Antenna Report

Unique ID Generator
202506-161650

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Radiation Characteristics of antenna located into a Host Platform

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

														2400 – 2483.5 MHz	5150-5250 MHz	5250-5350 MHz	5470-5725 MHz	5725-5850 MHz	5850-5895 MHz	5925-6425 MHz	6425-6525 MHz	6525-6875 MHz	6875-7125 MHz			
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	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	UniqueID
202506	Lenovo China	Compal	LOQ Essential 15IRX11	Regular NB	Yes	HTK	PIFA	FC330033500 (0ACCN025008N)	Main/Ant.2	23.88	RTL8852BE	CE, UKCA, FCC, IS	NO	Gain	1.57	2.83	2.65	2.96	2.79	2.76	2.92	2.92	2.95	2.95	ElvisHY_Chen@compal.co	2025-05-23	202506-164846
202506	Lenovo China	Compal	LOQ Essential 15IRX11	Regular NB	Yes	HTK	PIFA	FC330033510 (0ACCN025009N)	Aux/Ant.1	23.88	RTL8852BE	CE, UKCA, FCC, IS	NO	Gain	2.09	1.09	0.84	1.84	2.92	2.92	2.97	2.97	2.87	2.90	ElvisHY_Chen	2025-05-23	202506-164846
202506	Lenovo China	Compal	LOQ Essential 15IRX11	Regular NB	Yes	HTK	PIFA	FC330033500 (0ACCN025008N)	Main/Ant.2	23.88	RTL8852BE	CE, UKCA, FCC, IS	NO	VSWR	1.52	1.26	1.20	1.32	1.35	1.37	1.09	1.56	1.08	1.07	ElvisHY_Chen	2025-05-23	202506-164846
202506	Lenovo China	Compal	LOQ Essential 15IRX11	Regular NB	Yes	HTK	PIFA	FC330033510 (0ACCN025009N)	Aux/Ant.1	23.88	RTL8852BE	CE, UKCA, FCC, IS	NO	VSWR	1.39	1.47	1.76	1.27	1.20	1.44	1.13	1.18	1.03	1.04	ElvisHY_Chen	2025-05-23	202506-164846

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 LB/HB modules and 2.32 (S11 < -8 dB) for triple band LB/HB/UHB modules

Intel Reference Antenna Gain and Type

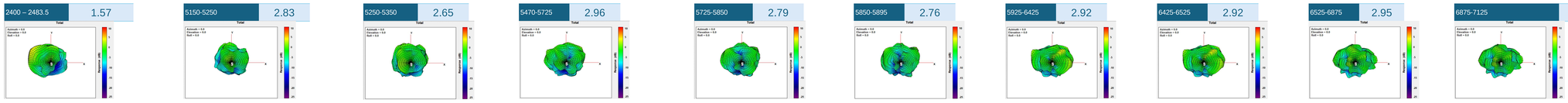
Antenna Type	Application Module	2.4 GHz	5.2 GHz	5.3 GHz	5.6 GHz	5.8 GHz	5.9 GHz	6.2 GHz	6.5GHz	6.7 GHz	7.0 GHz
PIFA5	Design Reference	3.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
PIFA6	For WiFi 6E and earl	3.24	3.64	3.73	4.77	4.97	4.72	4.83	4.30	5.37	5.59
PIFA7	From WiFi 7 module:	2.95	5.11	4.55	5.15	5.13	4.45	5.02	5.02	4.96	4.96
Dipole	For WiFi 6E and earl	2.89	2.92	3.19	4.41	4.22	4.22	4.83	4.30	4.49	5.34
Dipole7	From WiFi 7	2.95	4.03	4.11	5.15	5.13	4.45	5.02	4.71	4.49	4.96
Monopole	From WiFi 7	2.83	4.57	4.44	4.95	4.95	4.43	4.87	4.91	4.91	4.79

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.

