

## Specification

Part No. : **FXP280.07.0100A**

Model : 868MHz ISM Band Flex Circuit Antenna

Features : 75\*45\*0.1mm  
100mm Ø1.13 Cable  
RoHS ✓



## 1. OVERVIEW

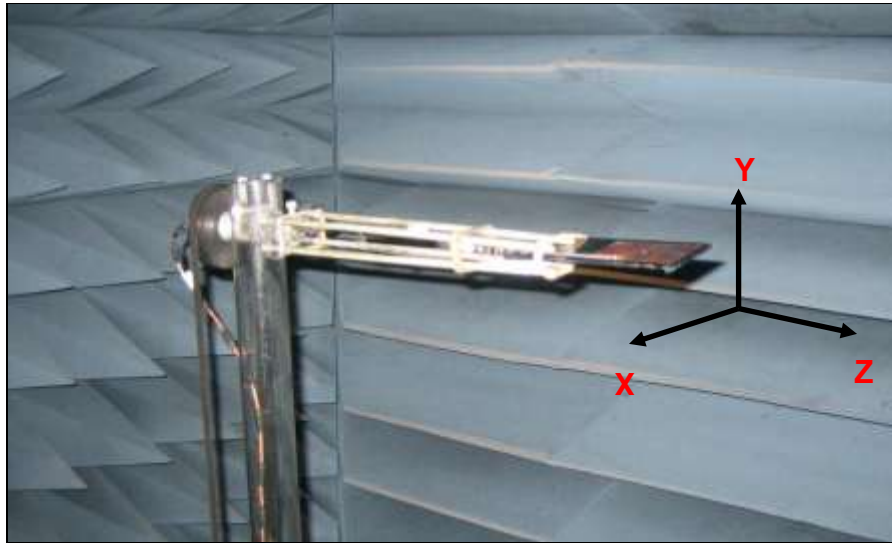
The Taoglas FXP280 868 MHz ISM Antenna covers from 863-870 MHz used in the 868MHz ISM (Industrial Scientific Medical) European Band. The antenna has been designed in a flexible material with a square form-factor and cable connection for an easy installation. The antenna works on different plastic materials and thickness. We have selected a piece of ABS with 2 mm of thickness as a baseline for testing.

## 2. ANTENNA CHARACTERISTICS

Parameter	Specification
Frequency Range	863MHz to 870MHz
Return Loss (dB)	-20
Efficiency (%)	40
Gain (dBi)	1.5
Impedance	50 $\Omega$
VSWR	$\leq 2:1$
Polarization	Linear
Power Handled	5W
Operation Temperature	-40°C ~ +85°C
Storage Temperature	-40°C ~ +85°C
Dimensions	75*45*0.1mm
Weight	1.5g
Connector	IPEX MHFI (U.FL Compatible)
Cable Standard	Mini-Coax 1.13 mm
Cable Length and color	100mm, Black
RoHS Compliant	Yes
Adhesive	3M 467

