

Antenna specification approval sheet

Customer name: Shenzhen kanghai electronics co.,LTD

description: WIFI antenna

part No: ES10-A1

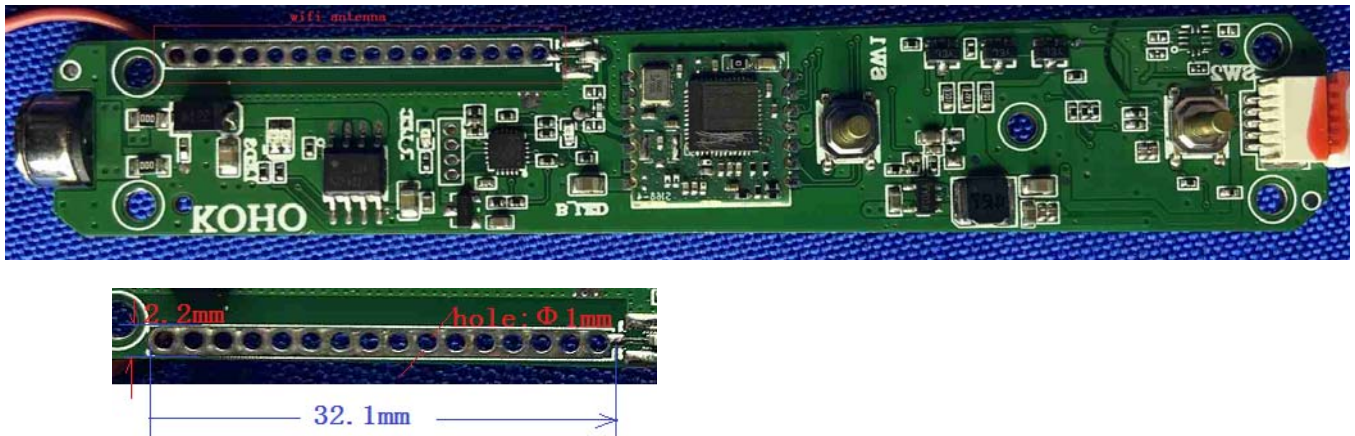
manufacturer: Shenzhen innovation Digital Communication Co., Ltd

tell: 0755 85299996

customer approved: David zou

date: 2022.9.22.

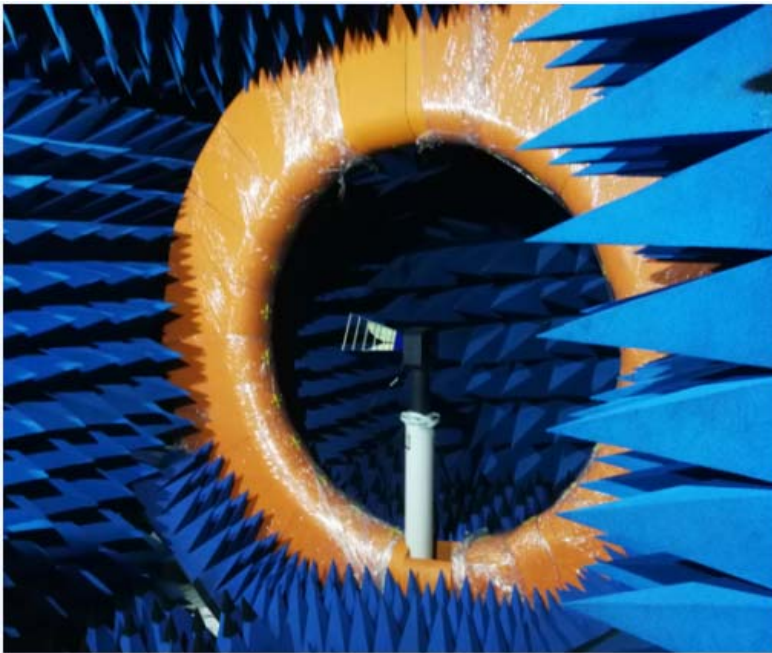
1. PCB Antenna picture



2. electrical characteristics

electrical characteristics	
Band width	2400~2500MHz
Working center frequency	2450Mhz
V.S.W.R	2400~2500MHz<2.0
Gain	2400~2500MHz:4.31dBi Max
impedance	50 ohm
Antenna material	
PCB	

