



Shenzhen Forscom Intelligent
Technology Co., LTD

Sample acknowledgment

specifications and models	2.4G & 5G dual-band external antenna 2dBi SMA head male white rod length 137MM			
brand	WIFI antenna	Send sample date	2024.10.28	
Sample number	303305000086	Supplier material number	YD-C04-0010	
sample size	4	PCS/individual	MPQ	N/A
Type of supplier	☒ Production ☐ agent ☐ trade ☐ other			
Name of supplier:	Shenzhen Fuhua Ze Precision Electronics Co., LTD			
address:	218, Chang an Building, No.56, Shajing Houting Second Industrial Zone, Bao an District, Shenzhen City			
Business contact person:	Hong-bo li	telephone:	13480962010	postbox: jonathan.lee@zconnlink.com
technical support:	Liu Xiao	telephone:	18576642913	postbox: Xiao.liu@zconnlink.com
Check: Li Hongbo		Quality insurance: Zhu Xingbo		Project: Yan Wenke
Note: The above information shall be filled in by the supplier Please provide several samples, paper recognition cover and specification in duplicate, electronic specification (email form)				
(The following contents shall be filled in by FOSCAM personnel)				
Applicable machine				
First sample delivery				
Date of sample delivery:		Acknowledgement person 1:	Admit date:	
		Recognize person 2:		
bear fruit	☐ Qualified ☐ Unqualified ☐ Other remarks:			
suggestion	☐ small batch trial production	☐ Qualified ☐ Unqualified Note:		
	Batch trial production in ☐	☐ Qualified ☐ Unqualified Note:		
The second sample				

Date of sample delivery:		Acknowledgement person 1:	Admit date:	
		Recognize person 2:		
bear fruit	☐ Qualified ☐ Unqualified ☐ Other remarks:			
suggestion	☐ small batch trial production	☐ Qualified ☐ Unqualified Note:		
	Batch trial production in ☐	☐ Qualified ☐ Unqualified Note:		
article number			Admit the chapter	
description				



Shenzhen Fuhua Ze Precision Electronics Co., LTD

SHENZHEN ZCONNLINK PRECISION ELECTRONIC CO.,LTD

Ver1.0

Customer name: Shenzhen Foscom Intelligent Technology Co., LTD

Customer material number: 303305000031

Item name: WIFI antenna

Material model: ZC.AT.0007

Material Description: 2.4G & 5G dual-band external antenna 2dBi SM A male head needle white rod length 137MM Version: V1.0

Customer acknowledges

Project quality approval		
Seal signed		
date		

Supplier name: Shenzhen Fuhuze Precision Electronics Co., LTD

URL: [Http://www.zconnelec.com](http://www.zconnelec.com)



Shenzhen Fuhua Ze Precision Electronics Co., LTD

SHENZHEN ZCONNLINK PRECISION ELECTRONIC CO.,LTD

Ver1.0

specification

Material code: 303305000031

Specification description: 2.4G & 5G dual-
frequency external antenna 2dB i SMA male
needle white rod length 137MM

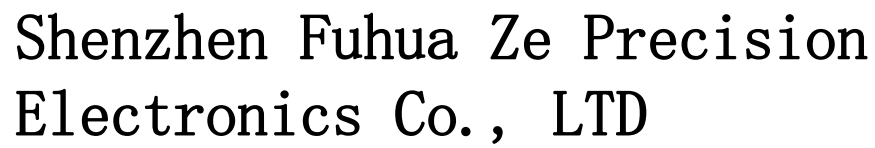
Product name: ZC.AT.0007

Supplier: Fuhua Ze

Manufacturer:

Fuhua Ze Note:

fiction	examine and verify	ratify
Kevin 2021-10-25	LIU 2021-10-25	Jonathan2 021-10-25



Ver1.0

Shenzhen Fuhua Ze Precision Electronics Co., LTD. 3



Shenzhen Fuhua Ze Precision Electronics Co., LTD

SHENZHEN ZCONNLINK PRECISION ELECTRONIC CO., LTD Ver1.0
specification catalogue

1. Physical drawings and electrical parameters- - - - - 5

2. Sample drawings and mechanical parameters, sample material bill- - - - - 6

3. Environment and reliability test- - - - - 7 / 8

4. Sample test report- - - - - 9

5. Antenna performance test- - - - - 10 / 17



Shenzhen Fuhua Ze Precision Electronics Co., LTD

SHENZHEN ZCONNLINK PRECISION ELECTRONIC CO.,LTD

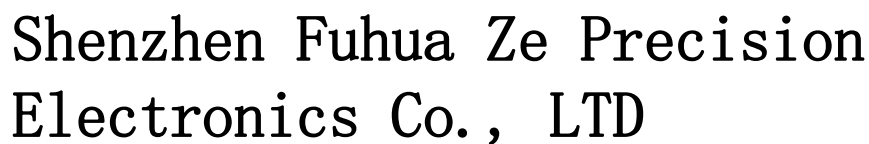
Ver1.0

one. Physical photo:



