

PSA

佳邦科技股份有限公司

INPAQ TECHNOLOGY CO., LTD.

PSA

PASSIVE SYSTEM ALLIANCE
INPAQ TECHNOLOGY CO., LTD.

Company:
Project Name:
Model Name:
Application:
Mounting Type:

Alarm
V781B

Video Doorbell
Wall Mount

Presented by
2025/ 12/ 17



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Customer Specification

Ant. No.	Type	Function	Operating Freq.	Radiation Patter	Cable Type	Connector Type
Ant.1 (RFFPA391608IMLB403)	FPC	Wi-Fi	2400-2500MHz 5150-5850MHz	away from the back surface	1.13LL	IPEX
Ant.2 (RFFPA391610IMLB402)	FPC	Wi-Fi	2400-2500MHz 5150-5850MHz	away from the back surface	1.13LL	IPEX

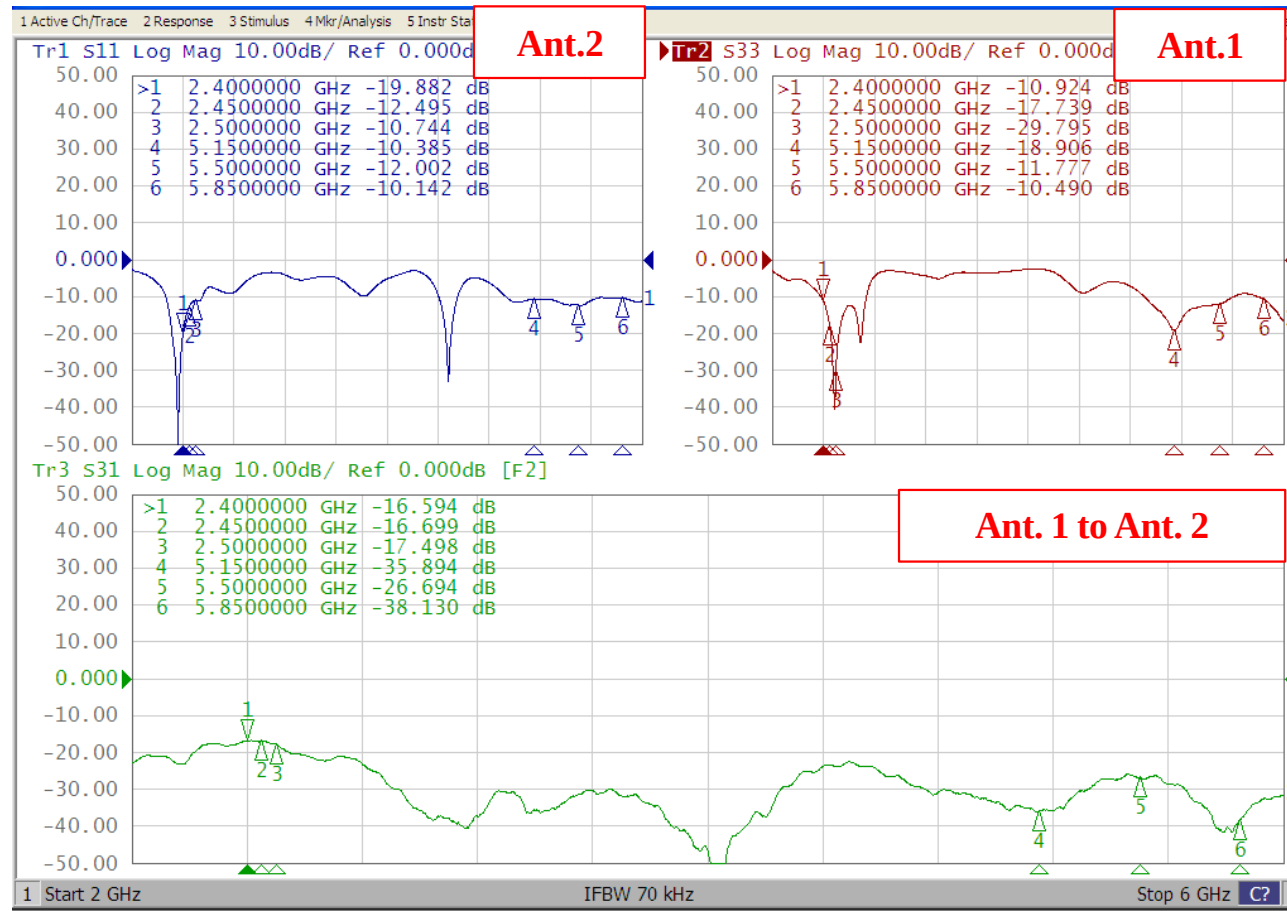
Specificati on	Return Loss	VSWR	Isolation	Peak Gain	Efficiency
2.4GHz	< -10dB	TBD	< -20dB	2.5dBi	>65%
5GHz	< -10dB	TBD	< -20dB	4.0dBi	>75%

Antenna Placement

No.	Function	Material	Dimension(mm)	Frequency(MHz)	Remark
Ant.1 (RFFPA391608IM LB403)	Wi-Fi	FPC	16x40	2400 – 2500 5150 – 5850	Thickness ≈ 0.14mm
Ant.2 (RFFPA391610IML B402)	Wi-Fi	FPC	16x40	2400 – 2500 5150 – 5850	Thickness ≈ 0.14mm

Photo provided separately (Figure 1)

S-Parameters – Ant.1&Ant.2 (Wi-Fi Dual band)



