

Antenna Test Result of Tooling

ACCTON

Contents

- Antenna Description
- Experimental Setup & Coordinate System
- Gain
- 2D Radiation Pattern Results

Company name	Address
ACCTON Technology Corporation	No.1, Creation Road3, Hsinchu Science Park, Hsinchu 30077,Taiwan, R.O.C

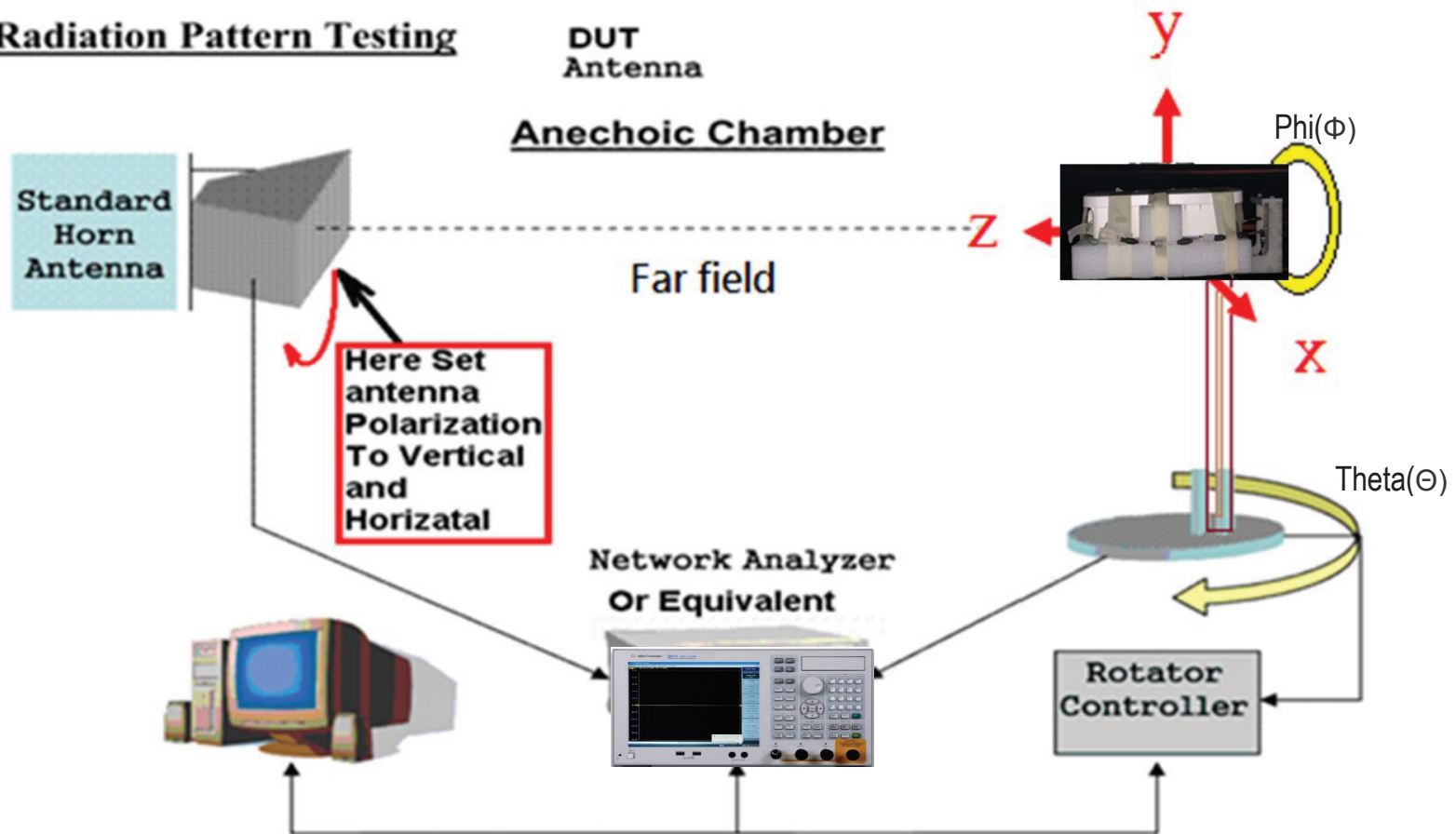
Location	Antenna model	Antenna application	Material	Antenna Type	Peak Gain
1	KG458-160Y17U7X	BLE ANT	FR-4	PCB	5.91 dBi
2	KG458-150L17U7X	2.4G Single Band ANT	FR-4	PCB	5.67dBi
3	KG458-250F17U7X	2.4G Single Band ANT	FR-4	PCB	5.99 dBi
4	KG459-200G17U7X	5G Single Band ANT	FR-4	PCB	6.91 dBi
5	KG459-405W17U7X	5G Single Band ANT	FR-4	PCB	6.29 dBi

Experimental Setup & Coordinate System

Chamber name: ETS AMS-8500 Rectangular CTIA-Compliant Test Lab

Describe	Manufacturer	Model Number	Serial Number	Cal.Date	Cal. Due Date
Network Analyzer	Agilent	E5071B	MY42402996	Dec.-2022	Dec.-2024

