

The BWG Antenna Sample Confirmation

File number: SNW-QR-D-007/A.0

Customer	SHENZHEN ALONG ELECTRONICS CO., LTD.		
Project Name	5510-A		2025-7-2
		Date	
Project NO.	SN1233		FPC
		Notes	
Frequency Range	BT/WIFI (2. 4G/5G) /GPS		
Designed By	RF Engineer	Structural Engineer	
Checked By	Engineering Manager		
Client' s Approval			

Designer: SINAWELL Electronics(Shenzhen) Co., Ltd.

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1. Overview of specifications

This specification describes the status of 5510-A built-in antenna, and its frequency band is BT/WIFI/GPS。

2. Antenna appearance



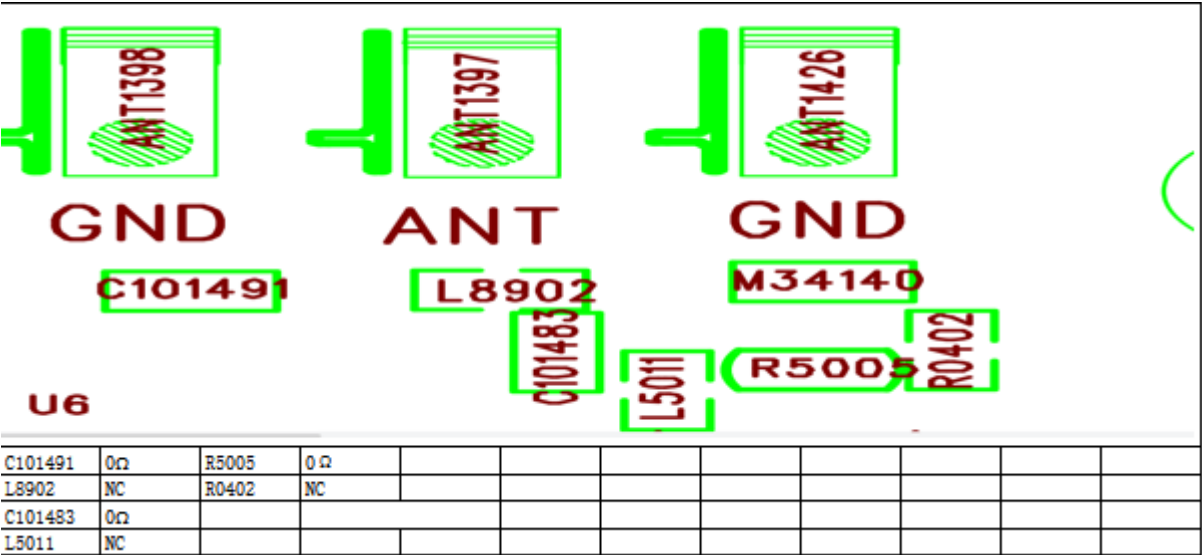
3. Electrical performance

3.1. Antenna frequency band

	Antenna
Transmitting frequency band(MHz)	BT/WIFI(2.4G/5G)/GPS

3.2. Matching circuit

The test point is behind the antenna connector (RF test port), as shown in the figure below.
Note: the antenna matching electronic material should be 1% accurate.



