SPECIFICATION

Part No. : **TI.10.0422**

Product Name : 433MHz ISM Band Helical Antenna
Omni-directional, with a peak gain of 0dBi

Features : SMB Plug(F)RA Connector
Low profile and Robust Handling
45*14.7mm Antenna Dimensions
ROHS Compliant

Picture :

REVISION STATUS

Version	Date	Page	Revision Description	Prepared	Approved
01	Jan 21 2010	All	New product	TW Product Centre	Zita Lin

1.0 Introduction

The TI.10 series are high performance 433MHz omni-directional antennas. The TI.10 helical SMB plug mount antenna is ideal for mobile small form factor applications. The SMB connector is the preferred connector for automotive applications as it has a push lock feature, quick and easy to install, eliminates cost of cable and issues related to cable such as loss, twisting and noise, and resistant to disconnection from vibration.At only 45mm in length Omni-directional 0dBi peak gain ensures constant reception and transmission. The antenna structure is designed for robust handling and the housing is made with TPE giving reliable performance in tough environments.

1.1 Suggested Applications

- Automotive
- Remote control
- Remote monitoring
- Smart Meter

2.0 Key Antenna Performance Indicators

Parameter	Specification
Applications	433MHz ISM Band
Frequency	433.05~434.79MHz
Peak Gain	0dBi
Return Loss	-20dB
Impedance	50 Ohms
Radiation Pattern	Omni-directional
Polarization	Linear
VSWR	≤1.5:1
Power handling	5 W
Housing	TPE
Connector	SMB(F)RA plug
Operation Temperature	-40°C to + 85°C
Storage Temperature	-40°C to + 85°C
Relative Humidity	40% to 95%
Dimensions	45*14.7mm

Weight	8.5g

3.0 Test Set-up

Low Frequency 5 Meters Anechoic Chamber with 2D Scan System.

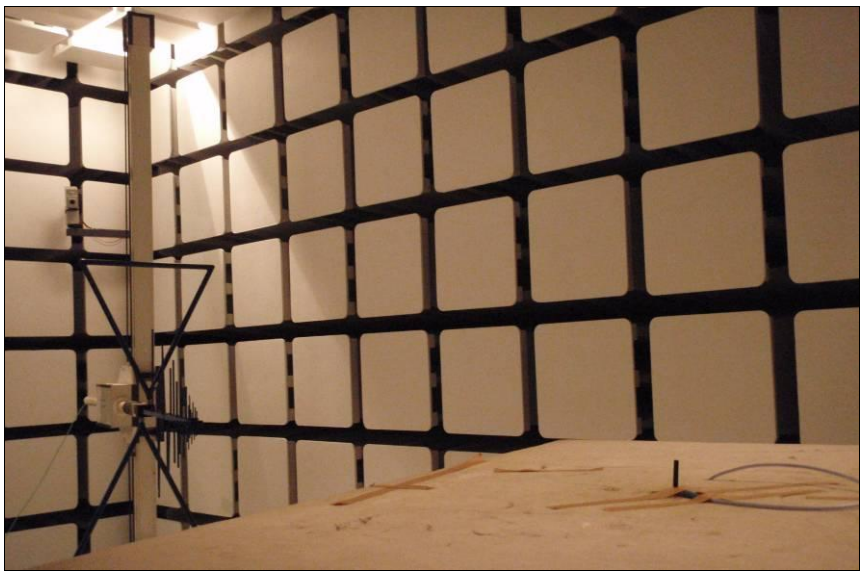


Figure 1. Satimo System.

