



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



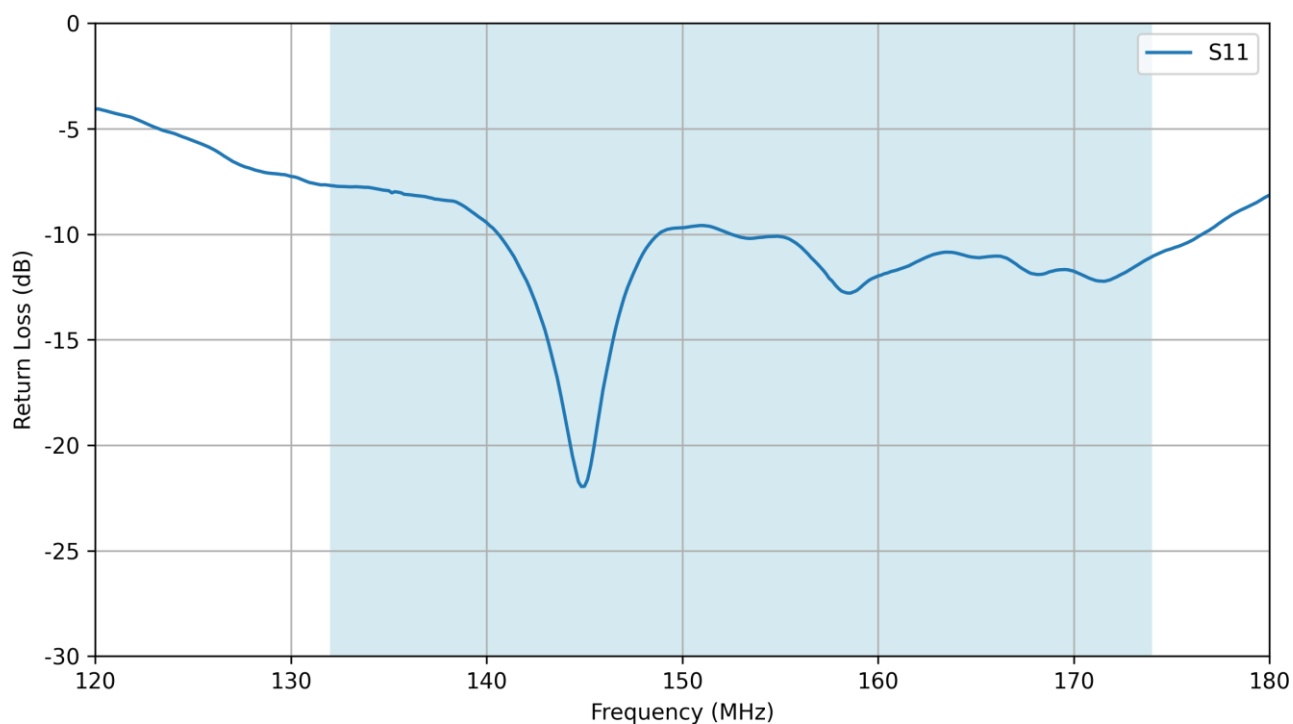
Vector Network Analyzer



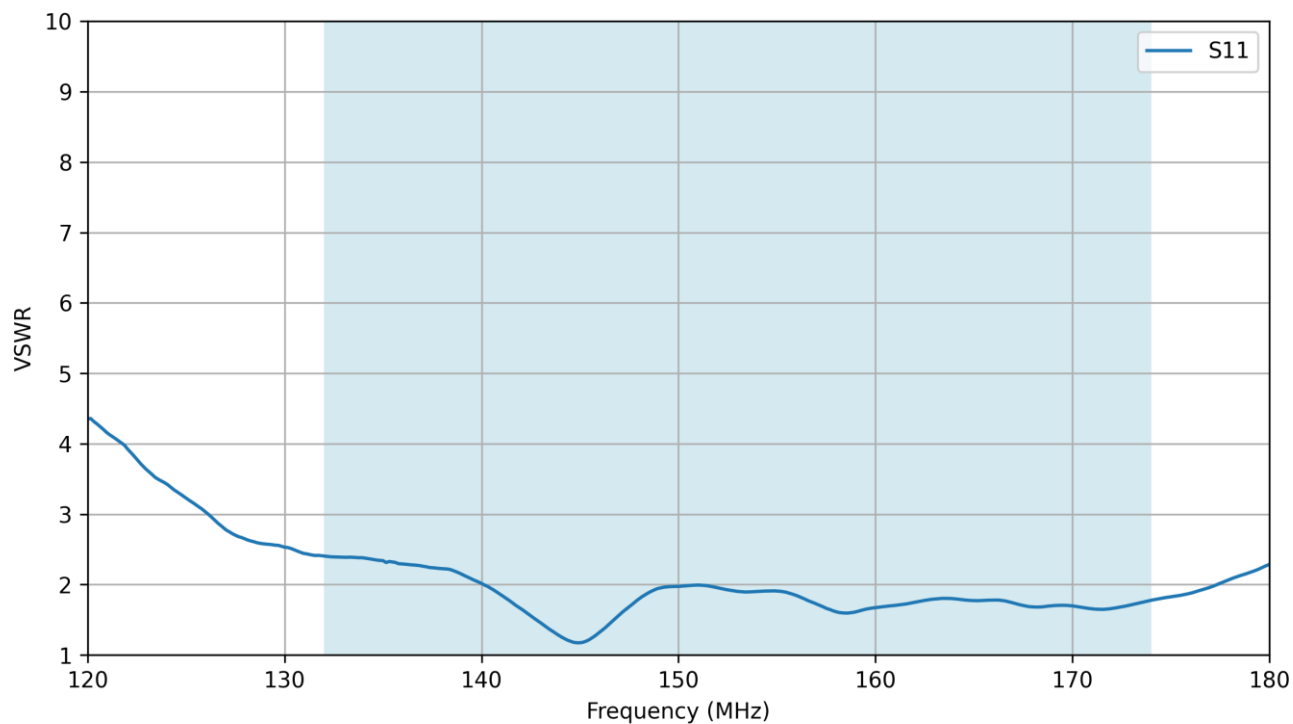
AUT



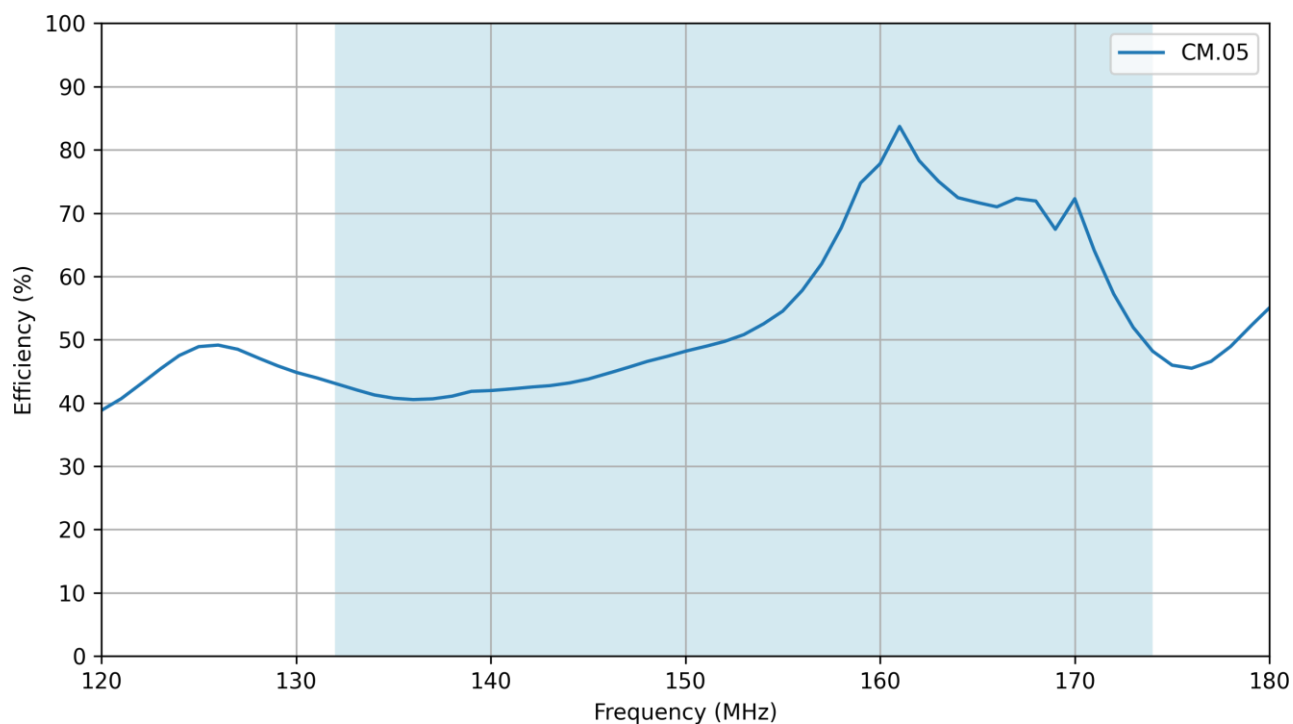
3.2 Return Loss



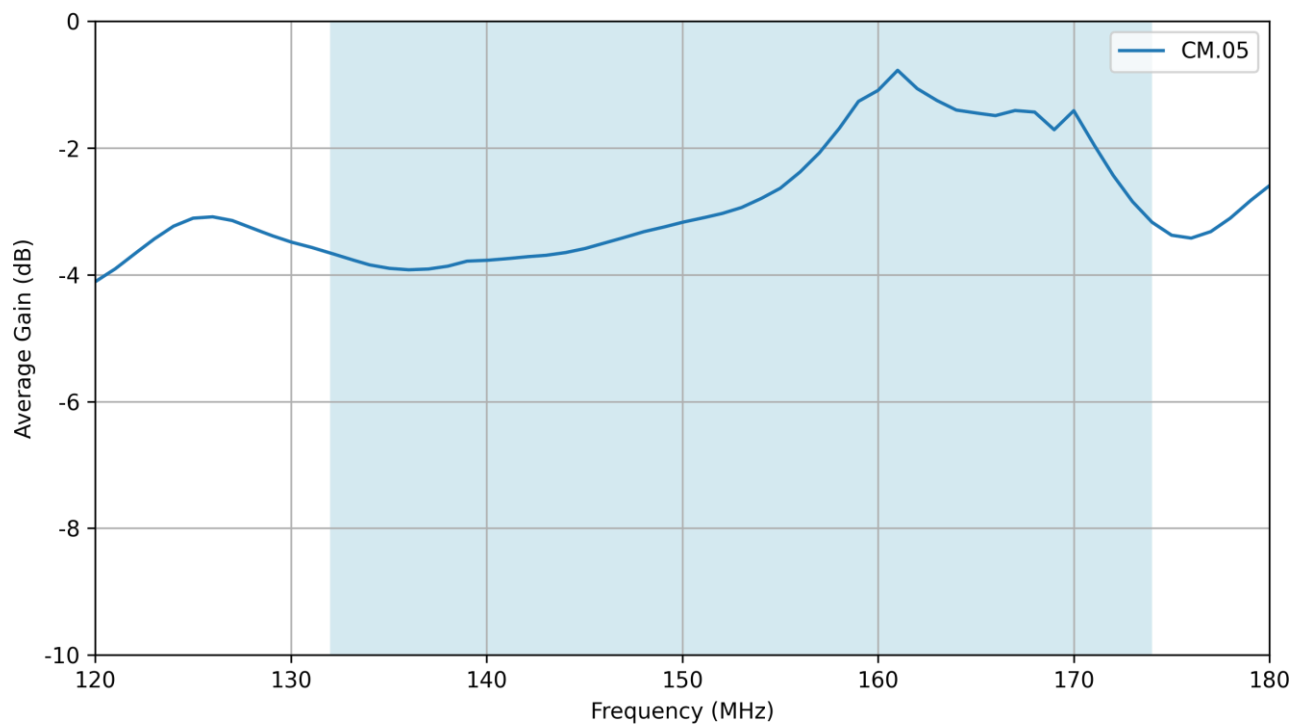
3.3 VSWR



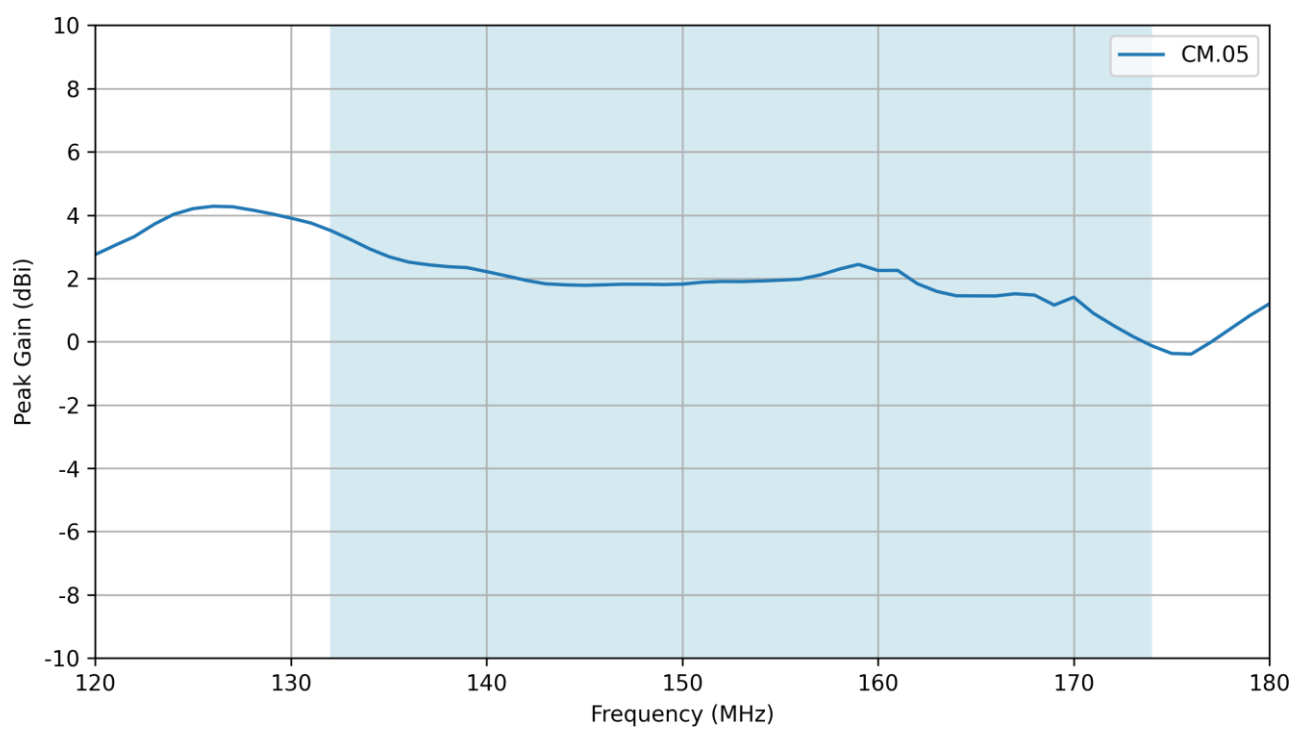
