

承認書

SPECIFICATION FOR APPROVAL

樣品承認 新品承認 規格/材質變更承認

客戶名稱(Customer):	正文科技股份有限公司		
客戶料號(Customer P/N):			
產品料號(Product No.):	A8-A003-00106		
產品品名(Product Name) :	DIP 915MHz 0dBi d13 BLACK SMA MALE		
文件編號(Approved No) :			
日期(Issued Date) :	2017 年 04 月 12 日		
客戶承認簽章 Customer Approval Signature	In Charge	Checked	Approval

TSKY™ 天凱科技股份有限公司 TSKY CO., LTD.

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業務	核准	審核	主辦員

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Specification

- **Electrical Properties :**

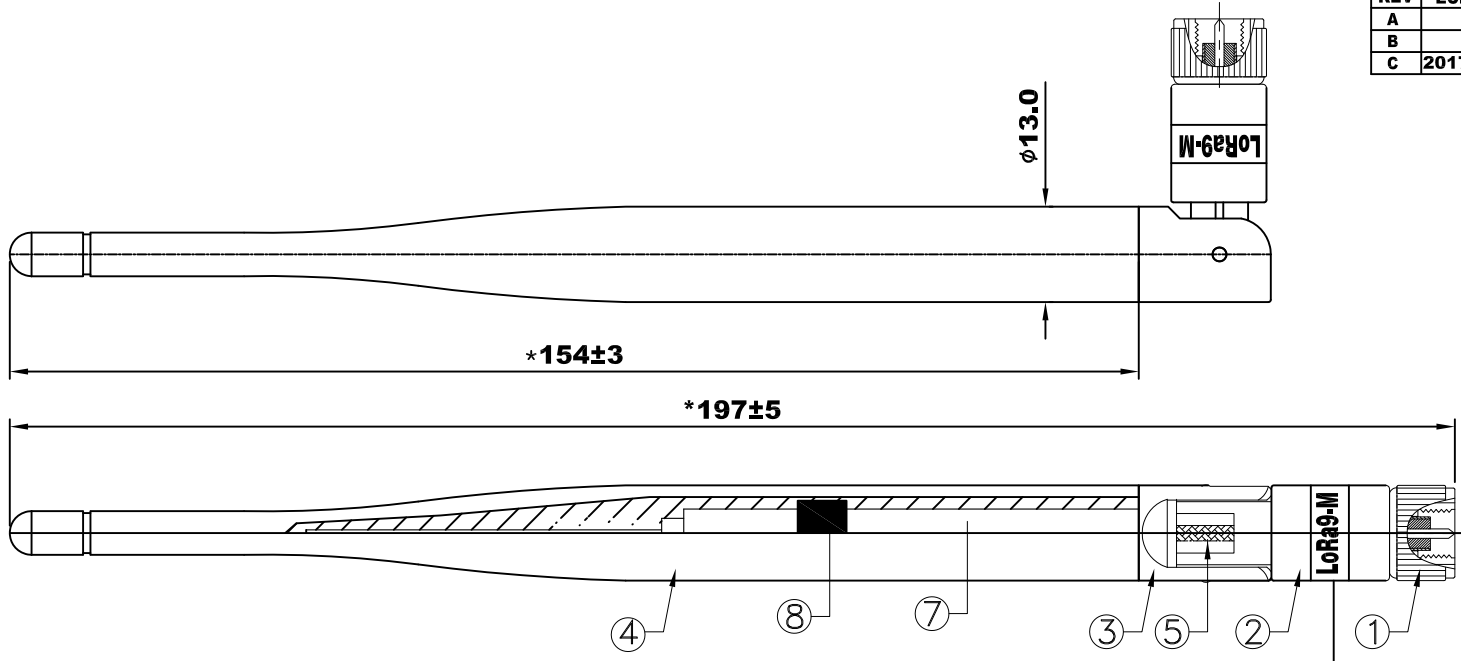
1. Frequency : 902MHz~928MHz
2. Impedance : 50Ω
3. Return Loss : $\leq -10\text{dB}$
4. Peak Gain : 0dBi

