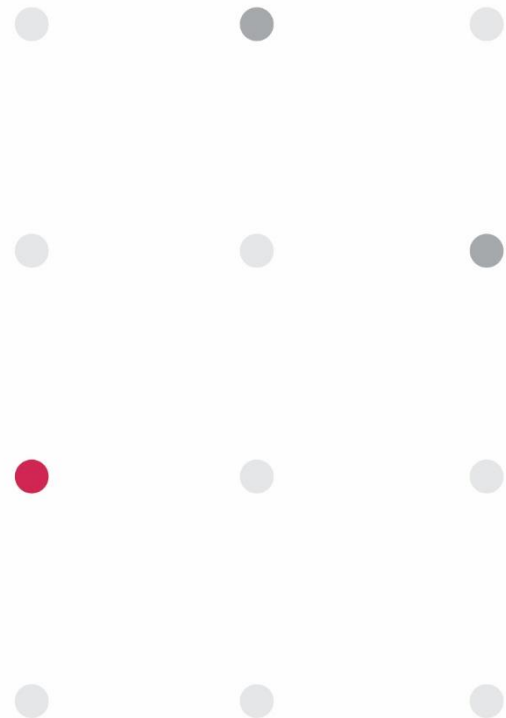


PSA

PASSIVE SYSTEM ALLIANCE
INPAQ TECHNOLOGY CO., LTD.



5CCEA4

Presented by :Ian Chen, RF R&D Dept.

Checked by :Andy Chen

Approved by :Leeting Hsieh

INPAQ Technology Co., Ltd.

Last updated in Aug, 26, 2025

Brand name: INPAQ

Model name:

BLE : WAG-M-LA-00-097

Wi-Fi :WAG-M-LB-00-051

LoRa : WAG-M-LORA-00-006

Antenna Type: Wi-Fi & LoRa PIFA

BLE Loop

Connector Type: N/A

Test Lab, site: INPAQ Technology Co., Ltd.

Test date: 08/26/2025

Contents

- Revised History
- Requirement of Antenna Design and Measurement
- Test Environment-Chamber
- Results
 - Efficiency & Peak Gain



Revised History

Released Date	Version	Record
Aug. 26 th , 2025	0.0	Antenna test report

Requirement of Antenna Design and Measurement

Requirements of Antenna Design

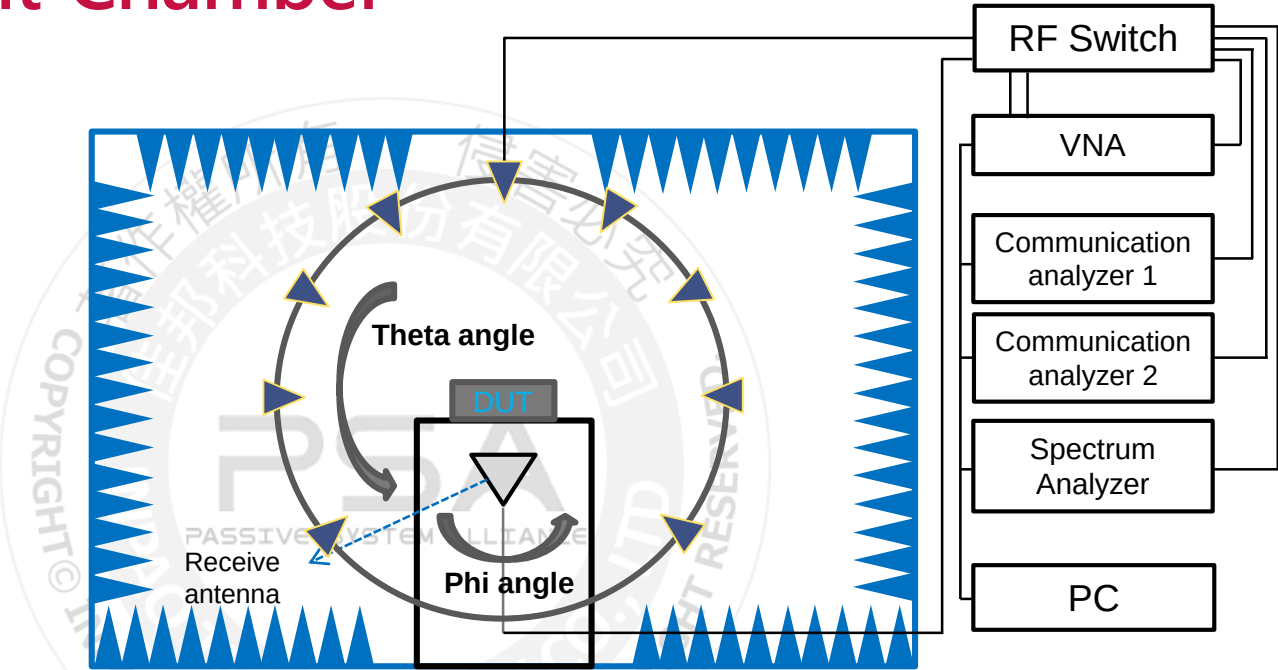
RF Function	Number of ANT	Frequency Band	Remark
LORA	1	863~928MHz	Metal Antenna
BT	1	2400~2500MHz	Metal Antenna
WIFI 2/5G	1	2400~2500MHz & 5150~5850MHz	Metal Antenna

