

Antenna Report

Radiation Characteristics of antenna located into a Host Platform

Antenna Peak Gain and VSWR w/ cable loss (dBi)¹

Antenna Cycle	OEM	ODM	Host Platform Name	Host Platform Type	Intel-Platform	Antenna-Manufacturer	Antenna-Type	Antenna-PN	Antenna Main/Aux	SAR min separation (mm)	WiFi-Module	Applicable Certification	SAR FCC-ISED C1PC Apply
202511	Lenovo China	Compal	LOQ Essential 15ARP11	Regular NB	No	HTK	PIFA	DC330033500 (DACCN025008N)	Main/Ant.2	23.88	MT7920	CCA, FCC, ISED, NCC, KC	NO
202511	Lenovo China	Compal	LOQ Essential 15ARP11	Regular NB	No	HTK	PIFA	DC330033510 (DACCN025009N)	Aux/Ant.1	23.88	MT7920	CE, UKCA, FCC, SED, NCC, KCC, MCC	NO
202511	Lenovo China	Compal	LOQ Essential 15ARP11	Regular NB	No	HTK	PIFA	DC330033500 (DACCN025008N)	Main/Ant.2	23.88	MT7920	CE, UKCA, FCC, SED, NCC, KCC, MCC	NO
202511	Lenovo China	Compal	LOQ Essential 15ARP11	Regular NB	No	HTK	PIFA	DC330033510 (DACCN025009N)	Aux/Ant.1	23.88	MT7920	CE, UKCA, FCC, SED, NCC, KCC, MCC	NO

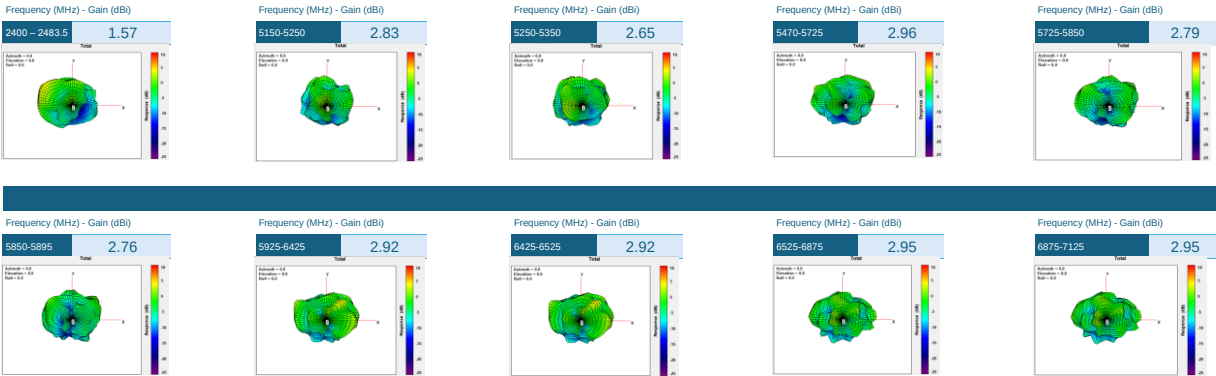
Antenna Metrics ²	2.4 GHz	5.2 GHz	5.3 GHz	5.6 GHz	5.8 GHz	5.9 GHz	6.2 GHz	6.5 GHz	6.7 GHz	7.0 GHz	Applicant e-mail	Application Date
Gain	1.57	2.83	2.65	2.96	2.79	2.76	2.92	2.92	2.95	2.95	ElvishHY_Chen@lenovo.com	2025-11-14
VSWR	2.09	1.09	0.84	1.84	2.92	2.92	2.97	2.97	2.87	2.90	ElvishHY_Chen@lenovo.com	2025-11-14
VSWR	1.52	1.26	1.20	1.32	1.35	1.37	1.09	1.56	1.08	1.07	ElvishHY_Chen@lenovo.com	2025-11-14
VSWR	1.39	1.47	1.76	1.27	1.20	1.44	1.13	1.18	1.03	1.04	ElvishHY_Chen@lenovo.com	2025-11-14

