

Specification

Part Number: **IS.01.B.305111**

Product Name: 433 MHz Heavy Duty Screw Mount Antenna

Features: Hercules Screw-Mount
0dBi ISM 433 MHz Band
Cable: 3M NFC-200
Connector: SMA(M)
Dimensions: Height: 29mm * Diameter: 49mm
IP69K Rated Enclosure

RoHS Compliant



1. INTRODUCTION

The Taoglas Hercules IS.01 is a high performance 433MHz permanent mount antenna for external use on mesh Networks, smart metering and outdoor and indoor assets. Its ruggedized design makes it suitable for heavy duty applications. Durable UV resistant PC housing is resistant to vandalism and direct attack. At only 29mm high it complies with the latest EU directives for vehicle height restrictions, whilst also enabling covert operation with a diameter of 49mm. Range of signal travels up to 300m (see range tests below).

The antenna enclosure is IP67 and IP69K rated, ensuring it is waterproof against high pressure water jets used in industrial environments for cleaning. It is supplied with a 3m NFC-200 low loss cable with an SMA(M) connector as standard, either of which can be fully customized. Contact your local customer services team for more information.

2. SPECIFICATION

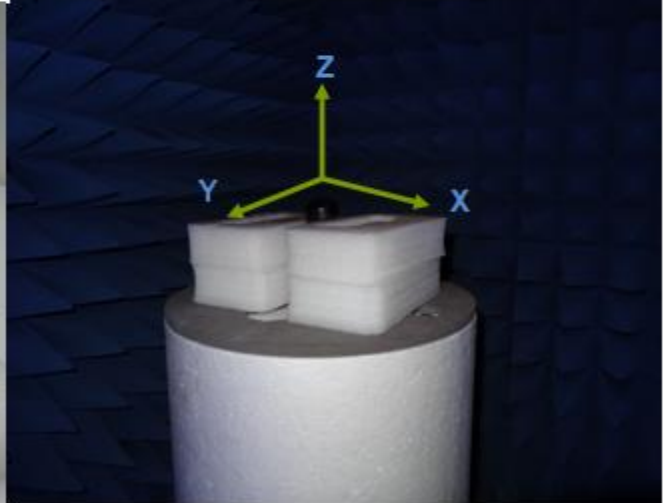
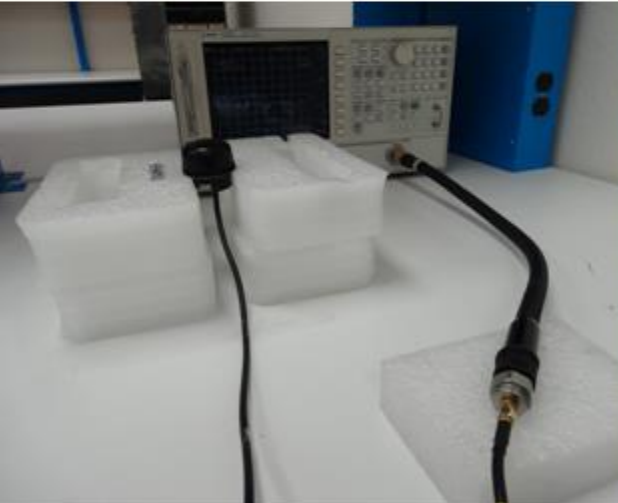
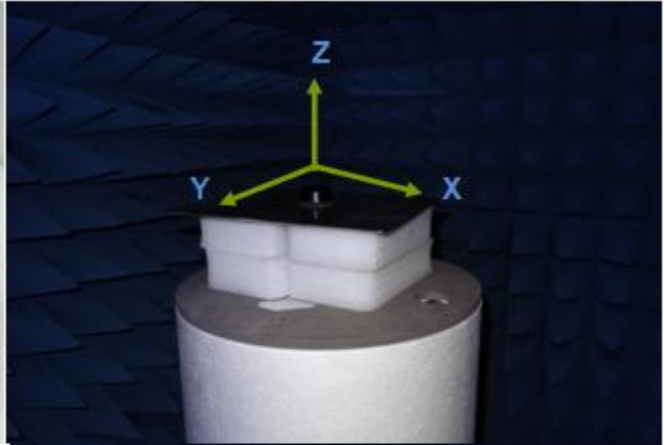
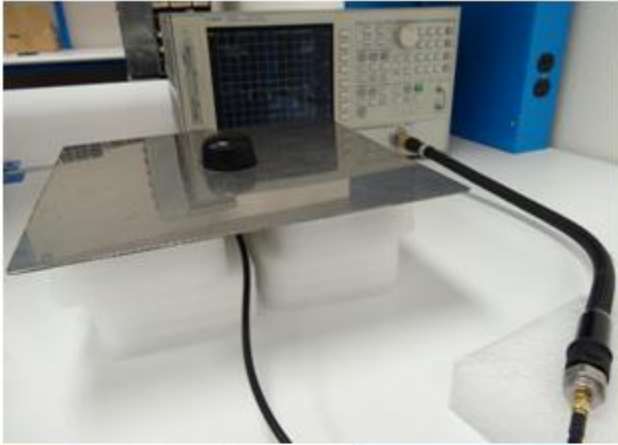
ELECTRICAL	
ANTENNA	IS.01
STANDARD	ISM
Operation Frequency (MHz)	400~460 MHz
Peak Gain	1.6 dBi
Average Gain	-3.5 dB
Efficiency	45%
VSWR	<1.8:1
Impedance	50Ω
Polarization	Linear
Radiation Properties	Omni-directional
Max Input Power	5 W

* The IS.01 antenna performance was measured with 30X30 cm metal plate.

