

GAR VFT69383X11JN

3-PORT VEHICULAR MIMO ANTENNA 698-960/1690-3800 MHZ AND 2400-2500/4900-6000 MHZ

The Gar VFT69383x11JN multiport/multiband antenna provides an excellent solution for public safety, transportation, and aftermarket fleet applications. Configured for one-port operation over the 3G/4G/5G/ISM/CBRS bands and one-port operation over the low//high frequency Wi-Fi bands. An additional third 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/Multiport operation with GNSS navigation
- Operates well on a ground plane and without a ground plane

APPLICATIONS

- FirstNet/Public safety
- Transportation
- Aftermarket fleet
- 5G-ready
- Rugged LTE gateways
- Others

ELECTRICAL SPECIFICATIONS

Antenna Model	VFT69383x11JN					
Number of Ports	3 3					
Port Configuration	1x- 3G/4G/5G/ISM/CBRS (LTE/CELL)				1x- Wi-Fi (WIFI)	
Operating Frequency (MHz)	698-806	824-894	880-960	1690-3800	2400-2500	4900-6000
Avg. Peak Gain* (dBi) – Gnd. Plane [No Gnd. Plane]	0.8 [1.9]	1.4 [2.1]	2.3 [2.5]	7.3 [4.8]	3.9 [1.8]	5.4 [3.9]
Max Peak Gain* (dBi) – Gnd. Plane [No Gnd. Plane]	0.8 [1.9]	1.4 [2.1]	2.3 [2.5]	7.3 [4.8]	3.9 [1.8]	5.4 [3.9]
VSWR** – Avg, Gnd. Plane [No Gnd. Plane]	1.7 [1.4]	1.6 [1.7]	1.6 [1.7]	1.4 [1.5]	1.4 [1.4]	1.2 [1.2]
VSWR** – Max, Gnd. Plane [No Gnd. Plane]	2.5 [2.5]	2.0 [2.5]	2.0 [2.5]	2.1 [2.1]	2.0 [2.0]	2.0 [2.0]
Isolation** (dB)– Gnd. Plane [No Gnd. Plane]						
LTE to WiFi	-46 [-40]	-45 [-41]	-46 [-43]	-24 [-24]	-24 [-24]	-35 [-37]
LTE1 to GNSS	-46 [-42]	-44 [-41]	-43 [-41]	-44 [-40]	-60 [-55]	-51 [-49]
WiFi to GNSS	-74 [-70]	-74 [-70]	-74 [-70]	-55 [-51]	-55 [-52]	-52 [-50]
Azimuth Plane 3 dB Beamwidth	360°, Omnidirectional					
Nominal Impedance (Ohms)	50					
Polarization	Linear Vertical					
Max Power - Ambient 25°C (W)	30 (LTE/CELL); 10 (WIFI)					

Notes: (*) – This parameter is based on a 30cm (1ft) cable length. For the ground plane measurement, a 30cm (1ft) ground plane was used
(**) – This parameter is based on a 518cm (17ft) cable length. For the ground plane measurement, a 30cm (1ft) ground plane was used.
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.)	0.73 kg (1.6 lbs)
Cable Type	LMR 100- pigtails, LMR 195- jumper cables
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
Rail Compliance Standards	EN61373 (Shock & Vibration), EN50155 (Temperature)
Material Substance Compliance	RoHS

CONFIGURATIONS

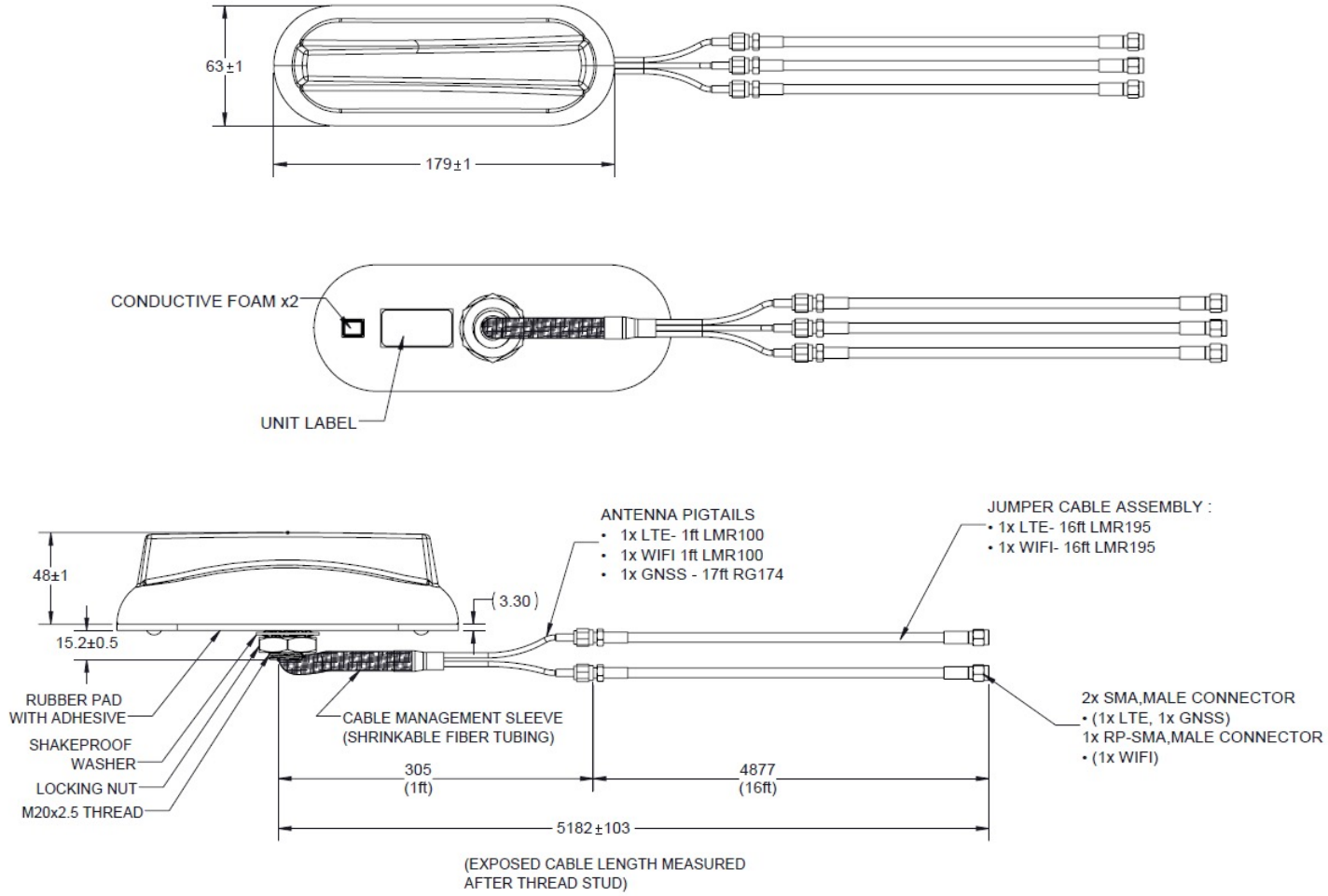
PART NUMBER	CABLE LENGTH		CONNECTORS			COLOR
	PIGTAIL	JUMPER	LTE/CELL	WIFI	GNSS	
VFT69383B11JN-518L	0.3 m (1 ft)	4.9 m (16 ft)	SMA-male	RPSMA-male	SMA-male	Black
VFT69383W11JN-518L	0.3 m (1 ft)	4.9 m (16 ft)	SMA-male	RPSMA-male	SMA-male	White