Gain Table

2.4GHz	Frequency(MHz)	2400	2450	2500
Ant.1 (RFFPA391608 IMLB403)	Peak Gain(dBi)	1.8	2.4	2.1
	Efficiency(%)	63	70	69
	Efficiency(%) + insertion loss	65	72	71
Ant.2 (RFFPA391610IM LB402)	Peak Gain(dBi)	1.5	2.3	2.4
	Efficiency(%)	65	68	65
	Efficiency(%) + insertion loss	67	70	67
5GHz	Frequency(MHz)	5150	5500	5850
Ant.1 (RFFPA391608 IMLB403)	Peak Gain(dBi)	2.7	2.9	2.8
	Efficiency(%)	57	60	62
	Efficiency(%) + insertion loss	60	63	65
Ant.2 (RFFPA391610IM LB402)	Peak Gain(dBi)	2.4	2.9	2.5
	Efficiency(%)	52	54	58
	Efficiency(%) + insertion loss	55	57	61

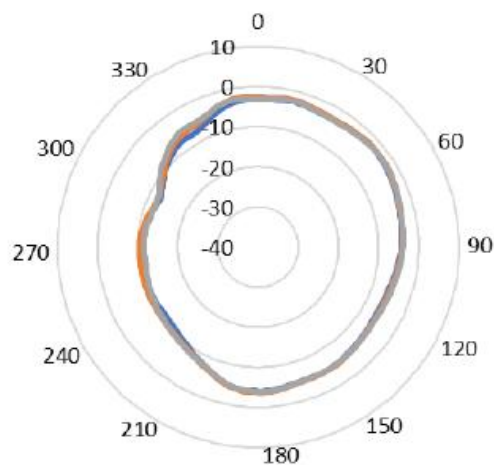
Isolation Table

Isolation	Worst mutual isolation (dB) 2.4GHz Band		Worst mutual isolation (dB) 5GHz Band	
Antenna	Ant.1	Ant.2	Ant.1	Ant.2
Ant.1 (RFFPA391608IMLB403)		-16		-26
Ant.2 (RFFPA391610IMLB402)				



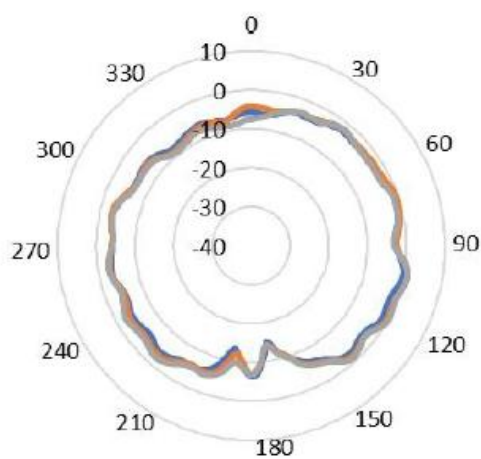
2D Radiation Pattern Ant.1 (RFFPA391608IMLB403)
(Wi-Fi Dual-band)Frequency(MHz) : 2400-2500

Azimuth Plane
 Theta = 90



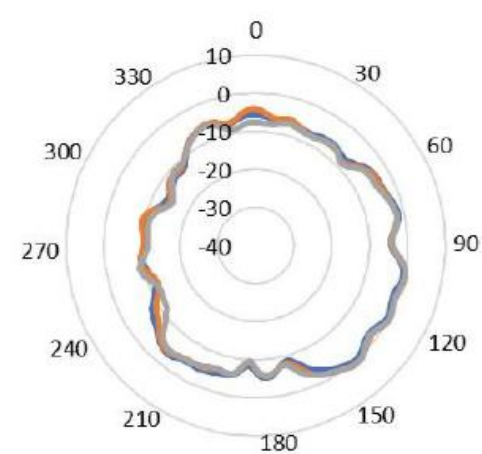
— 2400 — 2450 — 2500

Elevation Plane
 phi = 0



— 2400 — 2450 — 2500

Elevation Plane
 phi = 90



— 2400 — 2450 — 2500

2D Radiation Pattern Ant.1 (RFFPA391608IMLB403)
(Wi-Fi Dual-band)Frequency(MHz) : 2400-2500

X-Y plane

X-Z plane

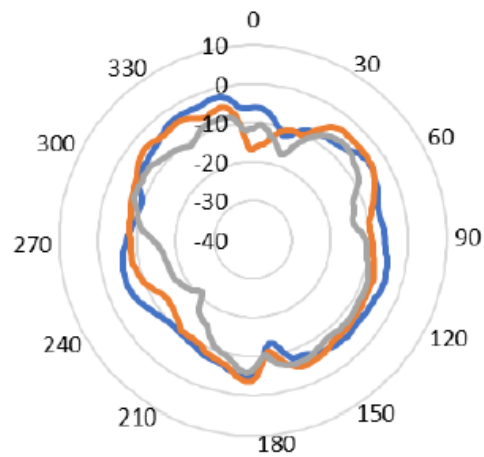
Y-Z plane

Photo provided separately (Figure 2)



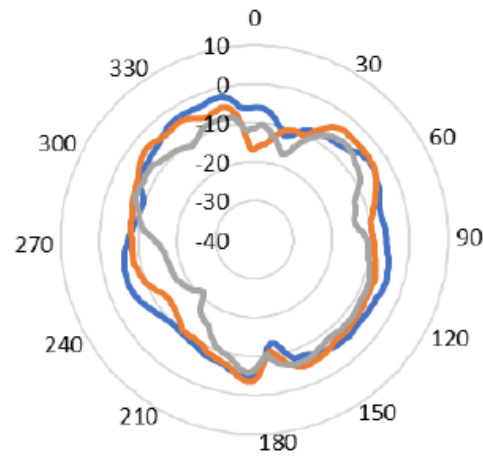
2D Radiation Pattern Ant.1 (RFFPA391608IMLB403) (Wi-Fi Dual-band)Frequency(MHz) : 5150-5850

