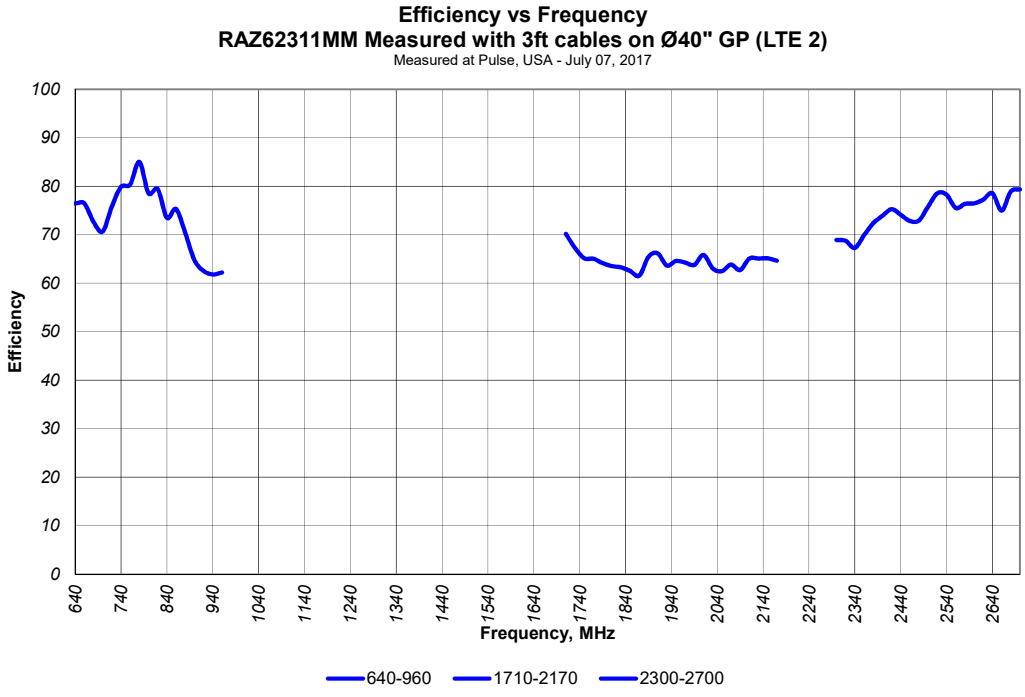
CHARTS

LTE 2
Measured with
914mm (36") cable



LTE 2
Measured with
914mm (36") cable



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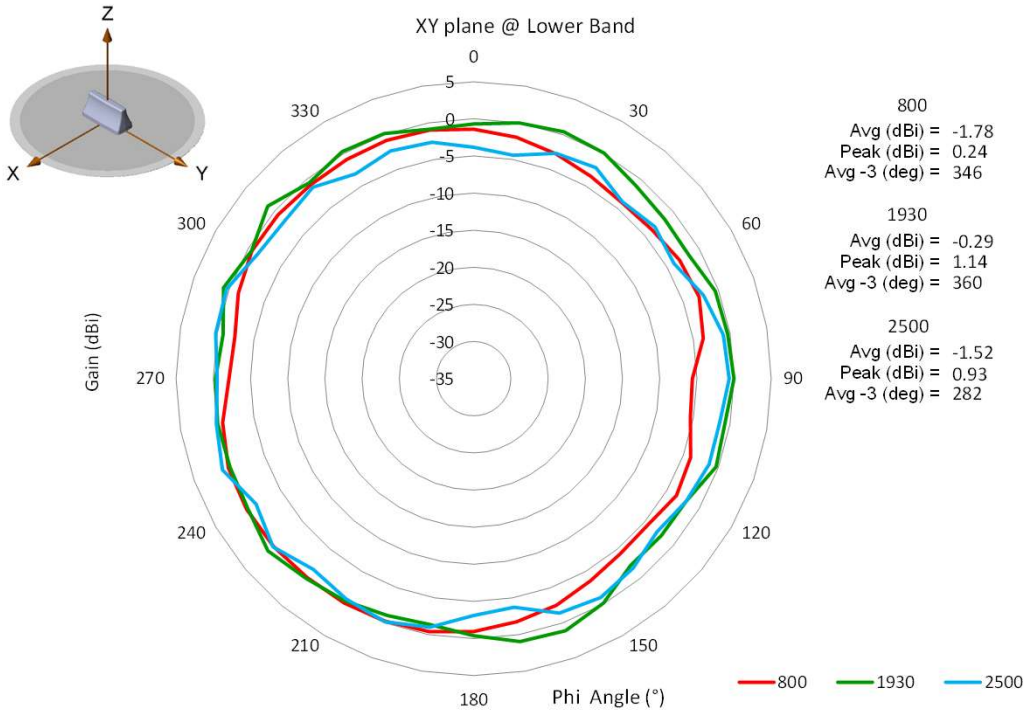
CHARTS