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		
Absolute Gain (dBi) – Gnd. Plane [No Gnd. Plane]	3.4 [3.8]	4.5 [5.1]	5.6 [4.5]		
LNA Gain, Typ. @ room temp. (dBi)	28 ±3				
Noise Figure @ room temp., Max (dB)	≤ 2.5 @ 1575 MHz				
Max VSWR @ room temp.	≤ 2.0				
Polarization	RHCP				
Nominal Impedance (Ohms)	50				
DC Voltage (Vdc)	2.5 - 7.0				
Current Consumption, Max @ room temp mA)	8.5 ± 3 @ 3.0V				
Out-of-band Signal Rejection Min @ room temp (dBc)	80 @ 698-960 MHz	80 @ 1428-1511 MHz	50 @ 1627-1638 MHz	80 @ 1710-2700 MHz	70 @4900-5800 MHz
Input Max Power (dBm)	-10				
Cable Type	RG174				

PACKAGING INFORMATION

PACKAGED DIMENSIONS	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.)	0.96(2.1)	4.39 (9.68)	167 (368)	228 (503)

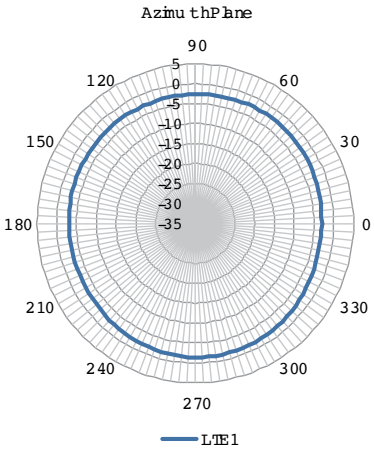
MECHANICAL DRAWINGS

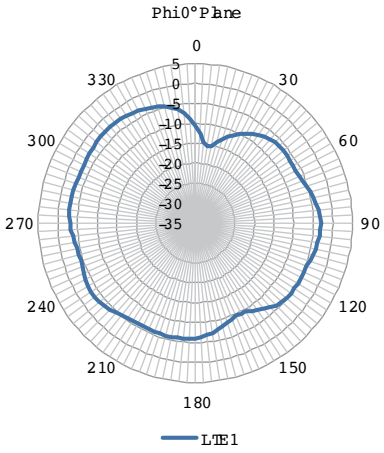


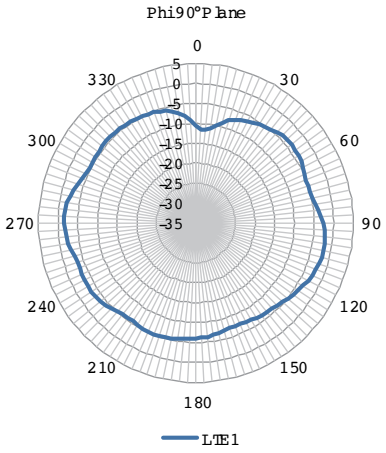
The Gar antenna can create an IP67 water-tight seal when installed on vehicles. Certain vehicles such as a Ford Explorer Interceptor have more narrow roof ridges that are tightly spaced together. For this type, vehicle special adapters are available.
See parts BKIT-VFX69383-001 (between ridges installation) and BKIT-VFX69383-003 (atop ridge installation) for product details.

