

ANTENNA INFORMATION

Antenna manufacturer	Changshu HongBo Telecommunication Technology Co., Ltd.
Address	No. 8, Liuzhou Road, Lushan Industrial Park, Xinxing Development Zone, Changshu City, Jiangsu Province, China
Antenna Part number	Main/ Aux: 260-25096
Antenna type	Monopole

Test Location	HongBo Wireless Communication Technology Co., Ltd.
Address	4F., No.143, SinHu 1st Rd., Neihu Dist, Taipei City 11494, Taiwan
Test Personnel	Jacky Hu
Testing date	2024/02/01

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/ Aux	3.11	4.88	4.91	4.90	4.90	4.87	4.73	4.29	4.58	4.09

Cable Assembly Part Number and Information					
	Cable PN	Cable length(cm)	Cable diameter(mm)	Impedance(ohm)	Connector type
Main/ Aux	SY113L/50	300	1.13	50	MHF4L

Table of Contents

Cover page.....	1
1. Document Revision History.....	3
2. Test & System Description	
2.1 Measurement Method and System.....	4
2.2 Test setup.....	4
2.3 Equipment list.....	4
3. Radiation characteristics of antenna loaded in Host Platform.....	5
Annex A. Photographs	
A.1 Setup Photo.....	10
A.2 Test sample.....	11

1. Document Revision History

Revision #	Revision Details	Issued Date
Rev.00	First version	2024/02/1

2. Test & System Description

2.1 Measurement Method and System

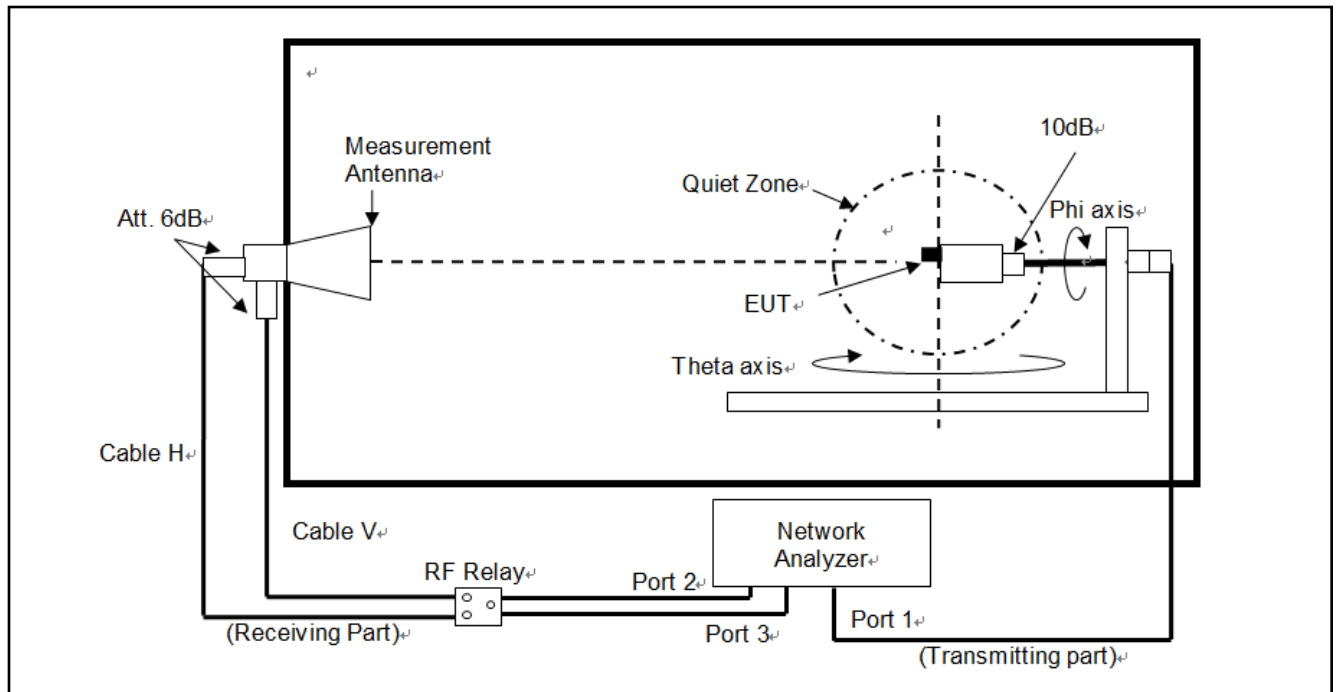
This test report is prepared for Monopole antenna testing under a AMS-8500 Full Anechoic Chamber. ETS-Lindgren AMS-8500 system is 3D fully anechoic chamber, it is applied to the "Conical Cut test method" the detail description is described as below,

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.

