



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
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 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

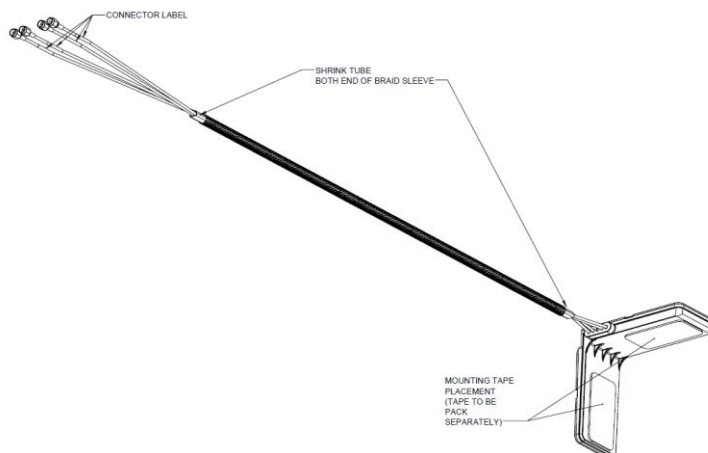
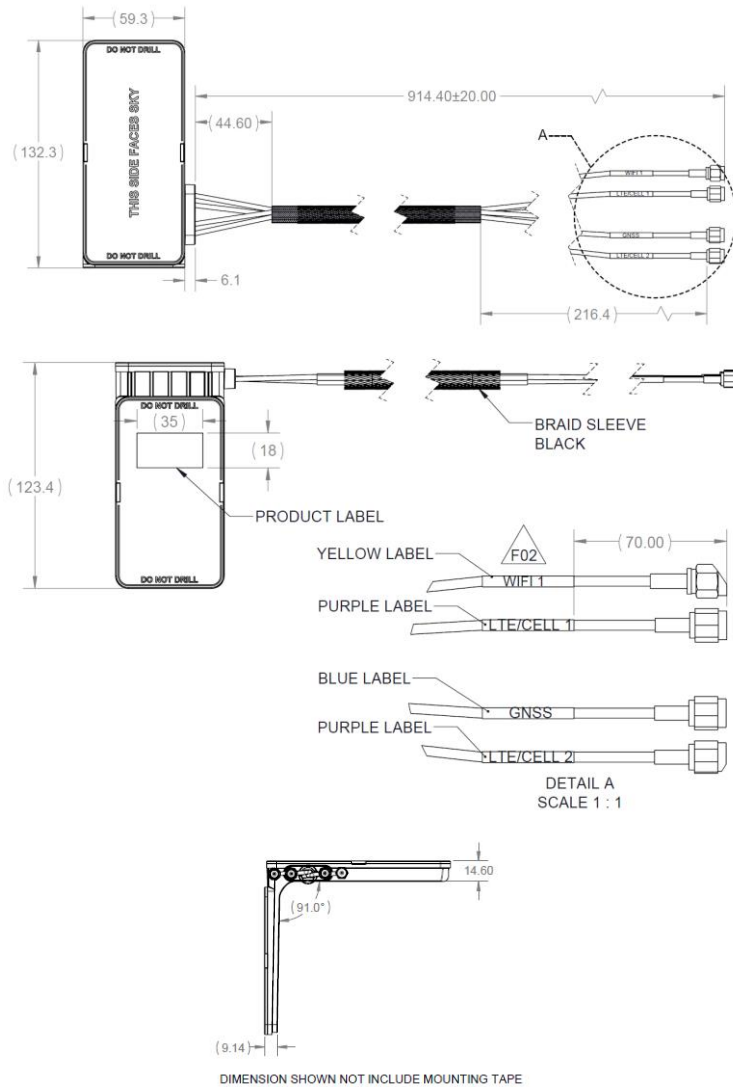
PART NUMBER	CABLE LENGTH	CONNECTORS			COLOR
	PIGTAIL	LTE/CELL	WI-FI	GNSS	
VQJ69595B-92VC1	914 mm (3 ft.)	SMA-male (2x)	RP SMA-male	SMA-male	Black
VQJ69595B-92FAK	914 mm (3 ft.)	Fakra Type D Jack (Purple) (2x)	Fakra Type I Jack (Beige)	Fakra Type C Jack (Blue)	Black