Azimuth Plane
Theta = 90



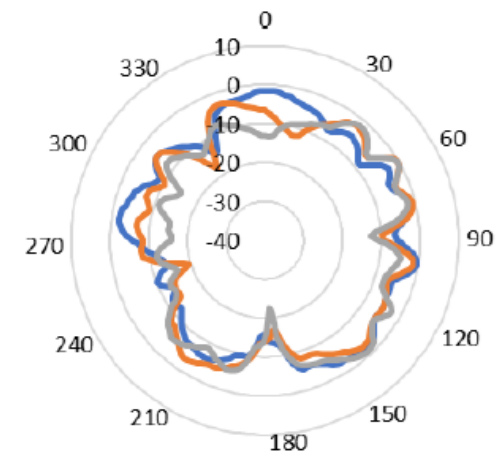
— 5150 — 5500 — 5850

Elevation Plane
phi = 0



— 5150 — 5500 — 5850

Elevation Plane
phi = 90



— 5150 — 5500 — 5850

2D Radiation Pattern Ant.1 (RFFPA391608IMLB403)
(Wi-Fi Dual-band)Frequency(MHz) : 5150-5850

X-Y plane

X-Z plane

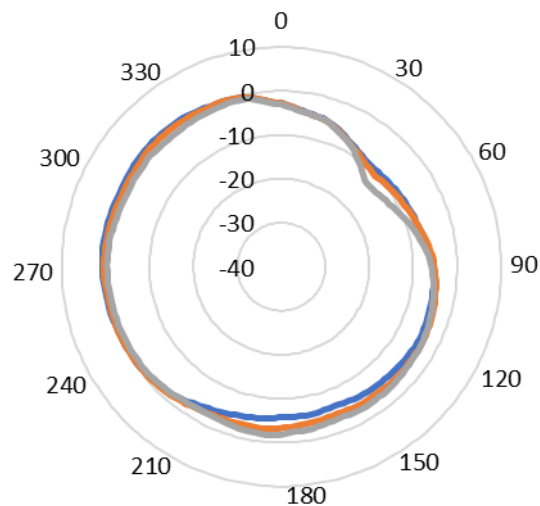
Y-Z plane

Photo provided separately (Figure 3)



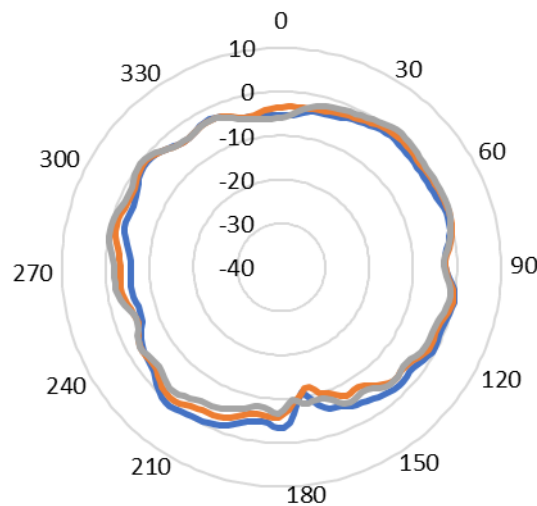
2D Radiation Pattern Ant.2 (RFFPA391610IMLB402) (Wi-Fi Dual-band)Frequency(MHz) : 2400-2500

Azimuth Plane
Theta = 90



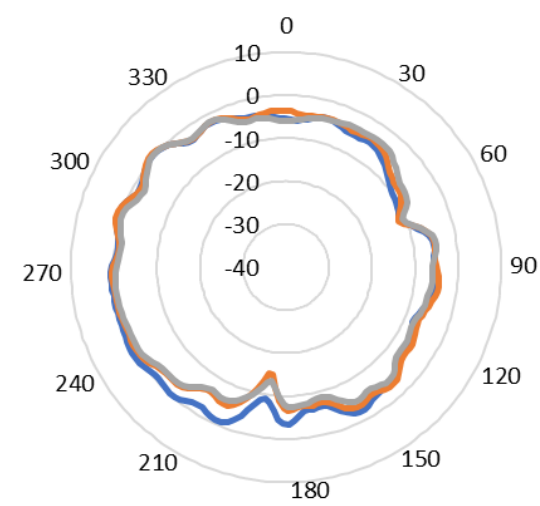
— 2400 — 2450 — 2500

Elevation Plane
phi = 0



— 2400 — 2450 — 2500

Elevation Plane
phi = 90



— 2400 — 2450 — 2500

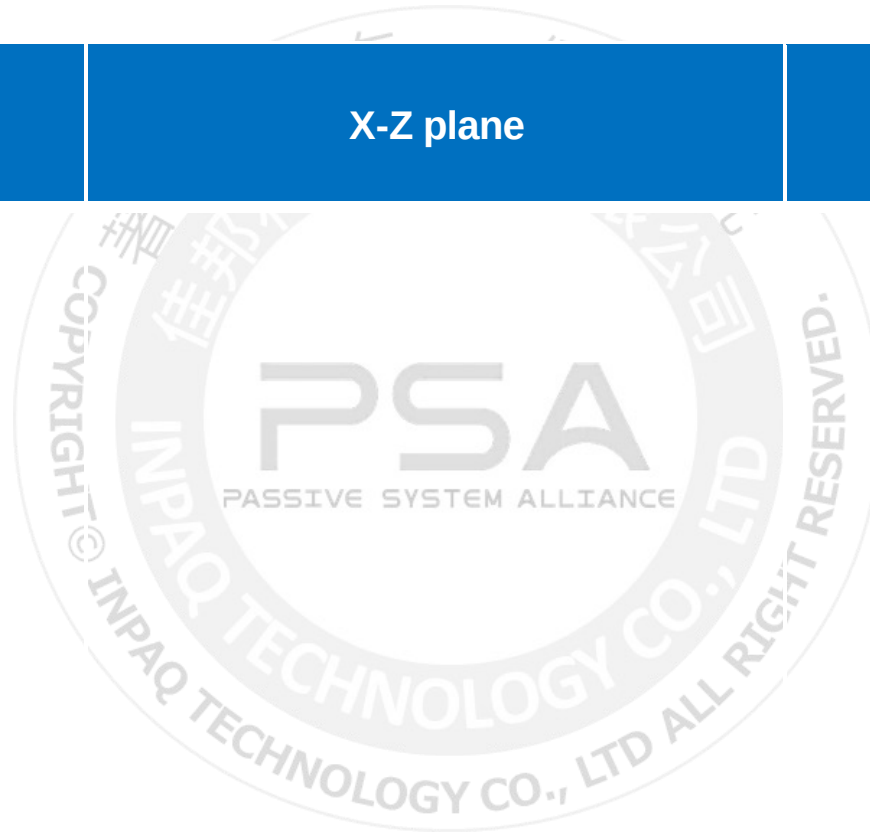
2D Radiation Pattern Ant.2 (RFFPA391610IMLB402) (Wi-Fi Dual-band)Frequency(MHz) : 2400-2500