- **Physical Properties :**

1. Material :
HOUSING :TPEE(BLACK)
UP BASE : PC(BLACK)
DOWN BASE: PBT+PC(BLACK)
2. Connector : SMA PLUG
3. Operation temperature : $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$
4. Storage temperature : $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$

J H G F E D C B A

REV	ECN NO.	DRAWING	DESCRIPTION	APPROVED	DATE
A		NYDIA	初版發行	Jase	2015/02/13
B		NYDIA	取消433MHz頻段		2016/06/01
C	20170005	JANE	客戶要求加標籤	ALEX	2017/02/20

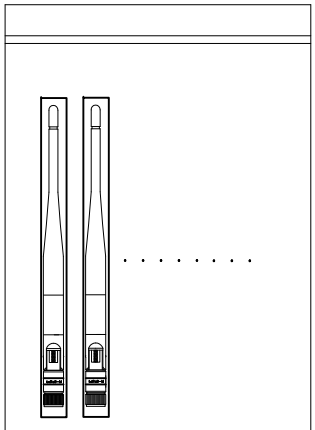


- Electrical :
- 1. Frequency : 902MHz~928MHz
 - 2. Impedance : 50Ω
 - 3. Return Loss : ≤ -10 dB
 - 4. Peak Gain : 0 dBi
 - 5. Operating Temp : -10°C ~ +60°C
 - 6. Storage Temp : -10°C ~ +60°C

NOTE :
* 為重點量測尺寸

SMA PLUG

⑥ 標籤型式 字型 : Calibri ; 字體 : 11+粗
LoRa9-M



1 pcs/bag
Packing: 20 pcs/bag



8	A2-A003-00033	SPONGE L25 W10 H1mm EVA#60D 黑色 G9000雙面背膠(25*10面)A8-A003-00147	1
7	A6-A007-00001	CU TUBE OD6.55L68.4T0.25	1
6	A9-A004-00044	Label,20mm*5.2mm黑底白字 字樣LoRa9-M字型Calibri 字體11+粗 黏貼於A8-A003-00106上	1
5	A0-A010-00001	RF CABLE RG-178 50Ω 175mm BROWN 1(編)-3(絕)-7(芯)+ 0(編)-70(絕)-73(芯)	1
4	A4-A016-00001	HOUSING OD13 L154 TPEE BLACK	1
3	A4-A015-00001	UP BASE OD13 PC BLACK	1
2	A4-A014-00001	DOWN BASE OD13 PBT+PC BLACK	1
1	A5-A001-00001	SMA STRAIGHT PLUG OD13(NICKEL-PLATED)	1
NO.	PART NO.	DESCRIPTION	QTY

TOLERANCE UNLESS OTHERWISE SPECIFIED				TSKY CO., LTD.				INITIAL MODEL:		
DIMENSION		ANGLES		CONFIDENTIAL	FINISH:		PART NAME			
.X±	0.2	X.°±	0.5	⊕	SIZE: A4	UNIT: mm	DIP 915MHz 0dBi d13 BLACK SMA MALE			
.XX±	0.1			DRAWING	DESIGNED	CONCURRED	SCALE: 1:1			
.XXX±	0.05			Jane			APPROVED	Alex		
				PART NO.	REV.	SHT.				
				A8-A003-00106	C	1/1				

