Barracuda UHF VFH69383B22JU

6-Port Vehicular MIMO Antenna

380-520 MHz and 698-960/1690-3800 MHz and 2400-2500/4900-6000 MHz

The Barracuda UHF VFH69383B22JU multiport/multiband antenna provides an excellent solution for Public Safety, Transportation and Aftermarket Fleet applications. Configured for UHF band operation, two-port MIMO operation over the 3G/4G/ISM/CBRS bands and two-port MIMO operation over the low//high frequency Wi-Fi bands. An additional sixth port provides an active antenna for enabling GNSS global navigation services.

FEATURES AND BENEFITS

- One single-hole mount/fixing- reduces vehicle damage and the cost of installation
- Attractive IP67 low profile aerodynamic housing
- Multiband/MIMO operation with GNSS navigation

APPLICATIONS

- FirstNet/Public Safety
- Transportation
- Aftermarket fleet
- 5G ready
- Rugged LTE Gateways
- Others

ELECTRICAL SPECIFICATIONS							
Antenna Model	VFH69383B22JU-518J						
Number of Ports	6						
Port Configuration	1x- UHF	2x- 3G/4G/ISM/CBRS				2x- Wi-Fi	
Operating Frequency (MHz)	380- 520	698-806	824-894	880-960	1690-3800	2400-2500	4900-6000
Peak Gain* – Avg (dBi)	0.8	0.0	0.2	0.7	3.9	2.5	6.5
Peak Gain* – Max (dBi)	2.3	1.5	1.5	2.1	7.4	3.5	7.6
VSWR – Avg	1.4:1	1.6:1	1.5:1	1.5:1	1.2:1	1.2:1	1.2:1
VSWR – Max	2.0:1	2.0:1				2.0:1	
Isolation LTE 1 to LTE 2 (dB)	-26	-17	-17	-17	-22	-31	-42
Isolation LTE 1 to WIFI 1 (dB)	-38	-38	-37	-38	-21	-21	-42
Isolation LTE 1 to WIFI 2 (dB)	-46	-40	-44	-42	-19	-19	-42
Isolation LTE 2 to WFI 1 (dB)	-44	-39	-44	-42	-21	-21	-43
Isolation LTE 2 to WIFI 2 (dB)	-39	-38	-36	-35	-19	-19	-41
Isolation WIFI 1 to WIFI 2 (dB)	-59	-58	-59	-57	-36	-36	-45
Isolation LTE 1 to UHF (dB)	-22	-18	-20	-21	-24	-26	-47
Isolation LTE 2 to UHF (dB)	-20	-18	-19	-20	-23	-26	-45
Isolation WIFI 1 to UHF (dB)	-47	-47	-51	-46	-34	-34	-45
Isolation WIFI 2 to UHF (dB)	-45	-47	-46	-40	-28	-28	-42
Isolation (**) GNSS to LTE 1 (dB)	-43	-41	-43	-44	-36	-40	-44
Isolation (**) GNSS to LTE 2 (dB)	-44	-44	-45	-45	-36	-41	-42
Isolation (**) GNSS to WIFI 1 (dB)	-71	-68	-70	-69	-31	-35	-39
Isolation (**) GNSS to WIFI 2 (dB)	-77	-71	-71	-71	-32	-36	-41
Isolation (**) GNSS to UHF (dB)	-61	-55	-57	-56	-40	-49	-52
Azimuth Plane 3 dB Beamwidth		360°, Omnidirectional					
Nominal Impedance (Ohms)		50					
Polarization		Vertical					
Max Power - Ambient 25°C (W)		10					

MECHANICAL SPECIFICATIONS	
Dimensions – L x W x H – mm (inches)	179 x 63 x 48 (7.04 x 2.48 x 1.69)
Weight – kg (lbs.)	0.72 (1.6)
Cable Type and Length – cm (ft.)	LMR-100 (Black), 518 (17)
Connector	SMA, Male
Mounting	P-Mount
Radome Material	PC, UL94-V0
Baseplate Material	Aluminum

ENVIRONMENTAL SPECIFICATIONS	
Operating Environment	Outdoor Vehicle
Operating Temperature – °C (°F)	-30 to +70°C (-22 to +158°F)
Storage Temperature – °C (°F)	-40 to +85°C (-40 to +185°F)
Ingress Protection Rating	IP67
Material Substance Compliance	RoHS

