

WAG-F-LAG0LTE12-00-001 Specification

1. Explanation of part number :

WAG F LAG0LTE12 00 001
(1) (2) (3) (4) (5)

(1) Product Type : Wireless Antenna

(2) Material: FPCB

(3) Frequency : 1575.42MHz ,2400-2500MHz

617-960MHz ,1805-2170MHz

(4) Coaxial Cable Type : no cable

(5) Suffix : 001

2. Storage Condition:

Temperature -40 to +85°C

Humidity 20 to 65 %RH

Recommended storage condition :

Store in room condition as listed below: Temperature -20°C~+45°C, Humidity 80% Max.

3. Operating Condition:

Temperature -40 to +85°C

Humidity 10 to 85 %RH

4. Electrical Specification :

Those specifications were specially defined for GH5601 model, and all characteristics were measured in the customer's machine. .

4-1. Frequency Band:

Frequency Band	MHz
BGW	1575.42,2400-2500
DIV	617-960,1805-2170

4-2. Impedance

50 ohm nominal

UNLESS OTHER SPECIFIED TOLERANCES ON : X=± X.X=± X.XX=± ANGLES=± HOLEDIA=±		 INPAQ TECHNOLOGY CO., LTD.	
SCALE :	UNIT : mm	THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION	
DRAWN BY: ting_wang	CHECKED BY: Tao_zhang		
DESIGNED BY: Jacken_Yu	APPROVED BY : DongYa_Fan		
TITLE : WAG-F-LAG0LTE12-00-001 Specification		DOCUMENT NO.	PAGE REV.
		ENS000183980	P0

4-3. Matching

div matching : p7.5NH
Main antenna Switch :
RF1=0Ω—W1/2/4//B2/4/66
RF2=0Ω /W5/B5
RF3=10NH B12/13/28
RF4=33NH B71

bgw matching : 0Ω

4-4. VSWR

Frequency Band	1575.42	2400	2500	925	960	1805	2170
4-4-1.Typical Value:	≤ 2.5	≤ 2.5	≤ 3.0	≤ 3.5	≤ 3.0	≤ 4.0	≤ 4.0

4-4-2.Measuring Method	1. A 50Ωcoaxial cable is connected to the pcb antenna. Then this cable is connected to a network analyzer to measure the VSWR. 2. Keeping this jig away from metal at least 20 cm.
------------------------	---

4-4-3.Picture	The figure contains two network analyzer plots. The top plot, labeled 'GPS, WIFI Antenna', shows a single sharp resonance dip at 1.575 GHz. The bottom plot, labeled 'DIV Antenna', shows multiple resonance points across the frequency range from 500 MHz to 3 GHz, with several peaks and valleys. Both plots include a table of measured data points on the right side.
---------------	--

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±

ANGLES=± HOLEDIA=±

SCALE : UNIT : mm

DRAWN BY: ting_wang CHECKED BY: Tao_zhang

DESIGNED BY: Jacken_Yu APPROVED BY : DongYa_Fan

TITLE : WAG-F-LAG0LTE12-00-001 Specification



INPAQ TECHNOLOGY CO., LTD.

THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION

DOCUMENT NO.

