

Testing Report

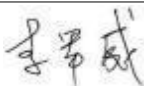
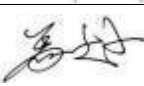
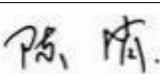
Customer Name: SHENZHEN SHIXINZHONGXIN TECHNOLOGY CO., LTD

Product Name: 5G Antenna

Sample Model: Q60H-TX

Reference Standard: GB/T9410-2008; ANSI/IEEE Std 149-1979

Issue Date: 2024.06. 12

Engineer:		Date:2024.06.12
Auditor:		Date:2024.06.12
Approver:		Date:2024.06.12

1. General Information

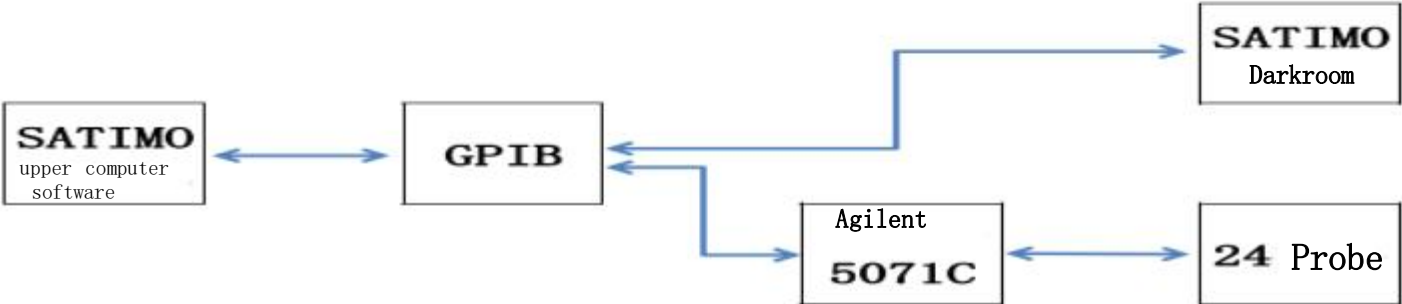
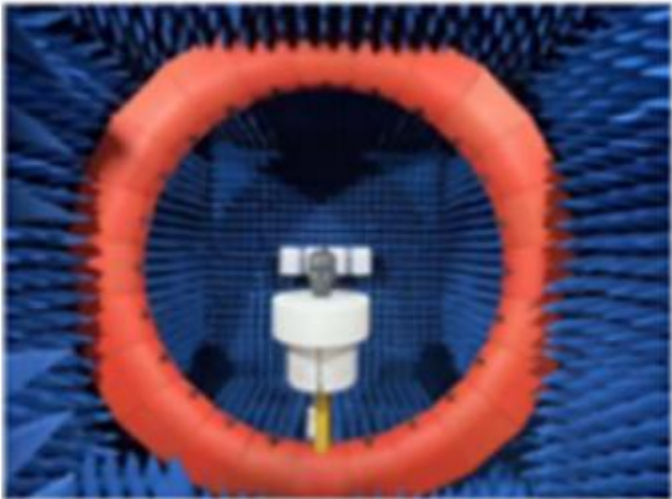
1.1 General Information of testing institutions

Name	Shenzhen Hetuo Technology Co., Ltd.
Address	Room 1202 B, Building C6, Hengfeng Industrial City, Xixiang, Baoan District, Shenzhen
Tel	18665849001
E-mail	18665849001@163.com
Equipment	Agilent 5071C

