



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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SPECIFICATION

Part No. : **FW.86.RNT.M**

Description : Meteor-868MHz Flexible Whip Monopole
Antenna RP-N Type(M) Straight

Features : External 868MHz Monopole Antenna
Omni-directional
Designed for Outdoor Use
Over 90% efficiency*
Over 4dBi high peak gain*
Robust Inner Steel Core
Antenna height 246mm
RP-N Type(M) Straight Connector
IP67 dust and water-resistant
*Tested on 30cm*30cm Ground Plane
RoHS ✓



1. Introduction

The FW.86 is a flexible 868MHz whip antenna with an RP-N type (M) connector for outdoor use. It features excellent efficiency (>95%) and high peak gain (>4.5 dBi) at 868MHz on a 30x30 cm ground plane.

The antenna was specifically developed for monitoring systems, such as weather monitoring, motion/vibration sensors, and pollutants monitoring.

The FW.86 has an excellent omni-directional radiation pattern, ensuring wide coverage. The antenna's high efficiency means that it allows your radio to consume less power than with a lower efficiency antenna when transferring data. It also means a better strength of signal, and better sensitivity in areas of low signal levels. The antenna performs at its best while attached to a ground plane with dimensions of at least 30x30 cm. For an environment where there is no ground-plane available we recommend to use the TI.18 or OMB.868.

The FW.86 whip is made of a flexible inner steel core covered by PE so it is extremely resistant to abrasion and maintains its original shape and RF performance even after shock. This rugged design and IP67 rating on the housing ensure high reliability.

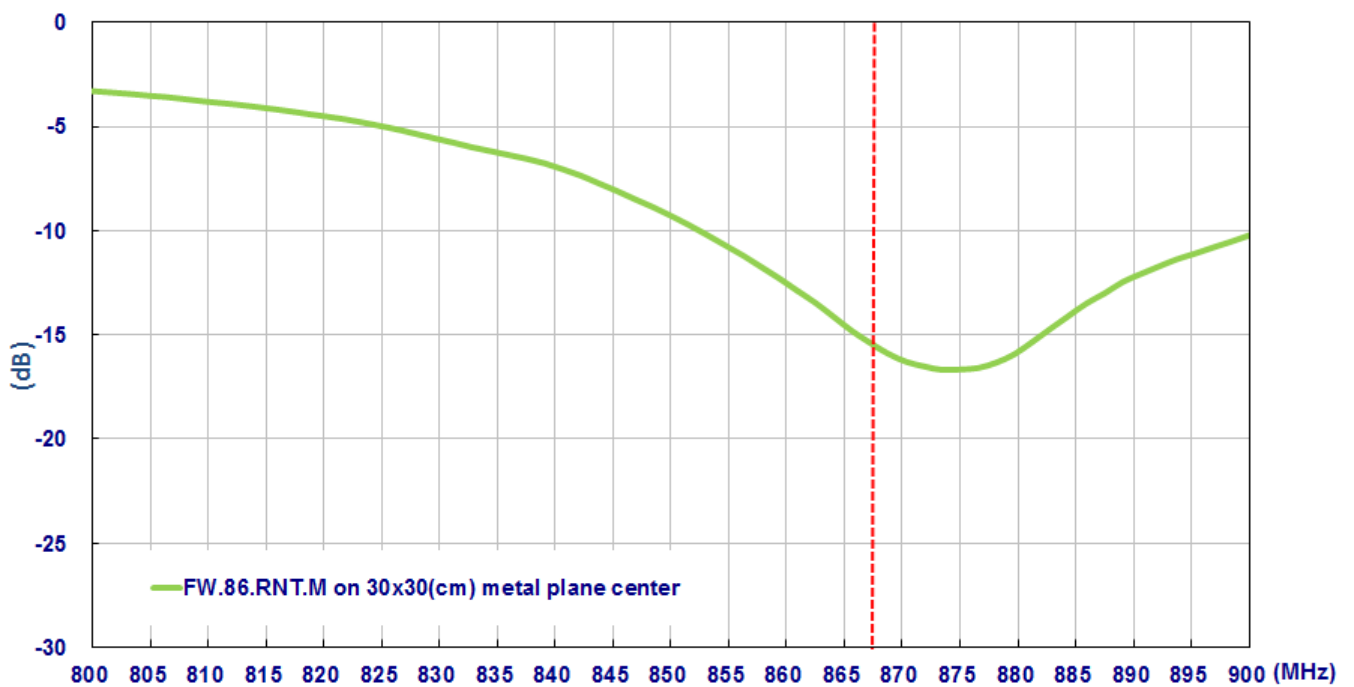
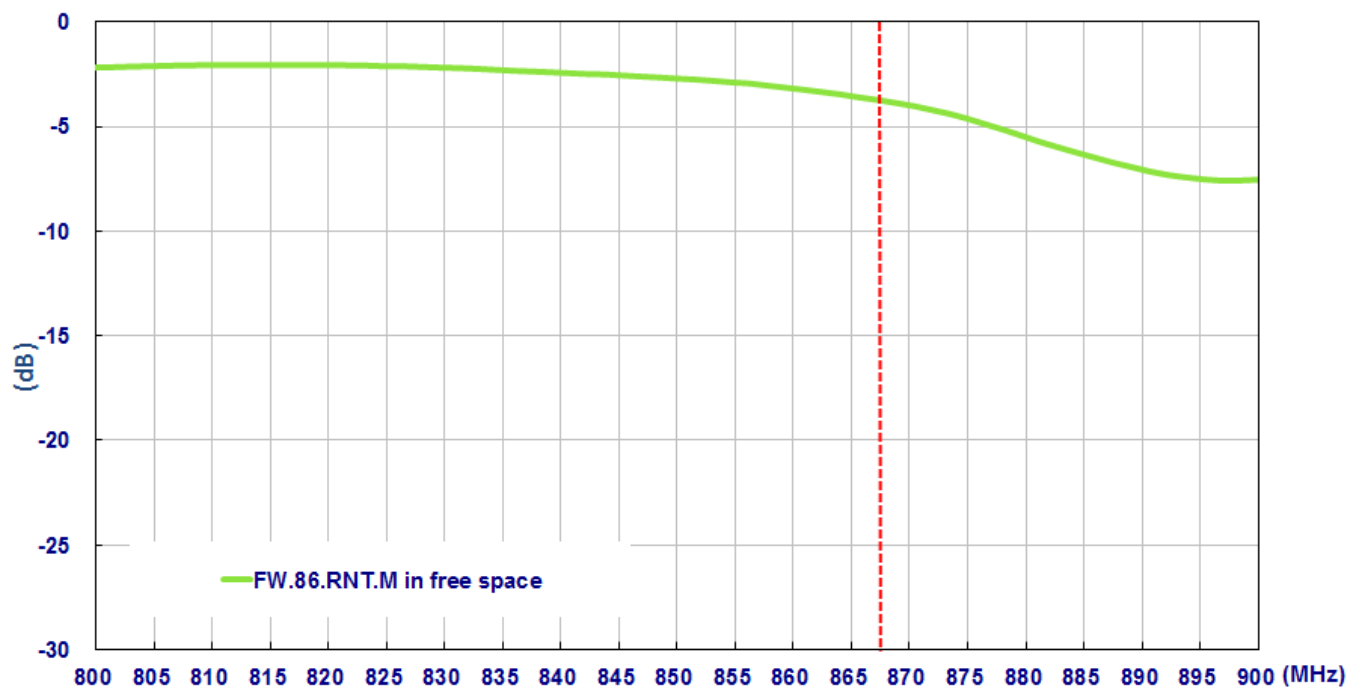
This antenna also comes with SMA(M) connector as standard. Other custom variants can be provided subject to NRE and MOQ. Contact your regional Taoglas office for details.

