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Datasheet

# 450-470MHz UHF Terminal Antenna

**Part No:**
**TI.34.A111**

## Description

450-470MHz Terminal Antenna SMA Male Straight

## Features:

450-470MHz Band Operation
IP67 Waterproof Rated
Low-profile Terminal Antenna
SMA(M) Straight Connector
Dimensions: ø8.5mm x 50.8mm
RoHS & Reach Compliant

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| | | |
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# 1. Introduction



The TI.34 is one of a range of super small form factor, lightweight, IP67 rated terminal mount antennas from Taoglas. It is ideal for wireless applications operating on ISM or LoRa bands covering 450-470MHz. Its robust enclosure is engineered to perform in the most challenging of external environments when connecting IoT devices to smart grid and smart monitoring applications.

With its IP67 rating, the TI.34 can withstand dust, dirt, and even complete submersion in water, making it the perfect choice for any IoT application that demands both reliable connectivity and extreme durability. Whether you're connecting sensors for remote agricultural, monitoring equipment in industrial settings, or building the infrastructure for smart cities, the TI.34 is a great solution.

If you are looking for an antenna that's small, tough, and versatile, look no further than the TI.34. Contact your regional Taoglas Customer Services Team for more information or to discuss your project.

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# 2. Specification

| LTE Electrical | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Band** | | Efficiency (%) | Average Gain (dB) | Peak Gain (dBi) | Impedance | Polarization | Radiation Pattern | Max. Input Power |
| **UHF** 450-470MHz | On 15x9cm Ground plane (Long side) | 28.8 | -5.40 | 2.58 | 50 Ω | Linear | Omni | 10W |
| | On 9x15cm Ground plane (Short side) | 38.5 | -4.15 | 3.96 | | | | |

| 5G/4G Bands | | | | |
|---|---|---|---|---|
| **Band Number** | **5GNR / FR1 / LTE / LTE-Advanced / WCDMA / HSPA / HSPA+ / TD-SCDMA** | | | |
| | **Uplink** | **Downlink** | **ON 15x9cm Ground Plane** | **ON 9x15cm Ground Plane** |
| **UHF** | 450 to 470 | | ✓ | ✓ |

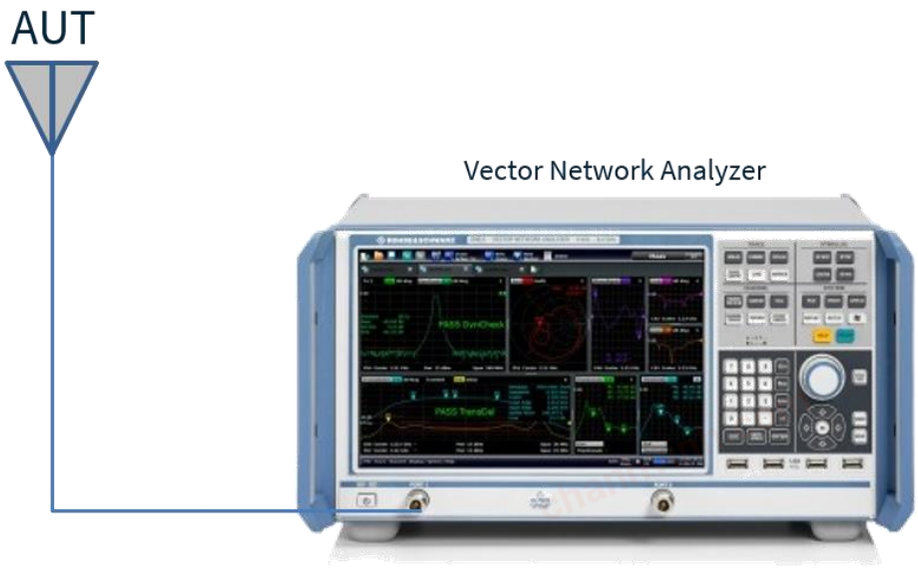
| Mechanical | |
|---|---|
| **Dimensions** | ⌀8.5mm x 50.8mm |
| **Weight** | 6.9g |
| **Material** | TPEE |
| **Connector** | SMA(M) |

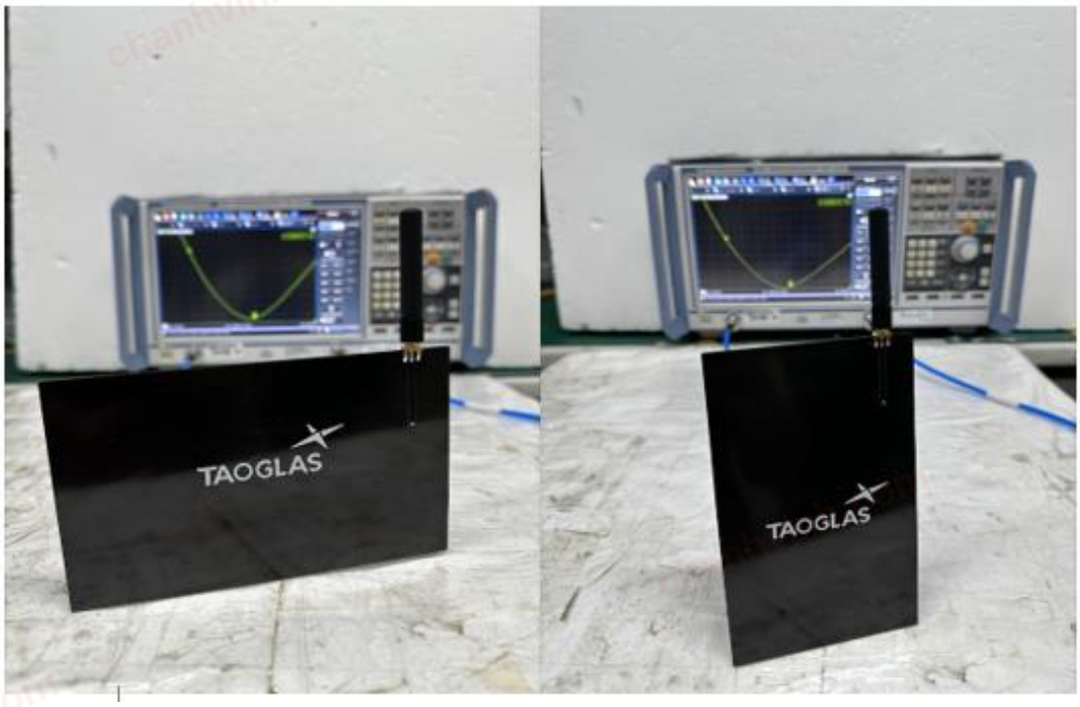
| Environmental | |
|---|---|
| **Operating Temperature** | -40°C ~ +85°C |
| **Waterproof Rating** | IP67 |