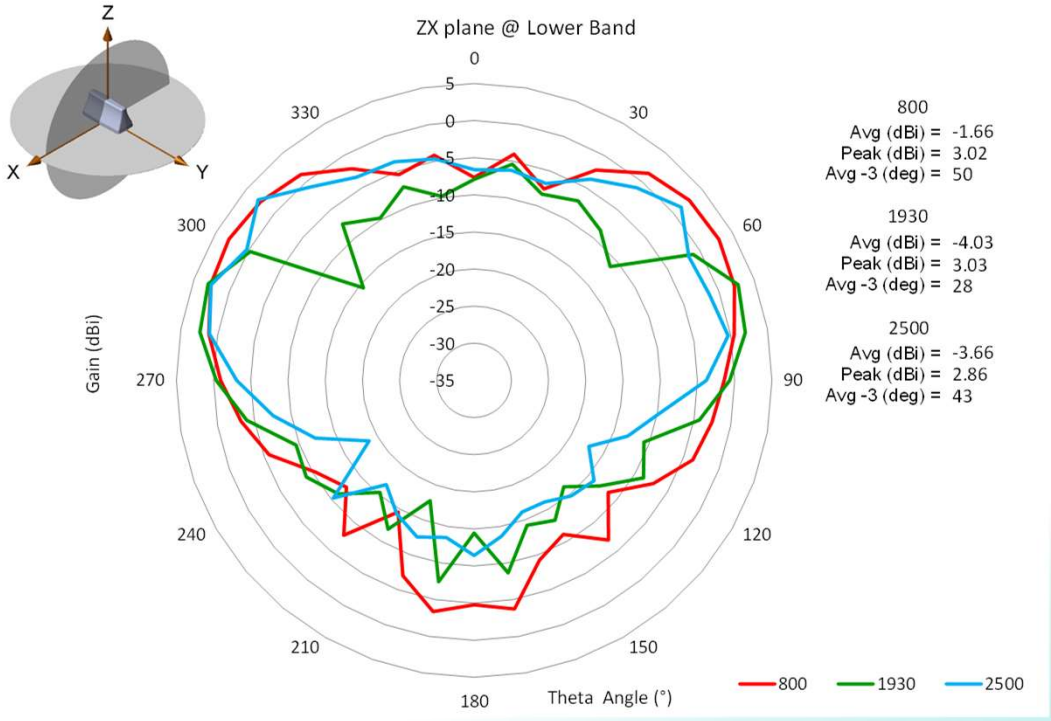
LTE 2

Measured with
914mm (36") cable



LTE 2

Measured with
914mm (36") cable



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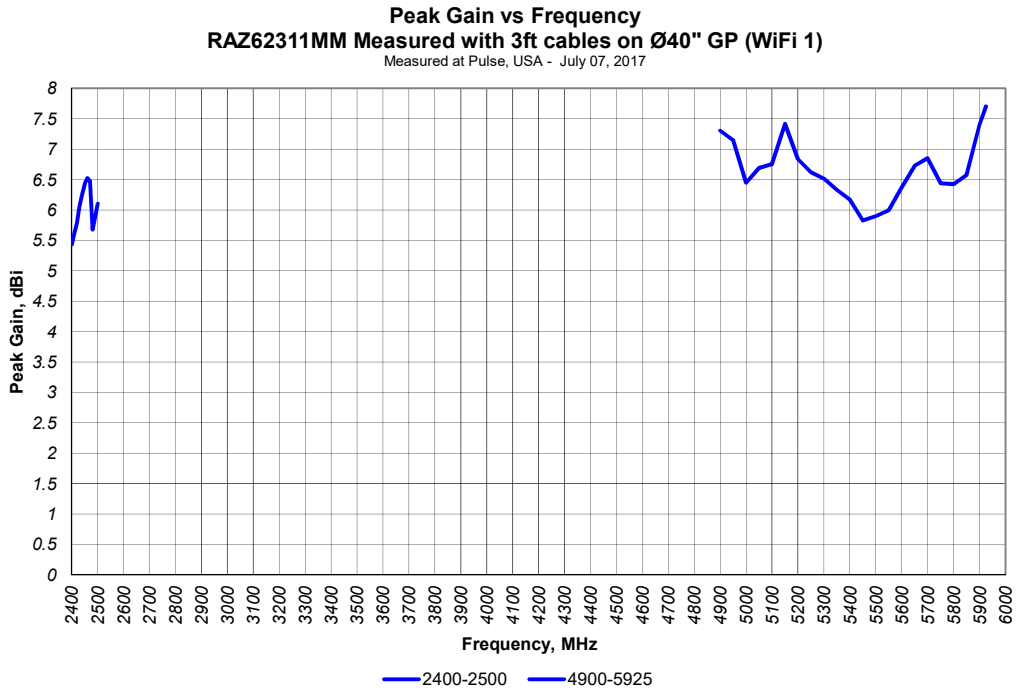
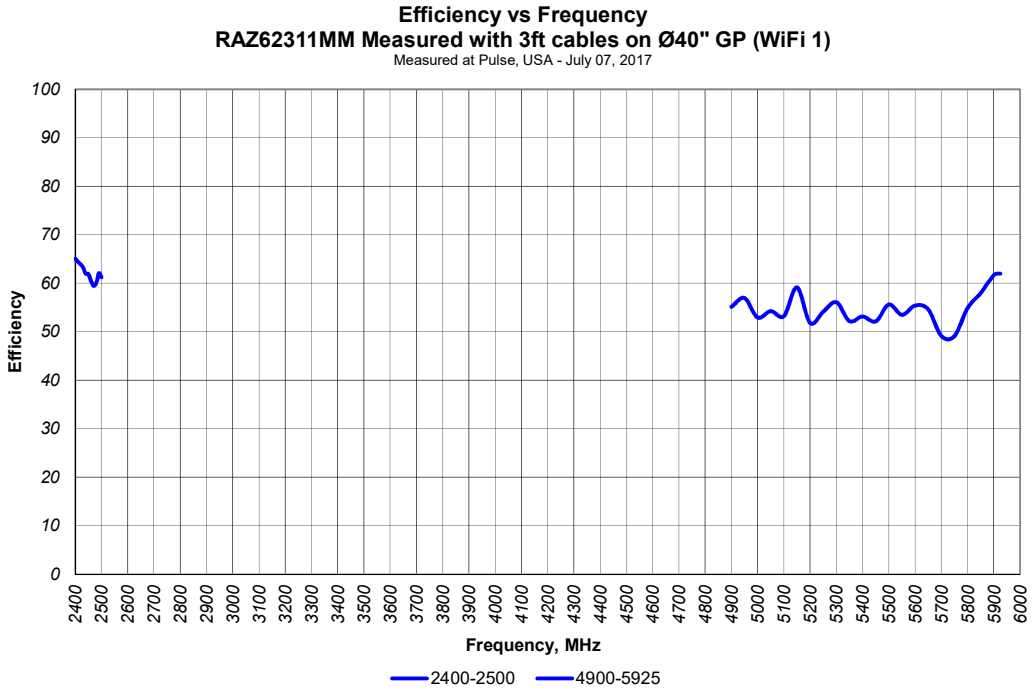
CHARTS