4. Appearance structure

4.1 Antenna material

FPC

5. Remarks

The following table format

Appendix I: structural drawings
BT Antenna structure drawing

Appendix 1: Structural Drawings

Appendix II: Electrical Performance Test Report

Appendix 1: FPC structural drawings

1	2	3	4	5	6	7	8																																
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C	Notes: 1."*"is the key dimension ; 2.Please refer to the drawing if no dimension is indicated; 3.Meet rohs2.0, reach environmental protection requirements. 4.This drawing is an internal controlled document and is strictly prohibited from being disseminated in any form without our company's permission <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">1</td> <td style="width: 35%;">BWG FPC</td> <td style="width: 30%;">PI Electrolytic Copper Half to one-third</td> <td style="width: 15%;">Black</td> <td style="width: 15%;"></td> </tr> <tr> <td>No.</td> <td>Part name</td> <td>Material</td> <td>Color</td> <td>Thickness</td> </tr> </table>						1	BWG FPC	PI Electrolytic Copper Half to one-third	Black		No.	Part name	Material	Color	Thickness	C																						
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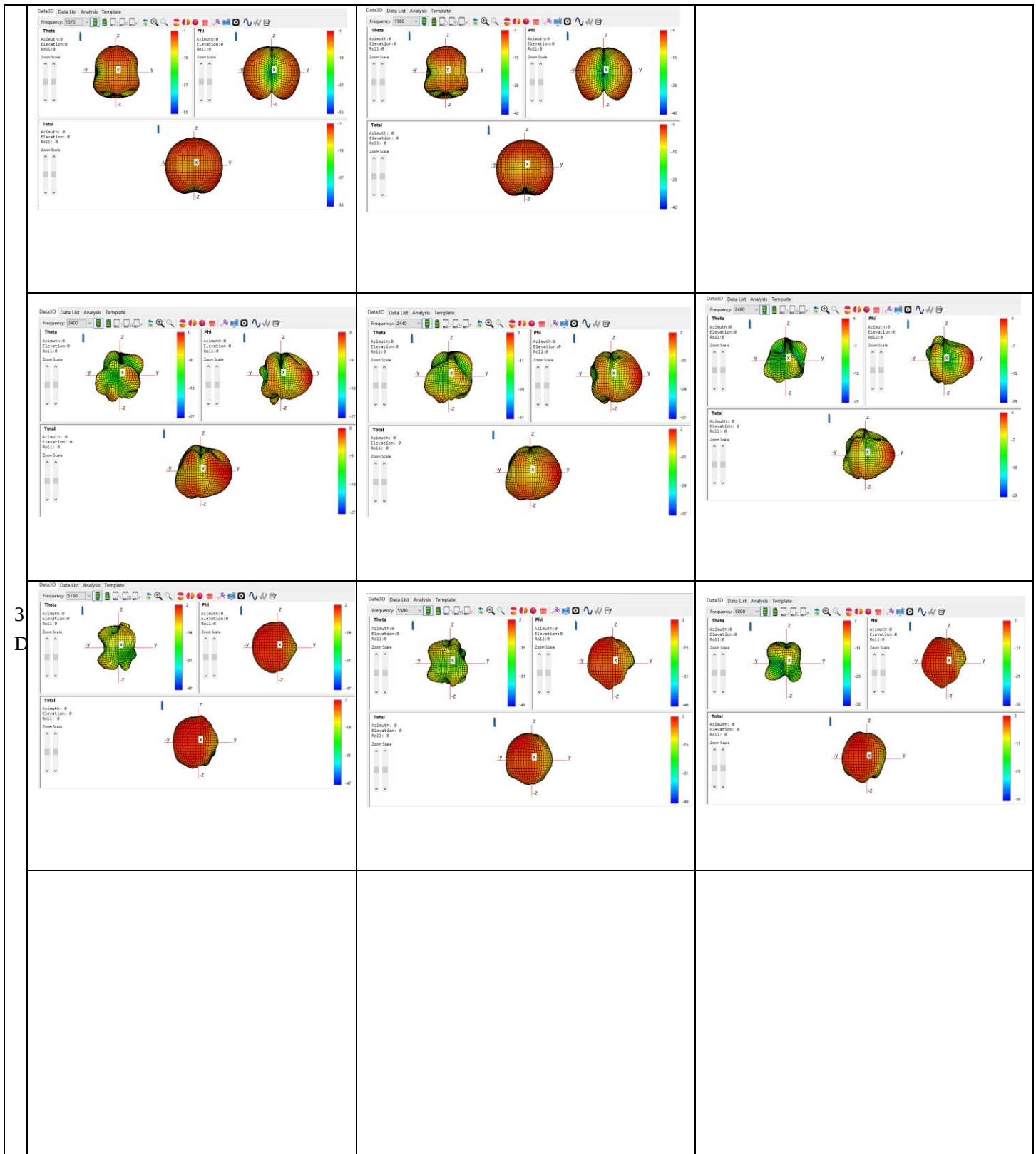
Appendix II: 3D Test Report

2.4G	Data Rate	Channel	TRP	TIS
11B	11M	1	12.21	-80.17
		7	12.54	-80.41
		13	12.47	-80.35
5G	Data Rate	Channel	TRP	TIS
11A	54M	40	7.57	-68.92
		56	8.48	-69.02
		157	9.26	-69.76
GPS	Channel		CN	TIS
GPS	0		42.33	-152.23

