

# APPROVAL SHEET

**FPC Antenna**

**698~960 / 1710~2170 / 2300~2690 MHz**

**Working Frequency**

**P/N: RFFPA804609IMTB301**

Customer :

Customer 's Part No. : 0790A2013L-A12

Approval No. :

Issue Date :



## 品名：RFFPA804609IMTB301

### 1. Explanation of part number :

RF	FPA	8046	09	I	M	T	B	3	01
Type Code	Product Code	PCB Dimension (Unit: mm)	Cable Length (unit: cm)	Connector Brand	Type of Connector	Application	Project status	Wire Diameter	Project
RF Device	FPC Antenna	Per 2 digits of length, width e.g.: 1614 Length 160.0mm, Width140.0mm	2 digits for cable length e.g.:20 5G1 : Length 17.5cm 5G2 : Length 17.5cm 2G1 : Length 20.0cm 2G2 : Length 13.0cm BT : Length 7.0cm	A: N C:MCX D:IPEX III E: IPEX IV F: IPEX A13 H: Hirose I: IPEX M: MMCX S: SMA T: TNC U:MURATA N: None	A: Reverse Female <b>B: Reverse Male</b> F: Female M: Male N: None	<b>0: 0GHz</b> <b>3: 3GHz</b> <b>6: 6GHz</b> <b>5: 5GHz</b> A: 2.4GHz ISM band B: GSM 900/1800 dual band G: GPS band L: 2.4/5.X GHz tri-band <b>N: NFC</b> <b>T: LTE band</b> W: WCDMA band	B: MP <b>T:During Test</b> X: Pile Run	0:None 1:∅ 0.81 2:∅ 1.32 3:∅ 1.13 4:Low Loss ∅ 1.13 5:∅ 0.5 6:RG316 7: ∅ 1.37 8:RG178 9:Low Loss ∅ 1.37	01~99 series number

### 2. Electrical Specification :

Item	Specification
Working Frequency Range	698~960 / 1710~2170 / 2300~2690 MHz
Peak Gain	Low Band @ 2.31 dBi High Band @ 3.36 dBi
Return Loss	-10dB(Max)
VSWR	2 max.
Polarization	Linear
Radiation Pattern	Omni-directional
Impedance	50Ω
Operation Temperature	-20℃ ~ +65℃