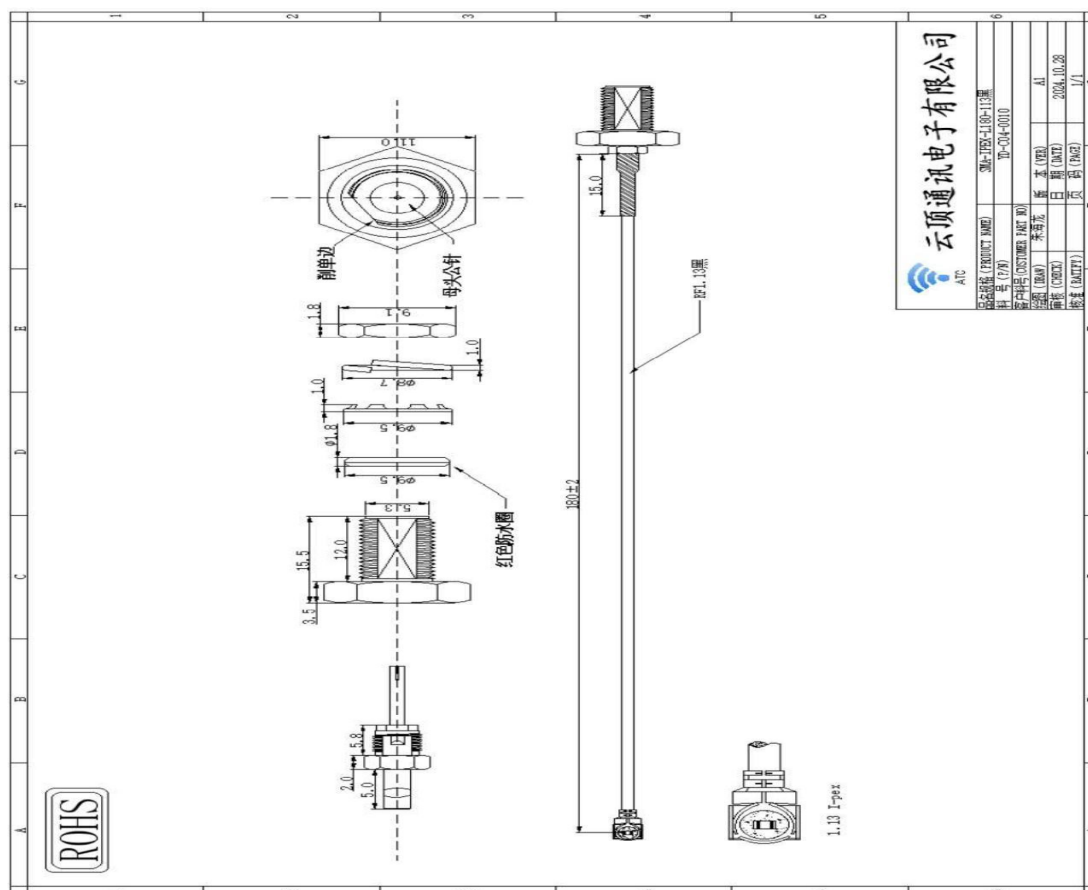
Electrical parameters:

Frequency frequency range	2.4G~2.5GHz 5.1G~5.8GHz
Impedance characteristic impedance	50Ω
S.W.R. voltage standing-wave ratio	≤2
Antenna Gain gain	2dBi±0.5dBi
Polarization Polarized form	linear polarization
Return Loss return loss	-10dB MAX



Ver1.0

one. blueprint:



Electrical parameters:

Frequency frequency range	2.4G~2.5GHz
Impedance characteristic impedance	50Ω
S.W.R. voltage standing-wave ratio	≤2
Antenna Gain gain	1.85 dBi
Polarization Polarized form	linear polarization
Return Loss return loss	-10dB MAX



Shenzhen Fuhua Ze Precision Electronics Co., LTD

SHENZHEN ZCONNLINK PRECISION ELECTRONIC CO.,LTD

Ver1.0

three. Environmental and Reliability Testing

project	Reference standards, and experimental conditions	Judgment basis	sample size / Bad quantity (PCS)	Test / test the equipment
collide	GB / T 2423.6-1995 acceleration: 200m / s² Impulse pulse duration: 6ms Number of collisions per minute: 40~80 times Total collisions: 400 vertical direction, front and back Left and right horizontal direction each 300 times, in total 1000 Times.	It should meet the requirements of electrical characteristics, and the mechanical properties are normal, but the appearance of touch marks, bleaching and bending in the allowable range.	10/0	Collision experiment machine
vibrate	GB/T 2423.10-1995 Test the Fc Frequency: 10~30; 30~50Hz; Resonance point amplitude: 0.35mm Amplitude: 0.75mm Duration: X, Y & Z, 0.5 hours per direction. Cycle: 1min; Test for 1 hour after completing the experiment.	And firmware without loose, parts without rupture or fatigue; No original fall off, no solder point fracture; The electrical performance index meets the requirements of the technical specifications;	10/0	Vibration test machine
lash	Acceleration: 300m / s ² Impact pulse duration: 18ms Impact number: 18 times GB/T 2423.5-1995	It should meet the requirements of electrical characteristics, and the mechanical properties are normal, but the	10/0	Rush machine experimental machine

		appearance of touch marks, whitening and bending in the allowable range.		
decline	GB/T2423.8-95 Drop from 100cm to the floor 10 Times.GB/T2423.8-95	1. No significant abnormality in appearance 2. After the test, the electrical performance shall meet the specification requirements, and the electrical characteristic requirements shall be met, and the mechanical performance shall be normal, but the external collision marks, whitening and bending shall be in the allowable range.	10/0	Drop test machine
high-temperature storage	The GB / T 2423.2-2001 test B	The surface coating shall have no peeling, cracking, separation; Non-metallic structures are not permanent	10/0	Temperature and humidity cycle test box



