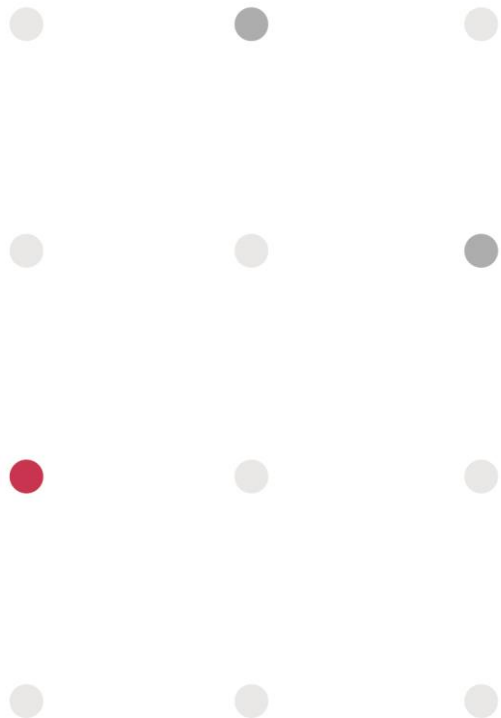


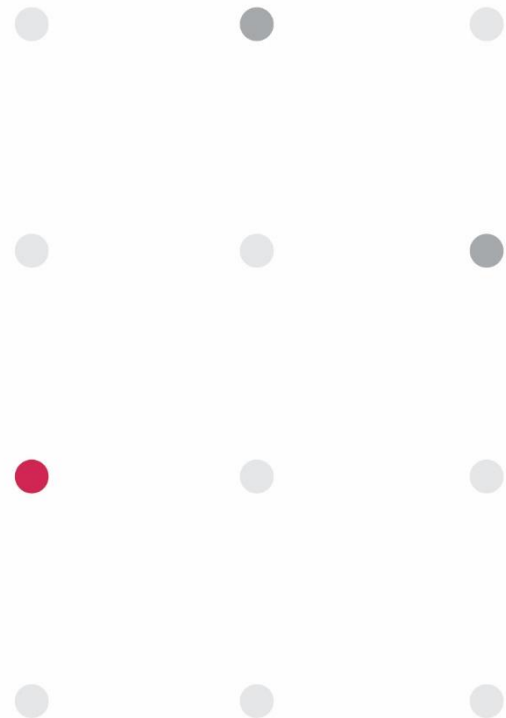
佳邦科技股份有限公司

INPAQ TECHNOLOGY CO., LTD.



PSA

PASSIVE SYSTEM ALLIANCE
INPAQ TECHNOLOGY CO., LTD.



Antenna Test Report

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

INPAQ Technology Co., Ltd.

Last updated in Feb. 22 , 2023

Version:V0.0

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Requirements of Antenna Design and Measurement

