

## SPECIFICATION

- Part No. : **PC81.07.0100A.db**
- Product Name : **TheStripe™** 868Mhz PCB Antenna  
100mm IPEX 1.13mm diameter MHF connector  
foam attachment for assembly
- Features : 34mm\*7mm\*0.8mm(PCB)  
16mm\*6mm\*7mm(foam)  
Compatible with Hirose U.FL  
With 3M Adhesive, easy stick on client enclosure

Photo:



## 1. Introduction

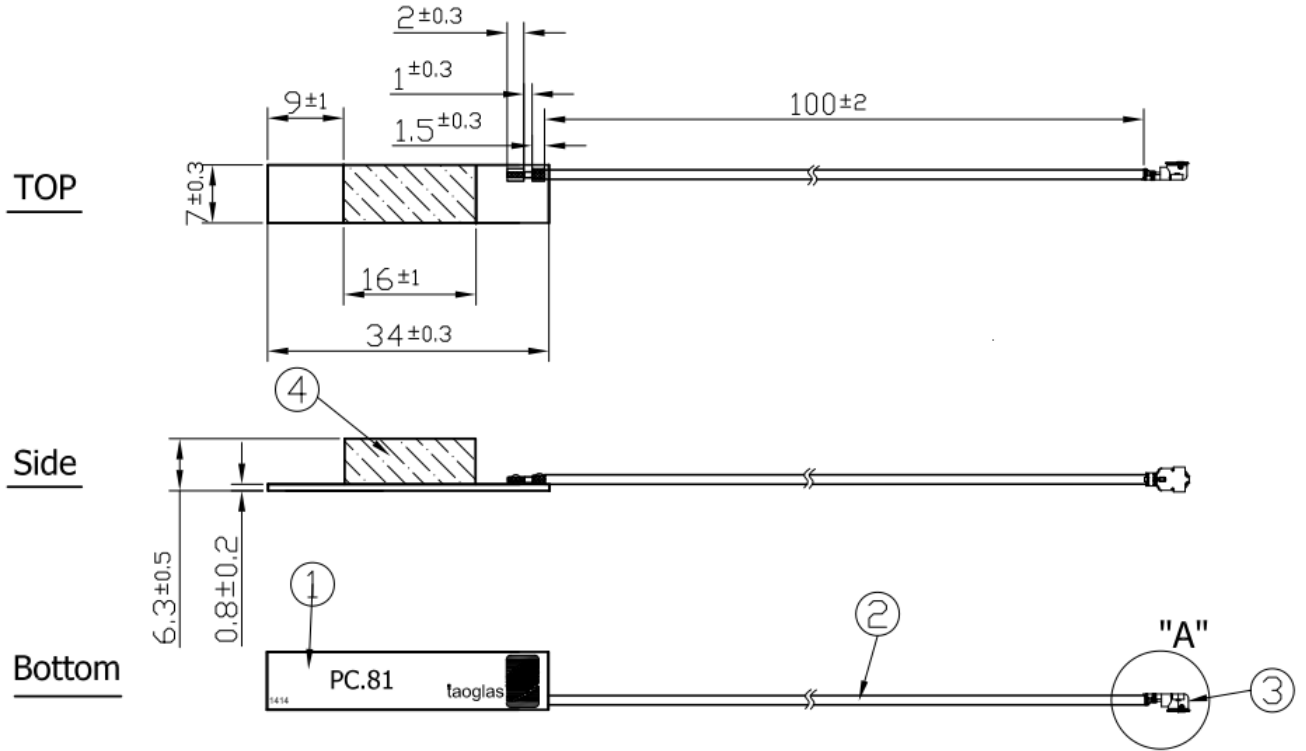
This miniaturized low profile PCB antenna is based on smart TheStripe™ antenna technology. It consists of a PCB antenna and 1.13mm mini coaxial cable with IpeX MHF (Hirose U.FL comp) connector. The PC81 comes with a foam attachment which has  $\text{EM}$  adhesive on the underside which assists in palcing the antenna with sufficient clearance for optimal performanace.

Cable lengths and connectors are fully customizable.

