

Regulatory WLAN Antenna Information (Template)

English Language Required for Intel Regulatory Review / Approval

(OEM/ODM or antenna vendor is required to complete this document with platform antenna information.

Remove Intel references and make this your own document)

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.	Wistron	TPN-W166	Yes	Regular NB	1.72					
*****Please fill in exact product model name and make sure the model name is visible on product cover or any parts for end users recognize for authority inspection.										
Antenna information										
Vendor	Type	Antenna Part number (Main/Tx2)				Antenna Part number (Aux/Tx1)				
WNC	PIFA	025.902ID.0001 81EAB615.G55				025.902IE.0001 81EAB615.G54				
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	1.87	1.8	1.2	0.92	1.76	1.92	1.7	1.46	0.75	0.97
Aux	2.5	1.81	1.03	0.98	0.98	1.01	1.47	1.05	0.36	0.58
Module Information										
Model	Form factor and suffixes									
AX211NGW	Intel Garfield Peak 2 AX211 Wi-Fi 6e +Bluetooth 5.2 M.2 2230 160MHz CNVi WW WLAN									
BE201NGW	Intel Fillmore Peak 2 BE201 M.2 2230 Wi-Fi 7 +Bluetooth 5.4 non-vPro WW WLAN									
Antenna Vendor Address										
Wistron NeWeb Corp.,20 Park Avenue II, Hsinchu Science Park, Hsinchu, Taiwan, R.O.C.										

Antenna manufacturer	Company name	WNC
	Address	No. 20, Yuanqu 2nd Rd., Baoshan Township, Hsinchu County 300092 , Taiwan (R.O.C.)
Test location	Company name	SGS
	Address	1F., No. 8, Aly. 15, Ln. 120, Sec. 1, Neihu Rd., Neihu Dist., Taipei City , Taiwan (R.O.C.)
Test Personnel	Name(Full name)	Willy.Lee
	E-mail	Willy.Lee@sgs.com
	Tel/Mobile	+886 2299 3279 #1690
Testing date		2024/10/08

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.

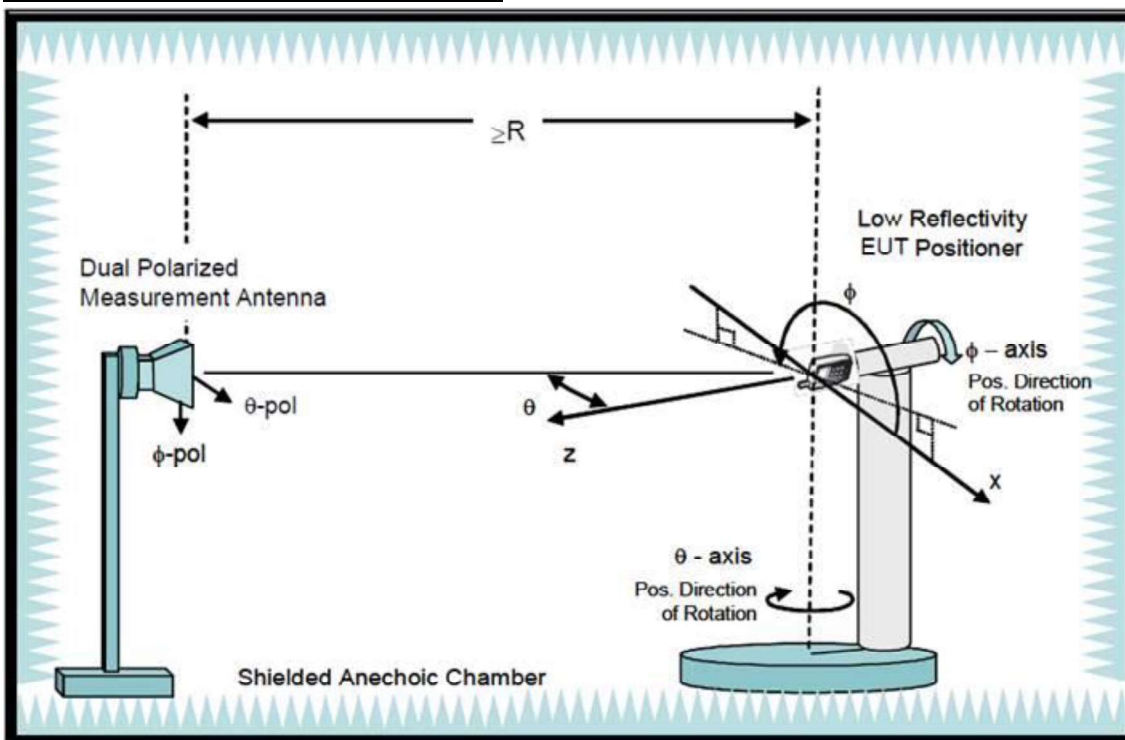
The Conical Cut method requires the ability of the Measurement Antenna to be physically rotated in the theta plane (overhead) of the EUT for implementations using a single Measurement Antenna, Eleven conical cuts are required to capture data at every 15 degrees from the EUT, with the top (0 degrees) 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

