

## Antenna Information

### Section 1. Antenna Assembly Specifications

1A Antenna Model Number	1B Manufacturer	1C Antenna Type	1D Freq Range MHz	1E * Peak Gain (dBi)
<b>DHLB1641ZA/X1</b> Main Antenna	Panasonic Connect Co., Ltd. ytv Kyobashi Building, 2-2-33 Shiromi, Chuo-ku, Osaka 540-8553, Japan	PIFA	2400-2483.5	0.47
			5150-5250	2.46
			5250-5350	2.27
			5470-5725	0.69
			5725-5850	0.30
			5850-5895	0.28
			5925-6425	1.43
			6425-6525	1.63
			6525-6875	1.63
			6875-7125	0.78
<b>DHHR1470ZA/X1</b> Aux Antenna	Panasonic Connect Co., Ltd. ytv Kyobashi Building, 2-2-33 Shiromi, Chuo-ku, Osaka 540-8553, Japan	PIFA	2400-2483.5	2.61
			5150-5250	3.72
			5250-5350	3.66
			5470-5725	4.38
			5725-5850	3.13
			5850-5895	3.13
			5925-6425	2.95
			6425-6525	0.15
			6525-6875	1.49
			6875-7125	2.38

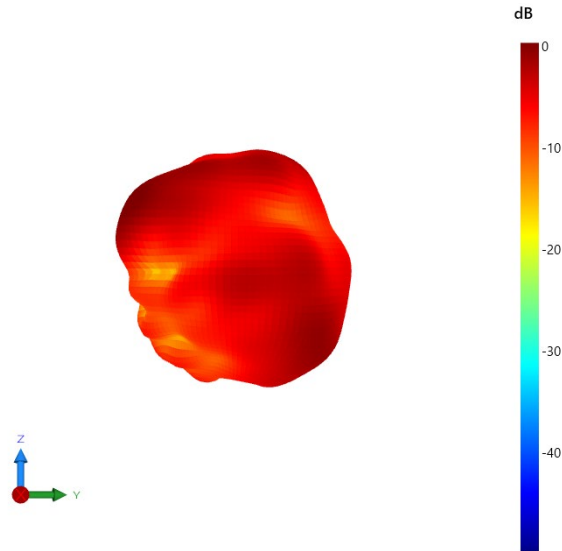
\* 3D Antenna Peak Gain required being test in system basis. Peak gain includes loss of the RF cable connected to the wireless module.

Section 2. Radiation characteristics of antenna loaded in Host Platform

**Main Antenna**

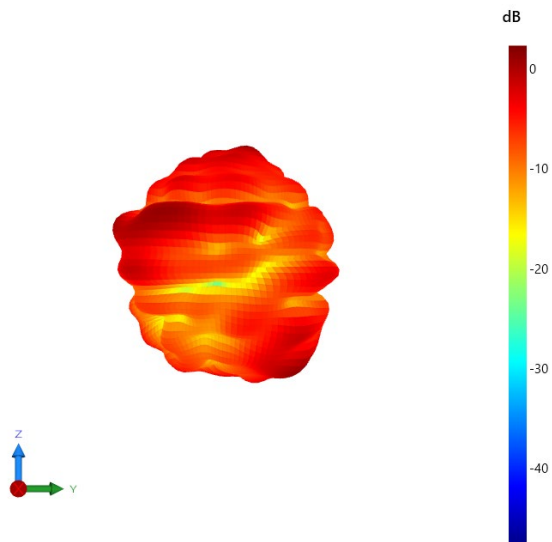
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	0.47



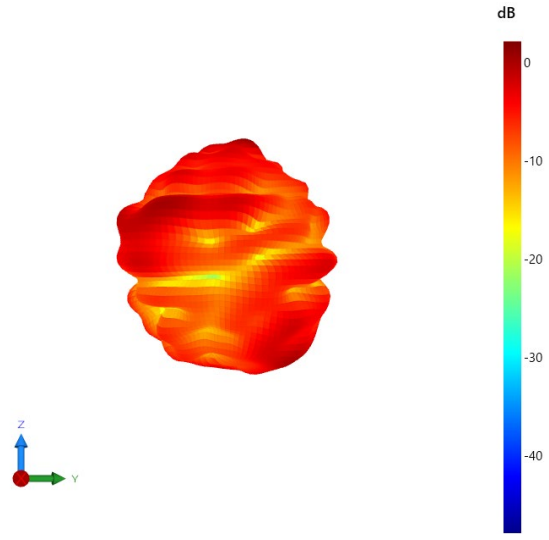
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	2.46



