

# Antenna Test Report

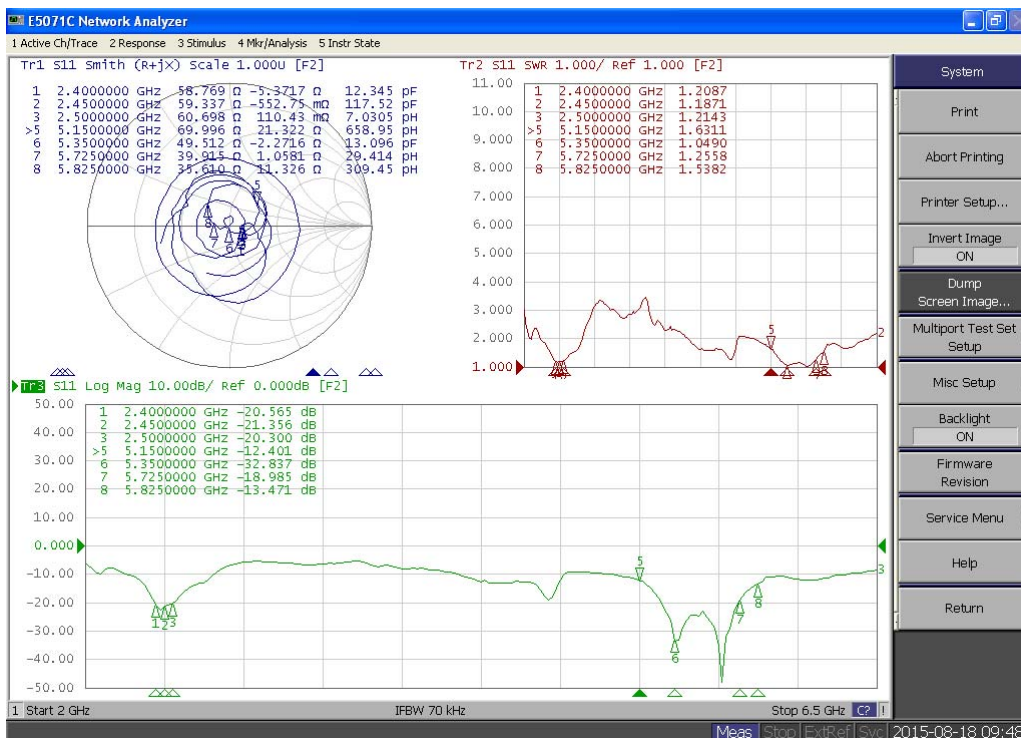
# 1. Antennas' setup and environment



## 2. Network Analyzer Measurement

### 2.1 S11 Test Results

#### 2.1.1 Ant 1



### 3. Gain & Patterns test results

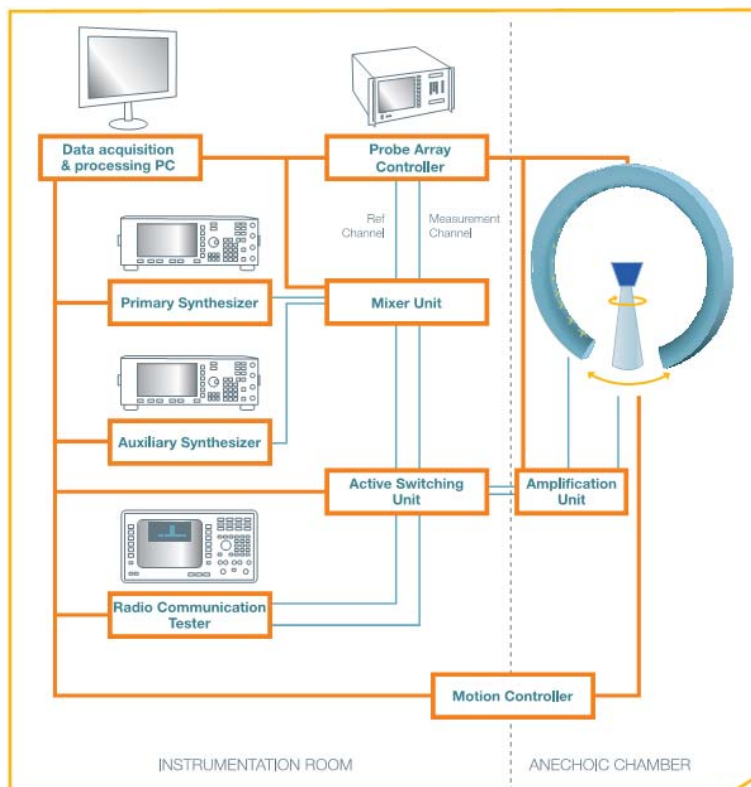
