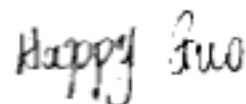


OTA TEST REPORT

Report Reference No.: CTL251221091-002

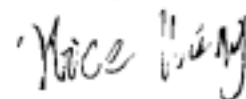
Compiled by:
(position+printed name+signature)

Happy Guo
(File administrators)



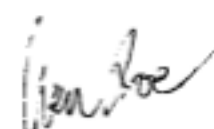
Tested by:
(position+printed name+signature)

Nice Nong
(Test Engineer)



Approved by:
(position+printed name+signature)

Ivan Xie
(Manager)



Product Name.....: FPC Antenna

Model/Type reference: FPC Antenna-A

Trade Mark: N/A

Applicant's name: X Square Robot Technology (Shenzhen) Co.,Ltd.

Address of applicant: 31st Floor, Aerospace Innovation Building, No. 7013 Liuxian
Boulevard, Xili Community, Xili Subdistrict, Nanshan District,
Shenzhen

Test Firm: Shenzhen CTL Testing Technology Co., Ltd.

Address of Test Firm: Floor 1-A, Baisha Technology Park, No.3011, Shaheji Road,
Nanshan District, Shenzhen, China 518055

Test specification.....:

Reference Standard: IEEE149-1979

TRF Originator: Shenzhen CTL Testing Technology Co., Ltd.

Master TRF: Dated 2026-01

Date of receipt of test item.....: Dec. 21, 2025

Date of sampling.....: Dec. 21, 2025

Date of Test Date.....: Dec. 21, 2025–Jan 15, 2026

Data of Issue.....: Jan 15, 2026

Result.....: Pass

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Applicant

Applicant	X Square Robot Technology (Shenzhen) Co.,Ltd.
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E-mail Address	Yeshaozhuang@x2robot.com

Manufacturer

Manufacturer	X Square Robot Technology (Shenzhen) Co.,Ltd.
Address	31st Floor, Aerospace Innovation Building, No. 7013 Liuxian Boulevard, Xili Community, Xili Subdistrict, Nanshan District, Shenzhen
Contact Person	Ye Shaozhuang
Telephone Number	+86 15013663030
Fax Number	+86 15013663030
E-mail Address	Yeshaozhuang@x2robot.com

General Description for Equipment under Test (EUT)

EUT Type	FPC Antenna
Model Name	FPC Antenna
Antenna Type	FPC Antenna
Hardware Version	N/A
Serial Number	N/A
Dimensions	N/A

Technical Information

Frequency Range	2400MHz~ 2500MHz, 5150MHz~ 5850MHz
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Test Standards

No.	Identity	Document Title
1	IEEE149-1979	IEEE Standard Test Procedures for Antennas

Test Verdict

Report Section	Description	Remark
ANNEX A.1	Gain And Efficiency	--
ANNEX B	Radiation Pattern	--

