



Product Number: BGS-AN5000-13194B  
Product Name: 4G/5G Antenna

## 1. Specification

Sample Photo	
	
A. Electrical Characteristics	
Frequency	700-960Hz; 1710-2690MHz; 3300-3800MHz; 4200-4900MHz
S.W.R.	5.0 Max@700-960Hz; 3.0 Max@1710-2690MHz; 5.0 Max@3300-3800MHz; 4200-4900M
Antenna Gain	4G: 1.7dBi@700-960Hz 3.9dBi@1710-2690MHz 5G: 4.4dBi@3300-3800MHz 4.3dBi@4200-4900MHz
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	PCB
Material of Plastic	PC+ABS
Cable Type	RG-178 Cable
Connector Type	SMA Male Connector
Connector Pull Test	>=3.0Kg
Connector Torque Test	300~1000 g.cm
C. Environmental	
Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C



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## 2. Characteristics and Reliability Test

Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	MIL-STD-202G, 201A Amplitude: 0.03 inch (0.76mm); Freq: 10 to 55 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	Height: 1.5Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
M3	Solderability	MIL-STD-202G, 210F, cond. A Solder iron: 350±10°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	MIL-STD-202G, 211A, cond. A Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M5	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification
E1	Salt Spray	MIL-STD-202G, 101E, cond. B Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%; Time: 48 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E2	Humidity	MIL-STD-202G, 103B, cond. B Temp: 40°C; RH: >= 95%; Time: 48 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	1 Cycle: - 40°C(30 minutes) to + 80°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E4	Life(High Temp.)	MIL-STD-202G, 108A, cond. A Temp: 85°C; Time: 96 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
R1	RoHS	With Reference to IEC 62321:2008 with flow chart	Directive RoHS 2002/95/EC
R2	PFOS	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC
R3	PFOA	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC

