



VQJ69595B

“Trigger” 4-Port Under-Dash Antenna Cellular/Wi-Fi/GNSS

The innovative *Trigger* family of multiport/multiband antennas provide an excellent solution for transportation, aftermarket fleet, public safety and IoT applications. The incorporation of both vertically and horizontally polarized cellular radiating elements has shown to provide improved signal received power and signal received quality. These parameters are critical for high density urban environments as well as long distance remote rural conditions. This translates to more consistent connectivity and data throughput for your mobile data applications.

The VQJ series Trigger antenna is configured for two-port operation over the 3G/4G/5G/ISM/CBRS bands and one-port operation over the low//high frequency Wi-Fi bands. An additional fourth port provides an active antenna for enabling GNSS global navigation services.

FEATURES AND BENEFITS

- Unique V-Pol / H-Pol cellular elements ensure highest signal retention and data throughput
- Ideal for vehicle under-dash locations mounted to ventilation ducting
- Dual axis bonding via VHB tape provides a rugged mount to jarring vehicle movements

APPLICATIONS

- Trucking
- FirstNet/Public safety
- Transportation/transit
- Aftermarket fleet
- Rugged LTE gateways

ELECTRICAL SPECIFICATIONS

Antenna Model	VQJ69595B-92VC1 / VQJ69595B-92FAK			
Number of Ports	4			
Port Configuration	LTE (Cell) 2x		Wi-Fi 1x	
Operating Frequency (MHz)	698-960/1710-2620	2620-2700	2400-2500	4900-5900
Peak Gain - (dBi)	5.0		5.0	
Efficiency - Typical (%)	50		40	
VSWR - Max	<3.1:1		<3.1:1	
Nominal Impedance (Ohms)	50			
Max Power - Ambient 25°C (W)	5			

MECHANICAL SPECIFICATIONS

Dimensions - L x W x H - mm (inches)	132.3 x 59.3 x 14.6 (5.21 x 2.33 x 0.57)
Weight -g (lbs.)	206 (0.45)
Cable Type	LMR100 (or equivalent) - Wi-Fi and LTE; RG174 - GNSS
Mounting Tape (separate pack)	Mounting tape - 2x double-sided foam tape (75 x 40 x 1.6 mm thick)
3M VHB 5962P or equivalent	PC, UL94 - V0 Rating, UV Stable
Radome Material	PC
Radome Color	Black
Radome Texture	MT11010

ENVIRONMENTAL SPECIFICATIONS

Operating Environment	Vehicular under dash; outdoor rated
Operating Temperature - °C (°F)	-40 to +85°C (-40 to +185°F)
Storage Temperature - °C (°F)	-40 to +85°C (-40 to +185°F)
Ingress Protection Rating	IP67
Material Substance Compliance	RoHS

GNSS ANTENNA SPECIFICATIONS

Frequency of Operation (MHz, reference)	1559 - 1606			
Band	BEIDOU	GPS	GLONASS	
Frequency Band (MHz)	1561.098 ±2.046	1575.42 ±1.023	1602 ±5	
GNSS Passive Gain (dBic)	5			
GNSS Active Gain (dBic)	32			
LNA Gain, Typ. (dB)	28 ±3			
DC Voltage, (V)	2.5 - 7			
Noise Figure; Max (dB)	≤ 2.5			
Polarization	RHCP			
Nominal Impedance (Ohms)	50			
Current Consumption, Max @ room temp mA	8.5 ±3 (at 3.0 V)			
Out-of-band Signal Rejection Min (dB)	698-960 MHz > 80	1428-1511 MHz > 80	1710-2700 MHz > 80	4900-5800 MHz > 70
Input Max Power (dBm)	-10			

CONFIGURATION

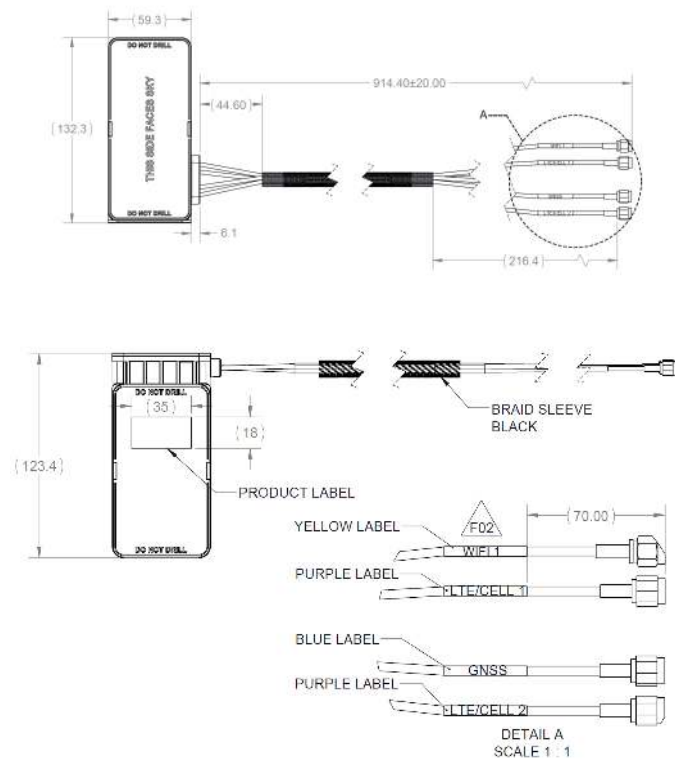
PART NUMBER	CABLE LENGTH	CONNECTORS			COLOR
	PIGTAIL	LTE/CELL	WI-FI	GNSS	
VQJ69595B-92VC1	914 mm (3 ft.)	SMA-male (2x)	RP SMA-male	SMA-male	Black
VQJ69595B-92FAK	914 mm (3 ft.)	Fakra Type D Jack (Purple) (2x)	Fakra Type I Jack (Beige)	Fakra Type C Jack (Blue)	Black

PACKAGING INFORMATION

PACKAGE DIMENSIONS	MASTER CARTON	AIR PALLET	OCEAN PALLET
Number of Antennas	40	720	880
Height - cm (in.)	15.6 (6.1)	154.8 (60.9)	186.0 (73.2)
Length - cm (in.)	80 (31.5)	120 (47.2)	120 (47.2)
Width - cm (in.)	60 (23.6)	80 (31.5)	80 (31.5)
Shipping Weight - kg (lb.)	12.5 (27.6)	245 (540.1)	295 (650.4)

