



## Barracuda UHF VFQ69383x2NJU

4-Port Vehicular MIMO Antenna  
380-520 MHz and 698-960/1690-3800 MHz

The Barracuda UHF VFQ69383x2NJU multiport/multiband antenna provides an excellent solution for Public Safety, Transportation and Aftermarket Fleet applications. Configured for UHF band operation and two-port MIMO operation over the 3G/4G/5G/ISM/CBRS bands. An additional fourth 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	VFQ69383x2NJU									
Number of Ports	4 (2x - LTE, 1x - UHF, 1x - GNSS)									
Port Configuration	1x- UHF	2x- 3G/4G/ISM/CBRS (LTE/CELL)								
Operating Frequency (MHz)	380-520	698-806	824-894	880-960	1690-1880	1850-1990	1910-2180	2300-2500	2500-2700	3300-3800
Peak Gain* - Avg (dBi)	3.7	0.2	1.0	1.4	3.2	3.8	3.1	2.4	4.2	6.0
Peak Gain* - Max (dBi)	4.3	1.1	2.6	3.0	4.6	4.7	4.7	4.8	5.2	7.2
VSWR (**), Avg	1.7	1.8	1.9	1.9	1.6	1.5	1.5	1.7	1.5	1.3
VSWR (**), Max	2.5	2.5	2.5	2.5	1.9	2.0	2.1	2.0	2.0	2.0
Isolation(**) LTE1 to LTE2 (dB)	-24	-11	-14	-14	-17	-16	-16	-20	-20	-25
Isolation(**) LTE1 to UHF (dB)	-22	-19	-25	-26	-22	-25	-25	-30	-29	-33
Isolation(**) LTE2 to UHF (dB)	-13	-13	-14	-15	-17	-17	-18	-18	-18	-27
Isolation(**) LTE1 to GNSS (dB)	-43	-48	-47	-47	-39	-40	-40	-55	-54	-48
Isolation(**) LTE2 to GNSS (dB)	-40	-45	-43	-48	-44	-44	-44	-55	-55	-50
Isolation(**) UHF to GNSS (dB)	-50	-64	-61	-61	-51	-54	-54	-59	-59	-62

## ELECTRICAL SPECIFICATIONS

Azimuth Plane 3 dB Beamwidth	360°, Omnidirectional
Nominal Impedance (Ohms)	50
Polarization	Linear, Vertical
Max Power - Ambient 25°C (W)	60 (UHF); 30 (LTE/CELL)

**Notes: (\*)** - This parameter is based on a 30cm (1ft) cable length and 30cm (1ft) ground plane.

**(\*\*)** - This parameter is based on a 518cm (17ft) cable length and 30cm (1ft) ground plane. UHF is based on a 518cm (17ft) cable length and 0.9m (3ft) ground plane

Antenna specifications are subject to change according to the ground plane size.

## 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.)	0.93 (2.1)
Mounting	P-Mount
Cable Type	LMR 100- pigtails, LMR 195- jumper cables
Color	Black or White
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

## CONFIGURATION

PART NUMBER	CABLE LENGTH		CONNECTORS			COLOR
	PIGTAIL	JUMPER	UHF	LTE/CELL	GNSS	
VFQ69383B2NJU-518S	0.3 m (1 ft)	4.9 m (16 ft)	SMA- male	SMA- male	SMA- male	Black
VFQ69383W2NJU-518S	0.3 m (1 ft)	4.9 m (16 ft)	SMA- male	SMA- male	SMA- male	White

## GNSS ANTENNA SPECIFICATIONS

Frequency of Operation (MHz)	1559 - 1606		
Band	BEIDOU	GPS	GLONASS
Frequency Band (MHz)	1561.098 ±2.046	1575.42 ±1.023	1602 ±5
Antenna Gain (dBic)	3.4	4.9	5.4
LNA Gain Typ. @ room temp. (dB)	28±3		
Noise Figure @ room temp., Max (dB)	≤ 2.5 @ 1575 MHz		