Measures on a 1 ft circular ground plane

**Measured on a 1 ft circular ground plane with 17ft of coaxial cable*

Barracuda UHF VFH69383B22JU

6-Port Vehicular MIMO Antenna

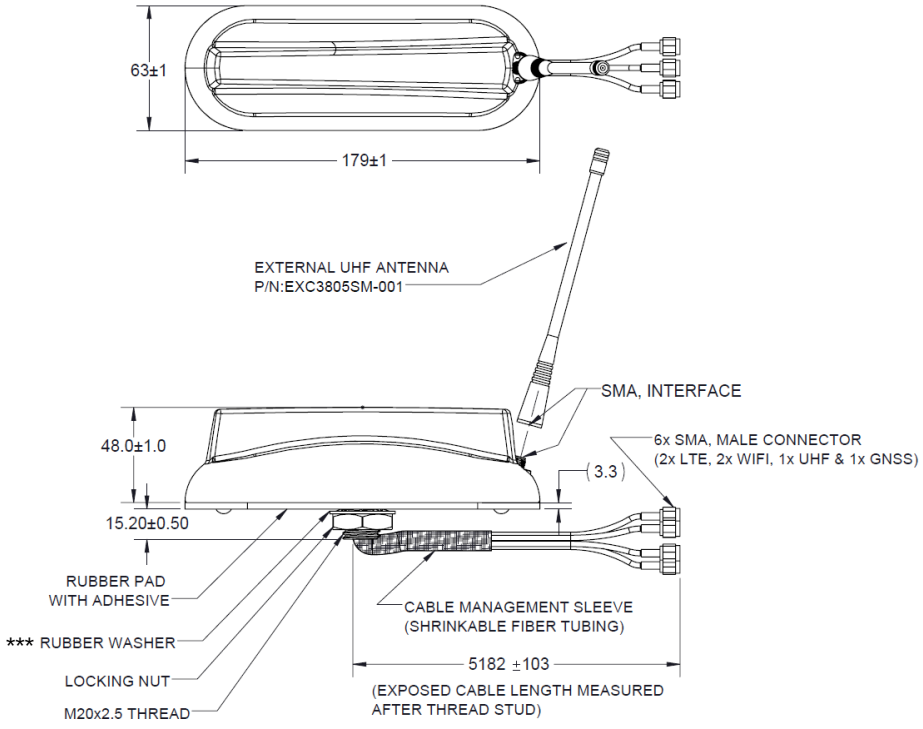
GNSS ANTENNA SPECIFICATIONS			
Frequency of Operation (MHz)	1559 - 1606		
Band	BEIDOU	GPS	GLONASS
Frequency Band (MHz)	1559.052 - 1563.144	1574.42 - 1576.42	1598.0625 - 1605.89
Absolute Gain (dBi)	3	3	3
LNA Gain, Typ. @ room temp. (dBi)	26	27	26
Noise Figure @ room temp., Max (dB)	3.0	2.5	2.8
Max VSWR @ room temp.	2:1	2:1	2:1
Polarization	RHCP		
Nominal Impedance (Ohms)	50		
DC Voltage (Vdc)	3.3		
Operating Supply Voltage (Vdc)	2.5 - 7.0		
Current Consumption, Max @ room temp mA)	20		
Out-of-band Signal Rejection Min @ room temp (dBc)	60 (@1-1525 MHz)	60 (@1675-2000 MHz)	50 (@2000-3000 MHz)
Input Max Power (dBm)	-30		
Cable Type	RG174		