Antenna Test Report

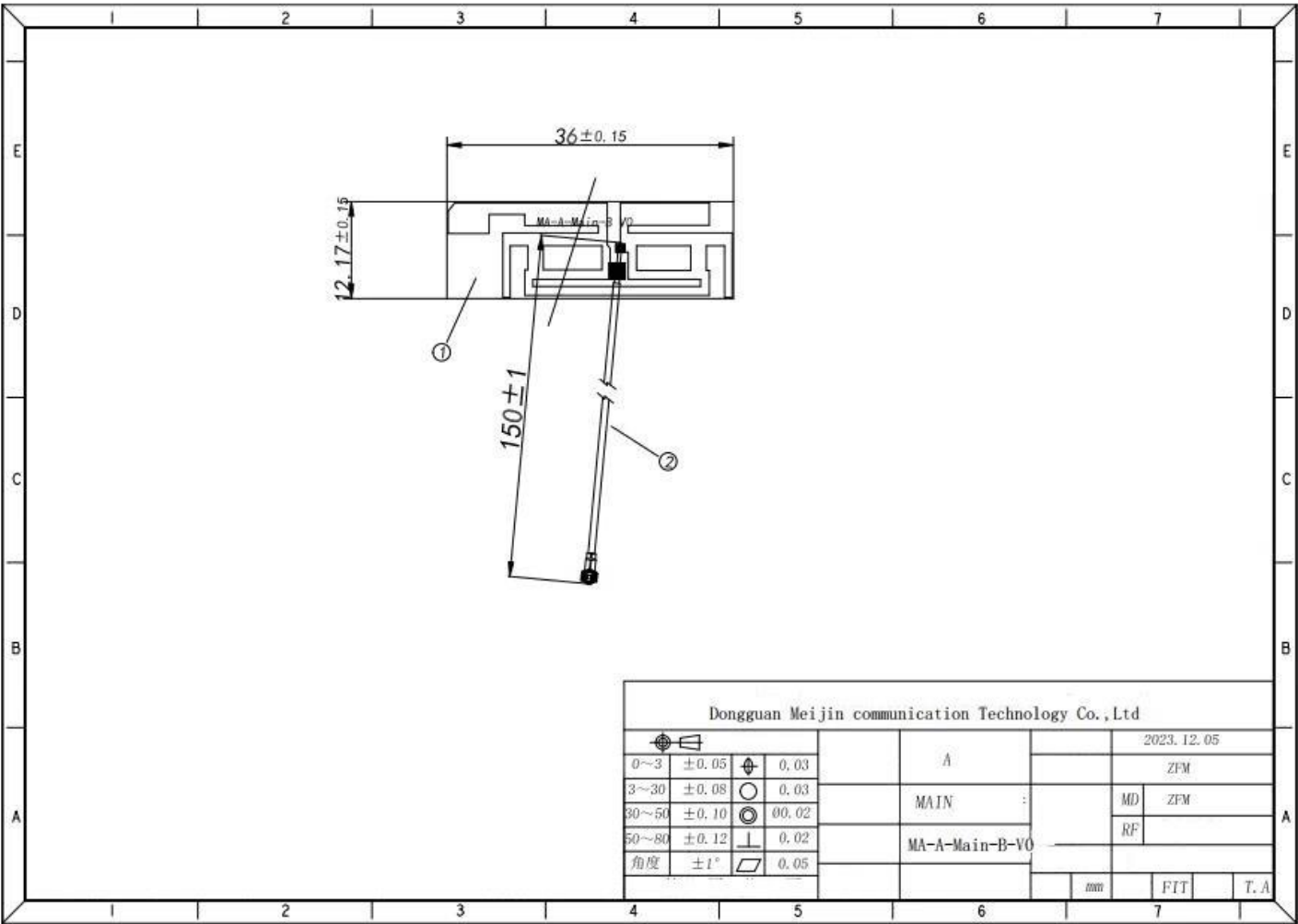
Date: 2023-12-05

RF: Li Gong

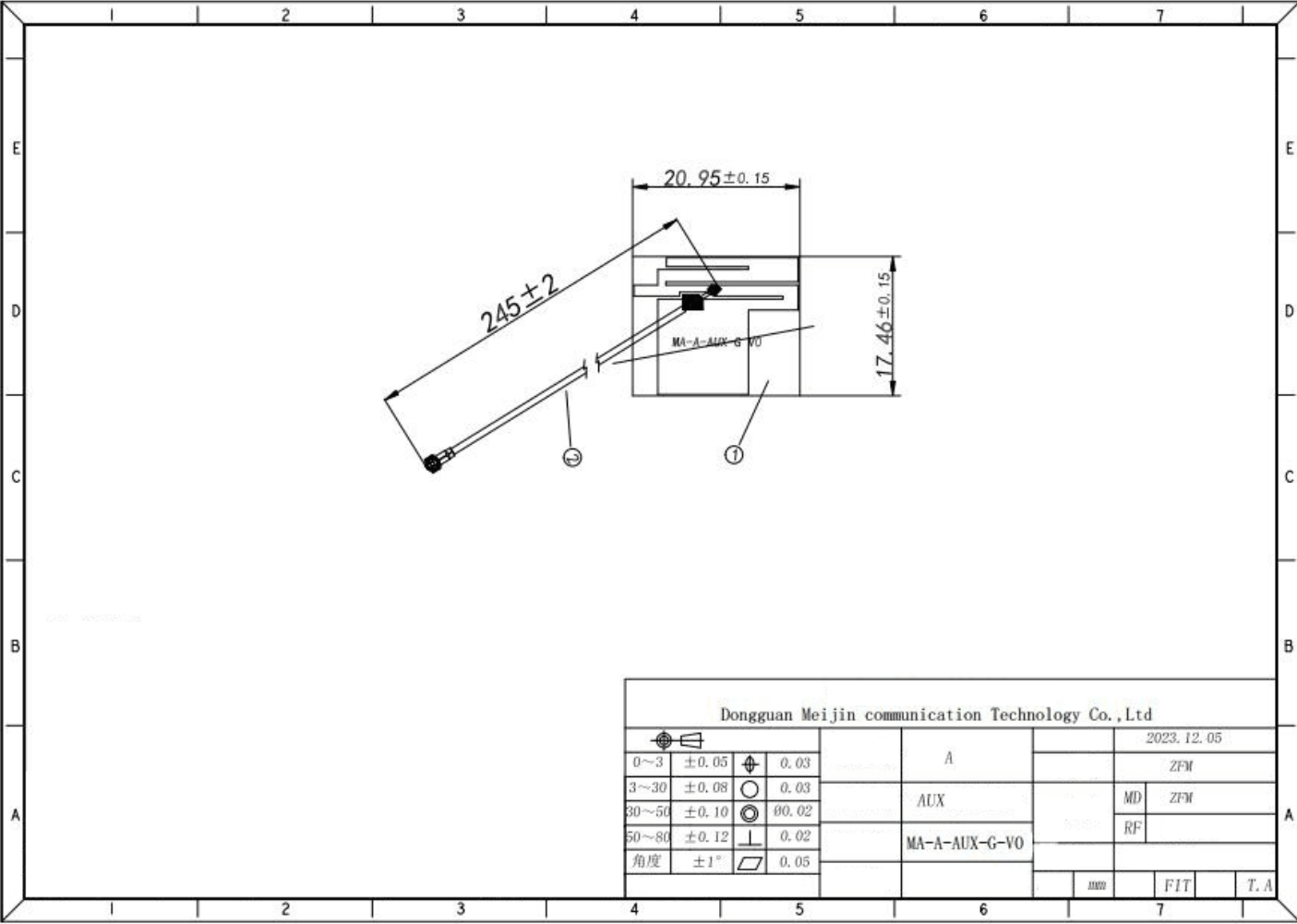
Li Gong

1. ANT Photo