WSMS-116 902~928MHz External Dipole Test Report

Gemtek Antenna Team

Wireless Broadband Anywhere
<http://www.gemtek.com.tw>

2015/06/16

Confidential

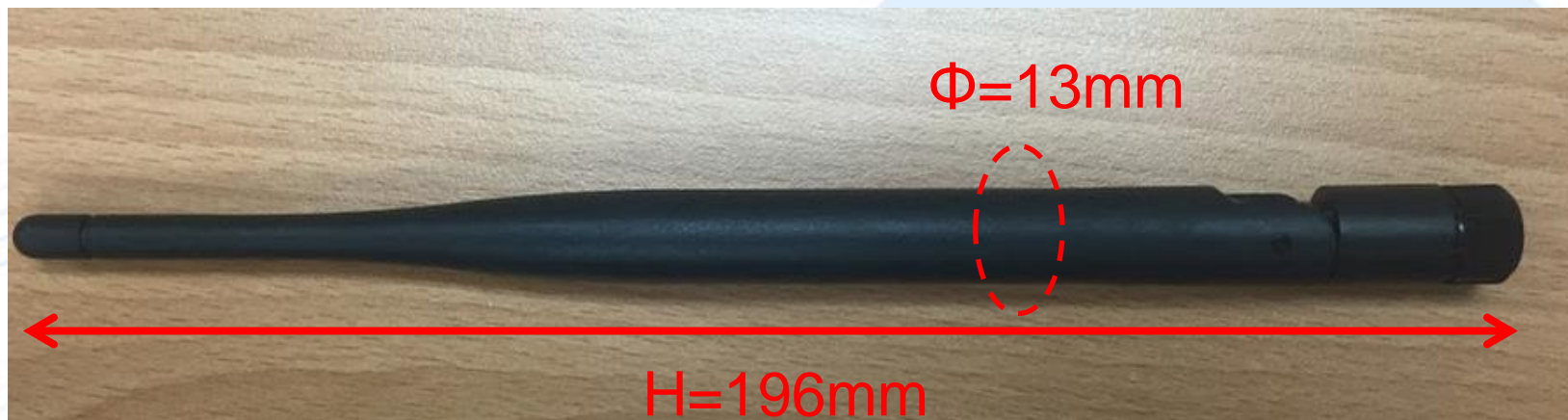
-1-

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- **Product / Antenna Overview**
- **Test Results**
 - ❖ Antenna Return Loss
 - ❖ Antenna Radiation Pattern
 - ❖ Antenna Gain Data & Efficiency
- **Conclusions**

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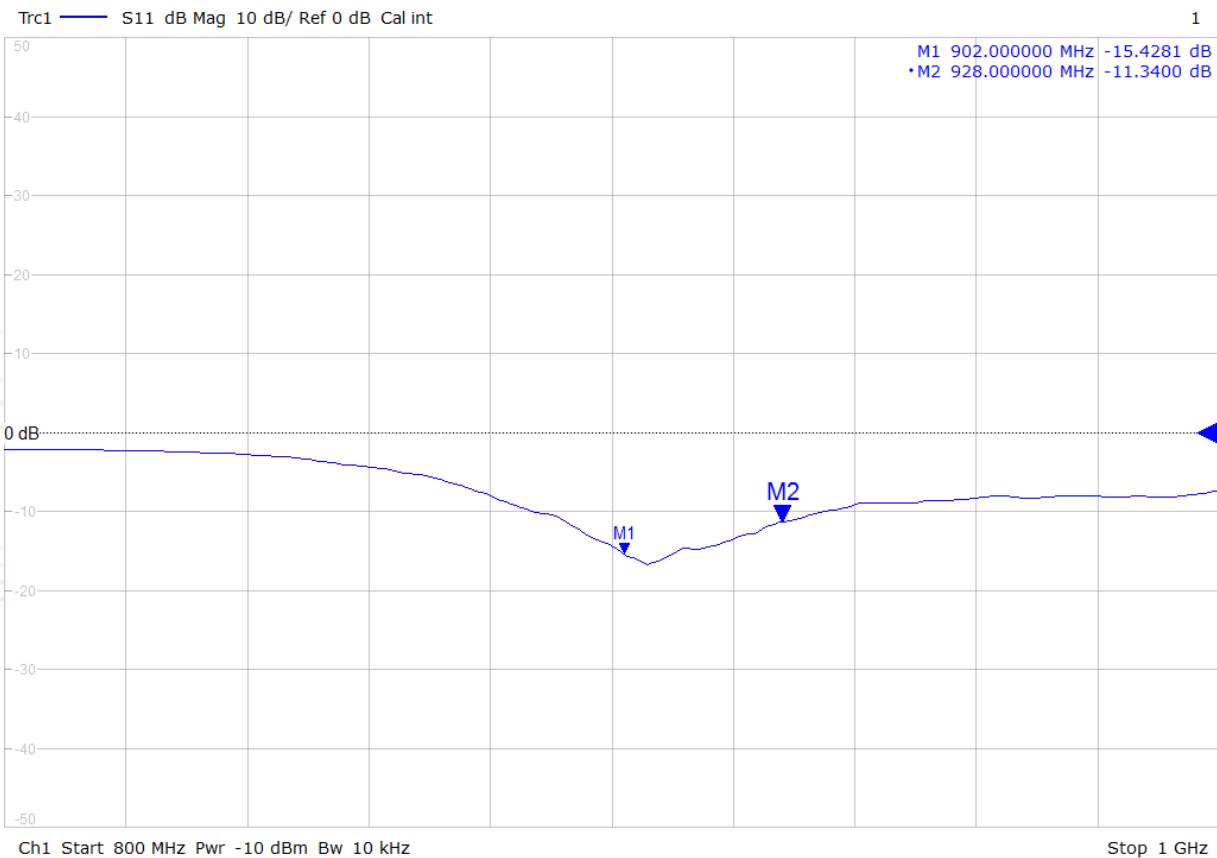
Antenna Overview



