



權億科技股份有限公司  
Master Wave Technology Co., Ltd.

## 承認書

### APPROVAL SHEET

Customers: 中磊電子股份有限公司

Customer Model No.:

Master Wave Model No.: 98P39MIPF000

Product Description: PCB Antenna

Issue Date: 2010/10/26

REV.: 00

<p>客戶承認用印 Customer Approved</p>	<p>權億承認用印 Confirmation Signature</p>	
		
<p>核准 Approve</p>	<p>主管 Chief</p>	<p>承辦 Responsible</p>
<p>Hero</p>	<p>Frank</p>	<p>Charlene</p>

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#### 4. Packing

-PE Bag

-Carton

### Modification History:

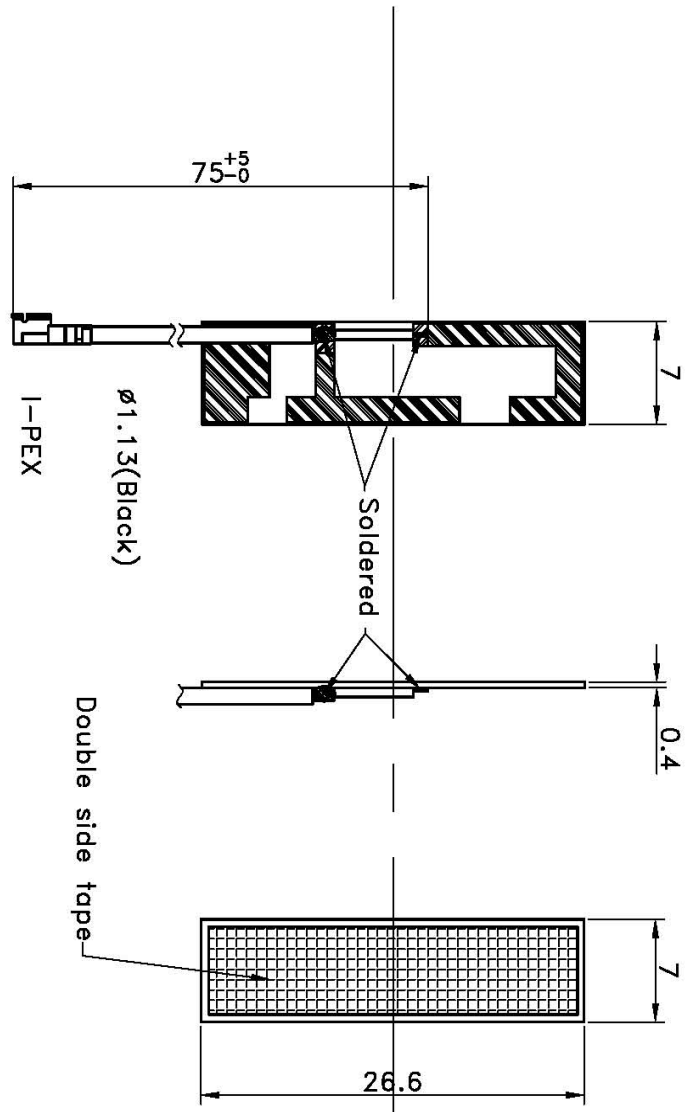
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REV.	Date	Content
00	2010/10/26	

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REV	ZONE	DESCRIPTION	ENG	APPROVED	DATE



- NOTES:
1. 鍍鎳銅區
  2. 鍍銅/化金區

Electrical Properties	
Frequency Range	2.4-2.5 GHz
Impedance	50Ω
V.S.W.R.	≤2.0
Gain	3.5 dBi
Mechanical Properties	
Connector	Brass

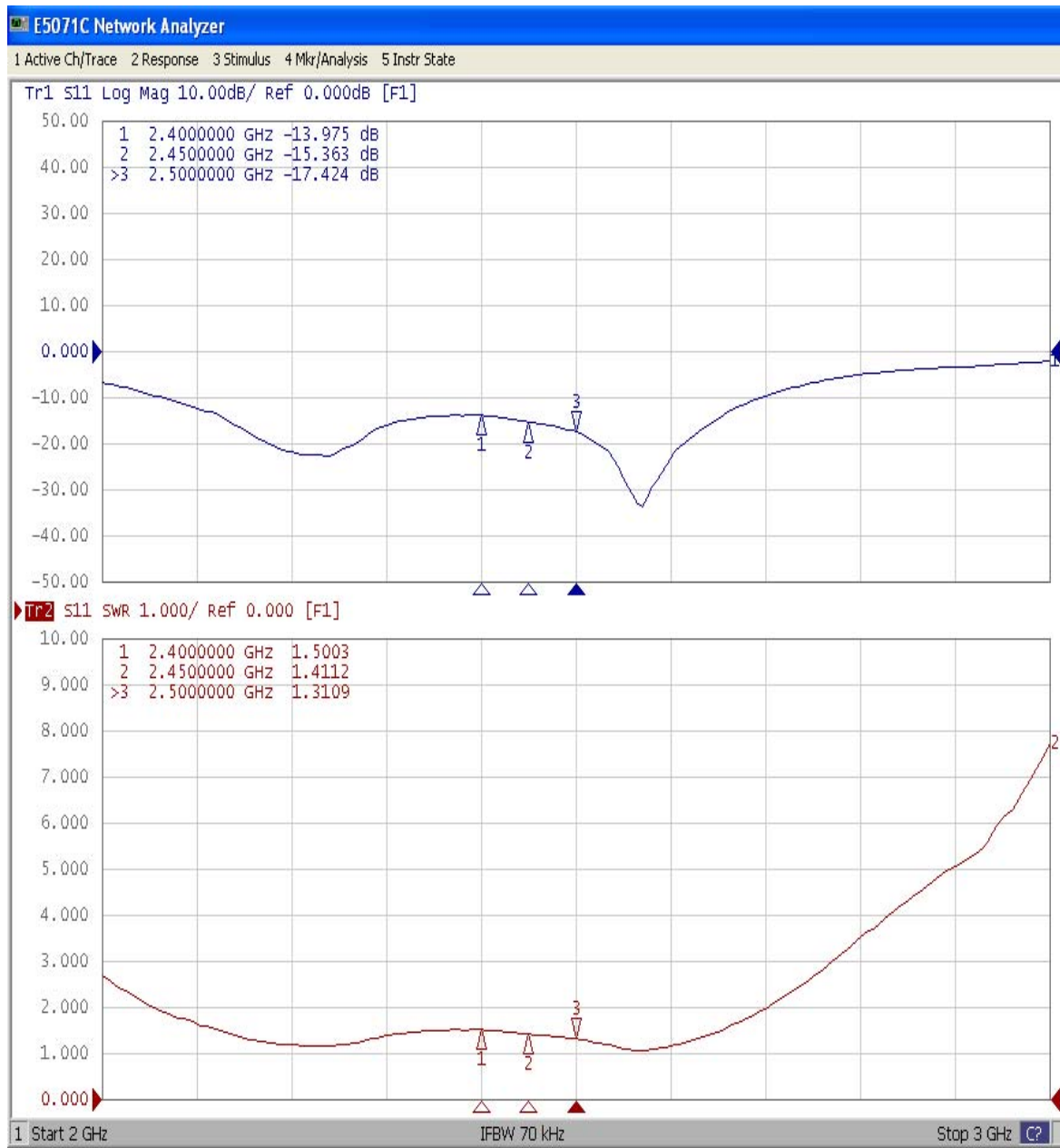
UNLESS OTHERWISE SPECIFIED TOLERANCES ON: ± 0.5		DATE: 2010/10/21	MAT'L:	TITLE : 2.4GHz PCB Antenna	
APPROVED BY:	CHECKED BY:	UNIT: mm	FINISH:	MODEL NO. : 98P39MIPF000	REV
		THIRD ANGLE PROJECTION	SCALE: 1/1	DRAWN BY: Charlene	00
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MASTER WAVE AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.					

