

Regulatory WLAN Antenna Information

Platform information										
Brand	ODM		RMN	Intel platform (ex: Yes, No or NA)		Platform type (ex: regular NB, convertible PC, AIO...etc)		*SAR minimum separation (mm)		
HP Inc.	Quanta Corporation		TPN-217	Yes		Notebook PC		186.08		
Antenna information										
Vendor		Type		Antenna Part number (Main/Tx1)			Antenna Part number (Aux/Tx2)			
2		PIFA		DQ6415GHA00 (81EAA415.GHA)			DQ6415GHA00 (81EAA415.GHA)			
Peak gain w/ cable loss (dBi)*										
	2.4GHz 2400-2483.5 MHz	5.2GHz 5150-5250MHz	5.3GHz 5250-5350MHz	5.6GHz 5470-5725MHz	5.8GHz 5725-5850MHz	5.9GHz 5850-5895MHz	6.2GHz 5925-6425MHz	6.5GHz 6425-6525MHz	6.7GHz 6525-6875MHz	7.0 GHz 6875-7125MHz
Main	2.46	1.43	1.43	1.55	1.37	1.71	N/A	N/A	N/A	N/A
Aux	2.27	-0.05	0.44	0.41	0.59	0.91	N/A	N/A	N/A	N/A
Module Information										
Model		Form factor and suffixes								
RTL8852BE (Cava2)		Realtek Wi-Fi 6 RTL8852BE+ BT5.2 (802.11ax 2x2, MU-MIMO supported, supporting gigabit data rate)								

1. **Applicable test methods**

ETS-Lindgren AMS-8500 system is 3D fully anechoic chamber, it is applied to the “Conical Cut test method”, the detail description is described as below.

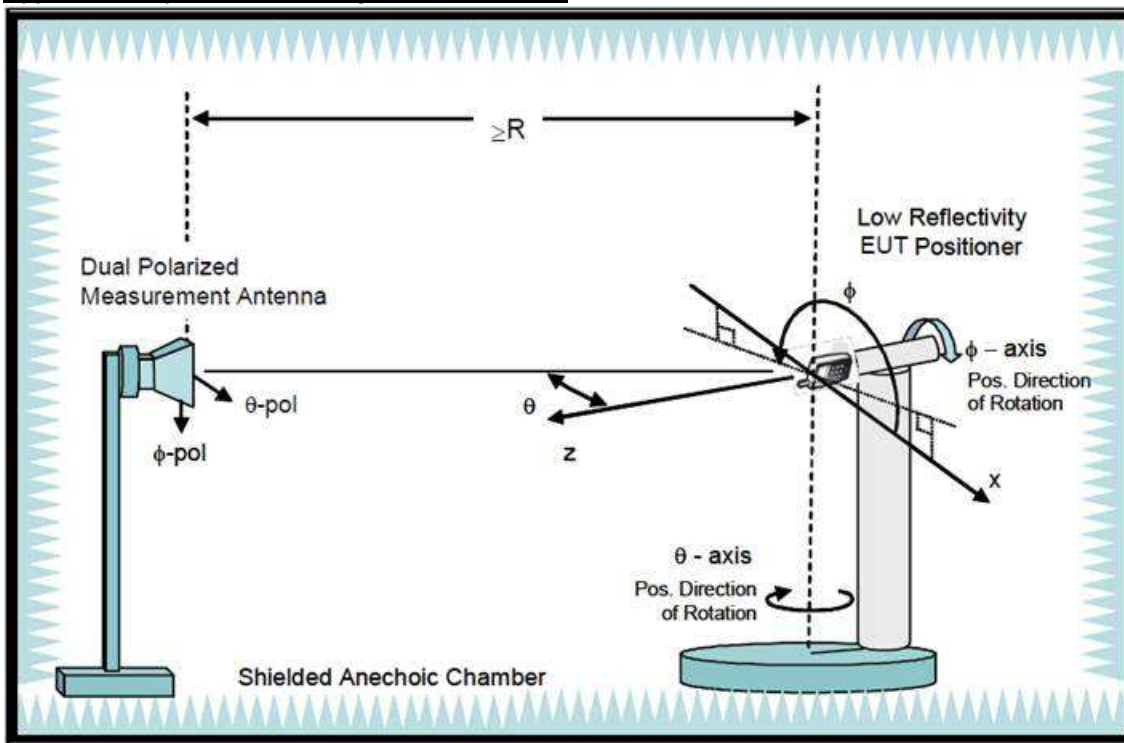
The Conical Cut method requires the ability of the Measurement Antenna to be physically rotated in the theta plane (overhead) of the EUT for implementations using a single Measurement Antenna, Eleven conical cuts are required to capture data at every 15 degrees from the EUT, with the top (0 degrees) and bottom (180 degrees) cuts not being measured. Typically, the EUT will remain affixed to a turntable during the entire measurement process. The Measurement Antenna will be positioned at a starting theta angle. The EUT will then be rotated around the full 360 degrees of phi rotation. The Measurement Antenna will then be positioned at the next theta angle, and the process repeated.

		θ -Axis	Φ -Axis
Passive	Step size	15°~165° step: 15°	0°~345° step: 15°
	N / M (Points)	12	24

2. **Test & System Description**

a. Test setup

Typical Setup for ETS-Lindgren AMS-8500:



b. Equipment list

Equipment Description	Manufacturer	Identification no.	Current calibration date	Next calibration date
Network analyzer	Agilent	E5071C	2022/01/7	2023/01/6
Measurement software	ETS-Lindgren	EMQuest	N/A	N/A
Multi axis positioning system(MAPSTM)	ETS-Lindgren	EMCO 2115	N/A	N/A
Multi axis positioning system(MAPSTM)	ETS-Lindgren	EMCO 2110	N/A	N/A
MAPSTM controller	ETS-Lindgren	EMCO 2090	N/A	N/A
ETS OTA Chamber	ETS-Lindgren	AMS8500	2022/03/03	2023/03/02
Horn antenna	ETS-Lindgren	3164-10	2022/03/03	2023/03/02

Note: Chamber calibration included full set of implement.

