

## Specification

Spec No. : **FXP290**  
 Part No. : **FXP290.07.0100A**  
 Model : 915MHz ISM Band Flex Circuit Antenna  
 Features : 75\*45\*0.1mm  
 100mm Ø1.13 Cable  
**RoHS ✓**



VERSION	DATE	PAGE	DESCRIPTION	CENTRE	APPROVED
A	09/21/2009	All	Antenna Specifications	Taiwan	Ruben F. Cuadras

## I. OVERVIEW

The Taoglas FXP290 915 MHz ISM Antenna covers from 902-928 MHz used in the 915 MHz ISM (Industrial Scientific Medical) 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.

## II. ANTENNA CHARACTERISTICS

Parameter	Specification
Frequency Range	902MHz to 928MHz
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	MHFII (U.FL Compatible)
Cable Standard	Mini-Coax 1.13 mm
Cable Length and color	100mm, Black
RoHS Compliant	Yes
Adhesive	3M 467

### III. TEST SET UP

An ETS-Lindgren 3D Scan System with Anechoic Chamber

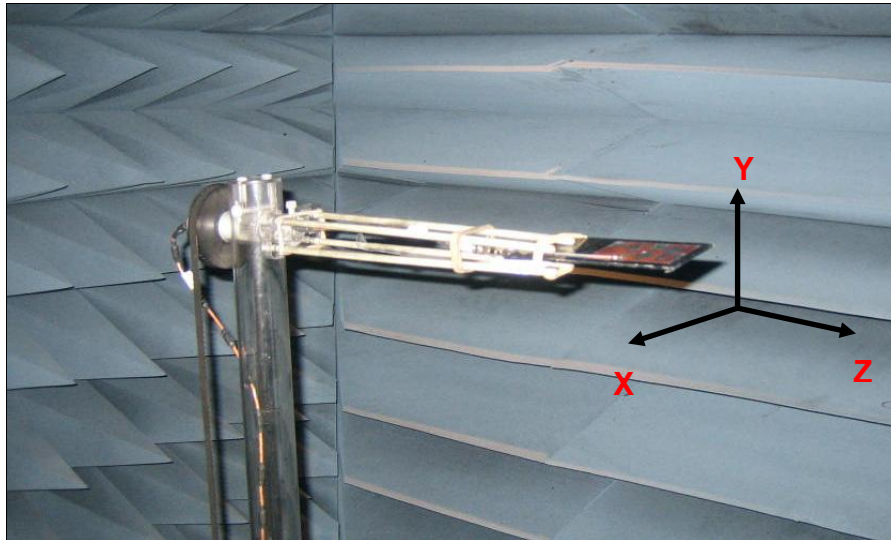


Figure 1. ETS-Lindgren System.

Rhode & Schwartz ZVL6 Vector Network Analyzer

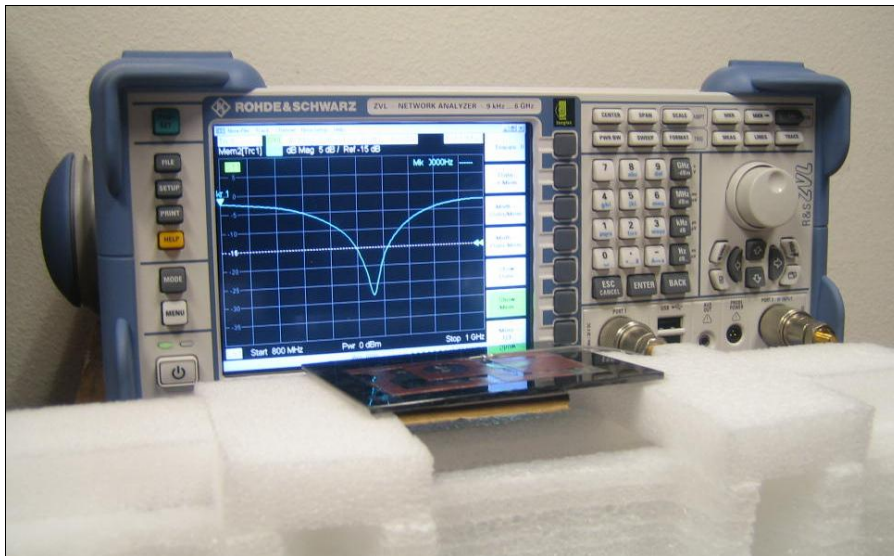


Figure 2. Network Analyzer.