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# 3. Antenna Characteristics

## 3.1 Test Setup



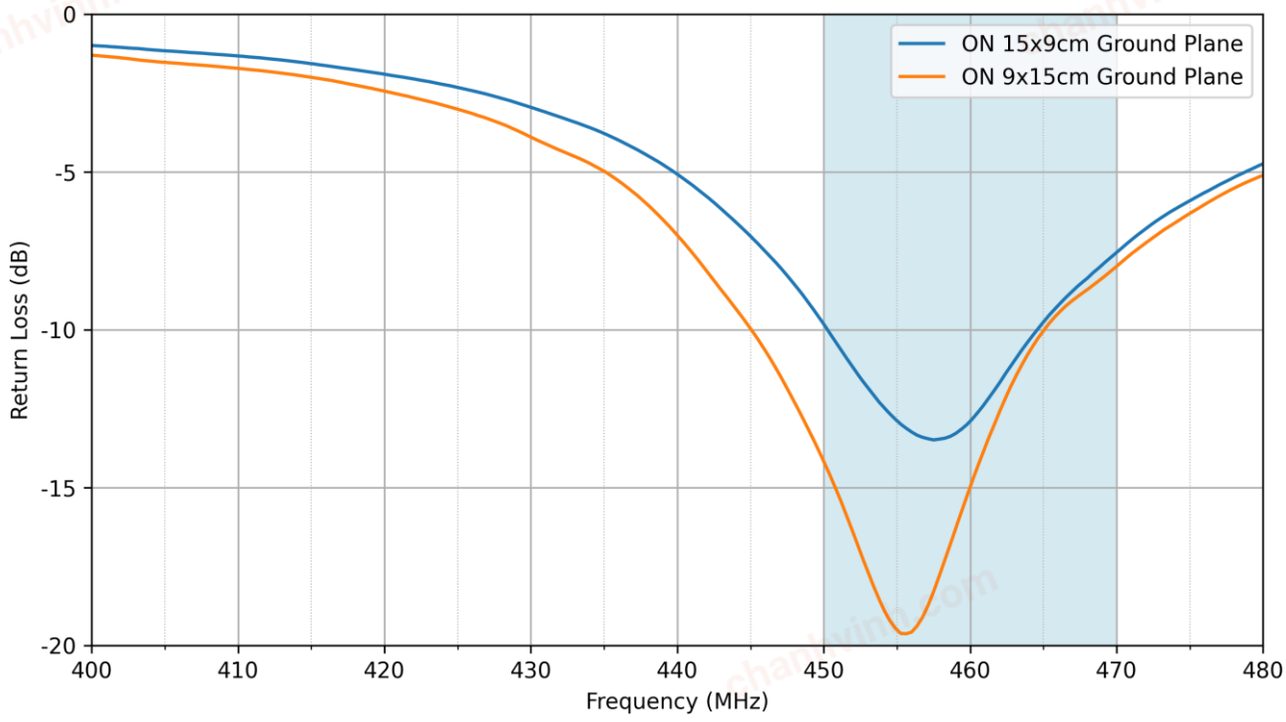




On 15x9cm Ground plane

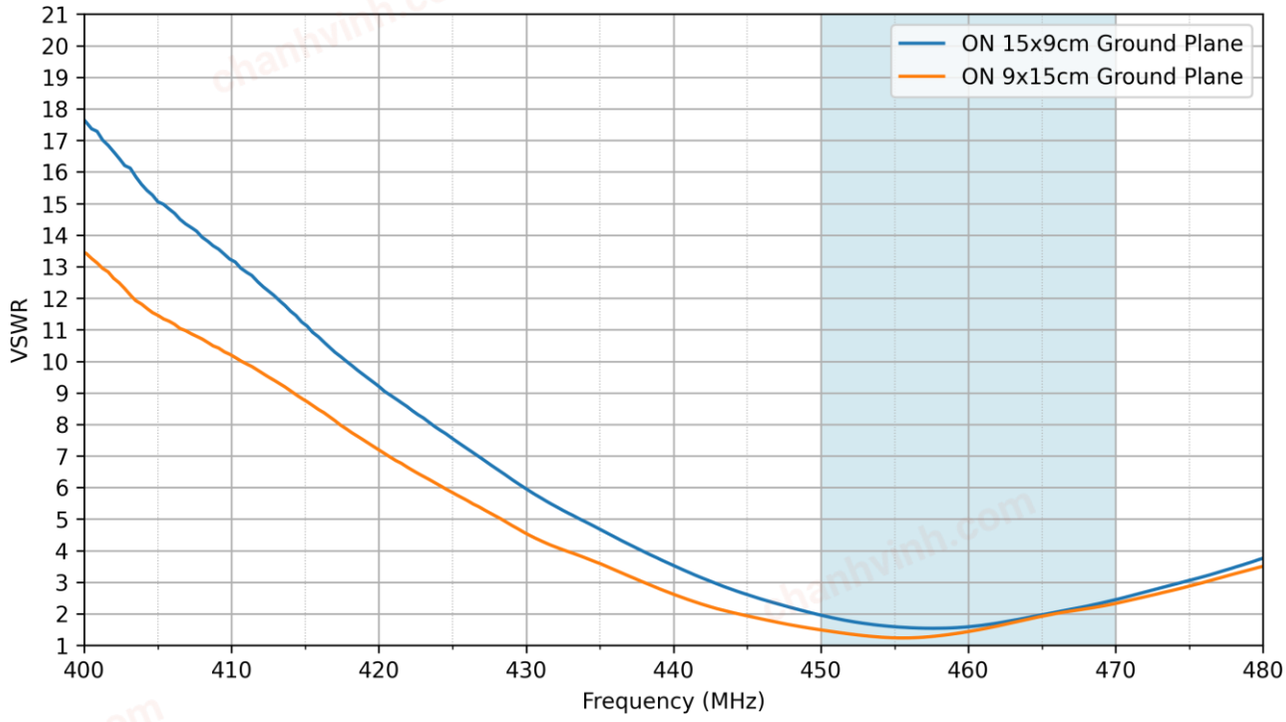