UNLESS OTHER SPECIFIED TOLERANCES ON :  
 X=N/A      X.X=N/A      X.XX=N/A  
 ANGLES=N/A      HOLEDIA=N/A



**INPAQ TECHNOLOGY CO., LTD.**

SCALE : N/A

UNIT : mm

DRAWN BY : 邱瑩鈺

CHECKED BY : 詹惠雯

DESIGNED BY : 林育帆

APPROVED BY : 陳振榮

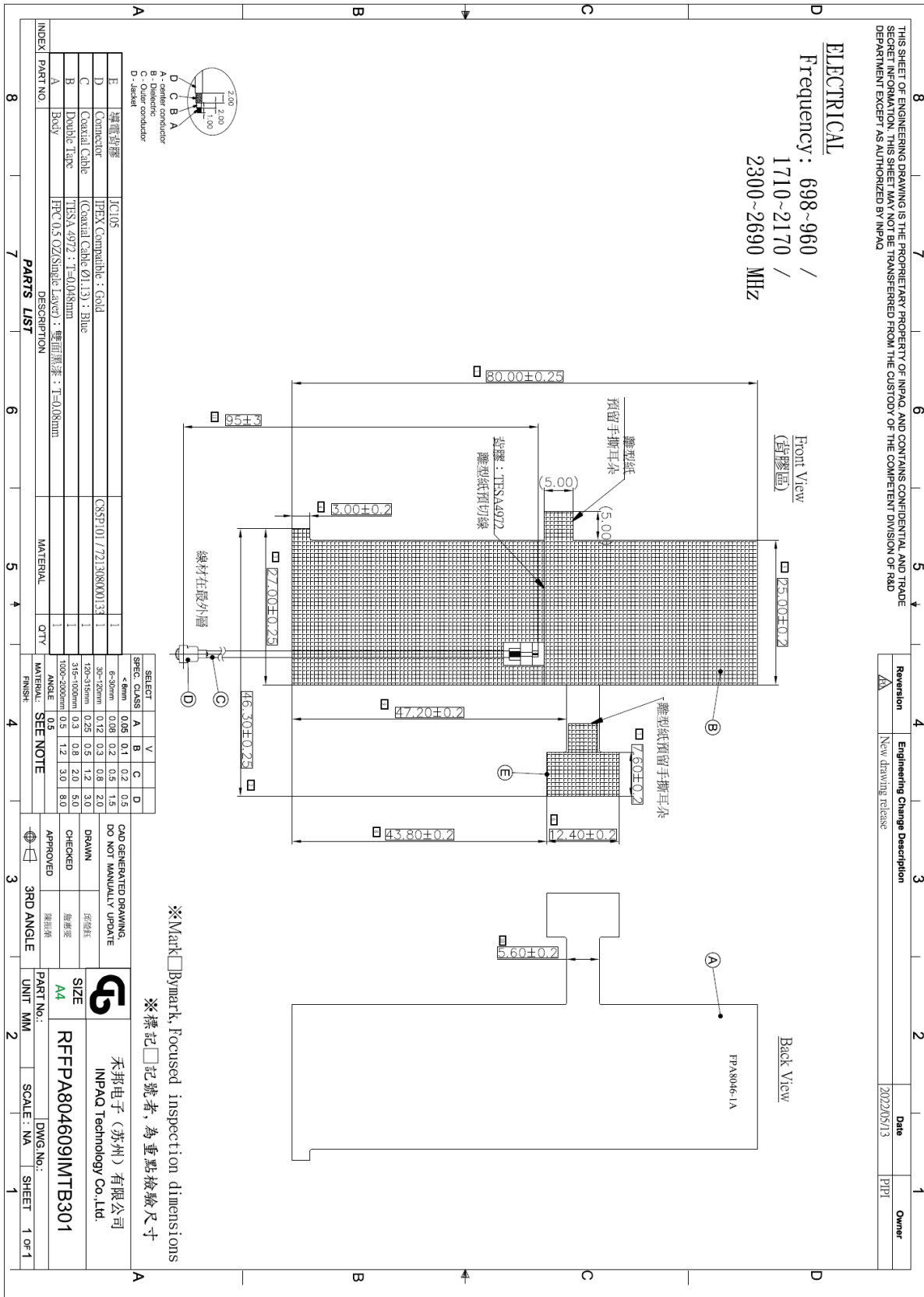
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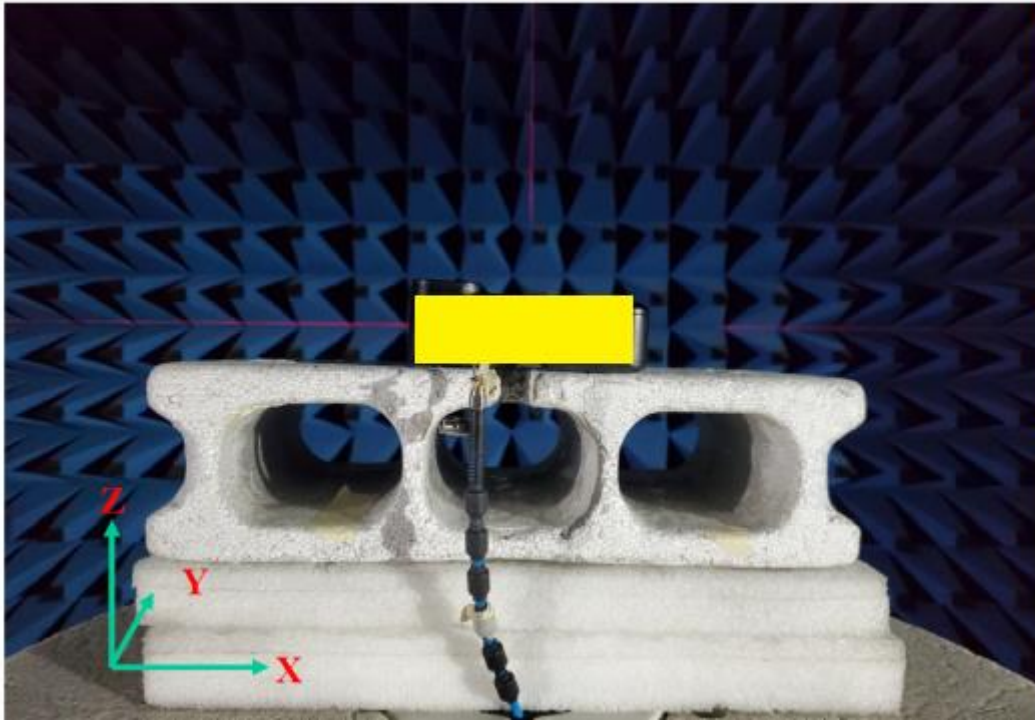
3. Drawing :




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ANGLES = N/A		THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION
SCALE : N/A	UNIT : mm	
DRAWN BY : 邱發鈺	CHECKED BY : 詹惠愛	
DESIGNED BY : 林育帆	APPROVED BY : 陳振榮	DOCUMENT NO.
TITLE : RFFPA8046091MTB301		

# 4. Test Report

## Experimental Setup



UNLESS OTHER SPECIFIED TOLERANCES ON : X=N/A      X.X=N/A      X.XX=N/A ANGLES=N/A      HOLEDIA=N/A		 <b>INPAQ TECHNOLOGY CO., LTD.</b>	THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION
SCALE : N/A	UNIT : mm		
DRAWN BY : 邱瑩鈺	CHECKED BY : 詹惠雯		
DESIGNED BY : 林育帆	APPROVED BY : 陳振榮		
TITLE : RFFPA804609IMTB301		DOCUMENT NO.	SPEC REV. <b>P0</b>