Master Wave Technology CO.,LTD

Grid coordinates: 1, 2, 3, 4 (vertical); A, B, C, D, E, F (horizontal)

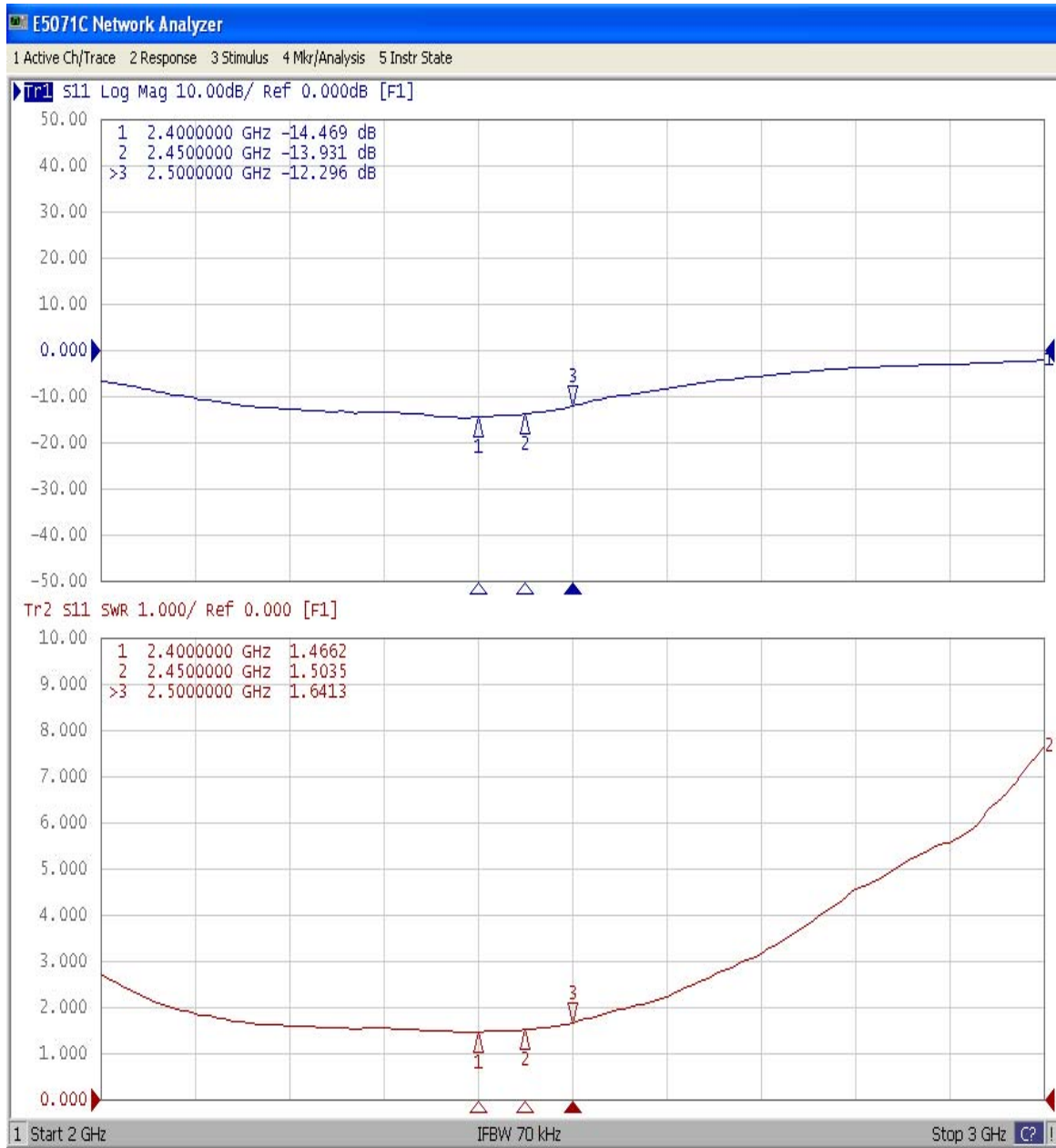


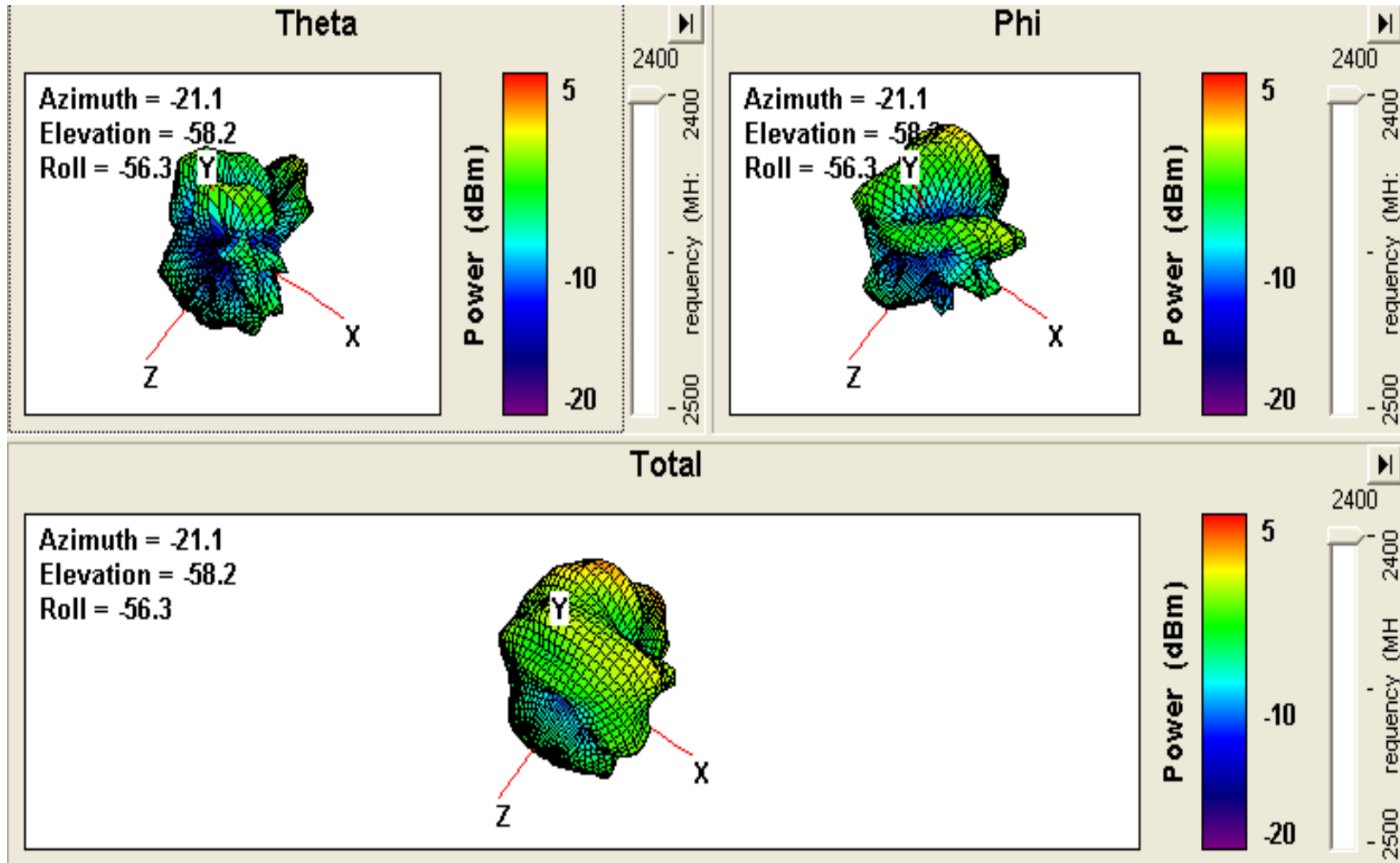
