

# FIX0 240K Antenna Debugging Report



## 1、 Introduction to project debugging

<b>type</b>	dull and stereotyped				
<b>template</b>	motherboard				
<b>Frequency band and antenna material</b>	<b>main antenna</b>	<b>frequency range</b>		<b>material quality</b>	
		2G	GSM850/900/1800/1900		FPC
		3G	WCDMA B 1/2/4/5		
	4G	/			
	<b>Other antennas</b>	GWB	1575. 42MHz/2. 450GHz		FPC
		DRX	/		FPC
<b>performance requirement</b>	According to the customer's requirements				

## 2、Active parameters of the main antenna

Test	GSM 850			EGSM 900		
Channel	128	190	251	1	62	124
TRP (dBm)	28.53	28.22	28.09	27.89	28.24	27.64
TIS (dBm)	-104.18	-103.65	-103.23	-104.25	-103.43	-103.41

Test	DCS 1800			PCS 1900		
Channel	512	698	885	512	661	810
TRP (dBm)	24.55	24.88	25.16	25.21	25.18	24.64
TIS (dBm)	-104.22	-103.87	-103.19	-104.15	-103.62	-103.06

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## Active parameters of the main antenna

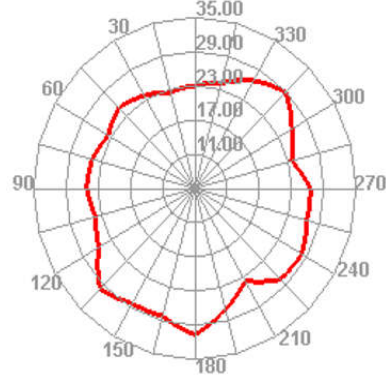
Test	WCDMA_I			WCDMA_II		
Channel I	10562	10700	10838	9662	9800	9938
TRP (dBm)	17.68	17.25	17.46	18.13	17.57	17.42
TIS (dBm)	-104.11	-104.28	-103.67	-104.56	-103.61	-103.29

Test	WCDMA_V			WCDMA_IV		
IN	4357	4408	4458	1537	1638	1738
TRP (dBm)	18.55	18.18	18.12	17.32	17.51	17.07
TIS (dBm)	-103.88	-103.52	-103.04	-104.09	-103.38	-103.44

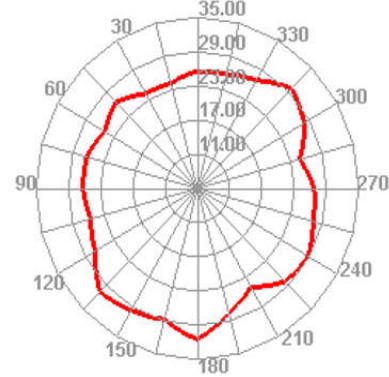
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### 3、Apple chart

