

JOYMAX
THF-6280B-566
Dual-Band Antenna report

Prepared by	Checked by	Checked by	Release to
Howard Mei	Steven Chang	Steve Teng	Steve Teng

1. Joymax THF-6280B-566 antenna**measurement results :**

(a) IEEE 802.11B/G (2 meter cable is included the measurement)

Frequency range - 2.45 GHz	
Peak Gain (dBi)	1.17
Average (dBi)	-5.59
Cross-Polarization (dB)	-12.45

(b) IEEE 802.11A (2 meter cable is included the measurement)

Frequency range - 5.25 GHz	
Peak Gain (dBi)	0.93
Average (dBi)	-6.36
Cross-Polarization (dB)	-10.79

Frequency range - 5.825 GHz	
Peak Gain (dBi)	0.60
Average (dBi)	-5.75
Cross-Polarization (dB)	-9.77

2. Antenna diagram

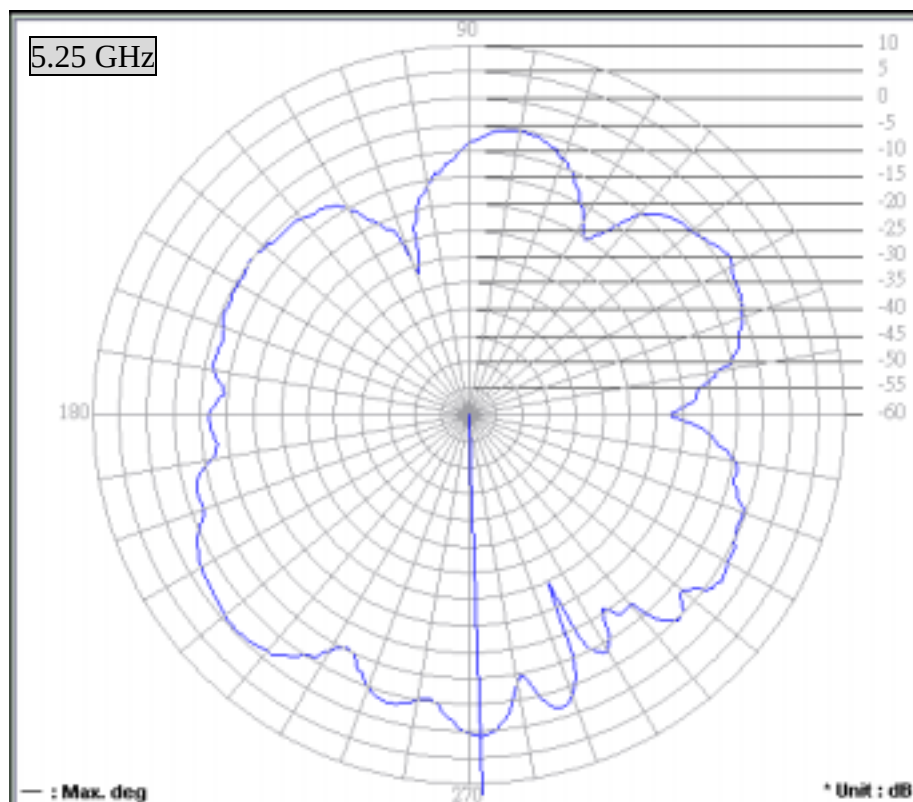
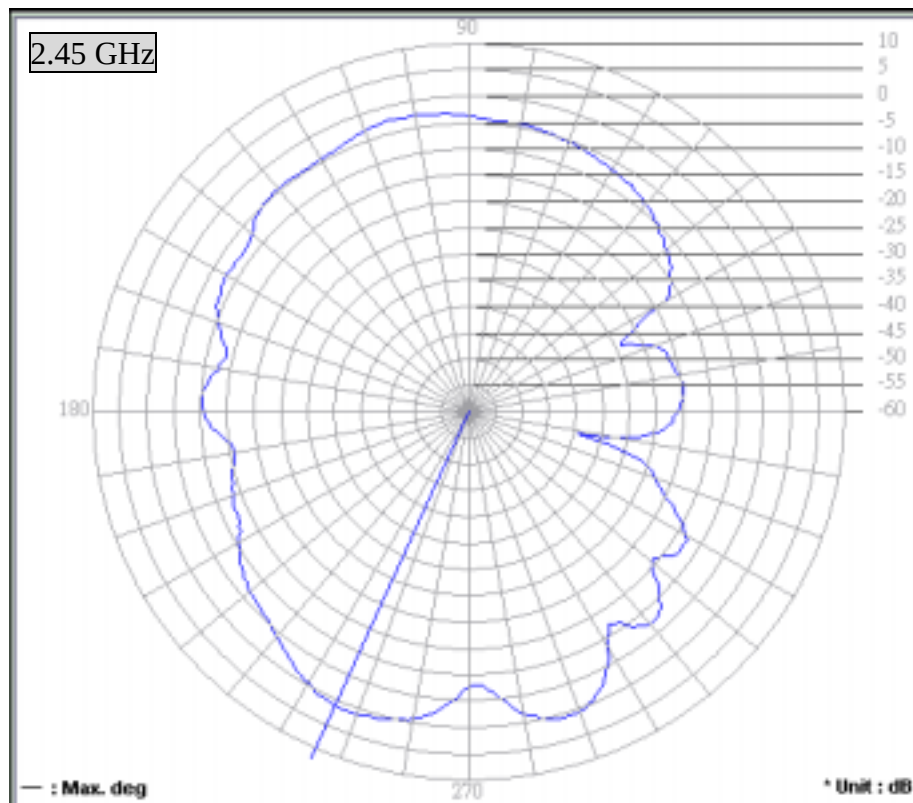
(a) YZ-plane

