

2108792-4 2108792-5 Project Report Measurement

Presented by: IY OH

Date: 16-Oct.-2025

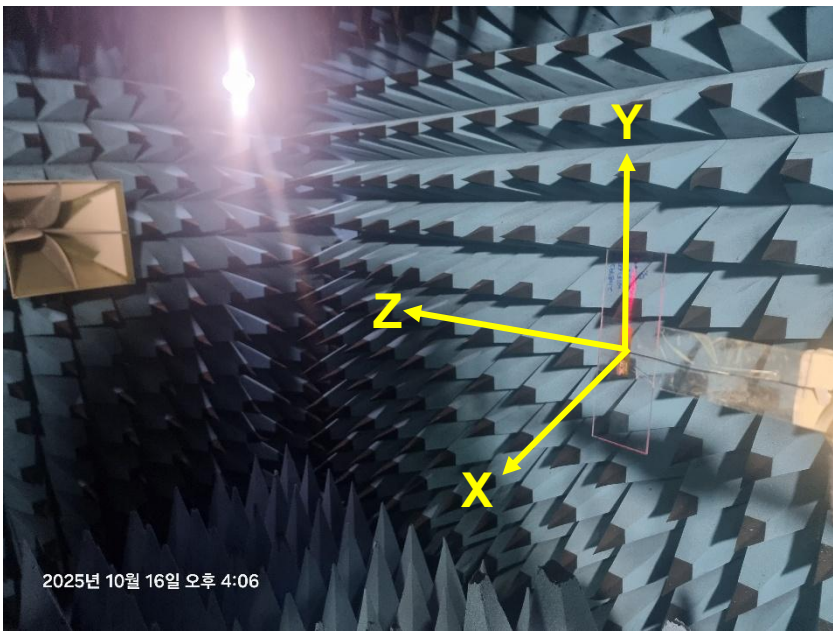
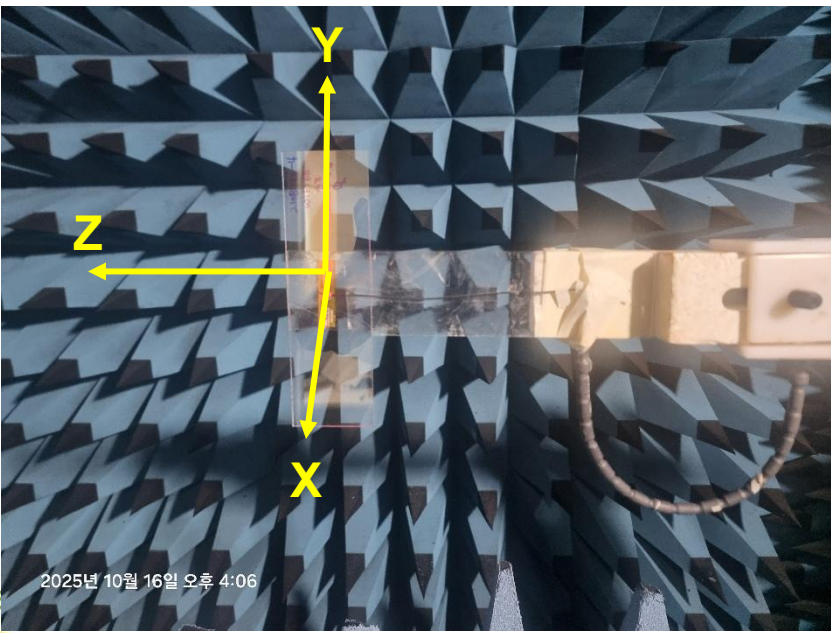
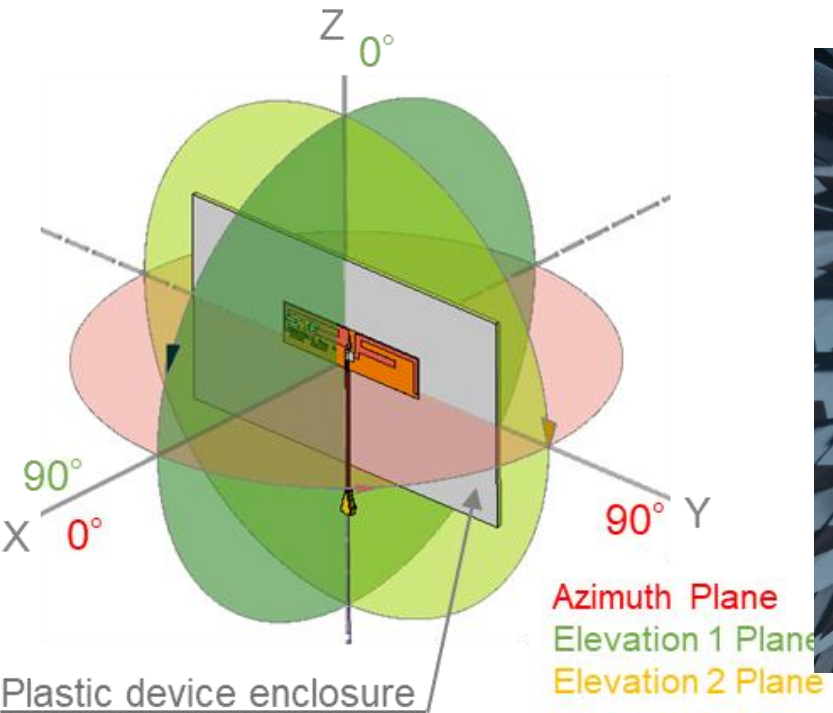
Revision: 1.1