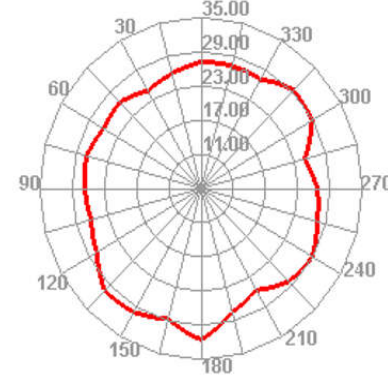
DCS 512 TRP Phi=45



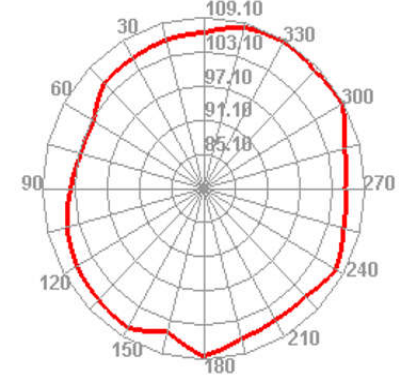
DCS 698 TRP Phi=45



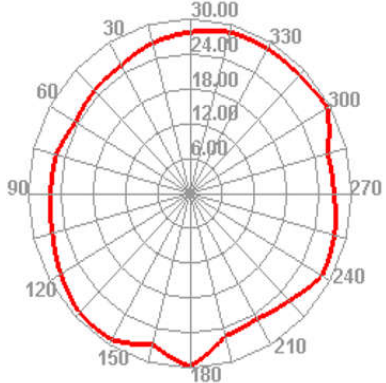
DCS 885 TRP Phi=45



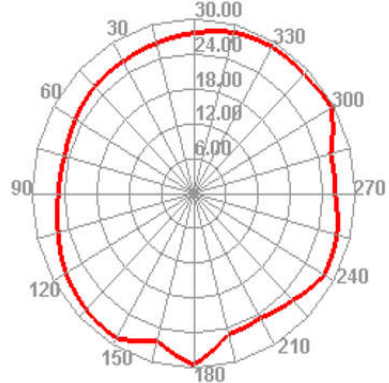
DCS 885 TIS Phi=45



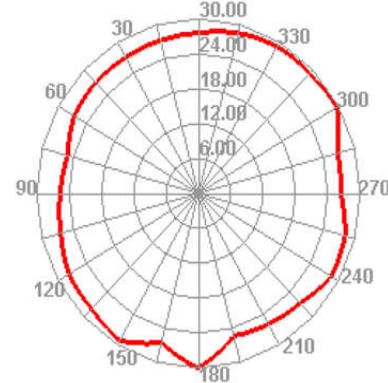
PCS 512 TRP Phi=45



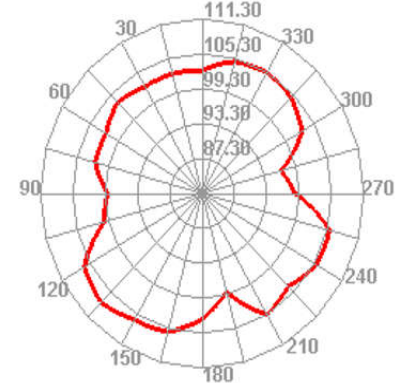
PCS 661 TRP Phi=45



PCS 810 TRP Phi=45

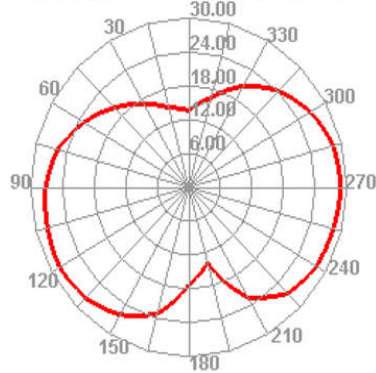


PCS 810 TIS Phi=45

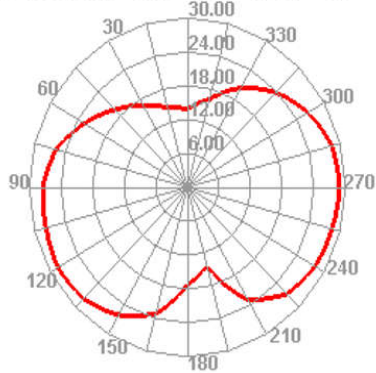


# Apple chart

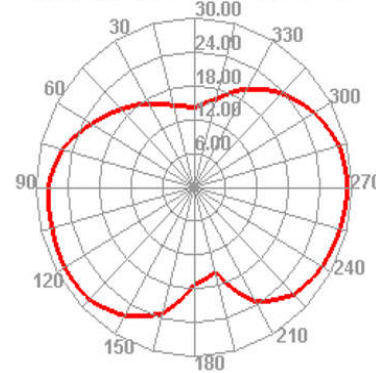
**GSM850 128 TRP Phi=45**



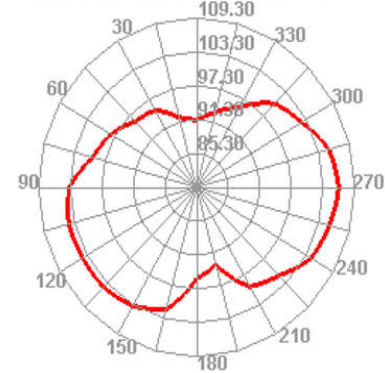
**GSM850 190 TRP Phi=45**



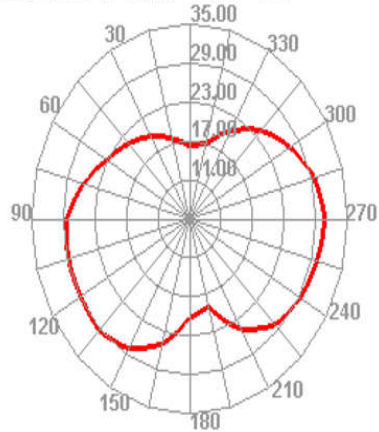
**GSM850 251 TRP Phi=45**



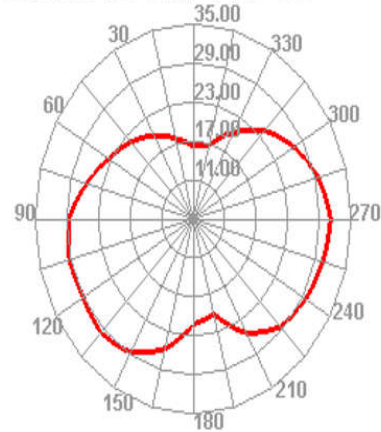
**GSM850 251 TIS Phi=45**



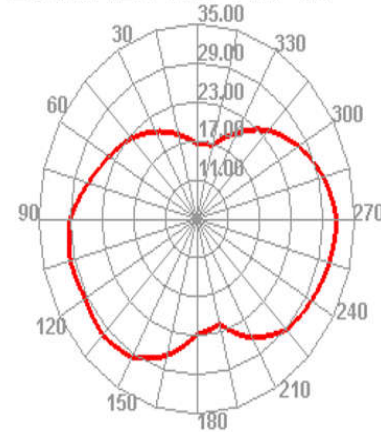
**EGSM 1 TRP Phi=45**



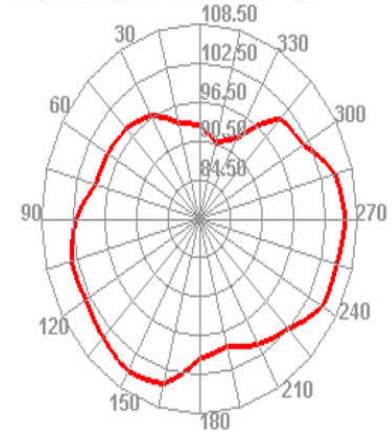
