

ANTENNA INFORMATION

OEM	HB	
ODM	Compal Electronics Inc.	
Platform model name	P143F	
Intel platform (ex: Yes, No or NA)	Yes	
Platform type (ex: regular NB, convertible PC, AIO...etc)	Regular NB	
SAR minimum separation (mm)	FCC (1g)	1.5mm (w/bumper) 0.8 mm (w/o bumper)
	ISED (1g)	1.5 mm (w/bumper) 0.8mm (w/o bumper)
	ISED (10g)	0.25 mm

Antenna manufacturer	Company name	Hong-Bo Corporation
	Address	4F., No.143, Sinhu 1st Rd., Neihu Dist., Taipei City, 11494 Taiwan
Test location	Company name	Hong-Bo Corporation
	Address	4F., No.143, Sinhu 1st Rd., Neihu Dist., Taipei City, 11494 Taiwan
Test Personnel	Name(Full name)	Rod Hsu
	E-mail	rodhsu@ hong-bo.com.tw
	Tel/Mobile	02-27926009
Testing date	2024/12/30	

Antenna Part number	Main	Compal P/N:DC33002YJ0L
	Aux	Antenna P/N: (330-24055)
Antenna type (ex: PIFA, Dipole...etc)		Compal P/N:DC33002YJ0L
		Antenna P/N: (330-24055)
		Monopole

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	2.75	2.75	2.66	2.91	2.91	2.22	2.77	2.68	2.56	1.10
Aux	1.66	2.35	1.96	1.42	1.07	1.30	2.11	1.78	1.76	0.36

Cable Assembly Part Number and Information					
	Cable PN	Cable length(mm)	Cable diameter(mm)	Impedance(ohm)	Connector type
Main	SY113L/50-143	173	1.13	50	I-PEX MHF-4L(20565-001R-13)
Aux	SY113L/50-118	296	1.13	50	I-PEX MHF-4L(20565-001R-13)

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

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	-0.37	-0.60	-0.61	-0.63	-0.66	-0.68	-0.68	-0.70	-0.71	-0.75
Aux	-0.63	-1.02	-1.04	-1.08	-1.14	-1.16	-1.17	-1.20	-1.22	-1.28

Table of Contents

Cover page..... 1

1. Intel Reference Gain and Type..... 4

2. Document Revision History..... 4

3. Test & System Description

 3.1 Measurement Method and System..... 5

 3.2 Test setup..... 5

 3.3 Equipment list..... 6

4. Radiation characteristics of antenna loaded in Host Platform..... 7

Annex A. Photographs

 A.1 Setup Photo..... 17

 A.2 Test sample..... 18

Annex B. Antenna Location

 B.1 Antenna Host Platform Location Information.....20

 B.2 Antenna dimensional information for SAR evaluation..... 21

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
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.