		θ -Axis	Φ -Axis
Passive	Step size	15°~165° step: 15°	0°~345° step: 15°
	N / M (Points)	12	24

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.

2.2 Test setup



2.3 Equipment list

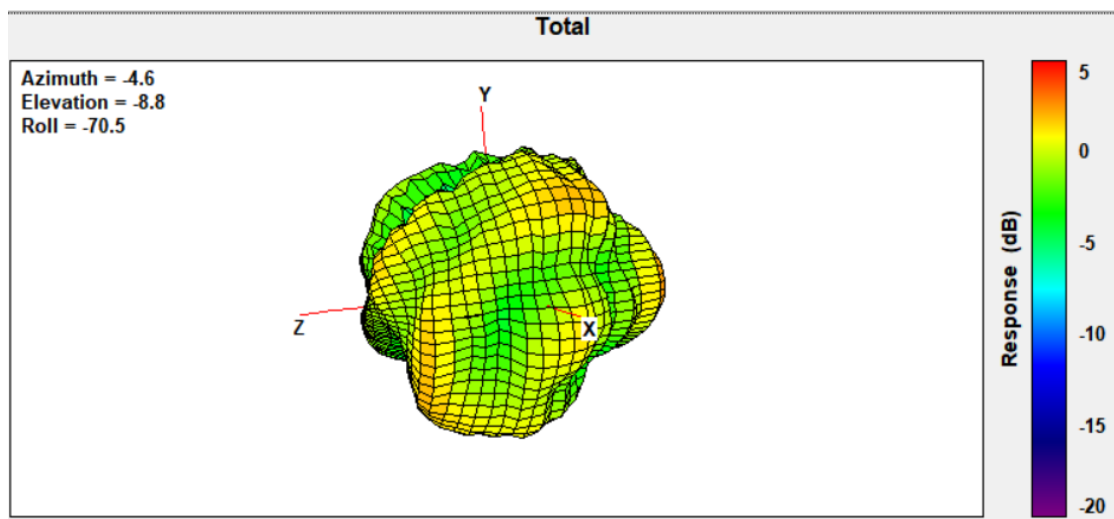
Name	Manufacture	Type/Model	Serial Number	Cal. Date	Cal. Due Date
ENA Series Network Analyze	Keysight	E5071C	MY46108594	2023/8/3	2025/8/3
RF Switch	Keysight	3499A	MY4200955	NCR	NCR
Multi-Axis Positioner Controller	ETS-Lindgren	2090	N/A	NCR	NCR
Medium-Duty Positioner	ETS-Lindgren	2015	N/A	NCR	NCR
Measurement Horn Antenna	EMCO	Aug-64	86722	NCR	NCR

3. Radiation characteristics of antenna loaded in Host Platform

Main Antenna

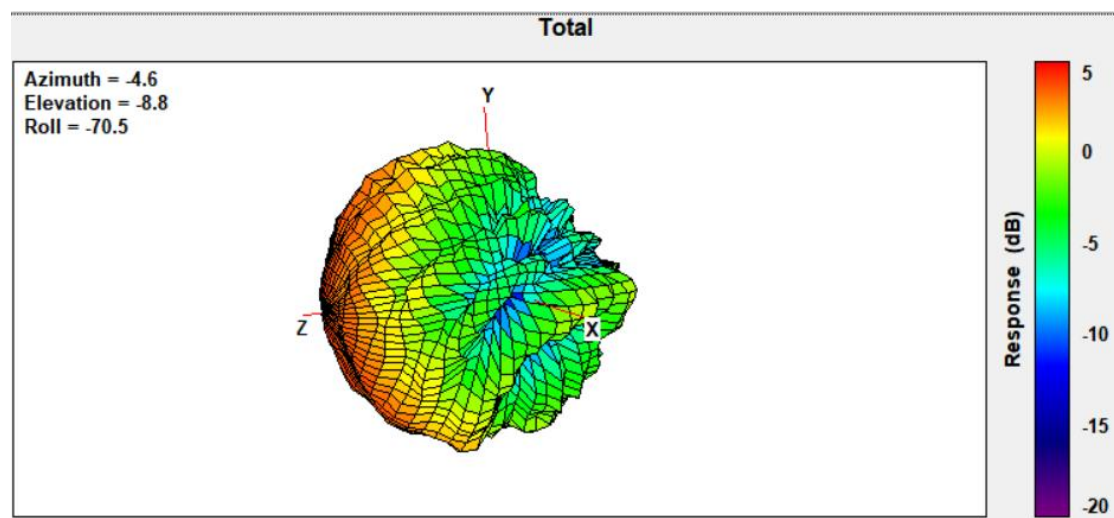
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	3.11