testing instrument



24-probe microwave chamber



R&S CMW500



Agilent E4405B 频谱仪



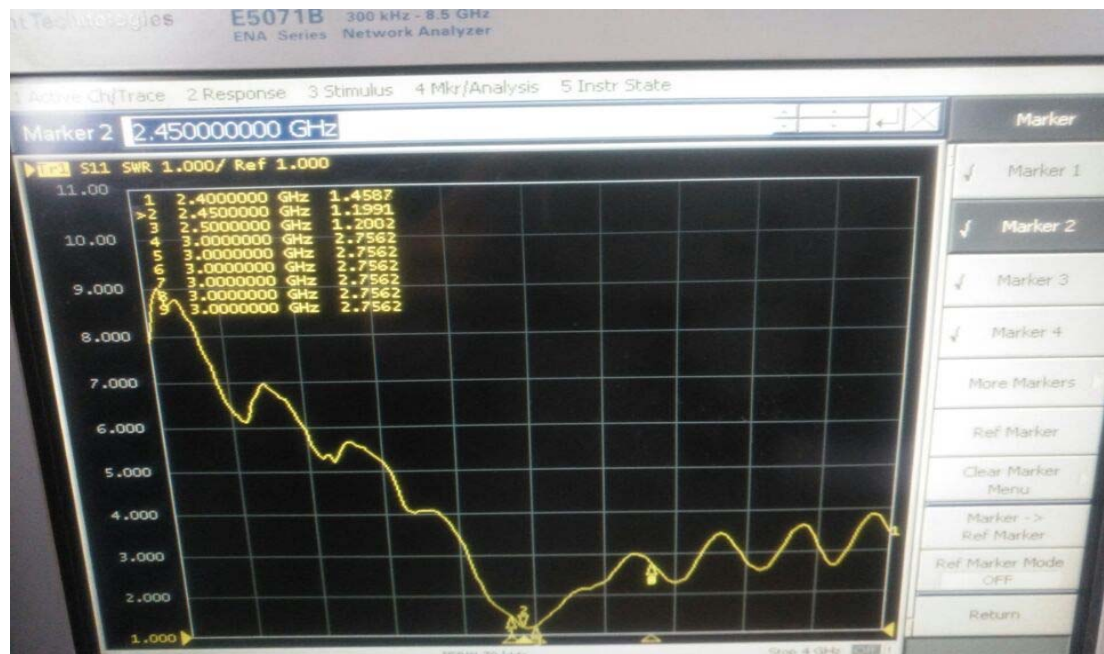
Agilent Technologies E5071B

Electrical performance parameters of wifi antenna

VSWR, gain , Efficiency, pattern)

Shenzhen innovation Digital Communication Co., Ltd

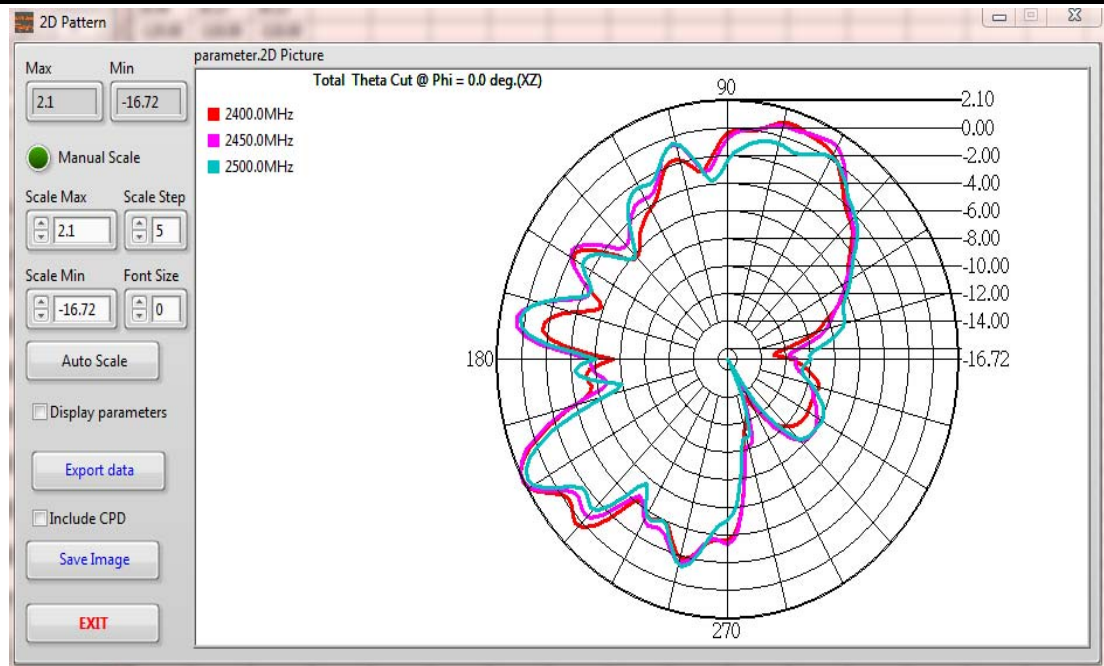
驻波比
(VSWR)