Radiated Setup #1

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
0135	Anechoic Chamber	FACT3	5720	ETS-Lindgren	2020-07-06	2022-01-07
0136	Turn Table	ETS	-	ETS-Lindgren	N/A	N/A
0147	Switch & Positioning systems	EMC Center	00159757	ETS-Lindgren	N/A	N/A
0530	Measurement SW	EMC32, v10.40.10	100623	Rohde & Schwarz	N/A	N/A
1033	Boresight antenna mast	BAM 4.0-P	P/278/2890.01	Maturo	N/A	N/A
1076	Spectrum Analyzer	FSW43	101847	Rohde & Schwarz	2020-11-02	2022-11-02
0993	Biconical antenna 30 MHz – 1 GHz	UBAA9115 + BBVU9135 + DGA9552N	0286 + CH 9044	Schwarzbeck	2019-11-22	2021-11-22
0325	Horn antenna	3117	00157734	ETS-Lindgren	2019-08-12	2021-08-12
0141	Horn Antenna + Amplifier + HPF6.4	3117	00157734	ETS-Lindgren	2020-04-02	2022-04-02
0334	Double-Ridged Waveguide Horn with Pre-Amplifier 18 GHz to 40 GHz	3116C+PA	0139308bis + 00196308	ETS-Lindgren	2019-07-24	2021-07-24
0859	Cable 2.5m - 30MHz to 18GHz	0500990992500KE	19.23.395	Radiall	2020-11-27	2021-05-27
0206	Cable 1.2m – 18 to 40 GHz	UFA147A-0-0480- 200200	MFR 64639223720-003	Micro-coax	2020-08-25	2021-02-25
0263	Cable 1m - 1GHz to 18GHz	UFA147A	-	Utiliflex	2020-08-25	2021-02-25
0369	Cable 2m - 26.5GHz to 40GHz	794-9191-2000A	E00327	Atem	2020-08-25	2021-02-25
0371	Cable 1m – 30 MHz - 18GHz	UFB311A-0-0590- 50U50U	MFR 64639 223230-001	Micro-coax	2020-08-25	2021-02-25
1099	Cable 7m DC-18 GHz	0501051057000GX	19.35.850	Radiall	2020-11-27	2021-05-27
0809	Cable 7m - 18GHz to 40GHz	R286304009	-	Radiall	2020-08-25	2021-02-25
1098	Cable 1.5m - DC-18GHz	CBL-1.5M-SMSM+	202879	Mini-Circuits	2020-11-27	2021-05-27
0797	Temp & Humidity Logger	RA12E-TH1-RAS	RA12-D0EB1A	Avtech	2019-07-04	2021-07-04

N/A: Not Applicable

Note: Chamber calibration included full set of implement

Antenna Information

Section 1. Antenna Assembly Specifications

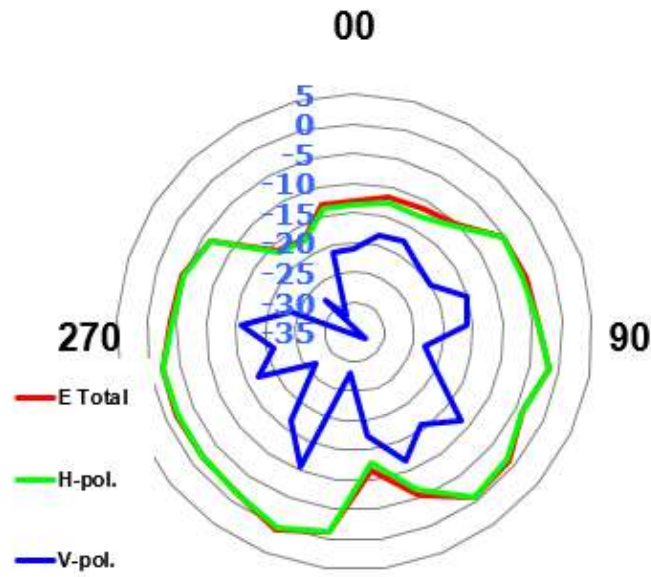
1A Antenna Part Number	1B Manufacturer	1C Antenna Type	1D Cable Assembly Part Number and Information	Freq Range MHz	1E * Peak Gain W/ Cable loss (dBi)	1F Peak Gain w/o Cable Loss (dBi)	1G Max VSWR	1H Cable Loss (dB)
P/N: 025.902ID.0001 (81EAB615.G55) Main Antenna (TX2)	WNC	PIFA	Cable: Shen-Yu/KAIBO 50 ohm Coaxial length: 600mm Diameter: 1.37mm	2400-2495	1.87	2.97	3.0	1.10
				5150-5250	1.8	3.59	3.0	1.79
				5250-5350	1.2	2.99	3.0	1.79
				5470-5725	0.92	2.71	3.0	1.79
				5725-5850	1.76	3.55	3.0	1.79
				5850-5895	1.92	3.71	3.0	1.79
				5925-6425	1.7	3.71	3.0	2.01
				6425-6525	1.46	3.47	3.0	2.01
				6525-6875	0.75	2.76	3.0	2.01
6875-7125	0.97	3.33	3.0	2.36				
P/N: 025.902IE.0001 (81EAB615.G54) Aux Antenna (TX1)	WNC	PIFA	Cable: Shen-Yu/KAIBO 50 ohm Coaxial length: 648mm Diameter: 1.37mm	2400-2495	2.5	3.68	3.0	1.18
				5150-5250	1.81	3.72	3.0	1.91
				5250-5350	1.03	2.94	3.0	1.91
				5470-5725	0.98	2.89	3.0	1.91
				5725-5850	0.98	2.89	3.0	1.91
				5850-5895	1.01	2.92	3.0	1.91
				5925-6425	1.47	3.62	3.0	2.15
				6425-6525	1.05	3.2	3.0	2.15
				6525-6875	0.36	2.51	3.0	2.15
6875-7125	0.58	3.11	3.0	2.53				