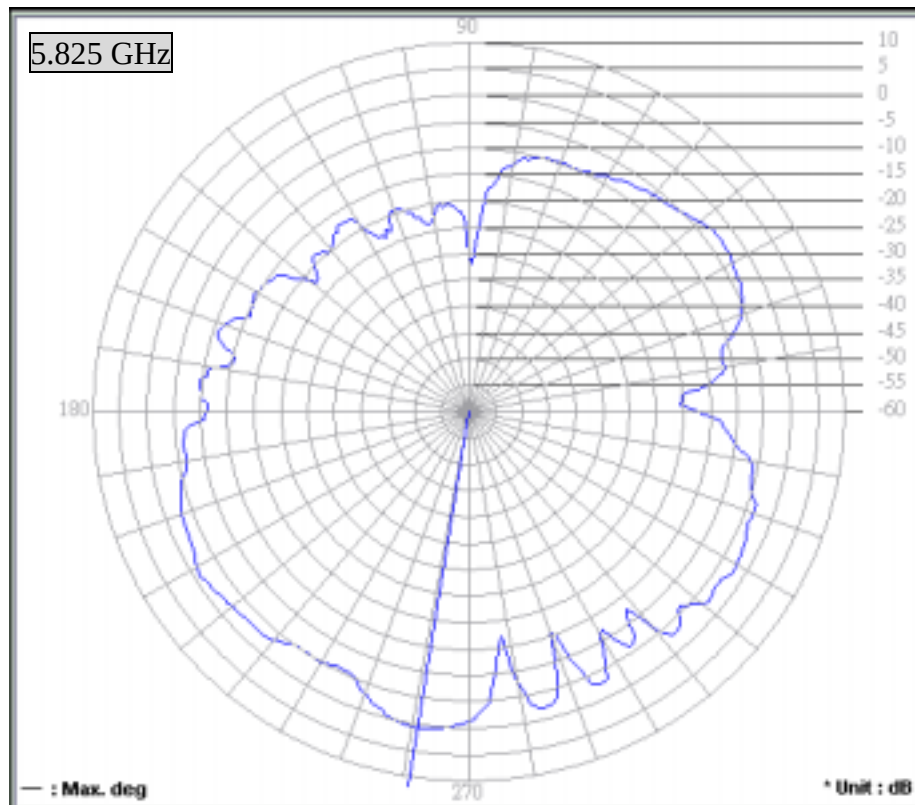


(b) XZ-plane

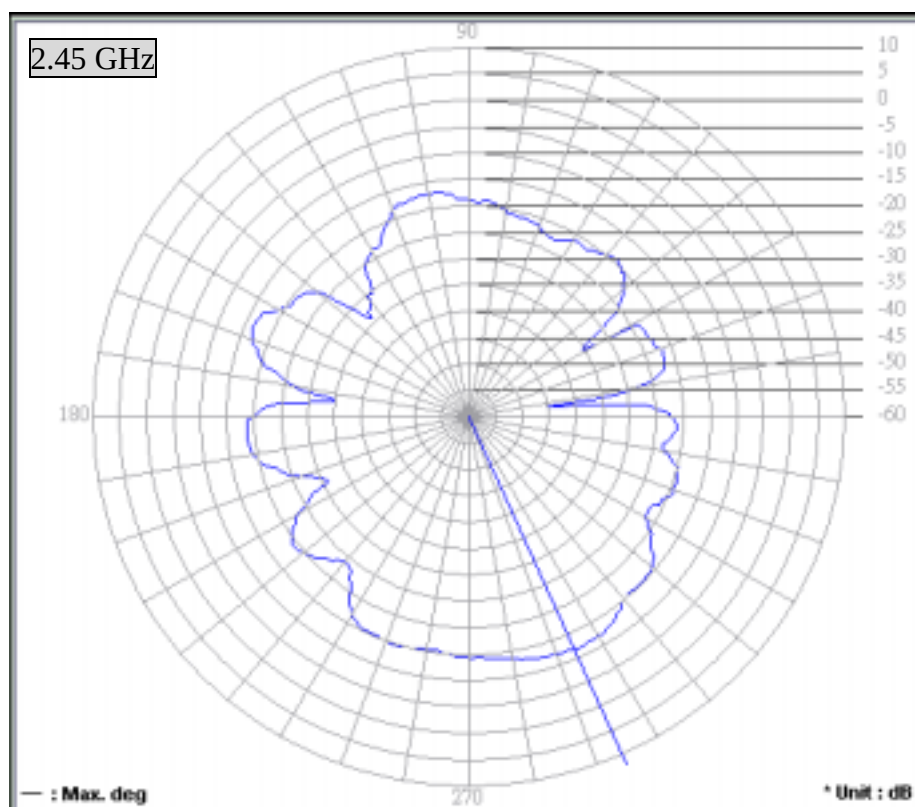


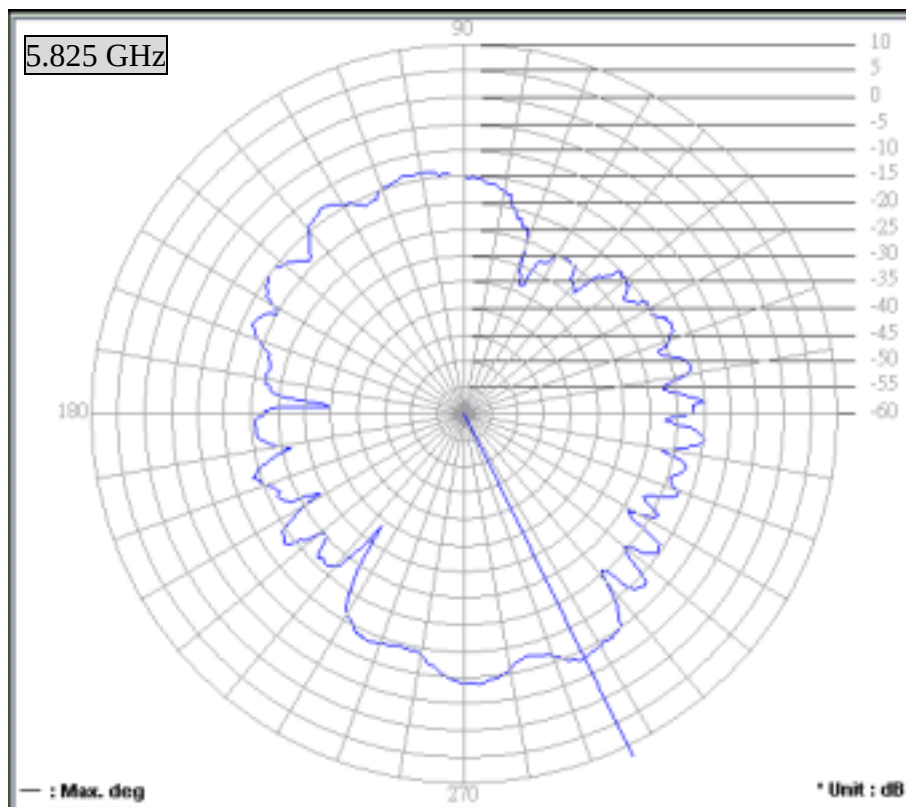
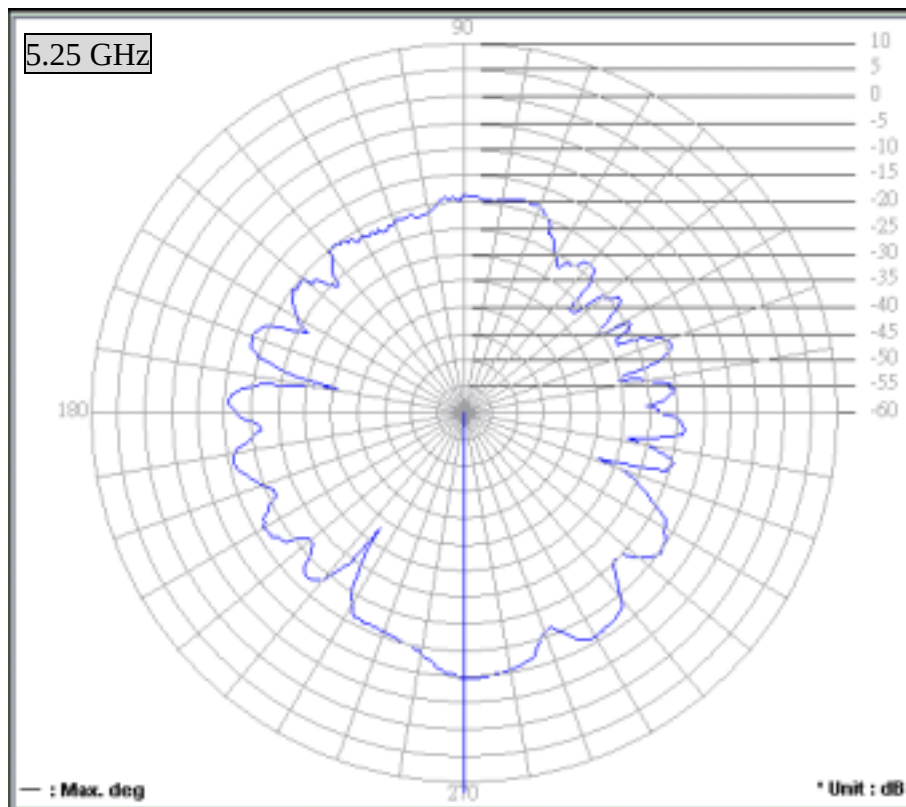
3.1.1 x-y plane **Horizontal Polarization**