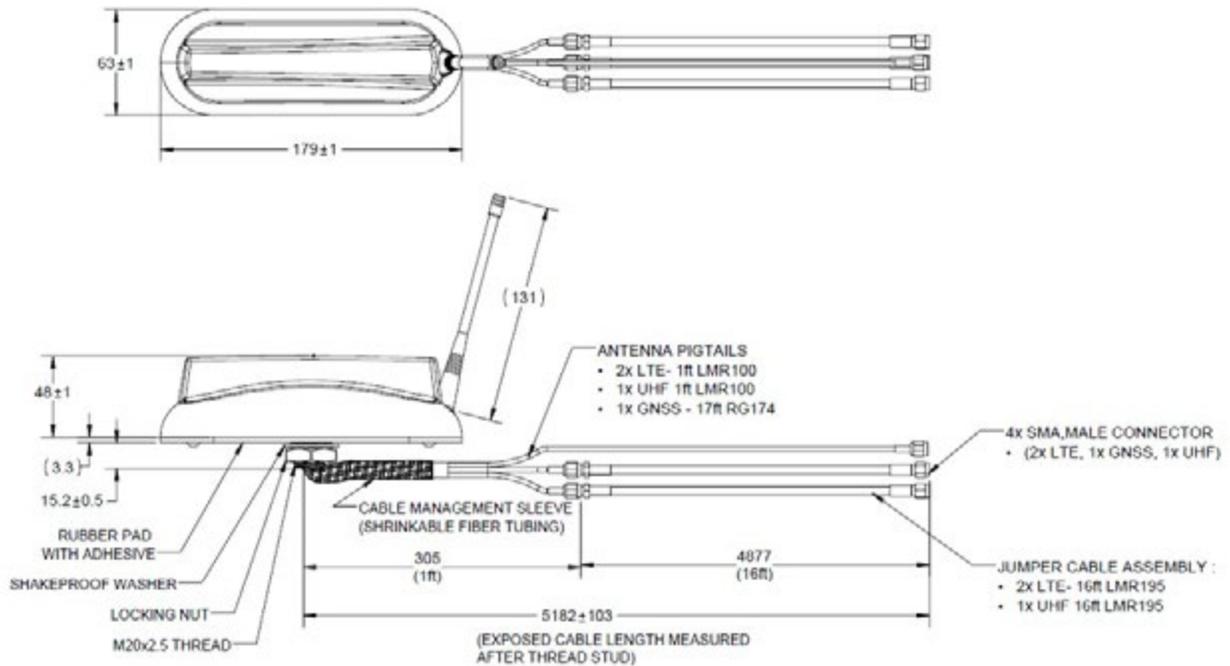
## GNSS ANTENNA SPECIFICATIONS

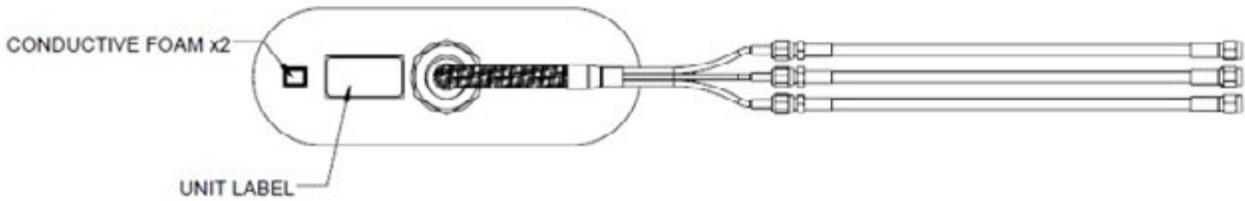
Max VSWR @ room temp.						≤ 2.0
Polarization						RHCP
Nominal Impedance						50 Ω
Operating Supply Voltage (Vdc)						2.5 - 7.0
Current Consumption, Max @ room temp mA)						8.5 ± 3 @ 3.0V
LNA Gain Typ. @ room temp. (dBi)						28±3
Out-of-band Signal Rejection Min @ room temp, dBc (MHz)	80 (698-960)	80 (1428-1511)	50 (1627-1638)	80 (1710-2700)	70 (4900-5800)	
Input Max Power (dBm)						-10
Cable Type						RG174