		Applicable limit per antenna type and country cert							Selected Cert:	CE, UKCA, FCC, ISED, NCC, K	
		2.4 GHz	5.2 GHz	5.3 GHz	5.6 GHz	5.8 GHz	5.9 GHz	6.2 GHz	6.5GHz	6.7 GHz	7.0 GHz
Main/Ant. 2	PIFA	1.57	2.83	2.65	2.96	2.79	2.76	2.92	2.92	2.95	2.95
AUX/Ant. 1	PIFA	2.09	1.09	0.84	1.84	2.92	2.92	2.97	2.97	2.87	2.90

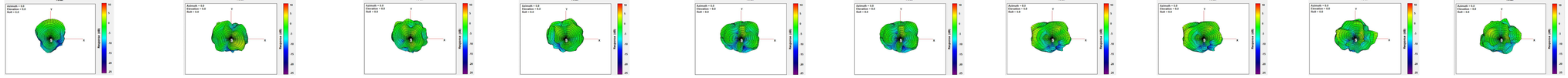
Max Antenna 3D Radiation Pattern - Main Antenna / Ant.2

Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)	
2400 – 2483.5	1.57	5150-5250	2.83	5250-5350	2.65	5470-5725	2.96	5725-5850	2.79	5850-5895	2.76	5925-6425	2.92	6425-6525	2.92	6525-6875	2.95
6875-7125	2.95																



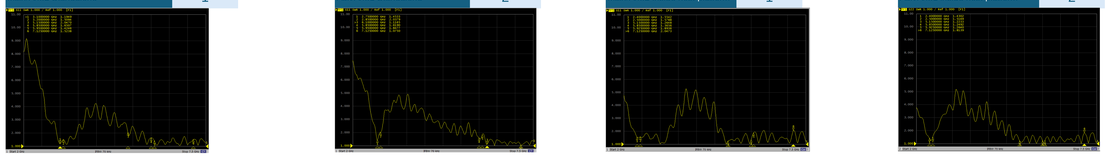
Max Antenna 3D Radiation Pattern - Aux Antenna / Ant.1

Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)		Frequency (MHz) - Gain (dBi)	
2400 – 2483.5	2.09	5150-5250	1.09	5250-5350	0.84	5470-5725	1.84	5725-5850	2.92	5850-5895	2.92	5925-6425	2.97	6425-6525	2.97	6525-6875	2.87
6875-7125	2.90																



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

Main/Ant.2 Standalone	1	Aux/Ant.1 Standalone	2	Main/Ant.2 Inside host platform	1	Aux/Ant.1 inside host platform	2

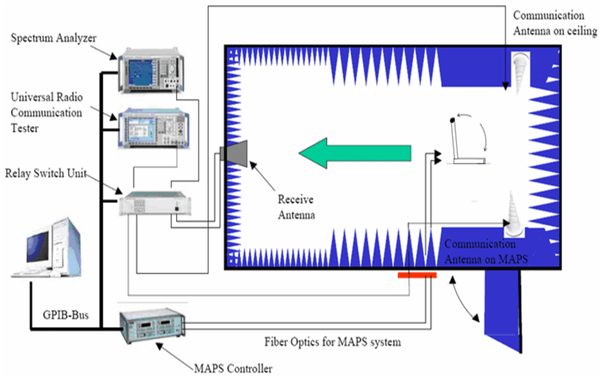


Maximum VSWR level required by the Wi-Fi module vendor to ensure proper antenna matching is 2 (S11 < -10dB)

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.

#VALUE!



Photographs

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Test Equipment List

ID	Model Name	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
1	Anechoic Chamber	ETS-Lindgren	AMS-8500	2025/1/23	2026/1/23
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 Absorber Nested Dual-Polarized Dual Vivaldi Array	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	461881.00	2025/1/23	2026/1/23
9	Cable 0.5m - 700MHz~10GHz	Senyu	RG316	2025/1/23	2026/1/23

Test location

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

Test Personnel

Name(Full name)	Max Yang
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Testing date	2025/05/02