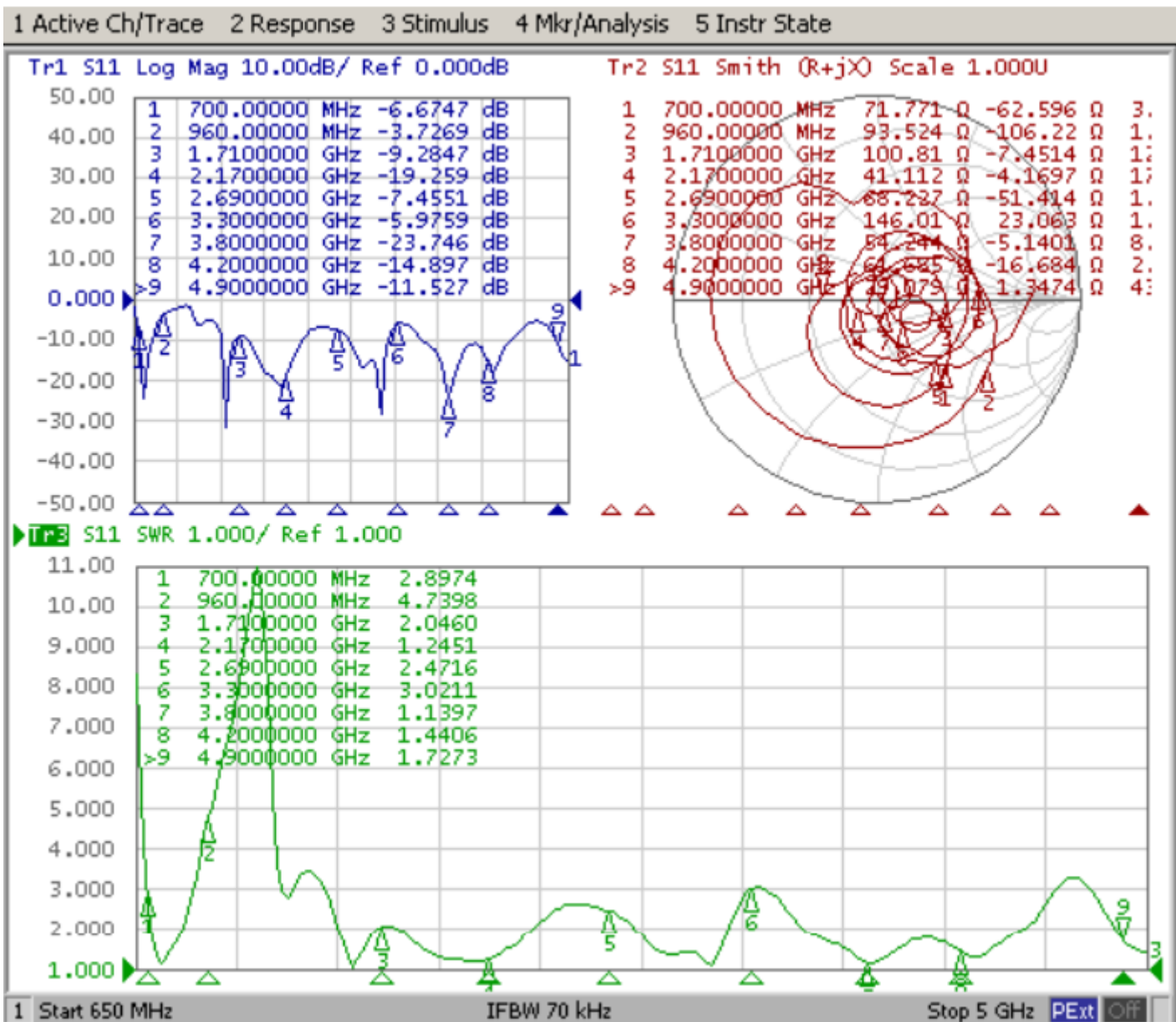


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### 3. Antenna - S Parameter Test Data

Test Items		Requirements	No.1	No.2	No.3	No.4	No.5
C1	S.W.R	TBD	ok	ok	ok	ok	ok
C2	Insertion Loss	TBD	ok	ok	ok	ok	ok
C3	Voltage Breakdown	> 500V	> 500	> 500	> 500	> 500	> 500
C4	Insulation Resistance	> 500 Mohm	> 500	> 500	> 500	> 500	> 500
M4	Pull Force	Spec	ok	ok	ok	ok	ok
M6	Dimension	drawing	ok	ok	ok	ok	ok



### 4. Antenna Passive Test



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Passive Test For 4/5G			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
700	63.5	-2.0	0.3
720	78.0	-1.1	0.7
740	85.1	-0.7	1.7
760	83.6	-0.8	1.3
780	85.9	-0.7	1.4
800	71.9	-1.4	1.6
820	69.7	-1.6	1.7
840	66.8	-1.8	1.6
860	58.1	-2.4	0.9
880	56.6	-2.5	0.9
900	50.1	-3.0	0.5
920	56.1	-2.5	0.7
940	51.5	-2.9	1.3
960	47.4	-3.2	0.6



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Passive Test For 4/5G			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1700	62.4	-2.1	2.3
1780	59.6	-2.3	2.3
1860	67.9	-1.7	2.5
1940	73.6	-1.3	3.4
2020	76.4	-1.2	3.6
2100	79.8	-1.0	3.9
2180	76.4	-1.2	3.3
2260	81.1	-0.9	3.9
2340	59.4	-2.3	0.7
2420	65.8	-1.8	0.8
2500	56.8	-2.5	0.9
2580	59.7	-2.2	1.3
2660	65.9	-1.8	2.3
2740	74.5	-1.3	3.3



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Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2820	78.7	-1.0	3.9
2900	75.9	-1.2	4.0
2980	80.0	-1.0	4.4
3060	75.3	-1.2	3.5
3140	73.6	-1.3	3.1
3220	74.5	-1.3	2.9
3300	67.8	-1.7	3.2
3380	77.3	-1.1	4.0
3460	68.2	-1.7	3.5
3540	76.7	-1.2	3.4
3620	70.8	-1.5	2.0
3700	84.9	-0.7	2.2
3780	83.2	-0.8	1.9
3860	86.1	-0.7	2.2



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Passive Test For 4/5G			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
3940	84.1	-0.8	2.0
4020	80.5	-0.9	1.6
4100	81.7	-0.9	1.8
4180	81.3	-0.9	2.3
4260	88.3	-0.5	3.0
4340	84.9	-0.7	3.2
4420	84.9	-0.7	3.5
4500	72.4	-1.4	2.7
4580	68.1	-1.7	2.6
4660	54.2	-2.7	1.9
4740	62.8	-2.0	2.4
4820	70.3	-1.5	3.5
4900	54.3	-2.7	3.7
4980	65.3	-1.9	4.3