## PACKAGING INFORMATION

PACKAGED DIMENSIONS	UNIT CARTON	MASTER CARTON	AIR PALLET	OCEAN PALLET
Number of Antennas	1	4	140	196
Height - mm (in.)	130 (5.12)	235 (9.25)	1335 (52.56)	1813 (71.38)
Length - mm (in.)	222 (8.74)	543 (21.38)	1200 (47.24)	1200 (47.24)
Width - mm (in.)	222 (8.74)	232 (9.13)	800 (31.5)	800 (31.5)
Shipping Weight - kg (lb.)	1.17 (2.58)	5.19 (11.4)	195 (430)	268 (591)

## MECHANICAL DRAWINGS



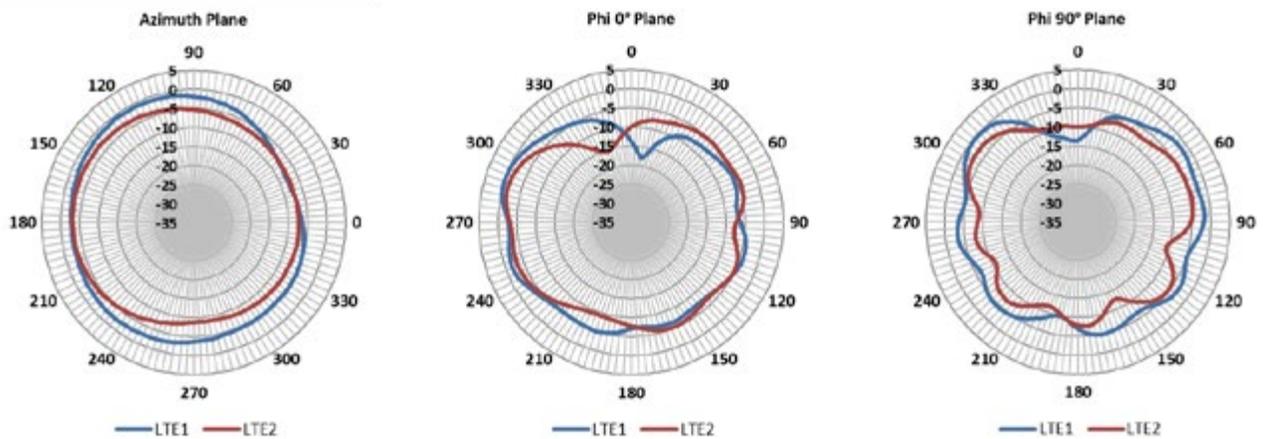


The Barracuda antenna can create an IP67 water-tight seal when installed on vehicles. Certain vehicles such as a Ford Explorer Interceptor have more narrow roof ridges that are tightly spaced together. For this type, vehicle special adapters are available.

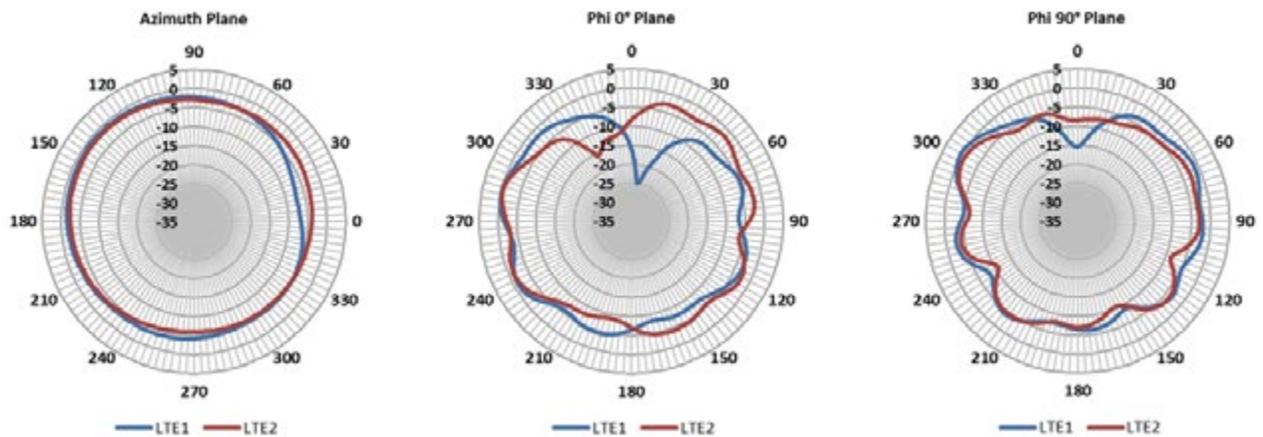
See parts [BKIT-VFX69383-001](#) (between ridges installation) and [BKIT-VFX69383-003](#) (atop ridge installation) for product details.