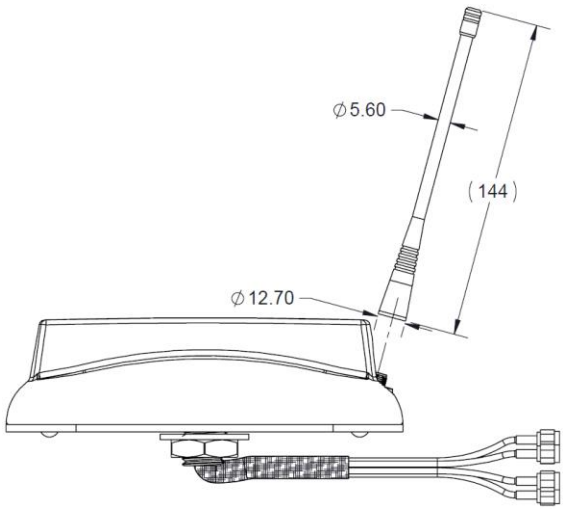
CONFIGURATION

PART NUMBER	CABLE LENGTH	CONNECTOR – LTE PORTS	CONNECTOR – WI-FI PORTS	CONNECTOR- UHF PORT	CONNECTOR – GNSS PORT
VFH69383B22JU-518J	5.18 m (17.0 ft.)	SMA- male	SMA- male	SMA- male	SMA- male
VFH69383B22JU-518M	5.18 m (17.0 ft.)	SMA- male	SMA- male	QMA- male	SMA- male

PACKAGING INFORMATION

PACKAGED DIMENSIONS	CARTON	MASTER CARTON	AIR PALLET	OCEAN PALLET
Number of Antennas	1	8	192	240
Height – mm (in.)	135 (5.31)	295 (11.6)	1350 (53.15)	1650 (64.96)
Length – mm (in.)	245 (9.65)	520 (20.5)	1200 (47.24)	1200 (47.24)
Width – mm (in.)	120 (47.2)	260 (10.2)	800 (31.5)	800 (31.5)
Shipping Weight – kg (lb.)	0.85 (1.9)	7.5 (16)	198 (436)	245 (540)



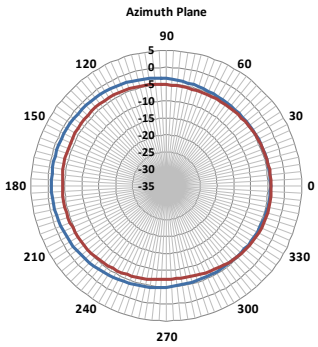


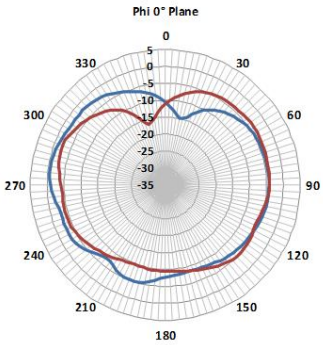
*** *The rubber washer is required to achieve optimal performance for UHF.*

