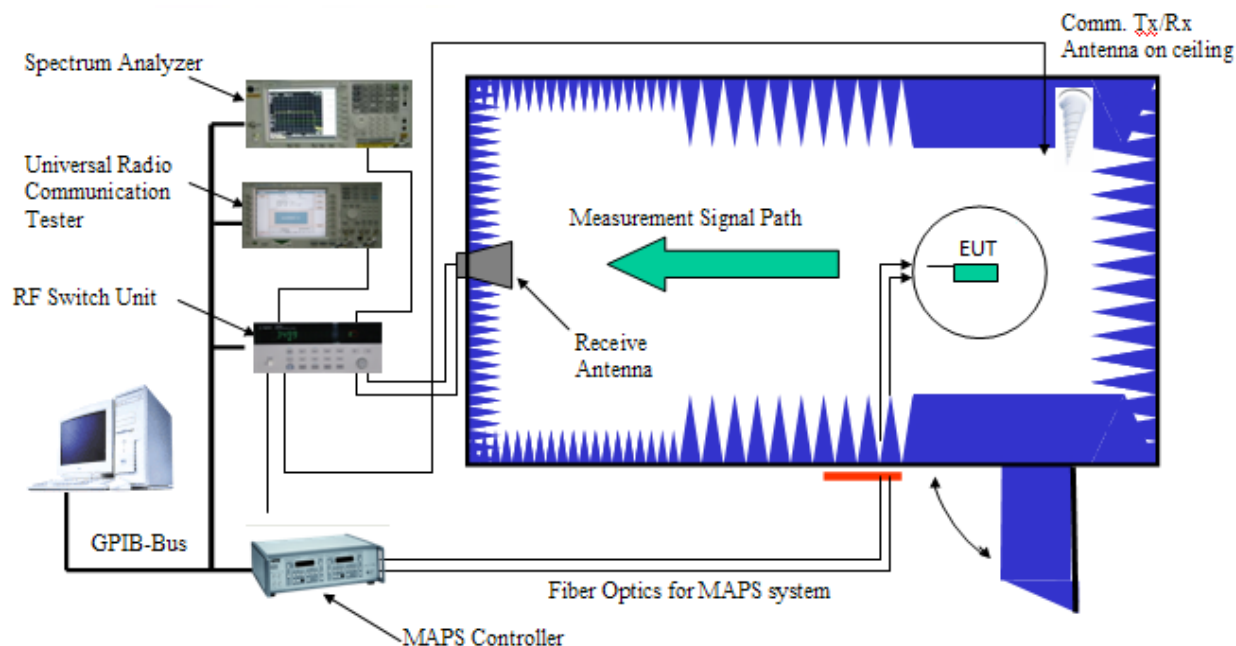


3. Test Conditions

3.1. Test Configuration

Great-Circle-Cut method is used to measure the antenna 3D GAIN of EUT in OTA qualified anechoic chamber. Equipment Under Test (EUT) geometry centre vertical projection at the centre of platform, the distance from EUT to measurement antenna is 5m.



3.2. Test Measurement

Spherical coordinate system

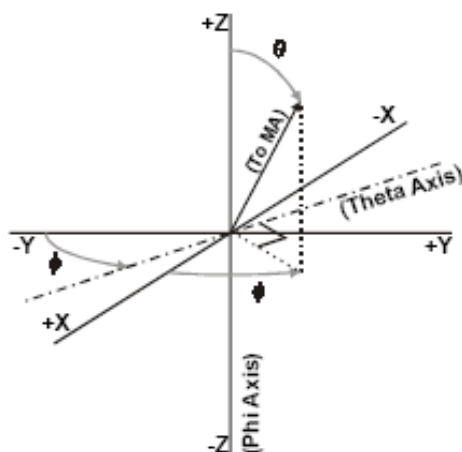


Figure 1 Test coordinate system

Note: Theta is from 0~180 degree. Phi is from 0~360. Rotate the EUT and record the Data, the step of rotation is 30 degree.