PACKAGING INFORMATION

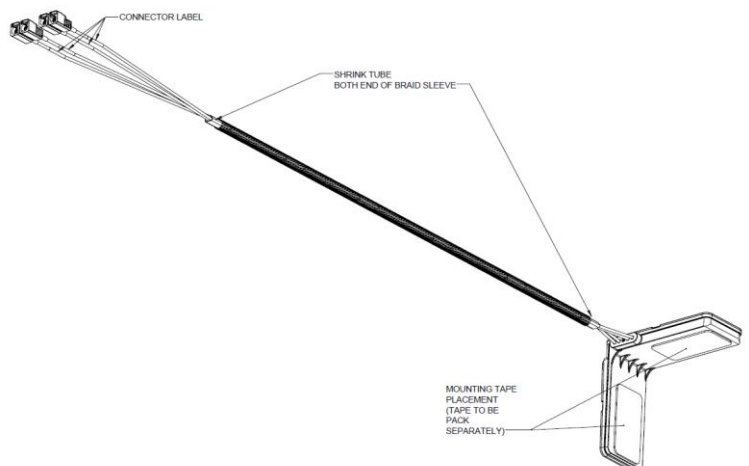
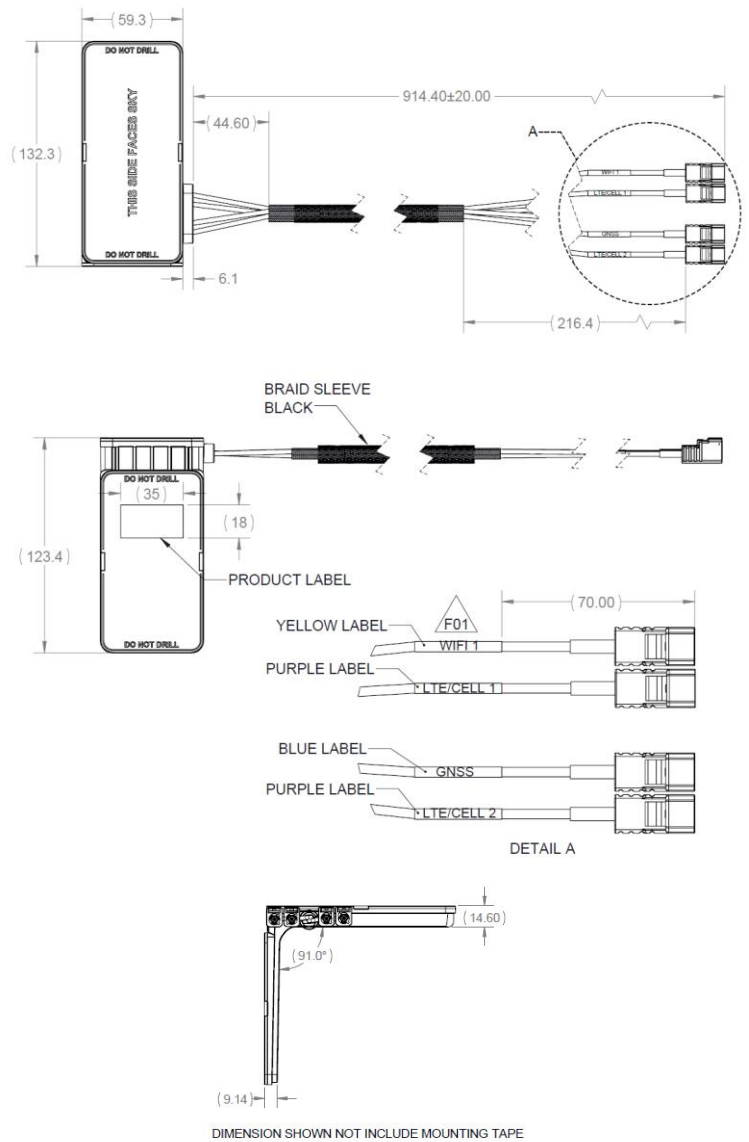
PACKAGED DIMENSIONS	MASTER CARTON	AIR PALLET	OCEAN PALLET
Number of Antennas	40	720	880
Height – cm (in.)	15.6 (6.1)	154.8 (60.9)	186.0 (73.2)
Length – cm (in.)	80 (31.5)	120 (47.2)	120 (47.2)
Width – cm (in.)	60 (23.6)	80 (31.5)	80 (31.5)
Shipping Weight – kg (lb.)	12.5 (27.6)	245 (540.1)	295 (650.4)