## RADIATION PATTERNS - LTE ANTENNAS

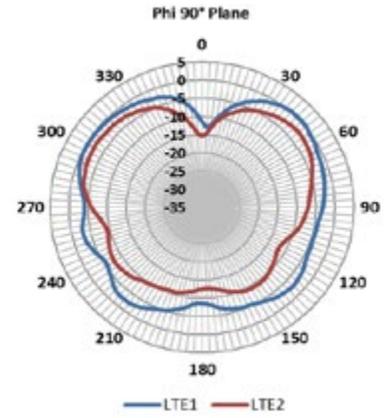
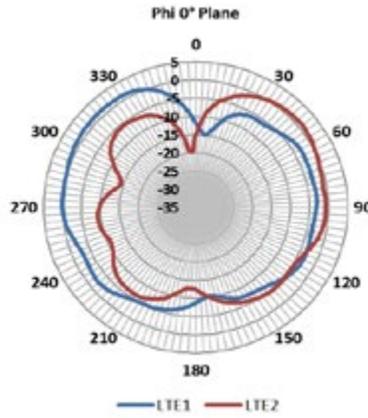
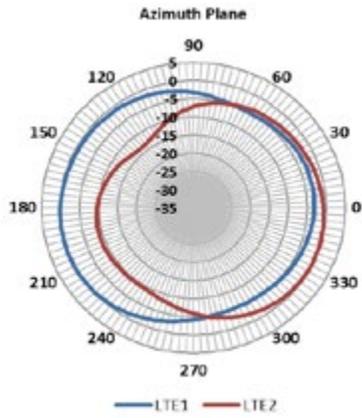
### 698 MHz



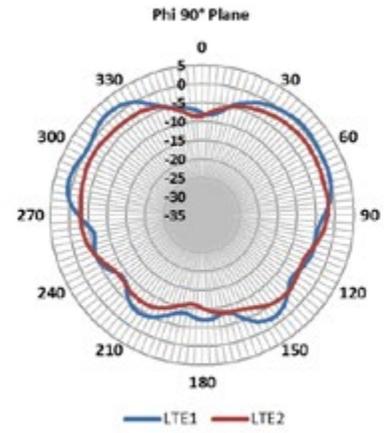
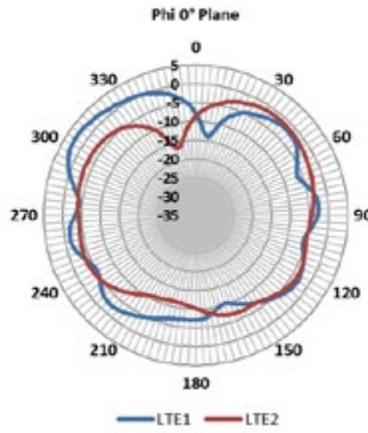
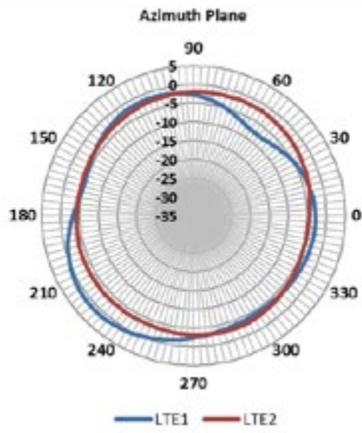
### 725 MHz



