

## SPECIFICATION

Part No.	:	<b>FXP29.07.0070A</b>
Product Name	:	2100MHz 3G UMTS/HSPA+ Band Flexible PCB Antenna
Features	:	1920-2170MHz Operation Ground Plane Independent 1.5 dBi Peak Gain 12.7*8.4*0.24 mm Tiny dimension IPEX MHFI (U.FL Compatible)

RoHS Compliant

Photo:



## 1. Introduction

The FXP29 is a unique super small monopole ultra-low profile antenna for the 2100MHz 3G UMTS/ HSPA+ application band. The FXP29 antenna has peak gain of 1.5dBi and efficiencies of 45%.

It is made from poly-flexible material, has a tiny form factor (12.7mm\*8.4mm\*0.24mm) and has double-sided 3M tape for easy “peel and stick” mounting onto the inner plastic housing of a device. It is an ideal solution for compact M2M devices which require 3G functionality at the 2100MHz band.

The cables length and connector are customizable. The standard length is 70mm and is recommended, some detuning and efficiency decrease is observed on other cable lengths, see chart below for details.

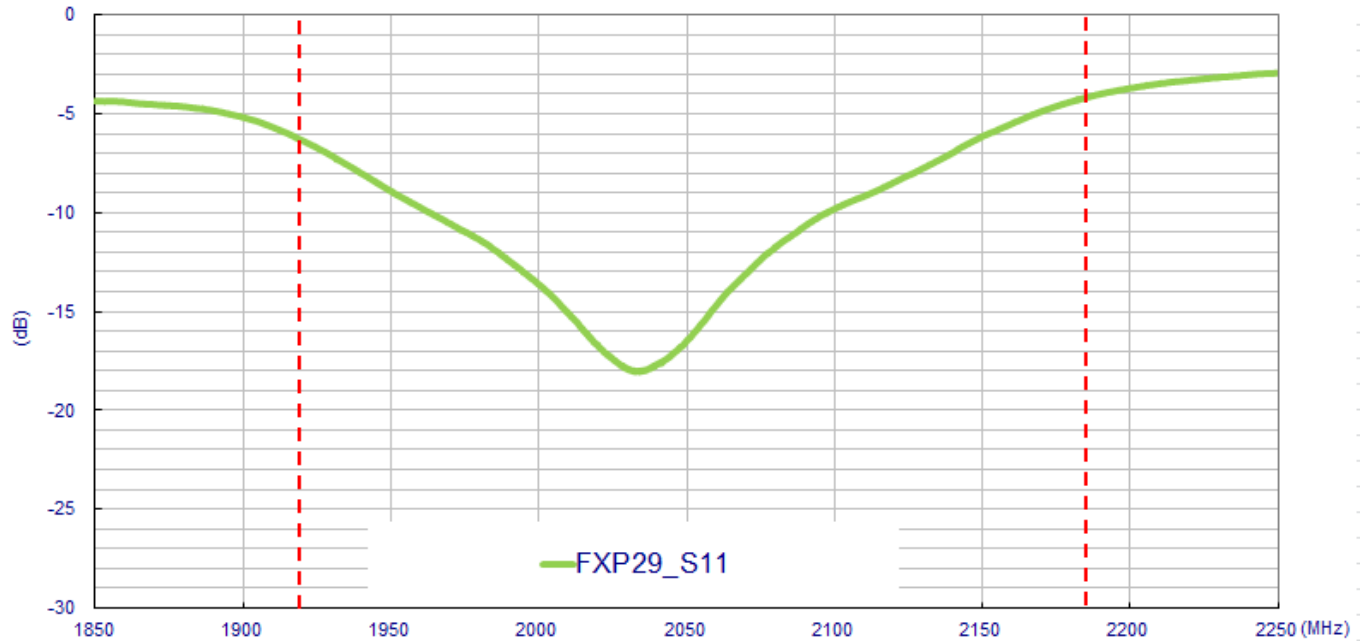
## 2. Specification

ELECTRICAL	
	2100MHz UMTS/HSPA
Frequency (MHz)	1920~2170
Max Return Loss (dB)	-10
Peak Gain (dBi)	1.5
Efficiency (%)	45
Average Gain (dB)	-3.5
Radiation Properties	Omni-directional
Max Input Power (Watts)	5
Polarization	Linear
Impedance (Ohms)	50 Ohms
MECHANICAL	
Dimensions (mm)	12.7*8.4*0.24 mm
Material	Flexible Polymer
Connector and Cable	IPEX MHF1 (U.FL) and 1.13 mm mini coax.
Weight(1pc)	0.42g
ENVIRONMENTAL RATINGS	
Operation Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Relative Humidity	40% to 95%
RoHs Compliant	Yes