1.2 Testing principle

2. Test System

Multi-probe OTA Measurement System



1.3 Test equipment

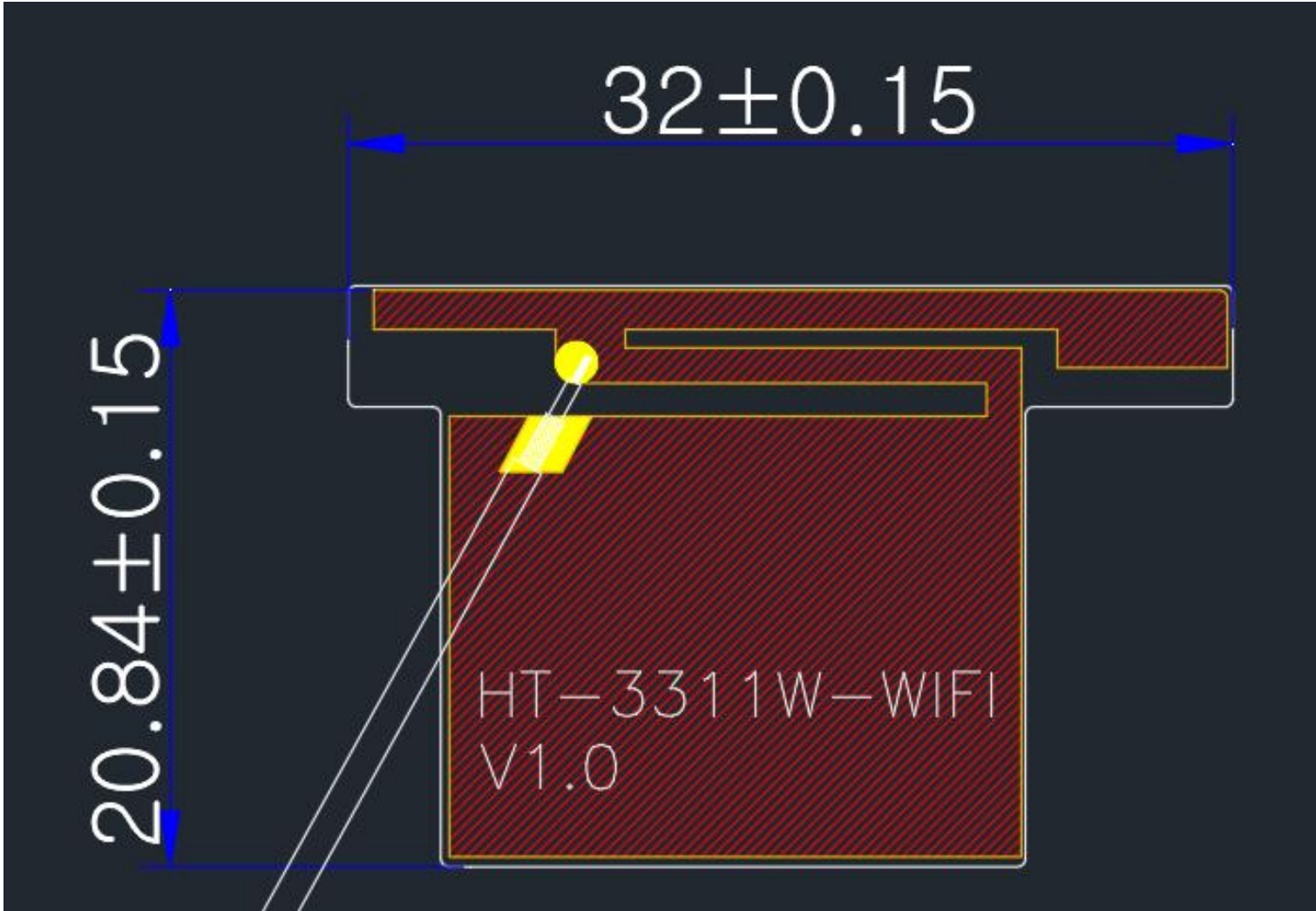
Equipment	Model No.	Serial No.	Manufacturer	Calibration date	Next calibration date
24 probe microwave chamber	4*3*3	NA	SATIMO	2024.05.29	2024.08.29
Network Analyzer	5071C	NA	Agilent	2024.05.29	2024.08.29

1.4 Test environment

Temperature	24 C± 1.5 C
Humidity	45%RH
Pressure	101kPa

1.5

Antenna Photo & Lenght(mm)



2. Sample Information

2.1 Client information

Name	SHENZHEN SHIXINZHONGXIN TECHNOLOGY CO.,LTD
Address	A1 , Shajing Donghuan Industrial Zone , Bao 'an District , Shenzhen
Contacts	Ma Chao
Tel	18218809918
E-mail	machao@c-chip.com.cn