MECHANICAL DRAWINGS

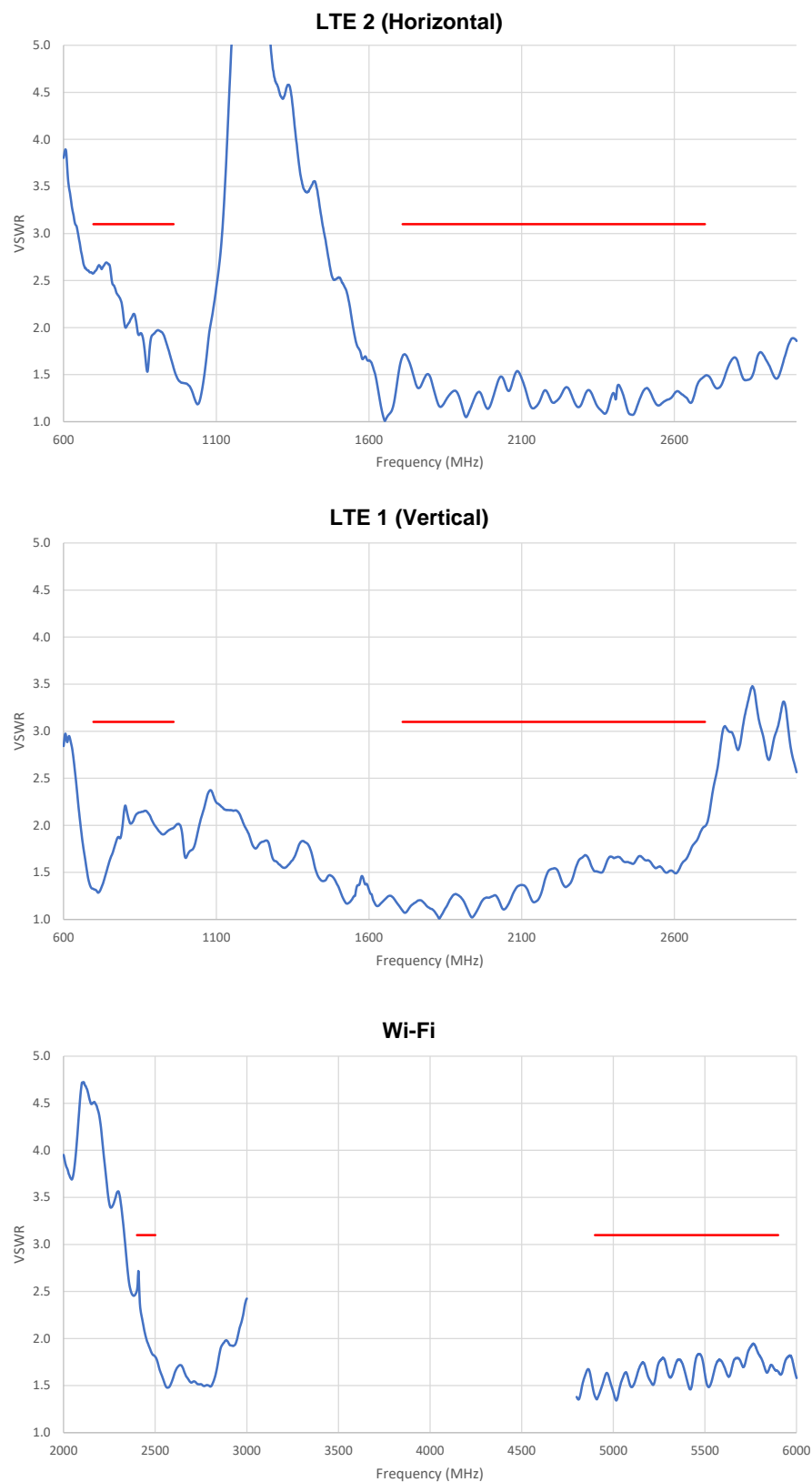
VQJ69595B-92VC1



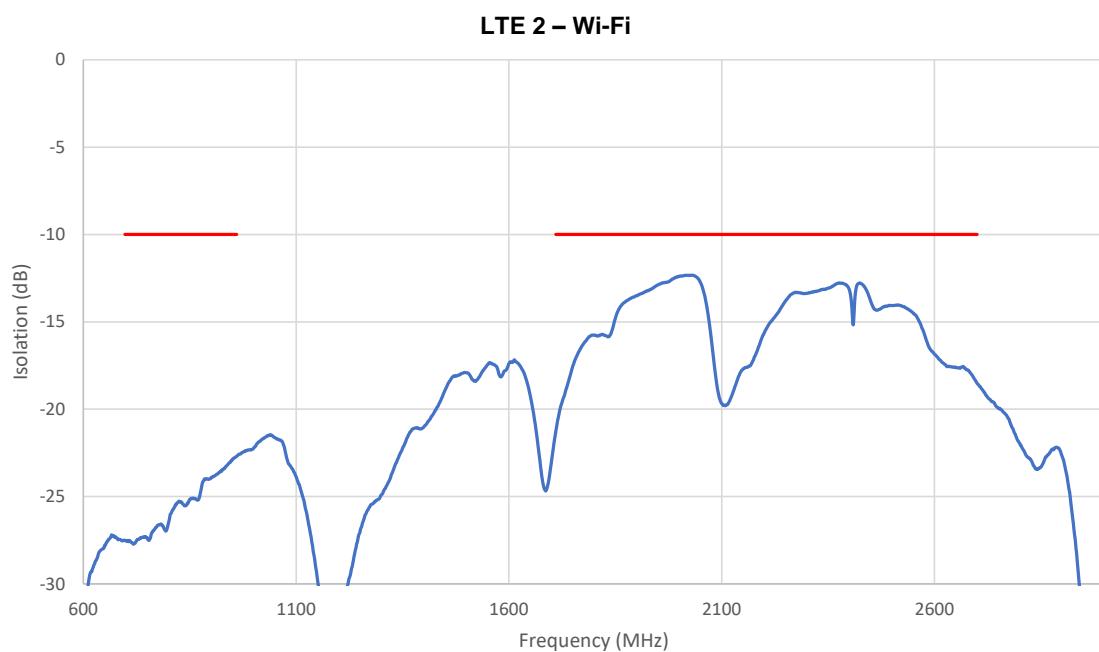
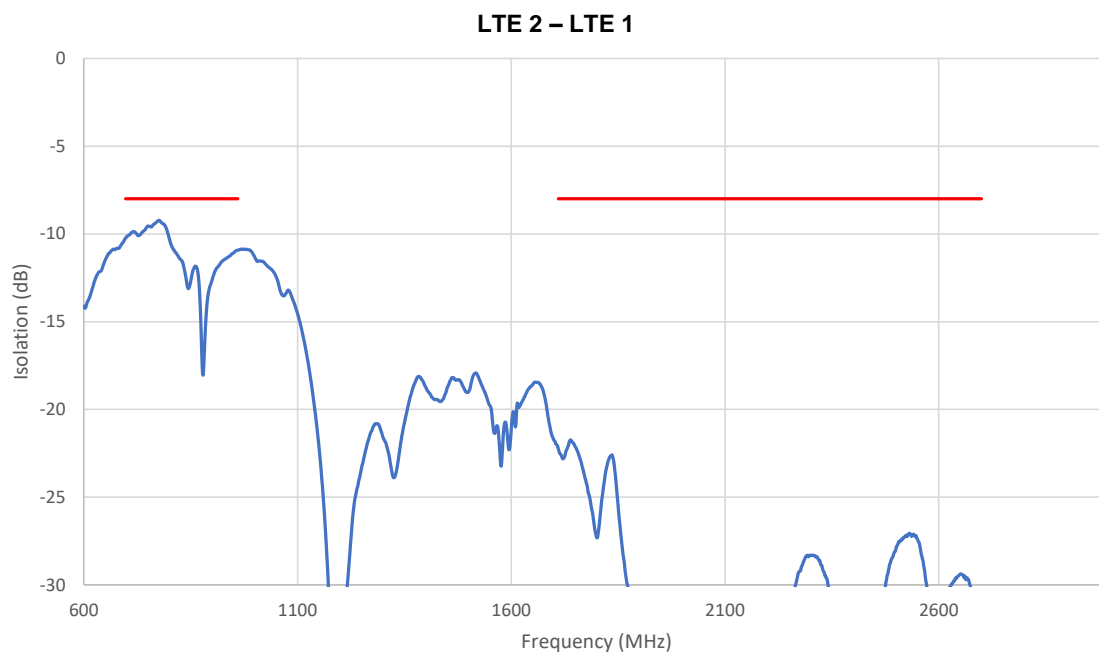
VQJ69595B-92FAK



