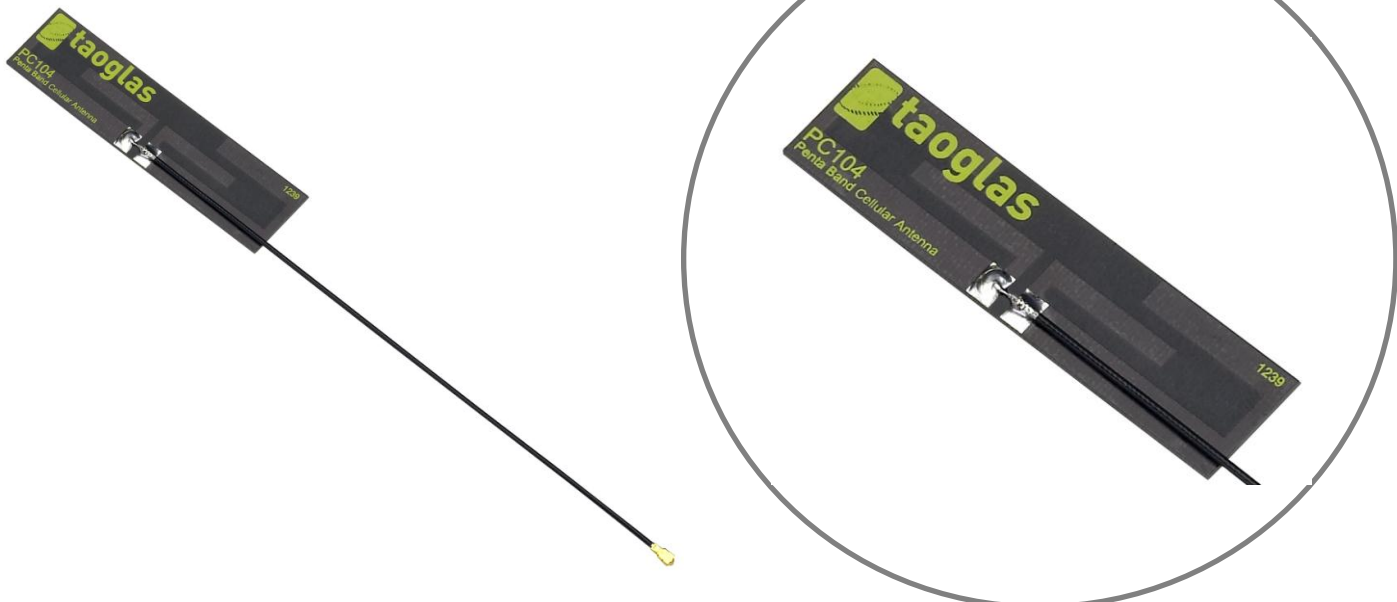


SPECIFICATION

Penta-band Cabled Embedded PCB Adhesive Mount Antenna

- Part No. : **PC104.07.0165C**
- Product Name : Penta-Band PCB Antenna
- Feature : GSM / CDMA /DCS /PCS / WCDMA / UMTS /
HSDPA / GPRS / EDGE
850/900/1800/1900/2100 MHz bands
High Efficiency
164.9mm Φ 1.37 coaxial cable with IPEX
connector
80mm*20.8mm*1mm
Low profile
With 3M adhesive, easy stick on client enclosure
RoHS Compliant



1. Introduction

The high efficiency PC104 Penta-band PCB antenna's slim-line design allows for convenient installation inside the customer device. Omni-directional gain across all bands ensures constant reception and transmission.

With its unique dipole design, the PC104 has exceptional industry performance characteristics considering its very low profile at 2.4mm and has a compact size 80mm*20mm. It is suitable for clients that appreciate highest performance with lower price.

This antenna has 3M adhesive on the back, and is tuned and designed to be mounted on 2mm thickness plastic (not on metal). Cable lengths and connectors are fully customizable. However for good efficiency performance the shortest cable length should not be less than 100mm, for requirements with shorter cable lengths the alternative product the FXP.14 can be used.

