



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

承認書

APPROVAL SHEET

Customers: 茂發科技股份有限公司

Customer Model No.:

Master Wave Model No.: 98P63MIPF000

Product Description: PCB Antenna

Issue Date: 2013/10/22

REV.: 00

客戶承認用印 Customer Approved	權億承認用印 Confirmation Signature	
		
核准 Approve	主管 Chief	承辦 Responsible
Hero	Matt	Haley

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Table of Contents

Item

1. Antenna Specifications

-Drawing

2. Test Report

-Electrical test

-Pattern test

-Antenna Efficiency

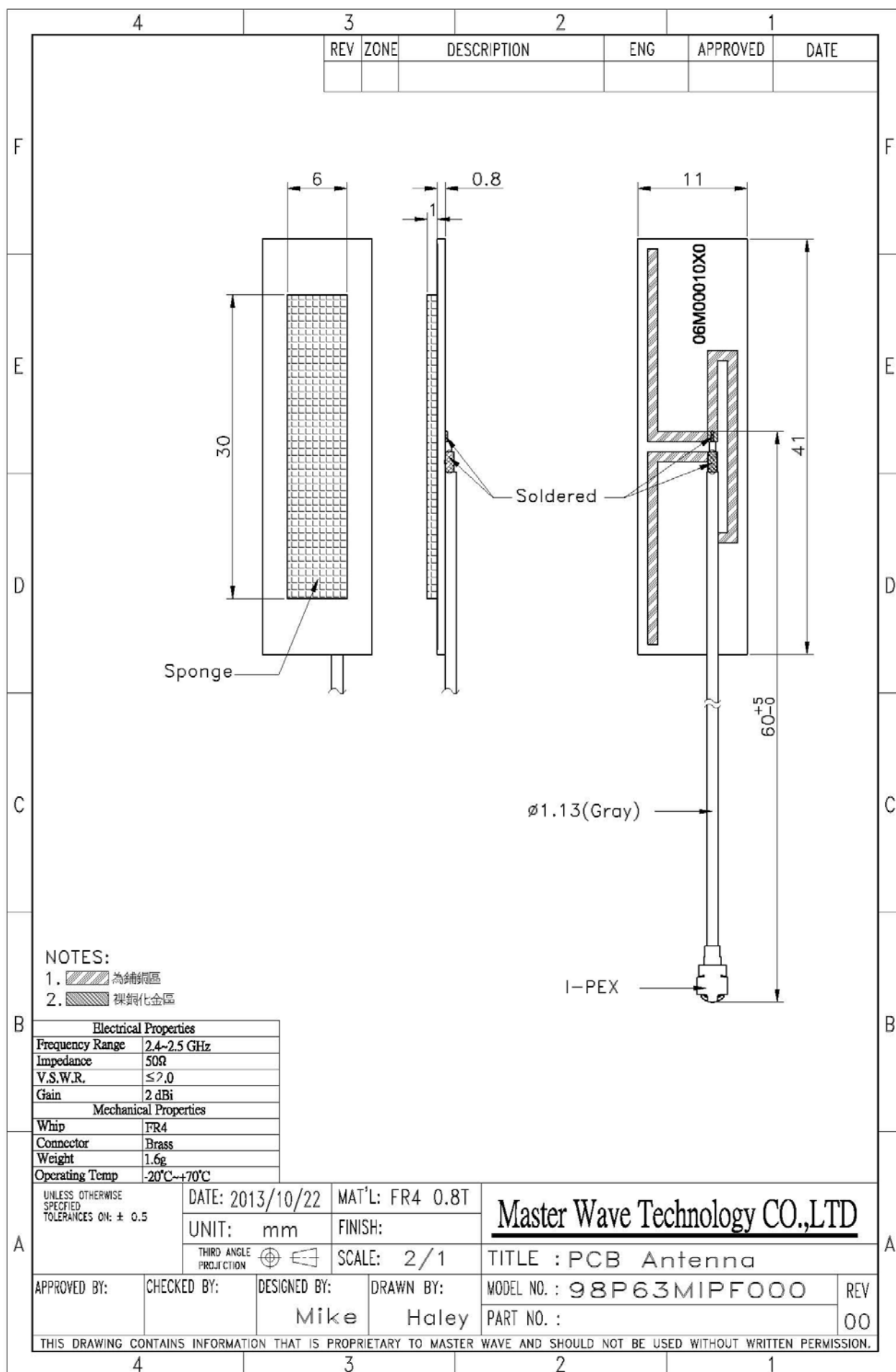
3. Material Certifications

-Connector

-Cable

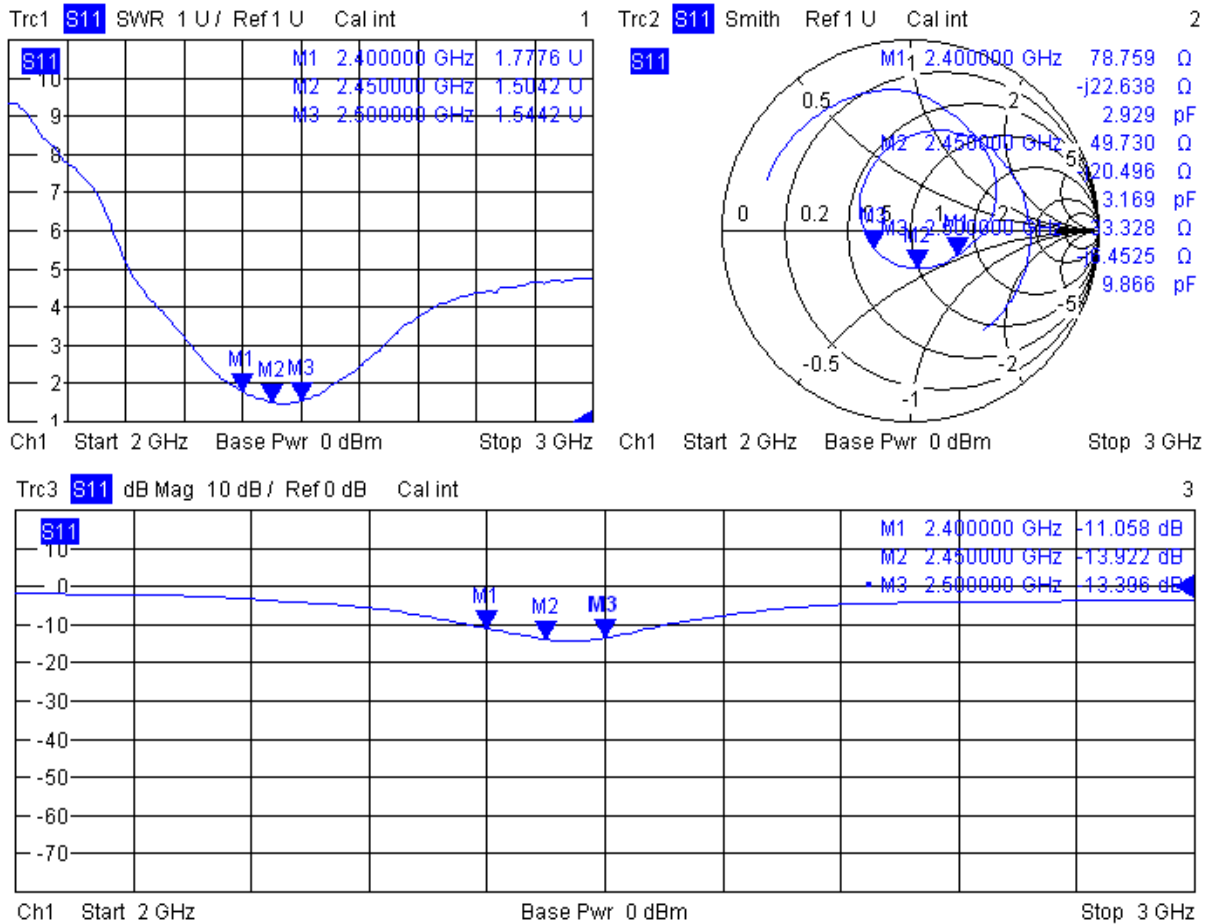
Modification History:

REV.	Date	Content
00	2013/10/22	



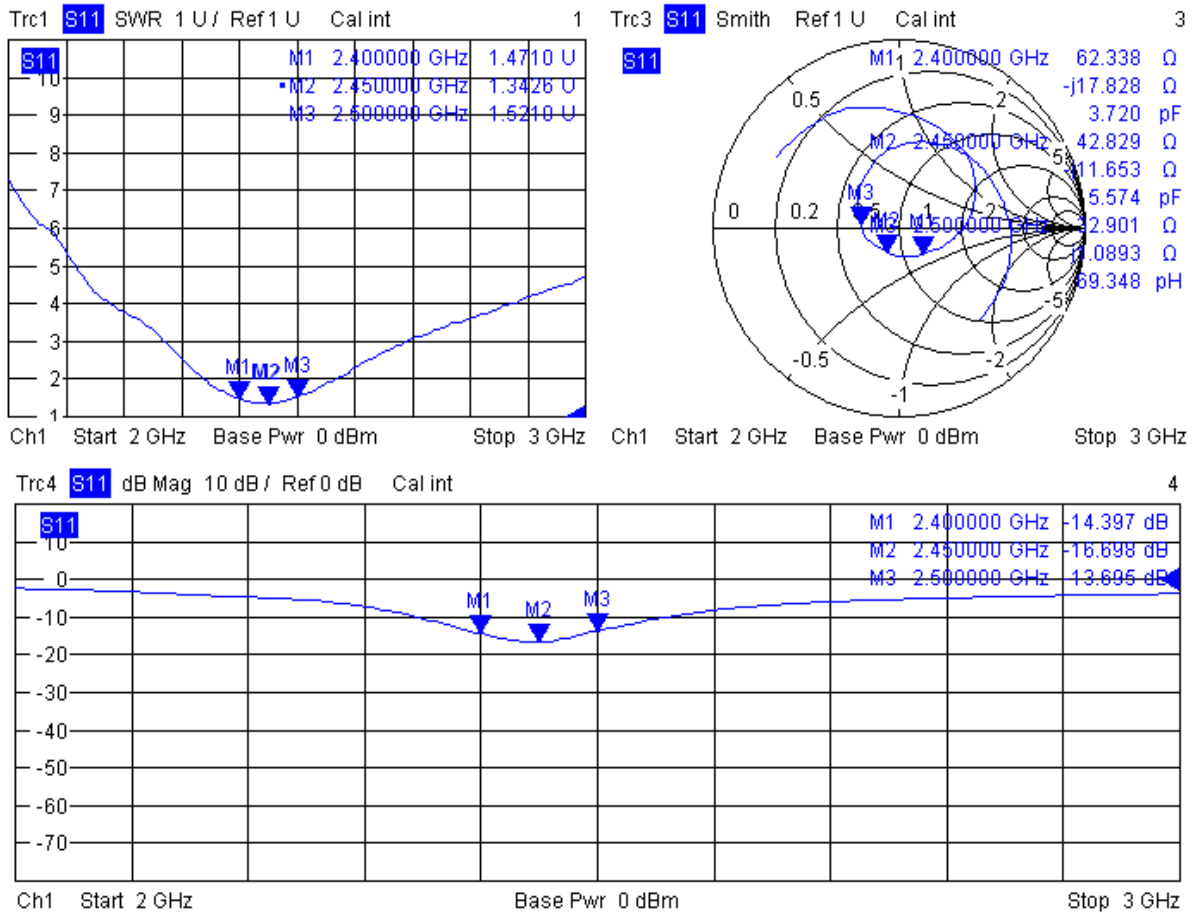


Electrical test (水平方向)



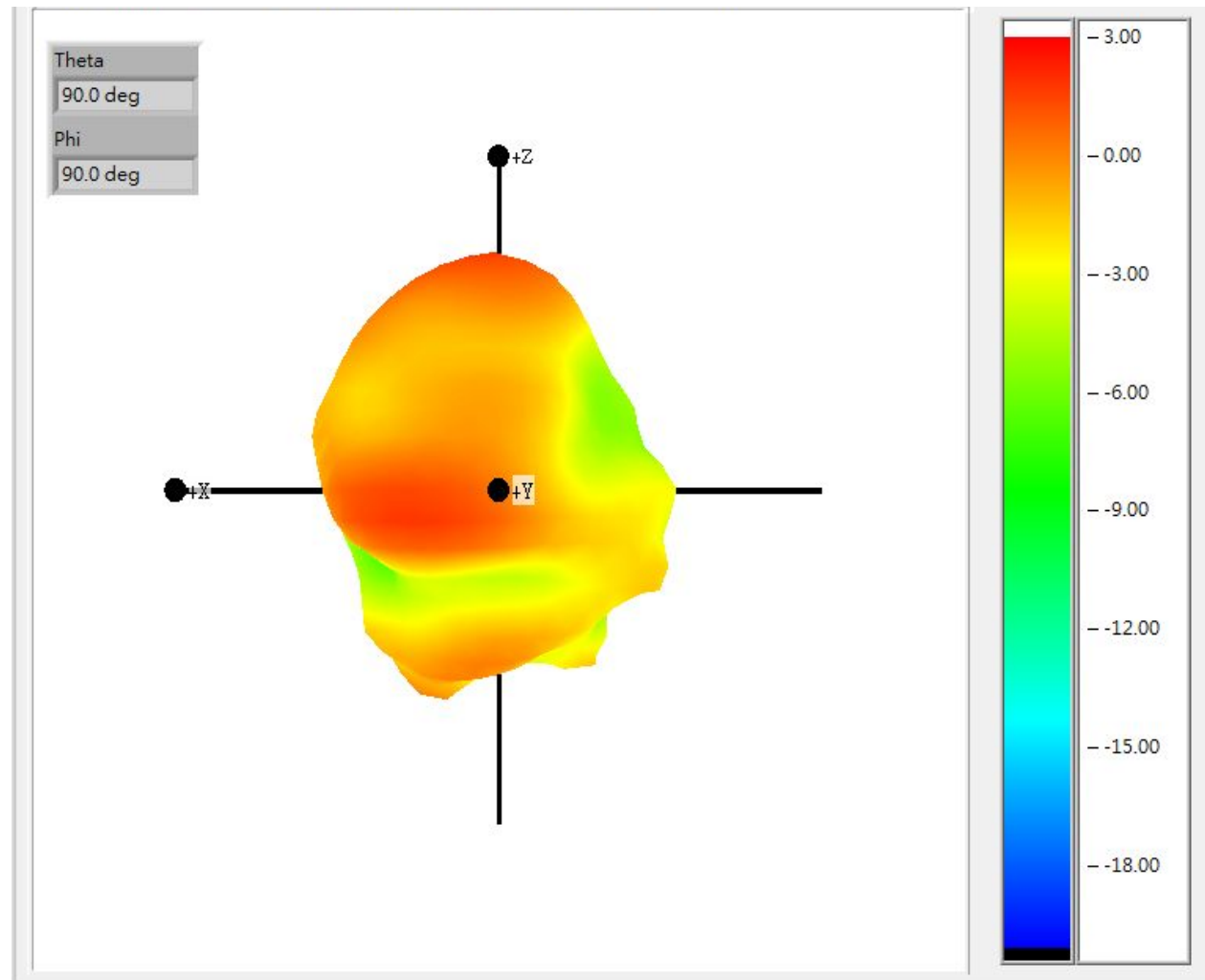


Electrical test(垂直方向)