Project Number: 2108792-4 & 2108792-5

EVERY CONNECTION COUNTS



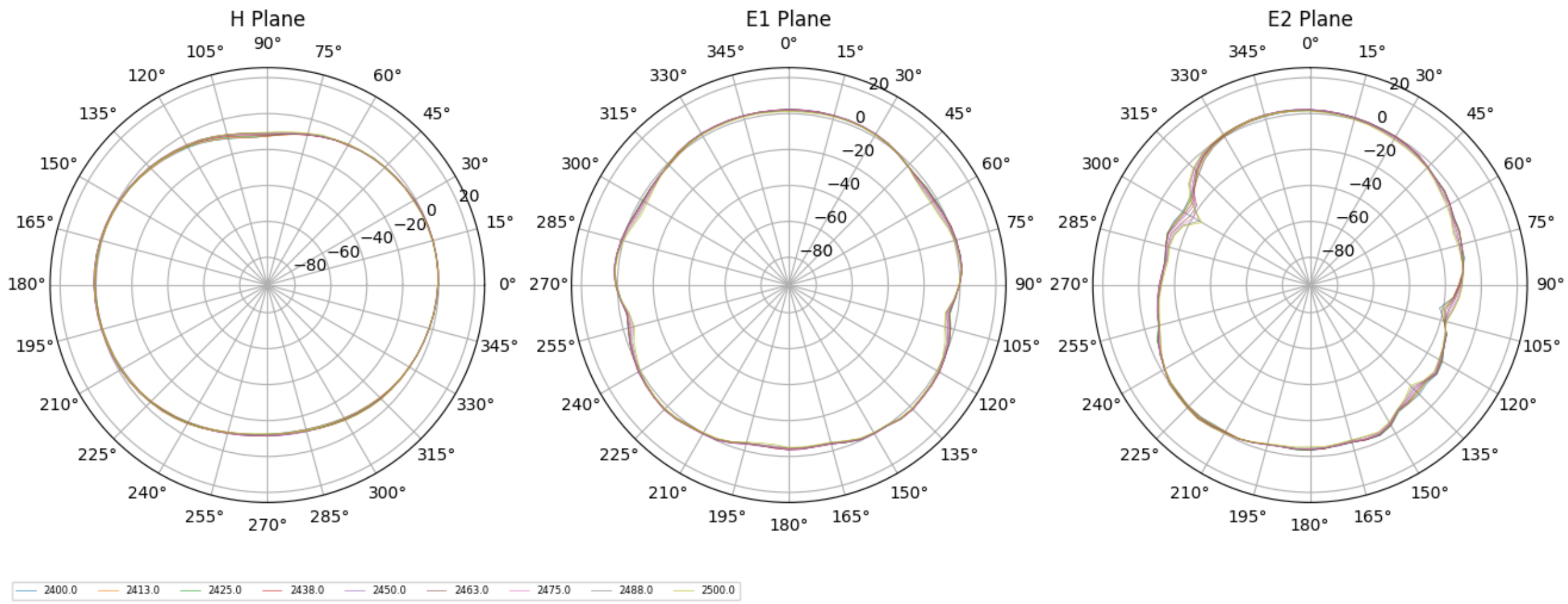
2108792-4 & 2108792-5 Test Condition



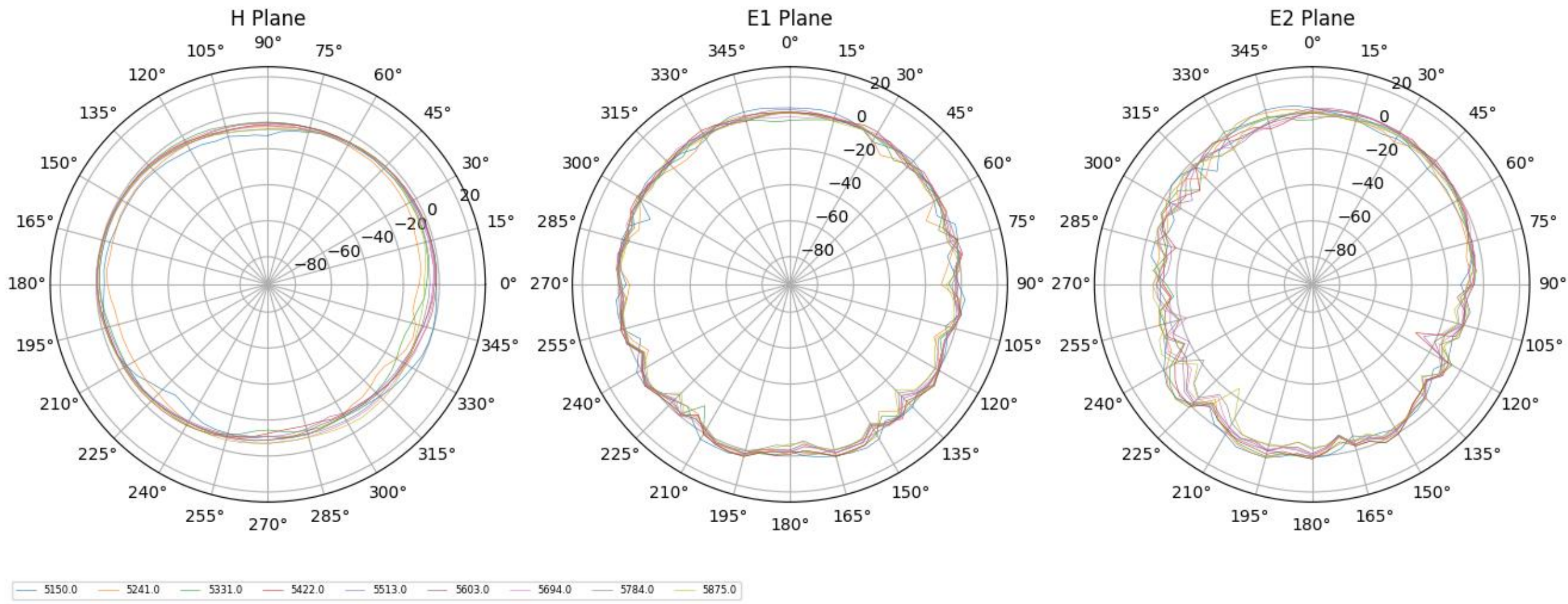
2108792-4 Efficiency & Gain

Frequency [MHz]	Efficiency [%]	Gain [dBi]	Frequency [MHz]	Efficiency [%]	Gain [dBi]	Frequency [MHz]	Efficiency [%]	Gain [dBi]
2400	65.92	2.66	5150	75.61	5.59	5925	47.45	1.76
2413	65.81	2.66	5241	57.24	4.36	6075	74.96	3.70
2425	71.53	3.14	5331	68.89	4.21	6225	70.15	2.83
2438	71.94	3.31	5422	74.32	4.26	6375	80.47	4.15
2450	72.84	3.48	5513	56.19	3.19	6525	66.93	3.12
2463	68.04	3.21	5603	60.04	2.96	6675	54.75	3.52
2475	69.43	3.40	5694	63.90	3.06	6825	46.04	3.85
2488	65.20	3.18	5784	49.96	1.87	6975	37.22	2.70
2500	60.93	2.98	5875	49.19	2.16	7125	31.75	2.20