Requirements of Measurement

Test Item	Specification	Remark
S11	NA	
Peak Gain	NA	
Efficiency	NA	
Isolation	NA	

Test Environment-Chamber

Diagram: Chamber



Equipment	Spectrum Analyzer	Communication analyzer	VNA	RF Switch
Brand	Keysight (N9020B)	R&S(CMW500) 、 ANRITSU(MT8000A) 、 (MT8862A)	Keysight (E5070C)	TEMRADIO



Test facility calibration

Equipment	Spectrum Analyzer	VNA	RF Switch
Brand	Keysight (N9020B)	Keysight (E5070C)	TEMRADIO
Calibration date	07/21/2025	07/21/2025	06/02/2025
Next time calibration date	07/21/2026	07/21/2026	06/02/2026

Results



Efficiency and Peak Gain

LORA

Frequency (MHz)	Max. Peak Gain (dBi)	Efficiency (dB)	Efficiency (%)
863	1.00	-3.71	42.56
880		-3.51	44.57
902	1.70	-3.31	46.67
910		-3.39	45.81
928		-4.09	38.99

BT

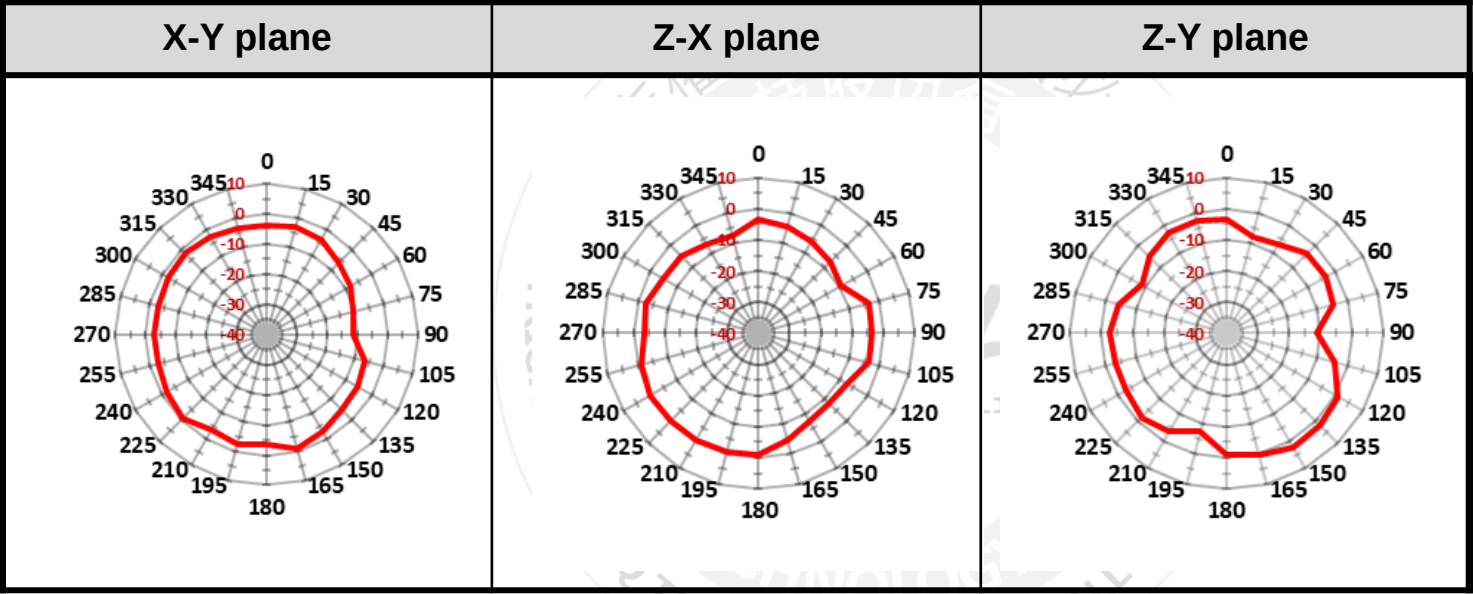
Frequency (MHz)	Max. Peak Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	4.80	-3.92	40.55
2450		-3.45	45.19
2500		-3.72	42.46

