

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 Ω
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

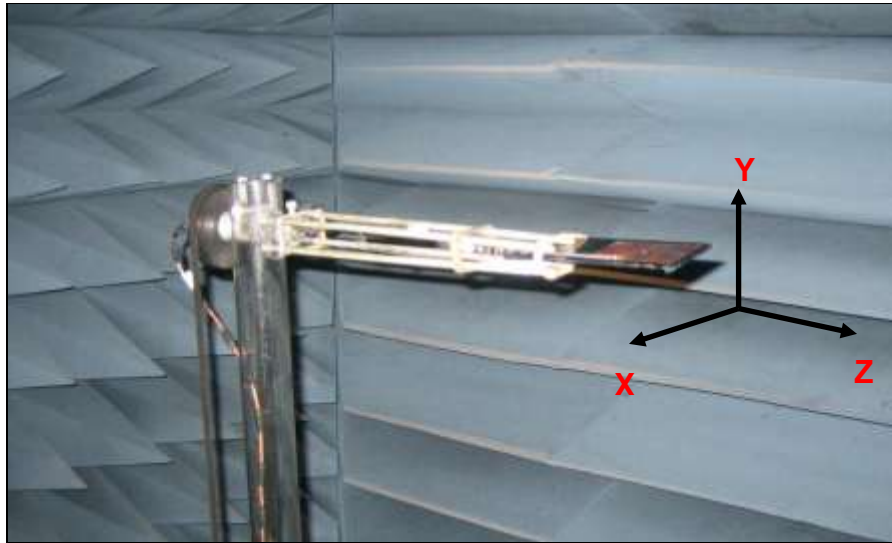


Figure 1. ETS-Lindgren System.

Rhode & Schwartz ZVL6 Vector Network Analyzer

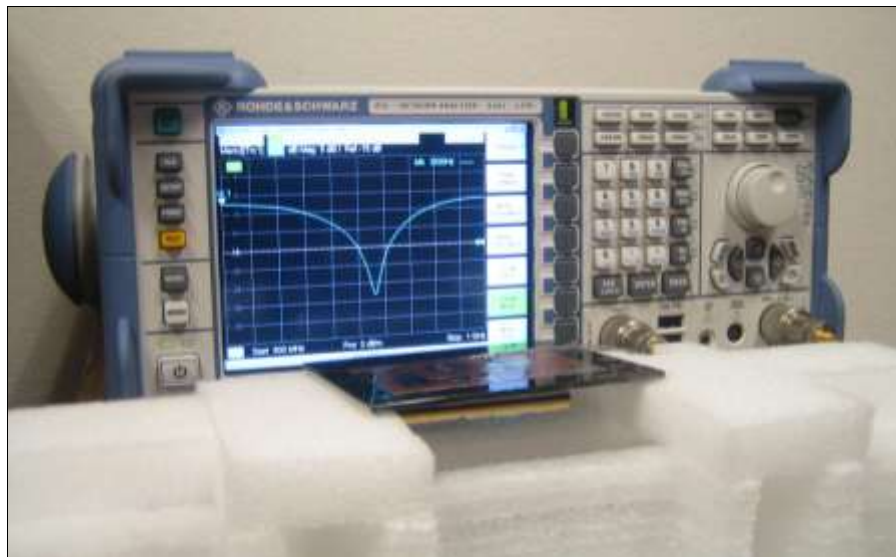


Figure 2. Network Analyzer.