2.2 Description of EUT(S)

Product Name	5G Antenna
Sample Model	Q60H-TX
Antenna Size	20.84*32mm
Antenna Type	FPC antenna
Serial No.	/
Test Item	Antenna Gain, Radiation pattern
Frequency Range	5150-5850MHz
Received Date	2024.06.12
Test Date	2024.06. 12
Remark	The length of the RF cable is 50mm

The test photos





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Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	
Frequency (MHz)	5100.0	5120.0	5140.0	5160.0	5180.0	5200.0	5220.0	5240.0	5260.0	5280.0	5300.0	5320.0	5340.0	5360.0	5380.0	5400.0	5420.0	5440.0	5460.0	5480.0	5500.0	5520.0	5540.0	5560.0	5580.0	5600.0	5620.0	5640.0	5660.0	5680.0	5700.0	5720.0	5740.0	5760.0	5780.0	5800.0	
Efficiency (dBi)	-10.90	-9.79	-8.61	-10.09	-10.59	-9.00	-8.70	-9.20	-10.71	-10.99	-9.26	-8.82	-9.62	-8.93	-6.85	-6.74	-7.48	-10.31	-10.56	-10.12	-10.73	-10.28	-10.32	-7.53	-6.78	-7.54	-6.83	-8.26	-8.61	-8.75	-9.95	-11.21	-7.98	-6.64	-6.05		
Gain (dBi)	-2.67	-3.13	-2.26	-3.00	-2.36	-2.12	-2.32	-2.09	-3.04	-2.29	-2.64	-1.08	-3.01	-2.82	-1.55	-0.80	-1.67	-3.05	-3.06	-3.26	-4.62	-1.67	-2.98	-1.66	-0.66	-1.06	-0.80	-0.73	-2.12	-2.14	-1.79	-3.79	-4.98	-1.40	1.36	-0.19	
Efficiency (%)	8.12	10.49	13.77	9.78	8.73	12.58	13.49	12.03	8.50	7.96	11.86	13.13	10.92	12.81	20.65	21.18	17.86	9.30	8.79	9.73	8.45	9.37	9.28	17.64	21.01	17.61	17.64	20.77	14.91	13.76	13.34	10.13	7.56	15.93	21.69	24.81	
Directivity (dB)	8.24	6.66	6.35	7.09	8.23	6.88	6.38	7.11	7.66	8.71	6.62	7.74	6.61	6.11	5.30	5.94	5.81	7.26	7.51	6.86	6.11	8.61	7.35	5.88	6.12	6.48	6.73	6.10	6.14	6.47	6.96	6.16	6.24	6.58	8.00	5.86	
Peak Gain Position (Theta)	120.00	90.00	30.00	75.00	120.00	120.00	120.00	120.00	120.00	30.00	120.00	30.00	120.00	75.00	30.00	75.00	120.00	120.00	120.00	30.00	120.00	75.00	120.00	120.00	75.00	30.00	30.00	75.00	30.00	30.00	75.00	105.00	75.00	120.00	0.00	0.00	
Peak Gain Position (Phi)	135.00	180.00	330.00	165.00	165.00	165.00	165.00	165.00	180.00	180.00	60.00	165.00	150.00	150.00	165.00	240.00	75.00	180.00	180.00	165.00	210.00	165.00	180.00	165.00	165.00	180.00	195.00	165.00	0.00	135.00	180.00	180.00	180.00	165.00	165.00	90.00	30.00
Efficiency ThetaPol (%)	3.63	5.15	6.74	4.35	3.60	5.60	6.25	5.56	4.02	3.99	5.34	5.48	4.40	5.23	10.22	9.76	8.65	4.19	4.09	4.37	3.86	4.45	4.32	8.21	9.82	8.84	8.77	10.53	7.25	6.30	6.29	4.84	3.32	7.19	9.93	11.63	