Section 3. Radiation characteristics of antenna loaded in Host Platform
Main Antenna

2Max Antenna 2D Radiation Pattern2400.0-2495.0 MHz

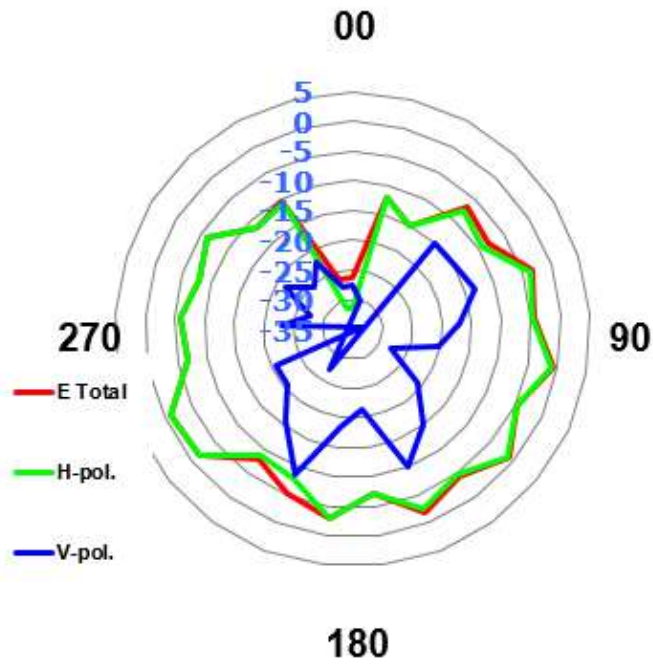
Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
-----------------	---

2400.0-2495.0	1.87
---------------	------



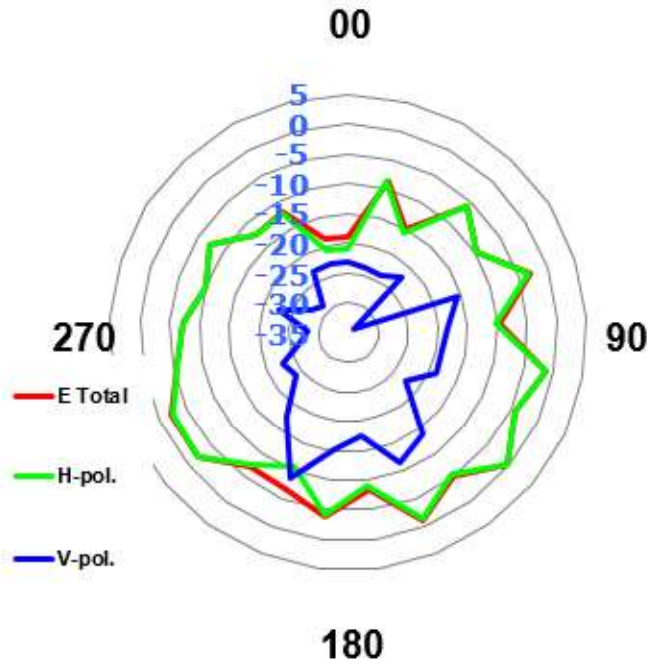
Max Antenna 2D Radiation Pattern 5150.0-5250.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
5150.0-5250.0	1.8