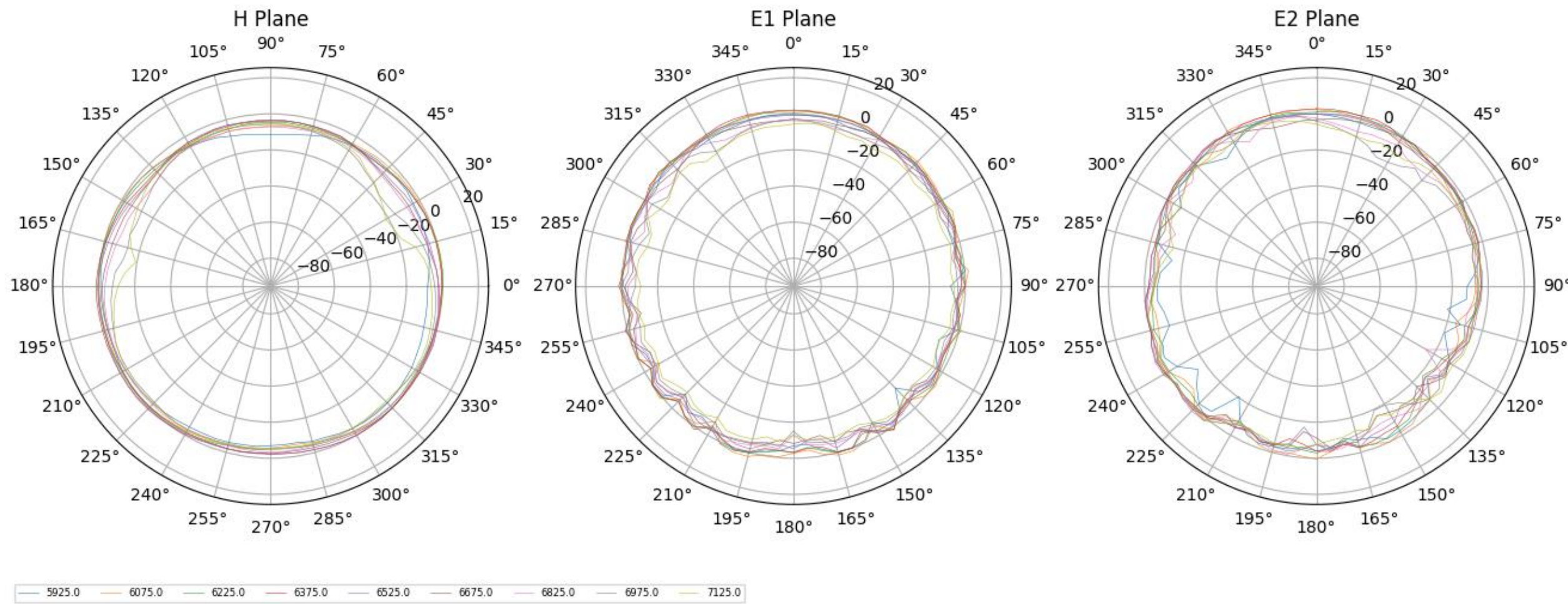
2108792-4 2D Radiation 2GHz



2108792-4 2D Radiation 5GHz



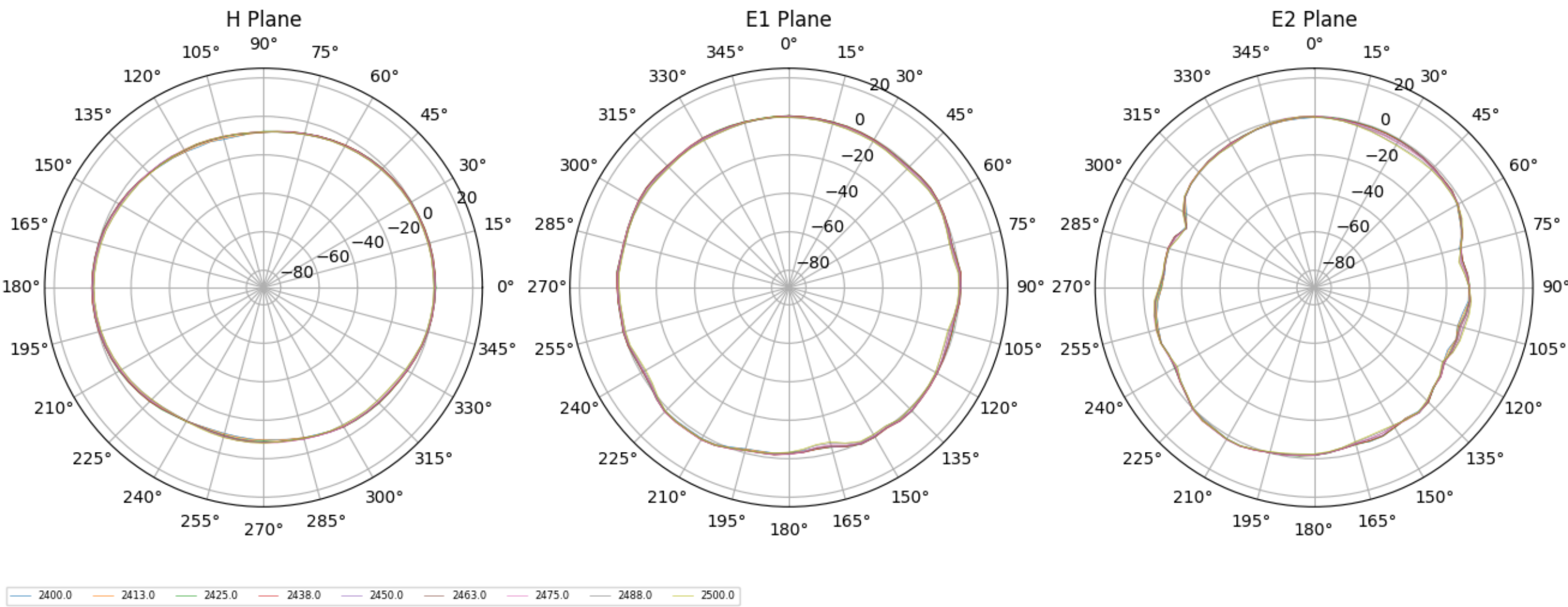
2108792-4 2D Radiation 6GHz



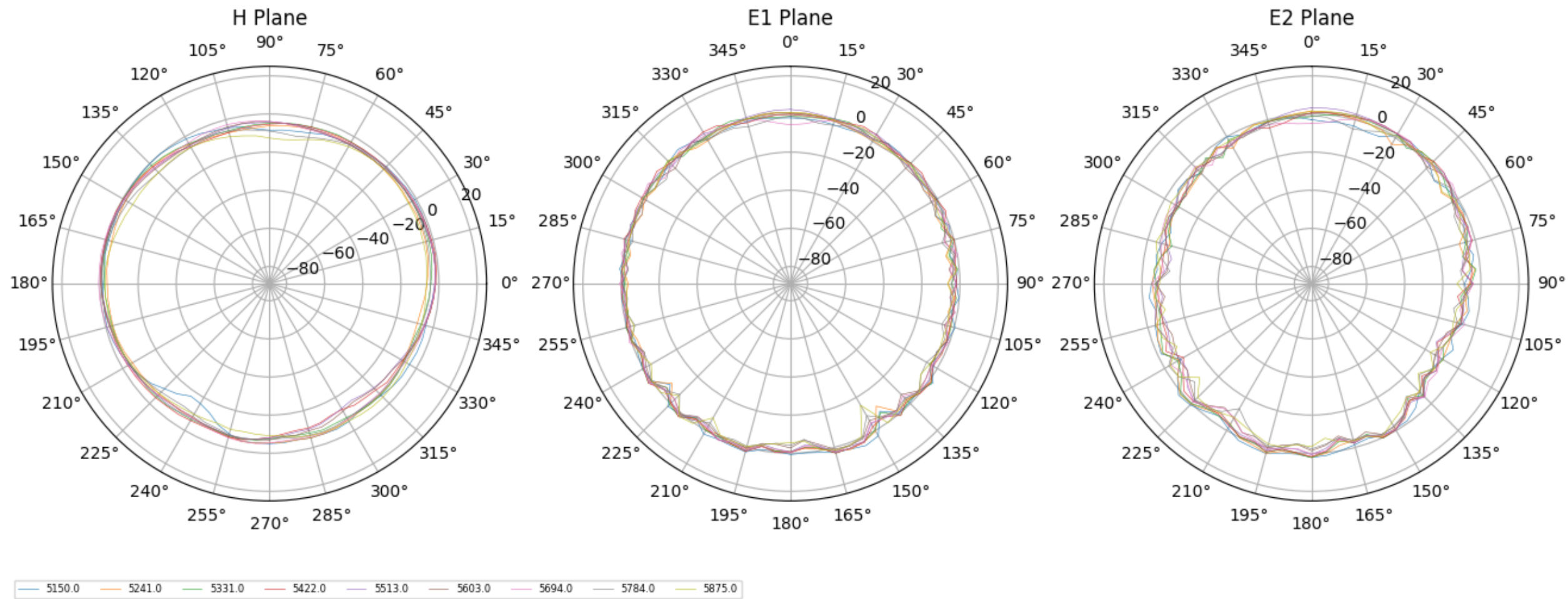
2108792-5 Efficiency & Gain

Frequency [MHz]	Efficiency [%]	Gain [dBi]	Frequency [MHz]	Efficiency [%]	Gain [dBi]	Frequency [MHz]	Efficiency [%]	Gain [dBi]
2400	66.73	2.14	5150	67.24	5.00	5925	49.52	2.50