On 9x15cm Ground plane

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## 3.2 Return Loss

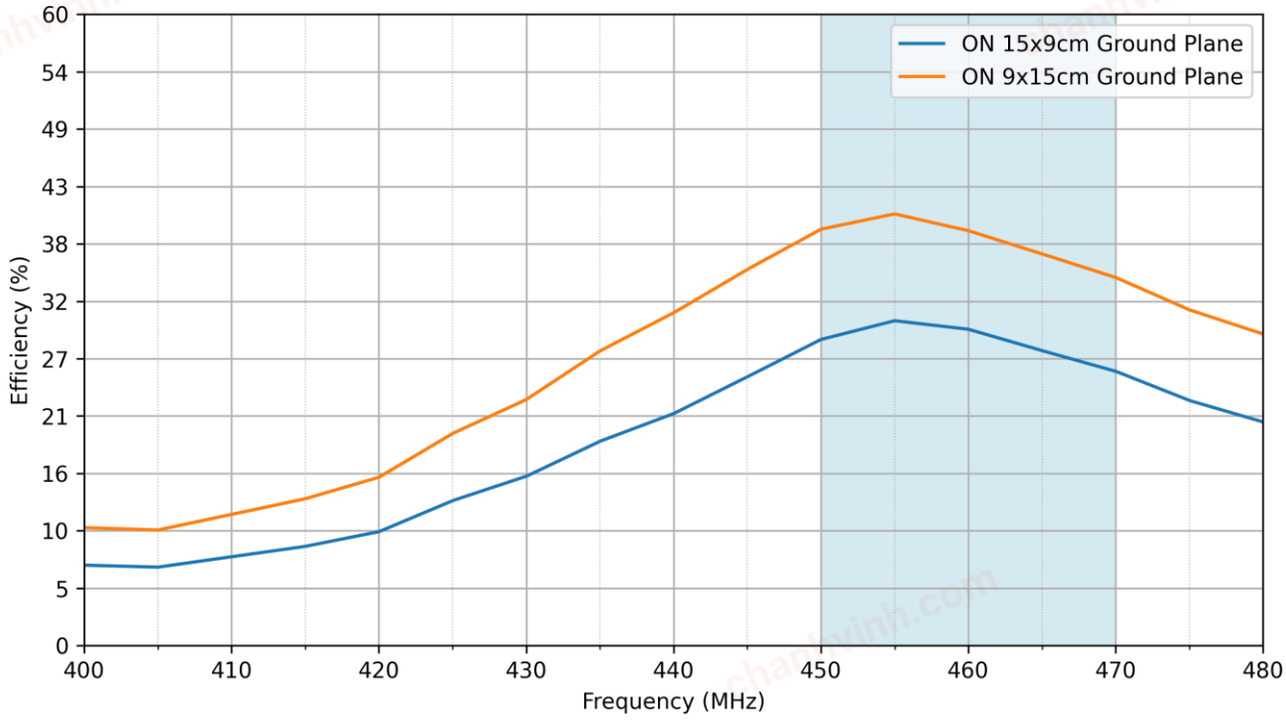



## 3.3 VSWR

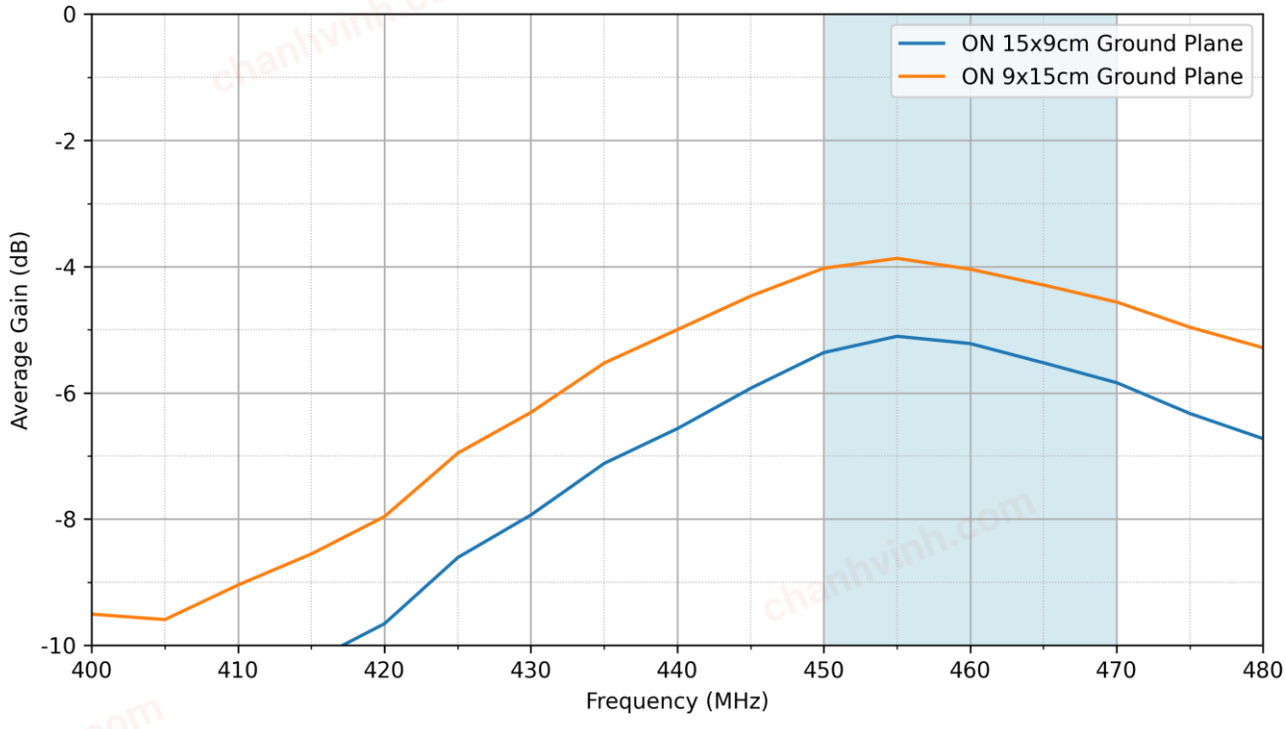