3.4 Efficiency



3.5 Average Gain

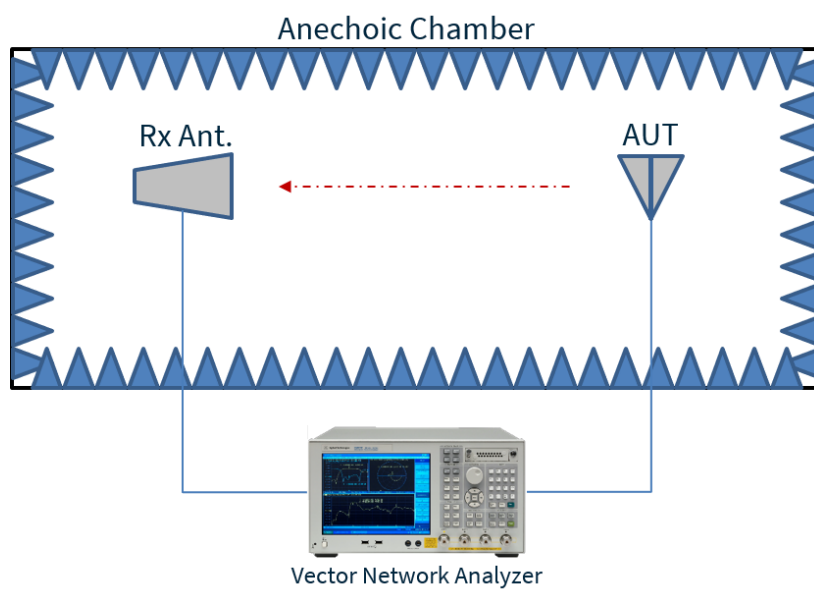


3.6 Peak Gain

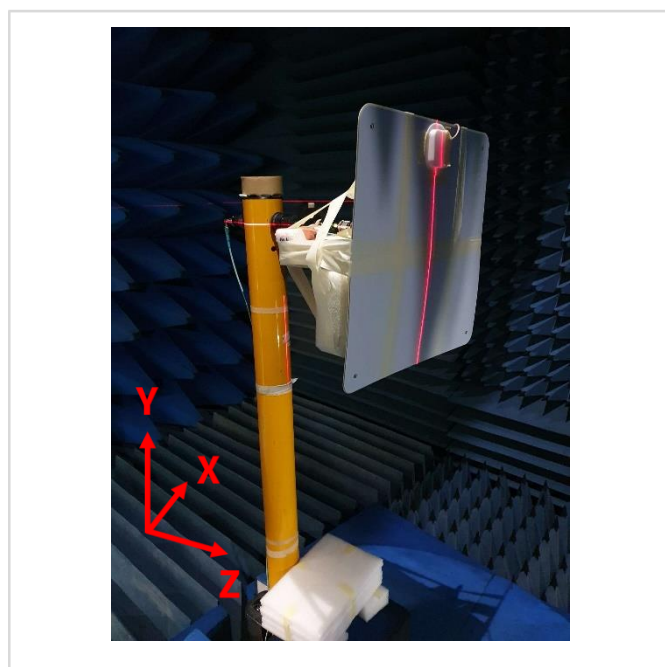


4. Radiation Patterns

4.1 Test Setup

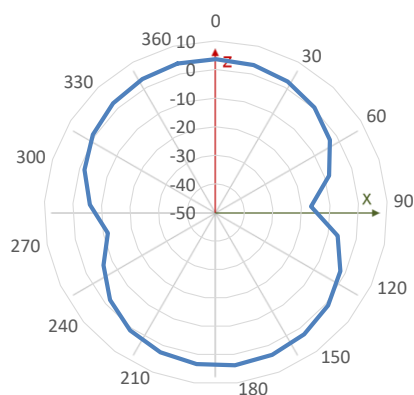


AUT

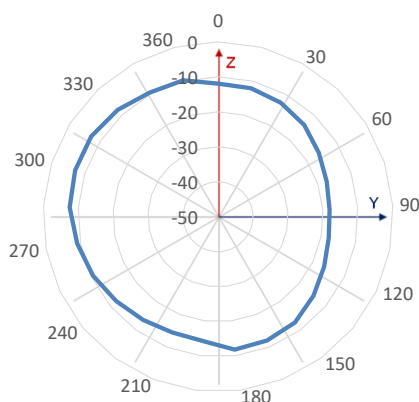


4.2 CM.05 Patterns at 132 MHz for Gtotal

