SPECIFICATION

Part No.	:	**PC17.07.0070A**
Product Name	:	Miniature 2.4GHz PCB antenna with cable and connector
Feature	:	24*11*0.8mm High efficiency antenna for Wi-Fi/ Bluetooth/ ZigBee applications IPEX MHFI Connector (U.FL compatible) Stable efficiency, gain and radiation patterns Cable and Connector fully customizable RoHS Compliant

1. Introduction

The PC.17 is an ultra-miniature PCB antenna working on 2.4GHz band for Wi-Fi, Bluetooth and ISM applications. It consists of a robust antenna and mini coaxial cable. At only 24mm*11mm*0.8mm it has been especially developed to fit into the smallest spaces and still deliver optimum performance.
Cable and connector are fully customizable.

Many module manufacturers specify peak gain limits for any antennas that are to be connected to that module. Those peak gain limits are based on free-space conditions. In practice, the peak gain of an antenna tested in free-space can degrade by at least 1 or 2dBi when put inside a device. So ideally you should go for a slightly higher peak gain antenna than mentioned on the module specification to compensate for this effect, giving you better performance.

Upon testing of any of our antennas 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 limits. Taoglas can then issue a specification and/or report for the selected antenna in your device that will clearly show it complying with the peak gain limits, so you can be assured you are meeting regulatory requirements for that module.

For example, a module manufacturer may state that the antenna must have less than 2dBi peak gain, but you don't need to select an embedded antenna that has a peak gain of less than 2dBi in free-space. This will give you a less optimized solution. It is better to go for a slightly higher free-space peak gain of 3dBi or more if available. Once that antenna gets integrated into your device, performance will degrade below this 2dBi peak gain due to the effects of GND

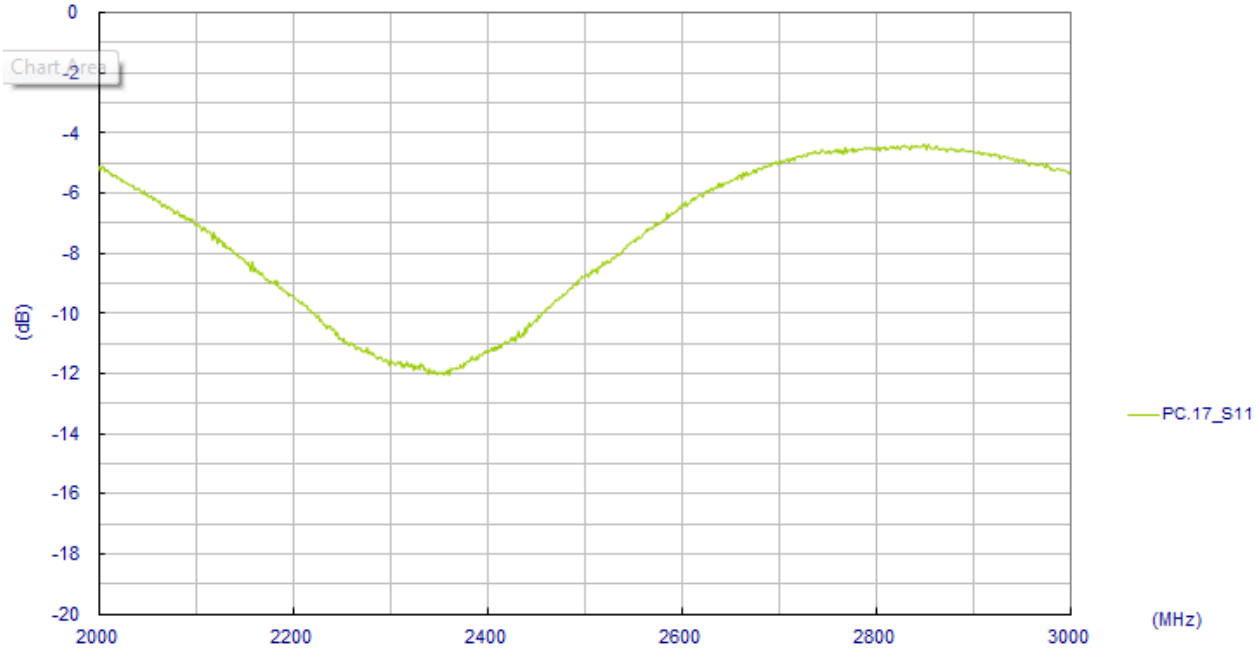
plane, surrounding components, and device housing. If you want to be absolutely sure, contact Taoglas and we will test. Choosing a Taoglas antenna with a higher peak gain than what is specified by the module manufacturer and enlisting our help will ensure you are getting the best performance possible without exceeding the peak gain limits.

