

VHP69273X22J

Vehicular 5-Port MIMO Antenna 698-960 MHz / 1710-2700 MHz / 4900-5900 MHz / GNSS

The Laird Connectivity vehicular five-port MIMO antenna covers the 698-960/1710-2700 MHz and 2300-2700/4900-5900 MHz frequency ranges with an added global navigational antenna. Configured with two 3G/4G ports and two dual band Wi-Fi ports and a fifth port configured with a GNSS navigational antenna.

Connector options include, but not limited to, SMA male connectors for 3G/4G LTE and GNSS ports with an RPSMA male connector for the Wi-Fi port. The housing incorporates a low-profile, rugged design that meets IP67, EN61373 Shock & Vibration and EN50155 Temperature and Humidity standards. The antenna also features high impact, UV-resistant polycarbonate plastic radome available in black or white.

APPLICATIONS

- FirstNet/Public Safety
- Passenger Fleet
- Commercial Vehicle Fleet
- Rail Transit

ELECTRICAL SPECIFICATIONS				
Number of Ports	3G/4G LTE – 2		Wi-Fi – 2	
Operating Frequency (MHz)	698-960	1710-2700	2300-2700	4900-5900
VSWR – Avg.**	<1.7:1	<1.6:1	<1.7:1	<1.4:1
VSWR – Max**	<2.0:1	<2.0:1	<2.0:1	<2.0:1
Gain – Peak (dBi)*	4.1	5.9	6.2	6.5
Gain Horizon 30° - Max (dBi)*	N/A	N/A	N/A	6.2
Typical Port-to-Port Isolation**	698-960	1710-2700	2300-2700	4900-5900
LTE 1 to LTE 2	>14	>26	>28	N/A
LTE 1 to Wi-Fi 1	>27	>18	>20	>31
LTE 1 to Wi-Fi 2	>26	>19	>23	>29
LTE 2 to Wi-Fi 1	>27	>19	>23	>28
LTE 2 to Wi-Fi 2	>26	>18	>20	>33
Wi-Fi 1 to Wi-Fi 2	N/A	N/A	>20	>29

ELECTRICAL SPECIFICATIONS	
Nominal Impedance (Ohms)	50
Max Power - Ambient 25°C (W)	50
Polarization	Vertical Linear
Horizontal Plane 3 dB Beamwidth Port 1	Omnidirectional

* Measured on 1 ft (30.48 cm) diameter ground plane
** Measured on 1 ft (30.48 cm) diameter ground plane and 17 ft (518 cm)

MECHANICAL SPECIFICATIONS	
Dimensions – diameter x height – mm (in.)	132 x 87 (5.20 x 3.4)
Weight – kg (lbs)	Approximately 1.16 (2.55)
Cable Type	LMR®-195 or equivalent
Mounting	P- Mount
Radome and Base Plate Material	PC, UL94 - V0 Rating, UV Stable

ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature – °C (°F)	-30 to +70 (-22 to +158)
Storage Temperature – °C (°F)	-40 to +85 (-40 to +185)
Shock and Vibration Tests	EN61373 Compliant
Temperature and Humidity Tests	EN50155 Compliant
Ingress Protection Rating	IP67
Material Substance Compliance	RoHS

GNSS ANTENNA SPECIFICATIONS			
Model Number	VHP69273x22J		
Number of Ports	GNSS- 1		
Frequency Band (MHz)	Beidou	GPS	GLONASS
Frequency of Operation (MHz)	1561.098 ± 2.046	1.575.42 ± 1.023	1602.0 ± 5.0
Amplifier Gain (dB)	28 dB ± 3		
Nominal Impedance (Ohms)	50 Ω		
Output VSWR	< 2:1		
DC Voltage	2.5 - 7 Vdc		
Current Consumption, mA	8.5 ± 3 (at 3.0V)		
Input Max Power, dBm	-10		
Out of Band Rejection, dBc	> 80 (698- 960 MHz)	> 80 (1428- 2700 MHz)	> 70 (4900- 5800 MHz)
Working/Storage Temperature	-40°C - +85°C (-40°F - +185°F)		
Connector	SMA-Male		
Cable – Exposed Length	RG174-518.2 cm (17 ft.)		

