

ANTENNA INFORMATION

OEM	Lenovo
ODM	Compal
Platform model name	ThinkBook 14 G6+ IMH
Intel platform (ex: Yes, No or NA)	Yes
Platform type (ex: regular NB, convertible PC, AIO...etc)	Regular NB
SAR minimum separation (mm)	13.86mm (w/bumper) 11.36mm (w/o bumper)

Antenna manufacturer	Pulse Electronics (Singapore) PTE LTD Taiwan Branch	
Address	2F, No. 2, Aly. 1, Ln. 235, Baoqiao Rd., Xindian Dist. New Taipei City 231, Taiwan (R.O.C.)	
Antenna Part number	Main: TZ27490(DC33002VI00)	Aux: TZ27490(DC33002VI00)
Antenna type (ex: PIFA, Dipole...etc)	PIFA	

Antenna 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	2.93	1.66	2.98	2.11	2.77	2.77	3.02	2.72	3.88	3.94
Aux	2.94	0.72	1.91	2.59	2.59	2.05	2.32	2.57	2.69	3.99

Cable Assembly Part Number and Information					
	Cable PN	Cable length(cm)	Cable diameter(mm)	Impedance(ohm)	Connector type
Main	J18-TZ274901	25.8	1.13	50	MHF-B13L-N-01
Aux	J18-TZ274902	31.3	1.13	50	MHF-B13L-N-01

* 3D Antenna Peak Gain required being test in system basis.

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1. Intel Reference Gain and Type

Antenna Peak gain w/ cable loss (dBi)											
Band/Frequency		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
Design	EU/UK	3.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
PIFA	For WiFi 6E and earlier	3.24	3.64	3.73	4.77	4.97	4.72	4.83	4.30	5.37	5.59
	From WiFi 7	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 earlier	2.89	2.92	3.19	4.41	4.22	4.22	4.83	4.30	4.49	5.34
	From WiFi 7	2.95	4.03	4.11	5.15	5.13	4.45	5.02	4.71	4.49	4.96

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.

2. Document Revision History

Revision #	Revision Details	Issued Date
Rev. 00	First Issue	2023.06.20

3. Test & System Description

3.1 Measurement Method and System

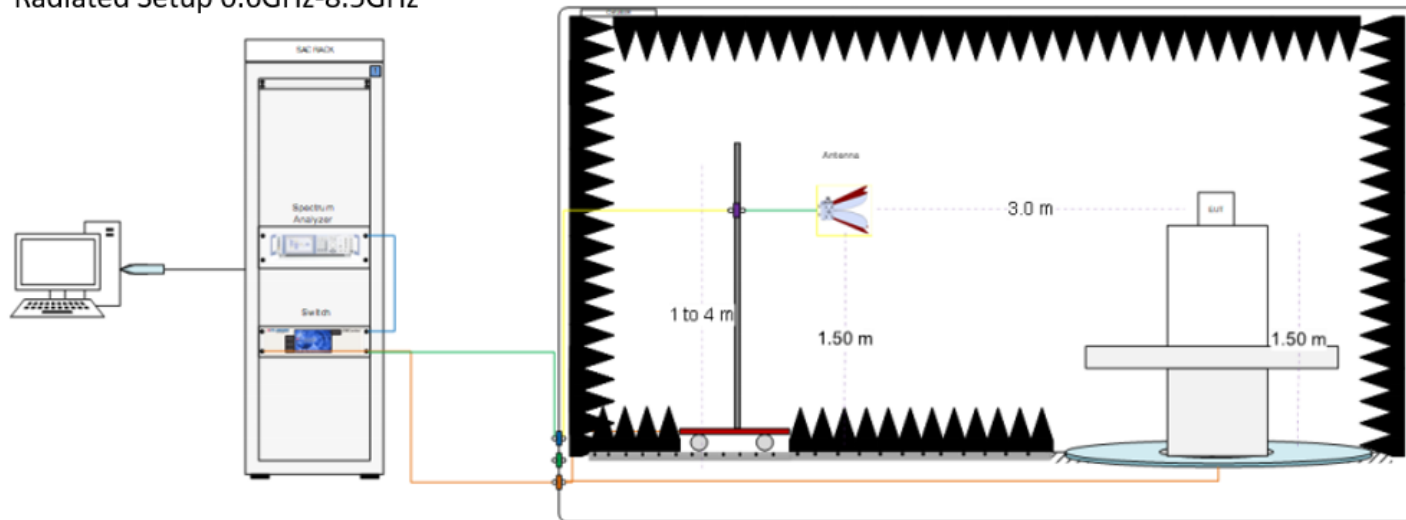
<insert test description here for test method>

[example] This test report is prepared for host antenna testing under a Full Anechoic Chamber.