RADIATION PATTERNS WITH GROUND PLANE – LTE ANTENNAS

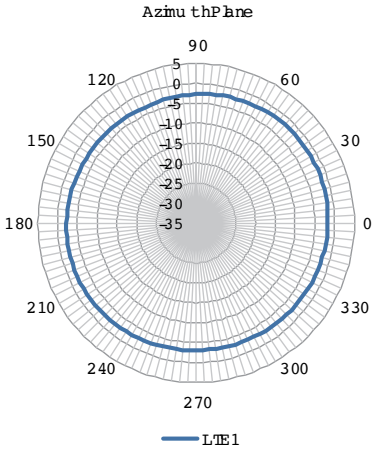
698 MHz

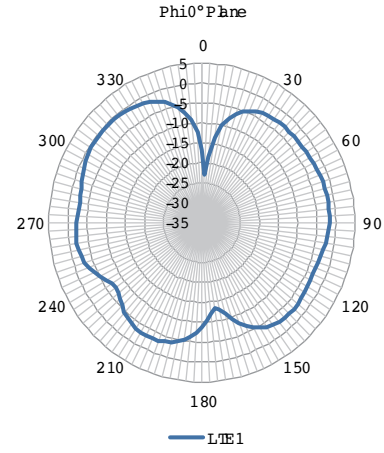


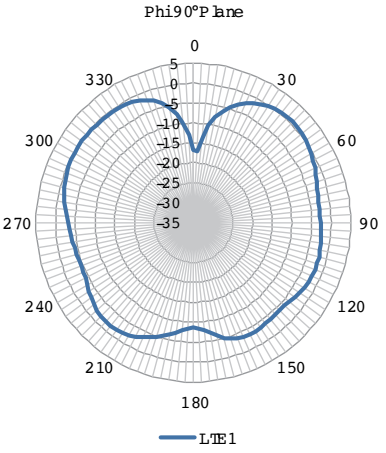




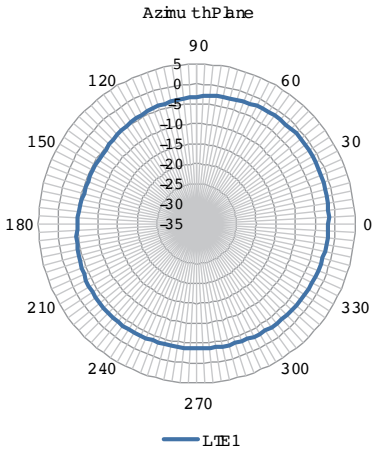
880 MHz

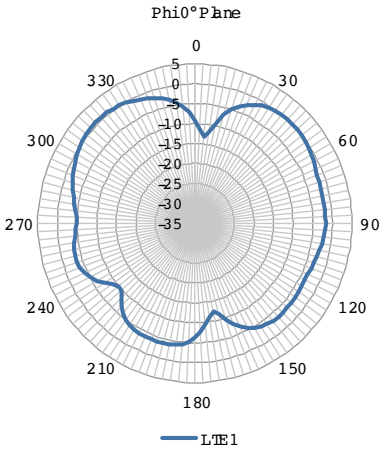


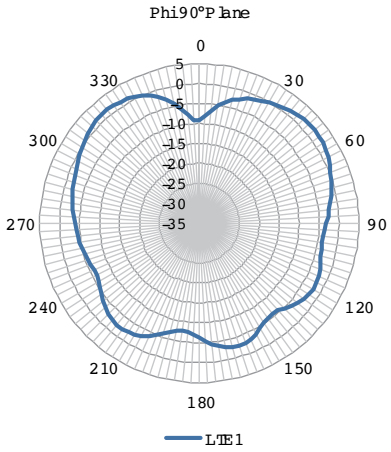




960 MHz

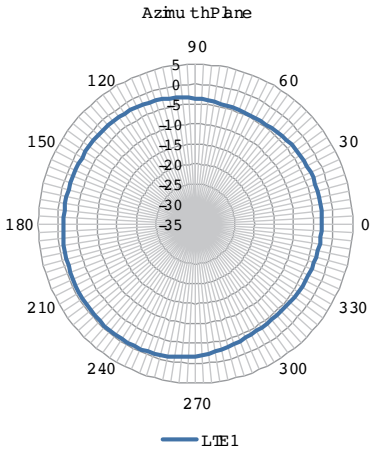


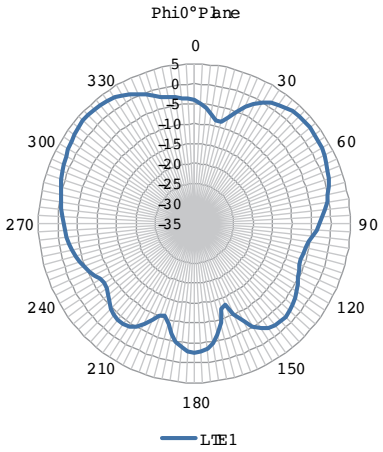


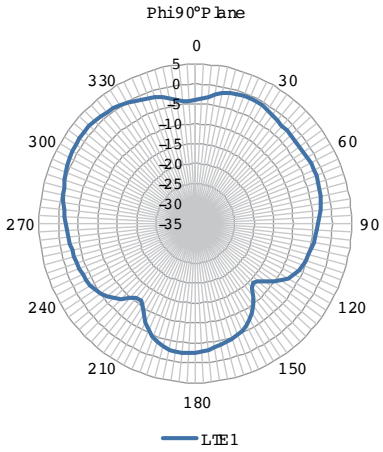


RADIATION PATTERNS WITH GROUND PLANE – LTE ANTENNAS

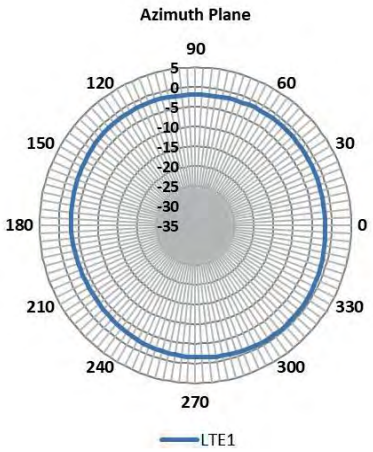
1690 MHz

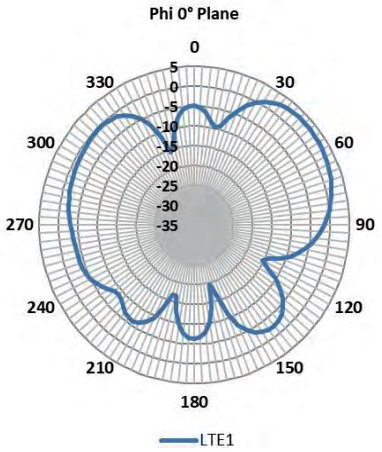