WiFi 1
Measured with
914mm (36") cable



WiFi 1
Measured with
914mm (36") cable



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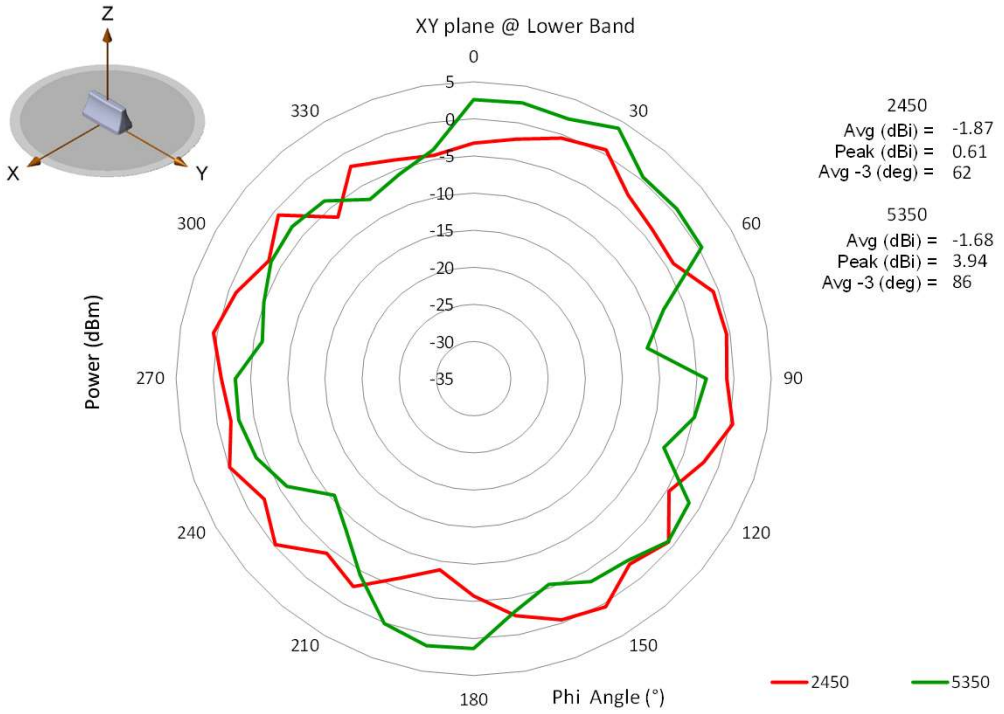
CHARTS

