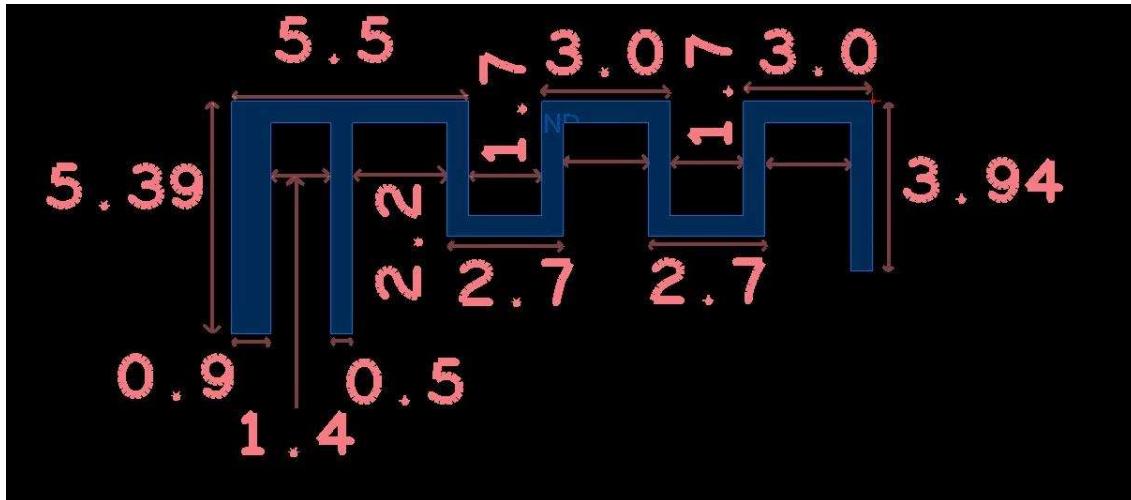


## Spiker (ACH) antenna gain specifications

### 1. Layout



### 2. Antenna design

The PCB antenna on the REM model is a meandered Inverted F Antenna (IFA). The IFA was designed to match an impedance of 50 ohm at 2.45 GHz. Thus no additional matching components are necessary.

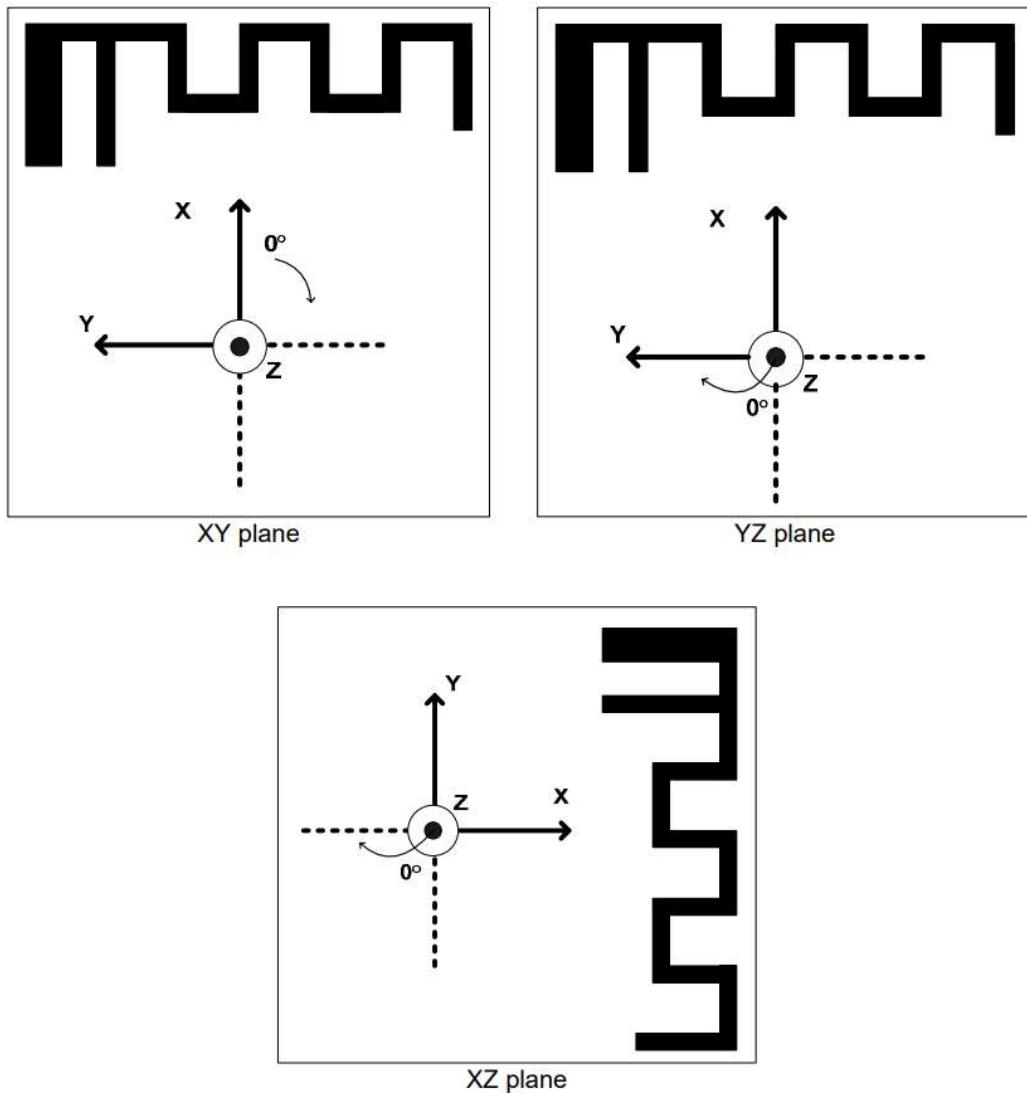
Important properties of the above antenna are