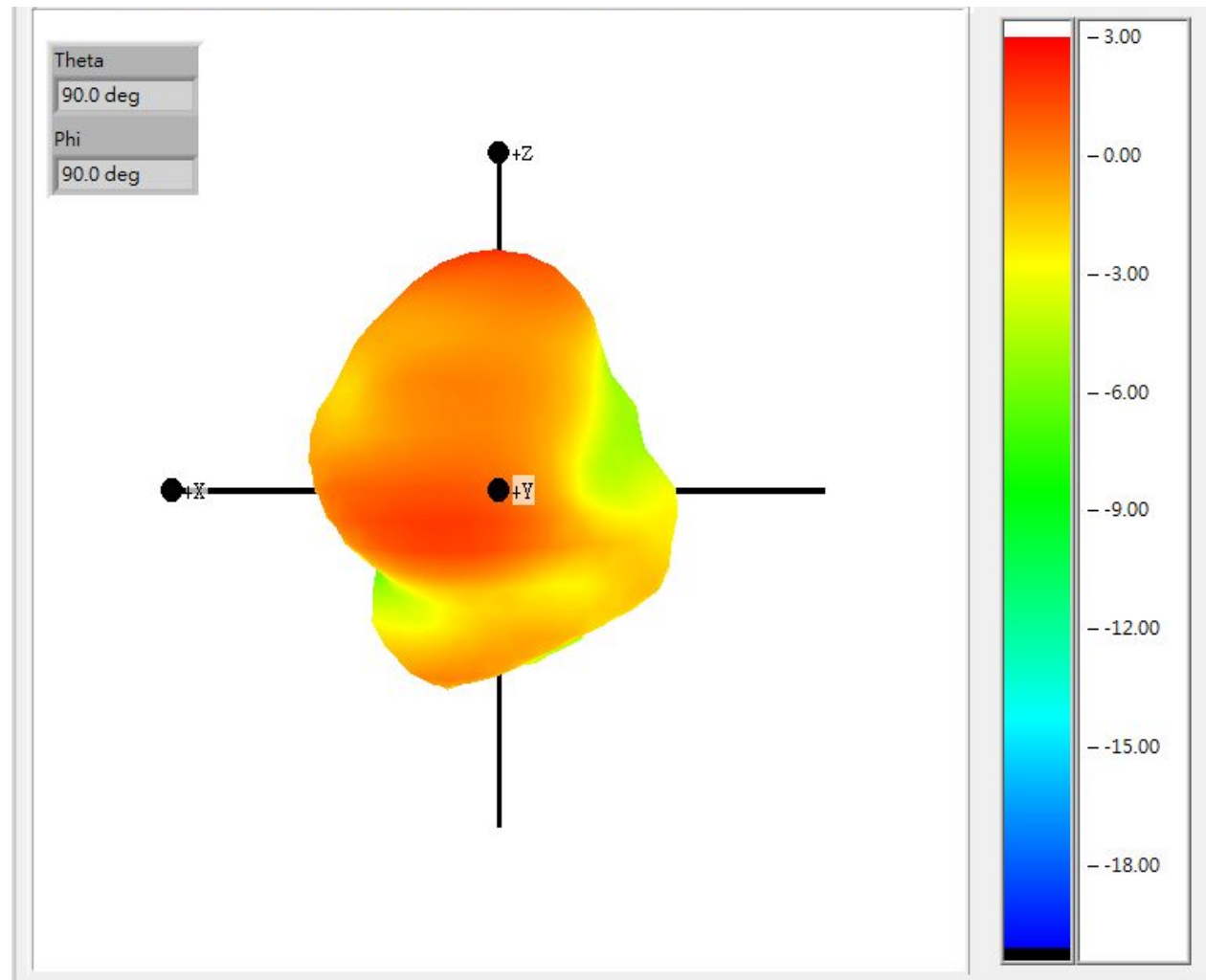


3D Radiation Pattern 2.4GHz (水平方向)