Test personnel: Leo Lee

Test date: 2022/09/20

Antenna Information

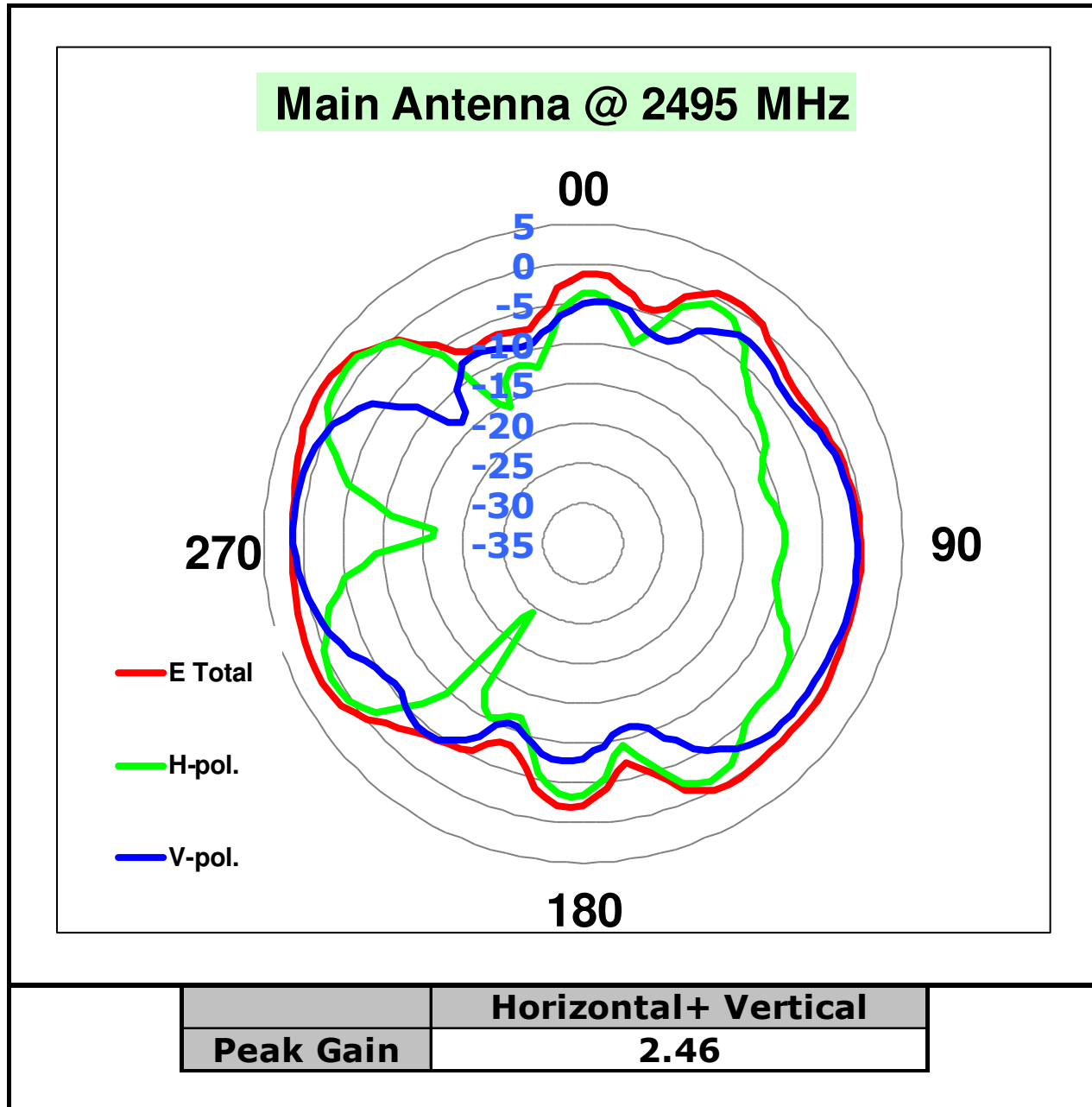
Section 1. Antenna Assembly Specifications

1A Antenna Part Number	1B Manufacturer	1C Antenna Type	1D Cable Assembly Part Number and Information	Freq Range MHz	1E * Peak Gain W/ Cable loss (dBi)	1F Peak Gain w/o Cable Loss (dBi)	1G Max VSWR	1H Cable Loss (dB)
P/N: DQ6415GHA00 (81EAA415.GHA) Main Tx1/ Rx1 Antenna Ant 1	2	PIFA	50 ohm Coaxial length: 295mm diameter: 1.13mm Connector Type: I-PEX P/N: 20565-001R-13	2400-2495	2.46	3.62	3.0	1.16
				5150-5250	1.43	3.06	3.0	1.63
				5250-5350	1.43	3.08	3.0	1.65
				5470-5725	1.55	3.25	3.0	1.70
				5725-5850	1.37	3.10	3.0	1.73
				5850-5895	1.71	3.44	3.0	1.73
				5925-6425	N/A	N/A	N/A	N/A
				6425-6525	N/A	N/A	N/A	N/A
				6525-6875	N/A	N/A	N/A	N/A
P/N: DQ6415GHA00 (81EAA415.GHA) Aux Tx2/ Rx2 Antenna Ant 2	2	PIFA	50 ohm Coaxial length: 495mm diameter: 1.13mm Connector Type: I-PEX P/N: 20565-001R-13	2400-2495	2.27	4.08	3.0	1.81
				5150-5250	-0.05	2.56	3.0	2.61
				5250-5350	0.44	3.07	3.0	2.63
				5470-5725	0.41	3.12	3.0	2.71
				5725-5850	0.59	3.35	3.0	2.76
				5850-5895	0.91	3.75	3.0	2.84
				5925-6425	N/A	N/A	N/A	N/A
				6425-6525	N/A	N/A	N/A	N/A
				6525-6875	N/A	N/A	N/A	N/A
6875-7125	N/A	N/A	N/A	N/A				

