

产品规格承认书

Product specifications
acknowledgment

承认厂商: _____

(Recognized manufacturers)

制造厂商: Shenzhen Bat Wireless Technology Co., Ltd.

(Manufacturer)

产品名称: FPC Antenna

(Description)

Address: 1409, Building A, Zhiyun One Industrial Park, No. 13 Huaxing Road, Henglang Community, Dalang Street, Shenzhen, Guangdong, China

1.1 Specifications

天线型号 Antennas Type	BW4GFND58-17B1L80
频率范围 Frequenc Range (MHz)	700~2700
输入阻抗 Input Impendence (Ω)	50 Ω
电压驻波比 V. S. W. R	<2
增益 Gain (dBi)	3dBi
极化形式 Polarization Type	垂直 Vertical
功率容量 Power Capacity (w)	50
雷电保护 Lingtning Protection	None
工作电压 DC Voltage (V)	None
天线尺寸 Dimension (mm)	58x17
接口形式/Connector Type:	IPEX-1
电缆型号 Cable type (mm)	$\phi 1.13$
电缆长度 Cable length (mm)	80
辐射体 Radiator	
天线颜色 Color	黑色 Black
重量 Weight (g)	None
工作温度 Operating Temperature ($^{\circ}\text{C}$)	-40~80
储藏温度 Storage Temperature ($^{\circ}\text{C}$)	-20~85

1.2 Antenna Picture



BW4GFND58-17B1L80

2. Electrical Specification

2.1 Test Equipment

- A. VSWR and input impedance: Agilent 8753/E5071 Network Analyzer
- B. Antenna gain and efficiency: ETS three-dimensional anechoic chamber

2.2 Test Setup

2.2.1 Frequency Range

2.2.2 VSWR

Step 1: The antenna is arranged on the customer provided test fixture.

Step 2: The VSWR of the antenna is measured via Agilent 8720/8753 Network Analyzer (see figure. 1).



Figure.1

2.2.3 Radiation pattern and Gain

- A. The 3D chamber provides less than -40dB reflectivity from 800MHz to 6GHz and a 40cm diameter spherical quiet zone. The measurement results are calibrated using both dipoles and standard gain horns (see figure. 2).
- B. The antenna under tested is arranged in the turned table and a decoupling sleeve is used to reduce feed line radiation (see figure. 3).
- C. The measured results of the radiation patterns and antenna gain are obtained from the control system and showed on the monitor (see figure. 4 and 5).