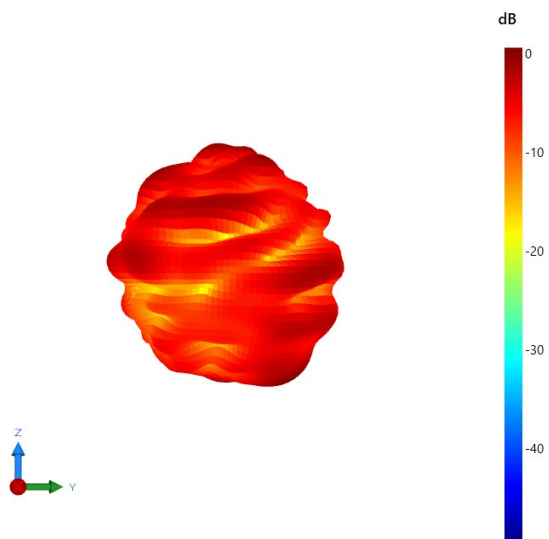
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	2.27



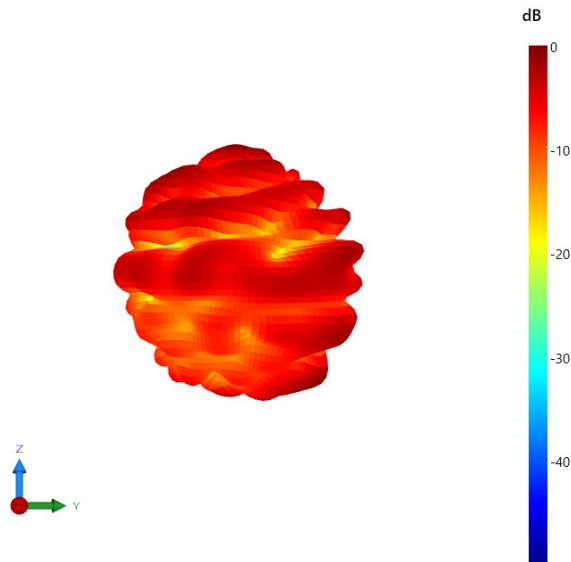
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	0.69



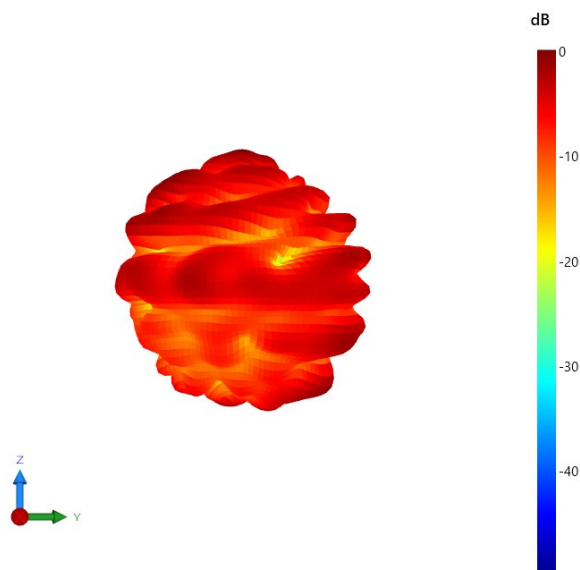
### Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	0.30



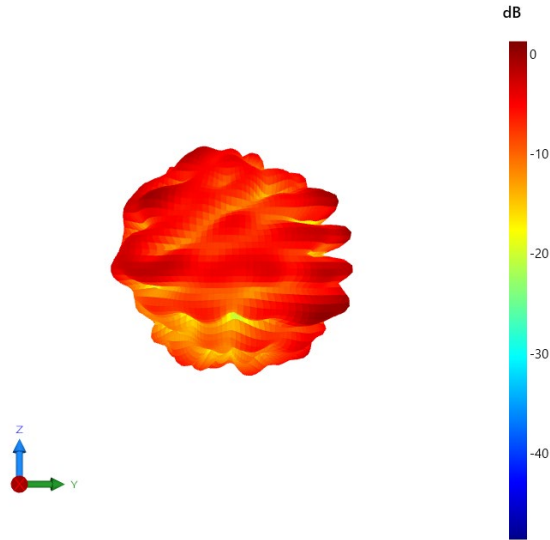
### Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	0.28