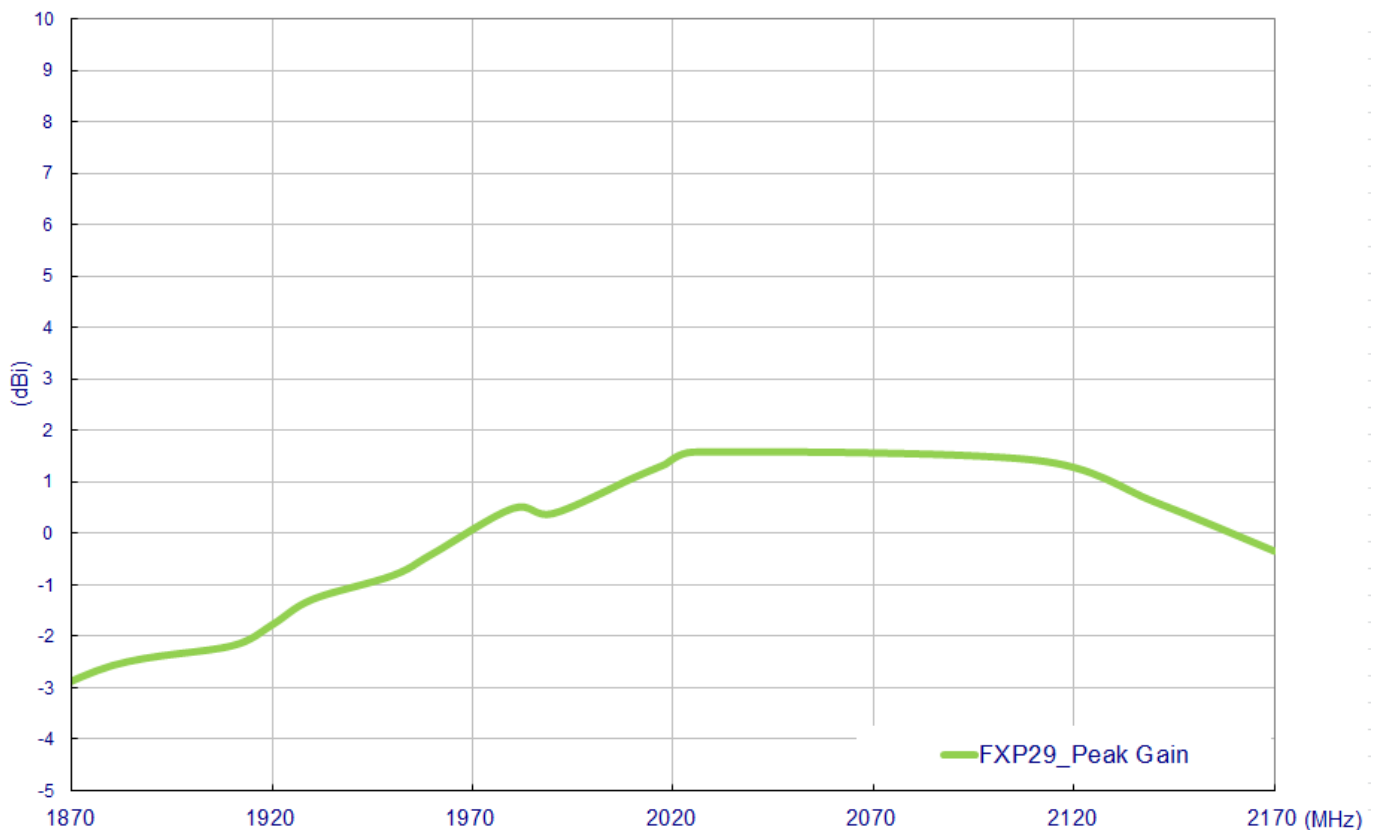
\*All results were measured with 70mm length 1.13mm coaxial cable and on 2mm thickness ABS base.