2413	69.27	2.30	5241	54.50	3.56	6075	72.08	3.76
2425	74.66	2.69	5331	62.58	3.32	6225	64.23	3.11
2438	74.40	2.86	5422	67.05	3.34	6375	75.04	3.94
2450	70.68	2.81	5513	59.47	3.43	6525	62.07	3.15
2463	66.28	2.71	5603	48.60	2.39	6675	53.77	2.68
2475	67.78	3.04	5694	60.85	3.09	6825	46.22	2.75
2488	60.40	2.65	5784	43.78	1.88	6975	34.28	2.20
2500	59.11	2.68	5875	50.96	2.38	7125	30.90	2.25

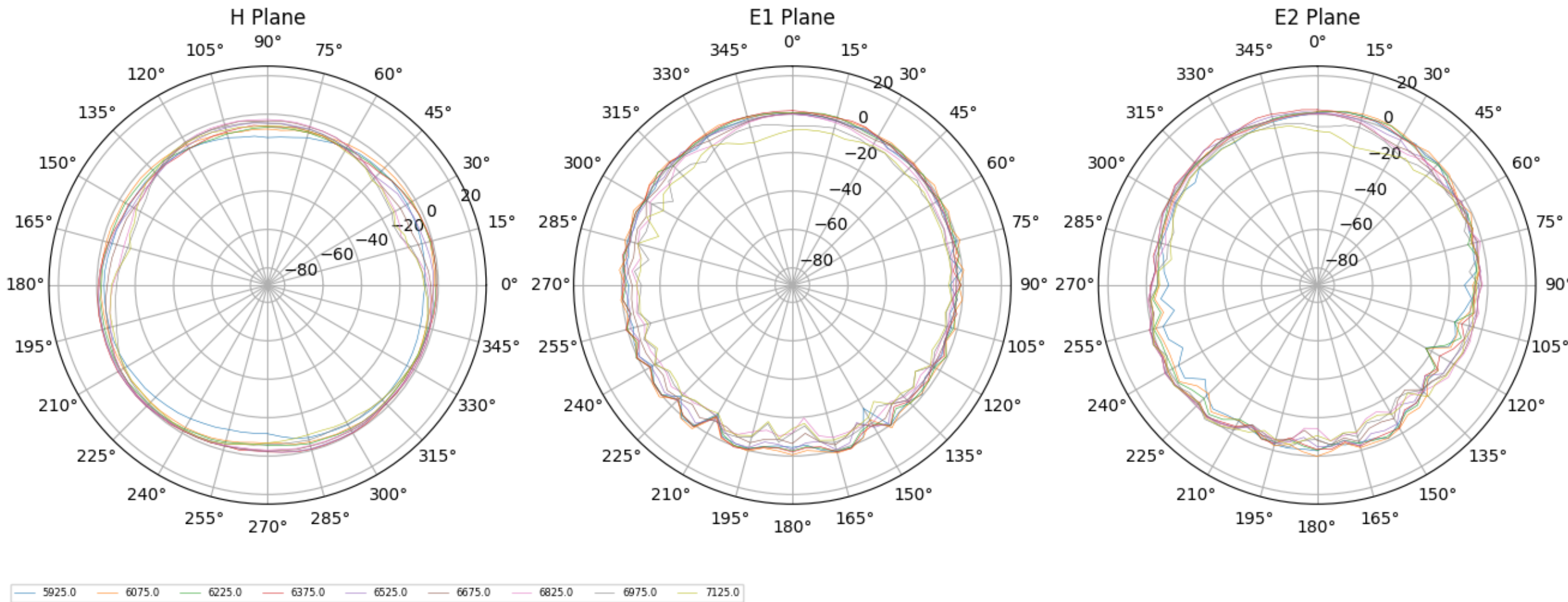
