PSA

佳邦科技股份有限公司

INPAQ TECHNOLOGY CO., LTD.

PSA

PASSIVE SYSTEM ALLIANCE

INPAQ TECHNOLOGY CO., LTD.

LBB

Presented by :Rong, RF R&D Dept.
Checked by :Leeting Hsieh
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INPAQ Technology Co., Ltd.

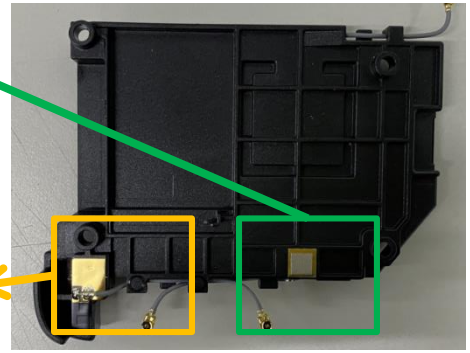
Last updated in Sep. 30 , 2022
Version:V0.2

PSA

Revision History

Released Date	Version	Record
Jun. 28th, 2022	0.0	Initial Release
Jul. 20th, 2022	0.1	Active Test-TRP TIS
Sep. 30th, 2022	0.2	2 Sample Active Test-TRP TIS

LTE Diversity with GPS & Wi-Fi Antenna



Module Name : LTE Diversity with GPS & Wi-Fi Antenna

Part Number : WA-C2-LTAE12LBG1-12-001

Antenna Type for LTE Diversity : Planar Inverted-F Antenna(PIFA)

Antenna Type for Wi-Fi/BT/BLE : Inverted-F Antenna(IFA)

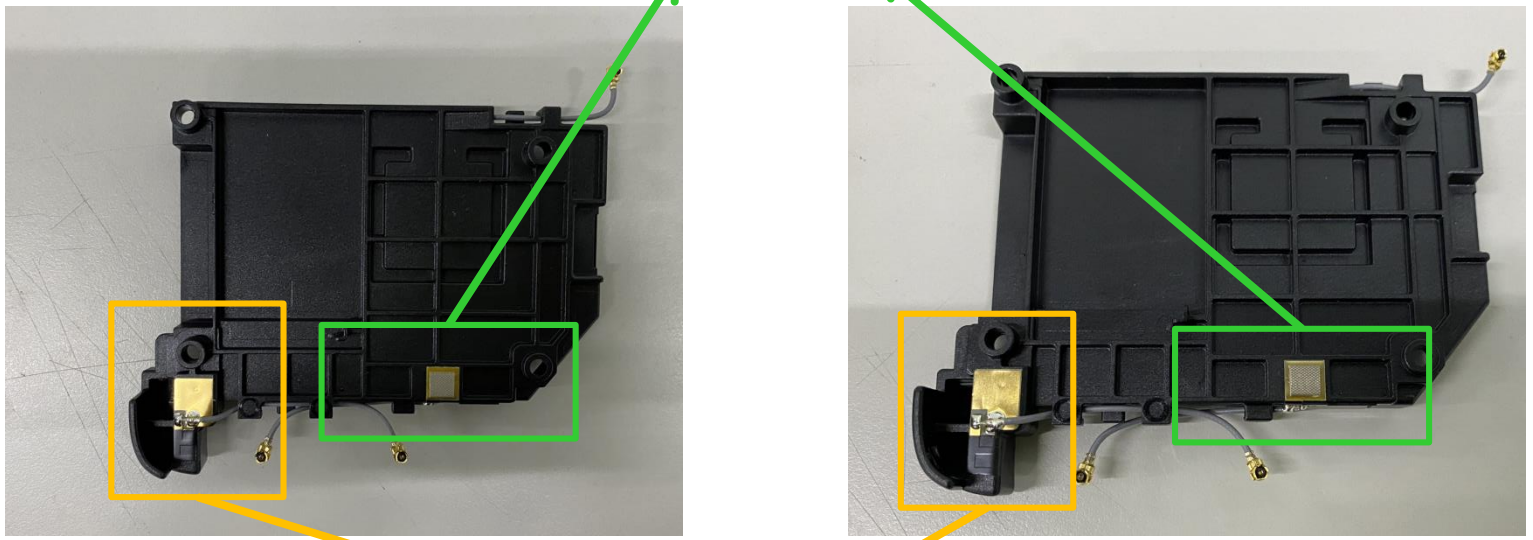
Antenna Type for GPS : Patch Ceramic Antenna