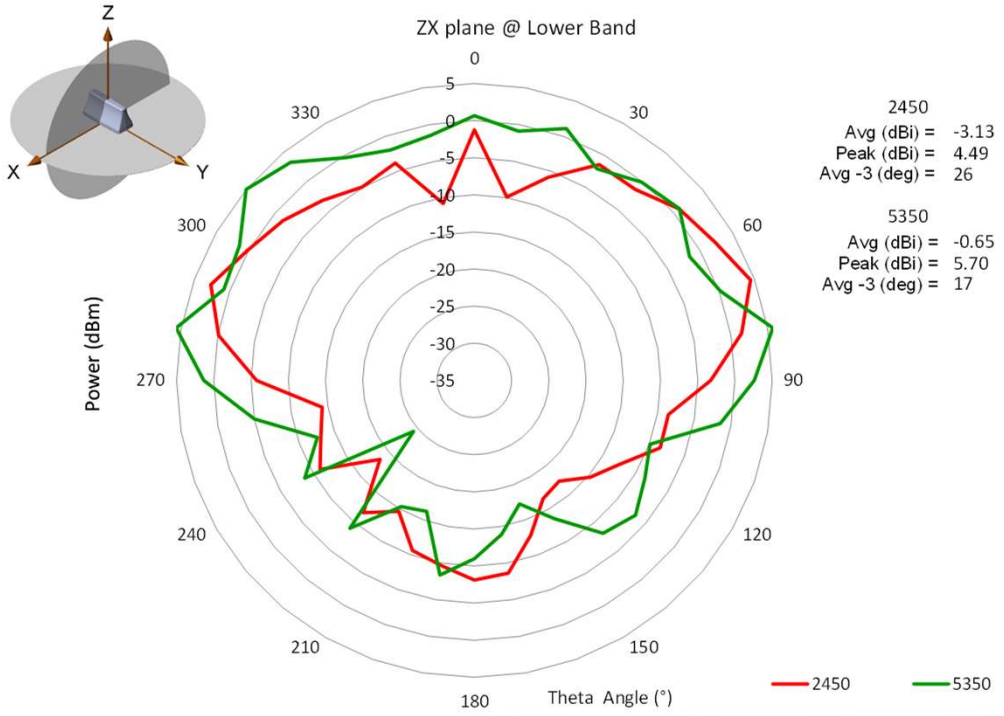
WiFi 1

Measured with 914mm (36") cable



WiFi 1

Measured with 914mm (36") cable



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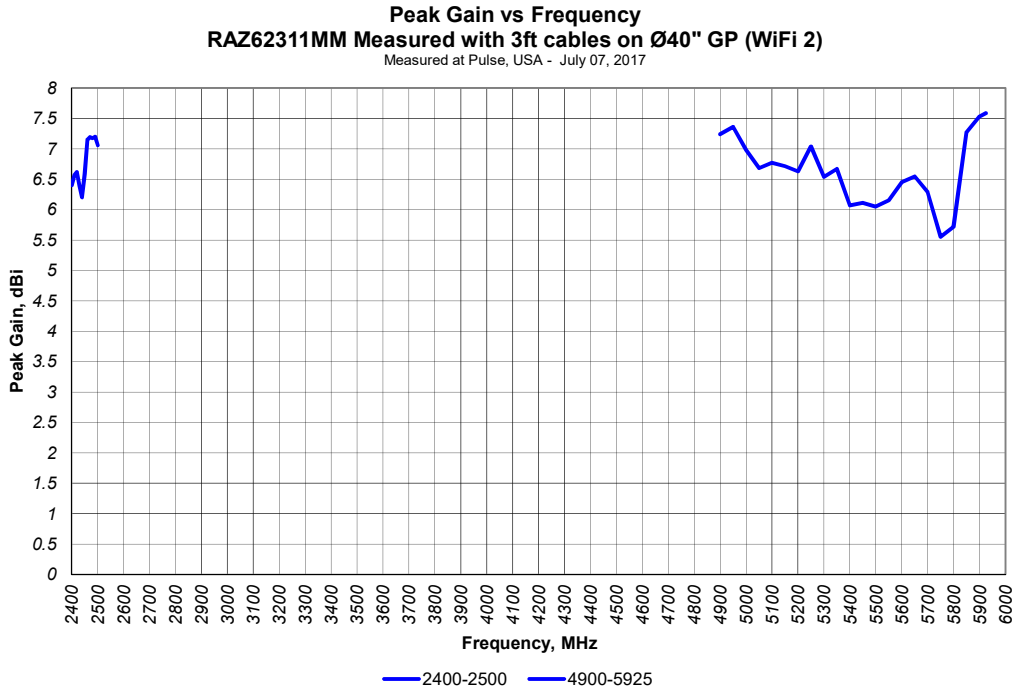
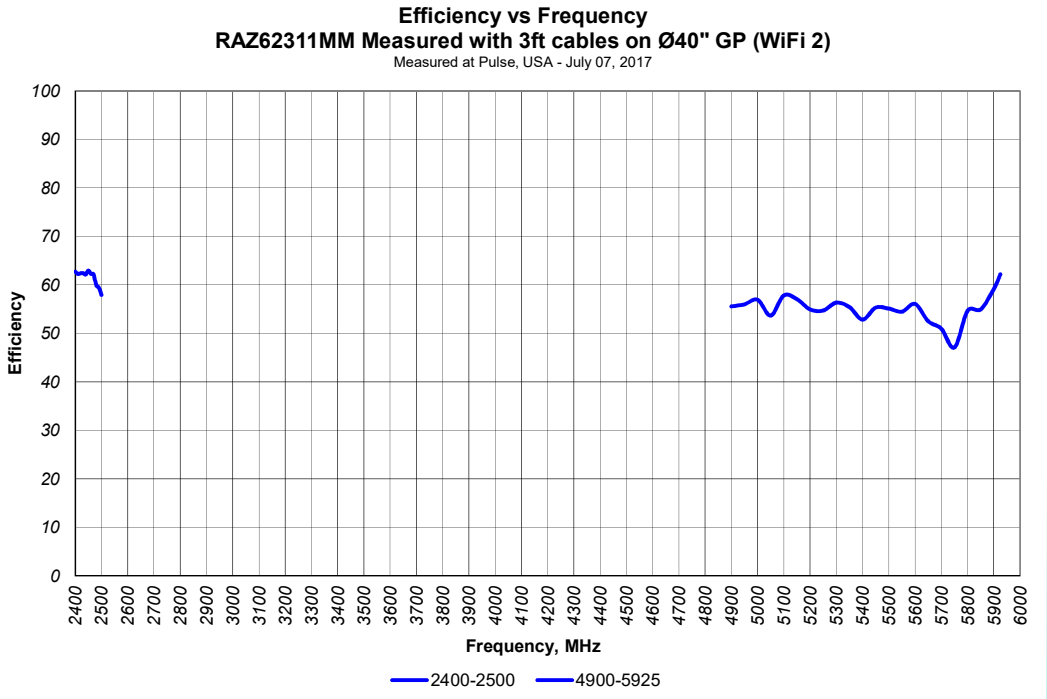
CHARTS