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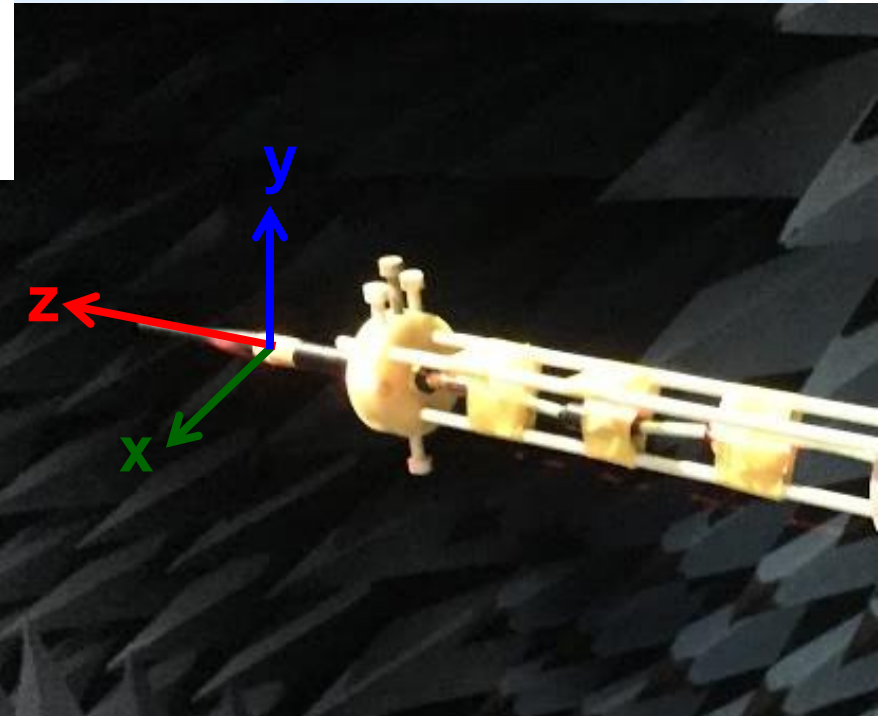
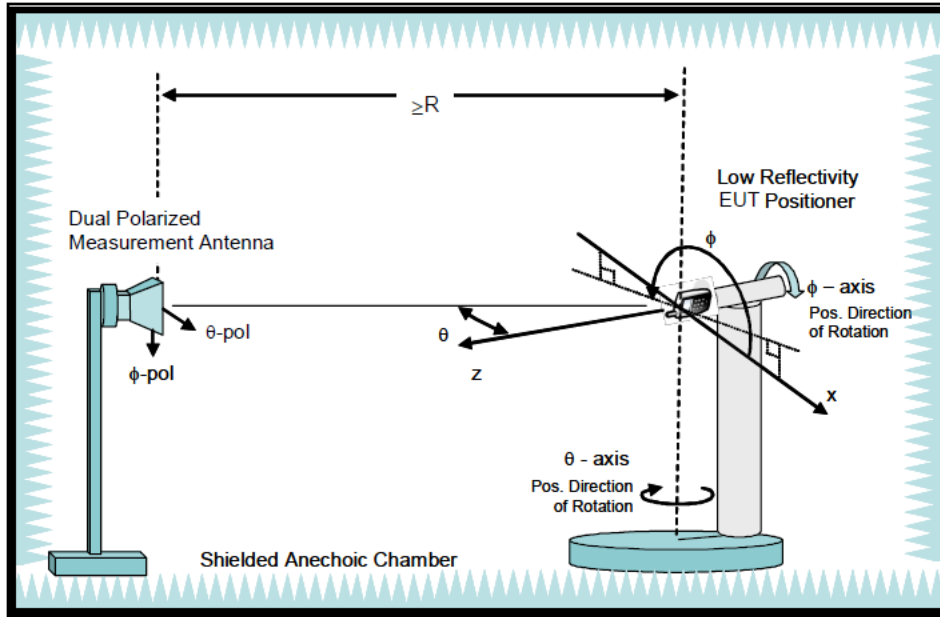
Antenna Return Loss