MECHANICAL	
Dimensions (mm)	Height=29mm x Diameter=49mm
Cable	3M NFC-200
Casing	UV Resistant PC
Base and Thread	Nickel plated steel
Weather proof gasket	CR4305 foam with 3M9448B double-side adhesive
Connector	SMA Male Fully Customizable
Thread Diameter	18 mm
Sealant	Rubber Stopper
Recommended Mounting Torque	24.5N·m
Maximum Mounting Torque	29.4N·m

ENVIRONMENTAL	
Protection	IP67 & IP69K
Corrosion	5% NACI for 48hrs - Nickel plated steel base and thread
Temperature Range	40°C to +85°C
Thermal Shock	100 cycles -40 C to +885 C
Humidity	Non-condensing 65 C 95% RH
Shock (Drop Test)	1m drop on concrete 6 axes
Cable Pull	8Kgf

3. TEST SET UP



4. ANTENNA PARAMETERS

4.1. Return Loss

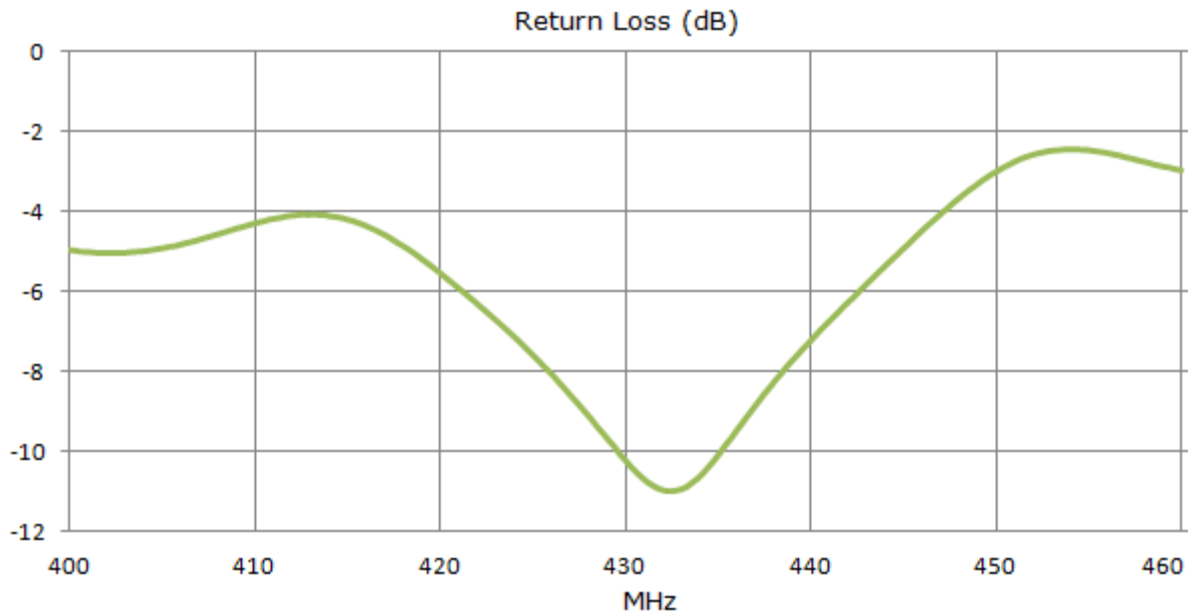


Figure 2 Return loss of IS.01 Antenna in Free Space.

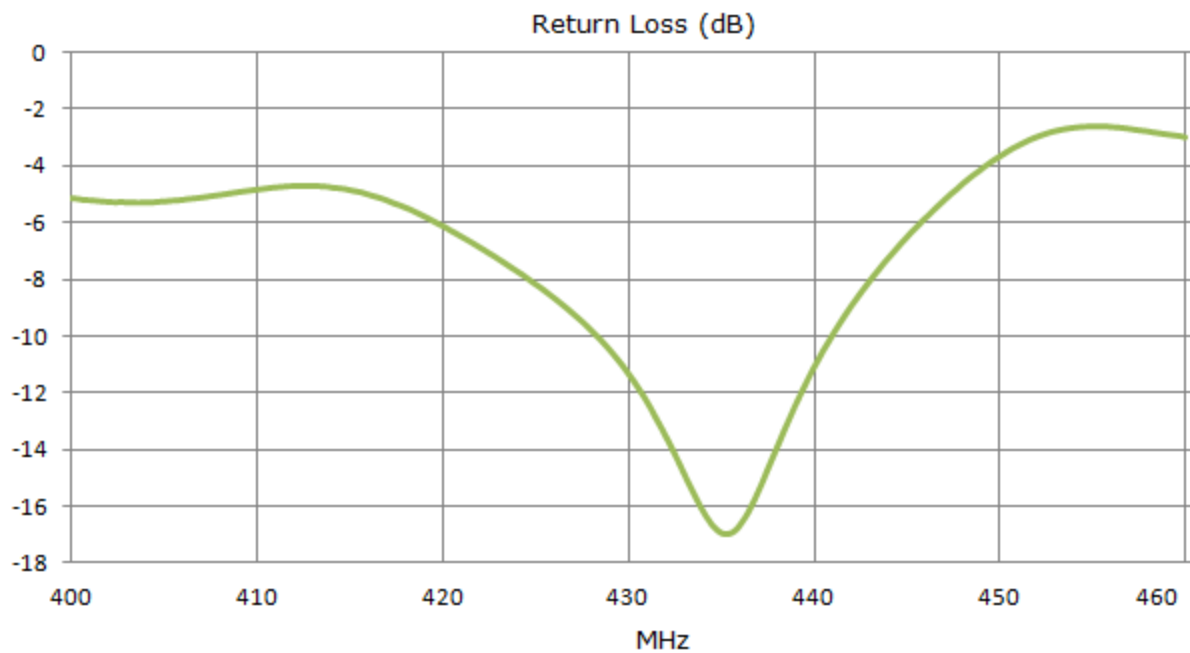


Figure 3 Return Loss of IS.01 Antenna on 30x30 cm metal plate.