## 3. Antenna Characteristics

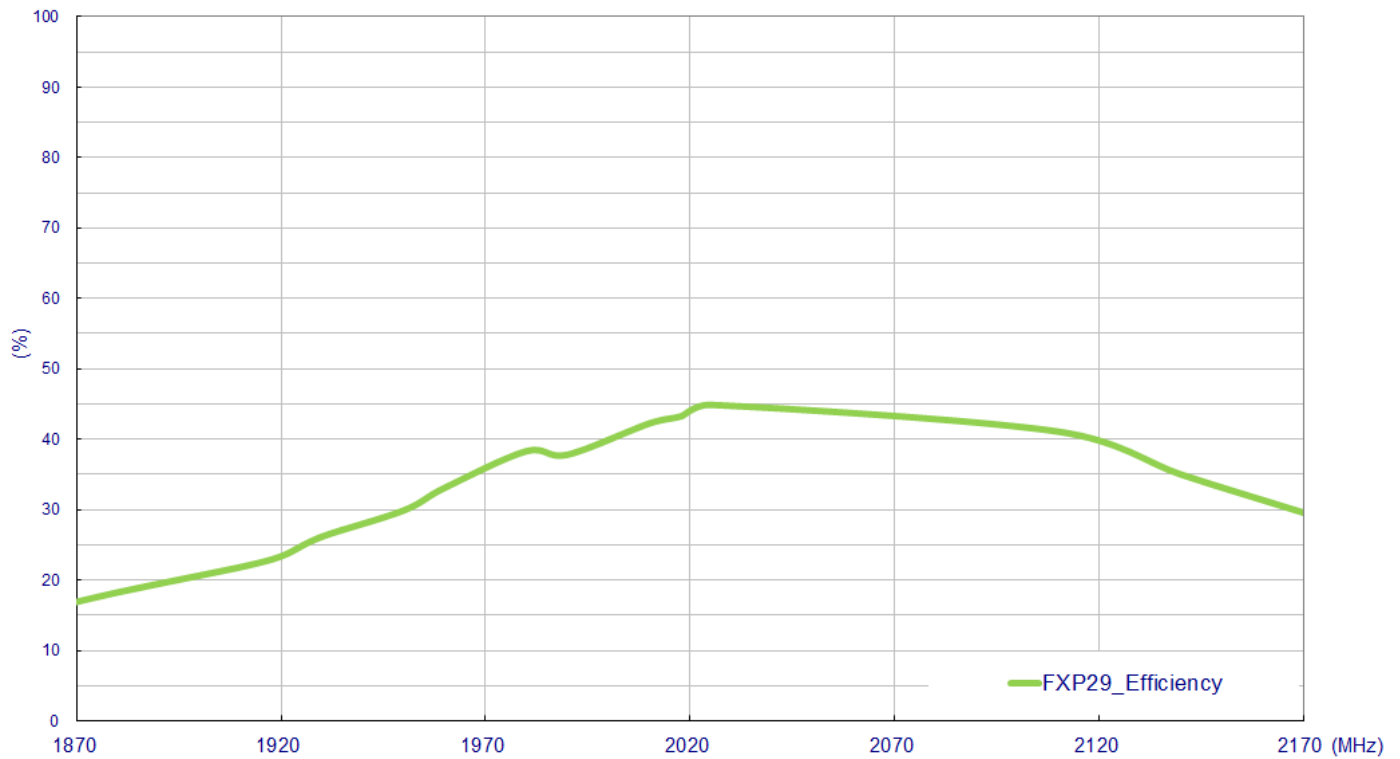
### 3.1 Return Loss



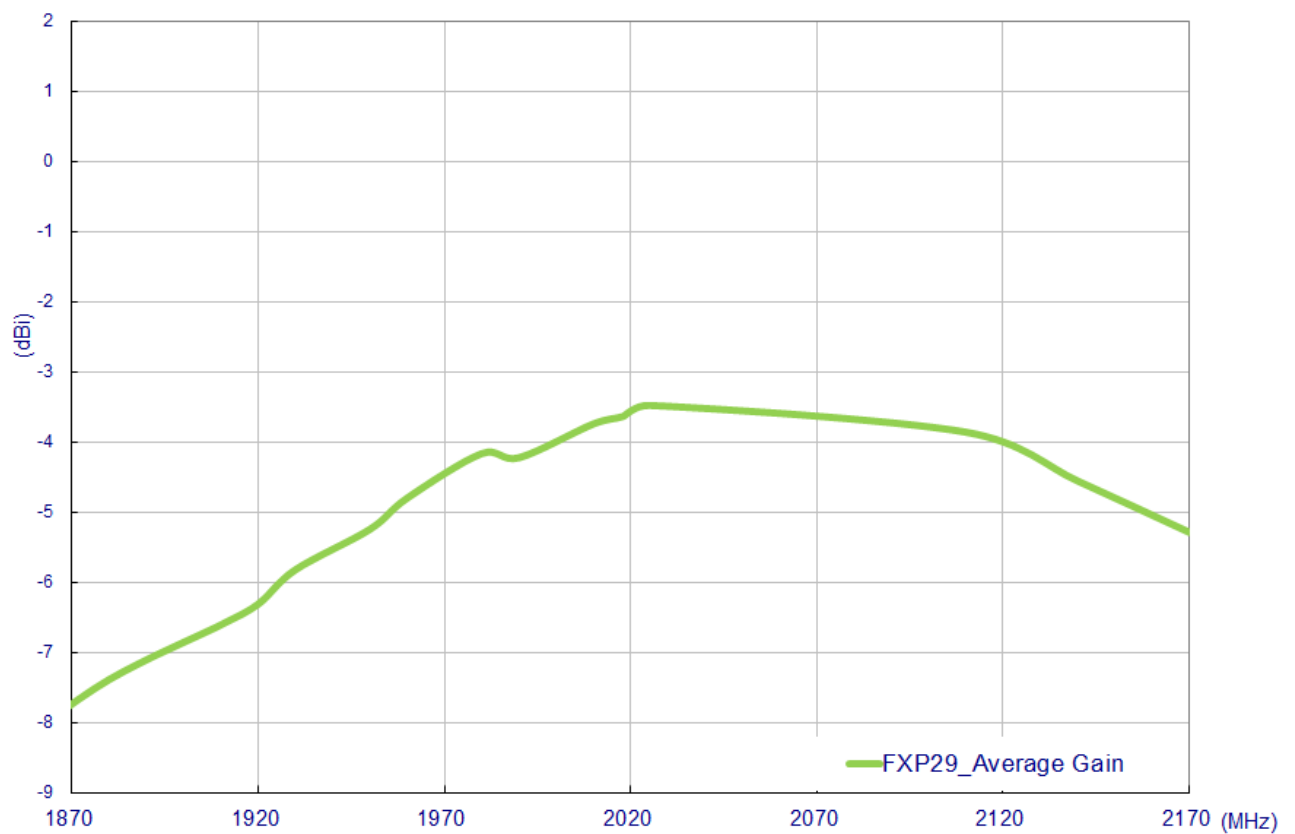
### 3.2 Peak Gain



### 3.3 Efficiency



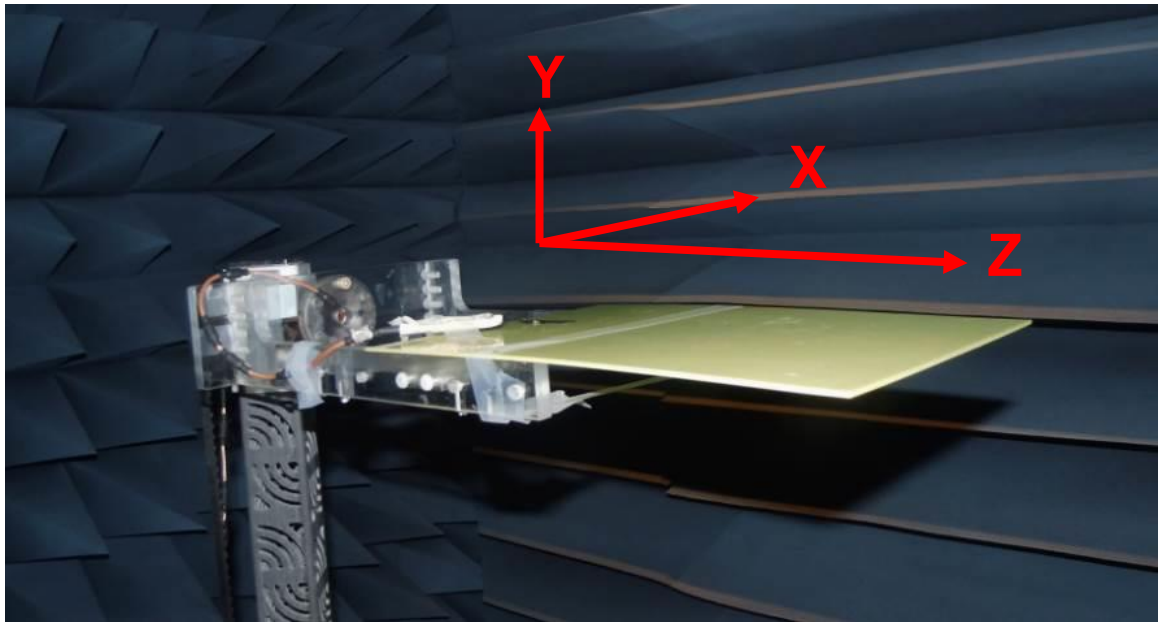