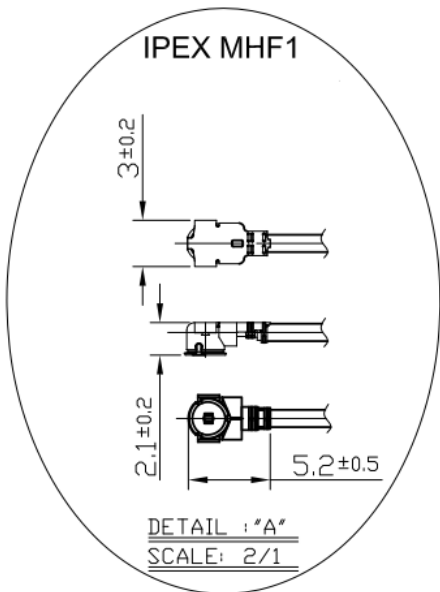
## 2. Specification

Parameter	Electrical Specification
Applications	868MHz ISM Band
Frequency Band	868-870MHz
Efficiency	50.46%
Return Loss	<-10dB
VSWR	<2.0:1
Impedance	50 Ohm
Polarization	Horizontal
Radiation Pattern	Omni-Directional
Parameter	Mechanical Specification
Antenna Dimensions	34mm*7mm*0.8mm(PCB) 16mm*6mm*7mm(foam)
Cable Type	Ø1.13 Coaxial Cable
Cable Length	100mm
Connector	IPEX MHFI(U.FL Compatible)
Adhesive	3M 9472
Foam	CR4305
Parameter	Environmental Specification
Operation Temperature	-40°C ~ +85°C
Storage Temperature	-40°C ~ +85°C

### 3. Mechanical Drawing



	Name	Material	Finish	QTY
①	PC81 PCB	FR4 0.8t	Black	1
②	1.13 Mini-Coaxial Cable	FEP	Black	1
③	IPEX MHF1	Brass	Gold	1
④	Double Sided Adhesive + Closed Cell Foam	3M9472+CR4305	Black	1