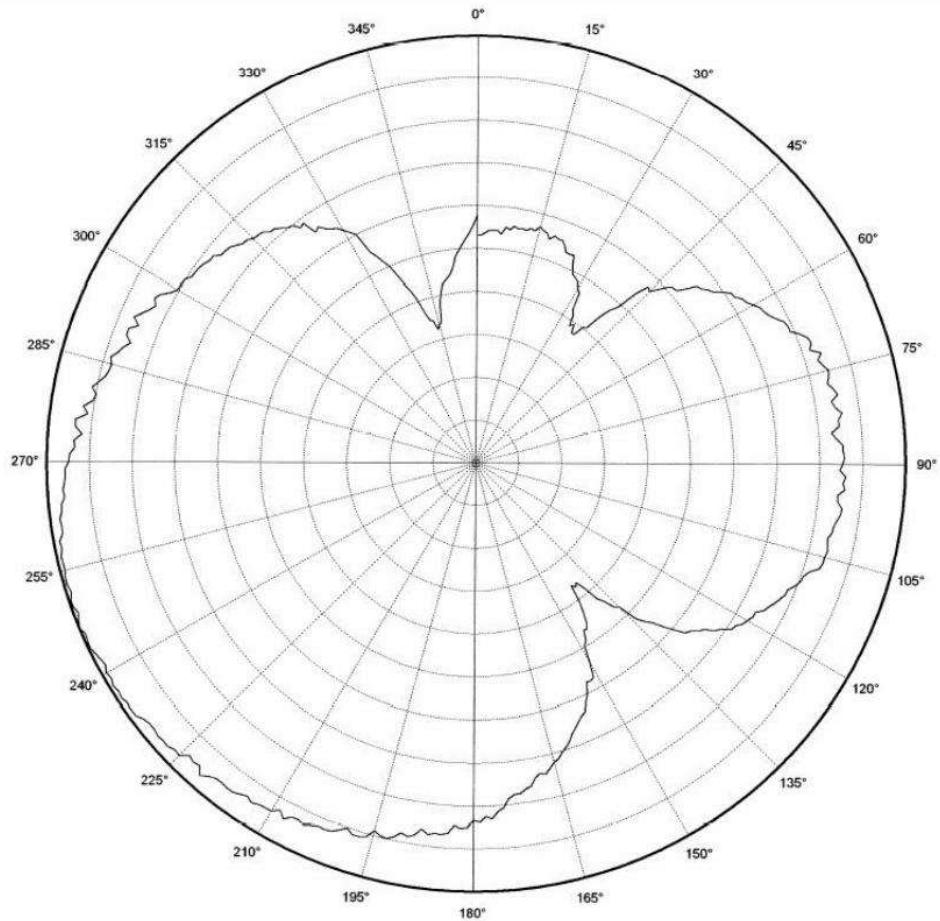
Gain in XY plane	4.5 dB
Gain in XZ plane	5.3 dB
Gain in YZ plane	5.3 dB

### 3. Radiation Pattern

The radiation pattern for the antenna implemented on the REM has been measured in an anechoic chamber. Attached figures shows radiation patterns for three planes, XY, XZ and YZ, measured with vertical and horizontal polarization.

