

Antenna Test Report

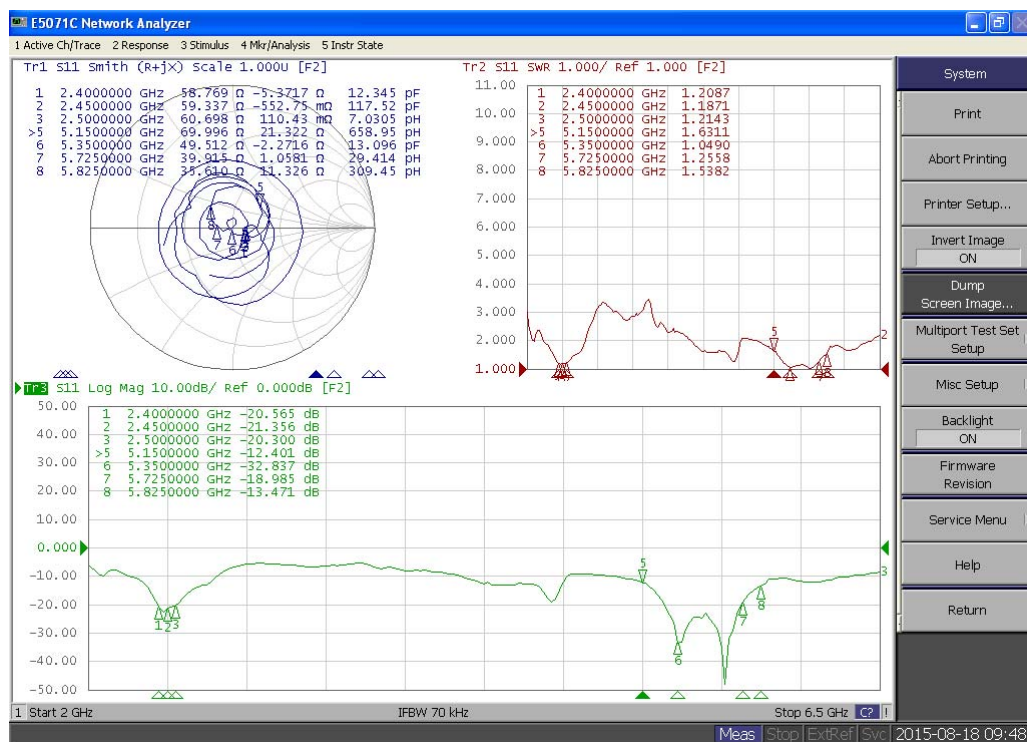
1. Antennas' setup and environment



2. Network Analyzer Measurement

2.1 S11 Test Results

2.1.1 Ant 1



3. Gain & Patterns test results

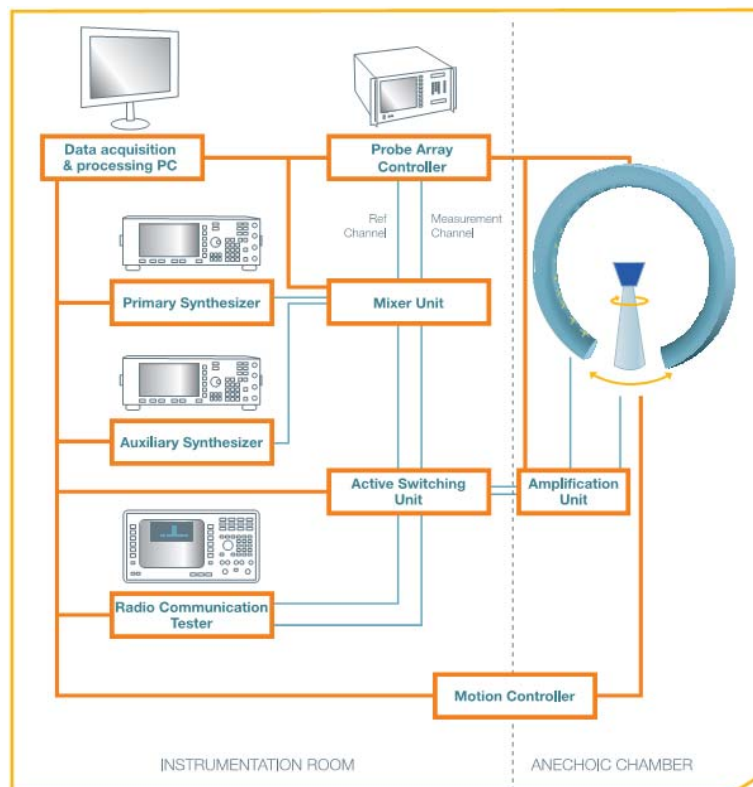
3.1 Lab information

- Lab name : Satimo
- Address : No.326 Sec.2, Kung Tao 5 Road, HsinChu City, Taiwan
- Certification : none (Satimo system certification: CTIA, 3GPP, Wi-Fi alliance and WiMAX Forum)
- Size (LxWxH) : 5m x 5m x 5m