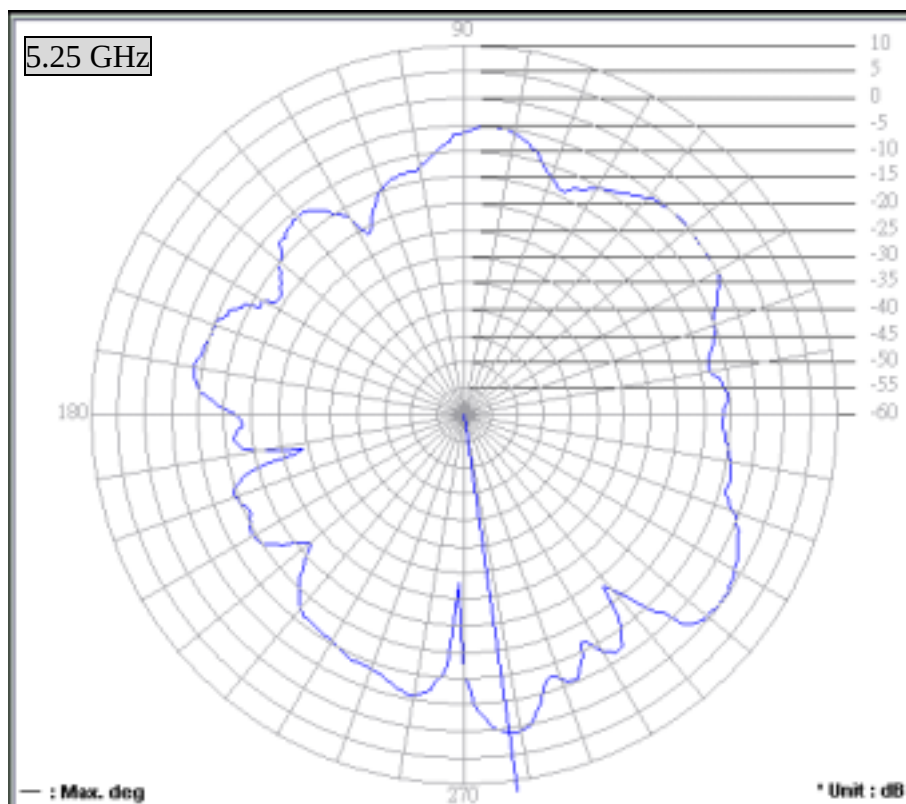
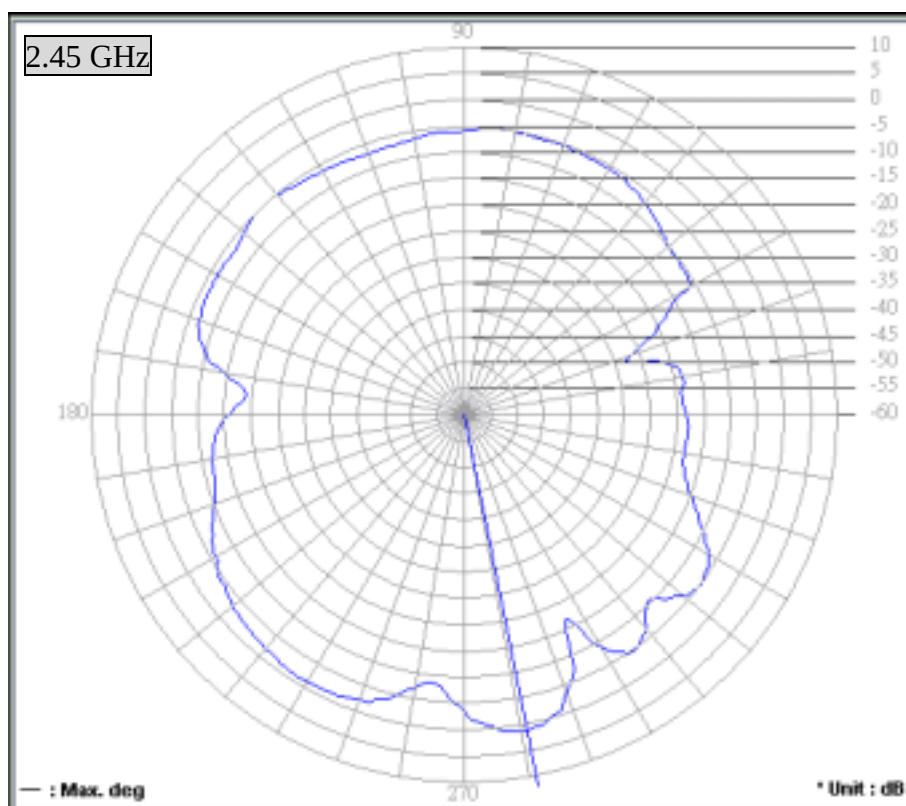


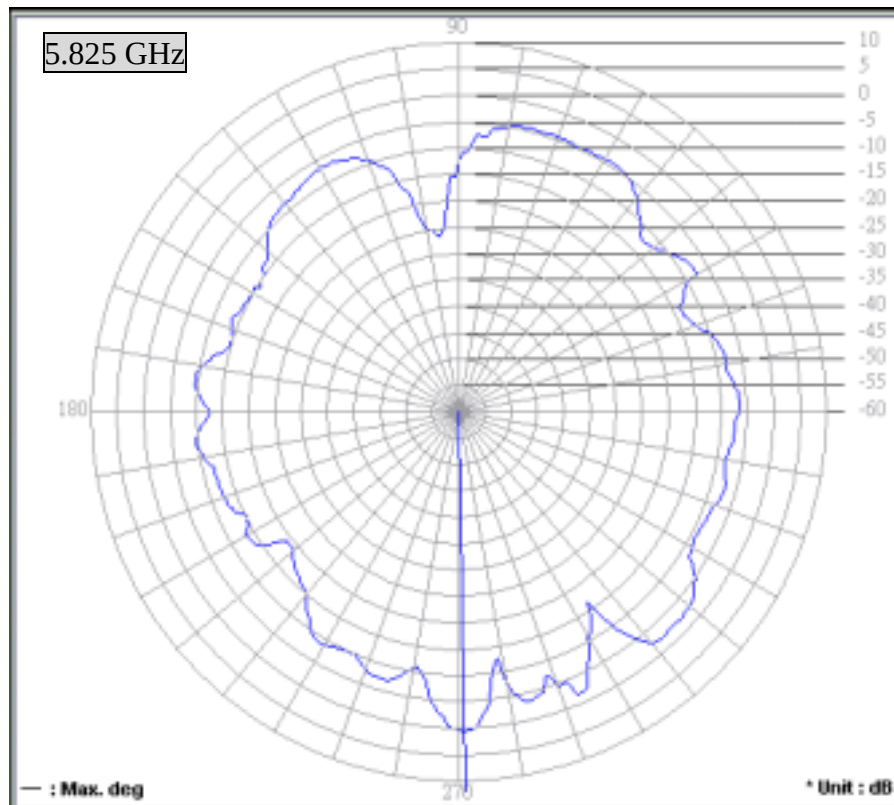
3.1.2 x-y plane **Vertical Polarization**



