

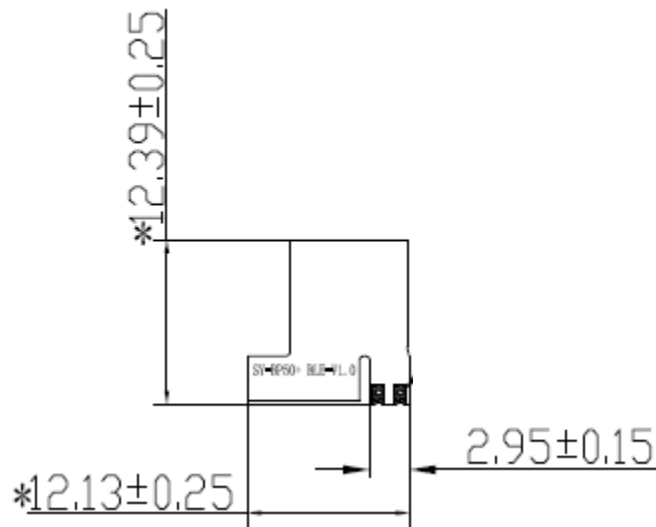
Antenna Report

1. Bluetooth Antenna

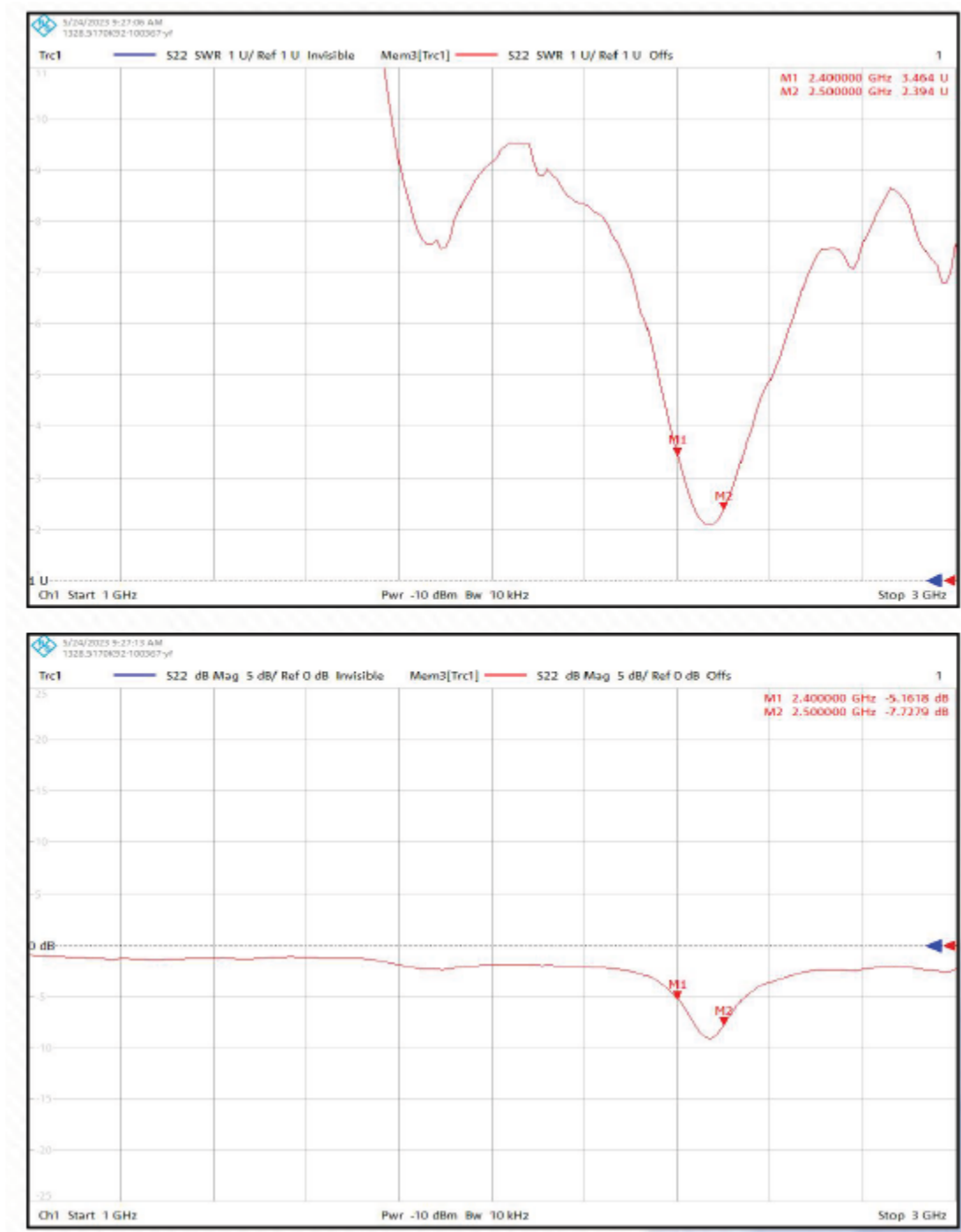
1.1 Specifications

Specifications	
Central Frequency	2450MHz
Transmitting frequency	2400.0MHz-2500.0MHz
Receiver frequency	2400.0MHz-2500.0MHz
Bandwidth	100MHz
Impedance	50 Ohm
Antenna type	FPC
Antenna gain	-5.92 dBi