2. Specification

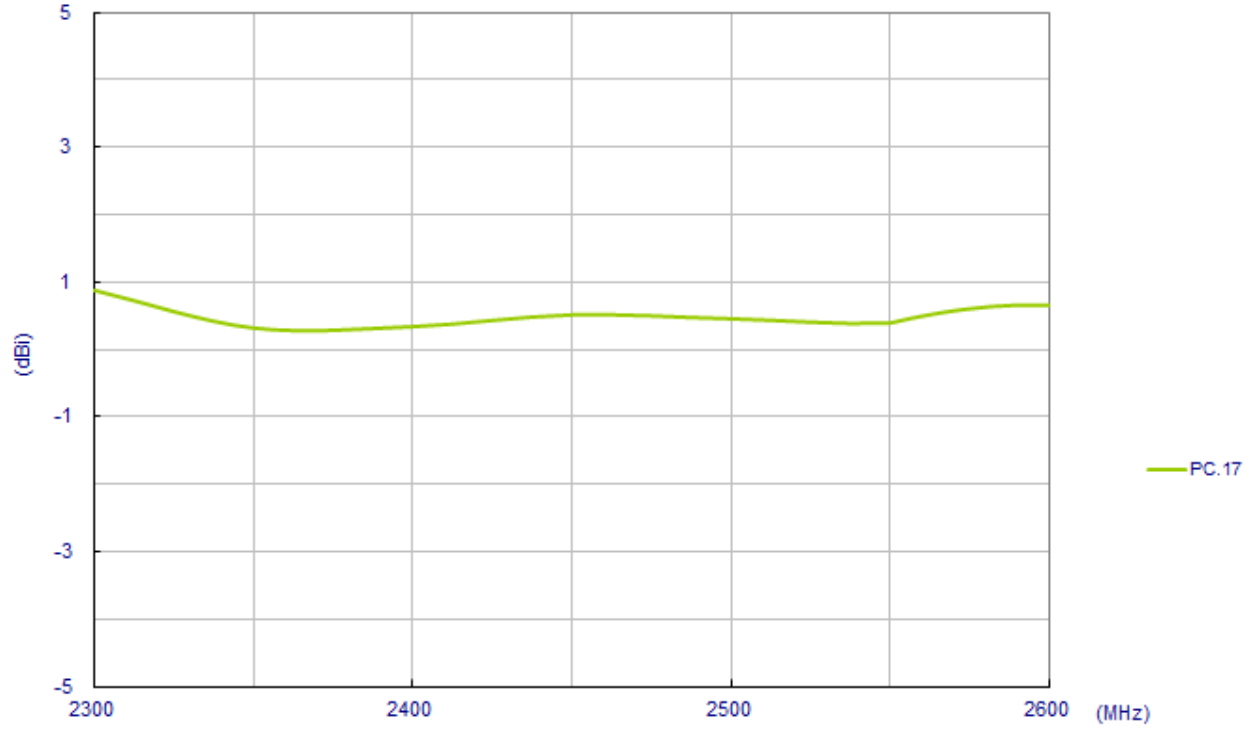
Parameter	Multi-Standard			
Communication System	Bluetooth	Wi-Fi	Zigbee	2.4GHz ISM
	2401-2480	2412-2462	2410-2480	2400-2483.5
Efficiency (%)	44%			
Peak Gain	0.9dBi			
Average Gain	-3.6dBi			
Return Loss	- 12dB			
Impedance	50 Ohms			
VSWR	≤1.5:1			
Polarization	Linear			
Power Handled	2 W			
MECHANICAL				
Dimensions	10.75 X 24 X 0.8 mm			
Connector	MHFI (U.FL Compatible)			
Cable Standard	Mini-Coax 1.13 mm			
ENVIRONMENTAL				
Operation Temperature	-40 ºC ~ +85 ºC			
Storage Temperature	-40 ºC ~ +85 ºC			
RoHS Compliant	Yes			