BT ANT

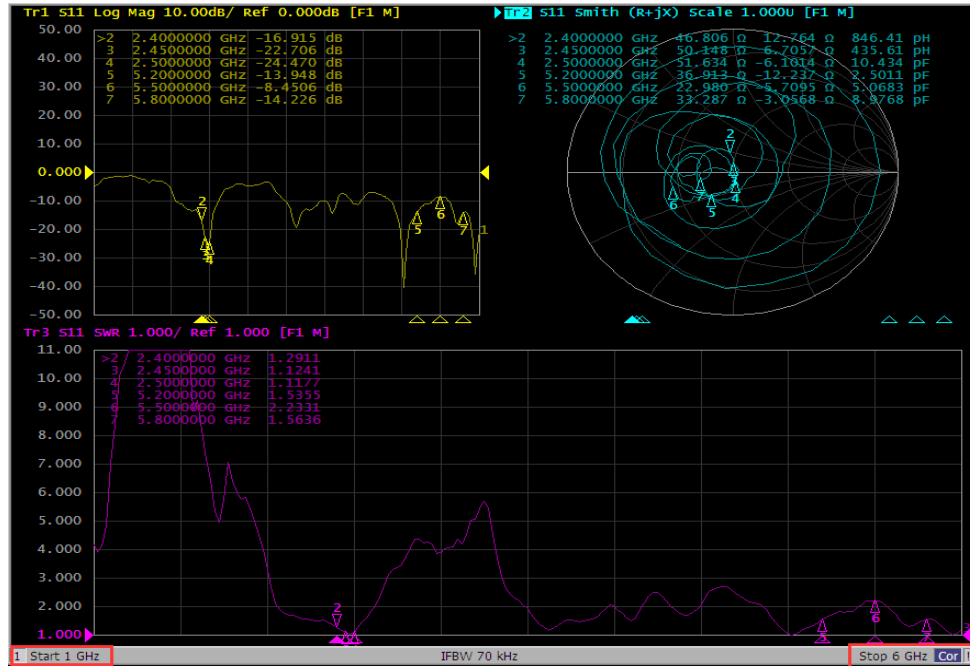


WIFI ANT



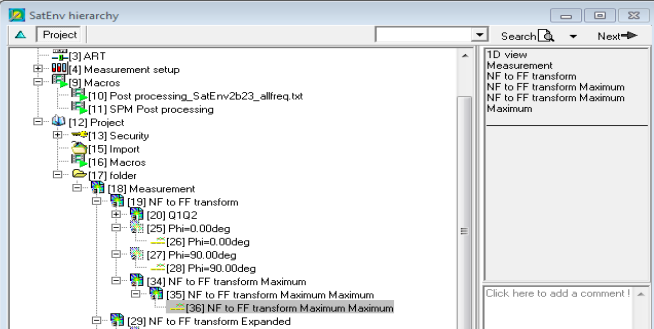
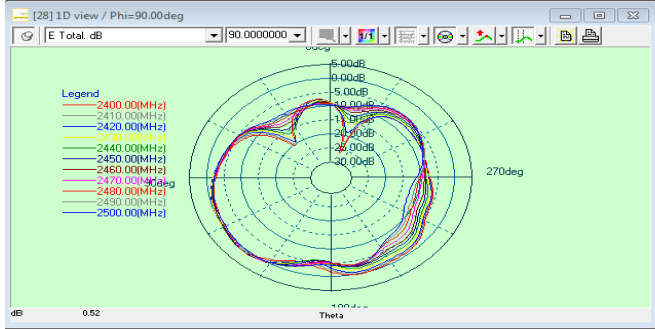