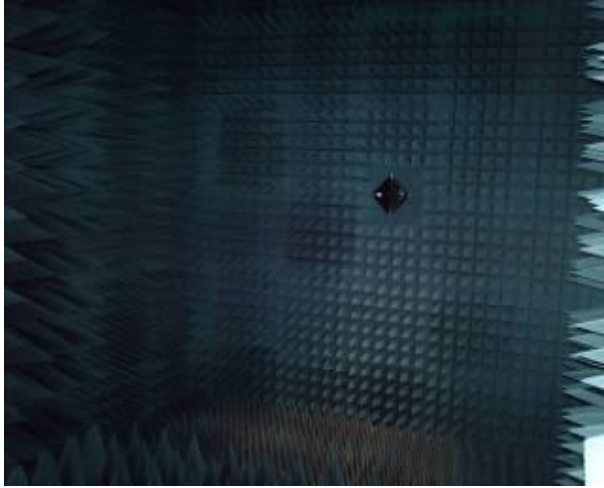


Figure.2



Figure.3

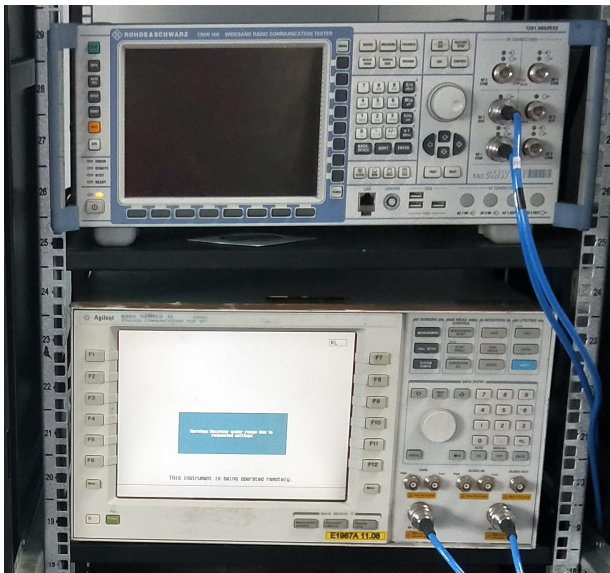


Figure.4

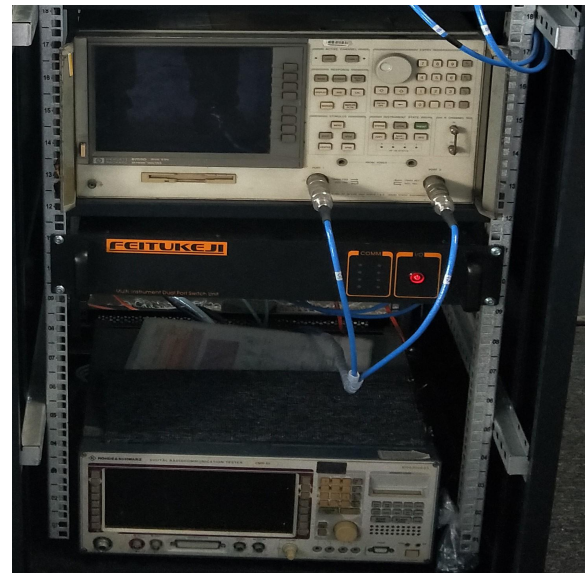
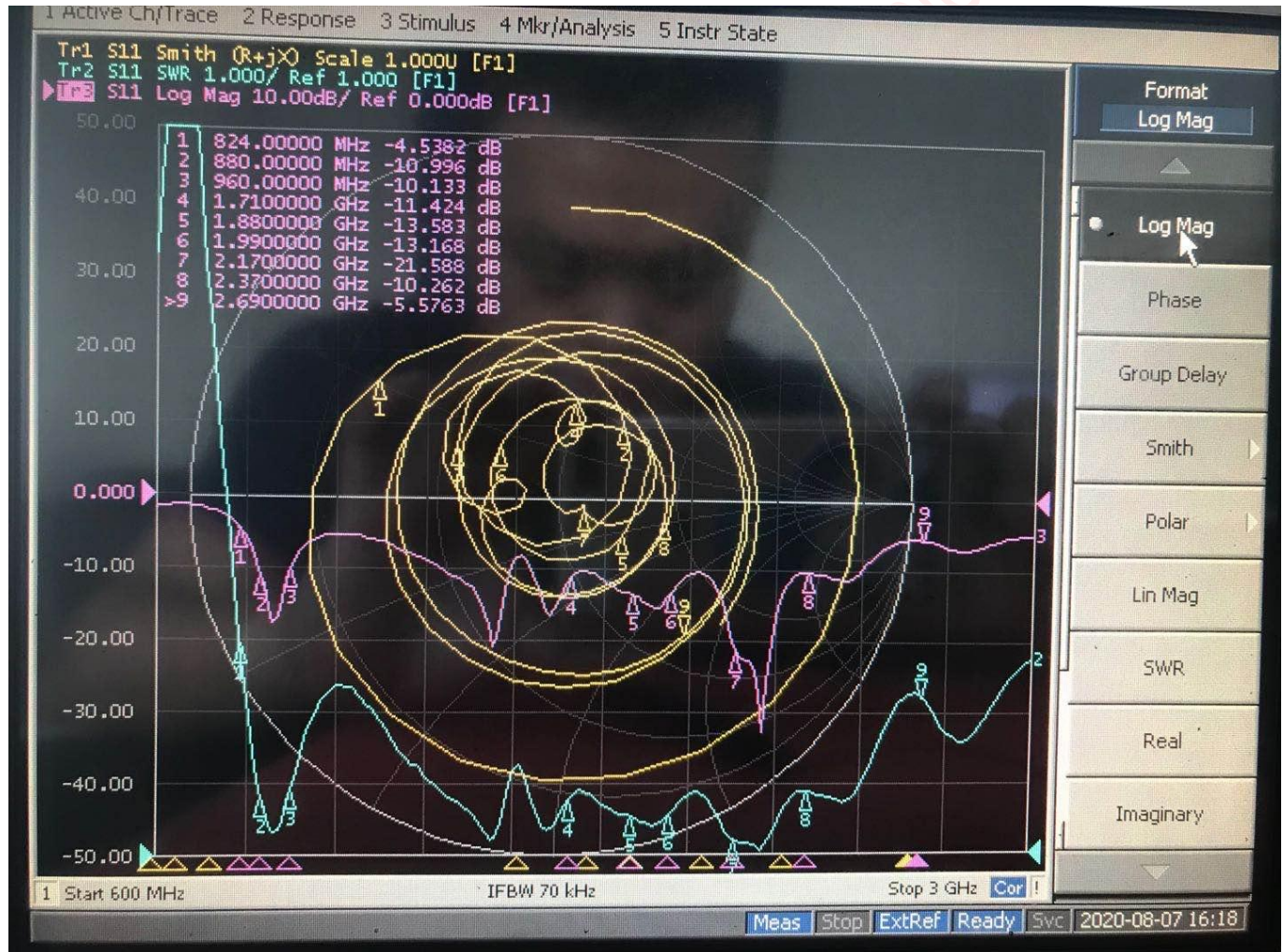