Requirements of Antenna Design

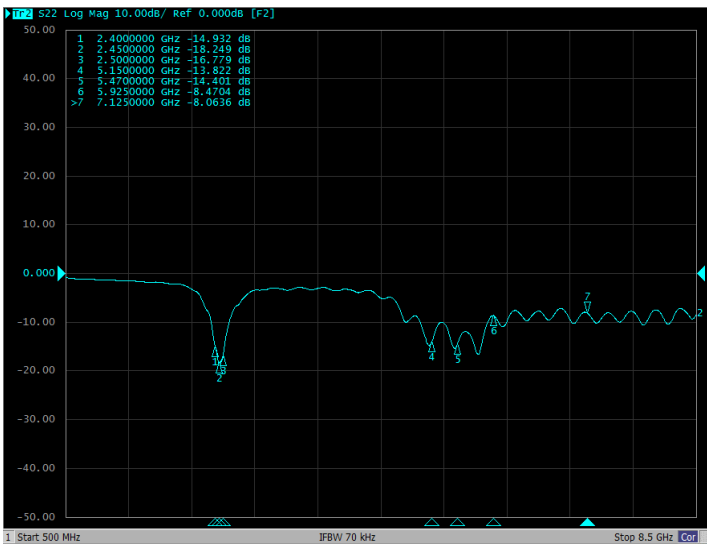
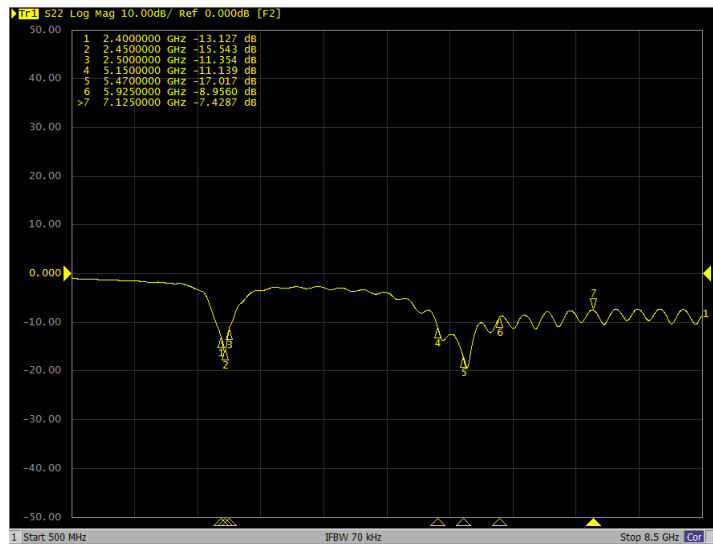
RF Function	Number of ANT	Frequency Band	Remark
Wi-Fi	2	2400-2500&5150-5850&5925-7125MHz	
GPS	1	1575.42&1602MHz	

Antenna Placement & Solution

Antenna	ANT Type	Size (L * W * H)	Cable Type
Wi-Fi Main	PIFA	40mm*9mm*0.4mm	Φ=1.13 Low Loss,BLK
Wi-Fi Aux	PIFA	40mm*9mm*0.4mm	Φ=1.13 Low Loss,WHT
GPS	PIFA	40mm*9mm*0.4mm	Φ=1.13 Low Loss,GRAY

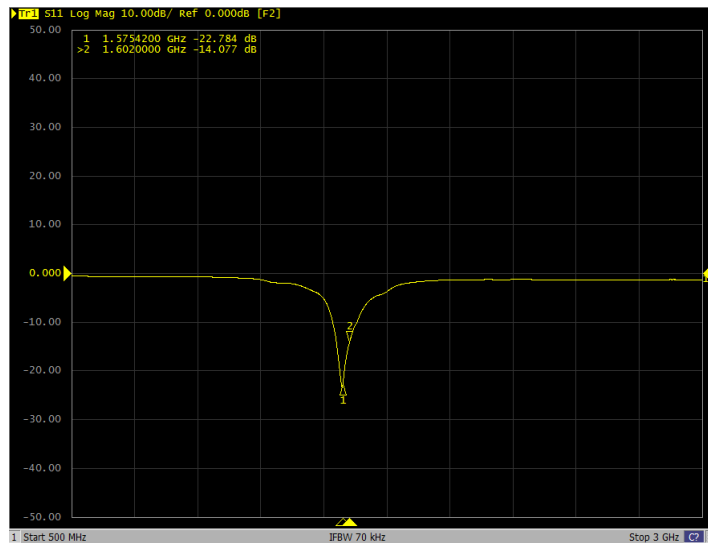
Return Loss Results

Wi-Fi [2400-2500& 5150-5850& 5925-7125MHz]