1.2 Dimensions (Unit: mm)



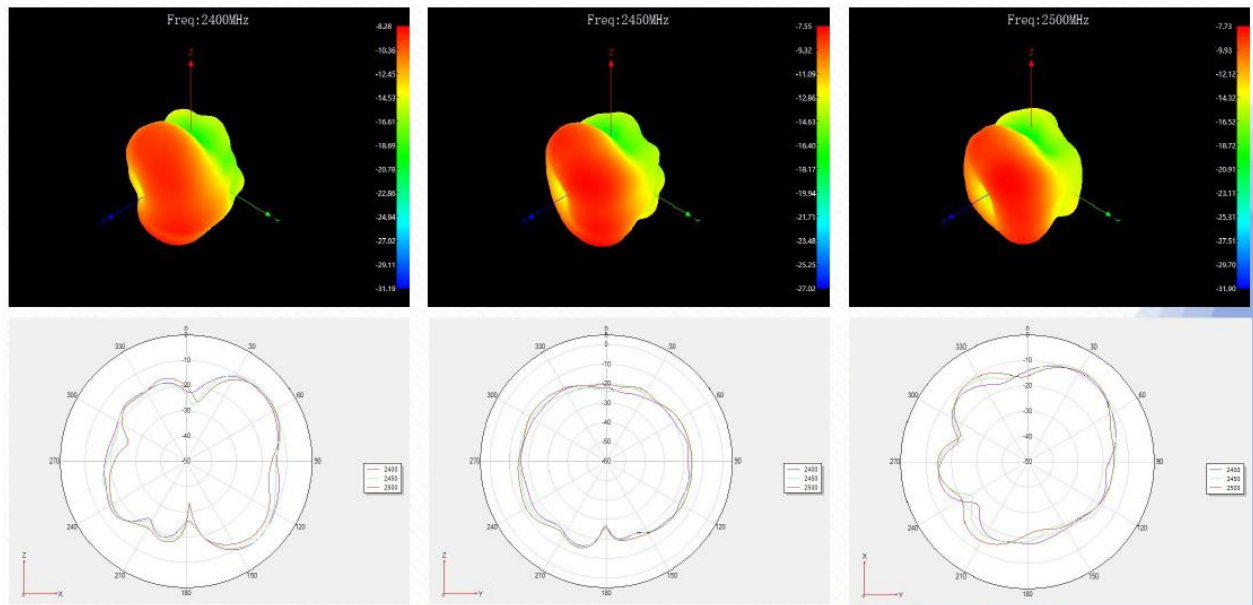
1.3 Passive parameters



1.4 Efficiency

Frequency (MHz)	2400	2450	2480
Efficiency (%)	8.7	10.11	10.52
Max Gain (dBi)	-8.28	-7.55	-5.92

1.5 Directional pattern

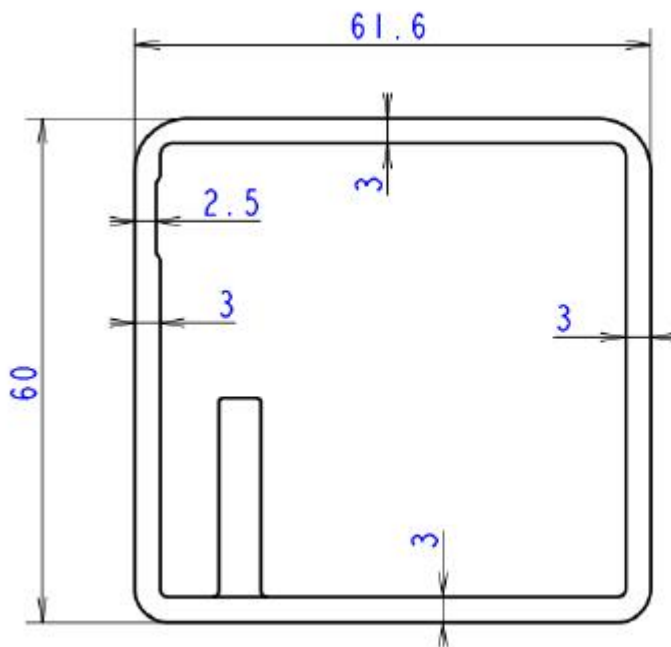


2. RFID Antenna

2.1 Specifications

Specifications	
Operating frequency (MHz)	13.56
Antenna type	<i>Flex PCB</i>
Antenna gain	0 dBi