3. Antenna performance

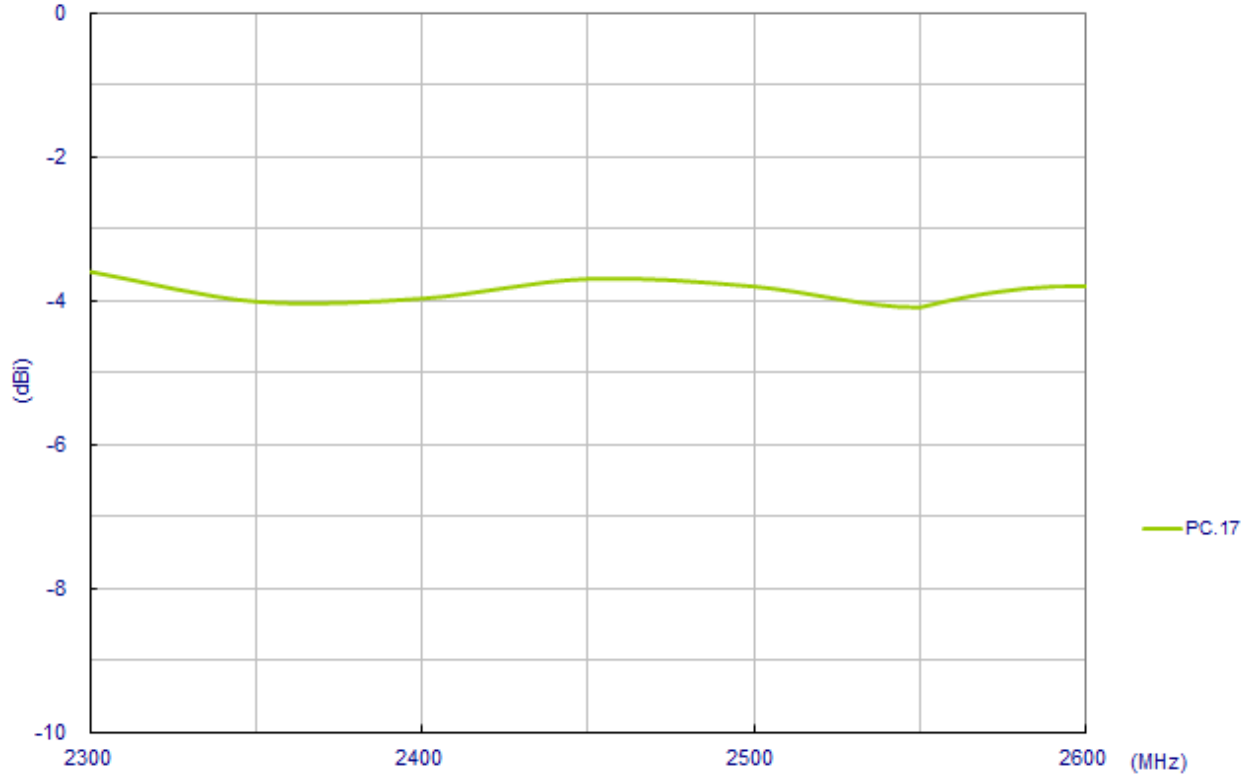
3.1. Return Loss



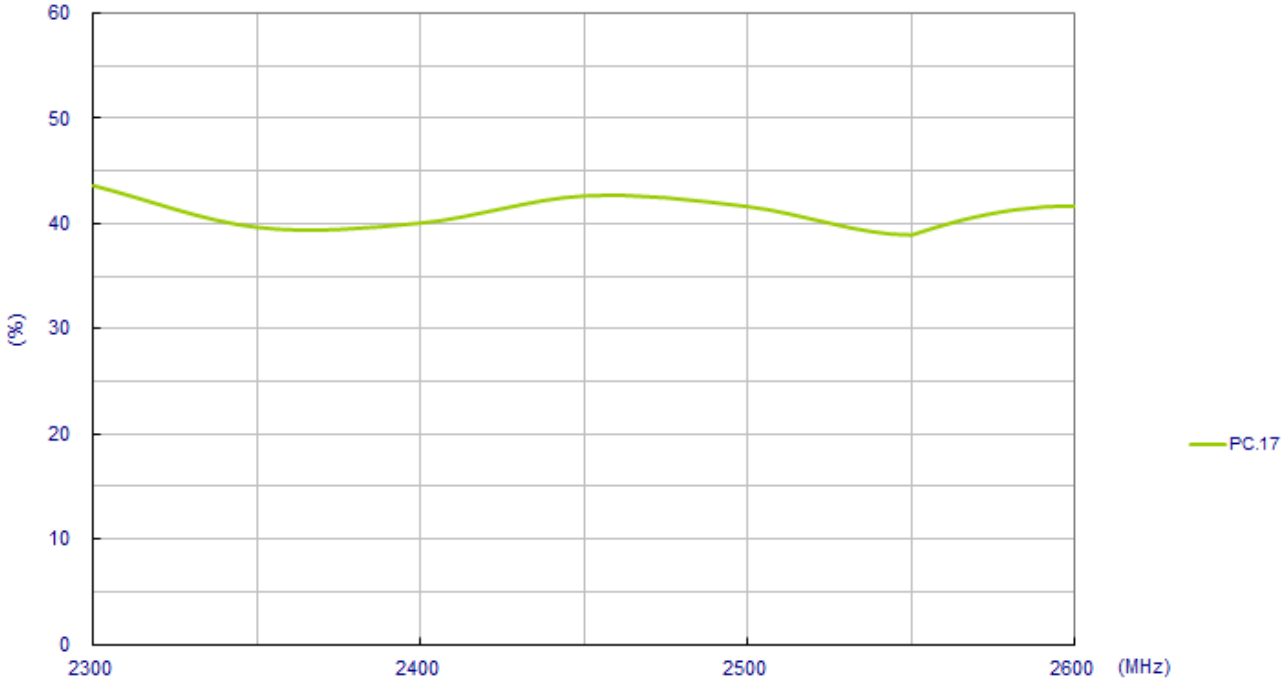
3.2. Maximum Gain