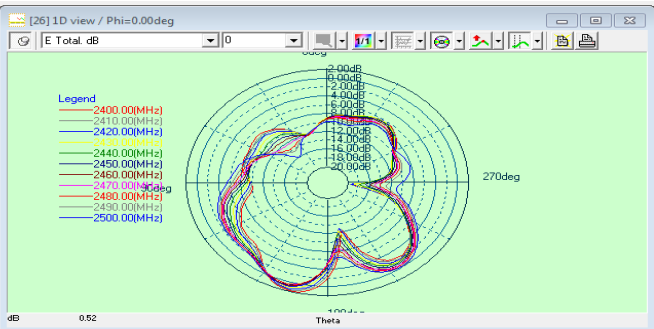
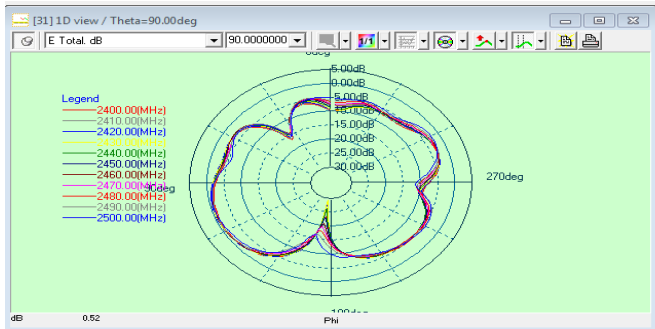
2. BT Antenna passive data: (SWR/Log Mag /Smith/Efficiency/gain/direction chart)