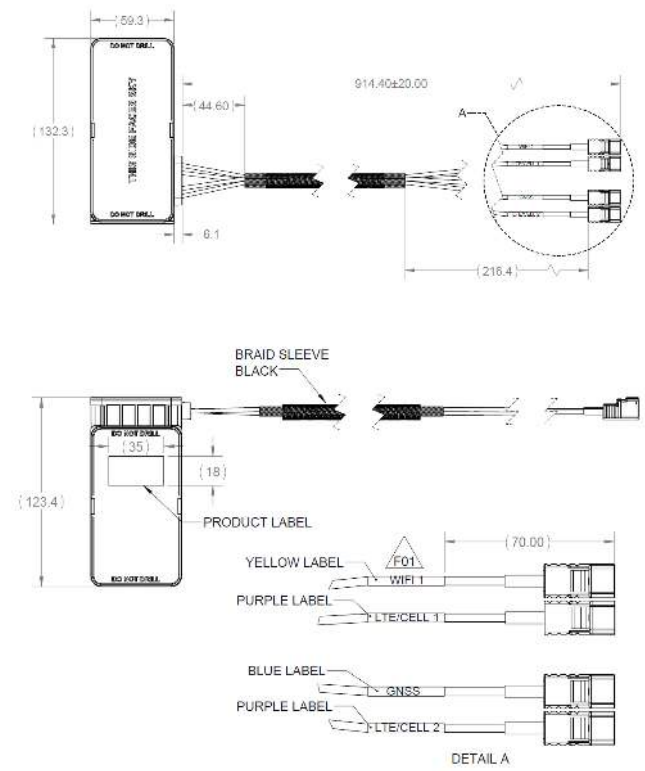
MECHANICAL DRAWING

VQJ69595B-92VC1



DIMENSION SHOWN NOT INCLUDE MOUNTING TAPE

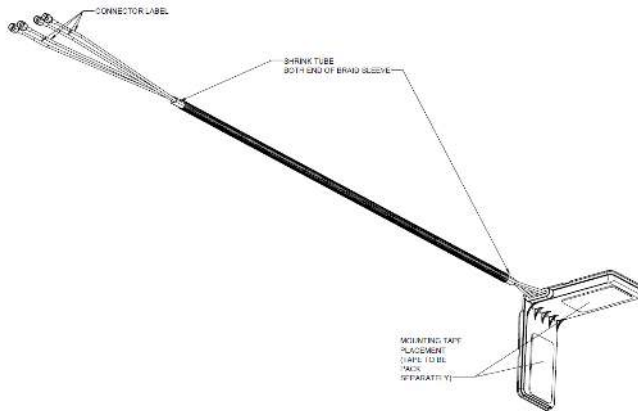
VQJ69595B-92FAK



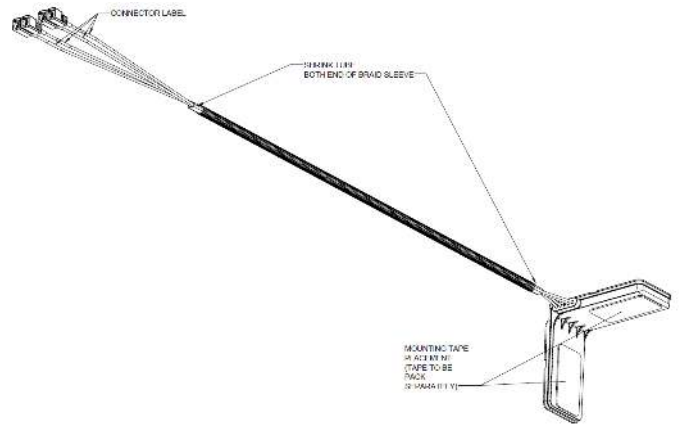
DIMENSION SHOWN NOT INCLUDE MOUNTING TAPE

MECHANICAL DRAWING

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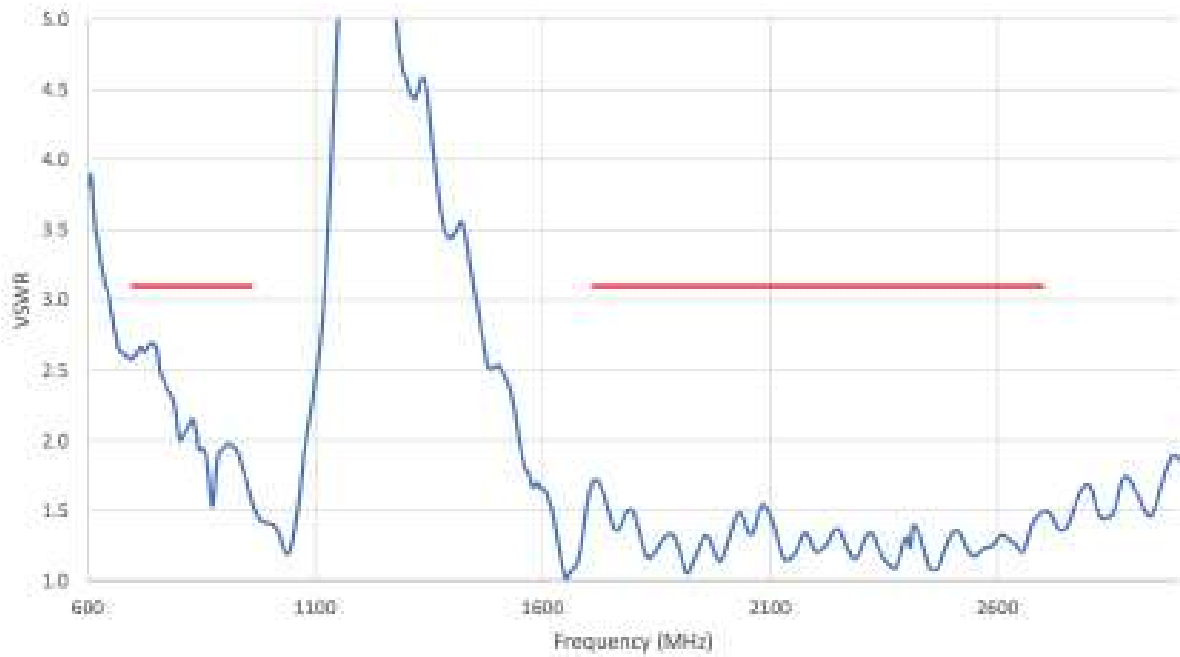


VQJ69595B-92FAK



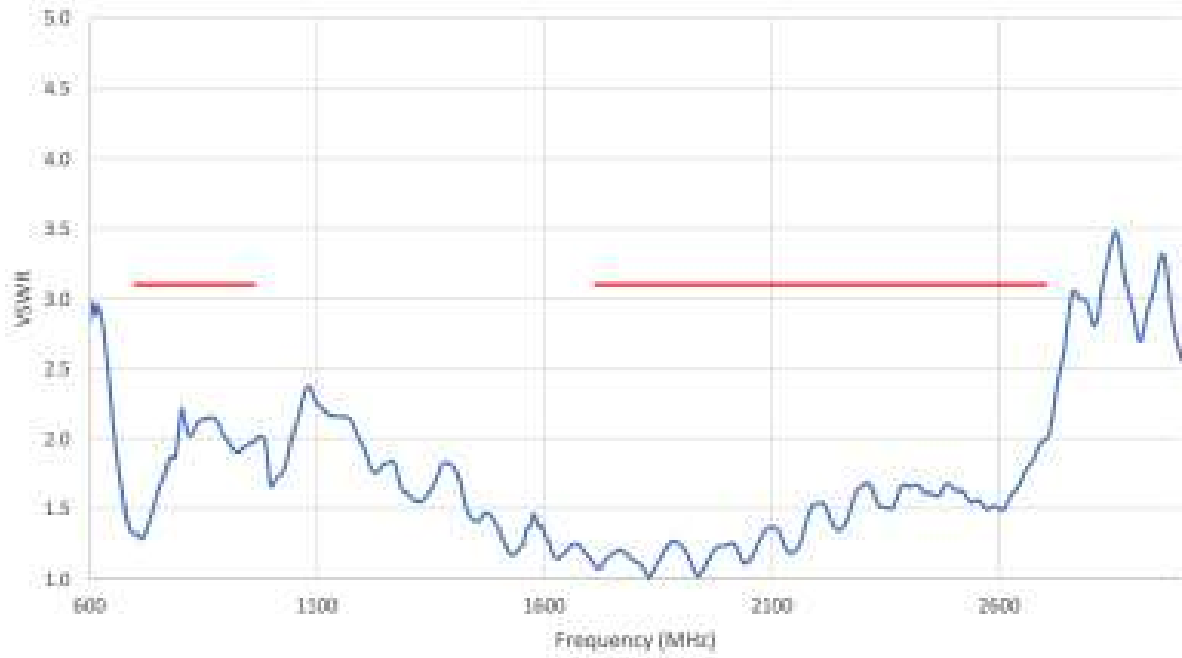
VSWR

LTE 2 (Horizontal)

