SPECIFICATION

Part No.	:	**FXP831.07.0100C**
Product Name	:	FXP.831 Freedom 2.4/5 GHz Ground Coupled Antenna
Feature	:	Flexible Ultra Low Profile 45mm*7mm*0.1mm Adheres directly to inside of product plastic or glass housing Form factor and cable routing convenient for integration High Efficiency IPEX MHF Connector (U.FL compatible) 100m 1.37mm co-axial cable RoHS Compliant

1. Introduction

The FXP831 is a high efficiency, small, dual-band, dipole antenna for 2.4/4.9-6GHz band including Bluetooth and Wi-Fi. The FXP.831 has a peak gain of 2.5dBi at 2.4GHz and efficiencies of 56%, and 4.5dBi and 55% along bands 4.9GHz to 6GHz.

This Taoglas patent pending antenna is unique in the market because it is made from poly-flexible material, has a tiny form factor (45*7*.01mm) and has double-sided 3M tape for easy "peel and stick" mounting.

The cable routes conveniently directly out of the bottom of the antenna, reducing the volume the antenna takes up in the device to an absolute minimum compared to other designs. The FXP.831 is the ideal all-round antenna solution for squeezing into narrow spaces and still maintaining high performance, for example on the inside top or adjacent side applied directly to the plastic housing of LCD devices.

Many module manufacturers specify peak gain requirements for any antennas that is to be connected to that module. Upon testing of any of our antenna with your device and a selection of appropriate layout, integration technique, or cable, Taoglas can make sure any of our antennas peak gain will be below the peak gain requirements. Taoglas can then issue a specification and/or report for this selected WiFi antennas in your device that will clearly show it complying with the peak gain requirements, so you can be assured you are meeting regulatory requirements for that module.

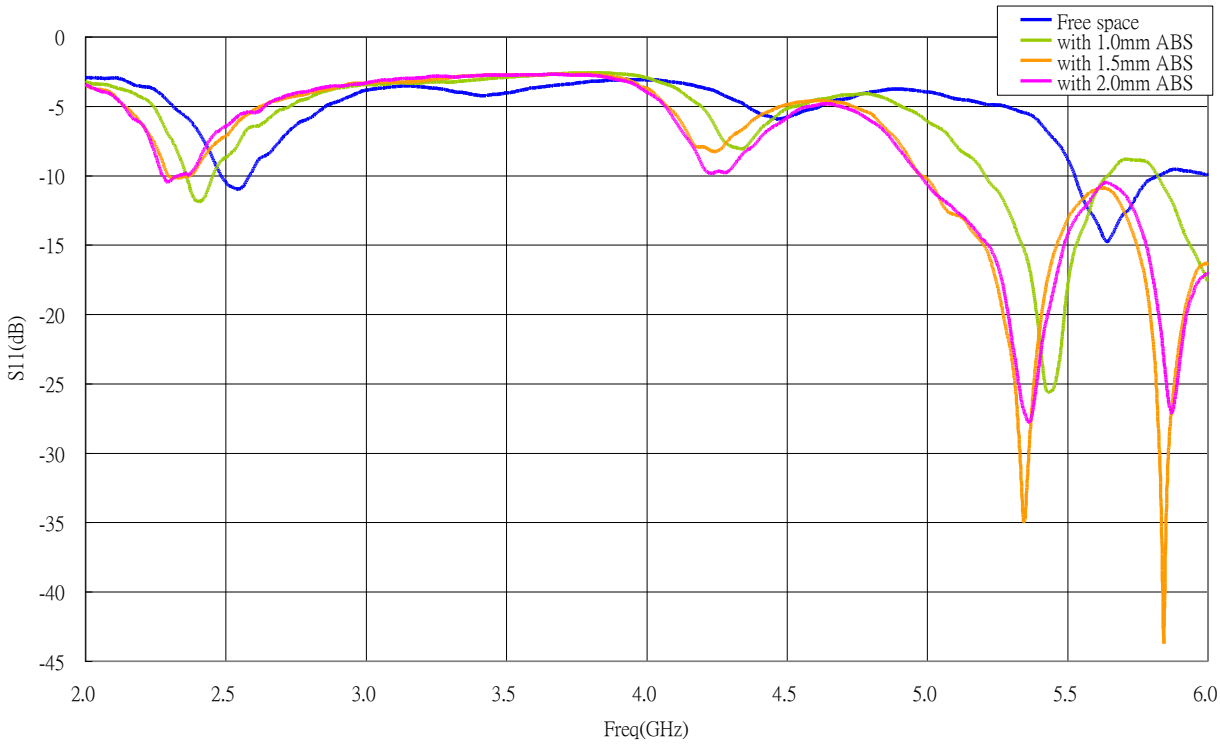
It is better not to select an embedded antenna with very low free-space peak gain (<2dBi) directly, as this antenna would have worse performance in your device, and lead to compromised performance compared to using a Taoglas antenna.

2. Specification

ELECTRICAL		
Frequency	2.4 ~ 2.5GHz,	4.9 ~ 5.8GHz
Peak Gain (free space)	2.5dBi	4.5dBi
Peak Gain (on plastic*)	3.0dBi	5.5dBi
Average Gain (free space)	-2.6dBi	-2.6dBi
Average Gain (on plastic)	-2.6dBi	-1.8dBI
Efficiency (free space)	56%	55%
Efficiency (on plastic)	56%	75%
VSWR	≦2.5 : 1	
Impedance	50 Ohms	
Polarization	Linear	
Radiation Pattern	Omni	
Input Power	2W max.	
MECHANICAL		
Dimensions	45mm x 7mm	
Antenna Body Material	Polymer	
Cable	Gray 100mm 1.37 co-axial	
Connector	Ipex MHF	
ENVIRONMENTAL		
Temperature Range	-40°C to 85°C	
Humidity	Non-condensing 65°C 95% RH	