## IV. 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.

### A. Return Loss Data

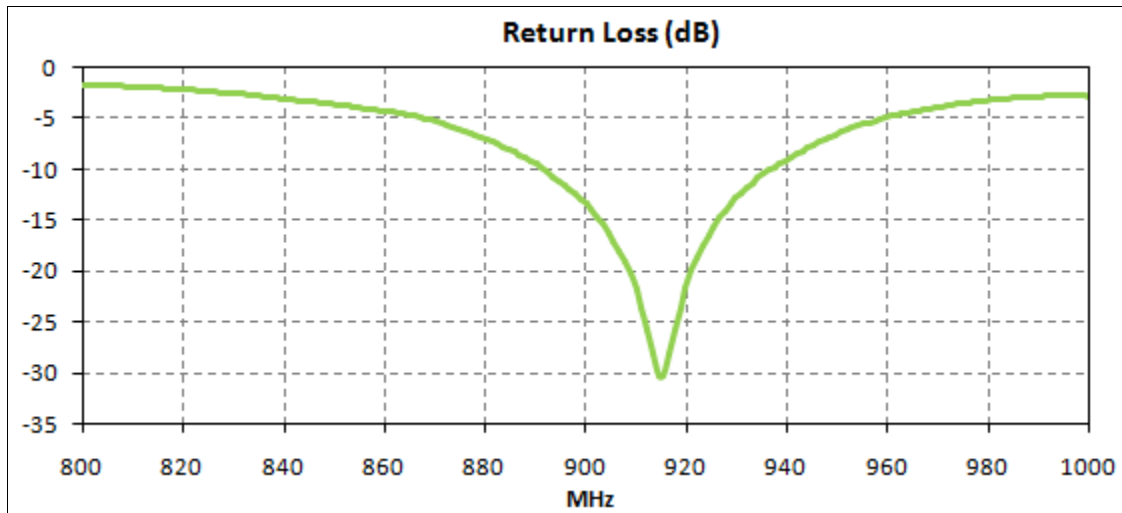


Figure 3. Return Loss for the FXP290 Antenna.

### B. VSWR Data

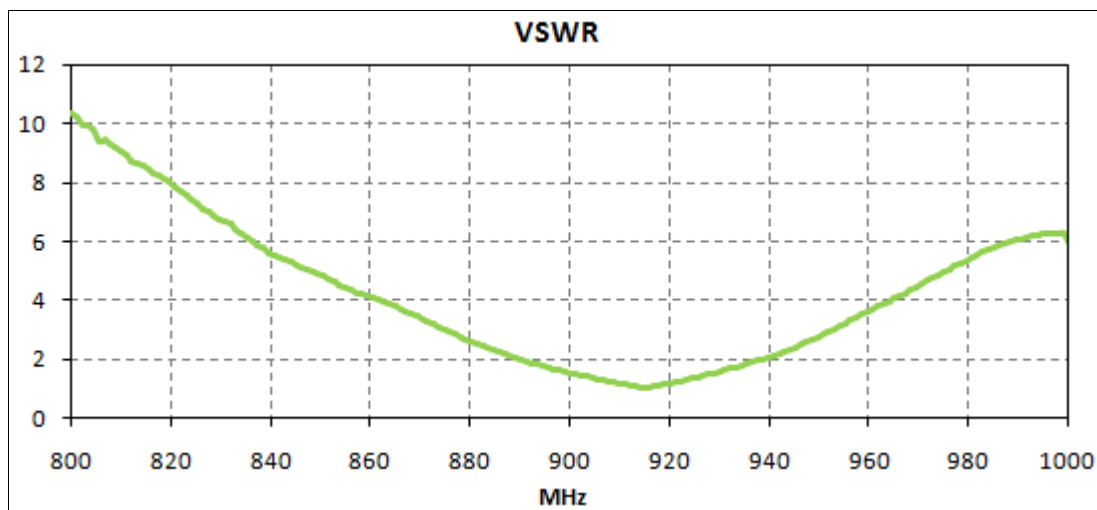


Figure 4. VSWR for the FXP290 Antenna.