X-Y plane

X-Z plane

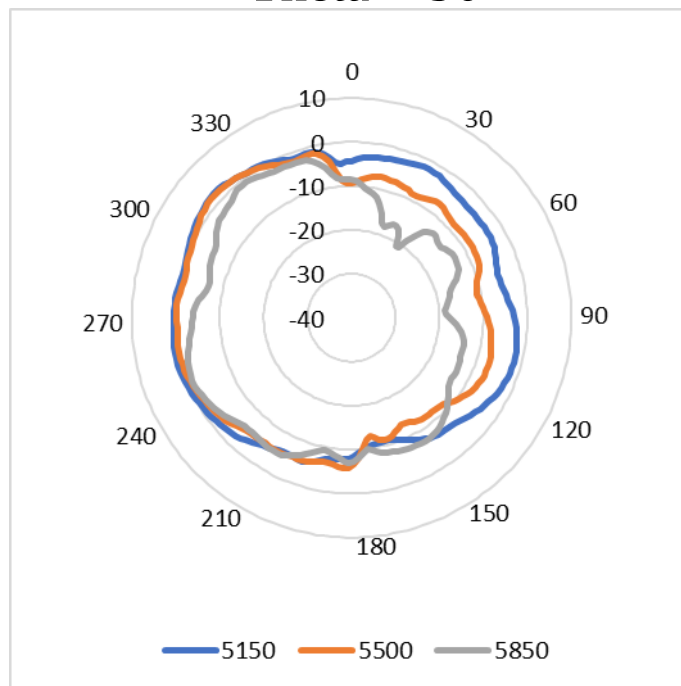
Y-Z plane

Photo provided separately (Figure 4)

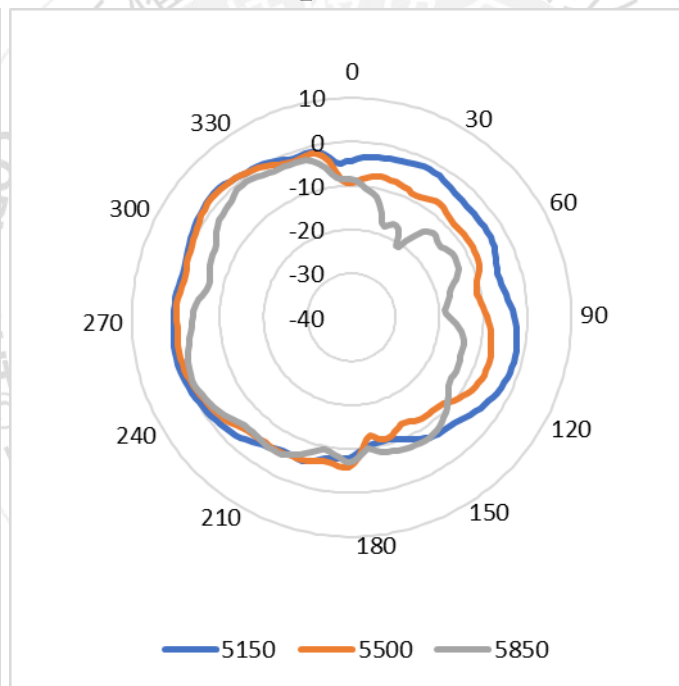


2D Radiation Pattern Ant.2 (RFFPA391610IMLB402) (Wi-Fi Dual-band)Frequency(MHz) : 5150-5850