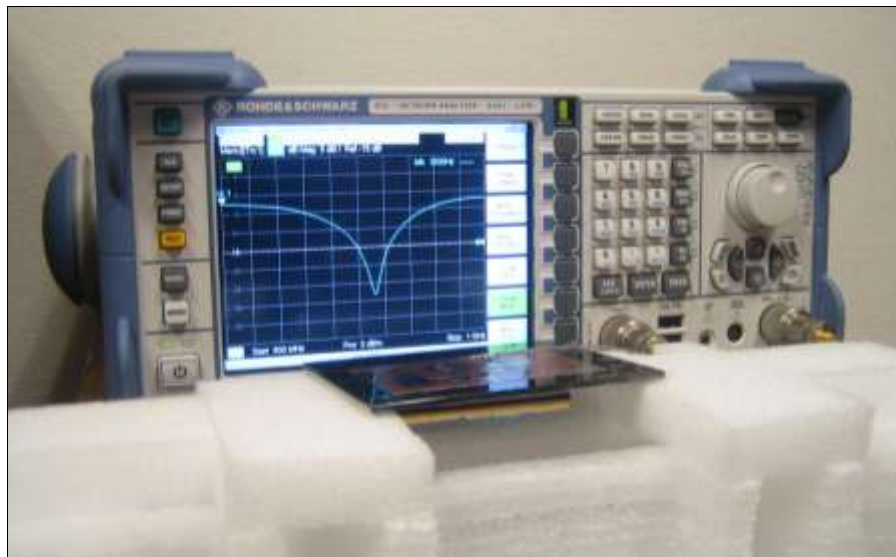
### 3. TEST SET UP

An ETS-Lindgren 3D Scan System with Anechoic Chamber



**Figure 1.** ETS-Lindgren System.

Rhode & Schwartz ZVL6 Vector Network Analyzer

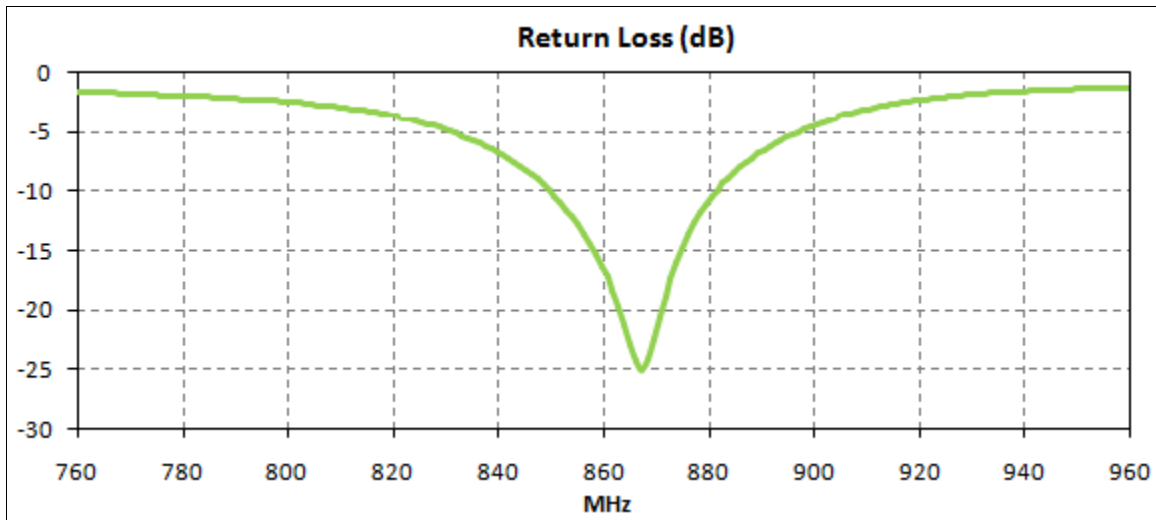


**Figure 2.** Network Analyzer.

## 4. ANTENNA PARAMETERS

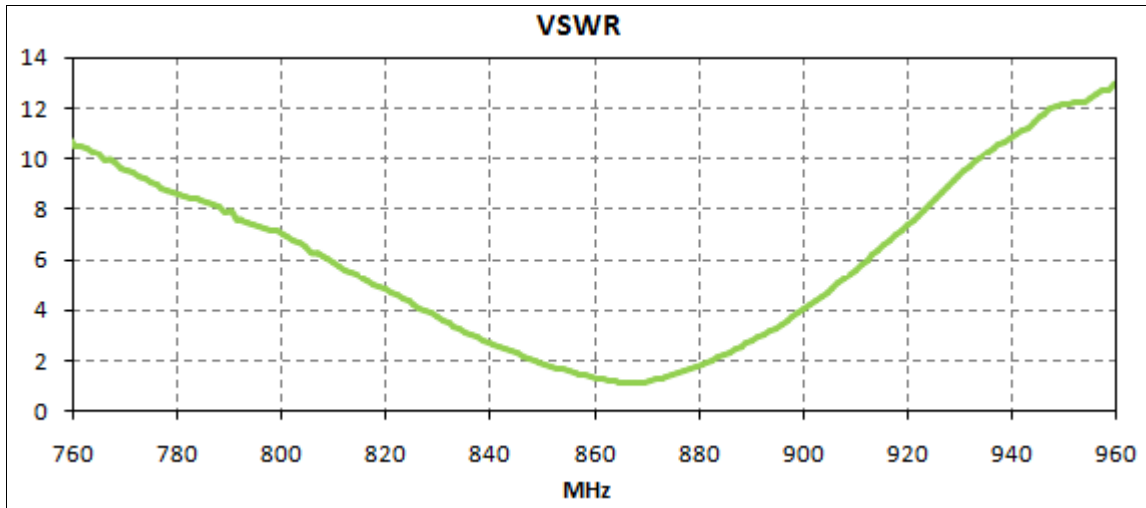
The next antenna parameter graphs like Return Loss, VSWR and smith chart were measured in the Agilent Rhode & Schwartz ZVL6 Vector Network Analyzer. The Gain, Efficiency and Radiation Patterns were measured in the ETS-Lindgren 3D Scan System.

