ACCTON Technology Corporation
No.1, Creation Road 3, Hsinchu Science Park,
Hsinchu 30077, Taiwan , R.O.C

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Making Partnership Work

Antenna Test Result of Tooling

ACCTON

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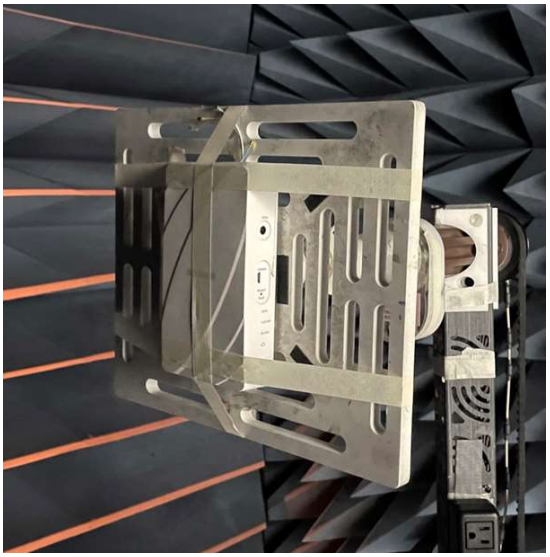
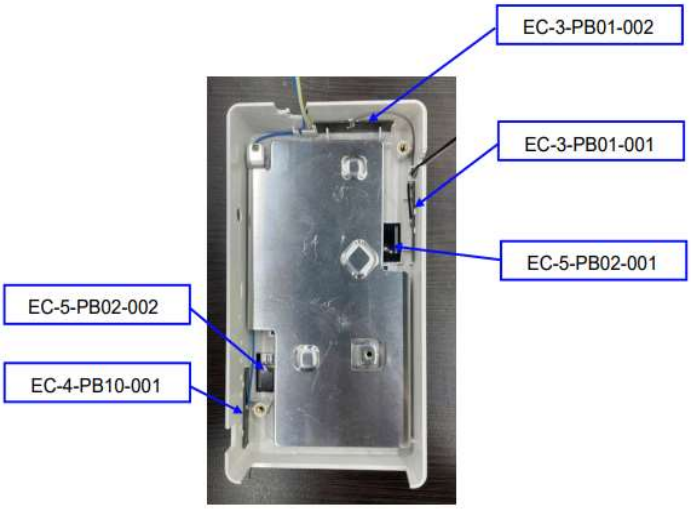
Antenna Description



Antenna test diagram(天線測試圖)



Antenna location(天線位置)