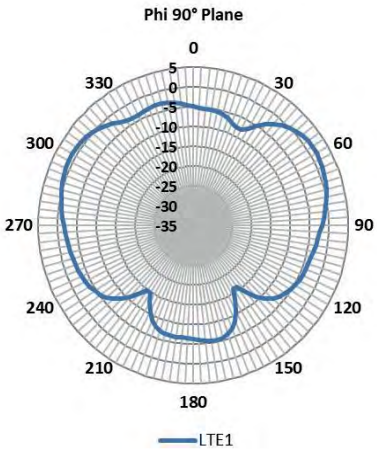




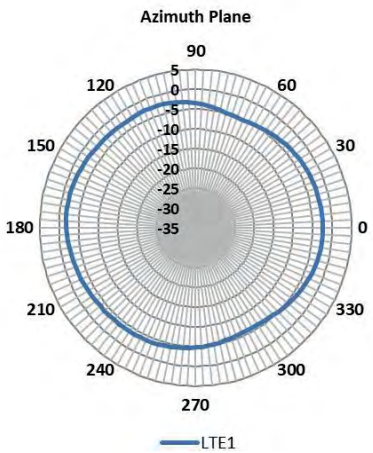
1920 MHz

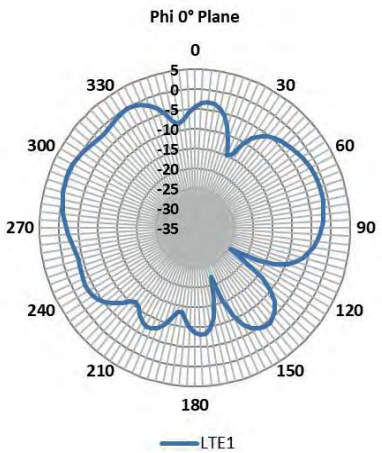


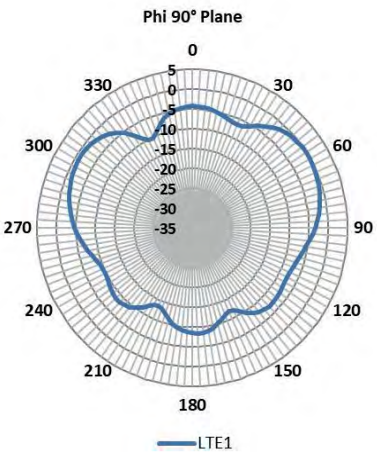




2170 MHz

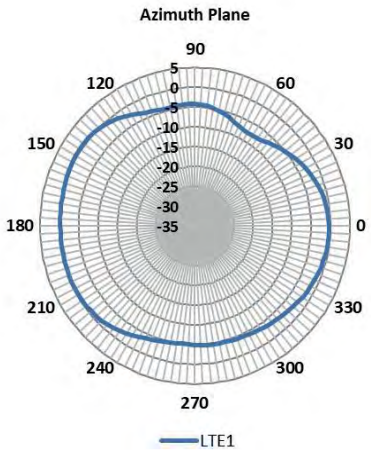


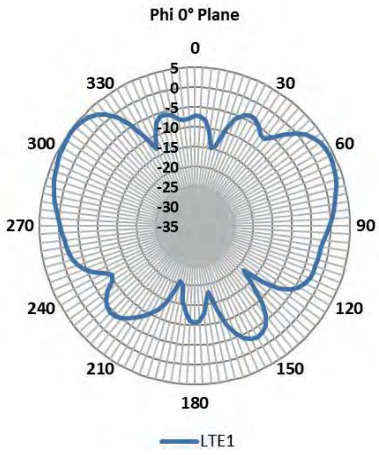


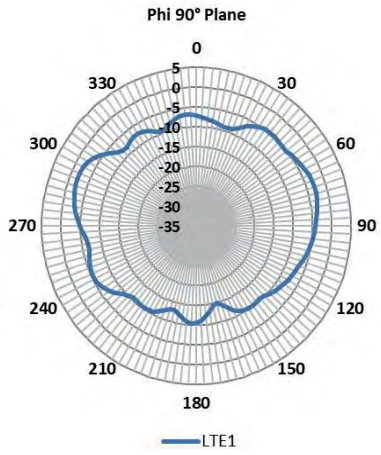


RADIATION PATTERNS WITH GROUND PLANE – LTE ANTENNAS

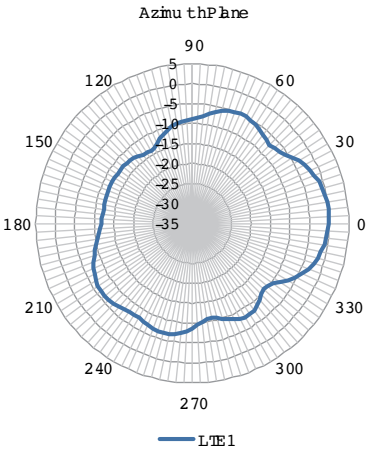
2700 MHz

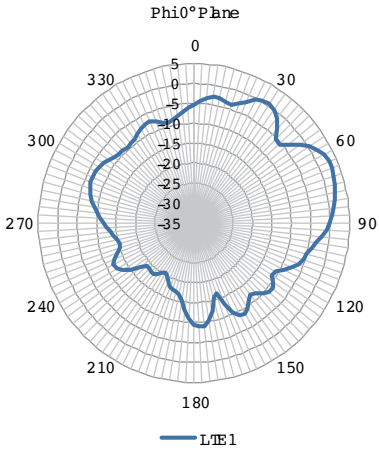


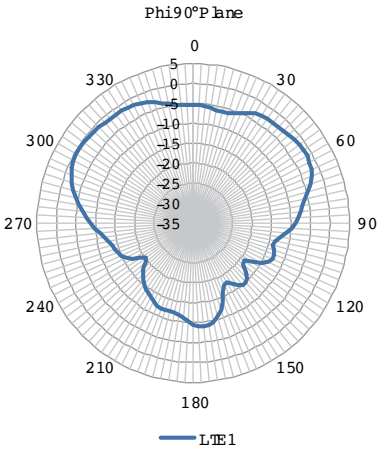




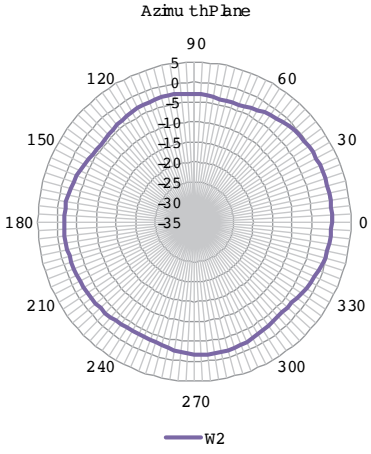
3800 MHz