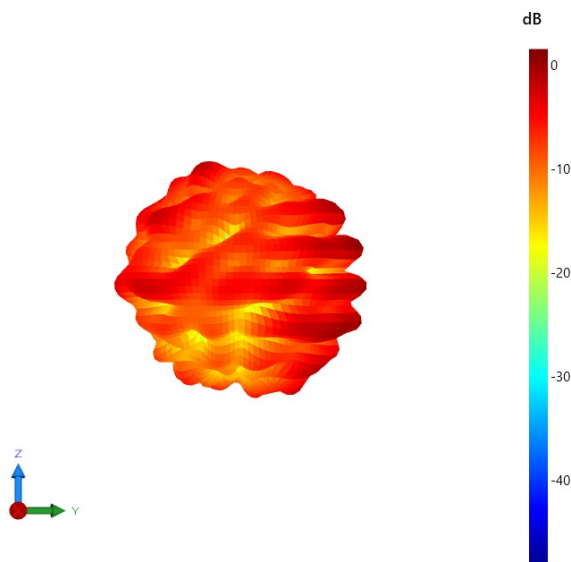
### Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	1.43



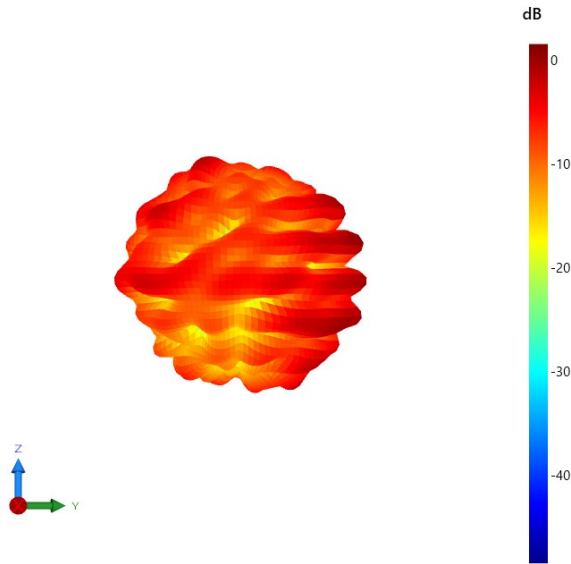
### Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	1.63



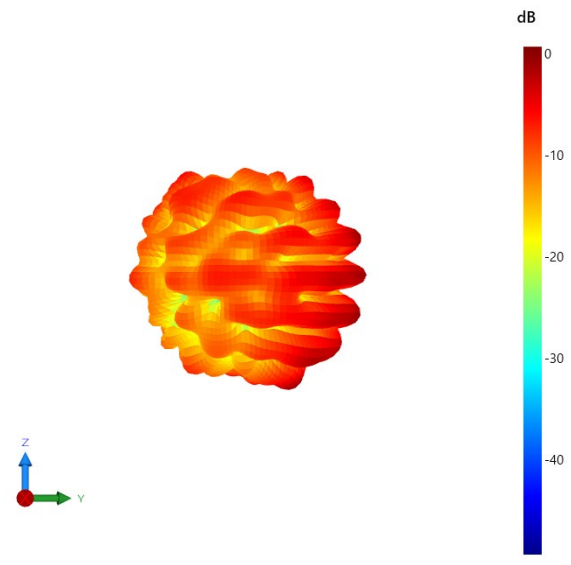
### Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	1.63



