

# YIC



**4G LTE External Antenna**

**ATLTE-20144-2.0BT**

**Datasheet**

## 1. Product Information

### 1.1 Product Description

This product can be used as a variety of 4G LTE external antennas.

Antenna band : 700 - 960 MHz, 1710 - 2700 MHz

## 2. Part NO. : ATLTE-20144-2.0BT

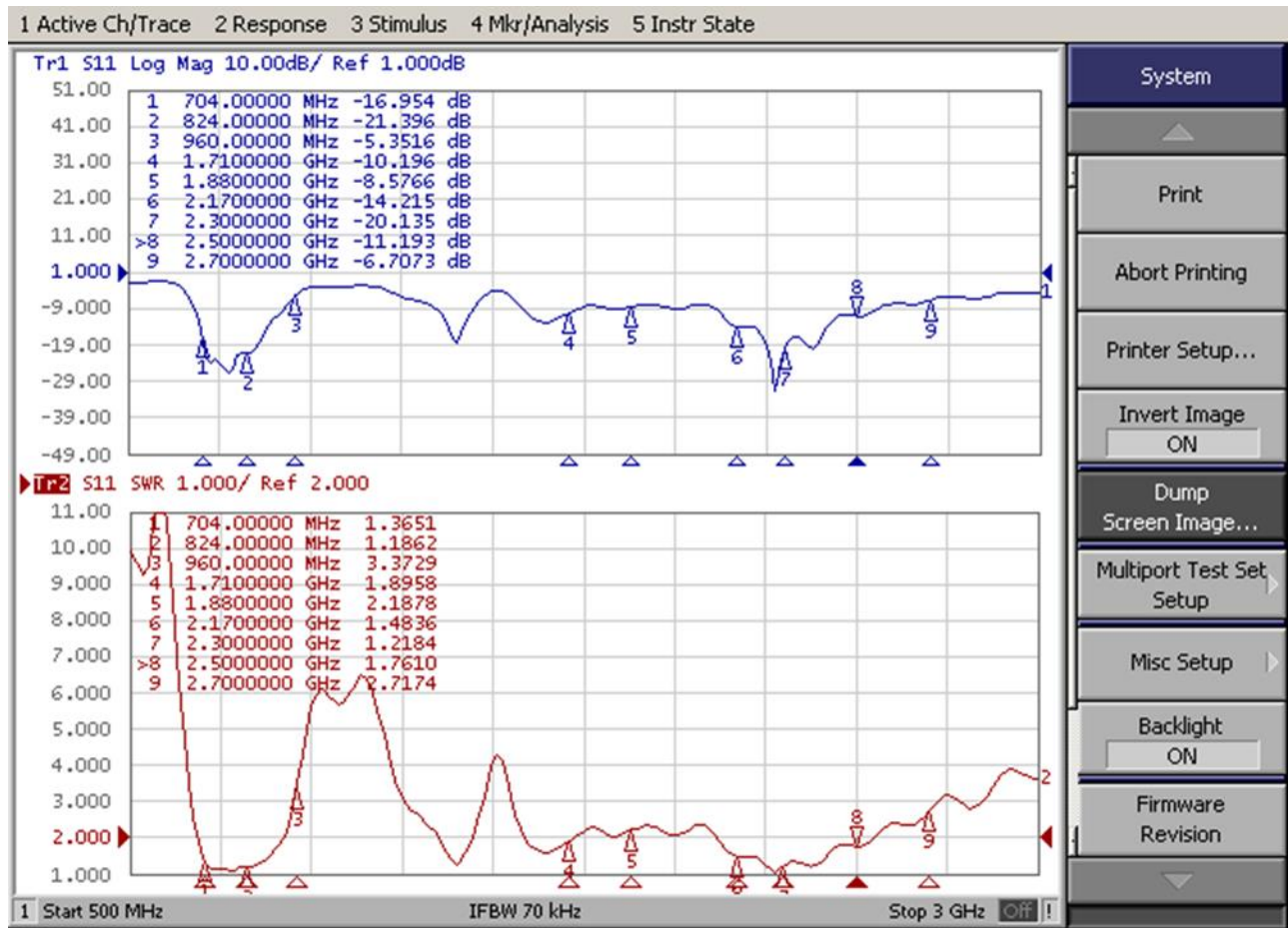
## 3. Overall Performance (Antenna Element & Cable)