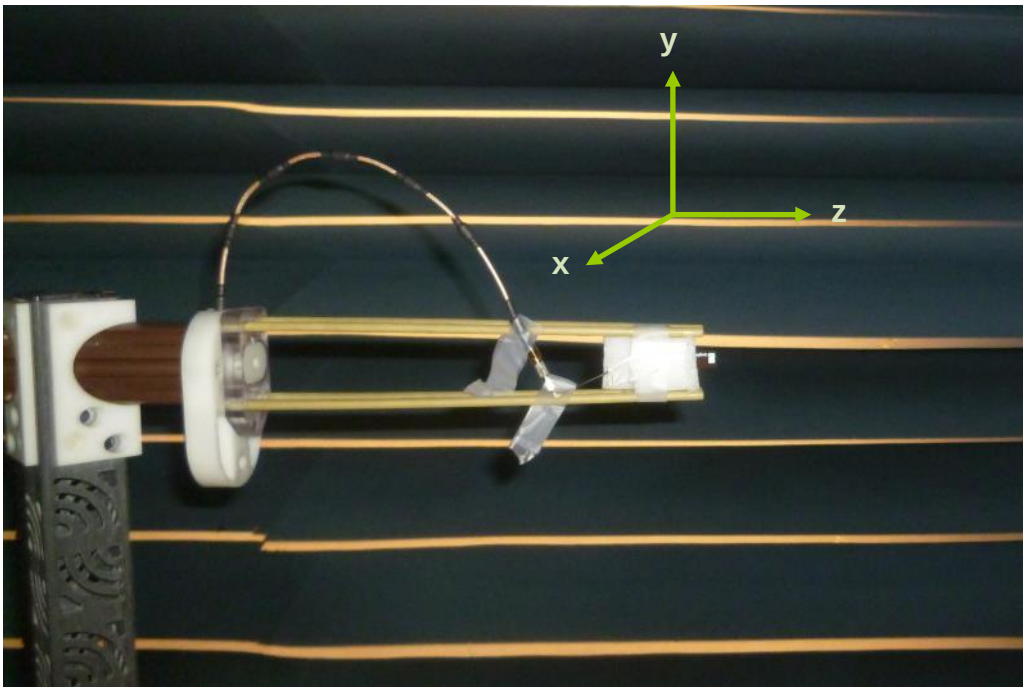
3.3. Average Gain



3.4. Antenna efficiency

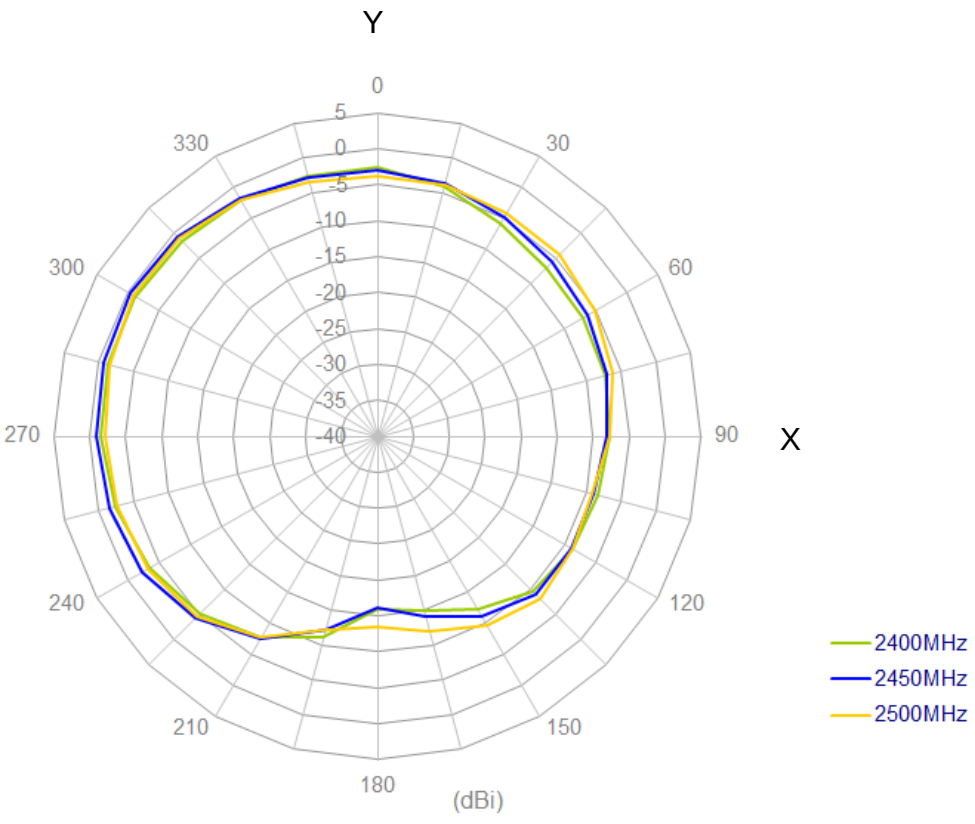


4. Radiation Property