- Isolation level : >100dB
- Normal applications : antenna radiation pattern measurement, OTA performance testing.
- Frequency measurement range : 0.4 to 6 GHz
- EUT scanning method : conical cut method
- Measurement distance : 1.6m
- Measurement antenna specification (for θ and Φ polarization each) : dual polarization antenna for 0.4 to 6.0 GHz frequency range

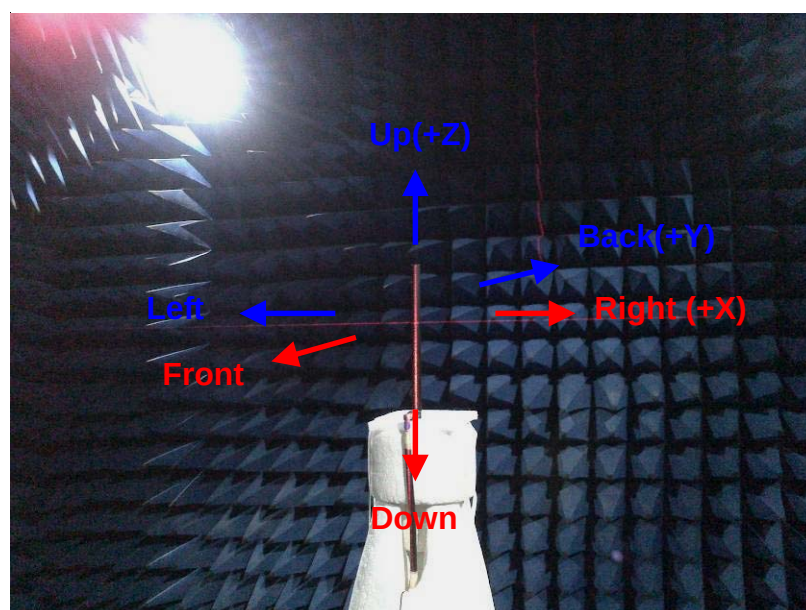
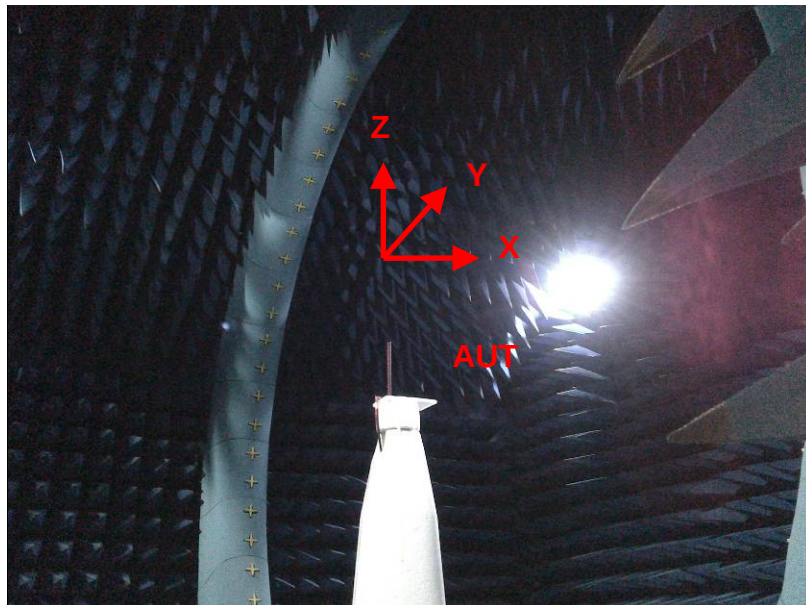