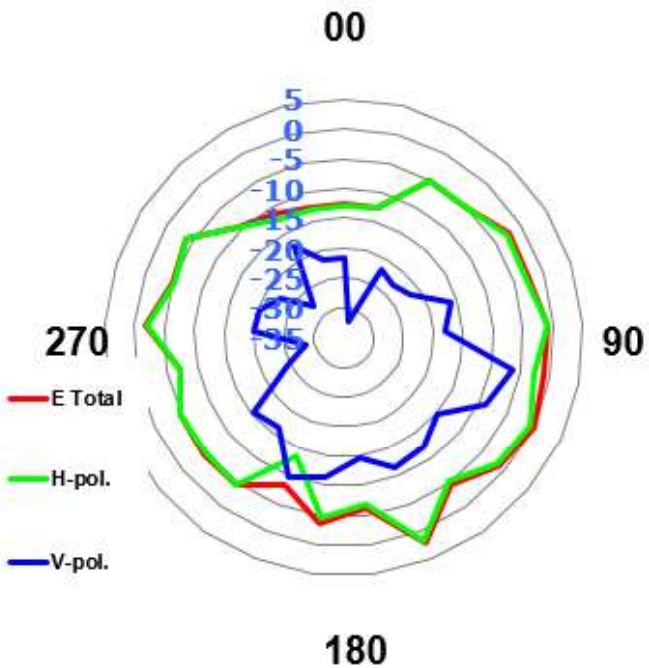
Max Antenna 2D Radiation Pattern 5250.0-5350.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
5250.0-5350.0	1.2



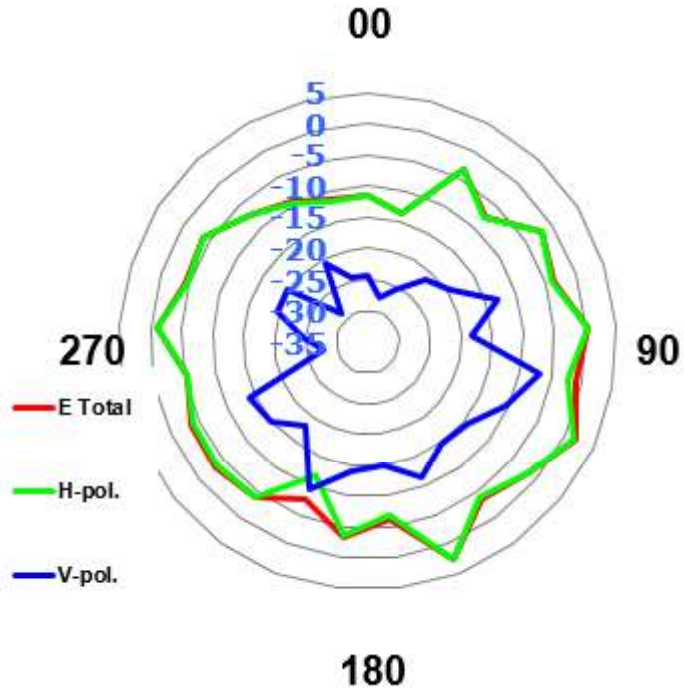
Max Antenna 2D Radiation Pattern 5470.0-5725.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
5470.0-5725.0	0.92



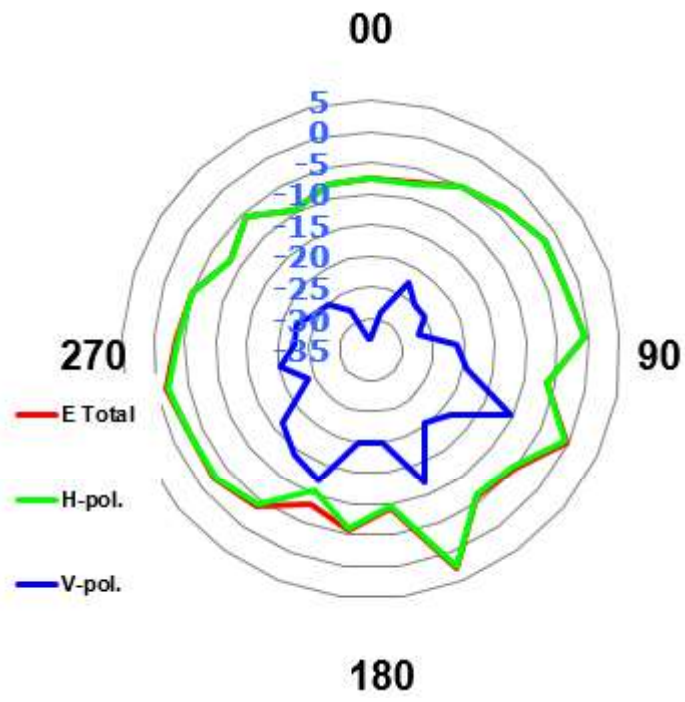
Max Antenna 2D Radiation Pattern 5725.0-5850.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
5725.0-5850.0	1.76