Shenzhen Fuhua Ze Precision Electronics Co., LTD

SHENZHEN ZCONNLINK PRECISION ELECTRONIC CO.,LTD

Ver1.0

	Ambient conditions: + 85 ± 3℃ for 96H The experiment was completed 24 hours after room temperature.	Deformation, cracking, degbonding, etc. ; Mobile components are not stuck or detached; the electrical performance indicators meet the technical specifications		
Low temperature storage	GB/T 2423.1-2001 trial A Ambient conditions: -40 ± 3℃ for 96H after 24 hours at room temperature.	The surface coating shall have no peeling, cracking, separation; No permanent deformation, cracking, degbonding of non-metallic structural parts; Mobile components are not stuck or detached; the electrical performance indicators meet the technical specifications	10/0	Temperature and humidity cycle test box
High and low temperature cycle	GB/T 2423.22-2002 Test N: The antenna was placed in a T1= -40℃ incubator for 30 minutes, then it took 60 minutes to raise the temperature to T2=80℃ and then maintain that temperature The cycle was repeated for 30 min with a relative humidity of 50% RH.	The surface coating shall have no peeling, cracking, separation; No permanent deformation, cracking, degbonding of non-metallic structural parts; Mobile components are not stuck or detached; the electrical performance indicators meet the technical specifications	10/0	Temperature and humidity cycle test box
humid heat test	GB / T 2423.3-1993 test Ca: Environmental conditions: 40 ± 2℃, relative humidity of 80 ~90%, placed for 96 hours. The experiment was completed 24 hours after	1. No significant abnormal appearance; 2. All electrical performance after the test According to the specification requirements, the	10/0	Temperature and humidity cycle

	room temperature.	electrical performance meets the specification range.		test box
salt spray test	The GB / T 2423.18-2000 test, Kb The test article was placed in the salt spray test chamber with saline injection of concentration (5 ± 1)%, 35°C ± 1°C, sedimentation rate (1-2) ml / 50mm² * h, after 48 h, Check the appearance.	No rust phenomenon, mechanical performance and electrical performance to meet the range of specification.	10/0	Saline spray test machine

Shenzhen Fuhua ze Precision Electronics Co., LTD

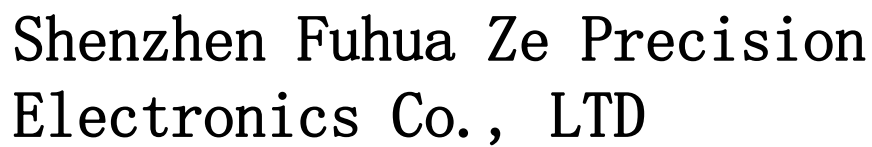


Shenzhen Fuhua Ze Precision Electronics Co., LTD

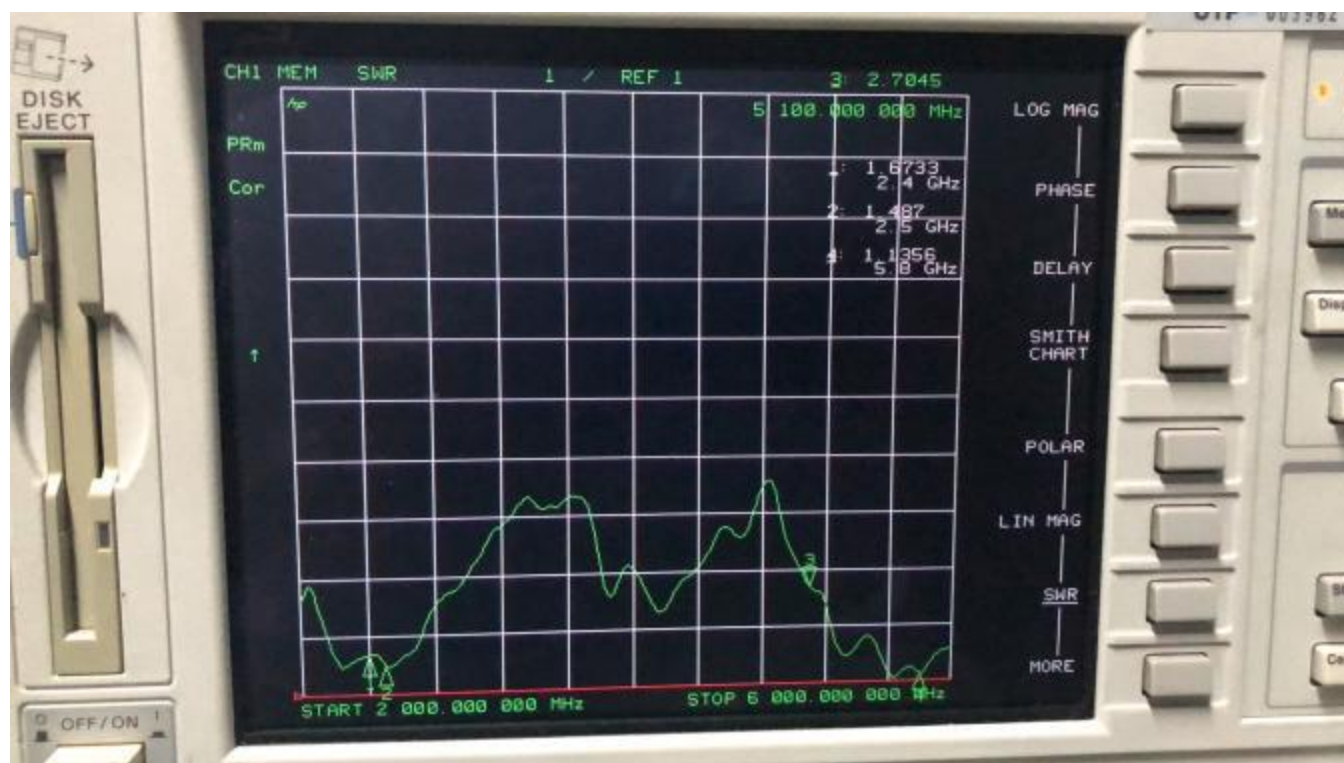
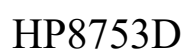
SHENZHEN ZCONNLINK PRECISION ELECTRONIC CO.,LTD Ver1.0