2. Document Revision History

Revision #	Revision Details	Issued Date
Rev. 00	First Issue	

3. Test & System Description

3.1 Measurement Method and System

<insert test description here for test method>

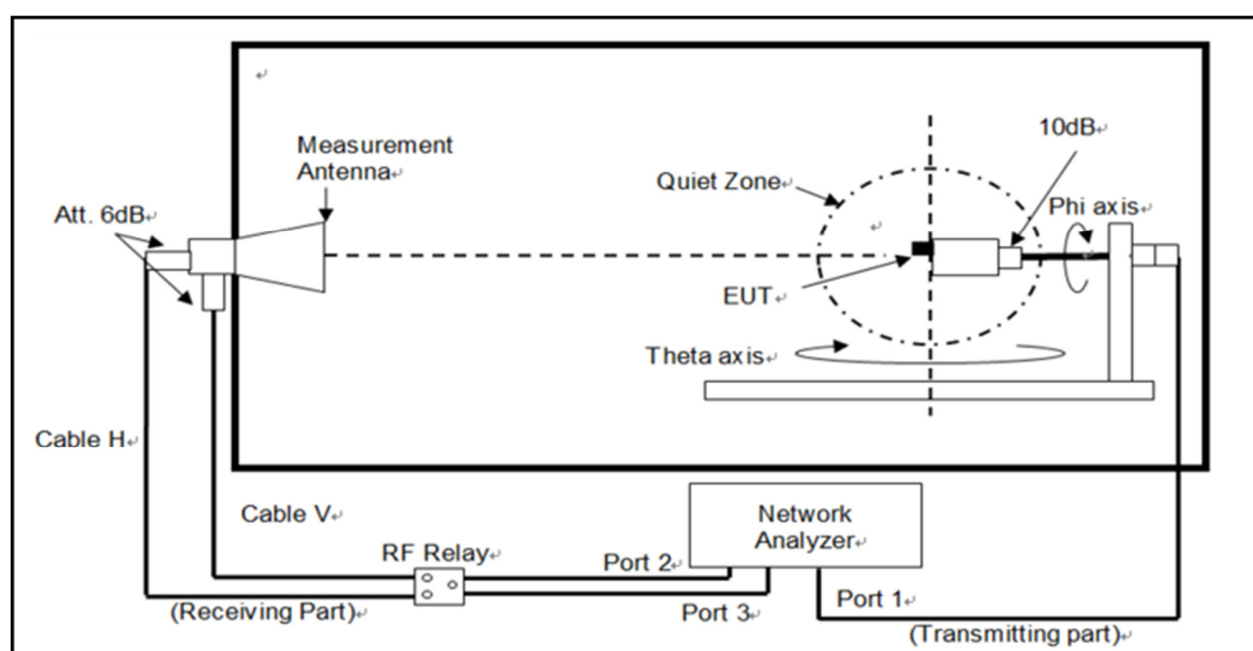
ETS-Lindgren AMS-8500 system is 3D fully anechoic chamber, it is applied to the “Conical Cut test method”, the detail description is described as below.

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

3.2 Test setup

<insert test diagram here for test site utilized>



3.3 Equipment list

<insert test diagram here for test site utilized>

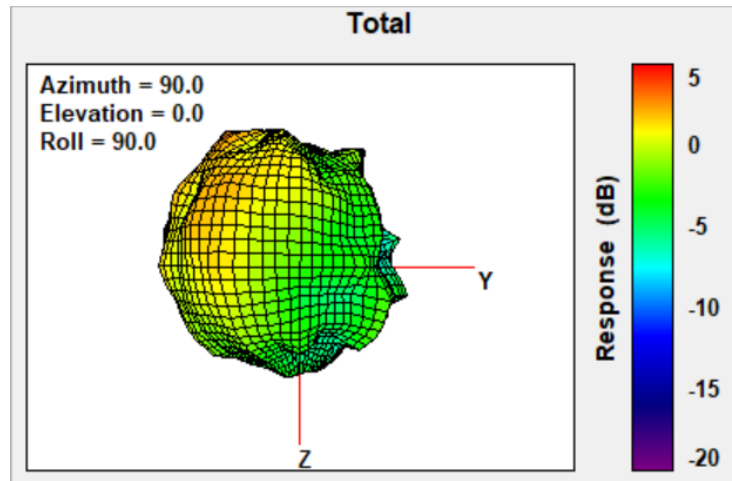
Name	Manufacturer	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
Anechoic Chamber	ETS-Lindgren	AMS-8500	N/A	2024/3/12	2025/3/11
ENA Series Network Analyzer	Keysight	E5071C	MY46101588	2024/11/12	2025/11/11
RF Switch	ETS-Lindgren	EMCenter™	N/A	NCR	NCR
Multi-Axis Positioner Controller	ETS-Lindgren	2090	N/A	NCR	NCR
Medium-Duty Positioner	ETS-Lindgren	2015	N/A	NCR	NCR
Measurement Horn Antenna	EMCO	3164-08	00086722	NCR	NCR

4. Radiation characteristics of antenna loaded in Host Platform

Main Antenna

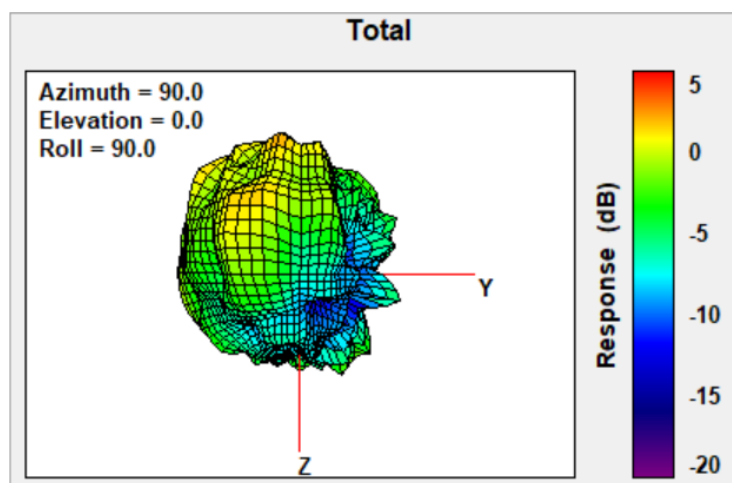
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	2.75