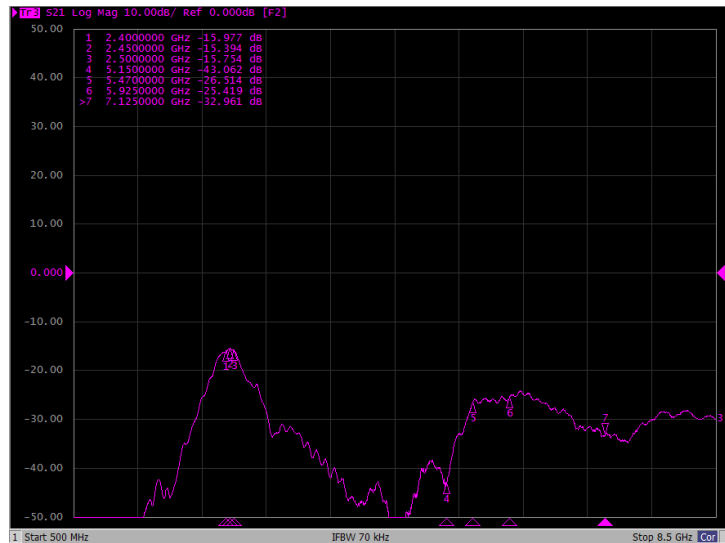
Return Loss Results

GPS [1575.42& 1602MHz]



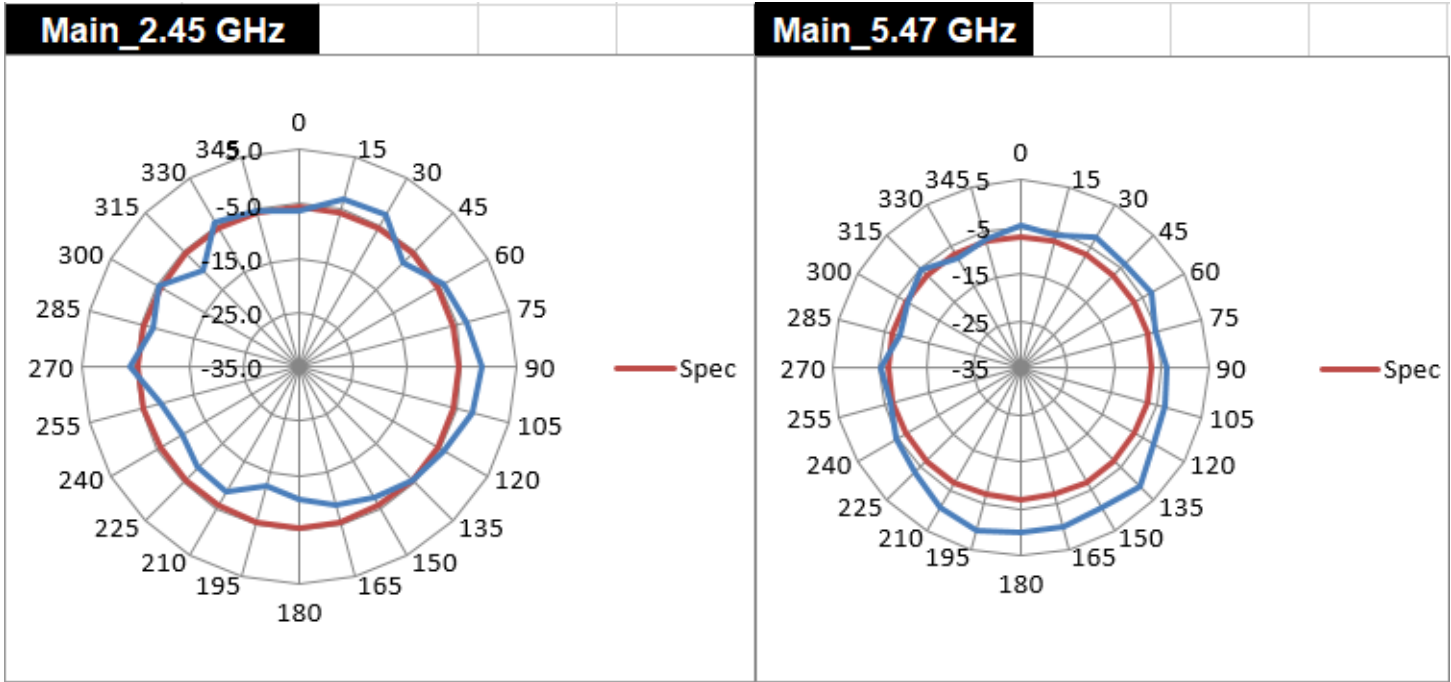
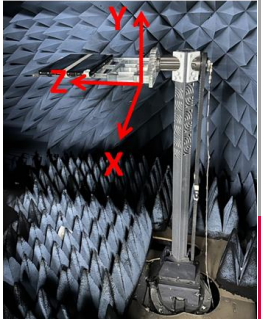
Isolation Results