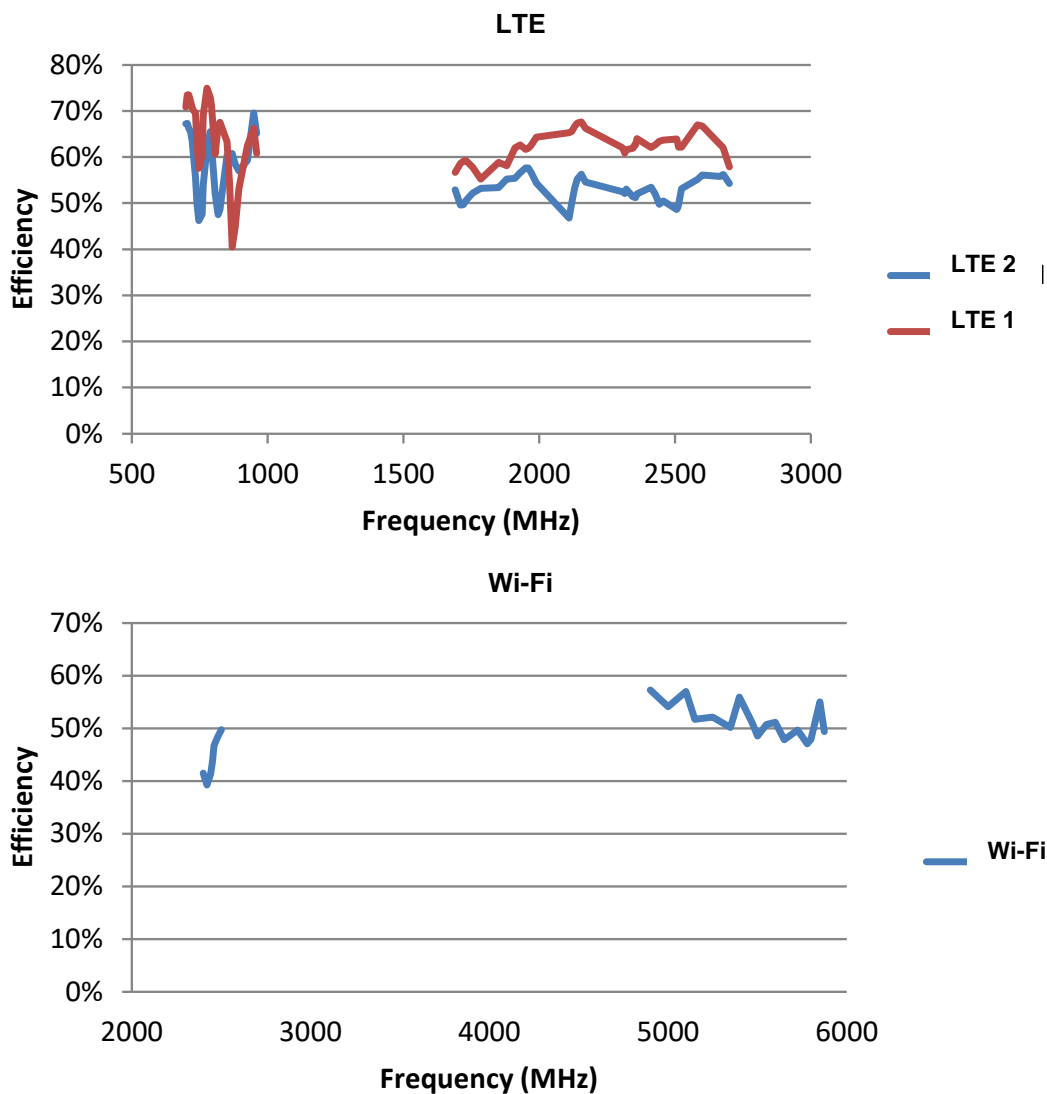
VSWR



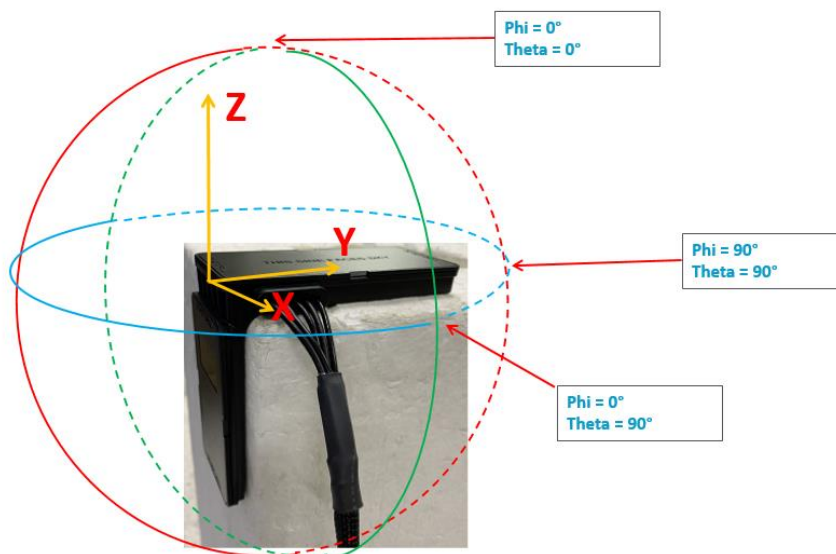
ISOLATION



EFFICIENCY



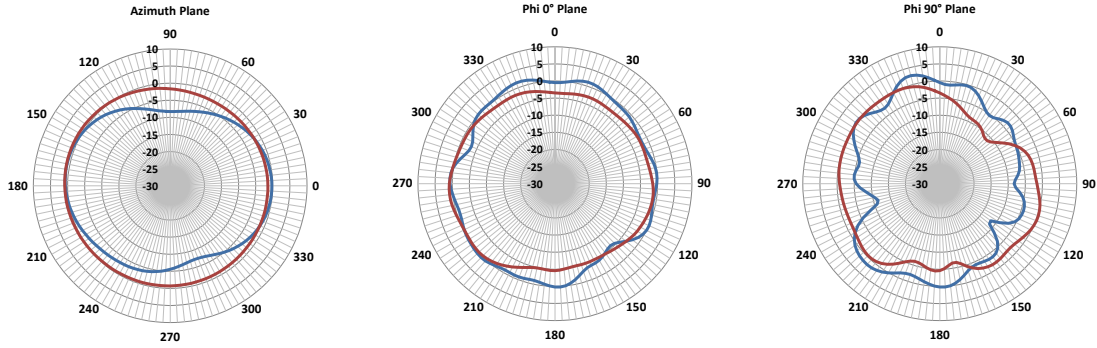
MEASUREMENT COORDINATION SYSTEM (Gain Plot Orientation)