Radiation Pattern Testing



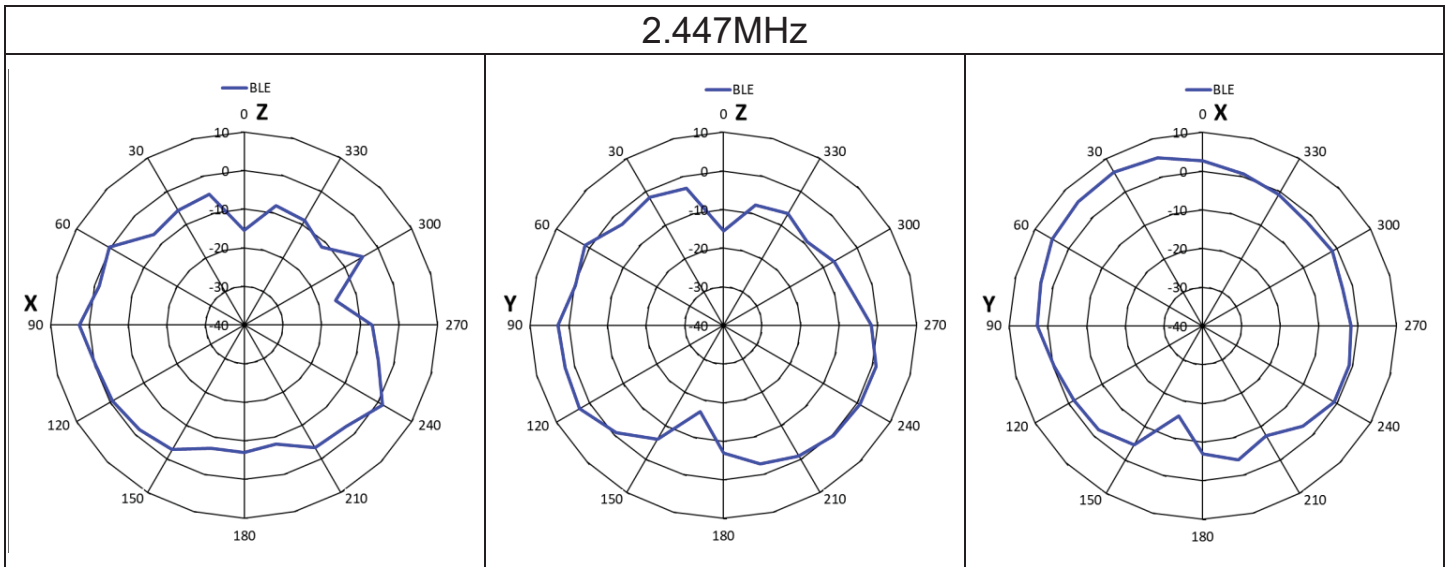
Efficiency & Gain

BLE ANT [1]			
Frequency	2400 MHz	2447 MHz z	24835 MHz
Peak Gain	5.13 dBi	5.91 dBi	5.17 dBi
Peak gain at polarization	(Φ)40.05°(θ)90°	(Φ)32.05°(θ)90°	(Φ)77.95°(θ)120°
2.4G Single Band ANT [2]			
Frequency	2400 MHz	2447 MHz z	24835 MHz
Peak Gain	5.45 dBi	5.31 dBi	5.67 dBi
Peak gain at polarization	(Φ)105°(θ)105°	(Φ)105°(θ)105°	(Φ)105°(θ)105°
2.4G Single Band ANT [3]			
Frequency	2400 MHz	2447 MHz z	24835 MHz
Peak Gain	5.79 dBi	5.72 dBi	5.99 dBi
Peak gain at polarization	(Φ)152°(θ)105°	(Φ)145°(θ)105°	(Φ)113°(θ)105°
5G Single Band ANT [4]			
Frequency	5150 MHz	5500 MHz	5850MHz
Peak Gain	6.81 dBi	6.91 dBi	6.18 dBi
Peak gain at polarization	(Φ)43°(θ)105°	(Φ)54°(θ)105°	(Φ)44°(θ)120°
5G Single Band ANT [5]			
Frequency	5150 MHz	5500 MHz	5850MHz
Peak Gain	5.63 dBi	6.29 dBi	5.5 dBi
Peak gain at polarization	(Φ)162°(θ)105°	(Φ)102°(θ)105°	(Φ)156°(θ)120°

※Φ(Phi) ; Θ(Theta)