Efficiency and Peak Gain

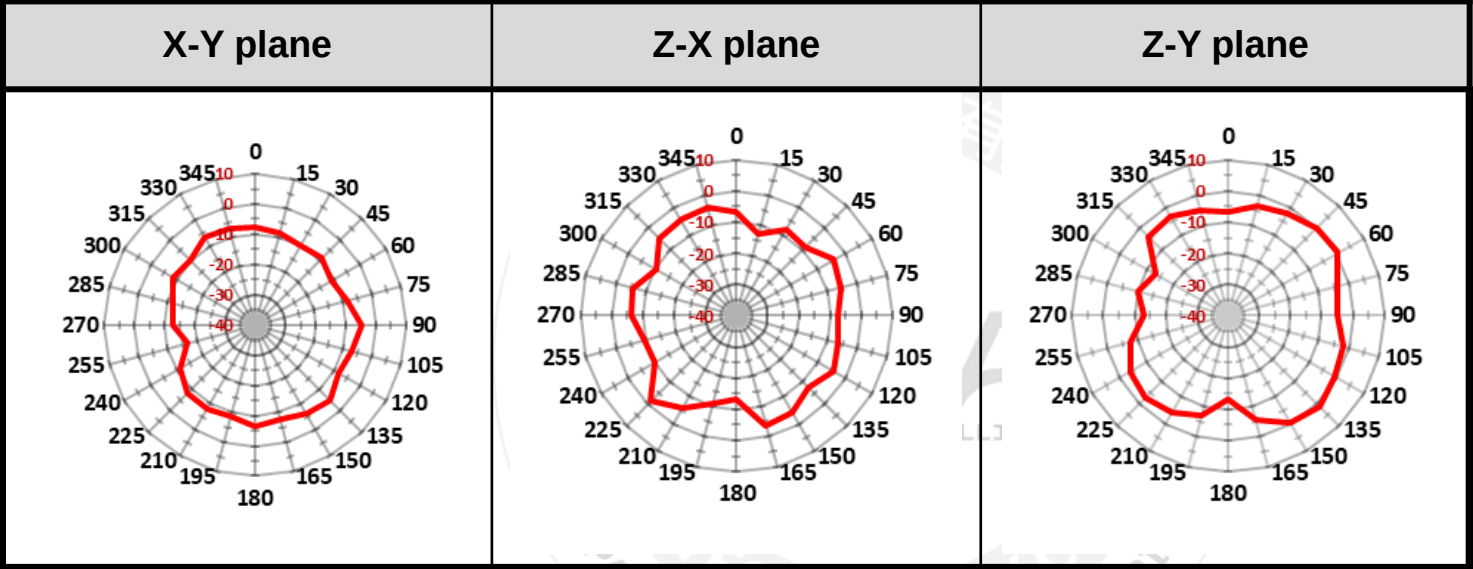
WIFI

Frequency (MHz)	Max. Peak Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	3.00	-3.02	49.89
2450		-3.22	47.64
2500		-3.23	47.53
5150	4.00	-4.09	38.99
5350		-4.46	35.81
5470		-4.22	37.84
5600		-4.61	34.59
5725		-3.75	42.17
5850		-3.71	42.56