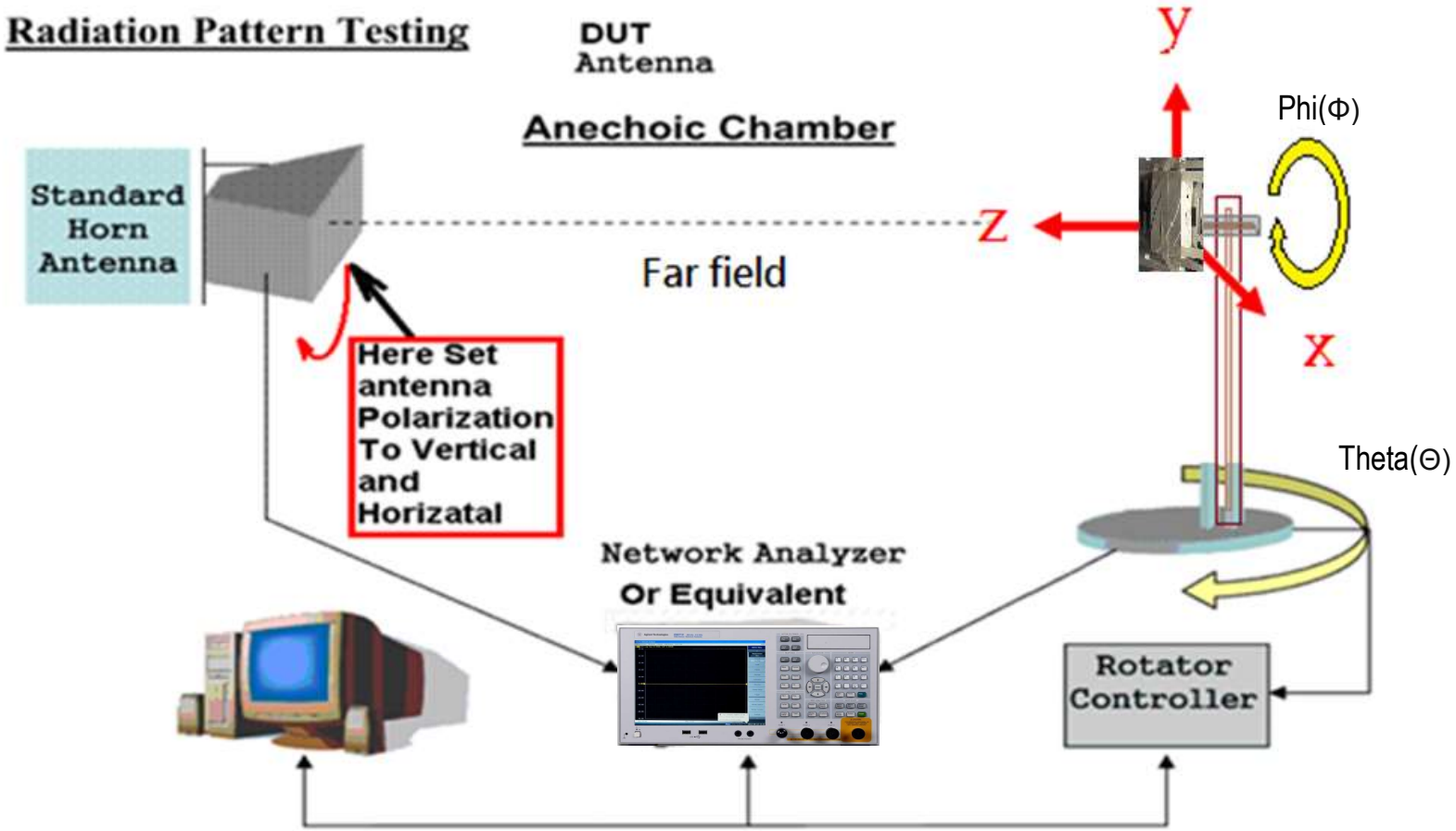
Company name(製造商公司名稱)	Address(製造商地址)
ACCTON Technology Corporation	No.1, Creation Road3, Hsinchu Science Park, Hsinchu 30077,Taiwan, R.O.C

Antenna model (天線型號)	Antenna application (天線應用)	Material (材質)	Antenna Type (天線類型)	Peak Gain (天線最大增益)
EC-3-PB01-001	Wi-Fi Single 2.4GHz-1	PCB	Dipole	3.94dBi
EC-3-PB01-002	Wi-Fi Single 2.4GHz-2	PCB	PIFA	3.11dBi
EC-5-PB02-001	Wi-Fi Single 5GHz-1	PCB	Monopole	5.21dBi
EC-5-PB02-002	Wi-Fi Single 5GHz-2	PCB	Monopole	5.11dBi
EC-4-PB10-001	BLE	PCB	Dipole	4.22dBi

Experimental Setup & Coordinate System

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

Network Analyzer name: Agilent E5071C



Efficiency & Gain

(EC-3-PB01-001)Wi-Fi Single 2.4GHz-1 Antenna			
Frequency	2.412 GHz	2.447 GHz	2.4835 GHz
Efficiency	56.37%	61.52%	62.41%
Peak Gain	3.03 dBi	3.73 dBi	3.94 dBi
Peak gain at polarization	(Φ)310°(Θ)90°	(Φ)130°(Θ)15°	(Φ)135°(Θ)15°
(EC-3-PB01-002)Wi-Fi Single 2.4GHz-2 Antenna			
Frequency	2.412 GHz	2.447 GHz	2.4835 GHz
Efficiency	55.2%	57.7%	57.1%
Peak Gain	3.01 dBi	3.07 dBi	3.11 dBi
Peak gain at polarization	(Φ)0°(Θ)0°	(Φ)0°(Θ)0°	(Φ) 35°(Θ)75°
(EC-5-PB02-001)Wi-Fi Single 5GHz-1 Antenna			
Frequency	5.150 GHz	5.500 GHz	5.850 GHz
Efficiency	58.21%	57.60%	56.1%
Peak Gain	5.21 dBi	4.91 dBi	4.50 dBi
Peak gain at polarization	(Φ)315°(Θ)30°	(Φ)5°(Θ)45°	(Φ)15°(Θ)45°
(EC-5-PB02-002)Wi-Fi Single 5GHz-2 Antenna			
Frequency	5.150 GHz	5.500 GHz	5.850 GHz
Efficiency	55.41%	55.22%	54.91%
Peak Gain	5.11 dBi	4.87 dBi	4.51 dBi
Peak gain at polarization	(Φ)345°(Θ)15°	(Φ)0°(Θ)30°	(Φ)315°(Θ)15°
(EC-4-PB10-001)BLE Antenna			
Frequency	2.412 GHz	2.447 GHz	2.4835 GHz
Efficiency	59.10%	60.60%	61.51%
Peak Gain	4.07 dBi	4.10 dBi	4.22 dBi
Peak gain at polarization	(Φ) 0°(Θ)0°	(Φ)0°(Θ)0°	(Φ)0°(Θ)0°