## Electrical Test ANT1





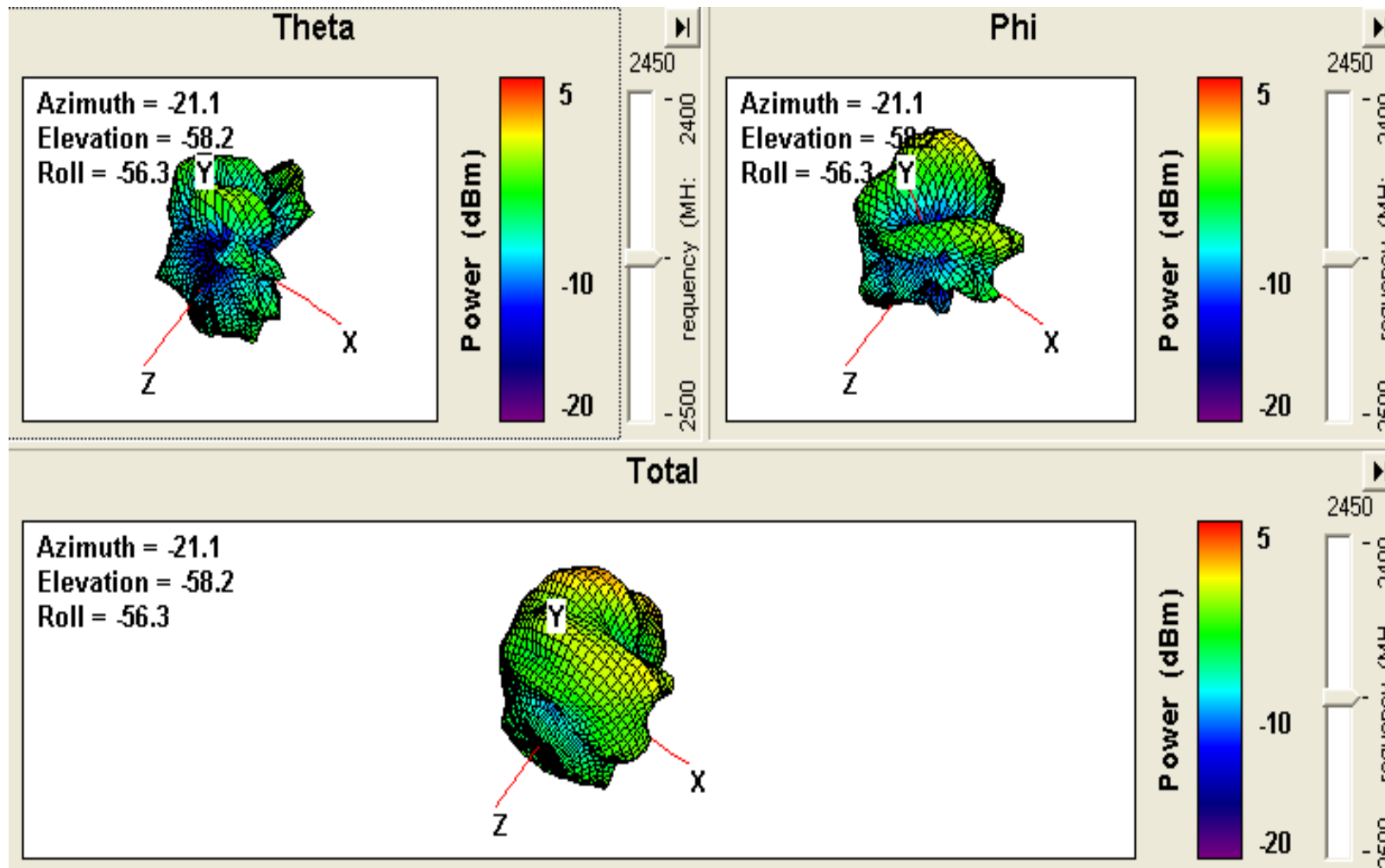
## Electrical Test ANT2





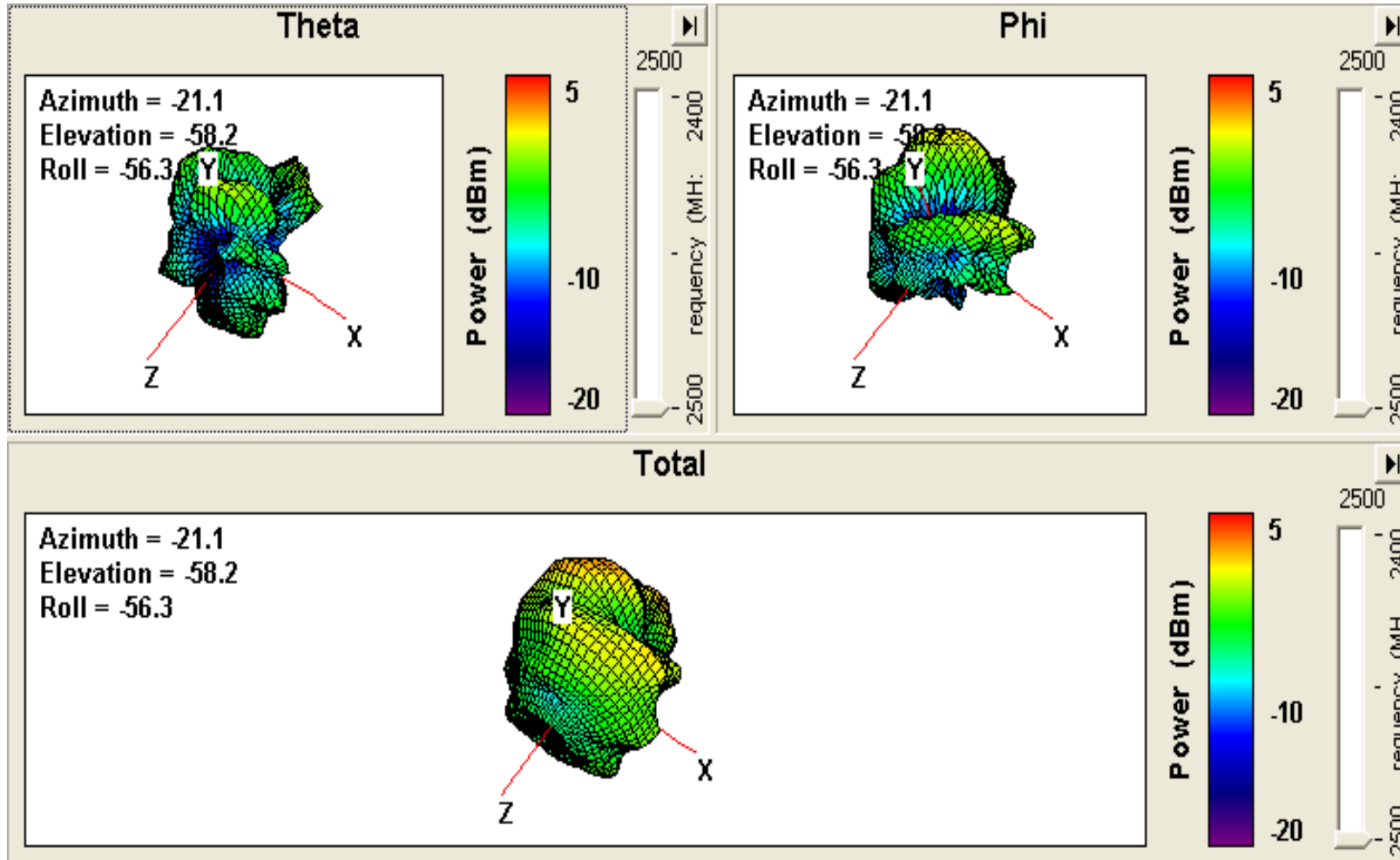
ANT1

2400MHz



ANT1

