ShenZhen Eastong Electronic technology Co., LTD

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APPROVAL SHEET
FOR
T75T
（2G/3G/4G band internal antenna）

Issued by		**Checked by**	
Confirmed by		**Date**	**2024-12-09**
Customer Confirm			

Revision History

Date	Revision	Description of Changes
2024-12-09	R:A	Antenna performance approved by customer

1 Summary

This report summarizes the electrical results of the proposed antenna to support the T75T program. We test the antenna with the latest version handset .

2 General Description

2.1 Definitions

VSWR: Voltage Standing Wave Rate

3 Mechanical Description

4 Electrical Performance

4.1 Set-up

4.1.1 VSWR and return loss

VSWR measurements (S_{11}) were performed using an Agilent E5070B Network Analyzer and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

4.1.2 Efficiency, Gain and TRP/TIS

The gain of the antenna was measured in Dong Xin's 3D anechoic chamber in Shenzhen. The chamber is capable of doing tests from 380MHz to 6GHz. Coaxial chokes on the feed cable were used to mitigate surface currents. The measurement results are calibrated using dipole standards. For TRP and TIS the chamber uses a Agilent 8960 to establish the connection with the mobile device. During TRP tests the 8960 reads the power received through the chamber probes whilst during TIS tests the 8960 transmits through the probe. All data is afterwards corrected by a calibration table.

4.1.3 Matching Circuit Description

No matching.

4.2 Measurement Data

Antenna type：PIFA

Antenna Max. Peak Gain:

EGSM900:-1.0dBi
GSM850: -0.9dBi
DCS1800: 0.4dBi
PCS1900:0.5dBi

WCDMA-B1：0.3dBi
WCDMA-B2：0.5dBi
WCDMA-B4: 0.7dBi

WCDMA-B5: -0.9dBi
WCDMA-B8: -1.1dBi

LTE-B1: 0.3dBi
LTE-B2: 0.5dBi
LTE-B3: 0.4dBi

LTE-B4: 0.7dBi
LTE-B5: -0.9dBi
LTE-B7: -1.3dBi
LTE-B8: -1.0dBi

LTE-B12: -1.4dBi
LTE-B17: -1.4dBi
LTE-B28AB: -1.4dBi
LTE-B38: -1.2dBi

LTE-B41: 0.7dBi
LTE-B66: 0.7dBi
LTE-B71: 0.9dBi

BT: 1.3dBi

Switching logic

switching circuit	matching	frequency band
RF1	0Ω	Power on the default RF1 to control all frequency bands except RF2.
RF2	4.7nH	B12/B17/B28
RF3		
RF4		

GSM	EGSM900			DCS1800		
Let	1	62	124	512	698	885
TRP(dBm)	28.6	28.2	27.7	25.1	25.5	26.3
TIS (dBm)	-102.2	-101.5	-101.2	-105.6	-105.4	-105.3

GSM	850			PCS1900		
Let	128	190	251	512	661	810
TRP (dBm)	27.5	28.0	28.2	26.2	25.7	25.4
TIS (dBm)	-102.5	-102.2	-102.3	-105.1	-104.6	-104.4

WCDMA	B1		
Let	L	M	H
TRP (dBm)	18.7	18.2	18.0
TIS (dBm)			-103.8

WCDMA	B2			B4		
Let	L	M	H	L	M	H
TRP (dBm)	17.8	18.2	18.5	17.3	17.6	17.9
TIS (dBm)			-105.6			-102.2

WCDMA	B5			B8		
Let	L	M	H	L	M	H
TRP (dBm)	18.2	18.6	18.8	17.2	16.8	16.4
TIS (dBm)			-103.5			-102.8

LTE	B1			B2		
Let	L	M	H	L	M	H
TRP (dBm)	19.2	18.7	18.5	18.8	19.6	20.6
TIS (dBm)			-91.3			-92.7

LTE	B3			B4		
Let	L	M	H	L	M	H
TRP (dBm)	17.8	18.4	18.7	17.4	17.6	18.0
TIS (dBm)			-92.8			-91.6

LTE	B5			B7		
Let	L	M	H	L	M	H
TRP (dBm)	18.8	18.9	19.1	18.2	18.5	18.5
TIS (dBm)			-90.9			-91.3

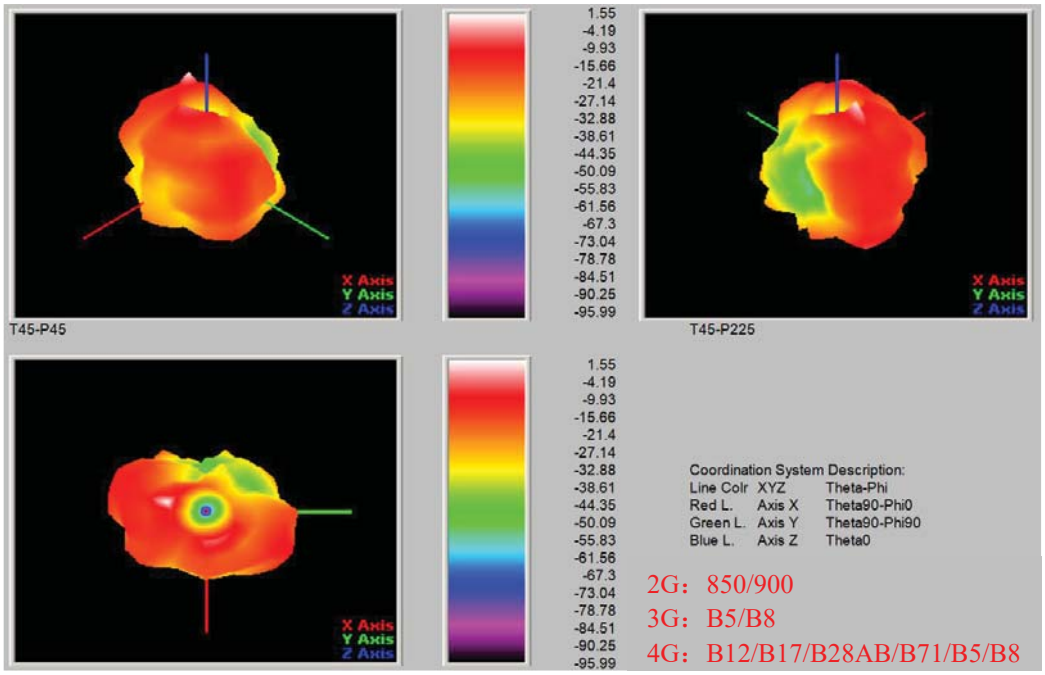
LTE	B8		
Let	L	M	H
TRP (dBm)	16.5	16.3	16.0
TIS (dBm)			-89.3