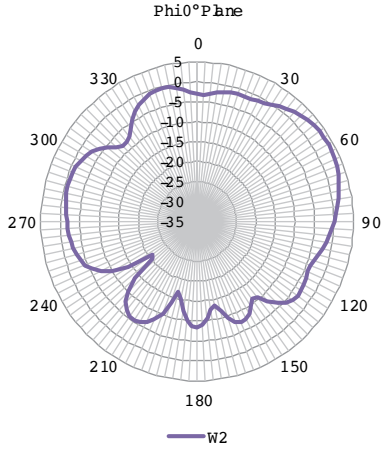


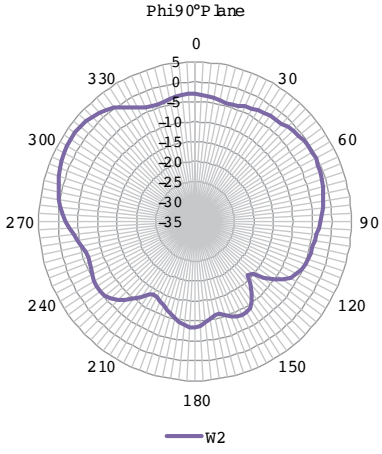




2400 MHz

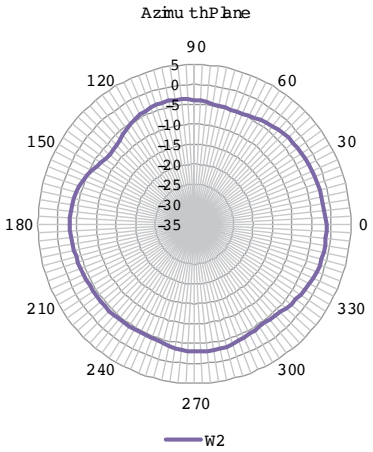


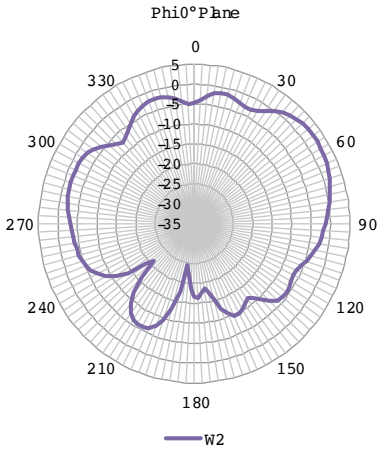


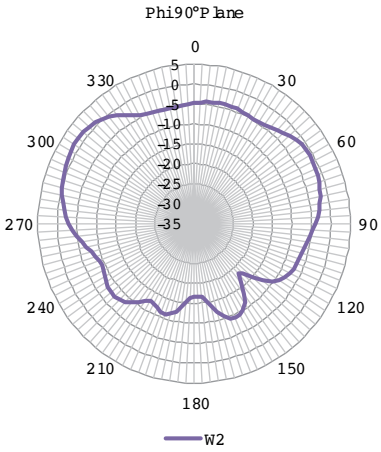


RADIATION PATTERNS WITH GROUND PLANE – WIFI ANTENNAS

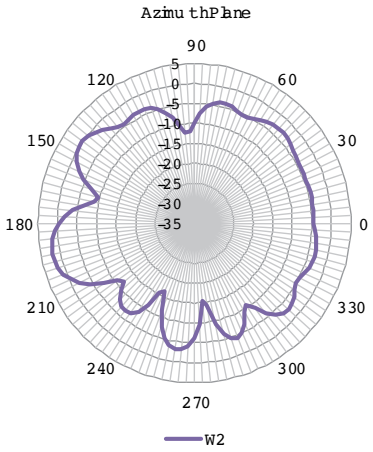
2500 MHz

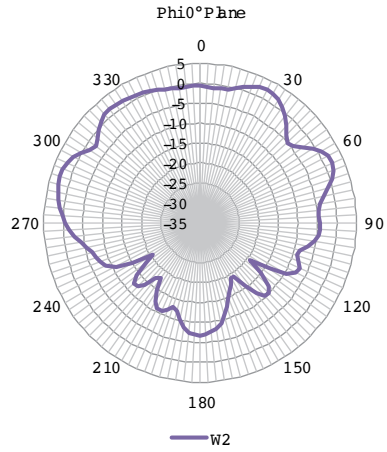


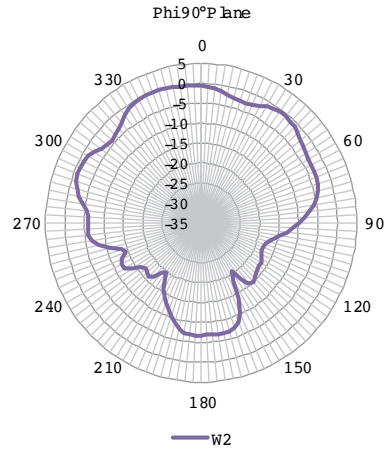




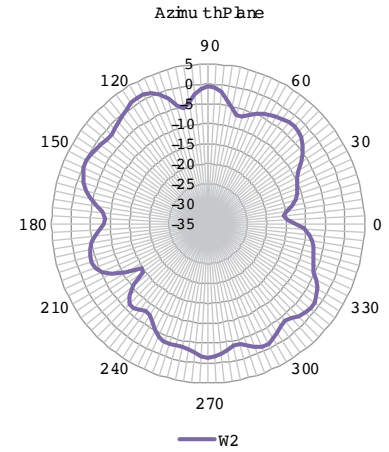
4900 MHz

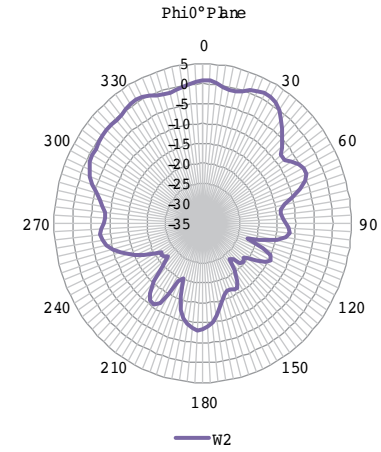


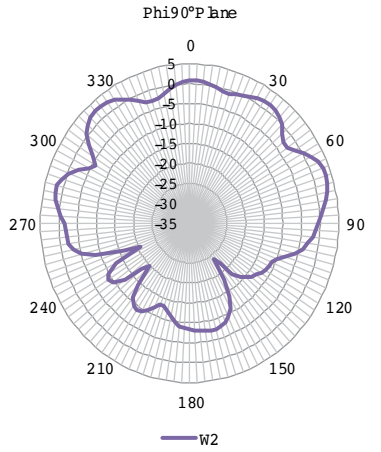




5750 MHz

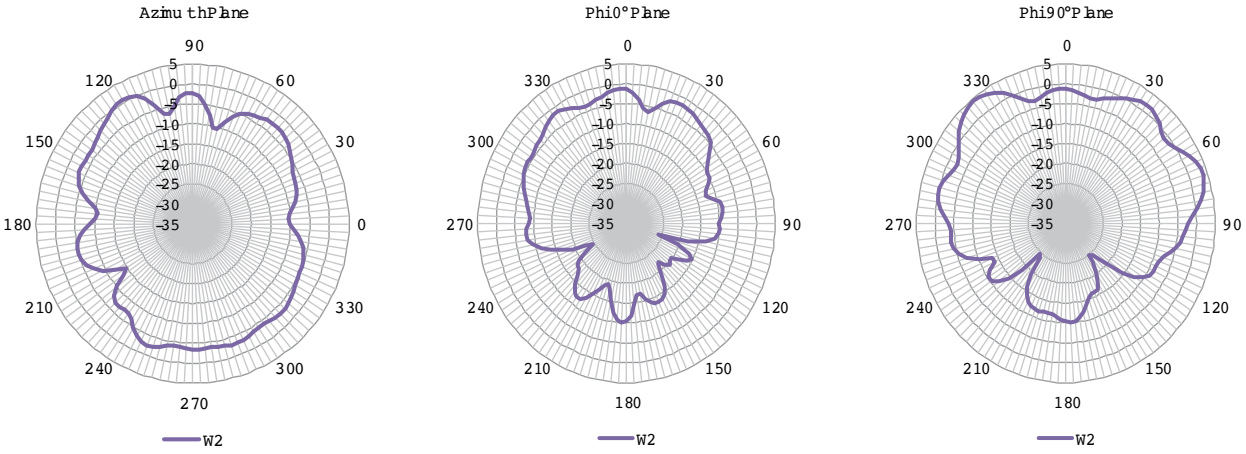