3.2 Test setup

<insert test diagram here for test site utilized>

Radiated Setup 0.6GHz-8.5GHz



3.3 Equipment list

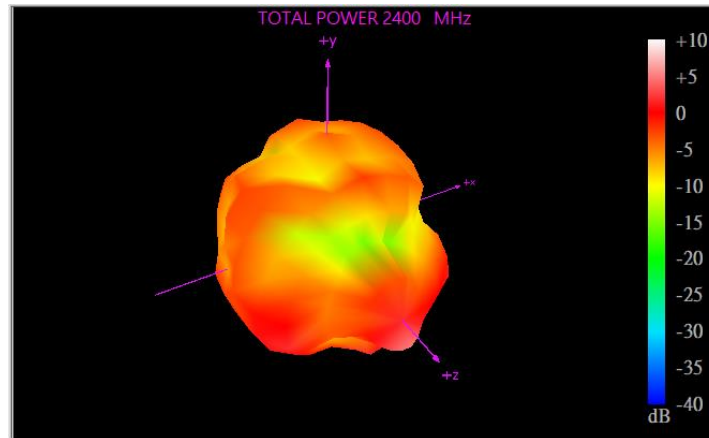
<insert test diagram here for test site utilized>

Equipment	Manufacture	Identification no.	Current calibration date	Next calibration date
Chamber	TRC	744	2022/05/04	2023/05/03
Software	TRC	WDA	2022/05/04	2023/05/03
Horn antenna	TRC	HA-0707	2022/05/04	2023/05/03
Network analyzer	R&S	ZNB8	2022/05/04	2023/05/03
Switch	WiSPEC	1101	2022/05/04	2023/05/03
Industrial computer	ADVANTECH	510	2022/05/04	2023/05/03
Cable 2m 10G	Channel	10390	2022/05/04	2023/05/03

4. Radiation characteristics of antenna loaded in Host Platform

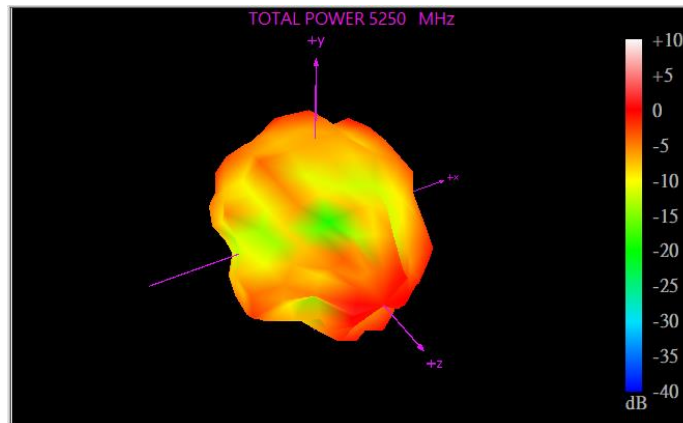
Main Antenna

Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz



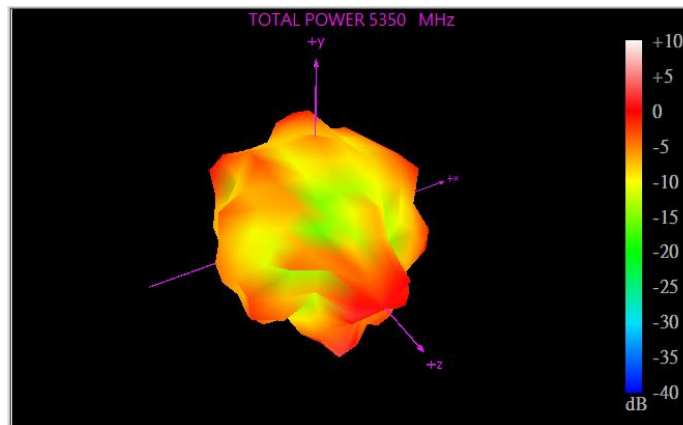
Frequency(MHz)	2400-2483.5 MHz
Peak Gain w/ Cable Loss (dBi)	2.93