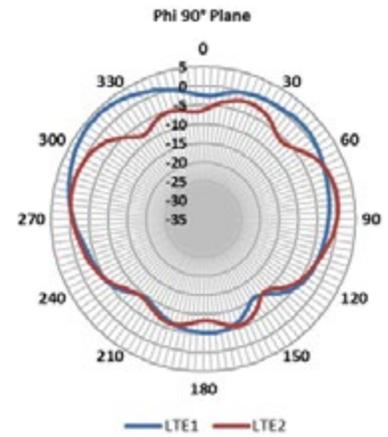
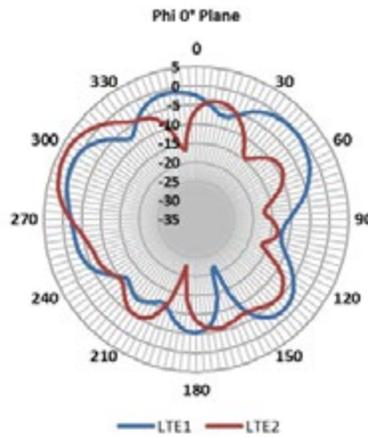
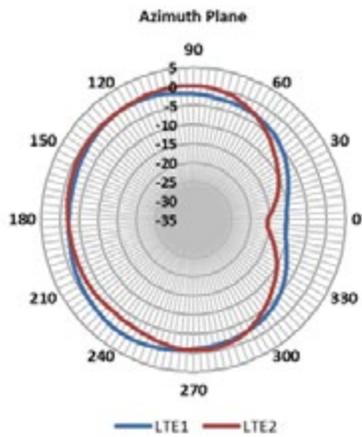
## 880 MHz



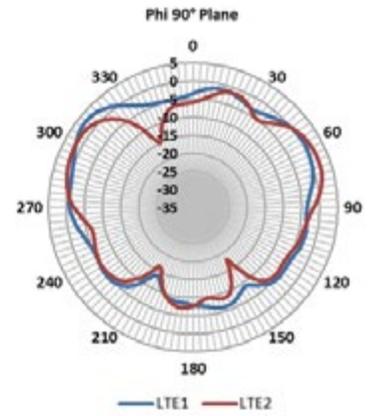
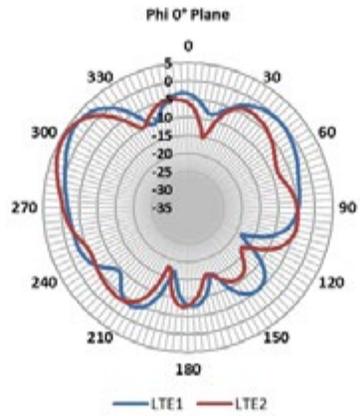
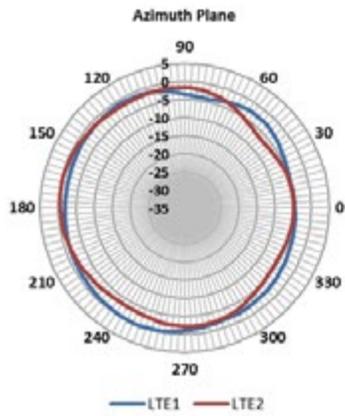
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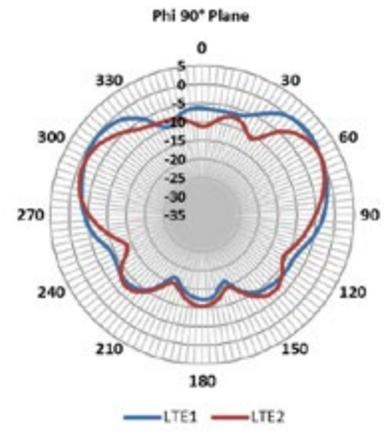
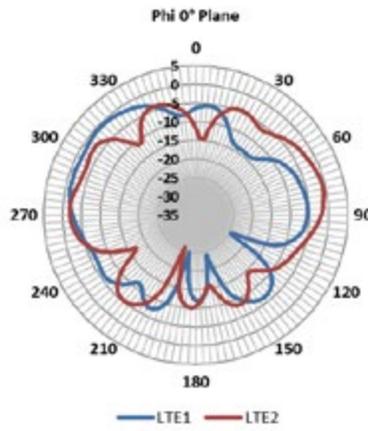
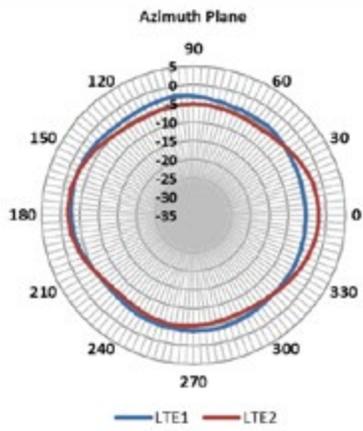
## 1690 MHz