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

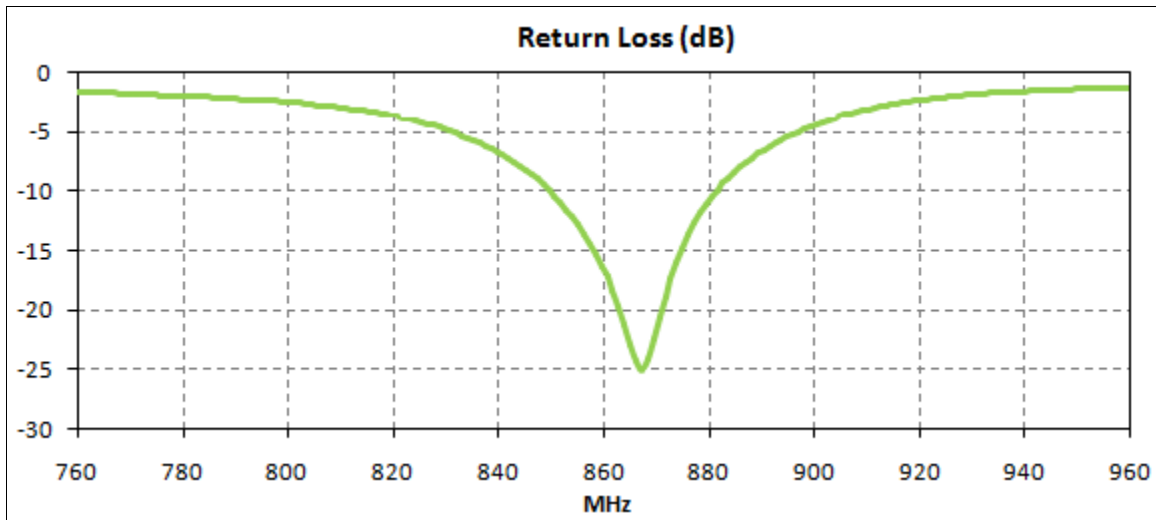


Figure 3. Return Loss for the FXP280 Antenna.

4.2 VSWR Data

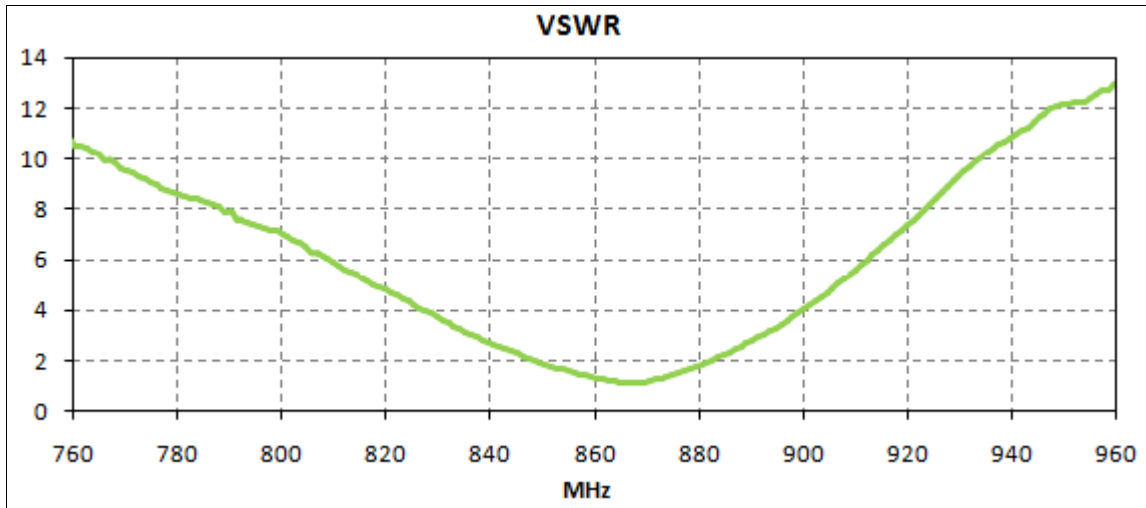


Figure 4. VSWR for the FXP280 Antenna.

