



TAOGLAS®



Datasheet

132-174MHz Ceiling Mount Antenna

Part No:
CM.05.108H21

Description

In Building 132-174MHz Ceiling Mount Antenna for Public Safety

Features:

Low-profile Housing with Wall Mount
1* VHF 132-174 MHz Antenna
Dimensions: 380mm * 380mm * 16.5mm
1m RG-316 with N-Type connectors
Custom Cables and Connectors Available
RoHS & Reach Compliant

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1. Introduction



The Taoglas CM.05 is a single ceiling panel antenna used in applications related to indoor public safety. The antenna is a thin indiscernible antenna that covers 132-174 MHz frequency range. The CM.05 has an industry standard form factor so it can easily be used as a drop-in replacement for any competitor products in the field.

The CM.05 is a discrete VHF antenna designed for mounting on interior ceilings to enhance VHF coverage in building for critical communications.

Typical Applications Include:

- In-Building Repeater system
- Emergency Services
- First Responders

The cables and connectors are fully customizable, for further information please contact your regional Taoglas customer support team for further information.

2. Specification

| Electrical | | | |
|-------------------|----|---------|--|
| Frequency (MHz) | | VHF | |
| | | 132-174 | |
| Efficiency (%) | | | |
| CM.05 | 1m | 55.0 | |
| Average Gain (dB) | | | |
| CM.05 | 1m | -2.7 | |
| Peak Gain (dBi) | | | |
| CM.05 | 1m | 3.5 | |

| Mechanical | |
|------------|---------------|
| Dimensions | 380*380*1.6mm |
| Material | NP-140 |
| Connector | N Type(F) ST |
| Cable | RG-316(Brown) |

| Environmental | |
|-------------------|---------------|
| Temperature Range | -20°C to 60°C |