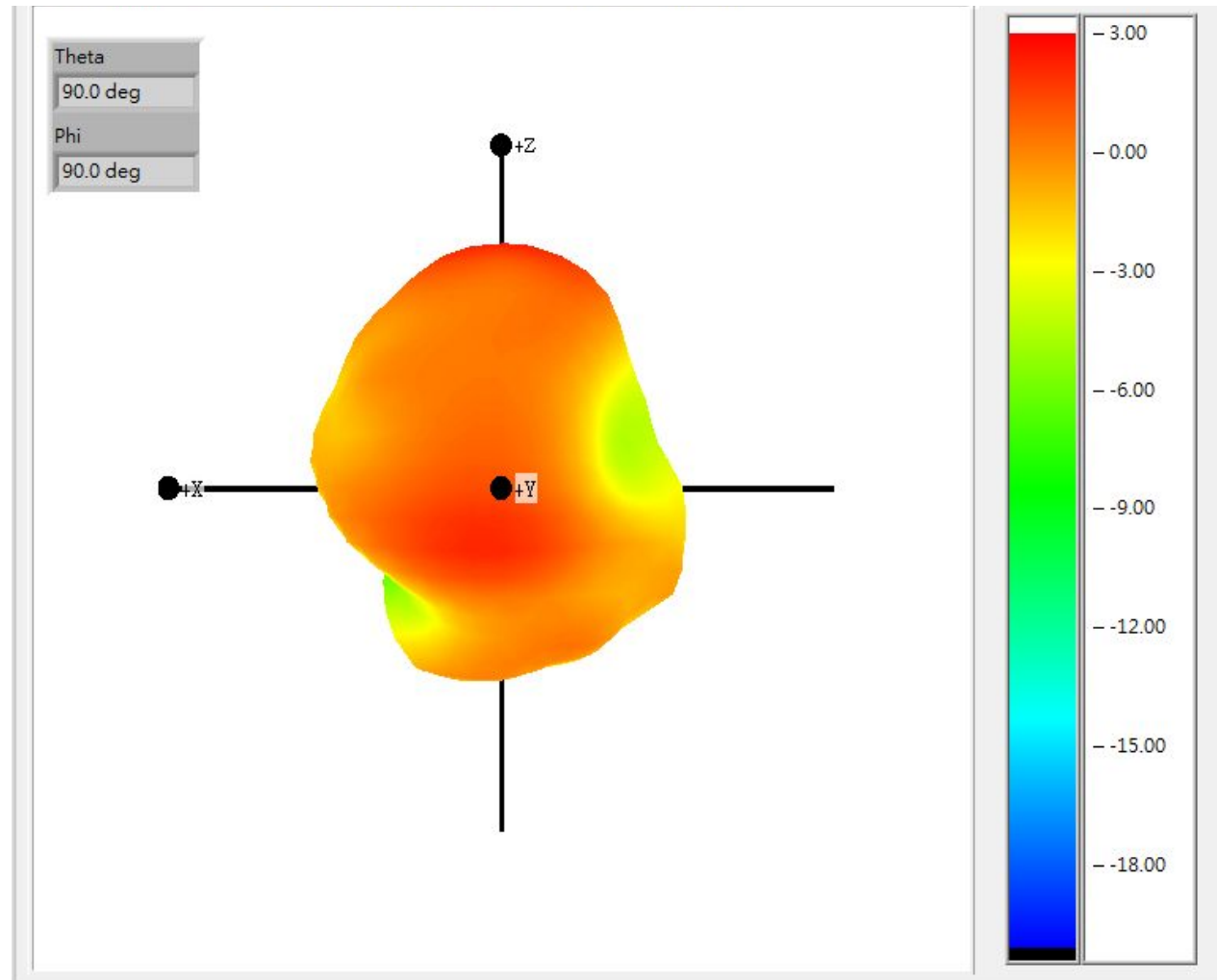


3D Radiation Pattern 2.45GHz (水平方向)