2450MHz



ANT1

2500MHz



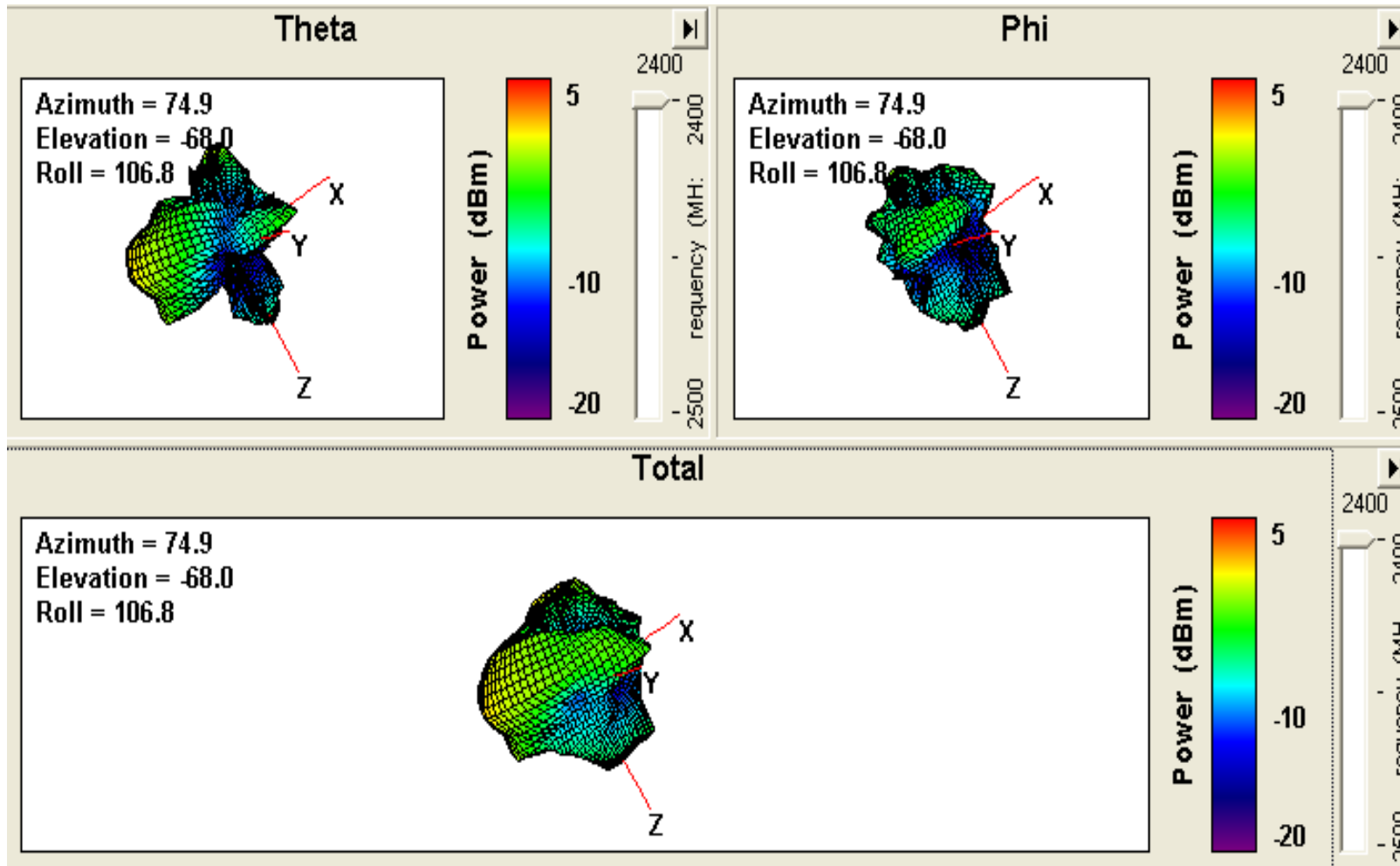


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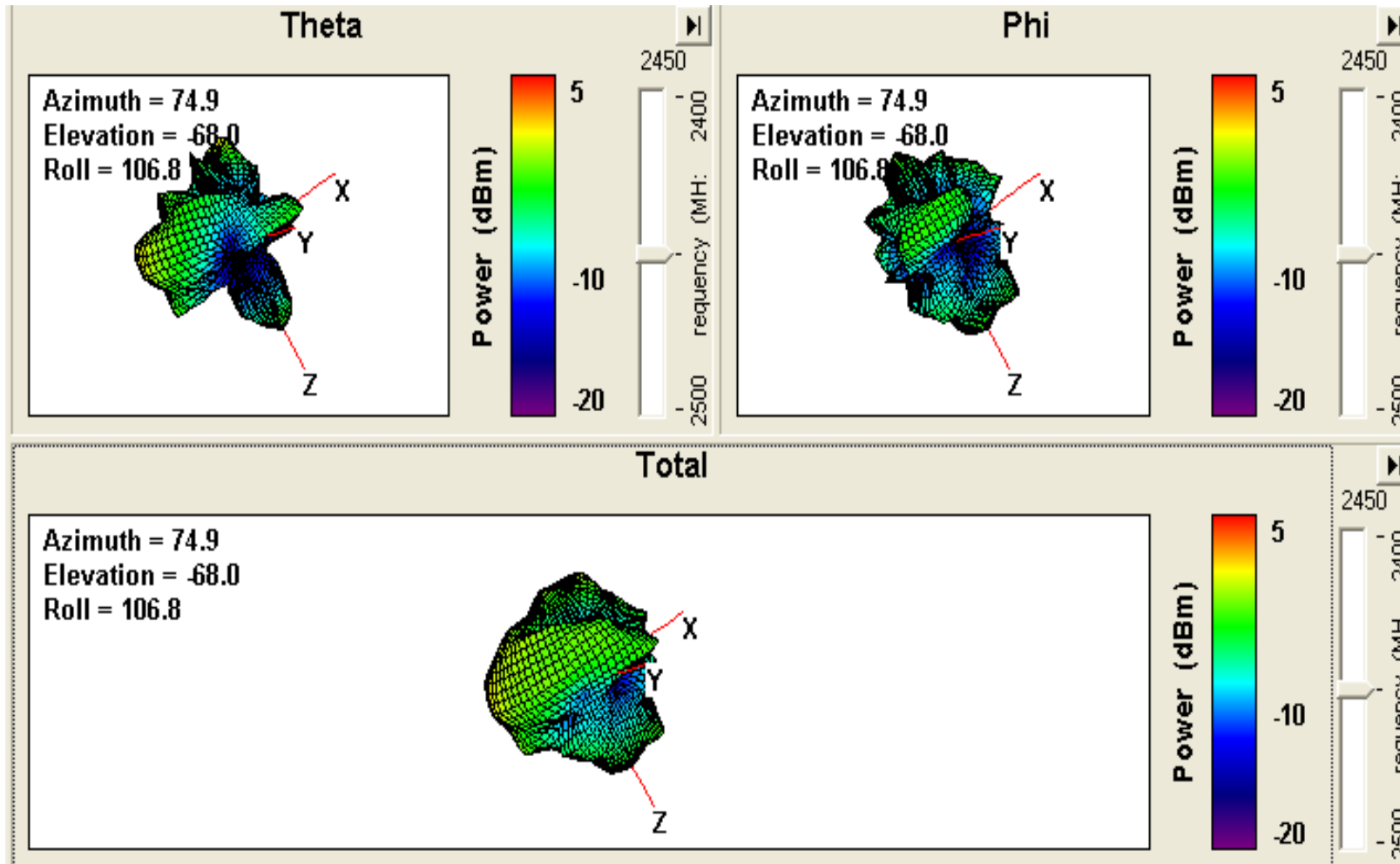
## Antenna Efficiency

Frequency	2400	2450	2500
TC03 Note	ANT1		
Directivity (dBi)	5.62	5.24	5.25
Efficiency (dB)	-2.39	-2.31	-2.20
Efficiency (%)	57.64	58.69	60.23
Gain (dBi)	3.23	2.92	3.04