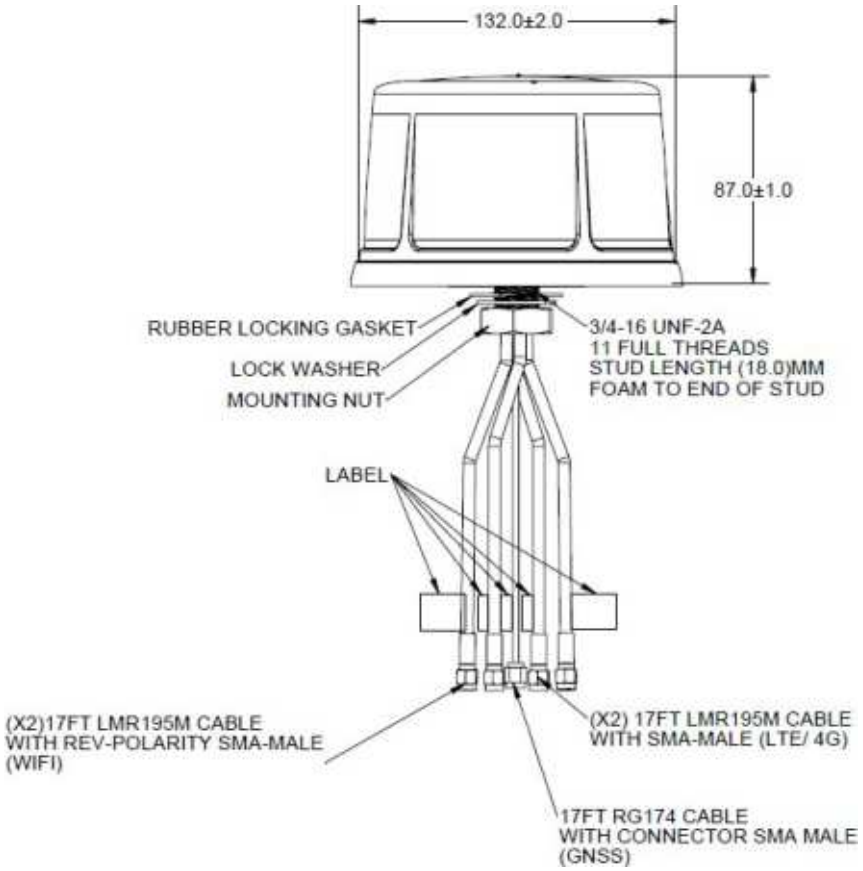
CONFIGURATION

PART NUMBER	CABLE LENGTH	CONNECTOR LTE PORTS	CONNECTOR WI-FI PORTS	COLOR	NAVIGATION
VHP69273B22J-518A	5.18m (17ft)	SMA Male	RPSMA Male	Black	GNSS
VHP69273W22J-518A	5.18m (17ft)	SMA Male	RPSMA Male	White	GNSS