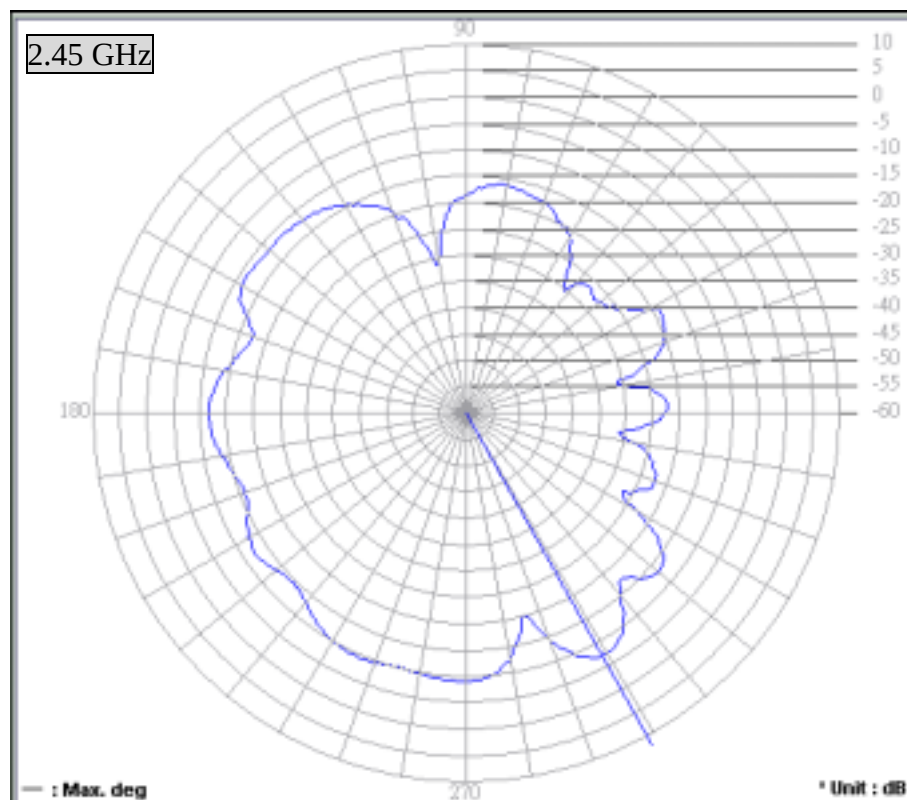


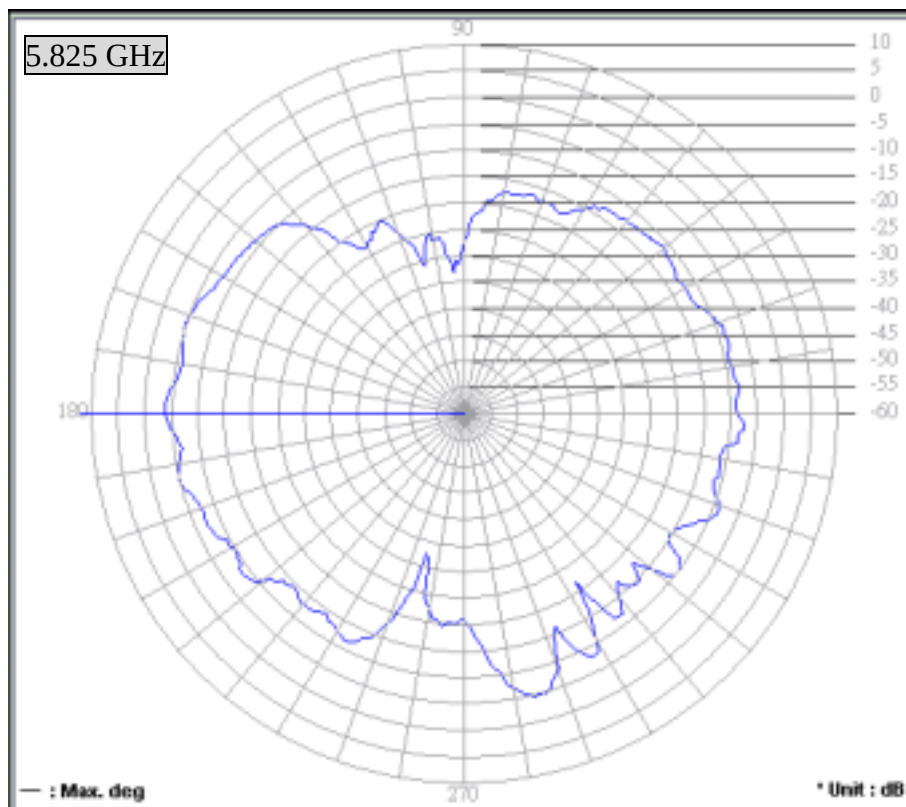
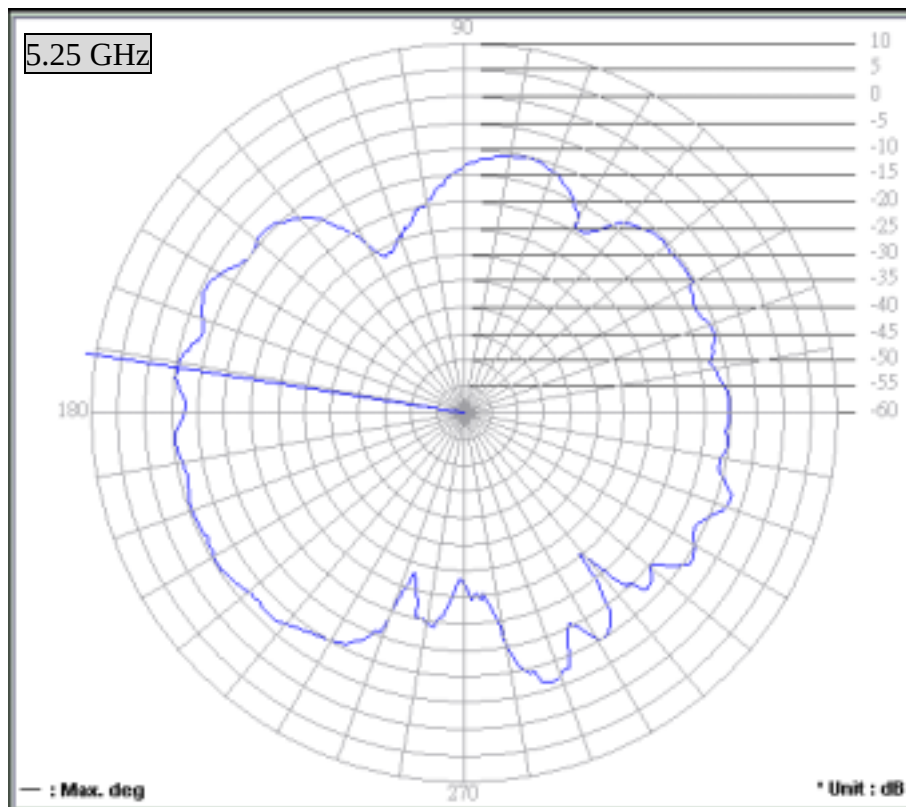
3.2.1 x-z plane **Horizontal Polarization**