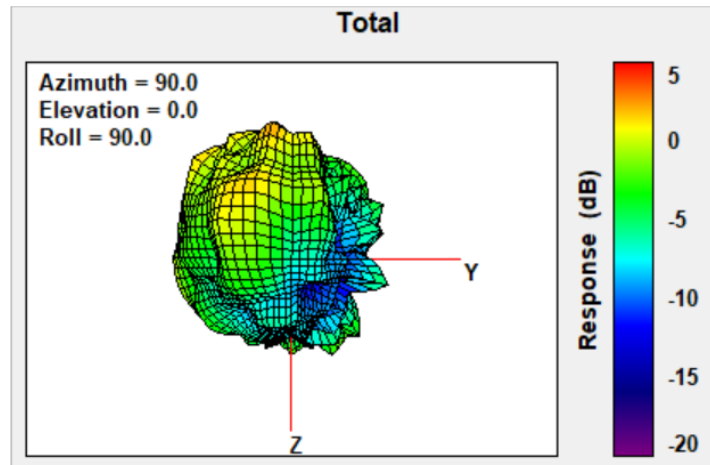
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	2.75



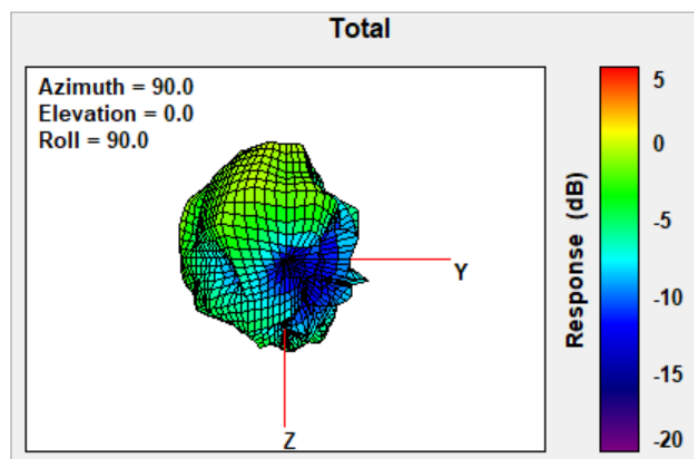
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	2.66



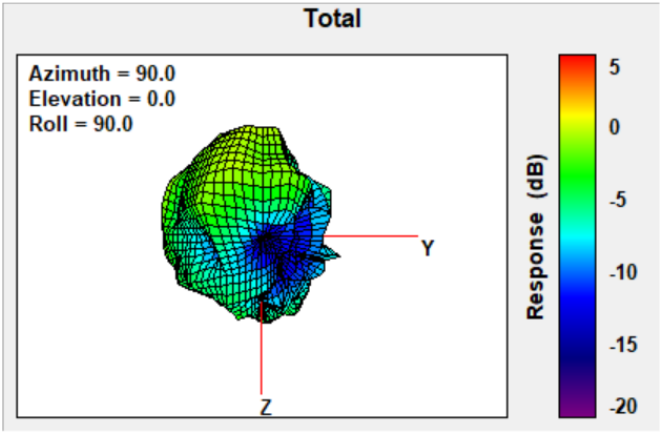
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	2.91



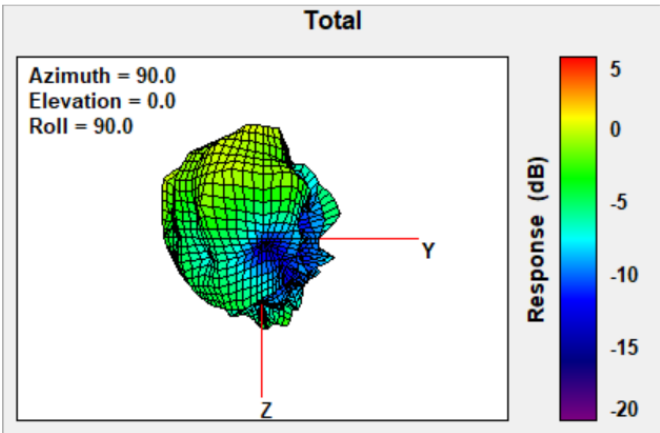
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	2.91



