



TAOGLAS®



Datasheet

Meteor

Part No:
FW.43.B.SMA.M

Description:

Meteor ISM Band 433MHz
Flexible Whip Monopole Antenna SMA(M) Straight

Features:

External ISM Band 433MHz
Monopole Antenna
Designed for Outdoor Use
60%+ efficiency*
OdBi peak gain*
Robust Inner Steel Core
Antenna Length: 323mm
SMA Type(M) Straight Connector
IP65 dust and water-resistant
*Tested on 30cm*30cm Ground Plane
RoHS Compliant

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ISO 9001:2015
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1. Introduction



The FW.43 is a flexible 433MHz whip antenna with a SMA type (M) connector for outdoor use. It features excellent efficiency (>60%) and peak gain (>0 dBi) at 433MHz on a 30x30 cm ground plane.

Common applications are wireless sensor monitoring, smart metering, remote asset monitoring, and security systems.

The FW.43 has an excellent omnidirectional radiation pattern, ensuring wide coverage. The antenna's high efficiency means that it allows your radio to consume less power than with a lower efficiency antenna when transferring data. It also means a better signal strength and better sensitivity in areas of low signal levels. The antenna performs at its best while attached to a ground plane with dimensions of at least 30x30 cm

The FW.43 whip is made of a flexible inner steel core covered by PE so it is extremely resistant to abrasion and maintains its original shape and RF performance even after shock. This rugged design and IP65 waterproof rating on the housing ensure high reliability.

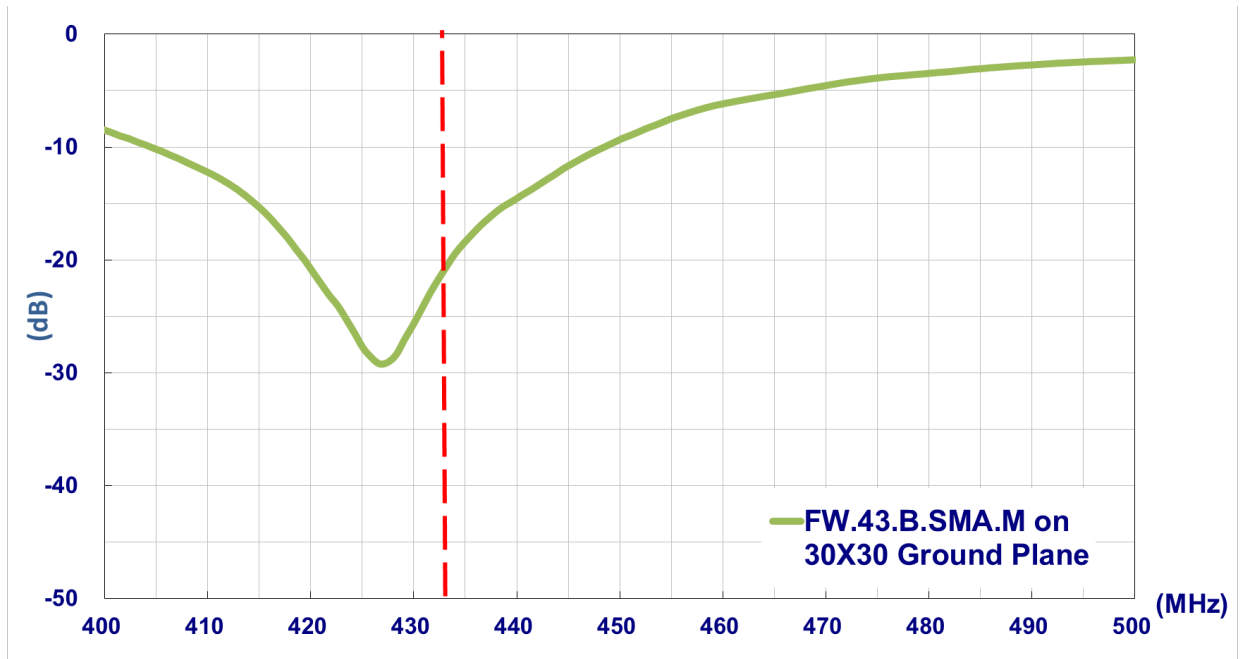
This antenna comes with SMA(M) connector as standard. Other custom variants can be provided subject to NRE and MOQ. Contact your regional Taoglas office for details.