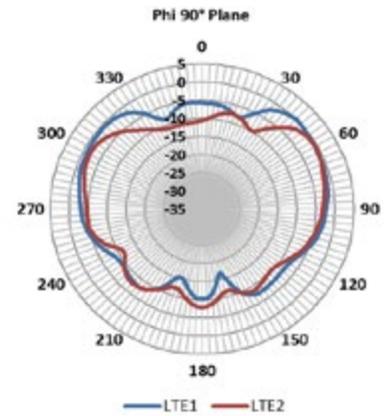
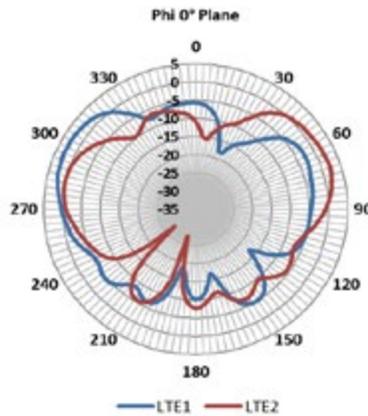
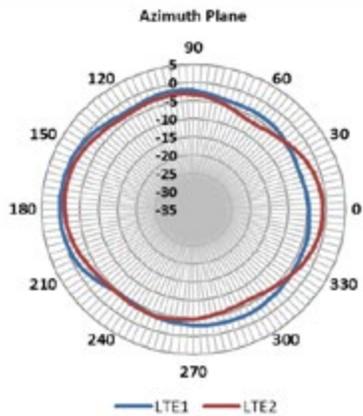
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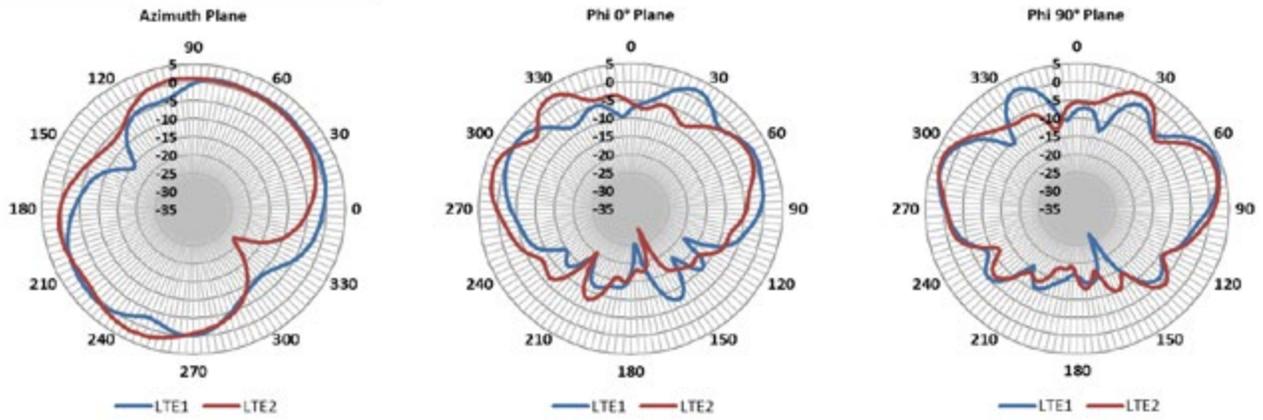
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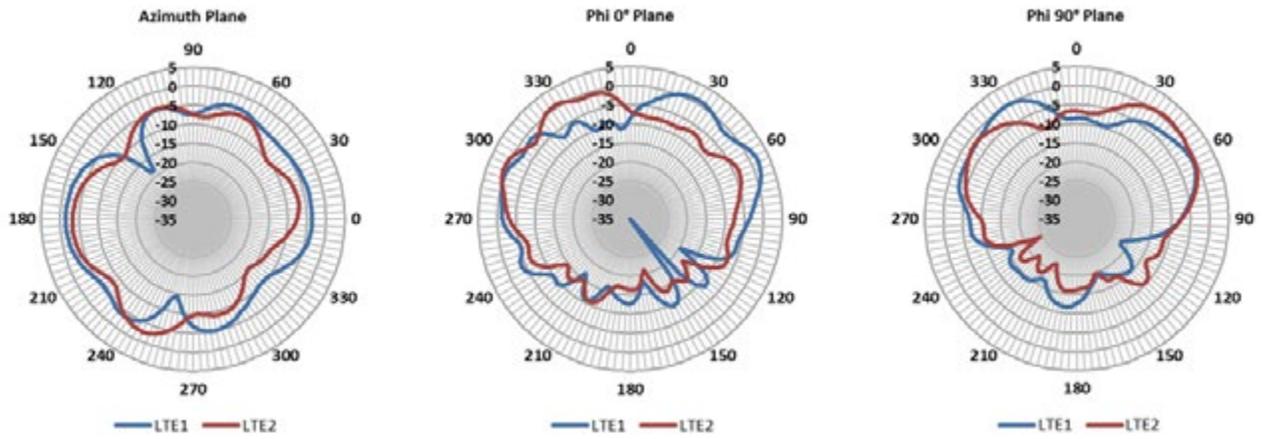
## 2400 MHz