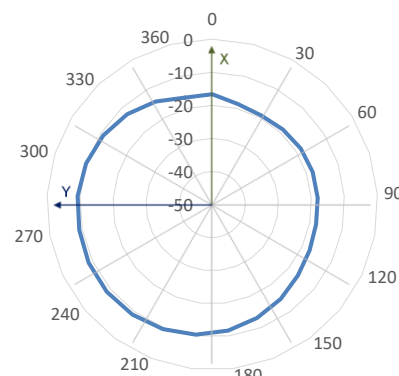
XZ Plane



YZ Plane

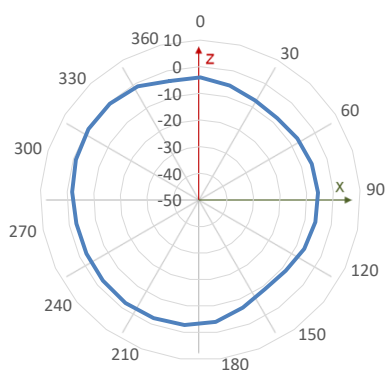


XY Plane

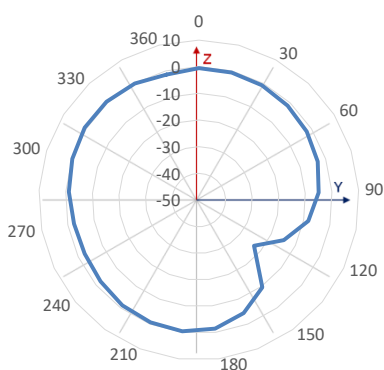


4.3 CM.05 Patterns at 153 MHz for Gtotal

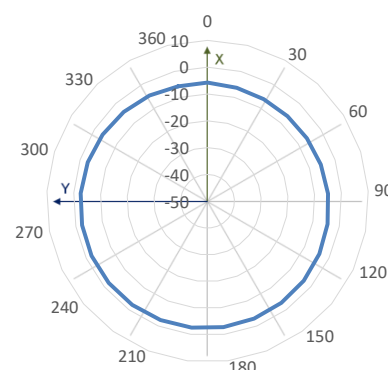
XZ Plane



YZ Plane

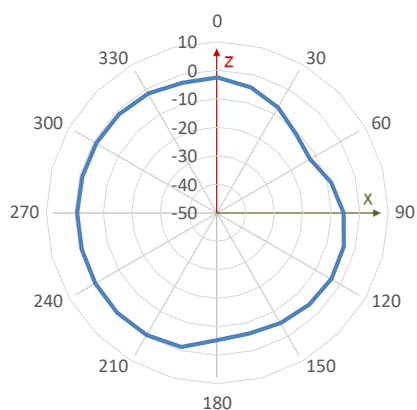


XY Plane

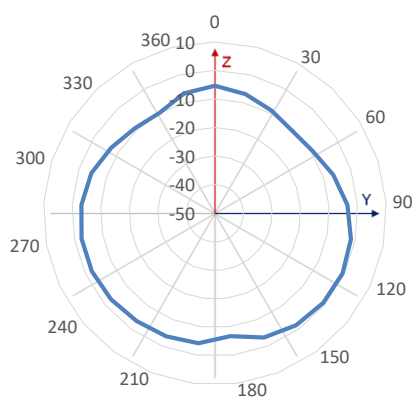


