



TerraWave Solutions® 24"x24"x8" 802.11n MIMO Ceiling Tile Enclosure

Detailed Product Specifications



24x24x8 MIMO Ceiling Tile Enclosure – Installed in Ceiling Tile Grid
*Displayed with a TerraWave 802.11n Dual Band 2.4/5 GHz 2.5/4.5 dBi
Ceiling Mount MIMO Omni Antenna and a Cisco 1252 Access Point*



Introduction

TerraWave's 24" x 24" x 8" 802.11n multiple-input, multiple-output (MIMO) ceiling tile enclosure contains and protects the Cisco 1252 Access Point (AP) in an aesthetically pleasing and stealthy solution within a suspended ceiling. Suspended in a similar manner as the ceiling tile grid, this smart solution is secured by the ceiling tile grid and can be suspended by wire to the roof structure for additional safety. Required hardware is provided to hold the weight of the enclosure flush with the ceiling tile.

Installation for the ceiling tile enclosure requires cutting an existing ceiling tile from its original 2' x 4' size to 2' x 2' for the enclosure. If the ceiling tile grid is 2' x 2' in size, simply remove it for the enclosure. A two foot section of ceiling tile grid is provided to dress the installation. Antennas are mounted with no exposed cable. Once installed, the AP is protected and hidden from view, in a solution that is flush with the ceiling tile.

This enclosure is specifically designed to support all Cisco or TerraWave 802.11n MIMO omnidirectional antennas and surface mount omnidirectional antennas. The enclosure may also be deployed with any Cisco or TerraWave 2.4 GHz and 5 GHz single band or 2.4/5 GHz dual band rubber duck antennas (quantity three for 2.4 GHz and quantity three for 5 GHz).^{*} For detailed product information and to purchase product, please contact a wireless networking solutions sales engineer at 210-375-8482, 800-851-4965, sales@terrawave.com or visit www.terrawave.com.

^{}Purchasing additional jumpers is required (TESSCO SKU: 310402; TerraWave Part Number: 100-02RA-03-P18L).*

TerraWave is the primary manufacturer in the industry to offer such cutting-edge products for wireless networking deployments.

Descriptions and Included Components

TESSCO SKU: 343393

TerraWave Part Number: TW-CTENHC-MIMO

24"x24"x8" MIMO Ceiling Tile Enclosure with Turn-Key Lock

(Door Closes and Opens with a Flat-Head Screw Driver)

TESSCO SKU: 354682

TerraWave Part Number: TW-CTENHC-MIMO-L

24"x24"x8" MIMO Ceiling Tile Enclosure with Key Lock

(Door Closes and Opens with a Key)

Each Enclosure Includes:

- (1) Ceiling Tile Enclosure
- (1) Ceiling Tile 2' Grid Section
- (1) Universal Interior Mounting Plate
- (2) Eye Bolts – 10-24 thread x 2 inches
- (2) 10-24 Thread Nuts
- (2) ¾" Cable Strain Relief
- (4) 3/8" Lag Nut Bolts
- (1) Standard Door Turn Key Lock (Model: TW-CTEN2-MIMO)
- (1) Durable Key Lock (Model: TW-CTEN2-MIMO-L)



Features, Benefits and Important Information

1. Protects RF and networking equipment from theft and tampering.

Tip: Universal mounting plate supports the Cisco 1252 AP and the Motorola 7131 AP. Includes self-tapping screws and holes to mount a variety of other wireless equipment (reference Figure 1).

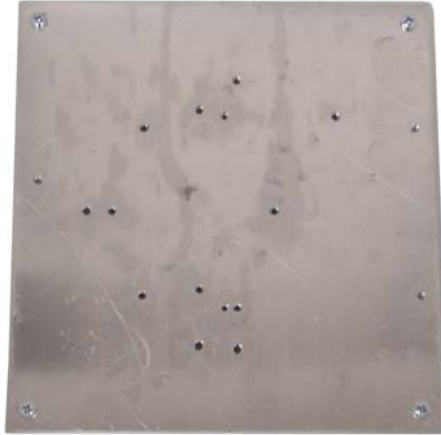


Figure 1

2. Clean, seamless design.
3. Constructed from 18-gauge steel.
4. Available with a durable key lock for additional security benefits (reference Figure 2).