ENS000183980

PAGE REV.
P0

4-5. Efficiency and Gain

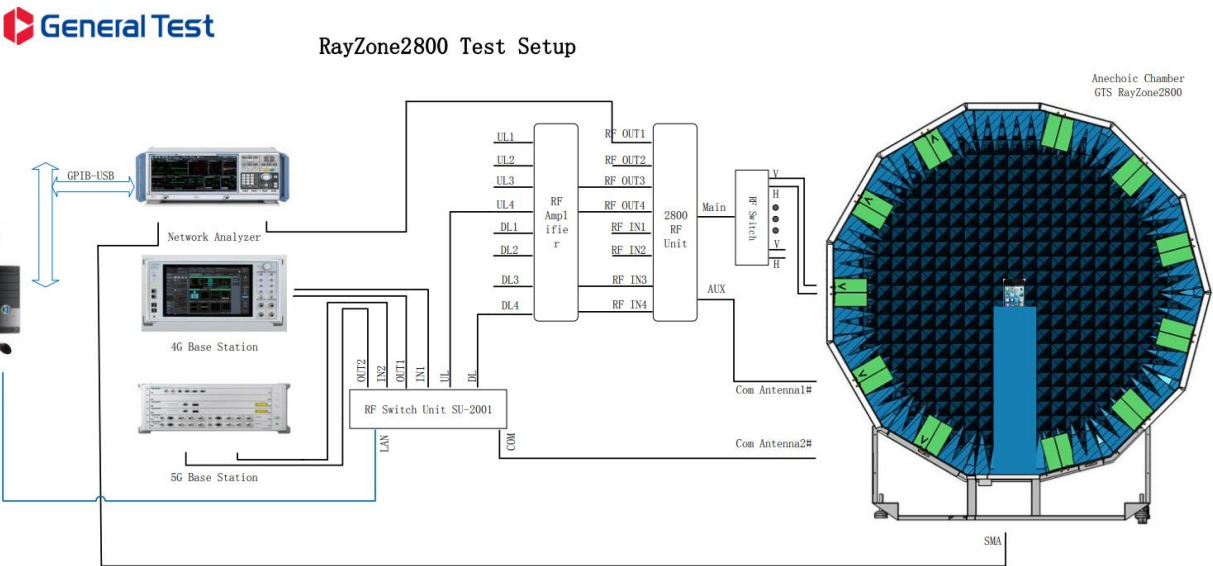
4-5.1 Measuring equipment

Measuring instrument:

Microwave chamber, Network analyzer, and standard antenna.

Instructions for microwave chamber:

This is a microwave chamber set up by our company in Suzhou, This microwave chamber belongs to a set of near-field measurement system. The size of the chamber is 2.95M * 3M * 3M.



The microwave chamber, shown above, using a unique multi-probe technique, The aim is to reduce the measurement time of the whole measurement system. The measuring system use multi-probe array instead of single probe to scan the measured surface of the antenna under test, a single probe has the capability of measuring orthogonal polarization amplitude and phase, it also has a wide frequency range, the corresponding multi-probe array is switched quickly by electronic switch, greatly improved the measurement efficiency.

The probe model: MA186960A(400MHz~7.5GHz) . Because of its capability of broadband frequency and the orthogonal polarization function, the number of probes needed to be equipped with the system is reduced; The small size of the probe reduces the coupling between the probes, make it is possible to insert probes of other frequency bands between probes, then a single system can support a wider frequency range.

UNLESS OTHER SPECIFIED TOLERANCES ON : X=± X.X=± X.XX=± ANGLES=± HOLEDIA=±		 INPAQ TECHNOLOGY CO., LTD.	
SCALE :	UNIT : mm	THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION	
DRAWN BY: ting_wang	CHECKED BY: Tao_zhang		
DESIGNED BY: Jacken_Yu	APPROVED BY : DongYa_Fan		
TITLE : WAG-F-LAG0LTE12-00-001 Specification		DOCUMENT NO.	PAGE REV.
		ENS000183980	P0

4-5.2 Efficiency and Gain

DIV Antenna										
	RF1,2-0Ω			RF3-10NH			RF4-33NH			
	Effi(dB)	Effi(%)	Peak Gain(dBi)	Effi(dB)	Effi(%)	Peak Gain(dBi)		Effi(dB)	Effi(%)	Peak Gain(dBi)
699	-12.76	5.29	-9.59	-9.02	12.52	-5.66	617	-8.38	14.51	-5.48
704	-13.1	4.9	-9.83	-9.22	11.97	-5.77	634	-6.42	22.81	-3.51
707	-12.76	5.29	-9.49	-8.85	13.03	-5.39	652	-4.83	32.86	-1.71
710	-12.6	5.5	-9.37	-8.61	13.78	-5.19	663	-5.64	27.28	-2.23
716	-12.51	5.61	-9.08	-8.37	14.54	-4.73	680	-6.28	23.57	-2.6
729	-12.42	5.73	-8.92	-7.9	16.2	-4.19	698	-5.31	29.42	-1.68
734	-11.98	6.34	-8.57	-7.36	18.36	-3.72	699	-6.23	23.83	-2.5
737	-11.95	6.39	-8.51	-7.23	18.92	-3.58	704	-6.4	22.91	-2.67
740	-12.08	6.19	-8.55	-7.28	18.72	-3.53				
746	-12.28	5.92	-8.77	-7.27	18.74	-3.58				
751	-12.24	5.98	-8.72	-7.04	19.76	-3.32				
756	-11.75	6.69	-8.23	-6.5	22.39	-2.78				
777	-10.37	9.18	-6.68	-4.6	34.7	-0.68				
782	-9.85	10.34	-6.2	-4.23	37.73	-0.35				
787	-9.68	10.76	-5.96	-3.9	40.71	0.07				
791	-9.14	12.18	-5.37	-3.49	44.74	0.53				
806	-8.2	15.13	-4.26	-3.03	49.82	1.08				
815	-7.63	17.24	-3.58	-3.04	49.69	1.17				
821	-7.21	19.02	-3.15	-3.26	47.18	0.95				
824	-7.46	17.93	-3.35	-3.45	45.18	0.76				
832	-7.05	19.71	-2.91	-3.78	41.9	0.48				
836	-7.02	19.87	-2.9	-4.52	35.31	-0.32				
847	-6.15	24.26	-1.98	-5.43	28.67	-1.24				
849	-6.19	24.02	-1.99	-5.57	27.72	-1.36				
862	-5.51	28.11	-1.25	-6.87	20.55	-2.63				
869	-5.24	29.95	-0.9	-7.56	17.54	-3.27				
880	-4.7	33.92	-0.23	-8.96	12.7	-4.61				
881	-4.82	32.93	-0.35	-9.27	11.83	-4.92				
894	-3.96	40.17	0.58	-10.59	8.72	-6.24				
897	-3.95	40.24	0.6	-10.52	8.87	-6.18				
915	-3.88	40.88	0.69	-12.68	5.4	-8.4				
925	-3.94	40.41	0.63	-13.73	4.24	-9.55				
942	-4.69	33.99	-0.11	-14.86	3.26	-10.93				