3. Electrical Characteristic

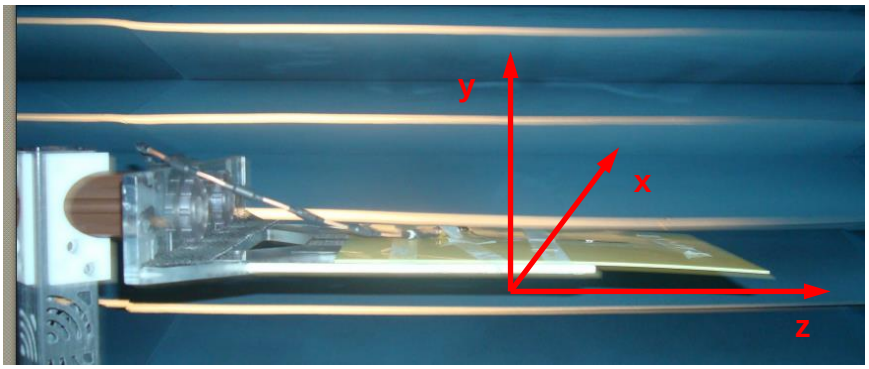
3.1 S11



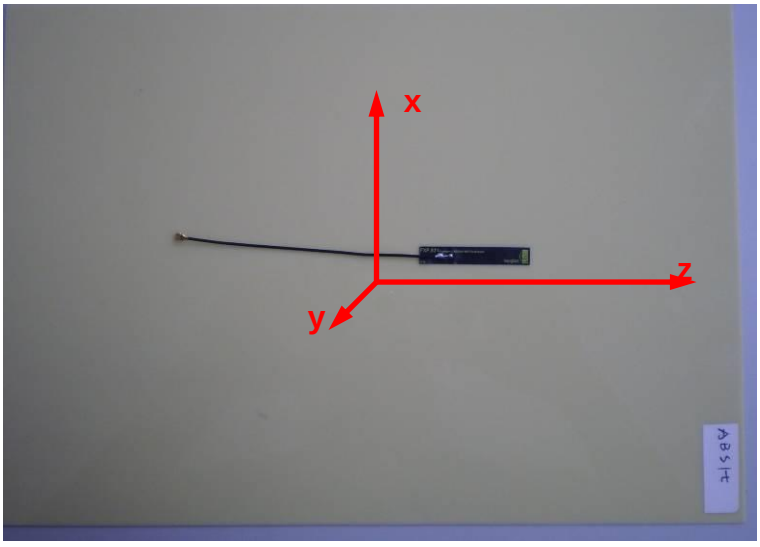
3.2 Test Setup

A ETS AMS-8500 test chamber is used for the free space radiation testing for FXP831.07.0100A. The measurement is taken with the antenna properly mounted in the designated device

Device tested in AMS-8500 Rectangular test chamber.



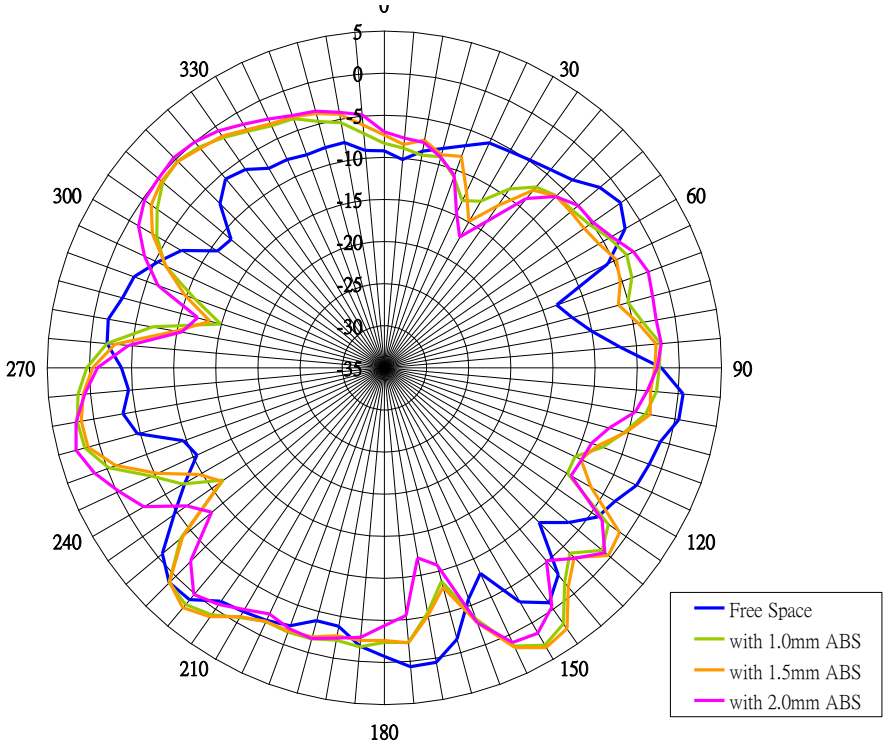
FXP831 on Baxter device to indicate the testing coordinate



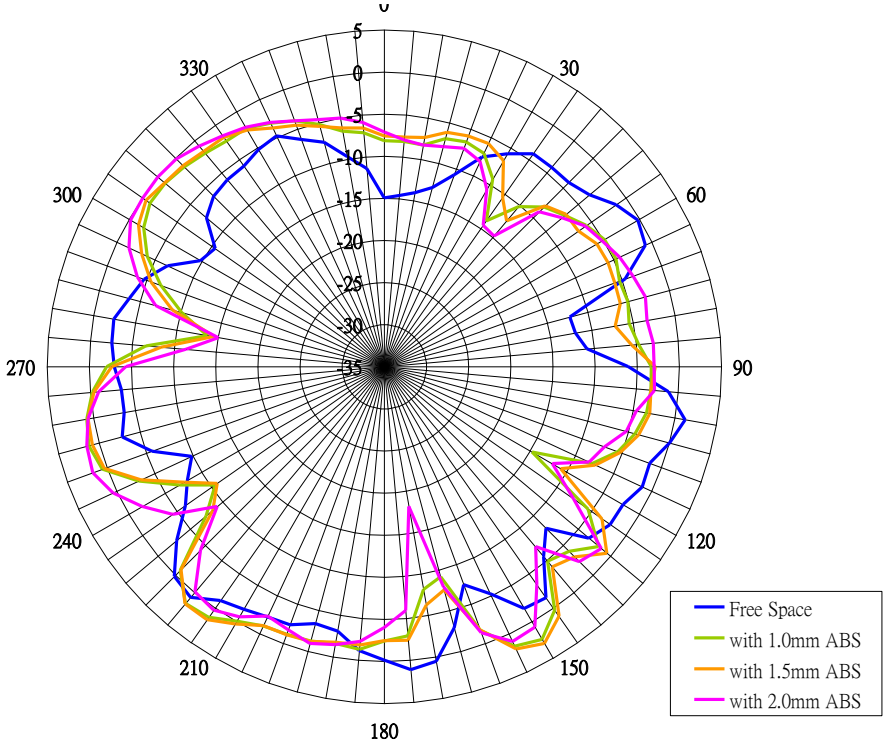
FXP831 on Baxter device to indicate the testing coordinate