### 3.5 Average Gain



## 4. Antenna Radiation Patterns

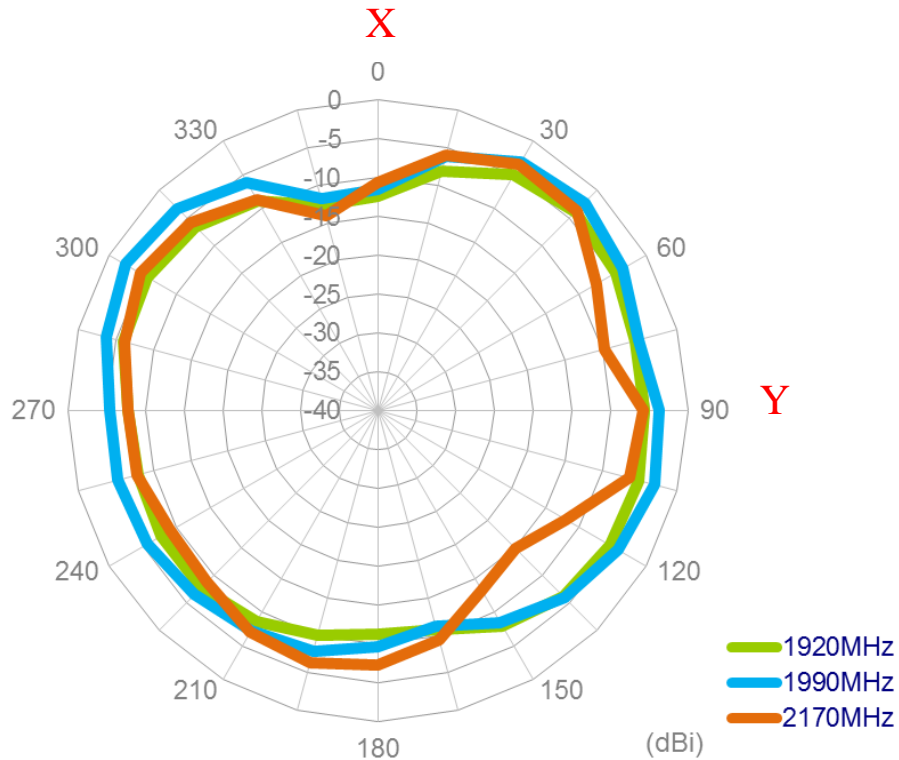
### 4.1 Antenna setup

The antenna radiation pattern measured setup as shown the below,

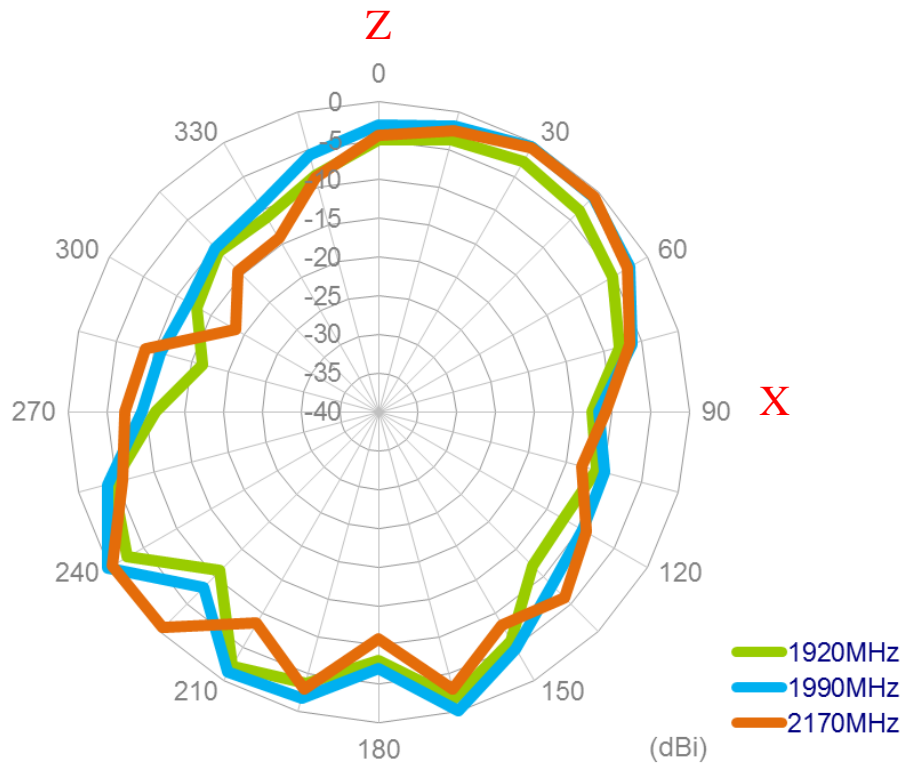