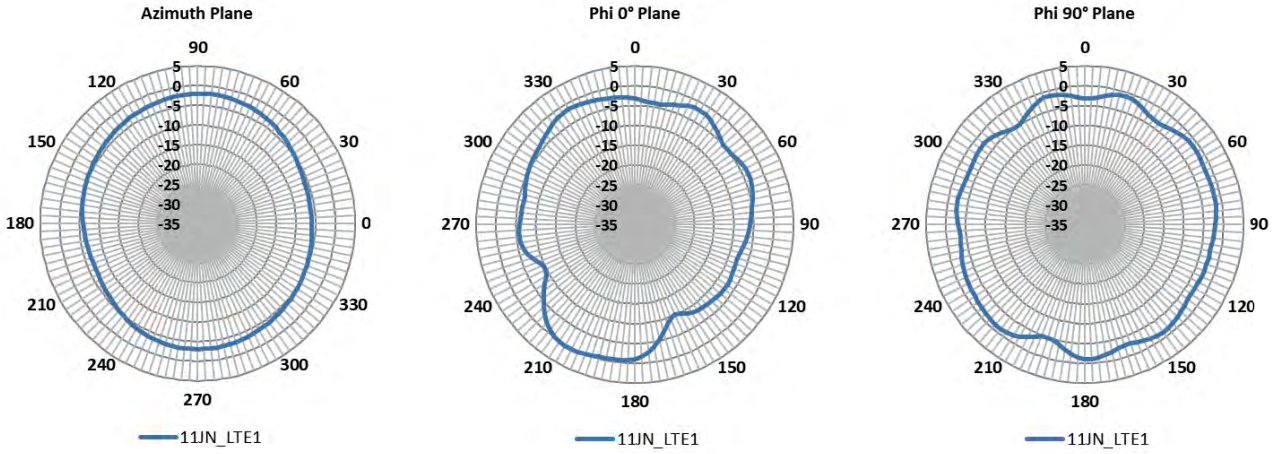
RADIATION PATTERNS WITH GROUND PLANE – WIFI ANTENNAS

6000 MHz

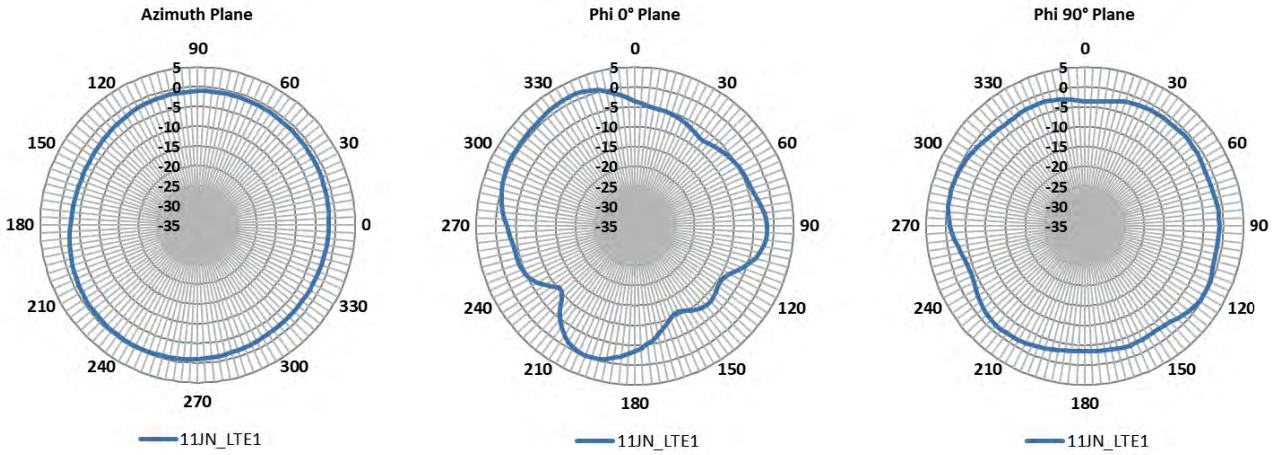


RADIATION PATTERNS WITHOUT GROUND PLANE – LTE ANTENNAS

698 MHz

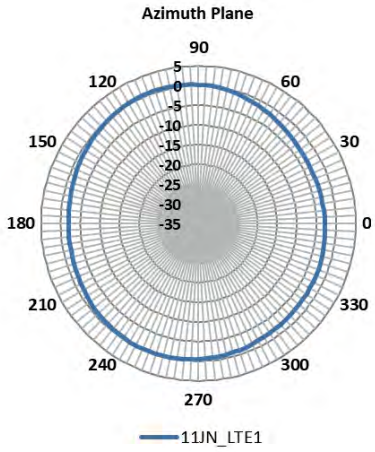


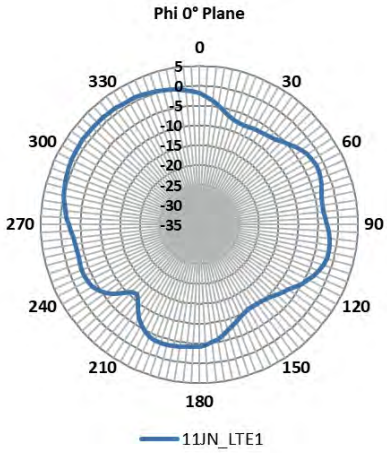
880 MHz

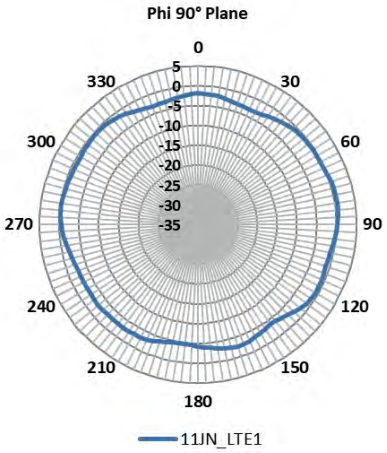


RADIATION PATTERNS WITHOUT GROUND PLANE – LTE ANTENNAS

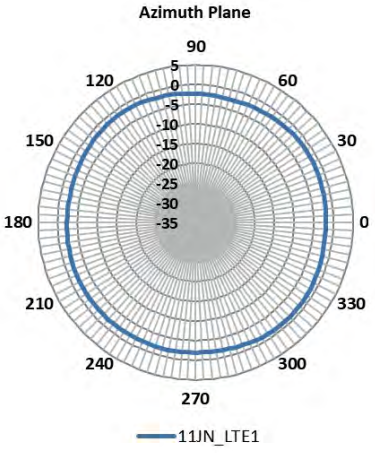
960 MHz

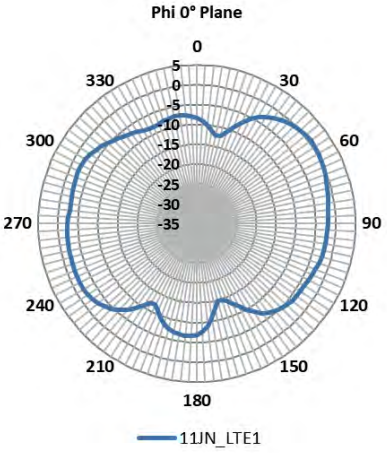


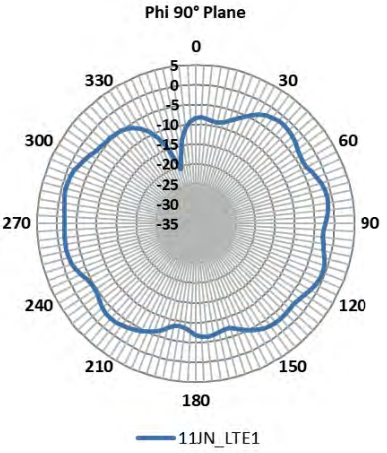




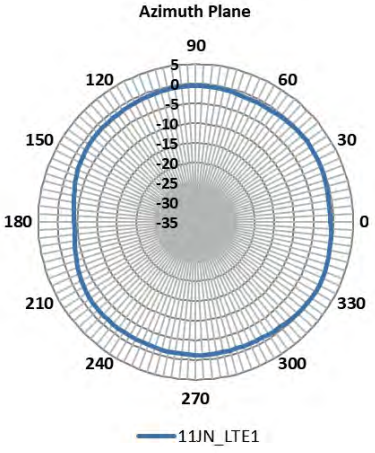
1690 MHz