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## 3.4 Efficiency

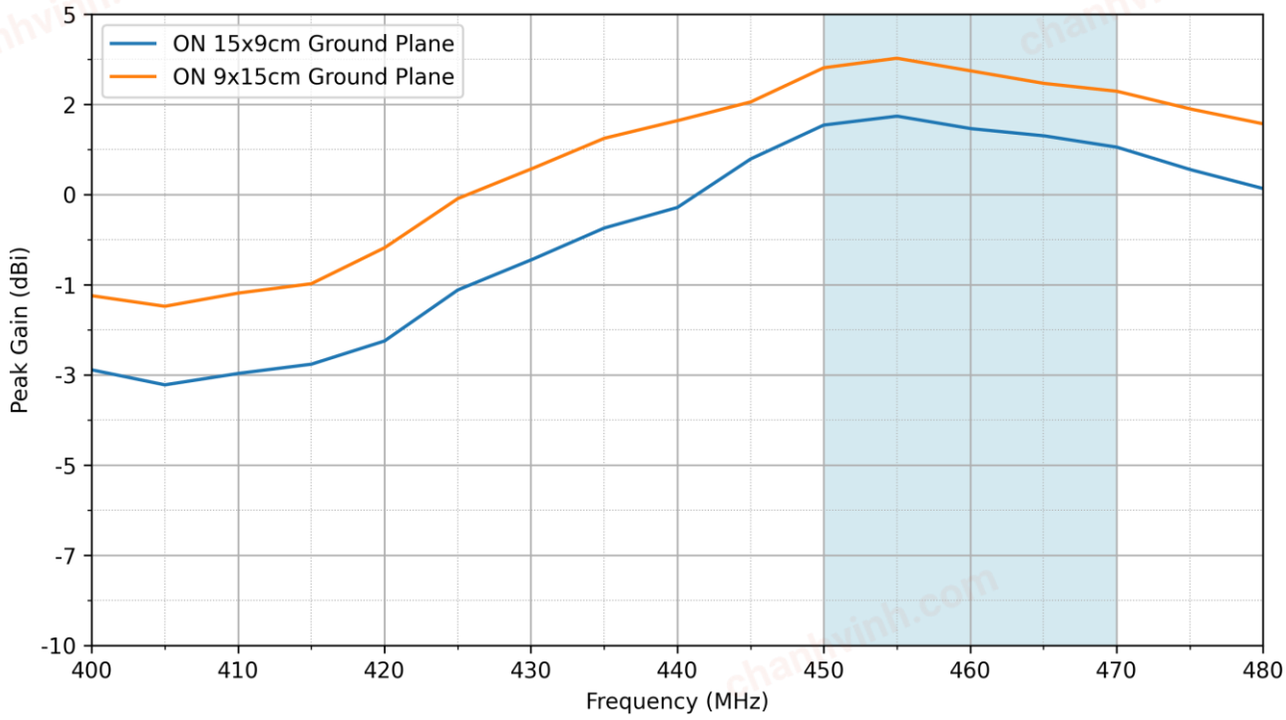



## 3.5 Average Gain



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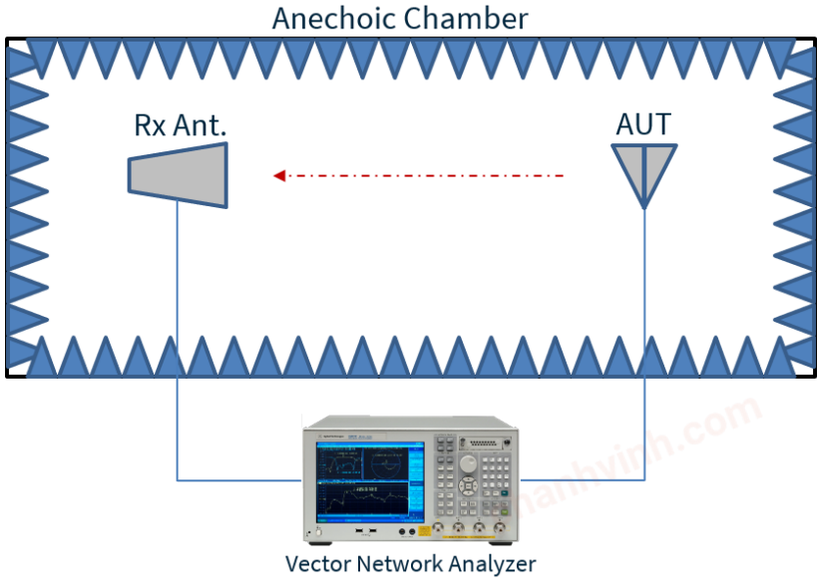
## 3.6 Peak Gain