#### 3.1 Lab information

- 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  $\theta$  and  $\Phi$  polarization each) : dual polarization antenna for 0.4 to 6.0 GHz frequency range

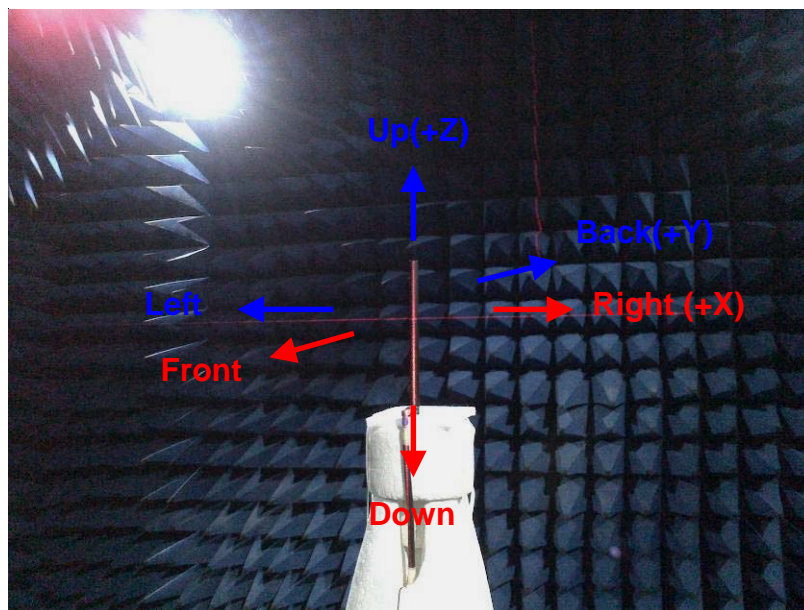
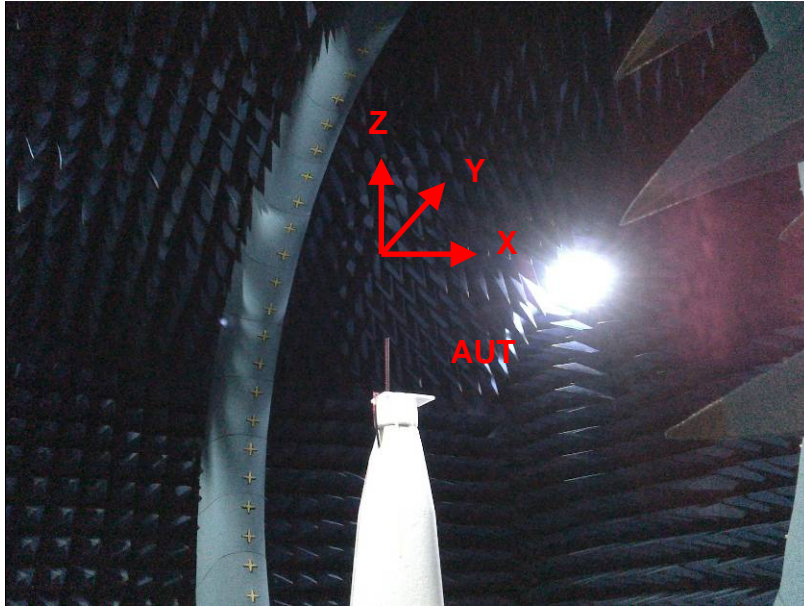