WiFi 2
Measured with
914mm (36") cable



WiFi 2
Measured with
914mm (36") cable



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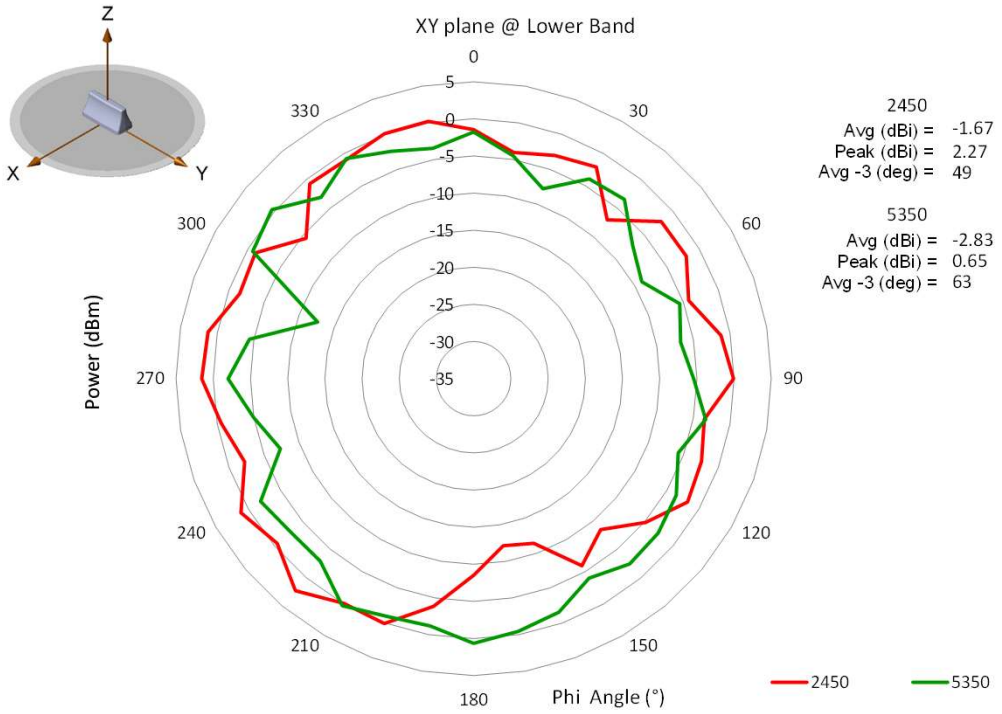
CHARTS

