

## SPECIFICATION

- Part No. : PC30.07.0100A
- Product Name : FR4 Penta-band GSM Antenna
- Feature : High antenna RF efficiency (Avg 50%  
across all bands)  
RoHS compliant



## I. Introduction

This dipole antenna delivers high efficiency, averaging 50% across all bands, in a small form factor to tracking devices, metering devices and other M2M applications. Further tuning can be done for optimized embedded solutions at specific cellular bands

## II. Specification (Free Space)

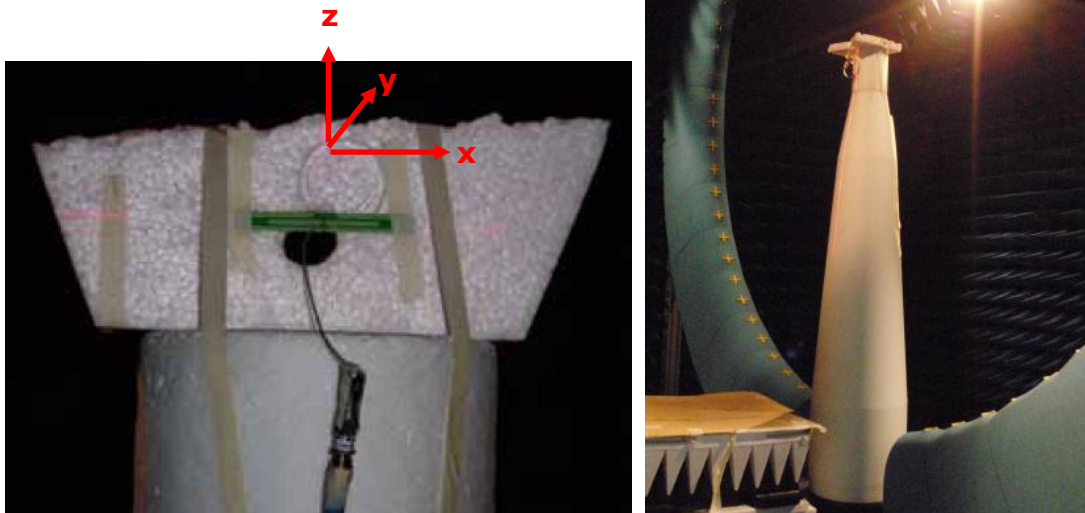
| Specifications        |                           |         |           |           |           |
|-----------------------|---------------------------|---------|-----------|-----------|-----------|
| Communication System  | Penta-band Cellular       |         |           |           |           |
|                       | AMPS                      | GSM     | DCS       | PCS       | UMTS      |
| Frequency (MHz)       | 824 ~ 896                 | 880~960 | 1710~1880 | 1850~1990 | 1710~2170 |
| Average Efficiency    | 17%                       | 38%     | 60%       | 70%       | 68%       |
| Gain                  | 2dBi                      |         |           |           |           |
| Impedance             | 50 Ohm                    |         |           |           |           |
| Radiation Pattern     | Omni-directional          |         |           |           |           |
| Polarization          | Linear                    |         |           |           |           |
| PCB                   | FR4 74.70 x 8.20 x 0.8 mm |         |           |           |           |
| Connector             | IPEX                      |         |           |           |           |
| Cable                 | Ø1.13                     |         |           |           |           |
| Cable Length          | 100 mm                    |         |           |           |           |
| Operation Temperature | -40°C ~ +85°C             |         |           |           |           |
| Storage Temperature   | -40°C ~ +85°C             |         |           |           |           |

Please note that Cables and Connectors are Customizable, customized solution will have an MOQ