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±

ANGLES=± HOLEDIA=±



INPAQ TECHNOLOGY CO., LTD.

SCALE :

UNIT : mm

DRAWN BY: ting_wang

CHECKED BY: Tao_zhang

DESIGNED BY: Jacken_Yu

APPROVED BY : DongYa_Fan

THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION

TITLE : WAG-F-LAG0LTE12-00-001 Specification

DOCUMENT NO.

ENS000183980

PAGE REV.
P0

	RF1,2-0Ω			RF3-10NH		
	Effi(dB)	Effi(%)	Peak Gain(dBi)	Effi(dB)	Effi(%)	Peak Gain(dBi)
1710	-5	31.64	0.21	-10.48	8.95	-6.95
1732	-5.28	29.66	0.08	-11.91	6.45	-8.04
1747	-5.33	29.3	-0.59	-12.4	5.75	-9.1
1755	-5.33	29.29	-1.26	-12.7	5.37	-9.41
1805	-5.28	29.62	-1.72	-14.43	3.61	-10.55
1842	-5.31	29.45	-1.48	-14.5	3.55	-11.41
1850	-5.44	28.6	-1.59	-14.18	3.82	-11.14
1880	-5.34	29.24	-1.5	-13.25	4.73	-9.72
1900	-6.12	24.46	-2.39	-12.48	5.64	-8.58
1910	-6.18	24.11	-2.4	-12.1	6.16	-7.96
1920	-6.24	23.75	-2.43	-11.97	6.36	-7.59
1930	-6.28	23.52	-2.36	-11.49	7.1	-6.93
1940	-6.11	24.49	-2.01	-10.79	8.34	-6.19
1950	-6.06	24.78	-1.83	-10.39	9.14	-5.85
1960	-6.23	23.81	-1.9	-10.13	9.7	-5.69
1980	-6.06	24.78	-1.62	-9.1	12.31	-5.33
1990	-6.32	23.36	-1.95	-8.66	13.6	-4.83
2010	-6.98	20.06	-2.44	-7.72	16.92	-3.72
2040	-6.96	20.12	-2.41	-5.69	26.97	-2.01
2070	-7.07	19.62	-3.09	-4.91	32.27	-0.48
2110	-7.09	19.54	-4.18	-4.53	35.2	0.26
2132	-6.83	20.76	-3.84	-4.28	37.3	0.47
2140	-6.72	21.26	-3.56	-4.32	36.98	0.43
2155	-6.62	21.76	-3.25	-4.05	39.35	0.72
2170	-6.18	24.08	-2.67	-3.91	40.66	0.9

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±

ANGLES=± HOLEDIA=±



INPAQ TECHNOLOGY CO., LTD.

SCALE :

UNIT : mm

DRAWN BY: ting_wang

CHECKED BY: Tao_zhang

DESIGNED BY: Jacken_Yu

APPROVED BY : DongYa_Fan

THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION

TITLE : WAG-F-LAG0LTE12-00-001 Specification

DOCUMENT NO.