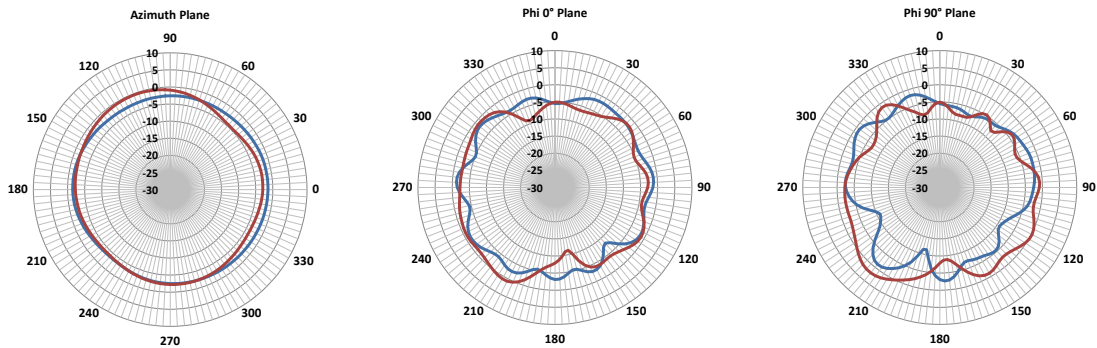
RADIATION PATTERNS - LTE ANTENNAS

— LTE 2 — LTE 1

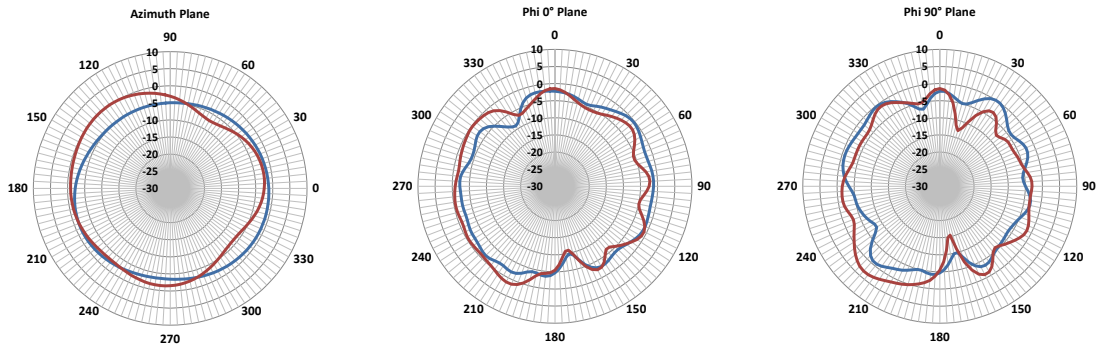
698 MHz



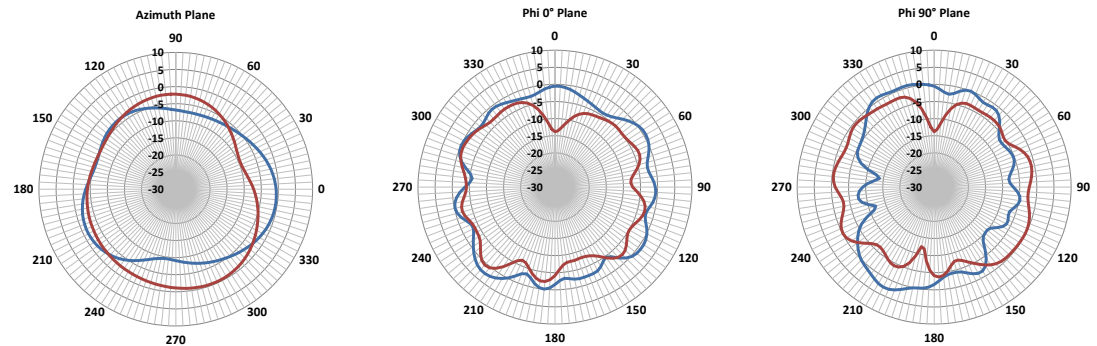
746 MHz



806 MHz



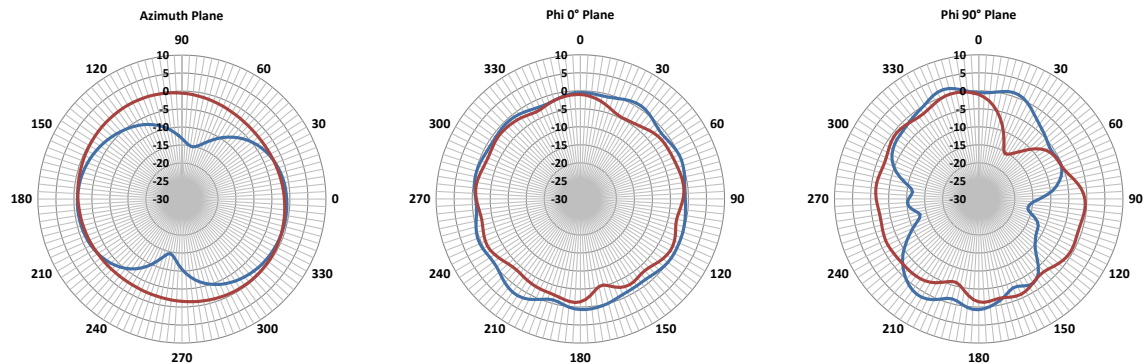
860 MHz



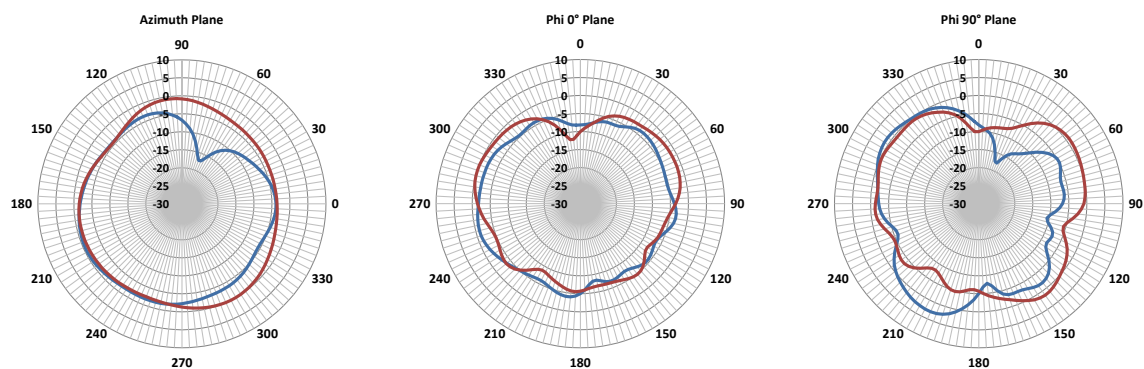