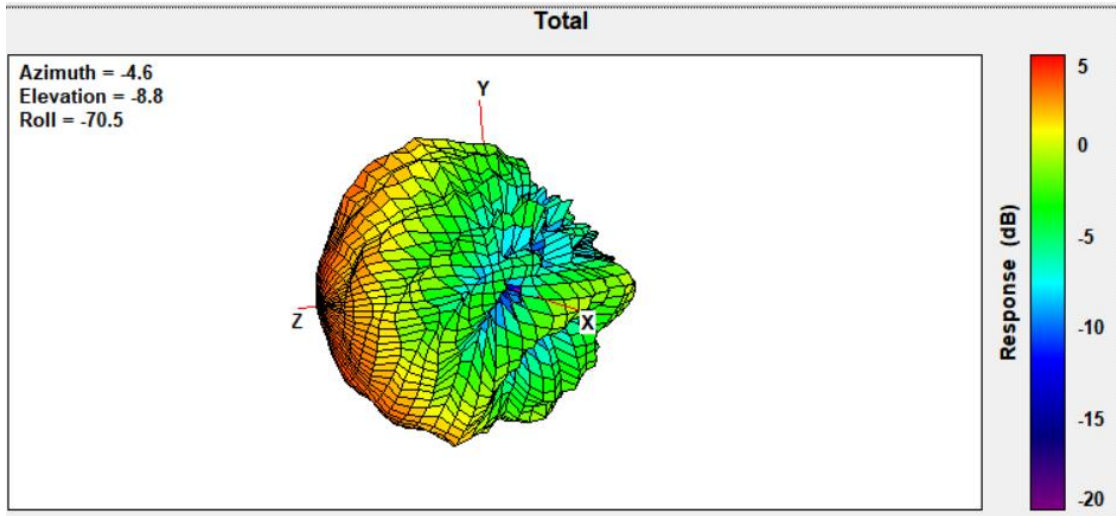
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	4.88



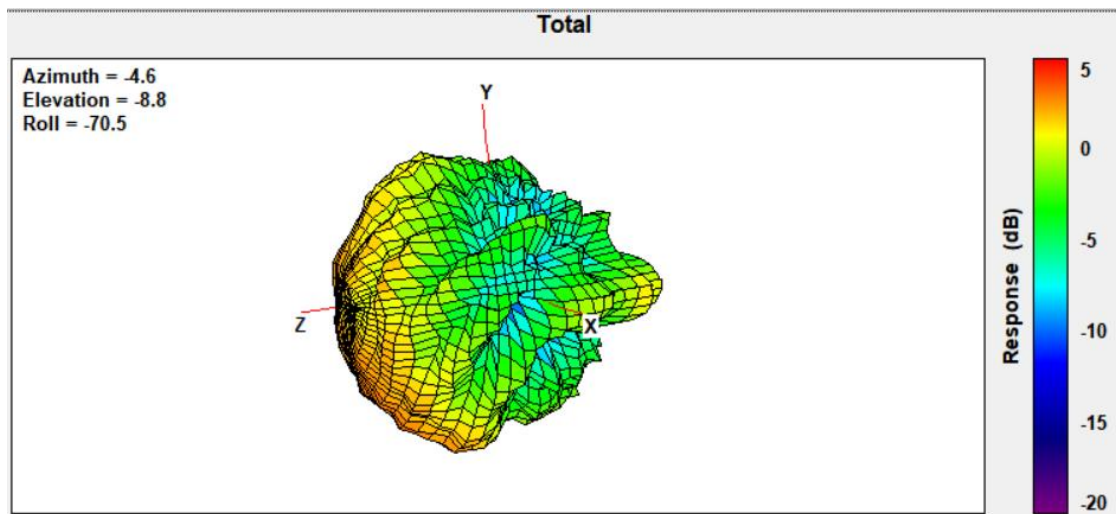
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	4.91



