东莞市仁丰电子科技有限公司
Dongguan RF Electronic Technology Co., Ltd
No. 1, Qinghutou Sankeng Industrial Zone, Tangxia Town, Dongguan City

承 认 书

SPECIFICATION FOR APPROVAL

客 户 名 称

CUSTOMER NAME: Noorio

产 品 名 称

PRODUCT NAME: 2.4/5G Built-in antenna L=90mm

客 户 料 号

CUSTOMER P/N:

仁 丰 料 号

Ren Feng P/N: U00T02S000N04049 REV: B

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:	Yang Zhen	
AUDITOR BY:	Song Jun	
APPROVED BY:	Yao Ding Jun	
DATE:	2023-10-23	

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one、 Change resume

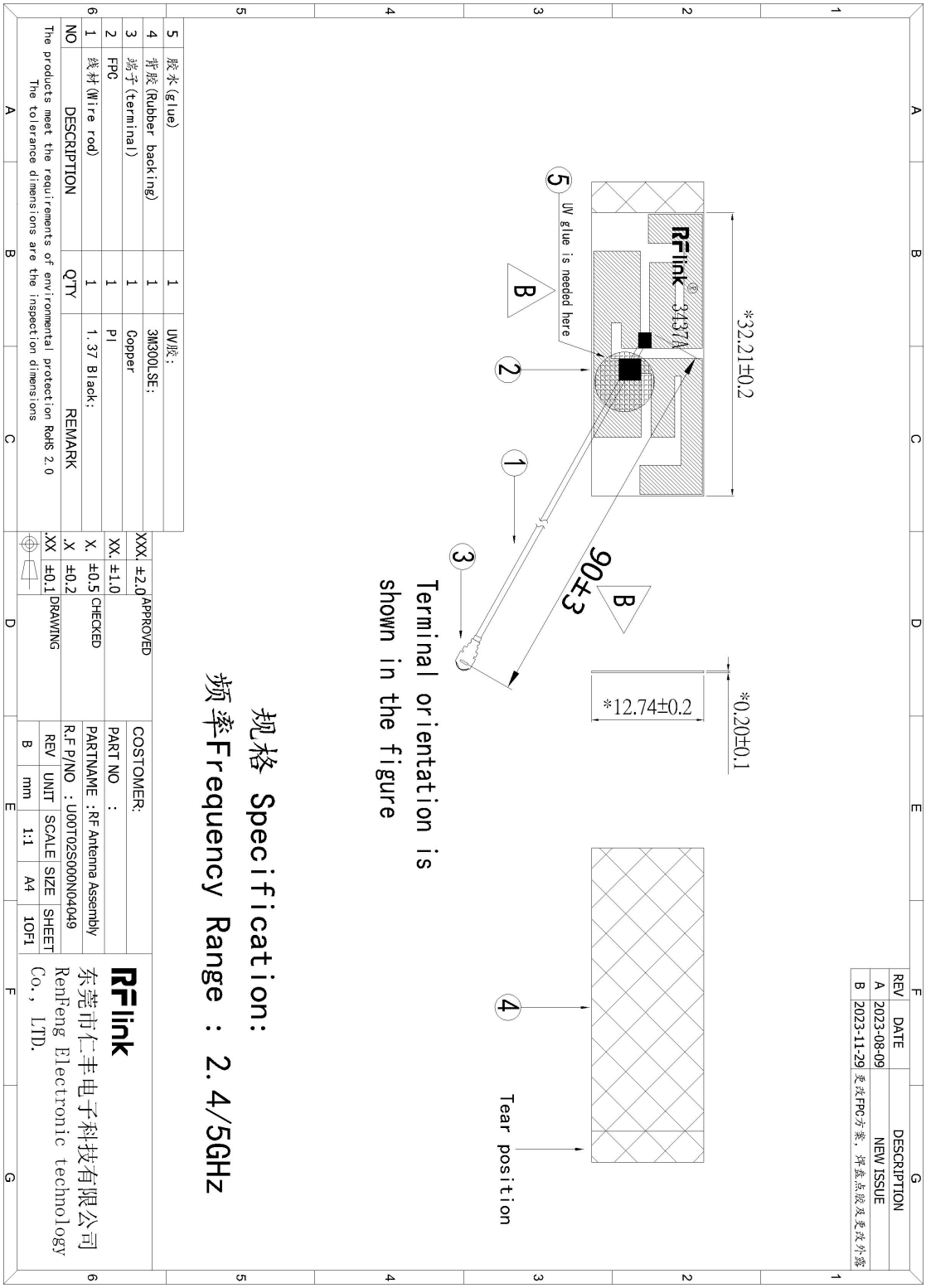
edition	date	Change log
A	2023--10-23	Initial release
A	2023--11-29	Change FPC scheme, weld inventory glue and modify exposure