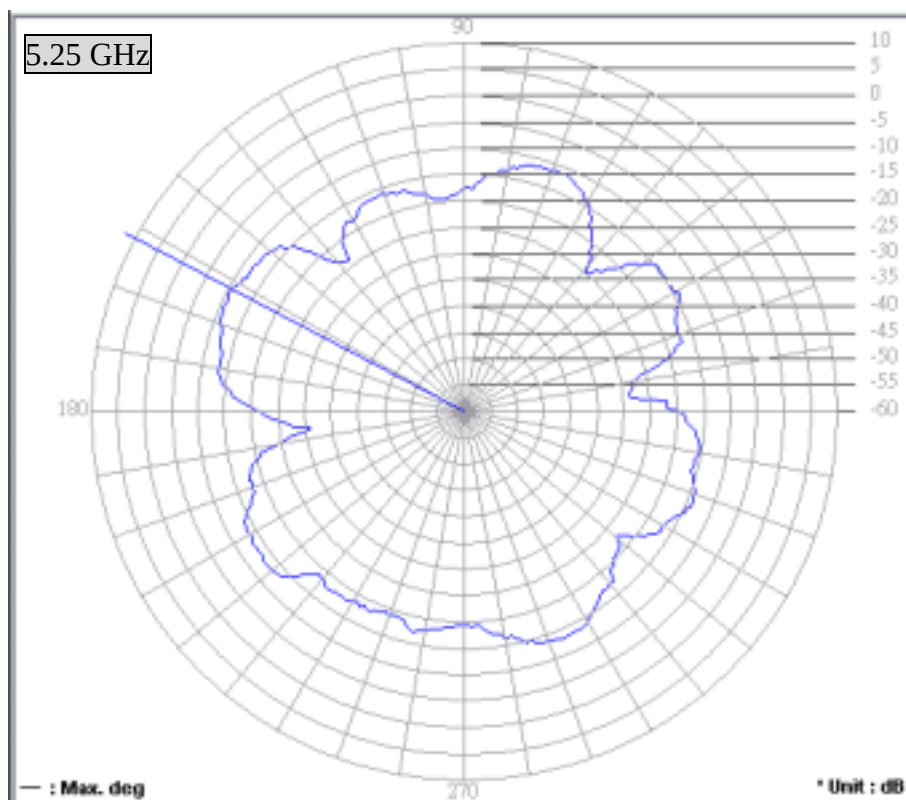
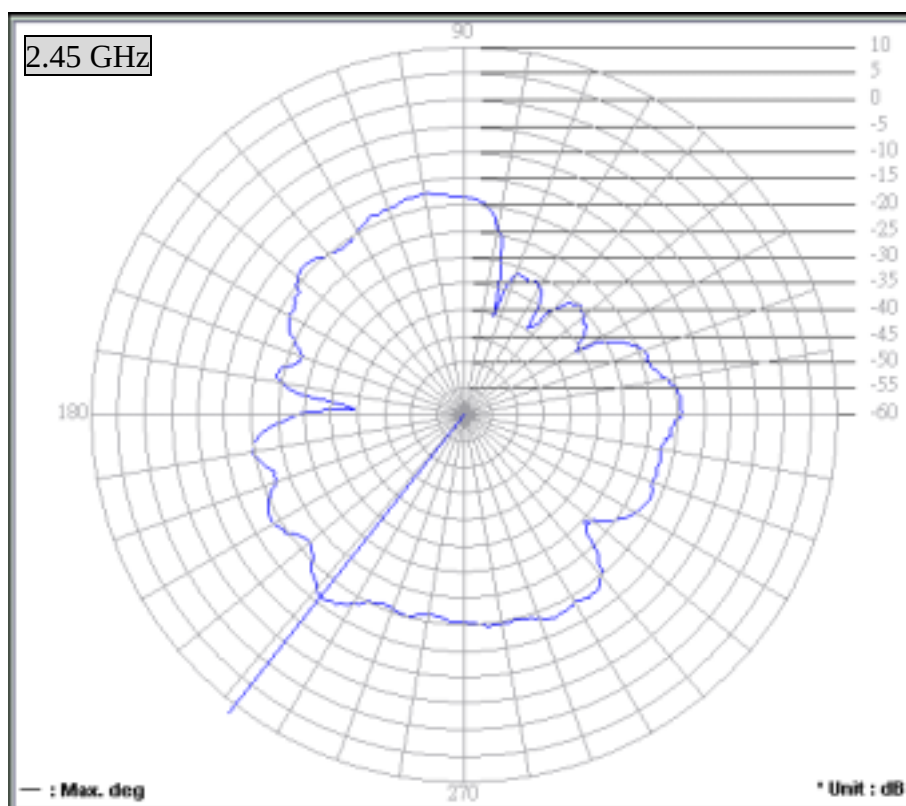


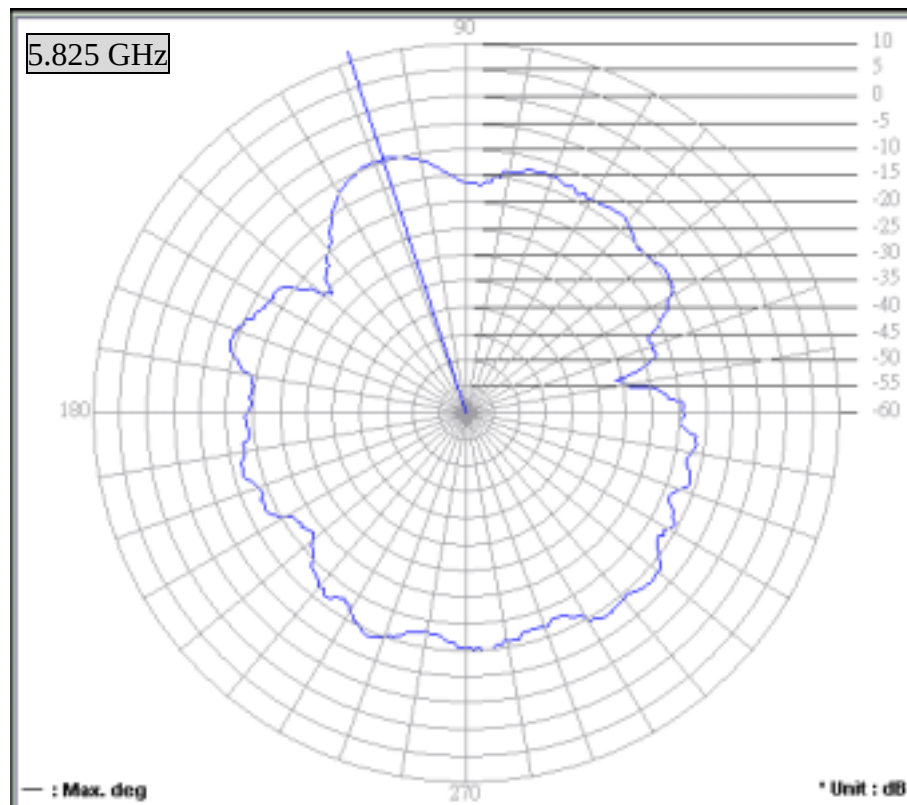
3.2.2 x-z plane **Vertical Polarization**