1: 3D Antenna Peak Gain required being test in system basis

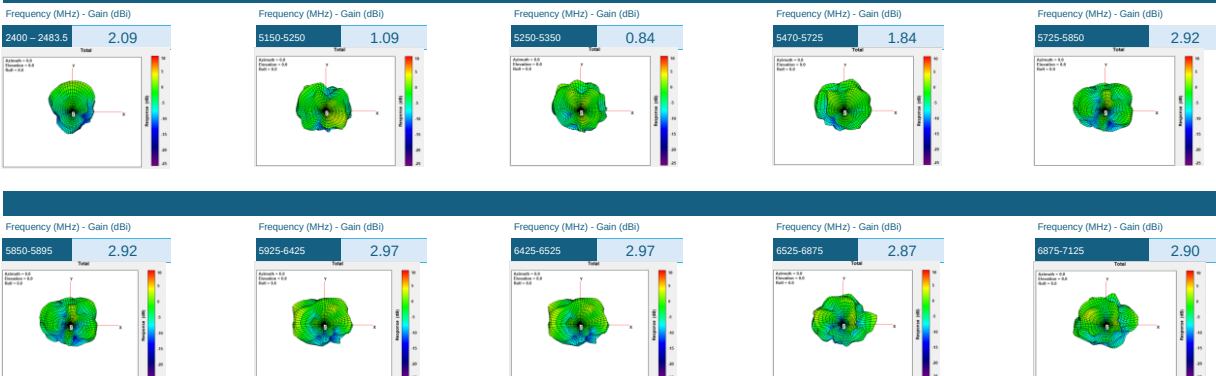
2: Maximum VSWR level required by the Wi-Fi module vendor to ensure proper antenna matching is 2 (S11 < -10 dB) for dual band LBAHB modules and 2.32 (S11 < -8 dB) for triple band LBAHB modules

3D Peak Antenna gain should be equal or greater than -2 dBi. If a host integrator plans to use a lower gain antenna of the same type, additional CBP/FCC/EDT(EU) testing need to be performed while the module is installed in the host.

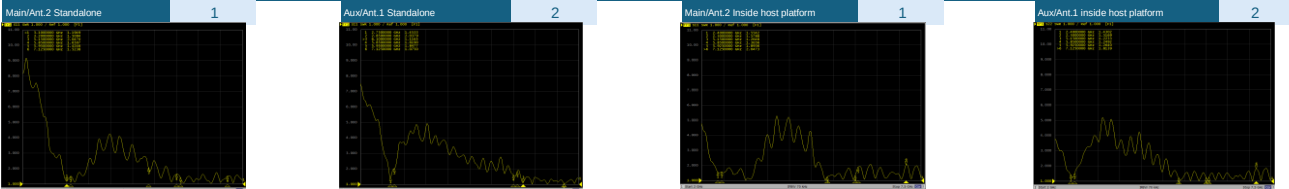
Max Antenna 3D Radiation Pattern - Main Antenna / Ant.2



Max Antenna 3D Radiation Pattern - Aux Antenna / Ant.1



Antenna VSWR data plot inside and outside a host Platform (standalone)



Maximum VSWR level required by the Wi-Fi module vendor to ensure proper antenna matching is 2 (S11 < -10dB)

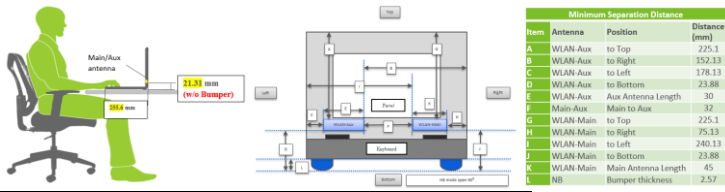
Cable loss (dB)	2.4GHz	5.2GHz	5.3GHz	5.6GHz	5.8GHz	5.9GHz	6.2GHz	6.5GHz	6.7GHz	7.0 GHz
Band / Frequency	2400-2483.5 MHz	5150-5250MHz	5250-5350MHz	5470-5725MHz	5725-5850MHz	5850-5895MHz	5925-6425MHz	6425-6525MHz	6525-6875MHz	6875-7125MHz
Main	1.00	1.43	1.43	1.53	1.55	1.56	1.62	1.64	1.68	1.77
Aux	1.24	1.77	1.77	1.90	1.93	1.94	2.01	2.03	2.08	2.20