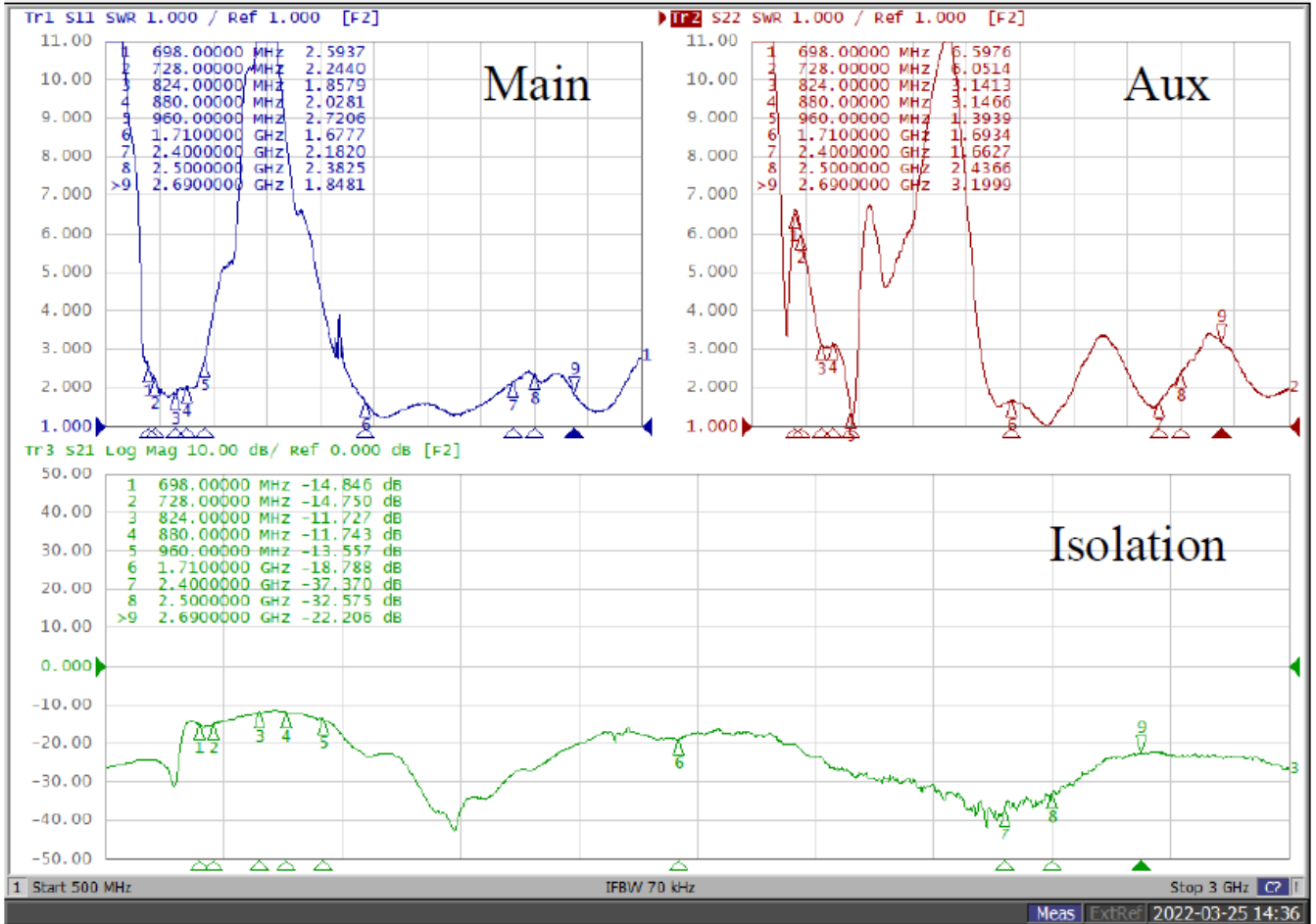
# ELECTRICAL CHARACTERISTICS


## Return Loss & Smith Chart

E5063A Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

Resize



UNLESS OTHER SPECIFIED TOLERANCES ON : X=N/A      X.X=N/A      X.XX=N/A ANGLES=N/A      HOLEDIA=N/A		 <b>INPAQ TECHNOLOGY CO., LTD.</b>	
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DESIGNED BY : 林育帆	APPROVED BY : 陳振榮		
TITLE : RFFPA804609IMTB301		DOCUMENT NO.	SPEC REV. <b>P0</b>

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 ANGLES=N/A      HOLEDIA=N/A



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SCALE : N/A      UNIT : mm  
 DRAWN BY : 邱瑩鈺      CHECKED BY : 詹惠雯  
 DESIGNED BY : 林育帆      APPROVED BY : 陳振榮