Agilent 8753ES Vector Network Analyzer

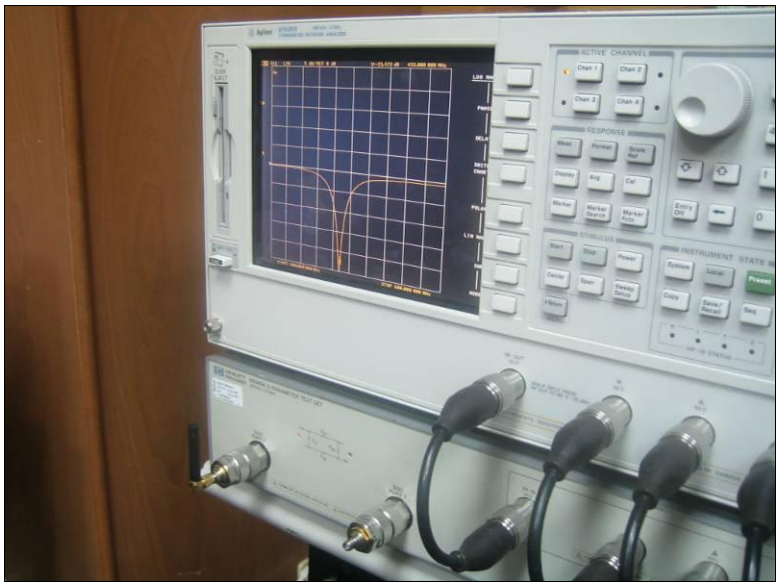
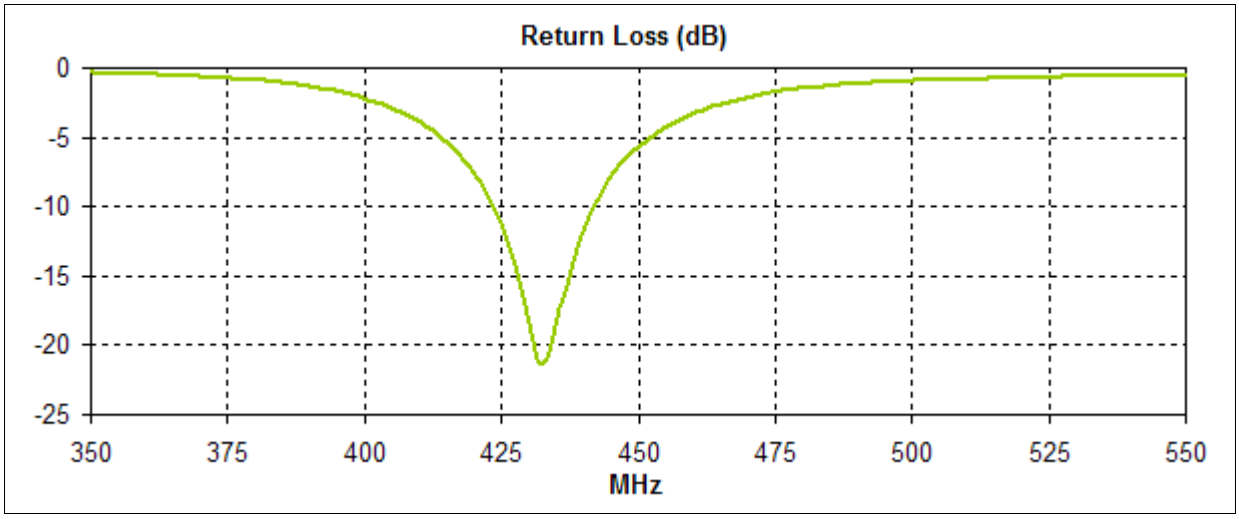


Figure 2. Network Analyzer.