Antenna Placement

Sample 1

Wi-Fi

Sample 2



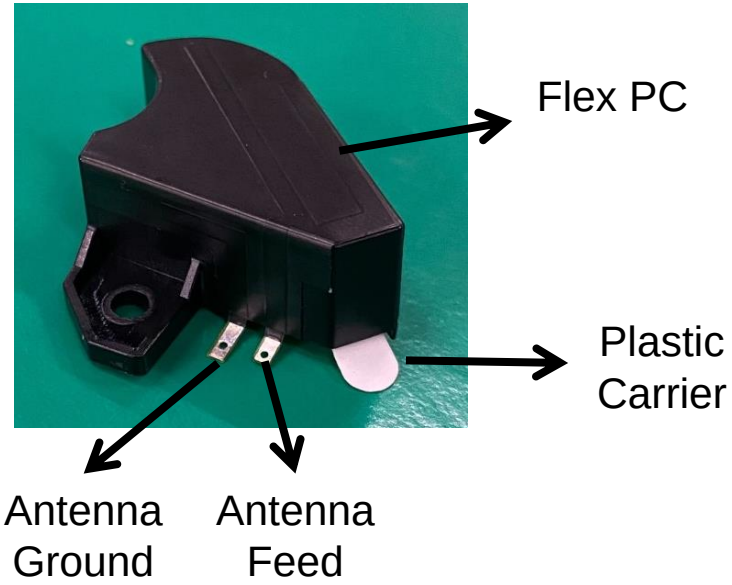
LTE Diversity

WCDMA/LTE Main Antenna

Module Name : WCDMA/LTE Main Antenna

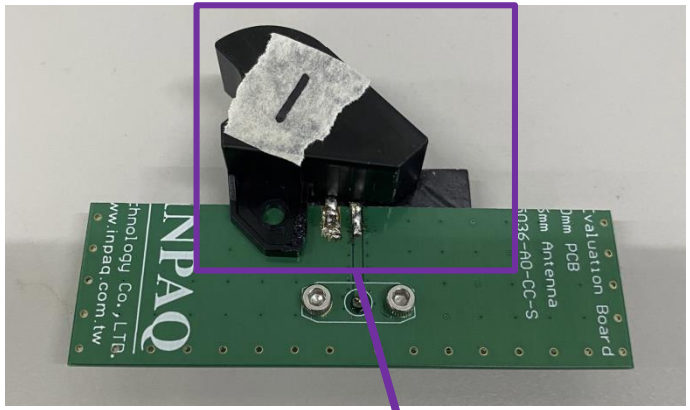
Part Number : WAG-F-LTE12-00-077

Antenna Type : Inverted-F Antenna(IFA)