3. Antenna Characteristics

3.1 Test Setup

AUT



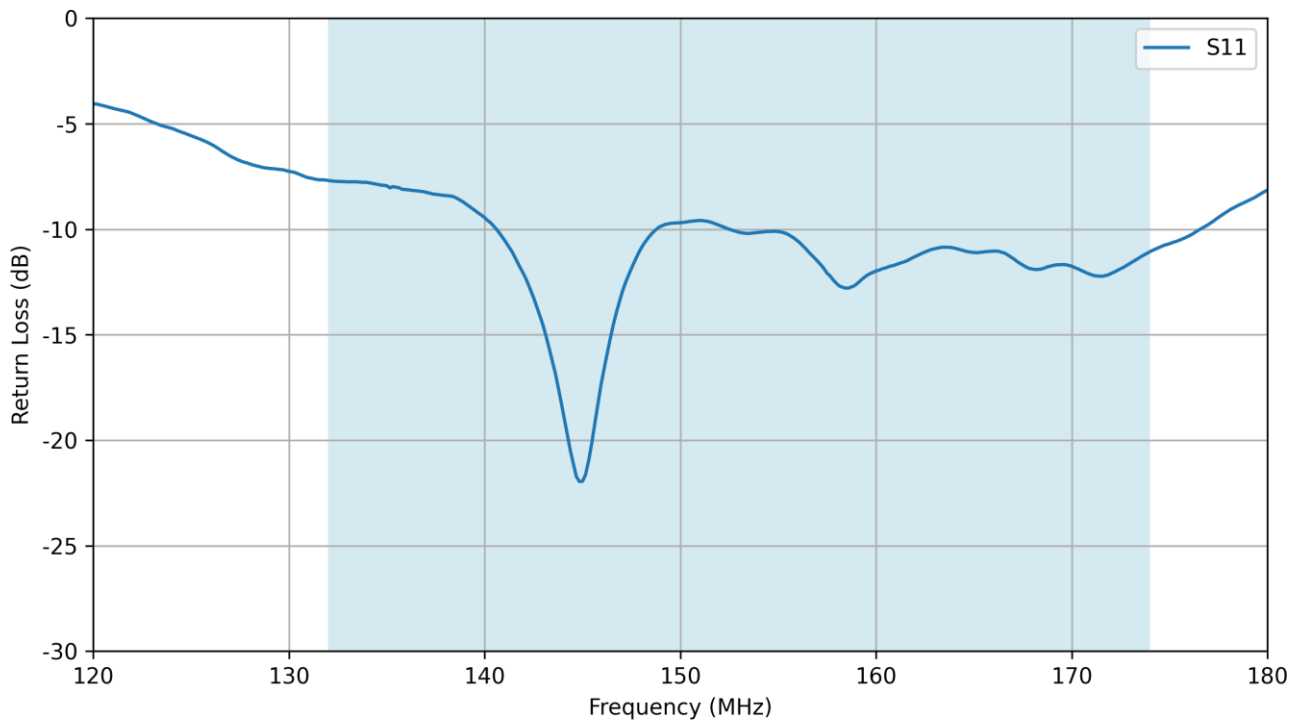
Vector Network Analyzer



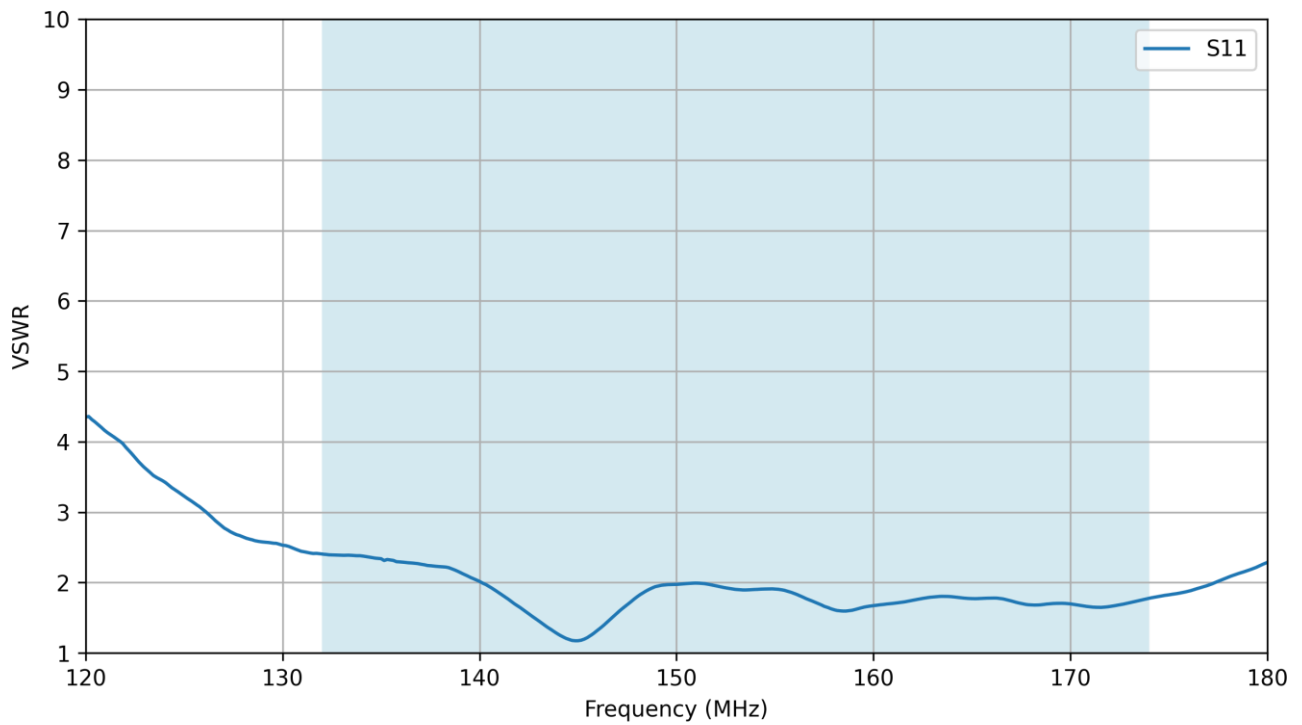
AUT



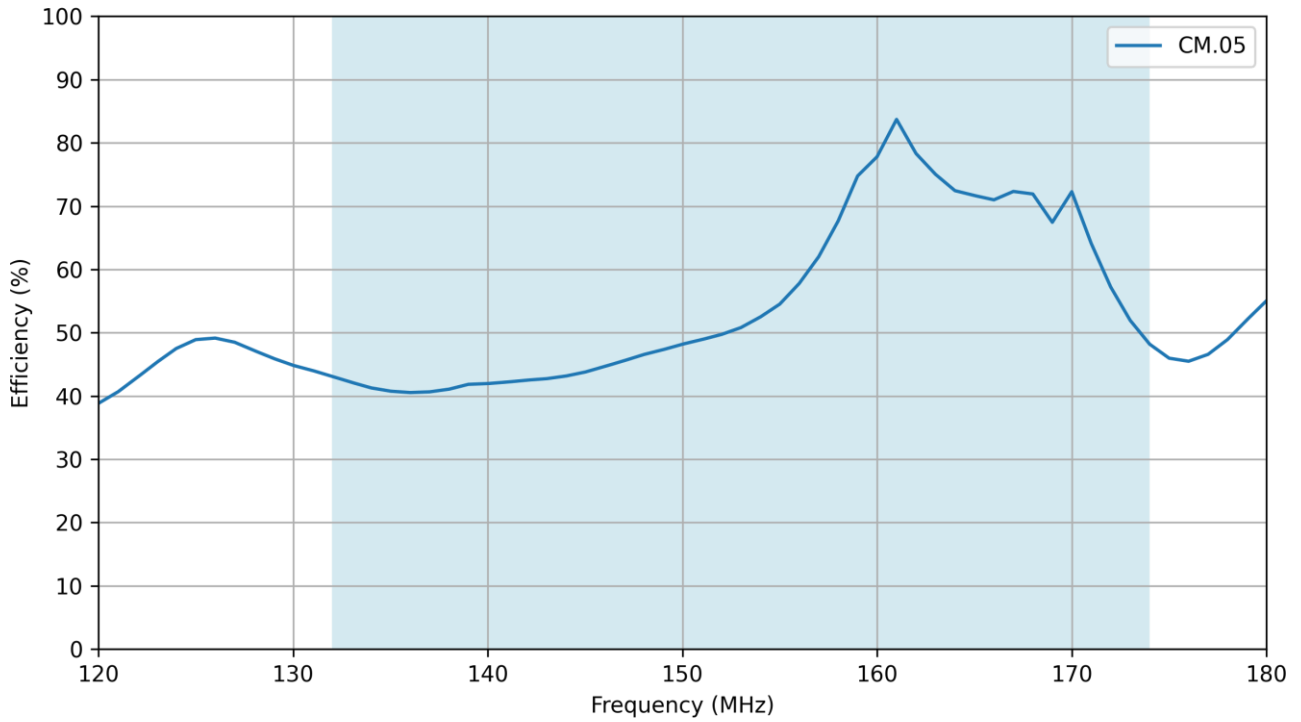
3.2 Return Loss



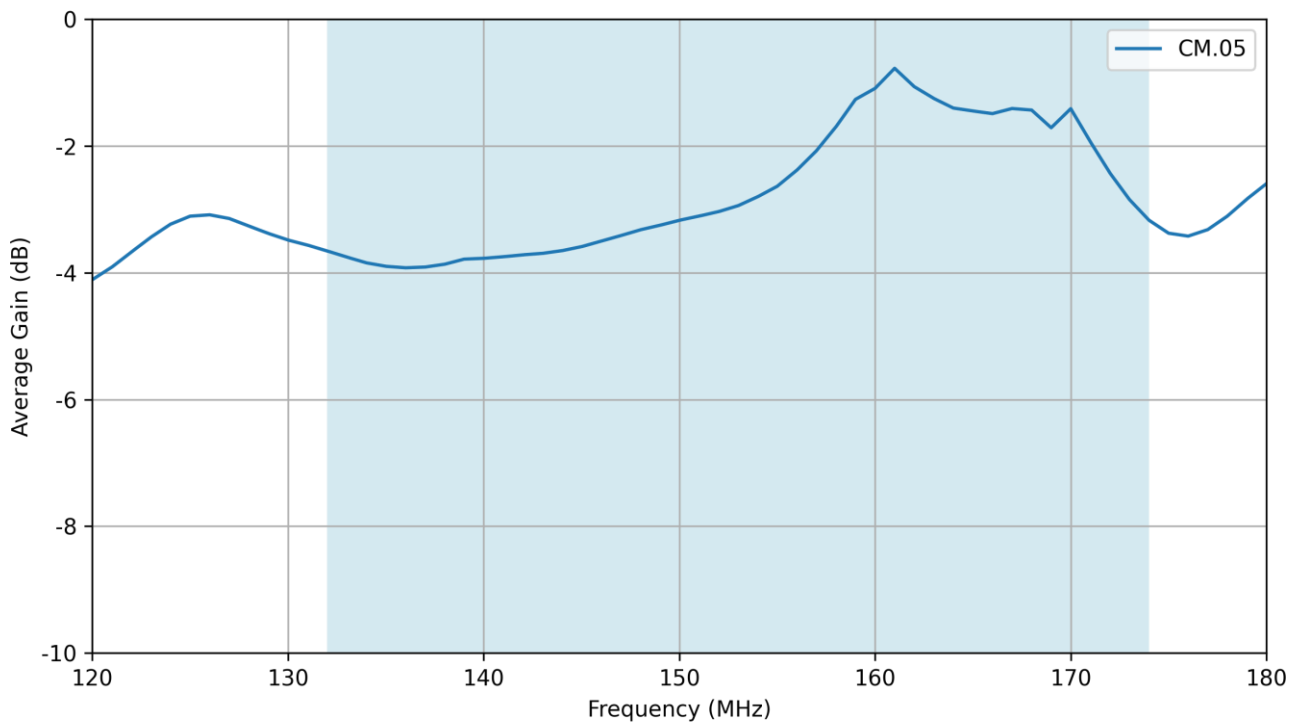
3.3 VSWR



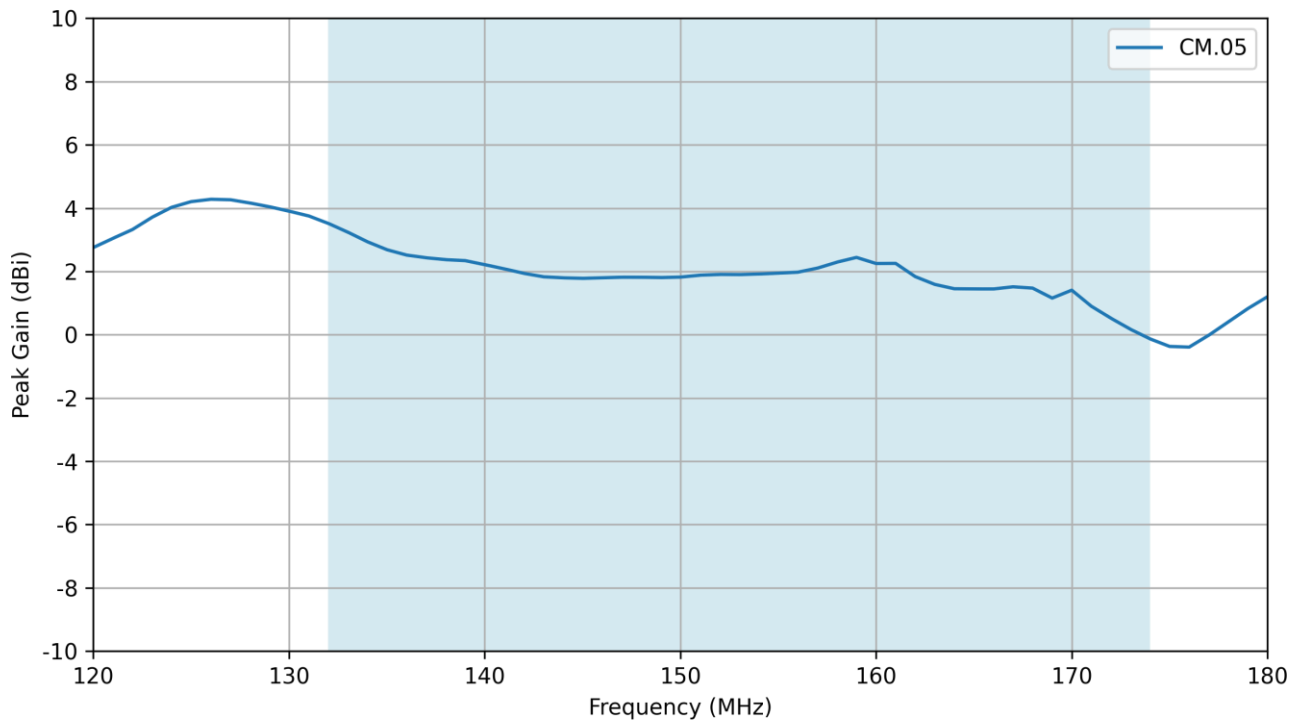
3.4 Efficiency



3.5 Average Gain

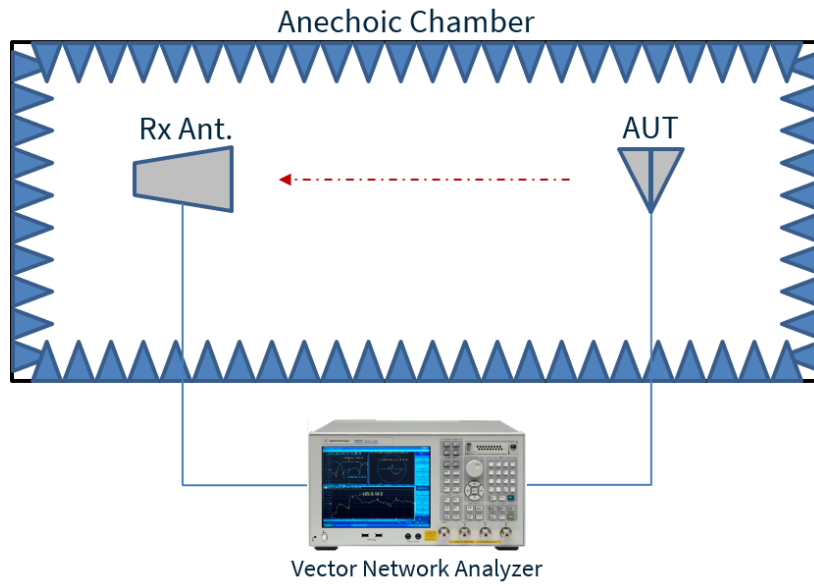


3.6 Peak Gain