2. Specification

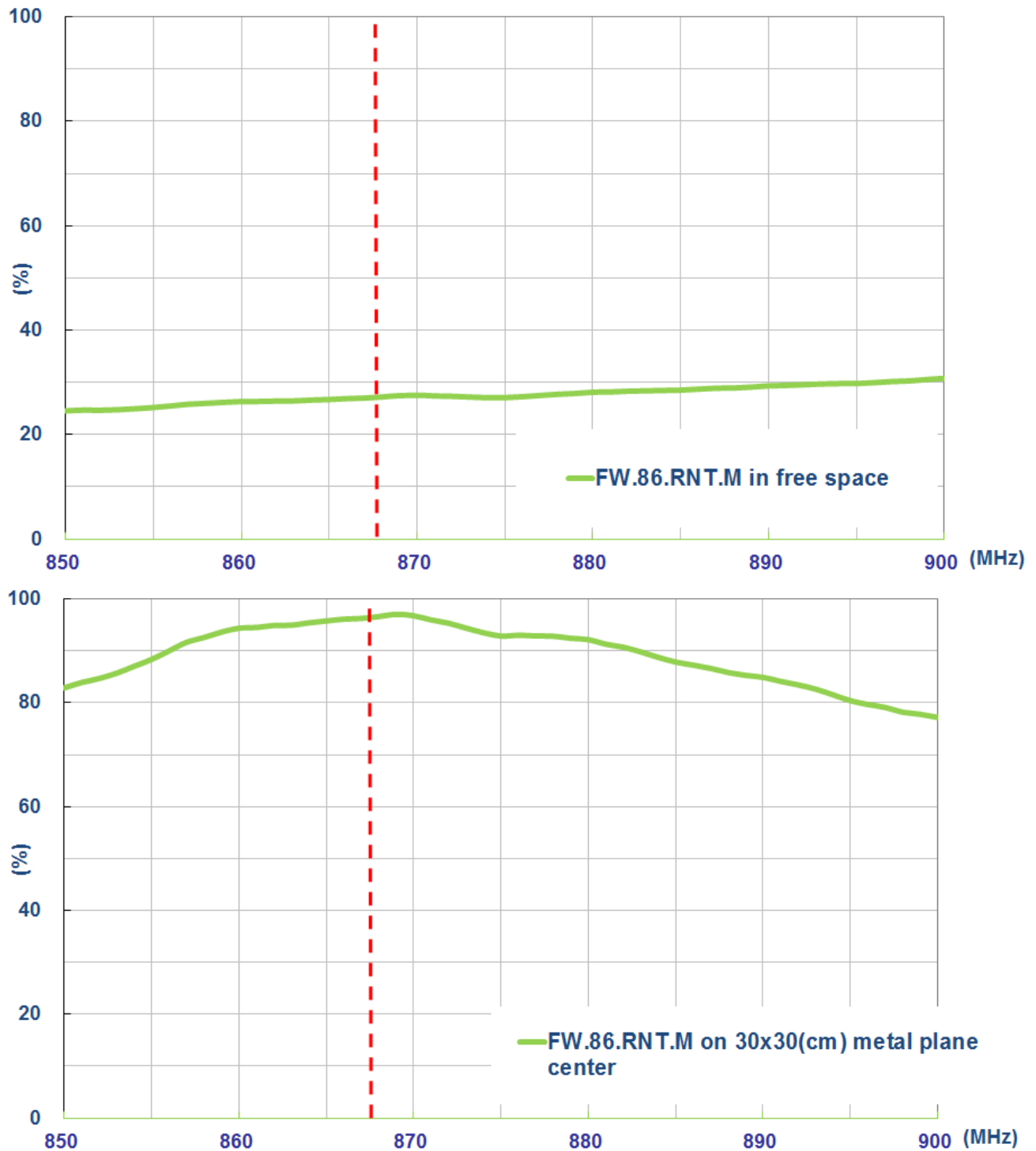
868 MHz		
Center Frequency	868MHz	
	In free space	On 30x30cm ground
Efficiency	27.2 %	96.6 %
Peak Gain	-1.57 dBi	4.78 dBi
Return loss	< -3dB	< -15dB
VSWR	≤ 6:1	≤ 2:1
Impedance	50Ω	
Polarization	Linear	
Radiation Pattern	Omni-Directional	
Input Power	2 W	
MECHANICAL		
Dimensions	Height 246 ± 6 mm	
Base Diameter	20 ± 0.5 mm	
Whip Diameter	6.2 ± 0.6 mm	
Casing	ABS	
Connector	RP-N Type(M) Straight	
Weight	48.5 g	
Dust and Water Resistance	IP67 (housing)	
ENVIRONMENTAL		
Temperature Range	-40°C to 85°C	
Humidity	Non-condensing 65°C 95% RH	