**EGSM 62 TRP Phi=45**



**EGSM 124 TRP Phi=45**

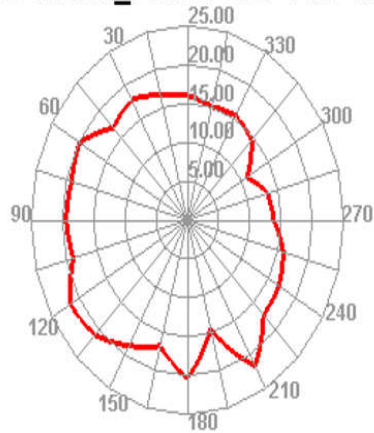


**EGSM 124 TIS Phi=45**

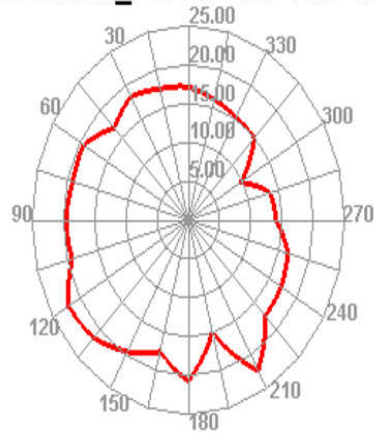


# Apple chart

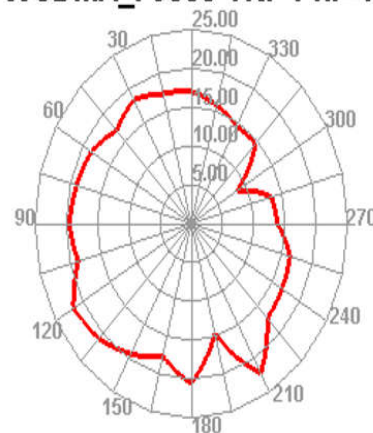
WCDMA\_I 9612 TRP Phi=45



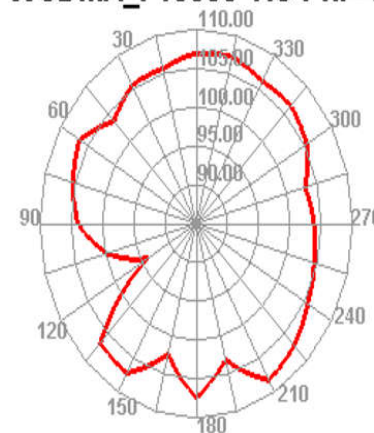
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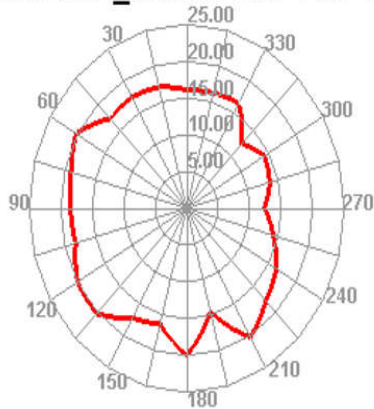
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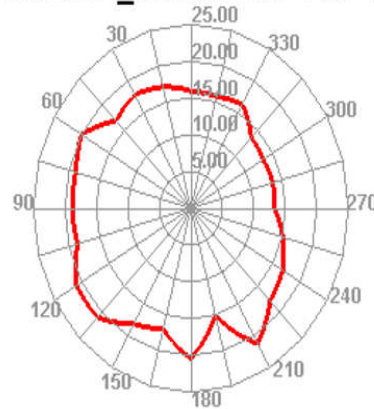
WCDMA\_I 10838 TIS Phi=45



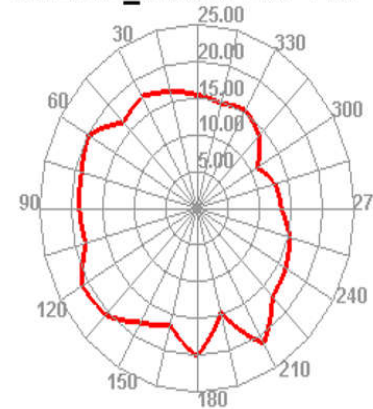
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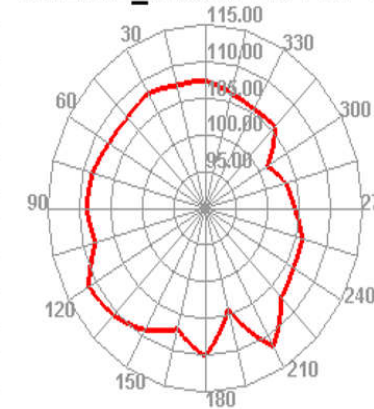
WCDMA\_II 9400 TRP Phi=45



WCDMA\_II 9538 TRP Phi=45

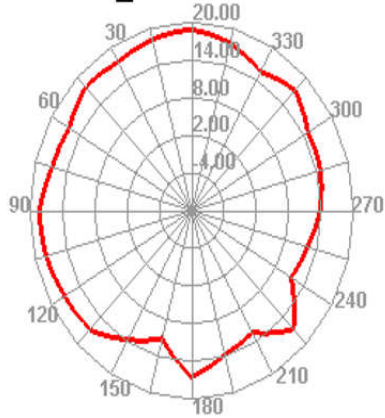


WCDMA\_II 9938 TIS Phi=45

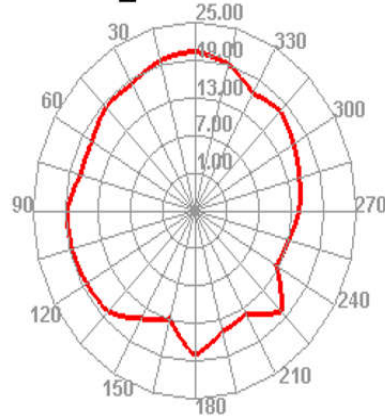


# Apple chart

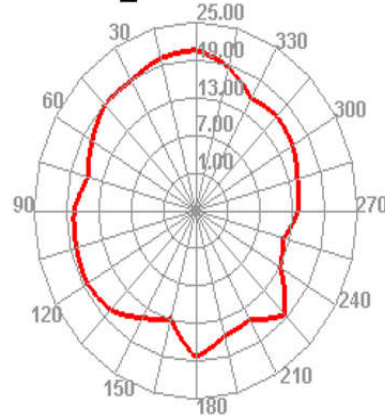
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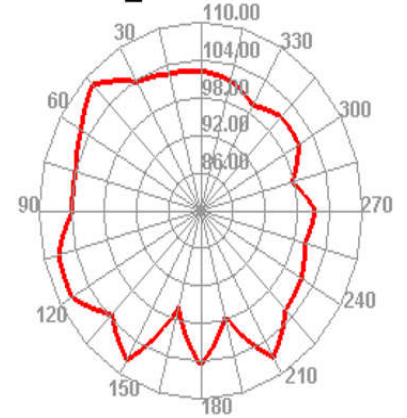
WCDMA\_IV 1413 TRP Phi=4!