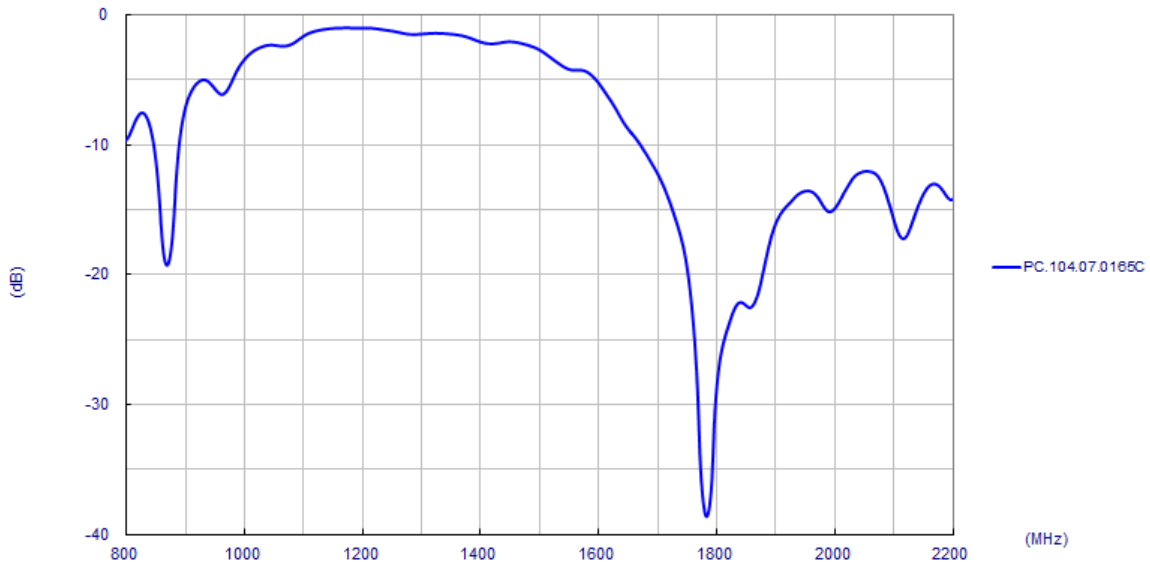
2. Specification Table

GSM Band					
	GSM 850	GSM 900	DCS	PCS	WCDMA I
Frequency (MHz)	824~896	880~960	1710~1880	1850~1990	1920~2170
Peak Gain (dBi)*	0.77	0.99	2.26	2.13	2.39
Average Gain (dBi)*	-3.26	-2.92	-1.32	-1.59	-1.52
Efficiency (%)*	47	51	73	69	70
Return Loss (dB)*	< -7	< -5	< -10	< -10	< -10
Polarization	Linear				
Impedance	50 Ω				
MECHANICAL					
Antenna Dimensions	80mm x 20mm x 1mm				
Material	FR4				
Cable type	Φ1.37 Coaxial Cable				
Cable length	164.9mm				
Connector type	IPEX				
Adhesive	3M 467				
ENVIRONMENTAL					
Operation Temperature	-40°C ~ +85°C				
Storage Temperature	-40°C ~ +85°C				

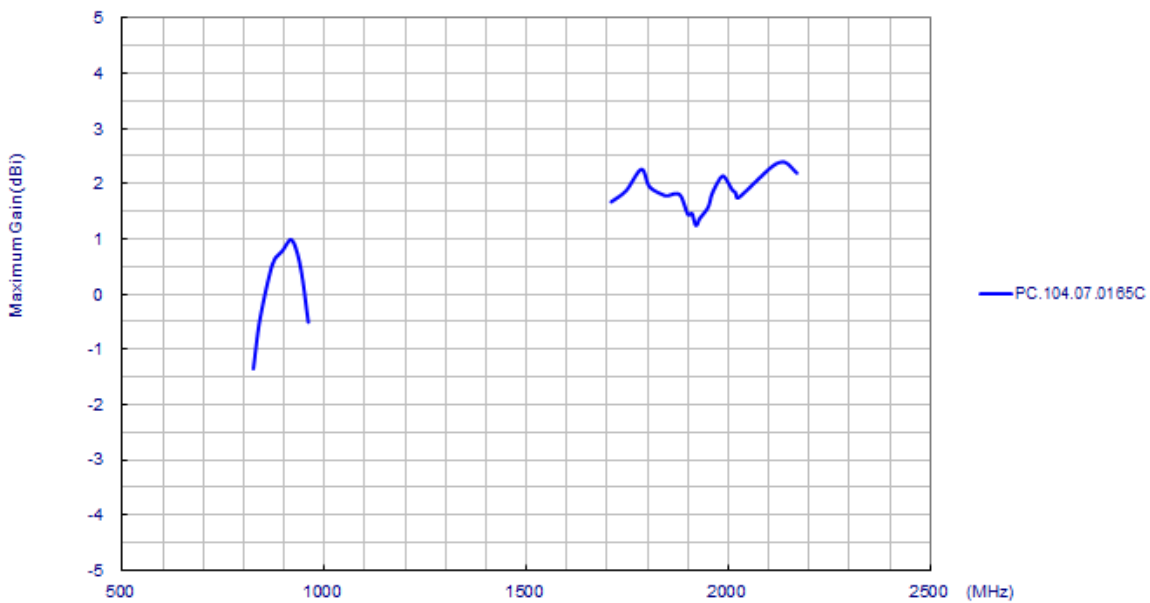
* Antenna is tested on a 2mm thickness ABS material base substrate.