Figure 2

Turn-Key Lock on Ceiling Tile Enclosure
(Door Closes and Opens with a Flat-Head Screw Driver)



Key Lock on Ceiling Tile Enclosure



5. Each enclosure door includes laser cut punch-out holes to support the following types of antennas while hiding cables (reference Figure 3).

- **TIP:** The inside of the door should be supported to prevent bending the door wall when knocking out the cut outs for each antenna.

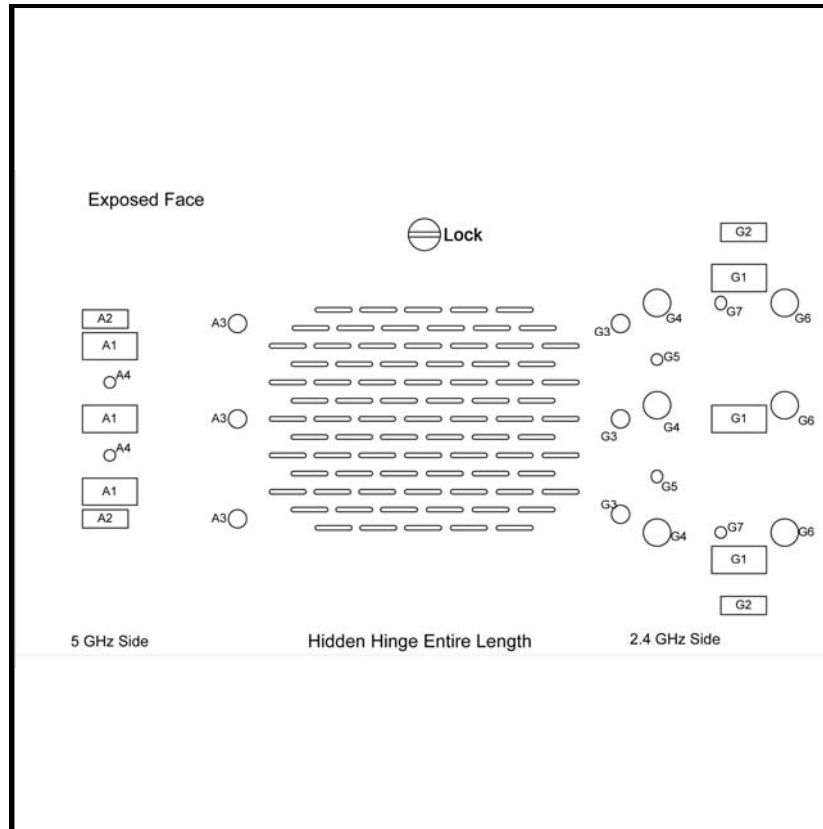


Figure 3 – Hole Usage Chart

TIP: Remove ceiling tile clips on any TerraWave antenna that includes them so the antenna will lie flush once installed on enclosure door.

- A1 & A2 – Cisco Low Profile 5 GHz Omni “Three-Pack”
- A1 & A4 – TerraWave Low Profile 5 GHz Omni “Three-Pack”
- A3 & G3 – Bulkhead Extenders for Rubber Duck or Unity Gain Antennas
- G4, G6 & G7 – TerraWave Low Profile 2.4/5 GHz Omni “Six-Pack”
- G4 & G5 – TerraWave Low Profile 2.4 GHz Omni “Three-Pack”
- G1 & G2 – Cisco Low Profile 2.4 GHz Omni “Three-Pack”

Supported Antennas for Laser Die Knockouts

802.11n Ceiling Mount MIMO Omnidirectional Antennas

- **TerraWave 802.11n 2.4/5 GHz 2.5/4.5 MIMO Ceiling Mount Omni Antenna with RPTNC Plug Connectors**

(TESSCO SKU: 301357; TW Part Number: M6025045MO13602)

(List continues on next page)