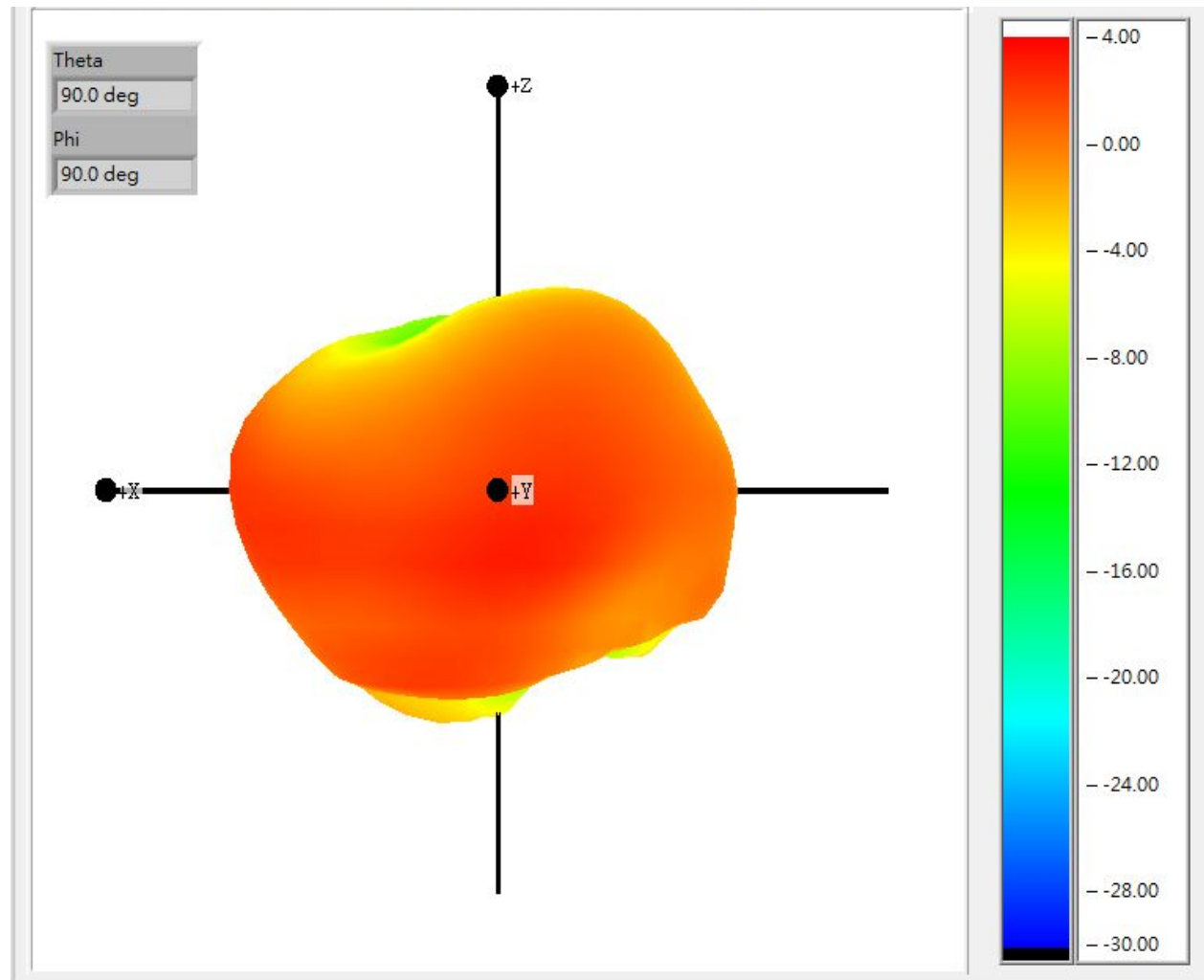


3D Radiation Pattern 2.5GHz (水平方向)



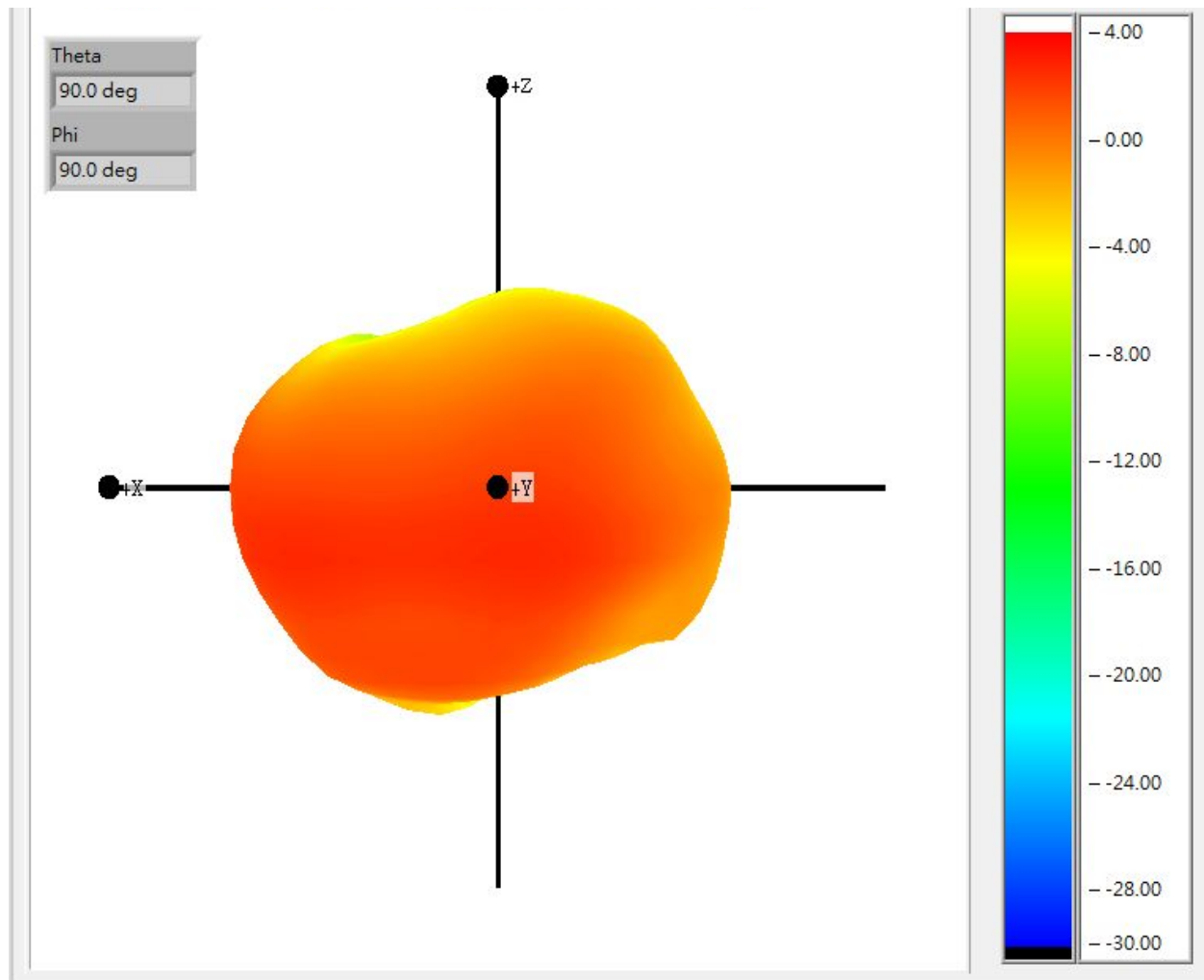


3D Radiation Pattern 2.4GHz (垂直方向)



