Antenna Report

Radiation Characteristics of antenna located into a Host Platform

Unique ID Generator
202506-162306

Copy+Paste below the value of the generated ID to avoid to be changed every time the file is opened. The same ID will be the inserted in the file title

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	Pulse	PIFA	DC330032Q00 (TZ3058D)	Main/Ant.2	23.88	RTL8852BE	CE, UKCA, FCC, IS	NO	Gain	2.79	2.62	2.81	2.77	2.72	2.71	3.79	3.65	3.65	3.76	ElvisHY_Chen@compal.com	2025-05-23	202506-181524
202506	Lenovo China	Compal	LOQ Essential 15IRX11	Regular NB	YES	Pulse	PIFA	DC330032Q10 (TZ3058E)	Aux/Ant.1	23.88	RTL8852BE	CE, UKCA, FCC, ISED, NCC, KCC, MIC	NO	Gain	2.71	2.73	2.84	2.76	2.84	2.72	3.68	3.09	3.74	3.91	ElvisHY_Chen@	2025-05-23	202506-181524
202506	Lenovo China	Compal	LOQ Essential 15IRX11	Regular NB	YES	Pulse	PIFA	DC330032Q00 (TZ3058D)	Main/Ant.2	23.88	RTL8852BE	CE, UKCA, FCC, ISED, NCC, KCC, MIC	NO	VSWR	1.28	1.38	1.42	1.09	1.48	1.19	1.39	1.32	1.32	1.39	ElvisHY_Chen@	2025-05-23	202506-181524
202506	Lenovo China	Compal	LOQ Essential 15IRX11	Regular NB	YES	Pulse	PIFA	DC330032Q10 (TZ3058E)	Aux/Ant.1	23.88	RTL8852BE	CE, UKCA, FCC, ISED, NCC, KCC, MIC	NO	VSWR	1.43	1.38	1.42	1.09	1.48	1.83	1.17	1.83	1.44	1.33	ElvisHY_Chen@	2025-05-23	202506-181524

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 earlie	3.24	3.64	3.73	4.77	4.97	4.72	4.83	4.30	5.37	5.59
PIFA7	From WiFi 7 modules	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 earlie	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

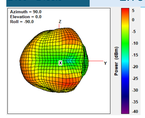
3D Peak Antenna gain should be equal or greater than -2 dBi. If a host integrator plans to use a lower gain antenna of the same type, additional CBP(FCC)/EDT(EU) testing need to be performed while the module is installed in the host.

		Applicable limit per antenna type and country cert							Selected Cert:	CE, UKCA, FCC, ISED, NCC, KC		
		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	2.79	2.62	2.81	2.77	2.72	2.71	3.79	3.65	3.65	3.76
AUX/Ant. 1	PIFA	2.71	2.73	2.84	2.76	2.84	2.72	3.68	3.09	3.74	3.91

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

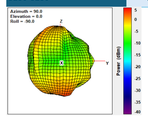
Frequency (MHz) - Gain (dBi)

2400 – 2483.5 | 2.79



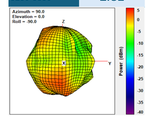
Frequency (MHz) - Gain (dBi)

5150-5250 | 2.62



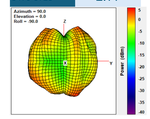
Frequency (MHz) - Gain (dBi)

5250-5350 | 2.81



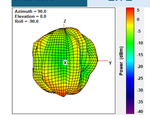
Frequency (MHz) - Gain (dBi)

5470-5725 | 2.77



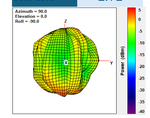
Frequency (MHz) - Gain (dBi)

5725-5850 | 2.72



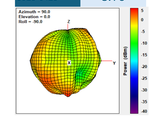
Frequency (MHz) - Gain (dBi)

5850-5895 | 2.71



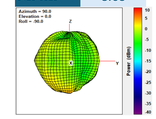
Frequency (MHz) - Gain (dBi)

5925-6425 | 3.79



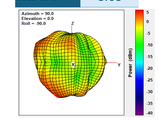
Frequency (MHz) - Gain (dBi)

