



# TAOGLAS®



## Datasheet

### 433MHz ISM Band Terminal Antenna

**Part No:**  
TI.10.0111

**Features:**

- SMA(M) Plug Connector
- Low Profile and Robust Handling
- 48.2mm Antenna Dimensions
- IP65 Rated
- RoHS and REACH Compliant

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## 1. Introduction



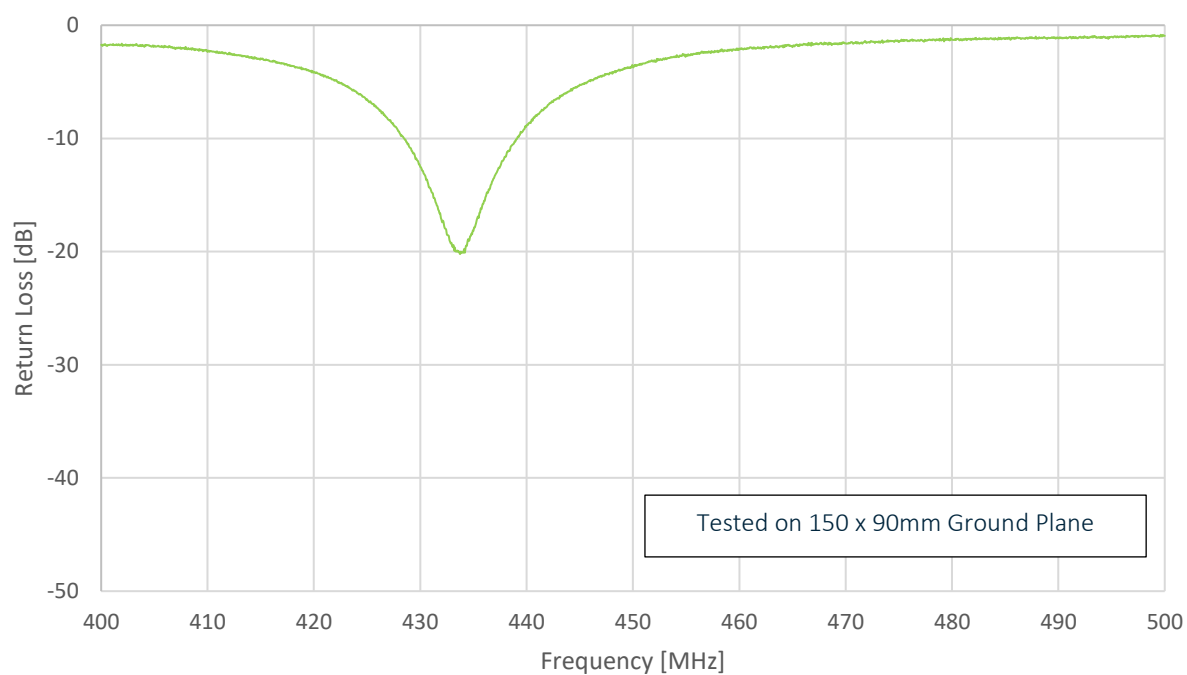
The TI.10 series are high performance 433MHz omni-directional antennas. The TI.10 terminal SMA plug mount antenna is ideal for mobile small form factor applications. At only 48.2mm in length Omni-directional with a peak gain 0dBi ensures constant reception and transmission. The antenna structure is designed for robust handling and the housing is made with TPE giving reliable performance in tough environments.