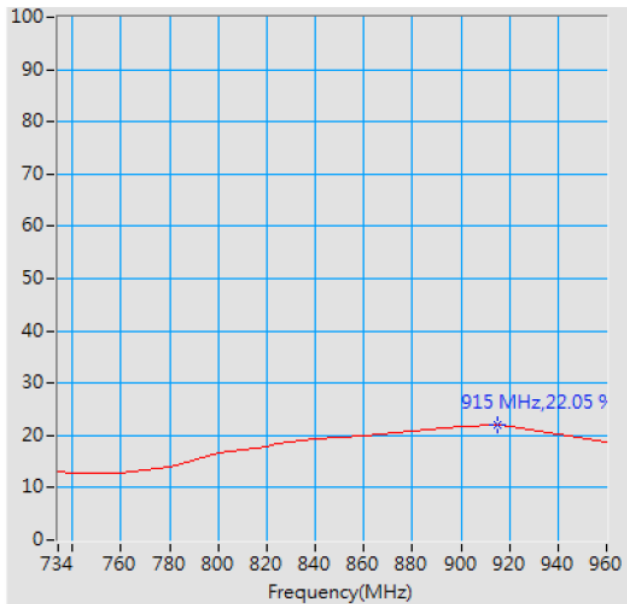
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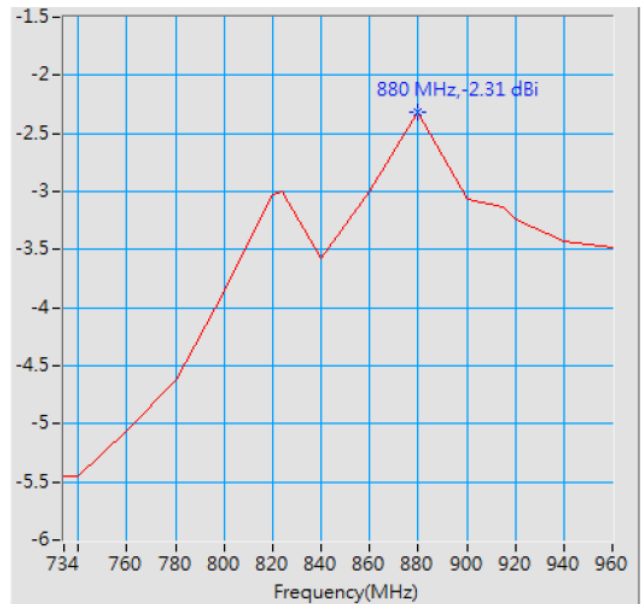
DOCUMENT NO.	SPEC REV.

## Antenna Efficiency and Peak Gain

### Low band

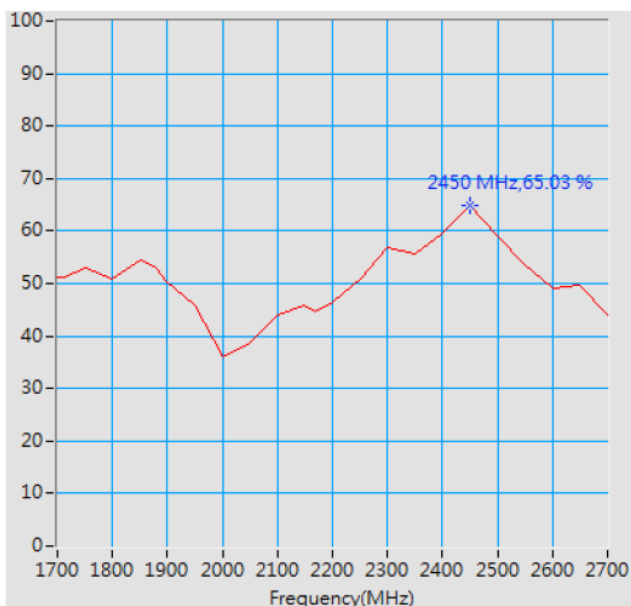


Maximum Efficiency at 915 MHz : 22.0 %



Maximum Peak Gain at 880 MHz : 2.31 dBi

### High band



Maximum Efficiency at 2450 MHz : 65.0 %



Maximum Peak Gain at 2450 MHz : 3.36 dBi

UNLESS OTHER SPECIFIED TOLERANCES ON :  
 X = N/A      X.X = N/A      X.XX = N/A  
 ANGLES = N/A      HOLEDIA = N/A



**INPAQ TECHNOLOGY CO., LTD.**

SCALE : N/A

UNIT : mm

DRAWN BY : 邱瑩鈺

CHECKED BY : 詹惠雯

DESIGNED BY : 林育帆

APPROVED BY : 陳振榮

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	Aux	
Frequency (MHz)	Efficiency (%)	Peak gain (dBi)
734	13.0	-5.45
800	16.7	-3.85
880	20.9	-2.31
960	18.9	-3.49
1700	51.3	1.55
2000	36.2	0.10
2400	59.5	3.07
2700	44.1	1.75