## 3500 MHz

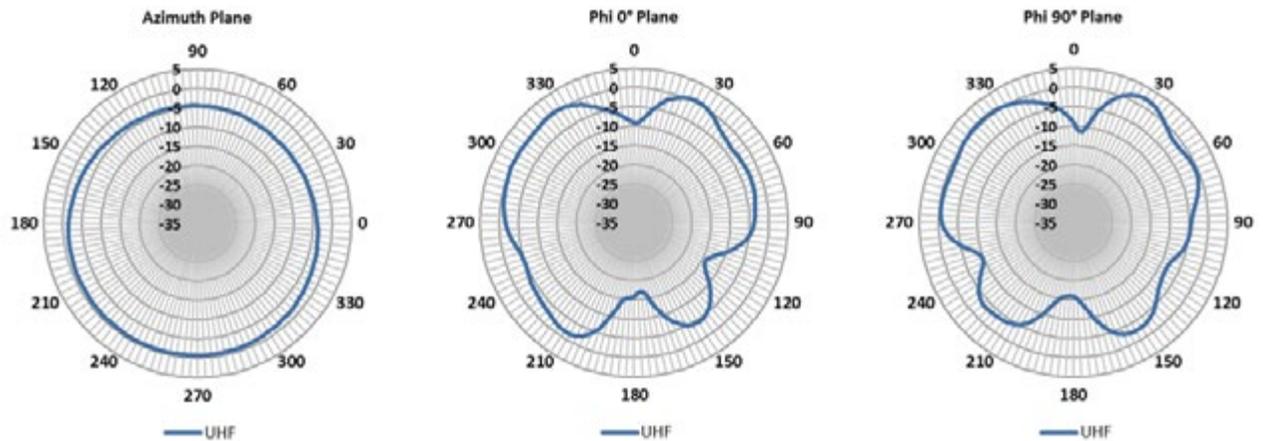


## 3800 MHz

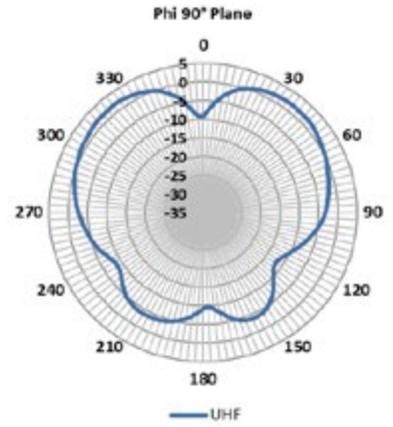
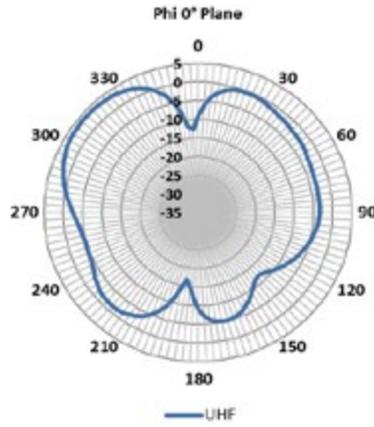
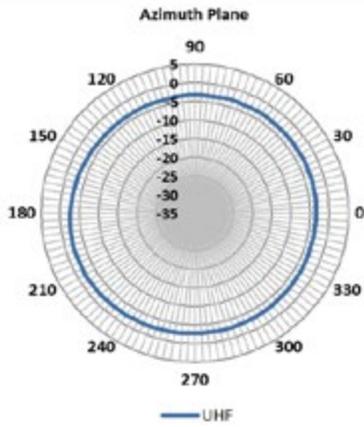