## 2. Specifications

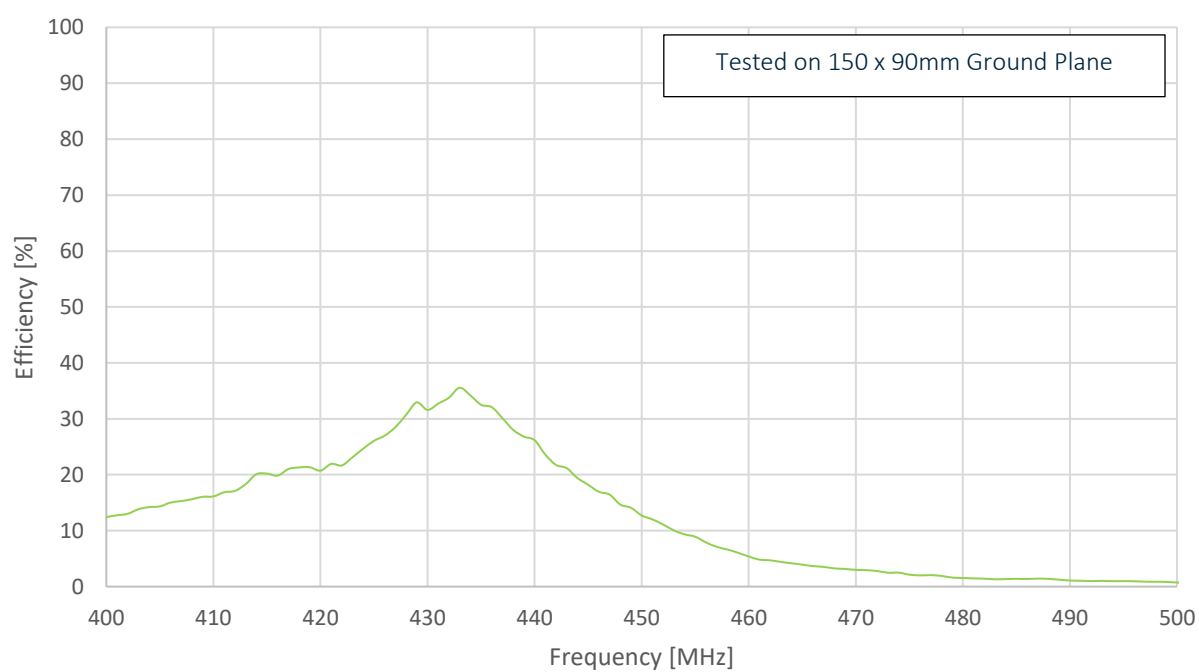
| Electrical                         |                 |                  |                   |                 |                    |           |        |              |       |
|------------------------------------|-----------------|------------------|-------------------|-----------------|--------------------|-----------|--------|--------------|-------|
| Band                               | Frequency (MHz) | Efficiency (%)   | Average Gain (dB) | Peak Gain (dBi) | Radiation Pattern  | Impedance | VSWR   | Polarization | Power |
| ISM Band<br>433 MHz                | 433.05~434.79   | 36               | -4.5              | -1.4            | Omni - Directional | 50Ω       | ≤1.5:1 | Linear       | 5W    |
| *Tested on 150 x 90mm Ground Plane |                 |                  |                   |                 |                    |           |        |              |       |
| Mechanical                         |                 |                  |                   |                 |                    |           |        |              |       |
| Dimensions                         |                 | 48.2mm X Ø8mm    |                   |                 |                    |           |        |              |       |
| Housing                            |                 | TPE              |                   |                 |                    |           |        |              |       |
| Connector                          |                 | SMA(M) plug      |                   |                 |                    |           |        |              |       |
| Weight                             |                 | 8.5g             |                   |                 |                    |           |        |              |       |
| Environmental                      |                 |                  |                   |                 |                    |           |        |              |       |
| Operation Temperature              |                 | -40°C to + 85°C  |                   |                 |                    |           |        |              |       |
| Storage Temperature                |                 | -40°C to + 105°C |                   |                 |                    |           |        |              |       |
| Relative Humidity                  |                 | 40% to 95%       |                   |                 |                    |           |        |              |       |