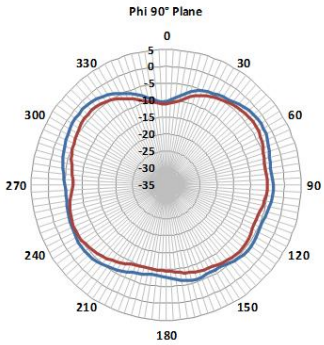
RADIATION PATTERNS – LTE ANTENNAS

LTE 1 LTE 2

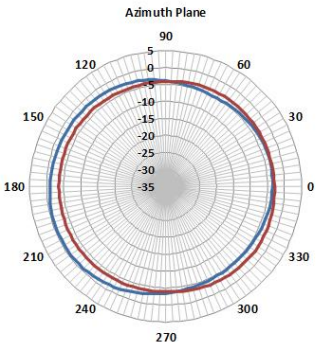
698 MHz

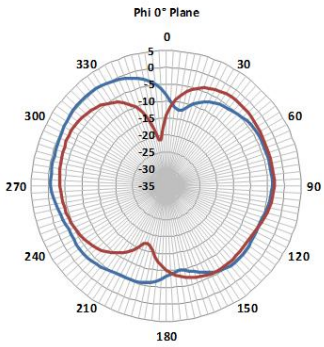


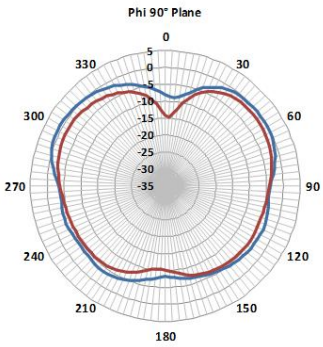




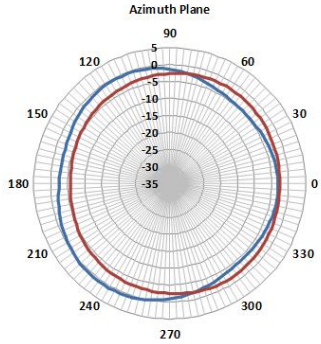
880 MHz

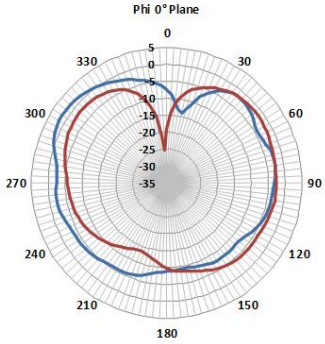


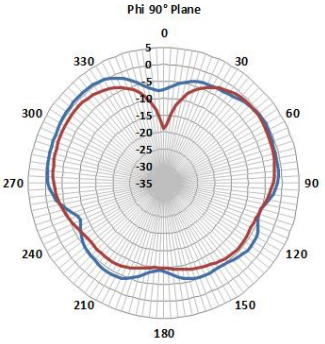




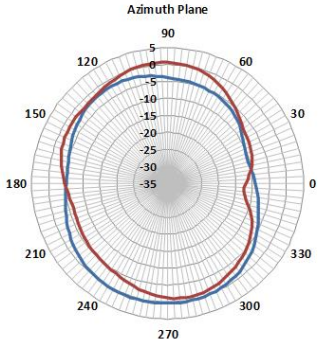
960 MHz