> 0.4 to 6.0 GHz probe

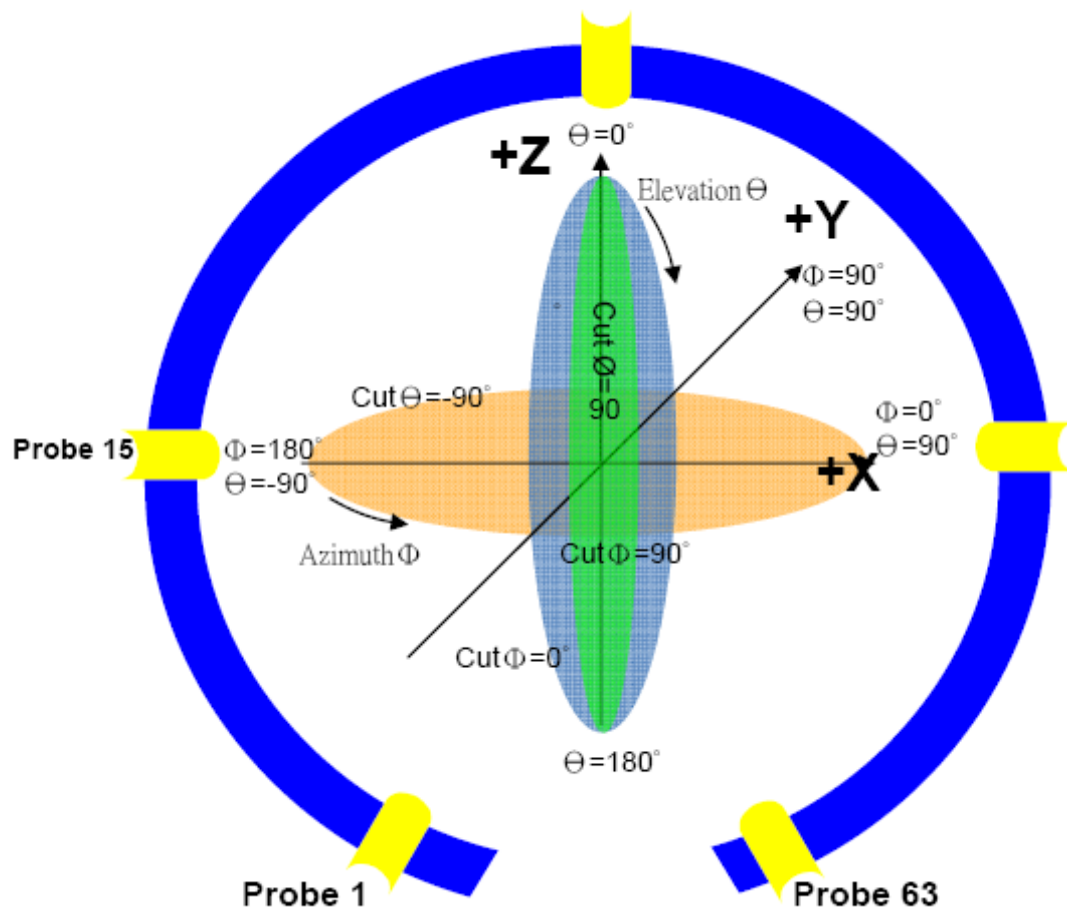
- Equipment list :



3.2 Measurement setting



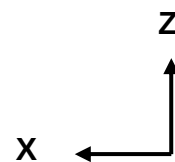
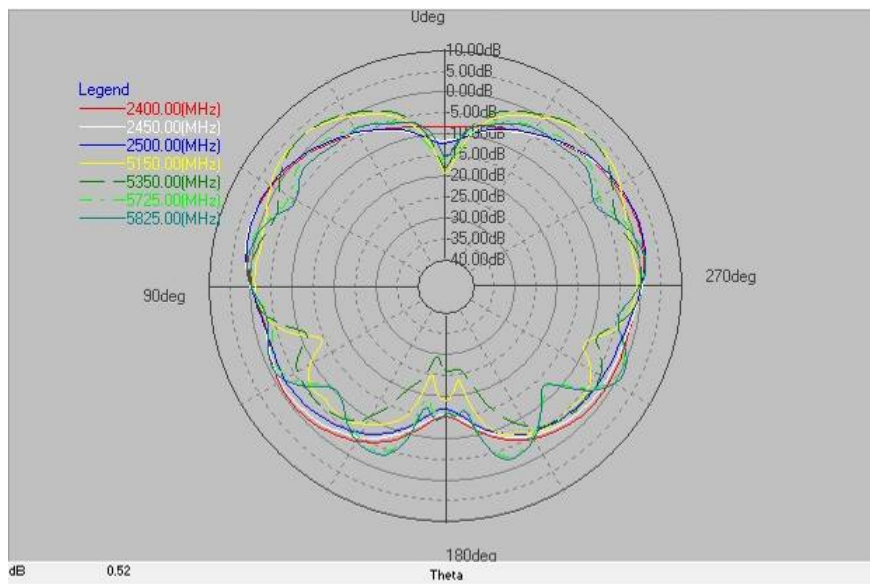
	XY	YZ	XZ
0°	Right	Up	Up
90°	Back	Back	Right
180°	Left	Down	Down
270°	Front	Front	Left