4.2. VSWR

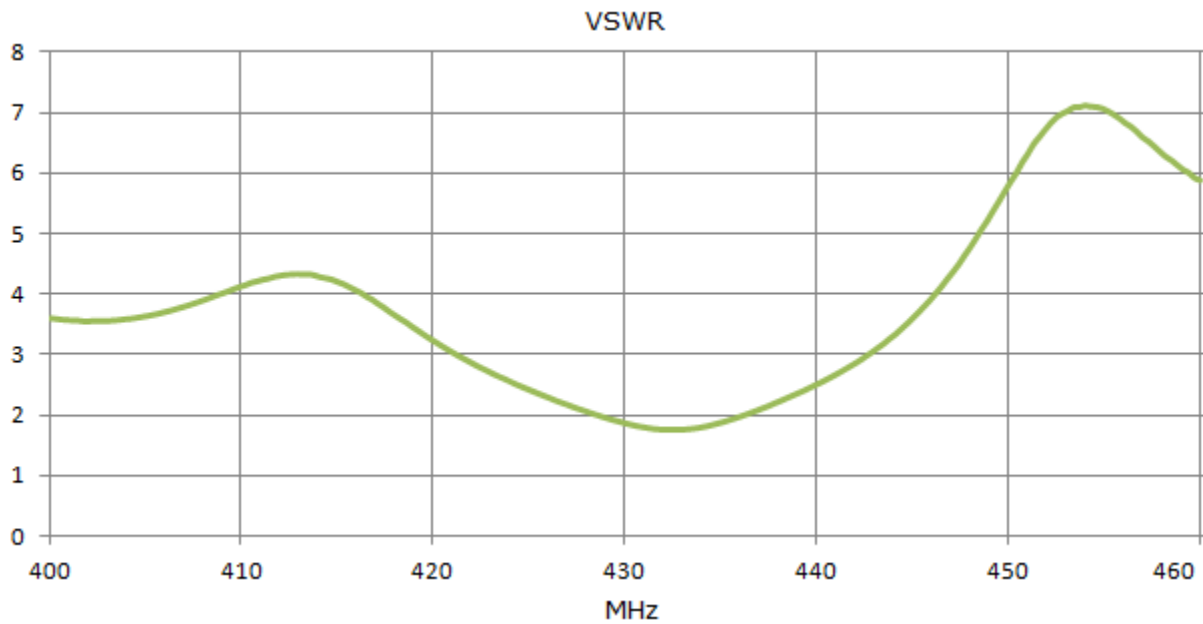


Figure 4 VSWR of IS.01 Antenna in Free Space.

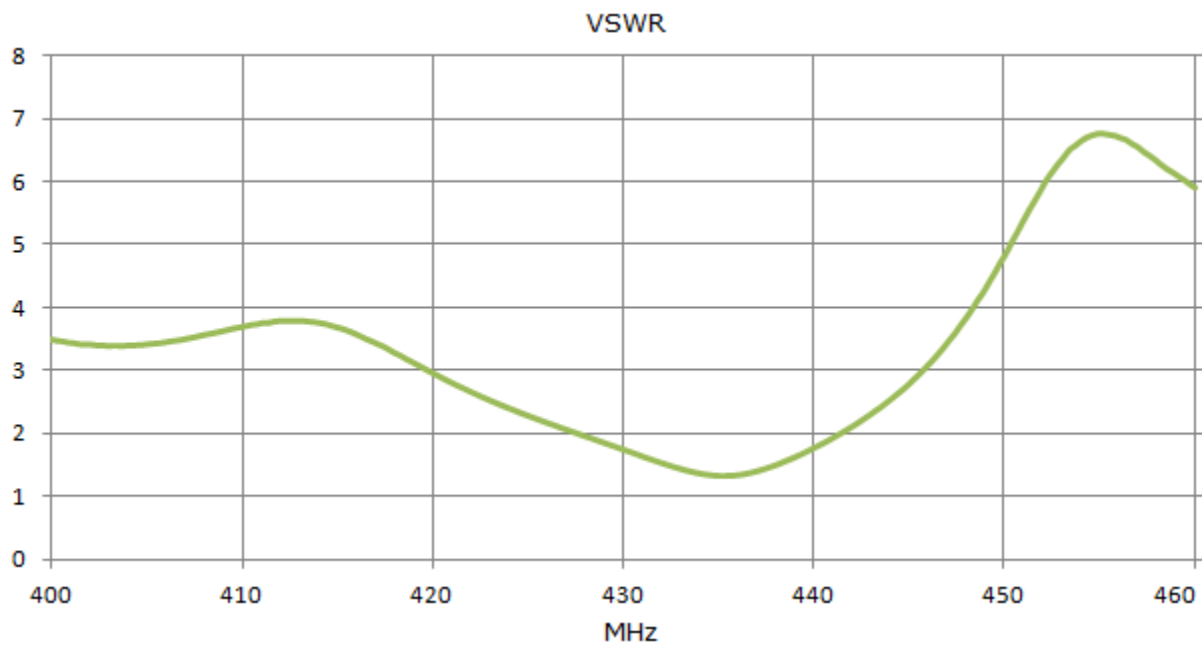


Figure 5 VSWR of IS.01 Antenna on 30x30 cm metal plate.