### Max Antenna 3D Radiation Pattern 6875-7125 MHz

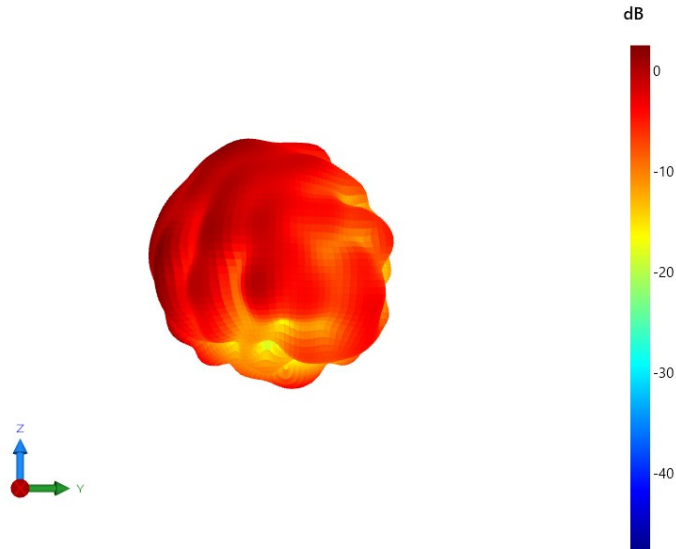
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	0.78



**Auxiliary Antenna**

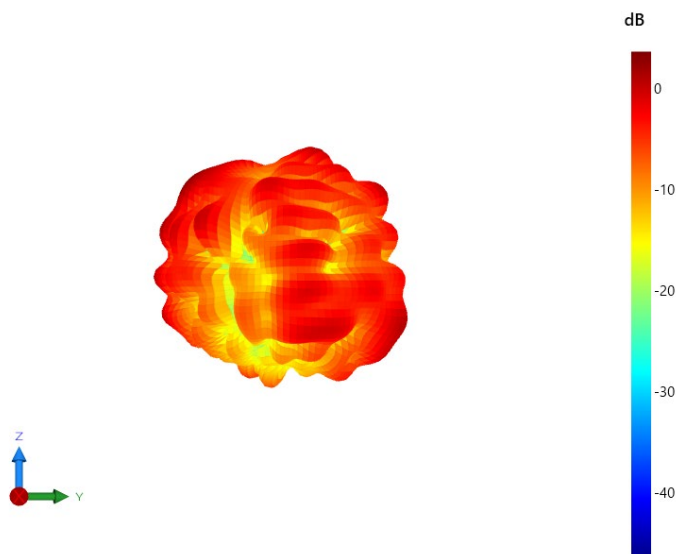
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	2.61



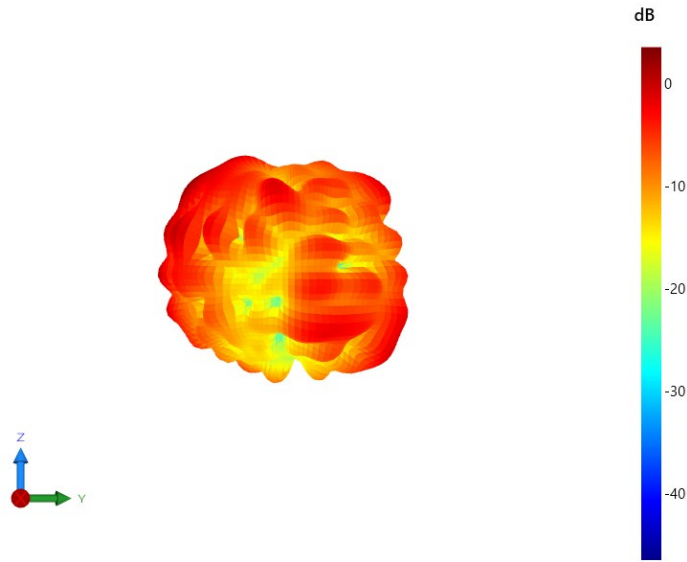
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	3.72