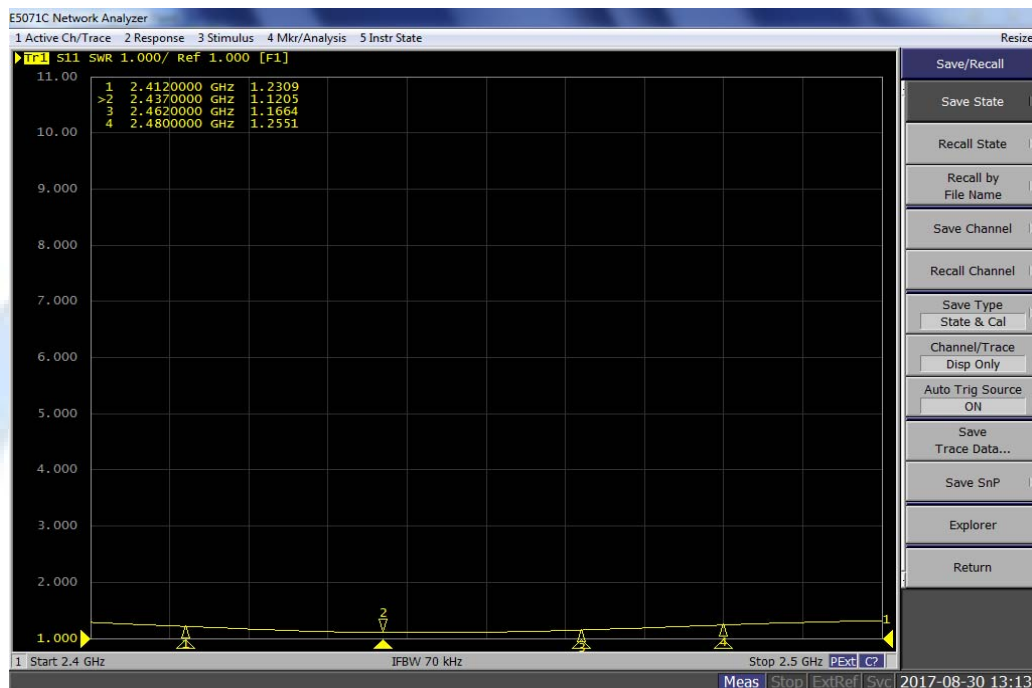
4. Test Results

4.1. Gain and Efficiency

Model	Test Item	Test State	Frequency (MHz)	Efficiency (dB)	Gain (dB)	Note
ESP-ANT A	Gain	Free Space	2400	67.24	3.08	Vertical 30°
			2402	68.24	3.18	
			2410	70.74	3.27	
			2420	77.67	3.66	
			2430	78.20	3.71	
			2440	78.11	3.68	
			2450	77.14	3.64	
			2460	74.79	3.52	
			2470	75.60	3.60	
			2480	74.55	3.52	
			2490	73.05	3.56	
			2500	71.38	3.48	

