



YONG CHENG INTERNATIONAL(OTA)



LA-220VR An tenna Test Specification

RAIN International Technology Co., Ltd. 7/F, Building F,
Zhichuang Park, Tong 'an, Gushu, Shenzhen

◆ Data:2025-05-09

Test item	
1	Matching parameter
2	Network debugging antenna S parameters
3	Microwave darkroom test OTA active data
4	Measurement of antenna efficiency field pattern in microwave darkroom
5	measuring distance
6	Assembly item
7	summary of commissioning test



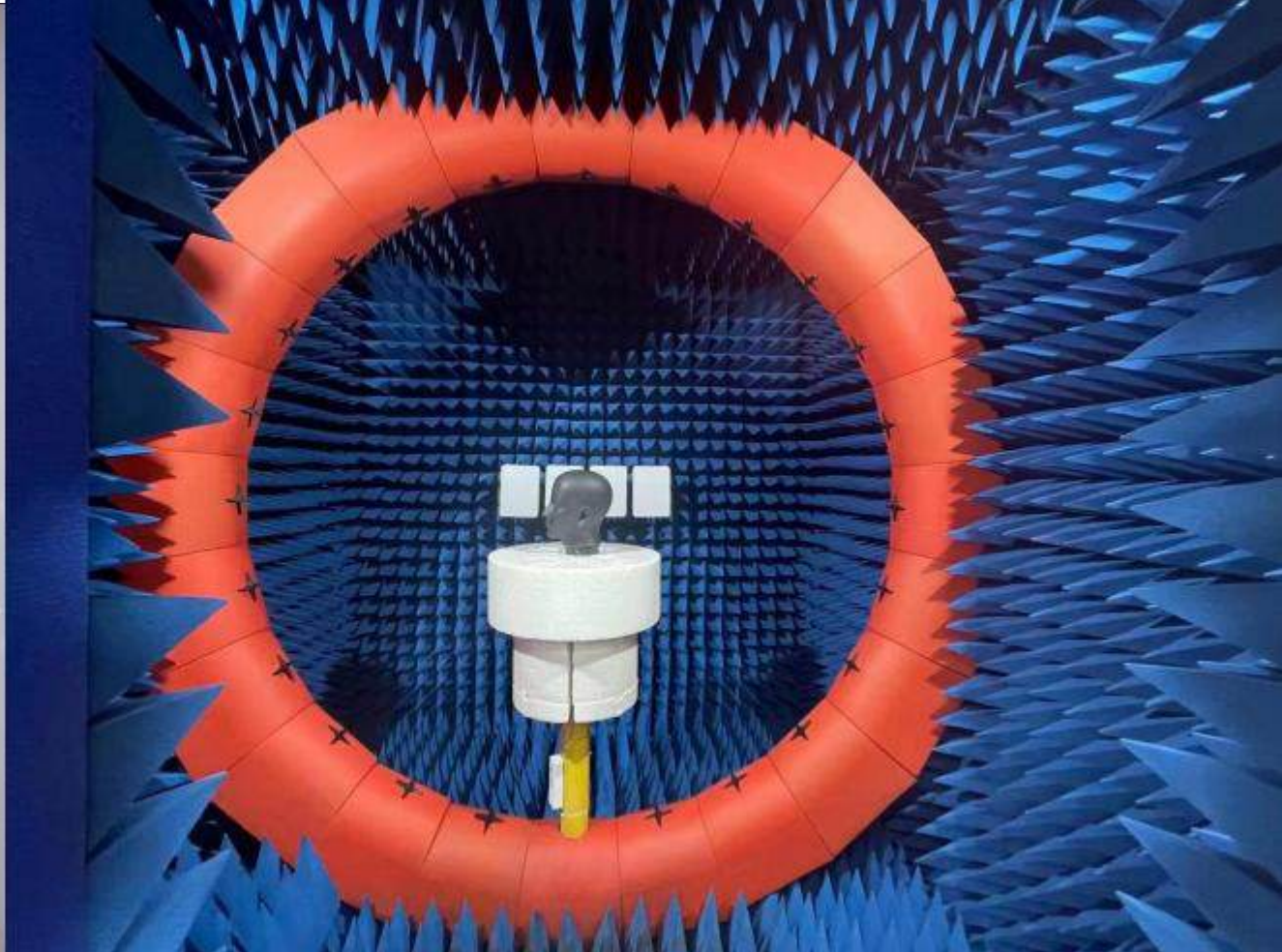
Customer	BLK	Project name	LA-220VR
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frequency band	2400MHZ-2500MHZ	engineer:	CK
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Date	2025/05/09	phone:	13530576606
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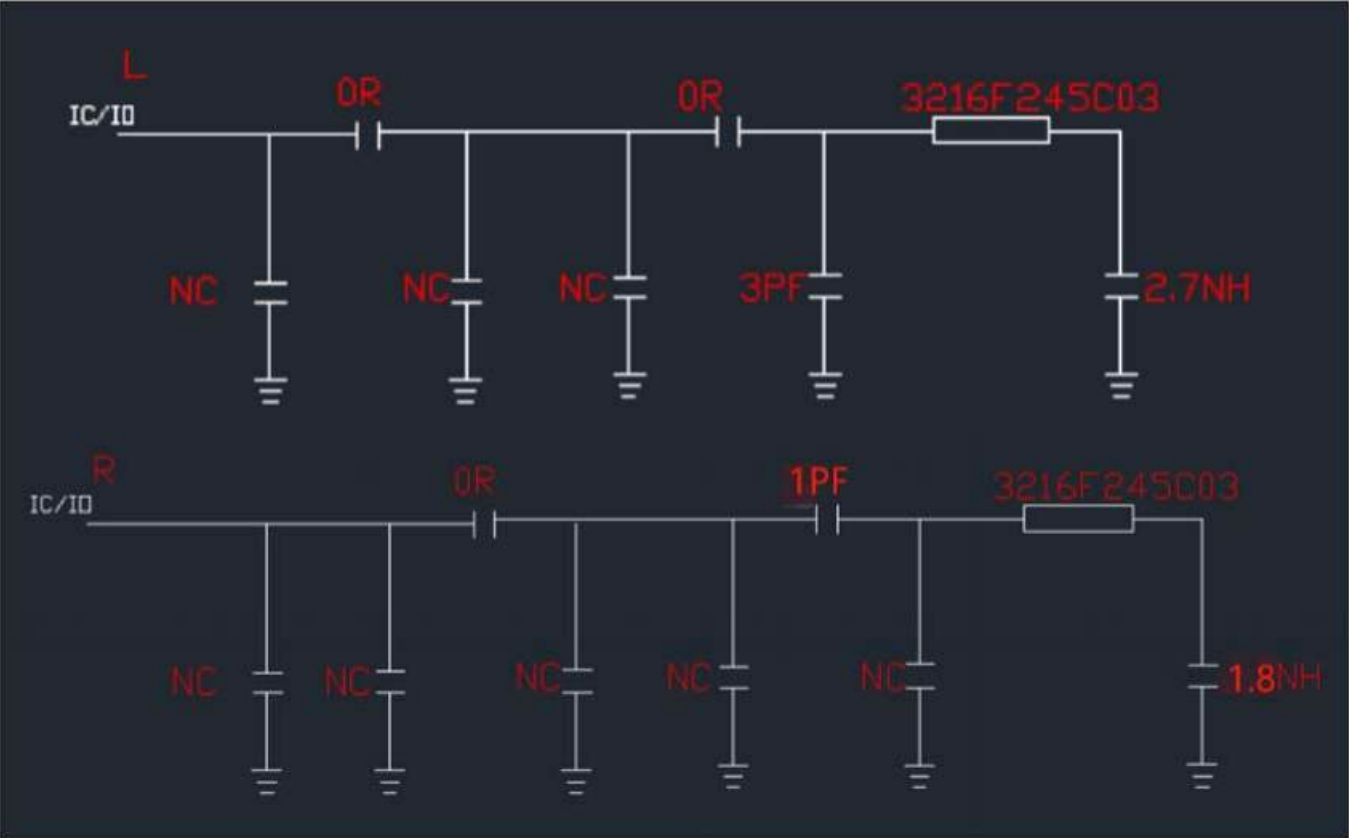
1. Test tool