4.3. Efficiency

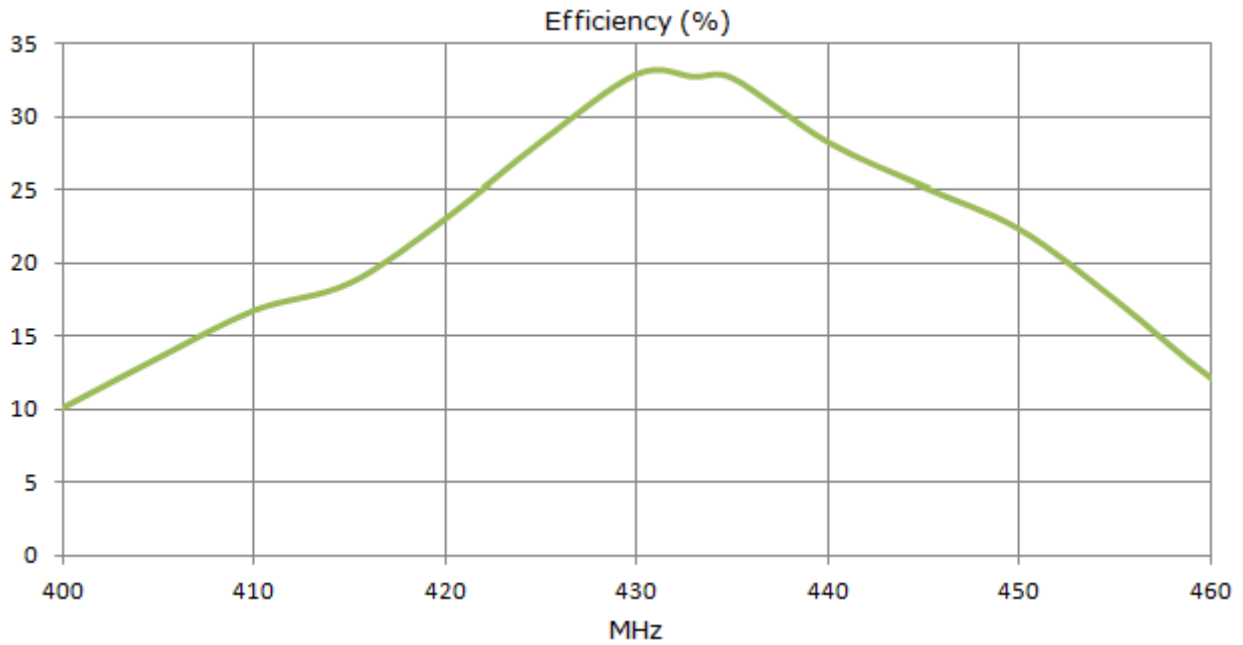


Figure 6 Efficiency of IS.01 Antenna in Free Space.

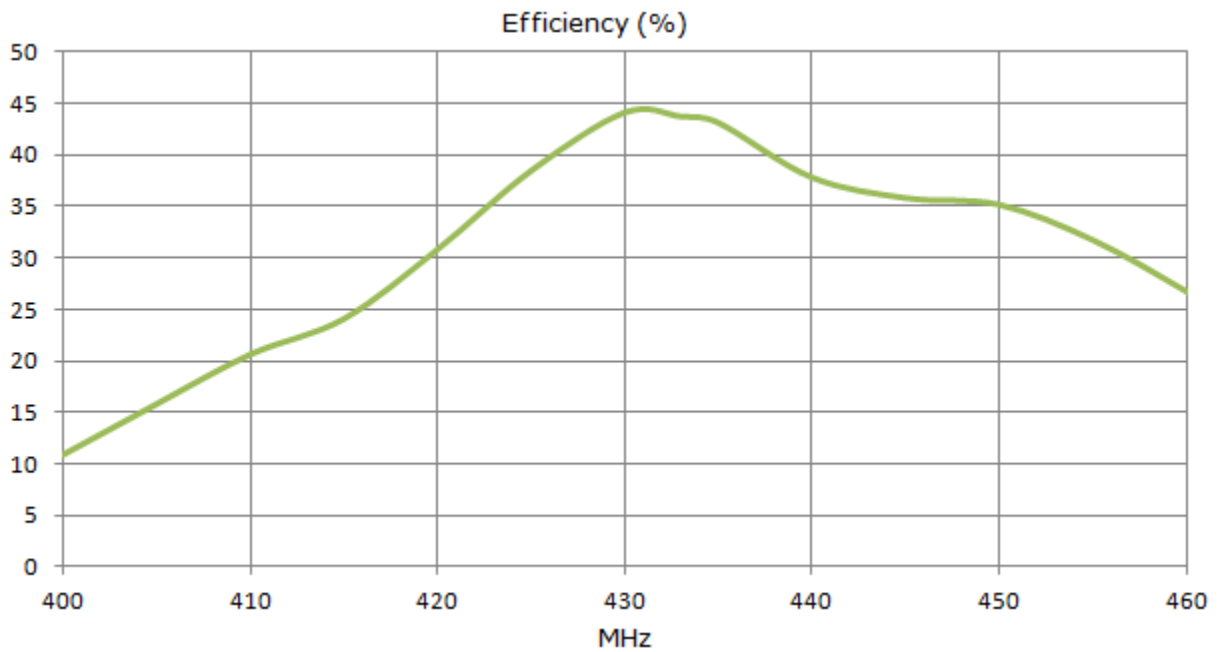


Figure 7 Efficiency of IS.01 Antenna on 30x30 cm metal plate.

4.4. Peak Gain

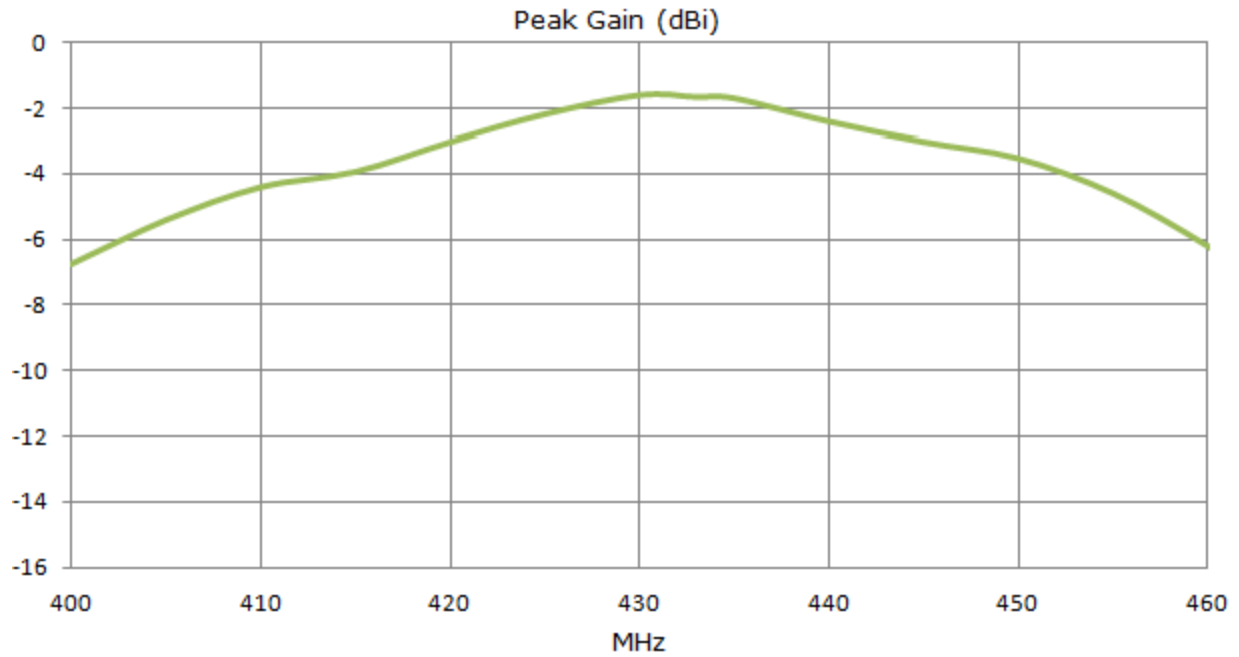


Figure 8 Peak Gain of IS.01 Antenna in Free Space.