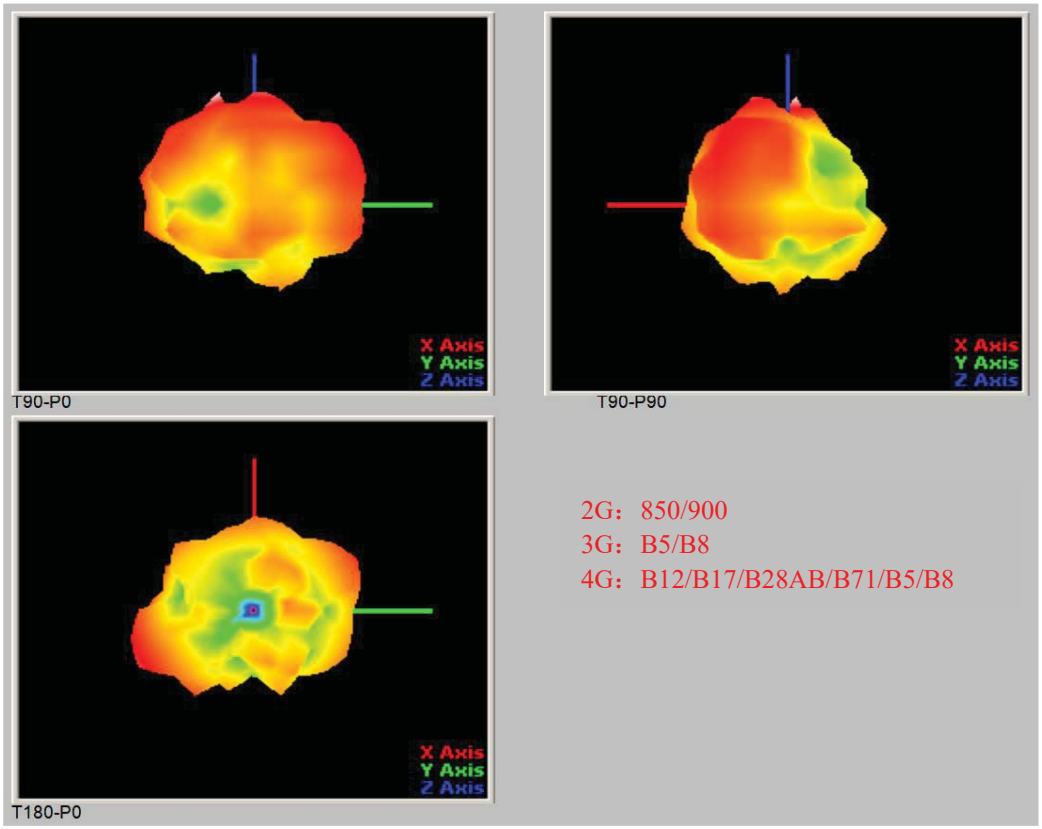
LTE	B12			B17		
Let	L	M	H	L	M	H
TRP (dBm)	15.7	16.2	16.4	15.9	16.2	16.5
TIS (dBm)			-88.2			-88.6

LTE	B28A			B28B		
Let	L	M	H	L	M	H
TRP (dBm)	15.8	16.1	16.3	15.9	16.4	16.6
TIS (dBm)			-88.4			-88.5

LTE	B38			B41		
Let	L	M	H	L	M	H
TRP (dBm)	18.5	18.9	19.2	18.9	19.2	18.4
TIS (dBm)			-91.5			-91.3

LTE	B66			B71		
Let	L	M	H	L	M	H
TRP (dBm)	17.8	18.5	18.7	17.7	18.1	17.4
TIS (dBm)			-92.4			-88.3