3.3 Radiation Pattern

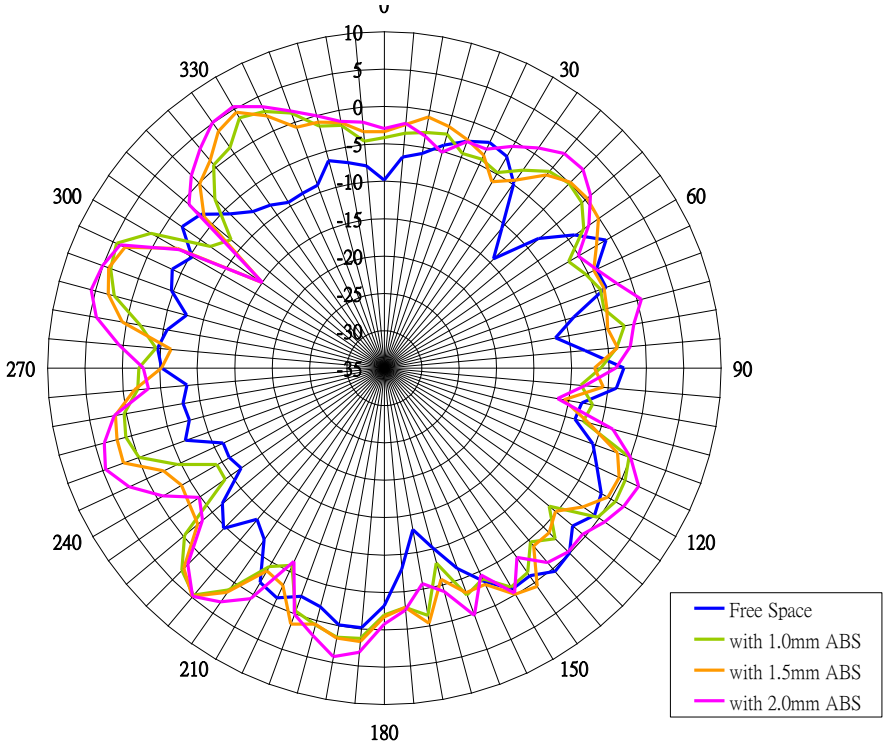
3.3.1 XZ plane (at 2400MHz)



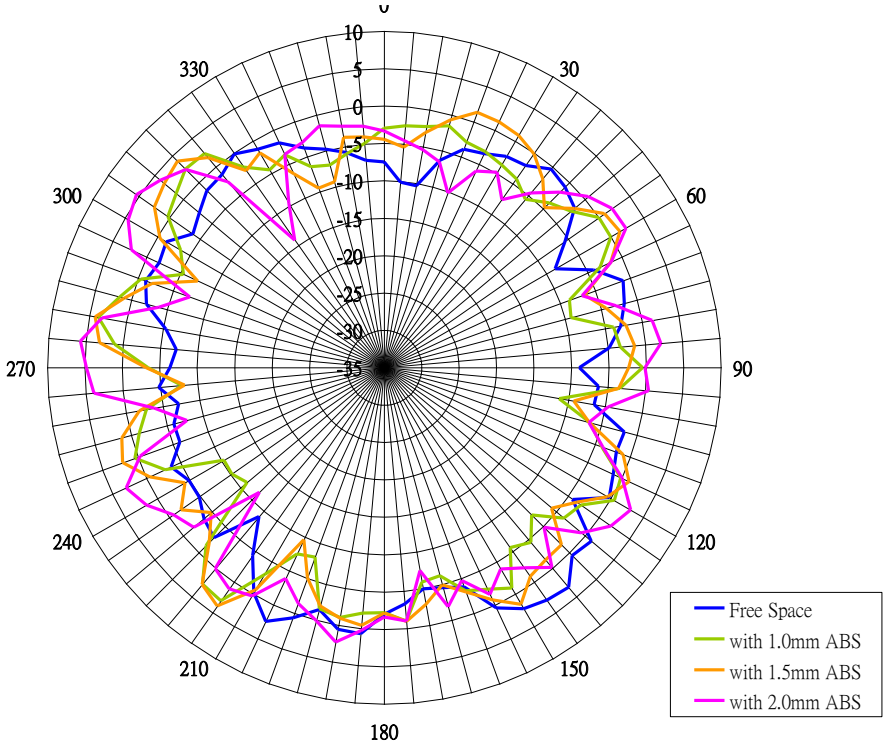
3.3.2 XZ plane (at 2500MHz)



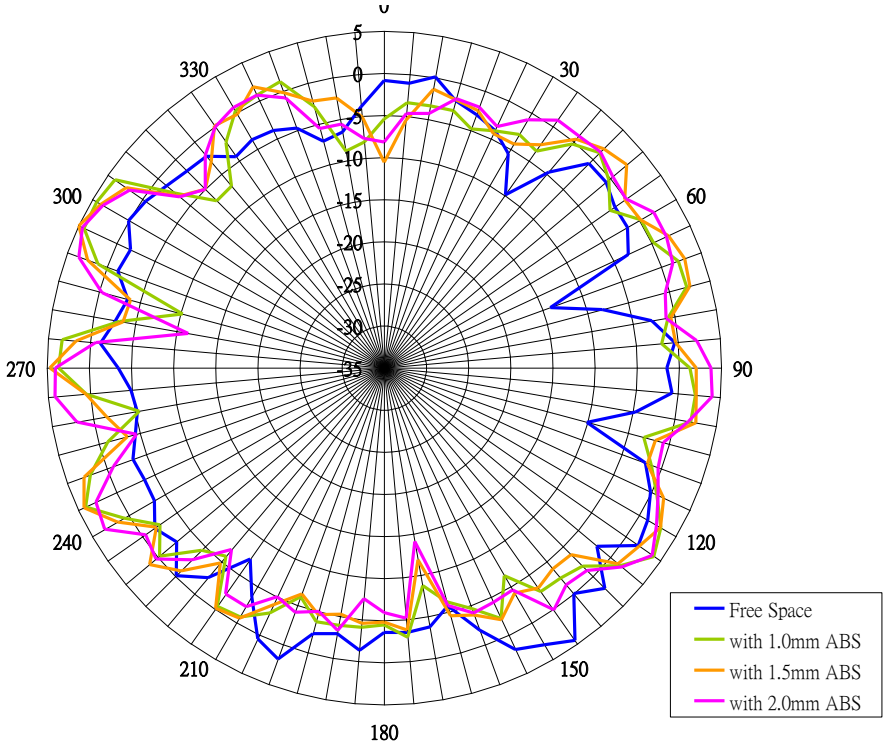
3.3.3 XZ plane (at 5000MHz)