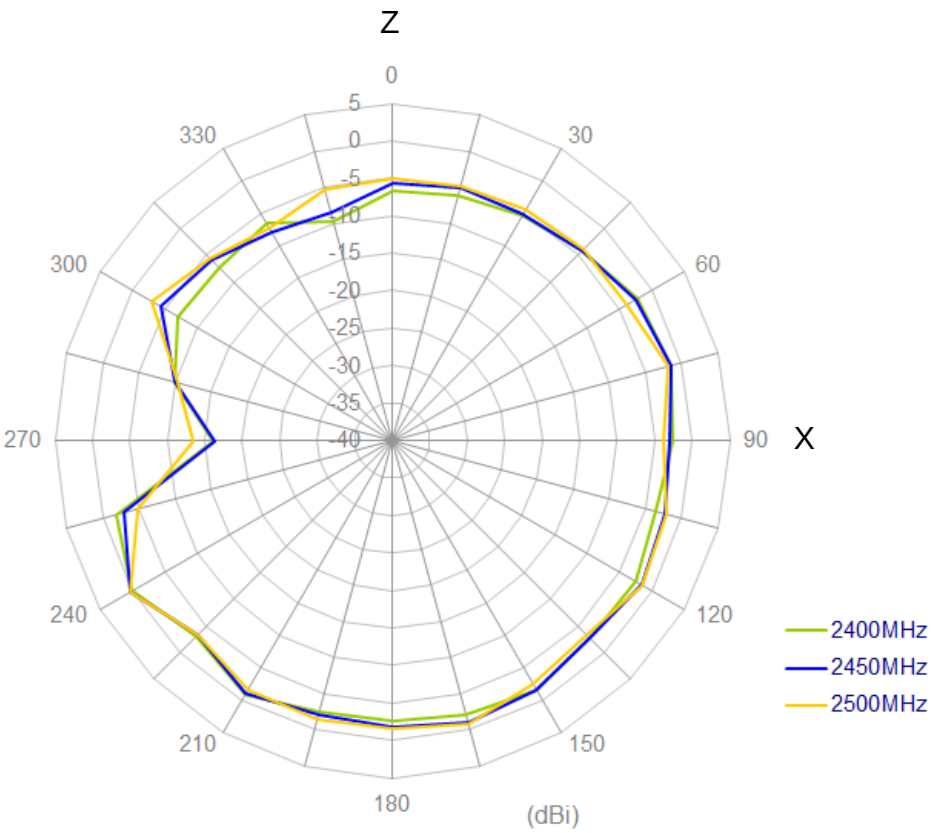


4.1. Radiation Patterns

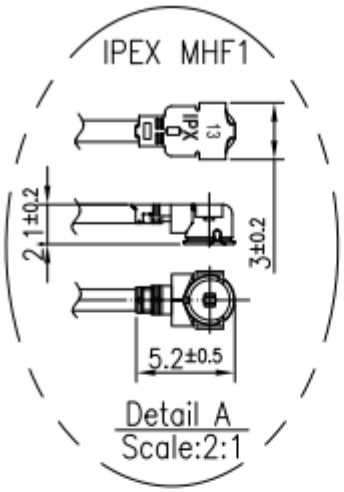
X-Y Plane