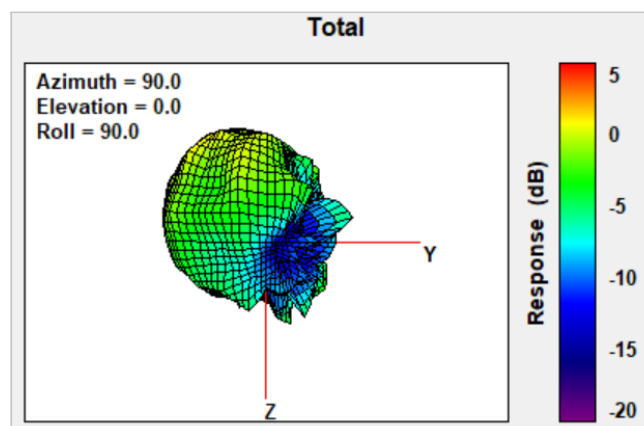
Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	2.22



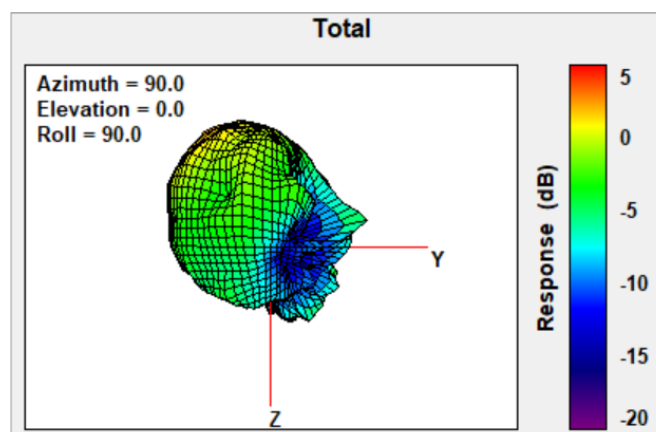
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	2.77



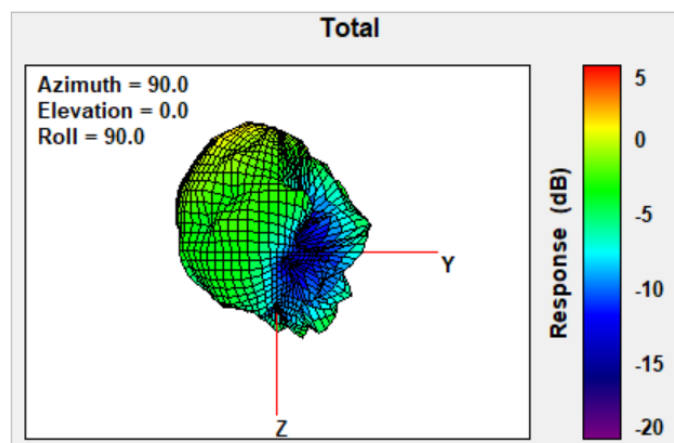
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	2.68



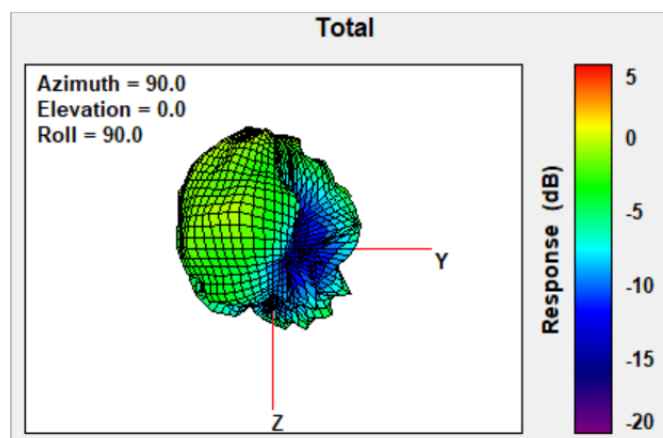
Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	2.56