two、Specification sheet：

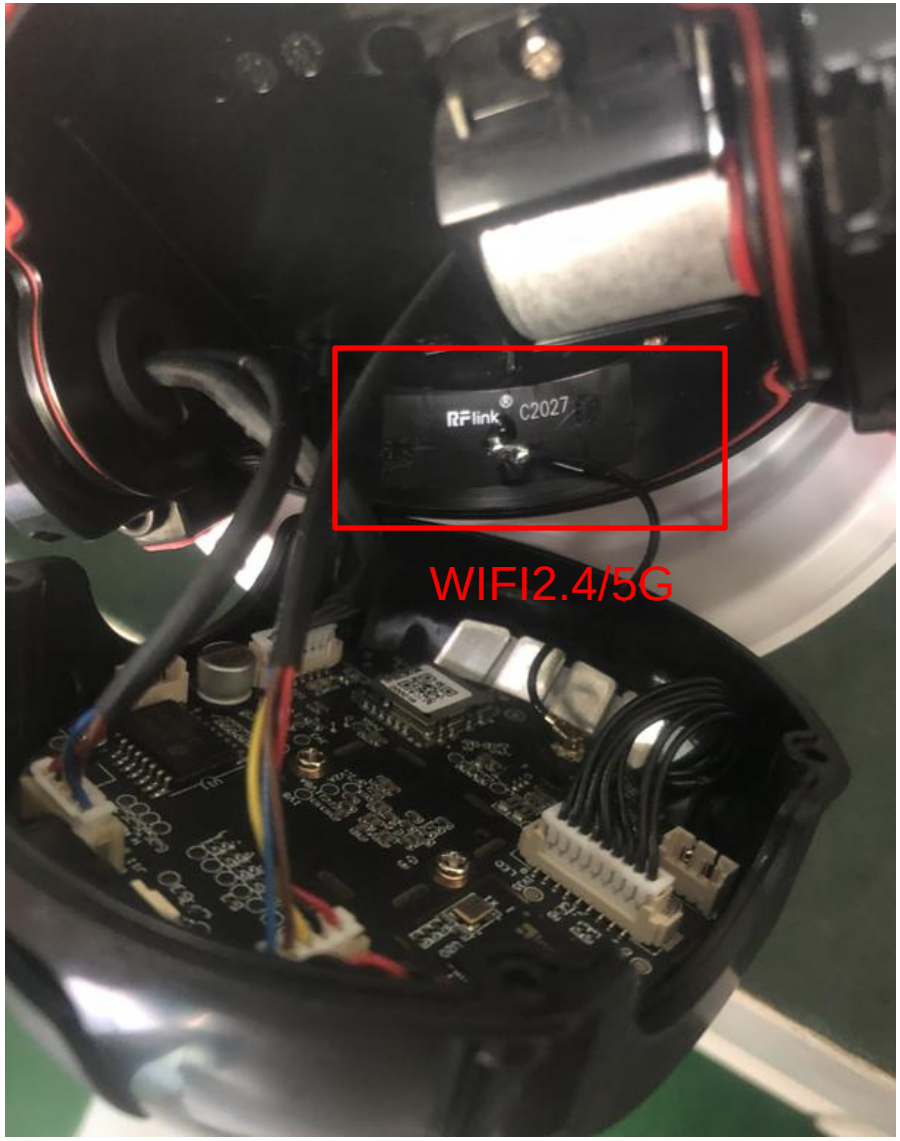
Product main technical parameters

主要技术指标		Main technical specifications	
频率范围（MHZ）	2400-2500 5150-5850	Frequency Range (MHZ)	2400-2500 5150-5850
特性阻抗(Ω)	50	Impedance(Ω)	50
增益(dBi)	2.4G:4.58 5G:4.12	Peak Gain(dBi)	2.4G:4.58 5G:4.12
输出电压驻波比	≦2.0	VSWR	≦2.0
极化方式	交叉极化	Polarization	Cross
方向性	全向性	Radiation	Omni-directional
连接方式	端子	Connector Type	MHF Plug
物理性能		Physical Properties	
天线外套材料	FPC	Antenna type	FPC
工作温度	-20℃~+70℃	Operating Temp	-20℃~+70℃
保存温度	-20℃~+70℃	Storage Temp	-20℃~+70℃