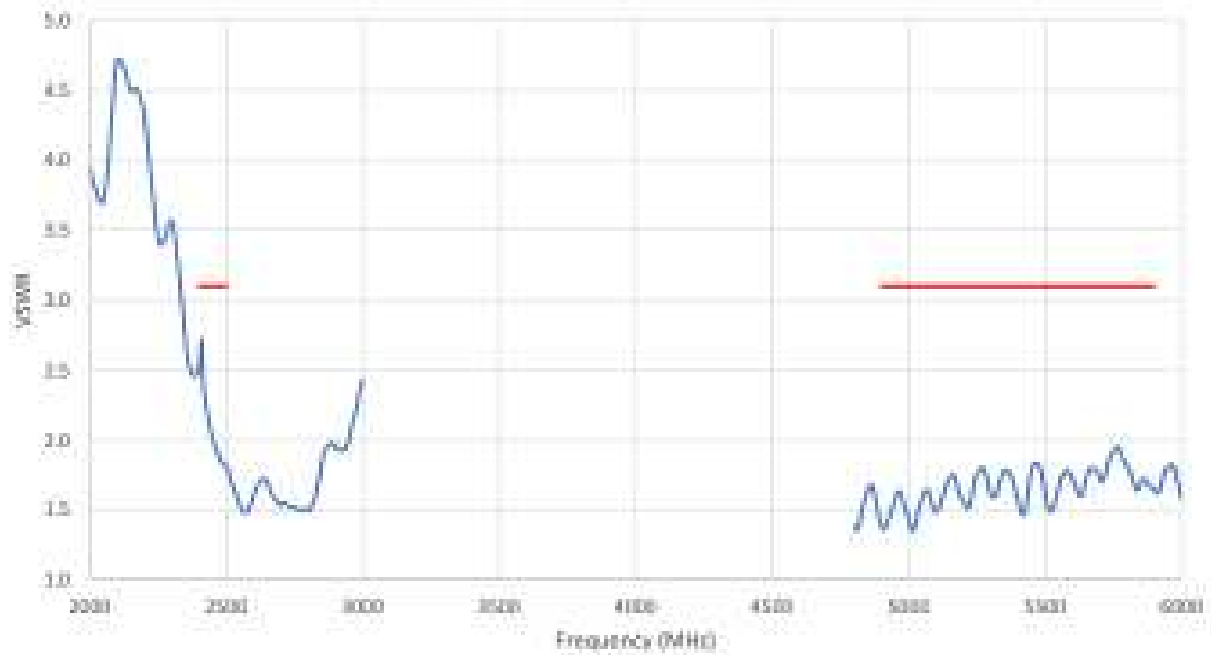


VSWR

LTE 1 (Vertical)