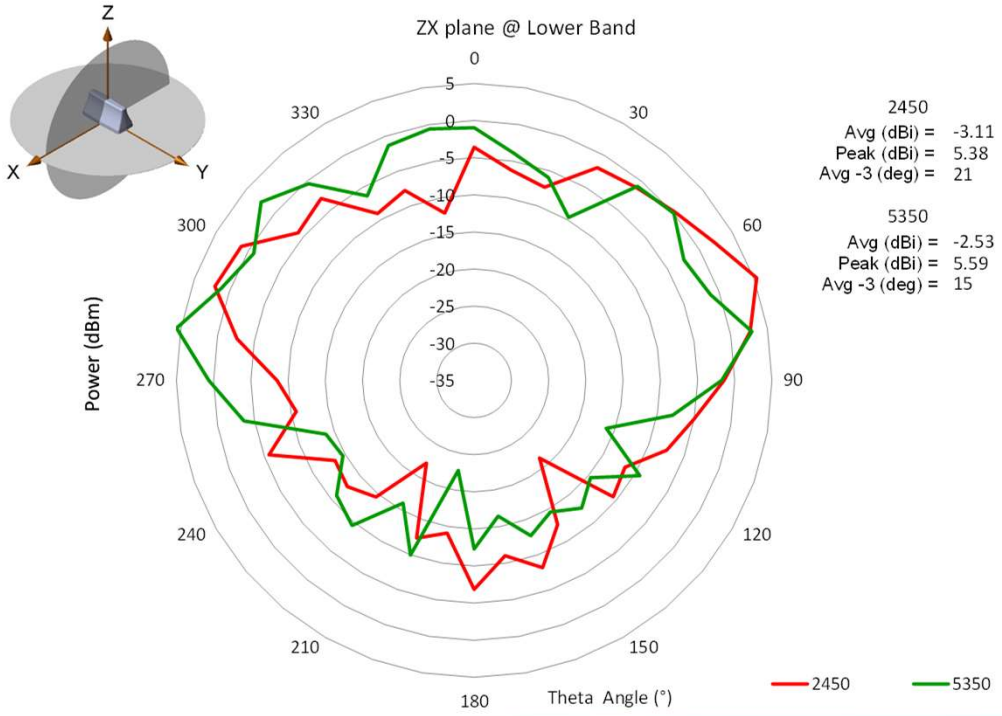
WiFi 2

Measured with 914mm (36") cable



WiFi 2

Measured with 914mm (36") cable



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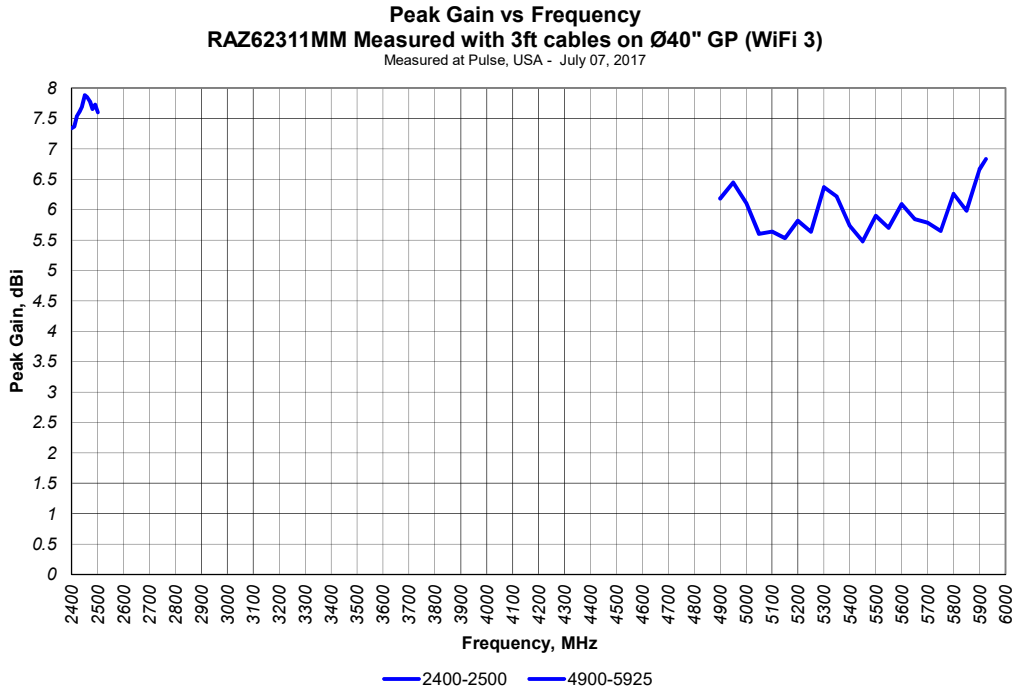
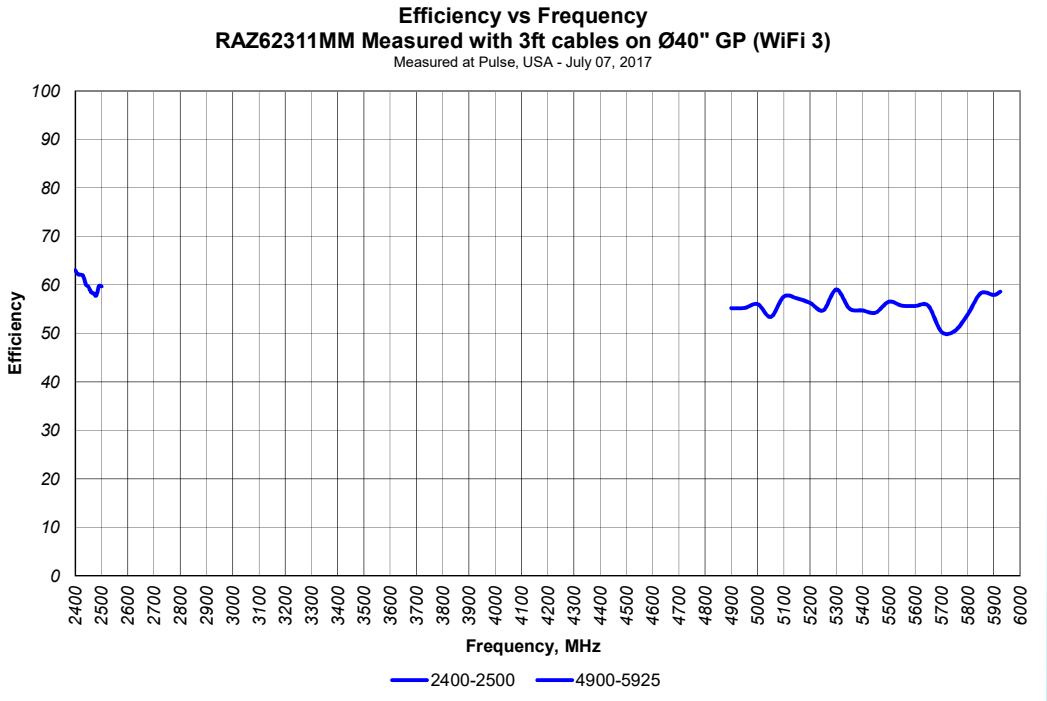
CHARTS