RADIATION PATTERNS - LTE ANTENNAS

— LTE 2 — LTE 1

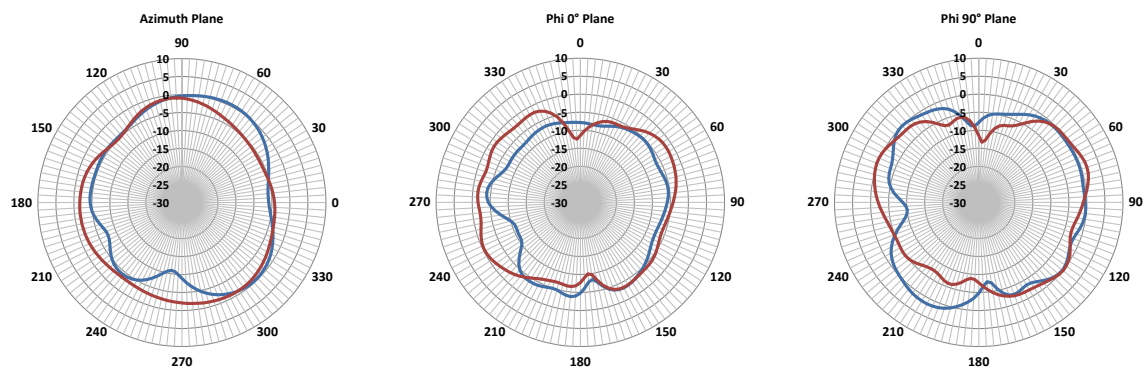
960 MHz



1710 MHz



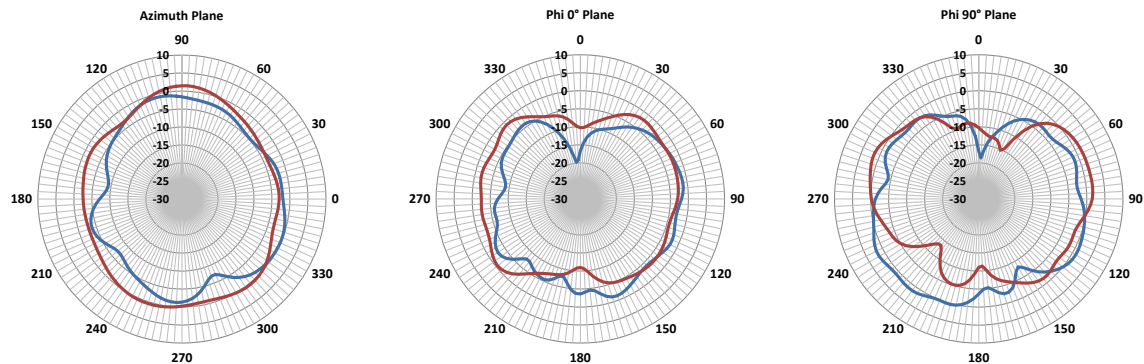
1880 MHz



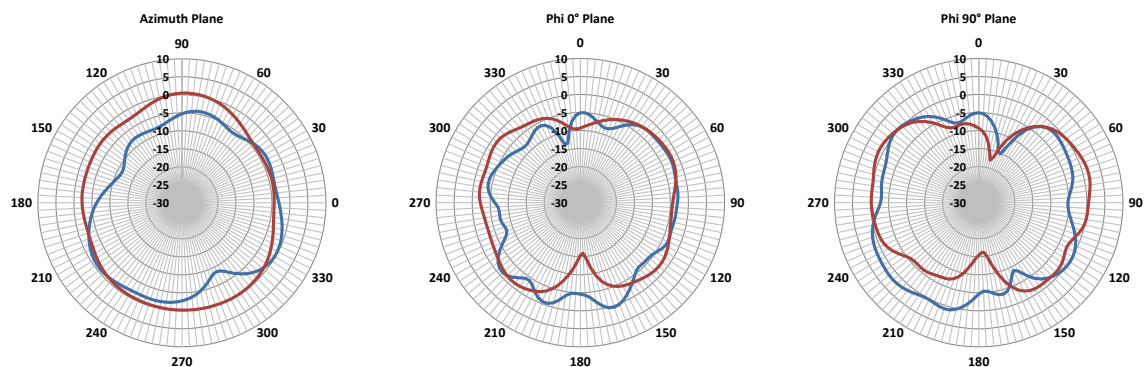
RADIATION PATTERNS - LTE ANTENNAS

— LTE 2 — LTE 1