Max Antenna 3D Radiation Pattern 5150-5250 MHz



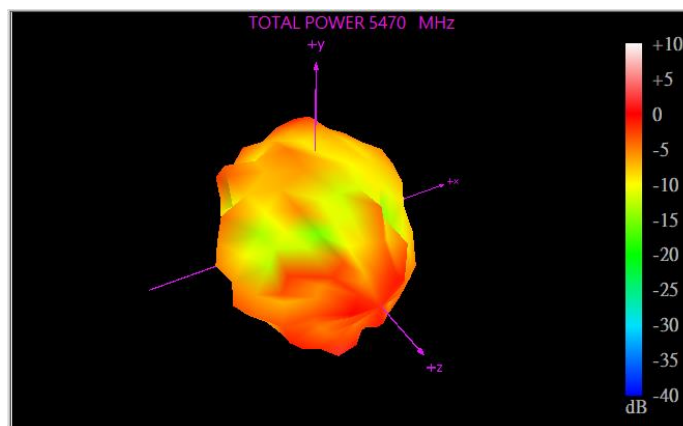
Frequency(MHz)	5150-5250 MHz
Peak Gain w/ Cable Loss (dBi)	1.66

Max Antenna 3D Radiation Pattern 5250-5350 MHz



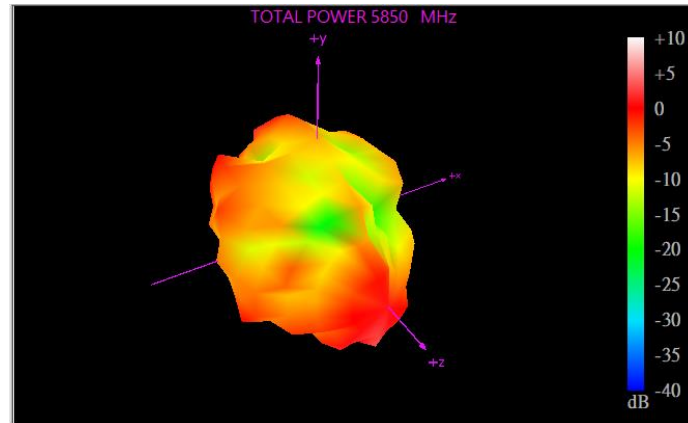
Frequency(MHz)	5250-5350 MHz
Peak Gain w/ Cable Loss (dBi)	2.98

Max Antenna 3D Radiation Pattern 5470-5725 MHz



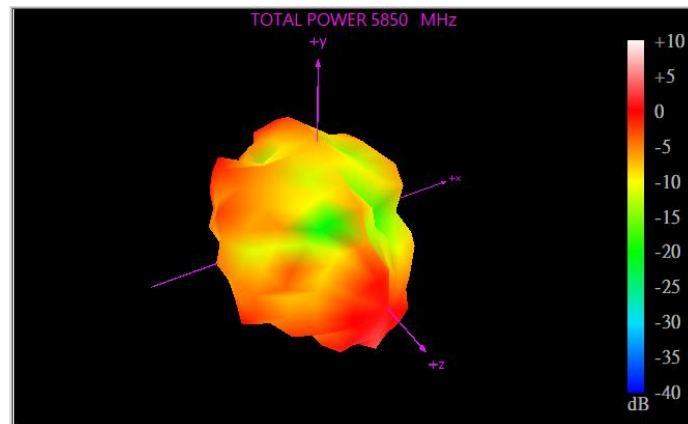
Frequency(MHz)	5470-5725 MHz
Peak Gain w/ Cable Loss (dBi)	2.11