## III. Electrical Property

### III.1 Test Setup

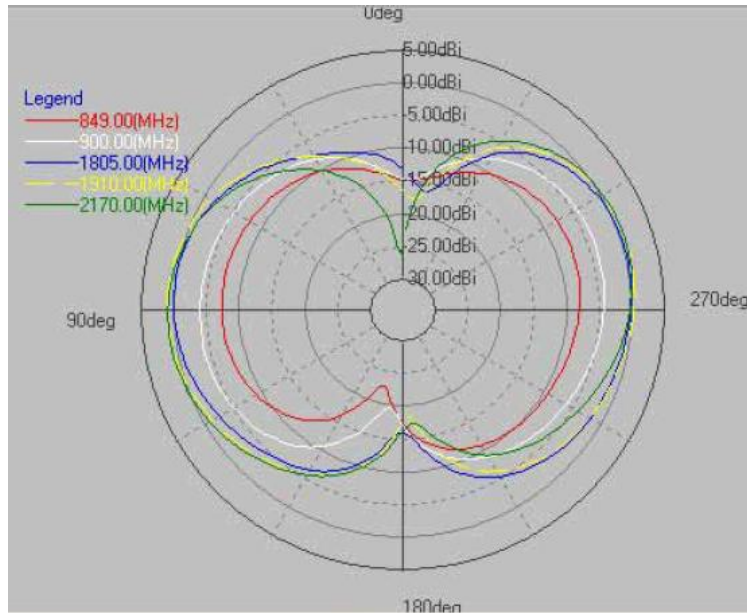
Satimo SG64 3D-chamber is used for radiation and efficiency test. For the free space test, a Styrofoam is used to fix the antenna in the testing set.



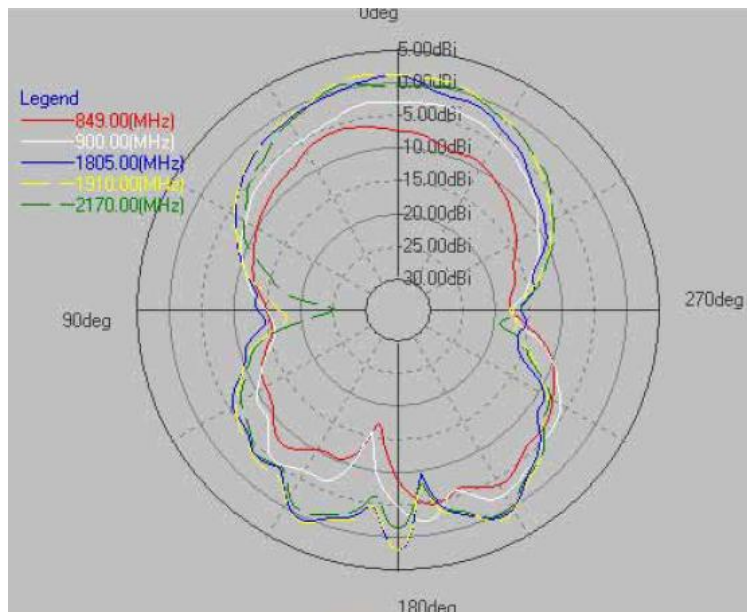
Antenna setup and Satimo SG64 3D-chamber.