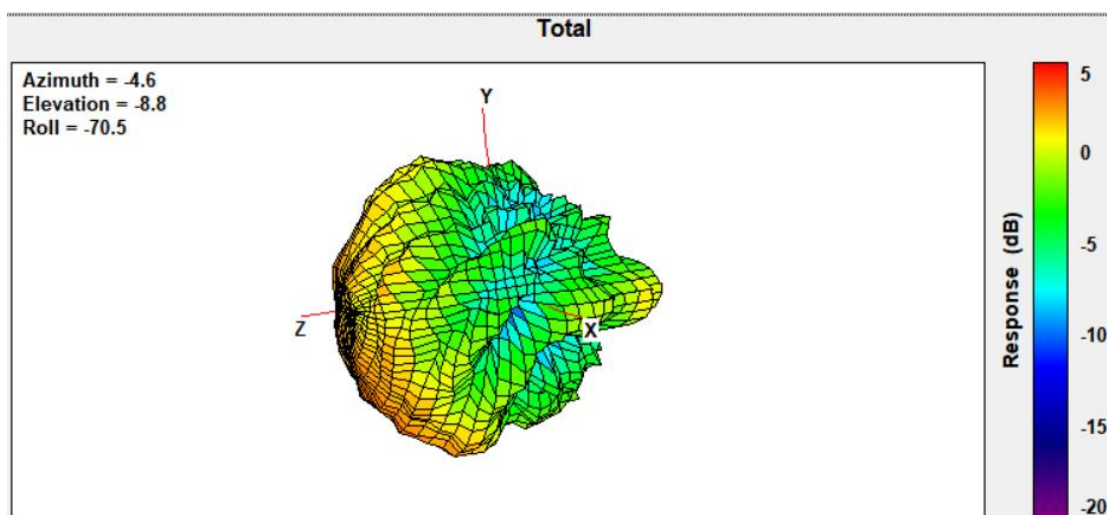
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	4.90



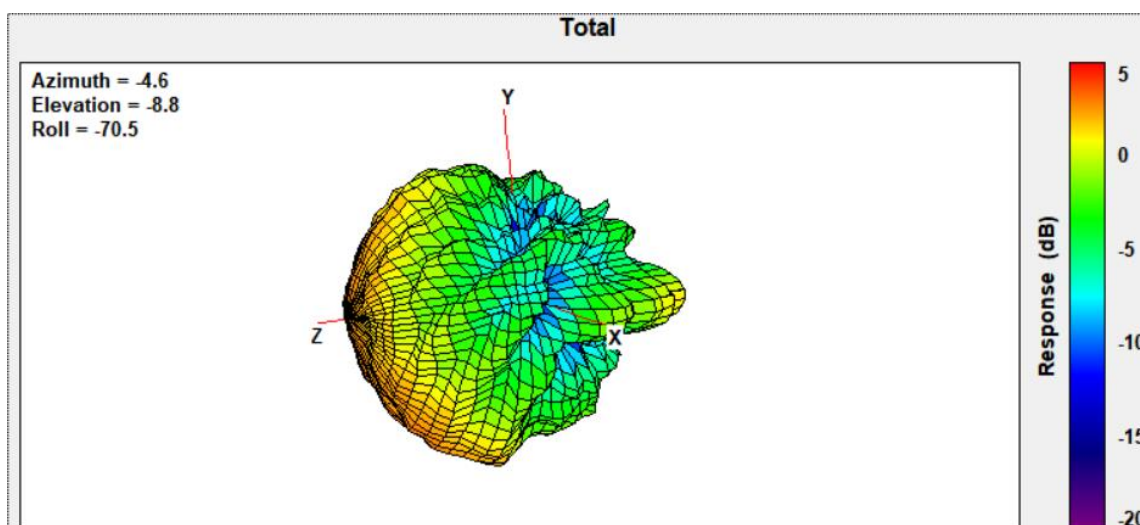
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	4.90