Section 2. Radiation characteristics of antenna loaded in Host Platform

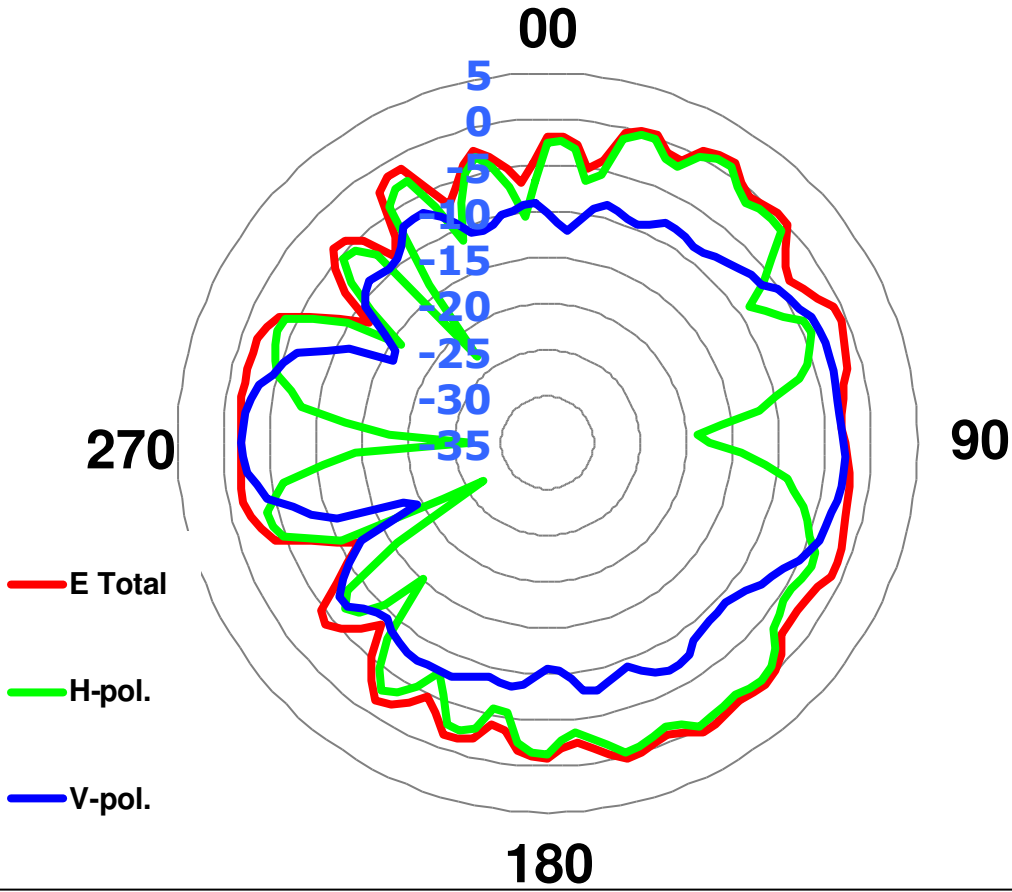
Main Antenna

Max Antenna 2D Radiation Pattern 2400 – 2495 MHz



Max Antenna 2D Radiation Pattern 5150-5250 MHz