Vector Network Analyzer & Comprehensive Test	Agilent TechnologiesE5071B&R&SCMW500
darkroom	Atenlab M3
test engineer	CK
temperature	25℃
humidity	65% (RH)





Antenna Placement ANT:3216F245C03



L/R Matching Circuit

2.4GHz 3216 Chip Antenna: RANT3216F245C03



Application:

WLAN, 802.11b/g, Bluetooth, WLAN, etc...

Features

SMD, high reliability, ultra Impact, Omni-directional...

Part number Information

RANT	3216	F	245	C	03
(A)	(B)	(C)	(D)	(E)	(F)
(A)Product Type	Chip Antenna				
(B) Size Code	3.2x1.6mm(±0.2mm)				
(C) Material	High K material				
(D) Frequency	2.4 ~ 2.5GHz				
(E) Feeding mode	PIFA & Single Feeding				
(F) Antenna type	Type=03				



S11、SWR、smith chart:

L



R



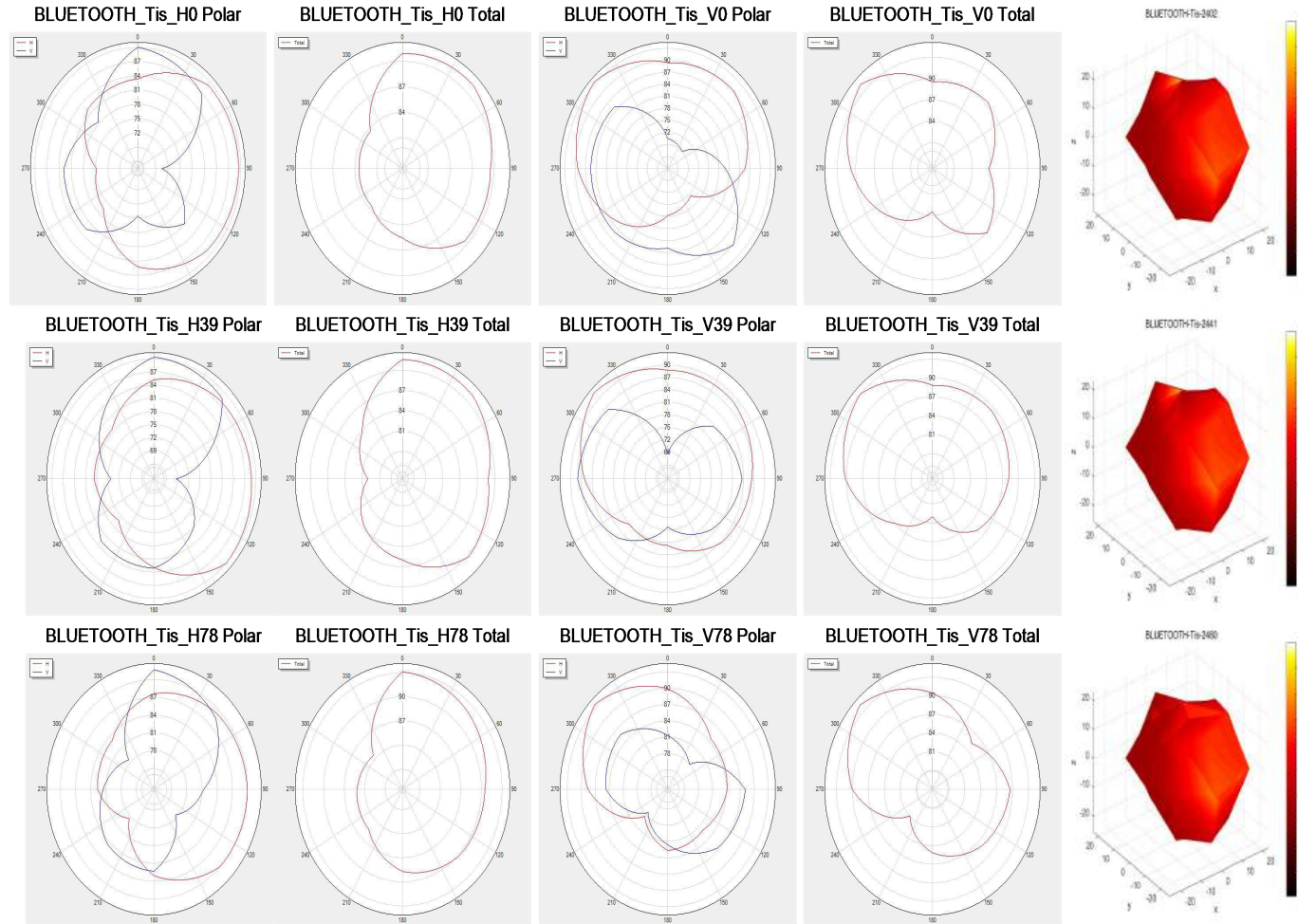
Antenna active test data

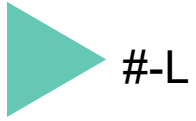
		freedom		headform					freedom		headform	
1L#	Channel	TRP	TIS	TRP	TIS		1R#	Channel	TRP	TIS	TRP	TIS
	CH 0	2.24	-86.44	0.72	-82.77			CH 0	2.55	-86.44	0.14	-82.47
	CH 39	2.05	-86.52	0.53	-82.58			CH 39	2.57	-86.52	0.83	-82.48
	CH 78	3.86	-86.73	0.47	-82.46			CH 78	3.51	-87.73	0.64	-82.53
		freedom		headform					freedom		headform	
2L#	Channel	TRP	TIS	TRP	TIS		2R#	Channel	TRP	TIS	TRP	TIS
	CH 0	2.88	-87.7	0.57	-82.57			CH 0	2.6	-87.21	0.47	-82.47
	CH 39	2.73	-87.27	0.46	-82.54			CH 39	2.99	-86.97	0.57	-82.47
	CH 78	3	-86.25	0.38	-82.28			CH 78	2.41	-86.17	0.26	-82.57