4.4 CM.05 Patterns at 174 MHz for Gtotal

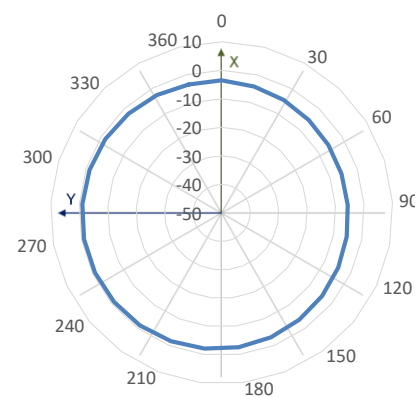
XZ Plane



YZ Plane



XY Plane



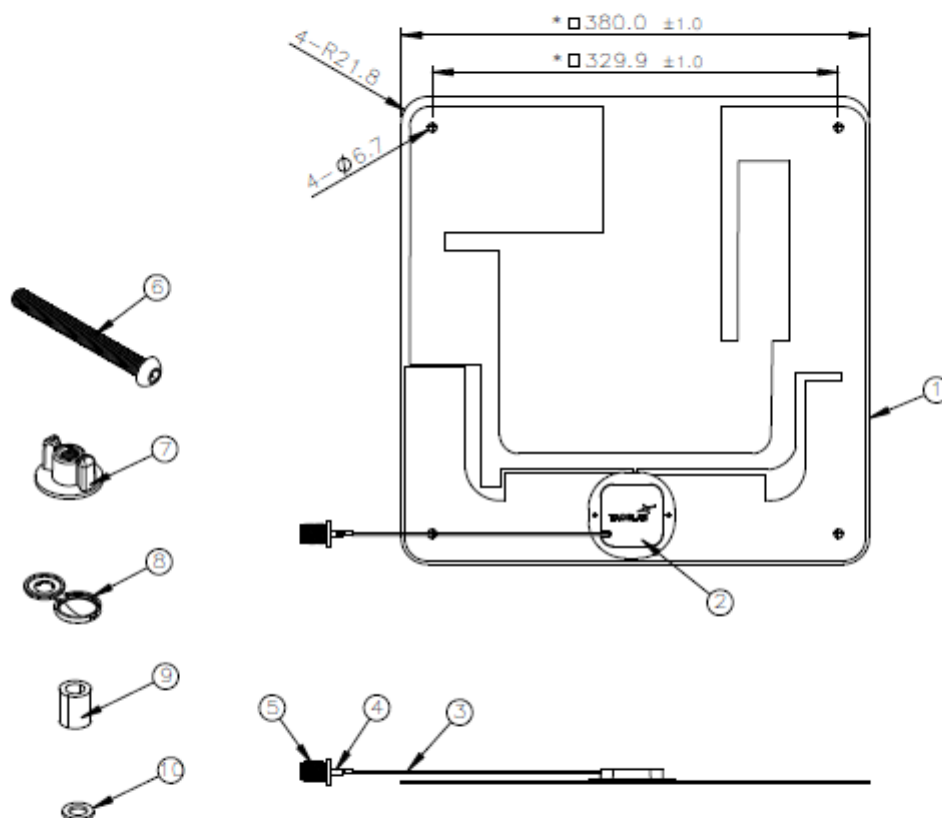
5. Mechanical Drawing

ISO NO.:IDW-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	Aaron Yan	Chozen	2022/12/22



	Name	PIN	Material	Finish	QTY