2. Specifications

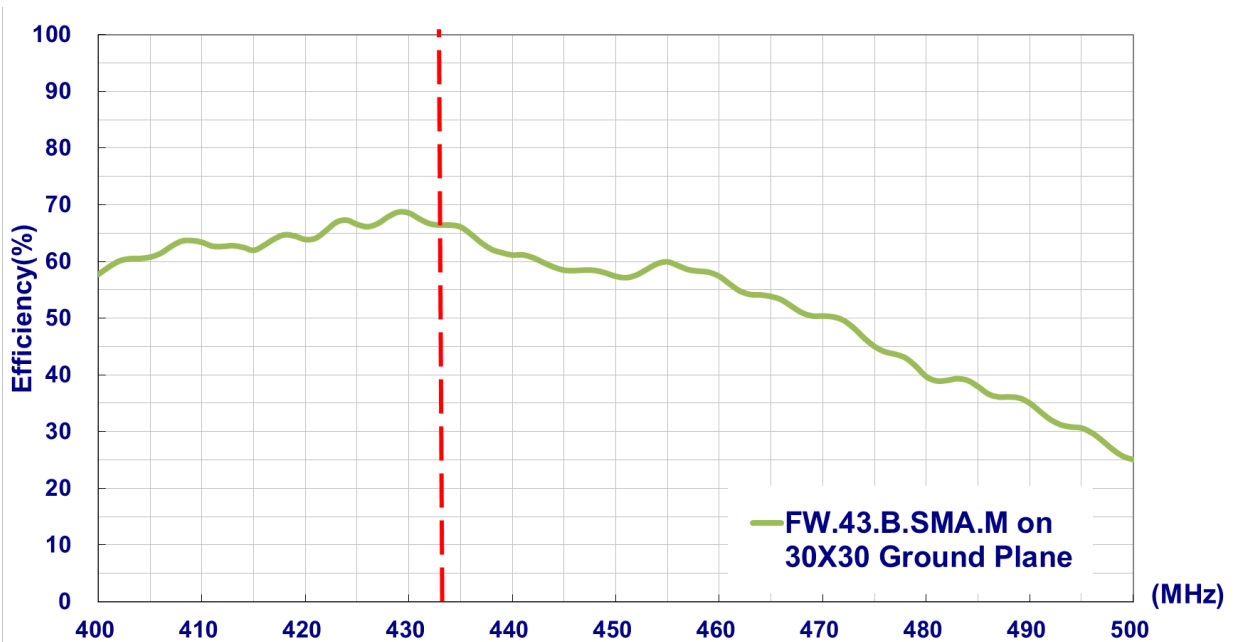
| ISM Band 433MHz | |
|---------------------------|----------------------------|
| Center Frequency | 433MHz |
| Design Environment | On 30x30cm ground |
| Efficiency | 66.42% |
| Peak Gain | 0.46dBi |
| Return loss | < -15dB |
| VSWR | ≤ 1.5:1 |
| Impedance | 50Ω |
| Polarization | Linear |
| Radiation Pattern | Omni-Directional |
| Input Power | 2 W |
| Total Power | 10 W |
| Mechanical | |
| Dimensions | Height 323 ± 10 mm |
| Base Diameter | 16 ± 0.6 mm |
| Whip Diameter | 6.2 ± 0.6 mm |
| Casing | ABS |
| Connector | SMA Type(M) Straight |
| Weight | 66 g |
| Dust and Water Resistance | IP65 |
| Environmental | |
| Temperature Range | -40°C to 80°C |
| Humidity | Non-condensing 65°C 95% RH |