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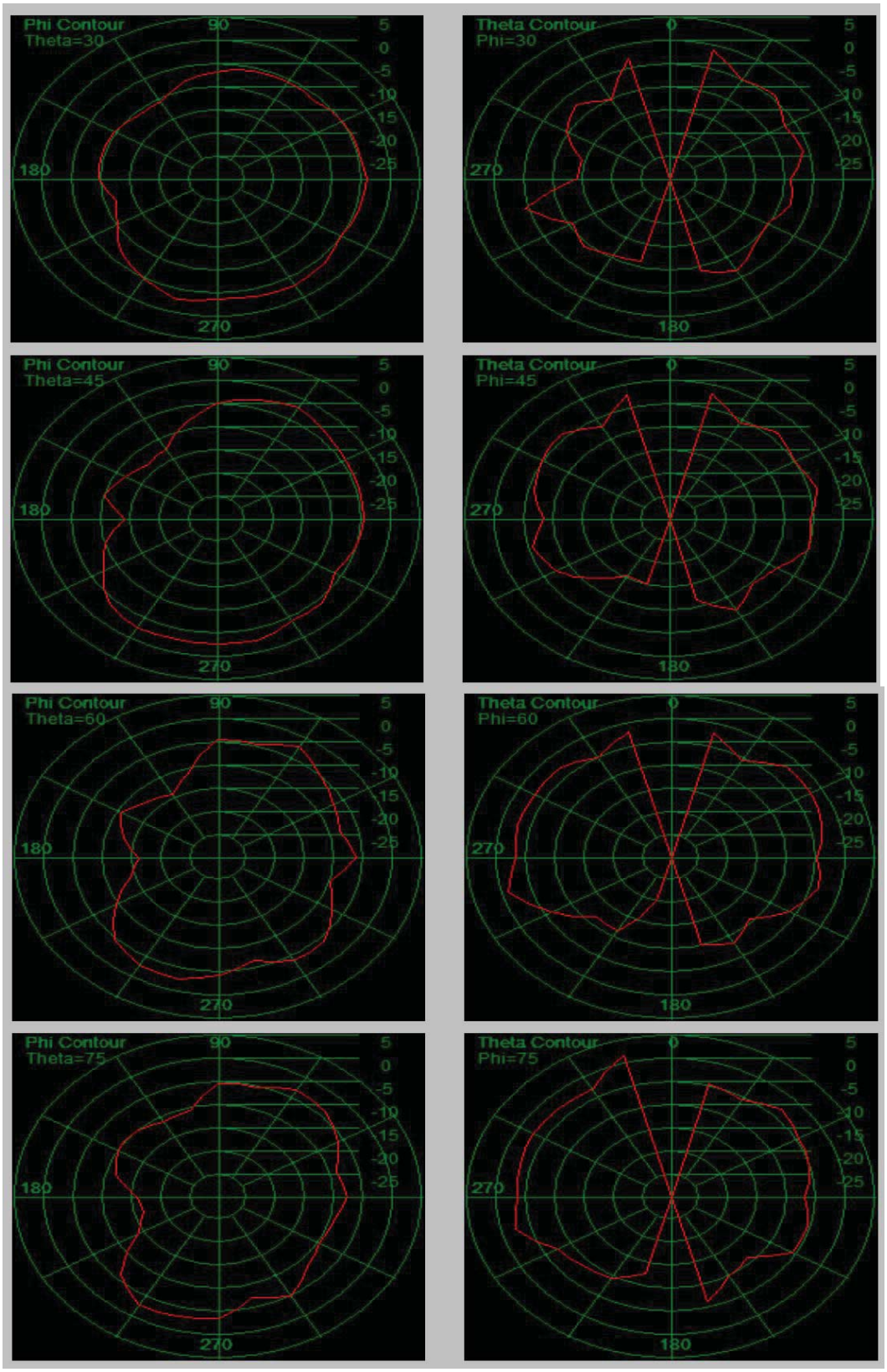
2G：850/900
3G：B5/B8
4G：B12/B17/B28AB/B71/B5/B8



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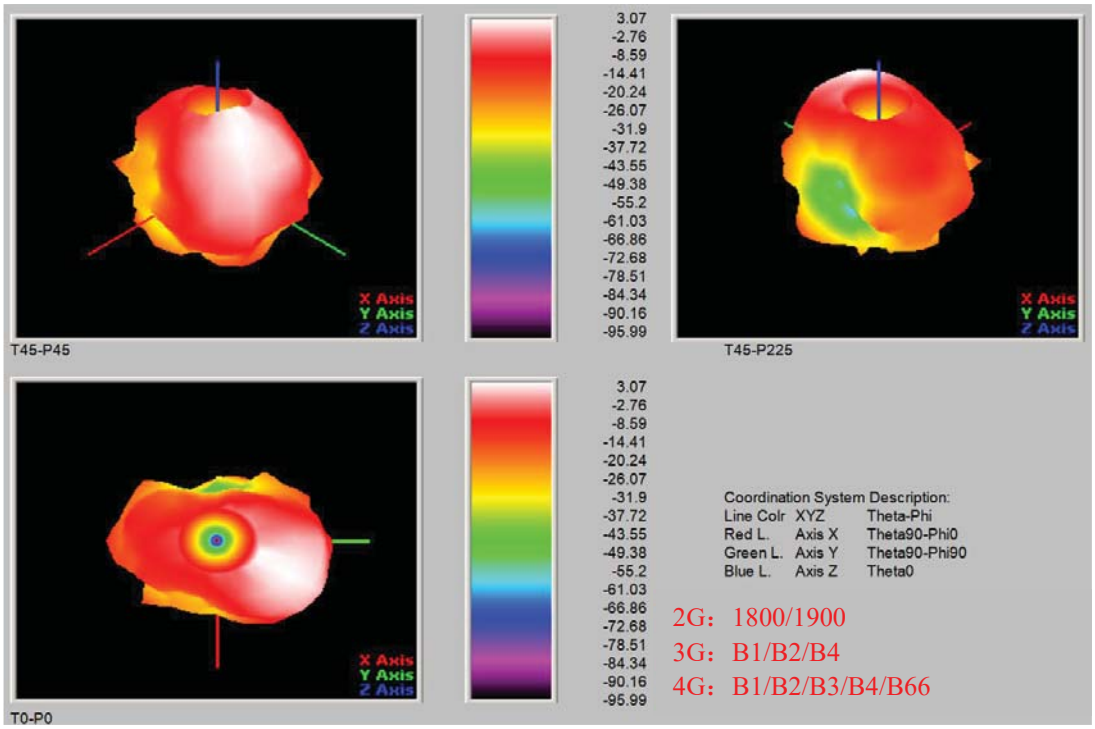