## RADIATION PATTERNS - UHF ANTENNAS

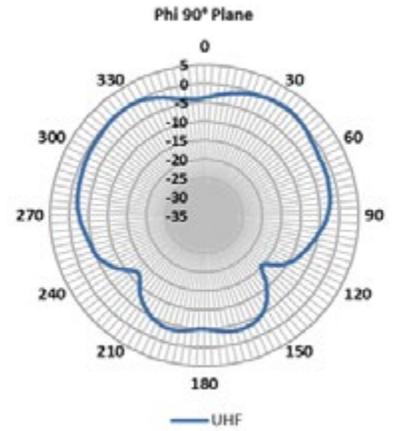
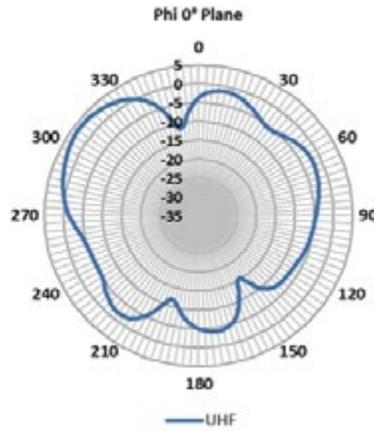
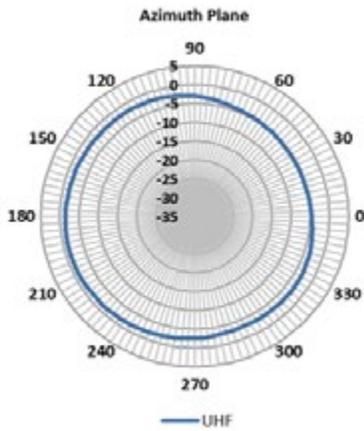
### 380 MHz



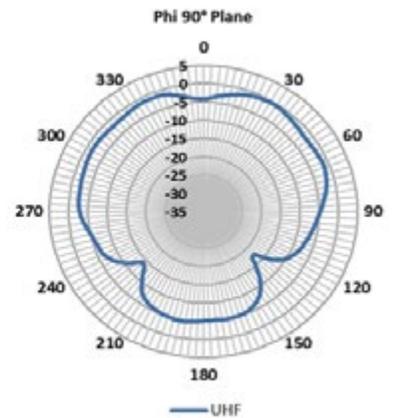
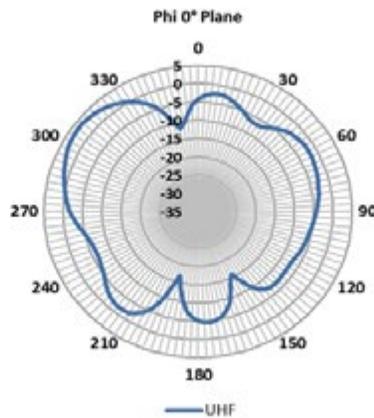
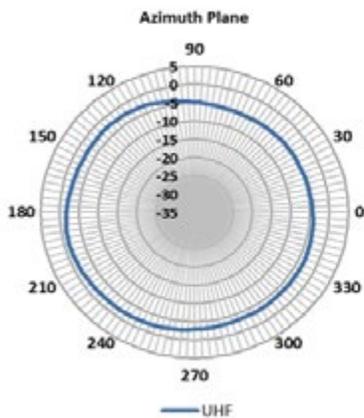
## 440 MHz



## 500 MHz



## 520 MHz



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