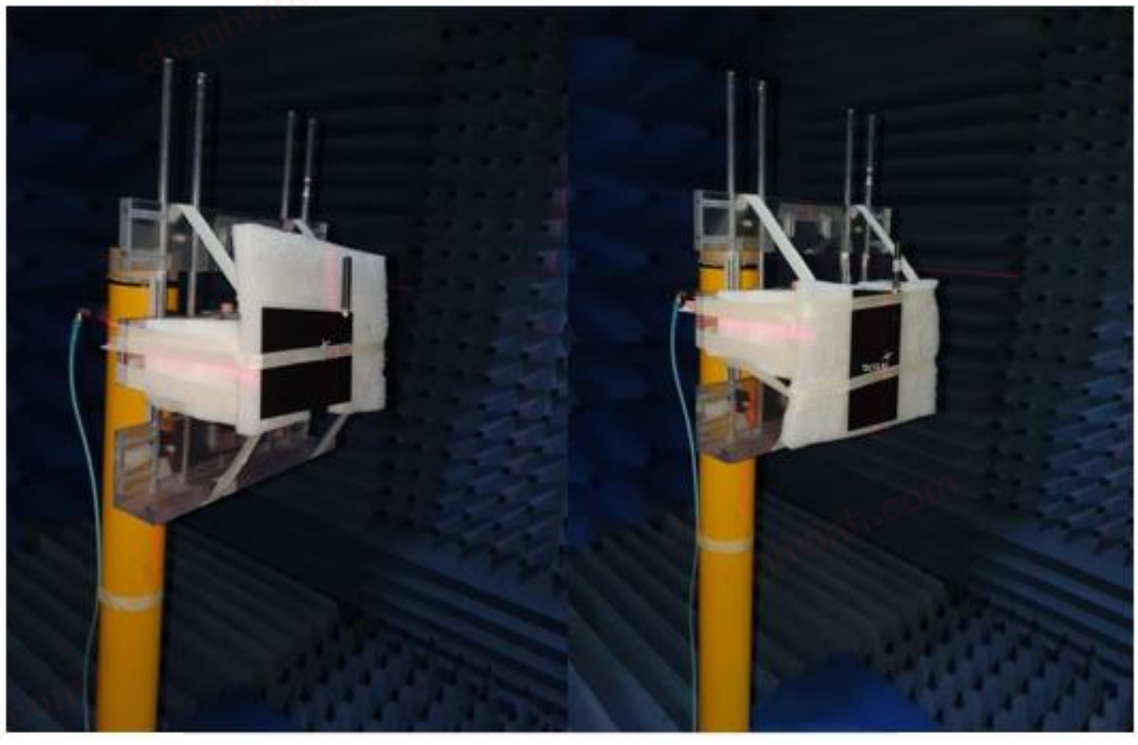


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# 4. Radiation Patterns

## 4.1 Test Setup



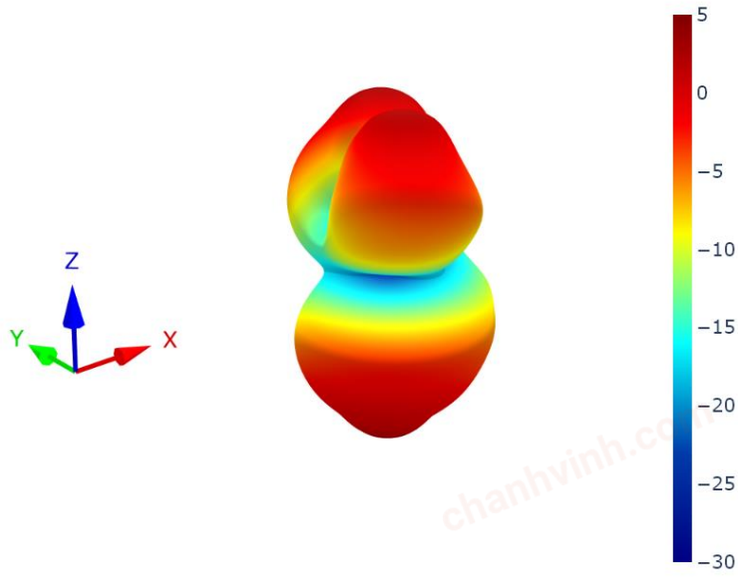



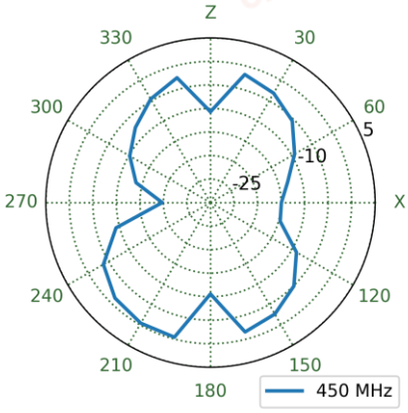
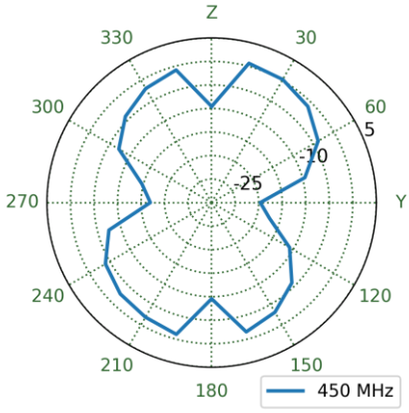
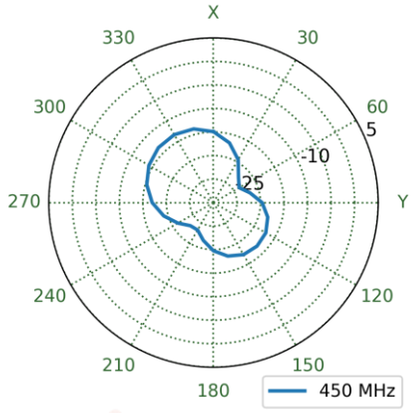
On 15x9cm Ground plane

On 9x15cm Ground plane

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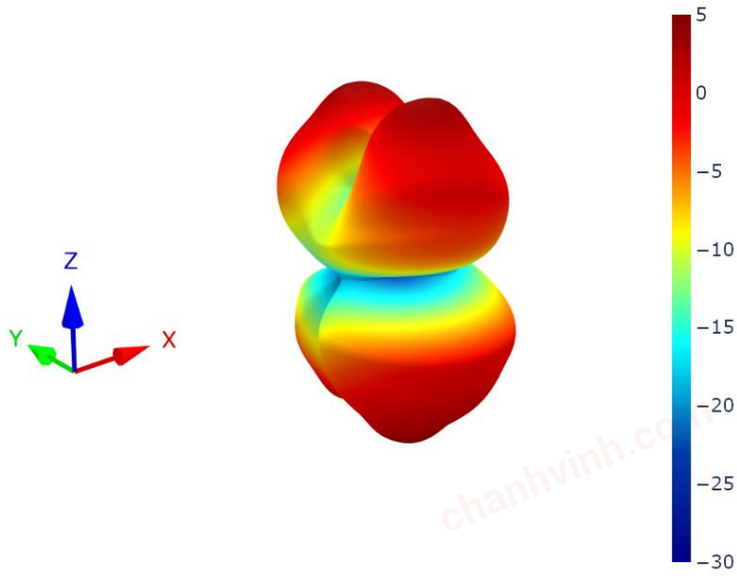
## 4.2 TI.34.A111 - Patterns at 450 MHz on 15x9cm ground plane