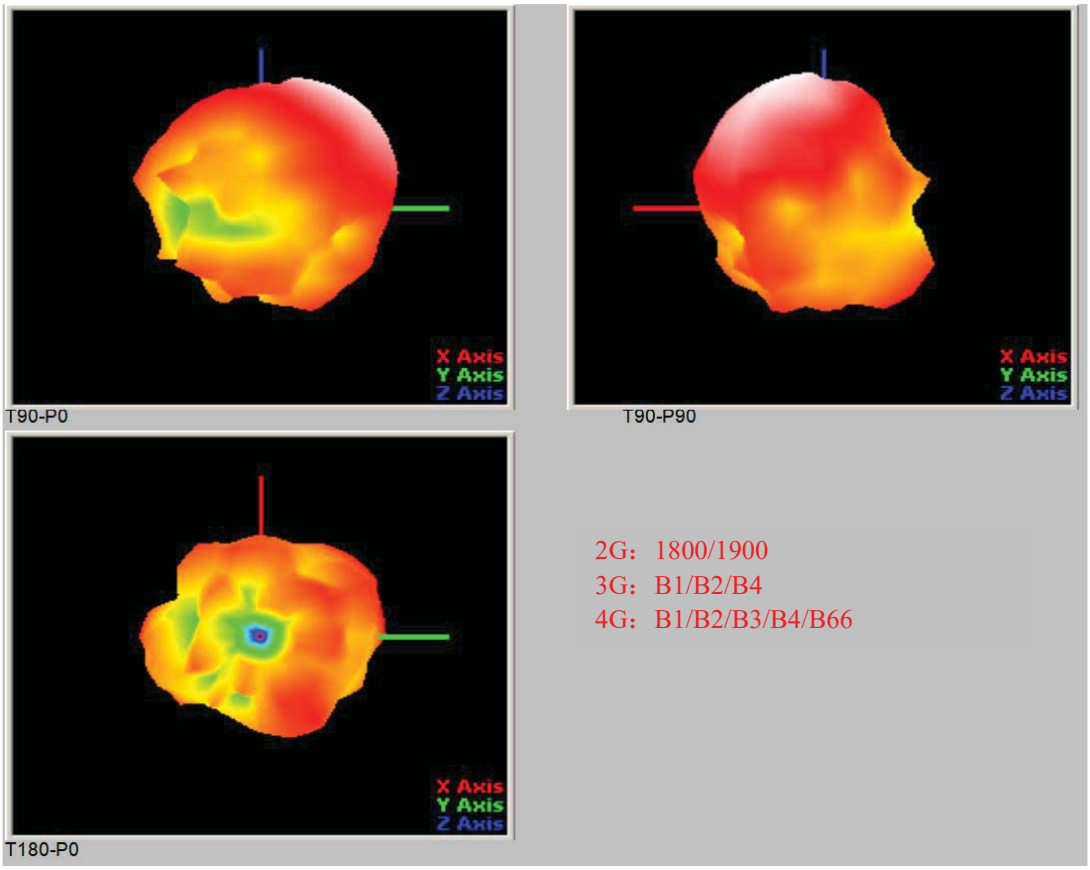

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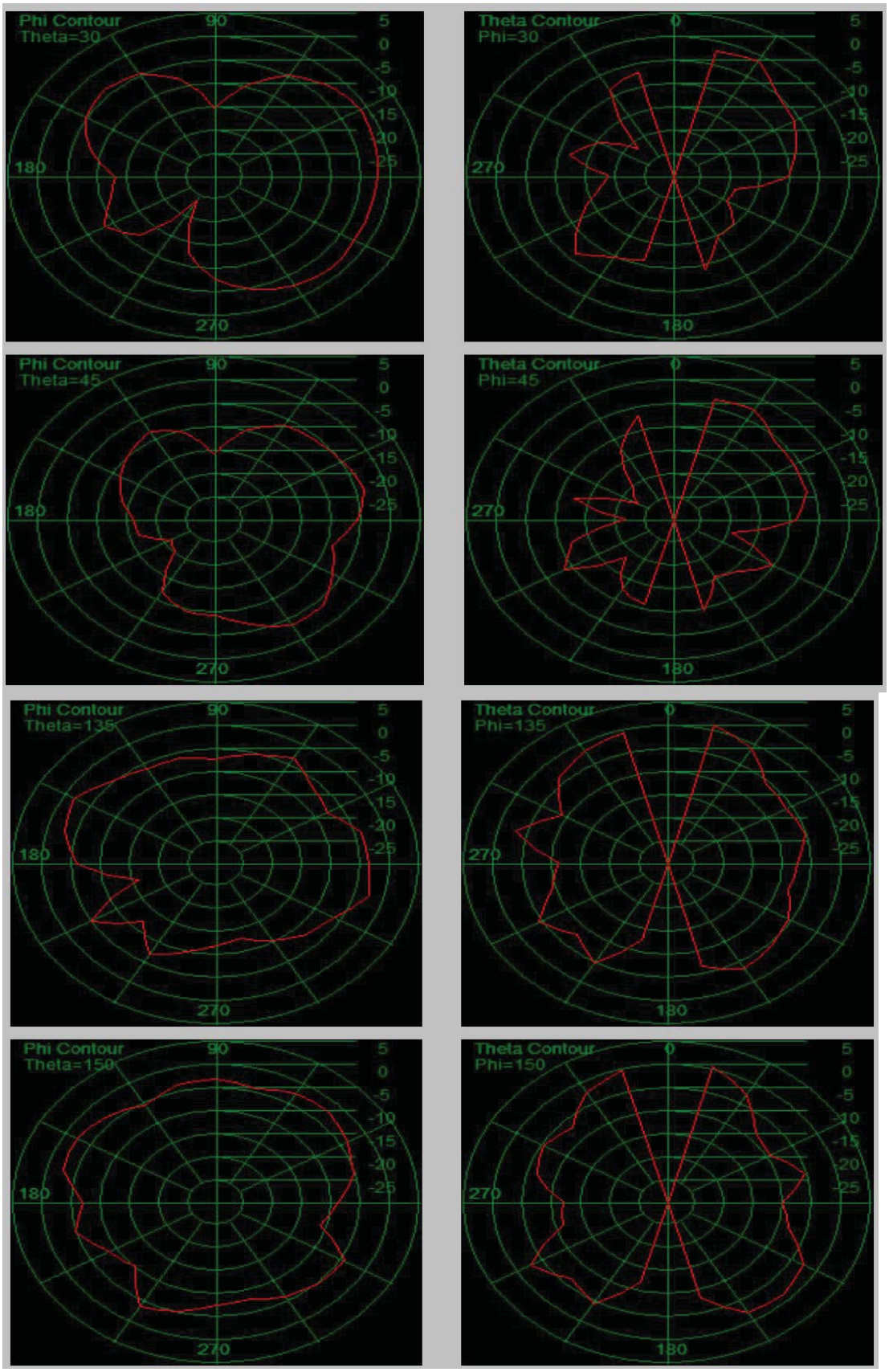
2G：1800/1900
3G：B1/B2/B4
4G：B1/B2/B3/B4/B66