four. Sample test report

orde r numb er	Test items	standard value	N01	N02	N03	N04	N05
1	gain (MHz)	2 ± 0.8 dBi	1.65	1.85	1.85	1.74	1.69
2	Maximum in Bobby	≤ 2	1.53	1.25	1.24	1.51	1.54
3	return loss	-10 dB MAX	-15.8	-17.41	-13.2	-13.66	-13.46
4	Size 1	137 ± 3 mm	137	136	136	138	138



Ver1.0



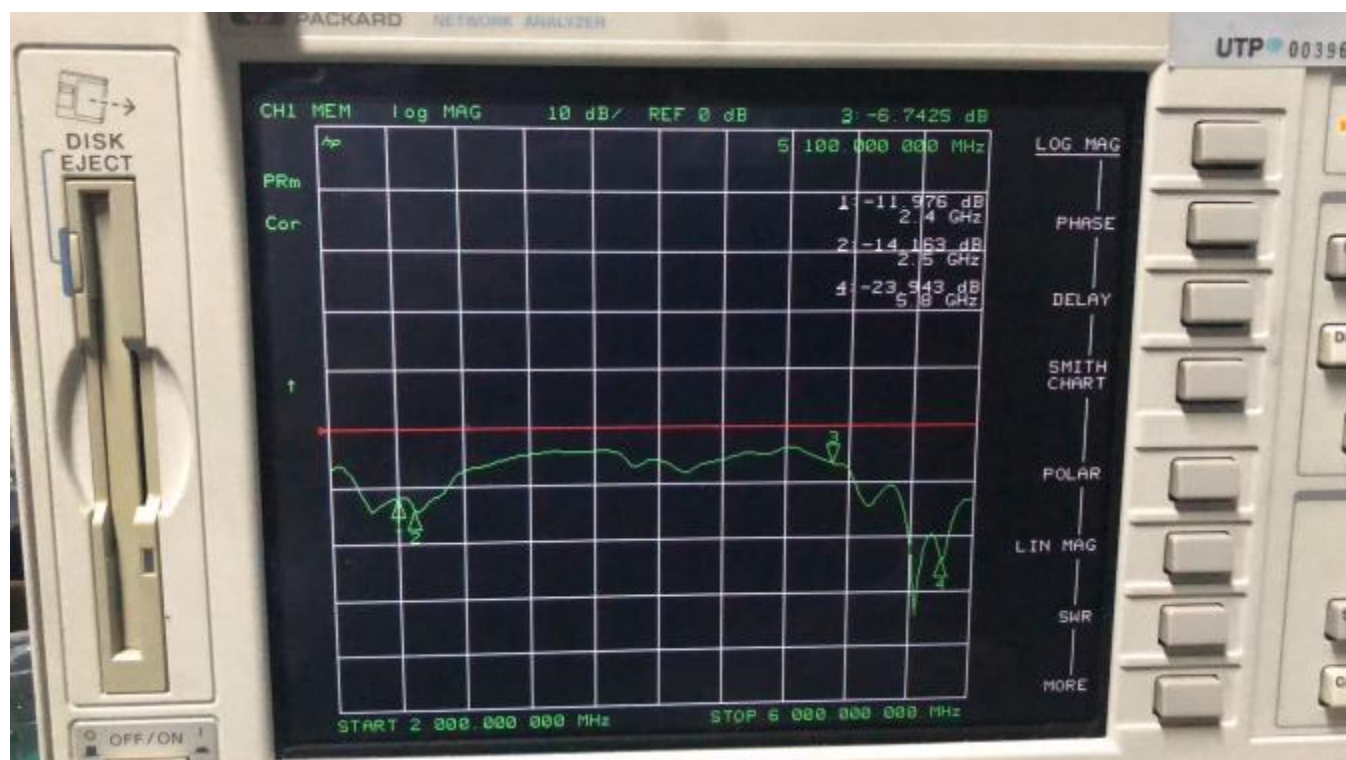


Shenzhen Fuhua Ze Precision Electronics Co., LTD

SHENZHEN ZCONNLINK PRECISION ELECTRONIC CO.,LTD

Ver1.0

LOG MAG





Shenzhen Fuhua Ze Precision Electronics Co., LTD

SHENZHEN ZCONNLINK PRECISION ELECTRONIC CO.,LTD

Ver1.0

Dark room test report

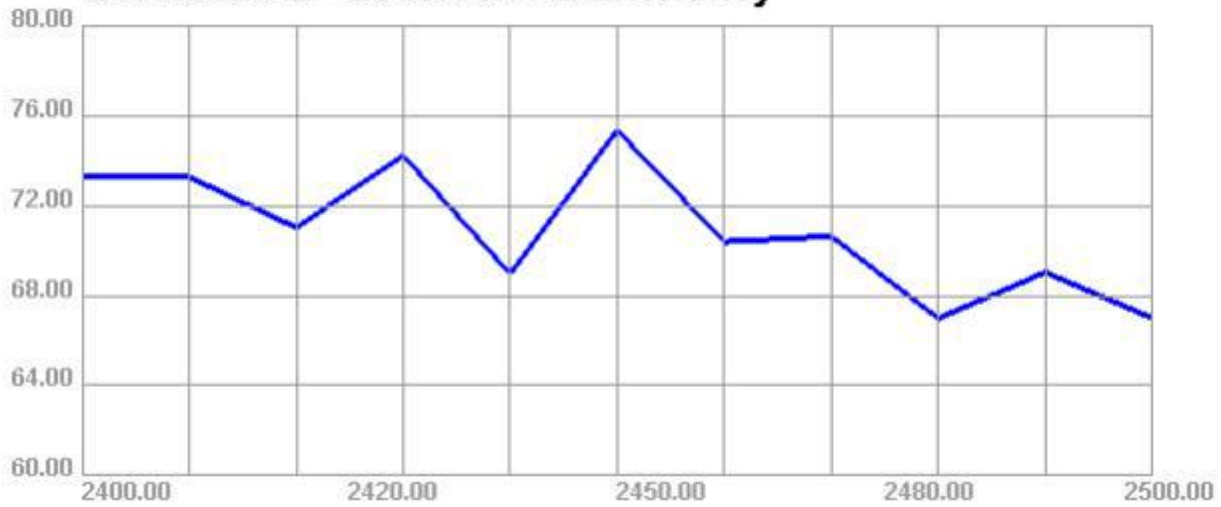
Antenna model: 2 dBi omnidirectional antenna Test time: 2021-10-25

Passive Test For WIFI2										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenu t Hor	Attenu t Ver
2400	73.3	-1.35	1.63	-0.62	39.113	34.188	1.53	-19.75	53.58	53.59
2420	71.02	-1.49	1.75	-0.7	37.158	33.864	1.45	-18.86	53.83	53.76
2450	75.35	-1.23	1.85	-0.3	37.977	37.368	1.85	-17.95	54.17	54.08
2480	66.98	-1.74	1.84	-0.61	32.936	34.048	1.54	-20.36	54.08	53.86
2500	67	-1.74	1.75	-0.5	32.476	34.521	1.65	-22.18	54.04	53.84