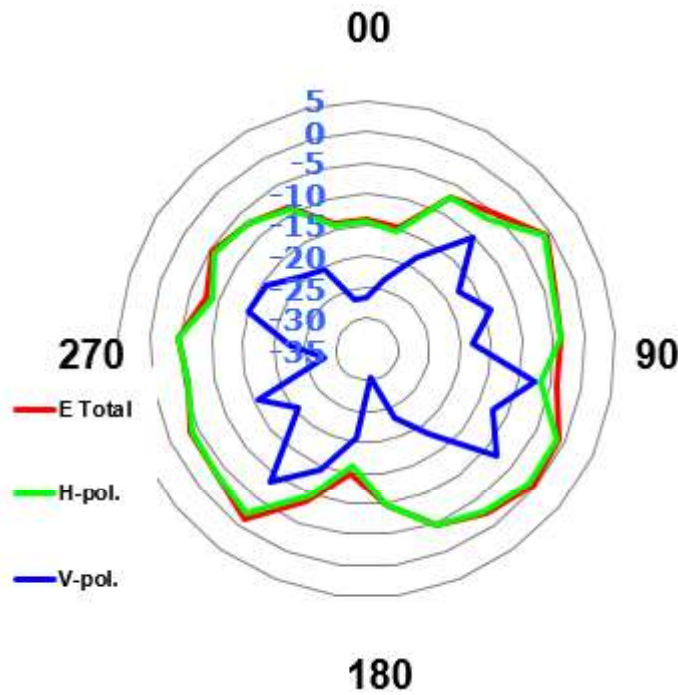
Max Antenna 2D Radiation Pattern 5925.0-6425.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
5925.0-6425.0	1.7



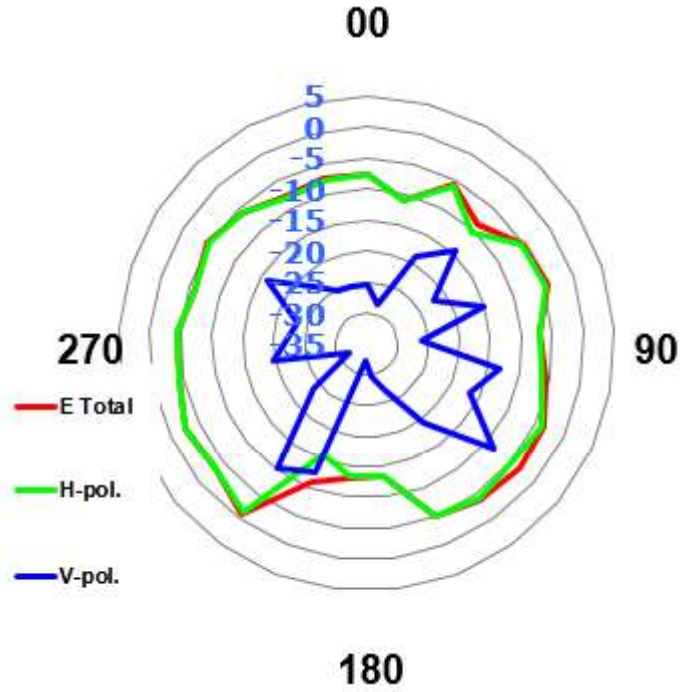
Max Antenna 2D Radiation Pattern 6425.0-6525.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
6425.0-6525.0	1.46



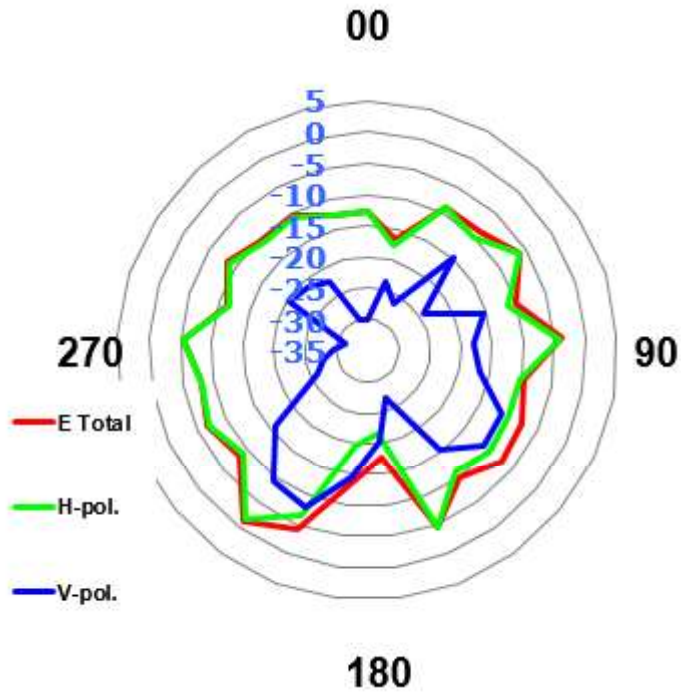
Max Antenna 2D Radiation Pattern6525.0-6875.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
6525.0-6875.0	0.75