## 3. Antenna Characteristics

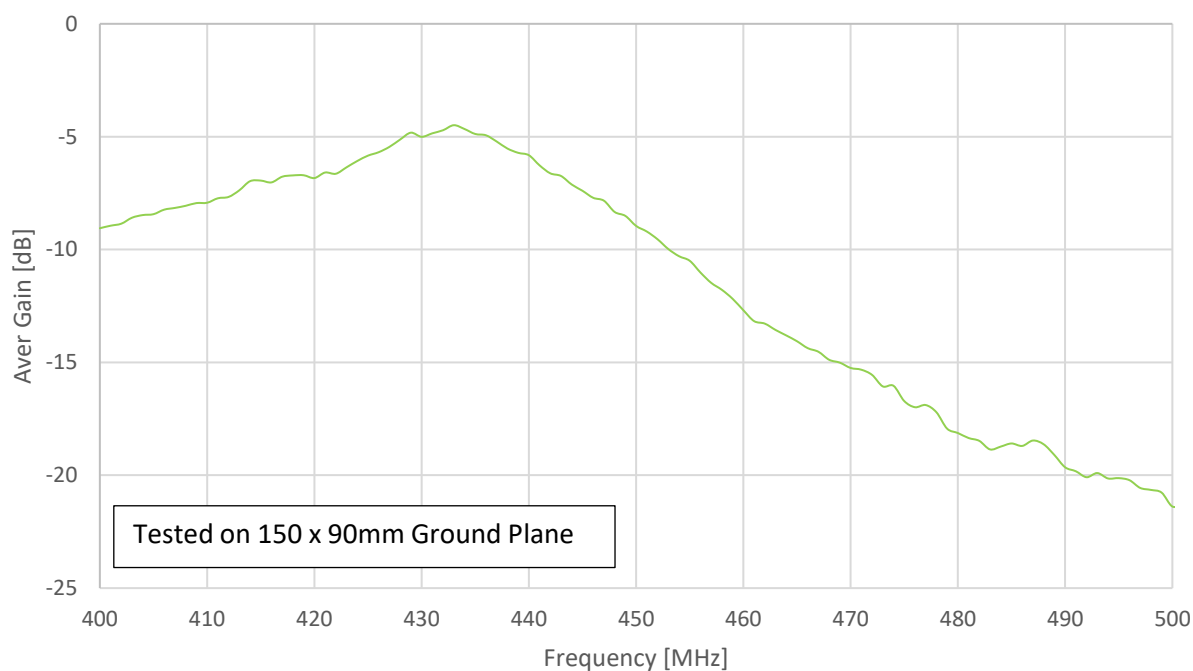
### 3.1 Return Loss



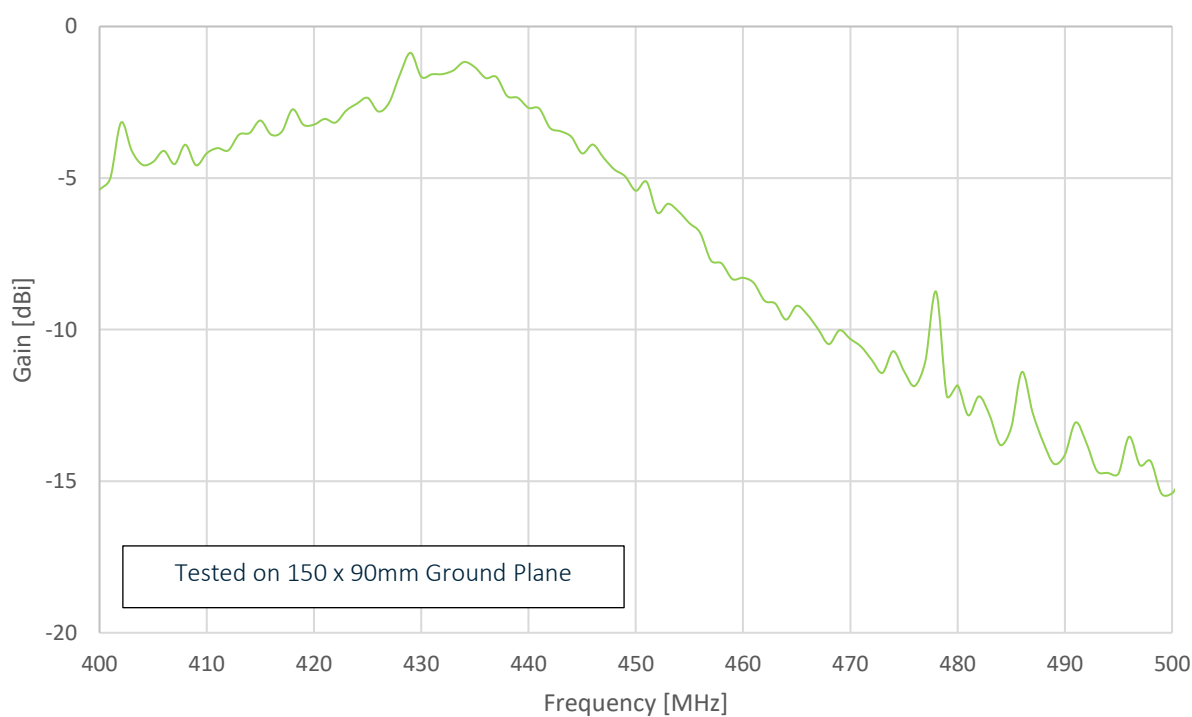
### 3.2 Efficiency



### 3.3 