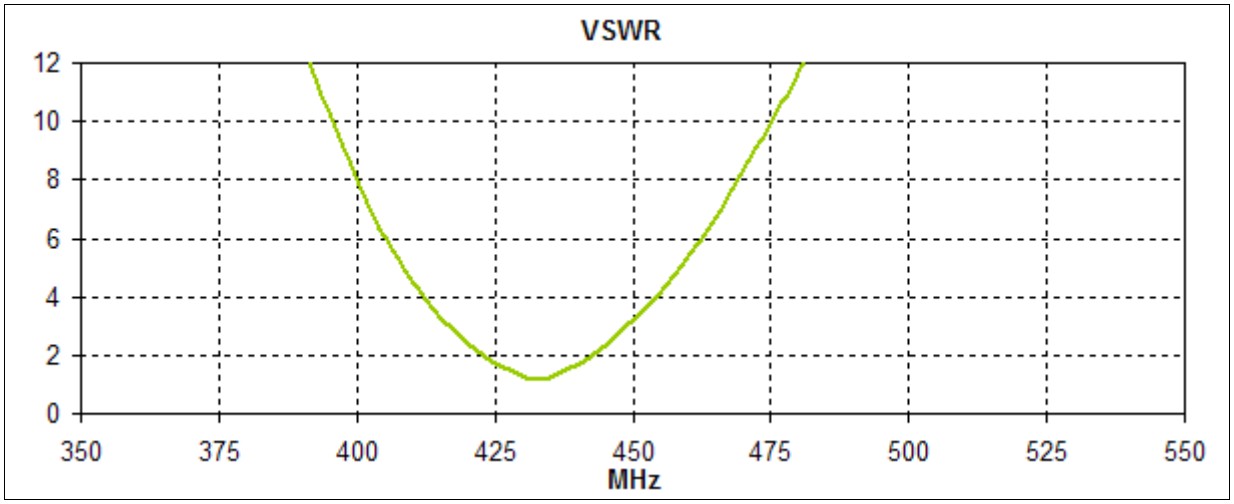
4.0 Antenna Parameters

The next antenna parameter graphs like Return Loss, Smith Chart and VSWR were measured in the Agilent 8753ES Vector Network Analyzer. The Radiation Patterns were measured in a Low Frequency Anechoic Chamber.