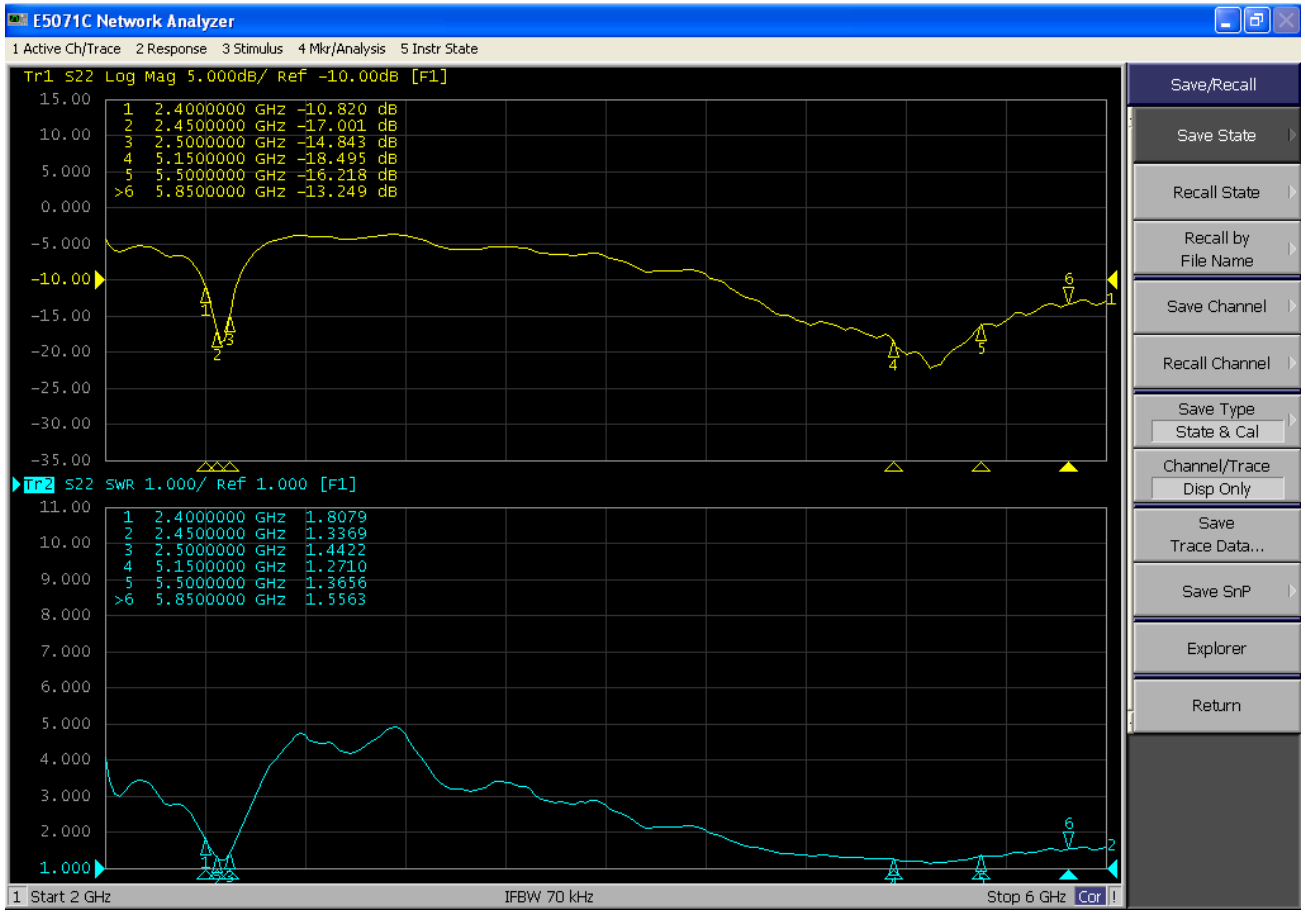
three、 Finished drawing



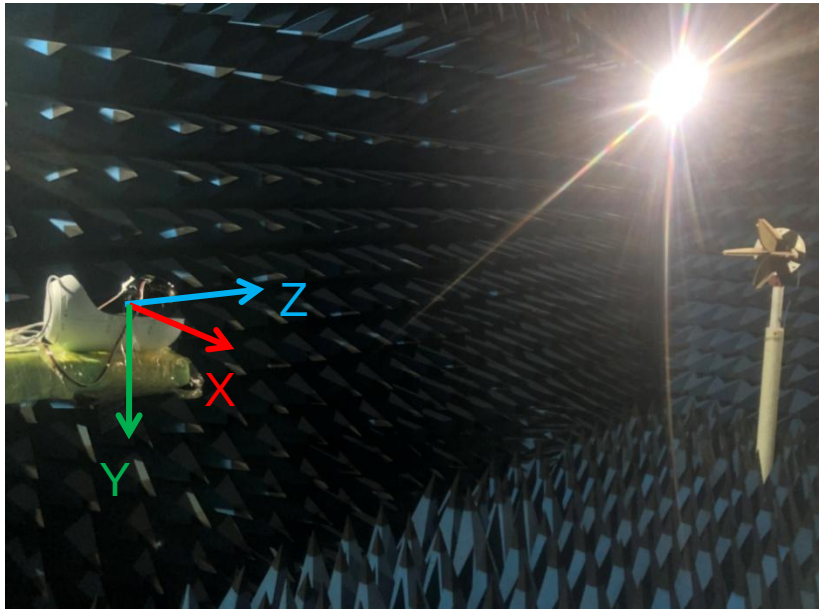
RF link

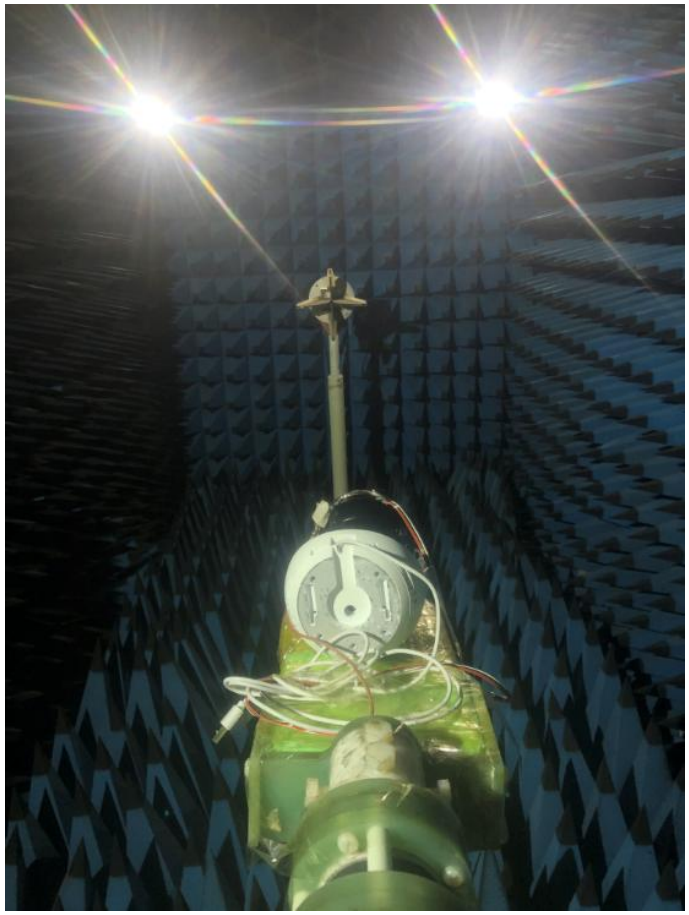


Measurement data--Return Loss & VSWR-WIFI



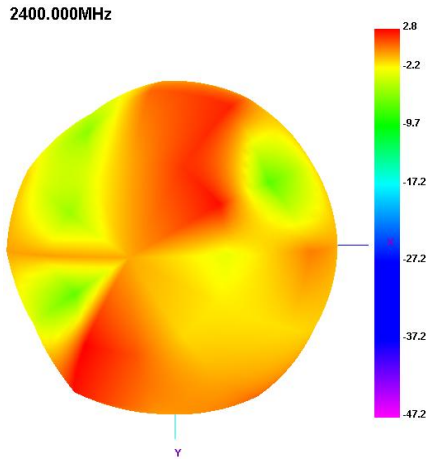
Radiation pattern

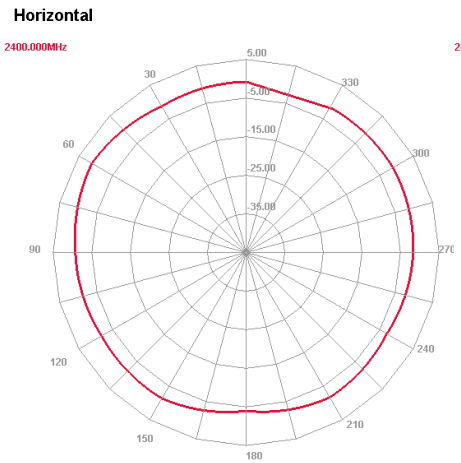


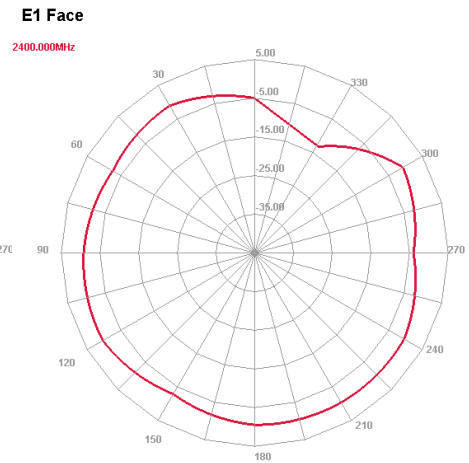


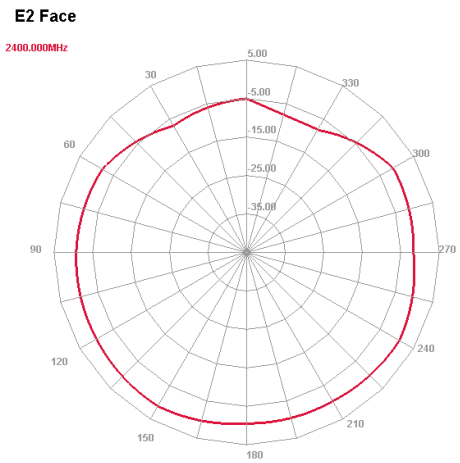
Radiation pattern

2400MHz



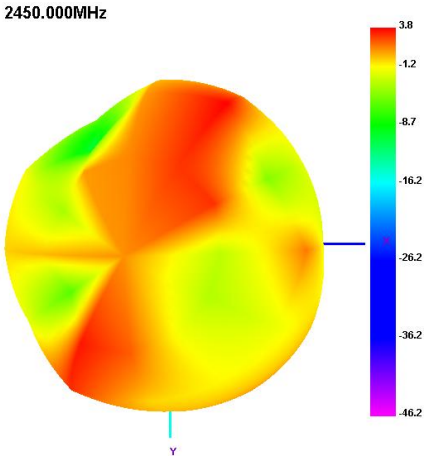


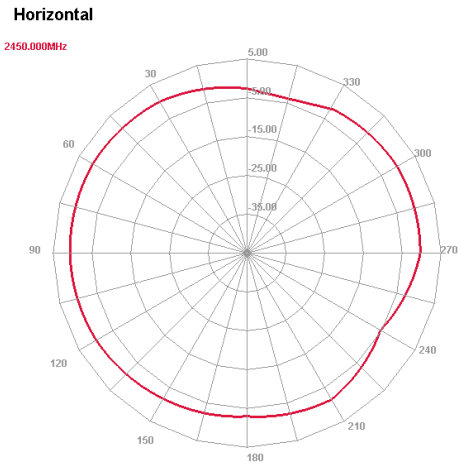