### C. Smith Chart Data

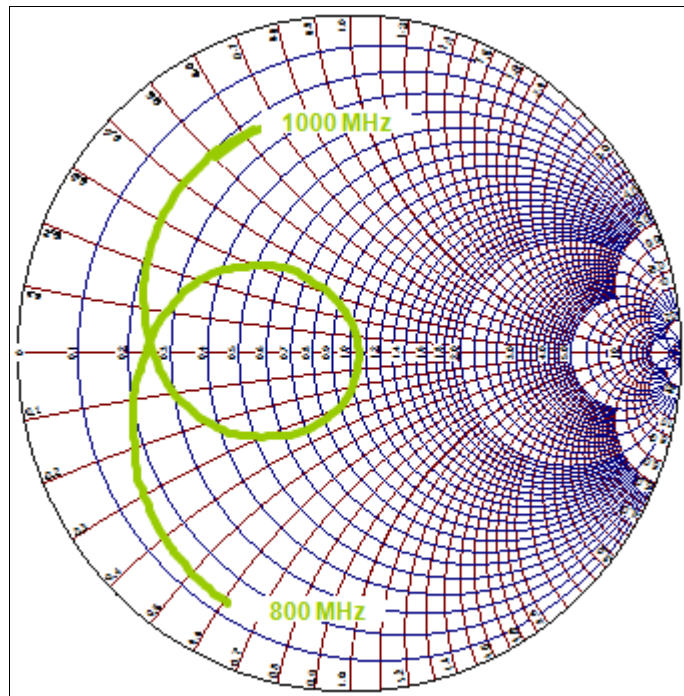


Figure 5. Smith Chart for the FXP290 Antenna.

### D. Efficiency Data



Figure 6. Efficiency for the FXP290 Antenna.

### E. Gain Data

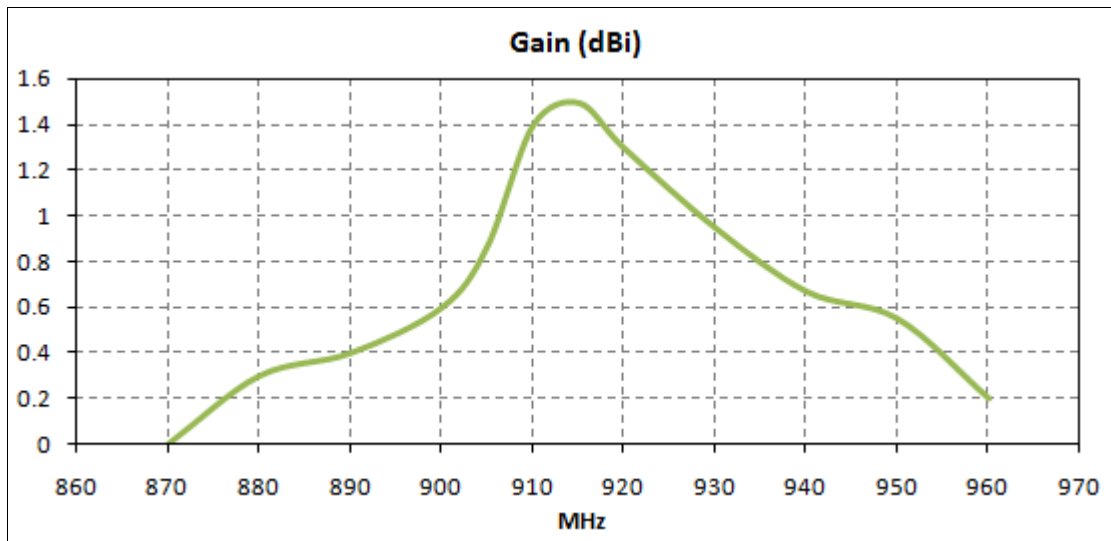


Figure 7. Gain for the FXP290 Antenna.