3. Antenna Characteristics

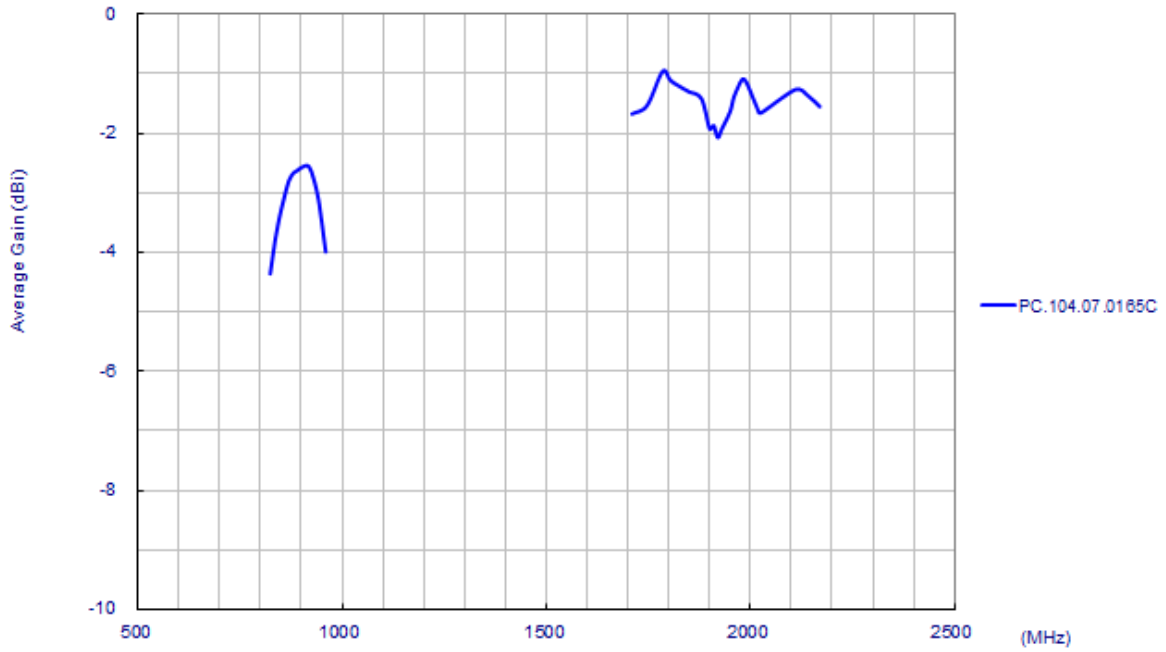
3.1. Return Loss



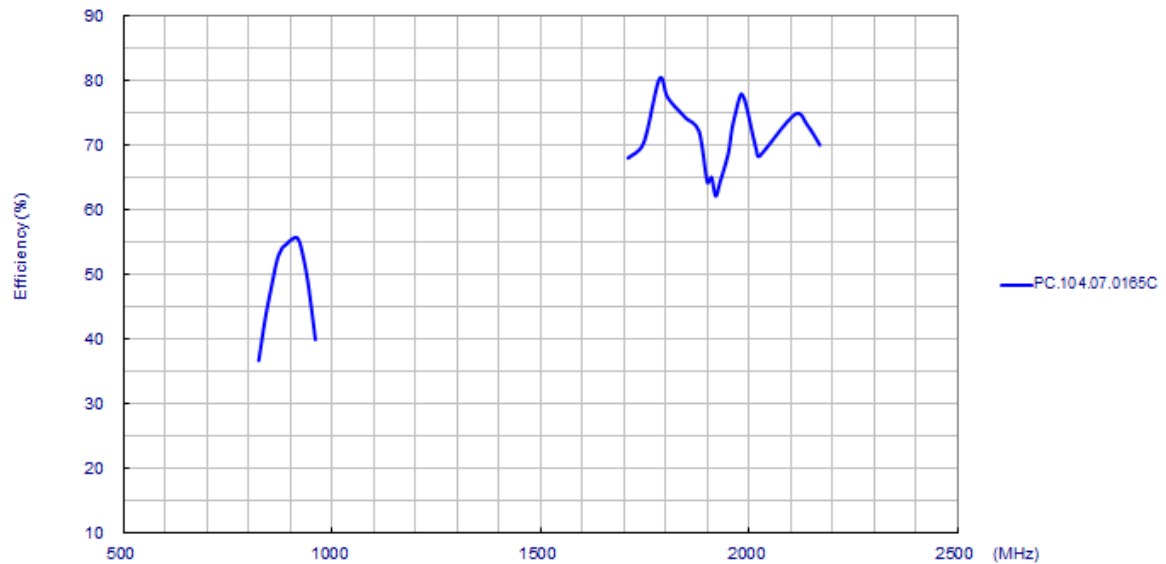