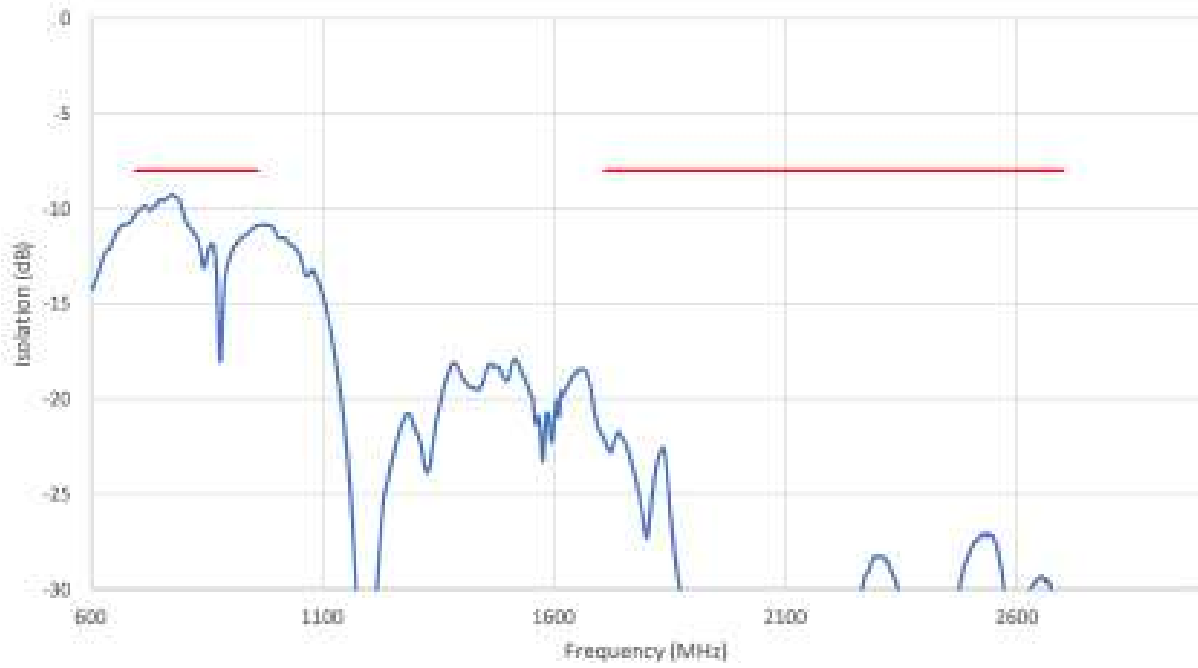


Wi-Fi

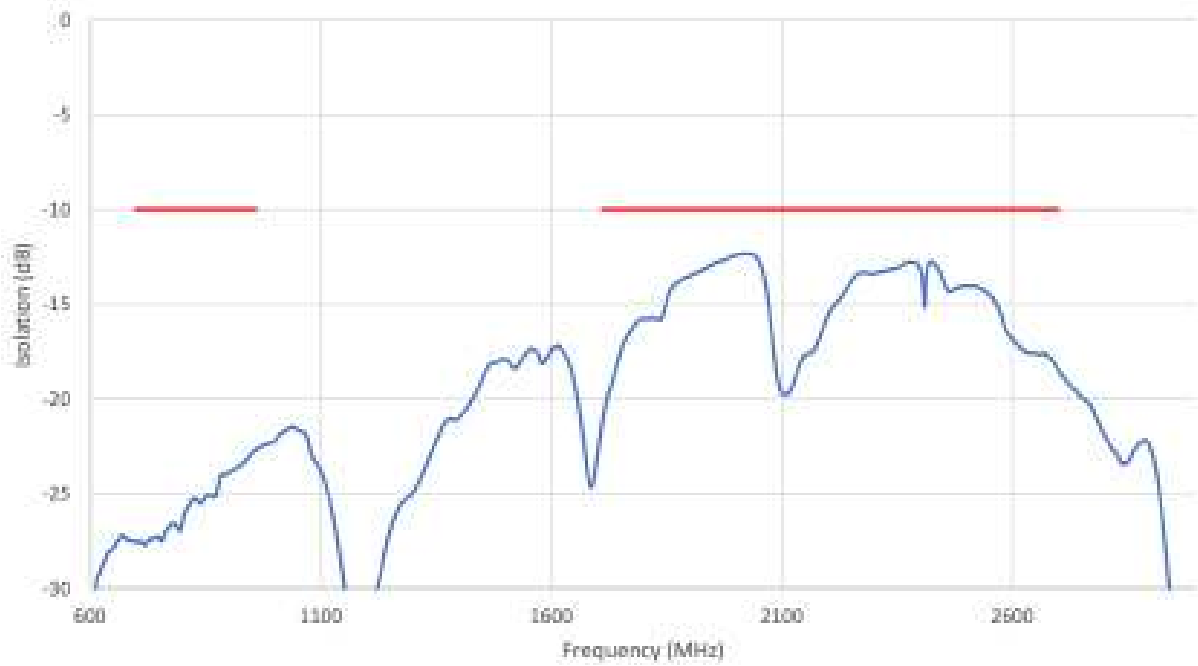


ISOLATION

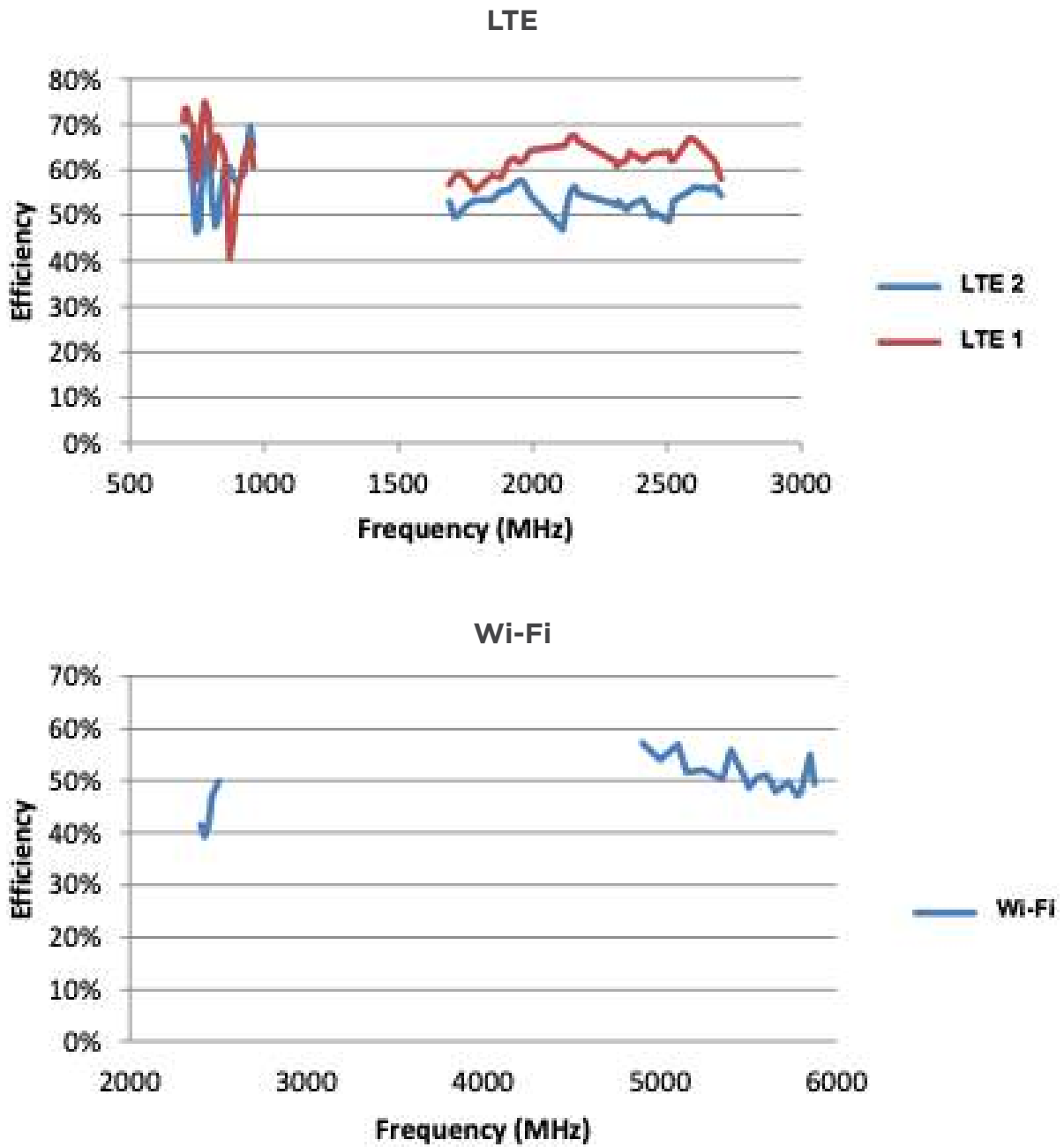
LTE 2 - LTE 1



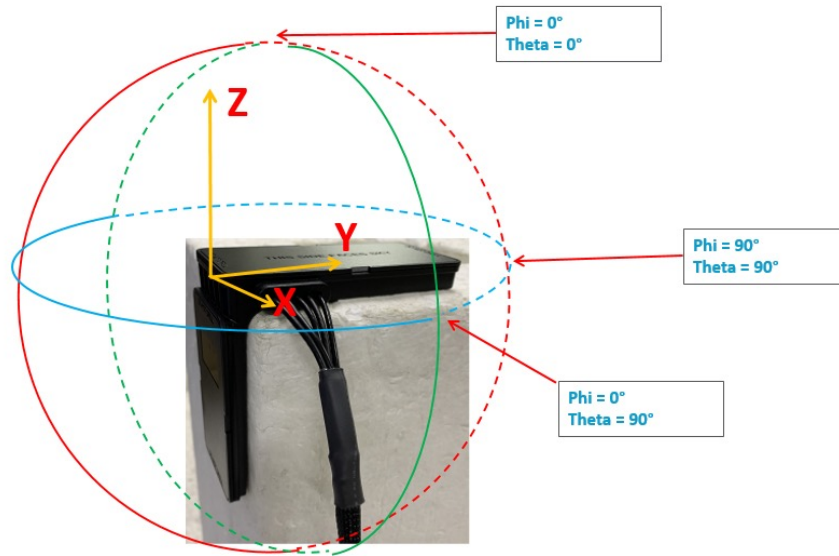
LTE 2 - Wi-Fi



EFFICIENCY

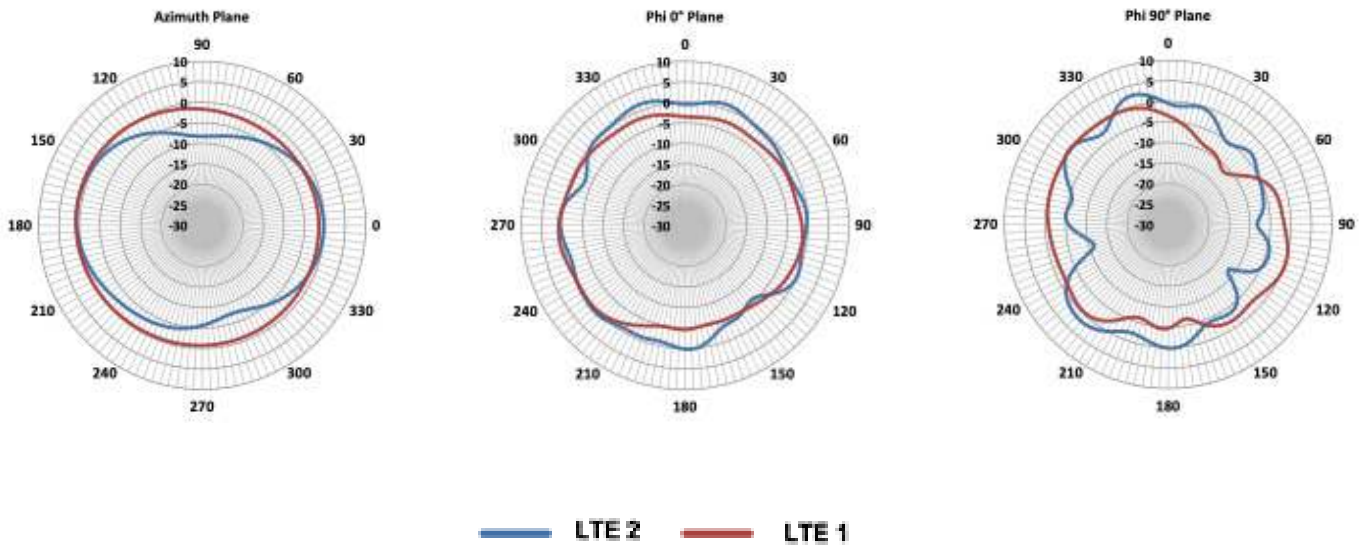


MEASUREMENT COORDINATION SYSTEM (GAIN PLOT ORIENTATION)

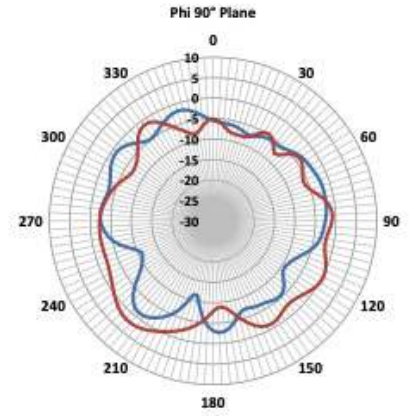