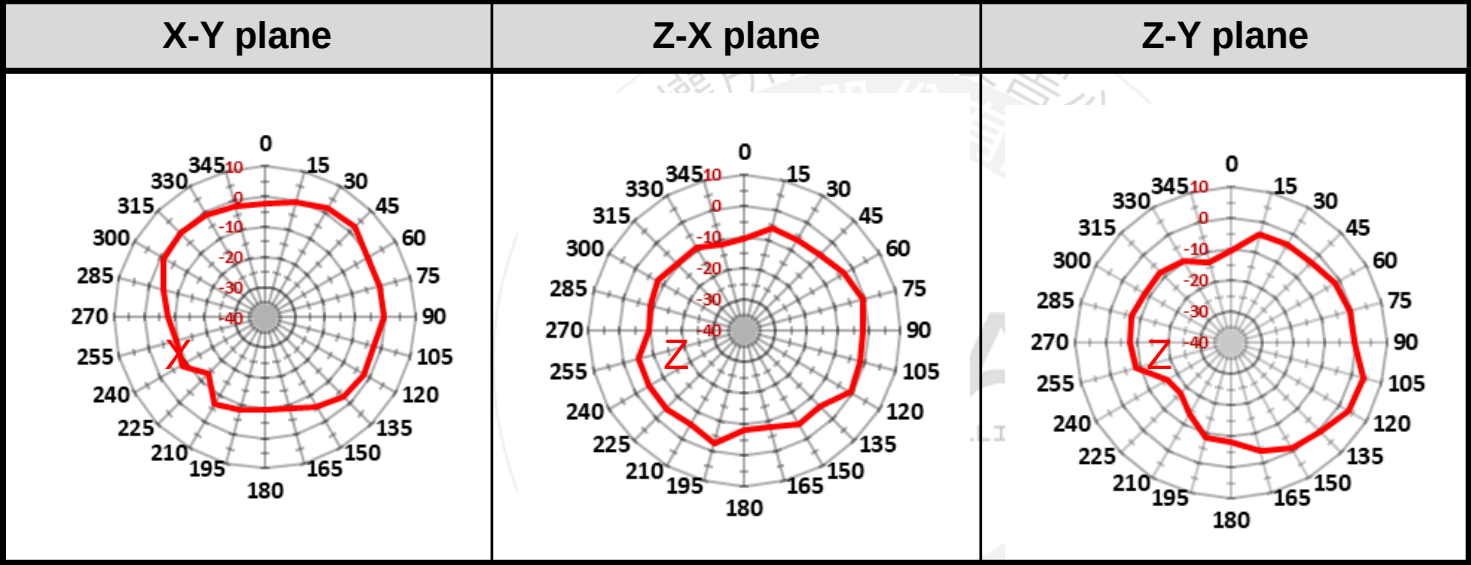
2D radiation pattern – WiFi 2.4G



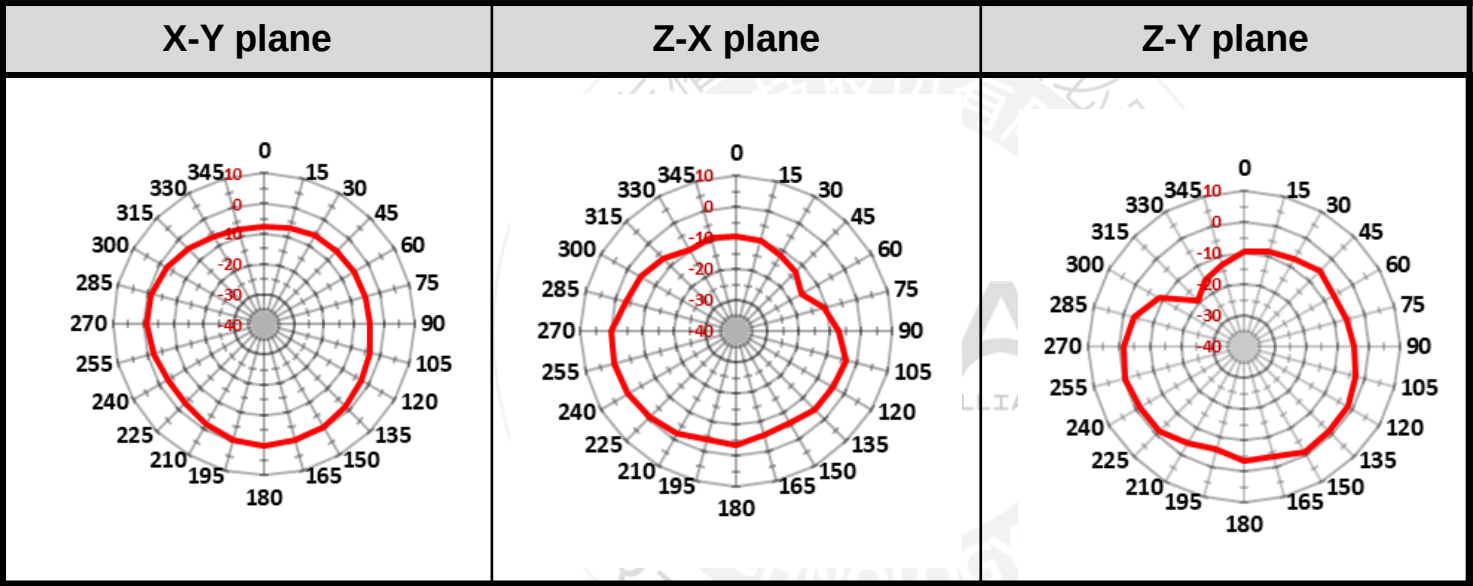
2D radiation pattern – WiFi 5G



2D radiation pattern – BT



2D radiation pattern – LoRa 800MHz



2D radiation pattern – LoRa 900MHz