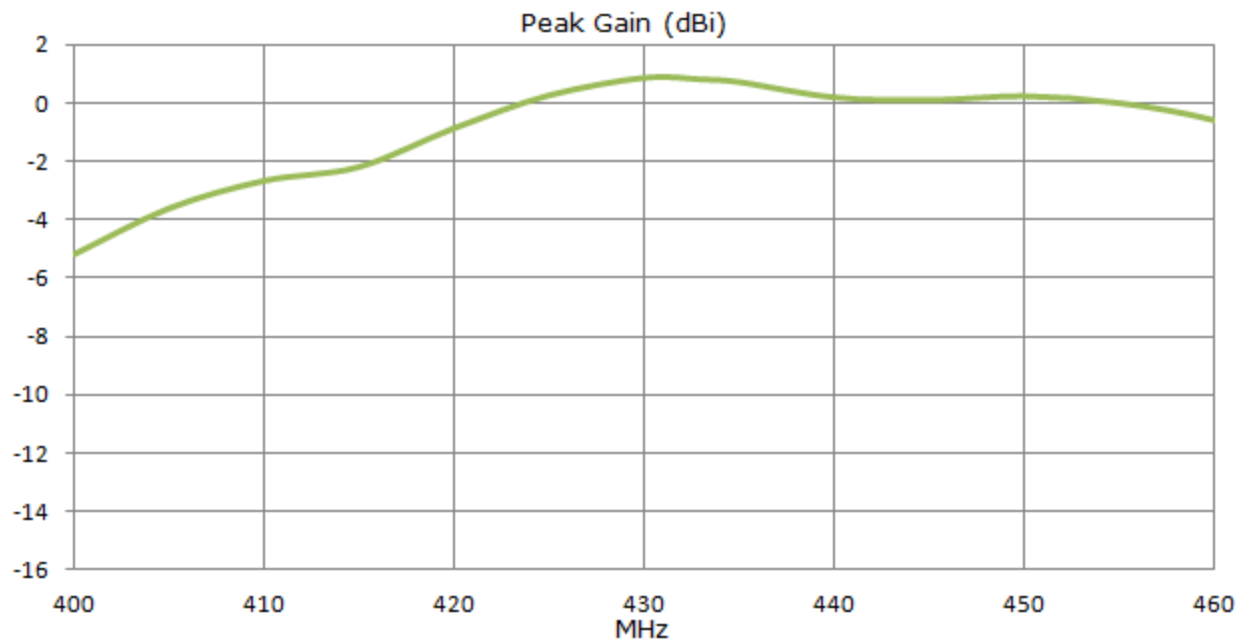


Figure 9 Peak Gain of IS.01 Antenna on 30x30 cm metal plate.

4.5. Average Gain

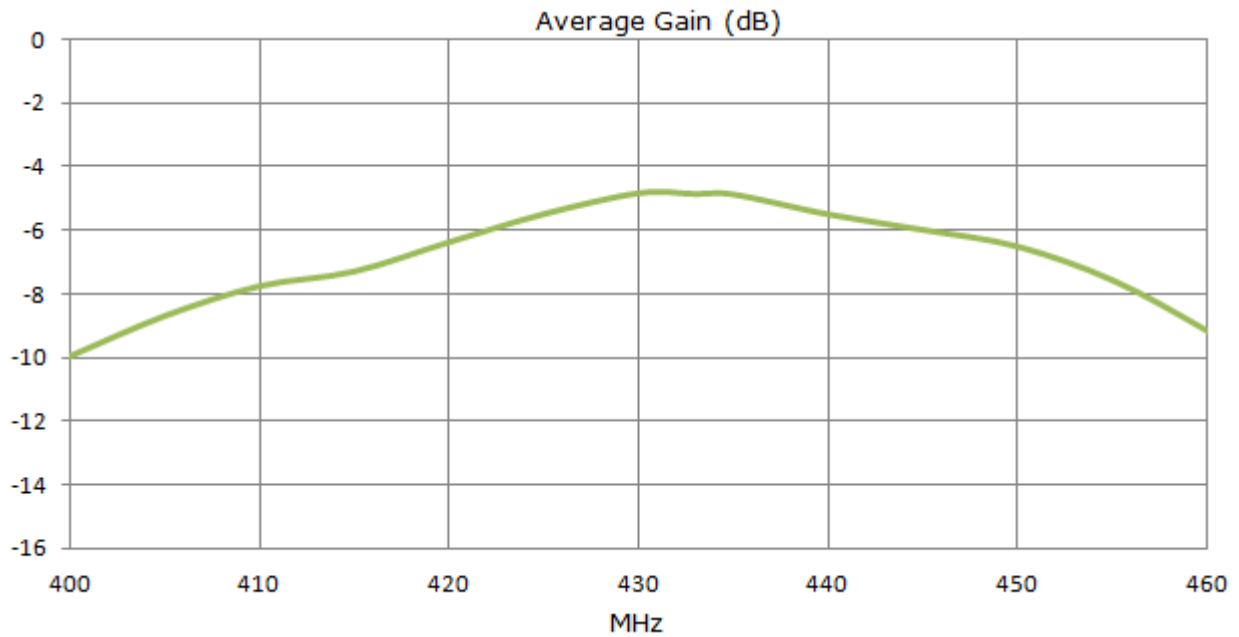


Figure 10 Average Gain of IS.01 Antenna in Free Space.