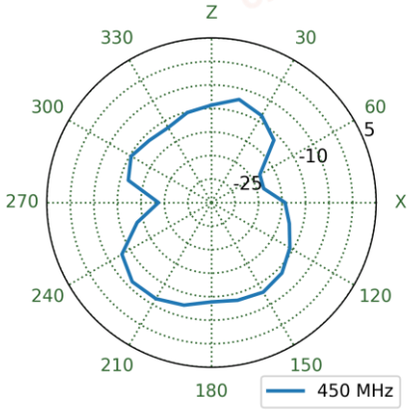
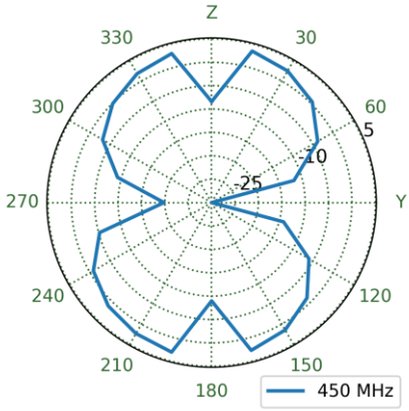
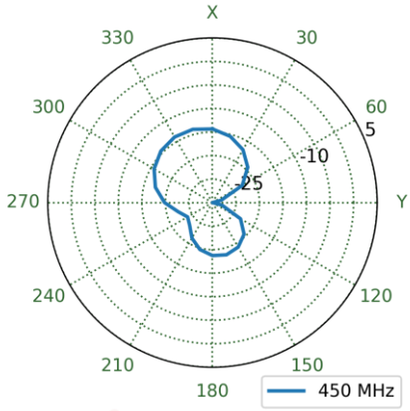



| XZ Plane | YZ Plane | XY Plane |
|---|---|---|
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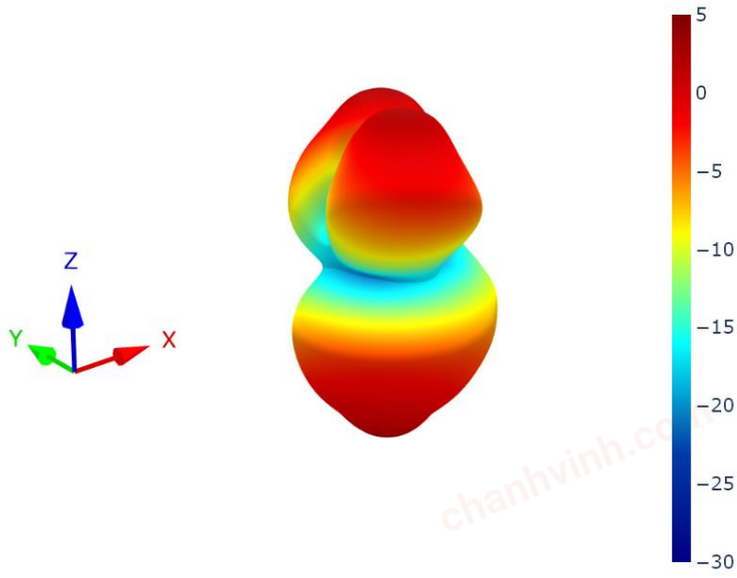
## 4.3 TI.34.A111- Patterns at 450 MHz on 9x15cm ground plane

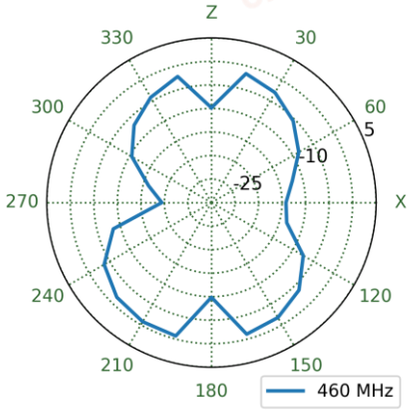
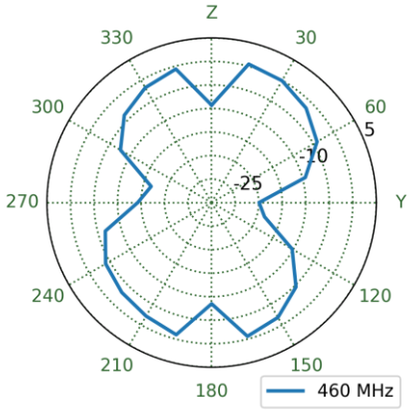
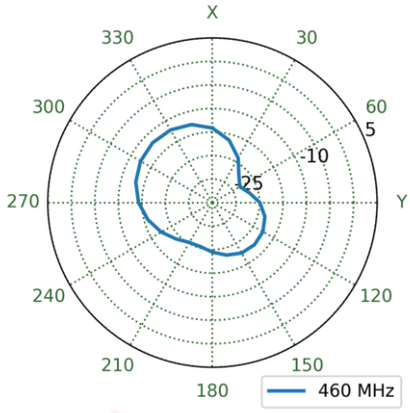



| XZ Plane | YZ Plane | XY Plane |
|---|---|---|
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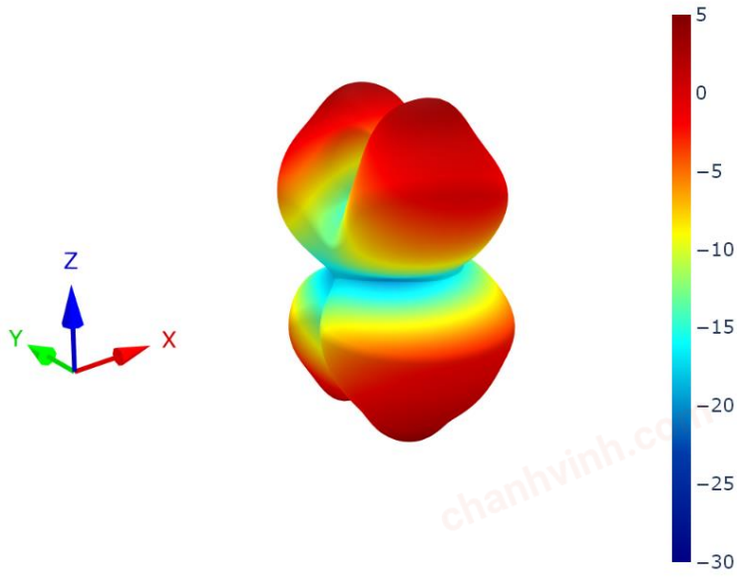
## 4.4 TI.34.A111- Patterns at 460 MHz on 15x9cm ground plane