3. Antenna Characteristics

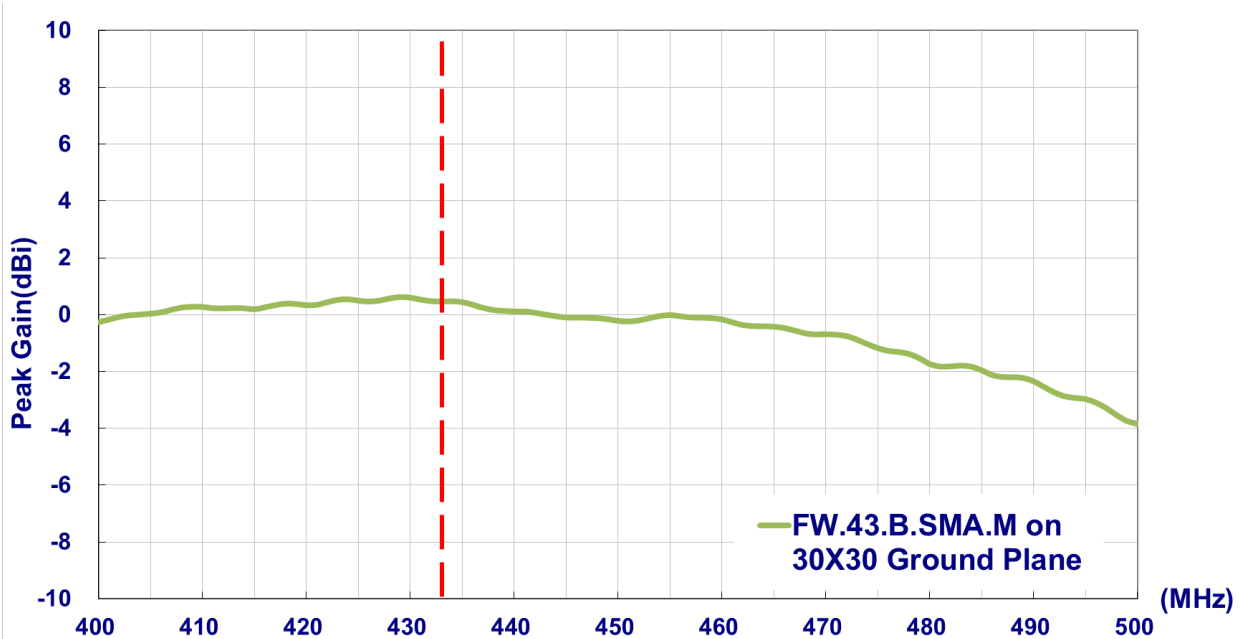
3.1 Return Loss



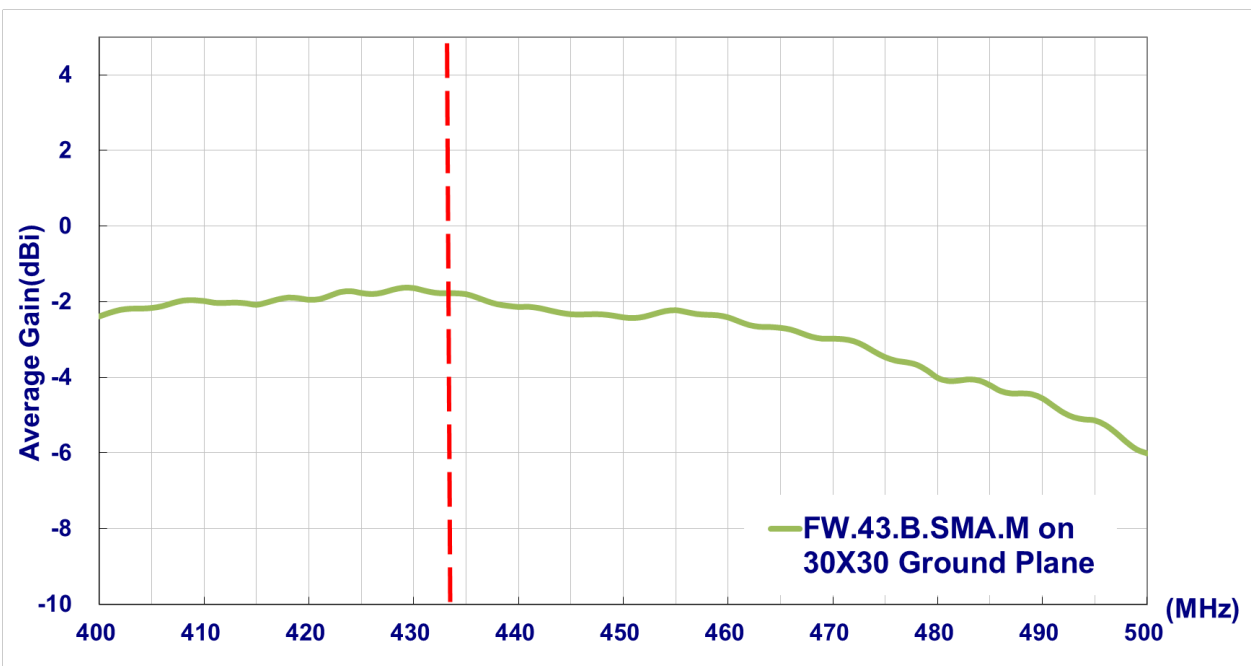
3.2 Efficiency



3.3 Peak Gain