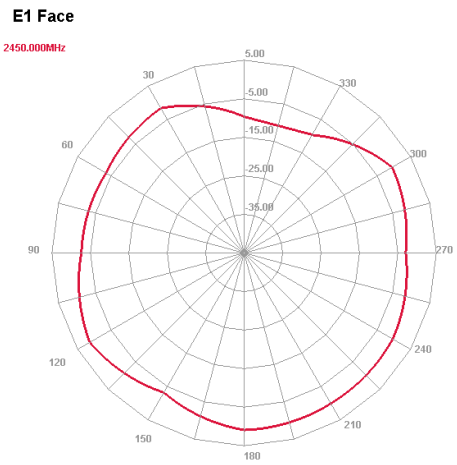


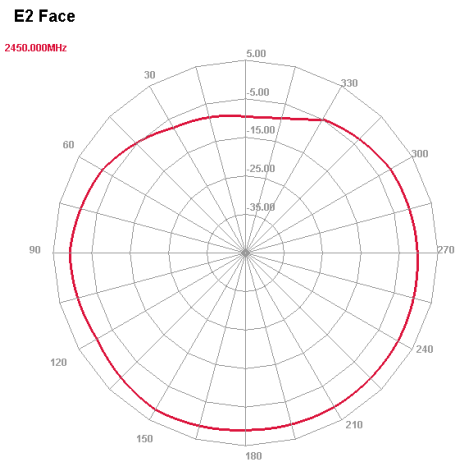
Radiation pattern

2450MHz



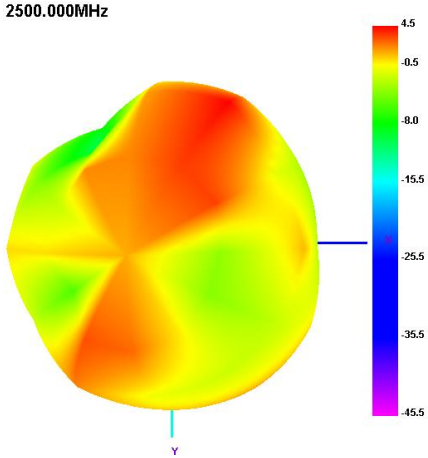


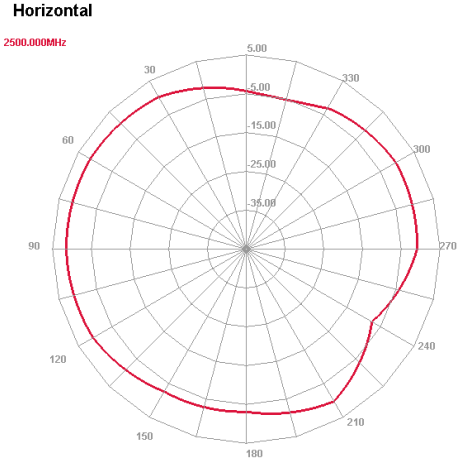


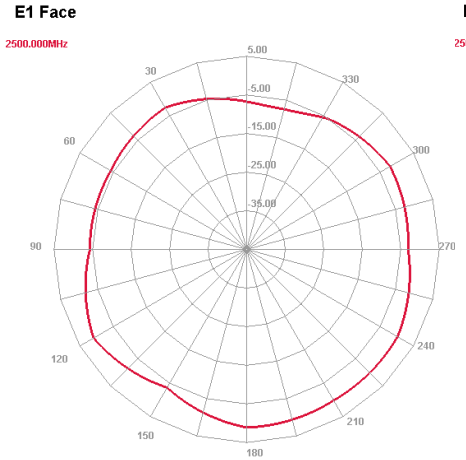


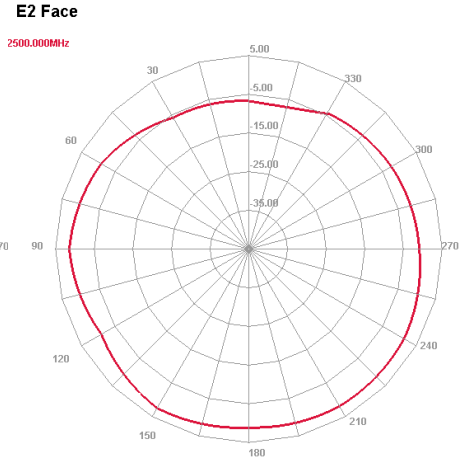
Radiation pattern

2500MHz



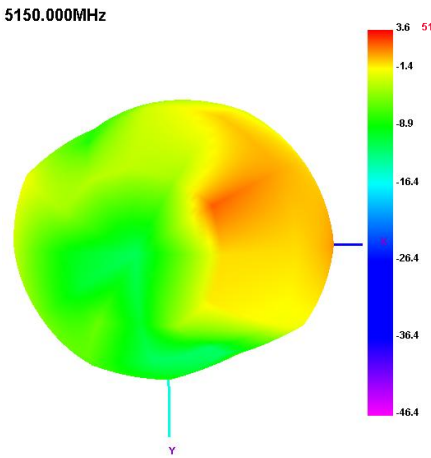


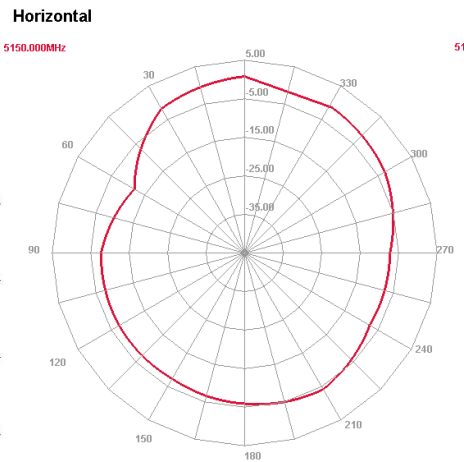


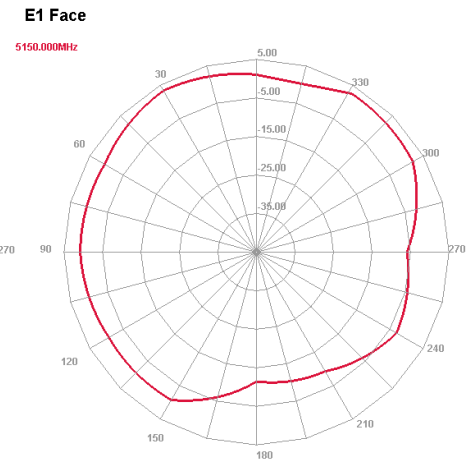


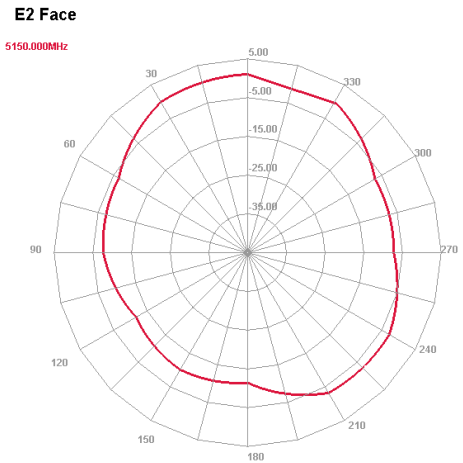