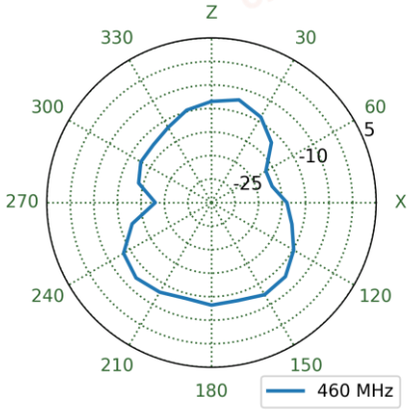
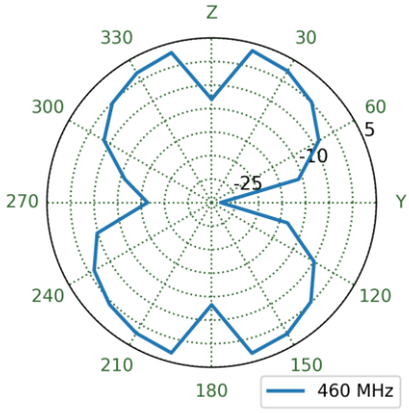
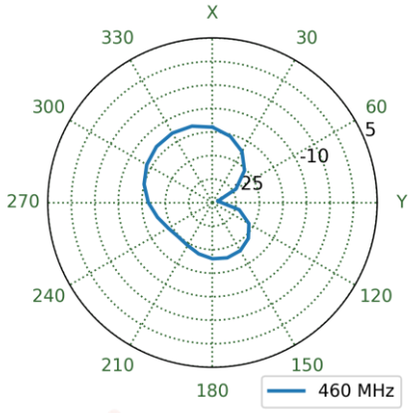



| XZ Plane | YZ Plane | XY Plane |
|---|---|---|
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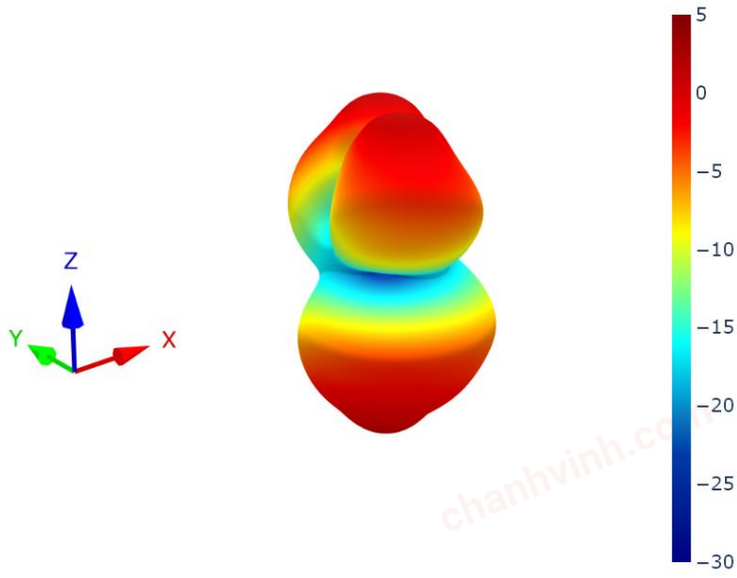
## 4.5 TI.34.A111- Patterns at 460 MHz on 9x15cm ground plane

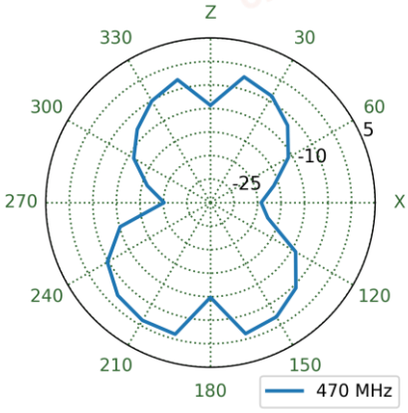
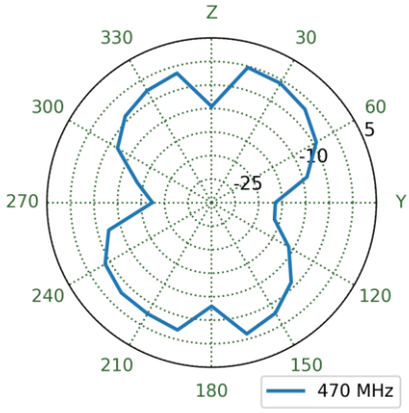
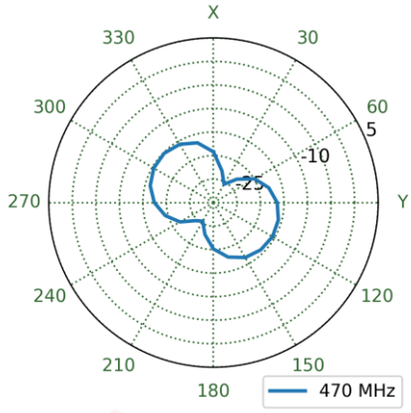