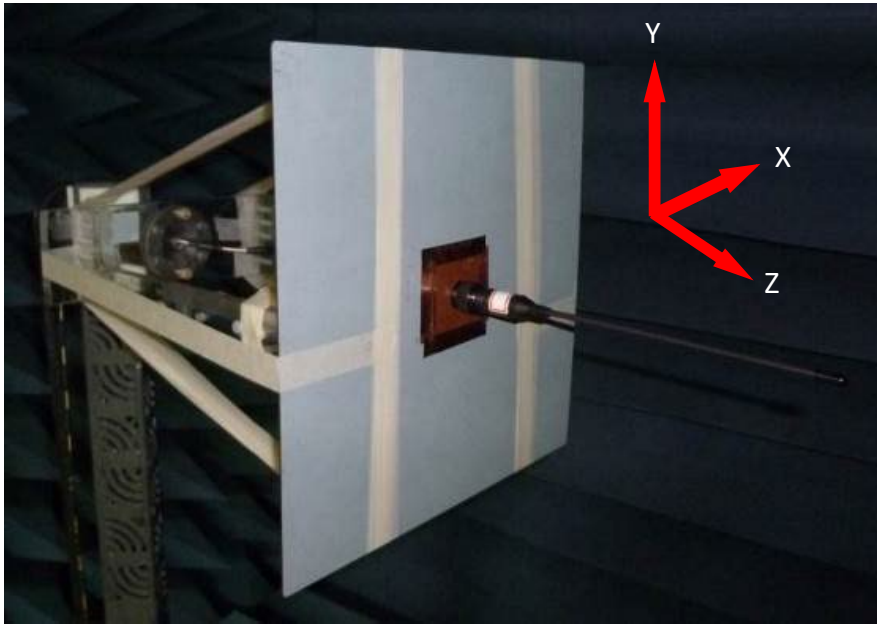


3.4 Average Gain



4. Radiation Patterns

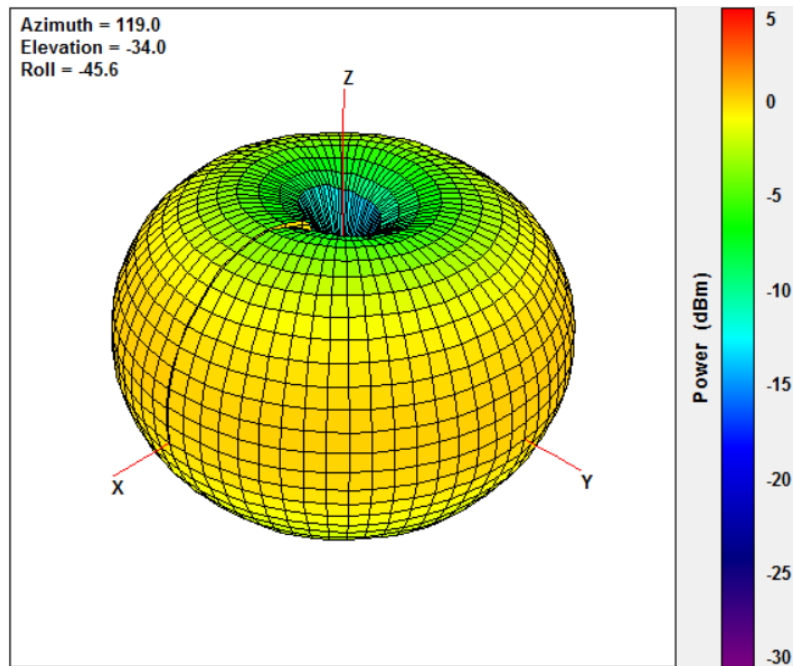
4.1 Test Setup



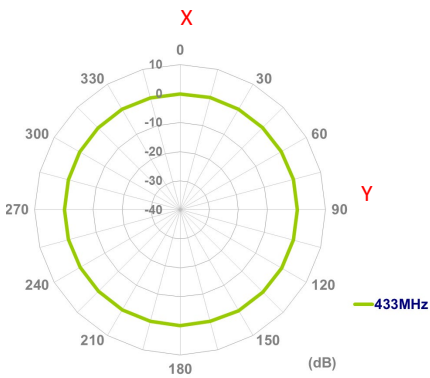
On 30x30 cm ground plane

4.2 3D and 2D Radiation Patterns

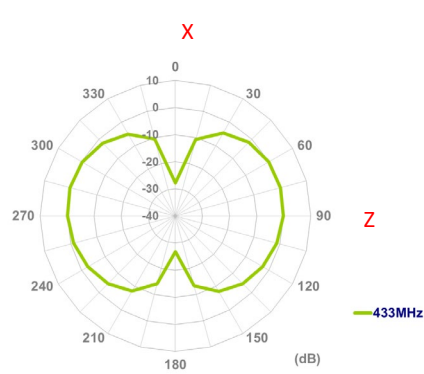
3-D Radiation Pattern on 30cm*30cm Ground Plane @433MHz