6/16/2015 2:24:08 PM
1311.6010K44-101823-eS



here
com.tw

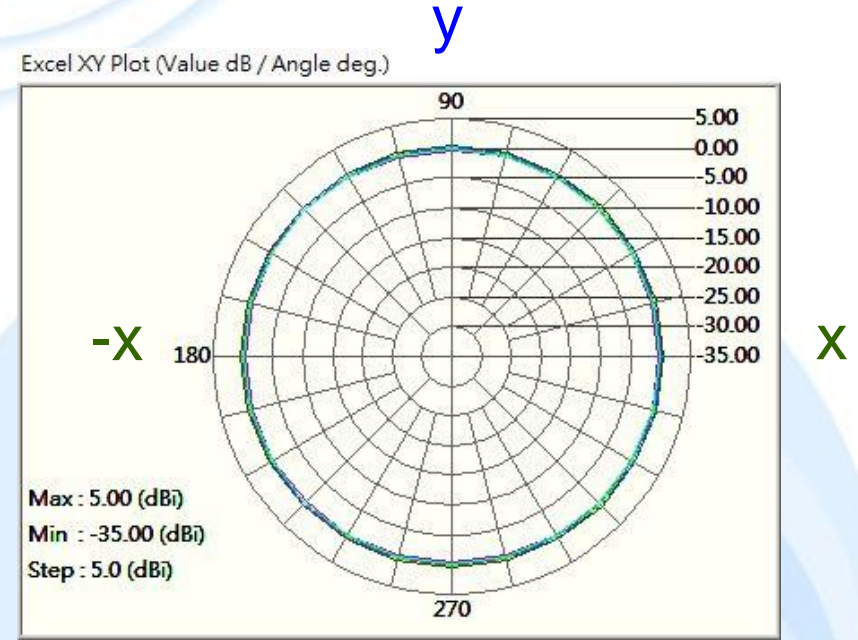
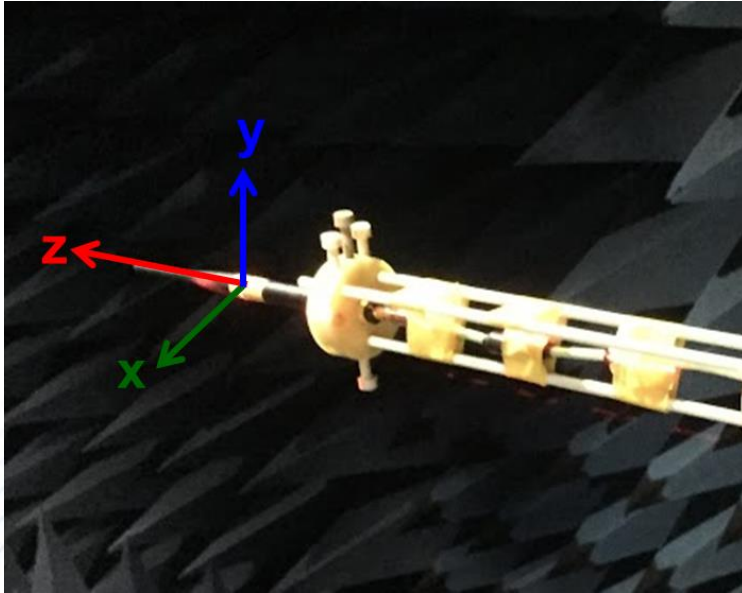
Antenna Coordinate System Definition