Figure.5

3. Performance Data

3.1 Passive data

VSWR (电压驻波比) / Return Loss (回波损耗) / Smith Chart (史密斯圆图)



3. 天线 OTA 测试数据

Test Result	LTE1 TRP			Test Result	LTE1 TIS
	18050	18300	18550		
Frequency (MHz)	1925	1950	1975	Frequency (MHz)	2165
Txp Ave(dBm)	18.59	19.78	19.48	Sens Ave(dBm)	-90.4
NHPRP(dBm)	NULL	NULL	NULL	NHPIS(dBm)	NULL
MAX(dBm)	21.08	21.47	21.72	MAX(dBm)	-93.66
EIRP peak	21.08	21.47	21.72	EIS peak	-93.66
Min(dBm)	3.78	9.56	7.02	Min(dBm)	-85.91
Attenuation Horiz	39.55	40.14	39.99	Attenuation Horiz	39.46
Attenuation Vertic	39.42	39.99	39.84	Attenuation Vertic	39.05

Test Result	LTE3 TRP			Test Result	LTE3 TIS
	19250	19575	19900		
Frequency (MHz)	1715	1747.5	1780	Frequency (MHz)	1875
Txp Ave(dBm)	17.41	18.78	19.96	Sens Ave(dBm)	-88.74
NHPRP(dBm)	NULL	NULL	NULL	NHPIS(dBm)	NULL
MAX(dBm)	21.83	22.88	22.83	MAX(dBm)	-91.63
EIRP peak	21.83	22.88	22.83	EIS peak	-91.63
Min(dBm)	4.37	5.94	6.44	Min(dBm)	-77.53
Attenuation Horiz	38.82	38.14	38.7	Attenuation Horiz	37.14
Attenuation Vertic	38.81	38.06	38.43	Attenuation Vertic	36.85

Test Result	LTE5 TRP			Test Result	LTE5 TIS
	20450	20525	20600		
Frequency (MHz)	829	836.5	844	Frequency (MHz)	889
Txp Ave(dBm)	17.15	17.35	18.35	Sens Ave(dBm)	-87.87
NHPRP(dBm)	NULL	NULL	NULL	NHPIS(dBm)	NULL
MAX(dBm)	20.55	20.96	21.08	MAX(dBm)	-91.7
EIRP peak	20.55	20.96	21.08	EIS peak	-91.7
Min(dBm)	5.6	5.4	6.21	Min(dBm)	-79.13
Attenuation Horiz	33.15	33.71	33.8	Attenuation Horiz	34.89
Attenuation Vertic	33.43	34.09	34.23	Attenuation Vertic	35.24

Test Result	LTE8 TRP			Test Result	LTE8 TIS
	21500	21625	21750		
Frequency (MHz)	885	897.5	910	Frequency (MHz)	955
Txp Ave(dBm)	17.43	18.37	19.67	Sens Ave(dBm)	-88.56
NHPRP(dBm)	NULL	NULL	NULL	NHPIS(dBm)	NULL
MAX(dBm)	20.08	21.28	22.63	MAX(dBm)	-92.37
EIRP peak	20.08	21.28	22.63	EIS peak	-92.37
Min(dBm)	5.82	6.67	7.79	Min(dBm)	-78.16
Attenuation Horiz	33.86	34.18	34.23	Attenuation Horiz	32.43
Attenuation Vertic	34.21	34.41	34.21	Attenuation Vertic	32.31