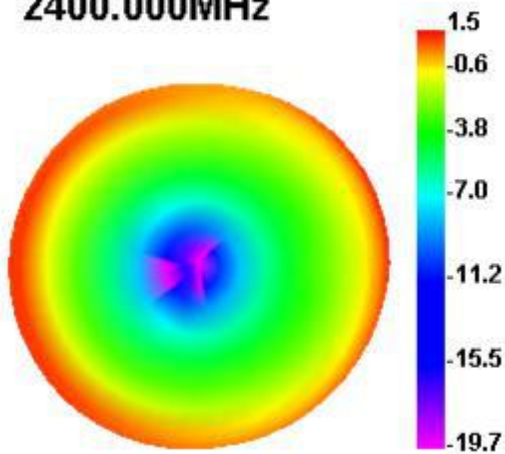
Test by: MING HU



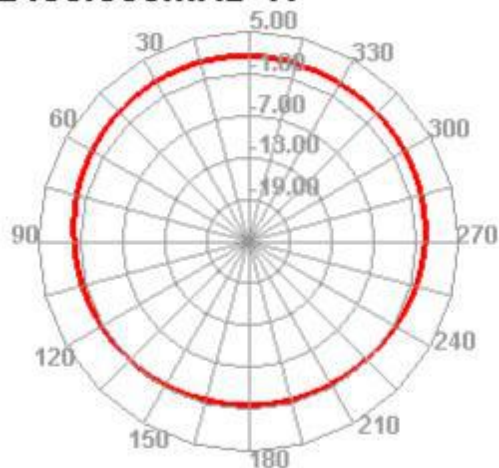
2400.00MHz - 2500.00MHz Efficiency



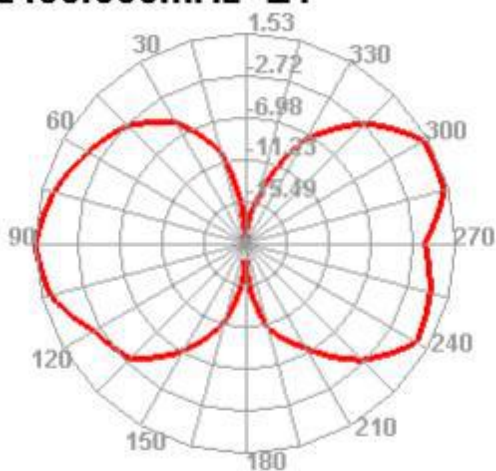
2400.000MHz



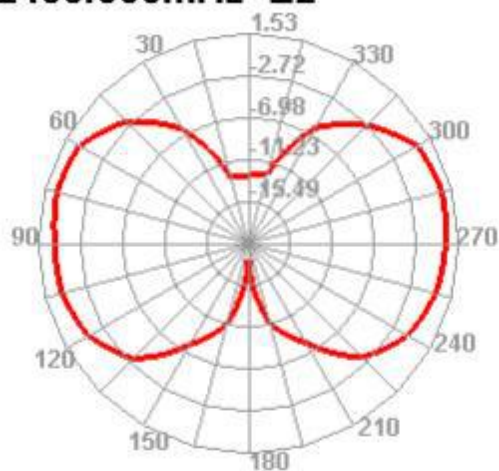
2400.000MHz H



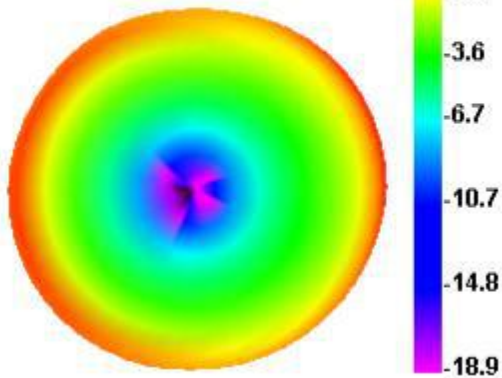
2400.000MHz E1



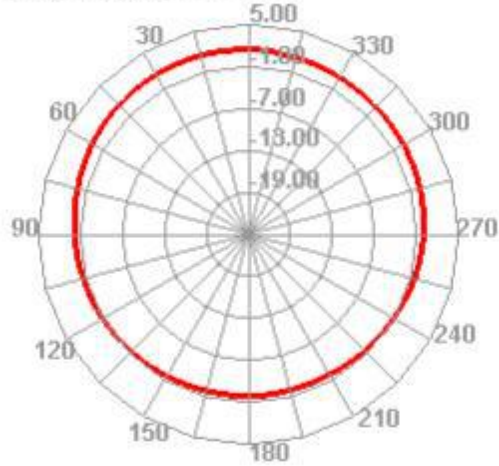
2400.000MHz E2



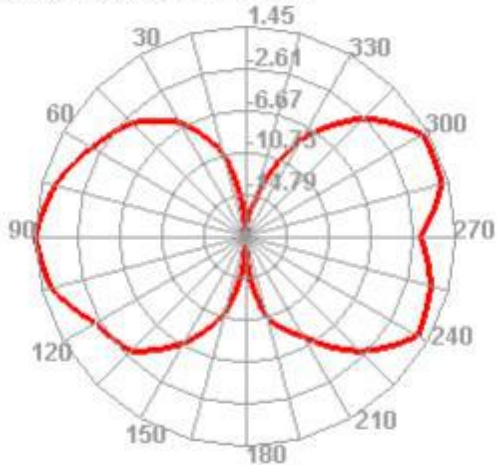
2420.000MHz



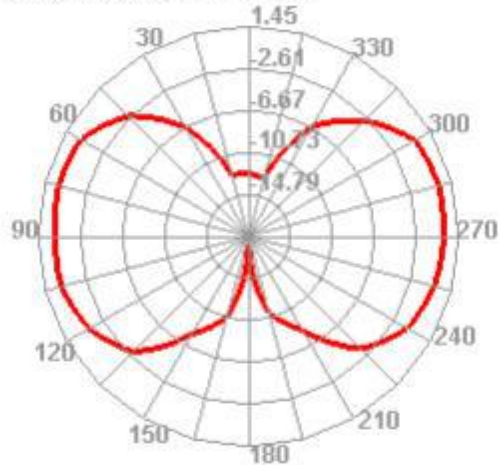
2420.000MHz H



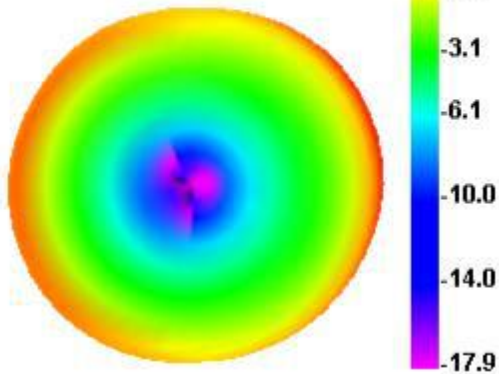
2420.000MHz E1



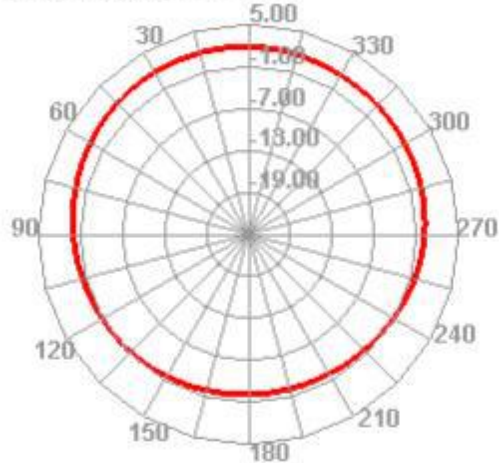
2420.000MHz E2



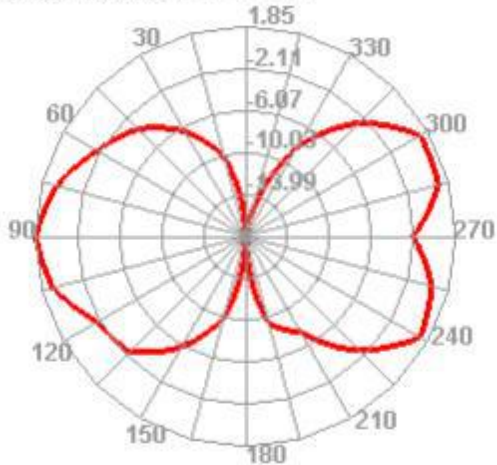
2450.000MHz



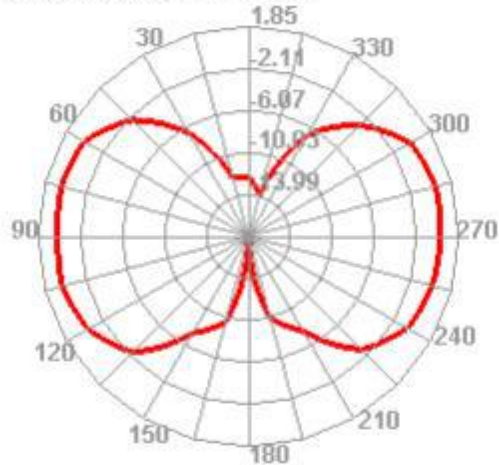
2450.000MHz H



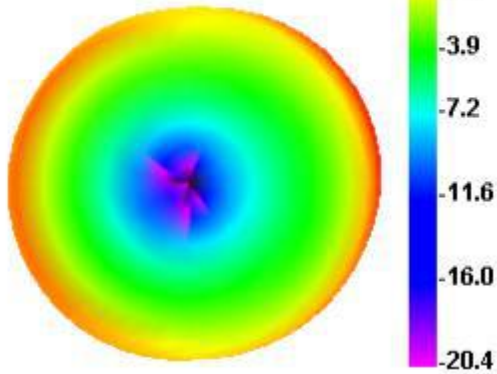
2450.000MHz E1



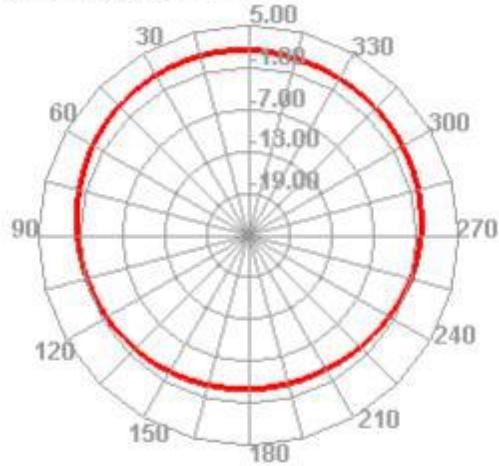