1	CM.05 PCB	02110115010000	NP-140	White	1
2	CM.05 Cover	001622J000000A	ABS	White	1
3	RG316 Coaxial Cable	321615C000000A	FEP	Brown	1
4	Heat Shrink Tube	001315C000000A	PE	Black	1
5	N Type(FIST)	201217E000000A	Brass	N Plated	1
6	CM.05 M8-L60 Stainless steel rod	000422K000000A	Steel	Silver	4
7	CM.05 M8 Wing nut	000422K000000A	PASS	White	4
8	CM.05 M8 Nut cover buckle	000422K000000A	PASS	White	4
9	CM.05 11-110 Spacer column	000422K000000A	PASS	White	4
10	CM.05 M8 Washer	000422K000000A	PASS	White	4

APPROVED BY: Chozen	 TAOGLAS. TM Design Center The drawing is a design document and contains confidential information. It is the property of TAOGLAS. It is not to be copied or distributed without the prior written consent of TAOGLAS.			
CHECK BY: Aaron				
DRAWN BY: Aaron Yan				
DATE: 2022/12/22	TITLE: 132-174MHz Ceiling Mount Antenna, 1m RG-316 & N Type F			
UNLESS OTHERWISE SPECIFIED TOLERANCES ARE: mm FRACTIONAL DECIMALS DECIMALS ANGLES	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