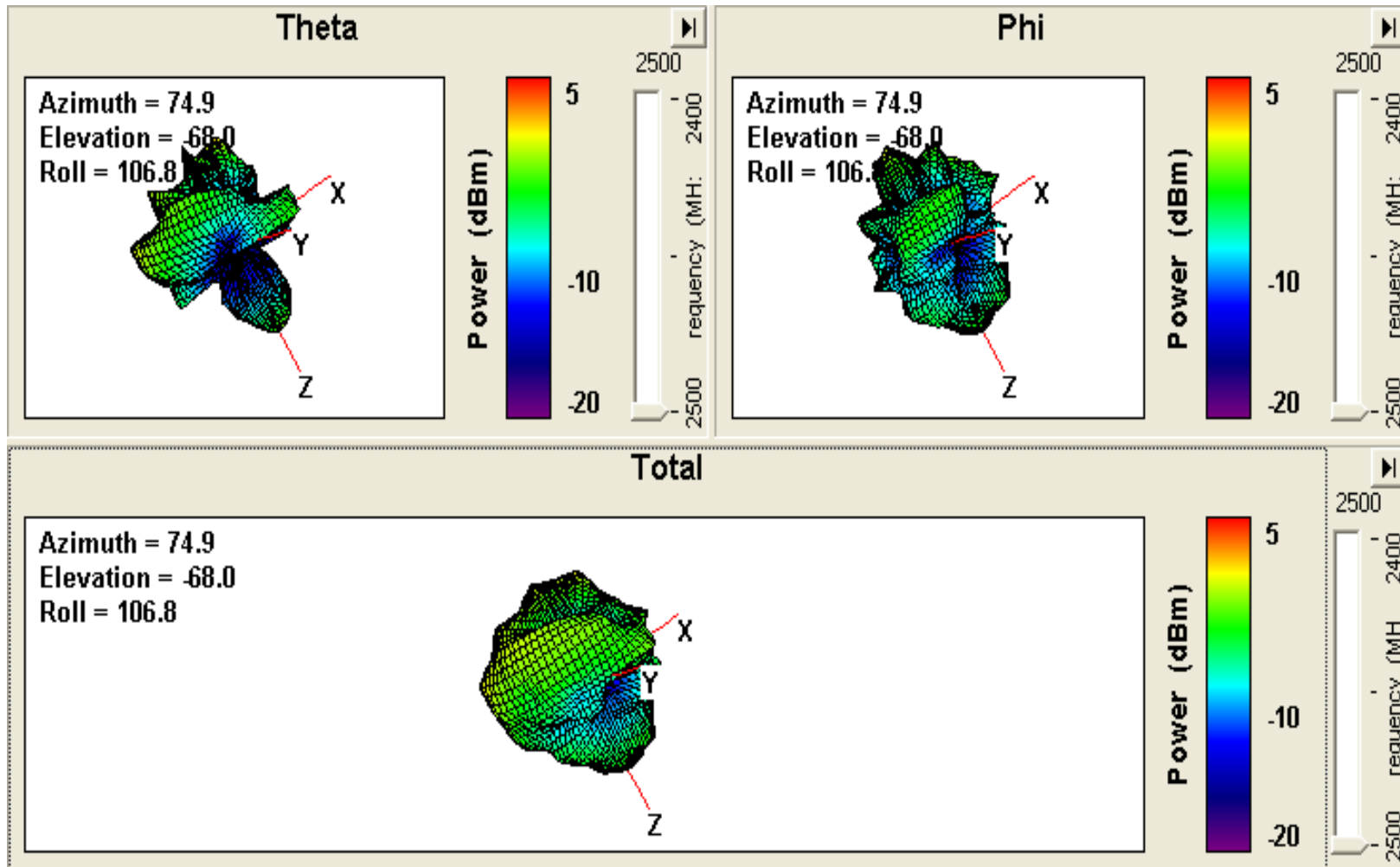
ANT2

2400MHz



ANT2

2450MHz



ANT2

2500MHz



## Antenna Efficiency

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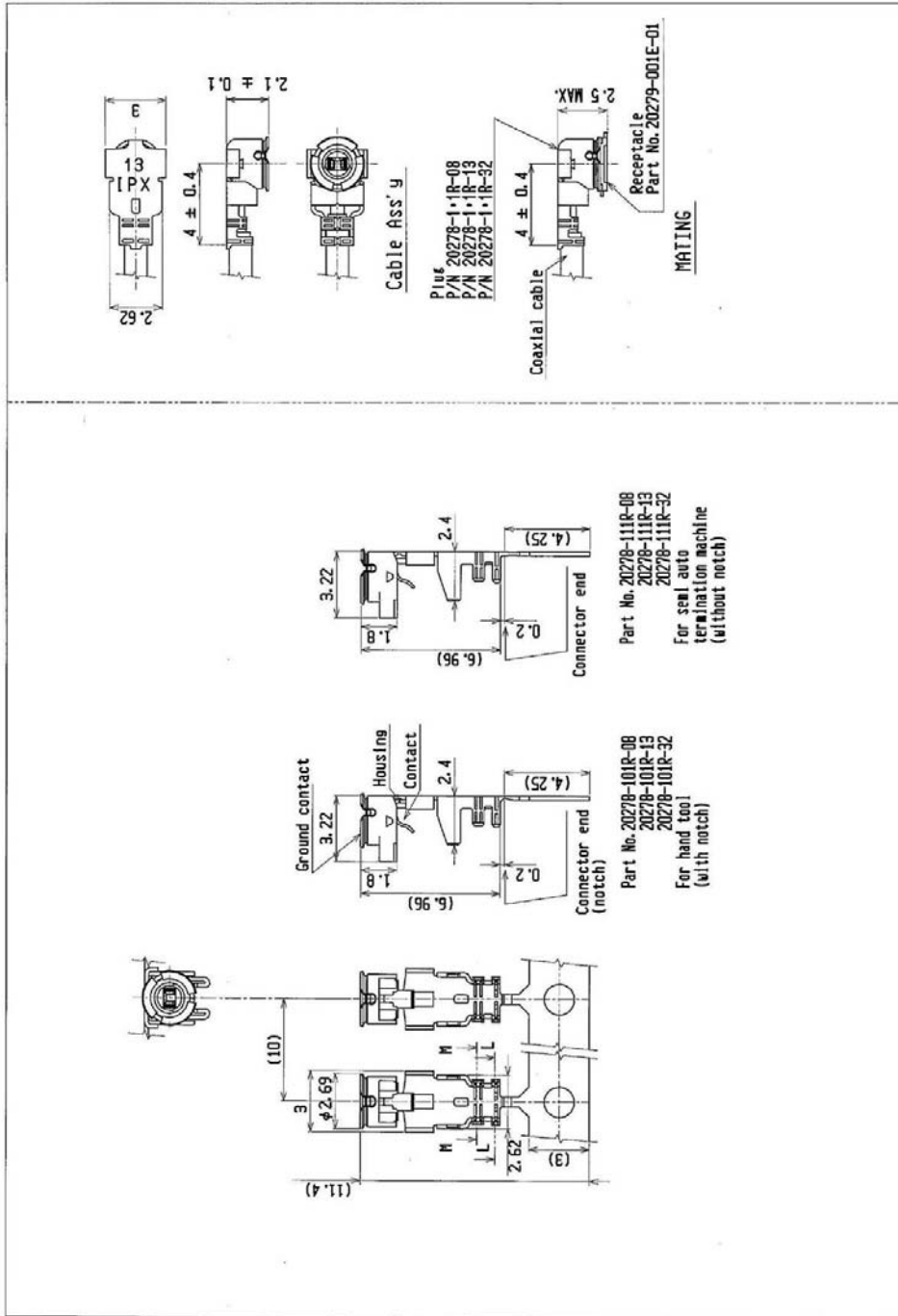
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Frequency	2400	2450	2500
TC03 Note	ANT2		
Directivity (dBi)	5.11	5.46	5.85
Efficiency (dB)	-2.77	-2.57	-2.44
Efficiency (%)	52.79	55.32	57.00
Gain (dBi)	2.33	2.89	3.40