3.2. Maximum Gain



3.3. Average Gain

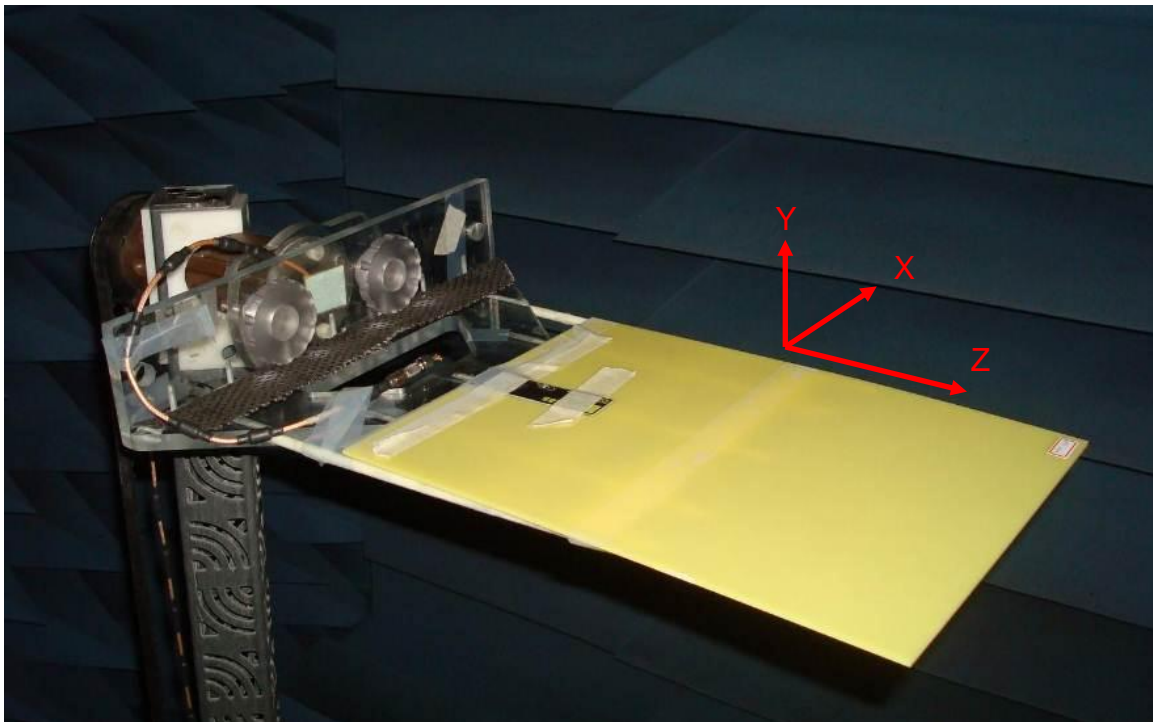


3.4. Efficiency