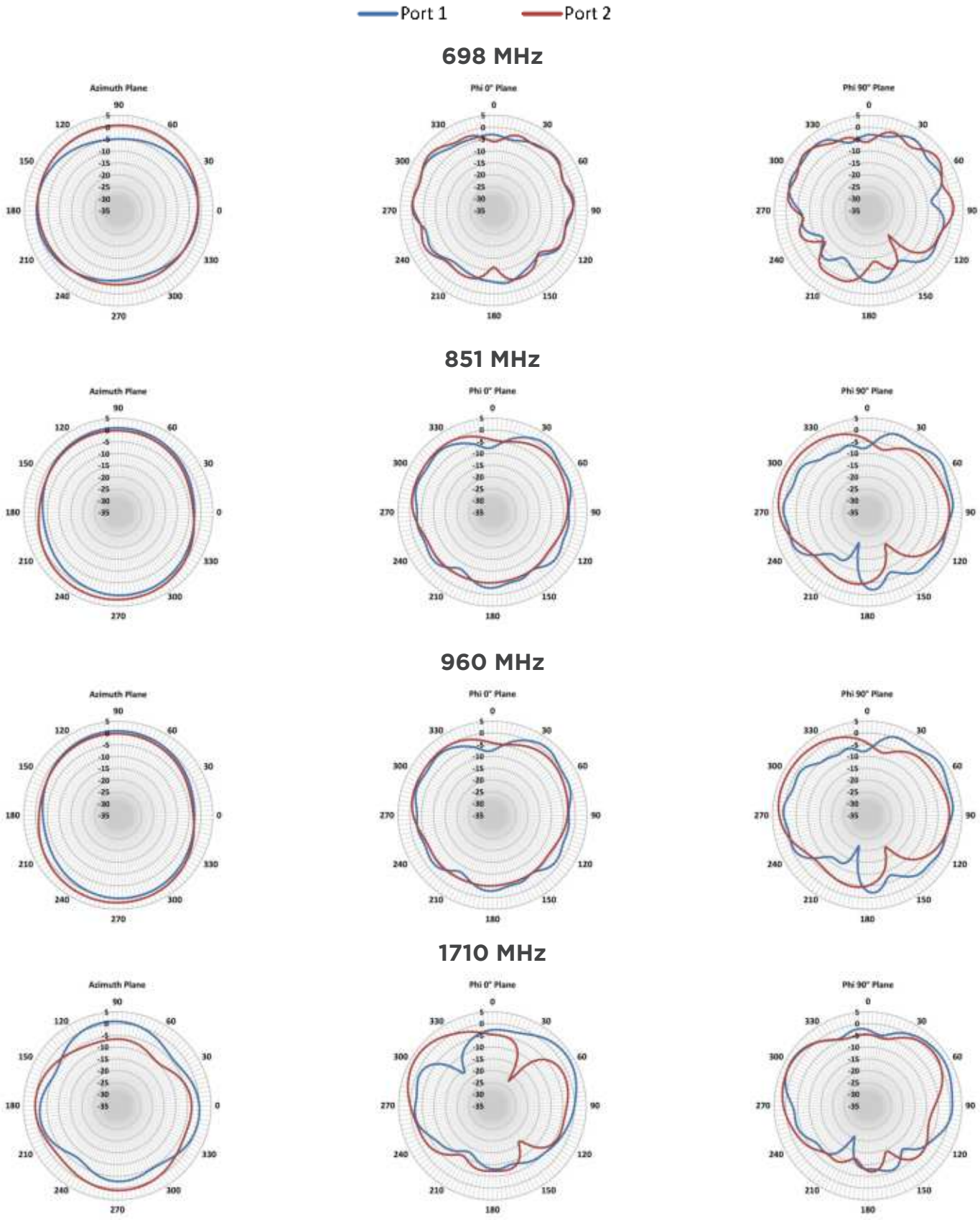
PACKAGING INFORMATION

PACKAGE DIMENSIONS	CARTON	MASTER CARTON	AIR PALLET	OCEAN PALLET
Number of Antennas	4	8	192	240
Height- mm (in.)	305 (12.0)	305 (12.0)	1363 (53.66)	1668 (65.67)
Length- mm (in.)	525 (20.7)	525 (20.7)	1200 (47.24)	1200 (47.24)
Width- mm (in.)	132 (5.22)	265 (10.4)	800 (31.5)	800 (31.5)
Shipping Weight- kg (lb.)	5.0 (11)	10.1 (22.3)	255 (562)	316 (697)