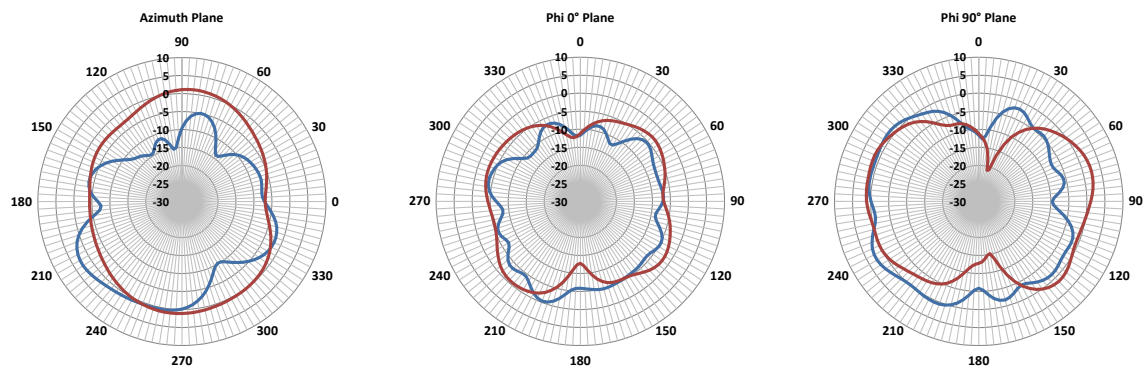
2305 MHz



2412 MHz



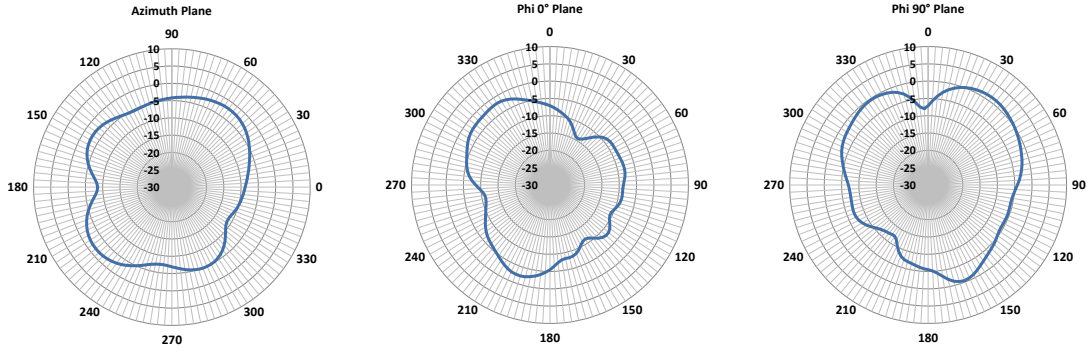
2600 MHz



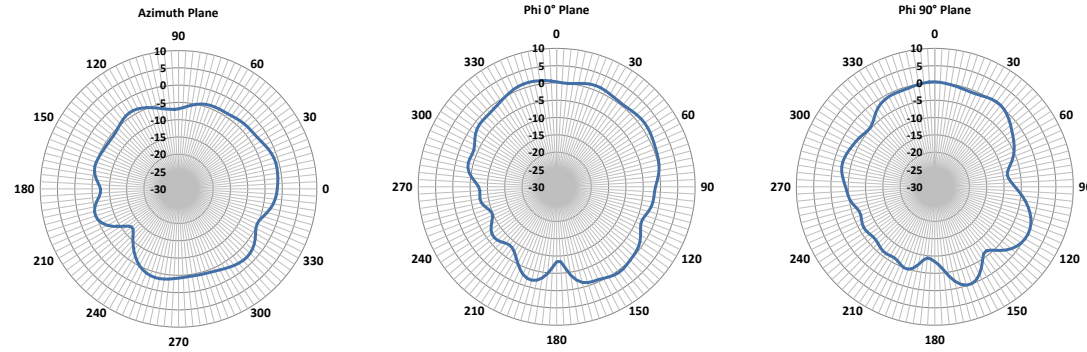
RADIATION PATTERNS - Wi-Fi ANTENNAS

— Wi-Fi

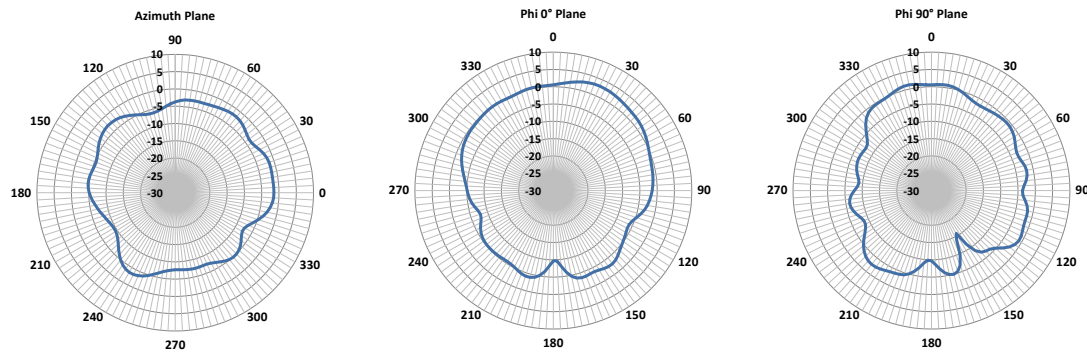
2450 MHz



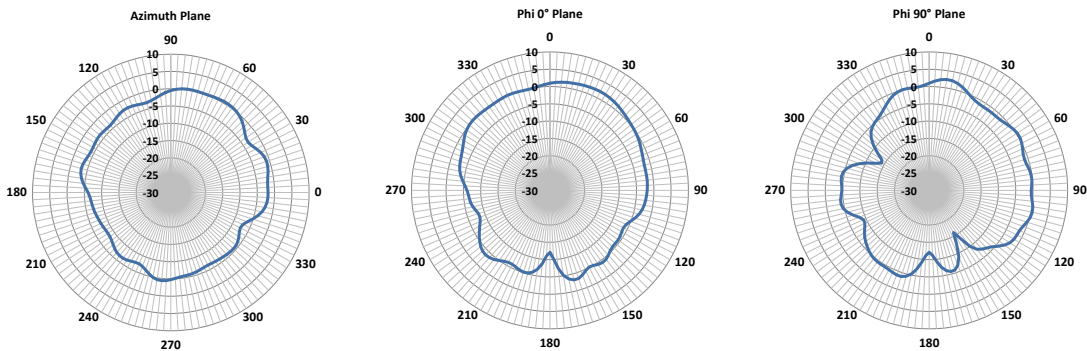
4900 MHz