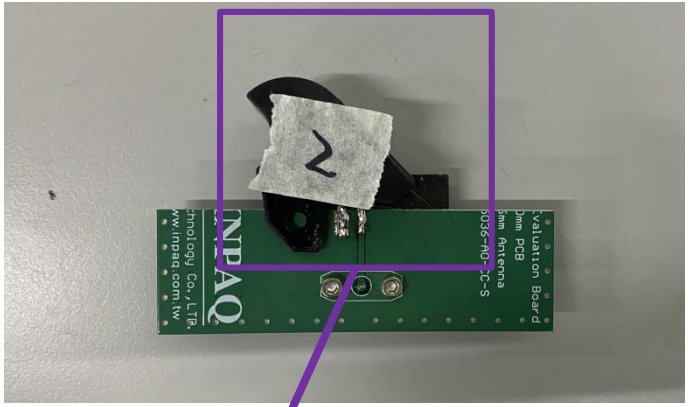


Antenna Placement

Sample 1

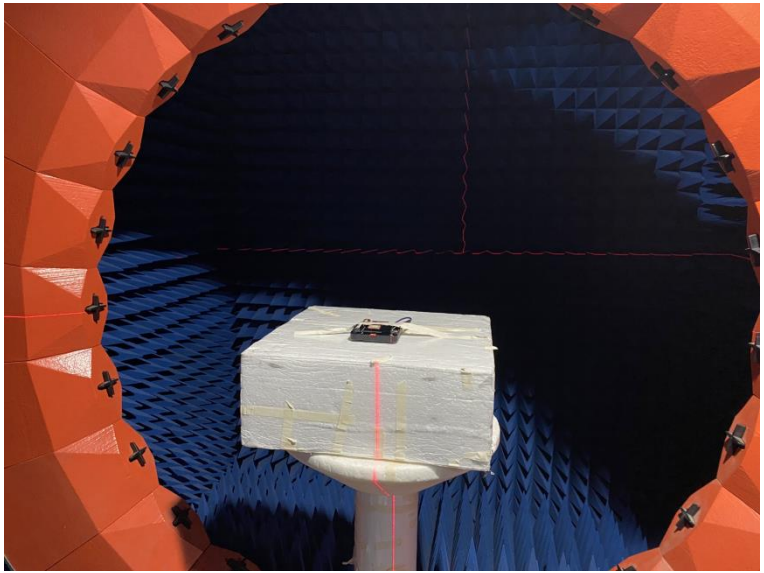


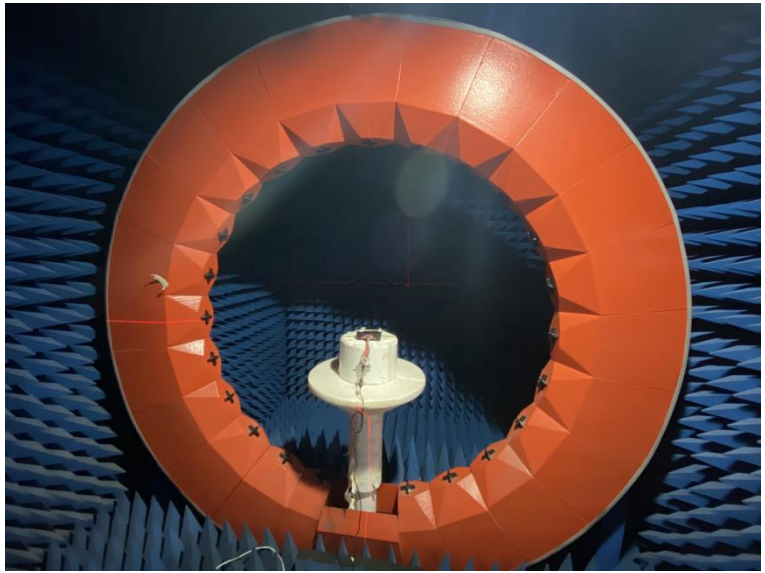
Sample 2

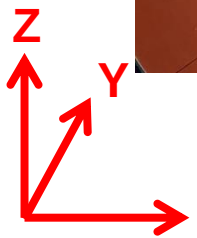


WCDMA/LTE Main Antenna

Test Environment

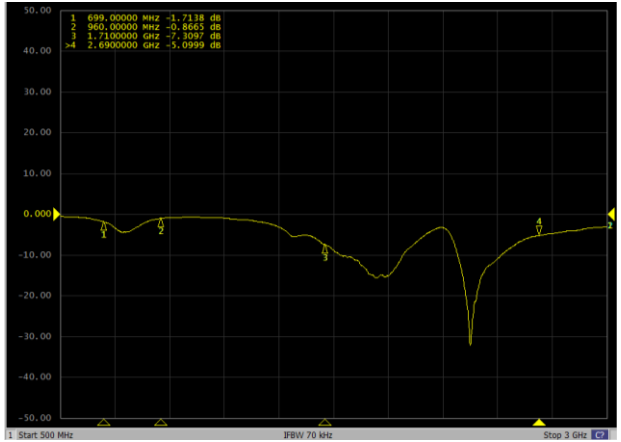




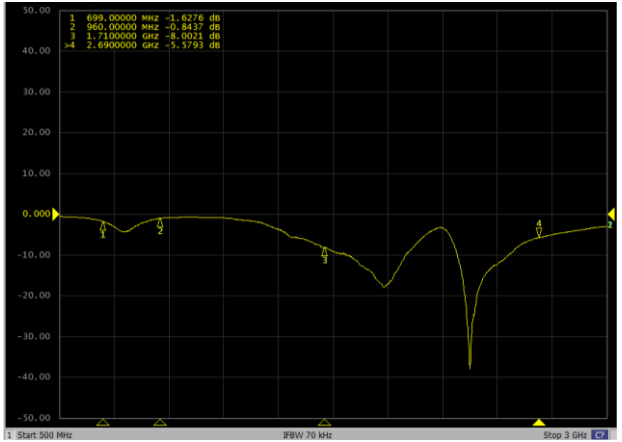


LTE-1 Return Loss Results-Original & INPAQ

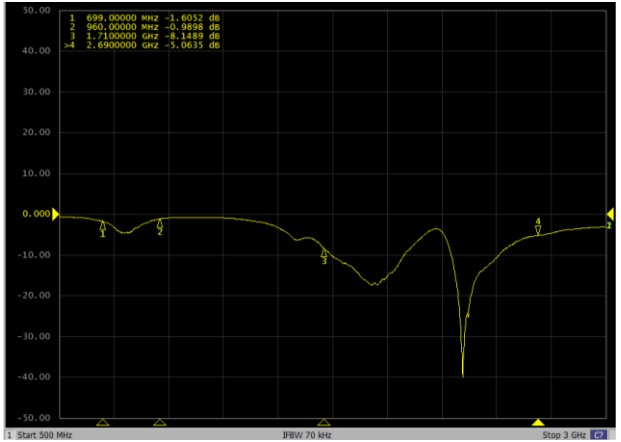
Original



Sample 1

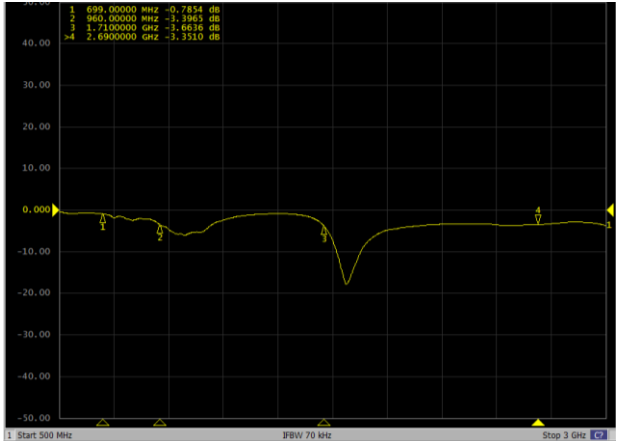


Sample 2

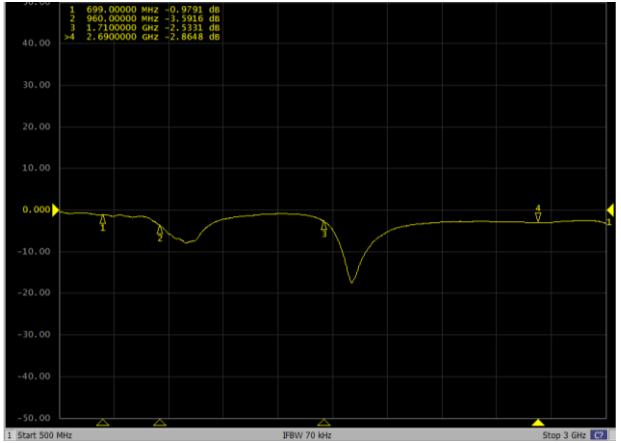


LTE-2 Return Loss Results-Original & INPAQ

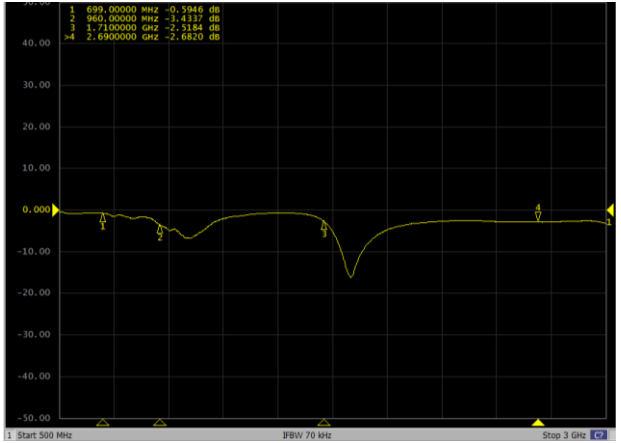
Original



Sample 1

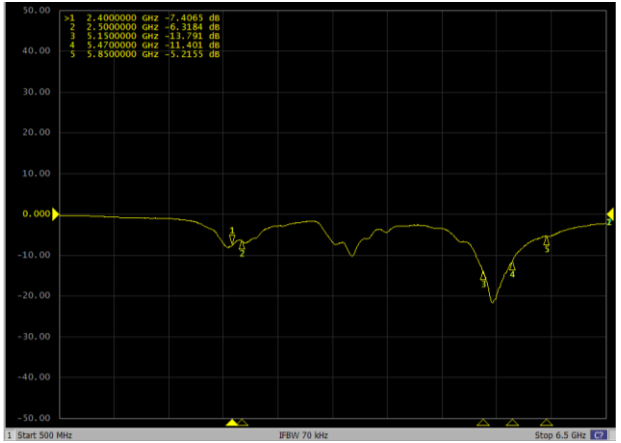


Sample 2

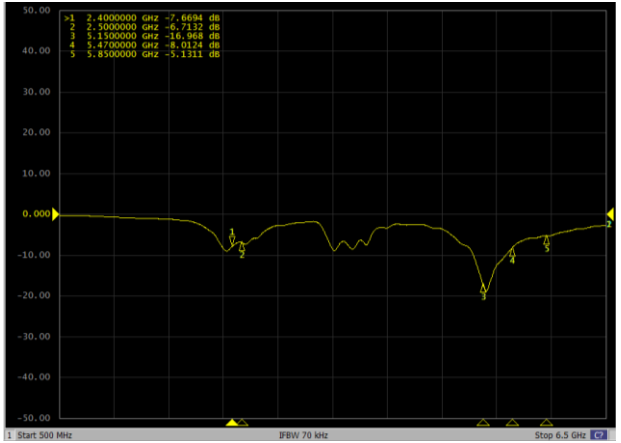


WiFi Return Loss Results-Original & INPAQ

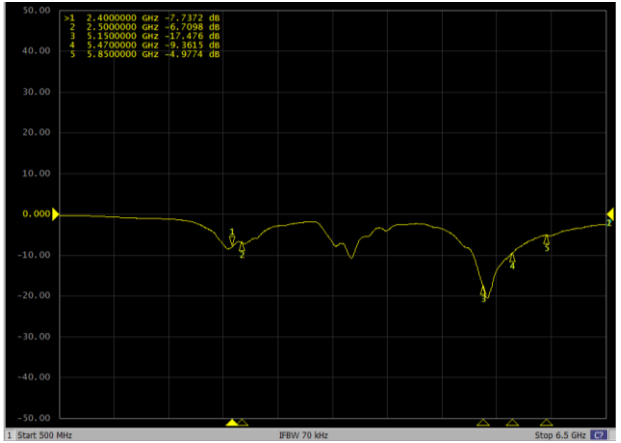
Original



Sample 1



Sample 2



Results Summary

Peak Gain & Efficiency – LTE-1