<b>Electrical Specifications</b>	
Frequency Range	700 - 960 MHz 1710 - 2700 MHz
VSWR	≤ 4.0 @ 700 - 960 MHz ≤ 3.5 @ 1710 - 2700 MHz
Gain	1.5 dBi / Max @ Low Band 2.0 dBi / Max @ High Band
Input Impedance	50 Ω
Polarization	Linear
<b>Material &amp; Mechanical Specifications</b>	
Material of Radiator	PCB
Material of Plastic	ABS
Cable Type	RG-178U-03
Input connector	SMA Male
Operation Temperature	- 40°C ~+ 85°C
Storage Temperature	- 40°C ~+ 85°C

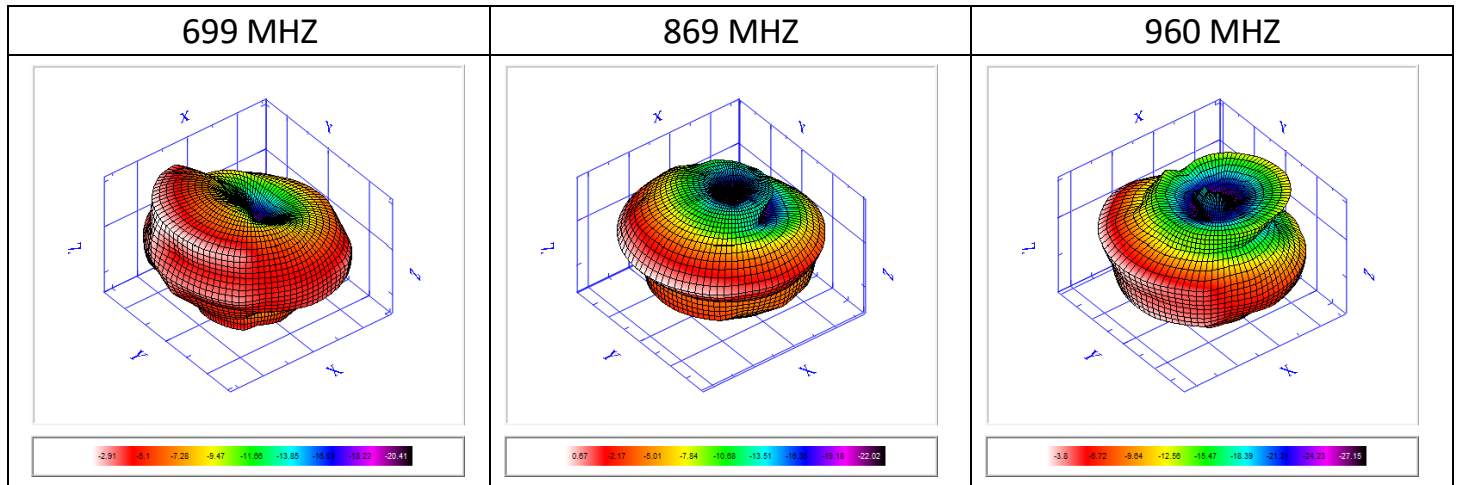
## 4. Test Item and Equipment

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	GB / T2423 . 48-1997 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	GB / T2423.8-1995 Height: 1.0 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
M3	Solderability	GB 2423 . 28- 82 Solder iron: 260±5°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M5	Terminal-Torque Test	Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M6	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification
E1	Salt Spray	GB / T 2423 . 17- 93 Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E2	Humidity	GB / T 2423 . 4 - 93 Temp: 80°C / 12 H; -40°C / 12H RH: >= 90%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	GB / T 2423 . 22 - 87 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.)	GB /T 2423 . 2 - 89 Temp: 80°C; Time: 24 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 2011/65/EU
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