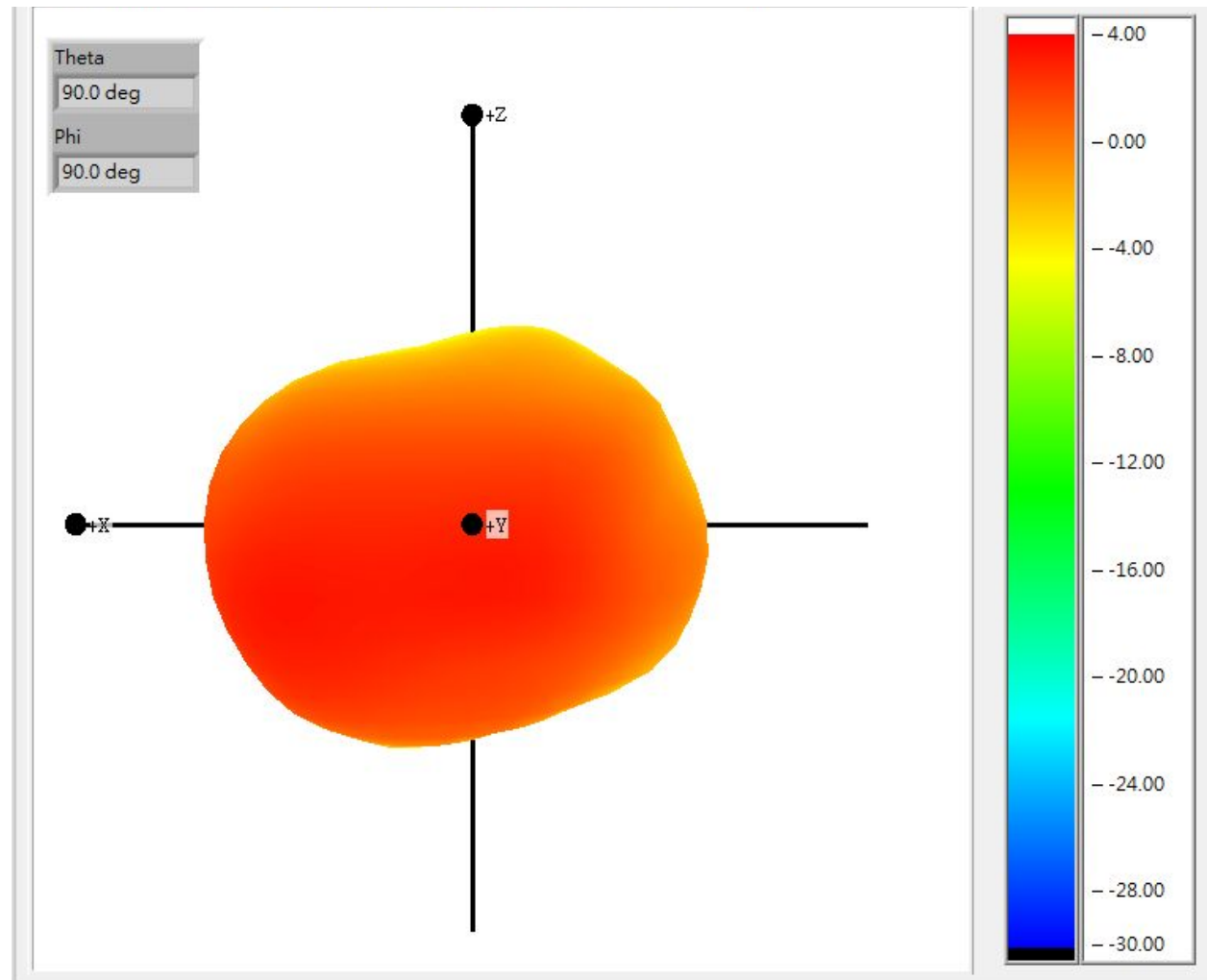


3D Radiation Pattern 2.45GHz (垂直方向)





3D Radiation Pattern 2.5GHz (垂直方向)





Antenna Efficiency (水平方向)

Frequency (MHz)	2400	2450	2500
Peak Gain (dBi)	1.7	2.01	2.22
Directivity (dBi)	4.53	4.74	4.54
Efficiency (dB)	-2.83	-2.72	-2.32
Efficiency (%)	52.08	53.42	58.68



Antenna Efficiency (垂直方向)

Frequency (MHz)	2400	2450	2500
Peak Gain (dBi)	3.08	2.69	3.35
Directivity (dBi)	5.51	5.39	5.59
Efficiency (dB)	-2.43	-2.7	-2.24
Efficiency (%)	57.15	53.72	59.69



I-PEX





Connector

I-PEX

Cable cut length

Crimp Height

Part No.	Housing color	20278-101R-08 20278-111R-08	20278-101R-32 20278-111R-32	20278-101R-13 20278-111R-13	20278-101R-18 20278-111R-18
	White				
Applicable cable nominal dimension	Black				
Outer conductor Inner conductor Dielectric core Jacket	White				
	Black				
Braided shield of outer conductor P/N of hand Tool	White				
P/N of seal auto termination machine	Black				
Sect. M-M	White				
Sect. L-L	Black				
Crimp Height	White				
	Black				

NOTE-1
中心導体、外部導体への半田コティングは不可
Must not use solder coated
Inner conductor and outer conductor.