Max Antenna 3D Radiation Pattern 6875-7125 MHz

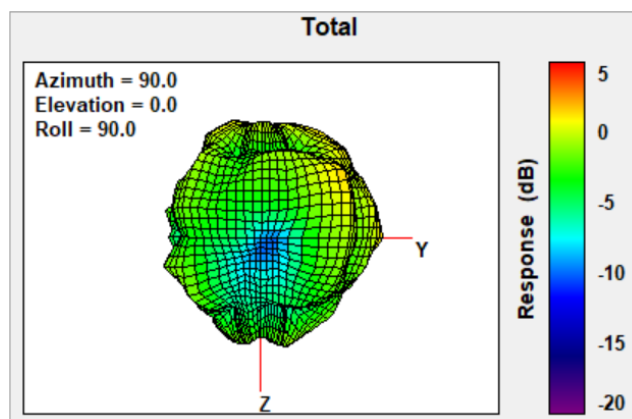
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	1.10



Auxiliary Antenna

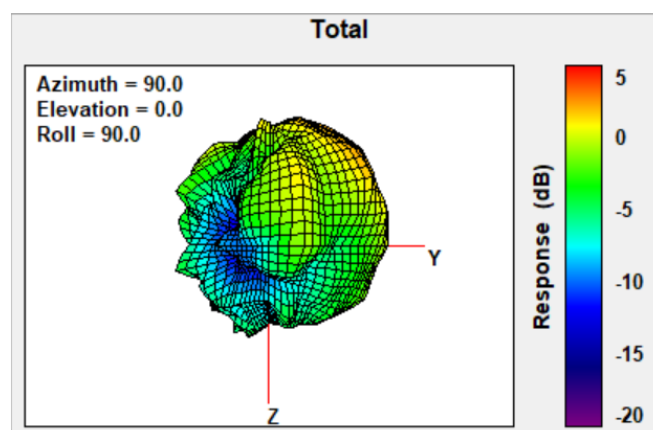
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	1.66



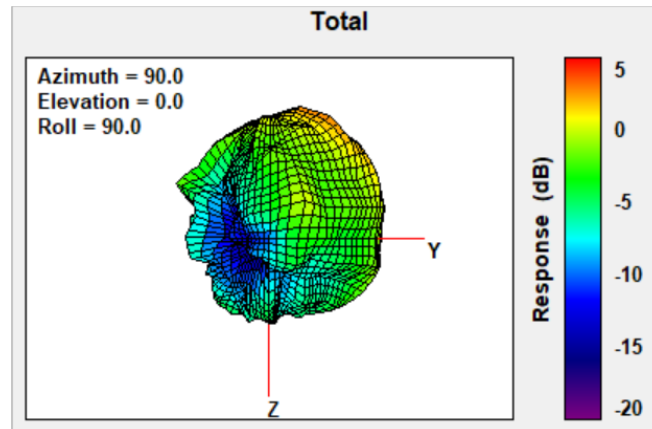
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	2.35



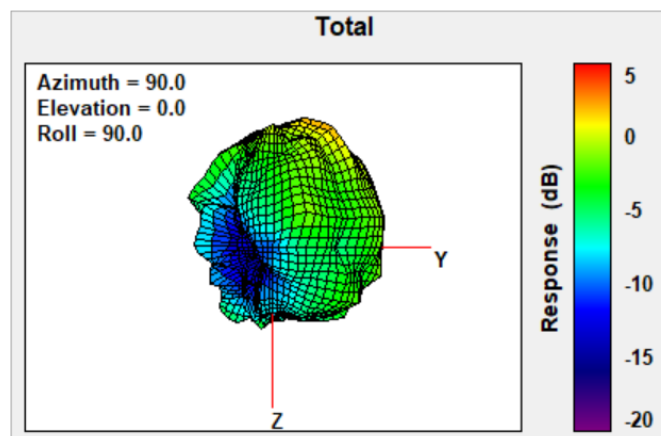
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	1.96



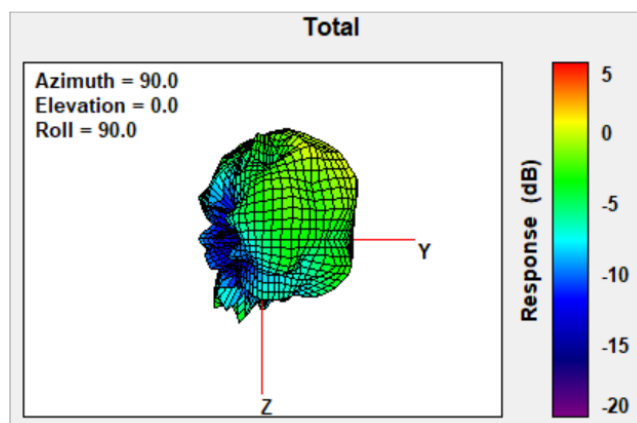
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	1.42