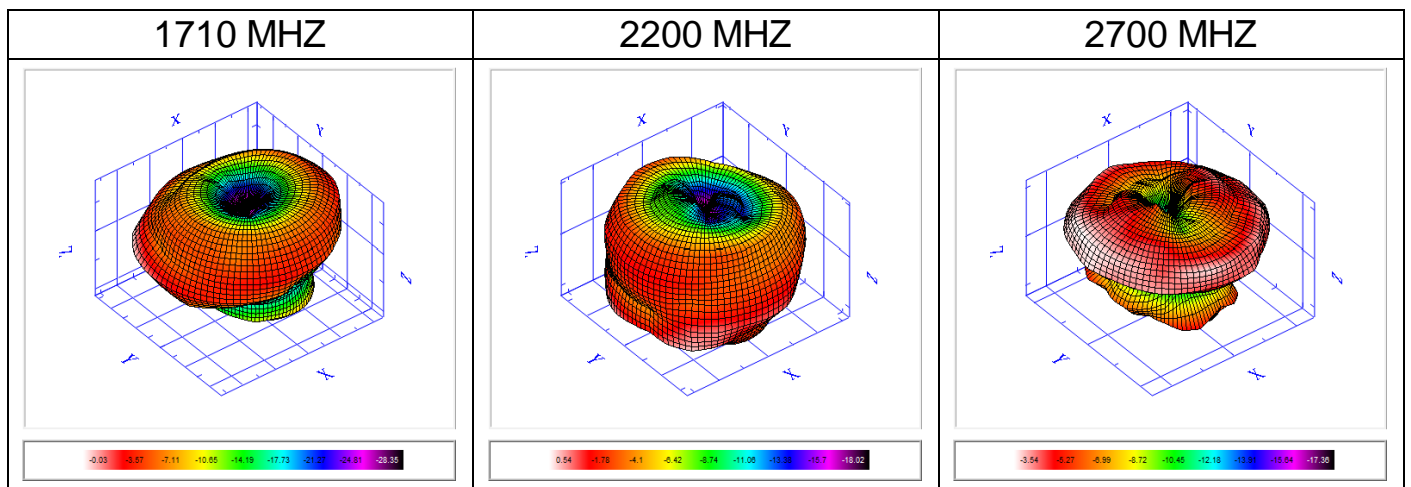
## 5. Antenna - S Parameter Test Data



## 6. Antenna - Radiation Pattern Test Data

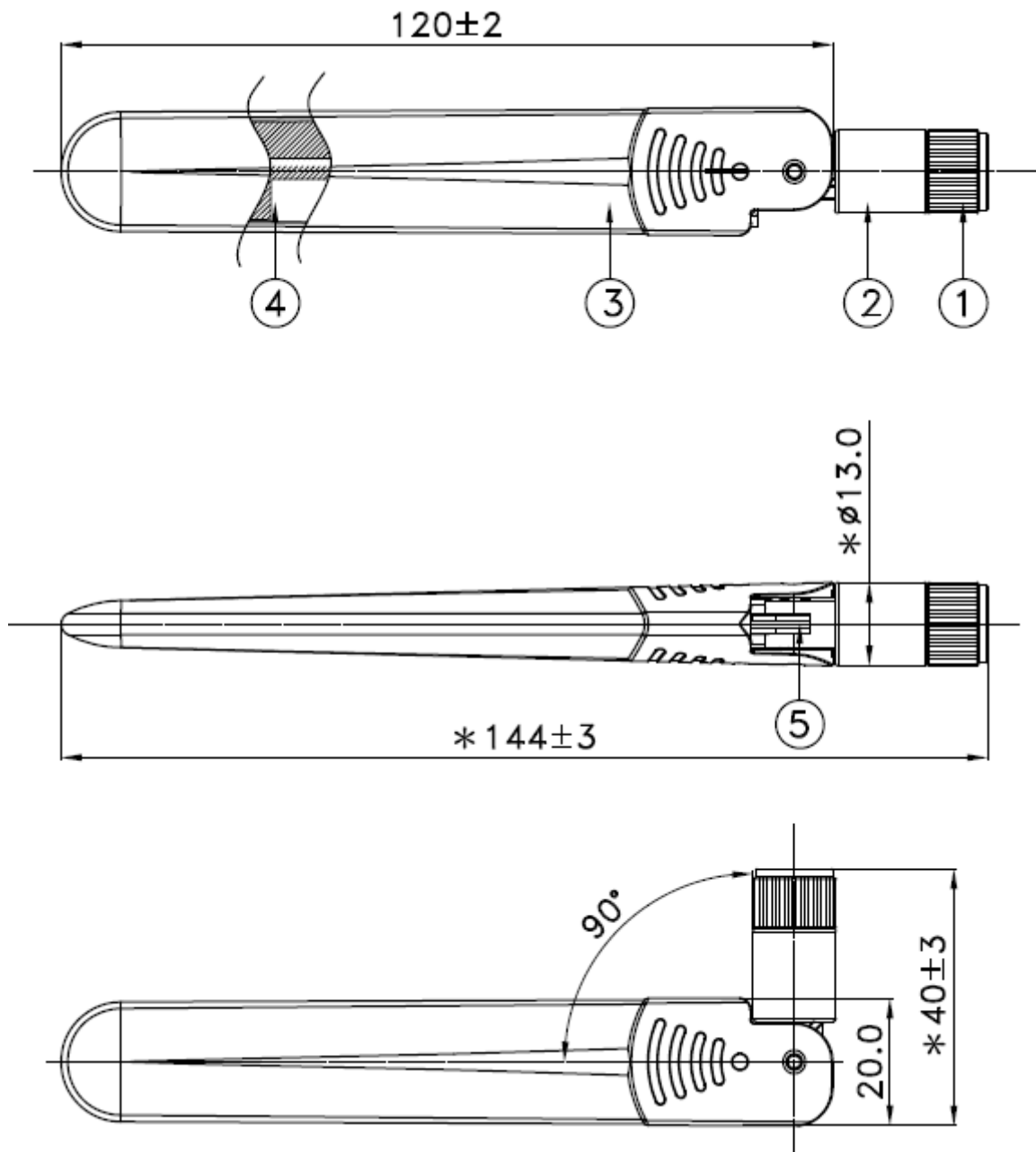


Frequency	699	824	839	854	869	884	899	914	929	944	960
E-Total Peak Gain (dBi)	-2.91	0.94	1.19	1.4	0.67	0.23	-0.17	-0.85	-1.74	-2.86	-3.8
Efficiency (%)	22.49	44.41	44.36	44.04	32.12	25.4	21.96	18.66	15.66	13.17	11.91
Average Gain (dB)	-6.48	-3.53	-3.53	-3.56	-4.93	-5.95	-6.58	-7.29	-8.05	-8.8	-9.24



Frequency	1710	1880	1920	1990	2000	2100	2200	2300	2400	2500	2600	2700
E-Total Peak Gain (dBi)	-0.03	-1.57	-0.93	-0.28	-0.29	-0.17	0.54	1.69	1.14	0.96	-0.85	-3.54
Efficiency (%)	27.32	24.39	27.73	32.01	32.04	34.71	49.11	60.22	52.67	49.06	34.33	20.39
Average Gain (dB)	-5.63	-6.13	-5.57	-4.95	-4.94	-4.6	-3.09	-2.2	-2.78	-3.09	-4.64	-6.91

## 7. Mechanical Drawing



1	SMA Male reverse	CU
2	Hinge	ABS
3	Body	ABS
4	PCB	FR4
5	Coaxial Cable	RG178U