### 4.1 Return Loss Data



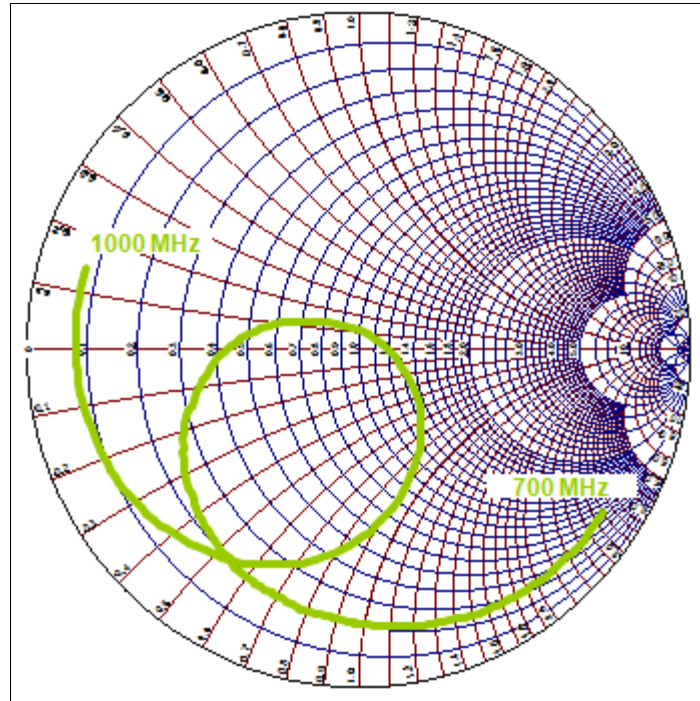
**Figure 3.** Return Loss for the FXP280 Antenna.

## 4.2 VSWR Data



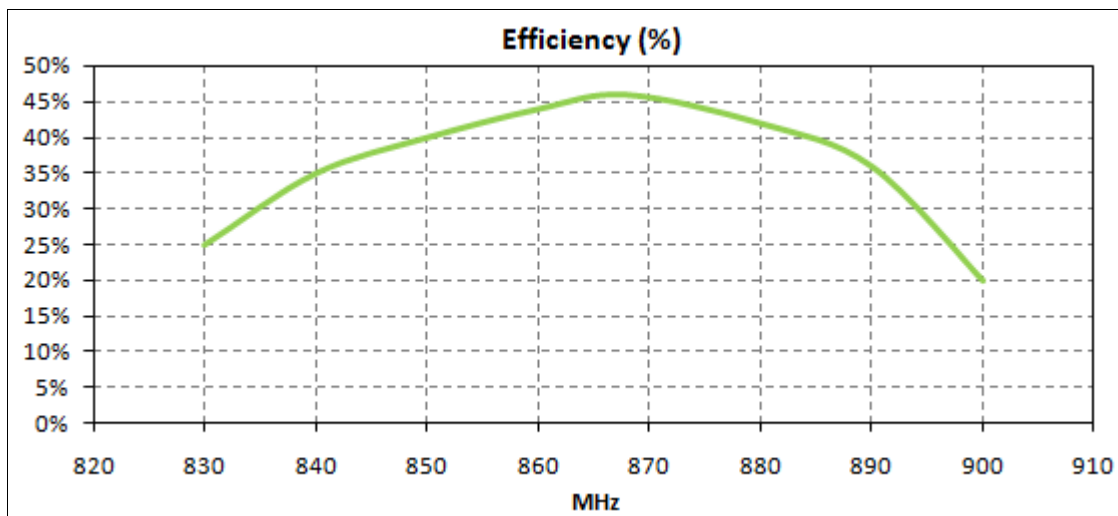
**Figure 4.** VSWR for the FXP280 Antenna.