2108792-5 2D Radiation 2GHz



2108792-5 2D Radiation 5GHz



2108792-5 2D Radiation 6GHz



Measurement Setup

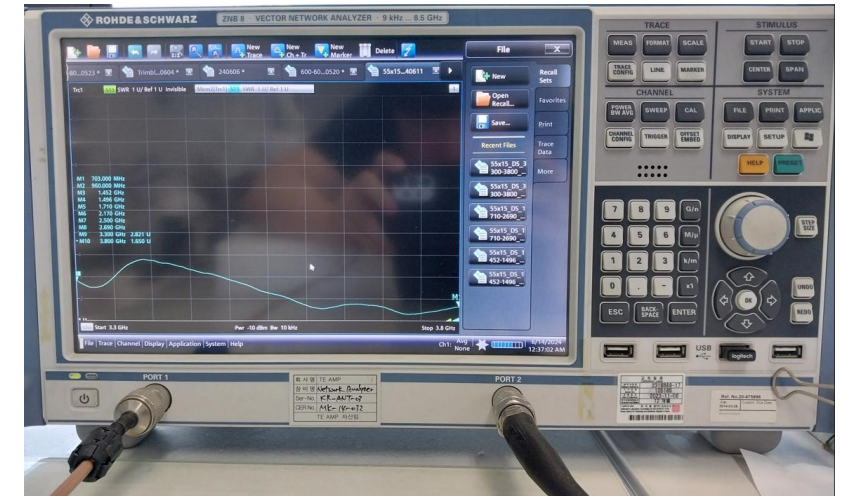
Description

EVERY CONNECTION COUNTS



VSWR/S-Parameter Test Setup Description

- Check S-parameter performance using ZNB 8_VNA
- VNA is calibrated with the 85033E Calibration Kit
- VNA equipment with ferrite cable is placed in free space.