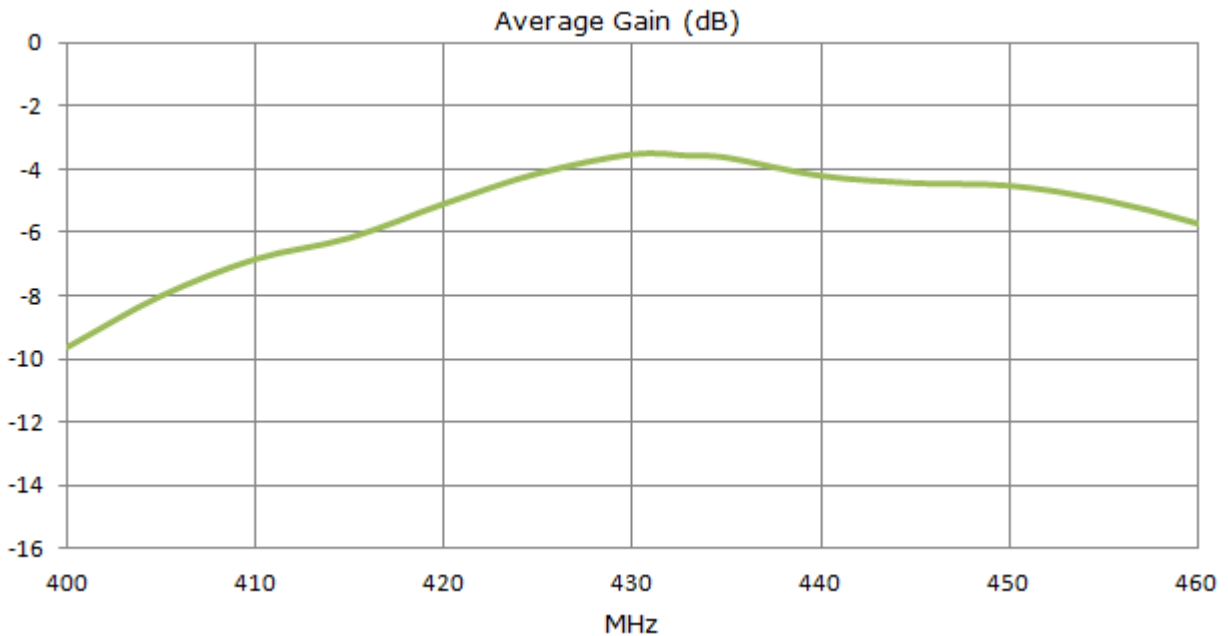


Figure 11 Average Gain of IS.01 Antenna on 30x30 cm metal plate.

4.6. Radiation Pattern

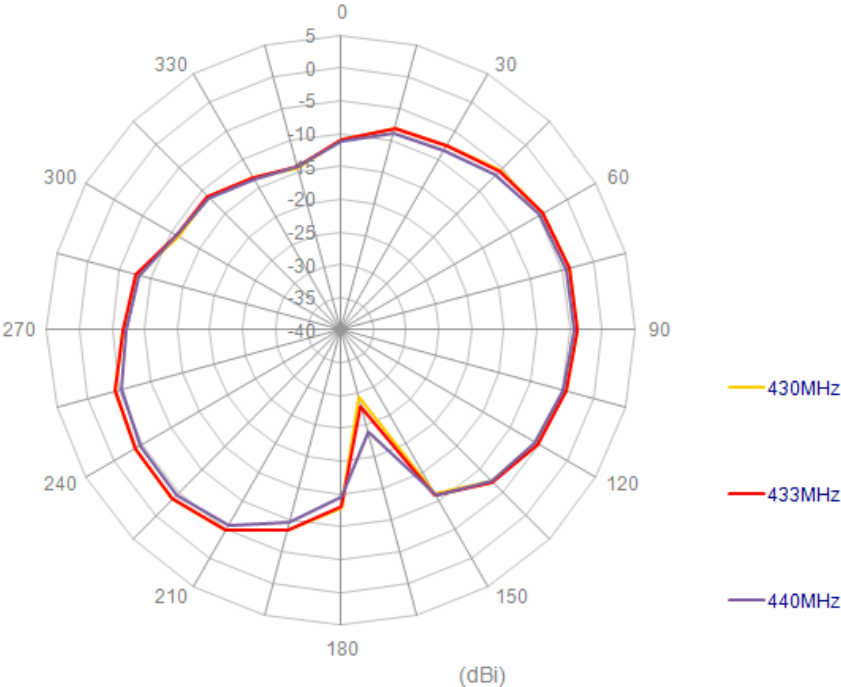
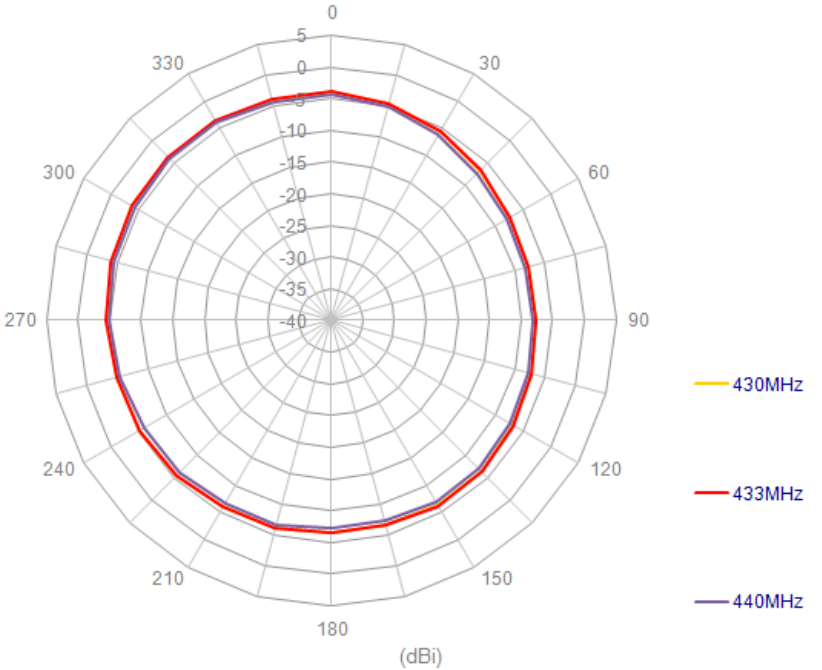


Figure 12 Radiation Pattern of IS.01 Antenna in Free Space.