Wi-Fi Main & Wi-Fi Aux



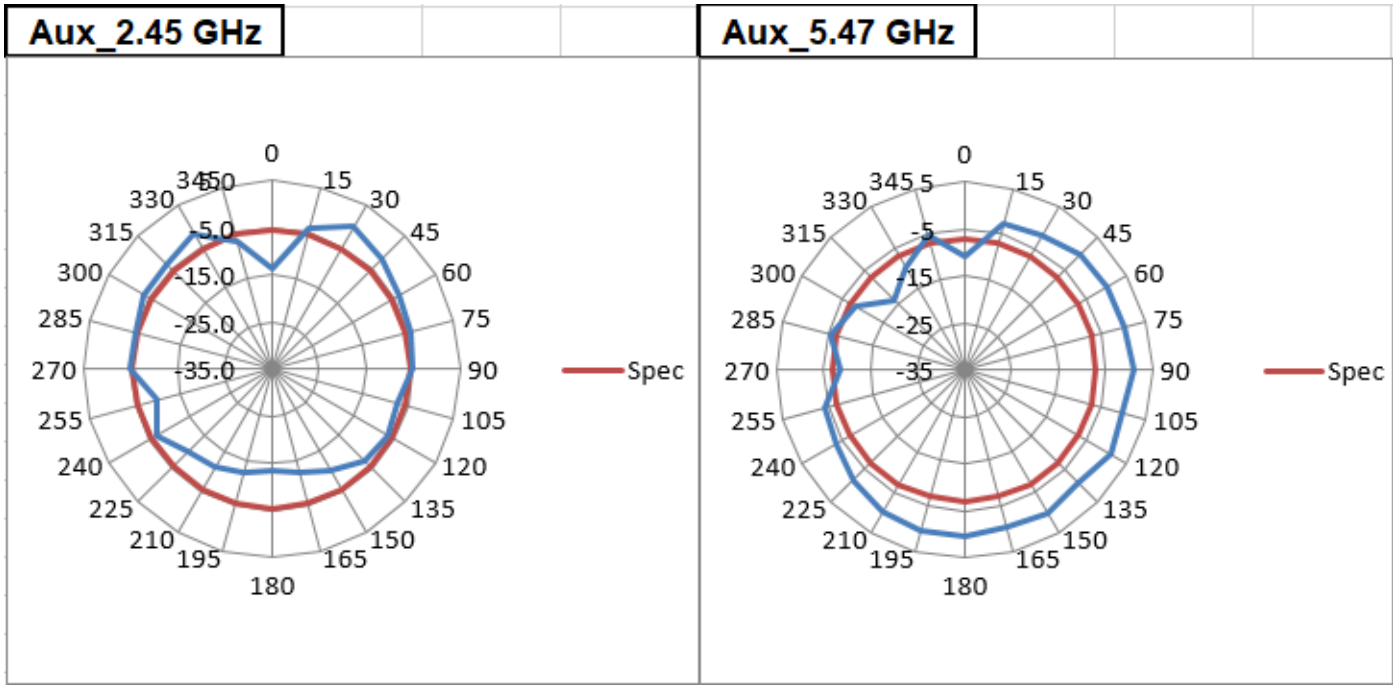
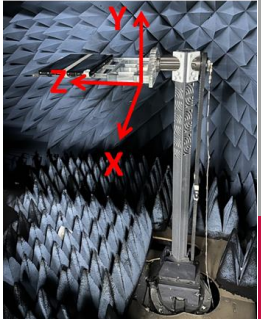
2D Radiation Pattern Results