Radiation pattern

5150MHz



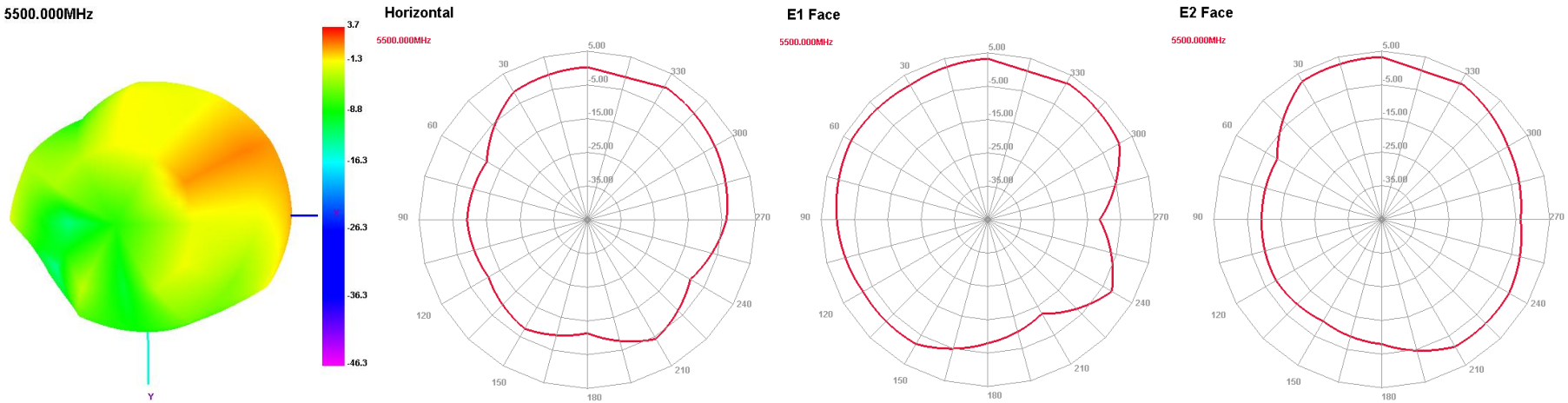






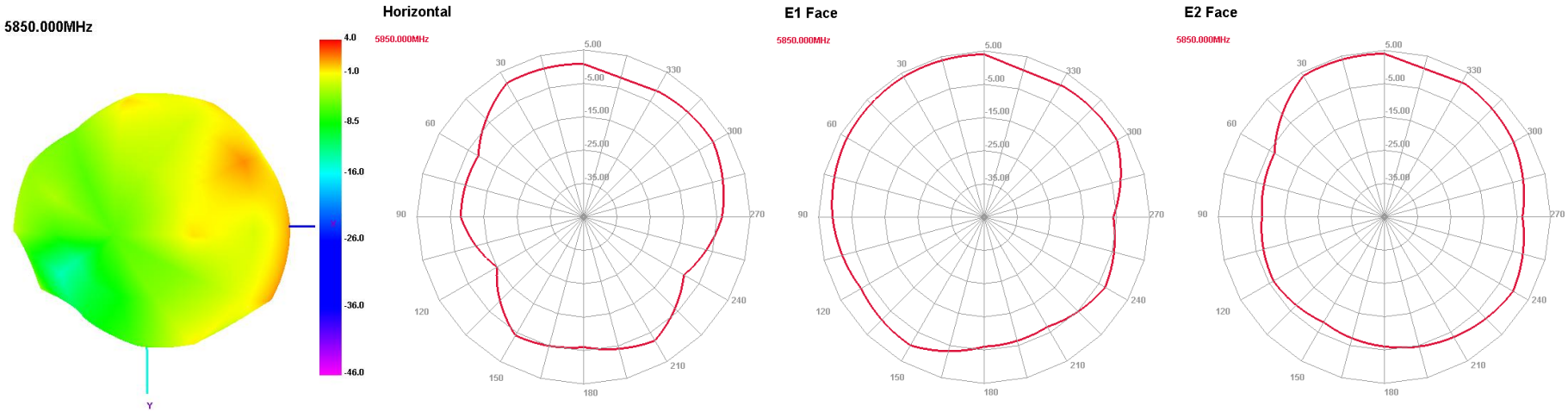
Radiation pattern

5500MHz



Radiation pattern

5850MHz



Gain table of Antenna

Freq (MHz)	Effi (%)	Gain (dBi)
2400	65.61	2.76
2410	68.83	2.84
2420	67.62	2.85
2430	70.94	3.31
2440	71.78	3.71
2450	70.3	3.75
2460	70.65	3.89
2470	70.96	4.13
2480	71.42	4.32
2490	73.23	4.58
2500	69.88	4.52

Freq (MHz)	Effi (%)	Gain (dBi)
5150	69.31	3.62
5200	67.21	3.77
5250	69.41	4.12
5300	66.08	3.76