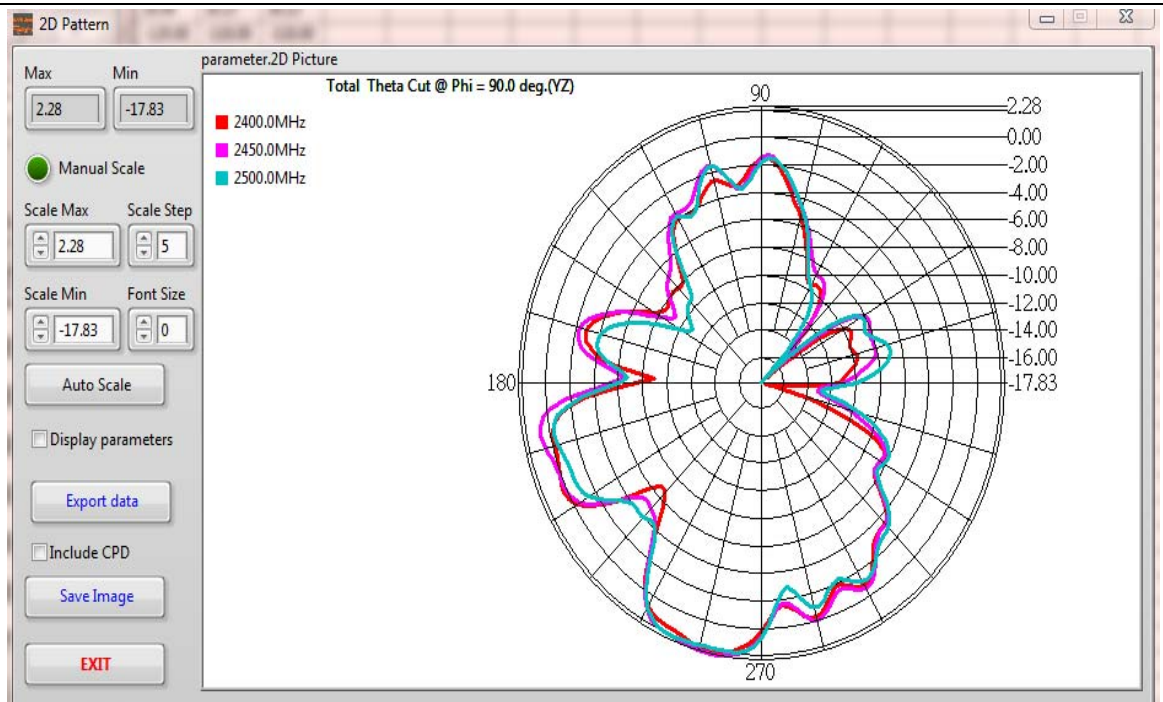
(Efficiency and Gain)

Frequency(MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Peak Gain(dBi)	4.25	4.31	4.15	3.92	4.14	3.97	3.86	3.82	3.42	3.65	3.41
Directivity(dBi)	7.19	7.04	7.00	6.66	6.69	6.64	6.62	6.77	6.71	6.73	6.50
Average Gain(dBi)	-2.94	-2.73	-2.85	-2.74	-2.55	-2.67	-2.77	-2.95	-3.30	-3.08	-3.09
Efficiency(%)	50.77	53.31	51.82	53.22	55.62	54.10	52.89	50.75	46.82	49.20	49.14
Upper HEM , EIRP(dB)	-7.19	-7.00	-7.12	-7.02	-6.82	-6.90	-6.98	-7.12	-7.47	-7.23	-7.21
Lower HEM , EIRP(dB)	-5.00	-4.77	-4.89	-4.77	-4.58	-4.72	-4.83	-5.04	-5.39	-5.19	-5.21
Upper HEM , EIRP(%)	19.12	19.95	19.41	19.87	20.78	20.40	20.03	19.42	17.89	18.93	19.02
Lower HEM , EIRP(%)	31.65	33.36	32.42	33.35	34.84	33.71	32.86	31.33	28.94	30.27	30.13
Peak Gain @ Theta(degree)	-120.00	-120.00	-120.00	-120.00	170.00	170.00	-120.00	-120.00	-120.00	-118.00	-118.00
Peak Gain @ Phi(degree)	44.00	44.00	44.00	44.00	134.00	132.00	44.00	44.00	44.00	44.00	44.00
Null @ Phi(degree)	64.00	64.00	64.00	62.00	62.00	62.00	60.00	60.00	62.00	58.00	58.00
Null @ Theta(degree)	158.00	156.00	156.00	156.00	114.00	114.00	114.00	114.00	114.00	116.00	118.00
Roundness @90degree	12.59	12.72	13.06	13.28	13.64	14.05	14.17	14.53	14.85	15.24	15.15
Roundness @60degree	20.46	22.16	22.89	24.14	25.58	26.77	31.66	32.69	29.86	27.24	25.24
Roundness @30degree	13.82	12.00	10.26	8.90	7.40	6.52	6.09	6.12	6.47	6.66	6.87