4.3 Smith Chart Data

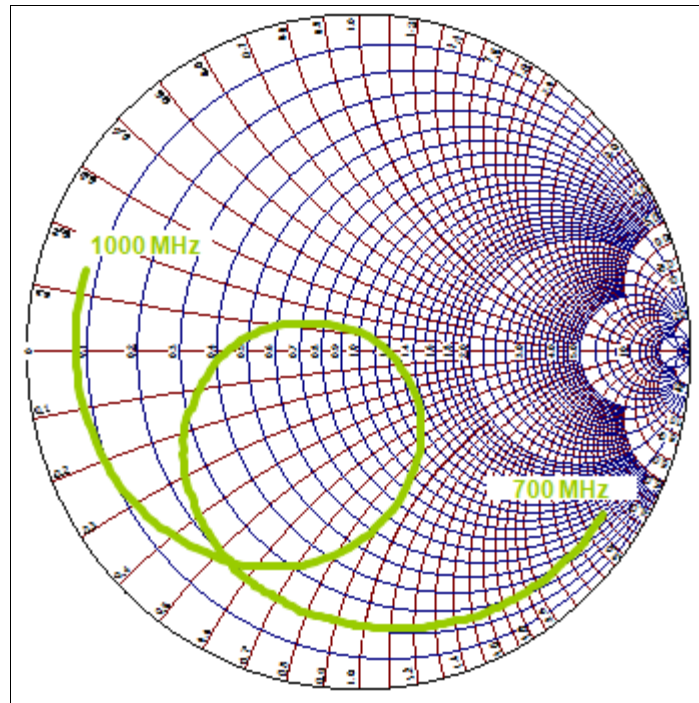


Figure 5. Smith Chart for the FXP280 Antenna.

4.4 Efficiency Data

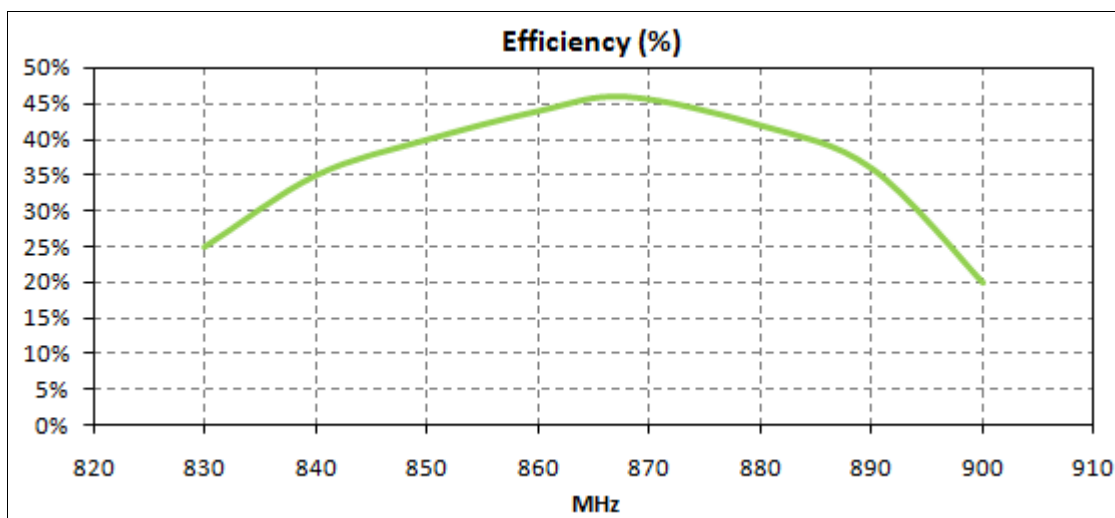


Figure 6. Efficiency for the FXP280 Antenna.