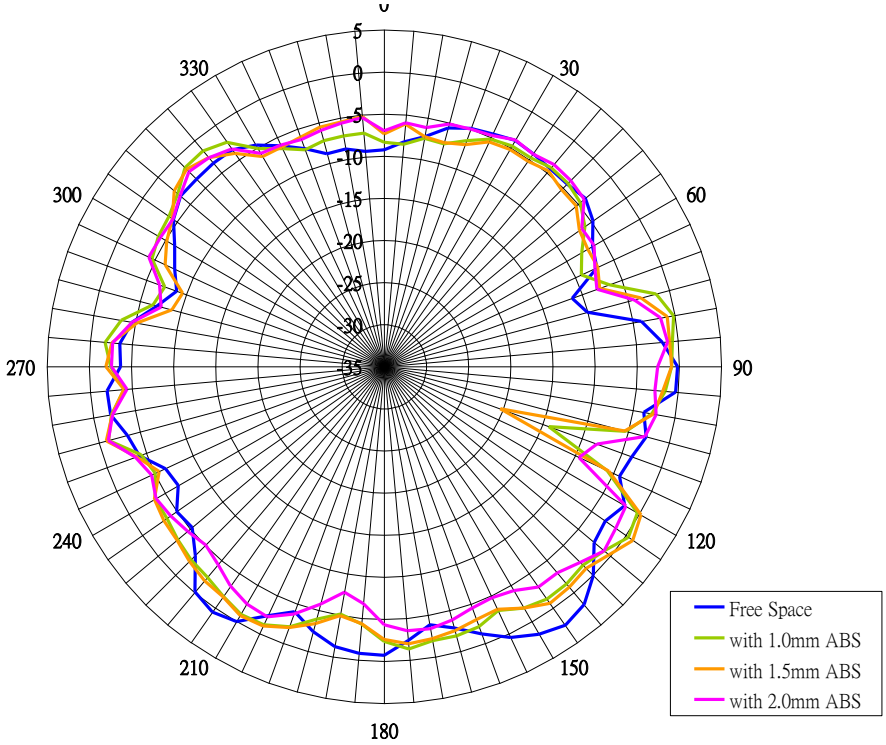
3.3.4 XZ plane (at 5500MHz)



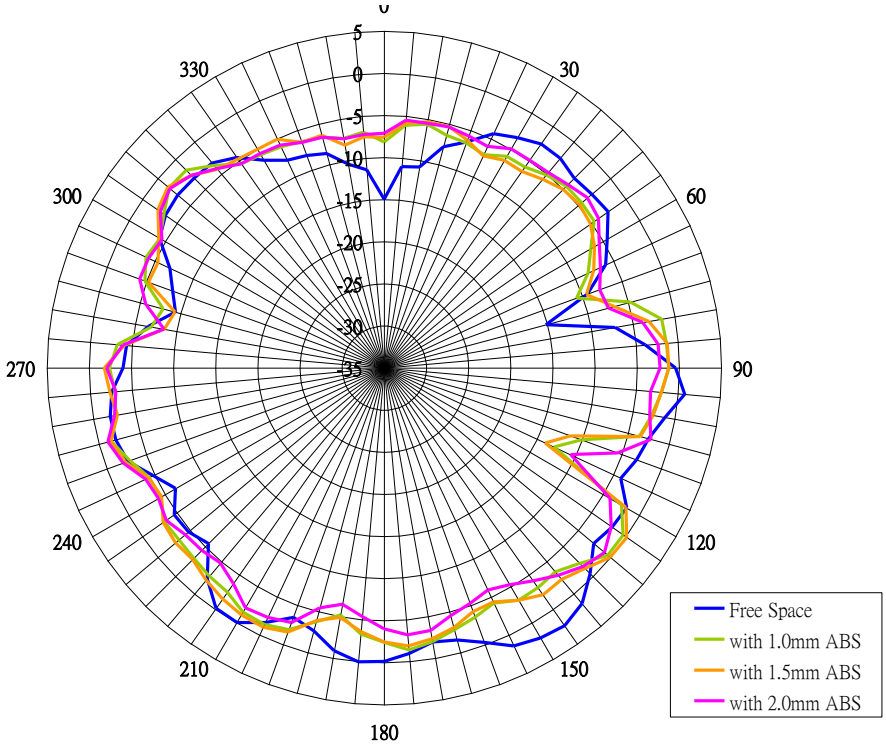
3.3.5 XZ plane (at 6000MHz)



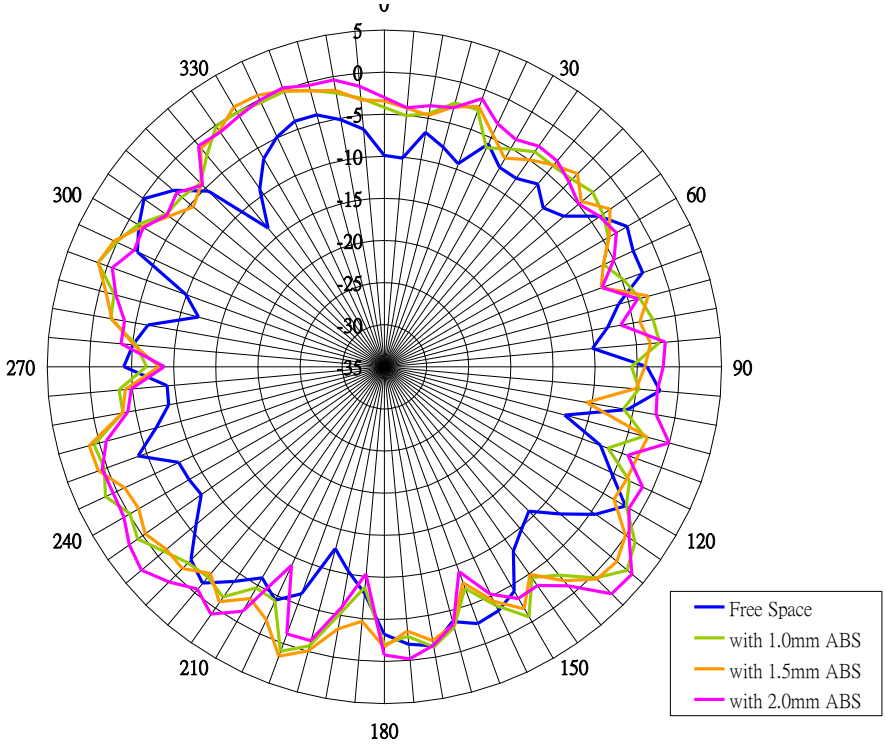
3.3.6 YZ plane (at 2400MHz)