MECHANICAL DRAWING

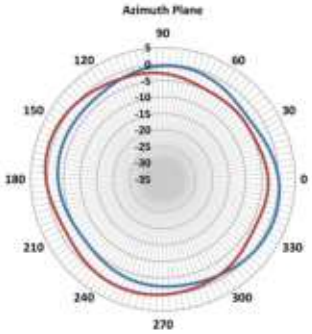


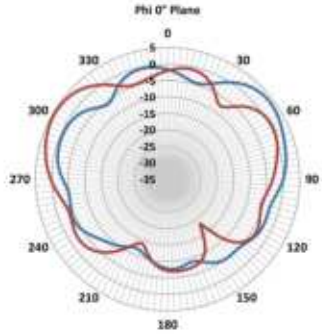
RADIATION PATTERN - LTE/CELL RTS

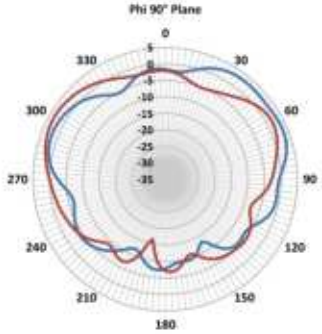


Port 1 Port 2

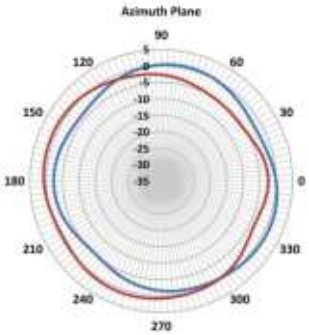
1880 MHz

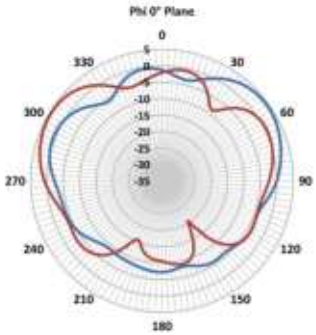


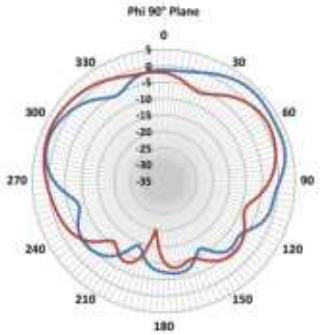




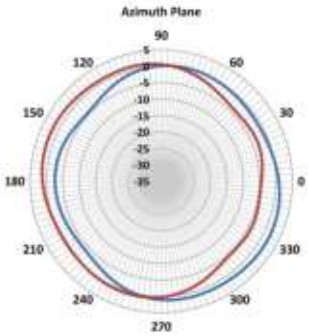
1930 MHz

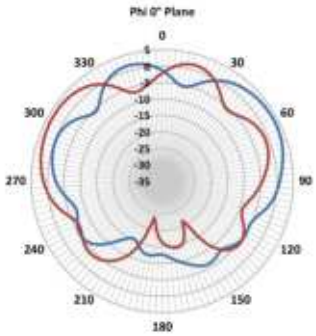


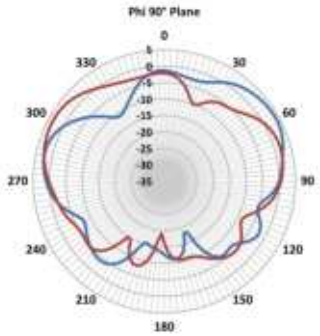




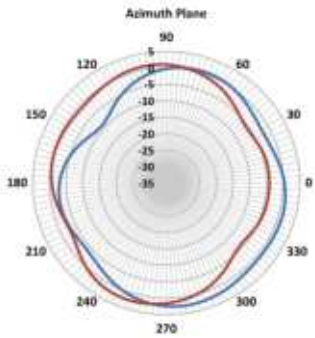
2170 MHz

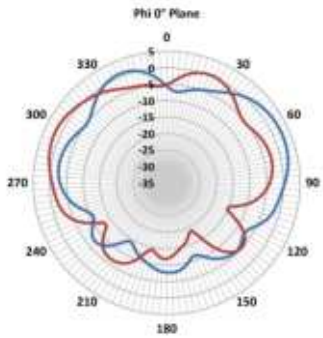


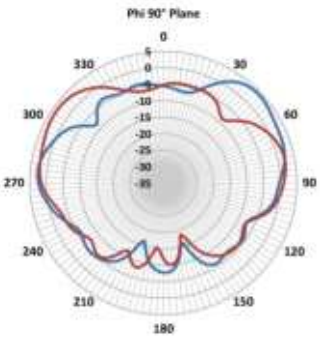




2310 MHz

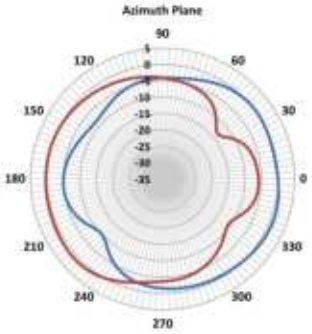


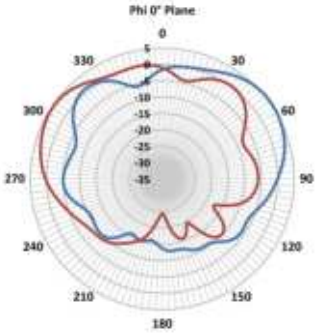