Average Gain

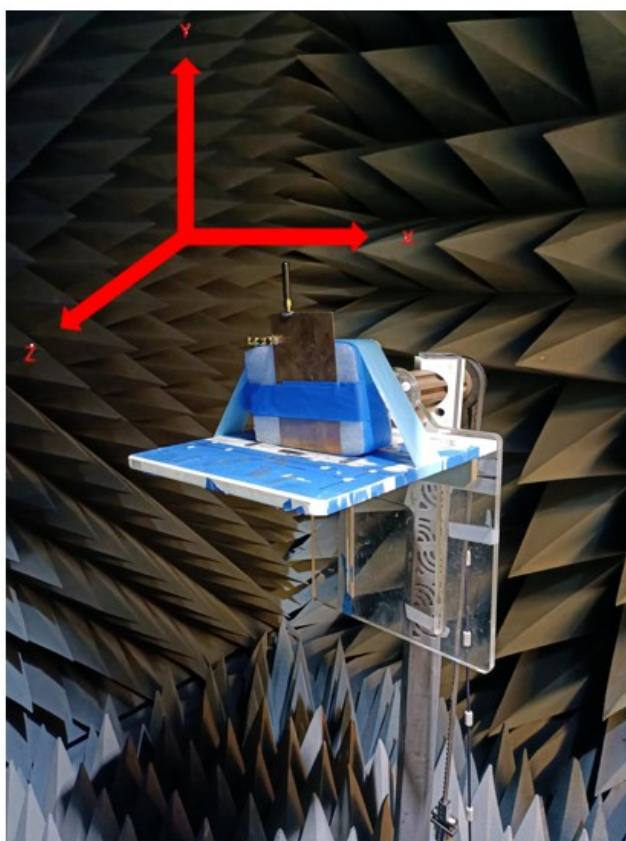


### 3.4 Peak Gain

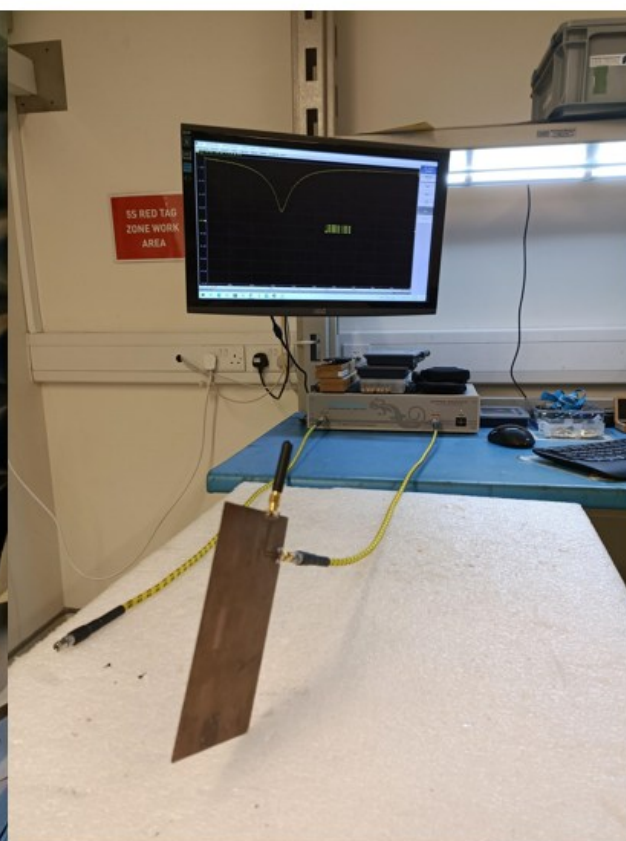


## 4. Radiation Patterns

### 4.1 Test Setup