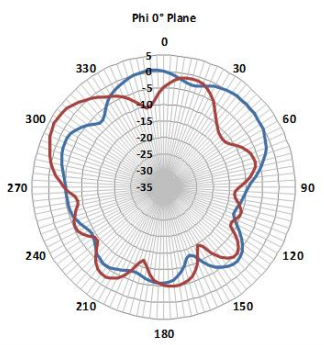


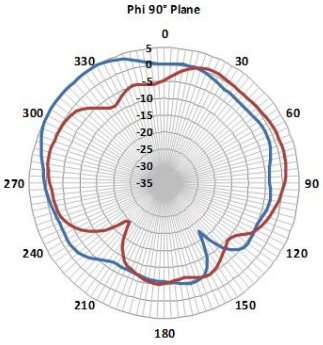




1690 MHz



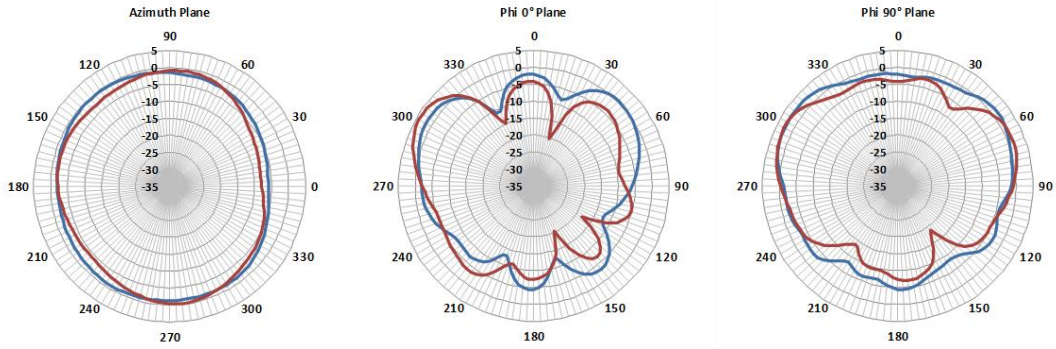




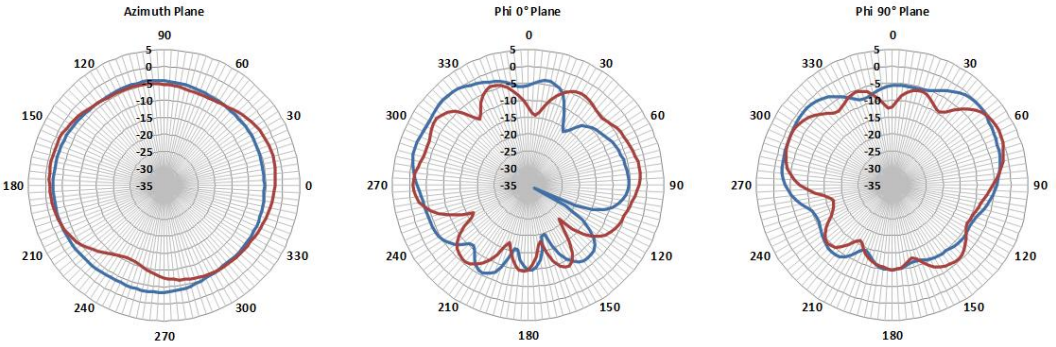
RADIATION PATTERNS – LTE ANTENNAS

LTE 1 LTE 2

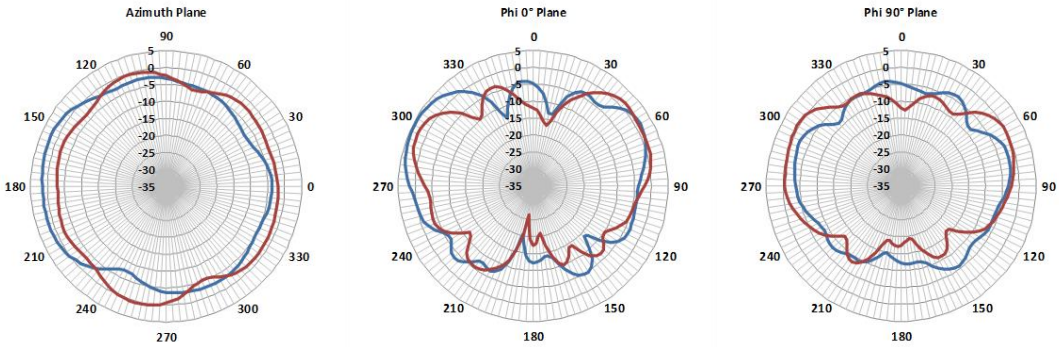
1850 MHz



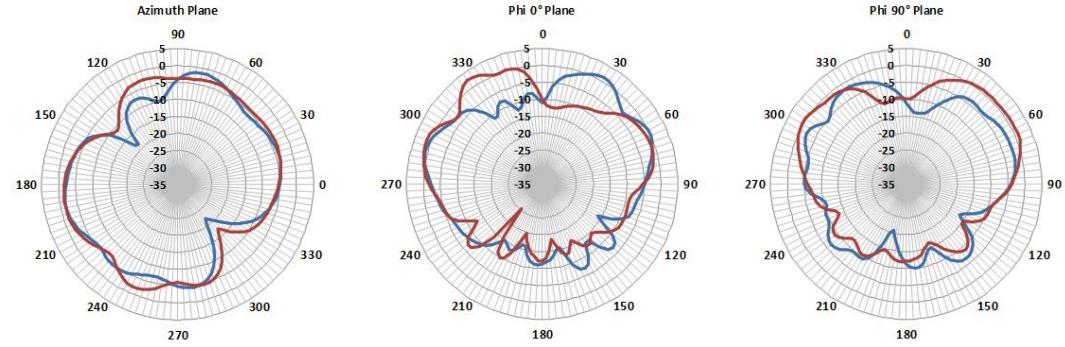
2170 MHz



2700 MHz



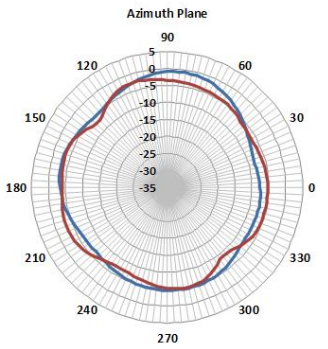
3800 MHz

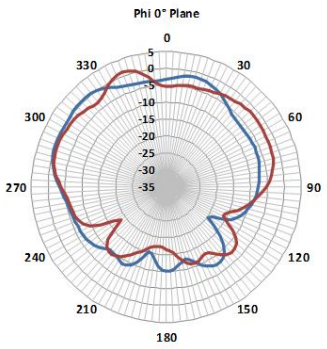