Efficiency PhiPol (%)	4.49	5.34	7.03	5.43	5.13	6.98	7.23	6.46	4.48	3.96	6.52	7.65	6.52	7.58	10.43	11.42	9.21	5.11	4.70	5.36	4.58	4.93	4.97	9.43	11.19	8.78	8.87	10.24	7.66	7.46	7.05	5.29	4.25	8.74	11.77	13.18	
Upper Hem. Efficiency (%)	4.25	5.79	8.18	5.76	4.80	7.43	7.88	6.91	4.69	4.24	6.77	8.04	6.24	7.06	12.08	12.98	10.89	5.54	4.89	5.76	5.10	5.42	5.44	10.91	12.73	10.87	11.12	13.56	9.46	8.54	8.40	6.05	4.46	10.37	14.14	15.83	
Lower Hem. Efficiency (%)	3.87	4.70	5.59	4.02	3.94	5.15	5.61	5.12	3.81	3.72	5.09	5.09	4.68	5.74	8.57	8.20	6.97	3.77	3.89	3.98	3.35	3.95	3.85	6.73	8.27	6.75	6.52	7.21	5.46	5.22	4.94	4.07	3.10	5.56	7.56	8.93	
T90(H) 圆度	14.01	16.32	14.26	13.47	12.96	14.72	9.67	13.05	16.13	8.15	19.75	12.75	14.01	15.15	9.23	11.09	9.75	18.39	11.84	17.78	18.56	15.67	15.61	9.71	13.10	8.40	13.07	8.73	14.31	13.33	12.84	14.71	13.92	12.26	14.62	9.36	
Gain 15deg (dBi)																																					
E1(XZ) 波瓣宽度	47.00	35.00	37.00	19.00	32.00	30.00	46.00	22.00	19.00	23.00	20.00	32.00	63.00	19.00	41.00	36.00	50.00	22.00	42.00	21.00	24.00	16.00	53.00	82.00	20.00	23.00	20.00	20.00	22.00	21.00	17.00	33.00	21.00	23.00	27.00	36.00	
E1(XZ) 前后比	9.14	5.06	8.77	5.70	2.42	6.24	8.52	4.86	8.59	5.39	7.20	6.54	6.29	4.33	8.84	10.17	12.80	9.14	7.65	7.95	5.63	9.82	3.01	5.70	8.06	7.82	4.76	7.95	4.72	12.88	12.12	11.14	7.21	14.81	13.16	6.74	
E2(YZ) 波瓣宽度	26.00	17.00	19.00	21.00	28.00	18.00	114.00	28.00	66.00	63.00	29.00	20.00	101.00	32.00	35.00	34.00	35.00	19.00	26.00	19.00	17.00	19.00	43.00	25.00	20.00	34.00	21.00	52.00	21.00	24.00	81.00	24.00	32.00	54.00	19.00	70.00	
E2(YZ) 前后比	9.99	14.34	9.28	10.65	8.31	11.74	8.33	5.35	11.33	5.91	5.59	9.34	6.39	8.97	7.75	7.59	10.43	9.21	7.16	6.63	9.64	6.74	9.27	5.81	8.80	10.33	9.28	7.29	9.39	7.55	10.74	10.39	5.54	12.73	10.63	12.37	
最大增益处轴比(P)	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	
仰角10度增益(大)轴比(P)	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	
Hc(XY) 波瓣宽度	21.00	31.00	37.00	36.00	33.00	34.00	34.00	26.00	31.00	27.00	22.00	21.00	37.00	25.00	33.00	42.00	26.00	44.00	21.00	21.00	29.00	31.00	36.00	77.00	43.00	25.00	29.00	64.00	22.00	19.00	18.00	24.00	32.00	20.00	23.00	24.00	
Hc(XY) 前后比	6.63	6.69	4.43	1.31	6.65	1.06	2.47	2.19	5.36	3.37	0.82	4.38	6.20	2.69	1.67	2.40	2.53	3.61	2.69	5.78	3.93	3.61	4.31	1.23	1.12	2.00	0.01	0.95	5.23	3.73	1.33	0.74	5.33	5.09	3.78	3.65	
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