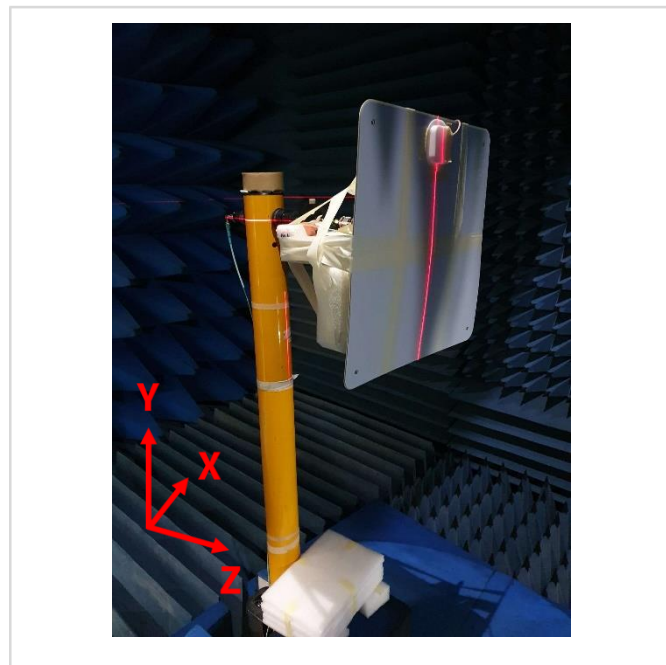


4. Radiation Patterns

4.1 Test Setup

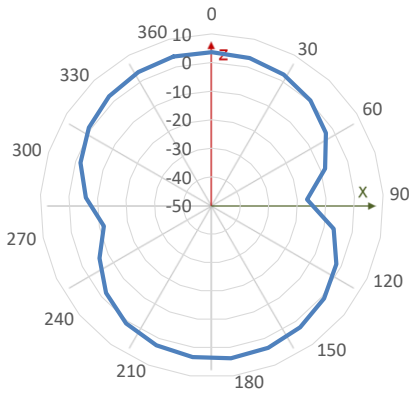


AUT

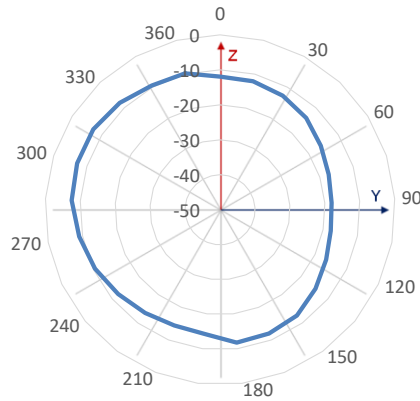


4.2 CM.05 Patterns at 132 MHz for Gtotal

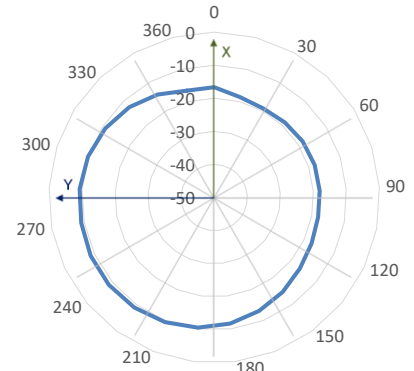
XZ Plane



YZ Plane

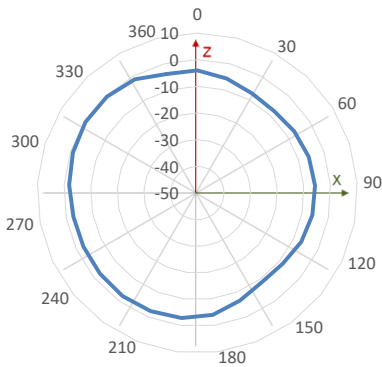


XY Plane

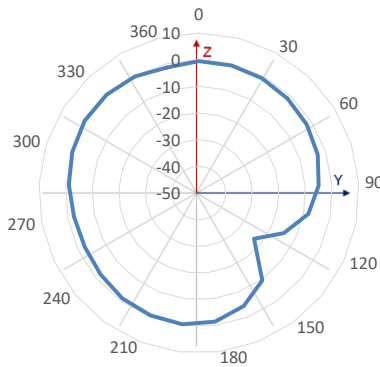


4.3 CM.05 Patterns at 153 MHz for Gtotal

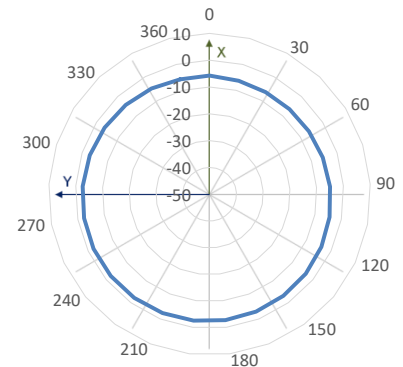