| XZ Plane | YZ Plane | XY Plane |
|---|---|---|
|  |  |  |

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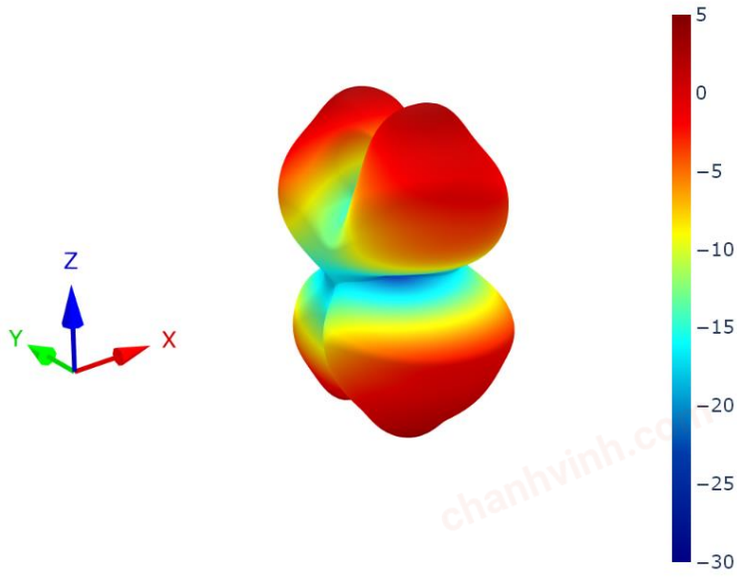
## 4.6 TI.34.A111- Patterns at 470 MHz on 15x9cm ground plane

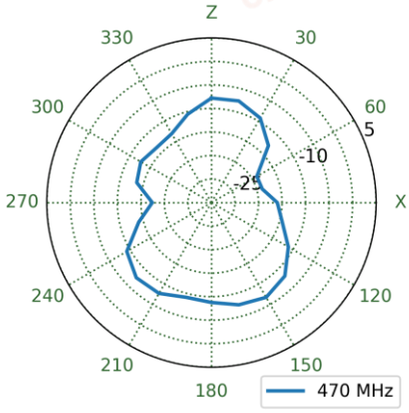
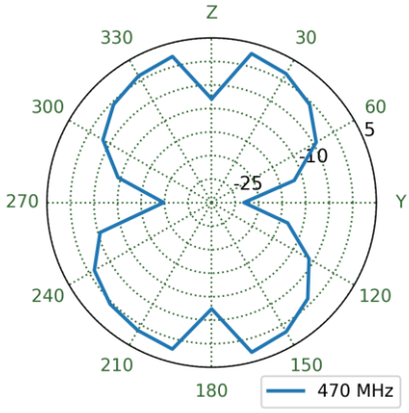
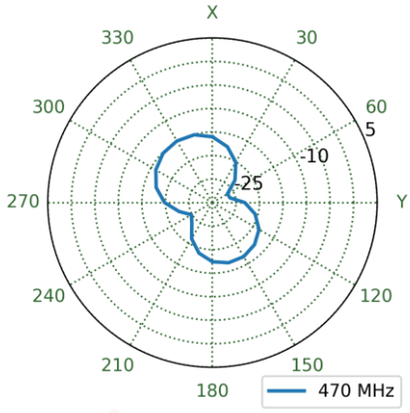



| XZ Plane | YZ Plane | XY Plane |
|---|---|---|
|  |  |  |

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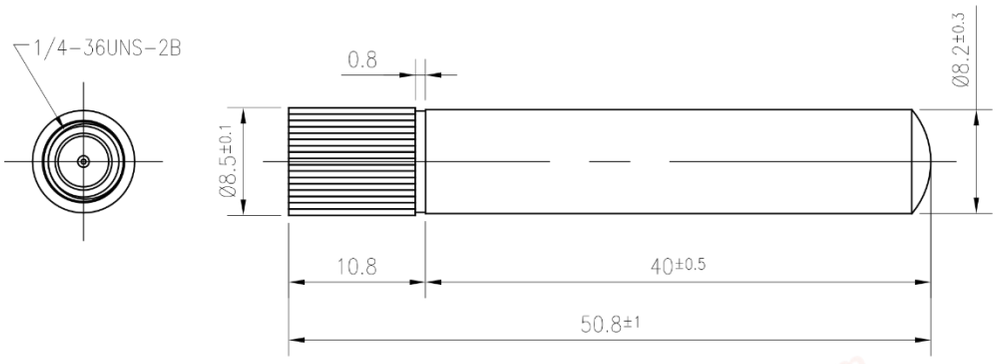
## 4.7 TI.34.A111- Patterns at 470 MHz on 9x15cm ground plane




| XZ Plane | YZ Plane | XY Plane |
|---|---|---|
|  |  |  |

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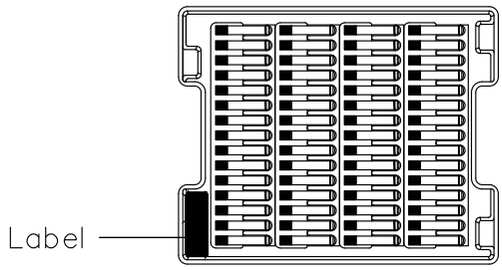
# 5. Mechanical Drawing



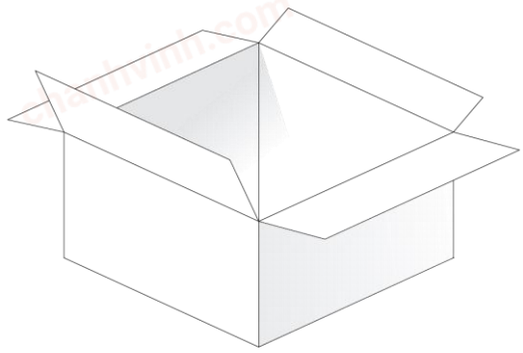
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# 6. Packaging

60pcs TI.34.A111 per Tray
Weight: 0.5Kg




1200pcs per Carton
Dimensions: 328x296x282mm
Weight: 10Kg



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## Changelog for the datasheet

**SPE-24-8-027– TI.34.A111**

| **Revision: A (First Release)** | |
|---|---|
| Date: | 2024-02-12 |
| Notes: | |
| Author: | Cesar Sousa |

**Previous Revisions**

| **Revision:** | |
|---|---|
| Date: | |
| Notes: | |
| Author: | |

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