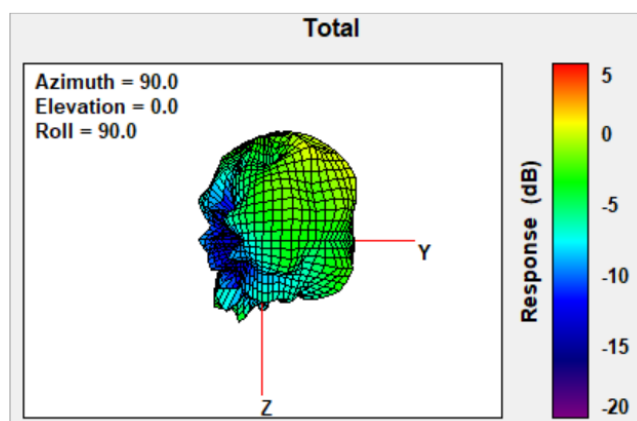
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	1.07



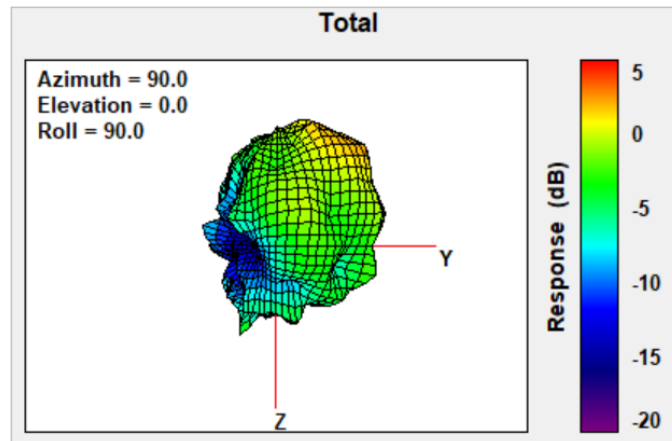
Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	1.30



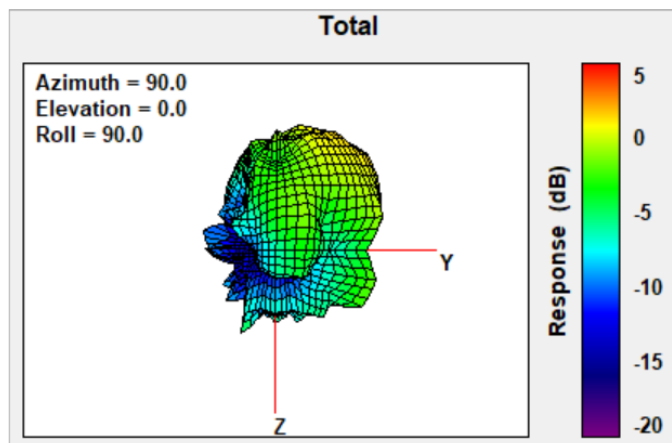
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	2.11



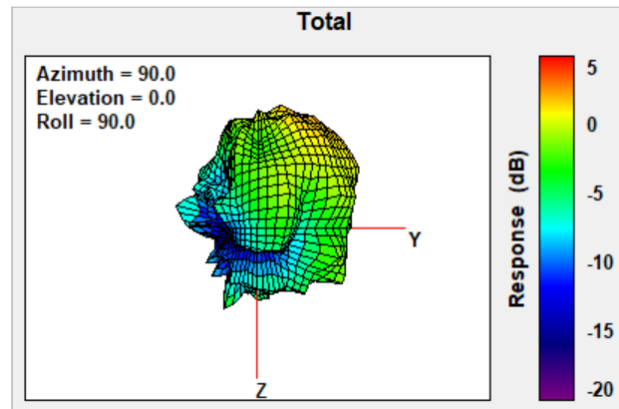
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	1.78



Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	1.76



Max Antenna 3D Radiation Pattern 6875-7125 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	0.36