- **TerraWave 802.11n 2.4/5 GHz 2.5/4.5 MIMO Ceiling Mount Omni Antenna with RPSMA Plug Connectors**
(TESSCO SKU: 393746; TW Part Number: M6025045MO13620)
- **TerraWave 802.11n 2.4 GHz 3 dBi MIMO Ceiling Mount Omni Antenna with RPTNC Plug Connectors**
(TESSCO SKU: 301552; TW Part Number: T24030MO13602)
- **TerraWave 802.11n 2.4 GHz 3 dBi MIMO Ceiling Mount Omni Antenna with RPSMA Plug Connectors**
(TESSCO SKU: 363602; TW Part Number: T24030MO13620)
- **Cisco 802.11n 2.4 GHz 3 dBi MIMO Ceiling Mount Omni Antenna with RPTNC Plug Connectors**
(Cisco Part Number: AIR-ANT2430V-R)
- **TerraWave 802.11n 5 GHz 4.5 dBi MIMO Ceiling Mount Omni Antenna with RPTNC Plug Connectors**
(TESSCO SKU: 351919; TW Part Number: T58045MO13602)
- **TerraWave 802.11n 5 GHz 4.5 dBi MIMO Ceiling Mount Omni Antenna with RPSMA Plug Connectors**
(TESSCO SKU: 303371; TW Part Number: T58045MO13620)
- **Cisco 802.11n 5 GHz 4 dBi MIMO Ceiling Mount Omni Antenna with RPTNC Plug Connectors**
(Cisco Part Number: AIR-ANT5140V-R)

Rubber Duck Antennas*

**Purchasing additional jumpers is required (TESSCO SKU: 310402; TerraWave Part Number: 100-02RA-03-P18L).*

- **TerraWave 802.11n 2.4/4.9-5.85 GHz 2/3 dBi Non-Articulating MIMO Rubber Duck Antenna with RPTNC Plug Connector**
(TESSCO SKU: 322071; TW Part Number: M7020030MR10002)
- **TerraWave 802.11n 2.4/4.9-5.85 GHz 2/3 dBi Non-Articulating MIMO Rubber Duck Antenna with RPSMA Plug Connector**
(TESSCO SKU: 383908; TW Part Number: M7020030MR10020)
- **Cisco 802.11n 2.4 GHz 2.2 dBi Non-Articulating MIMO Rubber Duck Antenna**
(Cisco Part Number: AIR-ANT2422DG-R)
- **Cisco 802.11n 5 GHz 3.5 dBi Non-Articulating MIMO Rubber Duck Antenna**
(Cisco Part Number: AIR-ANT5135DG-R)
- **TerraWave 2.4/5 GHz 2/3 dBi Dual Band Black Rubber Duck Antenna**
(TESSCO SKU: 466978; TW Part Number: TWS5000)
- **TerraWave 2.4/5 GHz 2/3 dBi Dual Band White Rubber Duck Antenna**
(TESSCO SKU: 453956; TW Part Number: TWS5000-W)
- **TerraWave 2.4/5 GHz 2/3 dBi Dual Band White Rubber Duck Antenna—Long**
(TESSCO SKU: 390645; TW Part Number: TWS5000-W-L)
- **TerraWave 2.4 GHz 2 dBi Black Rubber Duck Antenna**
(TESSCO SKU: 479980; TW Part Number: TWS2400)
- **TerraWave 2.4 GHz 2 dBi White Rubber Duck Antenna**
(TESSCO SKU: 436965; TW Part Number: TWS2400-W)
- **TerraWave 2.4 GHz 5.5 dBi Super Duck Antenna**
(TESSCO SKU: 422964; TW Part Number: TWS2400-5-RPTNC)

(List continues on next page)



Surface Mount Omnidirectional Antennas

- **TerraWave 2.4 GHz 2 dBi Surface Mount Omni—Black**
(TESSCO SKU: 420991; TW Part Number: T24010M11502B)
- **TerraWave 2.4 GHz 2 dBi Surface Mount Omni—White**
(TESSCO SKU: 485999; TW Part Number: T24010M11502W)
- **TerraWave 4.9-5.8 GHz 2 dBi Surface Mount Omni—Black**
(TESSCO SKU: 450970; TW Part Number: T58010M11502B)
- **TerraWave 4.9-5.8 GHz 2 dBi Surface Mount Omni—White**
(TESSCO SKU: 464926; TW Part Number: T58010M11502W)

6. Installation Considerations

A. Stage the Unit

- Determine which antennas will be used and what cut outs in the door should be knocked out. (Please see list of antennas supported in the previous section.)
- Determine which AP will be installed inside the enclosure. (Note that this particular enclosure is specifically designed for the Cisco 1252 AP or Motorola 7131 AP.)
- Consider cable management. Cable may be neatly positioned in the enclosure using customer provided zip ties and zip tie mounting pads - not included with the enclosure (reference Figure 4).