UNLESS OTHER SPECIFIED TOLERANCES ON :  
 X = N/A      X.X = N/A      X.XX = N/A  
 ANGLES = N/A      HOLEDIA = N/A



**INPAQ TECHNOLOGY CO., LTD.**

SCALE : N/A

UNIT : mm

DRAWN BY : 邱瑩鈺

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APPROVED BY : 陳振榮

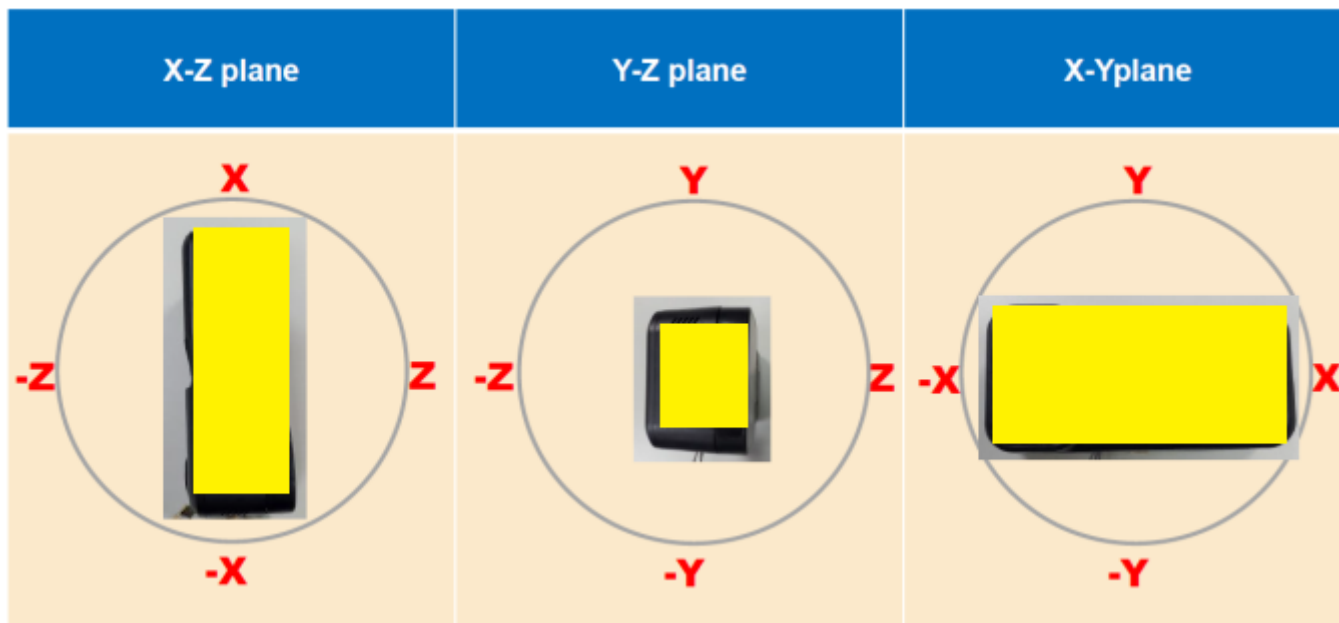
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### 3 Views of antenna



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DRAWN BY : 邱瑩鈺	CHECKED BY : 詹惠雯		
DESIGNED BY : 林育帆	APPROVED BY : 陳振榮		
TITLE : RFFPA804609IMTB301		DOCUMENT NO.	SPEC REV. <b>P0</b>