2450.000MHz E2



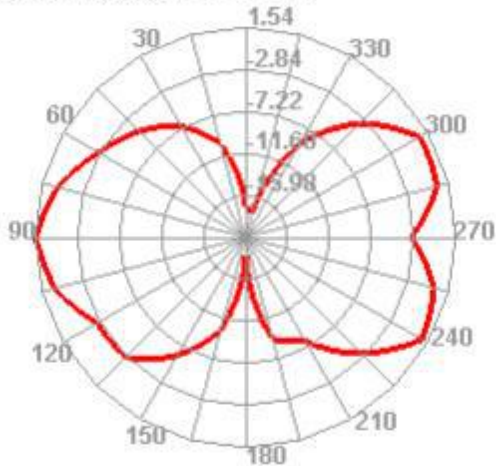
2480.000MHz



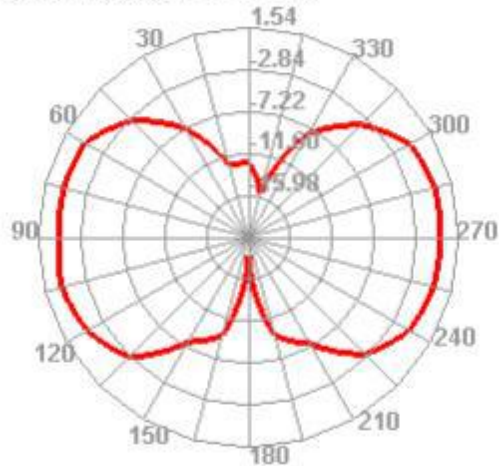
2480.000MHz H



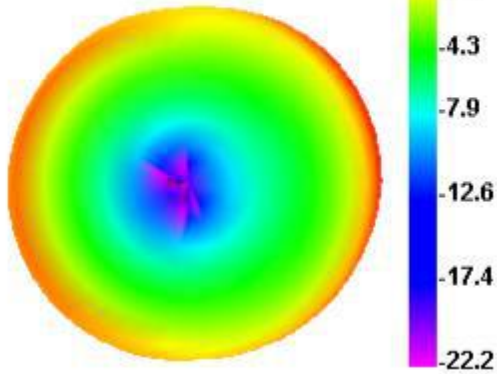
2480.000MHz E1



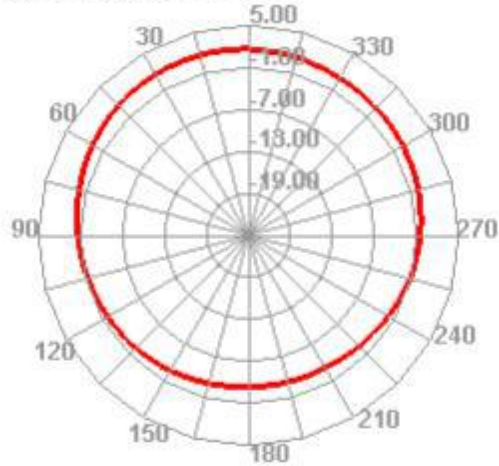
2480.000MHz E2



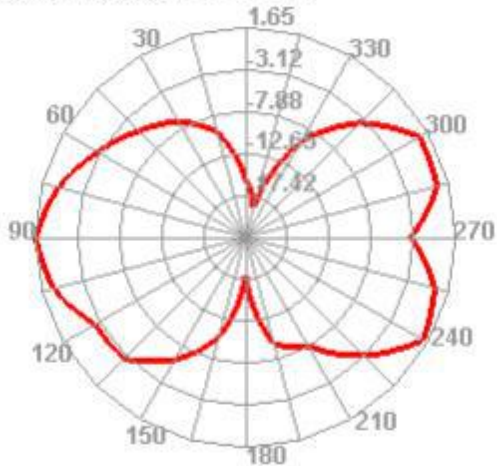
2500.000MHz



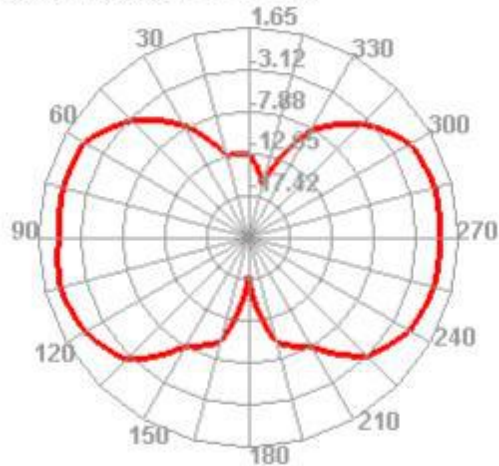
2500.000MHz H



2500.000MHz E1



2500.000MHz E2





Shenzhen Fuhua Ze Precision Electronics Co., LTD

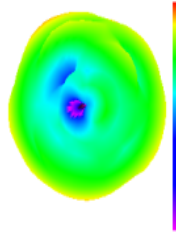
SHENZHEN ZCONNLINK PRECISION ELECTRONIC CO.,LTD

Ver1.0

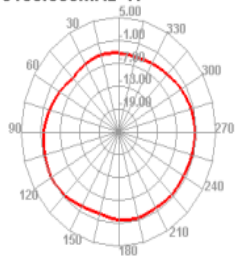
Passive Test For 5G												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Directivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
5150	59.55	-2.25	1.78	-0.37	42.414	17.134	1.78	-18.79	4.04	60	51.51	51.19