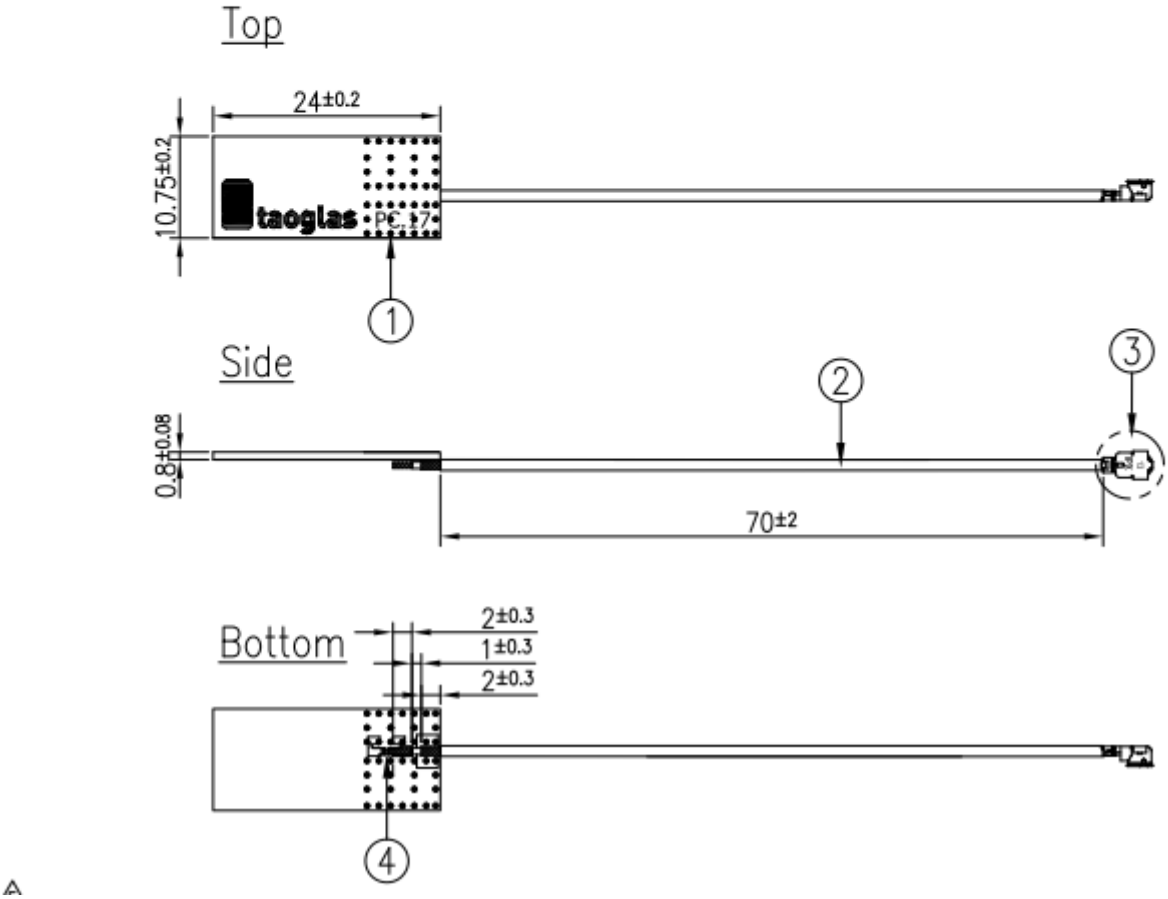
X-Z plane


Z
0
30
60
90
X
120
150
180
210
240
270
300
330
5
0
-5
-10
-15
-20
-25
-30
-35
-40
(dBi)
2400MHz
2450MHz
2500MHz