3. Antenna Characteristics

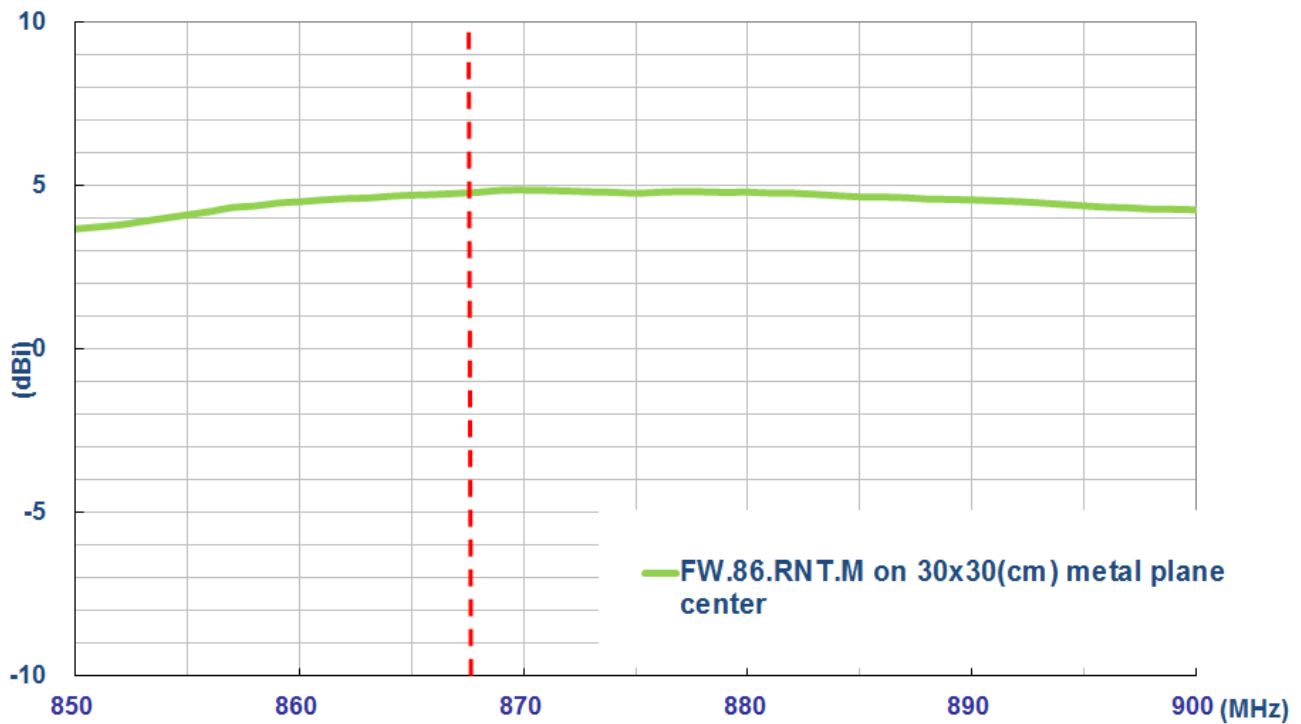
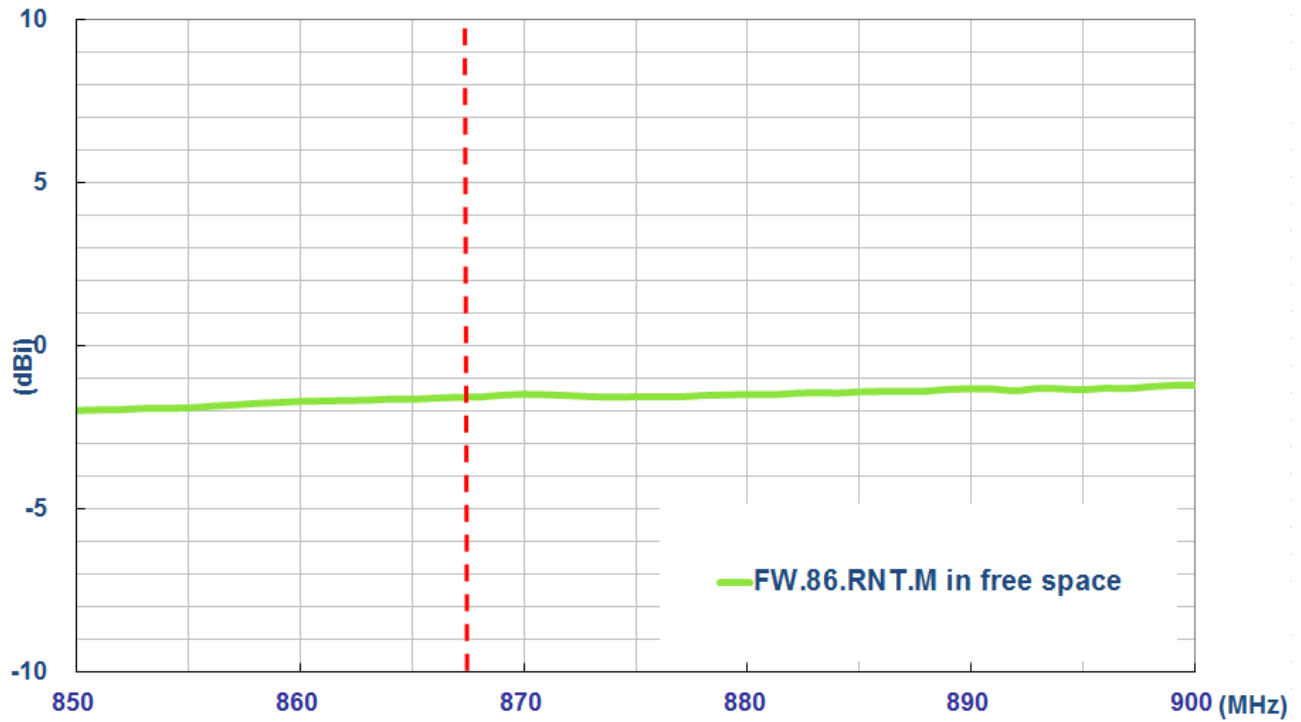
3.1. Return Loss