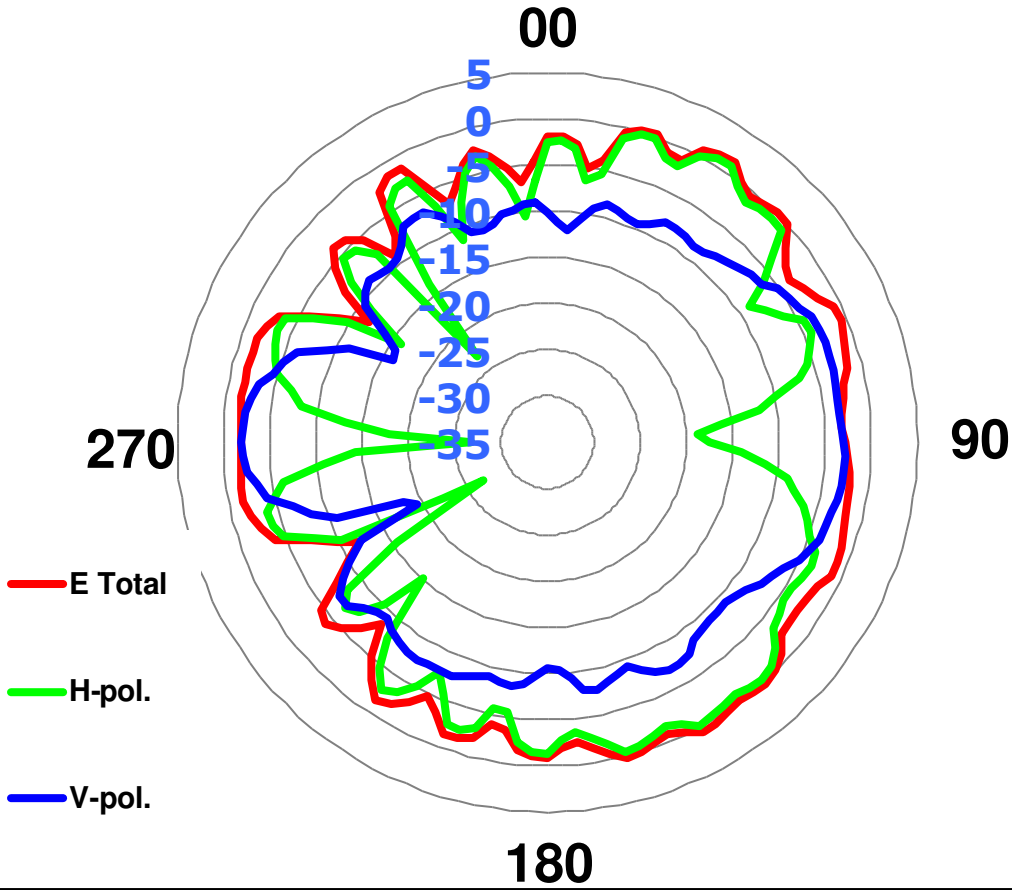
Main Antenna @ 5250 MHz



	Horizontal+ Vertical
Peak Gain	1.43

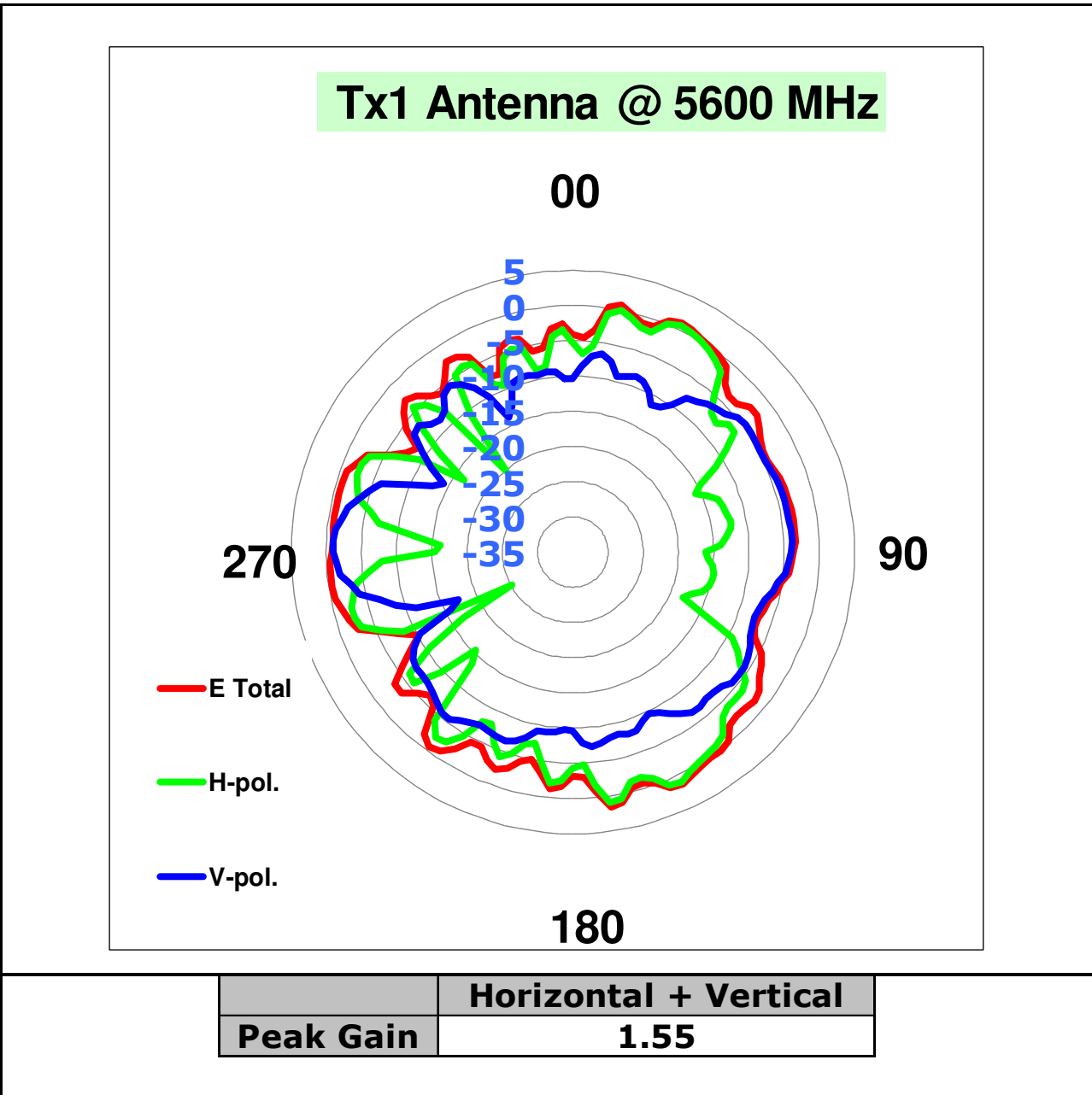
Max Antenna 2D Radiation Pattern 5250-5350 MHz