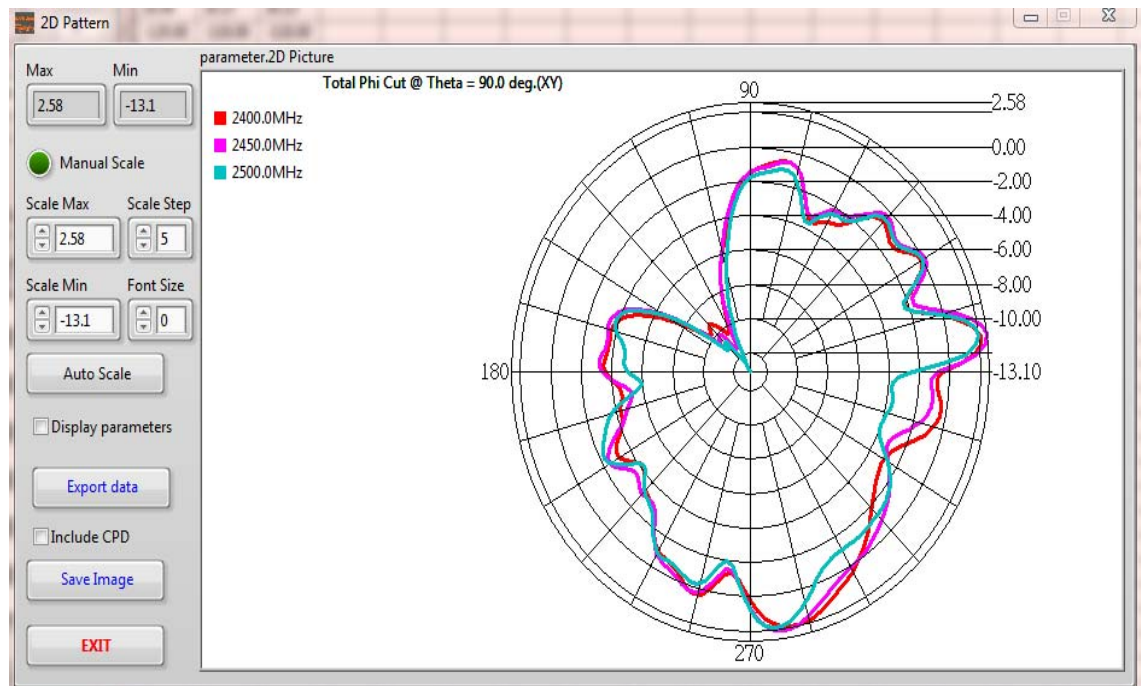
XZ
direction



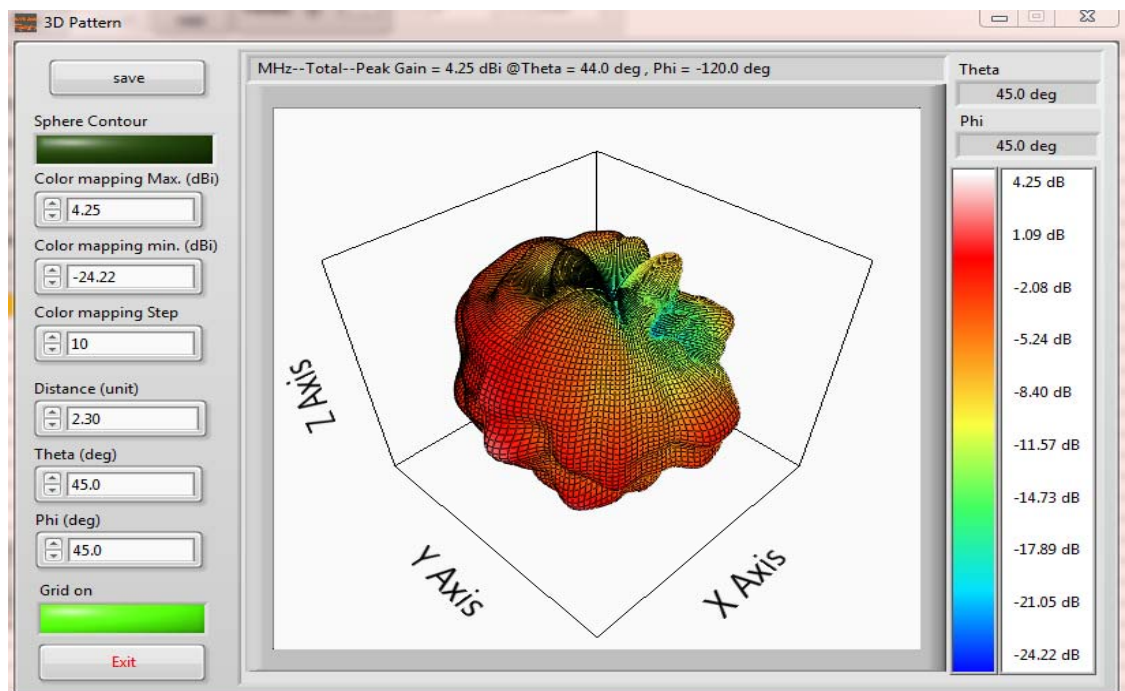
YZ
direction