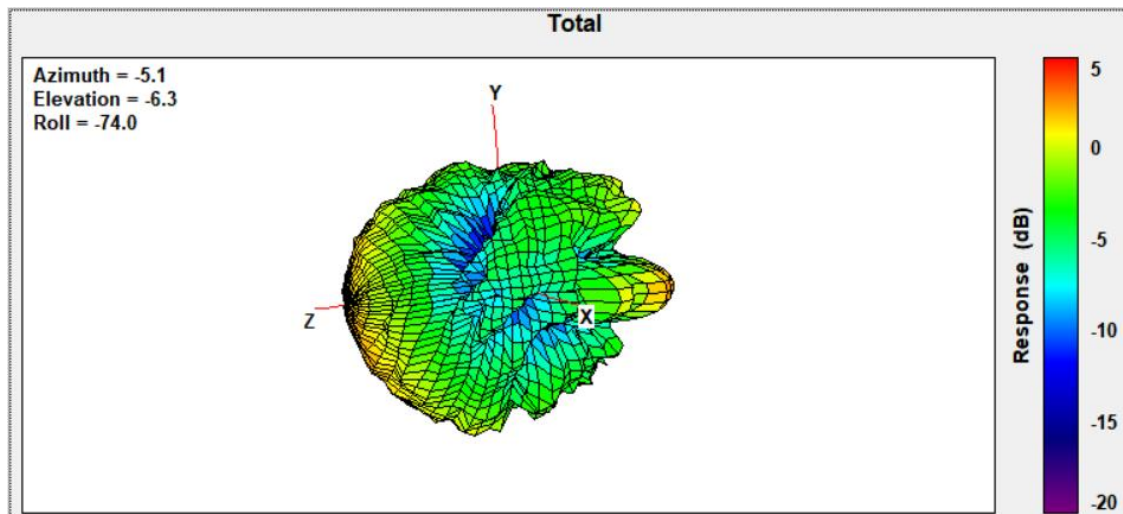
Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	4.87



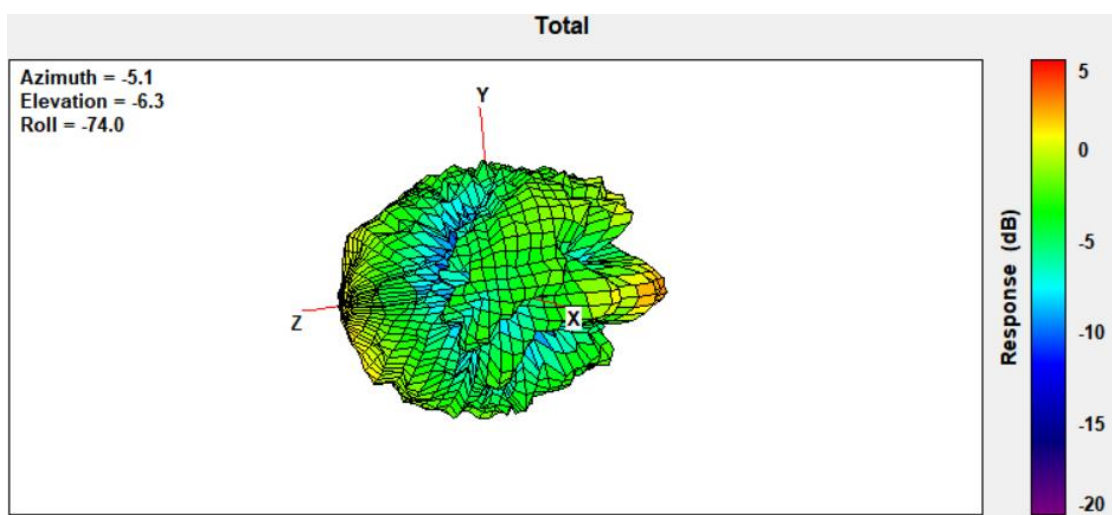
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	4.73