Main Antenna @ 5250 MHz



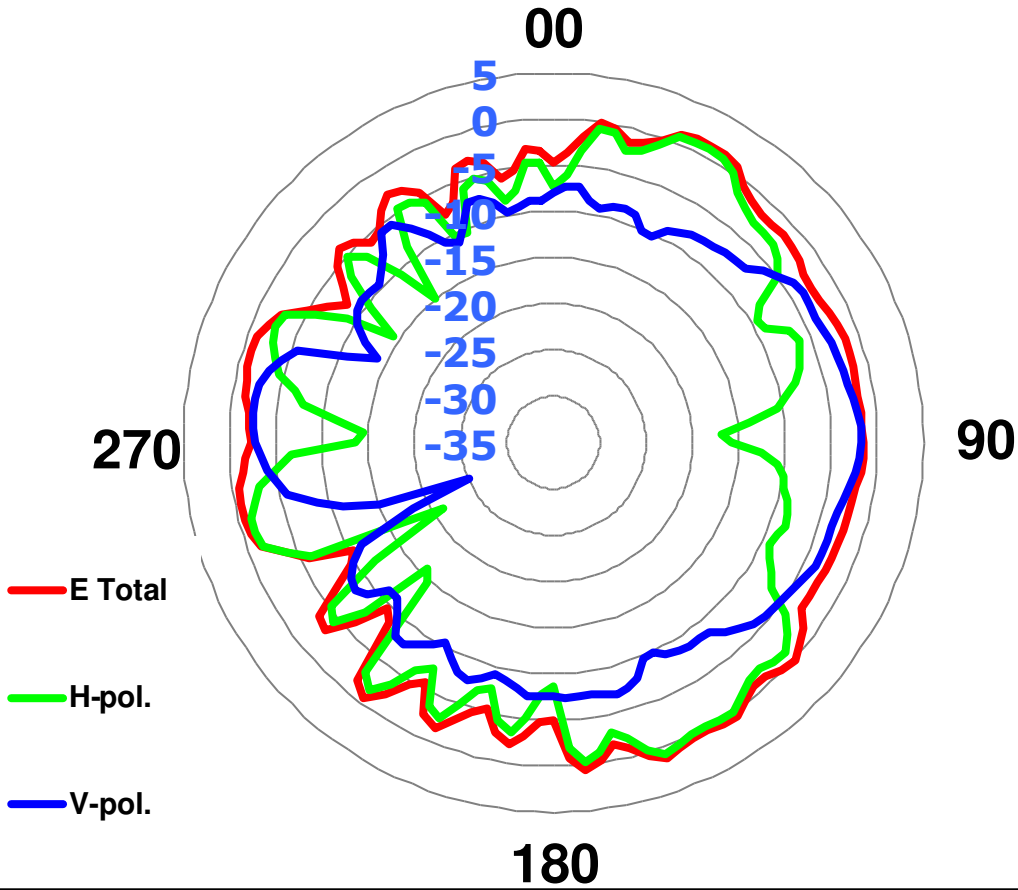
	Horizontal+ Vertical
Peak Gain	1.43

Max Antenna 2D Radiation Pattern 5470-5725 MHz



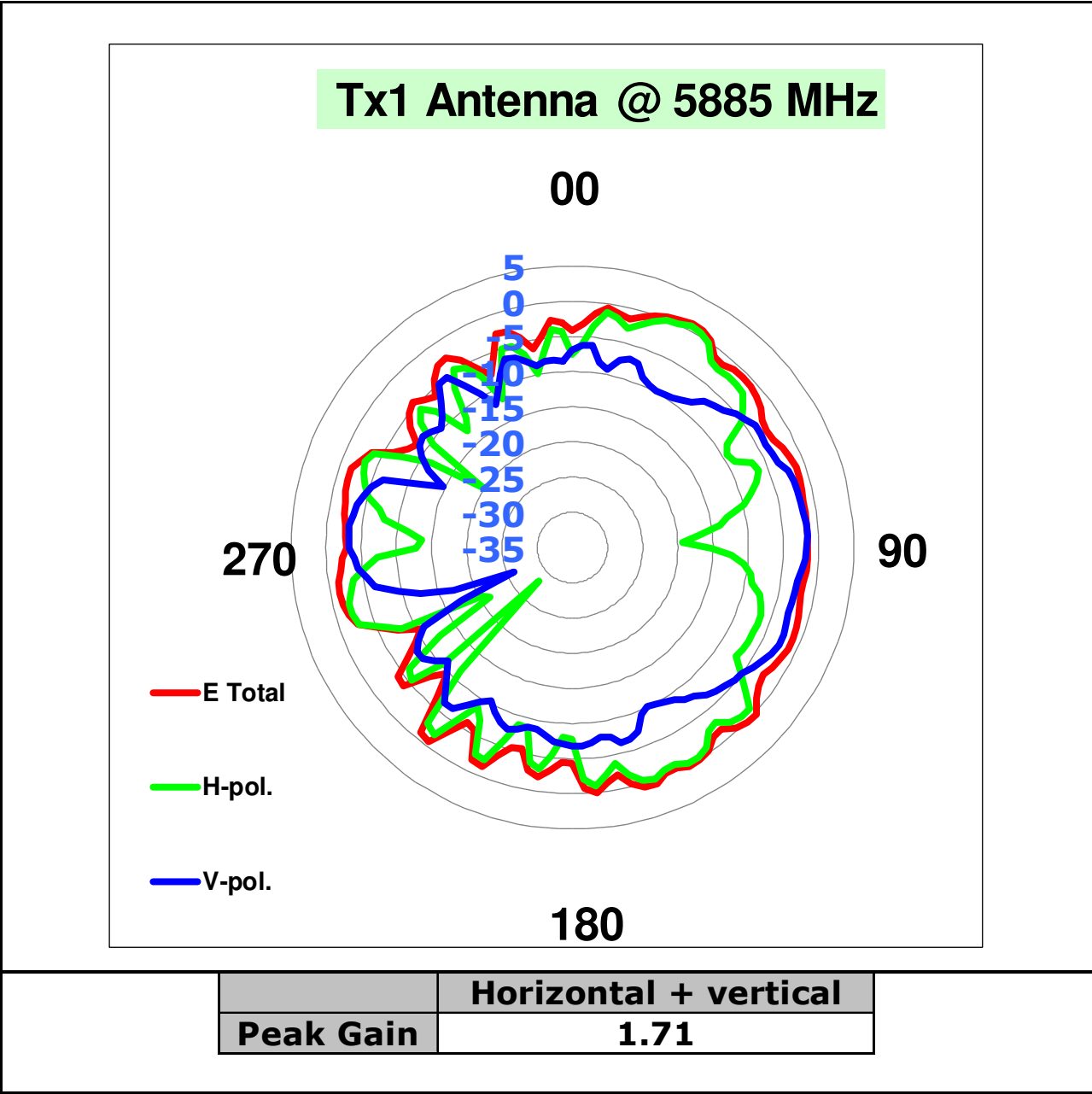
Max Antenna 2D Radiation Pattern 5725-5850 MHz