XZ Plane



YZ Plane

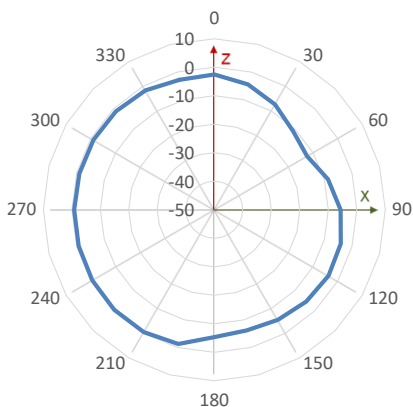


XY Plane

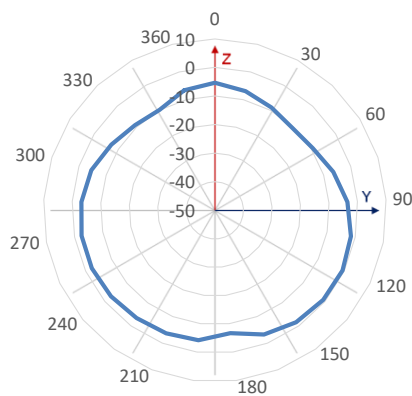


4.4 CM.05 Patterns at 174 MHz for Gtotal

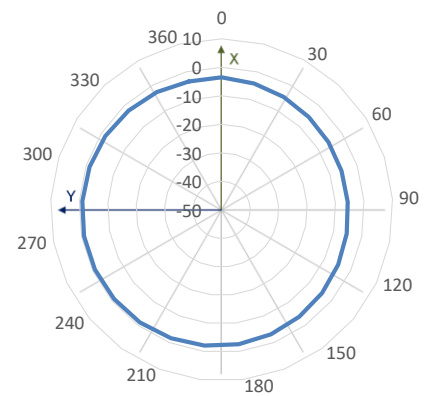
XZ Plane



YZ Plane



XY Plane



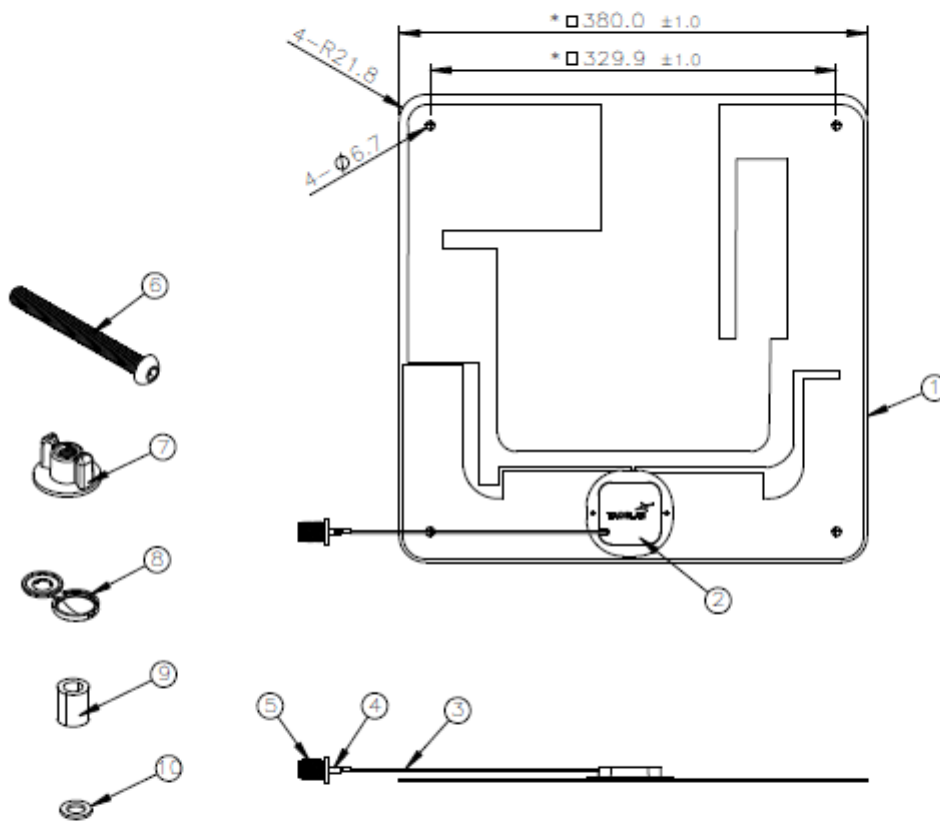
5. Mechanical Drawing

ISO NO.: DW-22-8-1480

STATE: Release

NOTES: 1.All material must be RoHS compliant.
2."*" Critical Dimensions.