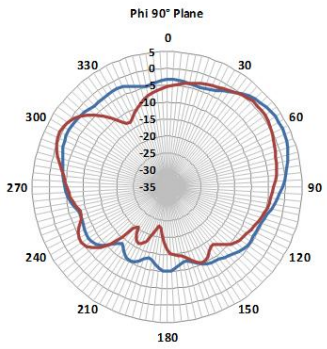
RADIATION PATTERNS – WI-FI ANTENNAS

WIFI 1 WIFI 2

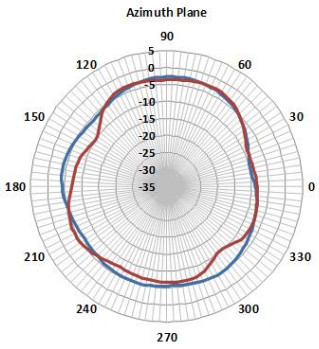
2400 MHz

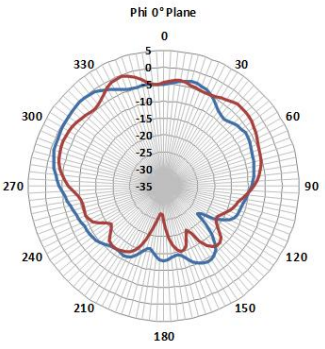


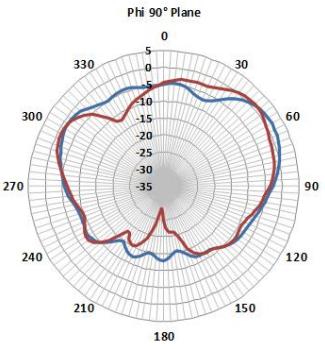




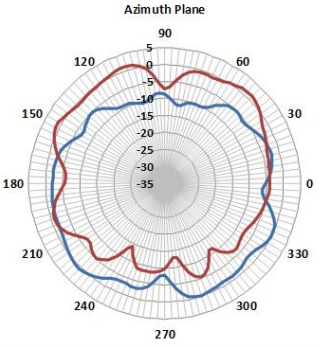
2500 MHz

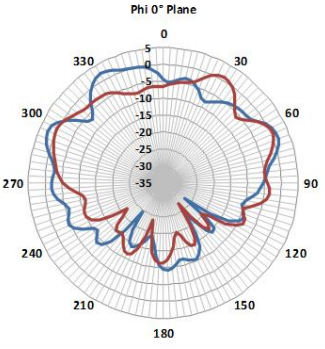


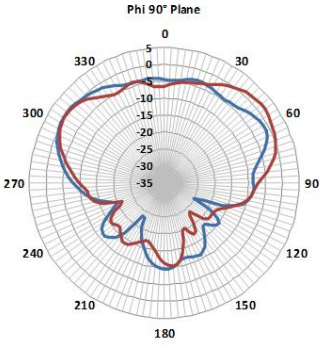




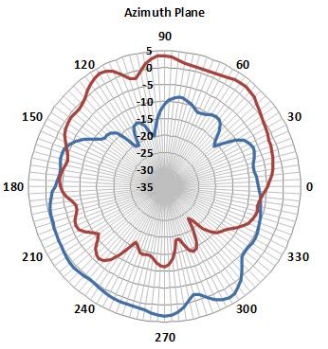