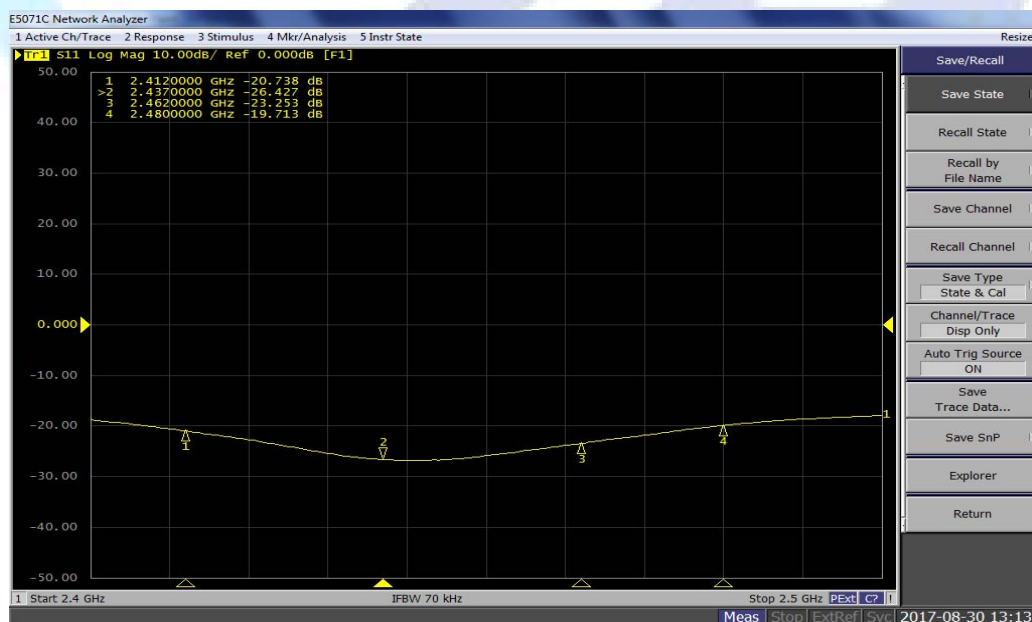


4.2. Voltage Standing Wave Ratio (VSWR)



Frequency (MHz)	2412	2437	2462	2480
VSWR	1.23	1.12	1.17	1.26

4.3. Antenna S11



Frequency (MHz)	2412	2437	2462	2480
S11(dB)	-20.74	-26.43	-23.25	-19.71

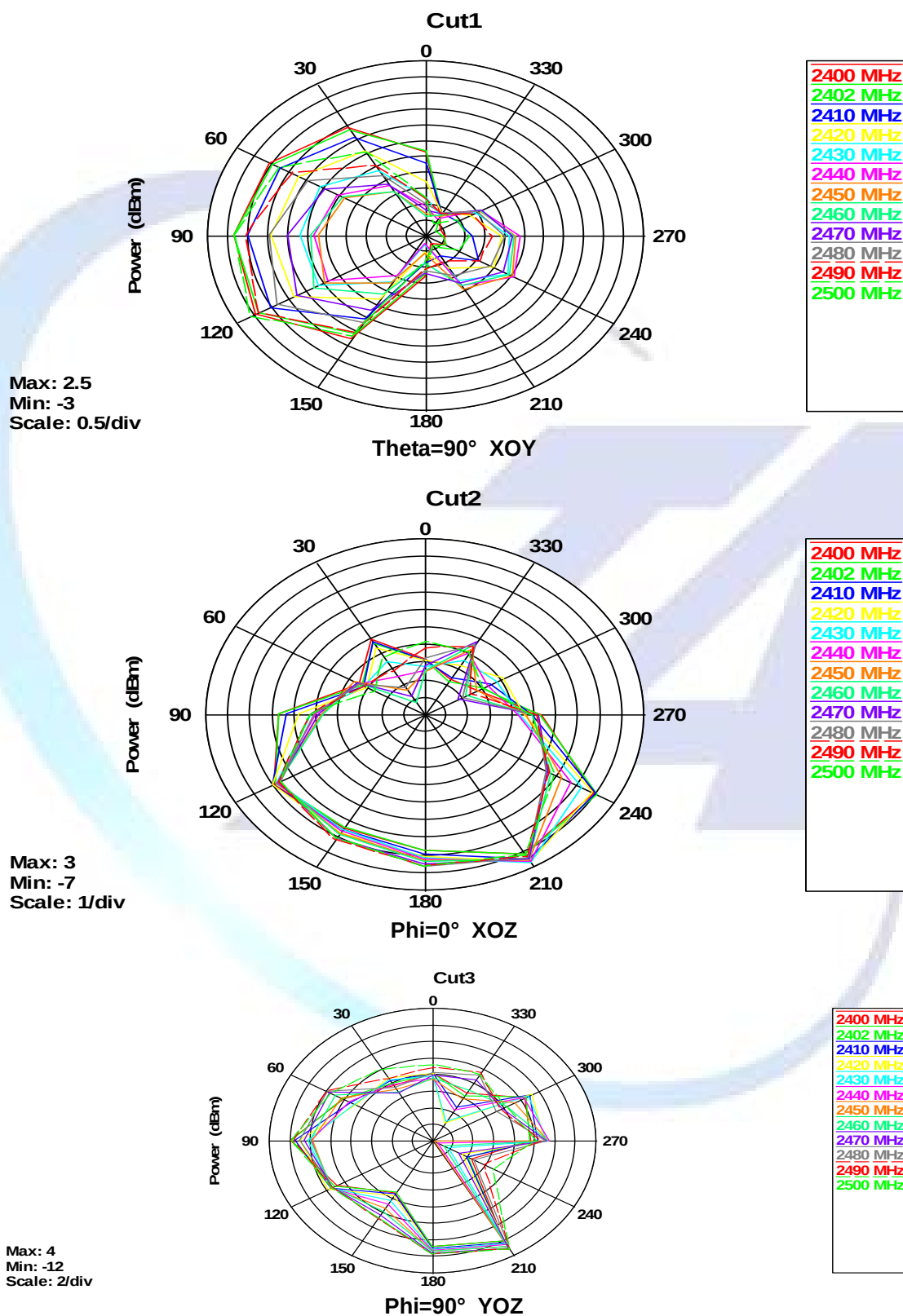


5. Test Equipment List

Type of Equipment	Model Number	SN	Manufacture	Calibration Date	Expiration Time
Network Analyzer	E5071B	MY48360957	Agilent	2017-05-20	2018-05-19