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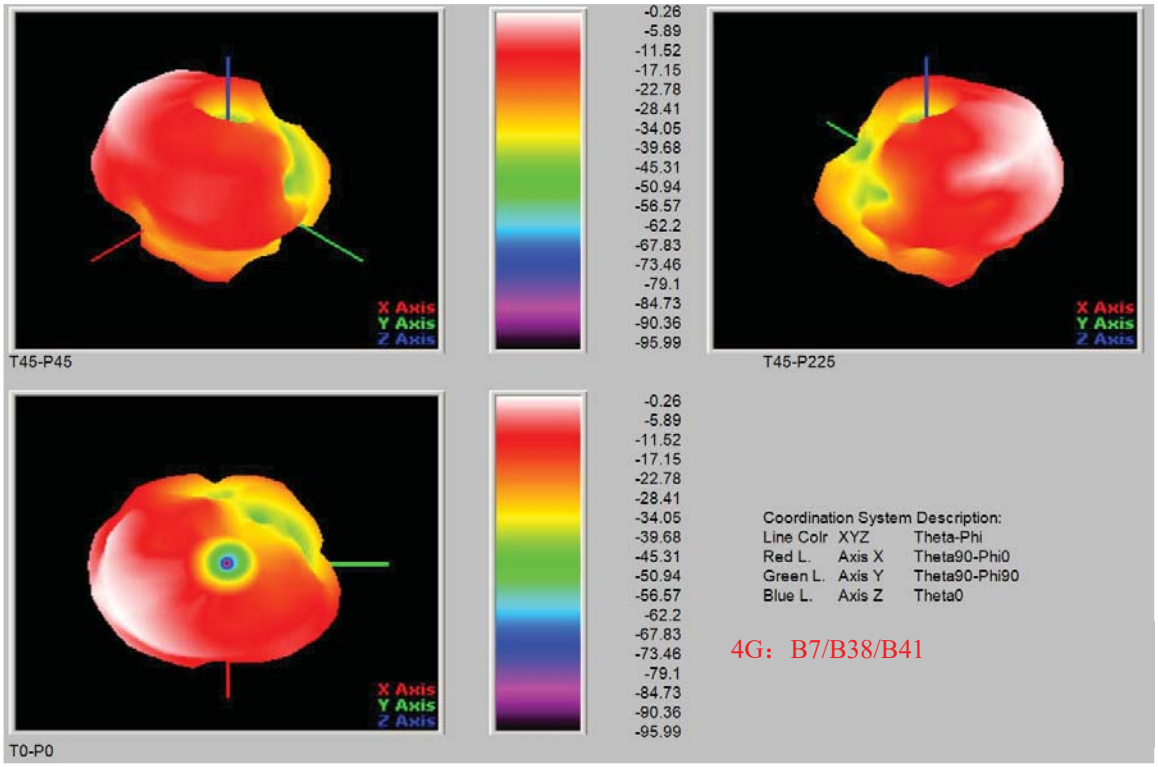