### 4.3 Smith Chart Data



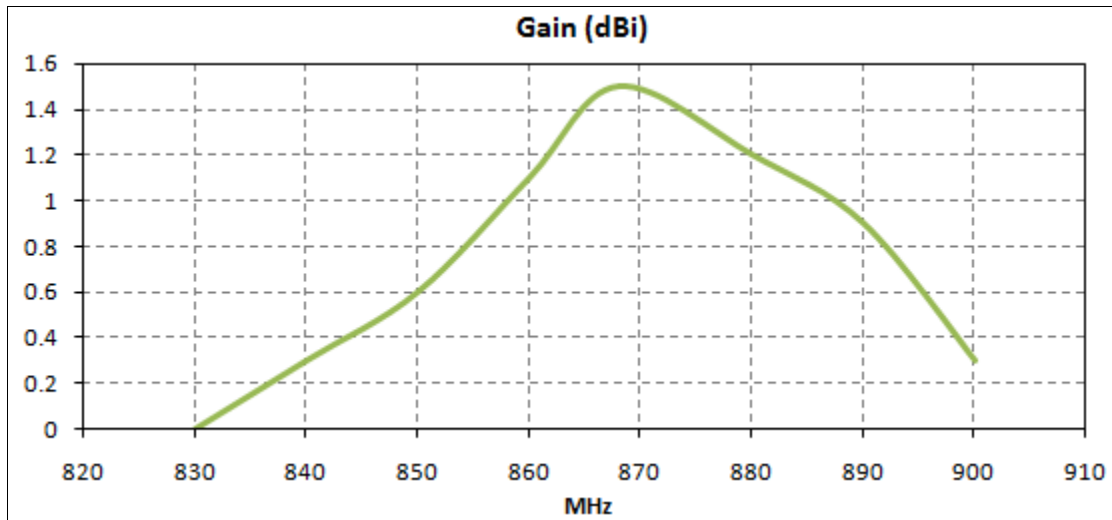
**Figure 5.** Smith Chart for the FXP280 Antenna.

### 4.4 Efficiency Data



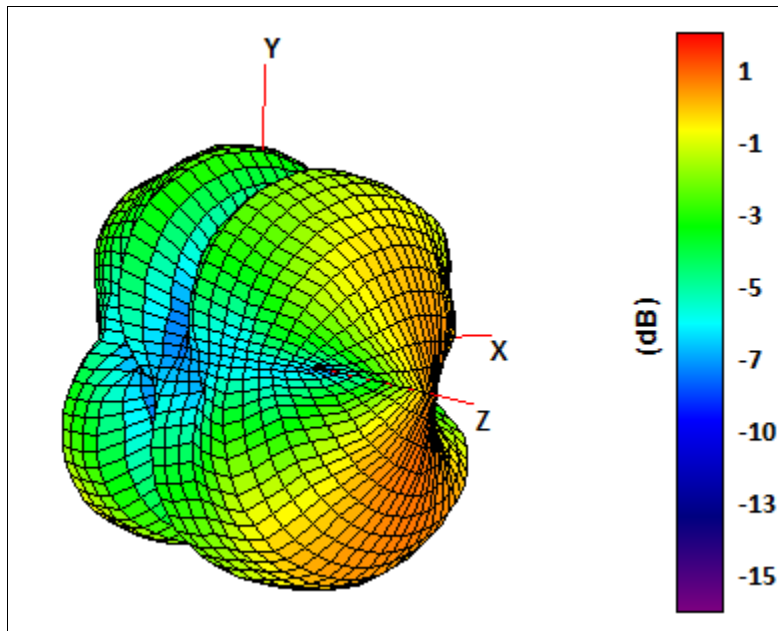
**Figure 6.** Efficiency for the FXP280 Antenna.