| REV | ZONE | DESCRIPTION | ENG | APPROVED | DATE |
|-----|------|----------------|----------|----------|------------|
| 001 | All | Initial design | Aron Yan | Chozen | 2022/12/22 |



| | Name | R/N | Material | Finish | QTY |
|----|------------------------------------|----------------|----------|----------|-----|
| 1 | CM_05_PC5 | 02110115010000 | NP-140 | White | 1 |
| 2 | CM_05_Cover | 001622J000000A | ABS | White | 1 |
| 3 | RG316 Coaxial Cable | 321816C000000A | FEP | Brown | 1 |
| 4 | Heat Shrink Tube | 001315C000000A | PE | Black | 1 |
| 5 | N Type(F)ST | 201217E000000A | Brass | N Plated | 1 |
| 6 | CM_05 M6-L60 Stainless steel screw | 000422K000000A | Steel | Silver | 4 |
| 7 | CM_05 M6 Wing nut | 000422K000000A | PA66 | White | 4 |
| 8 | CM_05 M6 Nut cover buckle | 000422K000000A | PA66 | White | 4 |
| 9 | CM_05 11-L10 Spacer column | 000422K000000A | PA66 | White | 4 |
| 10 | CM_05 M6 Washer | 000422K000000A | PA66 | White | 4 |

| | |
|--|---|
| APPROVED BY: Chozen | |
| CHECK BY: Aaron | |
| DRAWN BY: Aron Yan | |
| DATE: 2022/12/22 | TITLE: 132-174MHz Ceiling Mount Antenna, 1m RG-316 & N Type F |
| UNLESS OTHERWISE SPECIFIED TOLERANCES ARE: <small>mm</small> 01.00 ±0.1 02.00 ±0.1 03.00 ±0.15 | PART NO.: CM.05.108H21 |
| THIRD ANGLE PROJECTION | UNIT: mm SCALE: 1:5 PAGES: 1/1 REV: D01 |