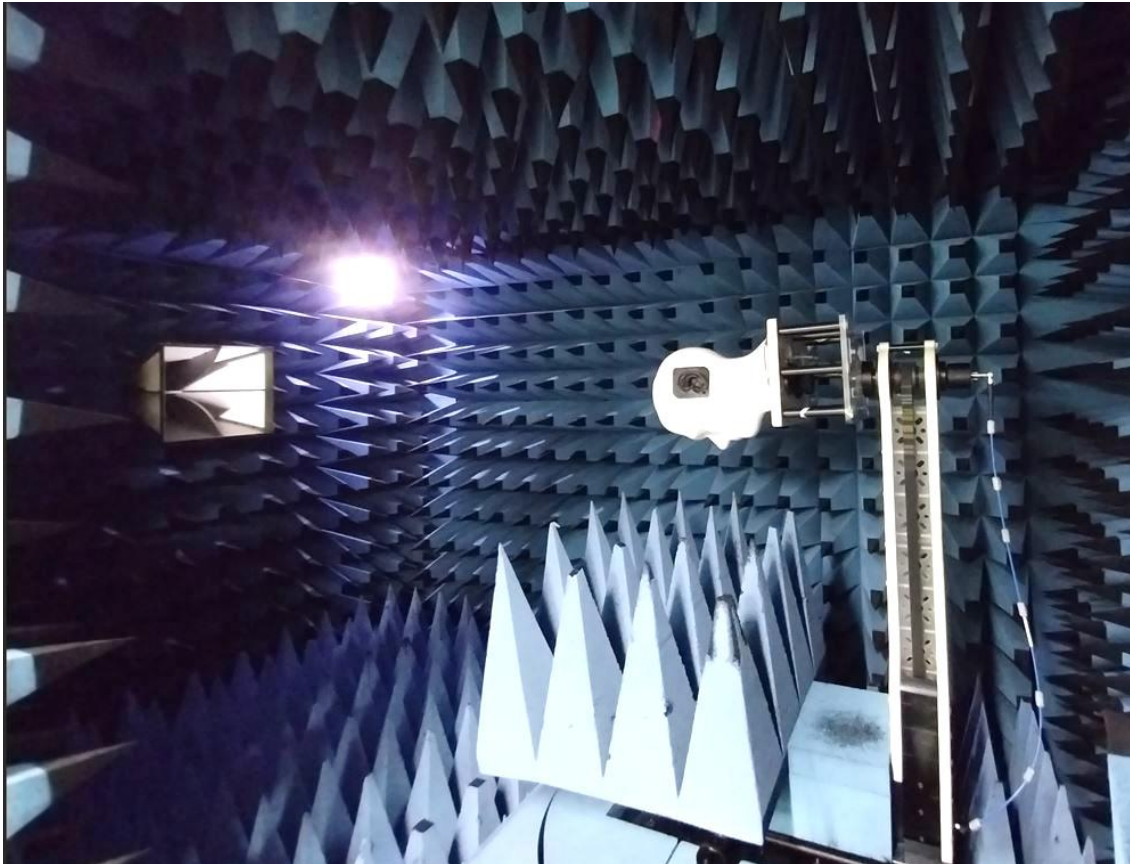


ROHDE&SCHWARZ ZNB 8_VNA



Agilent 85033E_Calibration Kit

A-Plustech 3D Anechoic Chamber



- Dual Polarized Broadband Horn Antenna

Frequency range : (0.4)0.7 ~ 7(10)GHz

Gain : 6 ~ 15dBi

Cross Polarization rejection : 25dB

Size : 320x320x615

- Passive test software and equipment

No. Of Test Frequency : 40 Point

3D : Efficiency, Diversity(ECC), Axial Ratio

2D : Gain, H/E1/E2, Axial Ratio

Agilent ENA_E5071C

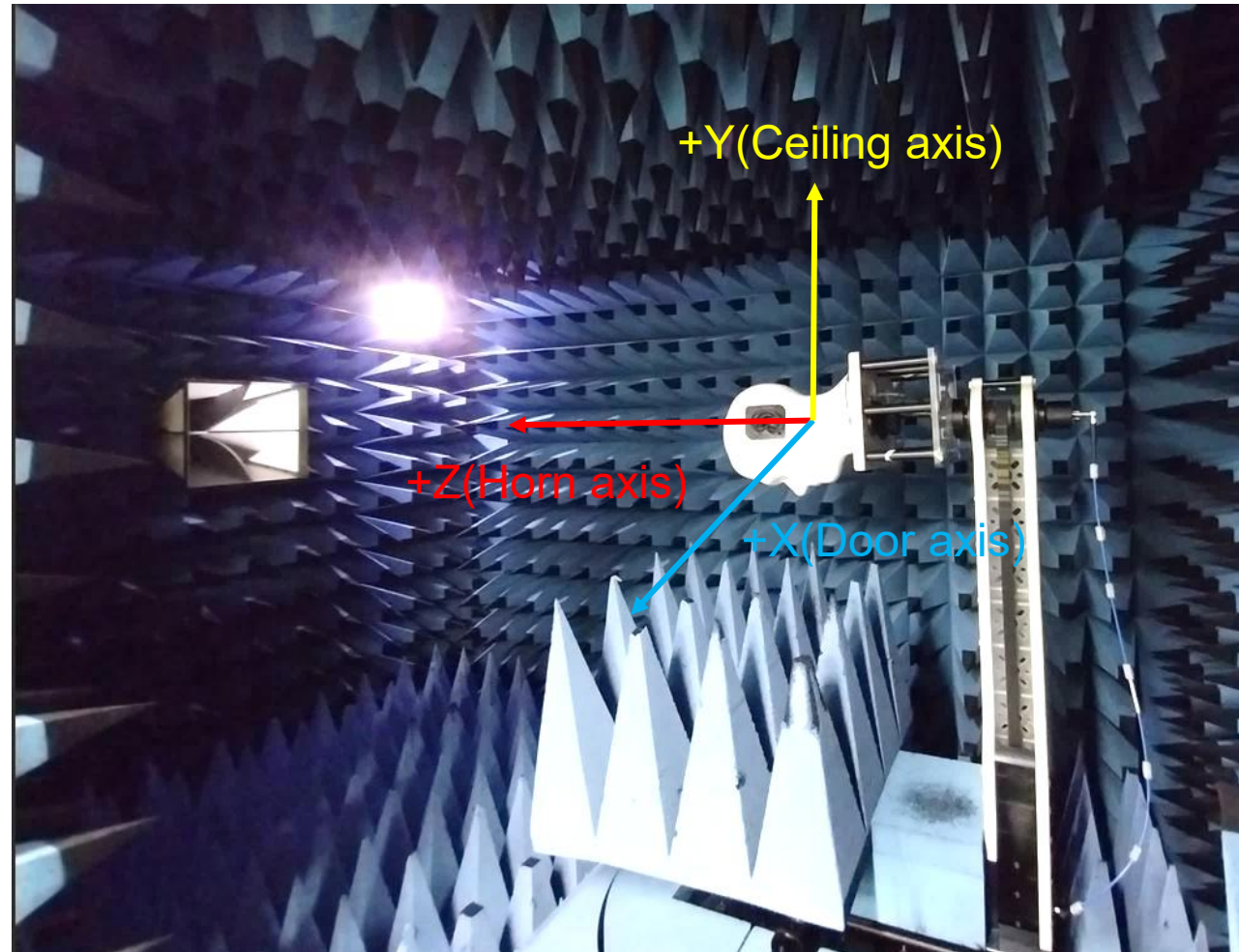


- Active test software and equipment

Anritsu MT8821C(LTE Cat M1, NB-IoT)