Connector

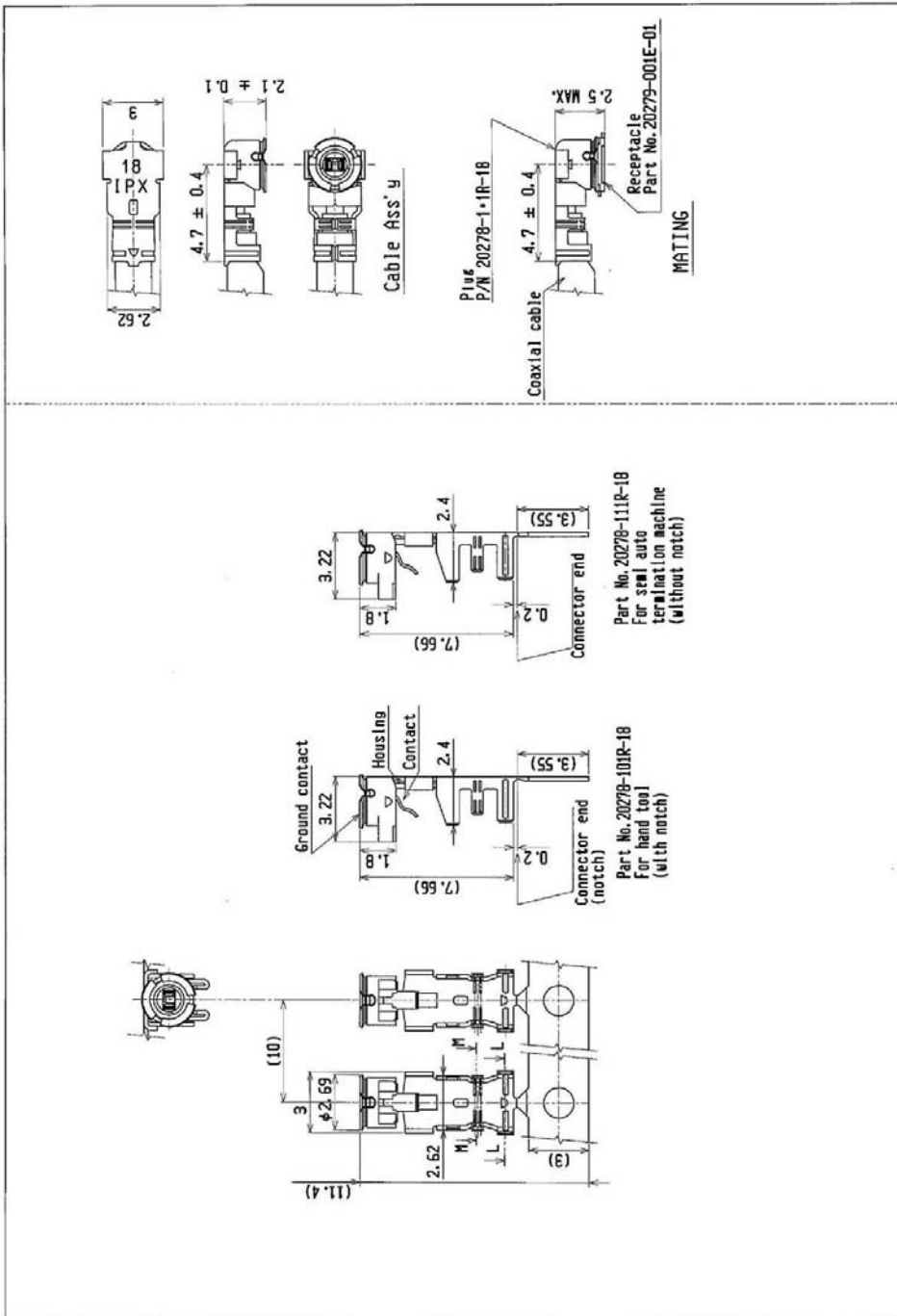
I-PEX





Connector

I-PEX





Connector

I-PEX

Part No.	Housing color	20278-101R-08 20278-111R-08	20278-101R-13 20278-111R-13	20278-101R-32 20278-111R-32	20278-101R-18 20278-111R-18
Applicable cable nominal dimension	White	White	Black	Black	White
Jacket	White	Black	Black	Black	White
Dielectric core	White	Black	Black	Black	White
Inner conductor	White	Black	Black	Black	White
Outer conductor	White	Black	Black	Black	White
Blade Micrometer	White	Black	Black	Black	White
Crimp Height	White	Black	Black	Black	White
Blade Micrometer	White	Black	Black	Black	White
I-flt part	White	Black	Black	Black	White
Outer conductor part	White	Black	Black	Black	White
Jacket part	White	Black	Black	Black	White
CH-1	White	Black	Black	Black	White
CH-2	White	Black	Black	Black	White
CH-3	White	Black	Black	Black	White
Crimp Height	White	Black	Black	Black	White
Crimp Height	White	Black	Black	Black	White
Crimp Height	White	Black	Black	Black	White

NOTE-1  
中心導体、外部導体への半田コテジツは不可  
Must not use solder coated  
Inner conductor and outer conductor.





Connector

I-PEX

**5-2 Unmating.**

(1) In case of unmatting by pulling tool.  
Please use the pulling tool as the following drawing, and unmatting in the vertical direction as directly as possible.

Coaxial cable Plug  
Receptacle  
Pulling tool  
P/N 90152-001

(2) In case of unmatting directly  
Please catch the catching area of plug, and please pull plug to vertical direction as directly as possible.

Coaxial cable Plug  
Catching area  
Receptacle

**5-3 Crimp over standards of outer conductor**  
Standards: Less than 1.0% from total numbers of outer conductor.  
(Numbers of outer conductor's crimp over from outer conductor's barrel.)