> 0.4 to 6.0 GHz probe

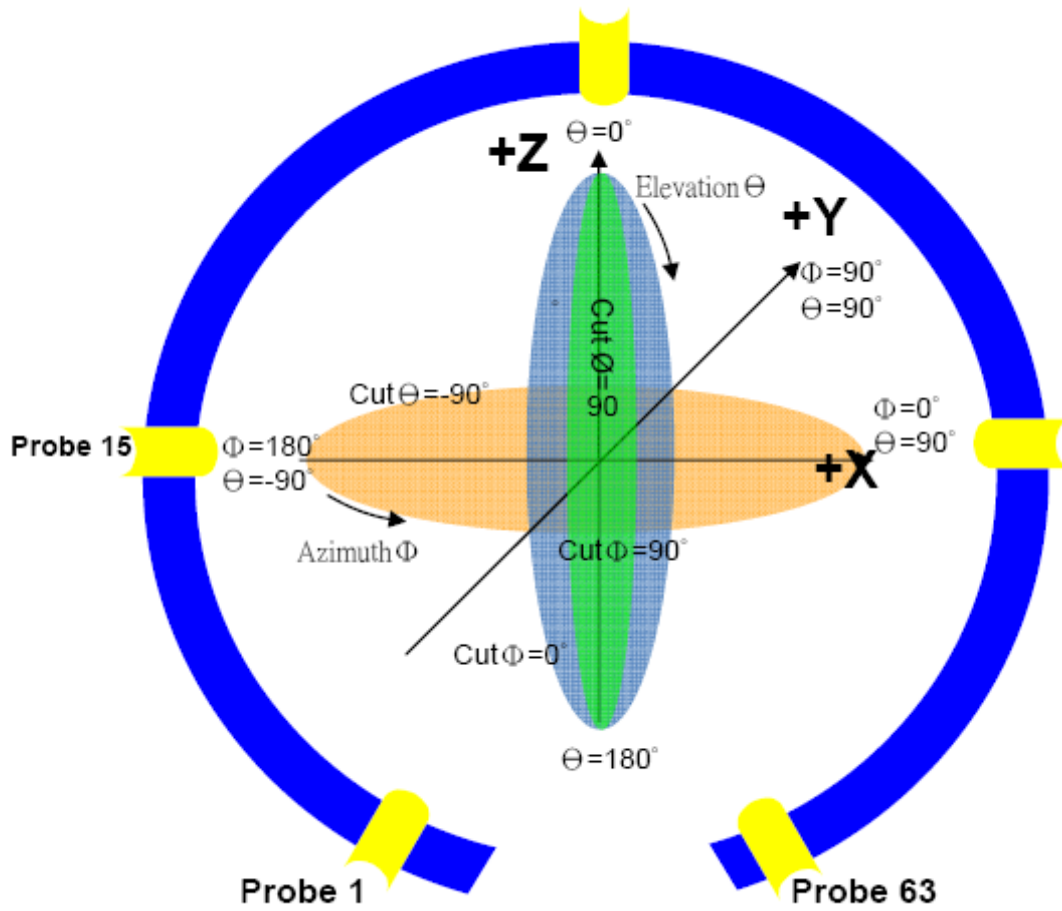
- Equipment list :



### 3.2 Measurement setting



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

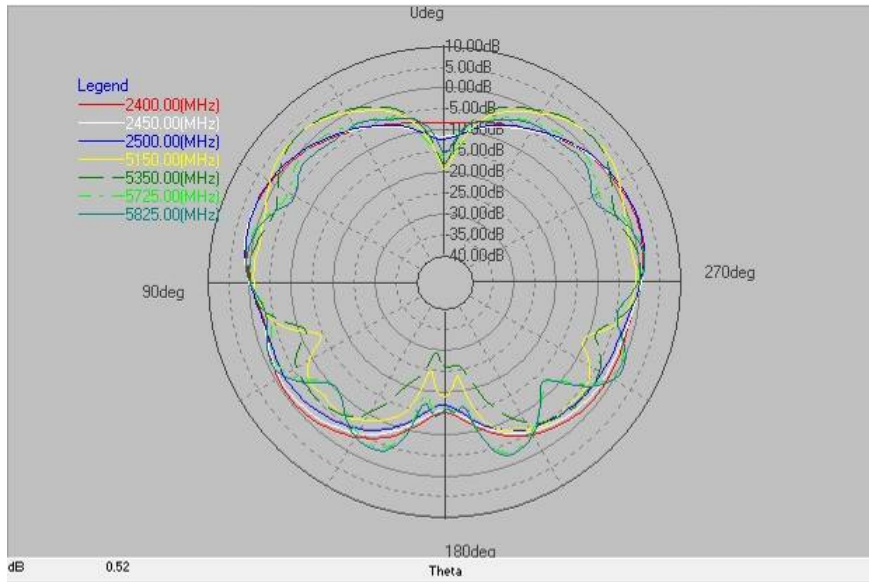


	$\theta$	$\Phi$
Total angle	175°	360°
How many angle scan one point	5°	5°
Total scan point	36	73