Test Result	LTE38 TRP			Test Result	LTE38 TIS
	37850	38000	38150		38150
Frequency (MHz)	2580	2595	2610	Frequency (MHz)	2610
Txp Ave(dBm)	19.48	19.1	18.27	Sens Ave(dBm)	-90.21
NHPRP(dBm)	NULL	NULL	NULL	NHPIS(dBm)	NULL
MAX(dBm)	25.44	24.66	23.65	MAX(dBm)	-95.51
EIRP peak	25.44	24.66	23.65	EIS peak	-95.51
Min(dBm)	12.52	9.64	6.38	Min(dBm)	-78.27
Attenuation Horiz	41.7	41.67	41.87	Attenuation Horiz	42.46
Attenuation Vertic	41.7	41.67	41.87	Attenuation Vertic	42.46

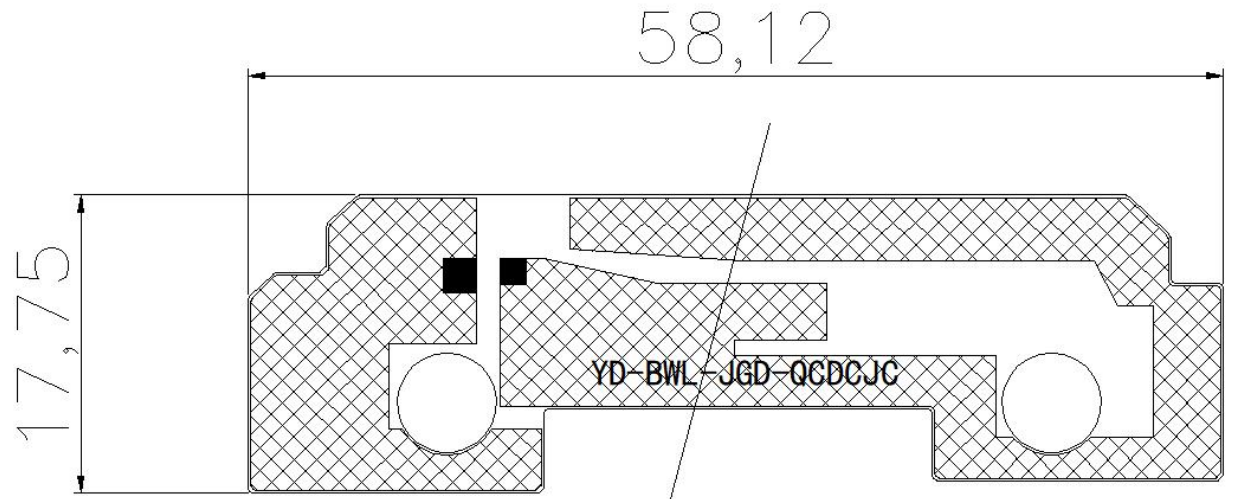
Test Result	LTE39 TRP			Test Result	LTE39 TIS
	38350	38450	38550		38550
Frequency (MHz)	1890	1900	1910	Frequency (MHz)	1910
Txp Ave(dBm)	19.67	19.34	19.01	Sens Ave(dBm)	-93.31
NHPRP(dBm)	NULL	NULL	NULL	NHPIS(dBm)	NULL
MAX(dBm)	25.73	25.4	25.02	MAX(dBm)	-99.57
EIRP peak	25.73	25.4	25.02	EIS peak	-99.57
Min(dBm)	12.09	11.67	11.53	Min(dBm)	-85.84
Attenuation Horiz	39.42	39.28	39.27	Attenuation Horiz	39.4
Attenuation Vertic	39.07	38.97	39.05	Attenuation Vertic	39.18