Max Antenna 3D Radiation Pattern 5725-5850 MHz



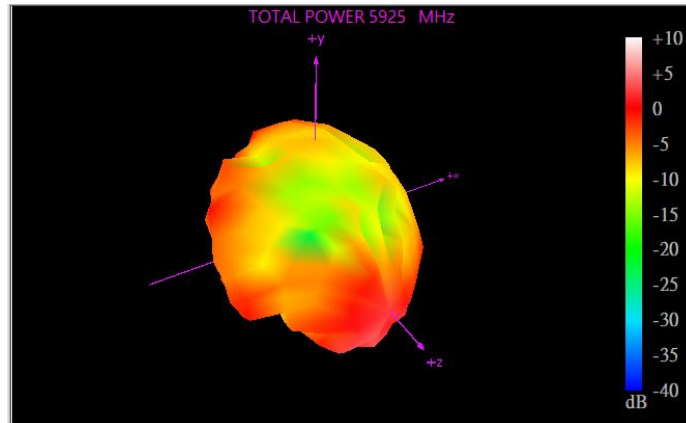
Frequency(MHz)	5725-5850MHz
Peak Gain w/ Cable Loss (dBi)	2.77

Max Antenna 3D Radiation Pattern 5850-5895 MHz



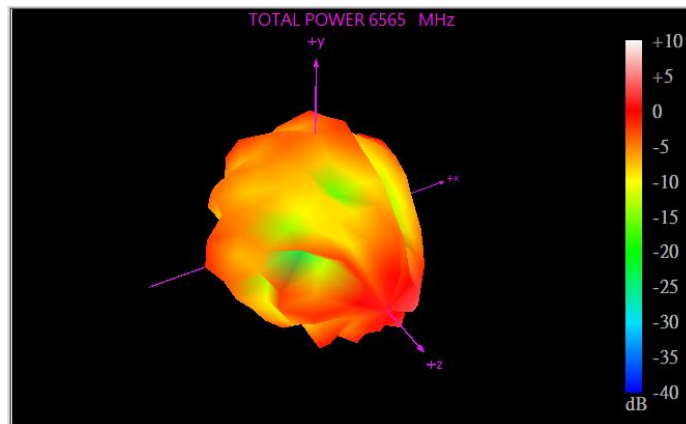
Frequency(MHz)	5850-5895 MHz
Peak Gain w/ Cable Loss (dBi)	2.77

Max Antenna 3D Radiation Pattern 5925-6425 MHz



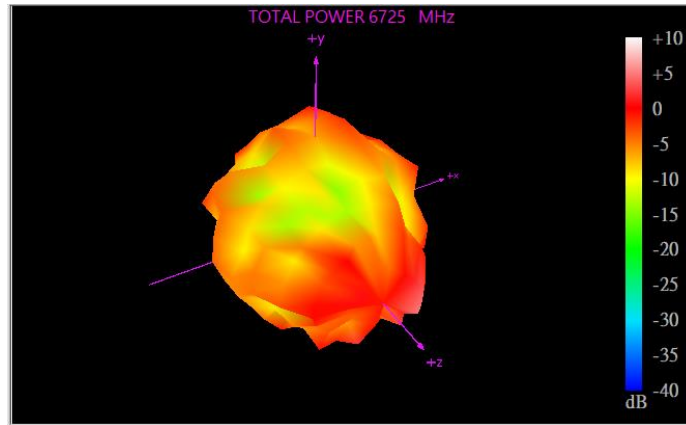
Frequency(MHz)	5925-6425 MHz
Peak Gain w/ Cable Loss (dBi)	3.02

Max Antenna 3D Radiation Pattern 6425-6525 MHz



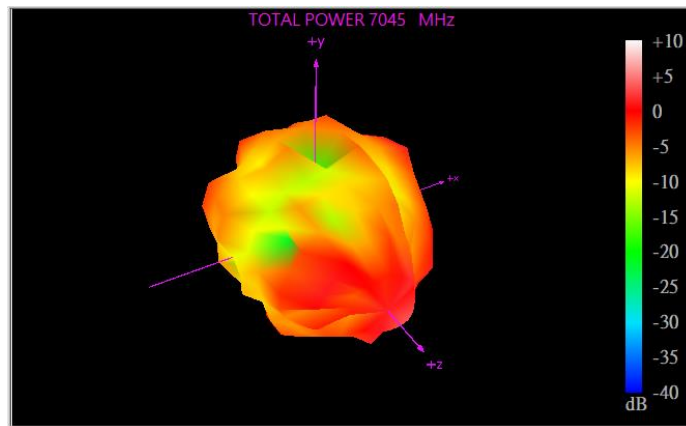
Frequency(MHz)	6425-6525 MHz
Peak Gain w/ Cable Loss (dBi)	2.72