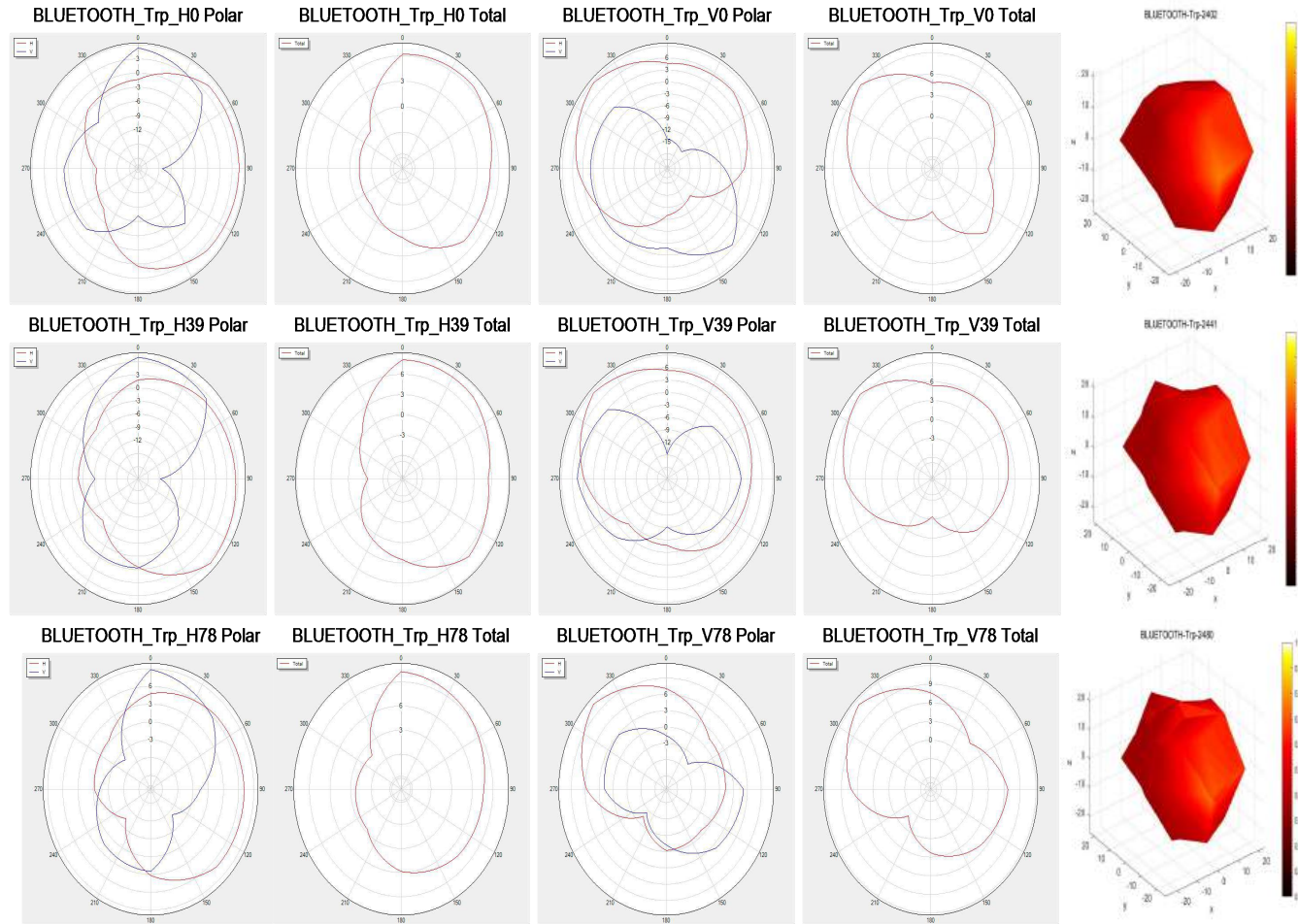
#-L

-L-TIS The antenna pattern of the free field





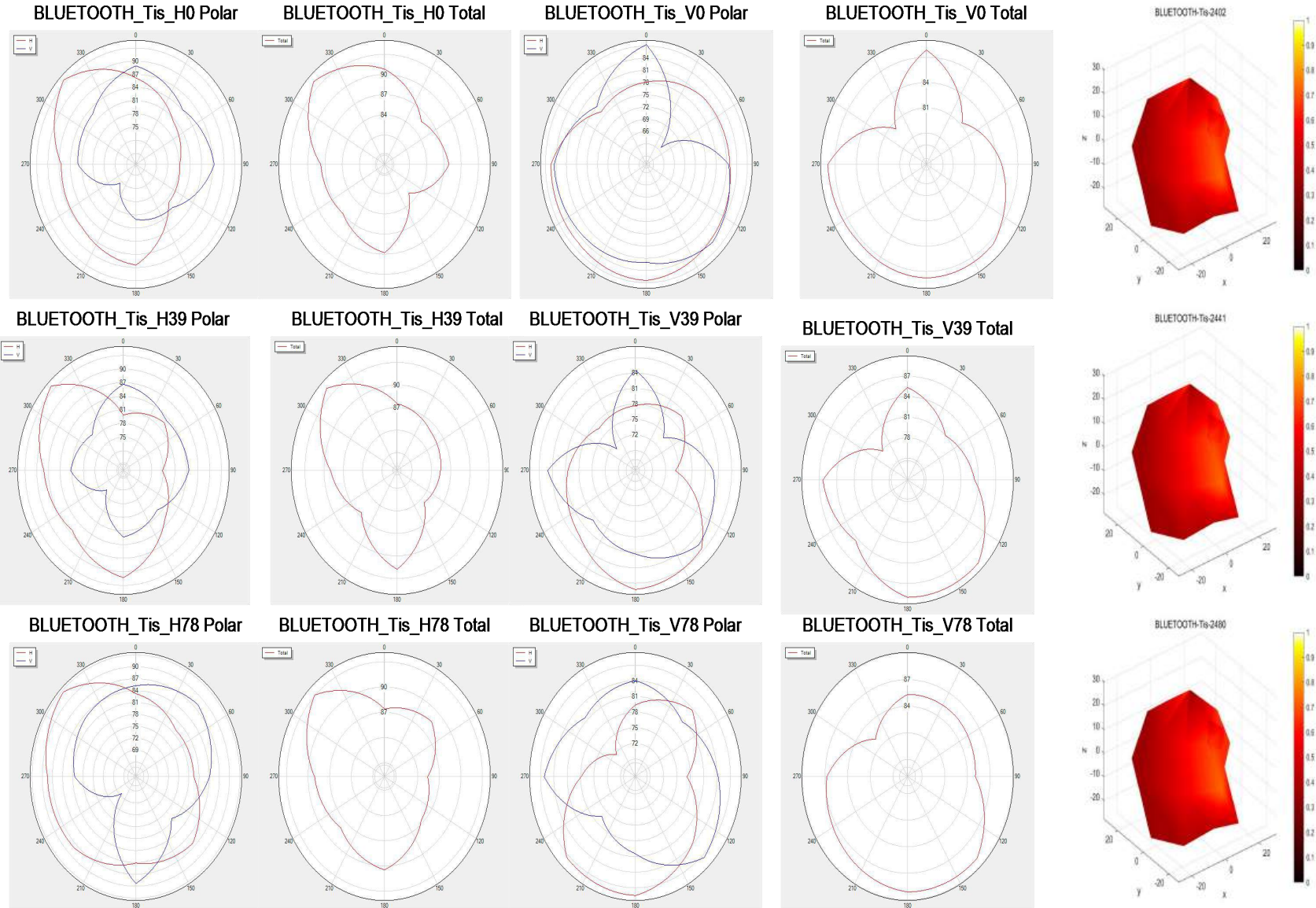
-L-TRP The antenna pattern of the free field