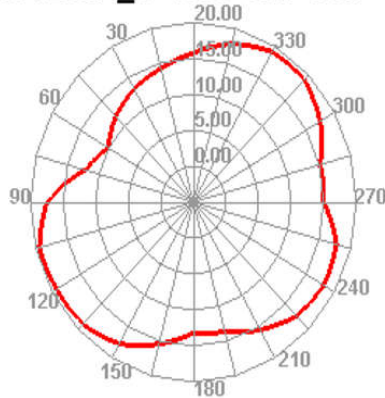
WCDMA\_IV 1513 TRP Phi=4!



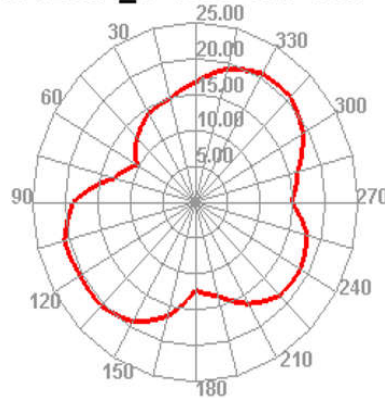
WCDMA\_IV 1738 TIS Phi=45



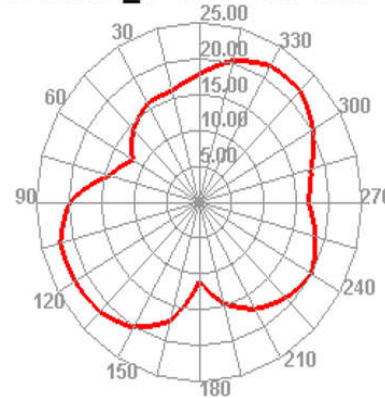
WCDMA\_V 4132 TRP Phi=45



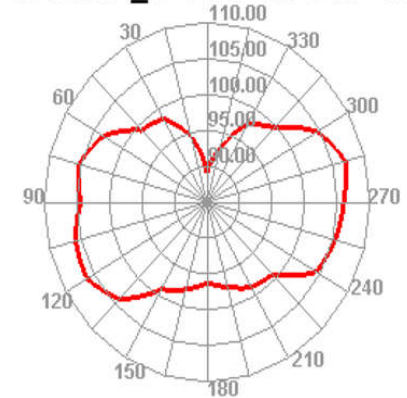
WCDMA\_V 4185 TRP Phi=45



WCDMA\_V 4233 TRP Phi=45