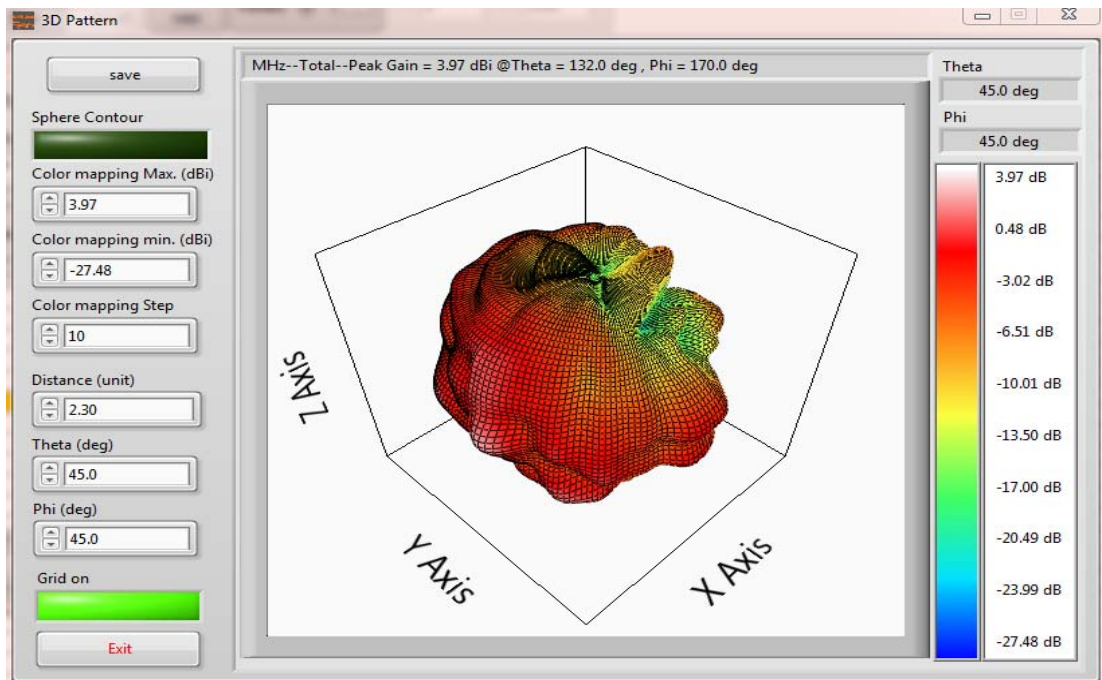
XY
direction



(3D
Pattern)



3D 方向图
(3D
Pattern)



3D 方向图
(3D
Pattern)