#-R

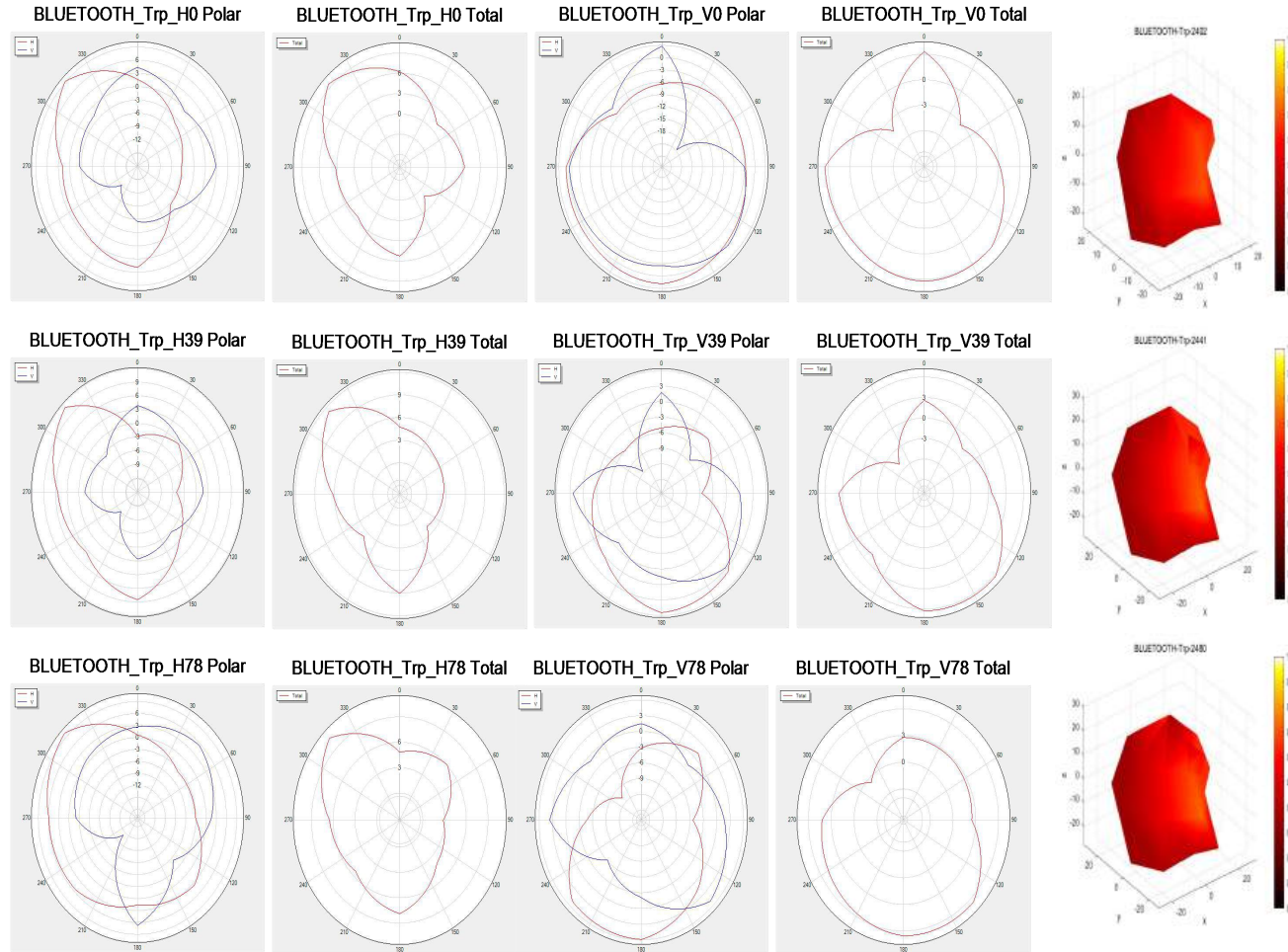
-R-TIS The antenna pattern of the free field