Main Antenna @ 5785 MHz



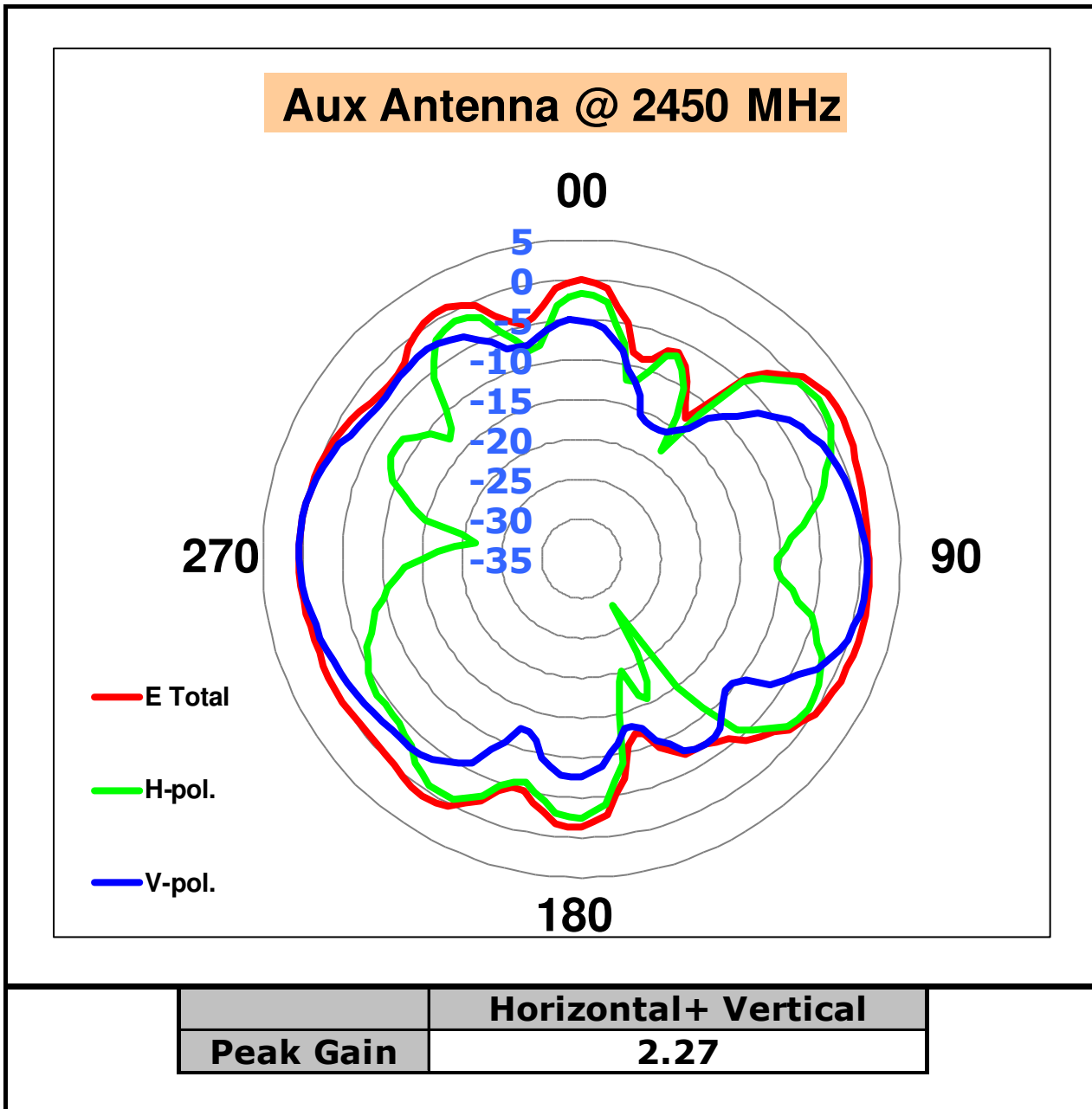
	Horizontal+ Vertical
Peak Gain	1.37

Max Antenna 2D Radiation Pattern 5850-5895 MHz



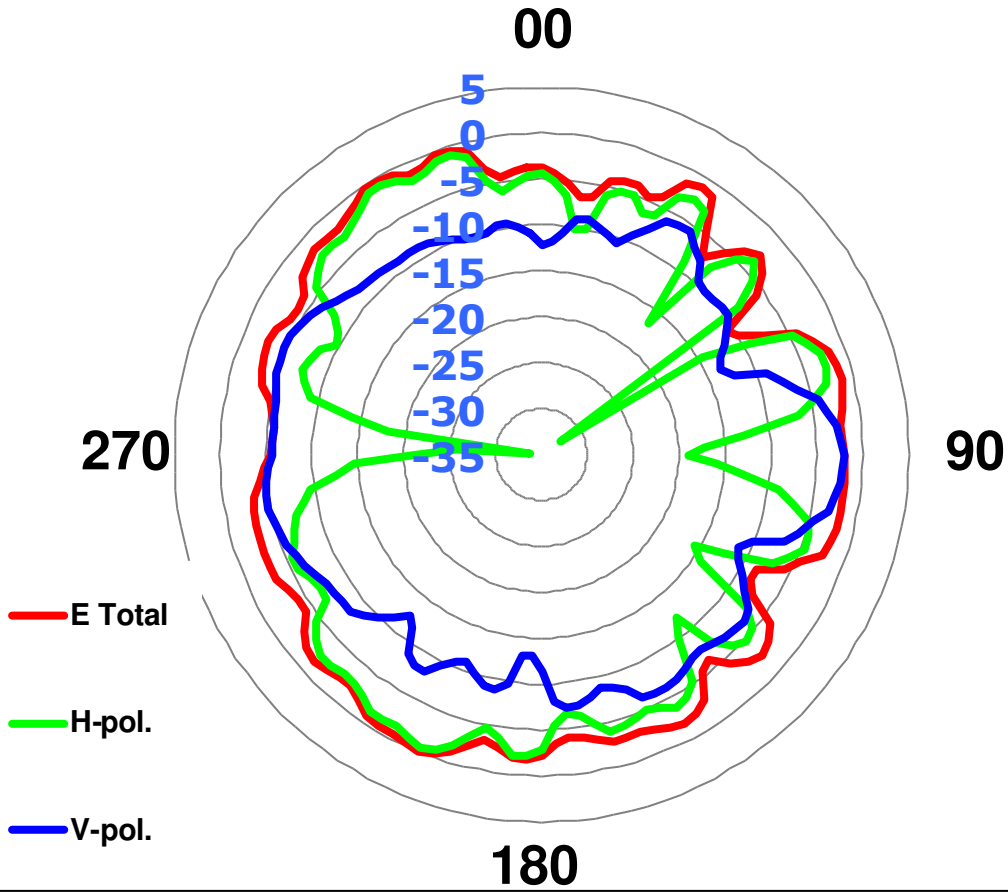
Auxiliary Antenna

Aux Antenna 2D Radiation Pattern 2400 – 2483.5 MHz



Aux Antenna 2D Radiation Pattern 5150-5250 MHz