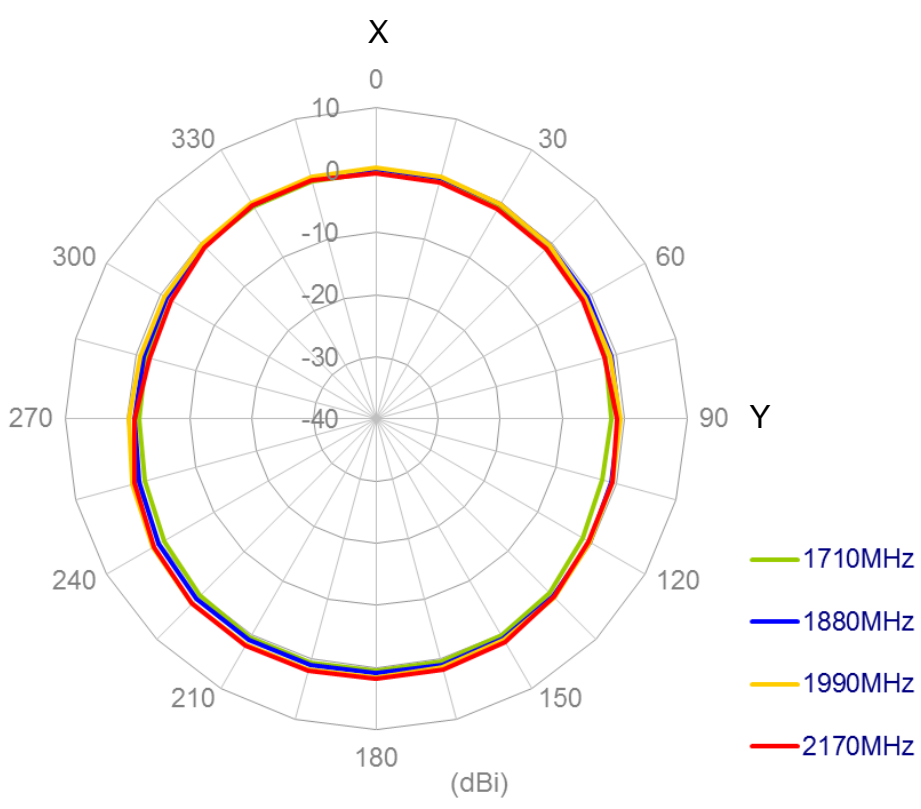
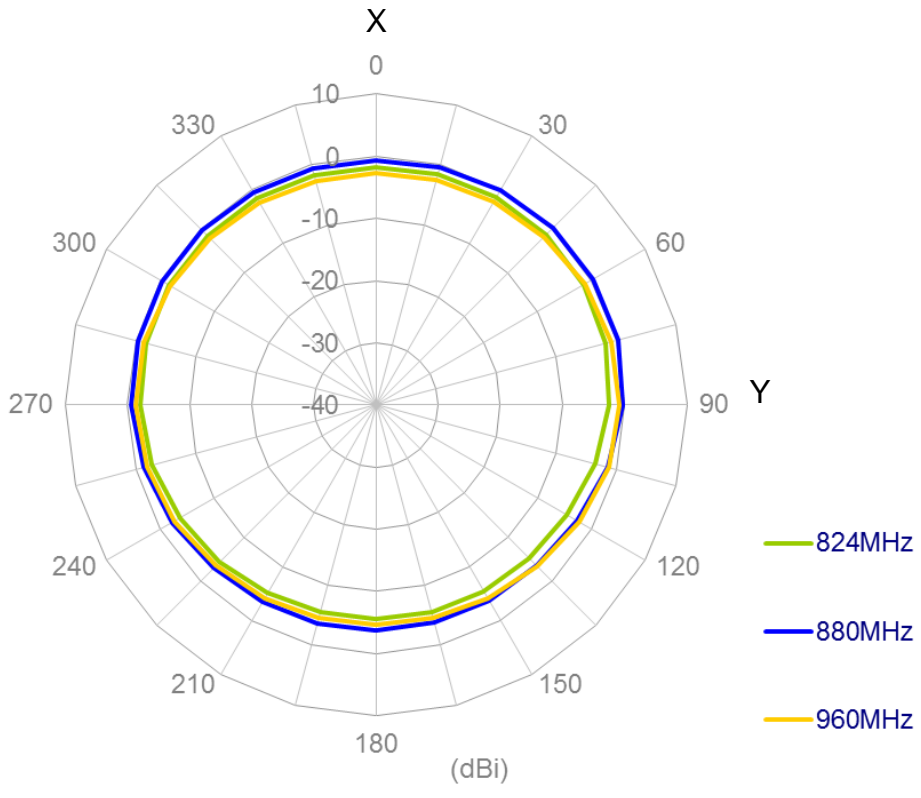
4. Antenna Radiation Patterns