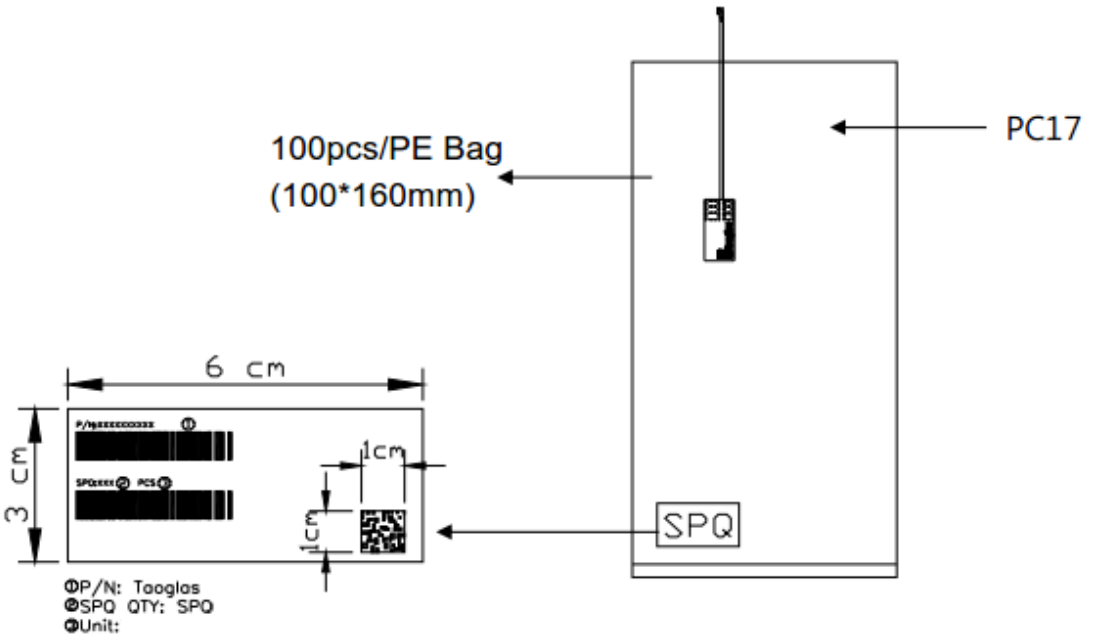
5. Antenna Drawing

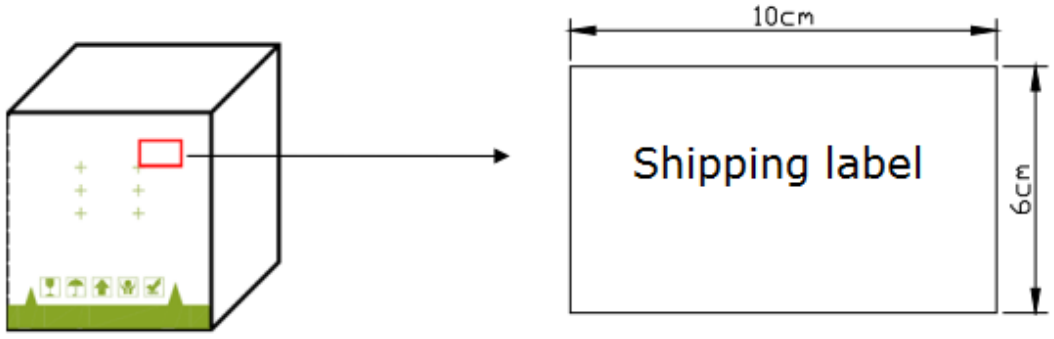


	Name	P/N	Material	Finish	QTY
1	PC.17 PCB	100211E000011A	Composite 0.8t	Black	1
2	1.13 Mini Coaxial	300215C020000A	FEP	Black	1
3	IPEX MHF1	204111G000012A	Brass	Au Plated	1
4	1.2pF Capacitor	001516E000000A	Ceramic	White	1



6. Packaging





1500PCS/Carton
(230mm*175mm*160mm)

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