A-Plustech 3D Anechoic Chamber Measurement Coordinate System



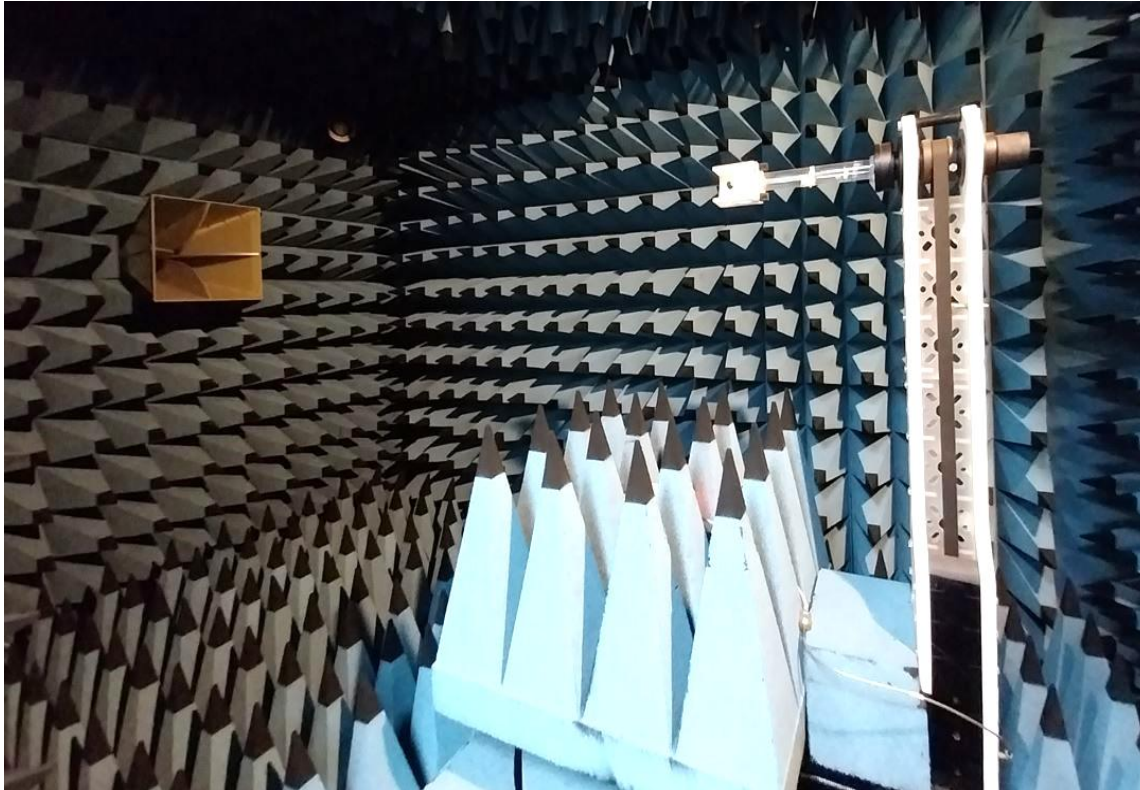
Z- Axis
Theta=0 deg

X-Axis
Phi=0 deg
Theta=90 deg

Y-Axis
Phi=90 deg
Theta=90 deg

XY-Plane : Azimuth Plane
XZ-Plane : Elevation 0°
YZ-Plane : Elevation 90°

A-Plustech 3D Anechoic Chamber

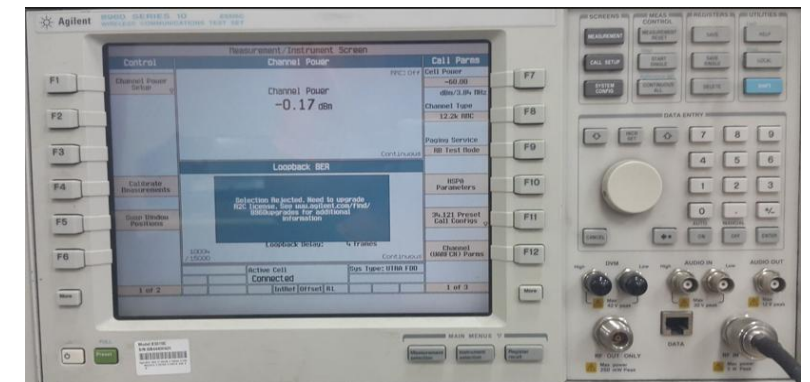


- Active test measurement equipments