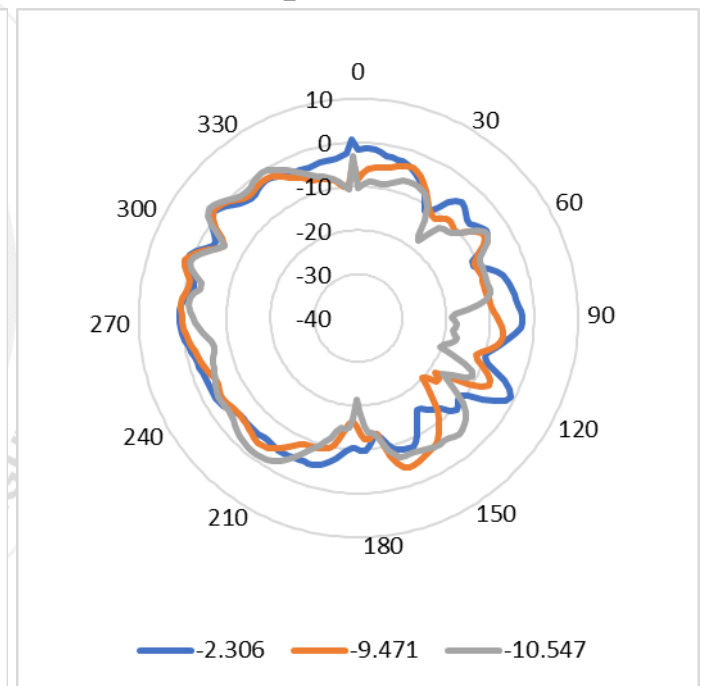
Azimuth Plane
Theta = 90



Elevation Plane
phi = 0



Elevation Plane
phi = 90



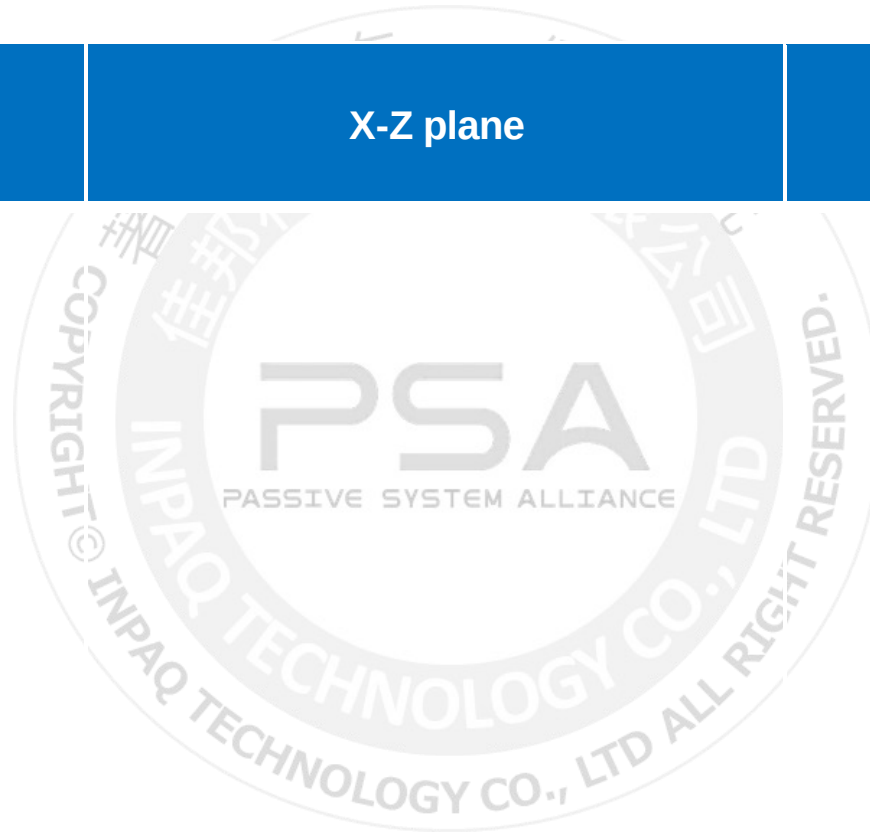
2D Radiation Pattern Ant.2 (RFFPA391610IMLB402)
(Wi-Fi Dual-band)Frequency(MHz) : 5150-5850

X-Y plane

X-Z plane

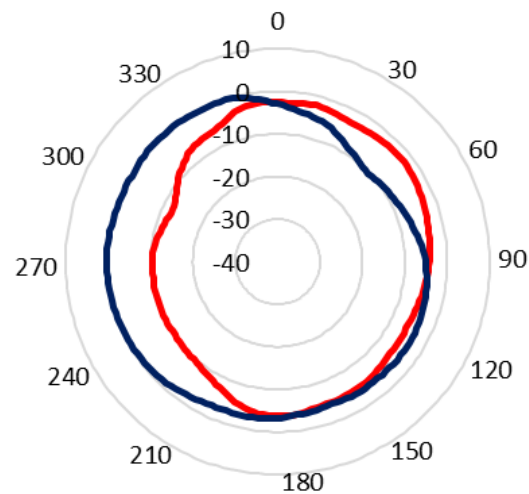
Y-Z plane

Photo provided separately (Figure 5)



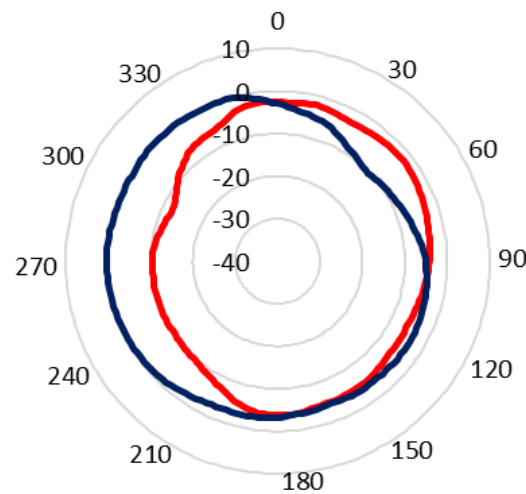
2D Radiation Pattern Ant.1 Ant.2 Combine(Wi-Fi Dual-band)Frequency(MHz) : 2450