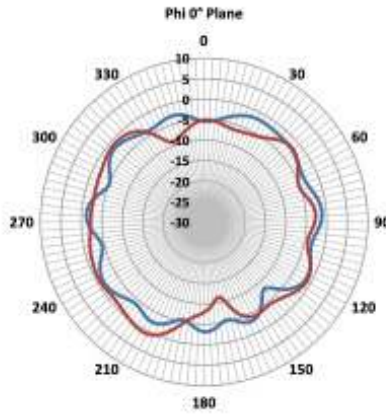
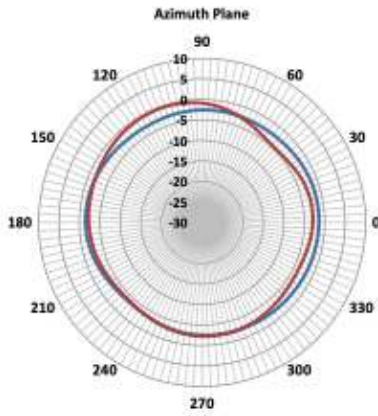


RADIATION PATTERNS - LTE ANTENNAS

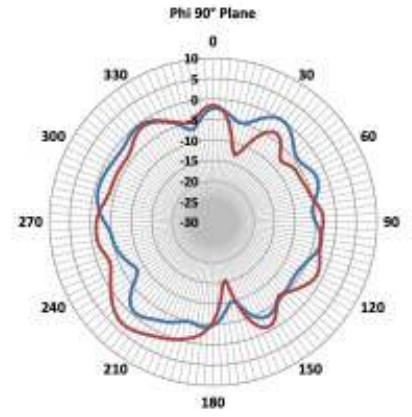
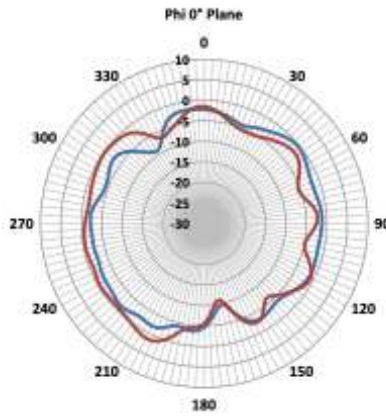
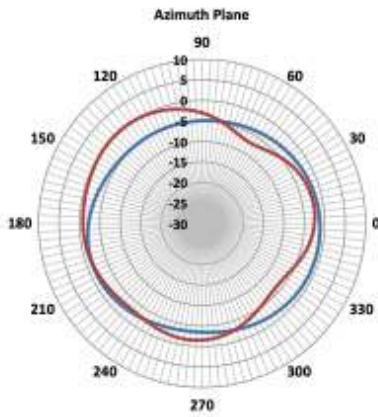
698 MHz



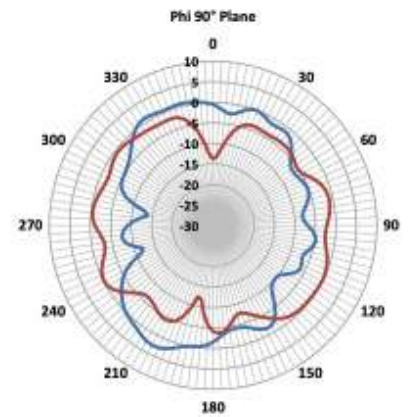
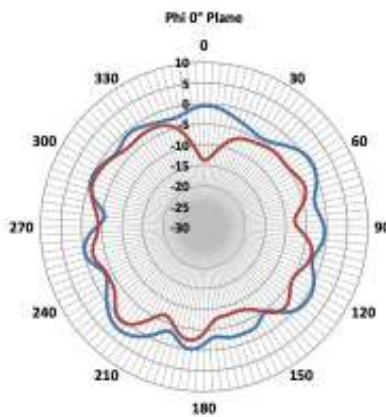
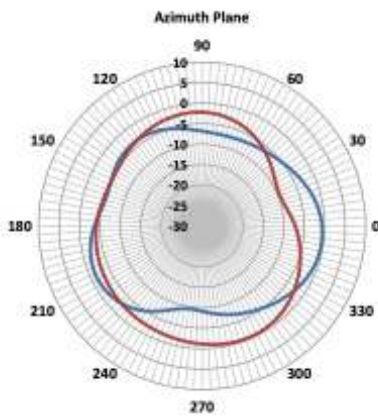
746 MHz