Frequency (MHz)	Original		Sample 1		Sample 2	
	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)
699	-3.07	19.65	-2.83	20.28	-2.88	20.09
824	0.72	41.41	0.99	40.22	1.31	39.87
960	-6.89	8.14	-6.94	8.16	-7.12	7.71
1710	1.59	59.89	2.37	58.32	2.51	59.28
2170	0.76	34.89	0.32	34.64	0.28	33.14
2690	1.96	56.55	1.50	57.13	1.85	56.52

Results Summary

Peak Gain & Efficiency – LTE-2

Frequency (MHz)	Original		Sample 1		Sample 2	
	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)
699	-6.67	11.54	-6.78	12.37	-7.00	11.29
824	-3.88	24.85	-4.03	24.46	-3.54	24.09
960	0.45	36.43	0.57	35.62	0.74	36.66
1710	-0.24	22.39	-0.12	22.24	-0.47	23.25
2170	-1.63	32.16	-1.60	31.43	-1.81	31.89
2690	-0.49	24.81	-0.30	24.84	-0.51	24.35

Results Summary

Peak Gain & Efficiency – WiFi

Frequency (MHz)	Original		Sample 1		Sample 2	
	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)
2400	2.54	29.77	2.14	30.29	2.40	30.79
2450	2.57	30.76	2.59	30.42	2.38	31.05
2500	2.75	31.15	2.62	30.81	2.42	31.14
5150	5.56	60.49	5.74	63.63	5.55	63.97
5470	5.52	57.46	5.31	55.67	5.46	56.17
5850	3.08	37.93	2.89	35.73	2.84	35.44

Results Summary

Active-B2、B4、B5、B12、B13 – LTE

Channel		Original		Sample 1		Sample 2	
		TRP	TIS	TRP	TIS	TRP	TIS
B2	L	21.32	-95.35	20.70		20.82	
	M	21.94	-94.94	22.23	-95.17	22.35	-95.14
	H	22.32	-96.19	22.37		22.15	
B4	L	19.28	-95.93	19.31		19.20	
	M	20.04	-96.11	20.64	-96.30	20.77	-96.43
	H	20.55	-94.03	20.11		20.15	
B5	L	19.95	-92.37	19.42		19.23	
	M	20.53	-94.22	19.68	-95.01	20.50	-95.31
	H	19.96	-94.53	19.82		19.99	
B12	L	18.35	-96.29	18.45		18.48	
	M	18.85	-97.21	18.77	-97.18	18.93	-97.16
	H	19.51	-96.12	19.47		19.68	
B13		21.84	-94.46	21.64	-95.05	21.90	-94.56

Conclusion

Antenna Performance Summary

- According to s-parameter and efficiency ,there is similarly performance between INPAQ and default design.

Thank you