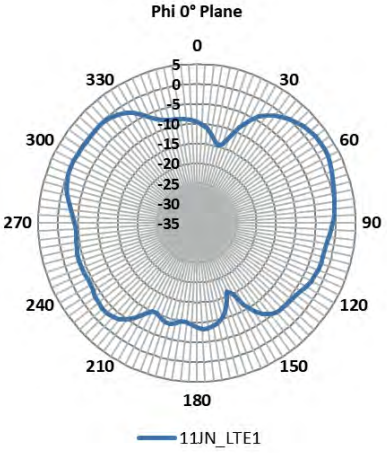


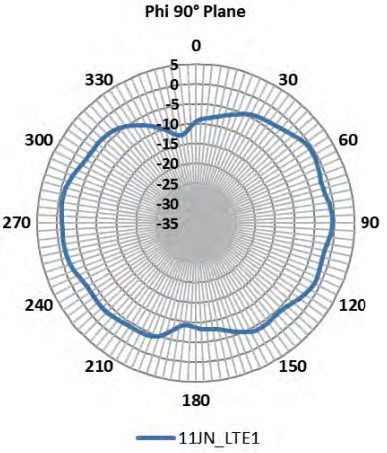




1920 MHz

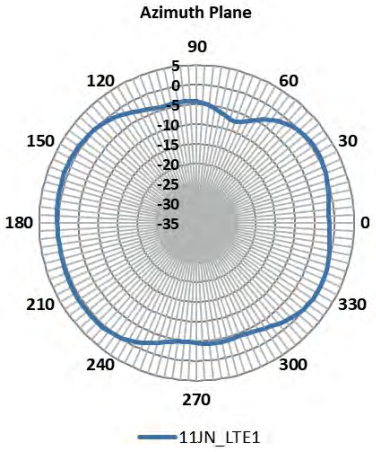


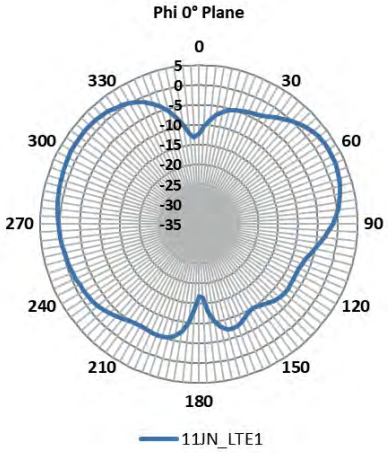


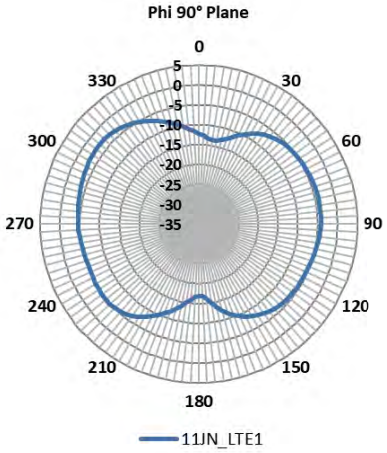


RADIATION PATTERNS WITHOUT GROUND PLANE – LTE ANTENNAS

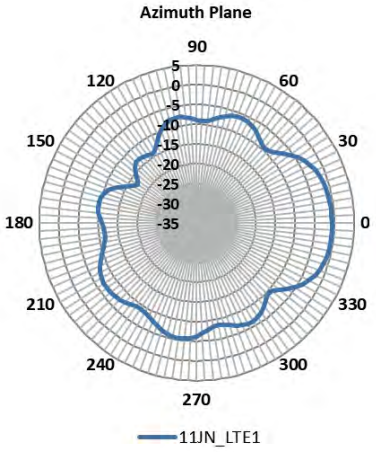
2700 MHz

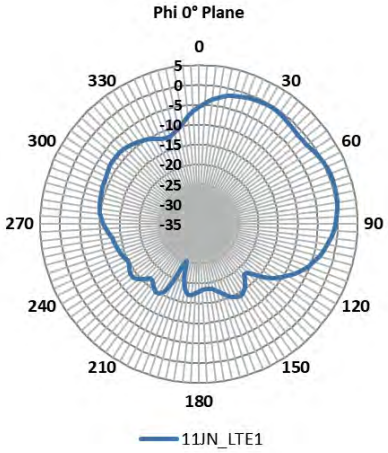


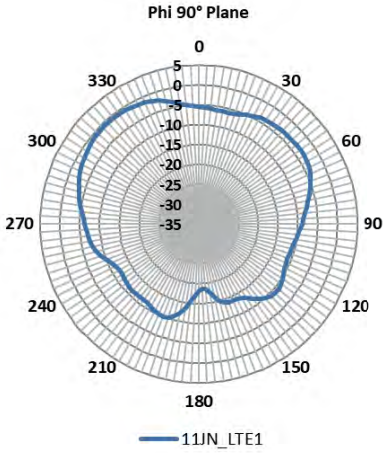




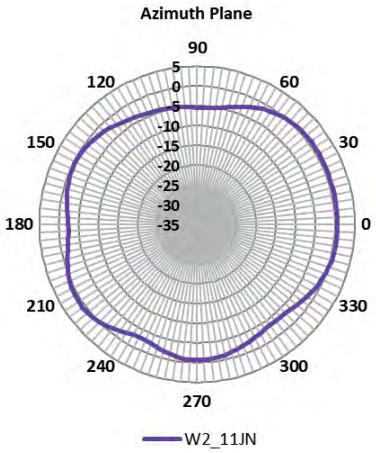
3800 MHz

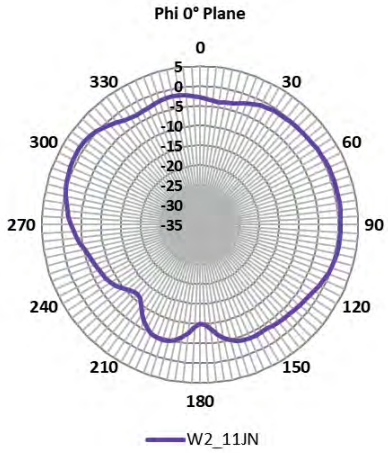


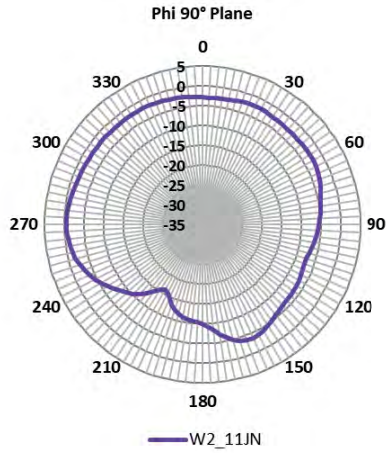




2400 MHz

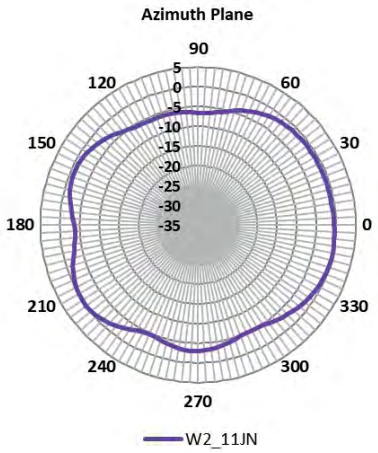