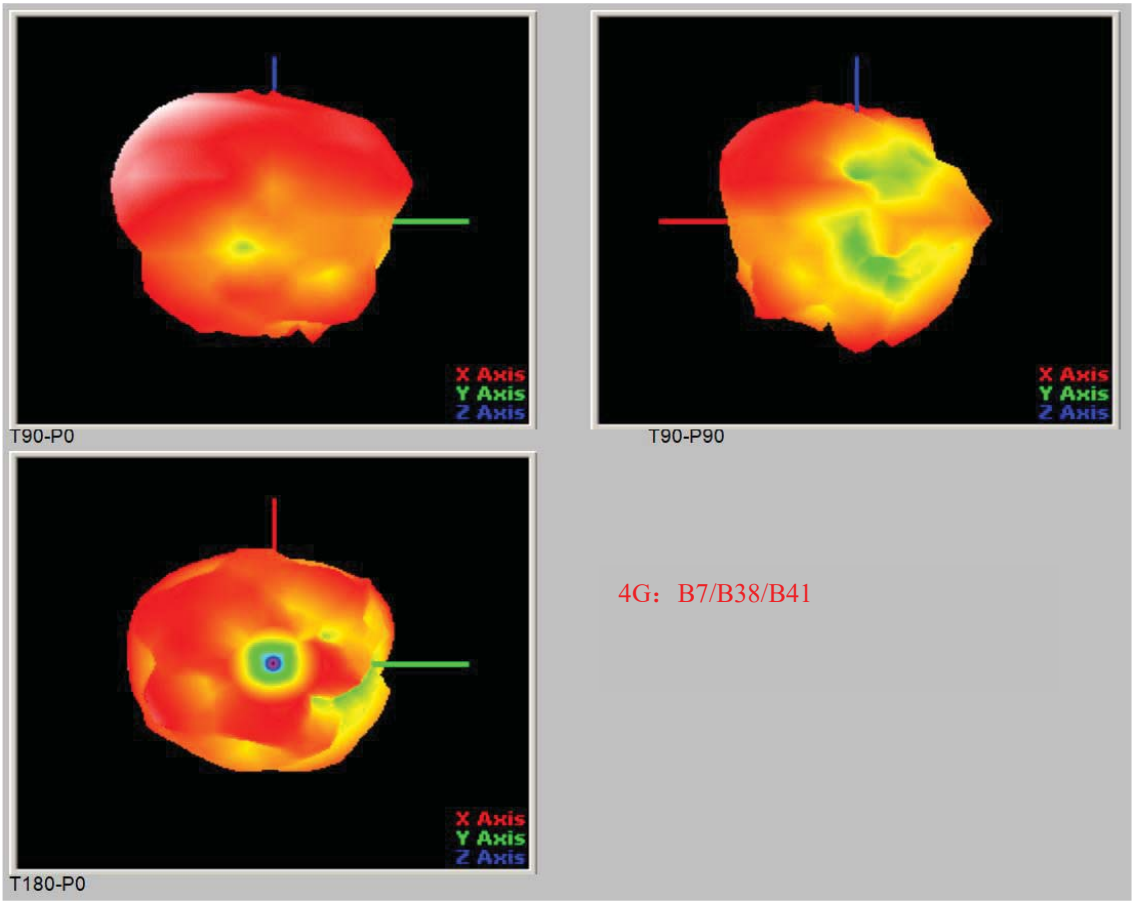

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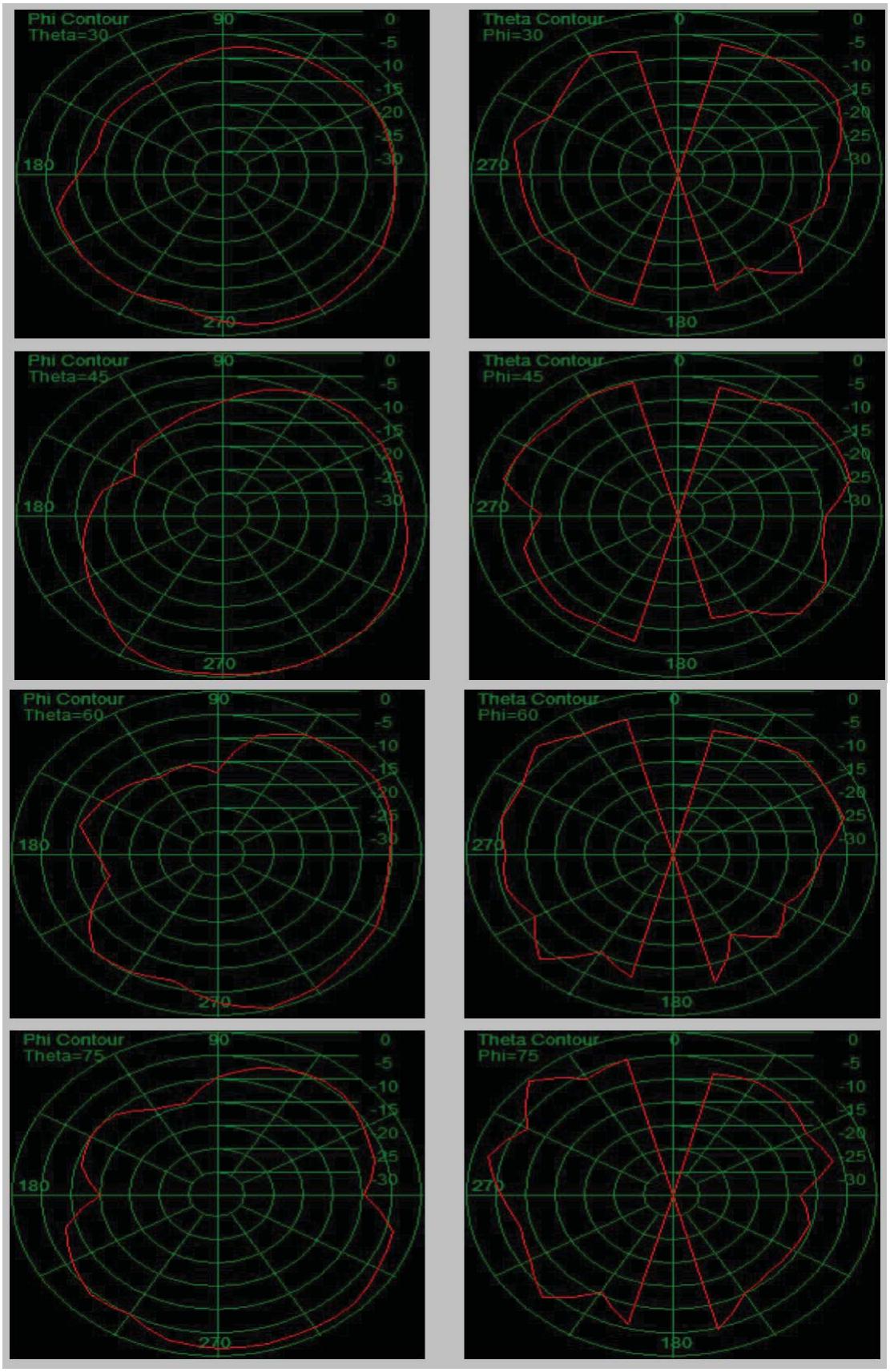
4G：B7/B38/B41