## 4.5 Gain Data

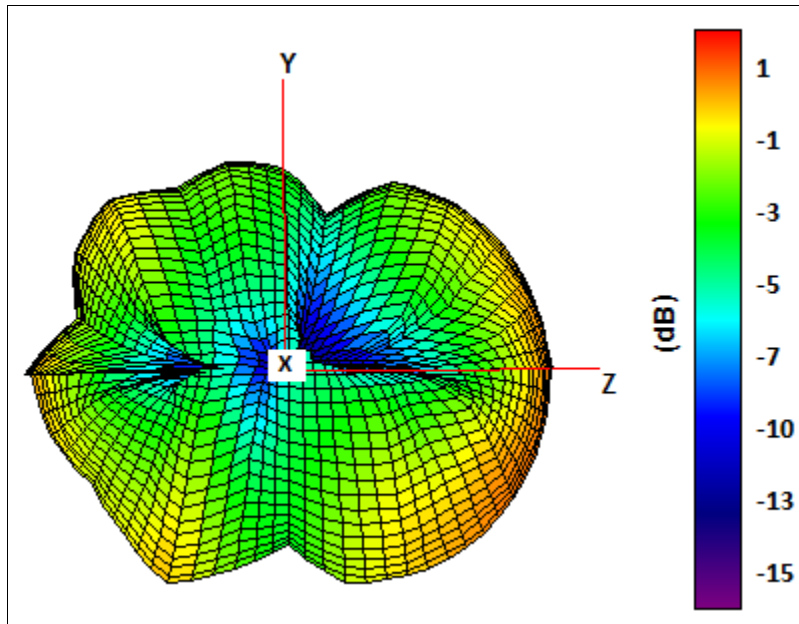


**Figure 7.** Gain for the FXP280 Antenna.

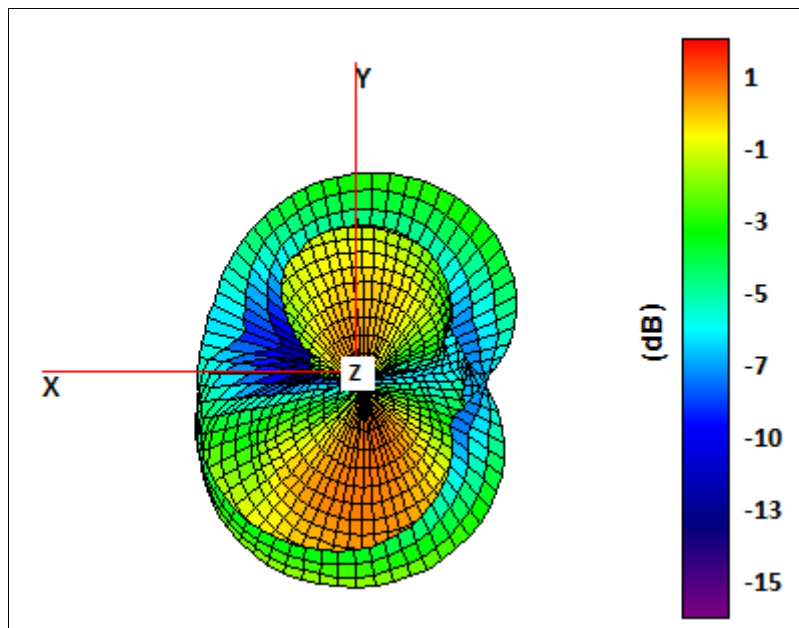
## 4.6 Radiation Pattern Data.