Quad-Ridge Horn Antenna 700 MHz-6 GHz	3164-04	00062743	ETS	2017-05-20	2018-05-19
MAPS Controller	7006	00059957	ETS	2016-12-16	2017-12-15
Switch Control System	7001	MY42001152	ETS	2016-12-16	2017-12-15



APPENDIX A: 2-D Pattern Plots

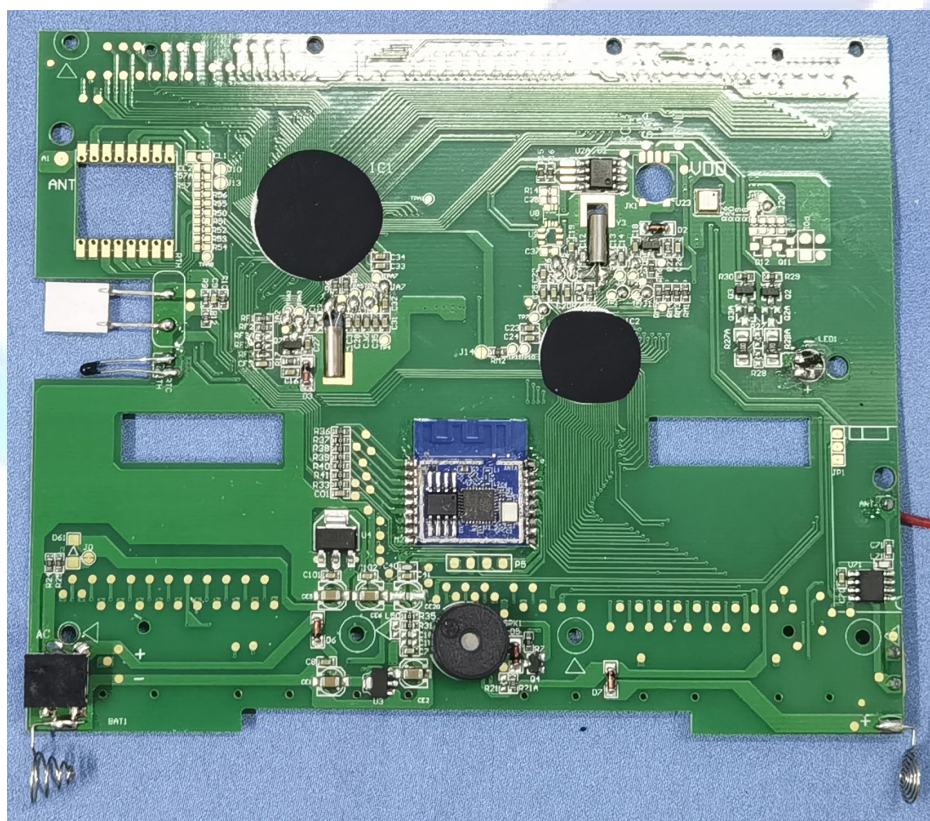


APPENDIX B: The EUT Appearance and Test Configuration

B.1 EUT Appearance



ESP-ANT A



Picture 1 Constituents of EUT

*****END*****