6. Packaging



4 PCS / Zipper bag



4 PCS / Zipper bag



4 PCS / Zipper bag

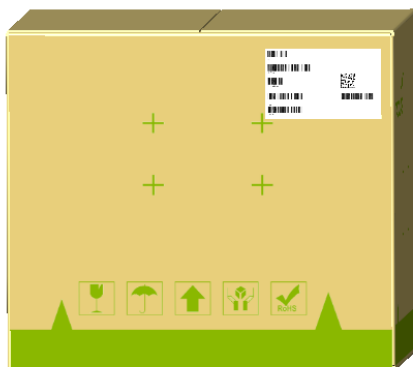


4 SET / Zipper bag



1 PCS / Box

Box (mm) :398x386x45



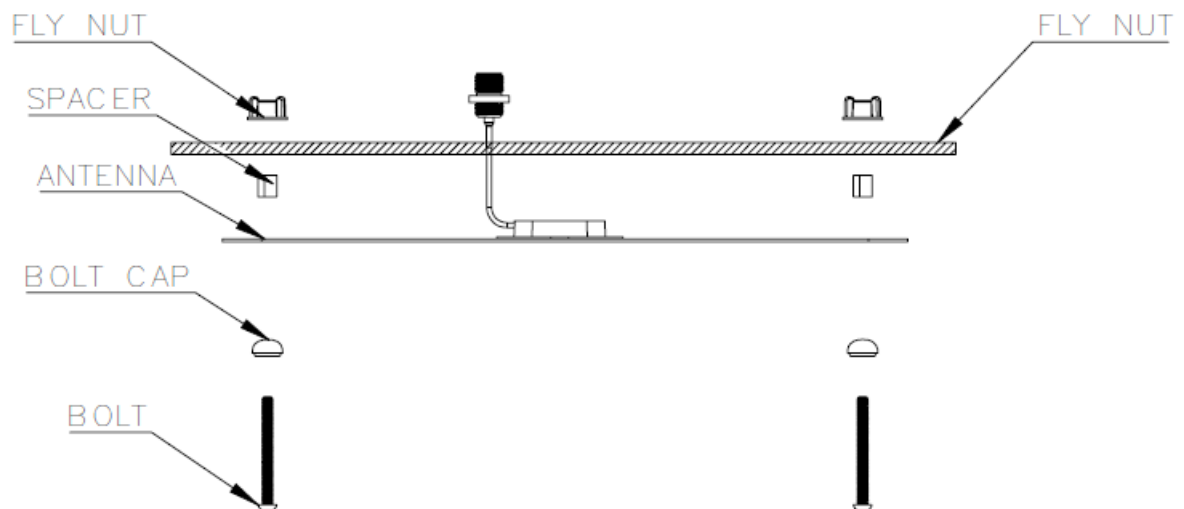
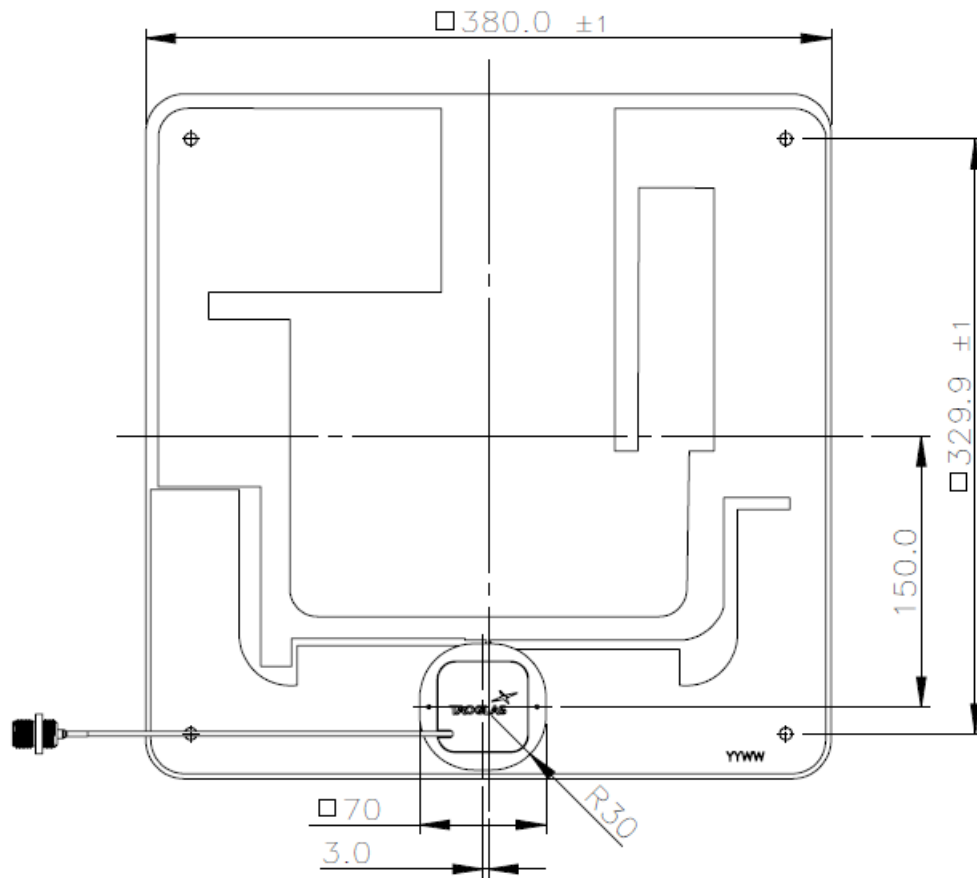
10 PCS / Carton

Carton Label

Carton (mm) :506x414x412

7. Installation Guidelines

Please follow the below drill holes dimensions for ceiling installation.



Changelog for the datasheet

SPE-23-8-183 – CM.05.108H21

Revision: A (Initial Release)

Date: 2023-06-19

Changes:

Changes Made by: Jack Conroy

Previous Revisions

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