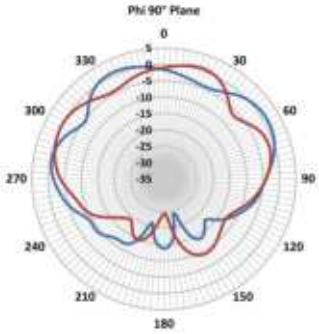


Port 1 Port 2

2700 MHz

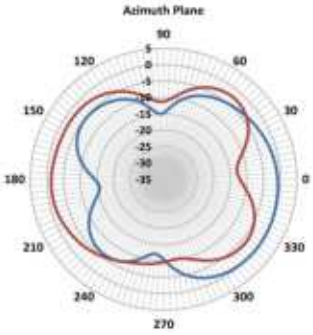


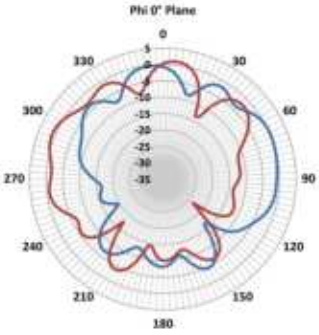


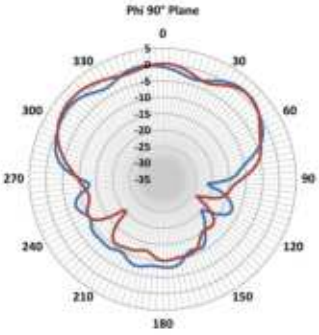


RADIATION PATTERN - WIFI PORTS

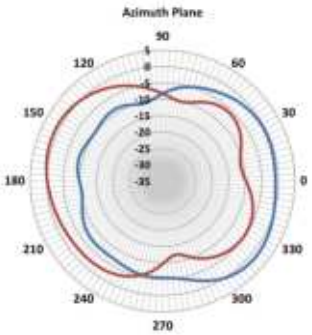
2300 MHz

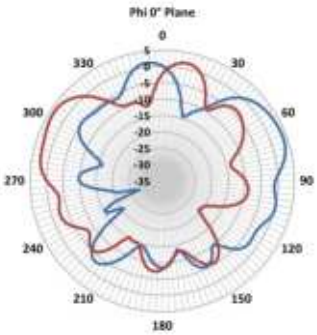


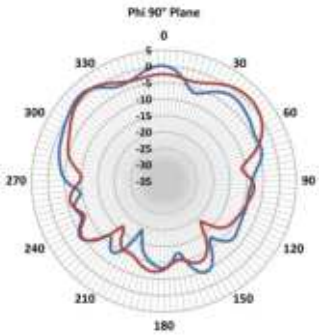




2400 MHz

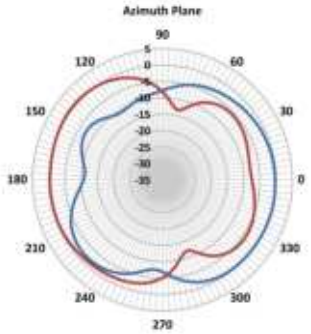


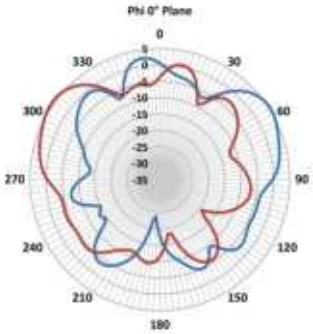


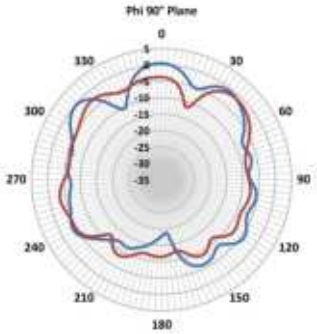


Port 1 Port 2

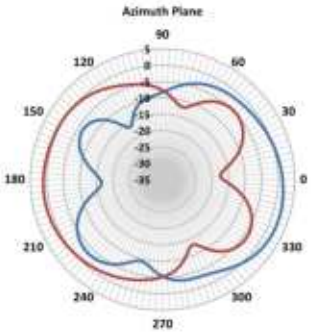
2500 MHz

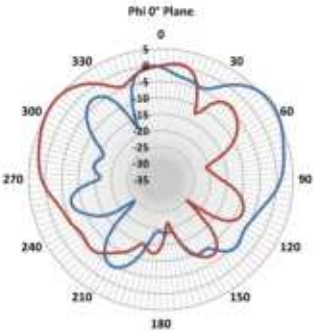


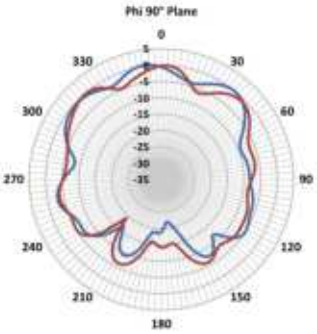