2.1 VSWR



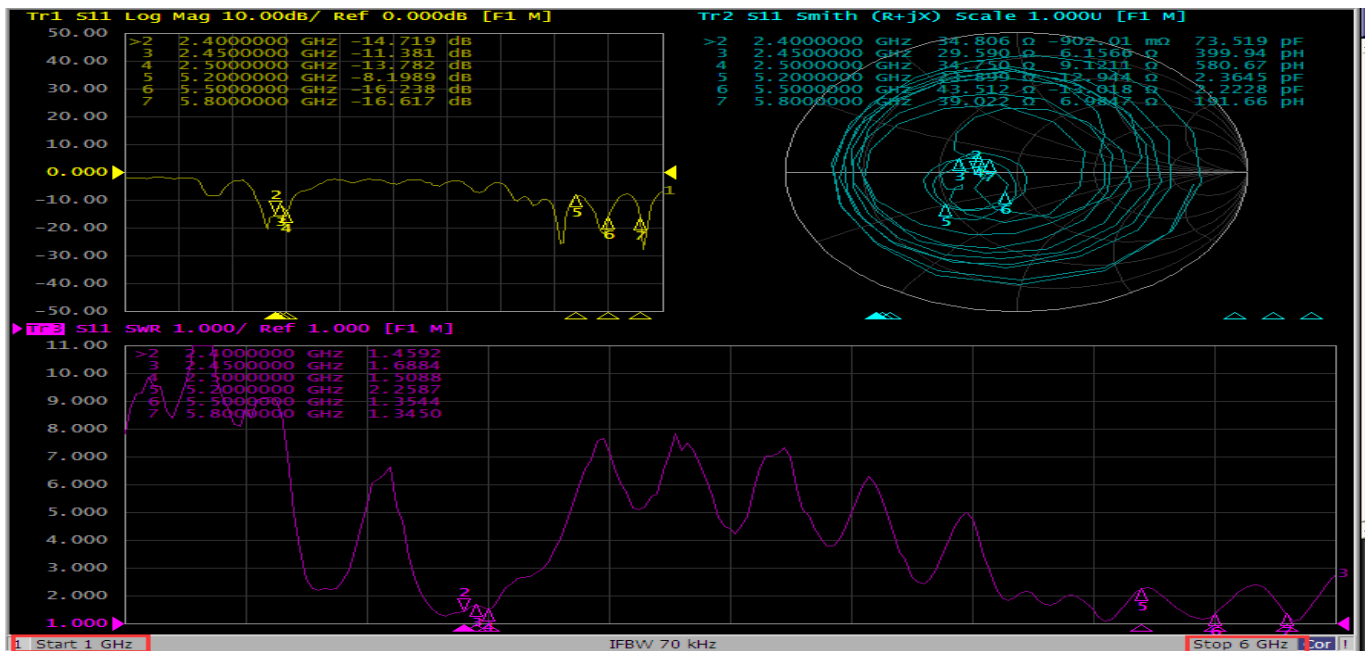
3.2 Gain, efficiency and direction chart

2400-2500MHZ					
Frequency	Efficiency	Gain.dBi	Frequency	Efficiency	Gain.dBi
2400MHz	47%	3.04	2460MHz	48%	2.58
2410MHz	47%	2.98	2470MHz	46%	2.21
2420MHz	47%	2.96	2480MHz	46%	2.02
2430MHz	47%	2.84	2490MHz	48%	2.11
2440MHz	47%	2.71	2500MHz	47%	1.87
2450MHz	47%	2.60			