All measurements were performed with 0 dBm output power. Below shows how the different radiation patterns are related to the positioning of the antenna.





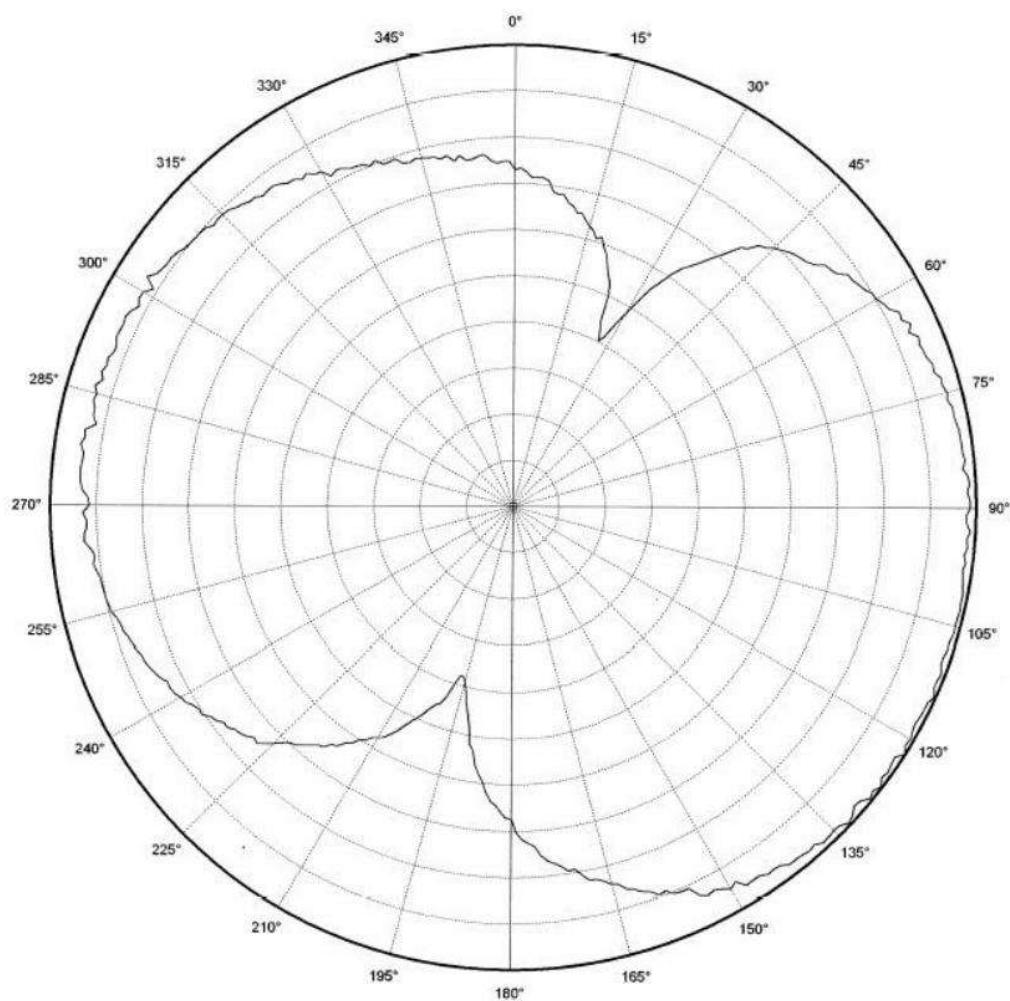
**Vertical Polarization**

**usb XY**

**CF 2450.000 MHz**

**4 dB/ div**

**Ref