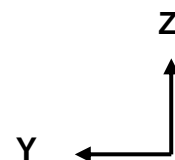
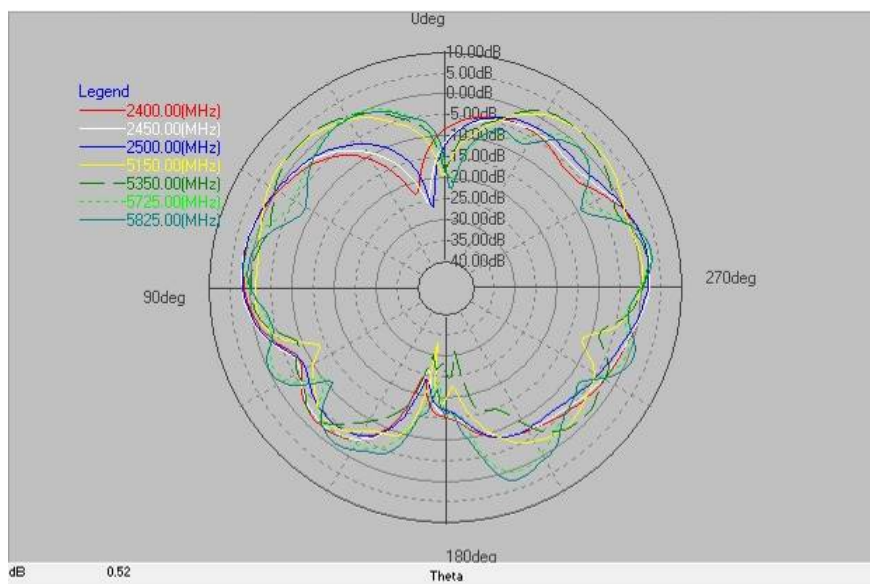
	θ	ϕ
Total angle	175°	360°
How many angle scan one point	5°	5°
Total scan point	36	73

3.3 2D Patterns

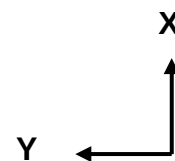
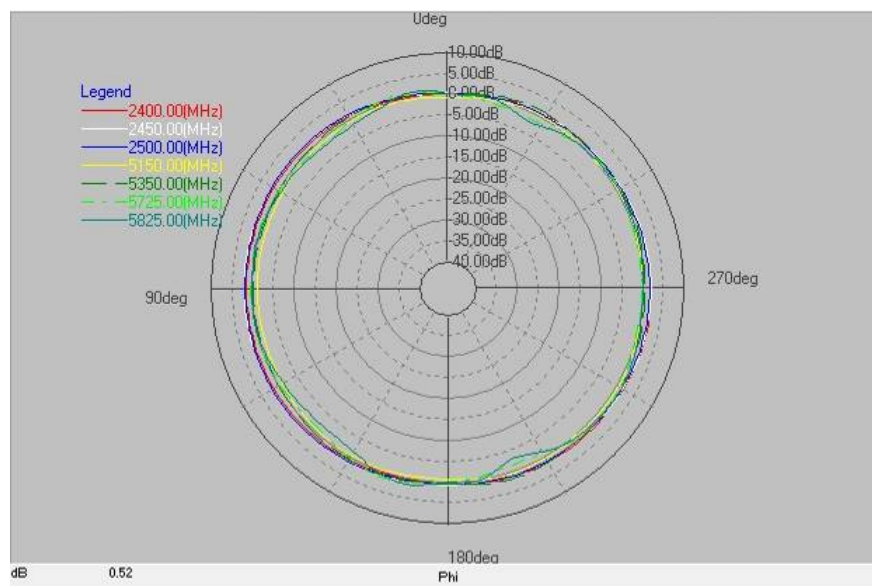
3.3.1 Ant 1



X-Z Plane



Y-Z Plane



X-Y Plane

4. Summary

4.1 Return Loss

Frequency	Ant 1 (dB)
2400MHz	-20.5
2450MHz	-21.3
2500MHz	-20.3
5150MHz	-12.4
5350MHz	-32.8
5725MHz	-18.9
5825MHz	-13.4

4.2 3D total Peak Gain & Efficiency

Frequency	Ant 1	
	Peak Gain (dBi)	Efficiency (%)
2400MHz	2.8	80.1%
2450MHz	3.0	80.5%
2500MHz	3.0	79.5%
5150MHz	3.3	73.8%
5350MHz	3.9	71.2%
5725MHz	4.1	70.4%
5825MHz	5.0	73.1%