※Φ(Phi) ; Θ(Theta)

※Peak Gain (G) and directivity (D) are linked by the formula G = k x 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.

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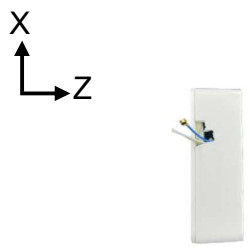
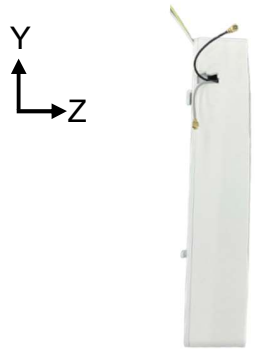
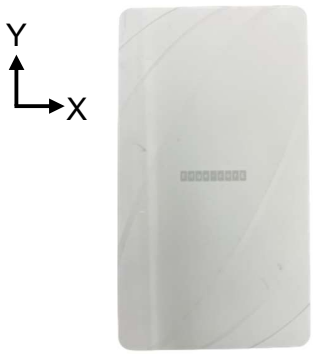
2D Radiation Pattern

Wi-Fi Single 2.4GHz Antenna Pattern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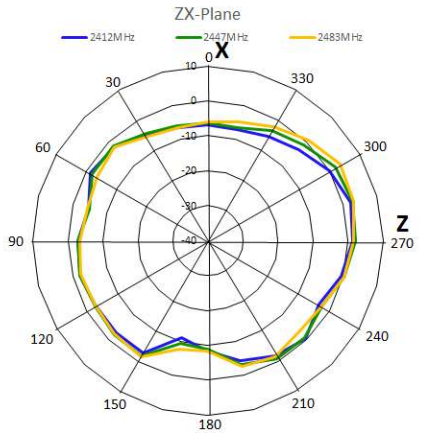	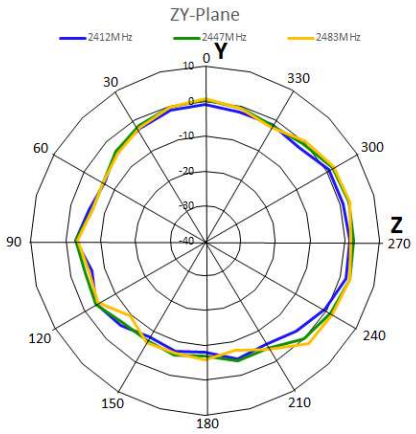	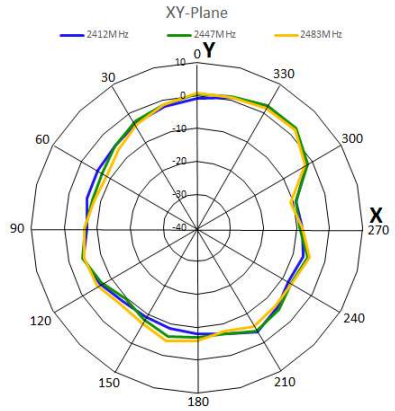
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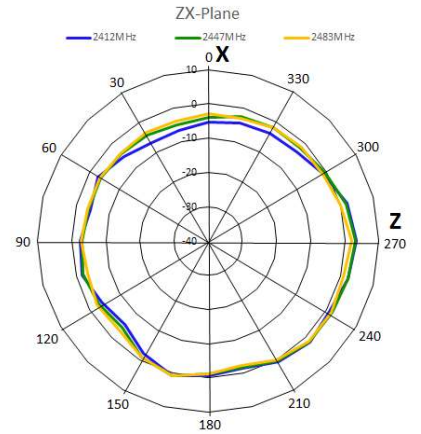	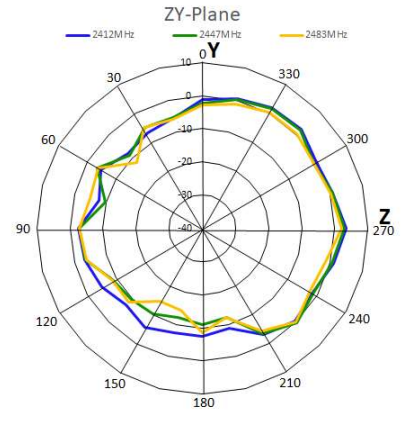	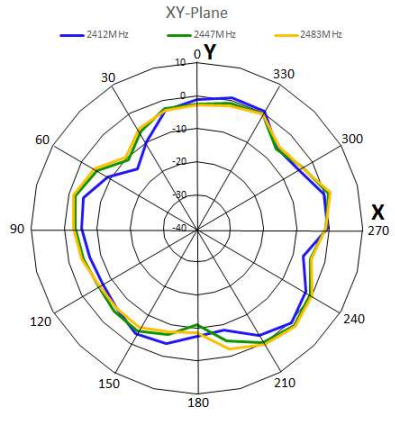