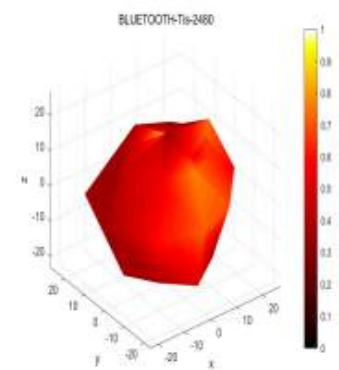
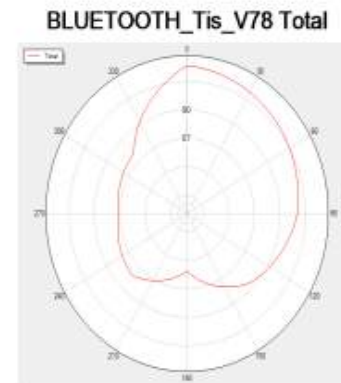
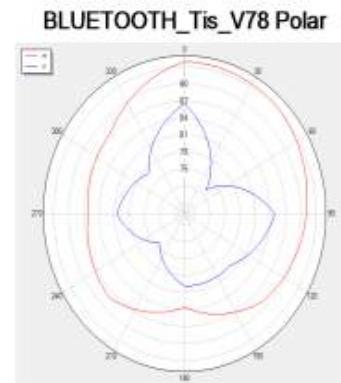
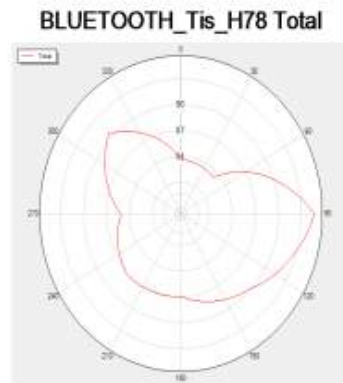
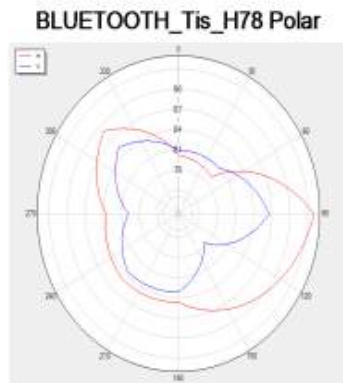
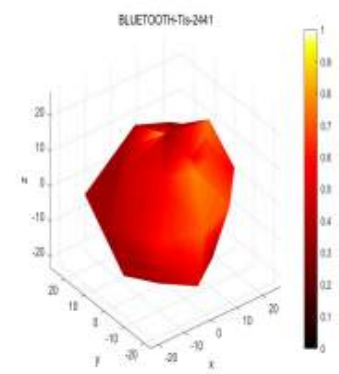
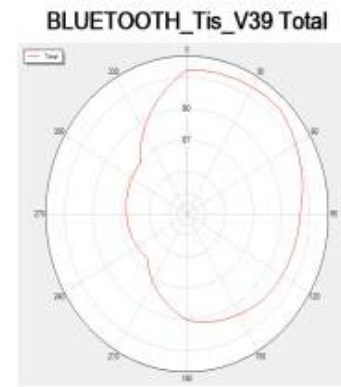
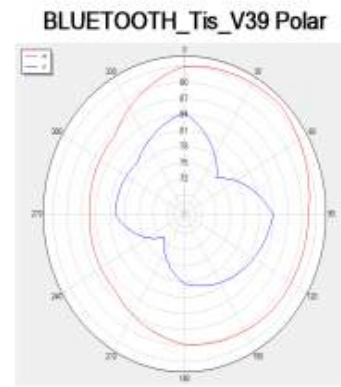
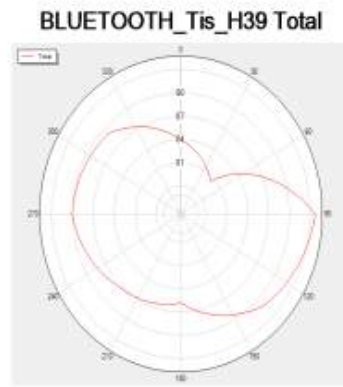
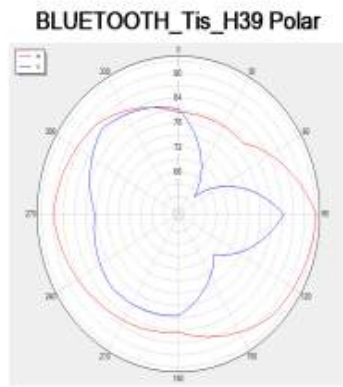
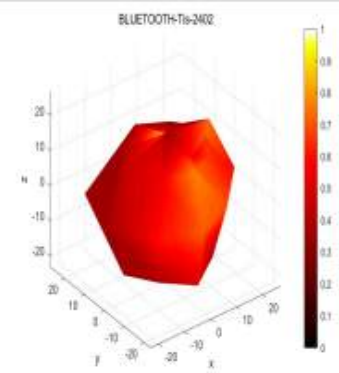
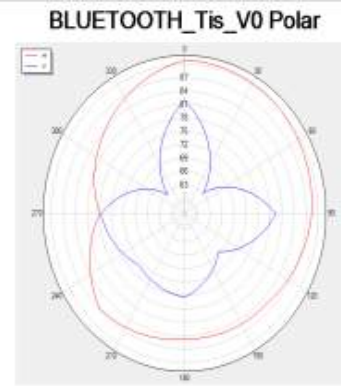
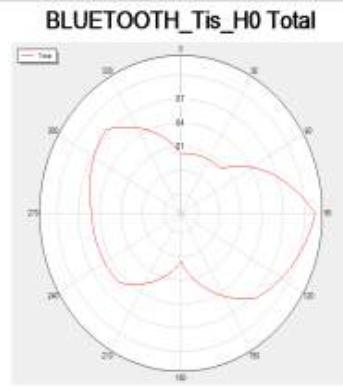
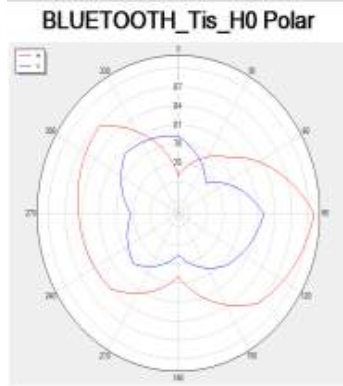