Connector

I-PEX

Notes

1. Material
(1) Housing : PBT, UL94V-0
(2) Contact
phosphor bronze
gold plating 0.1μm MIN.
over nickel 1.27μm MIN.

(3) Ground contact
phosphor bronze
gold plating 0.05μm MIN.
over nickel 1.27μm MIN.

2. Packing : reel

3. Mating Partner part No.
: 02279-001E-01

4. Permissible lead of cable at mating

5-2 Unmating.

(1) In case of unmating by pulling tool.
Please use the pulling tool in the drawing, and please pull plug in vertical direction as directly as possible.

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

(3) In case of unmating by pulling tool.
Please use the pulling tool in the drawing, and please pull plug in vertical direction as directly as possible.

(4) In case of unmating by hand.
Please catch the catching area of plug, and please pull plug to vertical direction as directly as possible.

1. 材料

(1) ハウジング : PBT, UL94V-0
(2) コネクタ
リハブ
金メッキ0.1μm MIN.
下層 ニッケル1.27μm MIN.

(3) グランドコネクタ
リハブ
金メッキ0.05μm MIN.
下層 ニッケル1.27μm MIN.

2. 梱包 : リール

3. カバレッジ : 0.05μm MIN.
0.1μm MIN.

4. コネクタの組み立ての方向に注意

5-2 コネクタの抜き

(1) 抜き工具を用いる場合
下図の方向に直接引き抜く。
垂直方向に直接引き抜く。

(2) 手で直接引き抜く場合
下図の位置をつかみ、直接引き抜く。

(3) 抜き工具を用いる場合
下図の方向に直接引き抜く。
垂直方向に直接引き抜く。

(4) 手で直接引き抜く場合
下図の位置をつかみ、直接引き抜く。

5. Suggestions for mating & unmating operation.

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

5. コネクタの組み立てと抜き方法の注意

5-1 コネクタの組み立て
プラグとレセプタクルの中心を合わせ、直線的に挿入してください。
プラグとレセプタクルの中心を合わせず、斜めに挿入すると、コネクタが破損する可能性があります。破損を防ぐために、斜めの挿入は避けてください。

5-3 Crimp over standards of outer conductor

Standards: Less than 10% 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.
If it will become cause of open circuit.

6. This is 'Pb-free' connector.

5-3 外部導体のはみ出し量

外部導体ははみ出し量規定 : 外部導体の総本数の 10% 以下 (外部導体のバレルの外にはみ出し量)

5-4 熱収縮チューブについて

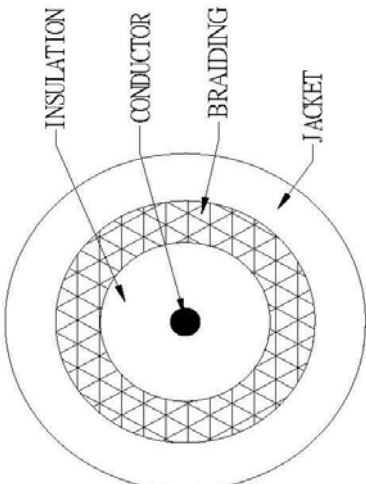
熱収縮チューブは外部導体のハウジングを溶かさないように注意してください。溶かすと回路が開路の原因となります。

6. これは「Pb-free」コネクタです。



線材規格

CABLE SPECIFICATION

SPECIFICATION: 1.13mm CABLE			CONSTRUCTION D.W.G			
ITEM		SPECIFICATION				
CONDUCTOR	MATERIAL	Silver-coated Copper Wire				
	Composition(No./mm)	7/0.080				
	NOM.O.D	0.24±0.03				
INSULATION	Material	FEP(Natural)				
	Nom.Thick.(mm)	0.23				
	NOM.O.D	0.70±0.03				
BRAIDING	MATERIAL	Tinned annealed copper wire				
	Composition	Single Braid of 0.05				
	MATERIAL	FEP(*color)				
JACKET	Nom.Thick(mm)	0.1				
	Nom.O.D(mm)	1.13±0.08				
	Color	White、Black、Brown、Gray、Blue				
	Electrical Properties(at 20℃)					
Characteristic Impedance		Ω	50±2.0			
Attenuation	dB/m	1GHz	2.20			
		2GHz	3.10			
		3GHz	3.90			
		4GHz	4.50			
		5GHz	5.00			
		6GHz	5.50			
Temperature range		℃	-55~150			
Standing wave(0-6GHz)		/	≦1.35			
MASTER WAVE TECHNOLOGY CO., LTD.						
CHECKED			DATE	2012/11/29		
DRAWING		Charlene	REV	00		