Azimuth Plane
Theta = 90



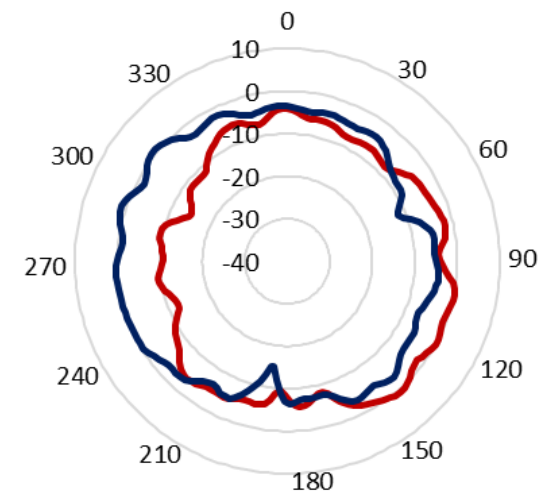
— ANT1 — ANT2

Elevation Plane
phi = 0



— ANT1 — ANT2

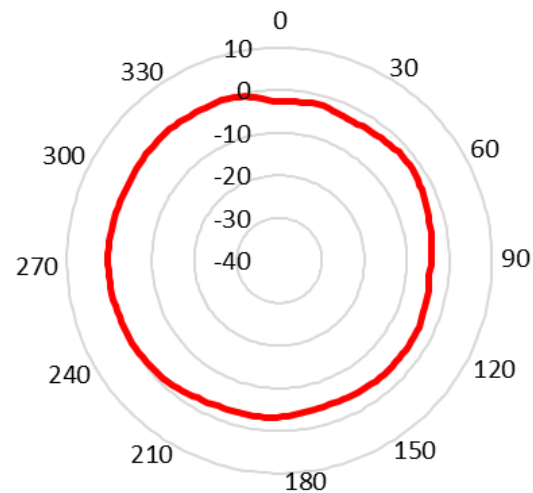
Elevation Plane
phi = 90



— ANT1 — ANT2

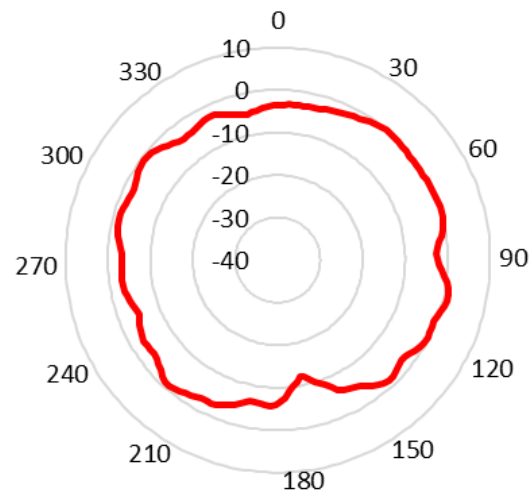
2D Radiation Pattern Ant.1 Ant.2 Combine(Wi-Fi Dual-band)Frequency(MHz) : 2450

Azimuth Plane
Theta = 90



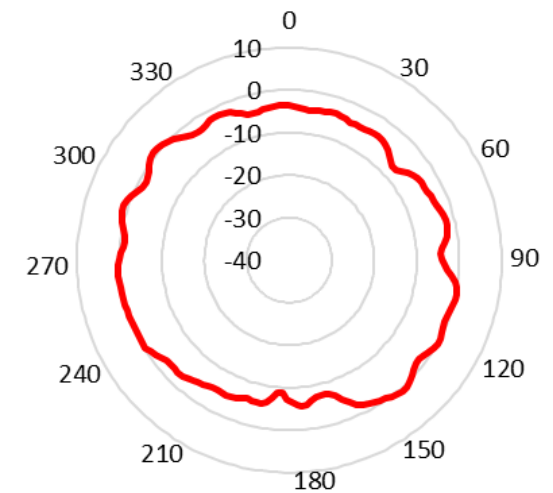
— combine

Elevation Plane
phi = 0



— combine

Elevation Plane
phi = 90



— combine

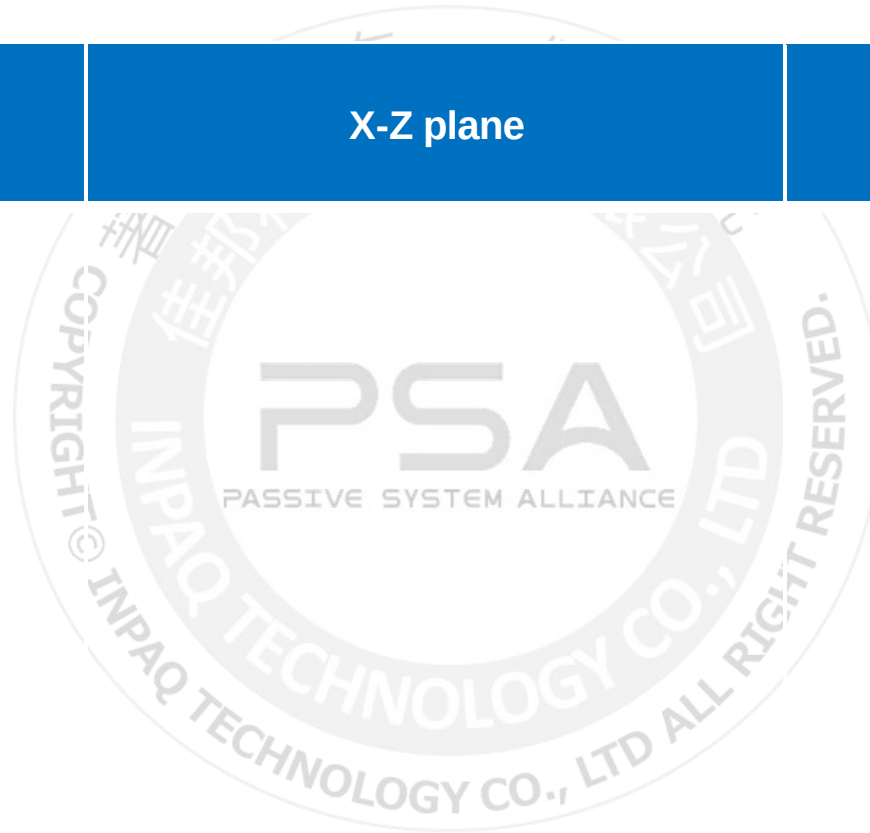
2D Radiation Pattern Ant.1 Ant.2 Combine(Wi-Fi Dual-band)Frequency(MHz) : 2450