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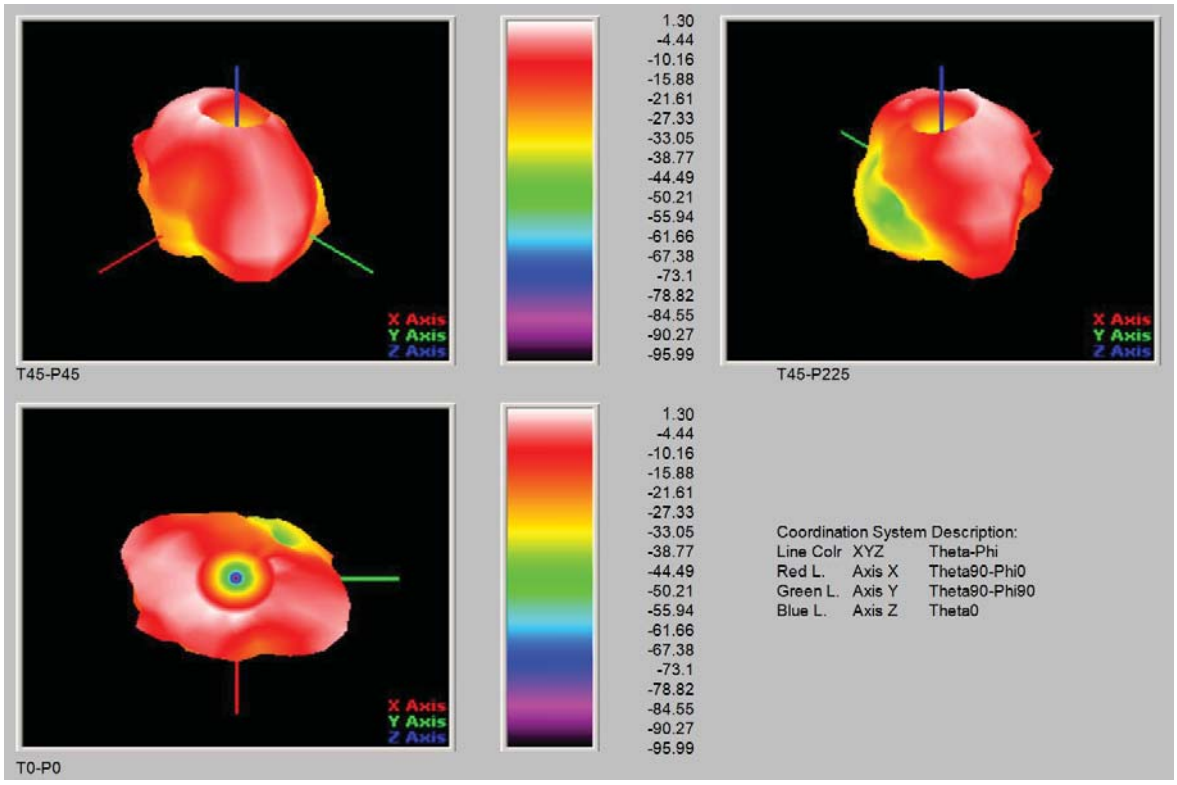