6425-6525 | 3.65



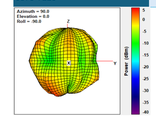
Frequency (MHz) - Gain (dBi)

6525-6875 | 3.65



Frequency (MHz) - Gain (dBi)

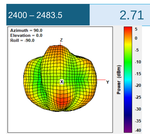
6875-7125 | 3.76



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

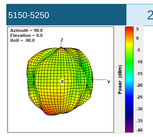
Frequency (MHz) - Gain (dBi)

2400 – 2483.5 | 2.71



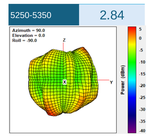
Frequency (MHz) - Gain (dBi)

5150-5250 | 2.73



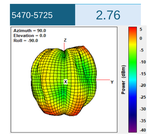
Frequency (MHz) - Gain (dBi)

5250-5350 | 2.84



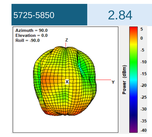
Frequency (MHz) - Gain (dBi)

5470-5725 | 2.76



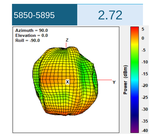
Frequency (MHz) - Gain (dBi)

5725-5850 | 2.84



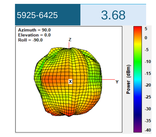
Frequency (MHz) - Gain (dBi)

5850-5895 | 2.72



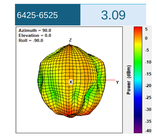
Frequency (MHz) - Gain (dBi)

5925-6425 | 3.68



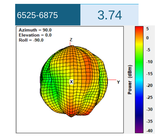
Frequency (MHz) - Gain (dBi)

6425-6525 | 3.09



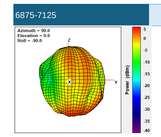
Frequency (MHz) - Gain (dBi)

6525-6875 | 3.74



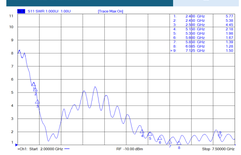
Frequency (MHz) - Gain (dBi)

6875-7125 | 3.91

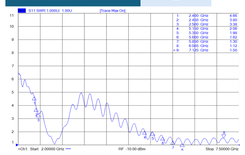


Antenna VSWR data plot inside and outside a host Platform (standalone)

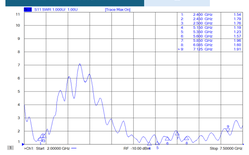
Main/Ant.2 Standalone | 1



Aux/Ant.1 Standalone | 2



Main/Ant.2 Inside host platform | 1



Aux/Ant.1 inside host platform | 2

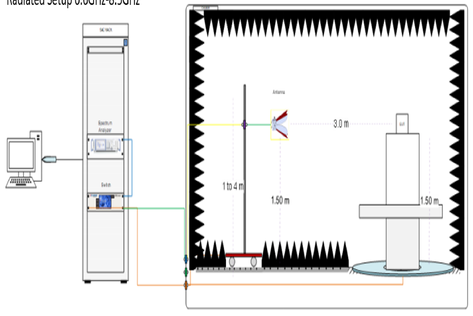
Maximum VSWR level required by the Wi-Fi module vendor to ensure proper antenna matching is 2 (S11 < -10dB)

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.

Photographs

Radiated Setup 0.6GHz-8.5GHz



Test Equipment List

ID	Model Name	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Anechoic Chamber	AMS8500	ETS-Lindgren	-	2024/7/13	2025/7/13
Turn Table	ETS	ETS-Lindgren	-	N/A	N/A
Switch & Positioning system	2090	ETS-Lindgren	-	N/A	N/A
Horn Antenna	3164-08	ETS-Lindgren	99210.00	N/A	N/A
Network Analyzer	E5071C	Agilient	MY46103999	2024/7/13	2025/7/13
Commercial test software	EMQuest	ETS-Lindgren	Version 1.14 Build 10265 SN:1156	2024/7/13	2025/7/13

Test location

Company name	Pulse
Address	No.51, Jing 6th Road, N.E.P.Z., Kaohsiung 81170, Taiwan (R.O.C.)

Test Personnel

Name(Full name	Mars Tsai
E-mail	Mars.tsai@yageo.com
Tel/Mobile	+886 7 9618999#3396
Testing date	2025/05/19