



## Specification

# SPECIFICATION

Part No. : **PC81.07.0100A.db**

Product Name : **TheStripe™** 868Mhz PCB Antenna  
w/100mm IPEX 1.13mm diameter MHF connector  
w/ foam attachment for assembly

Features : 34mm\*7mm\*0.8mm(PCB)  
16mm\*6mm\*7mm(foam)

Compatible with Hirose U.FL

Photo:



## REVISION STATUS

Version	Date	Page	Revision Description	Prepared	Approved
01	Dec 09 <sup>th</sup> 2009	All	New Product	TW Product Centre	Ronan Quinlan



## Specification

### 1.0 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.

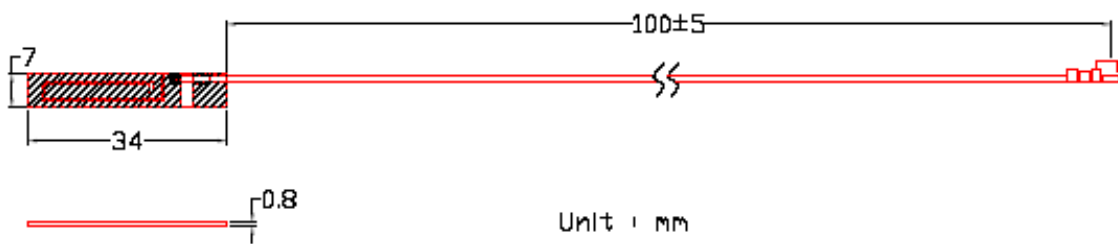
### 2.0 Typical Antenna Performance in free space

Parameter	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

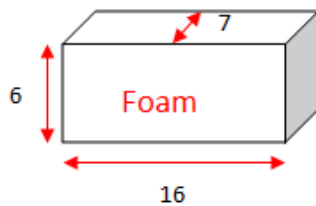


## 3.0 Mechanical Dimensions

### 3.1 Dimensions and Drawing(FR4 PCB)



### 3.2 Dimensions and Drawing (Foam)



### 3.3 Cable & Connector

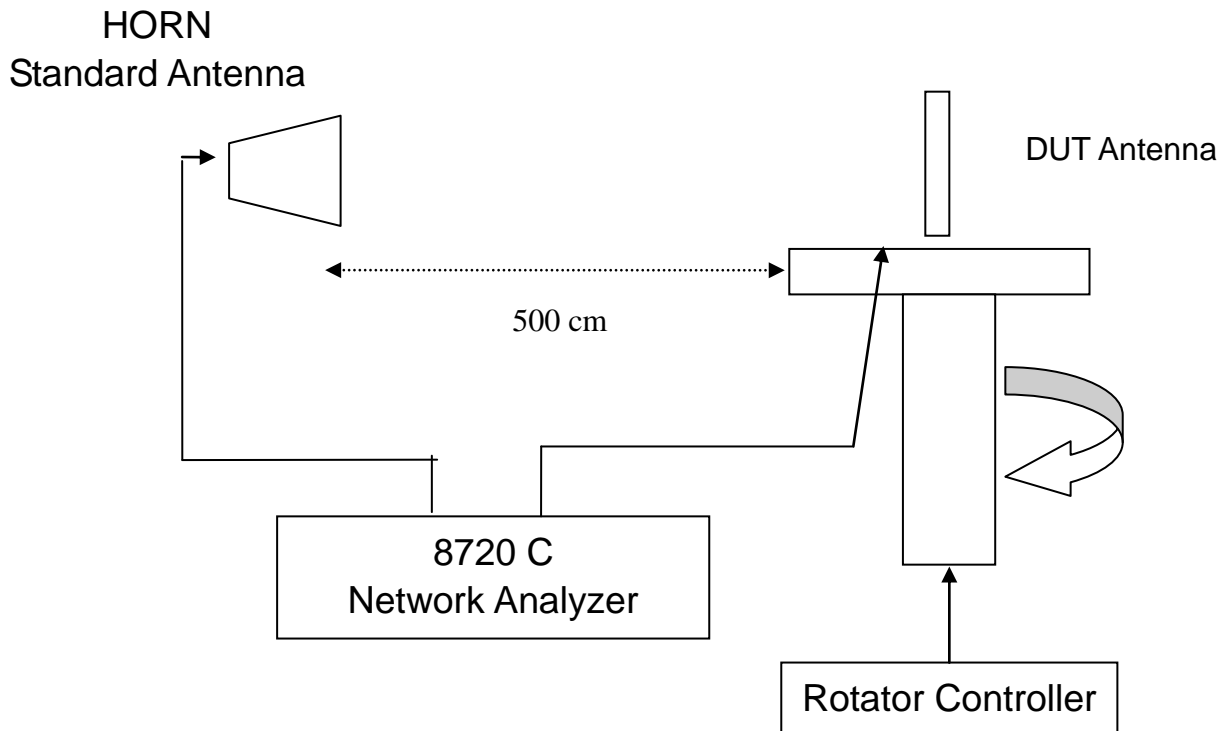
3.2.1	RF Cable	$\varnothing 1.13$ Coaxial Cable $L = 100 \pm 3$ mm
3.2.2	RF Connector	IPEX MHF (U.FL compatible)