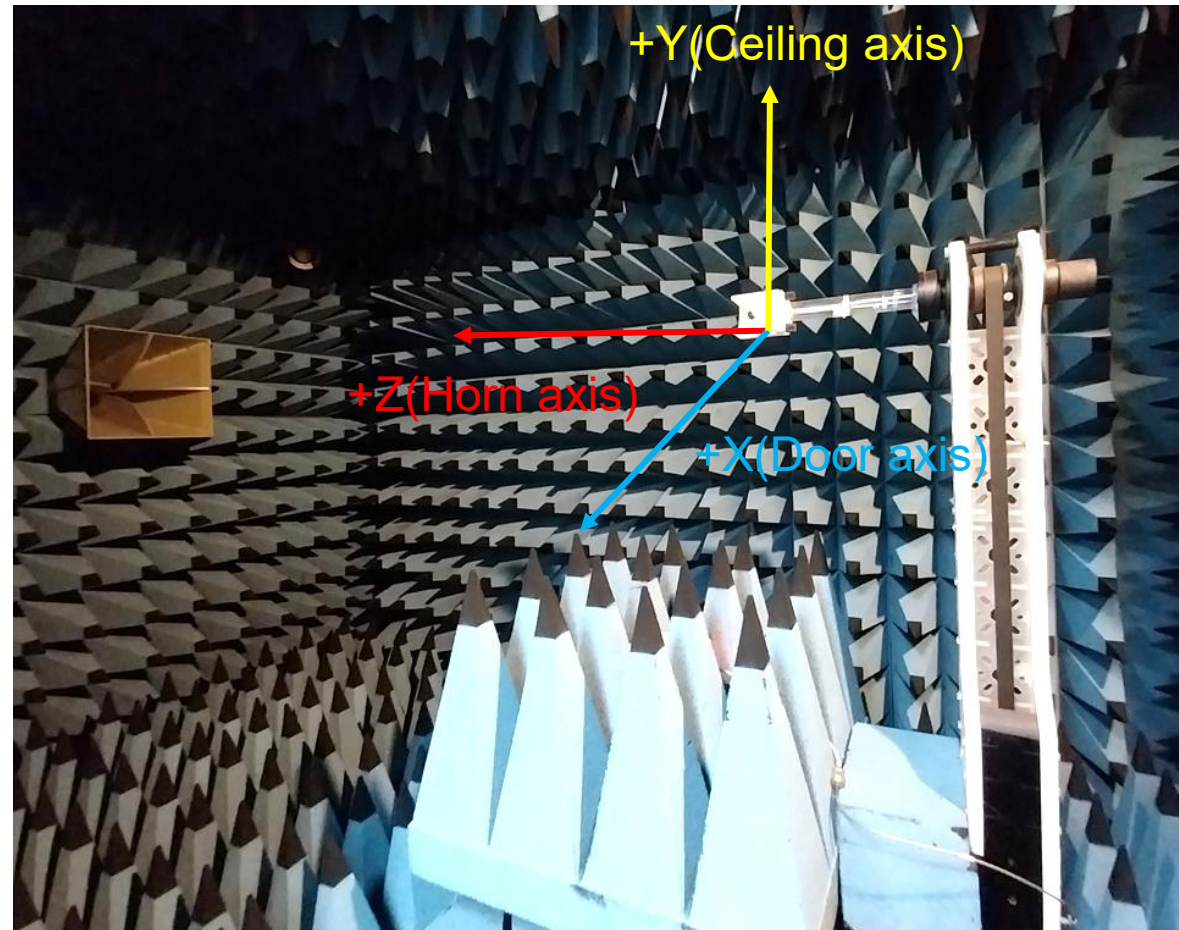
Anritsu MT8820C(LTE)



Agilent 8960(GSM/DCS/PCS/WCDMA)



A-Plustech 3D Anechoic Chamber Measurement Coordinate System



Z- Axis
Theta=0 deg

X-Axis
Phi=0 deg
Theta=90 deg

Y-Axis
Phi=90 deg
Theta=90 deg

XY-Plane : Azimuth Plane
XZ-Plane : Elevation 0°
YZ-Plane : Elevation 90°

**ANY
CONNECTION
CAN CHANGE
THE WORLD**

EVERY CONNECTION COUNTS