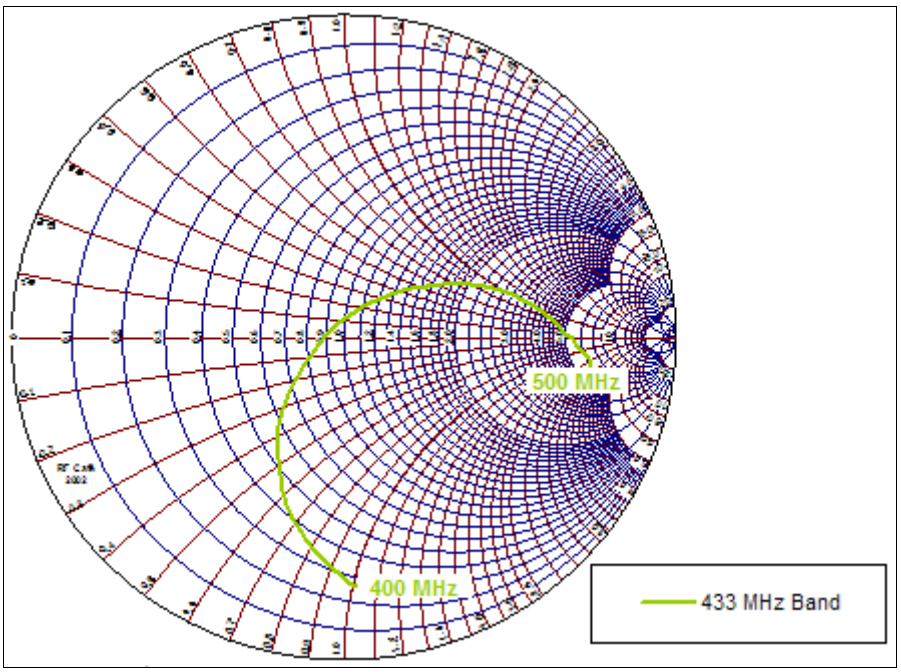
4.1 Return Loss Data



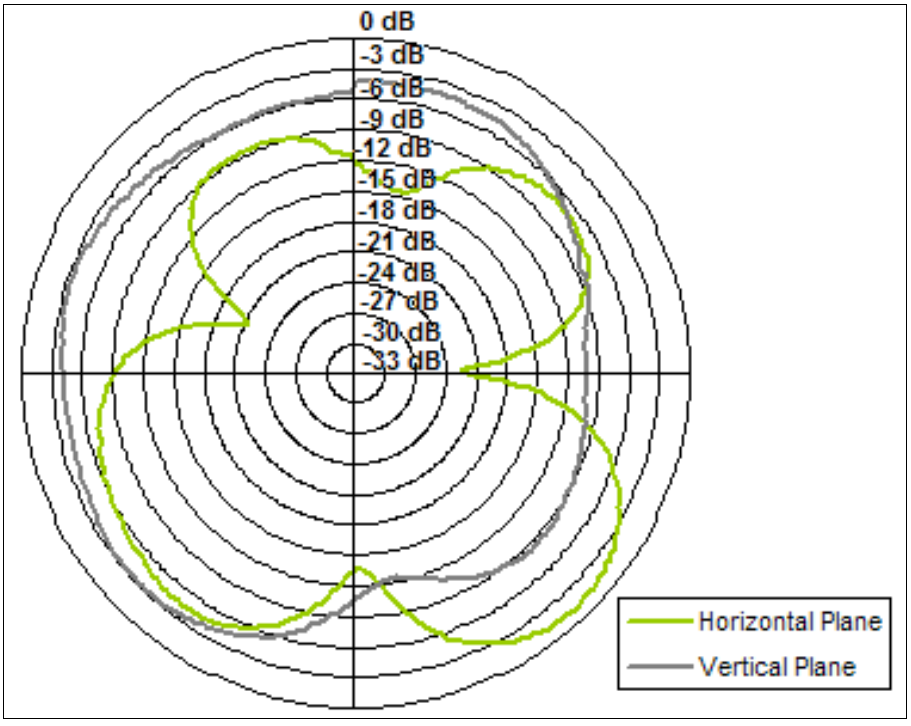
4.2 VSWR Data



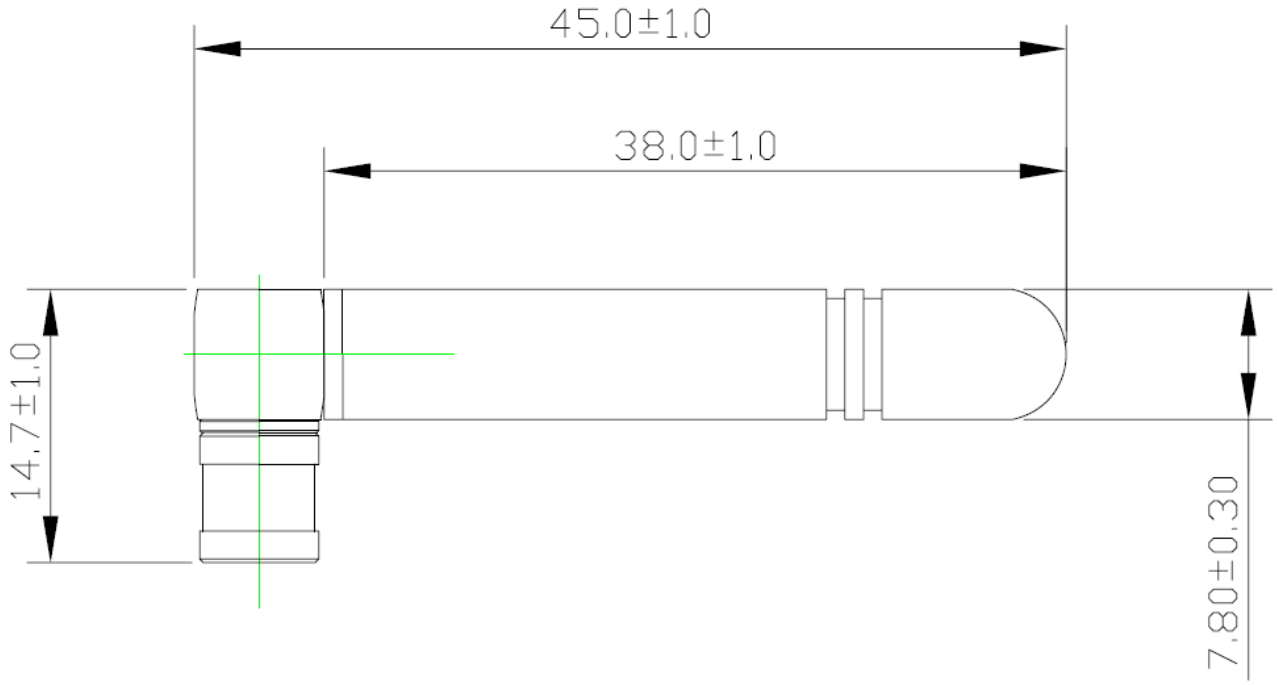
4.3 Smith Chart Data



4.4 Radiation Pattern



5.0 Mechanical Drawing



Unit:mm