Antenna setup in 3D Anechoic chamber

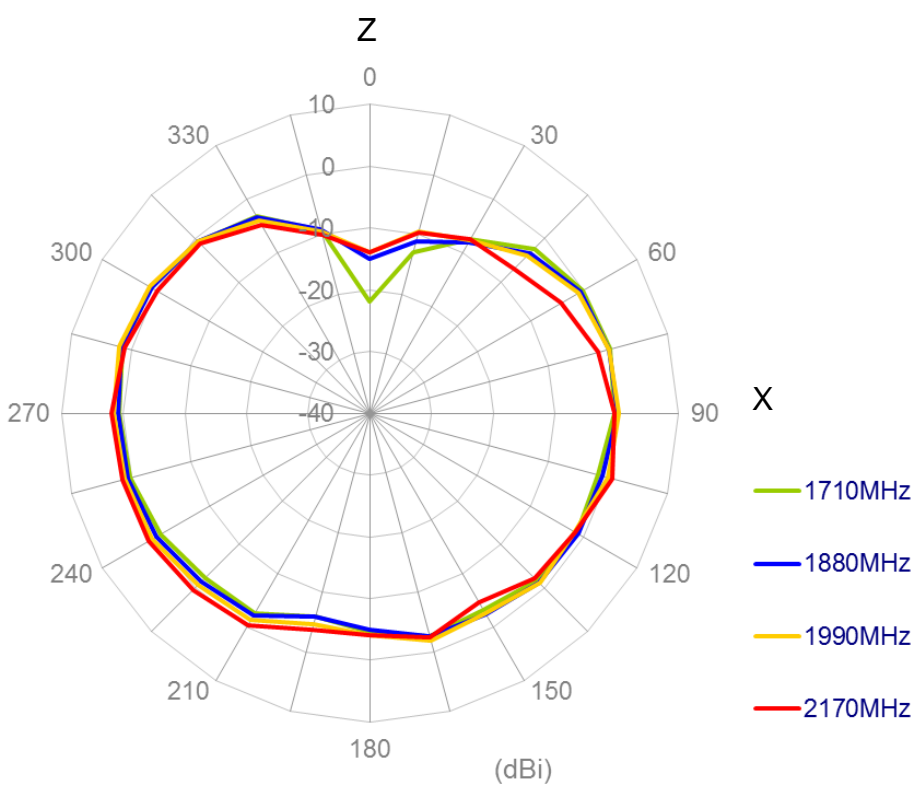
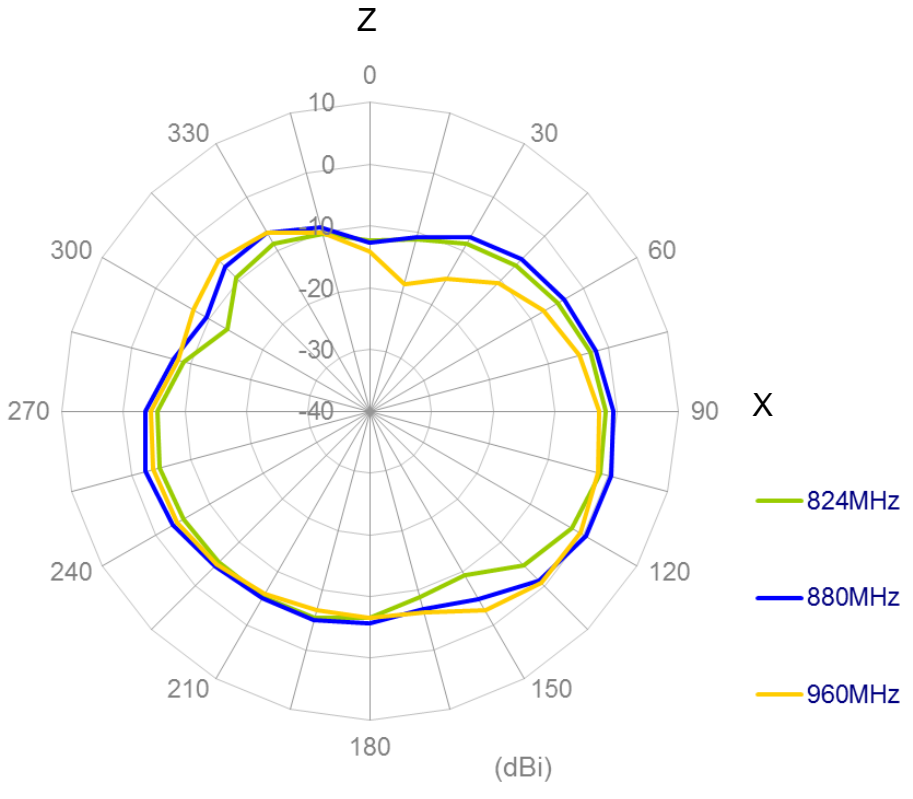