4900 MHz

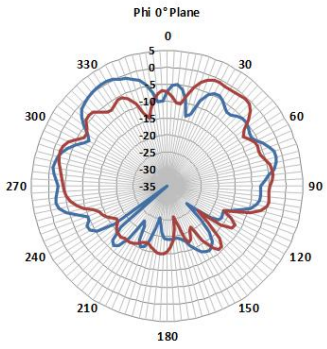


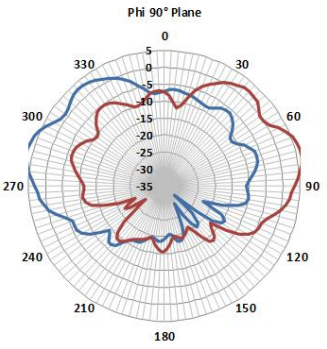




6000 MHz

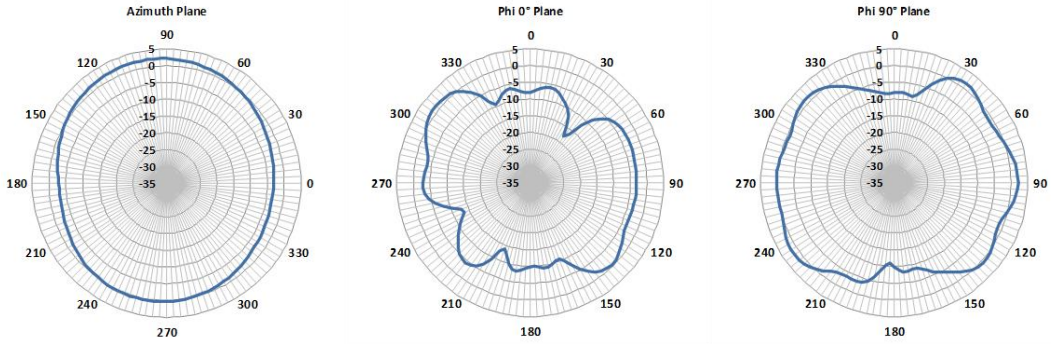




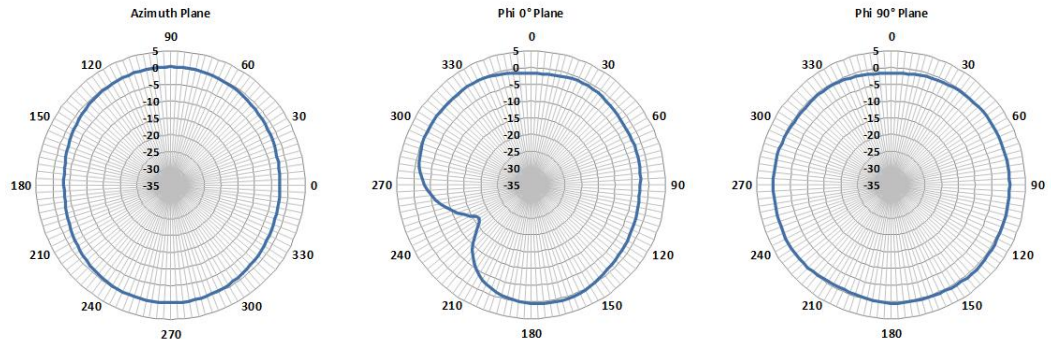


RADIATION PATTERNS – UHF ANTENNA

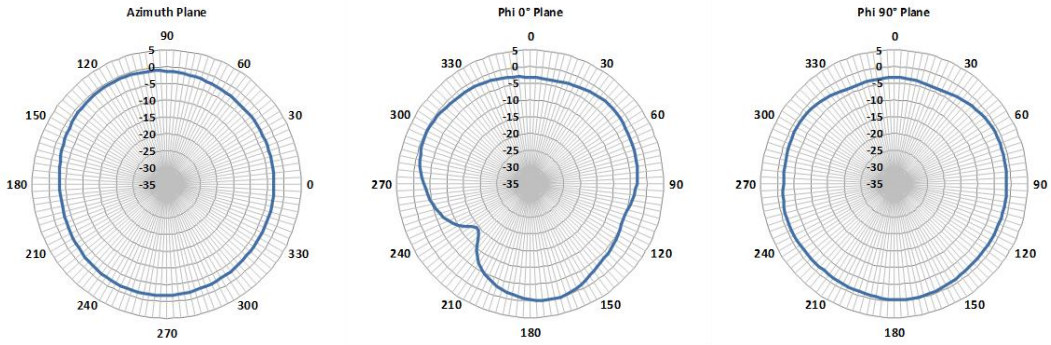
380 MHz



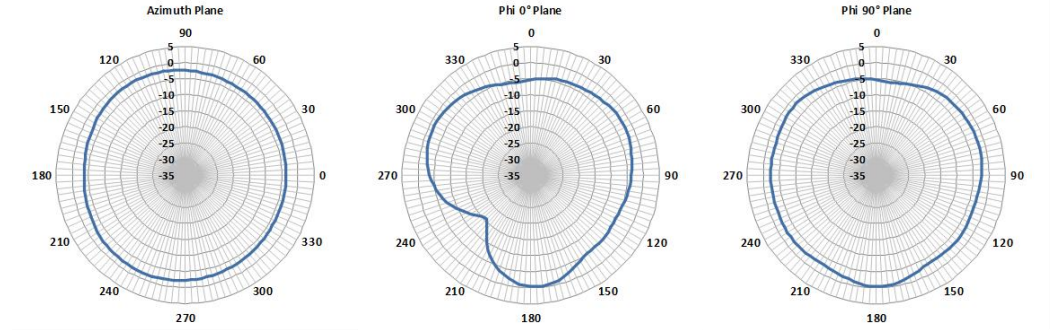
420 MHz



480 MHz



520 MHz



RoHS

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