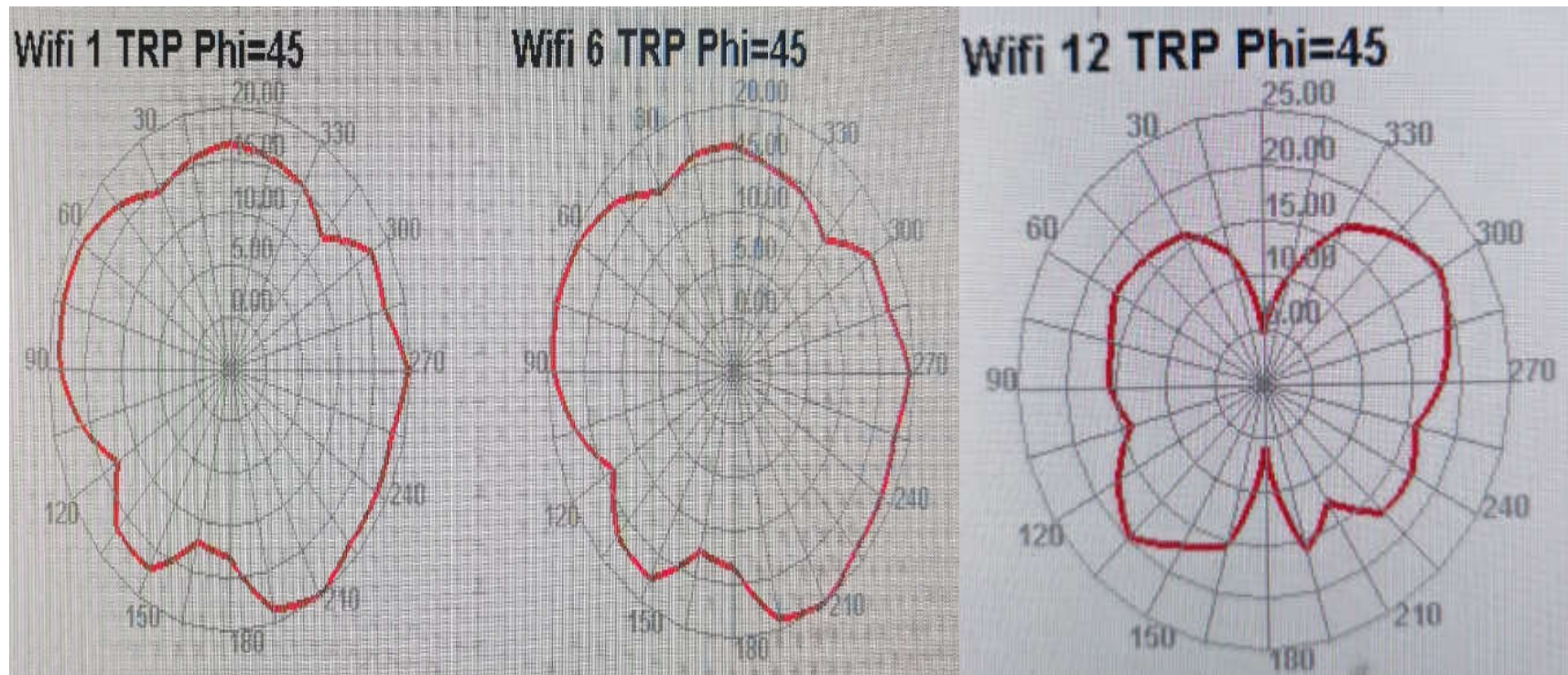


WCDMA\_V 4458 TIS Phi=45

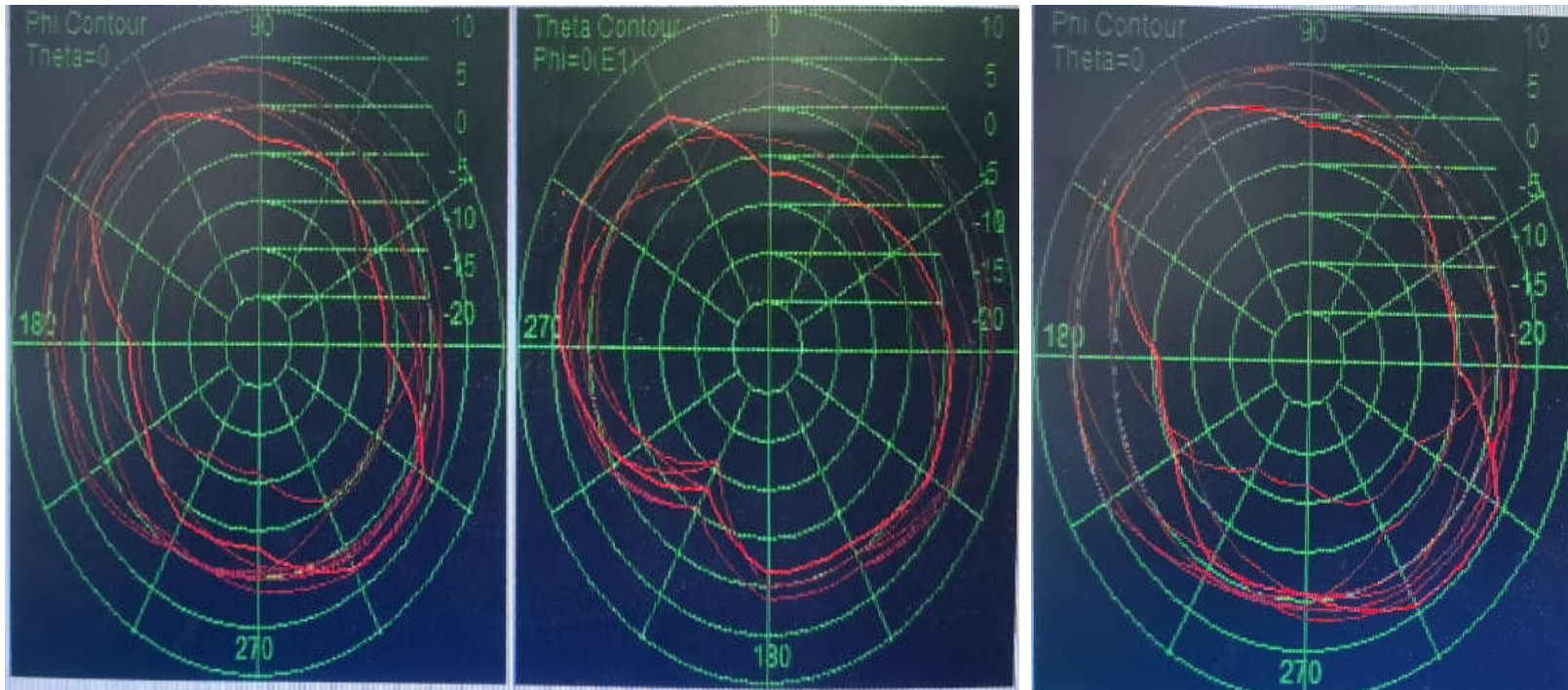




WiFi active diagram



# BT active diagram

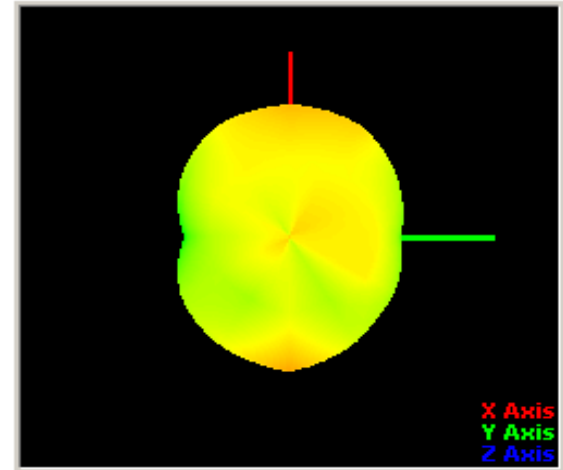
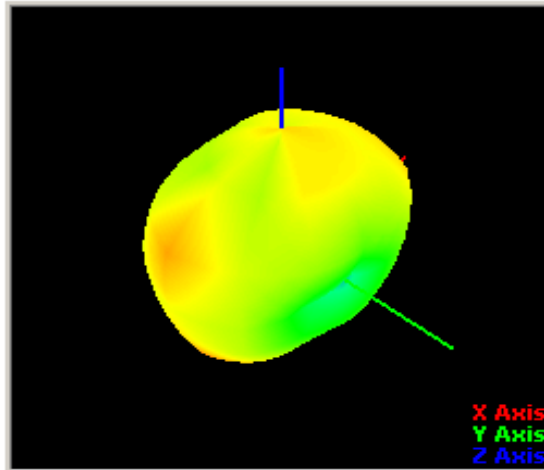
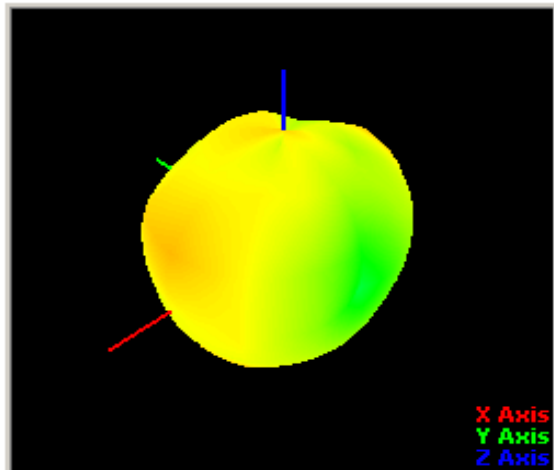