Test Result	LTE40 TRP			Test Result	LTE40 TIS
	38750	39150	39550		39550
Frequency (MHz)	2310	2350	2390	Frequency (MHz)	2390
Txp Ave(dBm)	20.83	20.33	20.99	Sens Ave(dBm)	-90.7
NHPRP(dBm)	NULL	NULL	NULL	NHPIS(dBm)	NULL
MAX(dBm)	26.14	25.86	26.78	MAX(dBm)	-96.47
EIRP peak	26.14	25.86	26.78	EIS peak	-96.47
Min(dBm)	8.08	6.69	13	Min(dBm)	-82.68
Attenuation Horiz	44.15	44.2	45.16	Attenuation Horiz	43.32
Attenuation Vertic	43.99	43.93	45.1	Attenuation Vertic	43.26

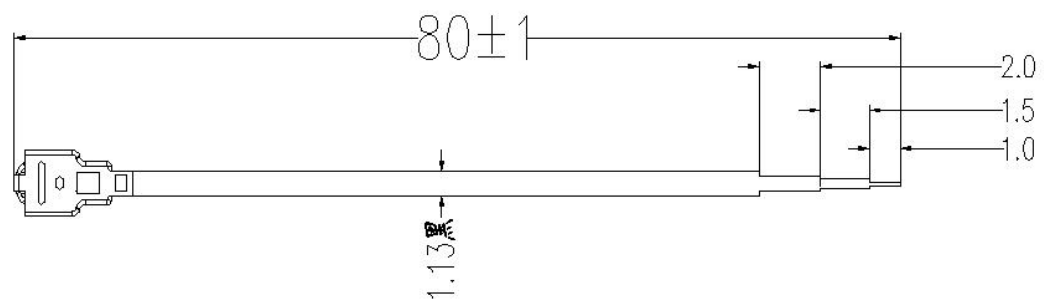
Test Result	LTE41 TRP	Test Result	LTE41 TIS
	40620		40620
Frequency (MHz)	2593	Frequency (MHz)	2593
Txp Ave(dBm)	18.41	Sens Ave(dBm)	-89.1
NHPRP(dBm)	NULL	NHPIS(dBm)	NULL
MAX(dBm)	24.02	MAX(dBm)	-94.73
EIRP peak	24.02	EIS peak	-94.73
Min(dBm)	9.07	Min(dBm)	-79.65
Attenuation Horiz	41.32	Attenuation Horiz	41.32
Attenuation Vertic	40.7	Attenuation Vertic	40.7

4.Mechanical Specification

4.1 Assembly Drawing



IPEX



5. RF113

1. 适用范围

本规格书制定了电线的结构和电气特性

同轴线
AWG 32

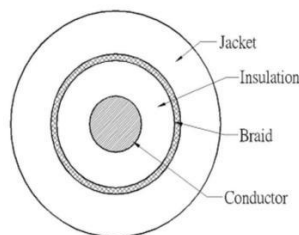
2. 结构/Construction

项目/Item		单位/Unit	详细资料/Details
Conductor 导体	材料/Material	-	绞合镀银铜丝 Silver-coated copper wire
	构成/Composition	(No./mm)	7/0.08
	外径/OD.	mm	0.24
	绞向/Orientation	-	S
Insulation 绝缘层	材料/Material	-	FEP(进口料)
	绝缘颜色/Insulation color	-	本色/Natural
	标称绝缘厚度/ Nom. Thickness	mm	0.22
	绝缘线径/OD.	mm	0.69
Braid Shield 编织	材料/Material	-	镀锡铜丝 Tinned copper wire
	构成/Composition	(No./mm)	16/4/0.05
	编织密度/Coverage	(%)	≥90
Jacket 外被	材料/Material	-	FEP
	标称绝缘厚度/ Nom. Thickness	mm	0.12
	外径/OD.	mm	1.13±0.10

3. Electrical Properties (at 20℃) /电气特性 (20℃时)

项目/Item	单位/Unit	详细资料/Details
导体电阻/Conductor Resistance	Ω/km	571 (Max.)
绝缘电阻/Insulation Resistance	MΩ • km	100 (Min.)
耐压强度 (AC) /Dielectric Strength (AC)	V/ 1 Min	500
特性阻抗/Impedance	Ω	50±3
耐温等级/ Temperature	℃	200
额定电压/rated voltage	V	30

4. 电线截面图示如下:



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We statement that All measurements were performed radiated and therefore additional antenna gain documentation is not required.