4.5 Gain Data

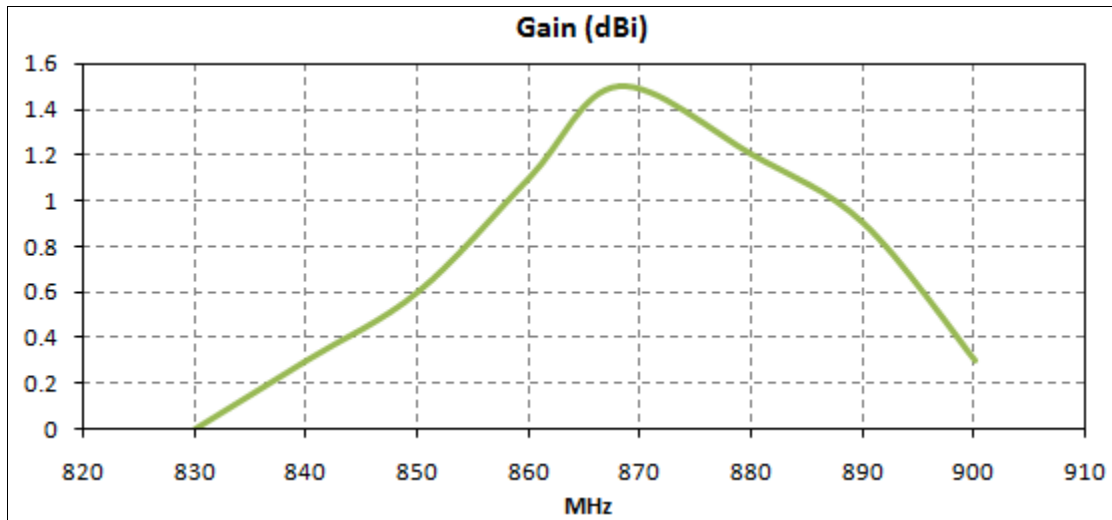


Figure 7. Gain for the FXP280 Antenna.

4.6 Radiation Pattern Data.

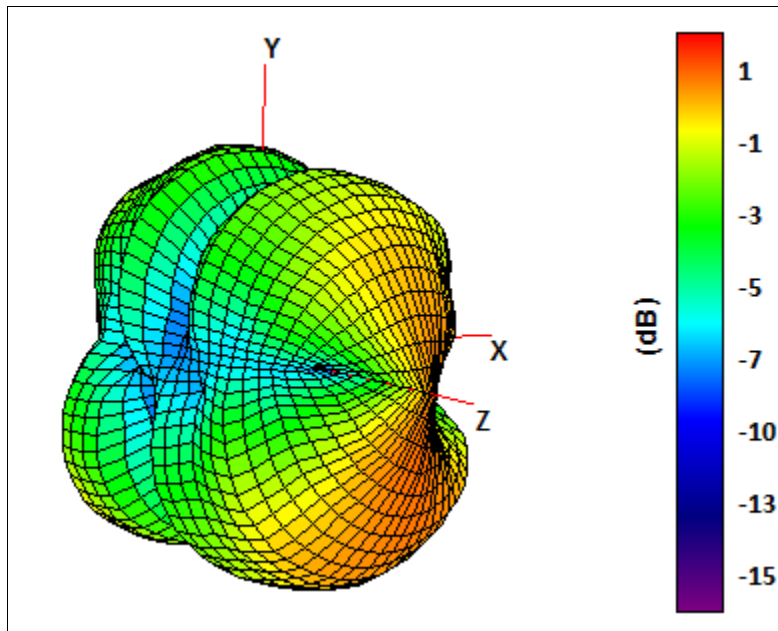


Figure 8. Radiation pattern 3D View, Figure 1 as reference (dB).