## 4.2 Antenna radiation patterns

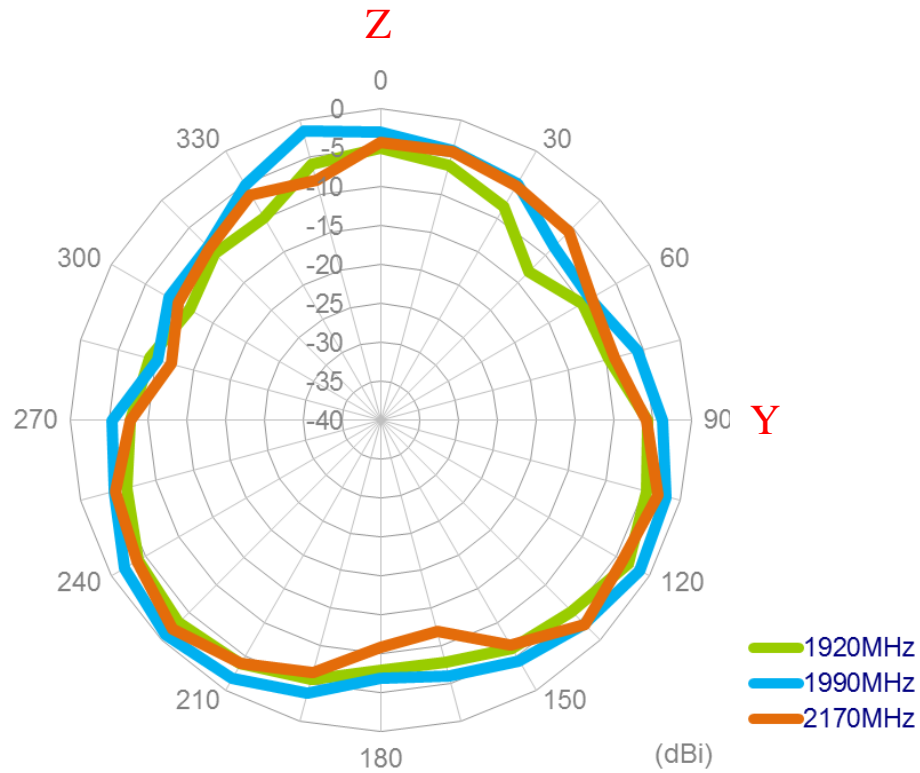
### XY-Plane



### XZ-Plane

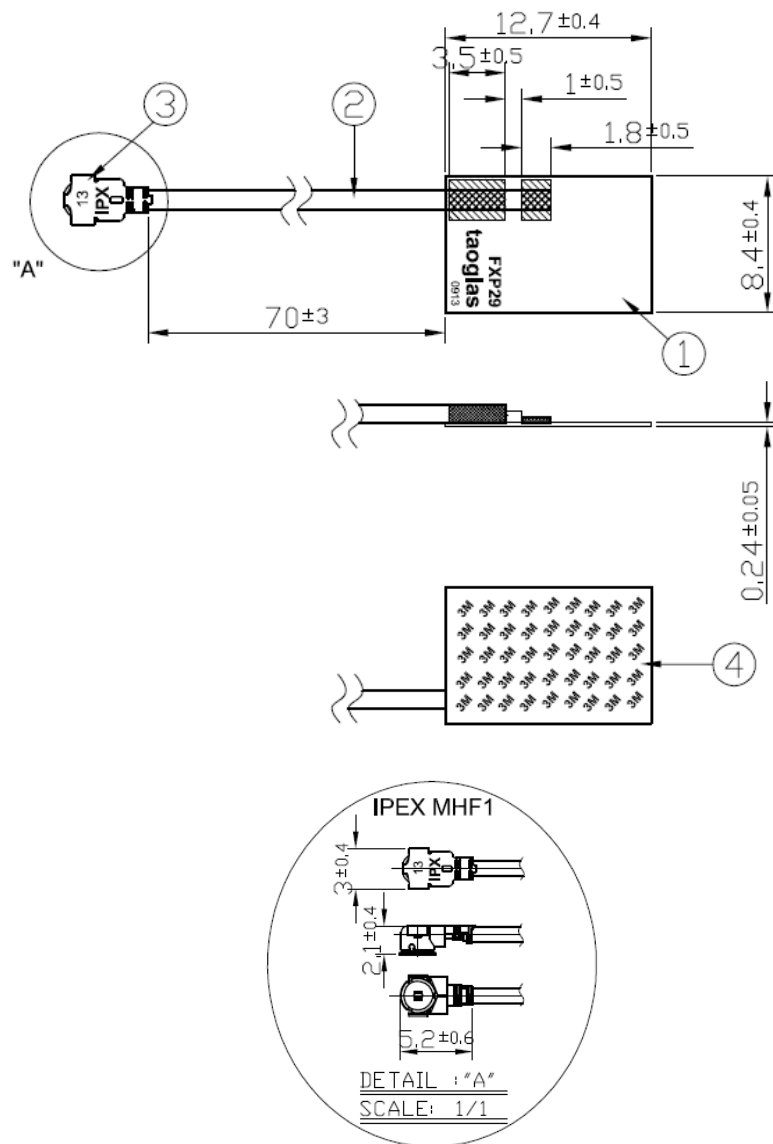


## YZ-Plane





## 5. DRAWING

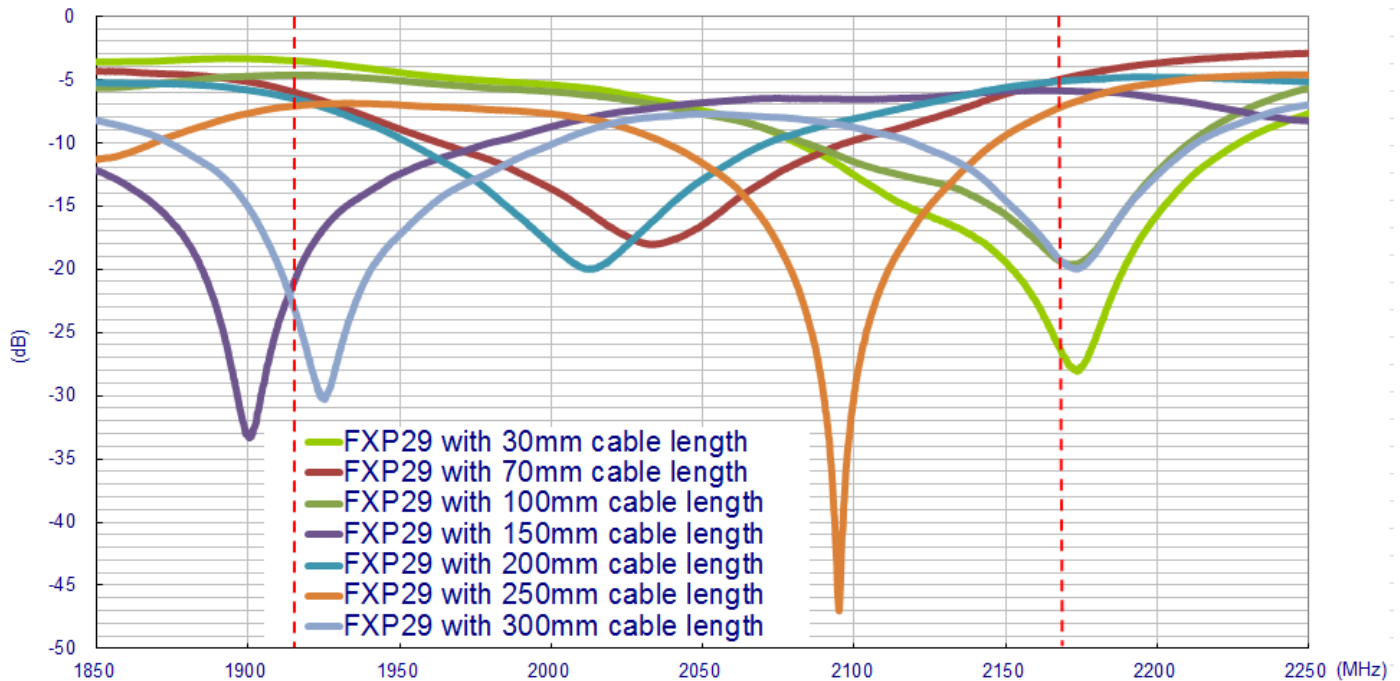


	Name	Part No,	Material	Finish	QTY
①	FXP29 FPCB	100113E010011A	FPCB 0.15t	Black	1
②	1.13 Coaxial Cable	300213A000013A	FEP	Black	1
③	IPEX MHF1	204113G000013A	Brass	Gold	1
④	Double-Sided Adhesive	100113E010011A	3M 467	Brown Liner	1