Radiation Patterns

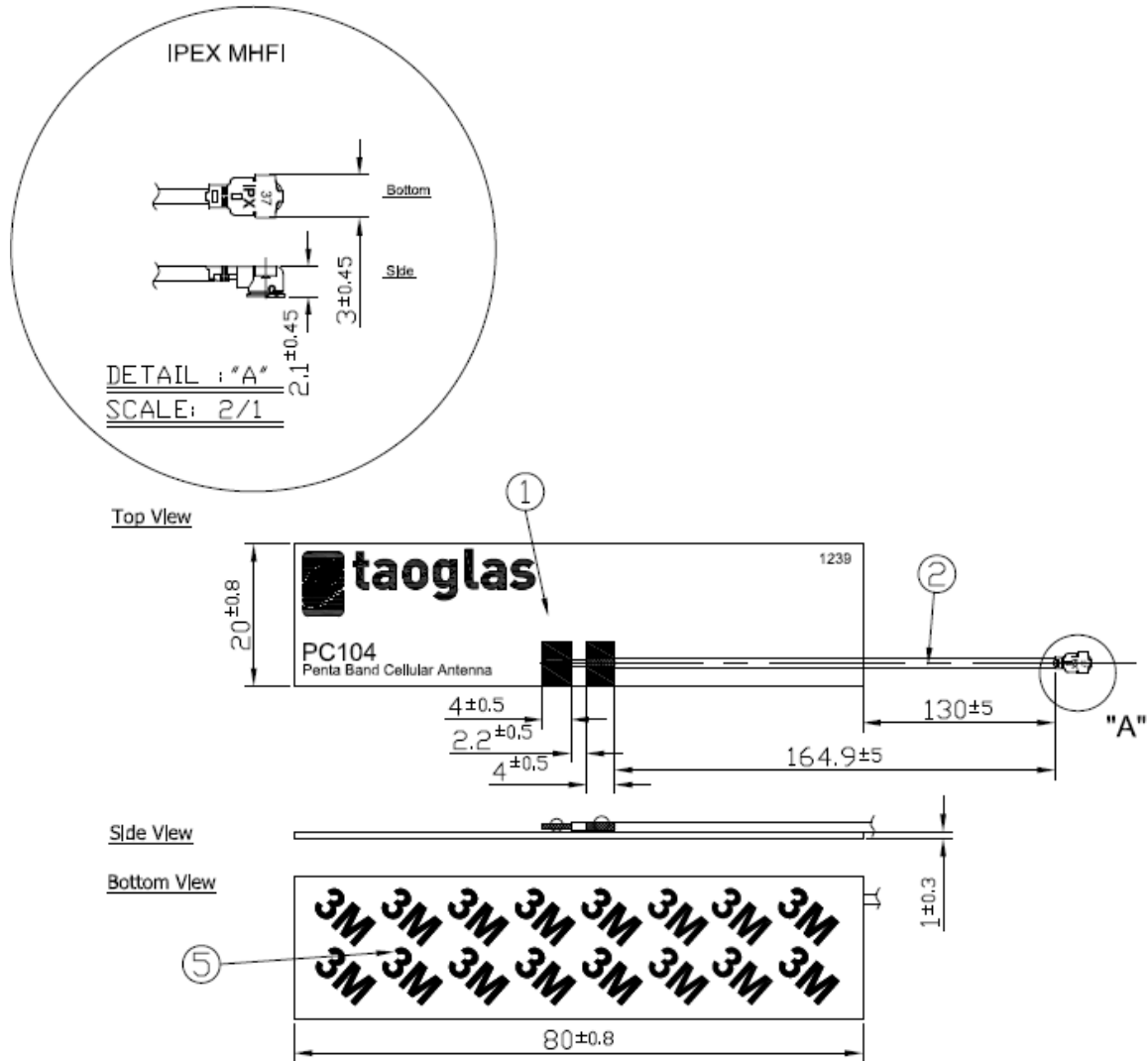
XY plane



XZ plane



5. Drawing

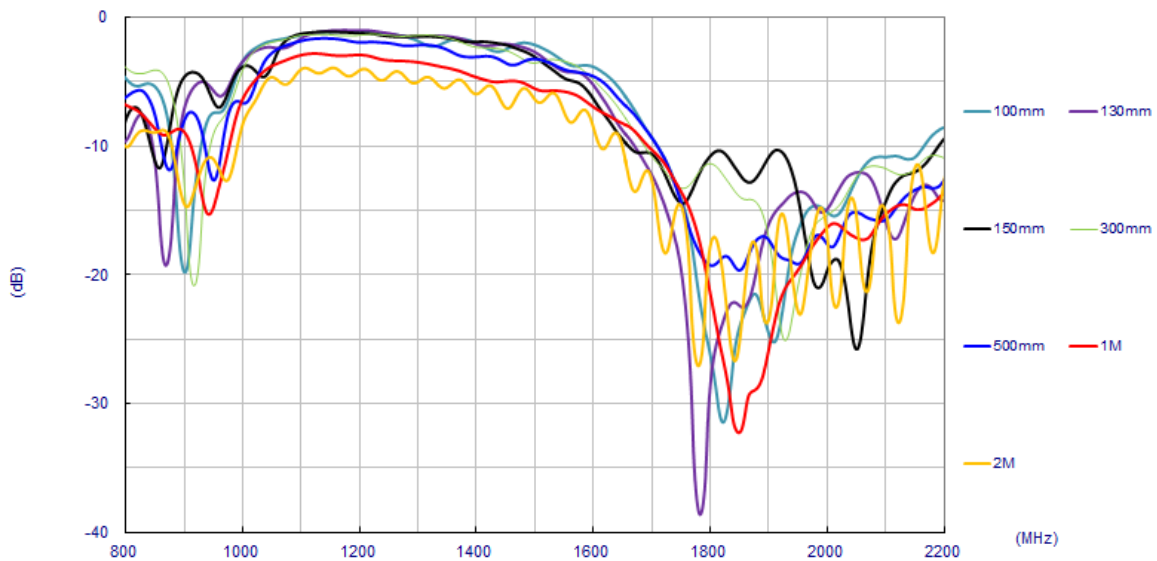


	Name	P/N	Material	Finish	QTY
1	PC104 PCB	100212K0100XXA	FR4 1t	Black	1
2	1.37 Coaxial Cable	OD.137.AD	FEP	Black	1
3	IPEX MHFI	IPEX.MHFHT.137	Brass	Gold	1
4	Heat Shrink Tube	001312E000002A	PE	Black	1
5	3M Adhesive	001012K0000XXA	3M 9448	N/A	1

6. Application Note

We measured PC.104 antenna with different cable length, the results as below,

Return Loss



Antenna Efficiency