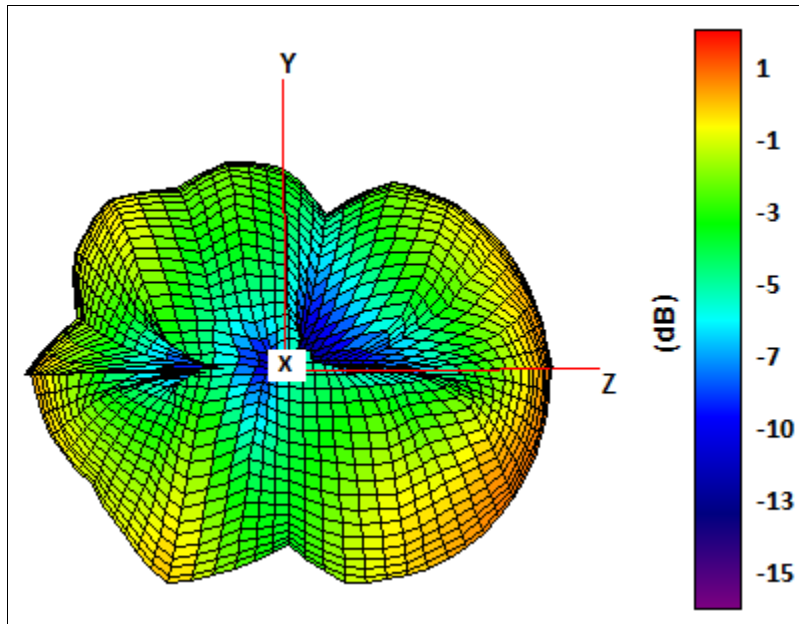


Figure 9. Radiation pattern YZ Plane, Figure 1 as reference (dB).

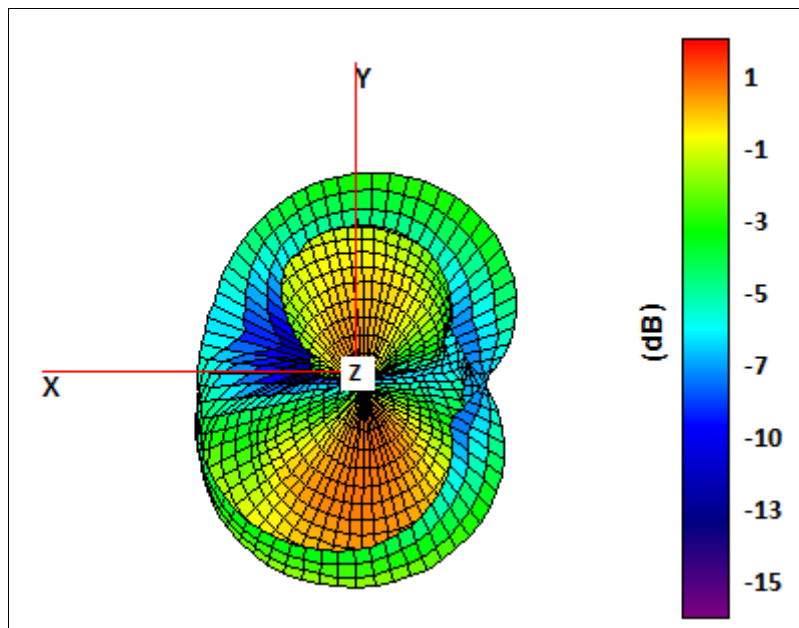


Figure 10. Radiation pattern XY plane, Figure 1 as reference (dB).

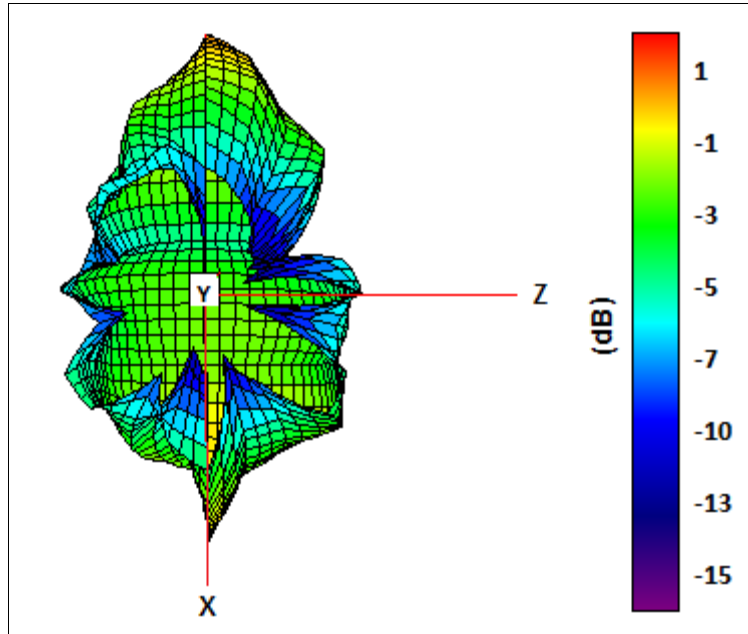


Figure 11. Radiation pattern XY plane, Figure 1 as reference (dB).