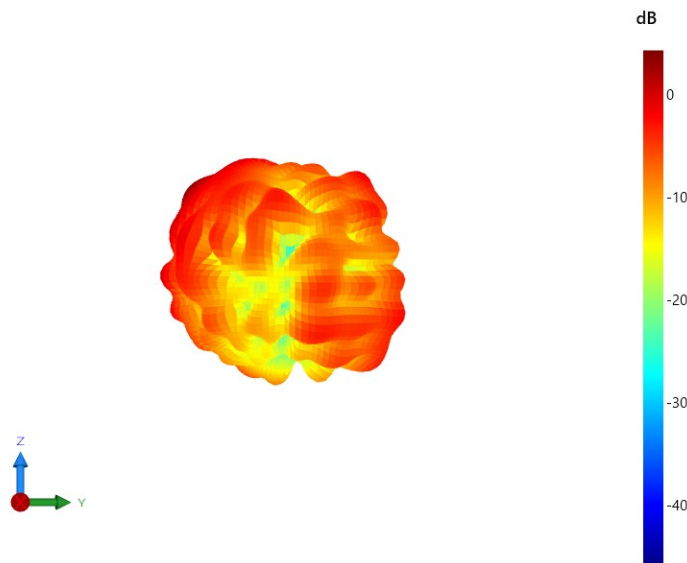
### Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	3.66



### Max Antenna 3D Radiation Pattern 5470-5725 MHz

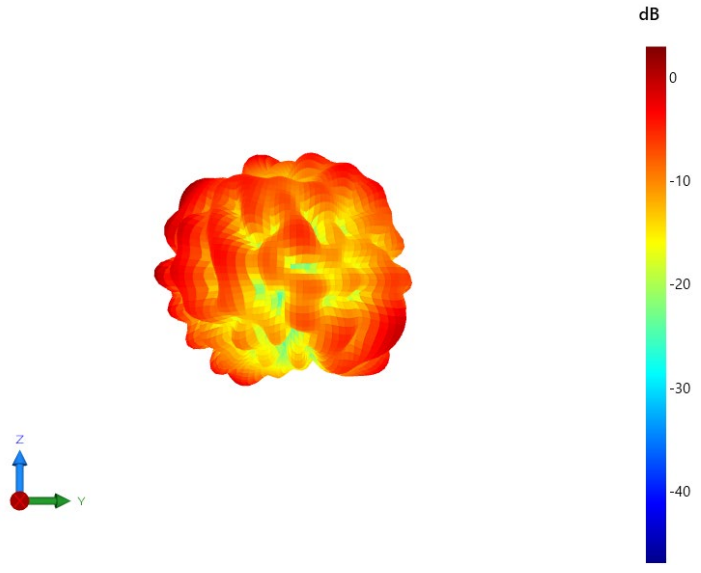
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	4.38





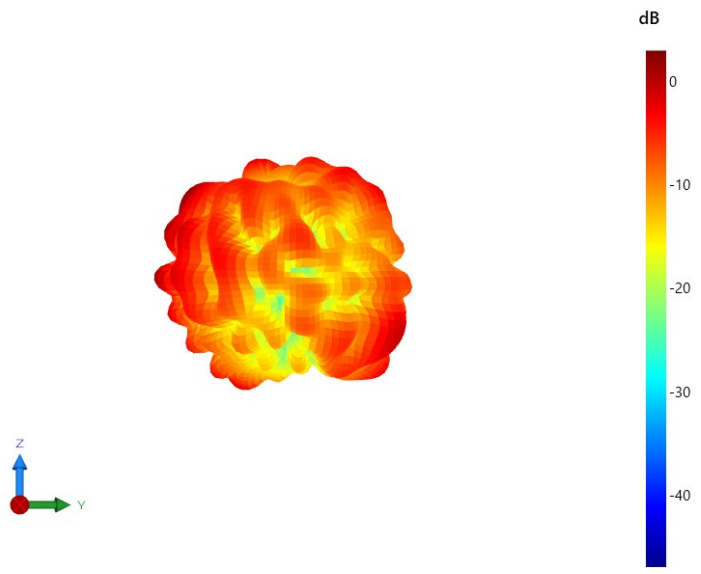
### Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	3.13