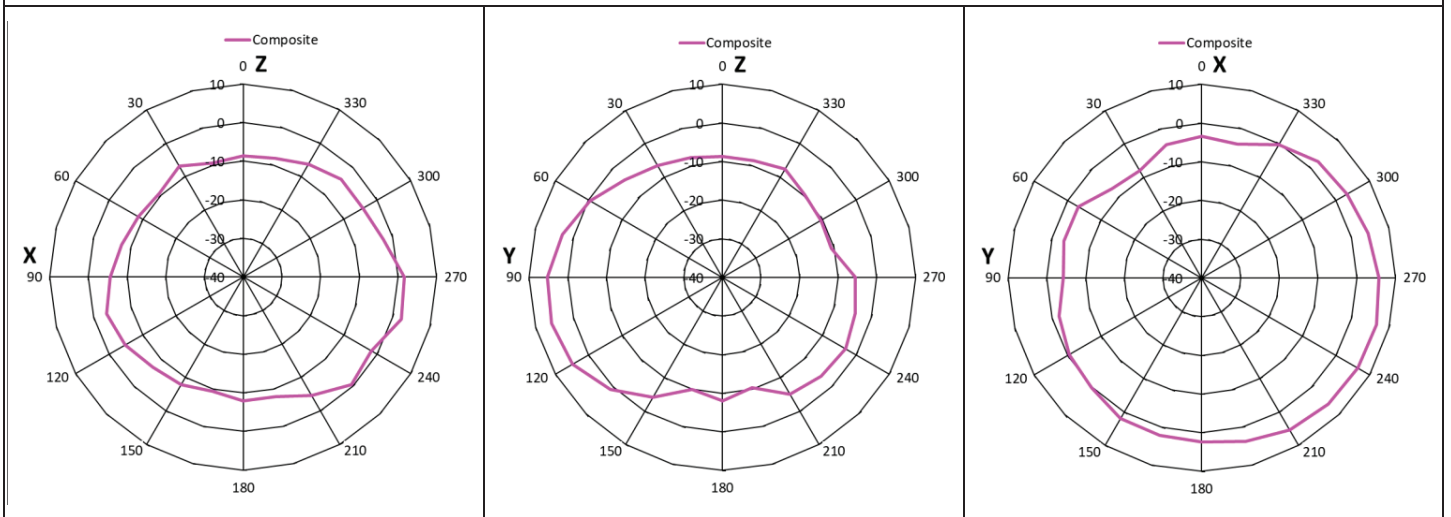
※Peak Gain (G) and directivity (D) are linked by the formula $G = k \times D$, where the antenna effective factor k ($0 \leq k \leq 1$) corresponds to the overall losses of the antenna. Accordingly antenna gain can be calculated by the following formula, where represents antenna losses comprising of all ohm and dielectric losses between the input connector and the outer surface of the radome and the loss due to the impedance mismatch.

2D Radiation Pattern



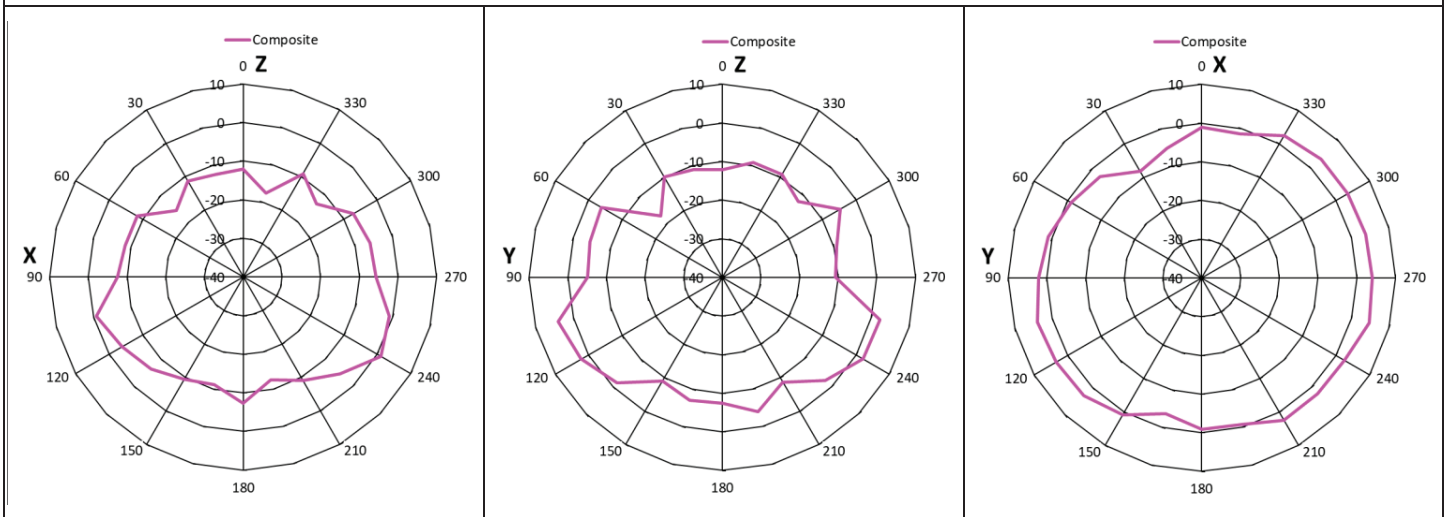
Test date: 2023/06/14

2.447MHz



Test date: 2023/06/14

5500MHz



Test date: 2023/06/14