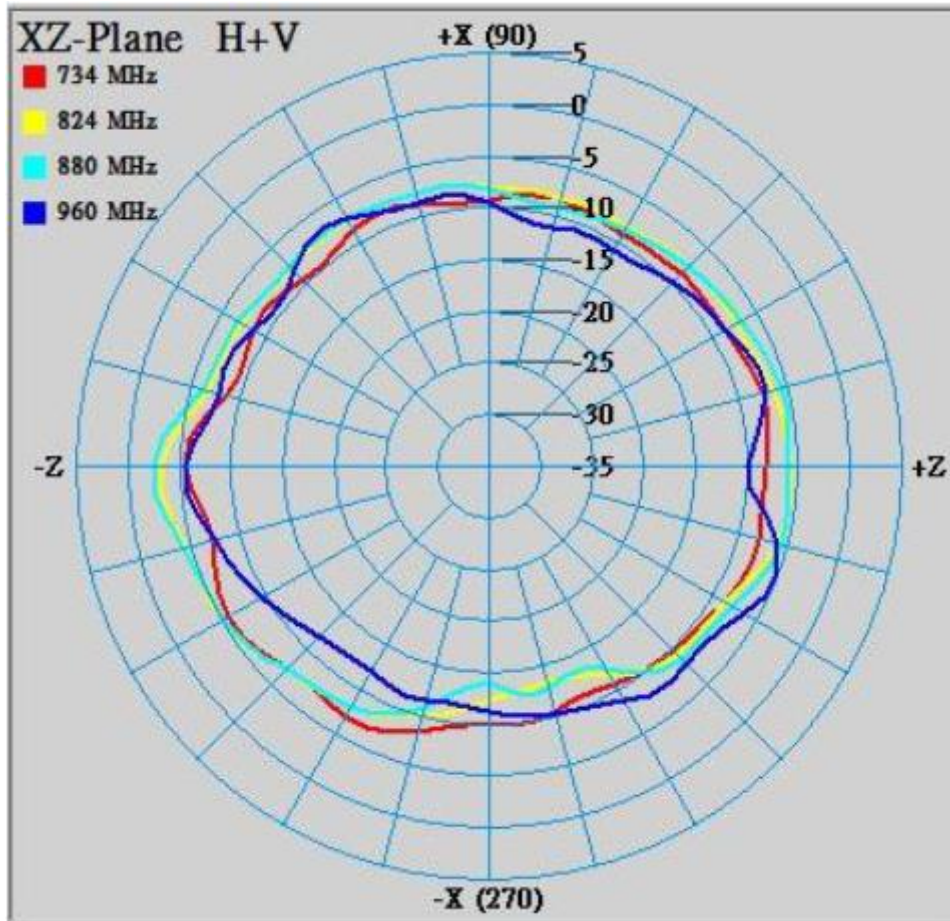
**Radiation Patterns**


**Low band**

X-Z Plane

Phi=0.00deg

Gain . dB

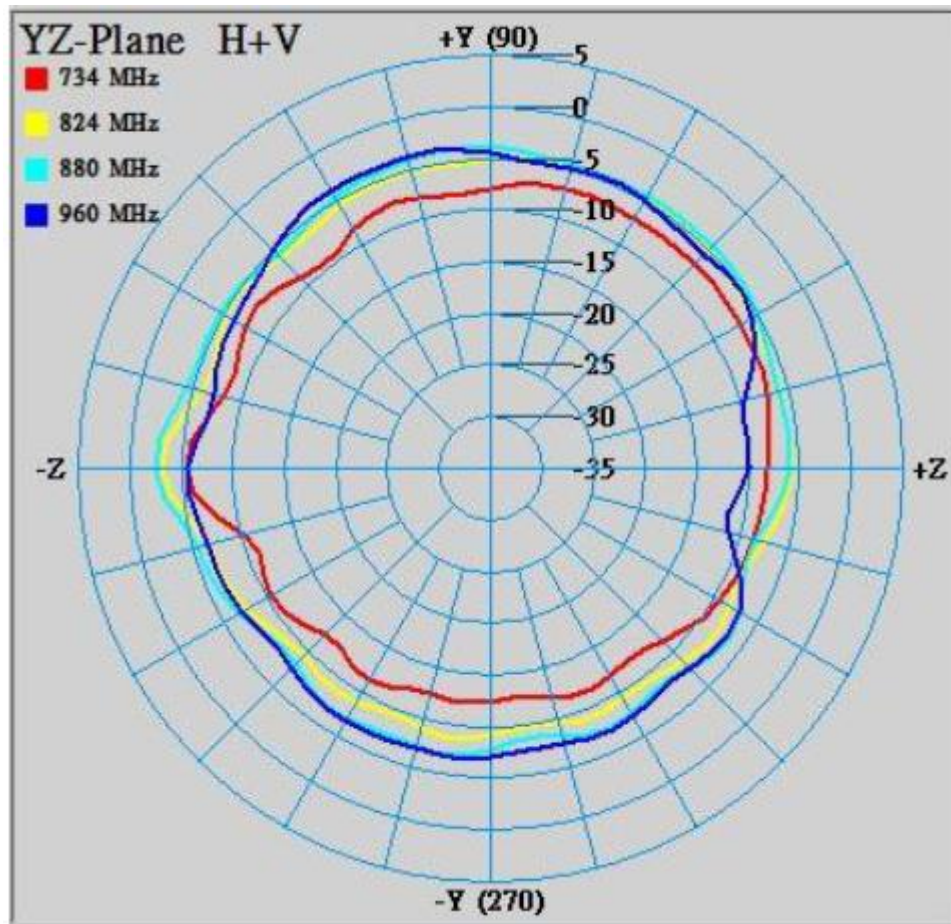



UNLESS OTHER SPECIFIED TOLERANCES ON :		 <b>INPAQ TECHNOLOGY CO., LTD.</b>
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ANGLES=N/A HOLEDIA=N/A		THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION
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		SPEC REV. <b>P0</b>

Y-Z Plane

Phi=90.00deg

Gain . dB

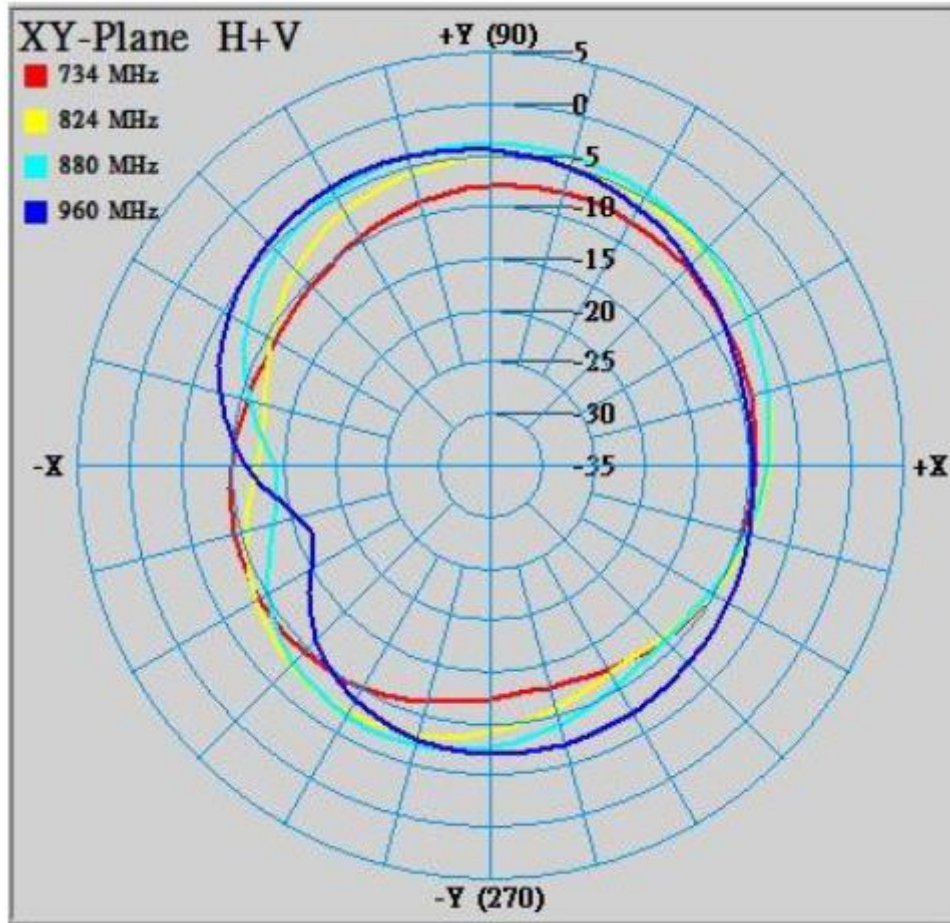


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ANGLES=N/A		HOLEDIA=N/A	
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X-Y Plane