Max Antenna 3D Radiation Pattern 6525-6875 MHz



Frequency(MHz)	6525-6875 MHz
Peak Gain w/ Cable Loss (dBi)	3.88

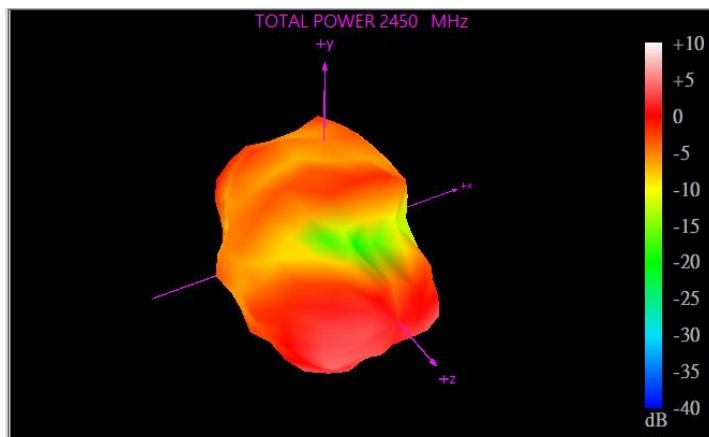
Max Antenna 3D Radiation Pattern 6875-7125 MHz



Frequency(MHz)	6875-7125 MHz
Peak Gain w/ Cable Loss (dBi)	3.94

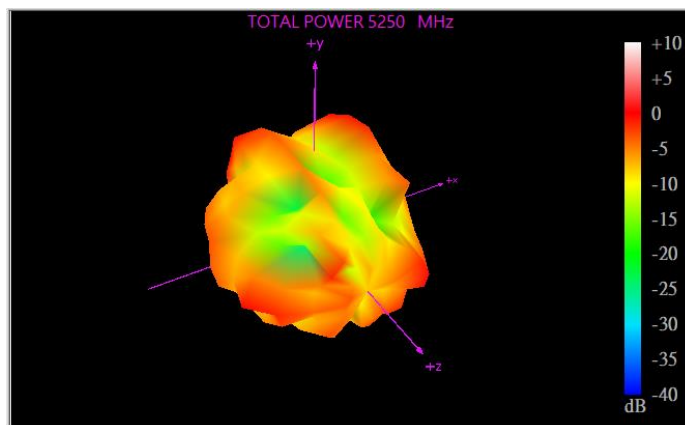
Auxiliary Antenna

Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz



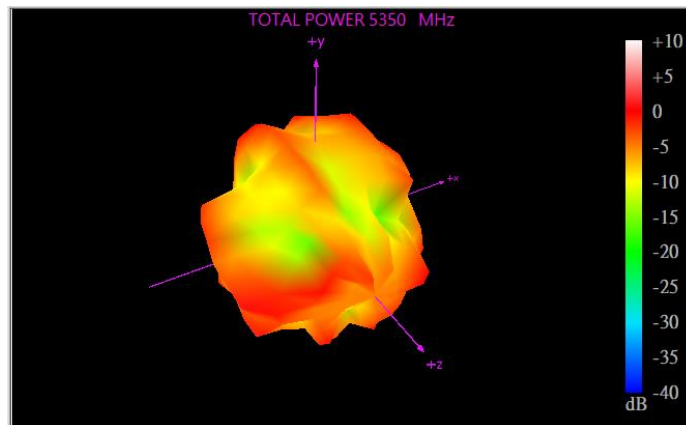
Frequency(MHz)	2400-2483.5 MHz
Peak Gain w/ Cable Loss (dBi)	2.94