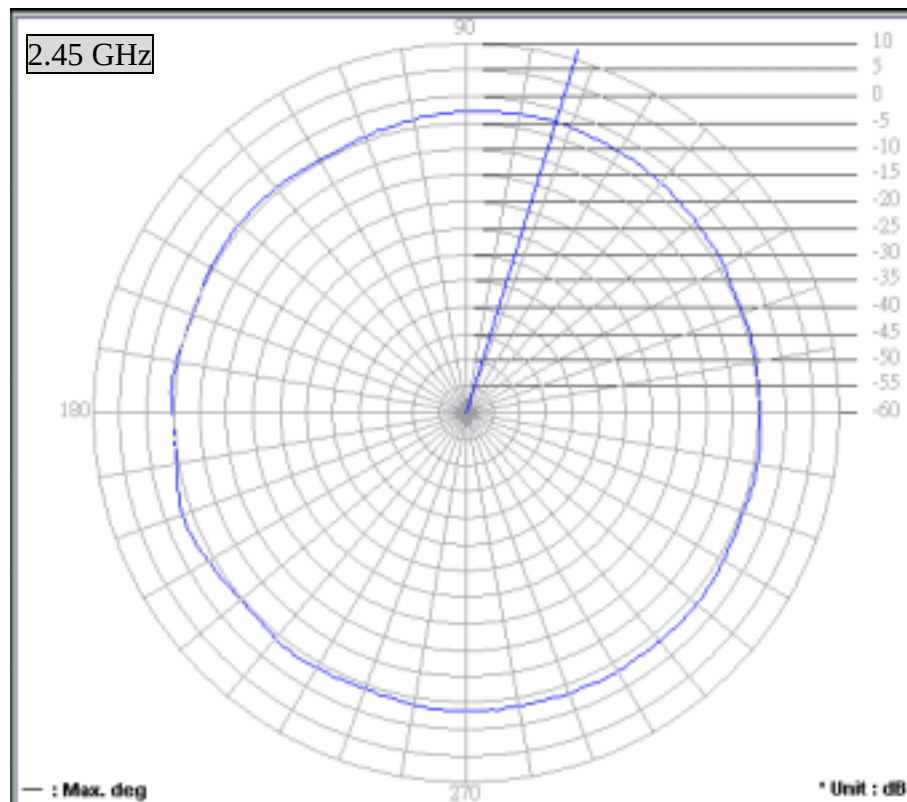


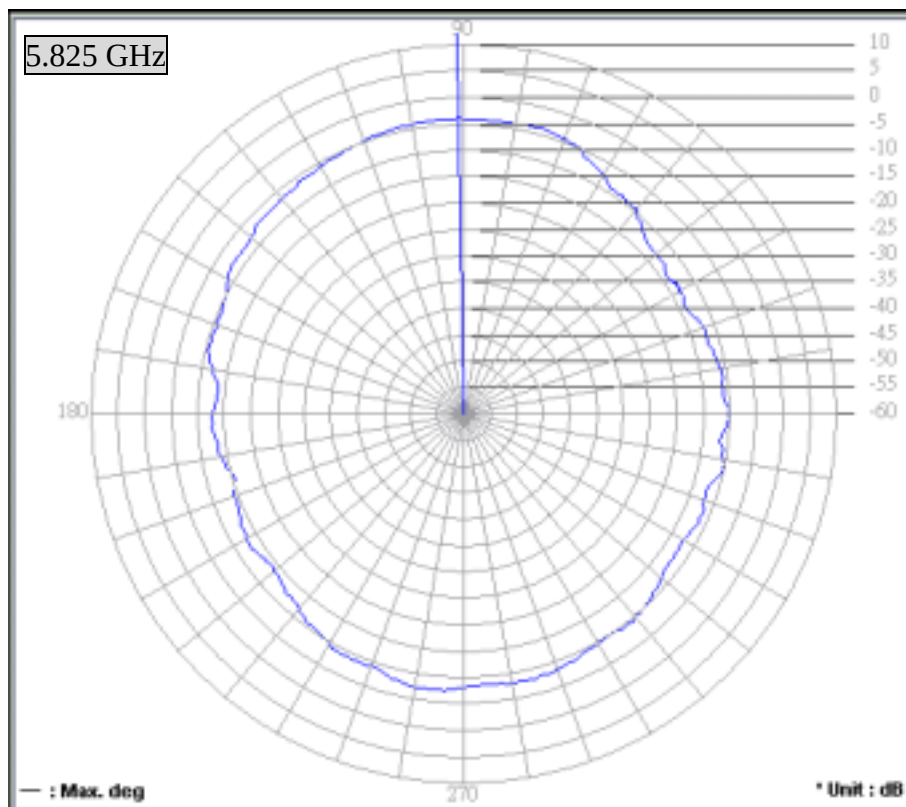
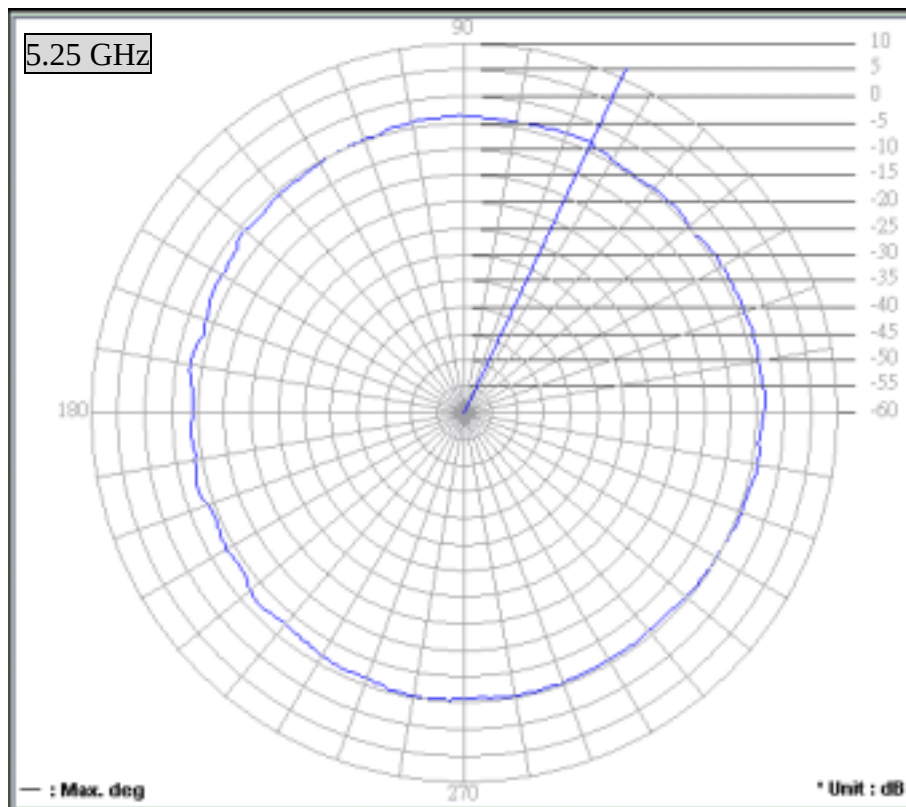
3.3.1 y-z plane **Horizontal Polarization**