806 MHz



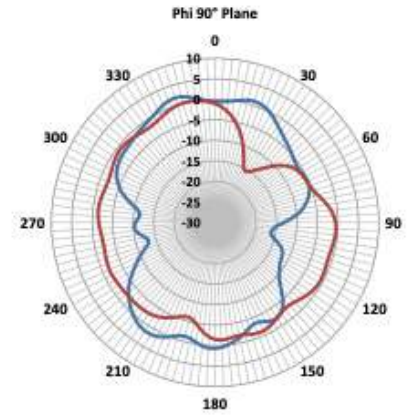
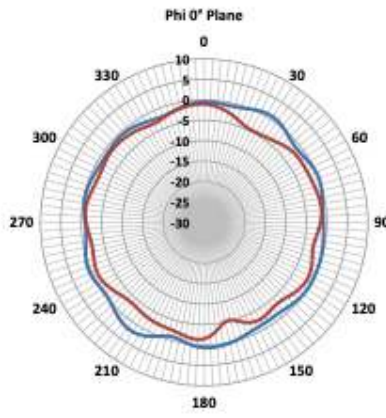
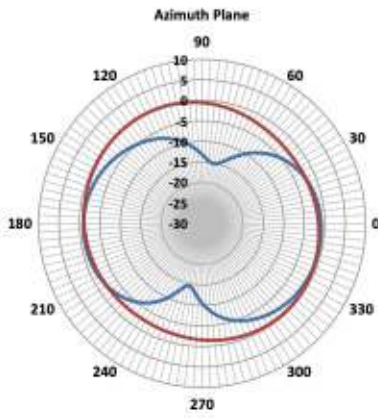
860 MHz



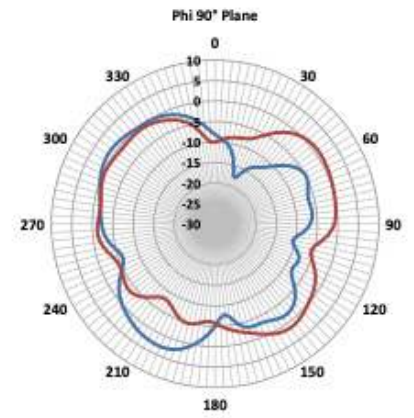
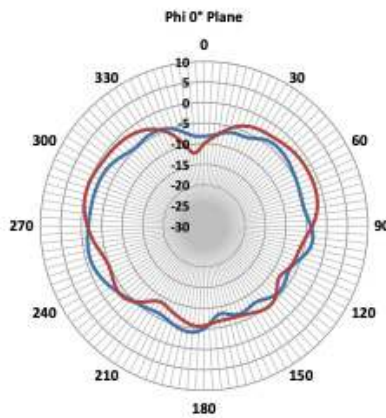
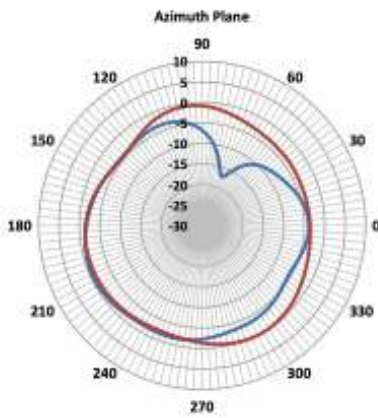
— LTE 2 — LTE 1

RADIATION PATTERNS - LTE ANTENNAS

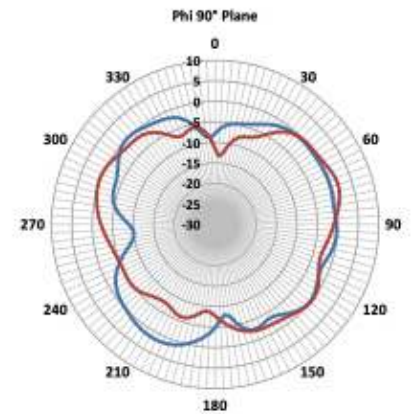
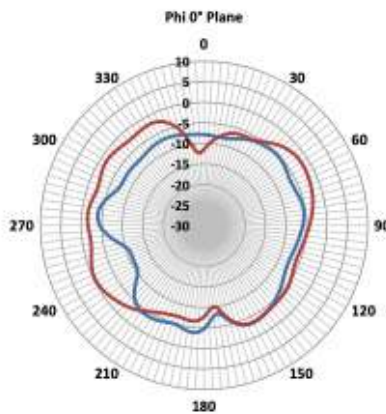
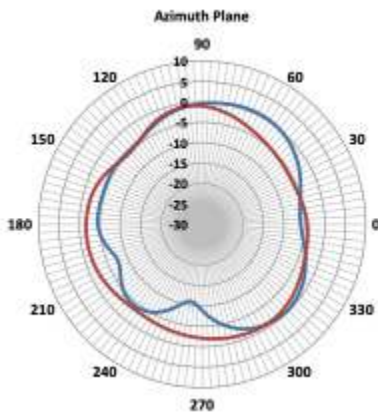
960 MHz



1710 MHz



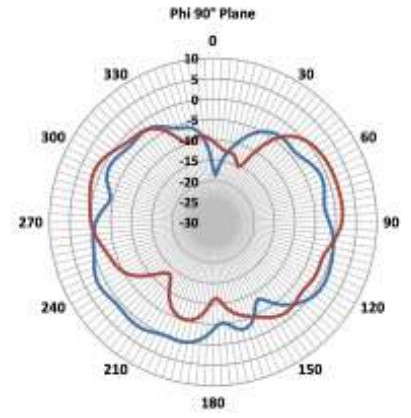
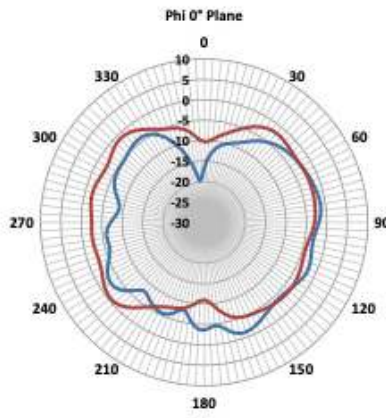
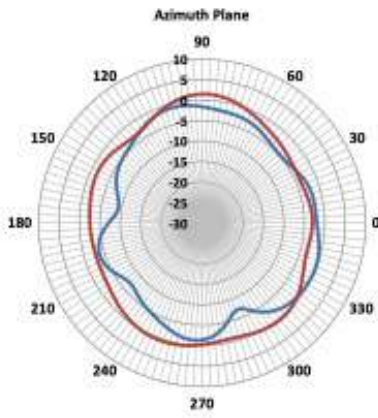
1880 MHz



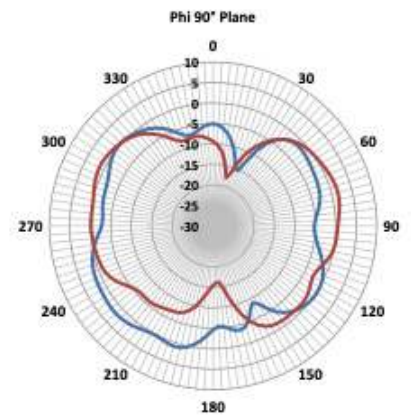
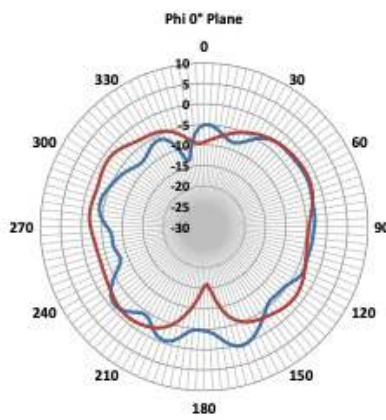
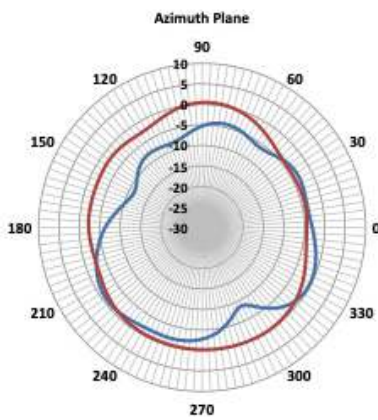
— LTE 2 — LTE 1