3.2. Antenna Efficiency



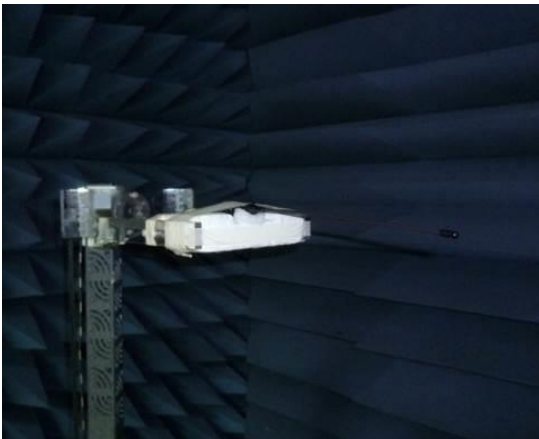
3.3. Peak Gain



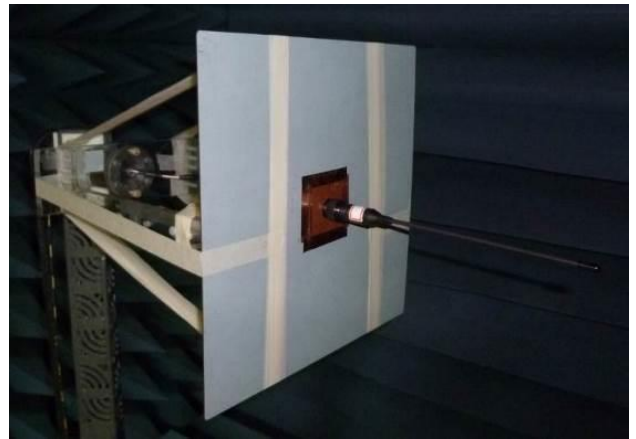
4. Antenna Radiation Pattern

4.1. Antenna Setup

Free Space



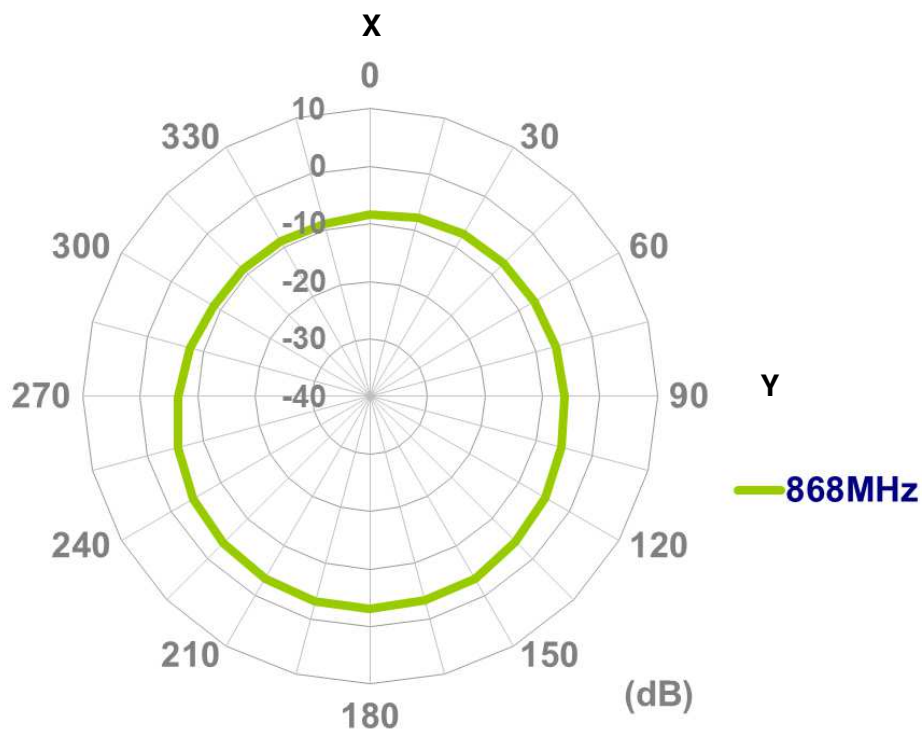
On 30x30 cm ground plane



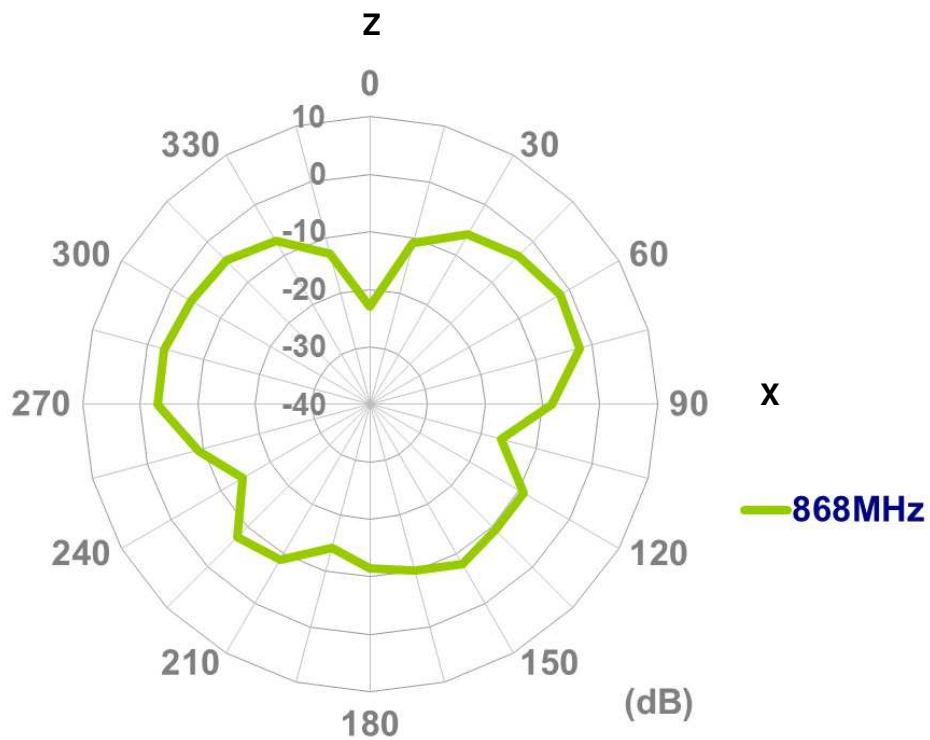
4.2. 2-D Radiation Pattern

- In Free Space

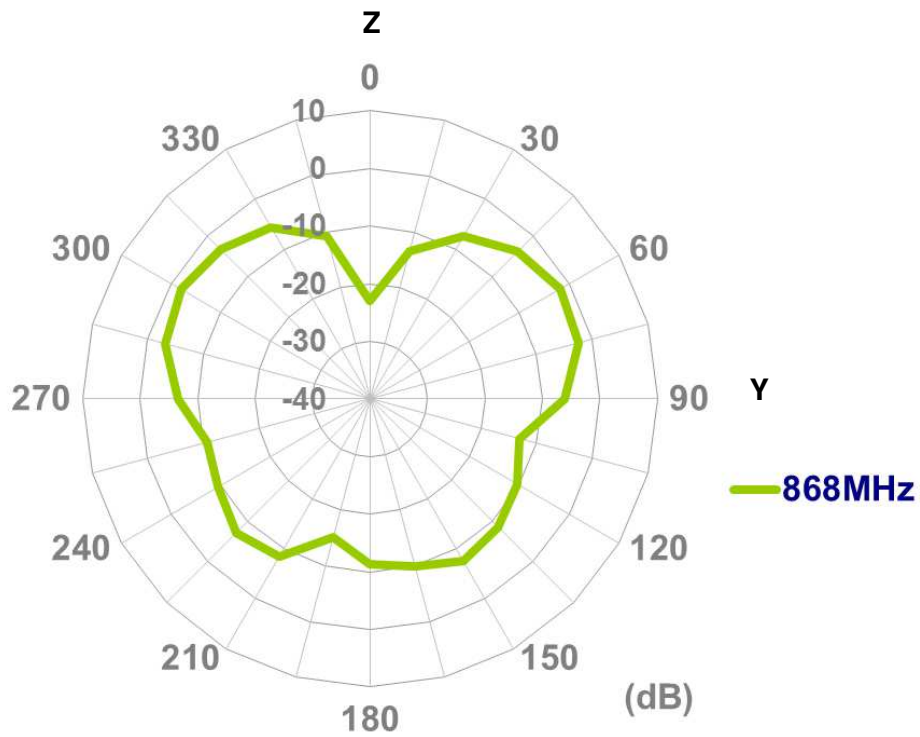