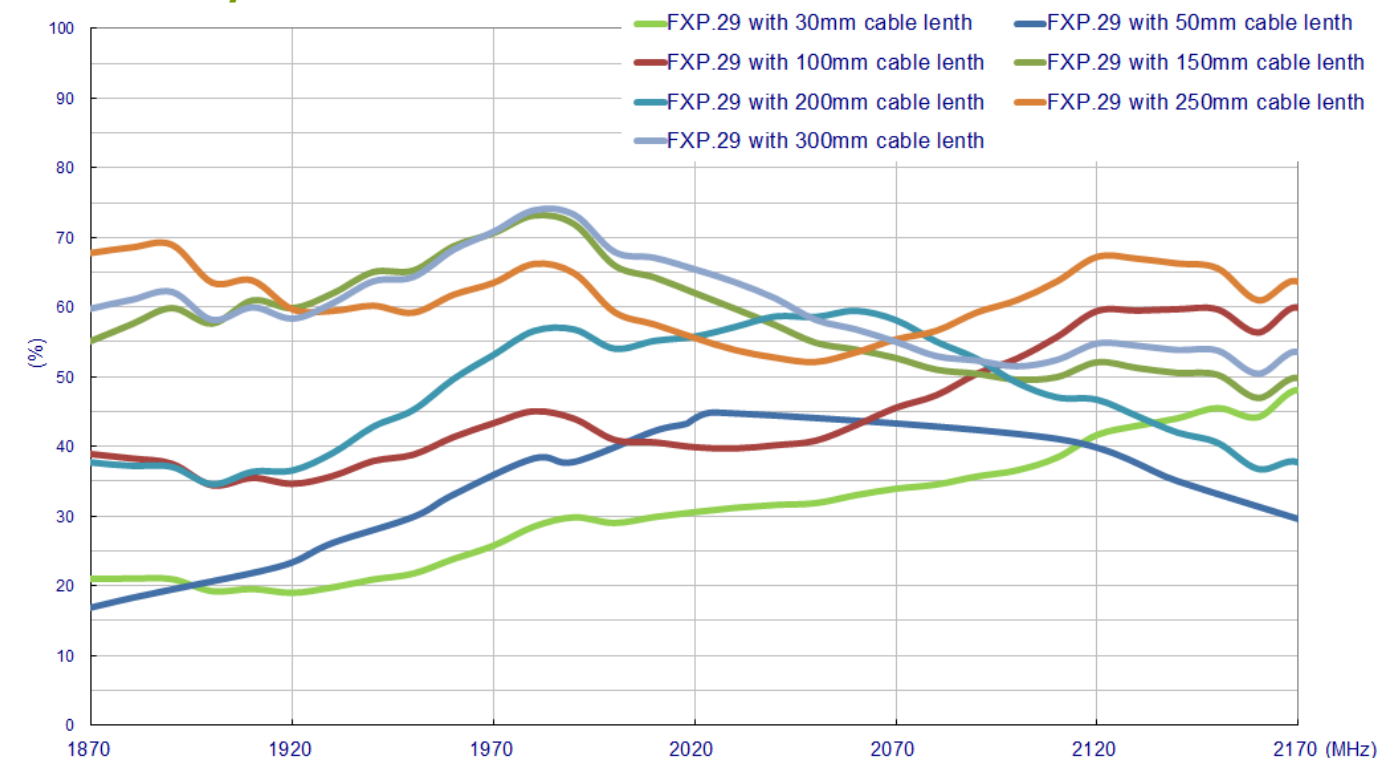
## 6. Application Note

The FXP.29 antenna measured with difference cable length on plastic plate of 3 mm thickness, the performance is shown as below,