### III.2 Radiation Pattern

The radiation pattern of PC.30 in free space as the above test setup is --

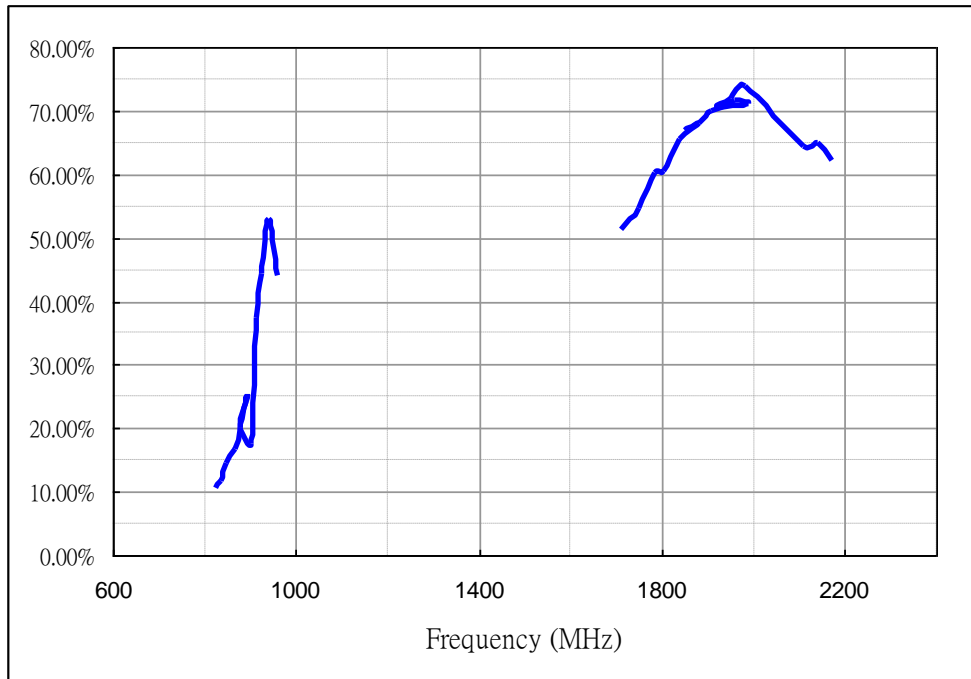


Radiation pattern of x-y plane



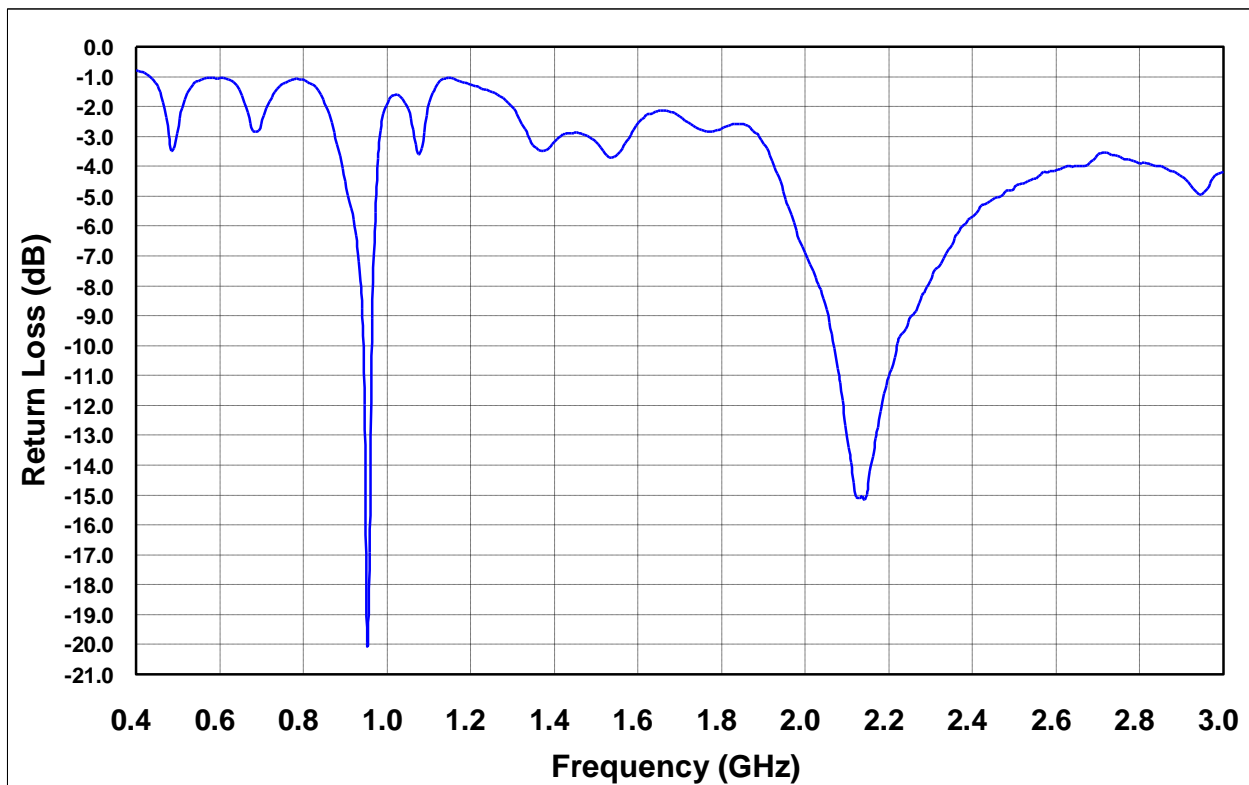
Radiation pattern of x-z plane

### III.3 Efficiency



### III.4 Return Loss

A piece of Styrofoam is use to hold PC.30 at least 30cm away from any metal surrounding objects. Agilent E5071B Network Analyzer is used for the return loss measurement.



## IV. Drawing