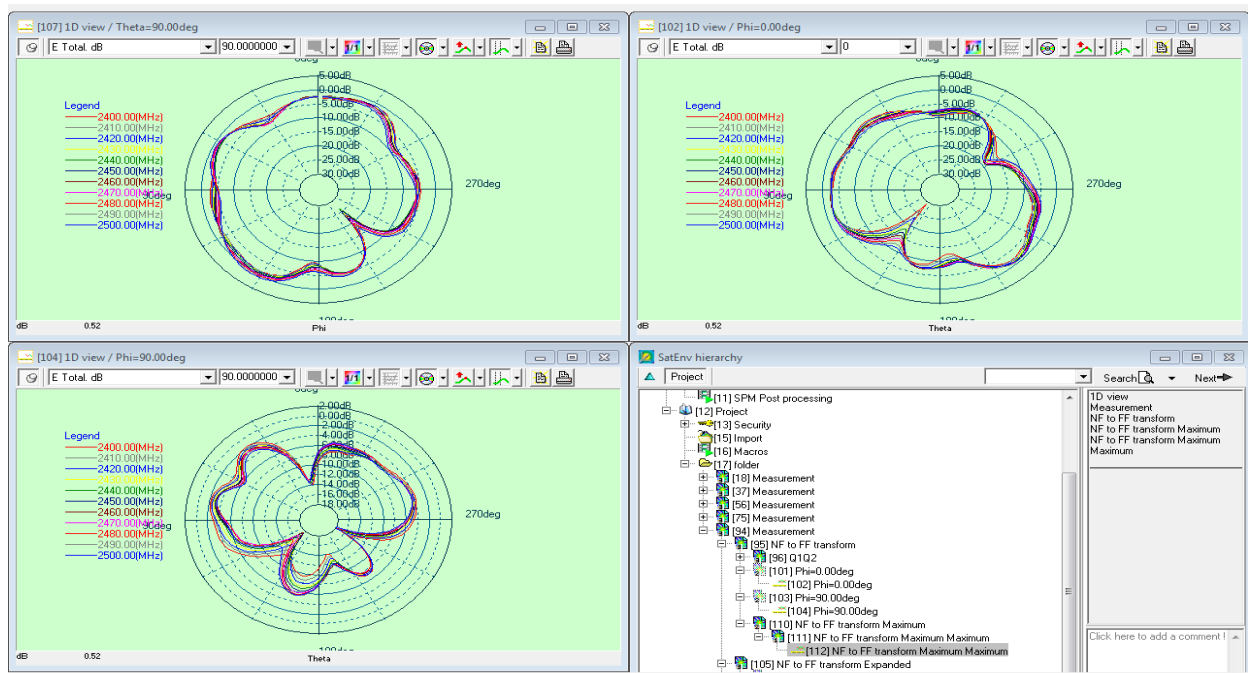
4. WIFI Antenna passive dat: (SWR/Log Mag /Smith/Efficiency/gain/direction chart)

4.1 VSWR

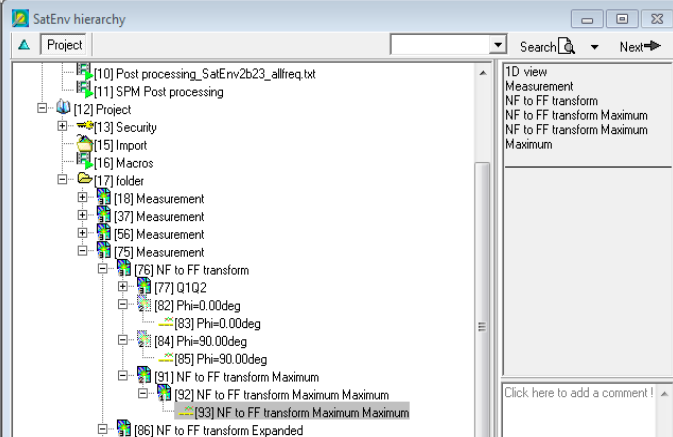
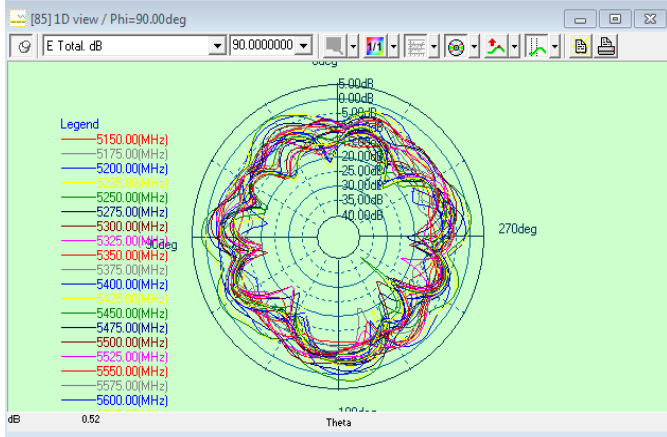
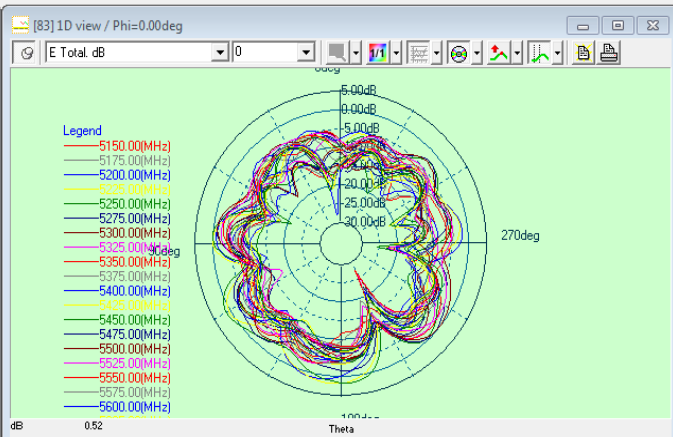
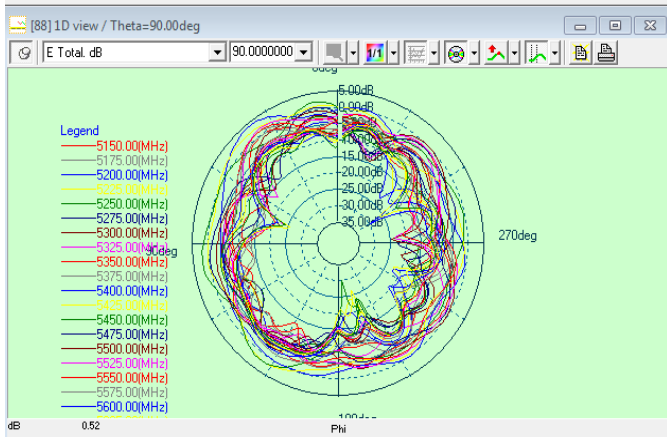