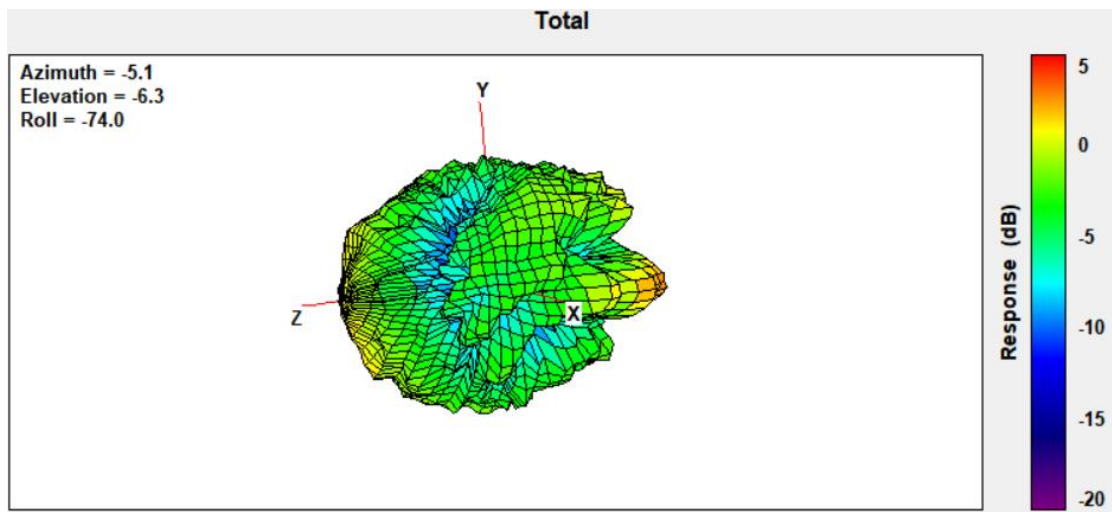
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	4.29



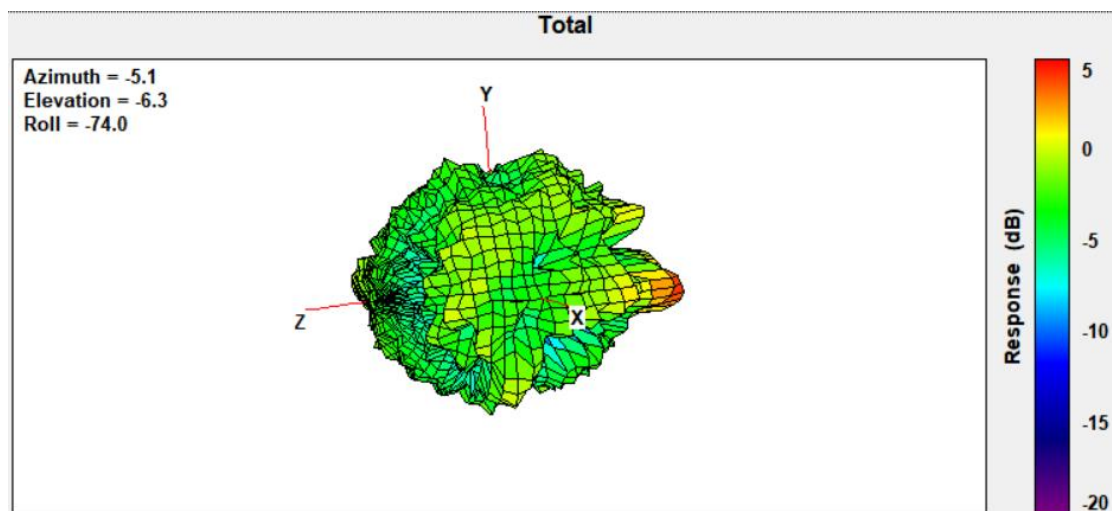
Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	4.58



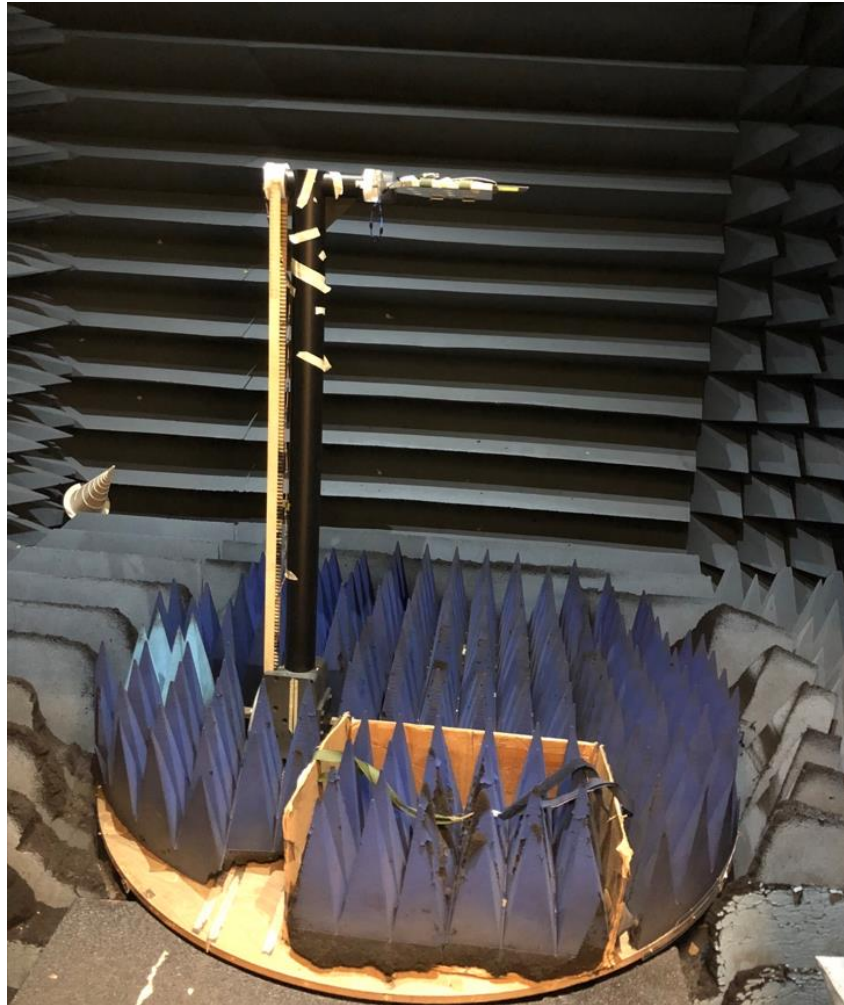
Max Antenna 3D Radiation Pattern 6875-7125 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	4.09