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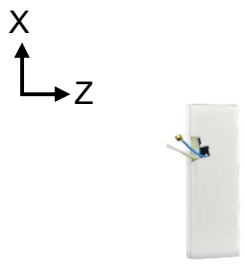
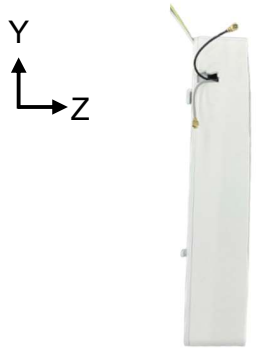
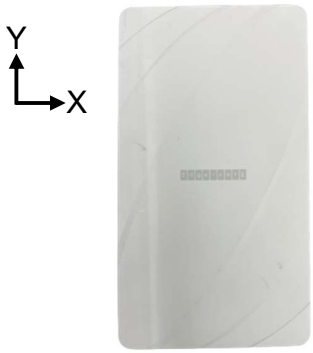
Wi-Fi Single 5GHz Antenna Pattern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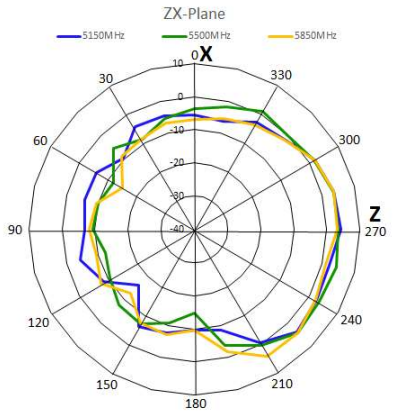	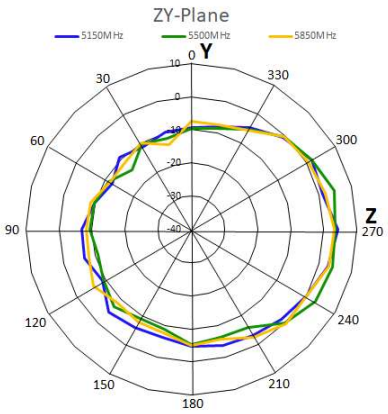	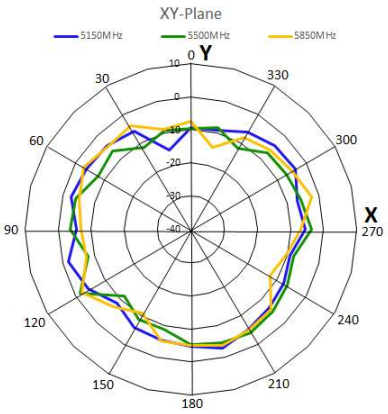
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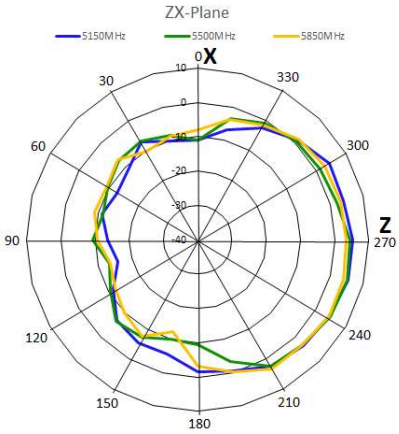	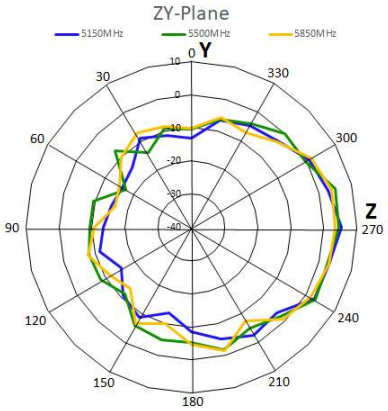	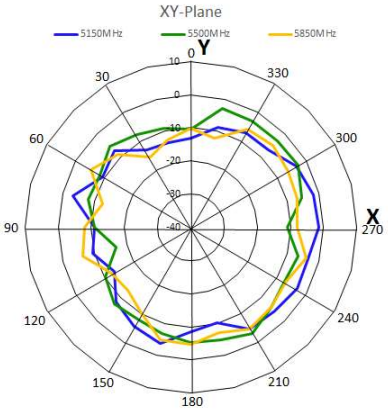