4.2 Gain, efficiency and direction chart

2400-2500MHz					
Frequency	Efficiency	Gain.dBi	Frequency	Efficiency	Gain.dBi
2400MHz	45%	2.04	2460MHz	46%	2.28
2410MHz	43%	2.76	2470MHz	46%	2.20
2420MHz	45%	2.91	2480MHz	45%	2.11
2430MHz	43%	2.65	2490MHz	45%	1.94
2440MHz	44%	2.77	2500MHz	45%	1.69
2450MHz	45%	2.67			



5150-5850MHZ					
Frequency	Efficiency	Gain.dBi	Frequency	Efficiency	Gain.dBi
5150MHz	20%	-1.92	5525MHz	34%	1.59
5175MHz	20%	-1.56	5550MHz	32%	0.64
5200MHz	21%	-0.99	5575MHz	27%	-0.69
5225MHz	23%	-1.35	5600MHz	22%	-1.59
5250MHz	22%	-1.53	5625MHz	21%	-1.65
5275MHz	23%	-1.02	5650MHz	22%	-1.48
5300MHz	23%	-0.93	5675MHz	21%	-1.13
5325MHz	27%	0.30	5700MHz	21%	-1.54
5350MHz	37%	1.22	5725MHz	20%	-1.34
5375MHz	33%	0.50	5750MHz	21%	-1.02
5400MHz	43%	2.79	5775MHz	22%	-1.29
5425MHz	44%	2.58	5800MHz	20%	-1.50
5450MHz	45%	2.23	5825MHz	21%	-1.93
5475MHz	37%	0.94	5850MHz	20%	-1.76
5500MHz	39%	2.43			



5. Antenna active debugging data:

BT Ant Freespace data

Band	Channel	Free Space Optitec	
		TRP	TIS
BT	0	12.73	3MBps
	19	12.47	
	39	11.23	-78.81
	AVE	12.14	

WIFI Ant Freespace data

Band	Channel	Free Space Optitec	
		TRP	TIS
WIFI2.4G (G)	1	11.48	54MBps
	6	12.34	
	11	7.77	-67.47
	AVE	10.53	
Band	Channel	Free Space Optitec	
		TRP	TIS
WIFI5G	36	11.73	54MBps
	149	12.57	
	165	12.39	-68.40
	AVE	12.23	