## Antenna gain

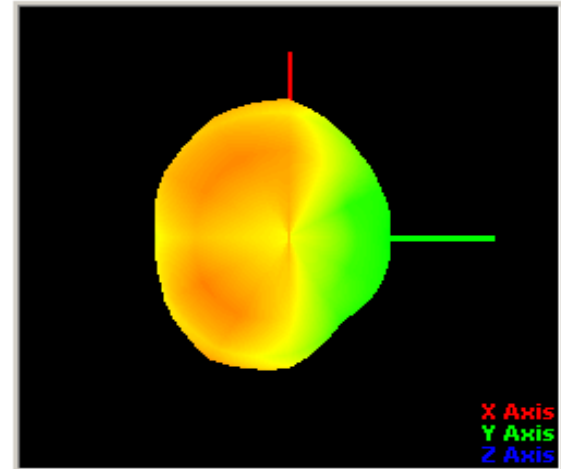
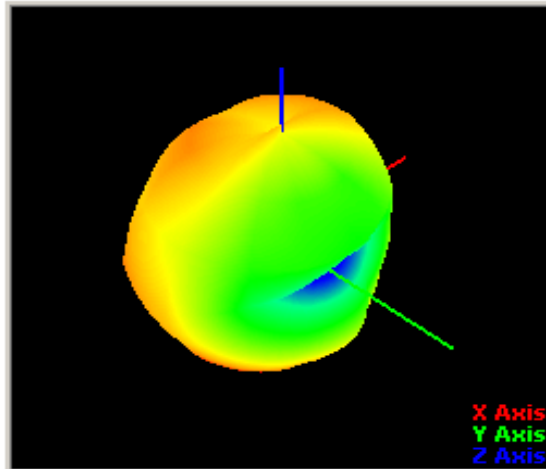
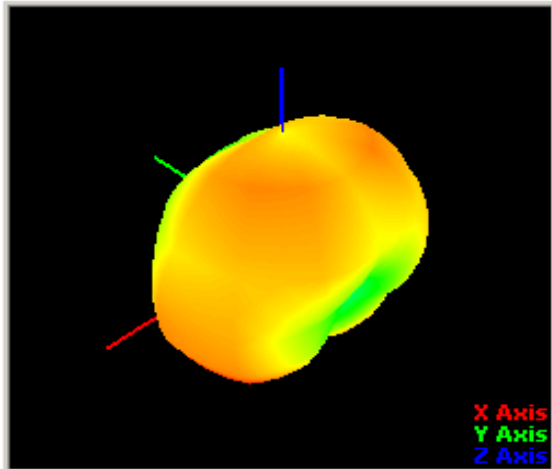
Band	Gain (MAX)		
<b>GSM850</b>	<b>0.71</b>	<b>GPS</b>	<b>1.19</b>
<b>EGSM900</b>	<b>0.65</b>	<b>WiFi</b>	<b>1.13</b>
<b>DCS1800</b>	<b>0.54</b>	<b>BT</b>	<b>1.13</b>
<b>PCS1900</b>	<b>0.53</b>		
<b>WCDMA B1</b>	<b>0.58</b>		
<b>WCDMA B2</b>	<b>0.53</b>		
<b>WCDMA B4</b>	<b>0.57</b>		
<b>WCDMA B5</b>	<b>0.71</b>		

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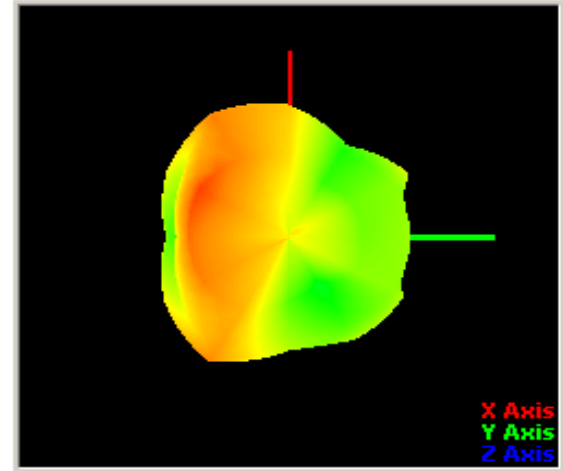
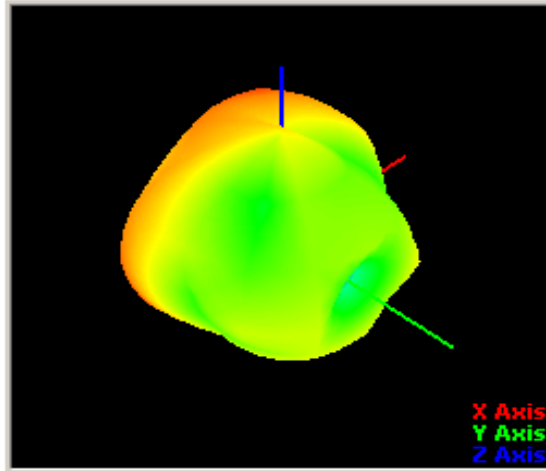
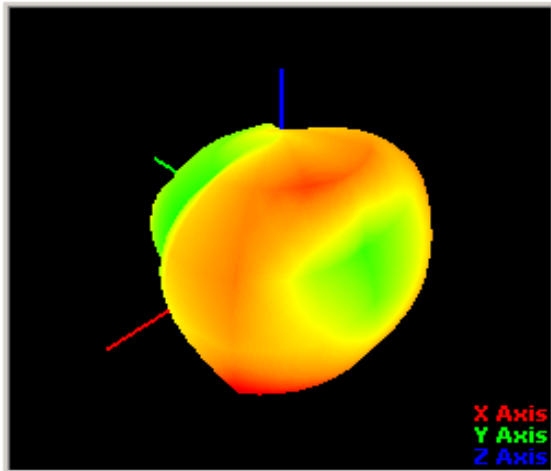
## Antenna pattern – GSM850/WCDMA B5