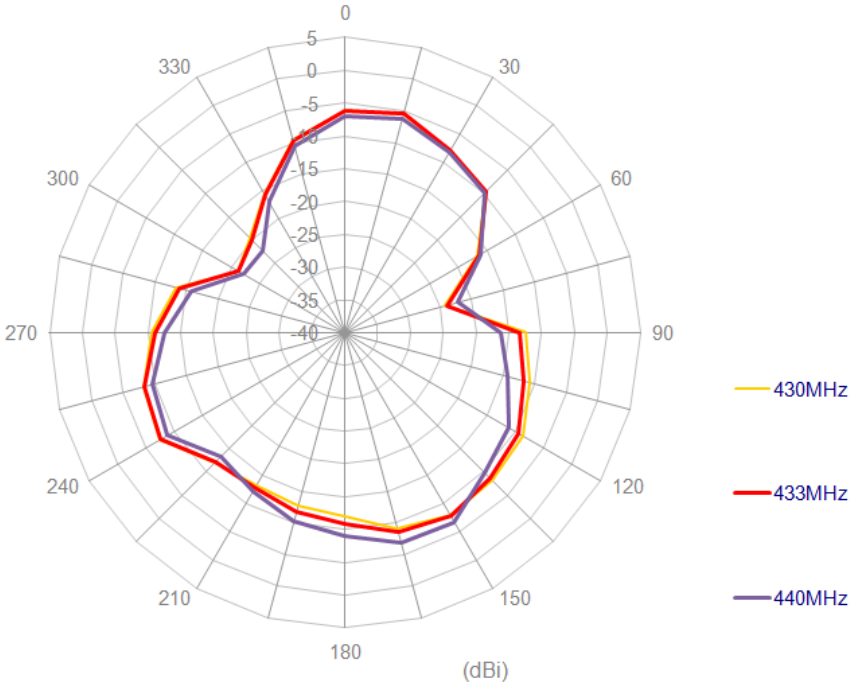
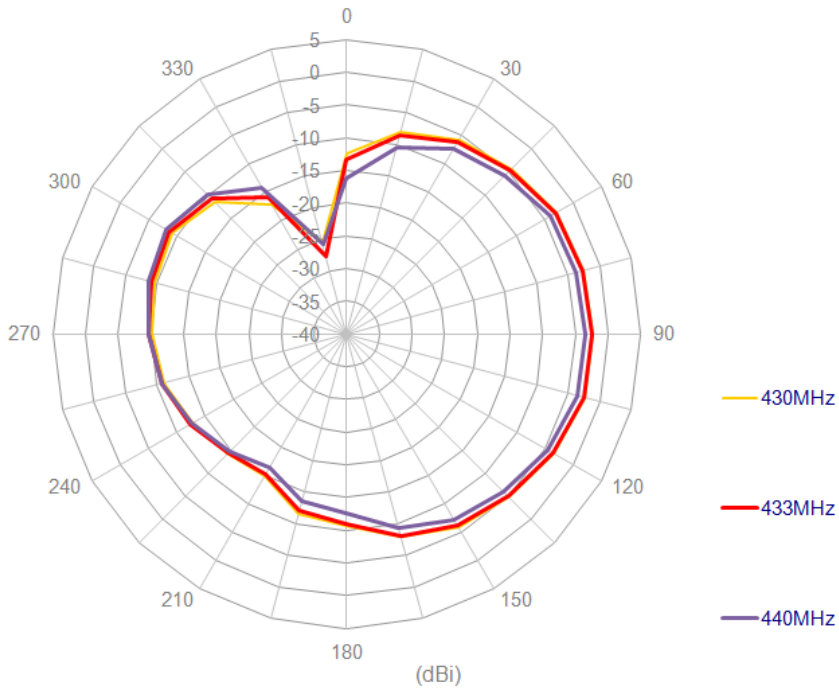
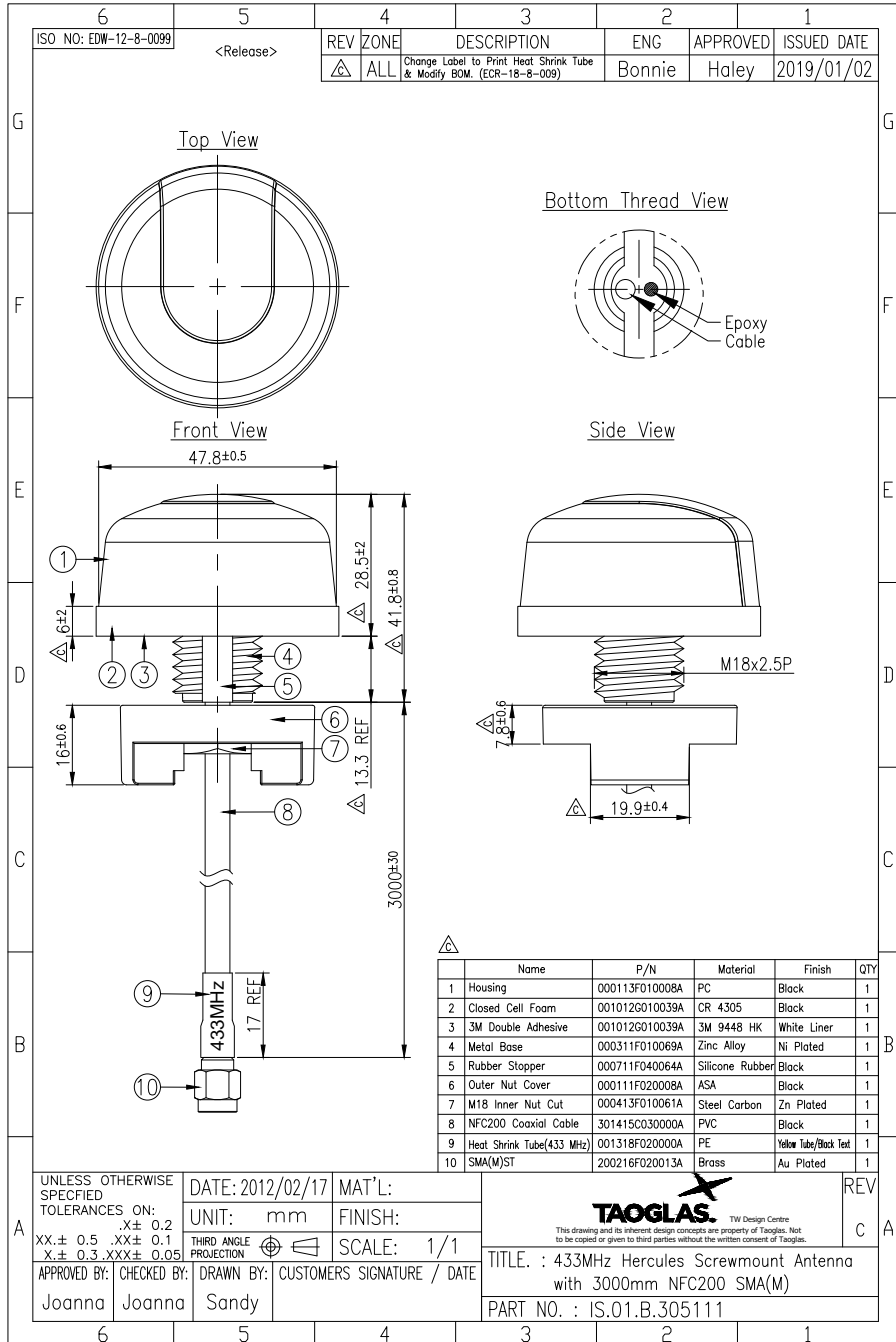
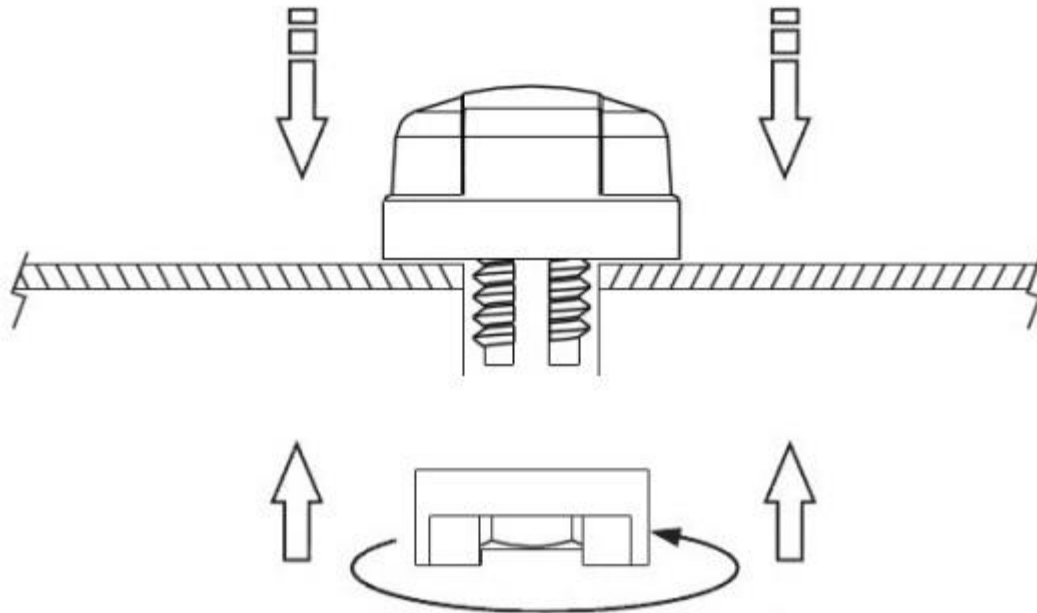