5350	69.28	3.91
5400	65.55	3.43
5450	70.71	4.07
5500	68.43	3.74
5550	69.1	3.85
5600	67.02	3.48
5650	69.17	3.55
5700	71.02	3.5
5750	70.66	3.55
5800	72.81	3.85
5850	72.99	3.99

OTA

Item	Measurement	Azimuths	Elevations	Standard	Band	Channel	Frequency	Total
1	TRP	Every30	Every30	WIFI (AP)	WIFI_B (11M)	1	2412	17.78
2	TRP	Every30	Every30	WIFI (AP)	WIFI_B (11M)	6	2437	17.77
3	TRP	Every30	Every30	WIFI (AP)	WIFI_B (11M)	11	2462	17.61
4	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_B (11M)	1	2412	-87.71
5	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_B (11M)	6	2437	-87.19
6	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_B (11M)	11	2462	-87.49
7	TRP	Every30	Every30	WIFI (AP)	WIFI_G (54M)	1	2412	14.51
8	TRP	Every30	Every30	WIFI (AP)	WIFI_G (54M)	6	2437	15.82
9	TRP	Every30	Every30	WIFI (AP)	WIFI_G (54M)	11	2462	15.63
10	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_G (54M)	1	2412	-74.42
11	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_G (54M)	6	2437	-74.83
12	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_G (54M)	11	2462	-75.14
19	TRP	Every30	Every30	WIFI (AP)	WIFI_A (54M)	36	5180	17.35
20	TRP	Every30	Every30	WIFI (AP)	WIFI_A (54M)	100	5500	17.45
21	TRP	Every30	Every30	WIFI (AP)	WIFI_A (54M)	165	5825	17.88
22	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_A (54M)	36	5180	-75.6
23	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_A (54M)	100	5500	-75.6
24	TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_A (54M)	165	5825	-76.82