X-Y plane

X-Z plane

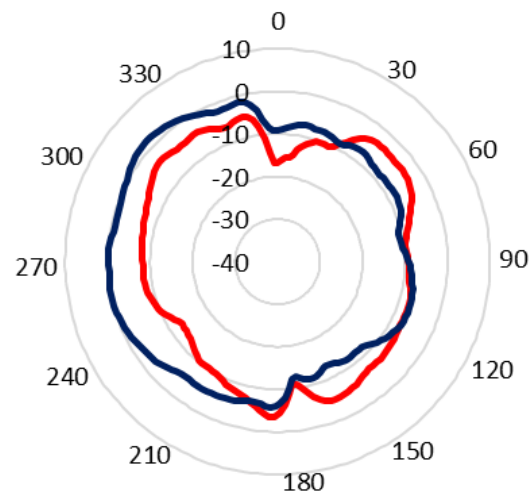
Y-Z plane

Photo provided separately (Figure 6)



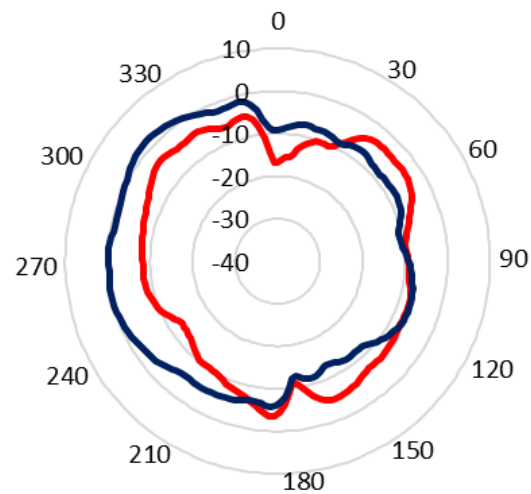
2D Radiation Pattern Ant.1 Ant.2 Combine(Wi-Fi Dual-band)Frequency(MHz) : 5500

Azimuth Plane
Theta = 90



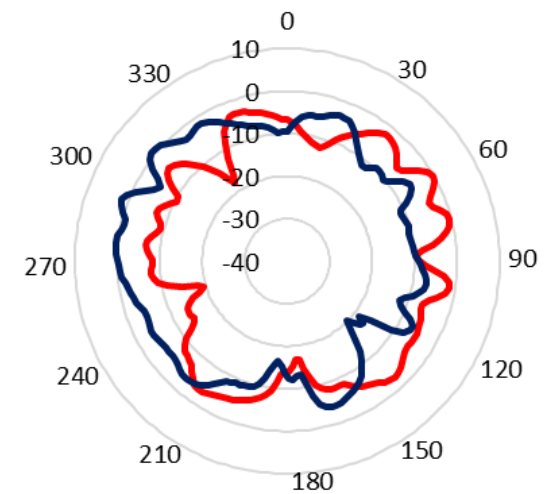
— ANT1 — ANT2

Elevation Plane
phi = 0



— ANT1 — ANT2

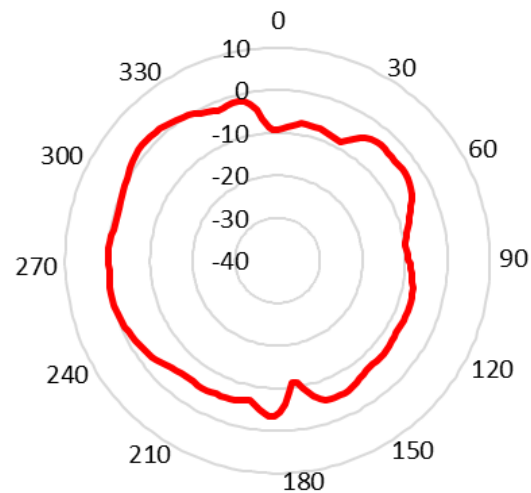
Elevation Plane
phi = 90



— ANT1 — ANT2

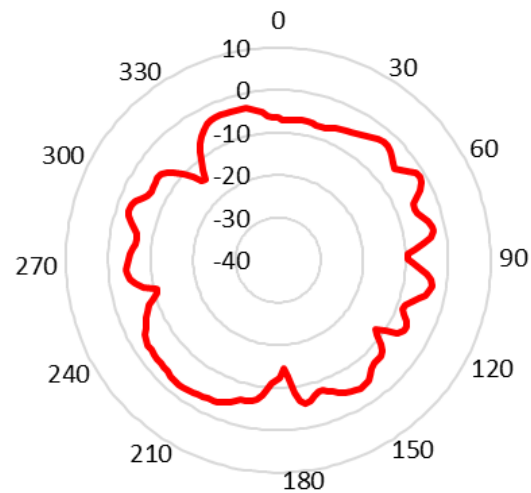
2D Radiation Pattern Ant.1 Ant.2 Combine(Wi-Fi Dual-band)Frequency(MHz) : 5500