5200	68.68	-1.63	2.48	0.33	50.139	18.537	2.48	-15.34	4.11	45	52.01	51.61
5250	69.53	-1.58	2.91	0.76	53.147	16.38	2.91	-17.06	4.49	60	51.9	51.42
5300	65.57	-1.83	3.02	0.87	51.192	14.379	3.02	-19.76	4.85	0	51.64	51.19
5350	71.53	-1.46	3.29	1.14	55.375	16.153	3.29	-16.78	4.75	0	51.99	51.56
5400	77.72	-1.09	3.5	1.35	58.689	19.031	3.5	-20.56	4.59	0	52.75	52.39
5450	67.87	-1.68	3.11	0.96	50.992	16.881	3.11	-19.89	4.8	45	52.08	51.79
5500	72.69	-1.39	3.59	1.44	54.345	18.342	3.59	-18.72	4.97	0	52.45	52.13
5550	75.55	-1.22	3.58	1.43	54.303	21.249	3.58	-20.68	4.8	0	53.15	52.7
5600	84.17	-0.75	3.78	1.63	55.981	28.186	3.78	-21.78	4.53	0	53.04	52.61
5650	84.93	-0.71	3.46	1.31	52.734	32.197	3.46	-21.01	4.17	0	53.28	52.86
5700	73.56	-1.33	2.94	0.79	44.754	28.805	2.94	-19.65	4.27	30	52.91	52.46