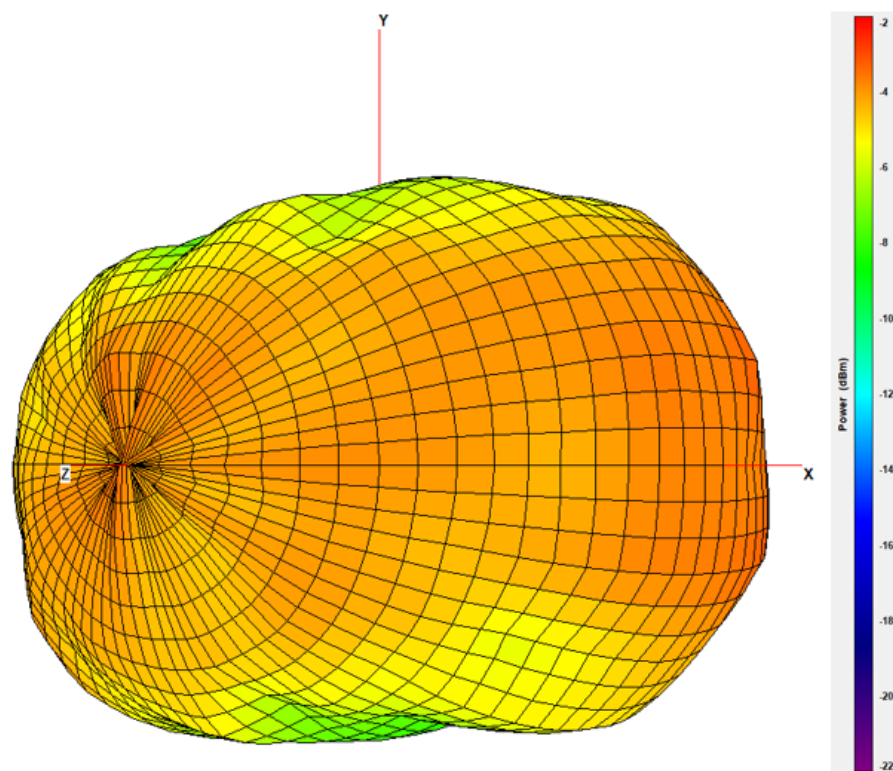


Chamber Setup



VNA Setup

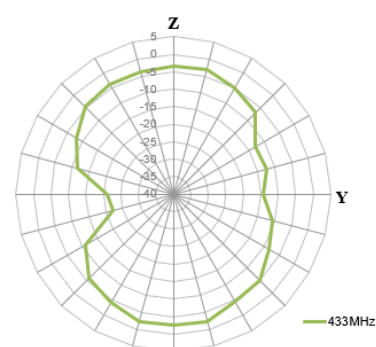
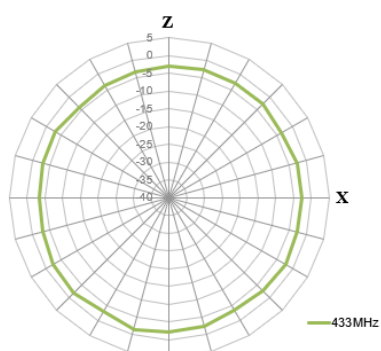