Wireless Br

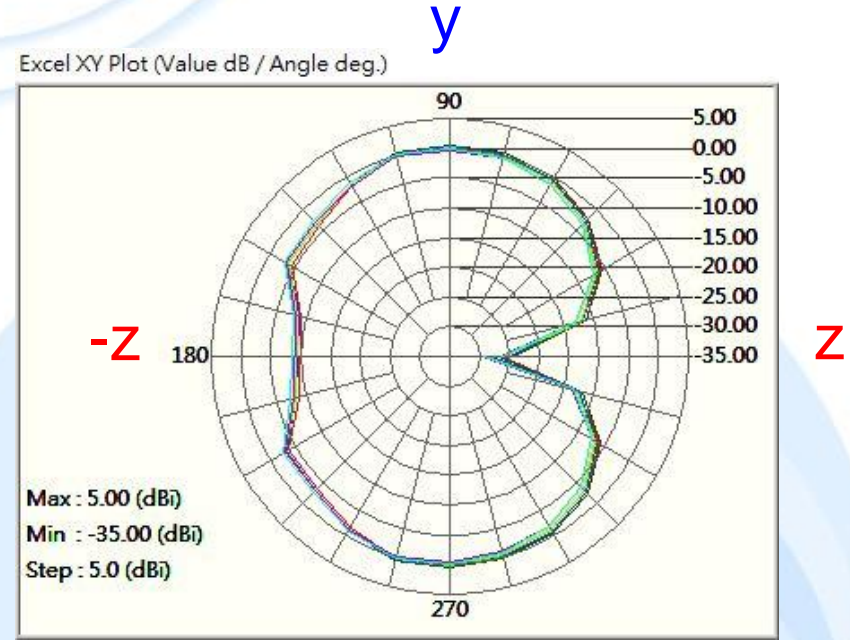
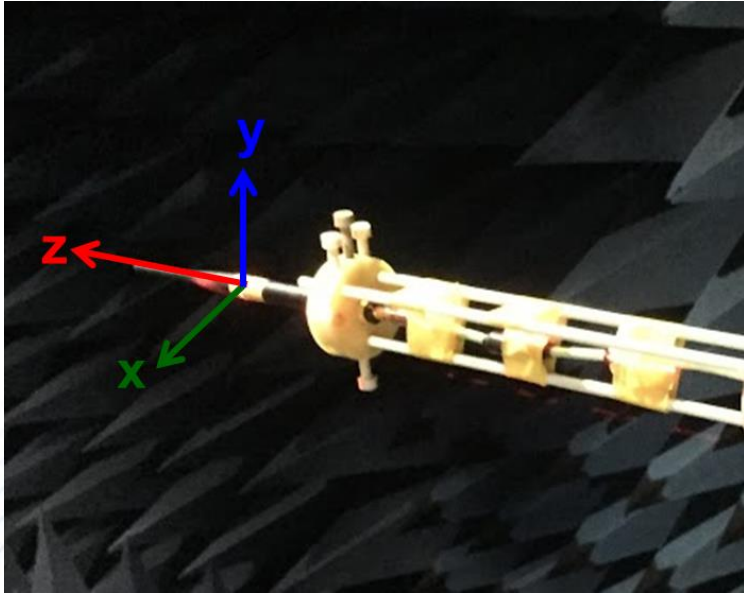
Ant Gain_Total at XY-Plane

(Operation Frequency = 900MHz ~ 930MHz)