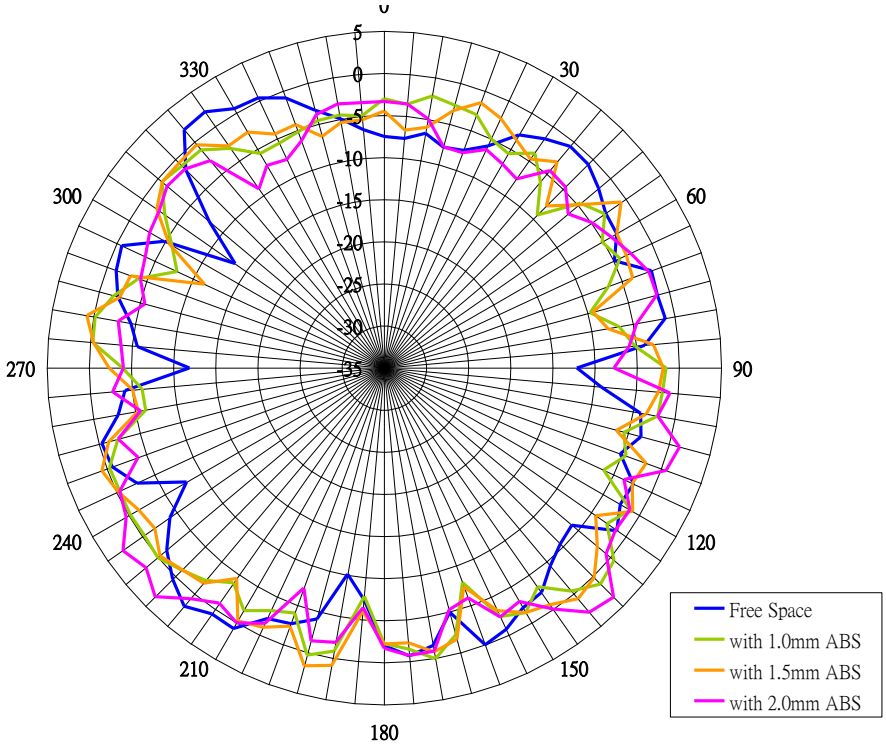
3.3.7 YZ plane (at 2500MHz)



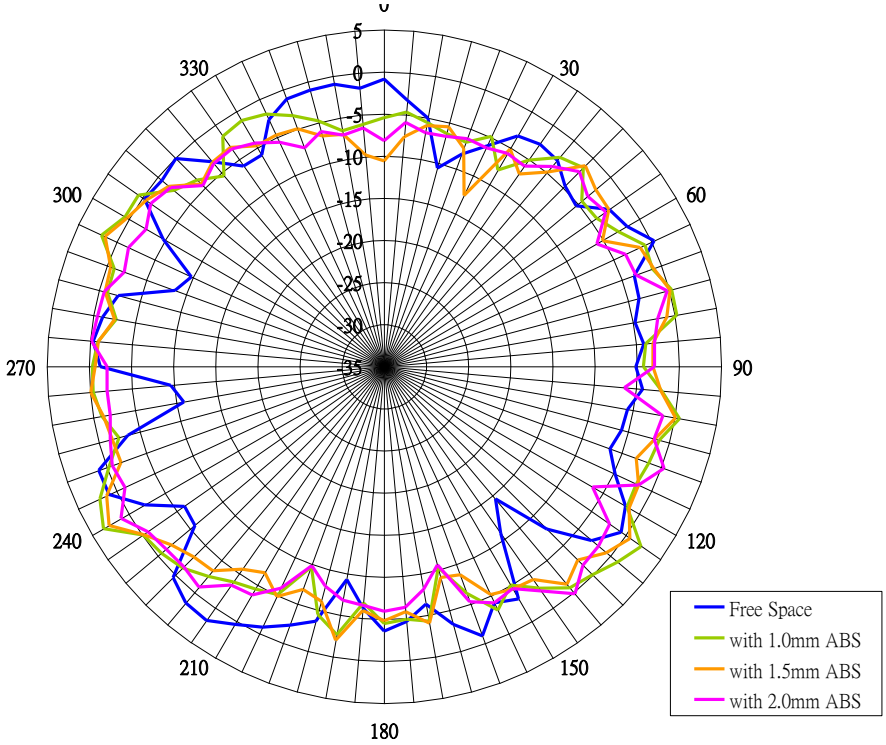
3.3.8 YZ plane (at 5000MHz)



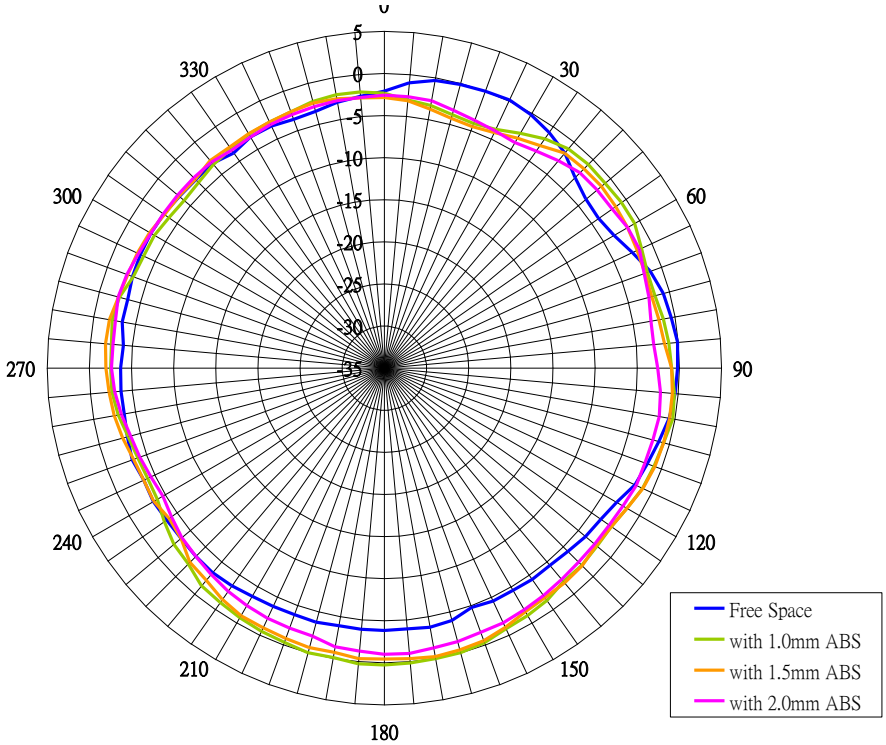
3.3.9 YZ plane (at 5500MHz)