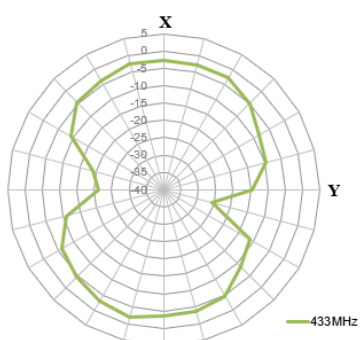
## 4.2 433MHz 3D and 2D Radiation Patterns



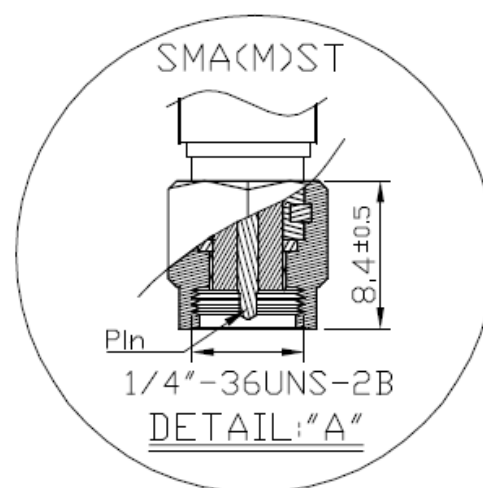
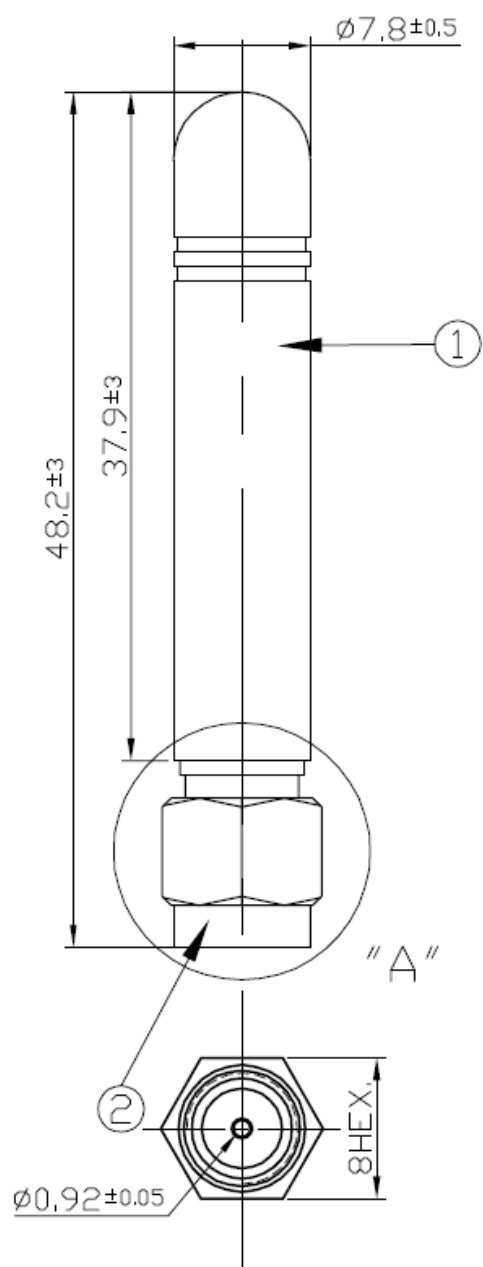
XY Plane