**5-4 Caution about Heat shrinkage tubes**  
Please be careful not to melt housing when using heat shrinkage tubes.  
It will become cause of open circuit.

**6. This is 'Pb-free' connector.**

**Notes**

1. Material  
(1) Housing : PBT, UL94V-0  
(2) Contact phosphor bronze  
gold plating 0.1 $\mu$ m MIN.  
over nickel 1.27 $\mu$ m MIN.  
(3) Ground contact phosphor bronze  
gold plating 0.05 $\mu$ m MIN.  
over nickel 1.27 $\mu$ m MIN.  
2. Packing : reel  
3. Mating partner part No. : 02279-001E-01  
4. Permissible lead of cable at mating

Coaxial cable  
4N MAX.  
Plug  
2N MAX.  
Receptacle

5. Suggestions for mating & unmatting operation.

5-1 Mating.  
Please mate the connector straightly to vertical direction as much as possible, adjusting the mating axis of plug and receptacle.  
Its excessive slant angle mating may break the connector, please don't do it.

**1. 材質**  
(1) ハウジング: PBT, UL94V-0  
(2) コンタクト  
金メッキ0.1 $\mu$ m MIN.  
下層 ニッケル1.27 $\mu$ m MIN.  
(3) グランドコンタクト  
金メッキ0.05 $\mu$ m MIN.  
下層 ニッケル1.27 $\mu$ m MIN.  
2. 梱包: リール  
3. 対応相手 part No.: 02279-001E-01  
4. コネクタのケーブルの許容リード

**5. コネクタの挿入時**  
PlugとReceptacleの中心軸線をお互いに垂直に挿入して下さい。  
挿入時の傾き角が大きすぎると、コネクタの破損の原因となります。

**5-1 コネクタの挿入時**  
プラグとレセプタクルの中心軸線をお互いに垂直に挿入して下さい。  
傾き角が大きすぎると、コネクタの破損の原因となります。



線材規格

CABLE SPECIFICATION

SPECIFICATION:		1.13mm CABLE		CONSTRUCTION D.W.G	
ITEM		SPECIFICATION			
CONDUCTOR	AWG	32AWG			
	MATERIAL	Silver-plated copper wire stranded conductor			
	COND.SIZE	7/0.08 mm			
	MATERIAL	Teflon FEP			
INSULATION	O. D	0.68±0.03 mm			
	N.O.	1C			
	COLOR	Natural color			
BRAID	MATERIAL	Silver-plated copper wire			
COPPER	SIZE	4/16/0.05 Min.90% ↑			
	MATERIAL	Teflon FEP			
JACKET	COLOR	White, Black, Brown, Gray			
	O. D	1.13±0.08/-0.05 mm			
<b>Character of electrical</b>					
	<b>Item</b>	<b>Unit</b>	<b>Detail of spec.</b>		
1.Capacitance(Nom.)	AT 1KHz	pF/M	95		
2.Impedance	-----	0	50±2		
	1.0GHZ	dB/M	2.0		
	2.0GHZ	dB/M	2.9		
	2.4GHZ	dB/M	3.2		
	3.0GHZ	dB/M	3.7		
3.Attenuation(Max.)	4.0GHZ	dB/M	4.3		
	5.0GHZ	dB/M	4.8		
	6.0GHZ	dB/M	5.3		
<b>PHYSICAL PROPERTIES OF JACKET</b>					
<b>Master Wave Technology Co., Ltd.</b>					
	PART NO.		CUSTOMER		
	APPROVED		REV	A	
	CHECKED		DATE	2007/10/8	
	DRAWING	Dyan			

COLOUR CODE:

1. 30AWG\*1C

MARKING

REMARK

PHYSICAL PROPERTIES OF JACKET

Master Wave Technology Co., Ltd.

PART NO.

APPROVED

CHECKED

DRAWING

CUSTOMER

REV

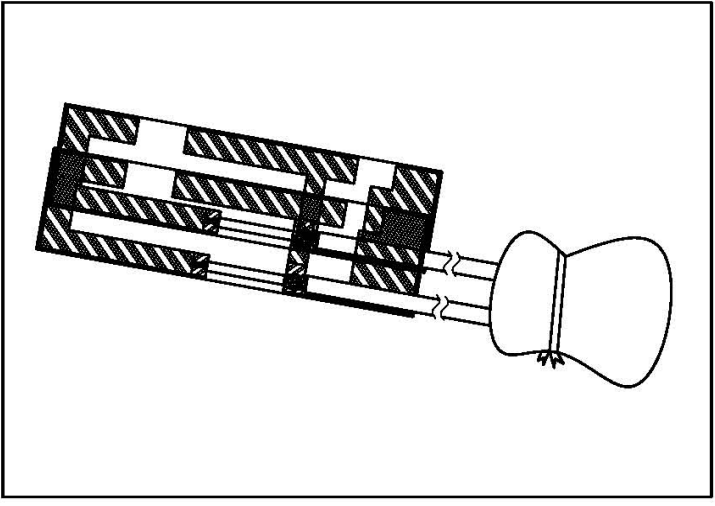
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Dyan

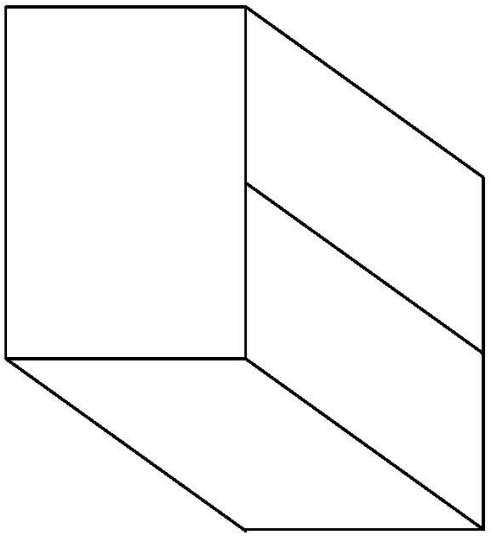
2007/10/8



REV	ZONE	DESCRIPTION	ENG	APPROVED	DATE



25PCS ANTENNA#一束  
50PCS ANTENNA 1PE BAG



1000PCS ANTENNA OF A CARTON

DATE:	MAT'L:	TITLE : 2.4GHz PCB Antenna Packing	
UNIT: mm	FINISH:	MODEL NO. : 98P39M1PF000	REV
THIRD ANGLE PROJECTION	SCALE: —	PART NO. :	00
APPROVED BY:	CHECKED BY:	DESIGNED BY:	DRAWN BY:

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