### F. Radiation Pattern Data.

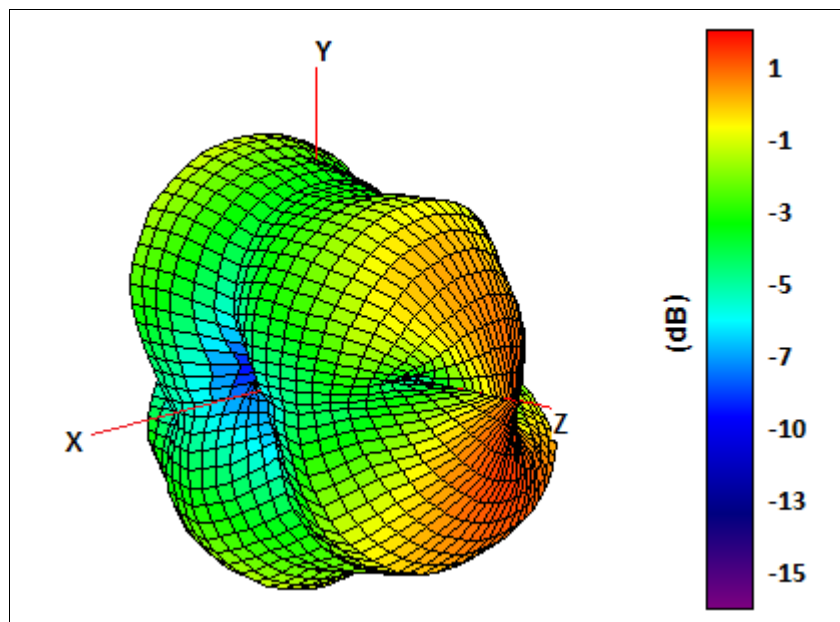
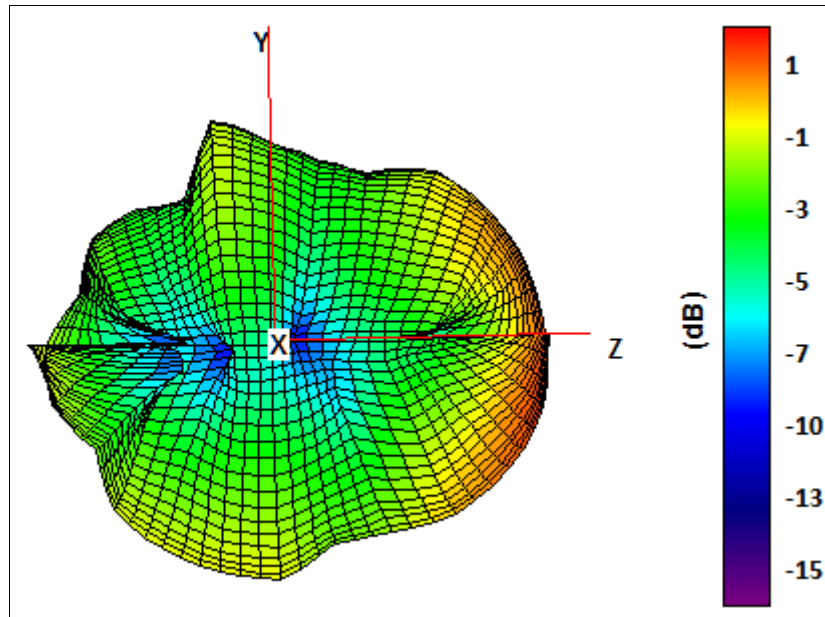
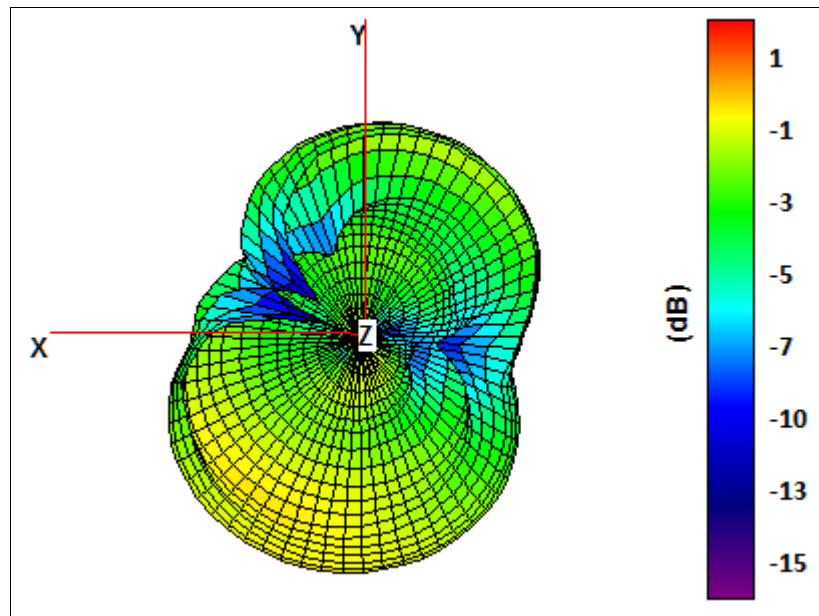


Figure 8. Radiation pattern 3D View, Figure 1 as reference (dB).