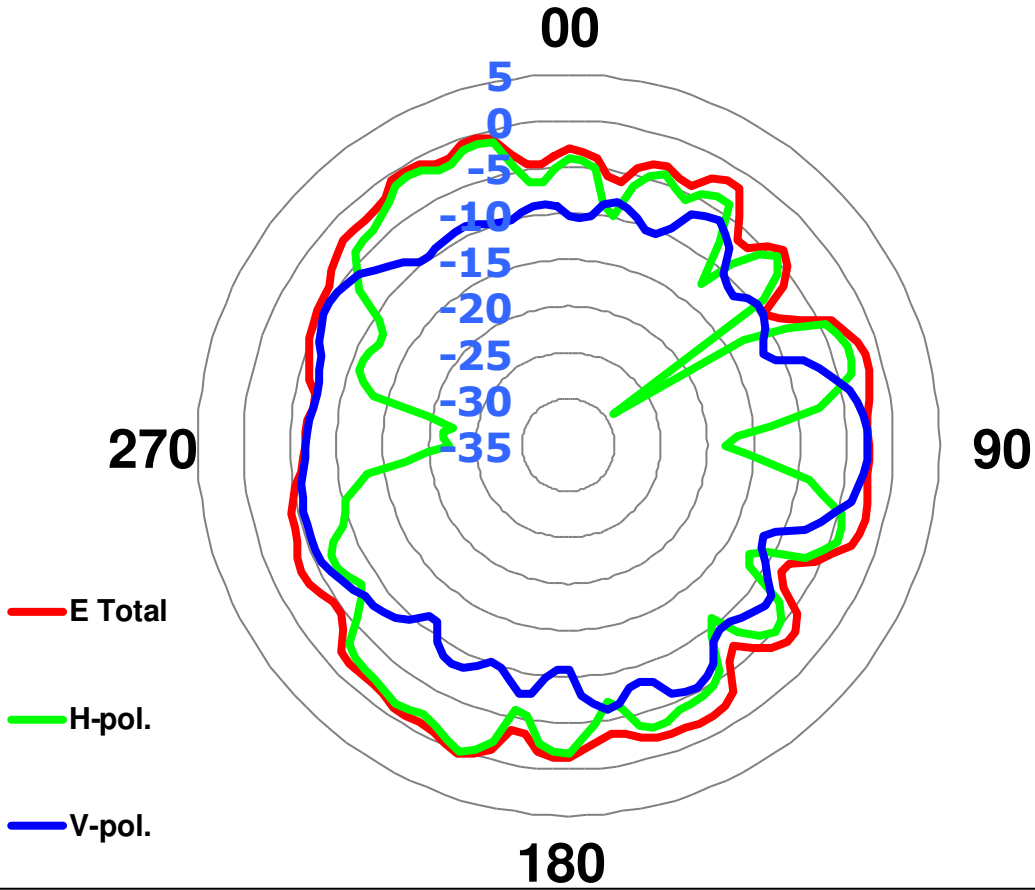
Aux Antenna @ 5250 MHz



	Horizontal+ Vertical
Peak Gain	-0.05

Aux Antenna 2D Radiation Pattern 5250-5350 MHz

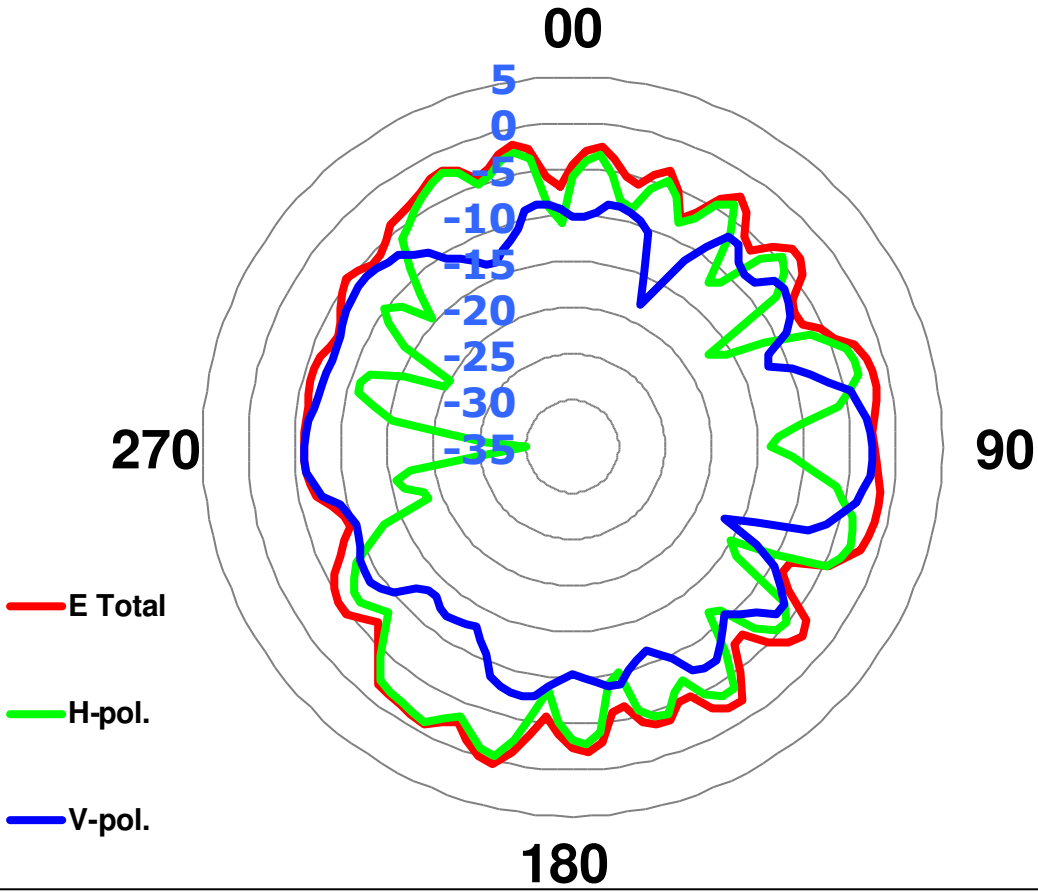
Aux Antenna @ 5350 MHz



	Horizontal+ Vertical
Peak Gain	0.44

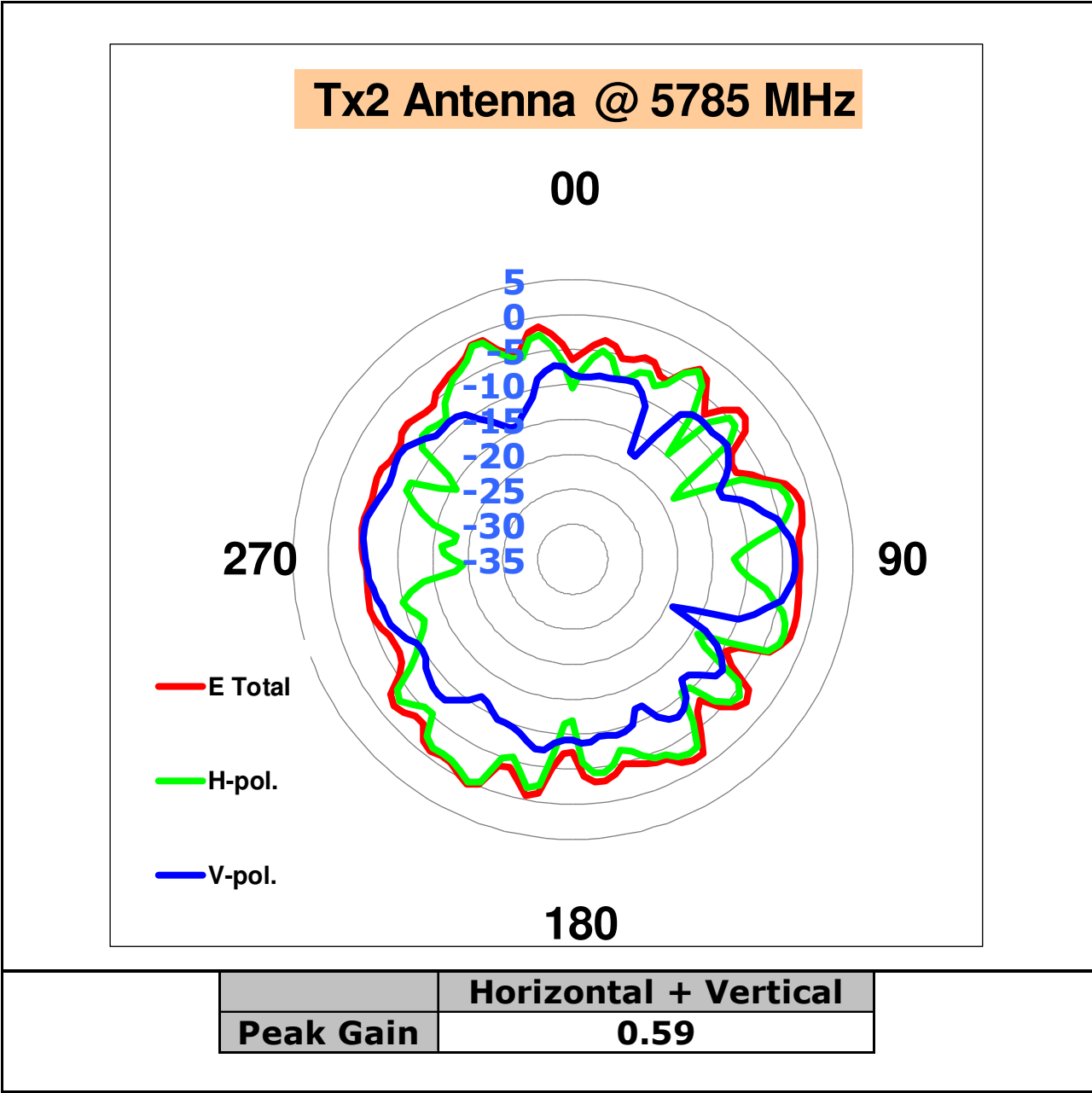