Wi-Fi Main (XY_plane)



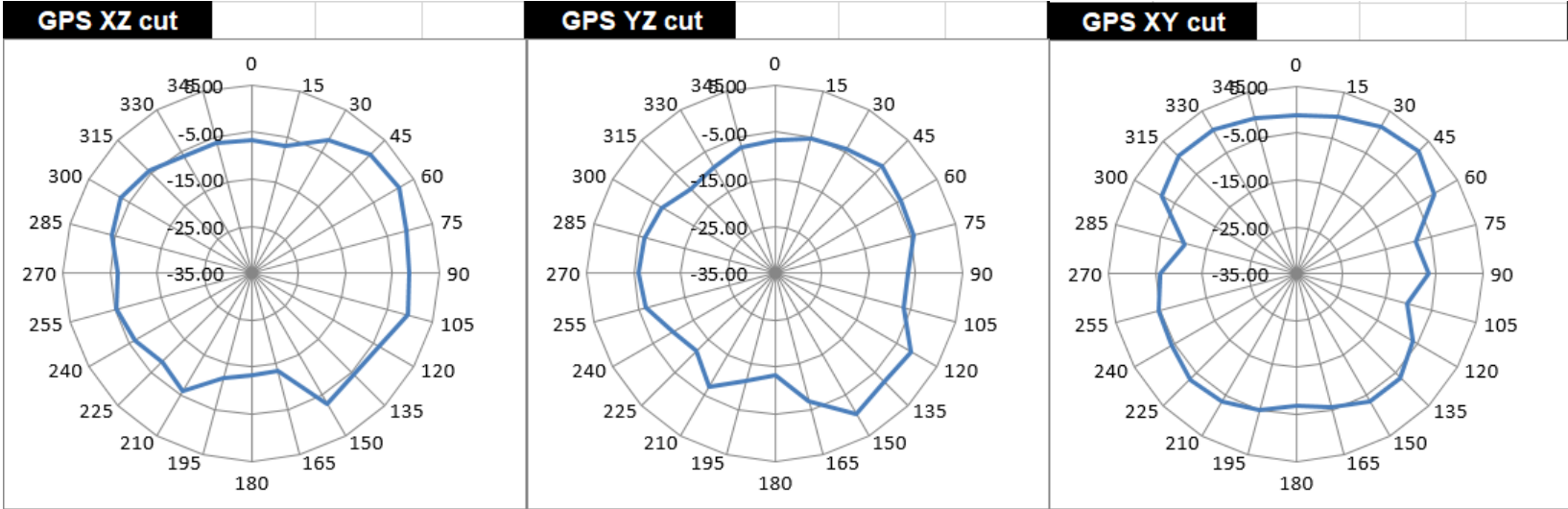
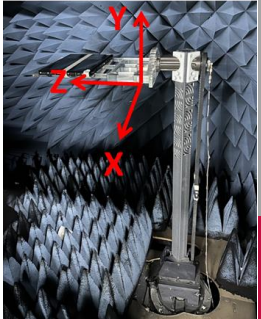
2D Radiation Pattern Results

Wi-Fi Aux (XY_plane)