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



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

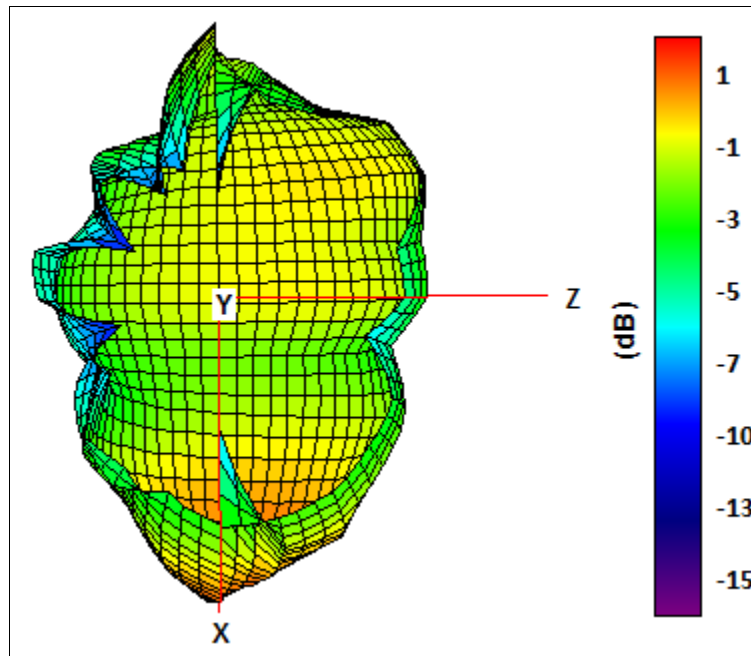
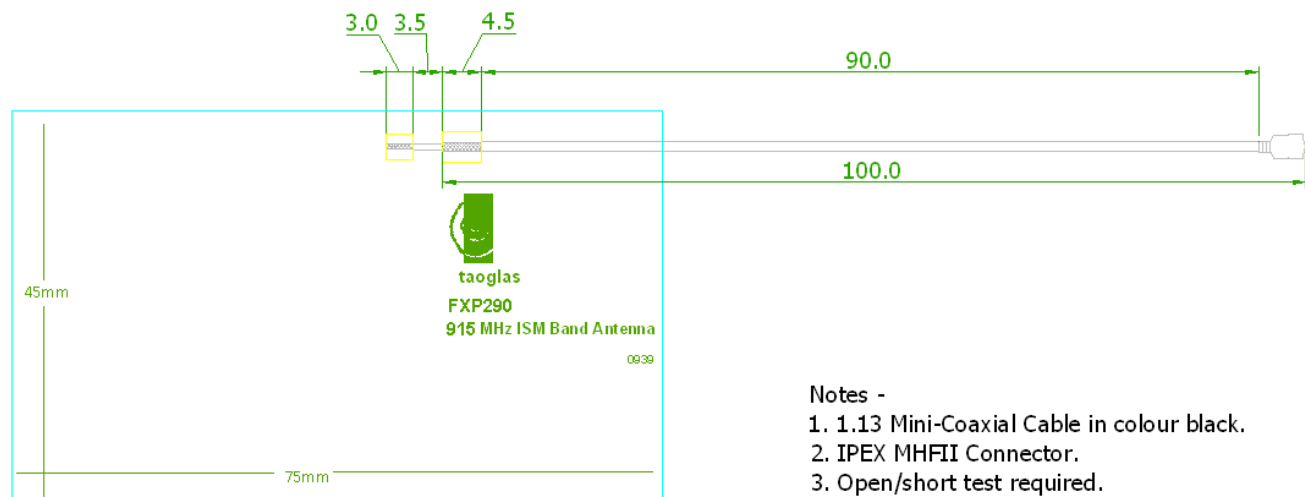



Figure 11. Radiation pattern XY plane, Figure 1 as reference (dB).

## V. MECHANICAL DRAWING



XXX.	±2.0	PART NO		PRODUCT NAME			
XX.	±1.0	FXP290		FXP290 915 MHz ISM Band Antenna			
X.	±0.5						
.X	±0.1	REV	UNIT	SCALE	SIZE	SHEET	CUSTOMER
.XX	±0.05	A	mm	1/1	A 4	1 OF 1	taoglas



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Figure 12. Mechanical Drawing for the FXP290 Antenna.