## 4.0 Antenna Test Setup and Results

### 4.1 Equipment

#### Radiation Pattern Testing - Anechoic Chamber

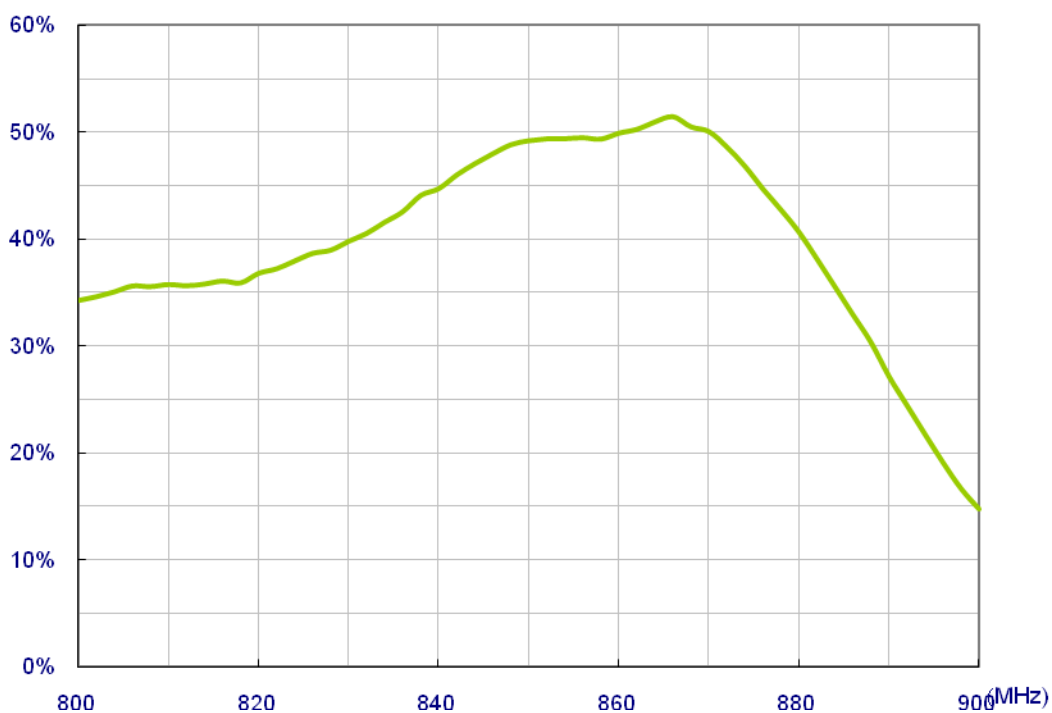




## Specification

## 4.2 Efficiency

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



PC.81 Efficiency Data

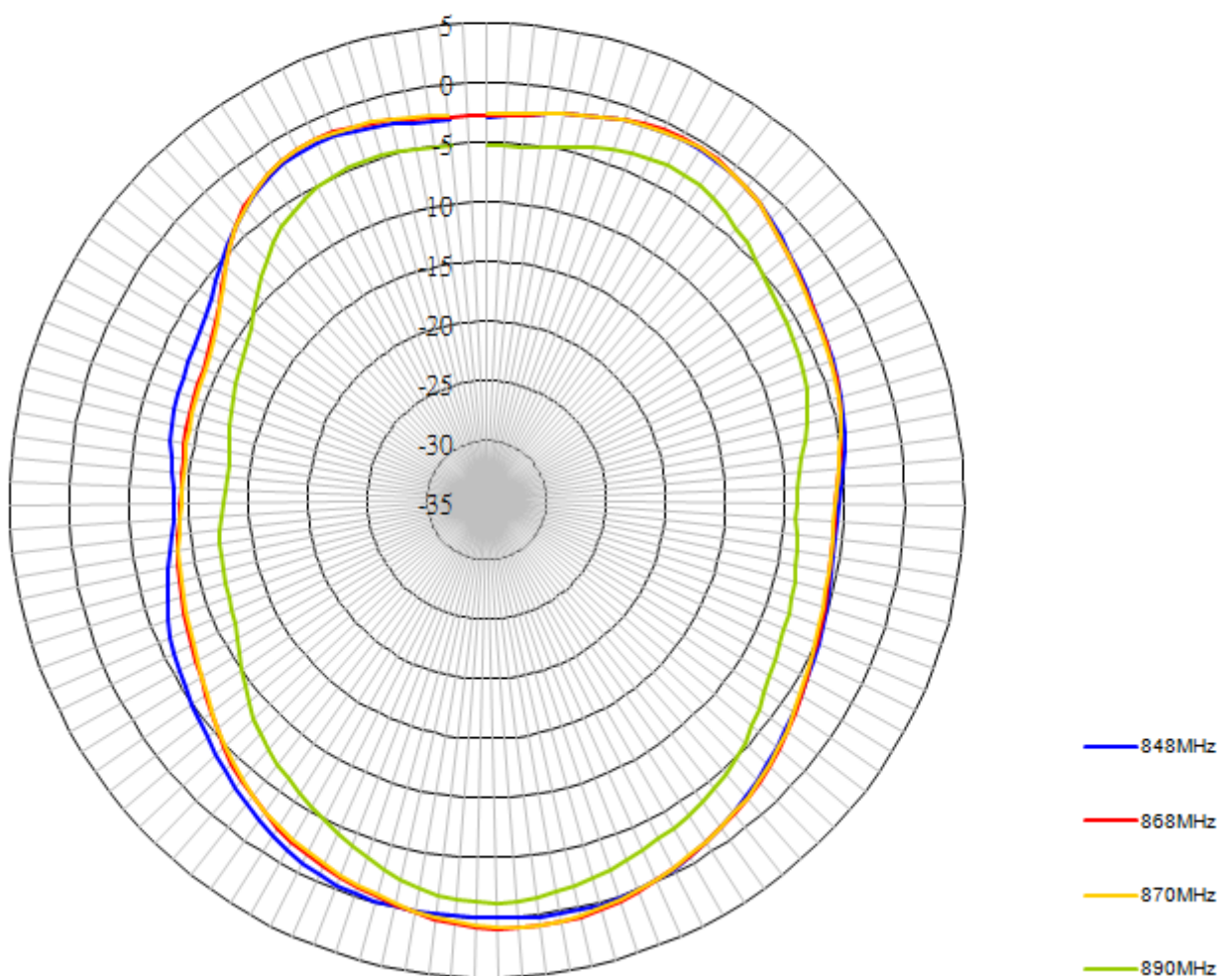
Band(MHz)	800	810	820	830	840	850	860	868	870	880	890	900
Gain	0.78	0.93	1.21	1.55	1.88	2.25	2.36	2.51	2.6	1.82	0.01	-2.56
Efficiency (%)	34.26	35.75	36.79	39.78	44.69	49.16	49.86	50.46	50.01	40.63	27.15	14.79
Efficiency dB	-4.65	-4.47	-4.34	-4	-3.5	-3.08	-3.02	-2.97	-3.01	-3.91	-5.66	-8.3



## 4.3 Radiation Patterns

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

PC.81 E-plane Radiation





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