2.2 Dimensions (Unit: mm)

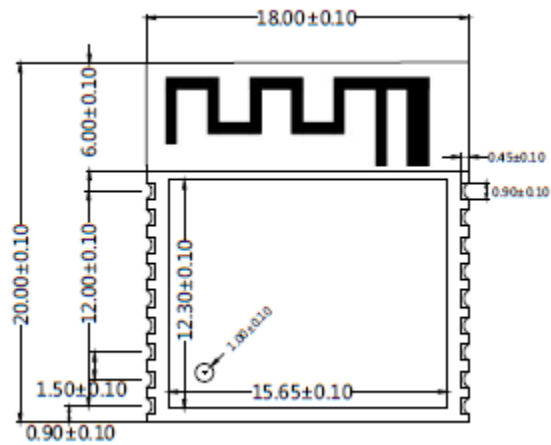


3. WiFi Antenna

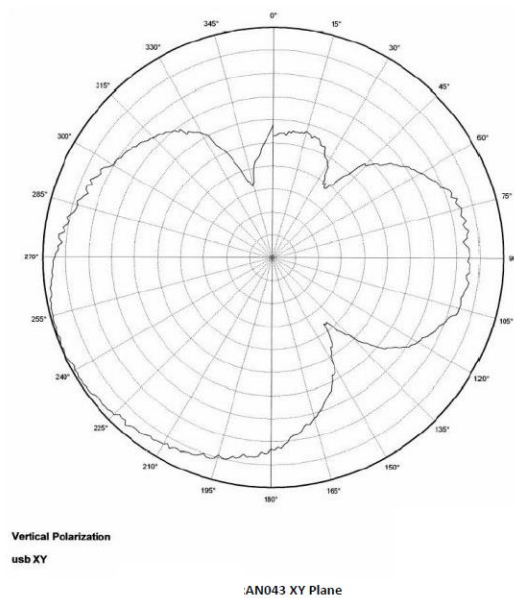
3.1 Specifications

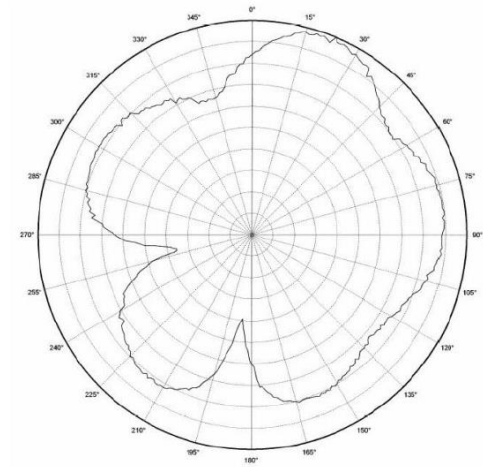
Specifications	
Central Frequency	2450MHz
Transmitting frequency	2400.0MHz-2500.0MHz
Receiver frequency	2400.0MHz-2500.0MHz
Impedance	50 Ohm
Antenna type	PCB
Antenna gain	+2 dBi

3.2 Dimensions (Unit: mm)



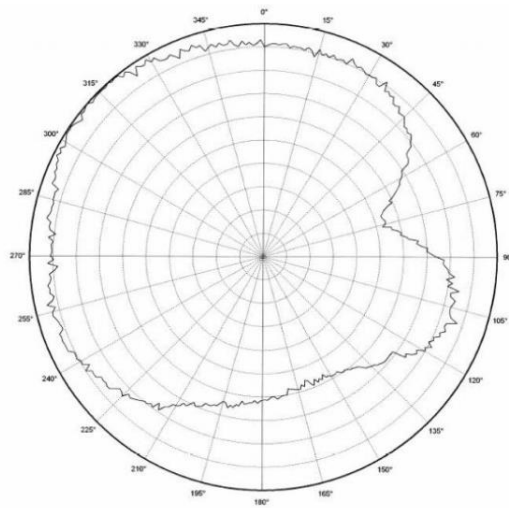
3.3 Directional pattern





Vertical Polarization
usb XZ

AN043 XZ Plane



Vertical Polarization
usb YZ

AN043 YZ Plane

3.4 Gain

Gain in XY plane	2.0 dBi
Gain in XZ plane	2.0 dBi
Gain in YZ plane	1.8 dBi
LOS range	240m
Antenna size	15.2 x 5.7 mm