3.3.2 y-z plane **Vertical Polarization**





4. Joymax THF-6280B-566 PCI Antenna Gain

(a) Antenna Peak Gain

Peak Gain (dBi)	2.45GHz	5.25GHz	5.825GHz
<i>Y-Z Plane (dBi)</i>	-2.33	-3.57	-3.90
<i>X-Y Plane (dBi)</i>	1.17	0.93	0.60
<i>X-Z Plane (dBi)</i>	1.50	1.05	0.60

(b) Antenna Average Gain

<i>Y-Z Plane (dBi)</i>	2.45GHz	5.25GHz	5.825GHz
Vertical	-3.97	-5.55	-8.62
Horizontal	-21.01	-15.61	-15.38

<i>X-Y Plane (dBi)</i>	2.45GHz	5.25GHz	5.825GHz
Vertical	-18.05	-17.15	-15.52
Horizontal	-5.59	-6.36	-5.75

<i>X-Z Plane (dBi)</i>	2.45GHz	5.25GHz	5.825GHz
Vertical	-13.86	-9.96	-10.13
Horizontal	-5.88	-7.57	-7.53

APPROVAL SHEET

CUSTOMER : 國碁電子股份有限公司
AMBIT Microsystems Corporation

MODEL NO. : THF-6280B-566(Rev.01)

DESCRIPTION : **Tri-Band Flying Lead
Straight Antenna**

Customer Approval

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士誼科技事業股份有限公司
JOYMAX ELECTRONICS CO.,LTD.

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E-Mail : ericlai@joymax.com.tw

1.Description:

The Antenna is tri-band flying lead and straight antenna. Which is useful for the construction of an accesspoint.

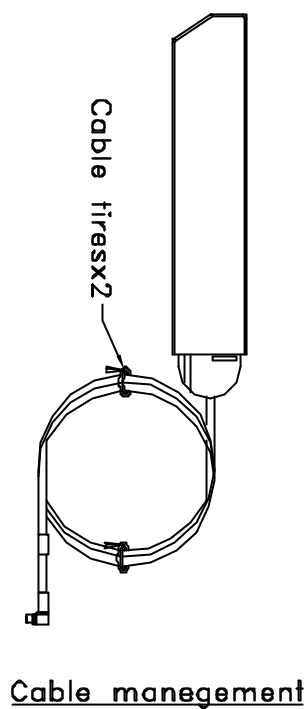
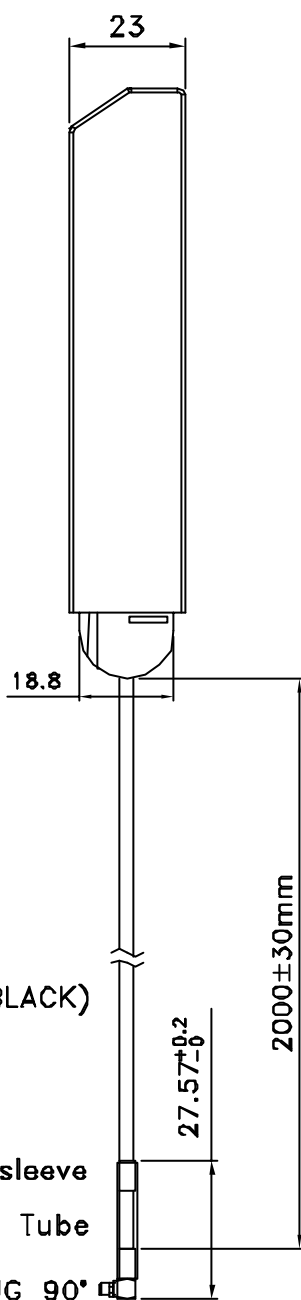
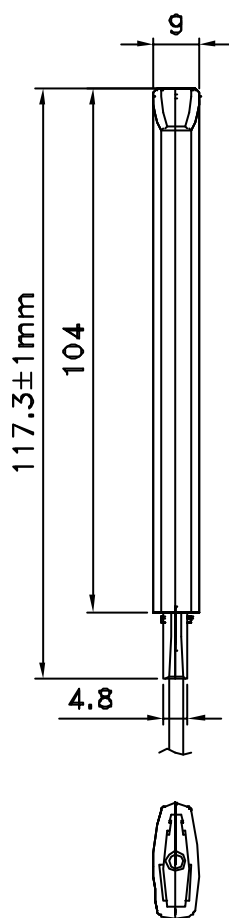
2. Electrical Properties

2-1 Frequency Range.....	2.4~2.5GHz	
	5.15~5.35GHz	
	5.725~5.85GHz	
2-2 Impedance.....	50 Ohms nominal	
2-3 SWR.....	≤ 2.0	
2-4 Return Loss.....	≤ -10 dB	
2-5 Gain.....	2.4~2.5GHz	4.0dBi
	5.15~5.35GHz	5.0dBi
	5.725~5.85GHz	5.5dBi
2-6 Polarization.....	Vertical	

3. Mechanical Properties :

3-1 Connector.....	MMCX PLUG
3-2 Cable.....	HPP100
3-3 Houshing.....	Polycarbonate
3-4 Attachment Strength.....	5.0 Kg-cm





HPP 100(BLACK)