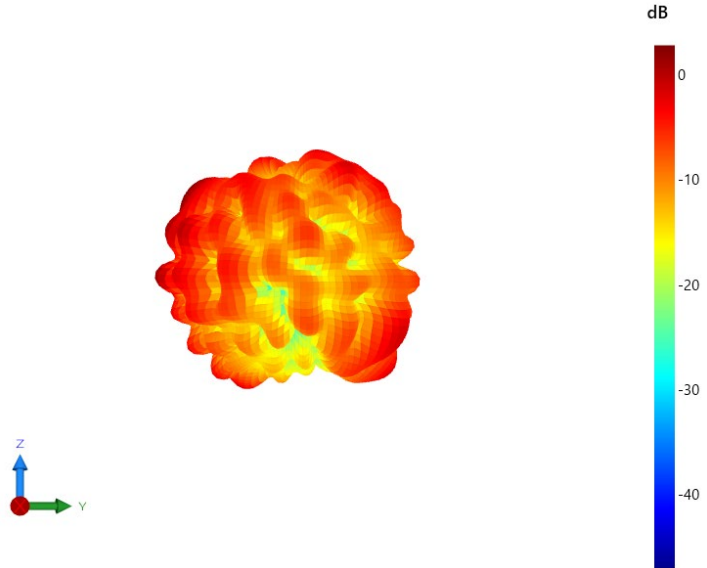
### Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	3.13



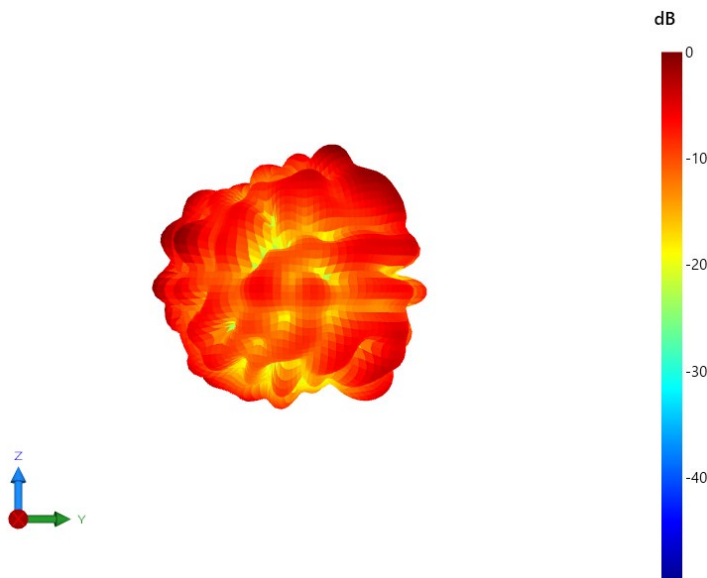
### Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	2.95



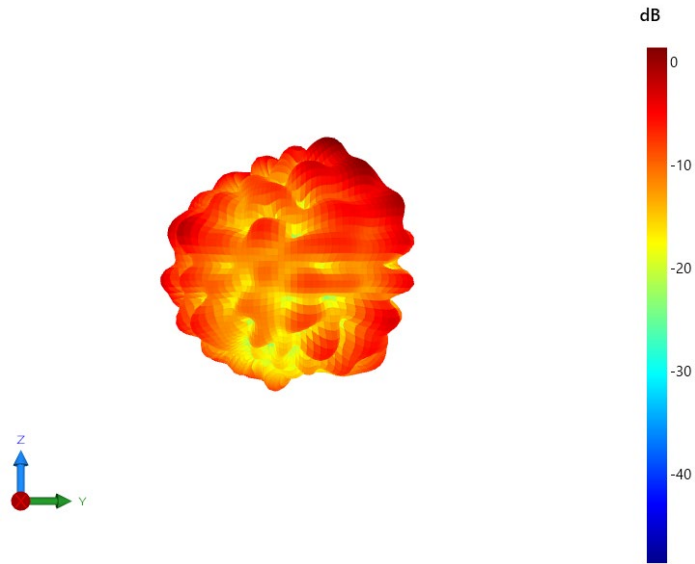
### Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	0.15



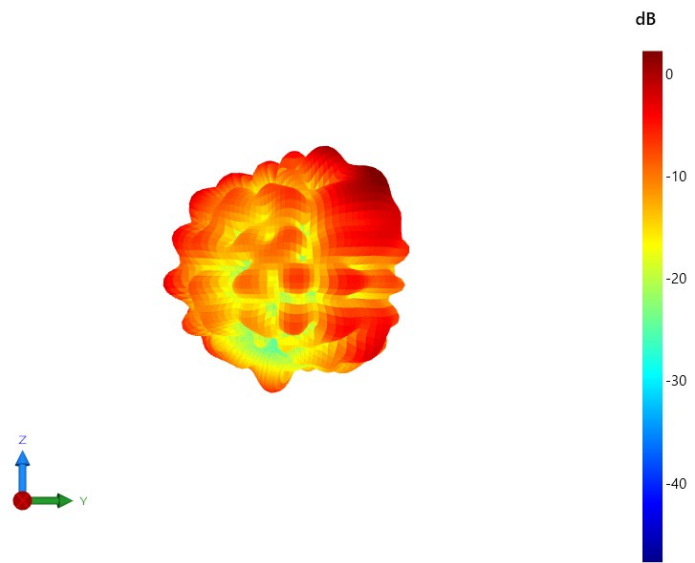
### Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	1.49