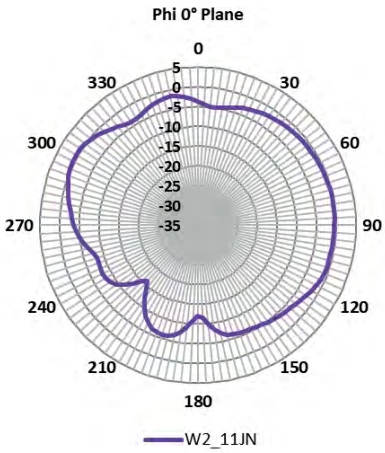


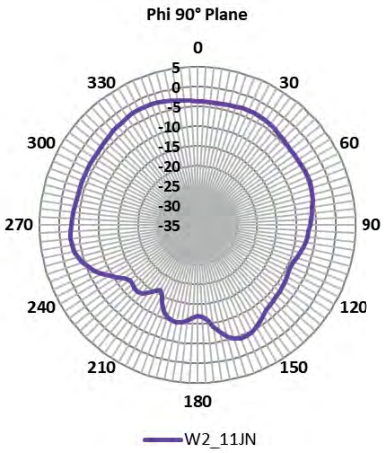


RADIATION PATTERNS WITHOUT GROUND PLANE – WIFI ANTENNAS

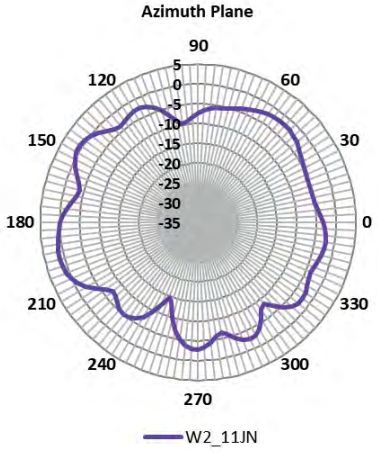
2500 MHz

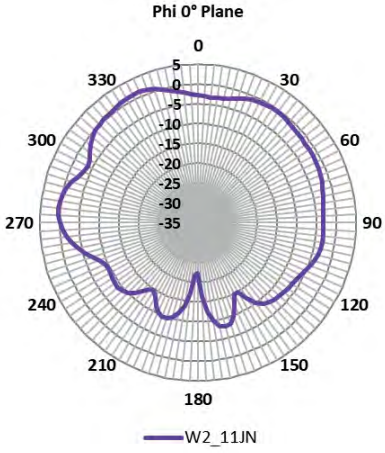


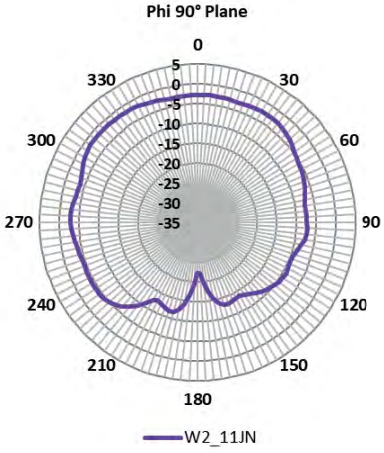




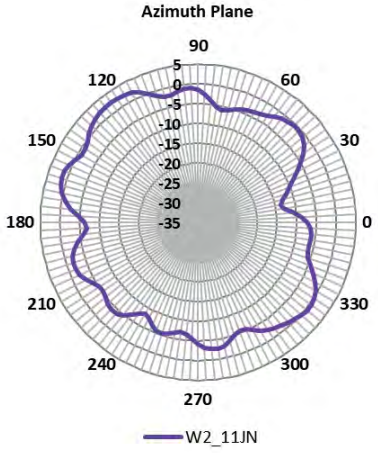
4900 MHz

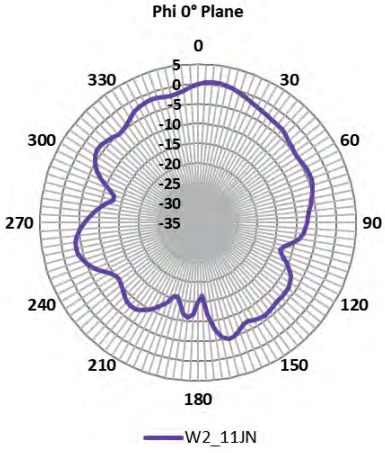


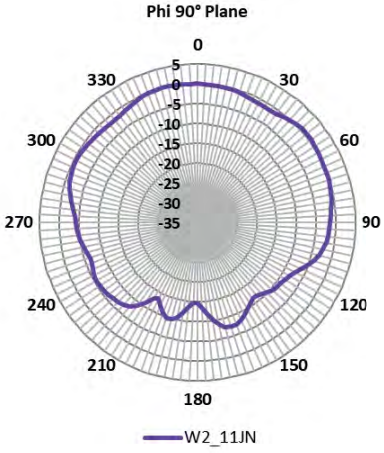




5750 MHz

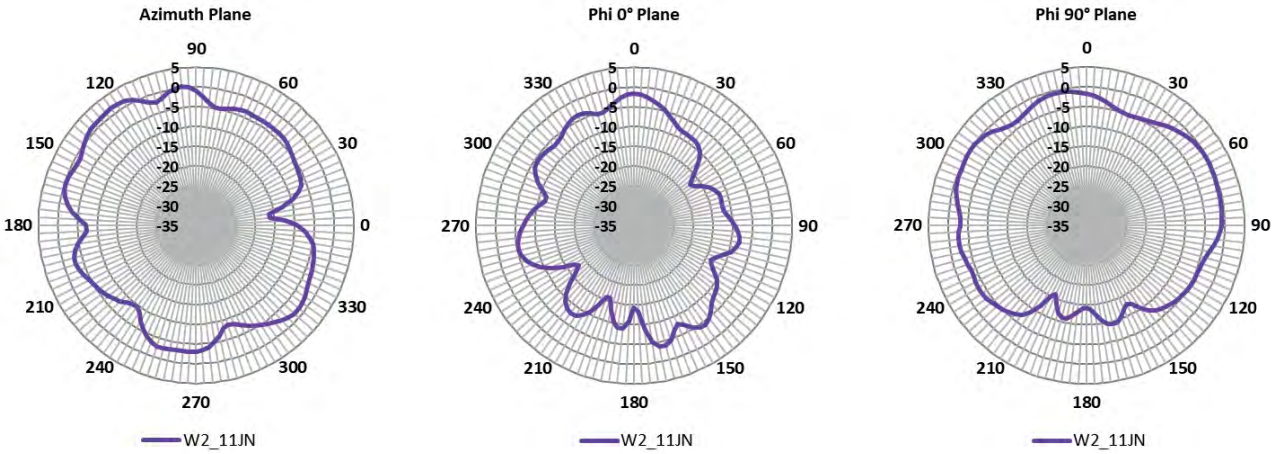






RADIATION PATTERNS WITHOUT GROUND PLANE – WIFI ANTENNAS

6000 MHz



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