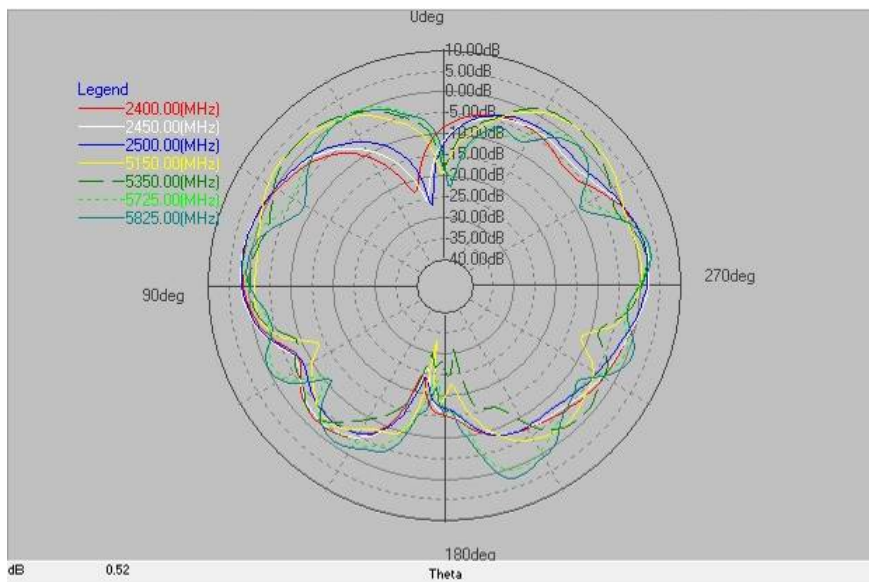


### 3.3 2D Patterns

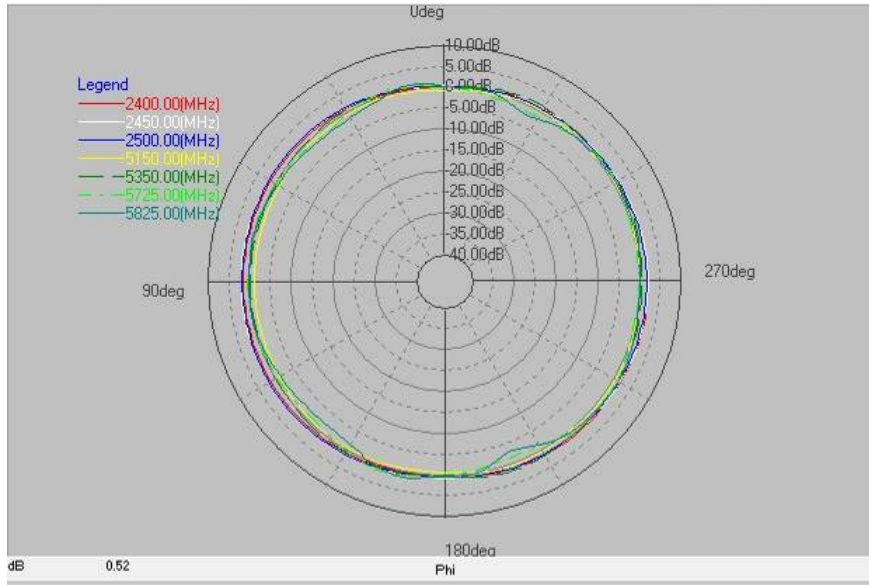
#### 3.3.1 Ant 1



**X-Z Plane**



**Y-Z Plane**



**X-Y Plane**

## 4. Summary

### 4.1 Return Loss

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

### 4.2 3D total Peak Gain & Efficiency

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