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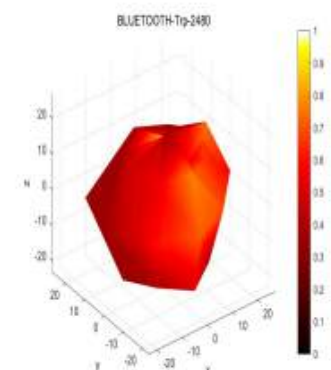
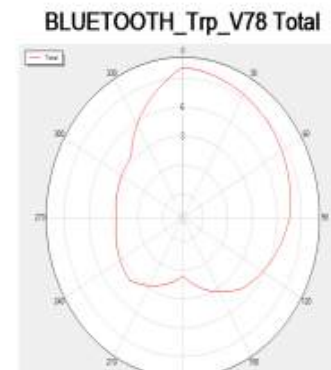
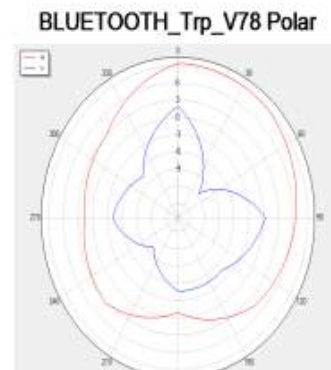
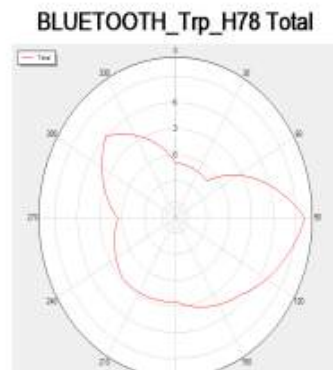
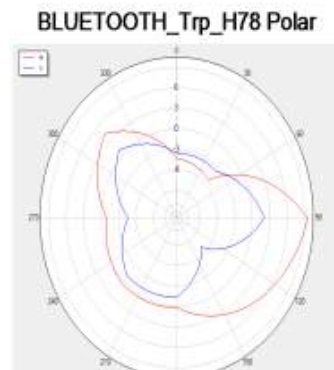
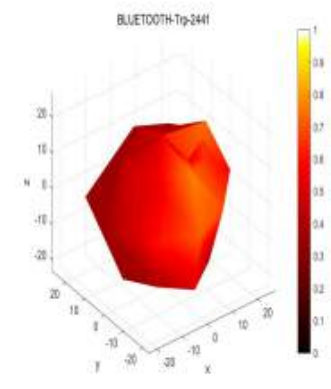
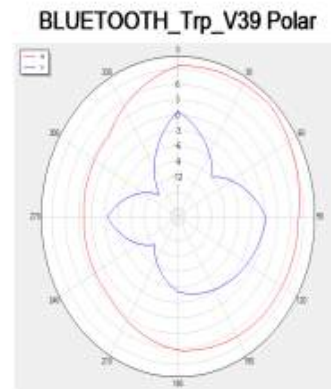
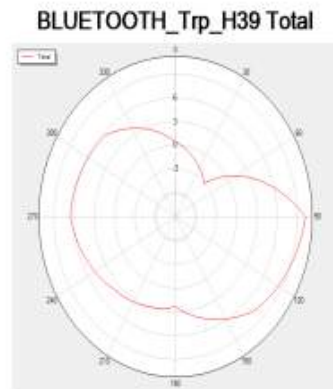
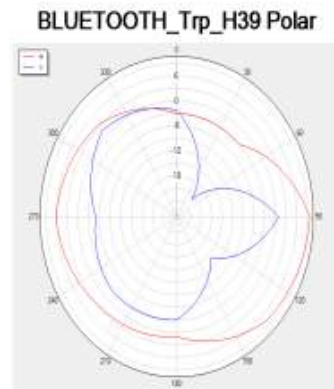
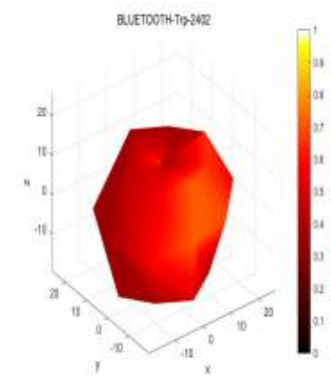
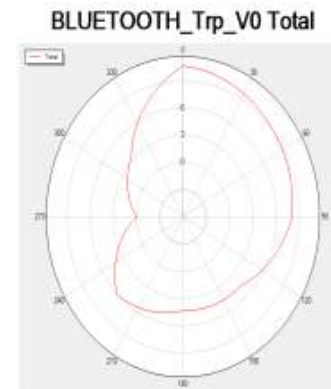
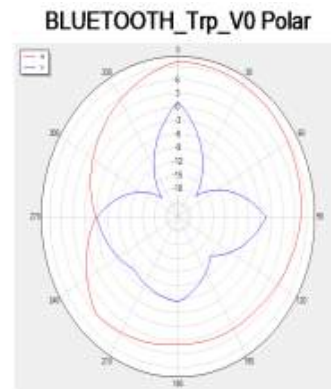
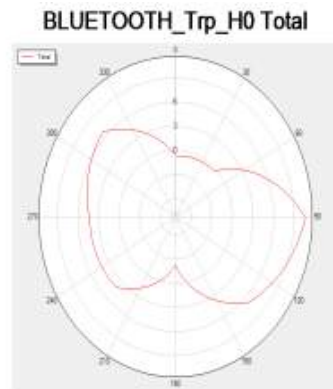
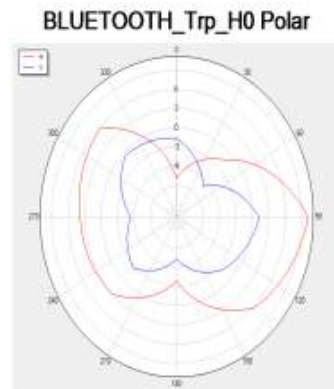
-R-TRP The antenna pattern of the free field



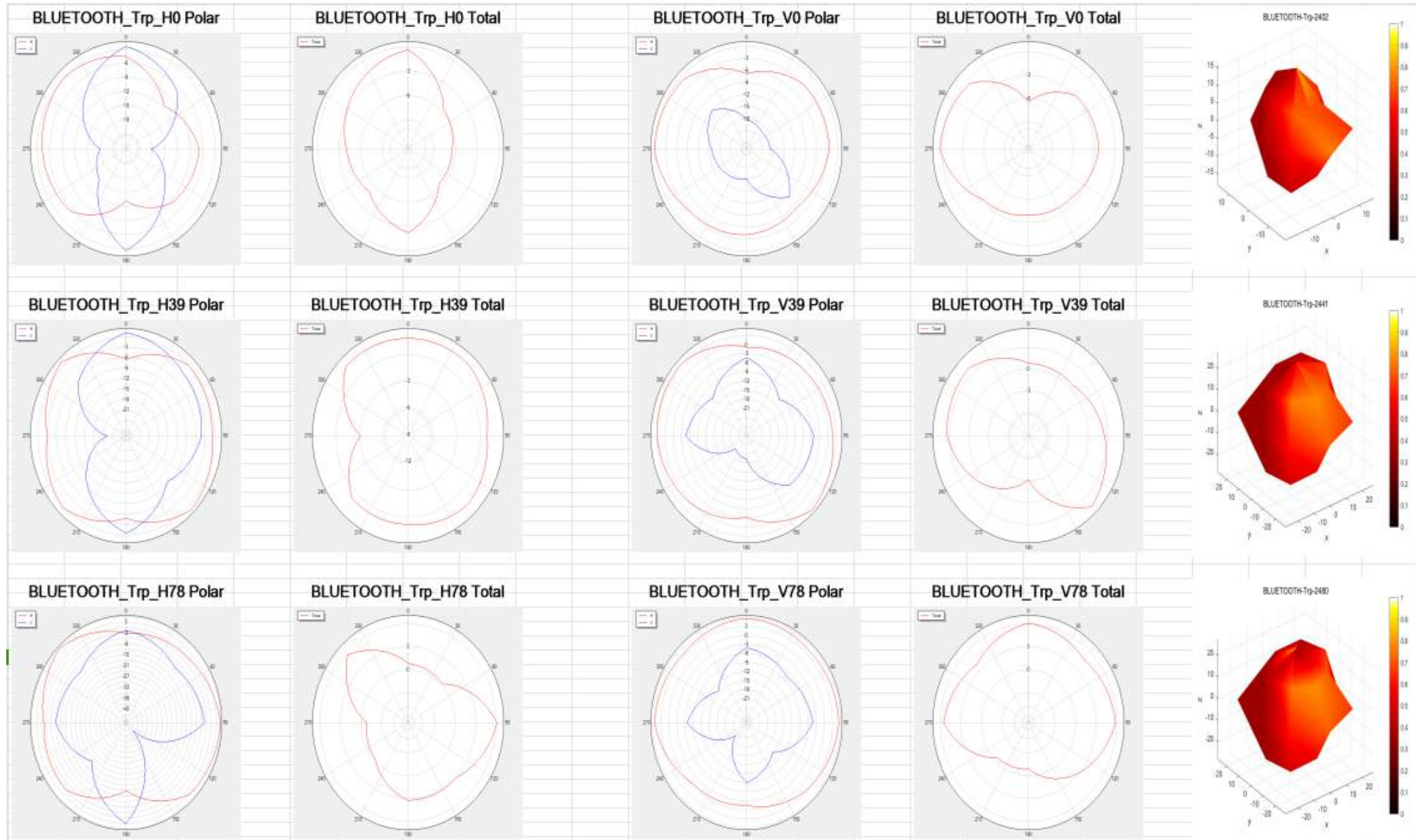
-L-TIS-An antenna pattern simulating a human head