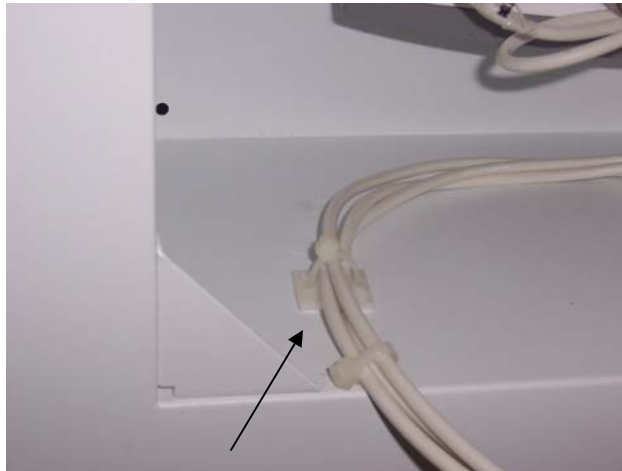


Figure 4

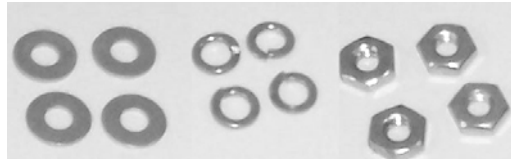
Cable is neatly secured within the enclosure with zip ties and zip tie mounting pads.

- ##### B. Install the eye bolts into opposite ends of the enclosure corners in two of the four holes located on the backside of the enclosure (reference Figure 5).



Figure 5

Eye Bolts



**Washers, Lock Washers and
Nuts for Eye Bolts**

- C. Install the cable conduit glands on the enclosure to secure cable to the in and out of the enclosure once installed (reference Figure 6).

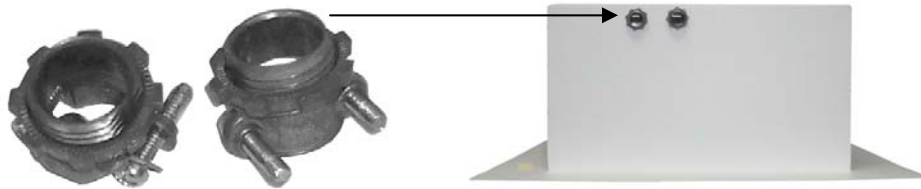


Figure 6

Cable Conduit Glands

- D. Consider placement of enclosure in ceiling tile grid.
- If working with 2'x2' sections of ceiling tile grid, simply remove ceiling tile for enclosure installation.
 - If working with 2'x4' sections of ceiling tile grid, customers must cut the grid to 2'x4' and install the supplied T-Bar.
- E. Use safety wire to attach the eyebolts to the roof structure above.
- F. Note that large perimeter opening facilitates component installation, maintenance or conversion.
7. Once the enclosure and AP are installed, the AP is protected and hidden from view, in a solution that is flush with the ceiling tile (see Figure 7).

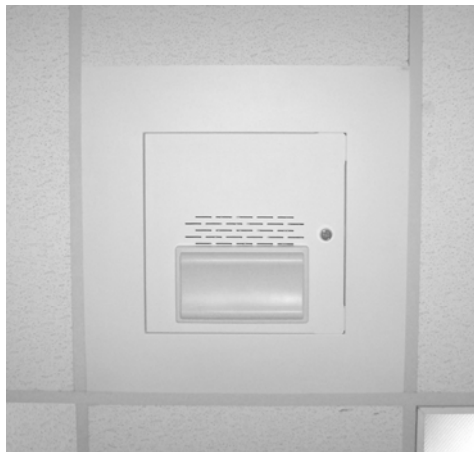


Figure 7



8. Excellent value. ***Superior quality at exceptional pricing.***

TerraWave Part Number: TW-CTENHC-MIMO
24"x24"x8" Ceiling Tile Enclosure with Turn Key Lock
List Price: \$257.70

TerraWave Part Number: TW-CTENHC-MIMO-L
24"x24"x8" Ceiling Tile Enclosure with Key Lock
List Price: \$270.20

For detailed product information and to purchase product, please contact a wireless networking solutions sales engineer at 210-375-8482, 800-851-4965, sales@terrawave.com or visit www.terrawave.com.