5750	84.9	-0.71	3.69	1.54	52.42	32.477	3.69	-14.44	4.41	30	53.15	52.7
5800	83.39	-0.79	3.83	1.68	51.316	32.074	3.83	-17.76	4.62	30	52.69	52.33
5850	87.31	-0.59	3.88	1.73	51.822	35.486	3.88	-18.14	4.47	30	53.66	53.29

5.15~5.85GHz

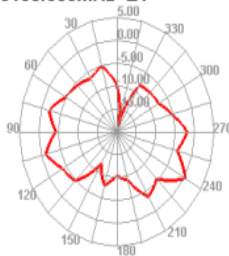
5150.000MHz



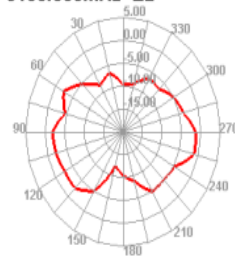
5150.000MHz H



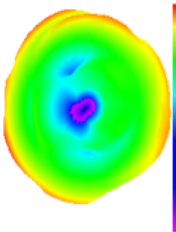
5150.000MHz E1



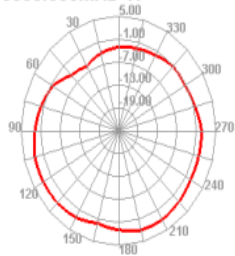
5150.000MHz E2



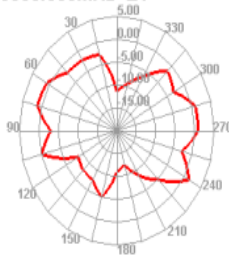
5500.000MHz



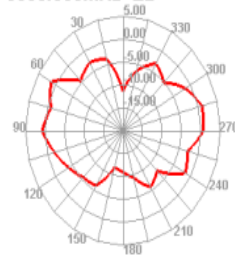
5500.000MHz H



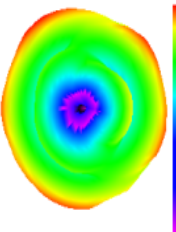
5500.000MHz E1



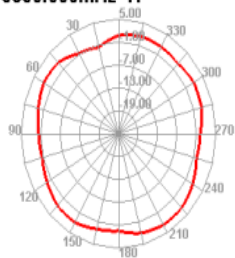
5500.000MHz E2



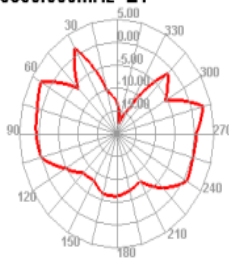
5850.000MHz



5850.000MHz H



5850.000MHz E1



5850.000MHz E2