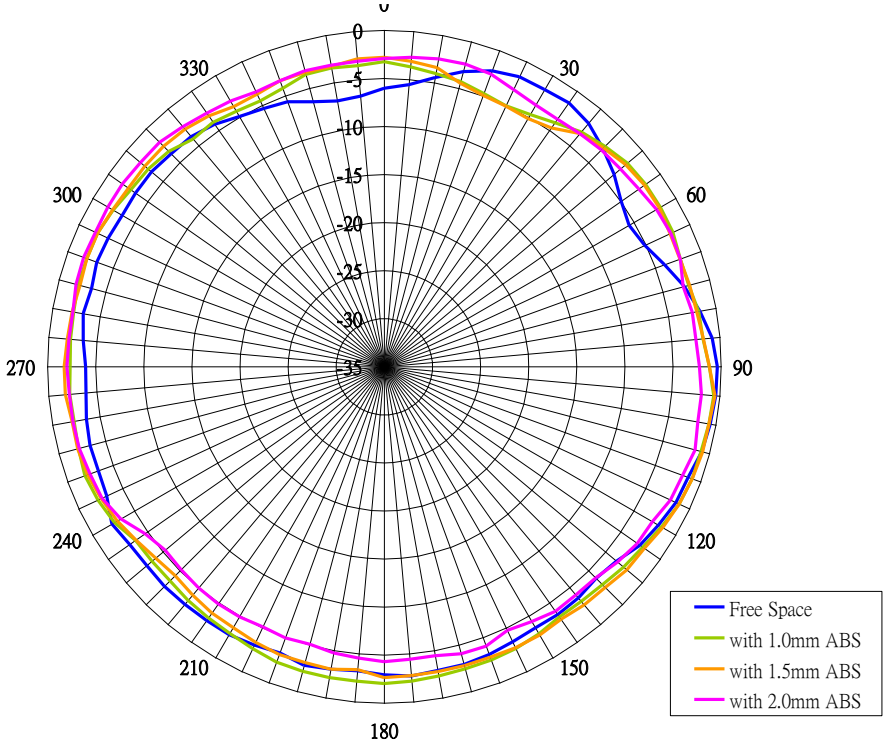
3.3.10 YZ plane (at 6000MHz)



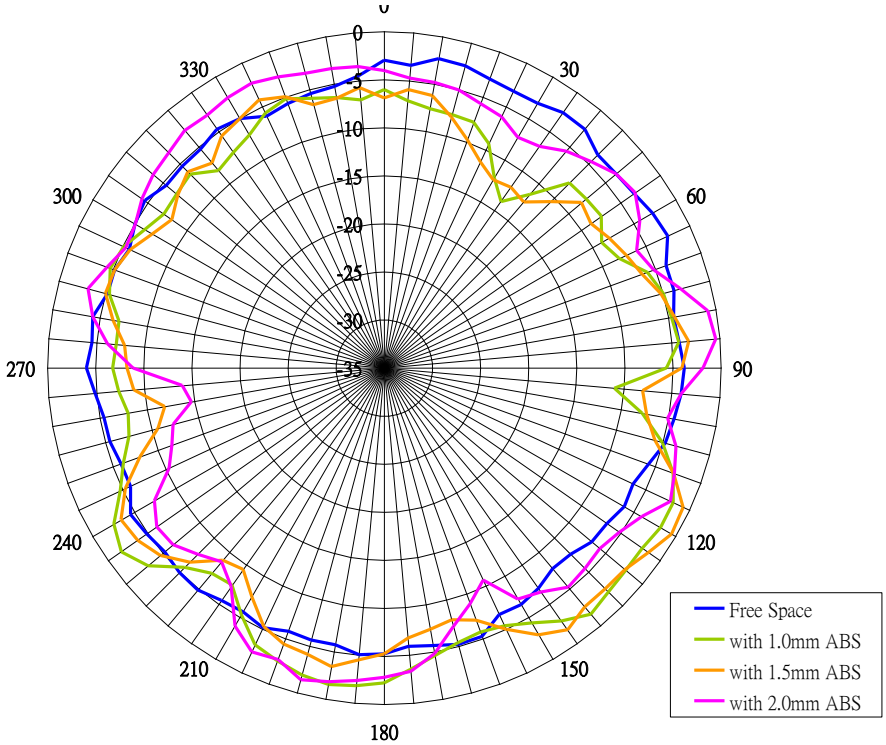
3.3.11 XY plane (at 2400MHz)