5550 MHz



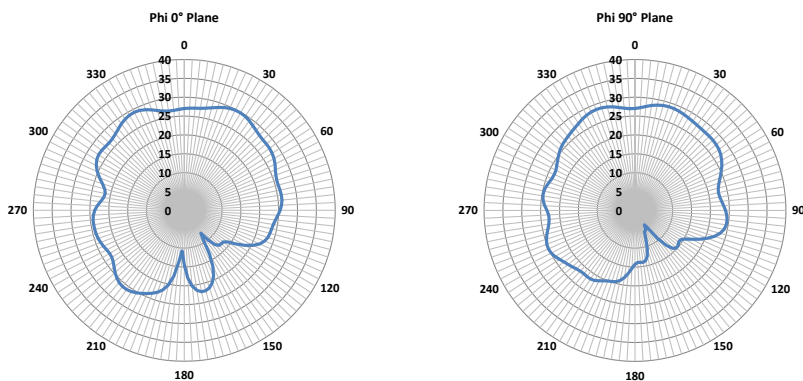
5875 MHz



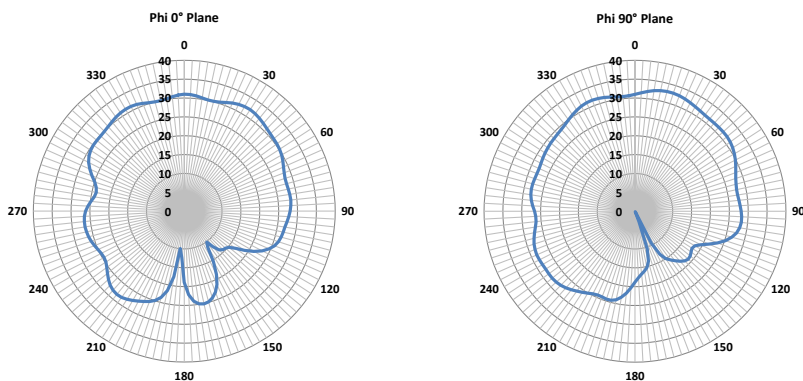
RADIATION PATTERNS – GNSS ANTENNAS

— GNSS

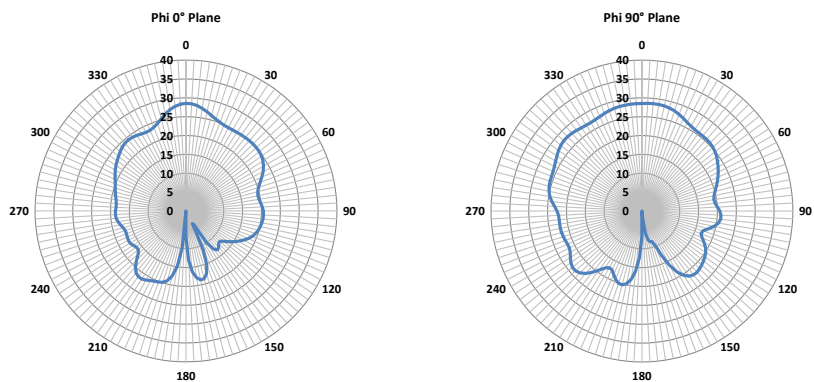
1561.098 MHz



1575.42 MHz



1602 MHz



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