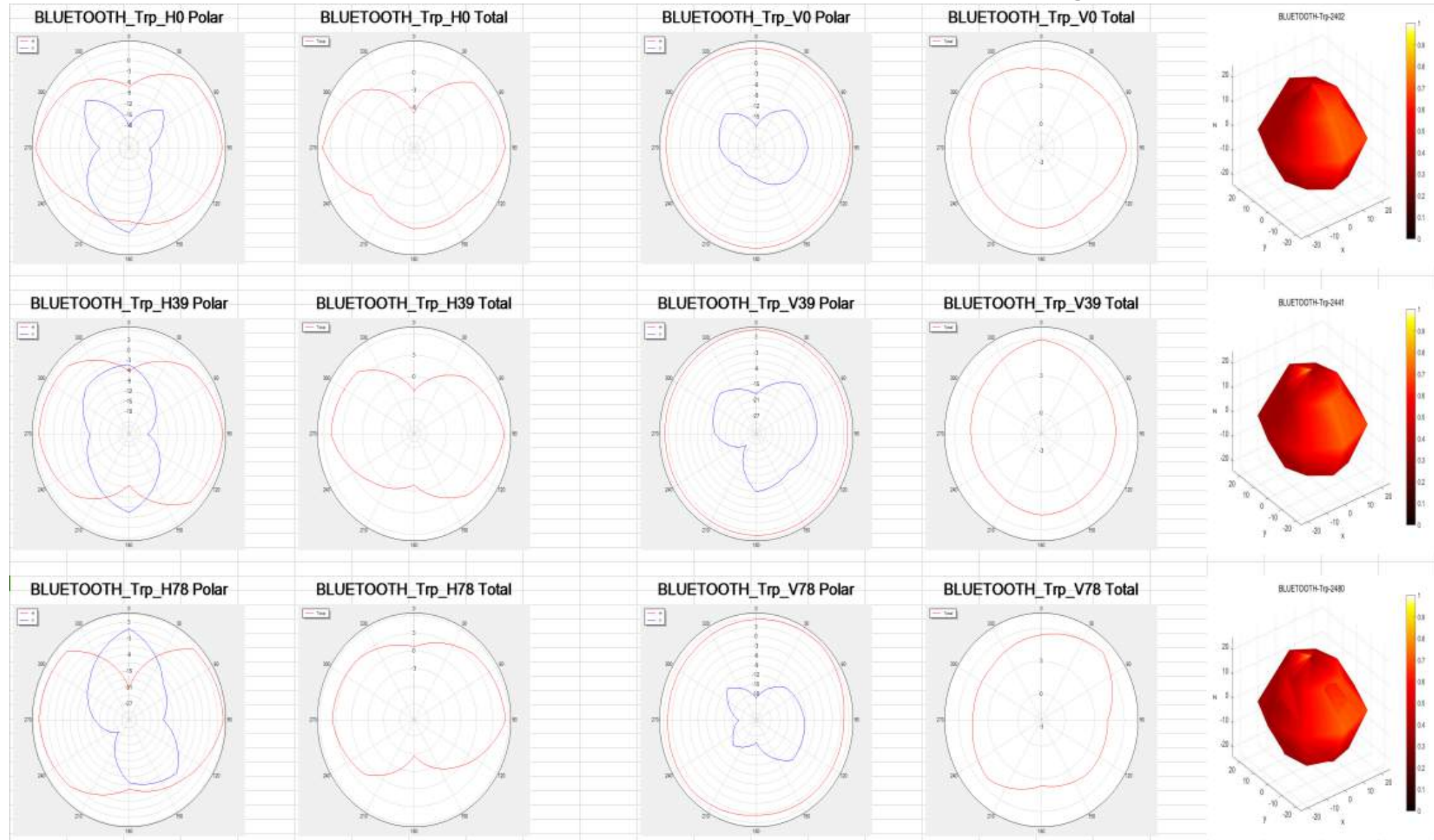
-L-TRP-An antenna pattern simulating a human head



-R-TIS-An antenna pattern simulating a human head



-L-TRP-An antenna pattern simulating a human head





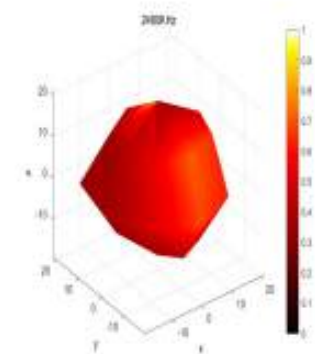
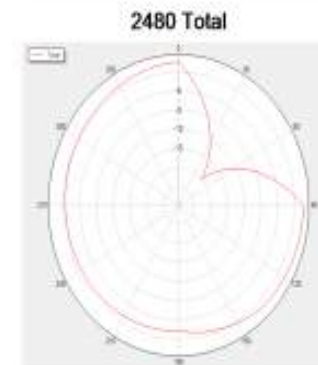
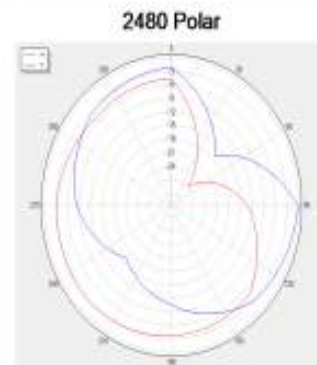
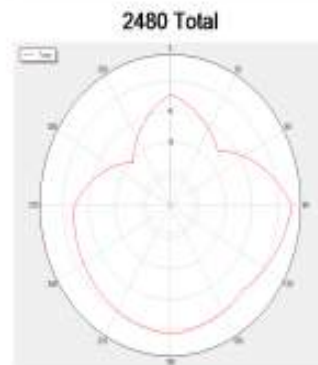
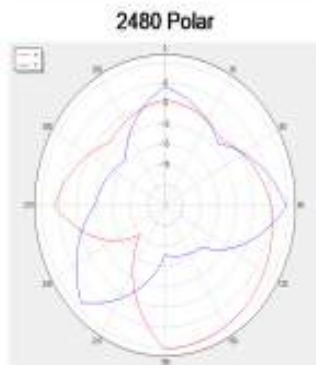
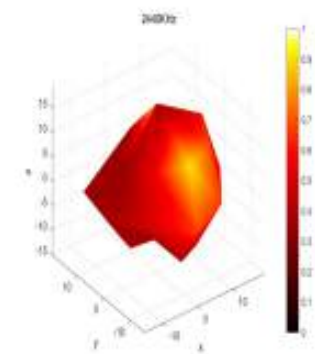
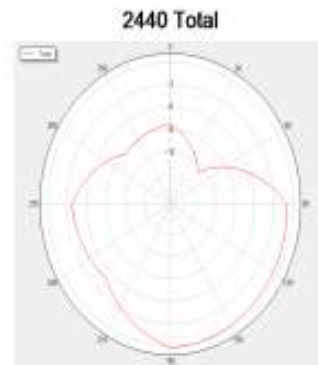
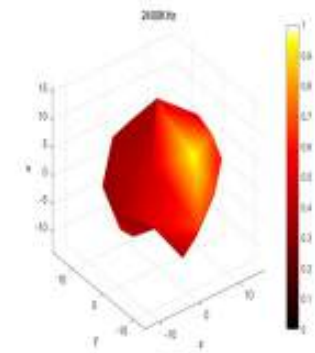
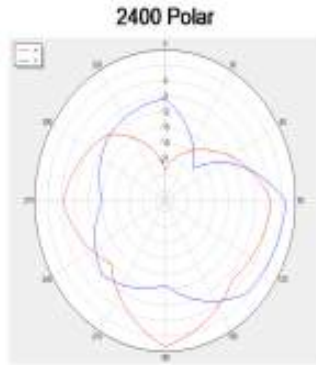
Antenna efficiency gain