Mechanical Information

Antenna Location for SAR evaluation

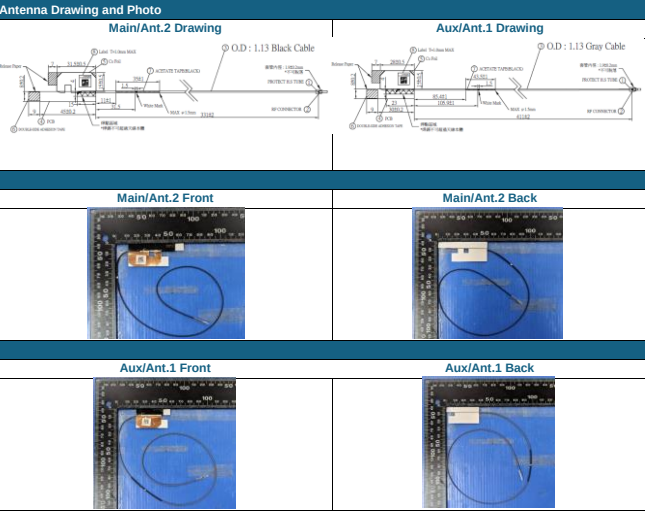
Include a dimensioned photo(s) or dimensioned drawing(s) showing the distance (mm) between the transmit antennas and the user. For notebook/laptop hosts show laptop position (example below). For tablet hosts show all orientations including landscape, primary & secondary landscape positions. Include a description of any proximity sensors or power throttling implementations that limit or exclude use of any host orientation.

Notebook- Antenna on the panel section



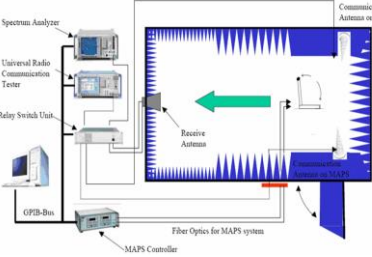
SAR Separation Distance - Notebook		
Measuring Surface	Antenna	Distance (mm)
Top Side	Main/Ant.2	225.1
	Aux/Ant.1	225.1
Right Edge	Main/Ant.2	75.13
	Aux/Ant.1	152.13
Left Edge	Main/Ant.2	240.13
	Aux/Ant.1	178.13
Bottom Side	Main/Ant.2	23.88
	Aux/Ant.1	23.88
Antenna Length	Main/Ant.2	45
	Aux/Ant.1	30
	Main to Aux	32

Cable Assembly				
	PN	Length	Dimensions	Impedance
Main	DC33002500 (OACN025009)	331 mm	1.13 mm	50 Ω
Aux	DC33002510 (OACN025009)	411 mm	1.13 mm	50 Ω

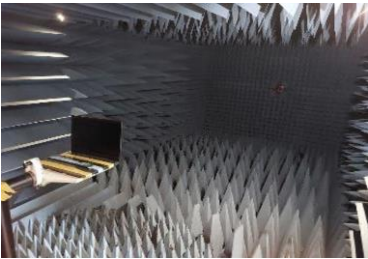


Measurement Method and Test System Description

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.



Photographs



Test location

Company name High-Tek Electronics Co., Ltd
Address 17F., No.100, Sec. 1, Xintai 5th Rd., Xinti Dist., New Taipei City 22102, Taiwan

Test Personnel

Name(Full name) Max Yang
E-mail max_yang@hightek.com.tw
Tel/Mobile 886-2-2696-1996 EXT-5230
Testing date 2025/05/02

Test Equipment List					
ID	Model Name	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
1	Anechoic Chamber	ETS-Lindgren	AMS-8500	2025/1/23	2029/1/23
2	Turn Table	ETS-Lindgren	ETS	N/A	N/A
3	Measurement SW	ETS-Lindgren	EMQuest1.08	N/A	N/A
4	Vector Network Analyzer	Agilent	Agilent E5071B	2025/1/23	2026/1/23
5	Receive Antenna	ETS-Lindgren	EMCO 3164-08	N/A	N/A
6	Multi Axis Positioning System (MAPSTM)	ETS-Lindgren	EMCO 2115CR	N/A	N/A
7	MAPSTM Controller	ETS-Lindgren	MECO 2090	N/A	N/A
8	Horn antenna	ETS-Lindgren	461861.00	2025/1/23	2026/1/23
9	Cable 0.5m - 700MHz-10GHz	Senyu	RG316	2025/1/23	2026/1/23