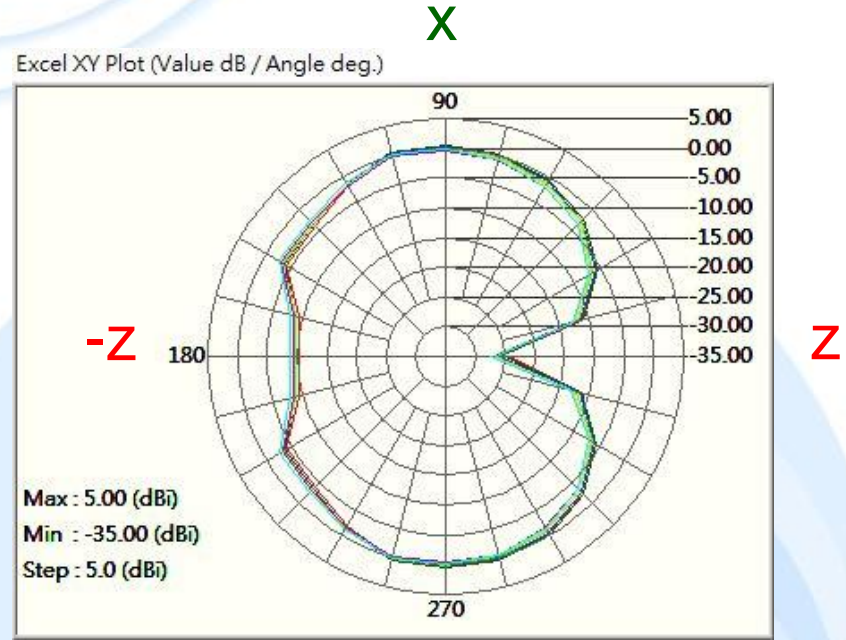
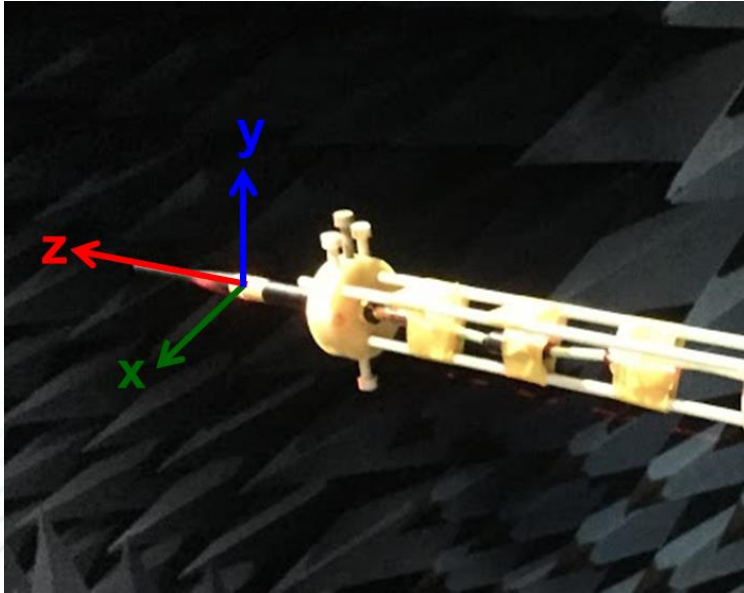
Frequency (MHz)	900	905	910	915	920	925	930
Trace Color	Red	Green	Blue	Cyan	Yellow	Purple	Magenta
Peak Gain (dBi)	0.35	0.57	0.39	0.14	-0.1	-0.27	-0.11

Ant Gain_Total at YZ-Plane (Operation Frequency = 900MHz ~ 930MHz)



Frequency (MHz)	900	905	910	915	920	925	930
Trace Color	█	█	█	█	█	█	█
Peak Gain (dBi)	0.29	0.56	0.42	0.28	0.14	0	0.24

Ant Gain_Total at ZX-Plane (Operation Frequency = 900MHz ~ 930MHz)



Frequency (MHz)	900	905	910	915	920	925	930
Trace Color	Red	Green	Blue	Cyan	Yellow	Purple	Magenta
Peak Gain (dBi)	0.23	0.48	0.35	0.21	0.08	-0.04	0.21

Ant Gain Data & Efficiency

902~928MHz Waterproof External Dipole							
Frequency (MHz)	900	905	910	915	920	925	930
Efficiency (dB)	-1.45	-1.23	-1.4	-1.59	-1.78	-1.93	-1.71
Efficiency (%)	71.61	75.34	72.44	69.34	66.37	64.12	67.45
Peak Gain (dBi)	0.35	0.57	0.42	0.28	0.14	0	0.24

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- In 902MHz~928MHz, return loss is more than 10dB.
- In 902MHz~928MHz, efficiency is more than 60%.
- In xy-plane, the radiation pattern is approximate omnidirectional.

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