**Figure 8.** Radiation pattern 3D View, Figure 1 as reference (dB).

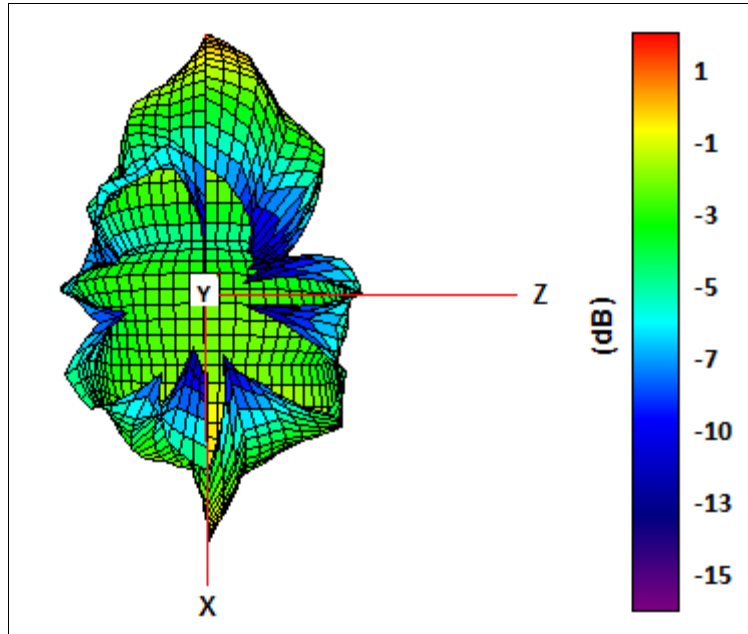


**Figure 9.** Radiation pattern YZ Plane, Figure 1 as reference (dB).



**Figure 10.** Radiation pattern XY plane, Figure 1 as reference (dB).





**Figure 11.** Radiation pattern XY plane, Figure 1 as reference (dB).

## 5. MECHANICAL DRAWING

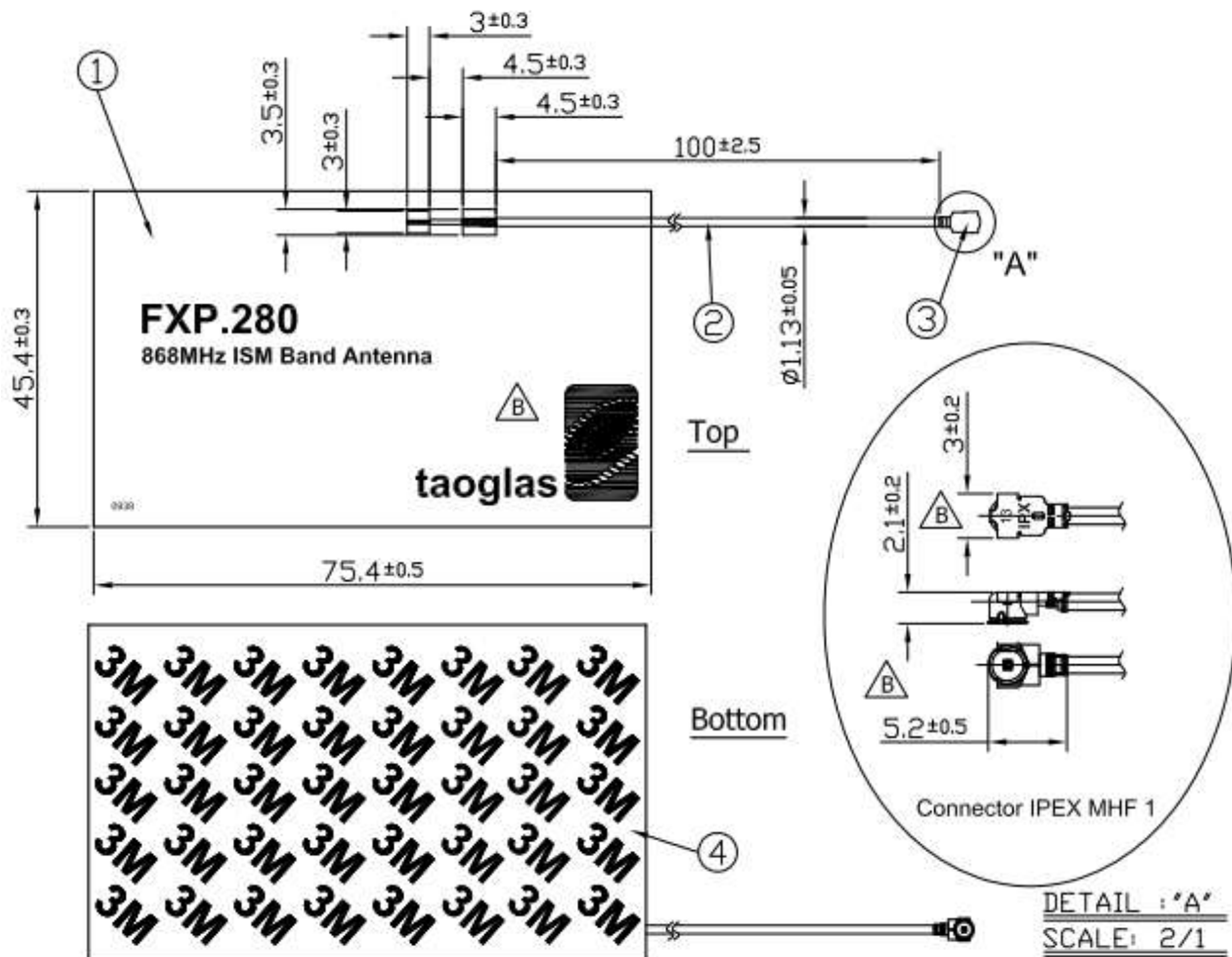


Figure 12. Mechanical Drawing for the FXP280 Antenna.

	Name	Material	Finish	QTY
1	FXP280 PCB	FPCB 0.1t	Black	1
2	1.13 Coaxial Cable	FEP	Black	1
3	IPEX MHF1	Brass	Gold	1
4	Double-Sided Adhesive	3M 9448 +PE Foam	Brown Liner	1