Annex A. Photographs

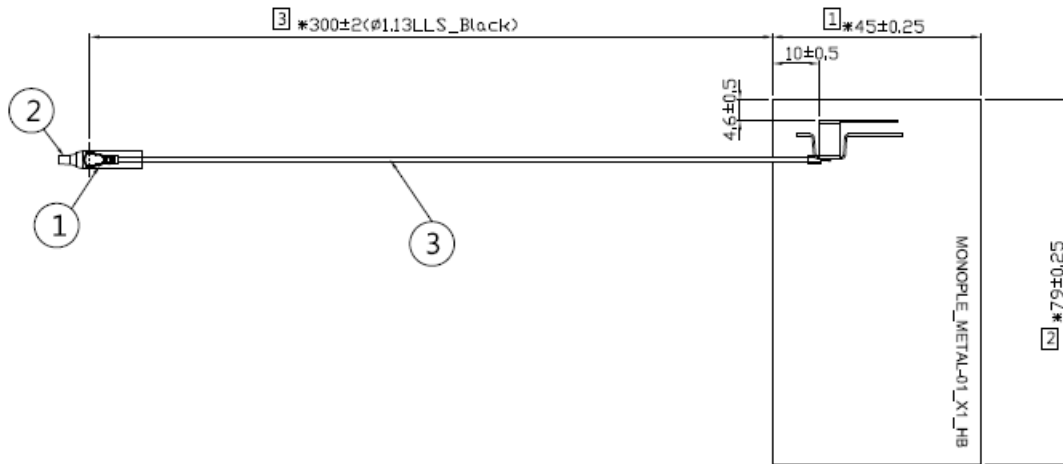
A.1 Setup Photo



A.2 Test sample

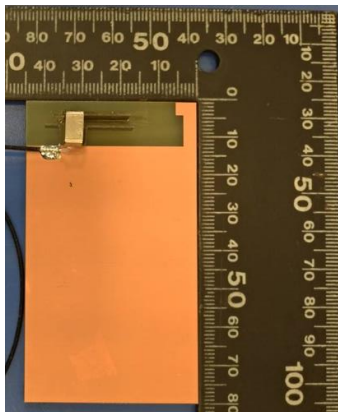
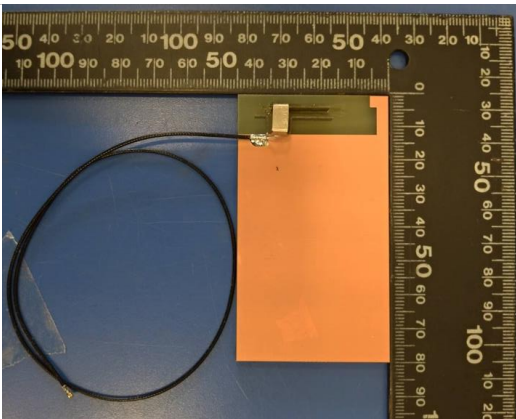
Main Antenna

Antenna Drawing



Antenna Photo

Front



Back