Lev: -2.5 dBm**



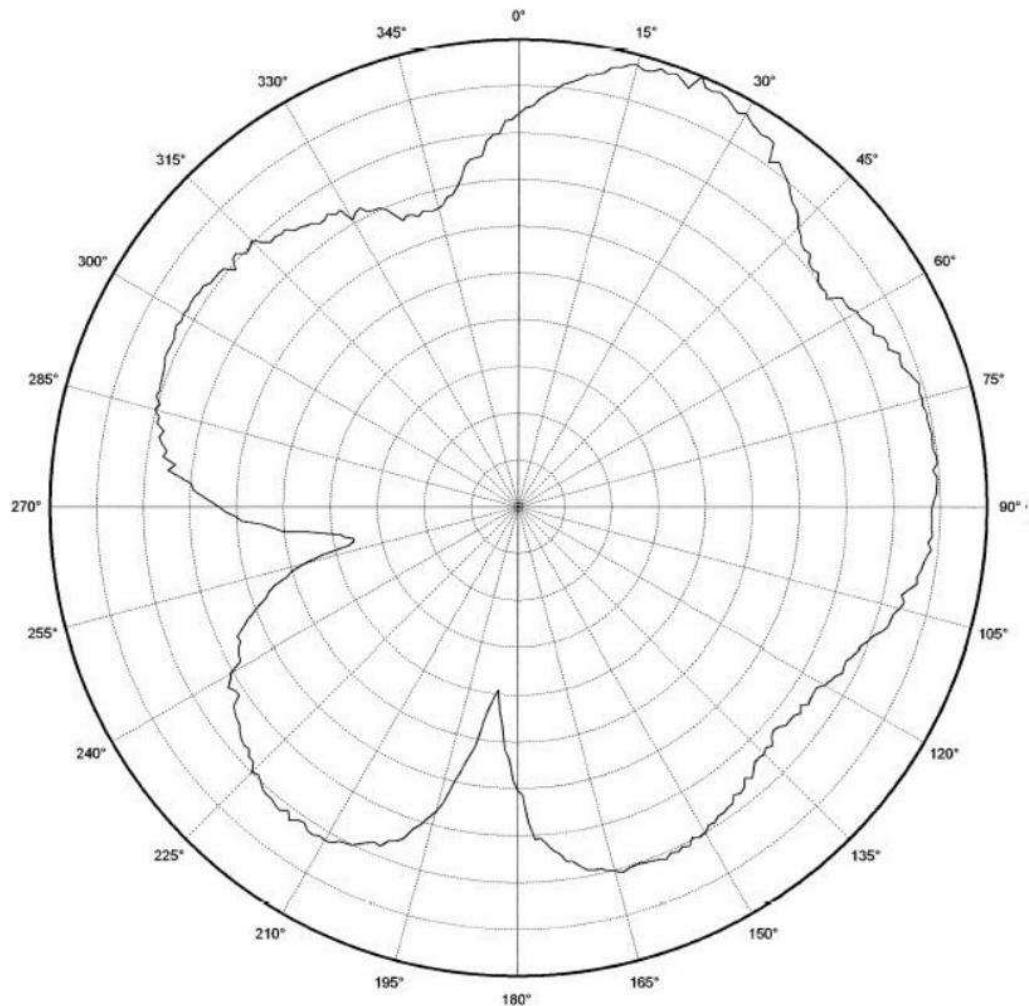
**Horizontal Polarization**

usb XY

**CF 2450.000 MHz**

**5 dB/ div**

**Ref Lev: 45 dBm**



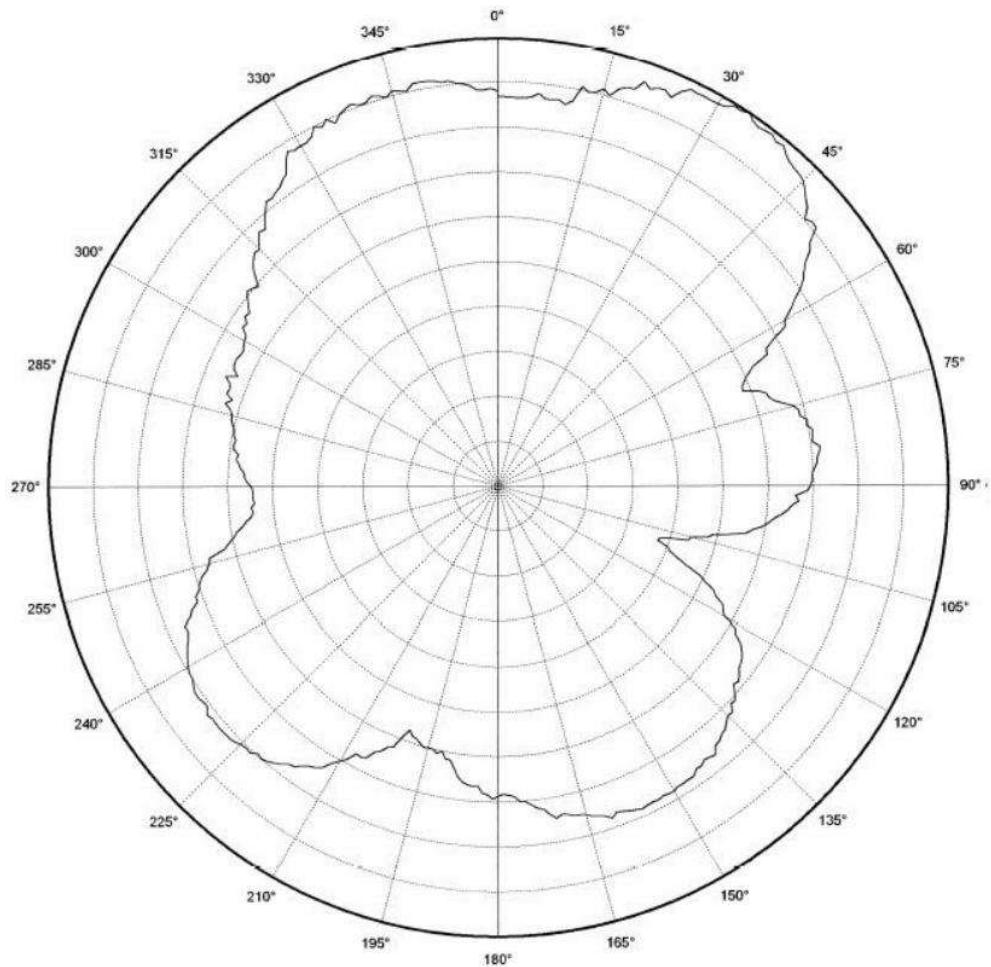
Vertical Polarization

usb XZ

CF 2450.000 MHz

4 dB/ div

2, 2  
Ref Lev: ..... dBm