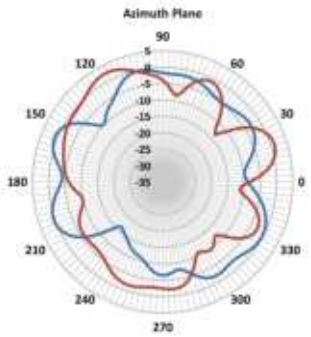
2700 MHz

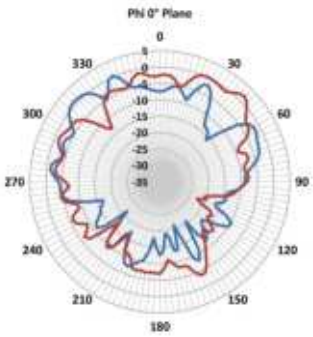


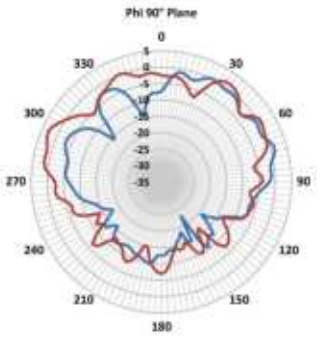




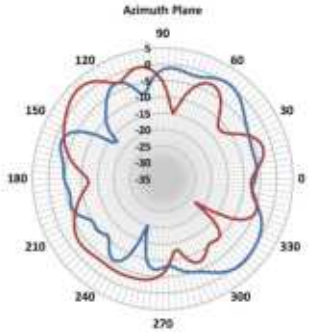
4900 MHz

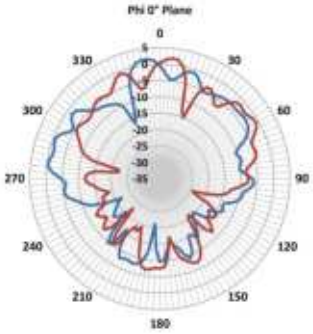


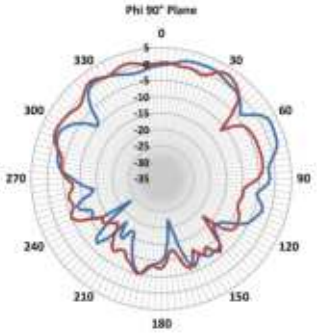




5470 MHz

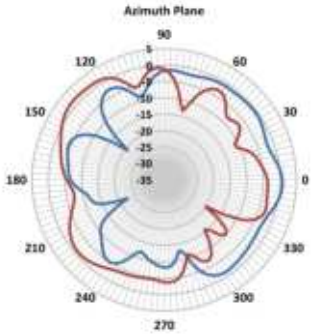


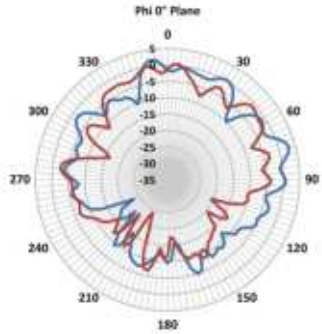


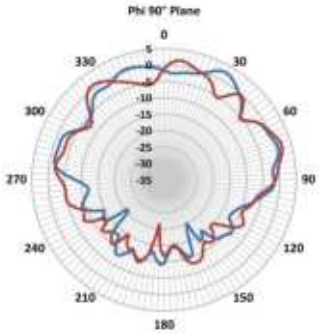


Port 1 Port 2

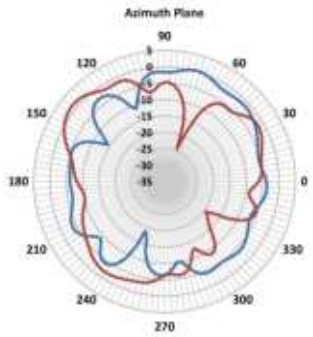
5725 MHz

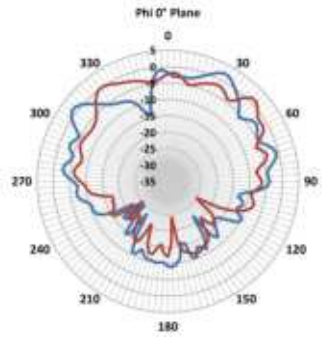


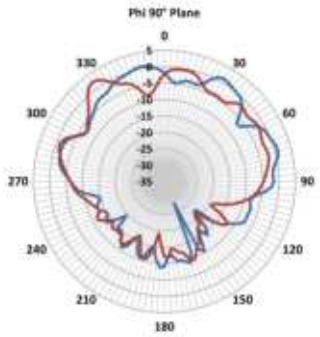




5925 MHz







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
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