Azimuth Plane
Theta = 90



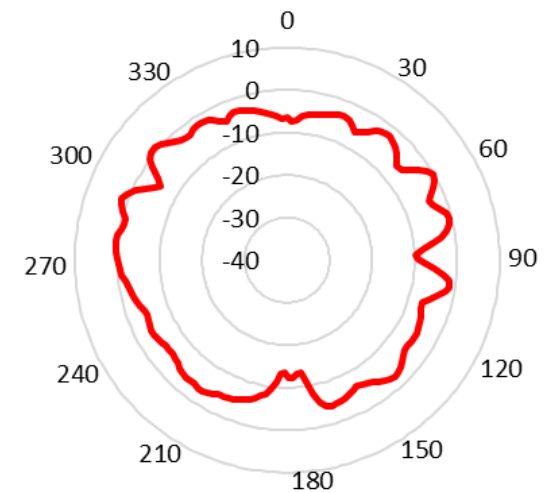
— combine

Elevation Plane
phi = 0



— combine

Elevation Plane
phi = 90



— combine

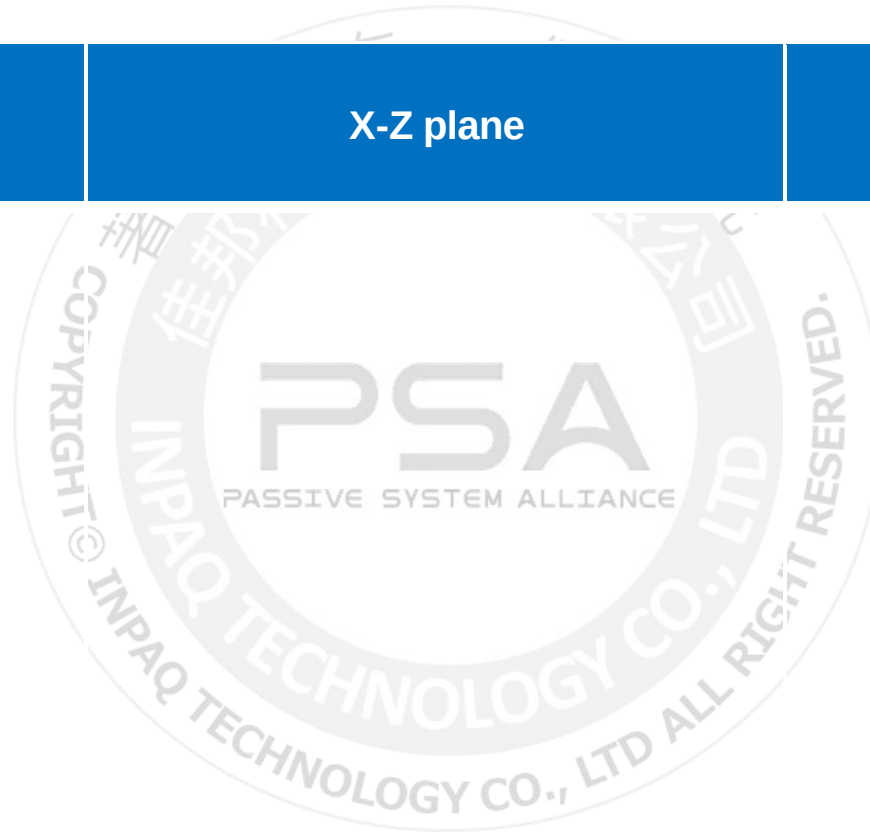
2D Radiation Pattern Ant.1 Ant.2 Combine(Wi-Fi Dual-band)Frequency(MHz) : 5500

X-Y plane

X-Z plane

Y-Z plane

Photo provided separately (Figure 7)



Summary

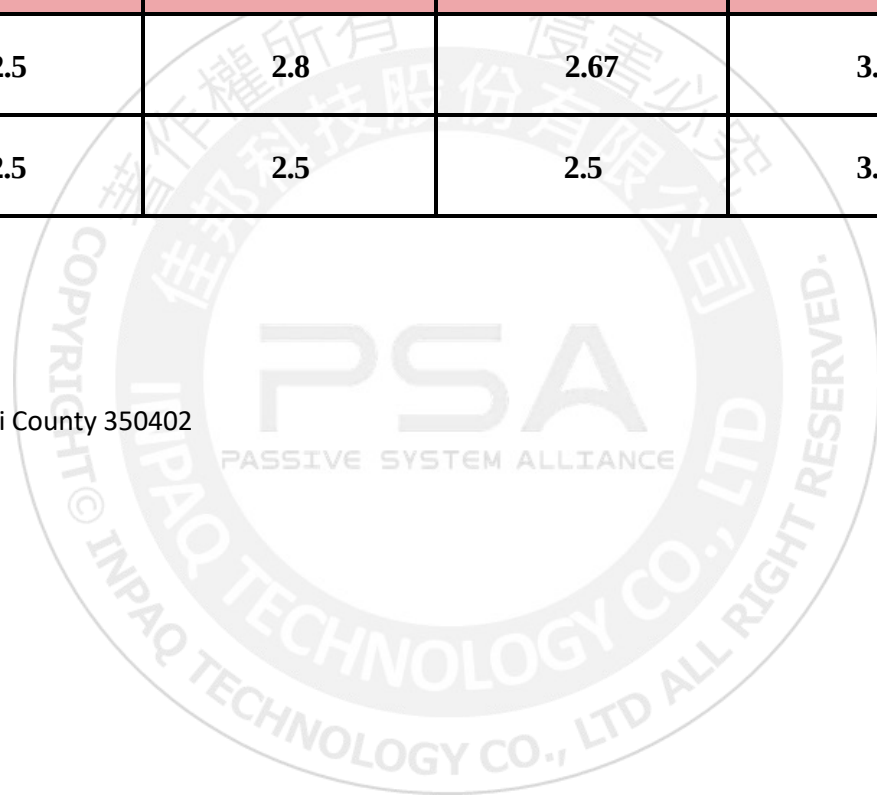
Summary	Ant.1 (RFFPA391608IMLB403)	Ant.2 (RFFPA391610IMLB402)	Remark
Return Loss –2.4GHz	< -10dB	< -10dB	
Return Loss –5GHz	< -10dB	< -9dB	
Efficiency –2.4GHz	> 63%	> 65%	
Efficiency +insertion loss– 2.4GHz	> 66%	> 68%	
Efficiency –5GHz	> 57%	> 52%	
Efficiency +insertion loss–5GHz	> 60%	> 55%	
Peak Gain –2.4GHz	1.8-2.5dBi	1.5-2.5dBi	
Peak Gain –5GHz	2.6-3.0dBi	2.4-3.0dBi	

Summary

Ant.	2.4G	5G UNII-1	5G UNII-2A	5G UNII-2C	5G UNII-3
Ant. 1 (RFFPA391608IMLB403)	2.5	2.8	2.67	3.0	3.0
Ant. 2 (RFFPA391610IMLB402)	2.5	2.5	2.5	3.0	2.7

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Thank you

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