### Max Antenna 3D Radiation Pattern 6875-7125 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	2.38



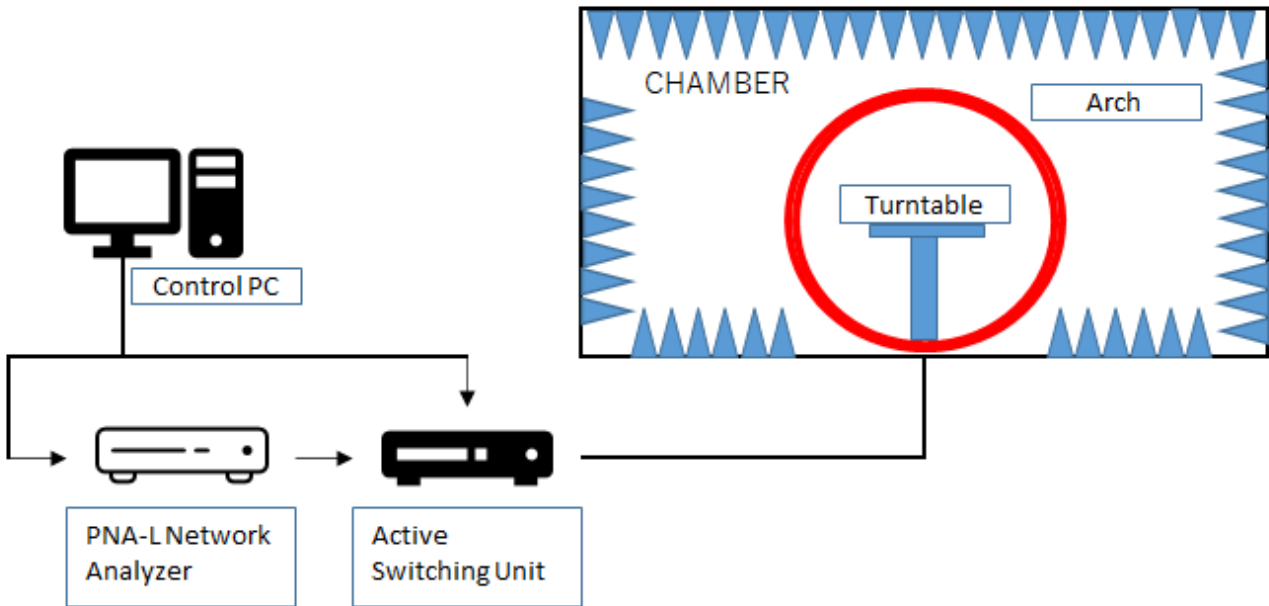
# Test & System Description

## 1. Applicable test methods

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

## 2. Test & System Description

### a. Test setup



### b. Equipment list

Device	Type/Model	Serial	Manufacturer	Cal. Date	Cal. Due Date
SG24S 0.4-10GHz	1102805	1102805-0005	MVG Industries	2023/7	2024/7
Active Switching Unit	1102347	1102347-11435	MVG Industries	2023/7	2024/7
Reference Horn Antenna	SH400	359	MVG Industries	2023/7	2024/7
Reference Horn Antenna	SH2000	447	MVG Industries	2023/7	2024/7
PNA-L Network Analyzer	N5230A	MY45001228	Agilent Technologies	2023/5	2024/5

### c. Software list

Software	Type/Model	Manufacturer	Cal. Date	Cal. Due Date
Wave Studio	Wave Studio 22.5.6	Microwave Vision Group	2023/6	2024/6

**3. Setup photo****4. Test information**

a. Test date

Oct 26, 2023

b. Test personnel

T. Osanai