XY-plane



XZ-plane

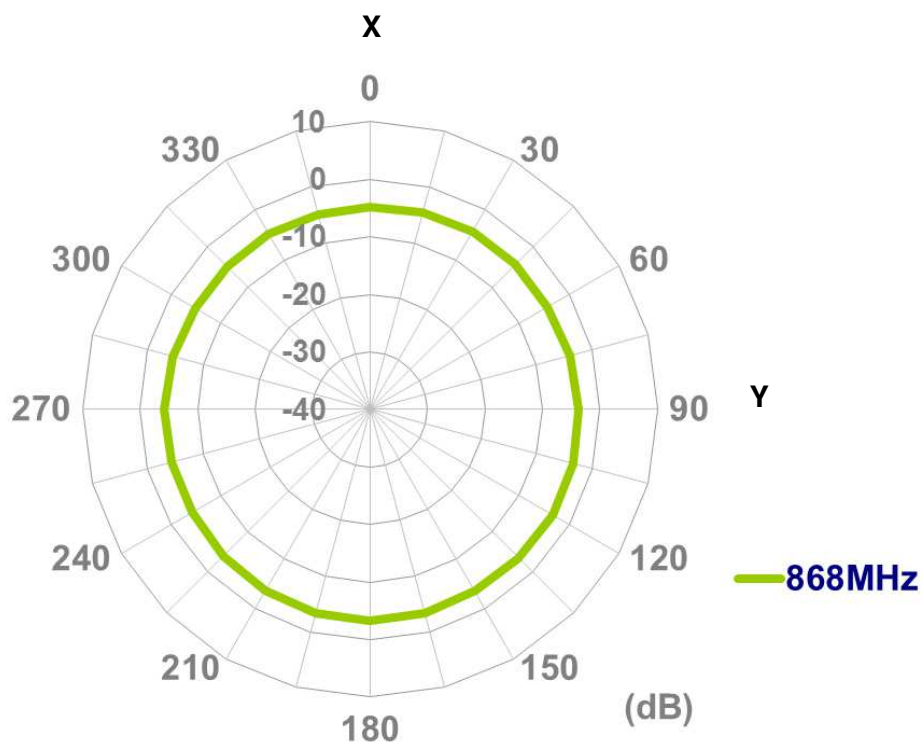


YZ-plane

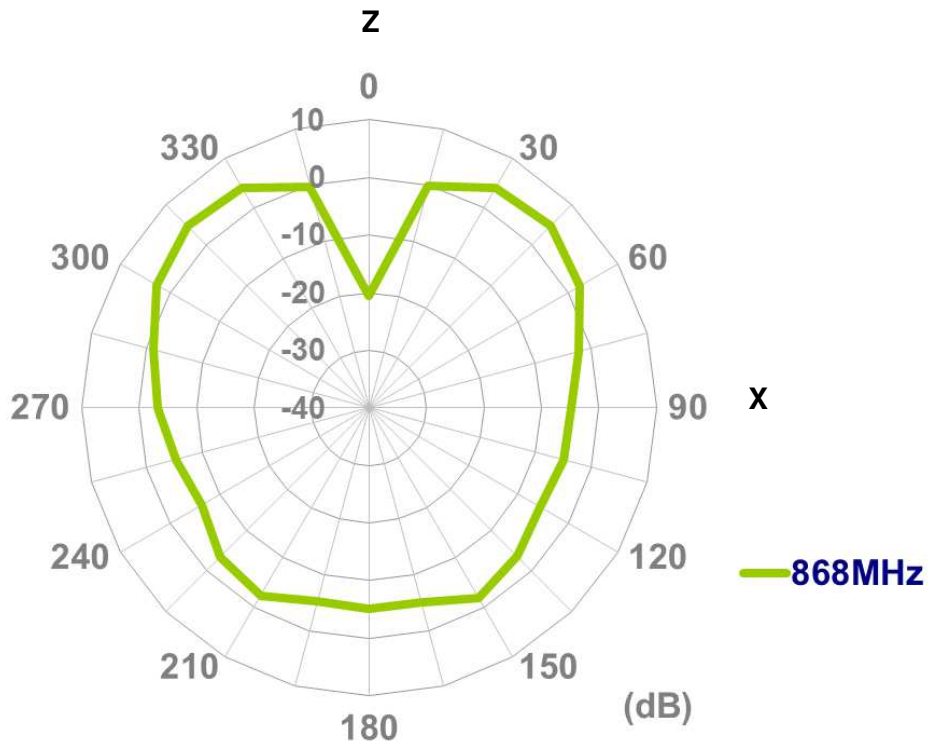


- On 30cm*30cm Ground Plane

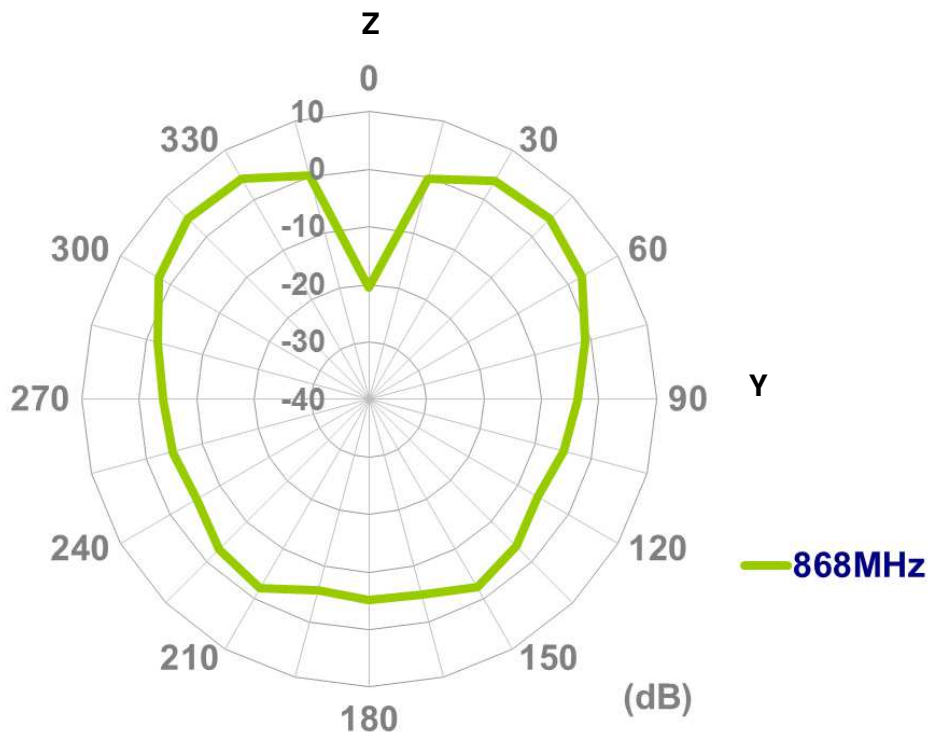
XY-plane



XZ-plane



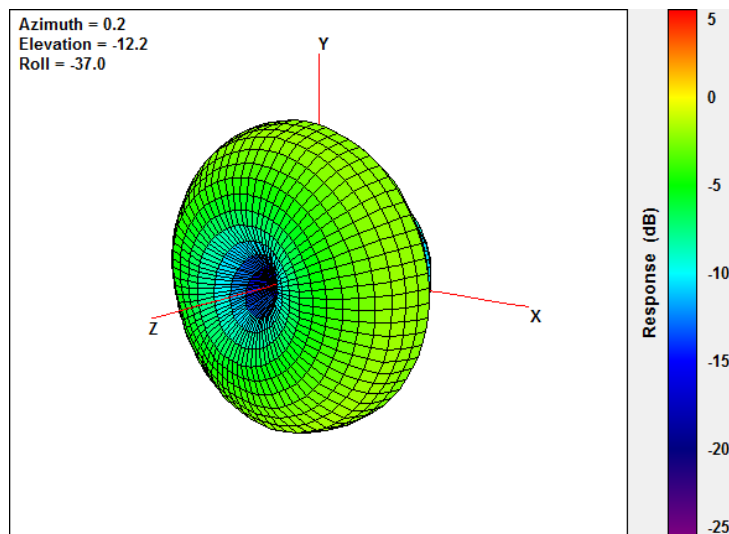
YZ-plane



4.3. 3-D Radiation Pattern

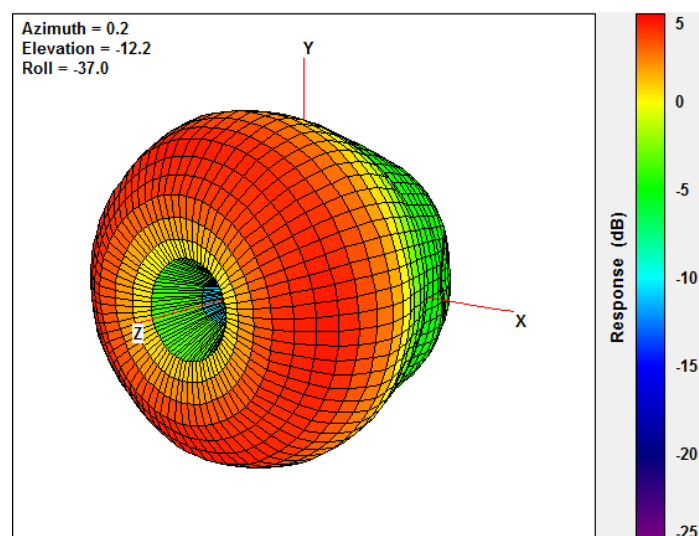
- In free space