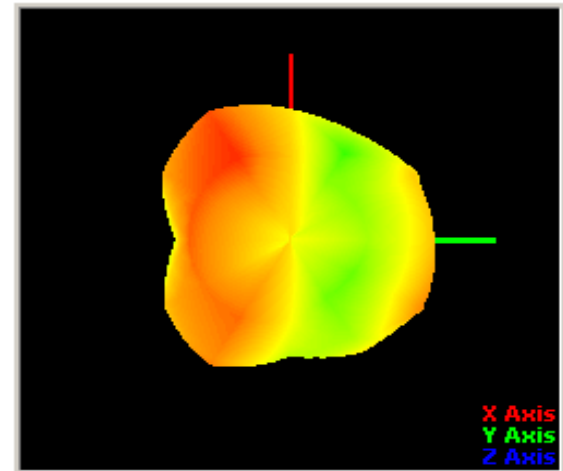
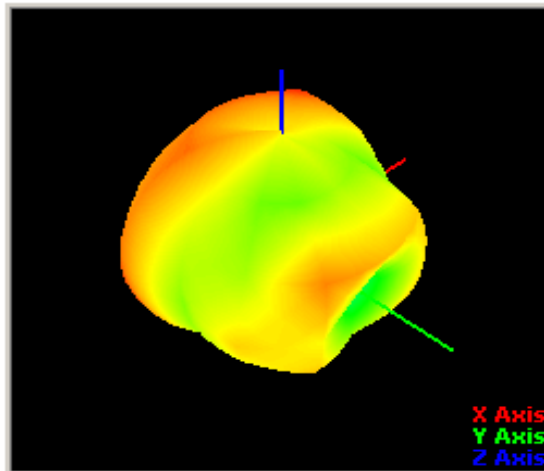
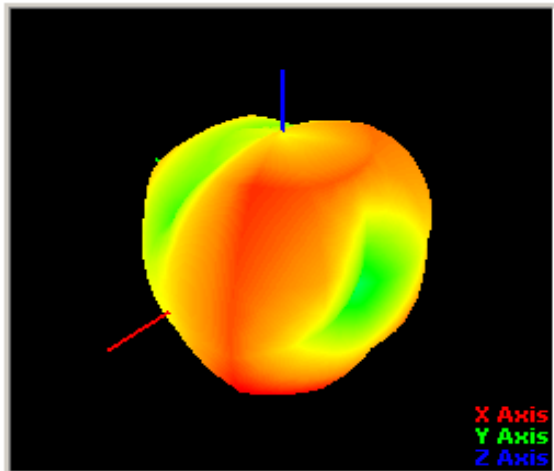
## Antenna pattern – GSM900



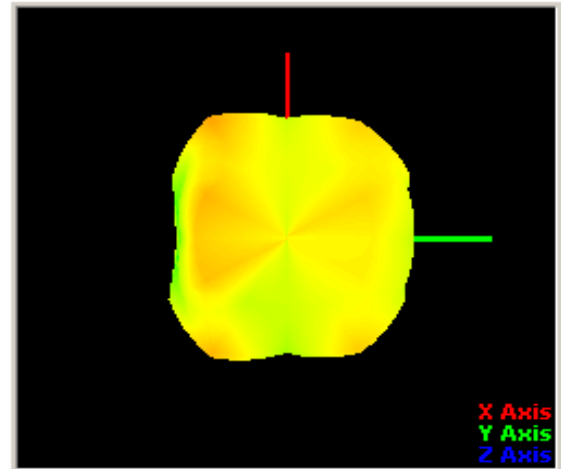
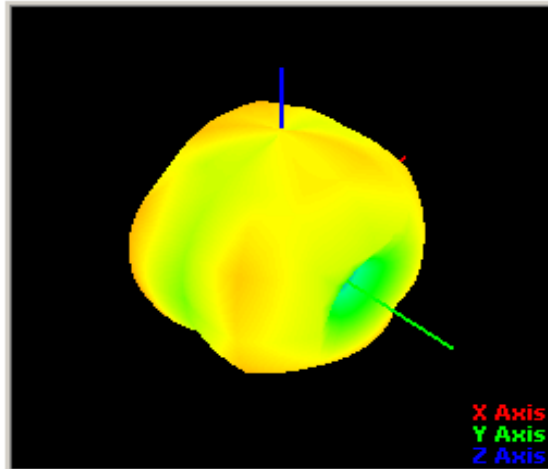
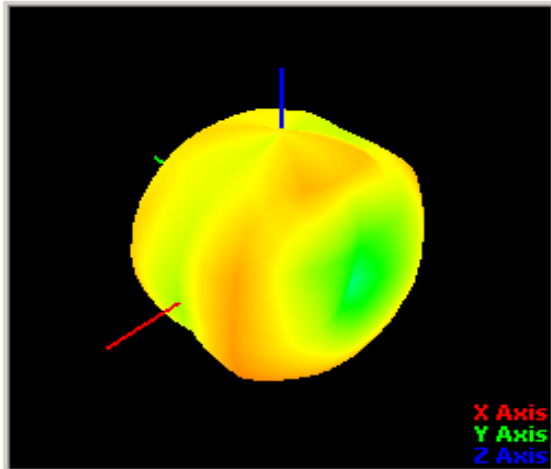
## Antenna pattern – GSM1800