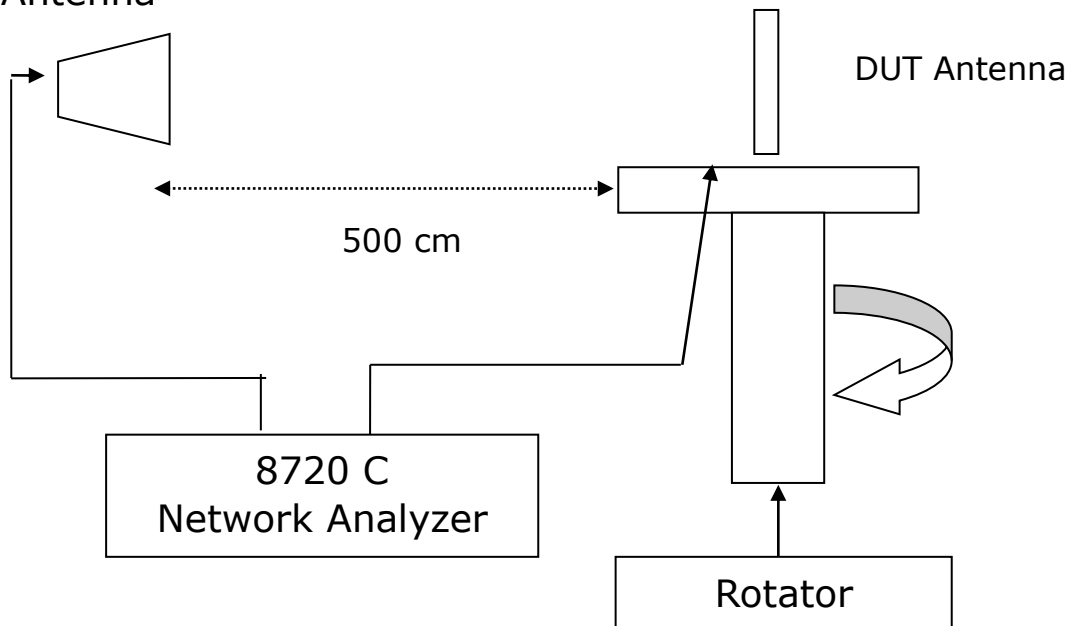


## 4. Antenna Test Setup and Results

### 4.1 Equipment

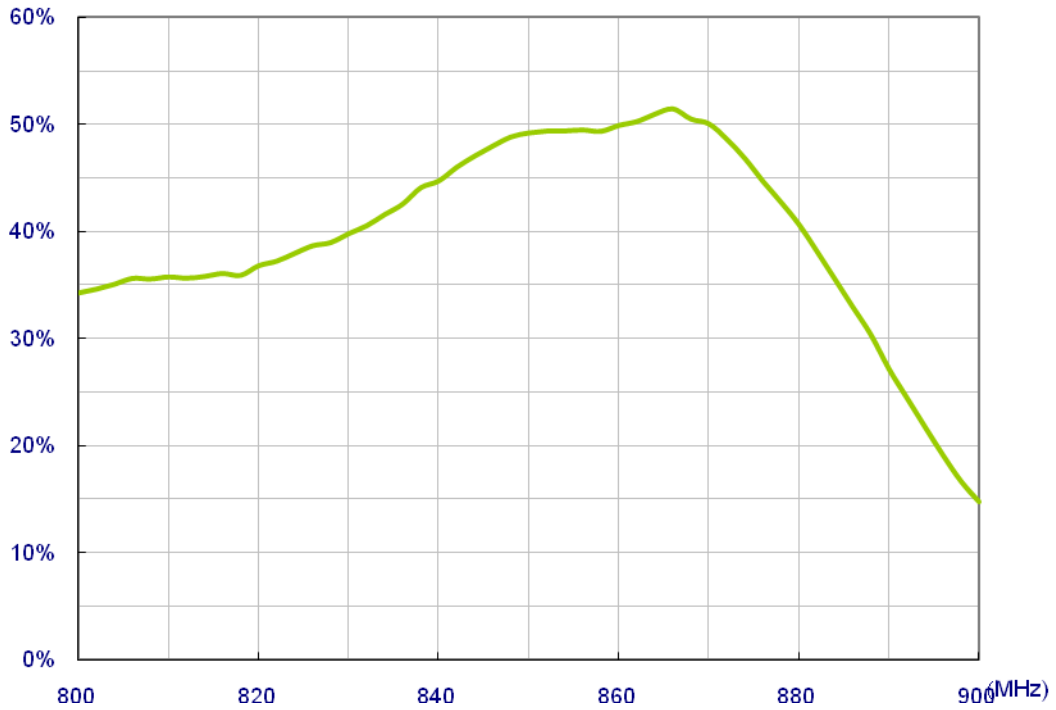
#### Radiation Pattern Testing - Anechoic