Theta=90.00deg

Gain . dB



Frequency [MHz]	ZX plane		ZY plane		XY plane	
	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
734	-5.45	-8.26	-5.46	-8.71	-7.66	-9.62
824	-3.02	-7.30	-3.09	-6.43	-5.07	-7.91
880	-2.35	-7.12	-2.39	-5.67	-3.90	-7.12
960	-5.18	-8.64	-3.83	-6.35	-3.96	-7.24

UNLESS OTHER SPECIFIED TOLERANCES ON :  
 X=N/A      X.X=N/A      X.XX=N/A  
 ANGLES=N/A      HOLEDIA=N/A



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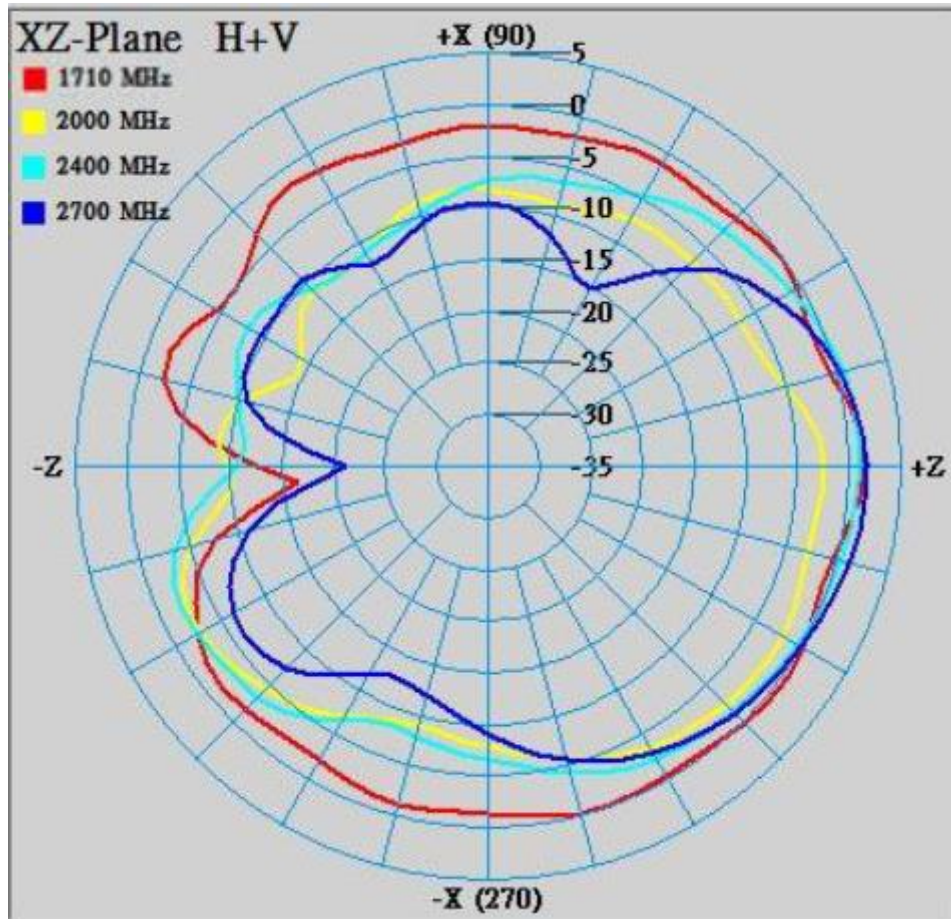


# High band

X-Z Plane

Phi=0.00deg

Gain . dB



UNLESS OTHER SPECIFIED TOLERANCES ON :  
 X=N/A      X.X=N/A      X.XX=N/A  
 ANGLES=N/A      HOLEDIA=N/A



INPAQ TECHNOLOGY CO., LTD.