Max Antenna 3D Radiation Pattern 5150-5250 MHz



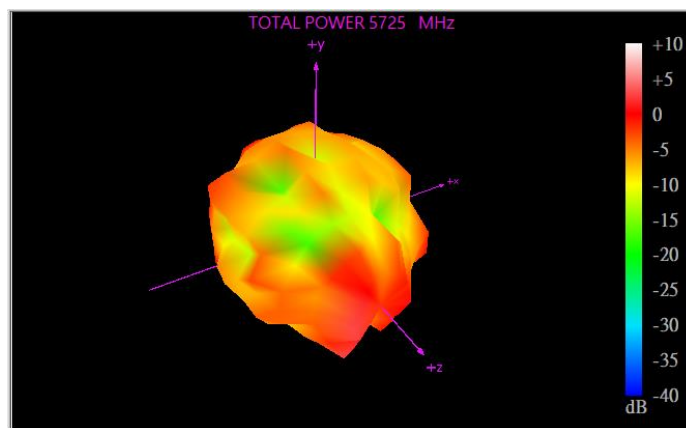
Frequency(MHz)	5150-5250 MHz
Peak Gain w/ Cable Loss (dBi)	0.72

Max Antenna 3D Radiation Pattern 5250-5350 MHz



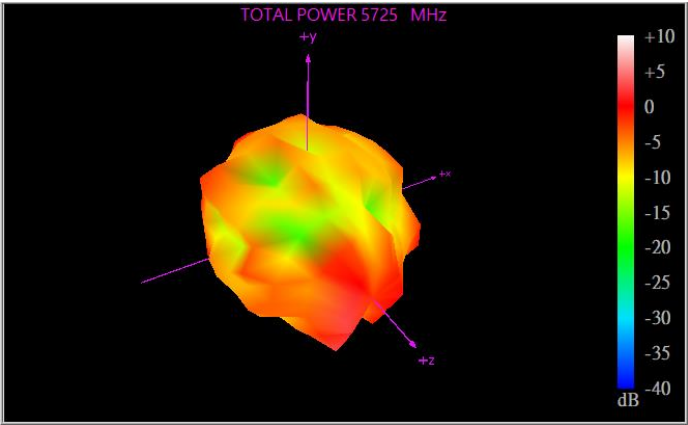
Frequency(MHz)	5250-5350 MHz
Peak Gain w/ Cable Loss (dBi)	1.91

Max Antenna 3D Radiation Pattern 5470-5725 MHz



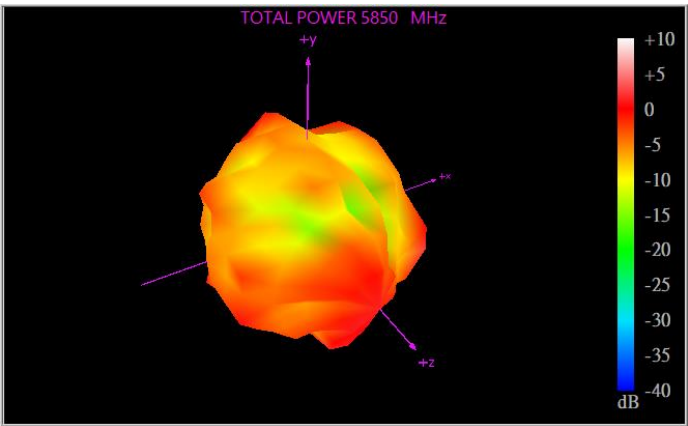
Frequency(MHz)	5470-5725 MHz
Peak Gain w/ Cable Loss (dBi)	2.59

Max Antenna 3D Radiation Pattern 5725-5850 MHz



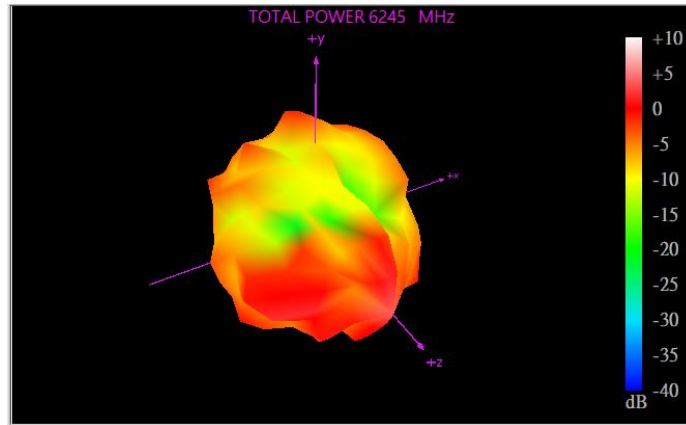
Frequency(MHz)	5725-5850MHz
Peak Gain w/ Cable Loss (dBi)	2.59