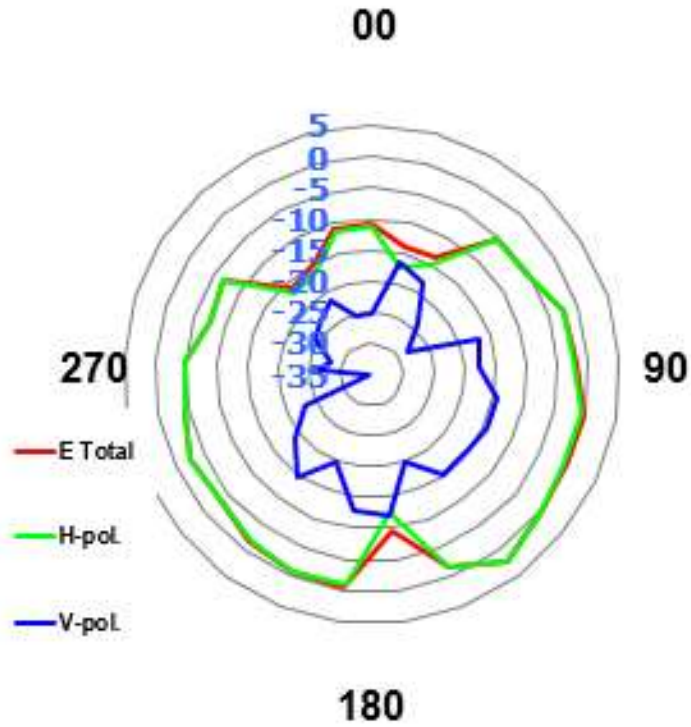
Max Antenna 2D Radiation Pattern6875.0-7125.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
6875.0-7125.0	0.97



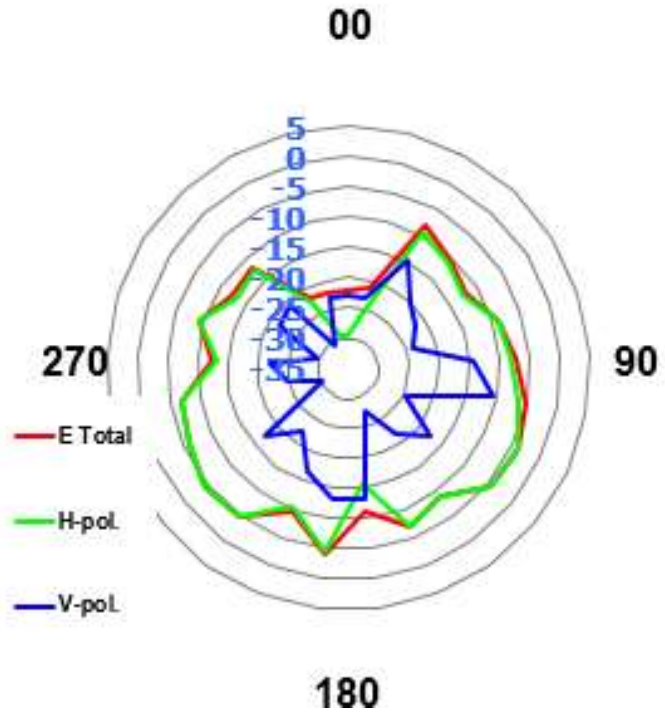
Aux Antenna
Max Antenna 2D Radiation Pattern 2400.0-2495.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
2400.0-2495.0	2.5



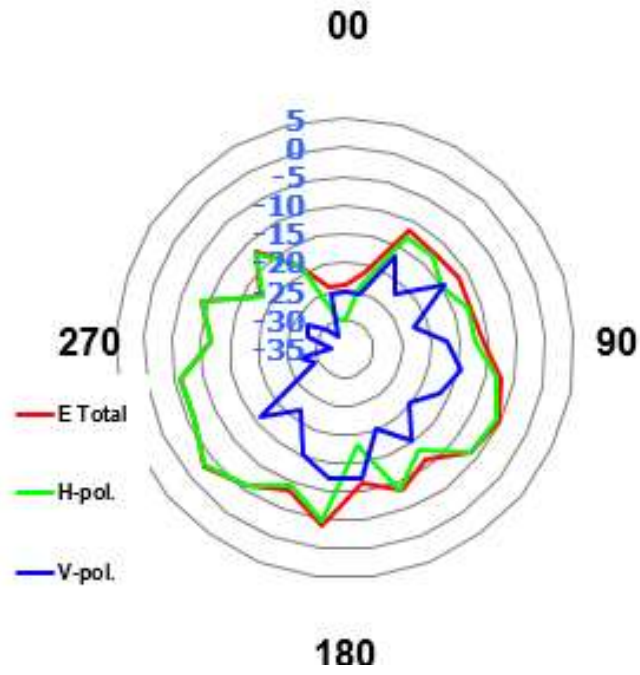
Max Antenna 2D Radiation Pattern5150.0-5250.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
5150.0-5250.0	1.81