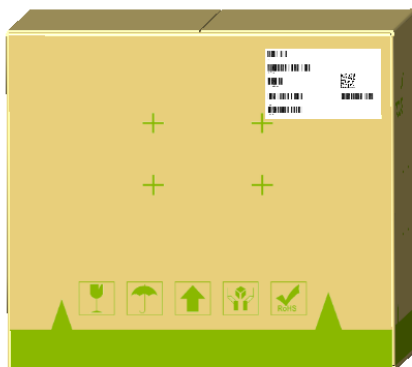


☑ 4 SET / Zipper bag



☑ 1 PCS / Box

☑ Box (mm) :398x386x45



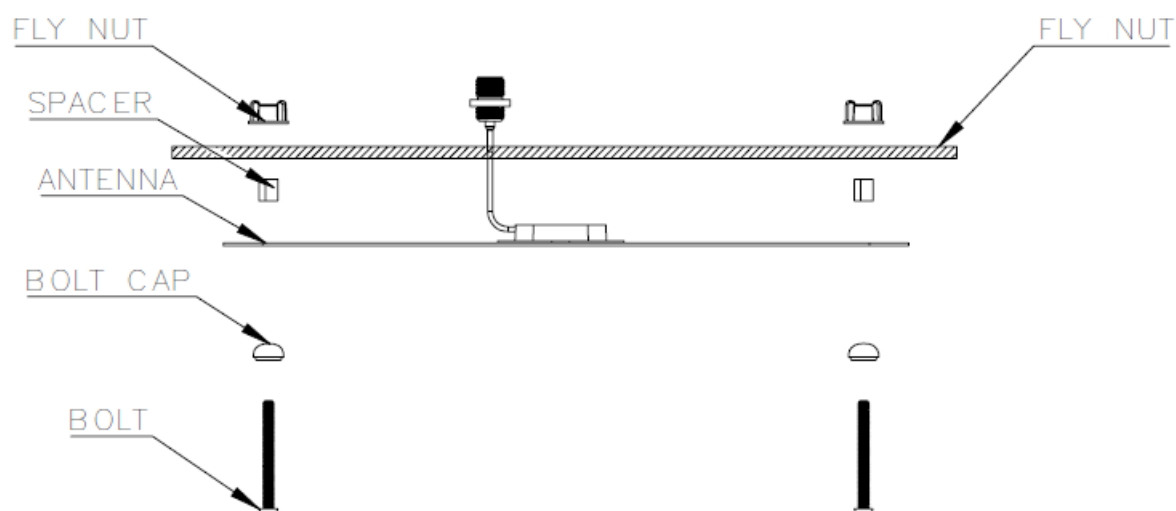
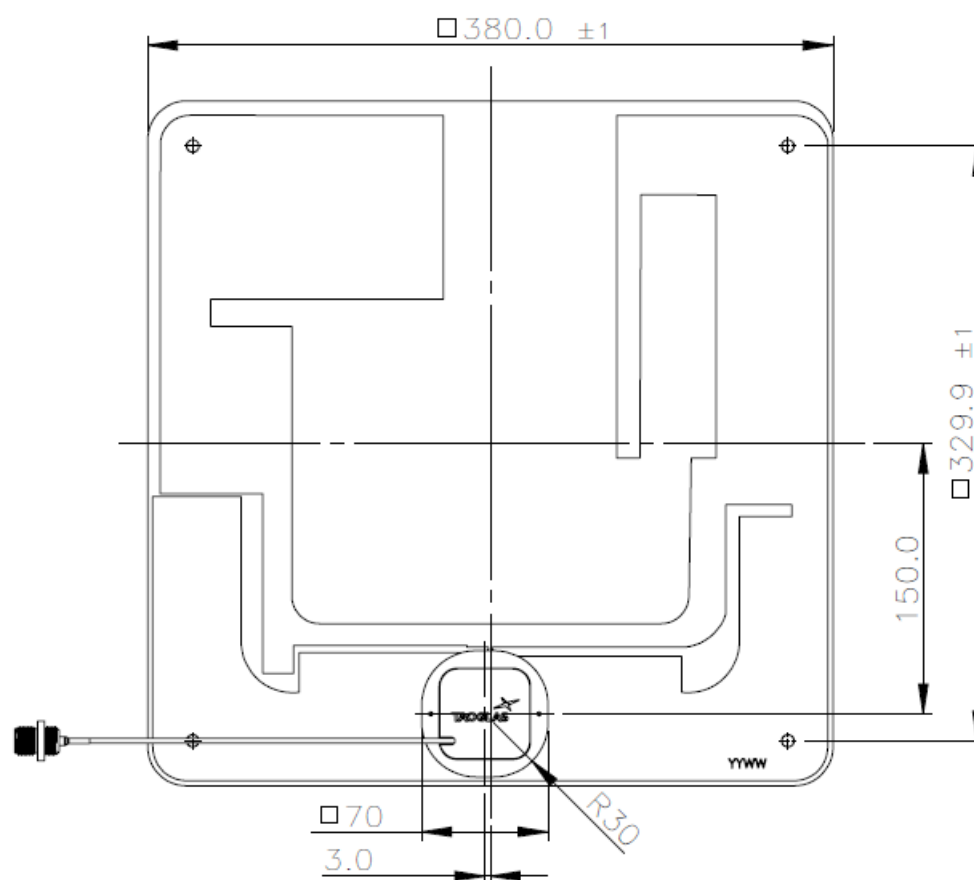
☑ 10 PCS / Carton

☑ 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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