XZ Plane

YZ Plane



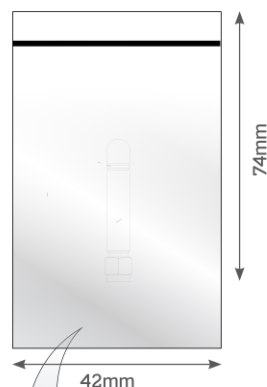
## 5. Mechanical Drawing (Units: mm)



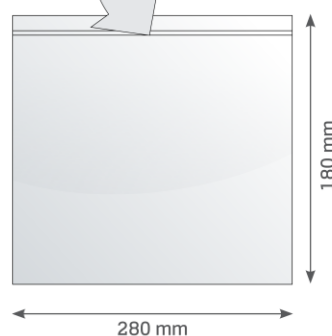
|   | Name          | P/N            | Material | Finish | QTY |
|---|---------------|----------------|----------|--------|-----|
| ① | Antenna Cover | 000111K030002A | TPU      | Black  | 1   |
| ② | SMA(M)ST      | 200211J000002A | Brass    | Gold   | 1   |

## 6. Packaging

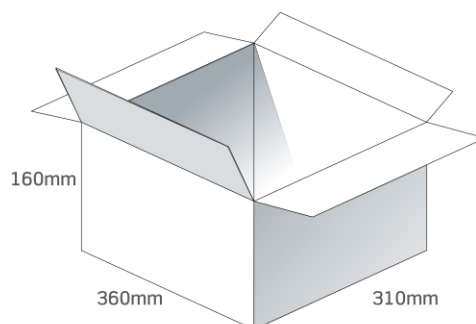
1 pcs TI.10.0111 per PE bag  
PE Bag Dimensions - 74 x 42mm  
Weight - 8g



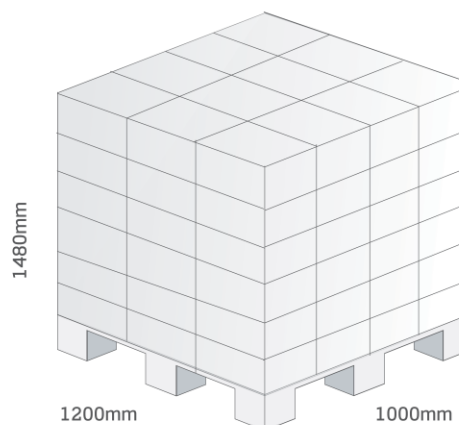
100 PE bags per large PE bags  
100 pcs TI.10.0111 per large PE bags  
Large PE bags Dimensions - 280 x 180mm  
Weight - 810g



15 Large PE bags per carton  
1500 pcs TI.10.0111 per carton  
Carton Dimensions - 360 x 310 x 160mm  
Weight - 12.5kg



Pallet Dimensions 1200\*1000\*1480mm  
72 Cartons per Pallet  
9 Cartons per layer  
8 Layers



Changelog for the datasheet

SPE-13-8-035 – TI.10.0111

| Revision: C (Current Version) |                              |
|-------------------------------|------------------------------|
| Date:                         | 2024-12-04                   |
| Changes:                      | Added test setup description |
| Changes Made by:              | Gary West                    |

Previous Revisions

| Revision: B      |                              |
|------------------|------------------------------|
| Date:            | 2022-01-20                   |
| Changes:         | Full data & datasheet update |
| Changes Made by: | Gary West                    |

| Revision: A (Original First Release) |                  |
|--------------------------------------|------------------|
| Date:                                | 2013-05-01       |
| Notes:                               |                  |
| Author:                              | Technical Writer |

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Previous Revisions (Continued)

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