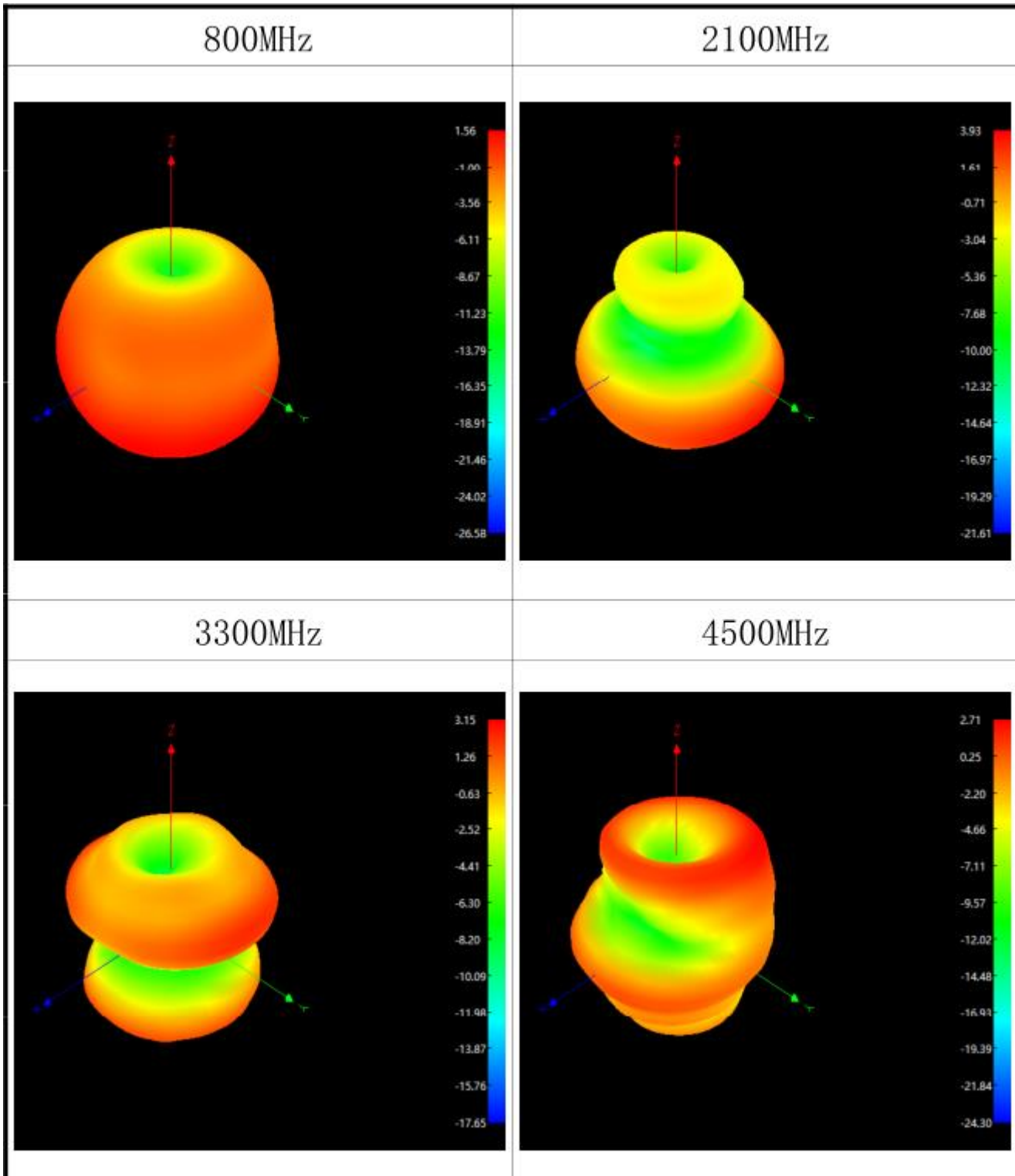




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### 5. 3D Pattern







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### 6. Mechanical Drawing