5. MECHANICAL DRAWING

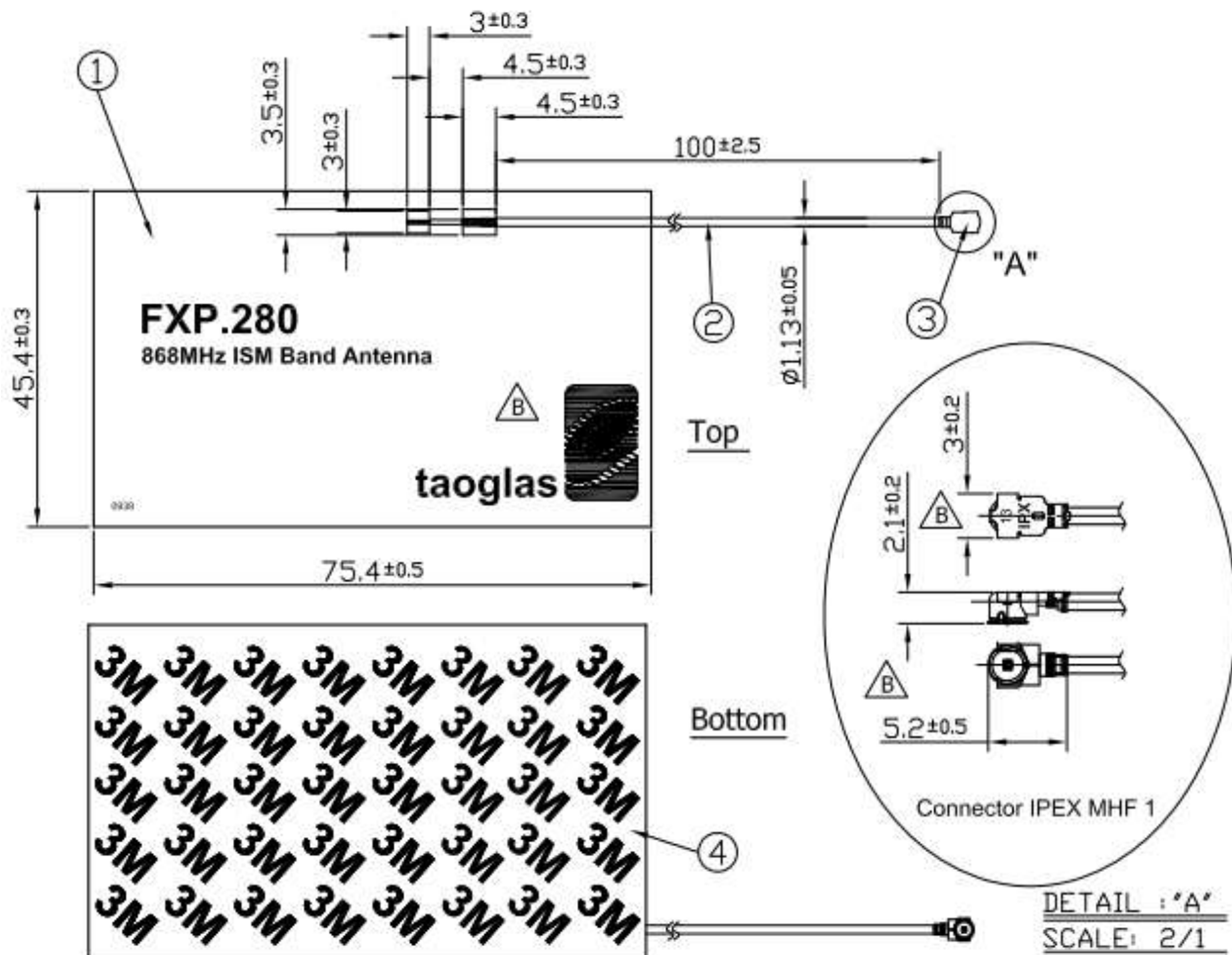


Figure 12. Mechanical Drawing for the FXP280 Antenna.

	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