HORN  
Standard Antenna



## 4.2 Efficiency

Efficiency of PC.81 with 100mm coaxial in free space

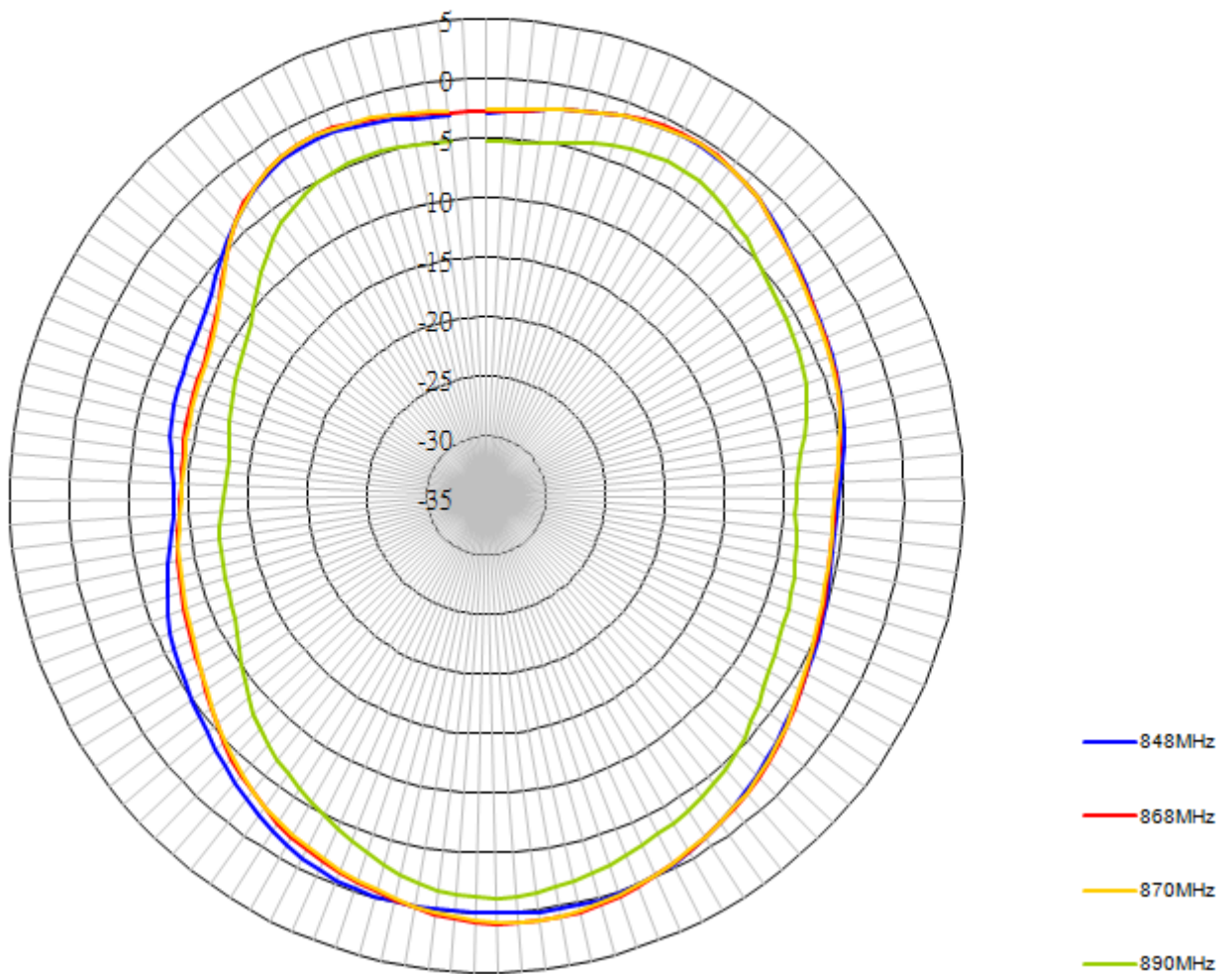


PC.81 Efficiency Data												
Band(MHz)	800	810	820	830	840	850	860	868	870	880	890	900
Gain	0.78	0.93	1.21	1.55	1.88	2.25	2.36	2.51	2.6	1.82	0.01	-2.56
Efficiency (%)	34.26	35.75	36.79	39.78	44.69	49.16	49.86	50.46	50.01	40.63	27.15	14.79
Efficiency dB	-4.65	-4.47	-4.34	-4	-3.5	-3.08	-3.02	-2.97	-3.01	-3.91	-5.66	-8.3