Figure 13 Radiation Pattern of IS.01 Antenna on 30x30cm metal plate.

5. MECHANICAL DRAWING



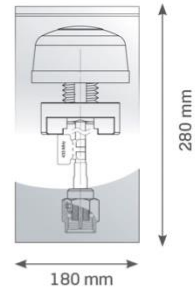
6. INSTALLATION



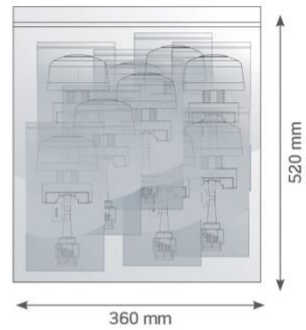
Recommended torque for Mounting is 24.5N·m
Maximum torque for mounting is 29.4N·m

7. PACKAGING

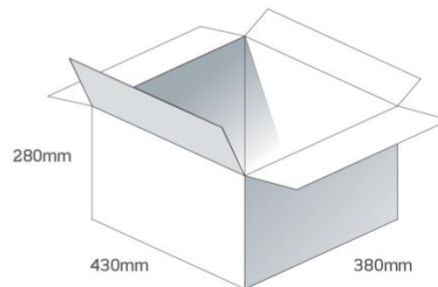
1 pcs IS.01.B.305111 per PE Bag
 Bag Dimensions - 280 x 180 mm
 Weight - 214g



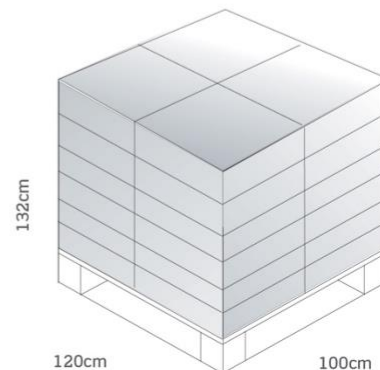
10 pcs IS.01.B.305111 per PE Large Bag
 Bag Dimensions - 520 x 360mm
 Weight - 2.2kg



50 pcs IS.01.B.305111 per carton
 Carton - 430 x 380 x 280mm
 Weight - 11.3Kg



Pallet Dimensions 120x 100 x 132cm
 24 Cartons per Pallet
 6 Cartons per layer
 4 Layers



Taoglas makes no warranties based on the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. Taoglas reserves all rights to this document and the information contained herein.

Reproduction, use or disclosure to third parties without express permission is strictly prohibited.

Copyright © Taoglas Ltd.