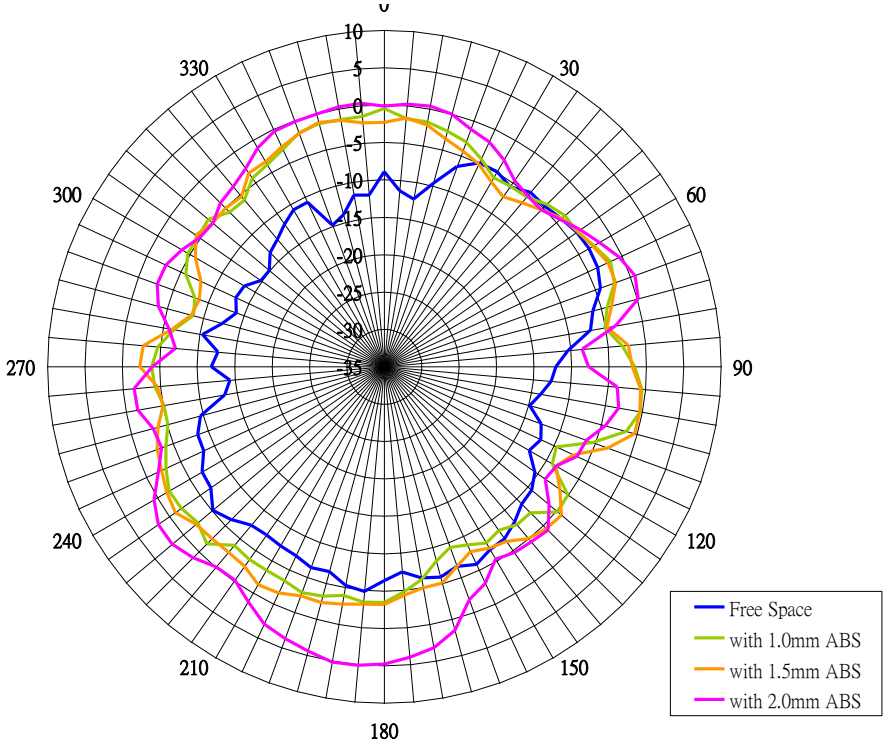
3.3.12 XY plane (at 2500MHz)



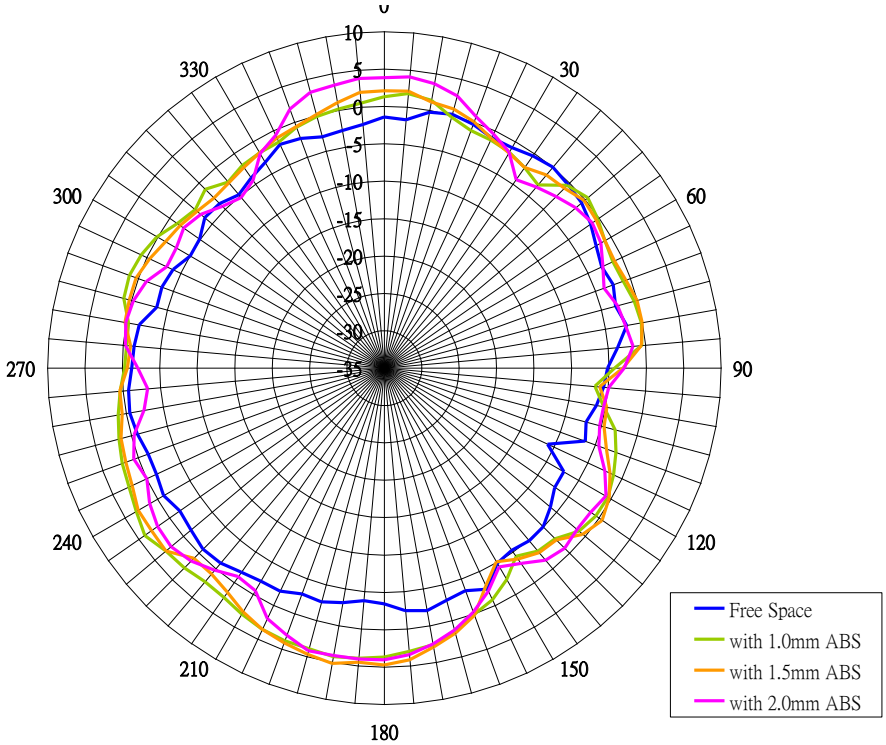
3.3.13 XY plane (at 5000MHz)



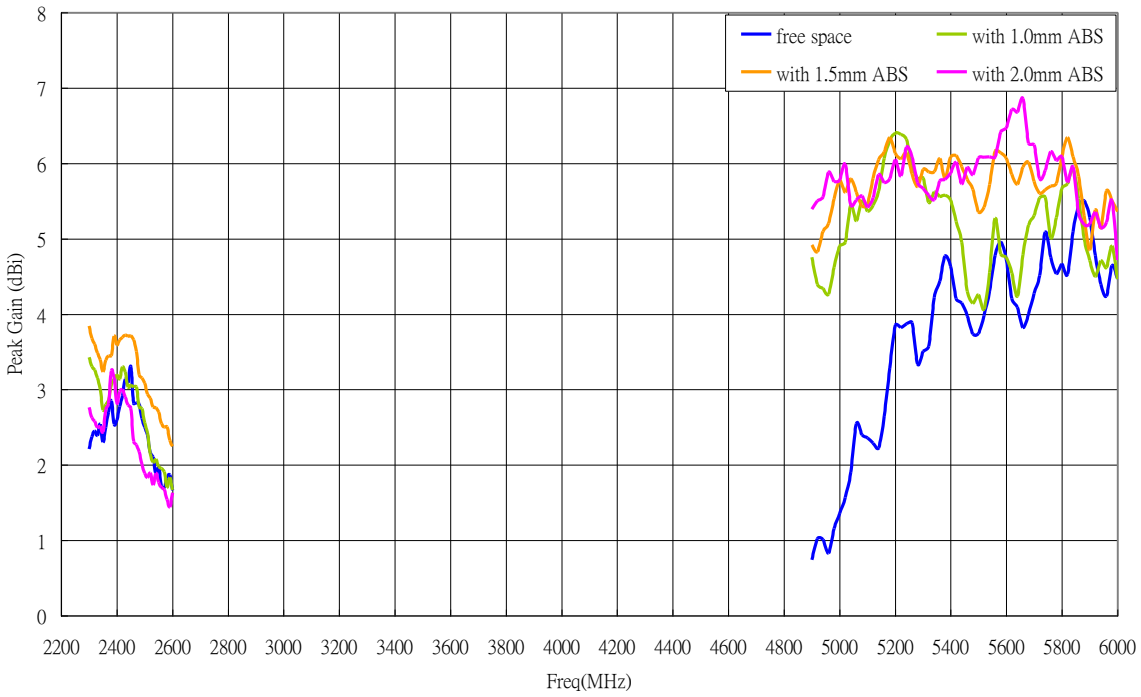
3.3.14 XY plane (at 5500MHz)