Fixing sleeve
△ Heat Shrink Tube

MMCX PLUG 90°

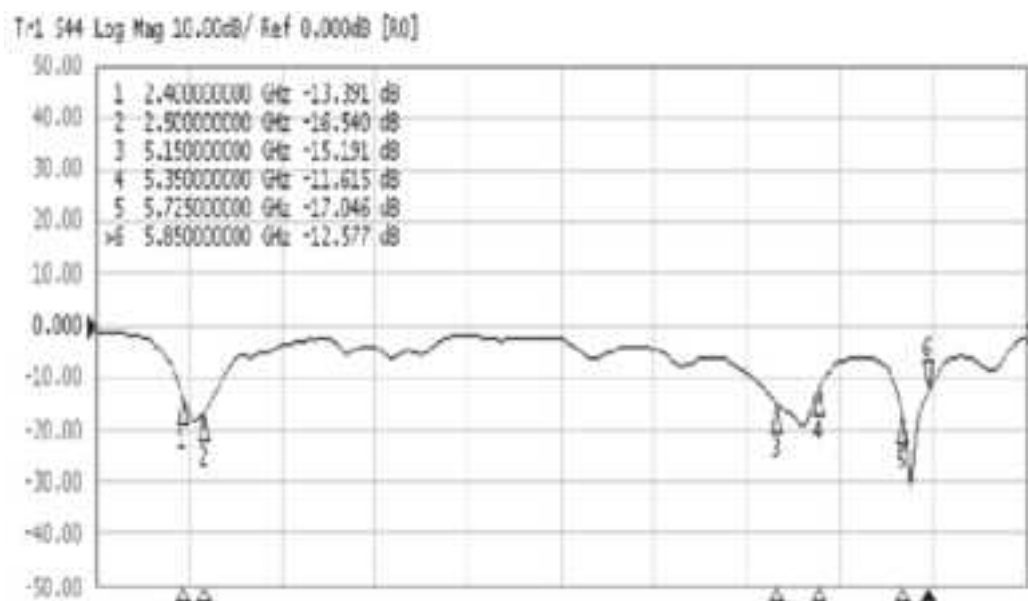
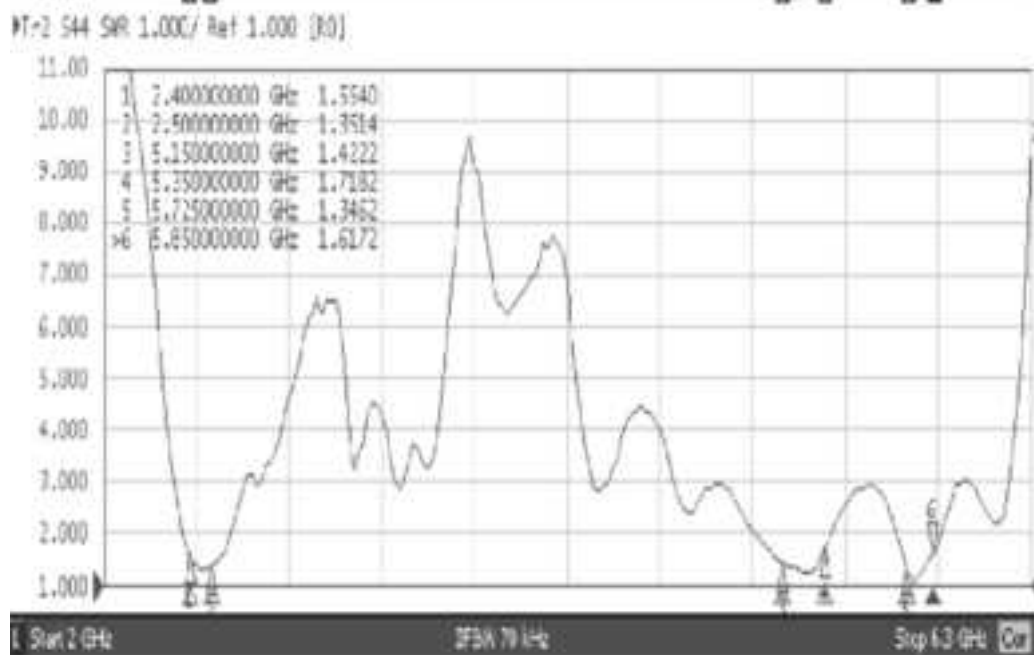
TOLERANCES:	
X	± 1
X.X	± 0.5
X.XX	± 0.25
ANG.	± 2.0°

REV DESCRIPTION	△ 熱縮加長 92/5/28	MATERIAL	MODEL: THF-6280B-566		
		FINISH	NAME: Straight Antenna		
		UNIT: mm	PART No: THF-6280B-566		
		SCALE: 1/ 1.5	DESIGN	APPROVE	REV
		DATE: 5/28/2003	K.Y.Liu		01

QP0502-01-02



JOYMAX ELECTRONICS CO.,LTD.

**Return
Loss****SWR**

1. Description:

The connector is a MMCX right angle plug crimp for HPP-100 cable.

2. Electrical Properties

2-1 Impedance.....	50 Ohms
2-2 Frequency Range.....	0~6 GHz
2-3 SWR.....	1.30 (Max.)
2-4 Working Voltage.....	170 V rms (Max.)
2-5 Dielectric Withstanding Voltage.....	500 V rms (Min.)
2-6 Insulation Resistance.....	1000 Megohms
2-7 Contact Resistance.....	Center contact: 5.0 Milliohms (Max.) Outer contact: 2.5 Milliohms (Max.)
2-8 Insertion Loss.....	0.3 dB

3. Mechanical Properties :

3-1 Engagement Force.....	8 lbs. (Max.)
3-2 Disengagement Force.....	1.4 lbs. (Min.)
3-3 Contact Retention.....	2.0 lbs. (Min.) axial force
3-4 Durability.....	500 Cycles (Min.)

4. Environmental Ratings

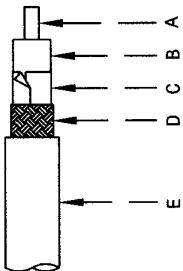
4-1 Operating Temperature.....	-65°C ~ +165°C
4-2 Thermal Shock.....	MIL-STD-202, Method 107, Condition C, Except -55°C ~ +155°C
4-3 Corrosion.....	MIL-STD-202, Method 101, Condition B
4-4 Shock.....	MIL-STD-202, Method 213, Condition B
4-5 Vibration.....	MIL-STD-202, Method 204, Condition D
4-6 Moisture Resistance.....	MIL-STD-202, Method 106

5. Material Specifications

5-1 Body.....	Brass Per JIS H3250 C3604 BD, Gold Plated Per MIL-G-45204
5-2 Contact.....	Beryllium Copper Per QQ-C-530, Gold Plated Per MIL-G-45204
5-3 Insulator.....	PTFE Fluorocarbon Per ASTM D 1710
5-4 C-Ring.....	Beryllium Copper Per QQ-C-530, Gold Plated Per MIL-G-45204



Rev	Change	By	Date



MASTER

Construction:

A) Center Conductor:
25 1/25 Bare Copperweld
OD 0.0179" ± .0002"

B) Dielectric:
Extruded Polyethylene
OD 0.063" Nom.

C) Inner Shield:
Aluminum/Mylar/Aluminum Tape
OD 0.066" Nom.

D) Outer Shield:
38 AWG Tin Plated Copper
90% Minimum Coverage
OD 0.085" Nom.

E) Jacket:
PVC(White)
OD 0.110" ± 0.003"
Printed "Harbour Industries HPP100HFPVC"

Electrical:

Impedance: 50 Ohms Nom.
Capacitance: 31 pF/ft Nom.
Velocity of Propagation: 66 % Nom.
Shielding Effectiveness: >90 dB
Voltage Withstand: 2,500 VDC
VSWR(.45-6.00GHz): <1.15:1 Typical
1.30:1 Maximum

Physical Properties:

Weight: 9 lbs/1000ft.
Minimum Bend Radius: 0.5 in
Operating Temp. Range: -40 to +85 °C

Attenuation

Frequency GHz	Attenuation dB/100ft. Typical(Max.)
1.00	22.8(25.2)
2.00	32.6(35.8)
3.00	40.1(44.1)
4.00	46.5(51.2)
5.00	52.3(57.5)
6.00	57.5(63.2)

Drawn By: MTPiner	This drawing contains proprietary information and is issued in strict confidence and shall not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written approval of Harbour Industries .		
Approved By: <i>MTPiner</i>	Part Number: TBD	Rev:	Sheet 1 of 1
Date: 01/27/03	Scale: None		
Drawing Name: HPP100HFPVC		Drawing Number: 012703	