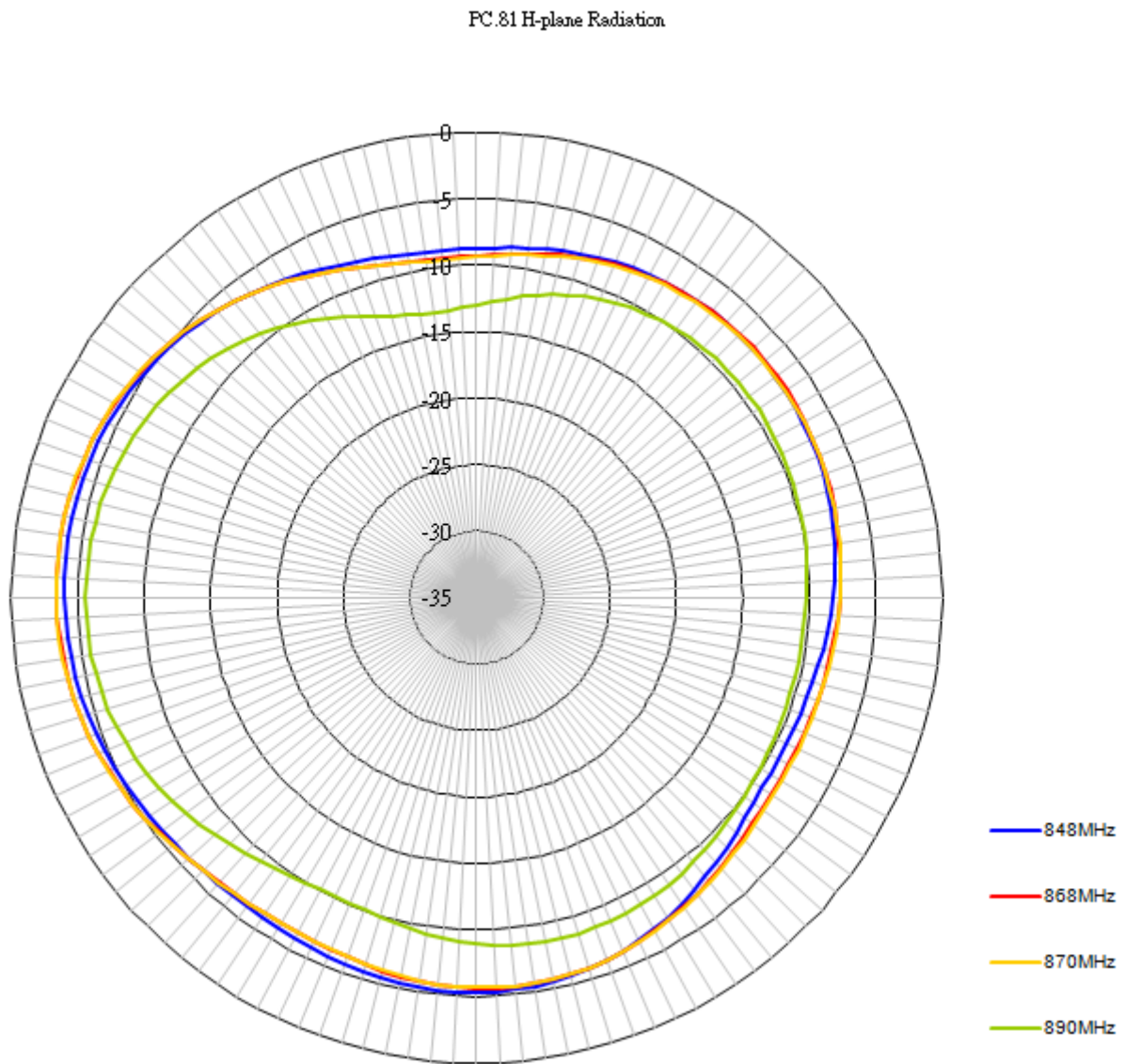
## 4.3 Radiation Patterns

### 4.3.1 E-Plane (Horizontal/Azimuth Plane)

FC.81 E-plane Radiation

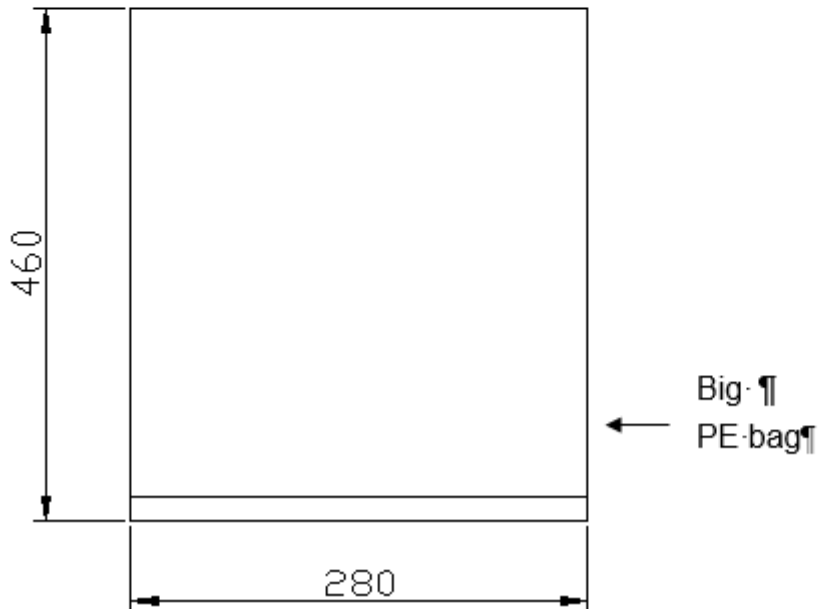
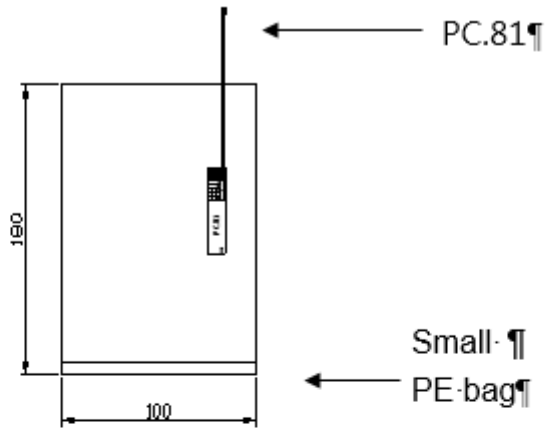


### 4.3.2 H-Plane (Vertical/Elevation Plane)



## 5. Packaging

- 100 pcs per small PE Bag
- 10 small PE bags per large PE bag (1000pcs)



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