2D Radiation Pattern Results

GPS @1575.42 MHz



Results Summary

Peak gain & Efficiency

– Wi-Fi Main & Aux

WLAN Antenna spec.				Measured Data		WLAN Antenna Peak Gain spec.				Measured Data			
Typical		Freq.	Efficiency (dB)		Efficiency (dB)		Wi-Fi_6E		Freq	Peak Gain (dBi)		Peak Gain (dBi)	
		(MHz)	Main	Aux	Main	Aux			(MHz)	Main	Aux	Main	Aux
WLAN	802.11 b/g	2400	-5.0	-5.0	-4.92	-4.64	WLAN	802.11 b/g	2400	3.00	3.00	0.53	2.53
		2450	-5.0	-5.0	-4.62	-4.36			2450	3.00	3.00	1.65	2.75
		2500	-5.0	-5.0	-4.96	-4.42			2500	3.00	3.00	0.38	1.73
	802.11a / ac	5150	-5.5	-5.5	-4.19	-3.16		802.11a / ac	5150	3.64	3.64	1.43	3.41
		5250	-5.5	-5.5	-3.78	-3.48			5250	3.64	3.64	1.83	2.74
		5350	-5.5	-5.5	-3.70	-3.35			5350	3.73	3.73	2.06	2.92
		5470	-5.5	-5.5	-3.59	-2.98			5470	4.77	4.77	1.49	3.21
		5600	-5.5	-5.5	-2.83	-2.79			5600	4.77	4.77	2.80	3.02
		5650	-5.5	-5.5	-3.20	-2.83			5650	4.77	4.77	2.31	3.03
		5725	-5.5	-5.5	-3.25	-2.78			5725	4.77	4.77	1.59	2.59
		5785	-5.5	-5.5	-2.22	-2.53			5785	4.97	4.97	2.80	3.15
		5850	-5.5	-5.5	-3.31	-3.13			5850	4.97	4.97	1.89	1.43
	WIFI_6E	5865	-6.0	-6.0	-2.15	-2.95		WIFI_6E	5865	4.83	4.83	3.02	2.74
		5885	-6.0	-6.0	-2.15	-2.61			5885	4.83	4.83	3.07	2.04
		5905	-6.0	-6.0	-3.50	-3.64			5905	4.83	4.83	1.68	0.90
		5925	-6.0	-6.0	-4.26	-4.09			5925	4.83	4.83	0.86	0.51
		6000	-6.0	-6.0	-4.41	-3.86			6000	4.83	4.83	1.05	0.94
		6125	-6.0	-6.0	-4.05	-4.22			6125	4.83	4.83	2.42	0.39
		6225	-6.0	-6.0	-4.15	-4.48			6225	4.83	4.83	1.83	0.74
		6325	-6.0	-6.0	-4.07	-3.79			6325	4.83	4.83	1.96	1.47
		6425	-6.0	-6.0	-3.54	-3.90			6425	4.83	4.83	2.14	1.09
		6525	-6.0	-6.0	-4.27	-4.61			6525	4.30	4.30	1.57	0.53
		6625	-6.0	-6.0	-4.33	-4.58			6625	5.00	5.00	2.10	0.60
		6725	-6.0	-6.0	-3.77	-4.34			6725	5.00	5.00	2.81	0.98
		6875	-6.0	-6.0	-4.25	-4.24			6875	5.00	5.00	2.64	1.35
		6925	-6.0	-6.0	-4.22	-4.12			6925	5.00	5.00	2.80	1.80
		7000	-6.0	-6.0	-4.11	-4.14			7000	5.00	5.00	2.65	2.08
		7125	-6.0	-6.0	-4.80	-4.66			7125	5.00	5.00	2.07	1.43

Results Summary

Efficiency & UHIS Efficiency

– GPS & GNSS

GPS Antenna spec.					Measured Data	
Stand alone GPS		Freq.	3D Efficiency	UHIS Efficiency	3D Efficiency	UHIS Efficiency
		(MHz)	(dB)	(dB)	(dB)	(dB)
GPS	GPS	1565	-4.0	-4.0		
		1575	-4.0	-4.0	-3.11	-2.77
		1585	-4.0	-4.0		
	GNSS	1592	-4.0	-4.0		
		1602	-4.0	-4.0	-3.86	-2.99
		1612	-4.0	-4.0		