Aux Antenna 2D Radiation Pattern 5470-5725 MHz

Aux Antenna @ 5600 MHz

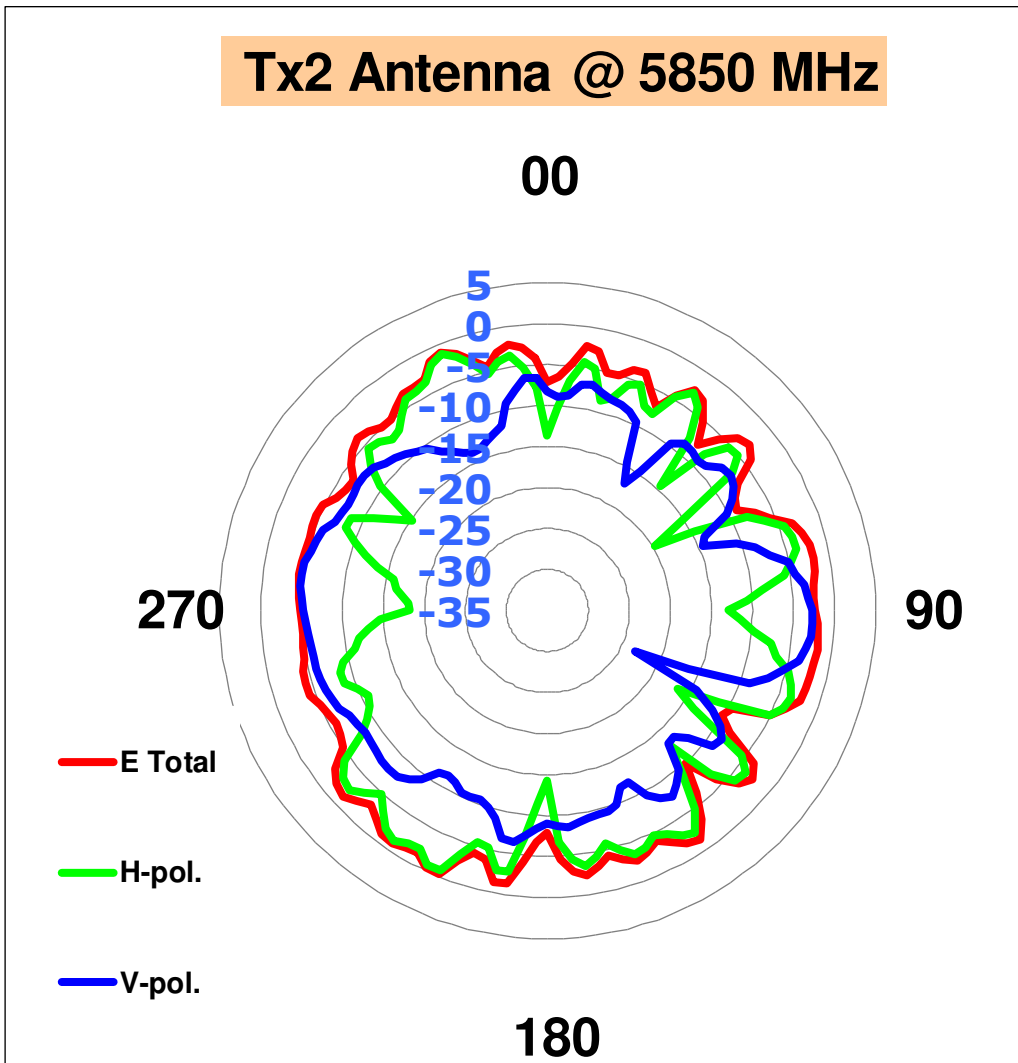


	Horizontal+ Vertical
Peak Gain	0.41

Aux Antenna 2D Radiation Pattern 5725-5850 MHz



Aux Antenna 2D Radiation Pattern 5850-5895 MHz



	Horizontal + Vertical
Peak Gain	0.91