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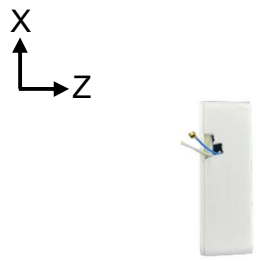
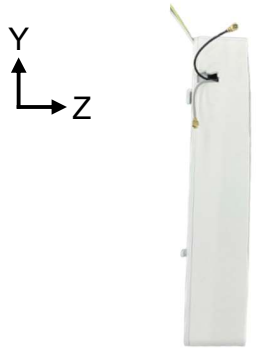
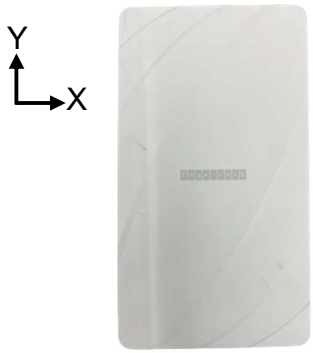
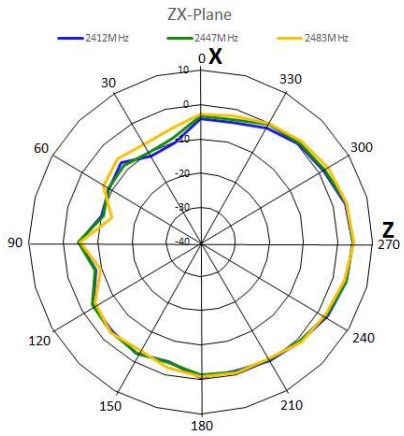
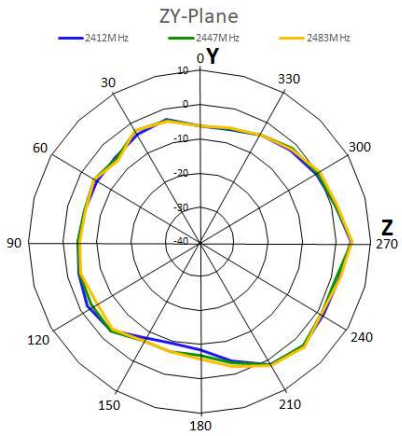
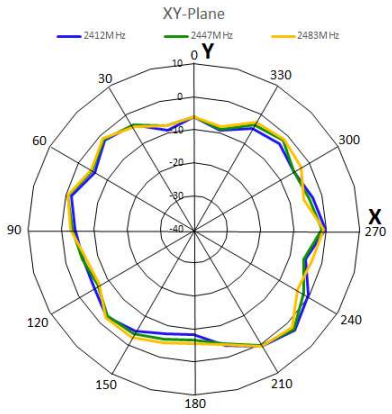
BLE Antenna Pattern

		
ZX-Plane	ZY-Plane	XY-Plane
EC-4-PB10-001		
		

Test Date：2022/05/12