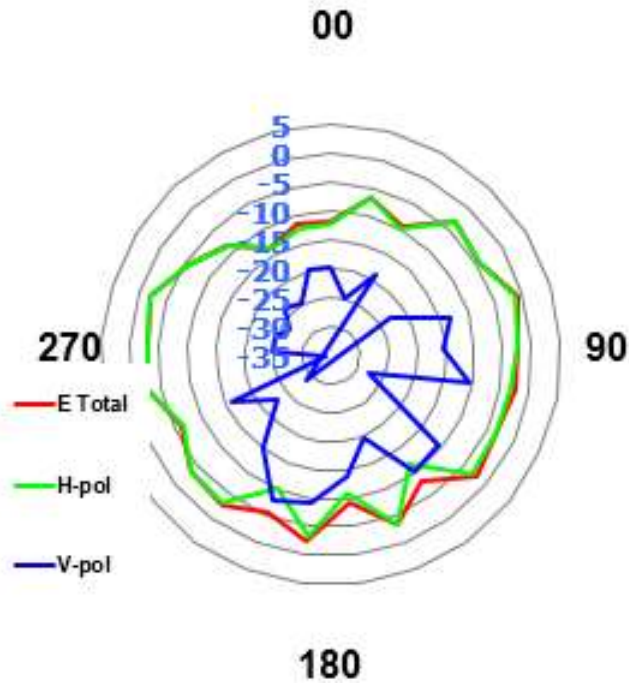
Max Antenna 2D Radiation Pattern5250.0-5350.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
5250.0-5350.0	1.03



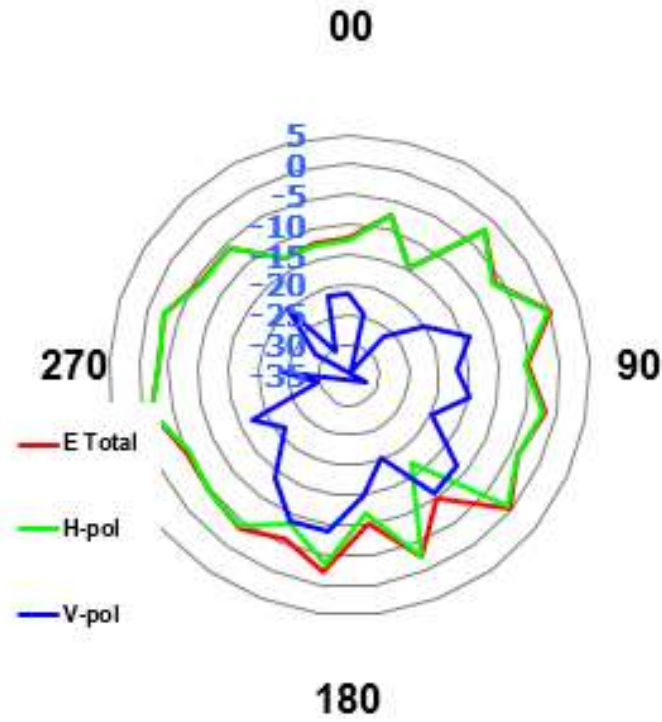
Max Antenna 2D Radiation Pattern 5470.0-5725.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
5470.0-5725.0	0.98



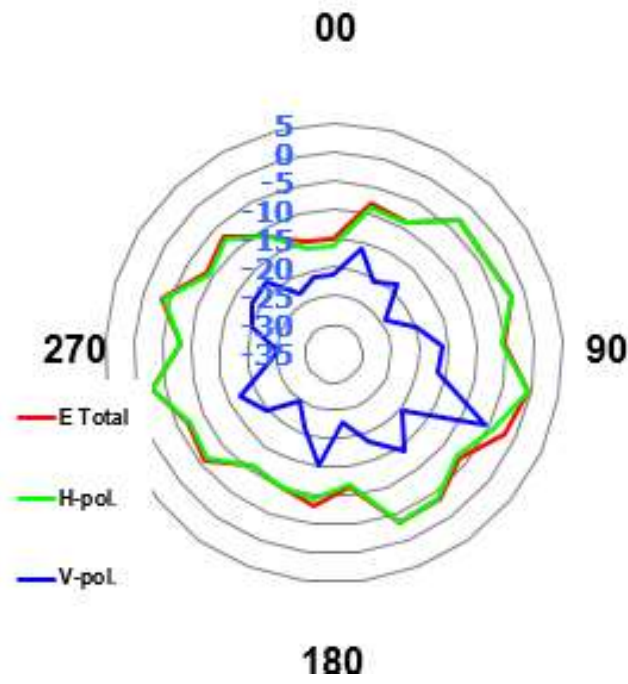
Max Antenna 2D Radiation Pattern5725.0-5850.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
5725.0-5850.0	1.01