WiFi 3
Measured with
914mm (36") cable



WiFi 3
Measured with
914mm (36") cable



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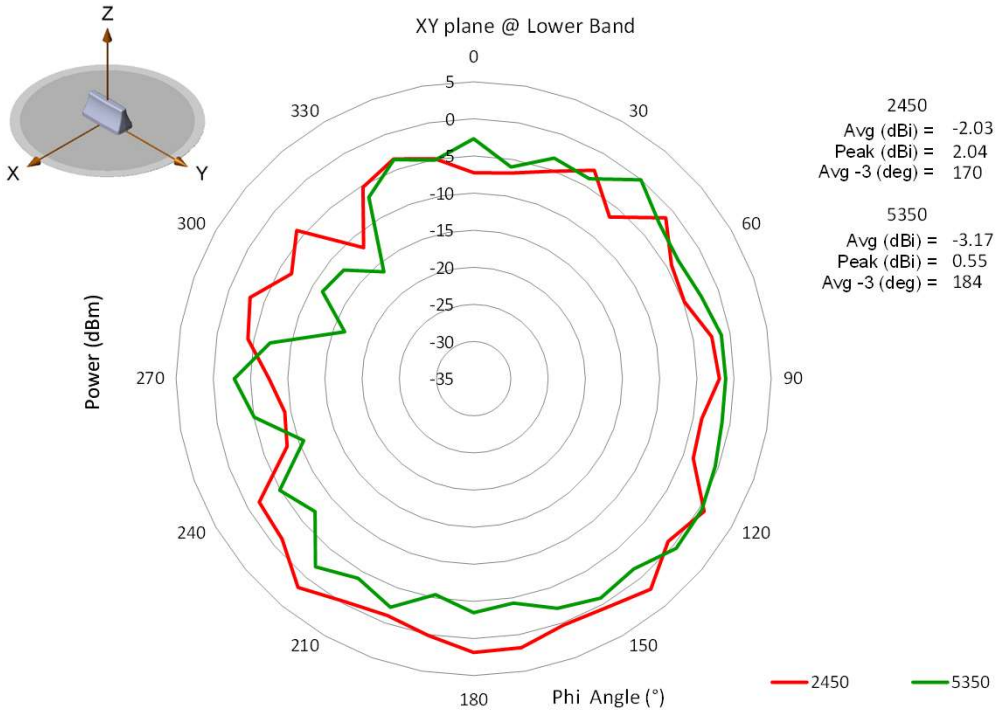
CHARTS