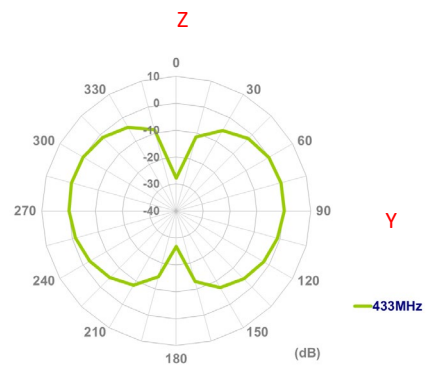
XY Plane



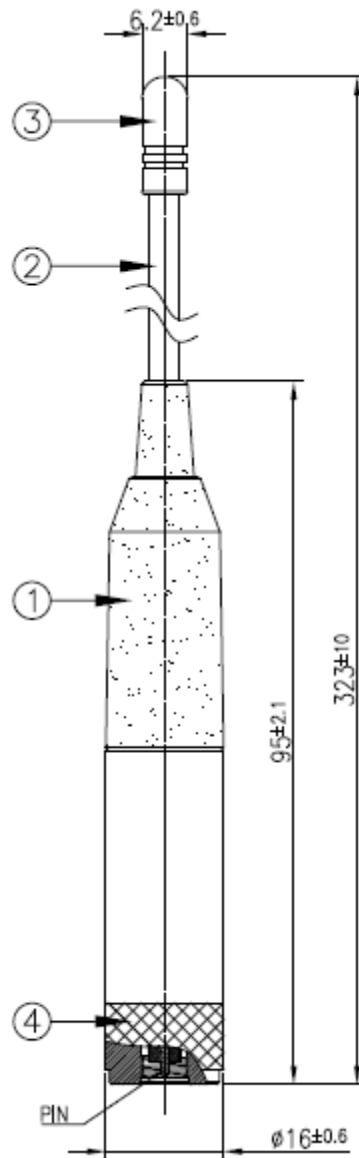
XZ Plane



YZ Plane



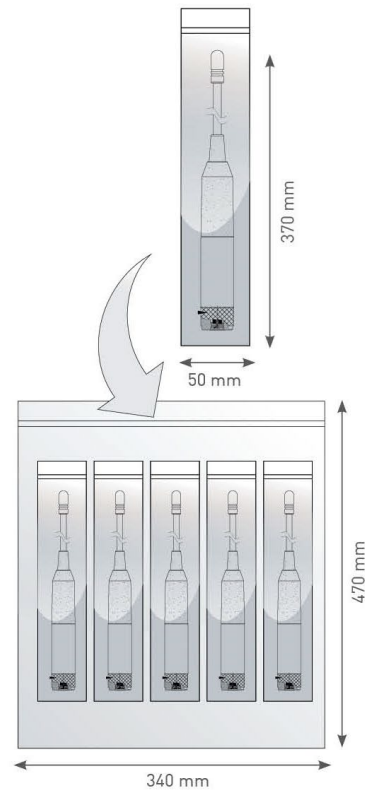
5. Mechanical Drawing (Units: mm)



| | Name | Material | Finish | QTY |
|---|---------------|-----------------|--------|-----|
| 1 | Housing | ABS | Black | 1 |
| 2 | Flexible Whip | Steel+PE Jacket | Black | 1 |
| 3 | Cap | ABS | Black | 1 |
| 4 | SMA(M)ST | Brass | Black | 1 |

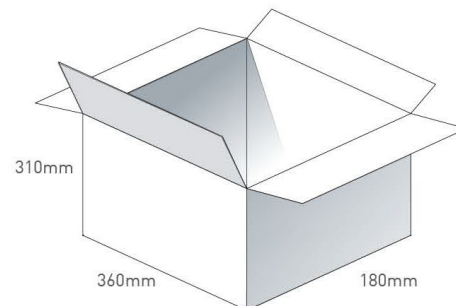
6. Packaging

1pcs FW.43.B.SMA.M per PE Bag
 Bag Dimensions - 370*50mm
 Weight - 66g

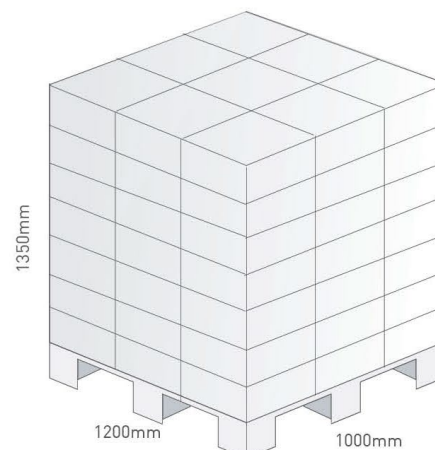


50 PE bags per Large PE Bag
 50 pcs FW.43.B.SMA.M per Large Polybag
 Large PE Bag Dimensions - 470*340mm
 Weight - 3.4Kg

5 Large PE Bags per Carton
 250 pcs FW.43.B.SMA.M per Carton
 Carton Dimensions - 360*310*180mm
 Weight - 17Kg



Pallet Dimensions:
 1200*1000*1350mm
 63 Cartons Per Pallet
 9 Cartons Per Layer
 7 Layers



Changelog for the datasheet

SPE-16-8-004 - FW.43.B.SMA.M

Revision: D (Current Version)

| | |
|------------------|--|
| Date: | 2025-03-24 |
| Changes: | Updated max operation temperature to 80° |
| Changes Made by: | Conor McGrath |

Previous Revisions

Revision: C

| | |
|------------------|-----------------------|
| Date: | 2019-08-16 |
| Changes: | Updated to new format |
| Changes Made by: | Dan Cantwell |

Revision: B

| | |
|------------------|--|
| Date: | 2017-07-01 |
| Changes: | Reformatted specs and added disclaimer |
| Changes Made by: | Andy Mahoney |

Revision: A (Original First Release)

| | |
|---------|------------|
| Date: | 2015-12-01 |
| Notes: | |
| Author: | Wayne Yang |



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