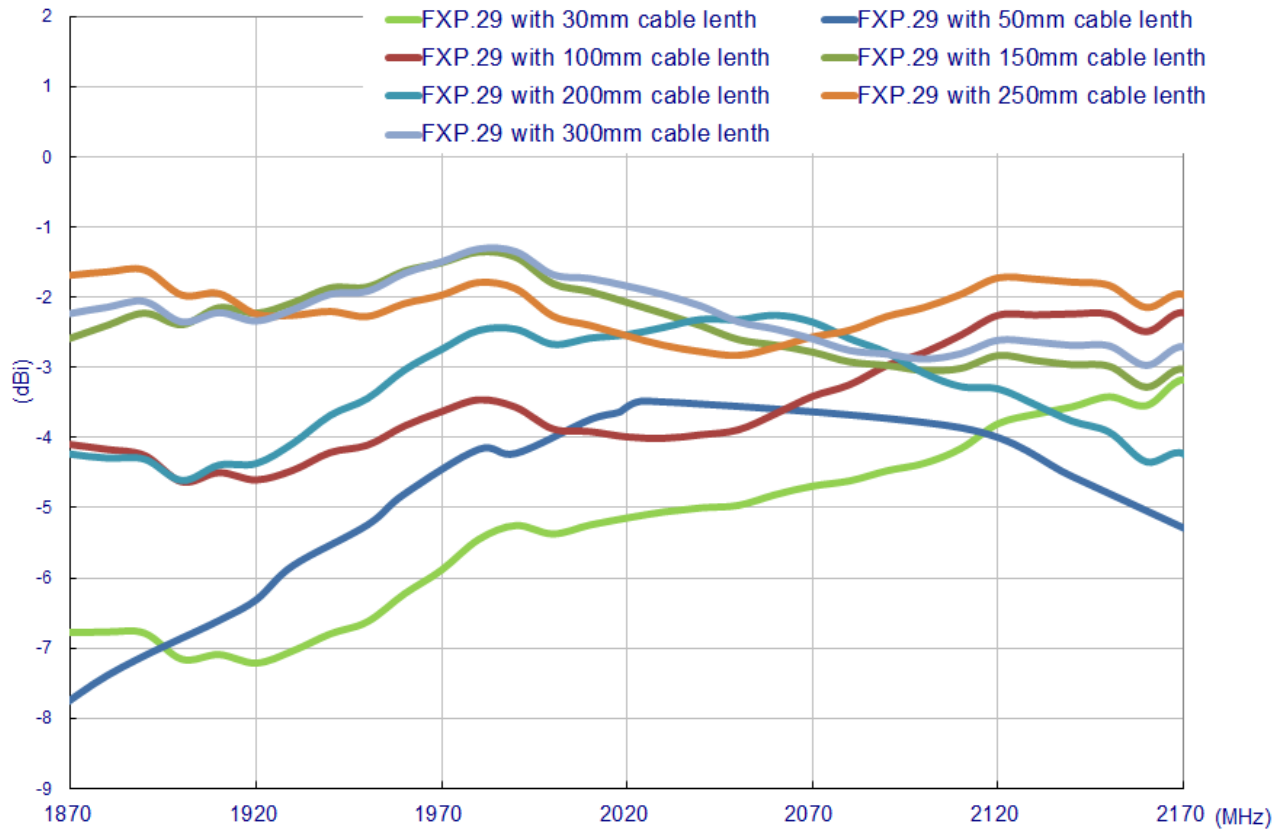
### ● Return loss



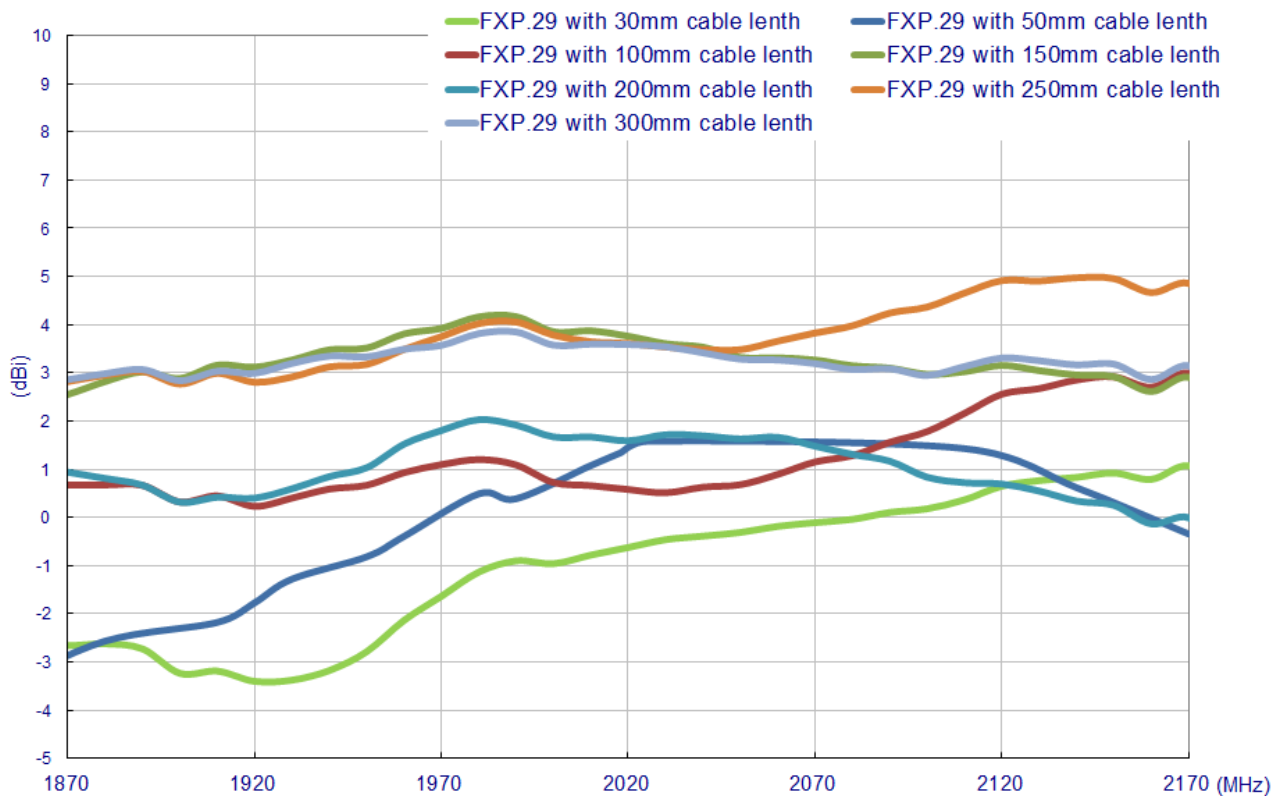
### ● Efficiency



● **Average Gain**



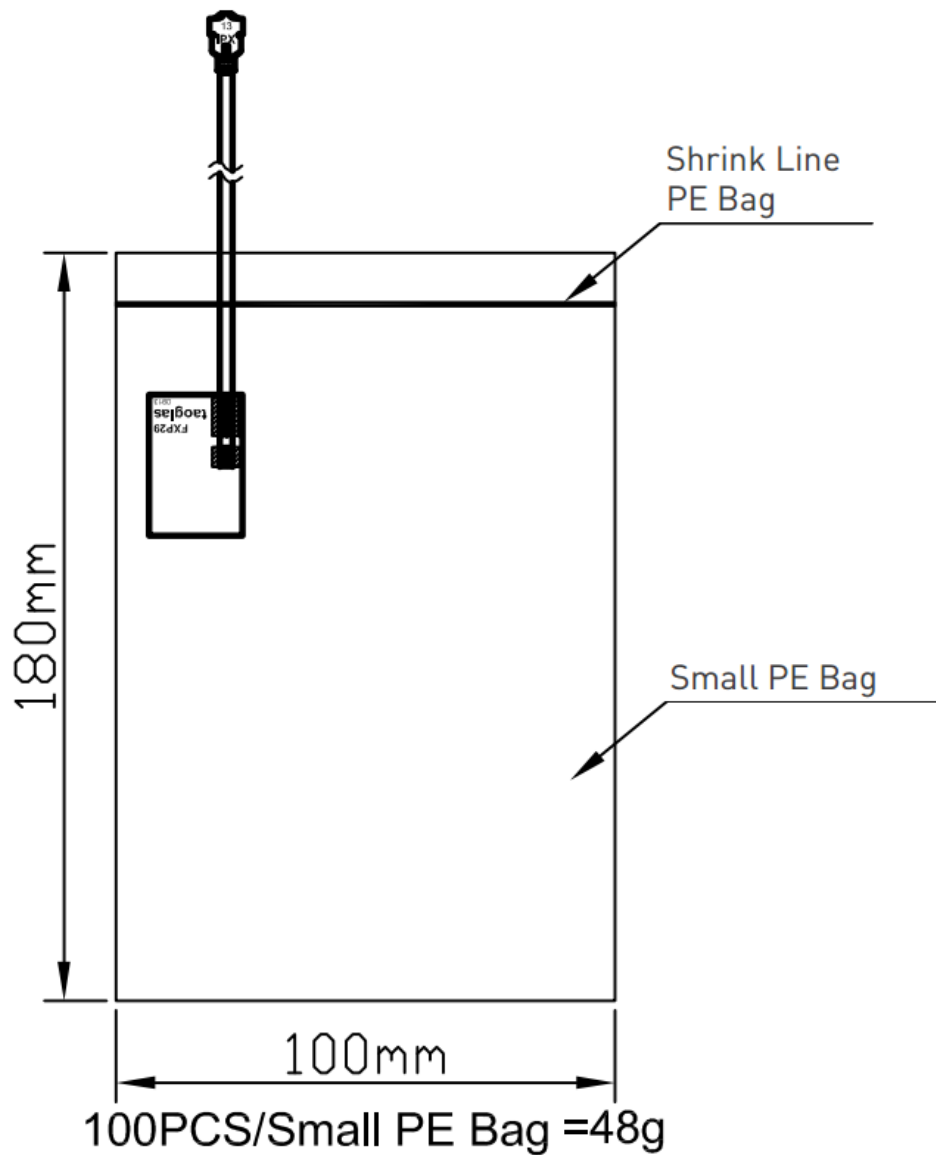
● **Peak Gain**



## 7. Packaging

100pcs antenna per small PE Bag

Weight 100 pcs: 0.45Kg



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