Passive efficiency

Freq (MHz)	Effi (dB)	Gain (dBi)	Effi (%)	Freq (MHz)	Effi (dB)	Gain (dBi)	Effi (%)	Freq (MHz)	Effi (dB)	Gain (dBi)	Effi (%)
GPS				5G							
1500	-7.51	-4.37	17.75	5100	-6.13	1.94	24.38	5460	-6.98	2.01	20.03
1510	-7.51	-4.05	17.75	5110	-6.11	1.9	24.47	5470	-7.29	1.7	18.65
1520	-7.28	-3.69	18.69	5120	-6.14	1.83	24.29	5480	-7.17	1.88	19.19
1530	-6.99	-3.23	20.01	5130	-6.12	1.79	24.45	5490	-7.22	1.84	18.98
1540	-6.69	-2.77	21.43	5140	-6.15	1.68	24.27	5500	-7.38	1.67	18.28
1550	-6.38	-2.3	23.04	5150	-6.28	1.46	23.53	5510	-7.47	1.61	17.93
1560	-6.1	-2.02	24.53	5160	-6.24	1.46	23.78	5520	-7.51	1.51	17.74
1570	-5.69	-1.55	27	5170	-6.18	1.44	24.09	5530	-7.46	1.66	17.95
1580	-5.28	-1.09	29.65	5180	-6.26	1.28	23.65	5540	-7.23	1.86	18.91
1590	-5.08	-0.89	31.06	5190	-6.25	1.25	23.73	5550	-7.1	2	19.5
1600	-5.1	-0.77	30.89	5200	-6.28	1.17	23.55	5560	-7.27	1.73	18.74
2.4G				5210	-6.33	1.1	23.25	5570	-7.34	1.66	18.43
2400	-4.75	-0.04	33.51	5220	-6.35	1.09	23.15	5580	-7.25	1.64	18.85
2410	-4.55	0.45	35.05	5230	-6.21	1.22	23.95	5590	-7	1.82	19.97
2420	-4.66	0.61	34.2	5240	-6.09	1.38	24.62	5600	-6.87	1.85	20.55
2430	-4.54	1.21	35.17	5250	-6.04	1.46	24.87	5610	-6.86	1.6	20.59
2440	-4.36	1.77	36.64	5260	-6.12	1.4	24.46	5620	-6.94	1.42	20.25
2450	-4.16	2.45	38.41	5270	-6.19	1.39	24.06	5630	-7.02	1.14	19.88
2460	-4.13	2.72	38.65	5280	-6.2	1.43	23.98	5640	-6.85	1.33	20.65
2470	-4.11	2.92	38.82	5290	-6.24	1.38	23.76	5650	-6.51	1.61	22.34
2480	-4.13	3.02	38.64	5300	-6.46	1.22	22.58	5660	-6.52	1.53	22.27
2490	-4.14	3.01	38.56	5310	-6.6	1.07	21.87	5670	-6.72	1.16	21.28
2500	-4.16	2.9	38.38	5320	-6.69	1.04	21.43	5680	-6.78	1.09	21.01
				5330	-6.83	0.92	20.76	5690	-6.83	1	20.76
				5340	-6.88	0.86	20.5	5700	-6.61	1.19	21.83
				5350	-6.86	0.97	20.58	5710	-6.54	1.25	22.18
				5360	-6.94	0.96	20.22	5720	-6.81	0.85	20.87
				5370	-7.07	0.99	19.65	5730	-6.8	0.91	20.87
				5380	-6.91	1.26	20.35	5740	-6.81	0.81	20.85
				5390	-6.74	1.57	21.18	5750	-6.68	0.98	21.49
				5400	-6.82	1.59	20.79	5760	-6.37	1.32	23.09
				5410	-6.85	1.68	20.64	5770	-6.46	1.25	22.59
				5420	-6.68	1.97	21.46	5780	-6.76	0.97	21.1
				5430	-6.76	2.05	21.08	5790	-6.63	1.15	21.72
				5440	-6.75	2.16	21.12	5800	-6.39	1.47	22.96
				5450	-6.78	2.17	21	5810	-7.07	0.99	19.65
								5820	-6.72	1.16	21.28
								5830	-6.78	1.09	21.01
								5840	-7.38	1.67	18.28
								5850	-6.86	1.6	20.59

Antenna pattern



Confirmation of Sample