L					R			
Frequency	Effic	Percen	Gain		Frequency	Effic	Percen	Gain
2400	-3.81	42.85%	0.87		2400	-3.81	42.85%	0.87
2440	-3.79	42.87%	0.89		2440	-3.8	42.86%	0.88
2480	-3.8	42.86%	0.88		2480	-3.82	42.84%	0.86

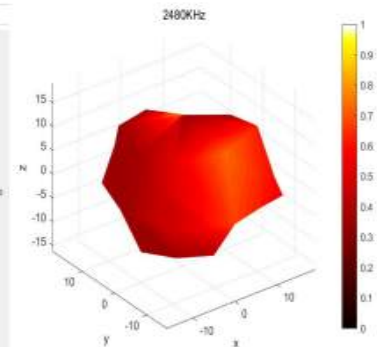
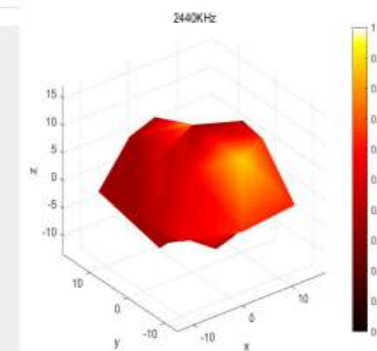
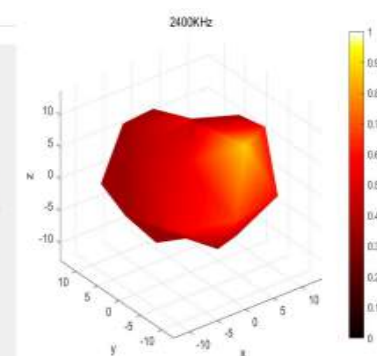
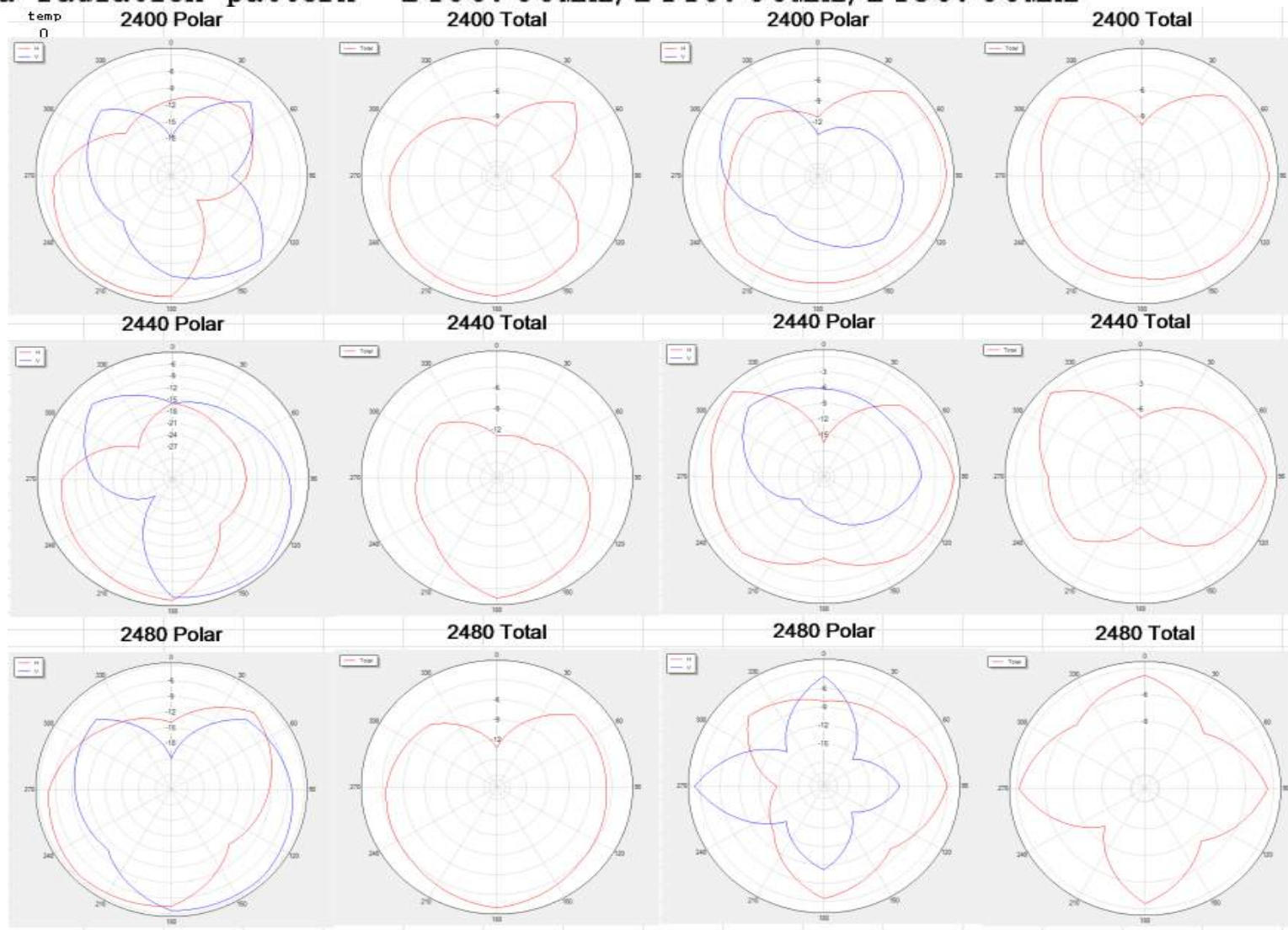
L

Antenna radiation pattern 2400.00MHz/2440.00MHz/2480.00MHz



R

Antenna radiation pattern 2400.00MHz/2440.00MHz/2480.00MHz



measuring distance

a. Environme

test project	Trying hard not to hear		Pocket test requirement		descr
LA-220VR			right front	OK	The iPhone5 was tested over 10+ meters in the park
	OK		front-left	OK	
			right rear	OK	
			left rear	OK	

b. summarize

LA-220VR machine actual test, OTA data test, basically distance matching,
our park grass test effect is excellent

assembly method

Thank you for watching

Wish you enjoy your life

2023-5-12