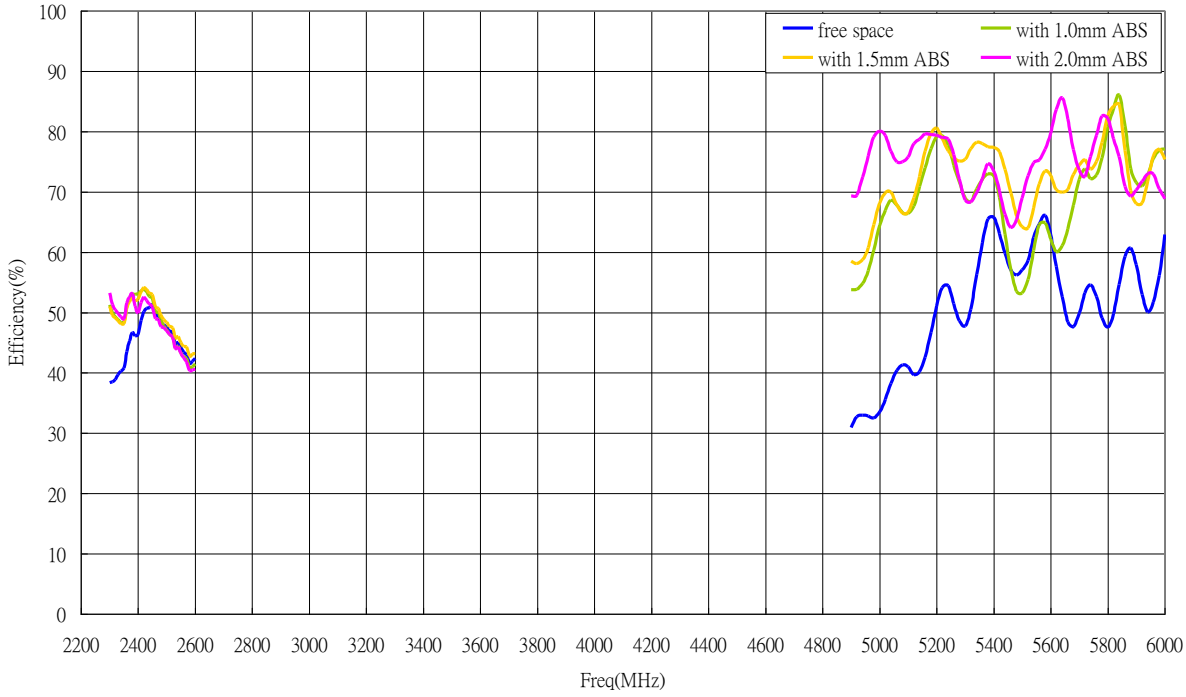
3.3.15 XY plane (at 6000MHz)



3.4 Peak Gain

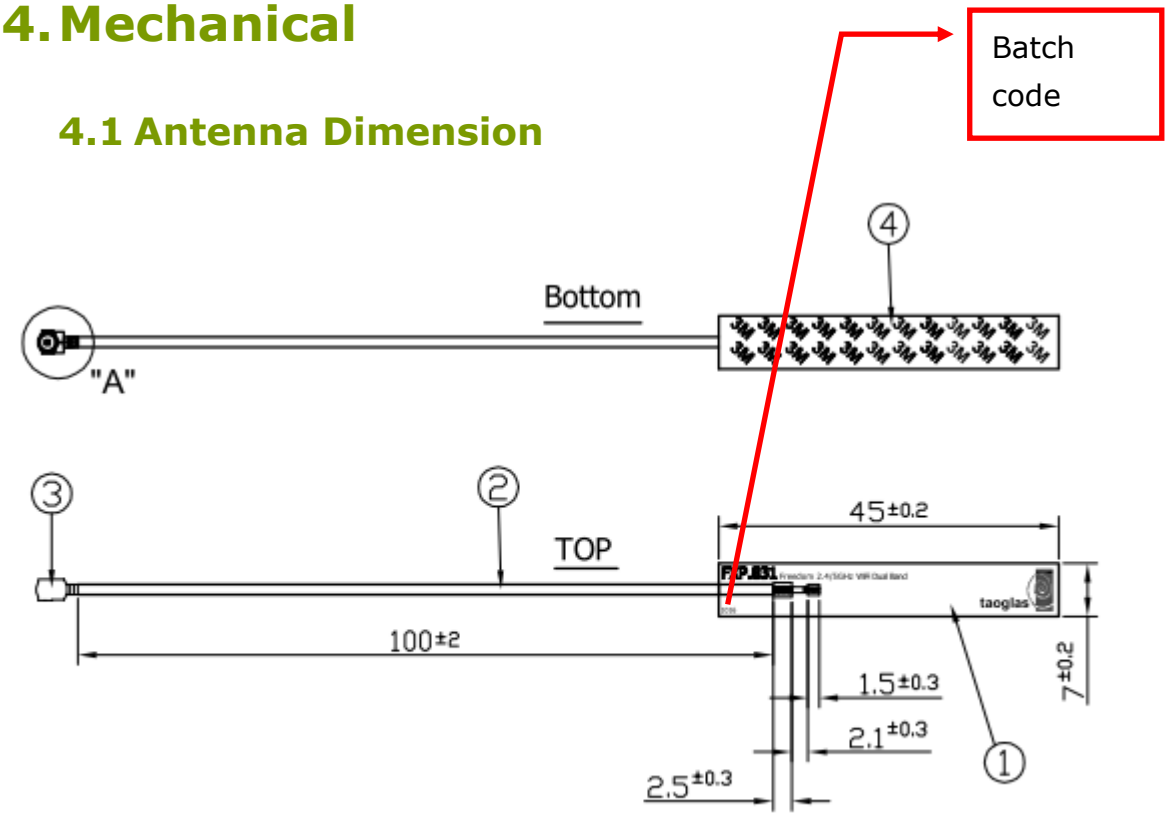


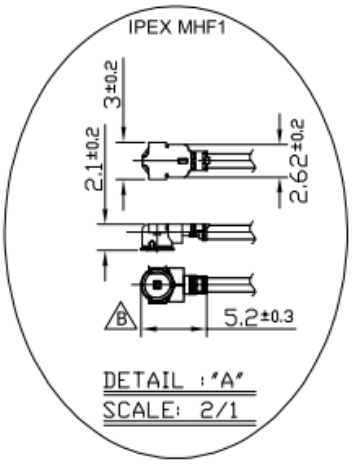
3.5 Efficiency



4. Mechanical

4.1 Antenna Dimension





	Name	Material	Finish	QTY
①	FXP831 PCB	FPCB 0.1t	Black	1
②	1.37 Mini-Coaxial Cable	FEP	Gray	1
③	IPEX MHF1	Brass	Gold	1
④	Double-Sided Adhesive	3M 467	Brown Liner	1

5. Packaging

5.1 Package