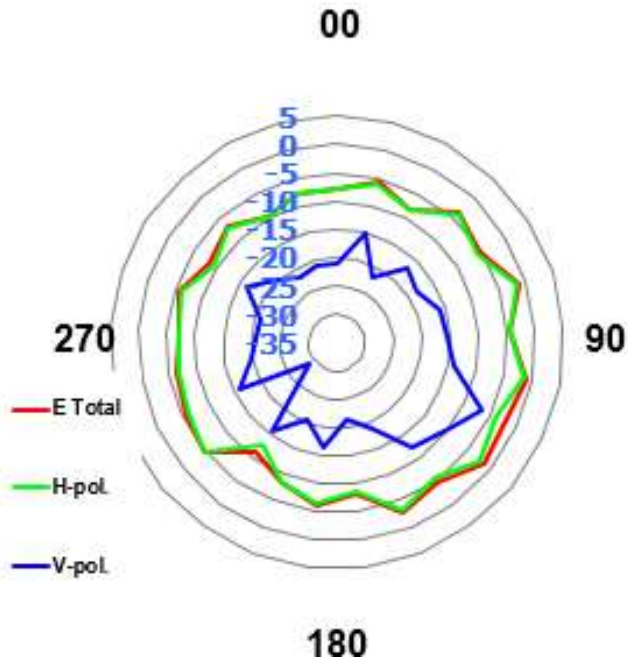
Max Antenna 2D Radiation Pattern5925.0-6425.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
5925.0-6425.0	1.47



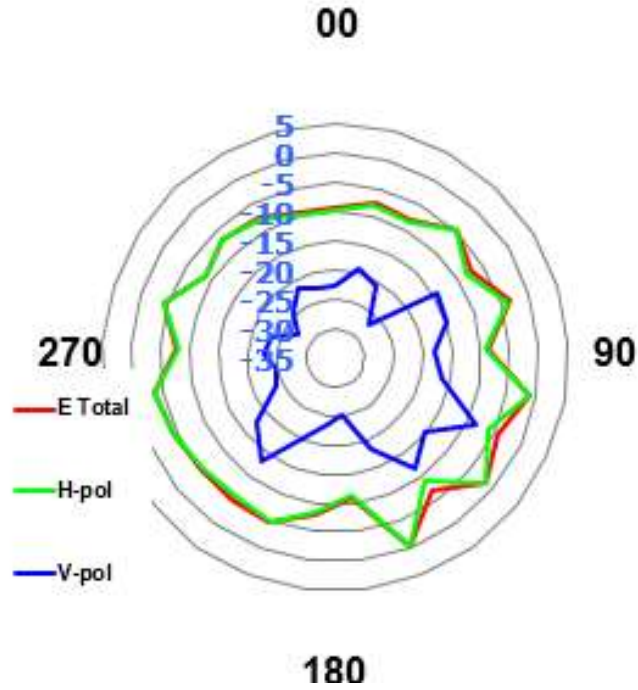
Max Antenna 2D Radiation Pattern6425.0-6525.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
6425.0-6525.0	1.05



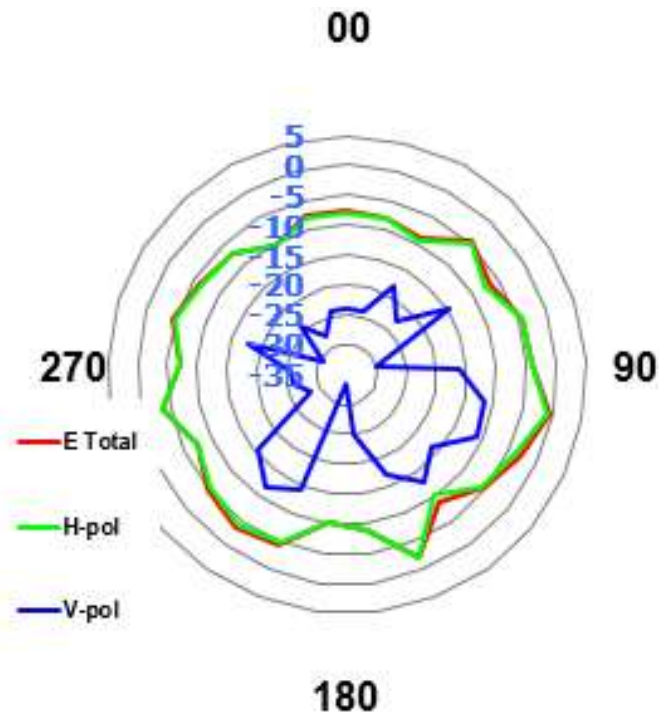
Max Antenna 2D Radiation Pattern6525.0-6875.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
6525.0-6875.0	0.36



Max Antenna 2D Radiation Pattern6875.0-7125.0 MHz

Frequency (MHz)	Horizontal+ Vertical (dBi) peak(dBi)
6875.0-7125.0	0.58



Section 4. Antenna Host Platform Location Information

Include a **dimensioned photo(s) or dimensioned drawing(s)** of Main and Aux antenna placements (measurements are not required for receive-only antenna).

Any antenna that transmits must show dimensions to bottom of laptop. Provide a description of the materials that are used for supporting or surrounding transmit antennas; for example, non-conductive plastics vs. conductive coated plastic or metallic materials.