RADIATION PATTERNS - LTE ANTENNAS

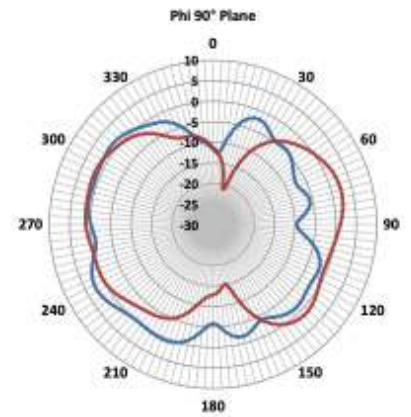
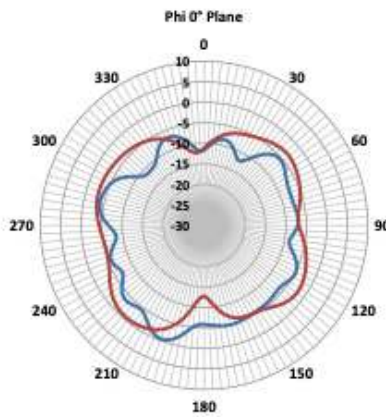
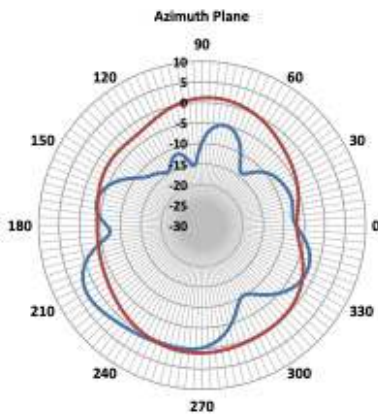
2305 MHz



2412 MHz



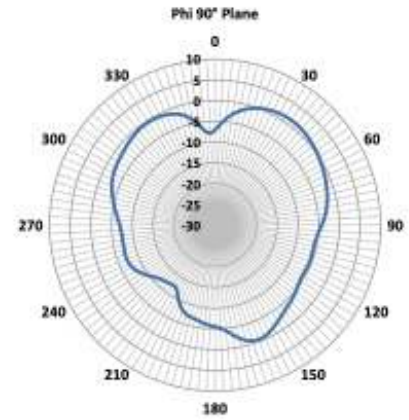
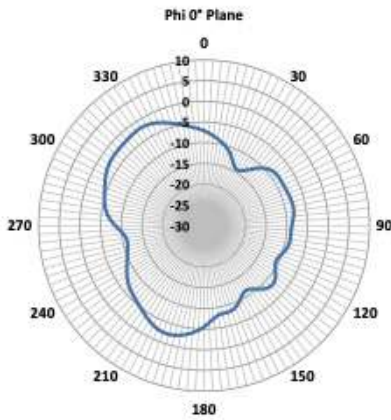
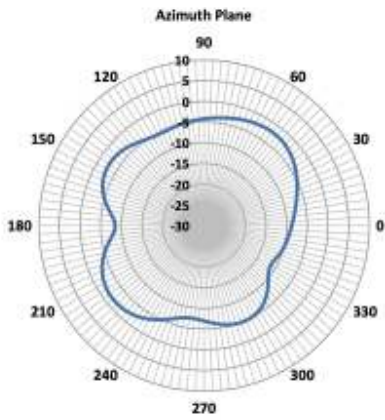
2600 MHz



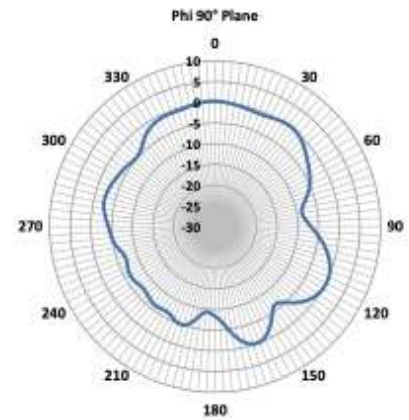
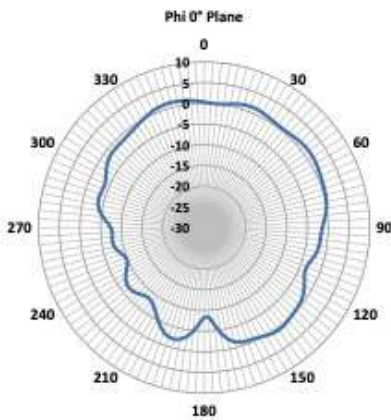
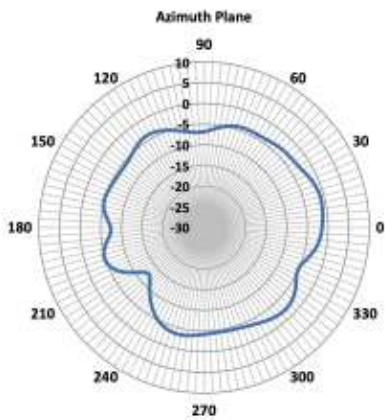
— LTE 2 — LTE 1

RADIATION PATTERNS - WI-FI ANTENNAS

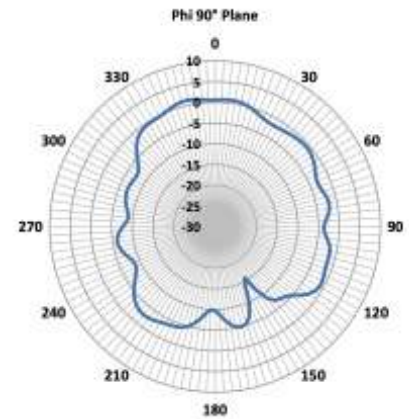
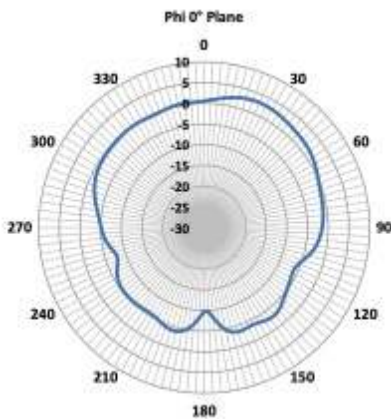
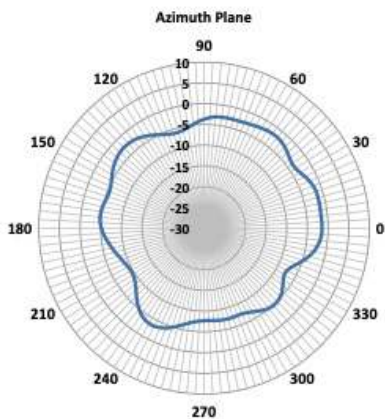
2450 MHz