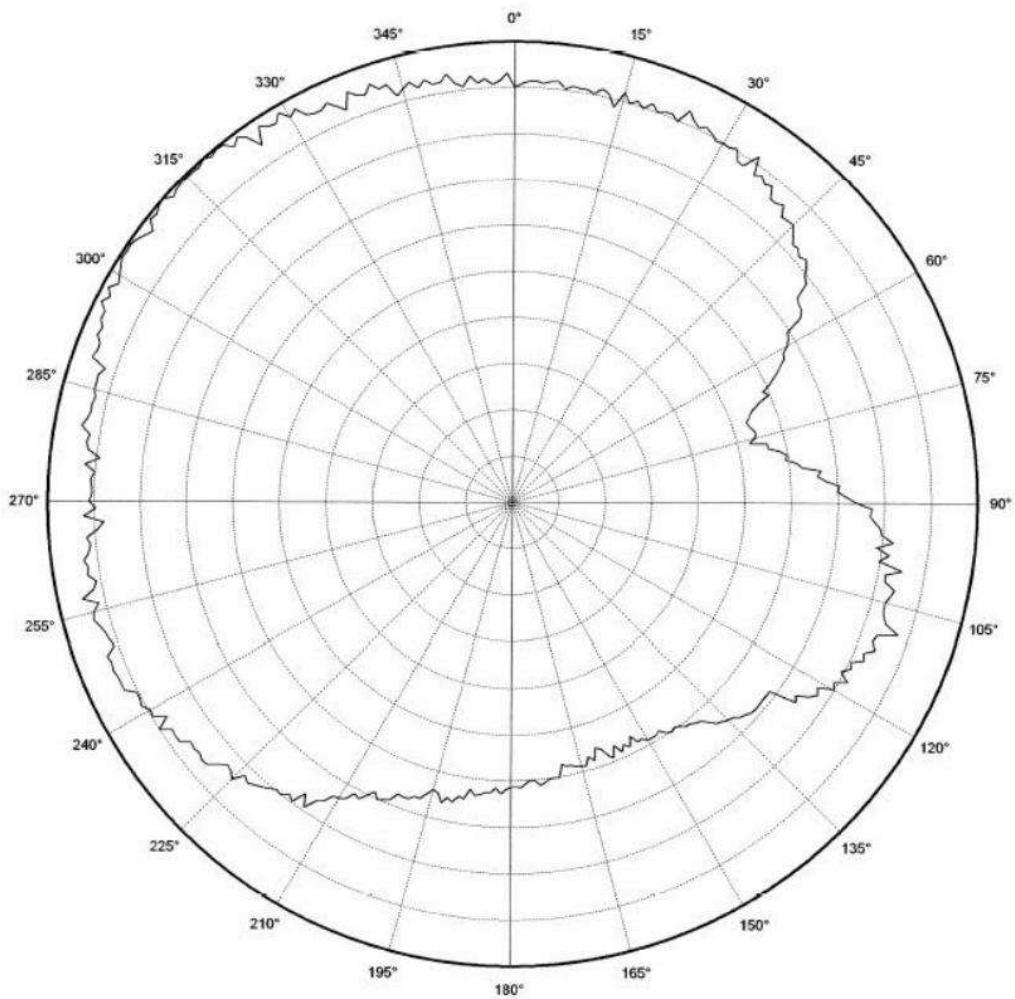
**Horisontal Polarization**

**usb XZ**

**CF 2450.000 MHz**

**4 dB/ div**

**Ref Lev: 5.3 dBm**



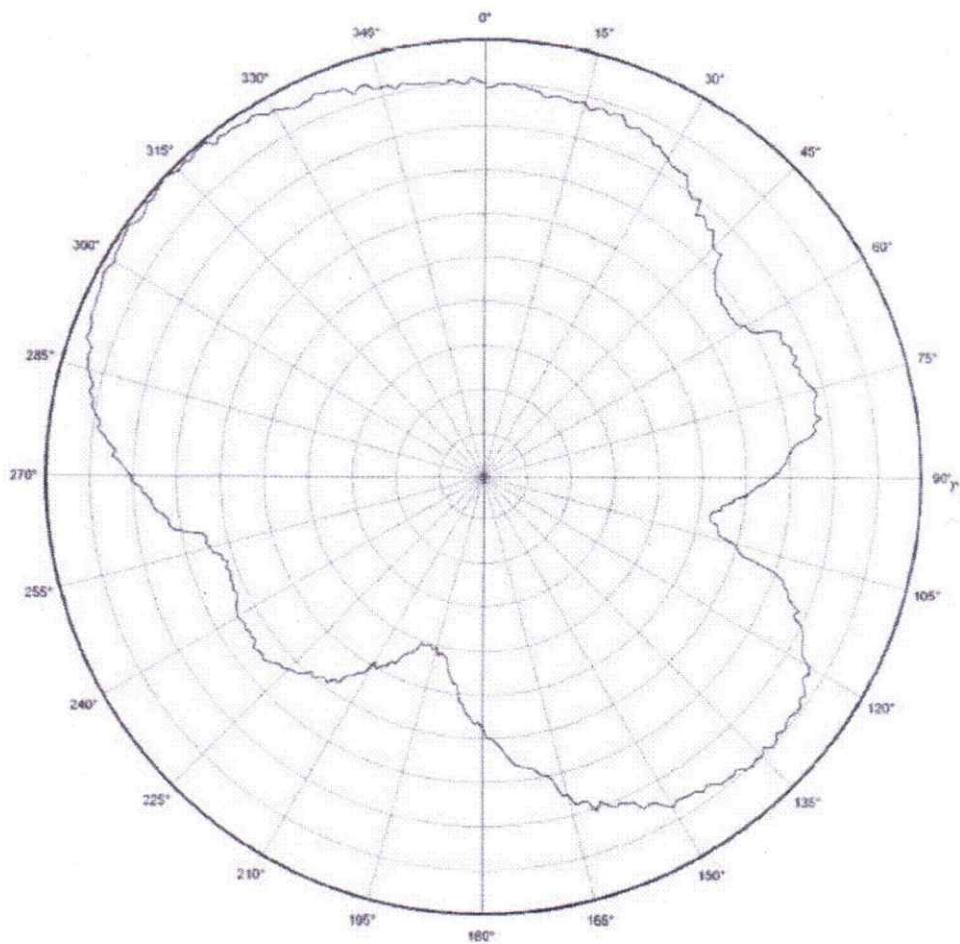
Vertical Polarization

usb YZ

CF 2450.000 MHz

2 dB/ div

Ref Lev:  $+\sqrt{3}$  dBm



Horizontal Polarization

usb YZ

CF 2450.000 MHz

3 dB/ div

Ref Lev: -1,2 dBm

Antenna Model: ACH antenna

Company Name: Mirana Innovations Private Limited

Address: Warehouse 05, Titanium Logistics Park, Rajoda, Ahmedabad, Gujarat 382220

Tested By :

  
Swapnil Malode

R&D engineer