## Antenna pattern – GSM1900/WCDMA B2

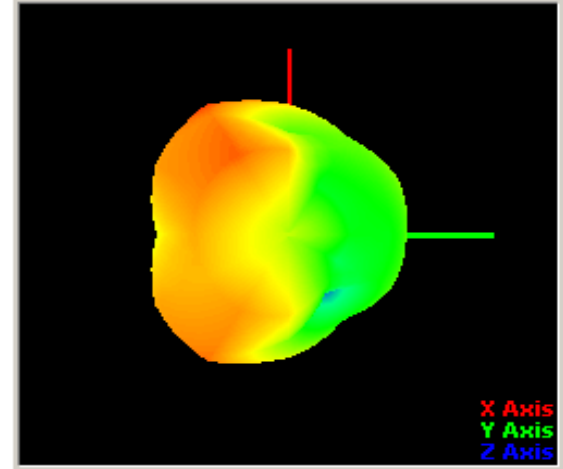
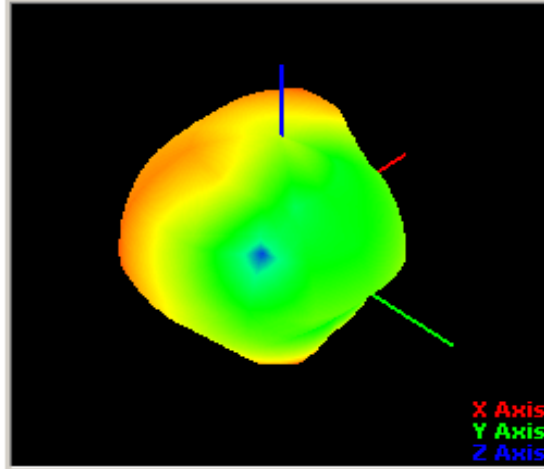
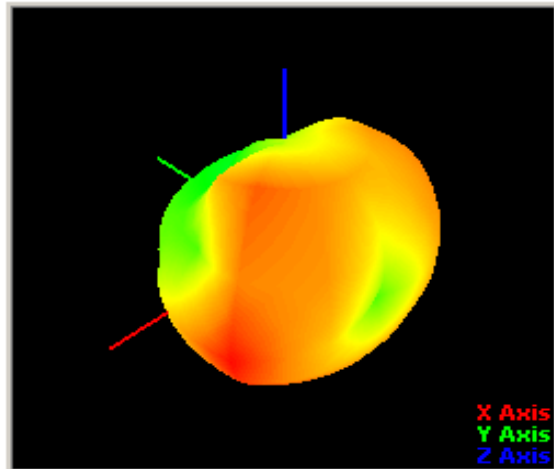


# Antenna pattern – WCDMA B1

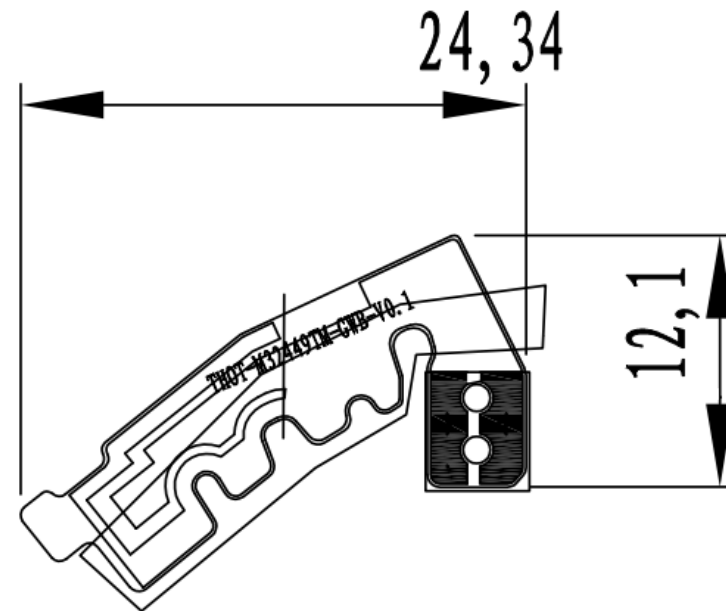




## Antenna pattern – WCDMA B4

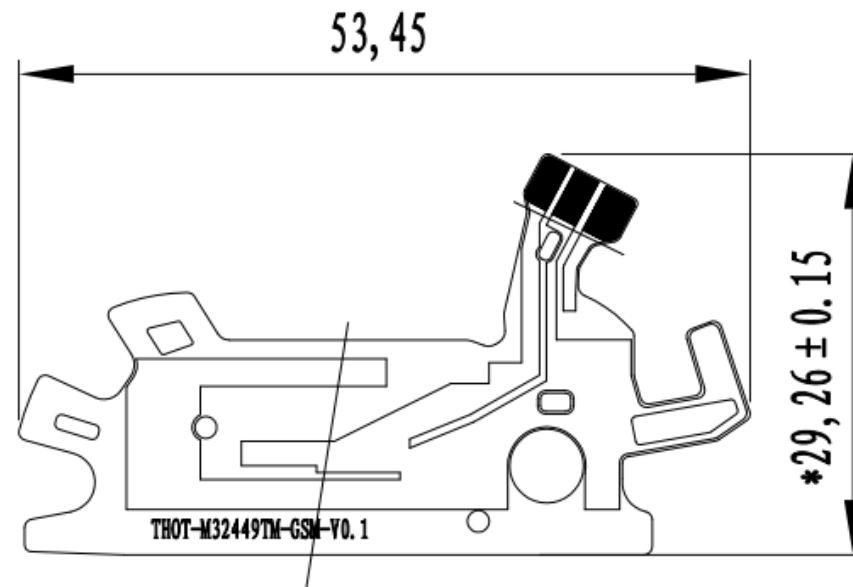


## Antenna Drawing



Technical requirement		
FPC substrate specification	PI base material	0.5mil
	Electrolytic copper (single panel)	0.5oz (ED)
	Single-sided adhesive	3M-9471LE
Surface ink requirements	Ink color	black
	Font color	black
	Font height	Drawing requirements
RoHS requirement	Materials involved must comply with ROHS requirements	

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*Thank you!*