SCALE : N/A      UNIT : mm  
 DRAWN BY : 邱瑩鈺      CHECKED BY : 詹惠雯  
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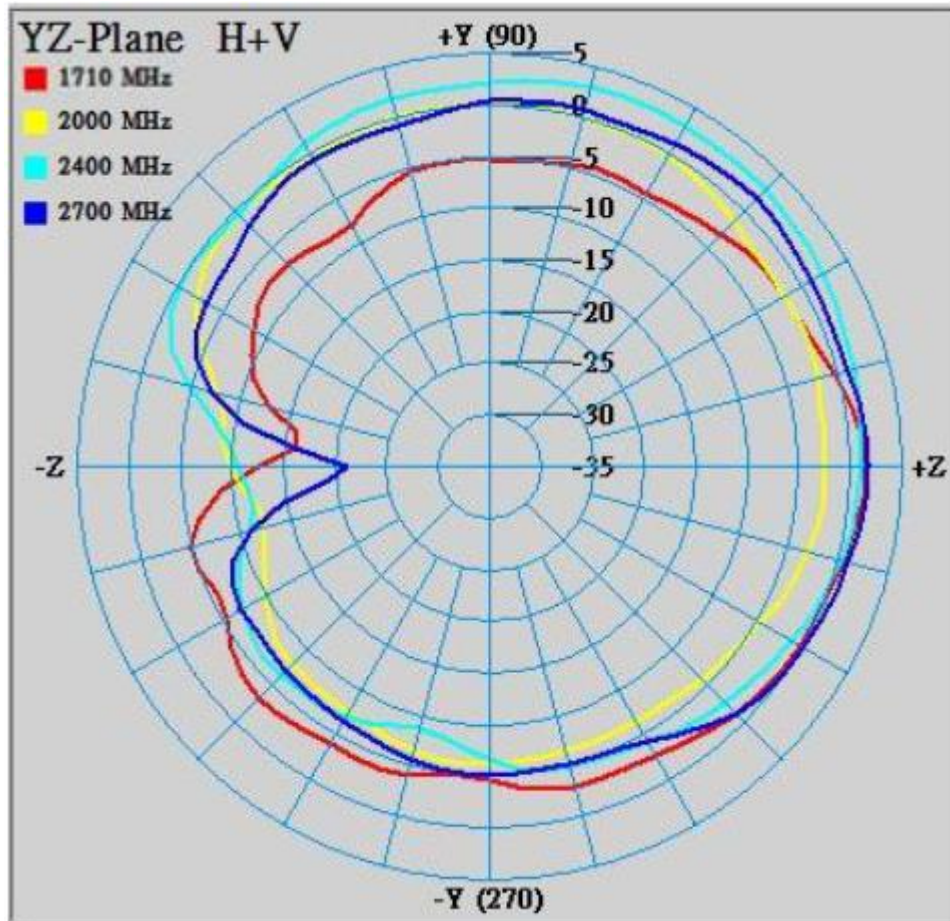
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Y-Z Plane

Phi=90.00deg

Gain . dB



UNLESS OTHER SPECIFIED TOLERANCES ON :  
 X=N/A      X.X=N/A      X.XX=N/A  
 ANGLES=N/A      HOLEDIA=N/A



INPAQ TECHNOLOGY CO., LTD.

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 DRAWN BY : 邱瑩鈺      CHECKED BY : 詹惠雯  
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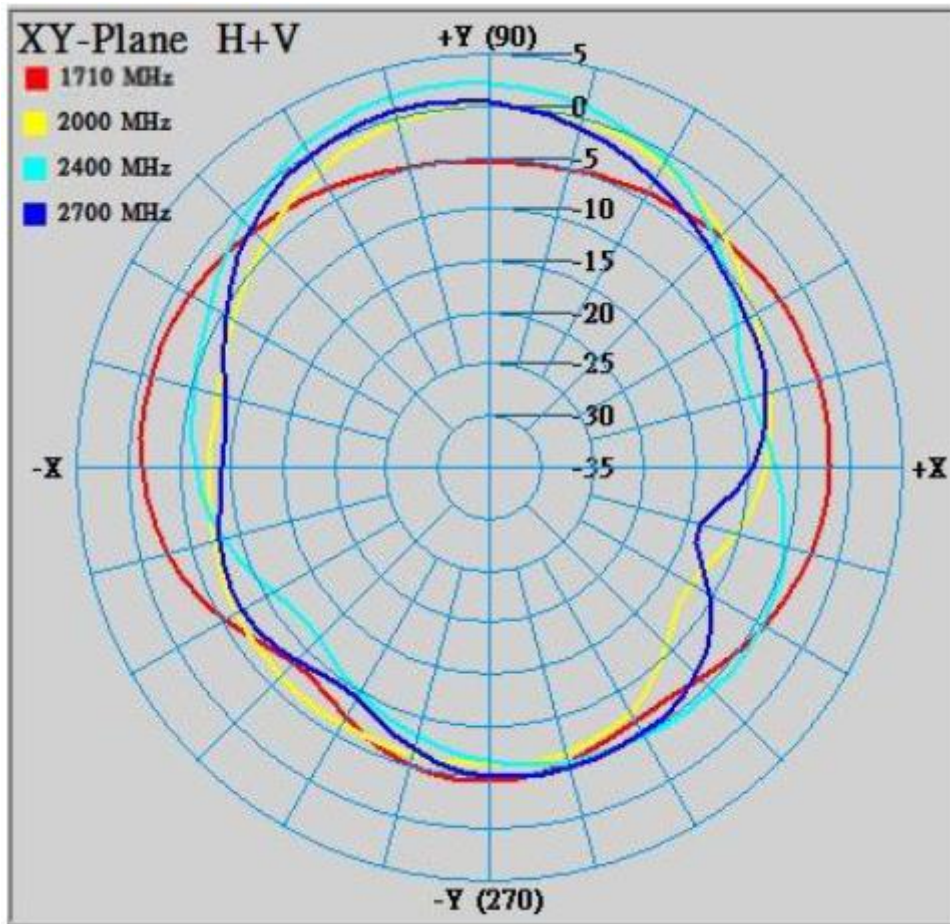
DOCUMENT NO.

SPEC REV. P0

# X-Y Plane

Theta=90.00deg

Gain . dB



Frequency [MHz]	ZX plane		ZY plane		XY plane	
	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
1710	1.53	-1.53	1.54	-3.27	-1.02	-3.73
2000	-2.01	-5.77	0.08	-3.15	0.10	-4.60
2400	1.01	-3.46	3.06	-0.56	2.28	-3.14
2700	1.71	-4.53	1.68	-1.53	0.67	-4.47

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