Max Antenna 3D Radiation Pattern 5850-5895 MHz



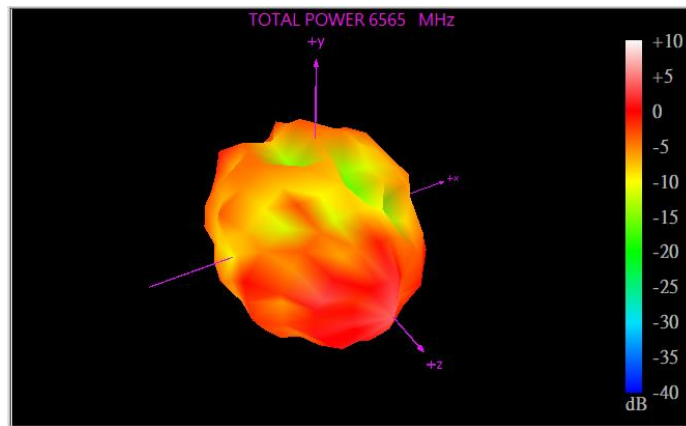
Frequency(MHz)	5850-5895 MHz
Peak Gain w/ Cable Loss (dBi)	2.05

Max Antenna 3D Radiation Pattern 5925-6425 MHz



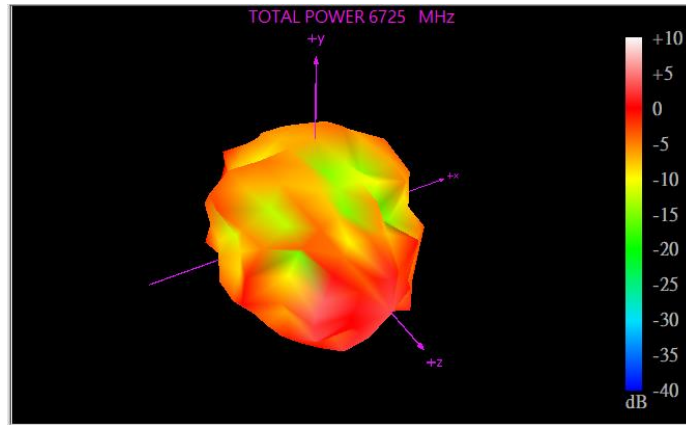
Frequency(MHz)	5925-6425 MHz
Peak Gain w/ Cable Loss (dBi)	2.32

Max Antenna 3D Radiation Pattern 6425-6525 MHz



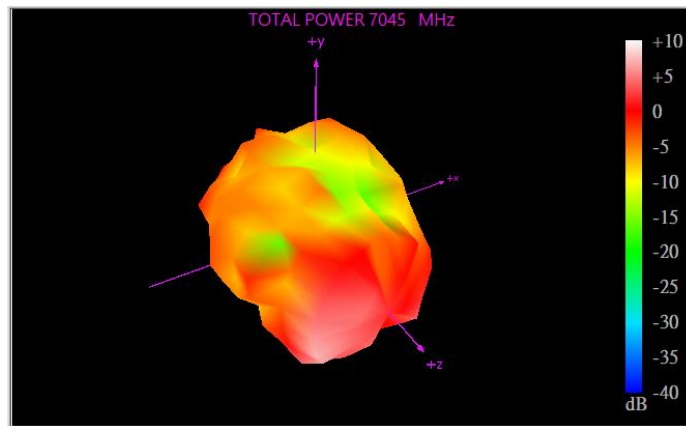
Frequency(MHz)	6425-6525 MHz
Peak Gain w/ Cable Loss (dBi)	2.57

Max Antenna 3D Radiation Pattern 6525-6875 MHz



Frequency(MHz)	6525-6875 MHz
Peak Gain w/ Cable Loss (dBi)	2.69

Max Antenna 3D Radiation Pattern 6875-7125 MHz



Frequency(MHz)	6875-7125 MHz
Peak Gain w/ Cable Loss (dBi)	3.99