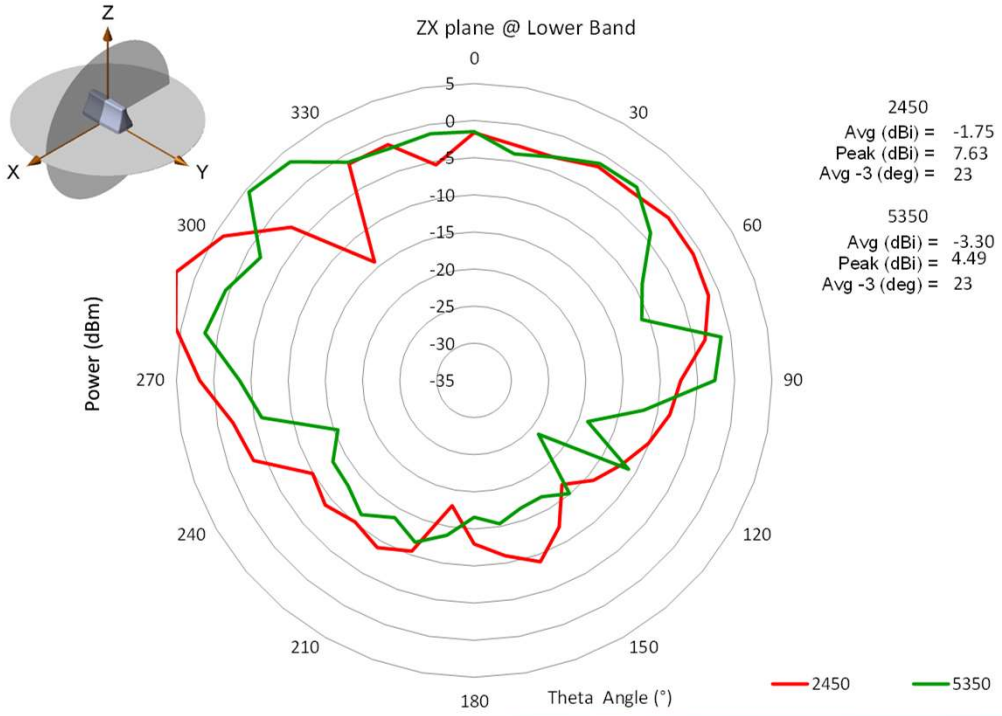
WiFi 3

Measured with 914mm (36") cable



WiFi 3

Measured with 914mm (36") cable



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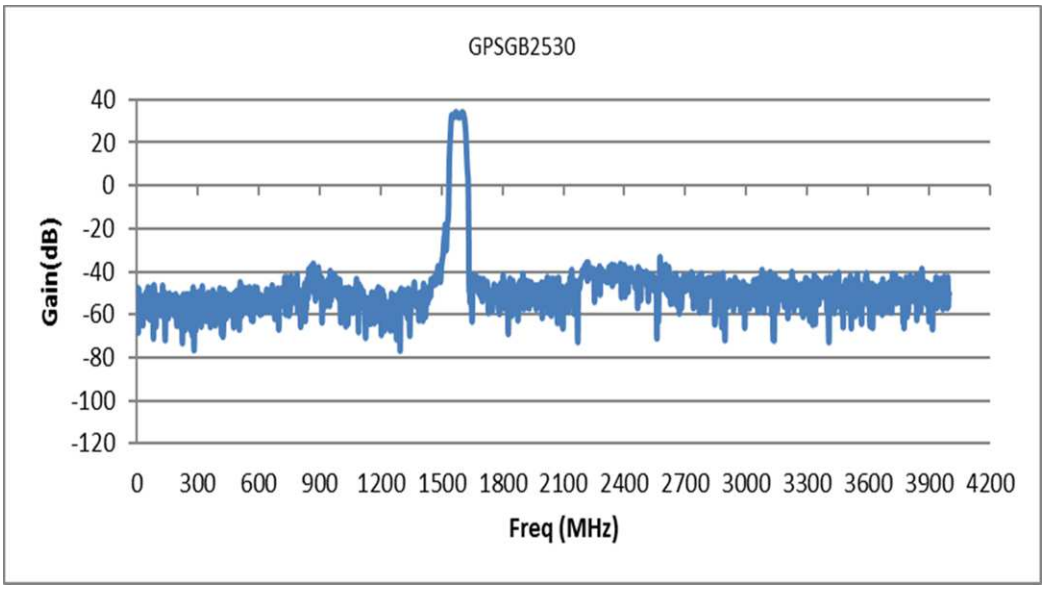
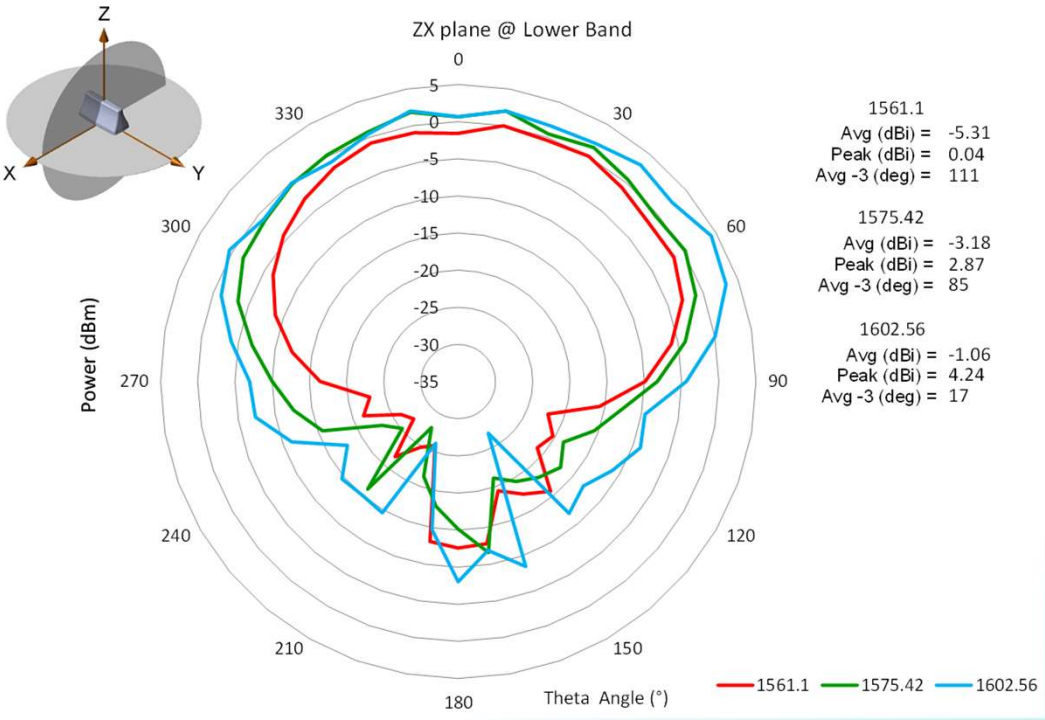
CHARTS

GNSS LNA Gain and out-of-band rejection



GNSS

Passive
Measurement
Measured with
152mm (6") cable



PACKAGING

1pcs antennas per foam bag

6pcs antennas per package box

Total 6pcs antenna per package box

Package box: 558mm*386mm*210mm