4900 MHz

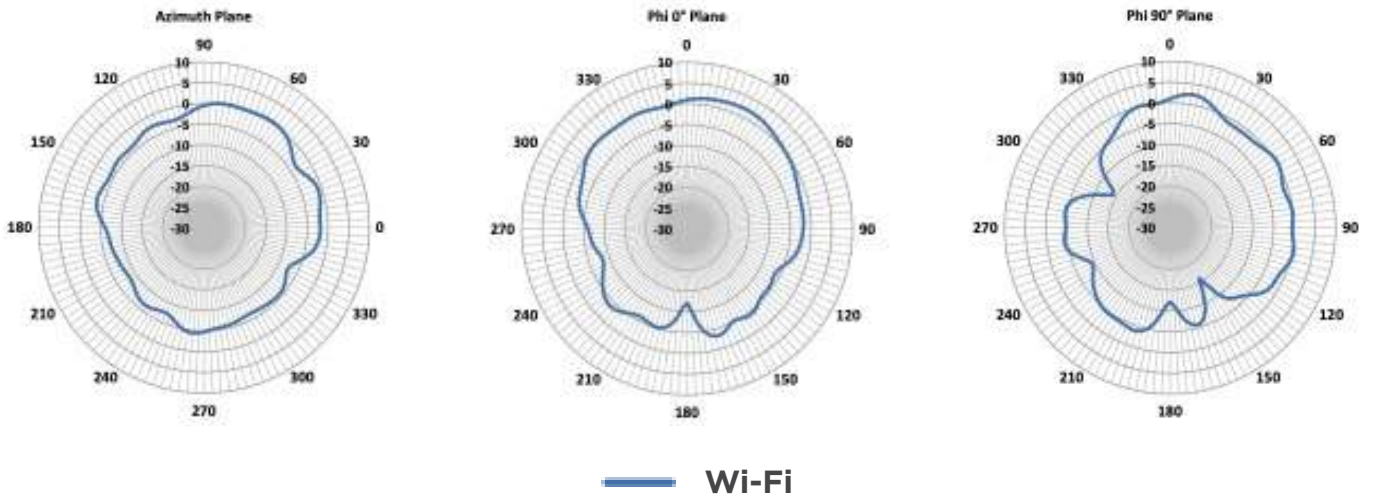


5550 MHz



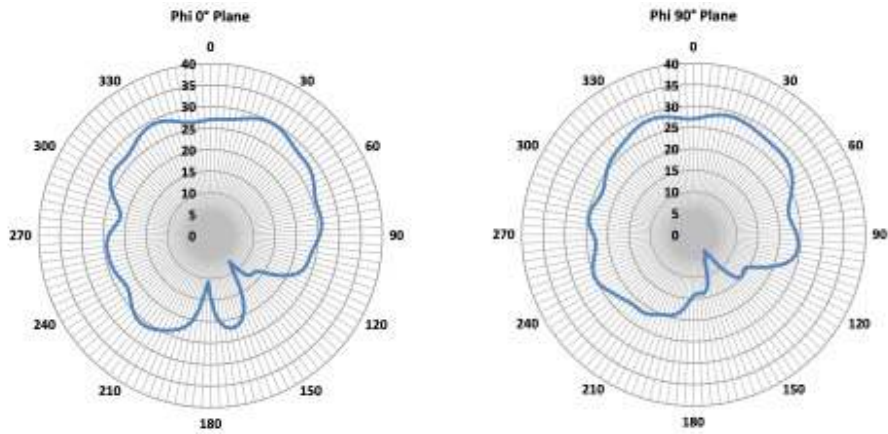
— Wi-Fi

5875 MHz

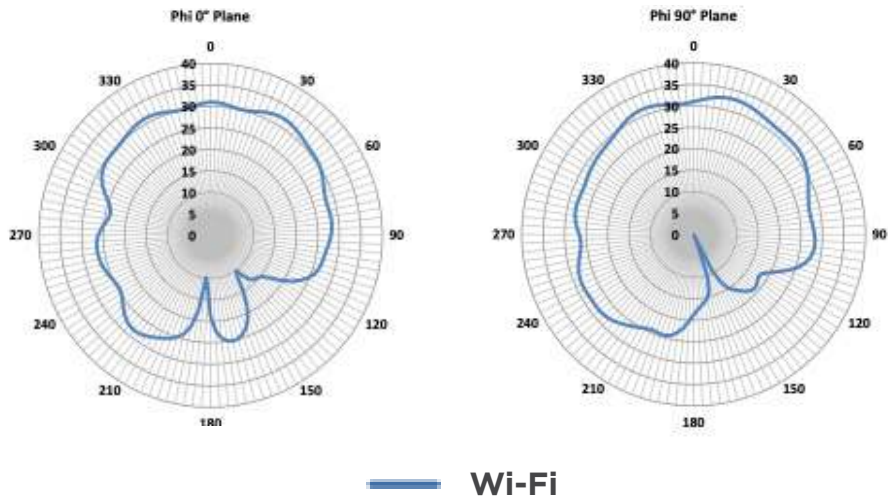


RADIATION PATTERNS - GNSS ANTENNAS

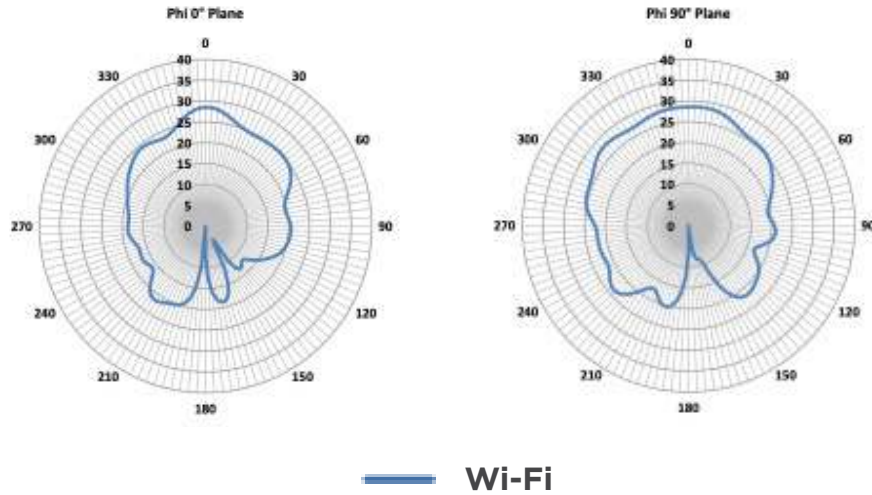
1561.098 MHz



1575.42 MHz



1602 MHz



TE TECHNICAL SUPPORT CENTER

USA:	+1 (800) 522-6752
Canada:	+1 (905) 475-6222
Mexico:	+52 (0) 55-1106-0800
Latin/S. America:	+54 (0) 11-4733-2200
Germany:	+49 (0) 6251-133-1999
UK:	+44 (0) 800-267666
France:	+33 (0) 1-3420-8686
Netherlands:	+31 (0) 73-6246-999
China:	+86 (0) 400-820-6015

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