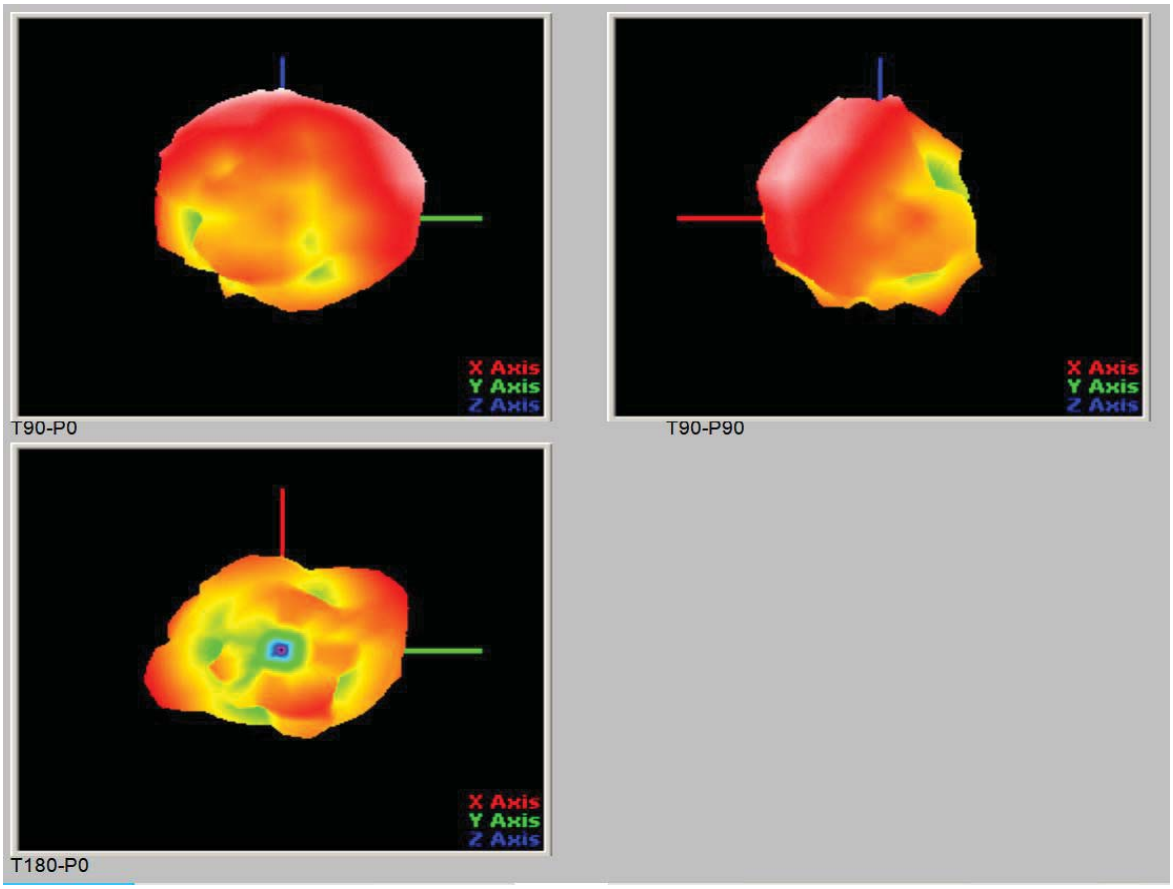

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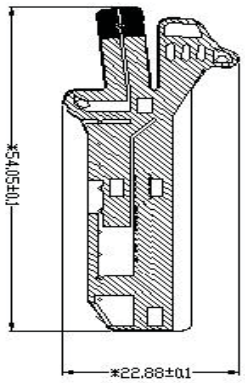

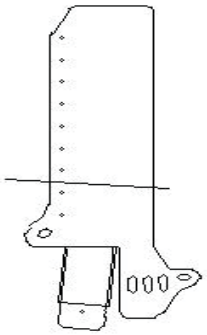

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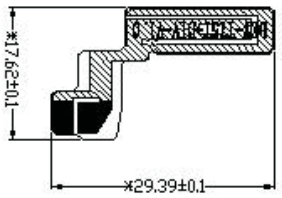

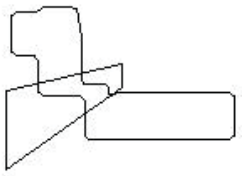

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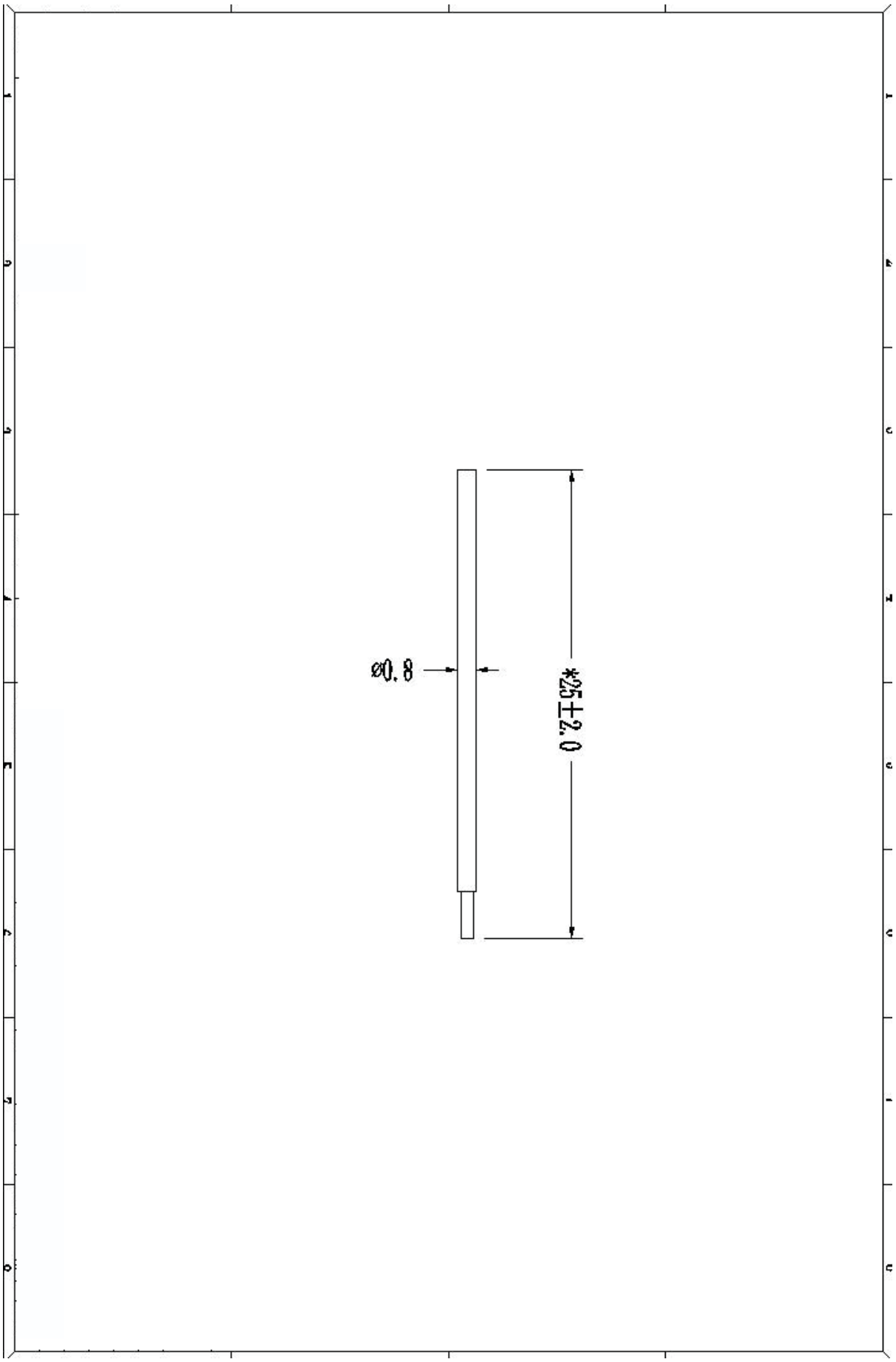

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