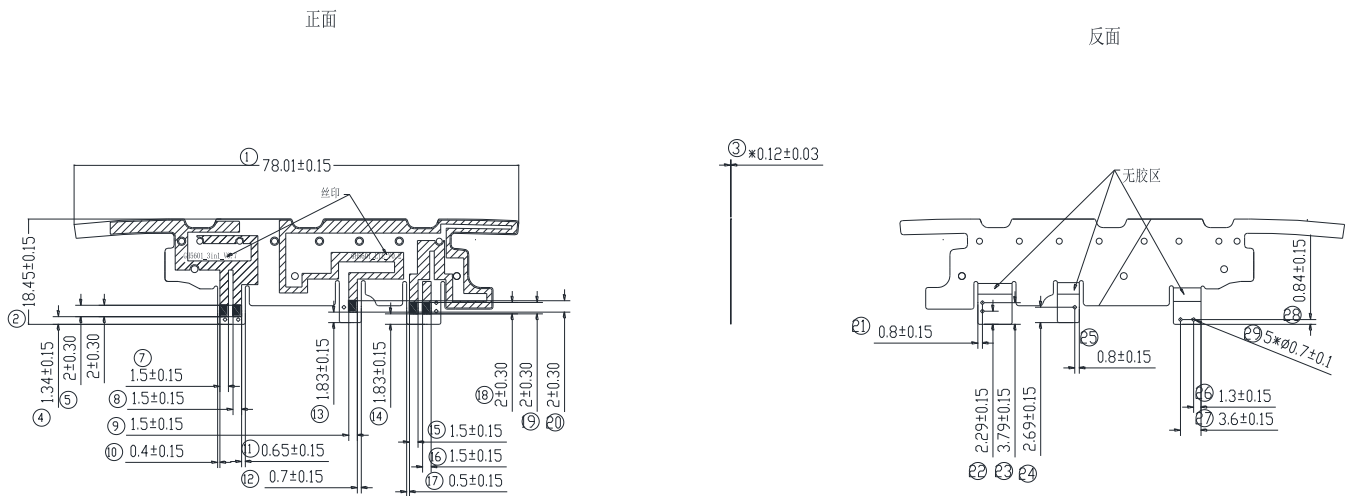
ENS000183980

PAGE REV.
P0

	GPS,WIFI		
	Effi(dB)	Effi(%)	Peak Gain(dBi)
1570	-3.26	47.19	2.12
1571	-3.28	47.02	2.12
1572	-3.28	46.95	2.07
1573	-3.34	46.35	2.12
1574	-3.39	45.82	2.14
1575	-3.49	44.74	2.06
1575.42	-3.58	43.89	1.84
1576	-3.64	43.28	1.78
1577	-3.75	42.20	1.69
1578	-3.76	42.04	1.67
1579	-3.54	44.27	1.99
1580	-3.46	45.04	2.10
2400	-2.50	56.29	2.87
2410	-2.62	54.76	2.53
2420	-2.80	52.53	2.13
2430	-2.96	50.64	1.87
2440	-2.86	51.78	2.21
2450	-2.74	53.27	2.42
2460	-2.80	52.50	2.15
2470	-3.18	48.09	1.65
2480	-2.87	51.68	1.88
2490	-2.81	52.39	1.91
2500	-3.07	49.31	1.39

UNLESS OTHER SPECIFIED TOLERANCES ON : X=± X.X=± X.XX=± ANGLES=± HOLEDIA=±		 INPAQ TECHNOLOGY CO., LTD.		
SCALE :	UNIT : mm	THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION		
DRAWN BY: ting_wang	CHECKED BY: Tao_zhang			
DESIGNED BY: Jacken_Yu	APPROVED BY : DongYa_Fan			
TITLE : WAG-F-LAG0LTE12-00-001 Specification		DOCUMENT NO.	ENS000183980	PAGE REV.
				P0

5. Mechanical Specification:



6. Assembly precautions:

Physical Picture:



UNLESS OTHER SPECIFIED TOLERANCES ON : X=± X.X=± X.XX=± ANGLES=± HOLEDIA=±		 INPAQ TECHNOLOGY CO., LTD.	
SCALE :	UNIT : mm	THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION	
DRAWN BY: ting_wang	CHECKED BY: Tao_zhang		
DESIGNED BY: Jacken_Yu	APPROVED BY : DongYa_Fan		
TITLE : WAG-F-LAG0LTE12-00-001 Specification		DOCUMENT NO.	PAGE REV.
		ENS000183980	P0