@ 868MHz

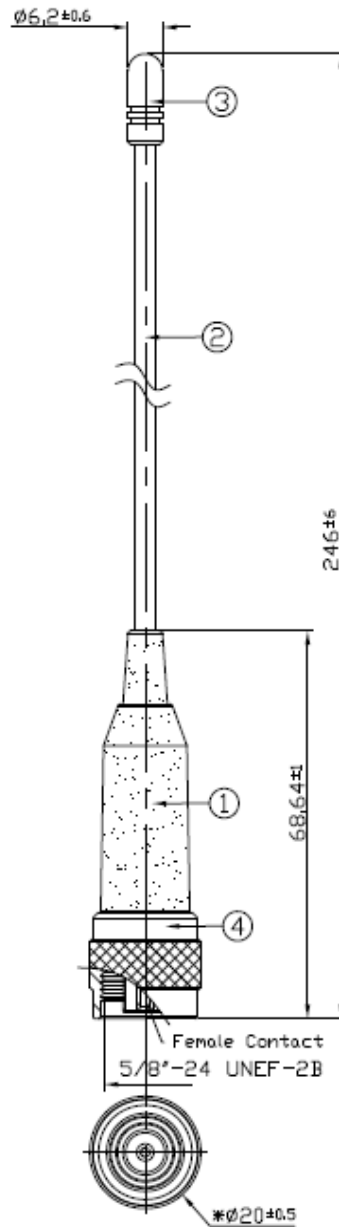


- On 30cm*30cm Ground Plane

@ 868MHz



5. Antenna Drawing



Unit: mm

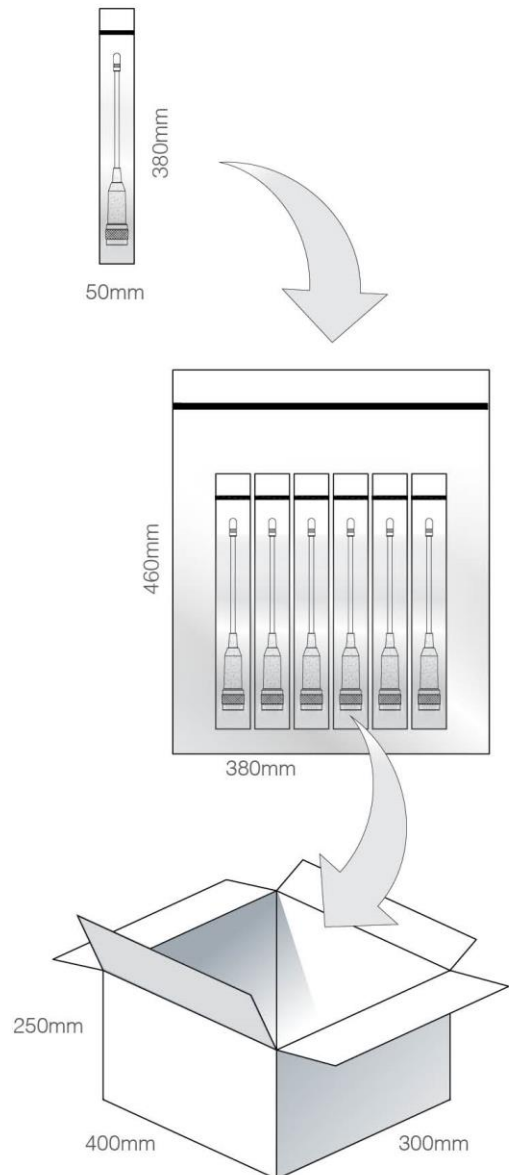
	Name	Material	Finish	QTY
①	Housing	ABS	Black	1
②	Flexible Whip	Steel+PE Jacket	Black	1
③	Cap	ABS	Black	1
④	RP-N-TYPE(M) ST	Brass	Black	1

6. Packaging

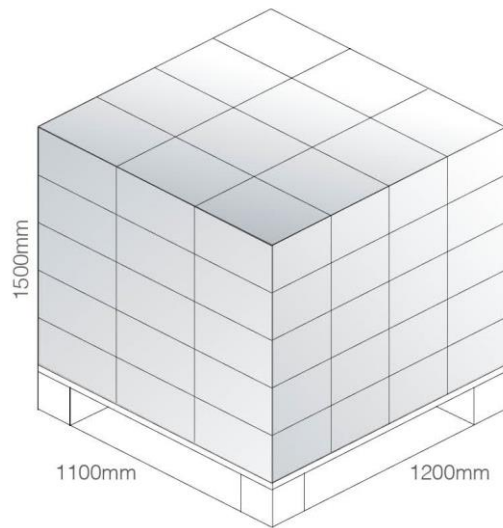
1 FW.86.RNT.M per PE bag
Bag Dimensions - 380*50mm
Total Weight - 50g

50 PE bags per large PE Bag
Large Bag Dimensions - 460*380mm
Weight - 2.5Kg

4 Large PE Bags per Outer Carton
Carton Dimensions - 400*300*250mm
Weight - 10.5Kg



Pallet Dimensions 1100*1200*1500mm
60 Cartons per Pallet
12 Cartons per layer
5 Layers



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