

# **GUARDWALL ANTENNA**

## **READER ANTENNA DATASHEET**

## OVERVIEW

The Impinj Guardwall RAIN RFID antenna, deployed in pairs, provides a tightly controlled read zone designed to integrate into conveyor systems. The antenna provides a tightly controlled read zone and intense RF field for item-level reading of packed goods, critical to penetrating deep into packed cases. When used as a pair, the Guardwall antenna absorbs energy from its opposing mate so that very little passes beyond the exterior face. This configuration maximizes stray read rejection by constraining the read zone to the area within the two antennas. It also increases read reliability by maximizing the intensity within the read zone.

Figure 1: Antenna Picture



## Features

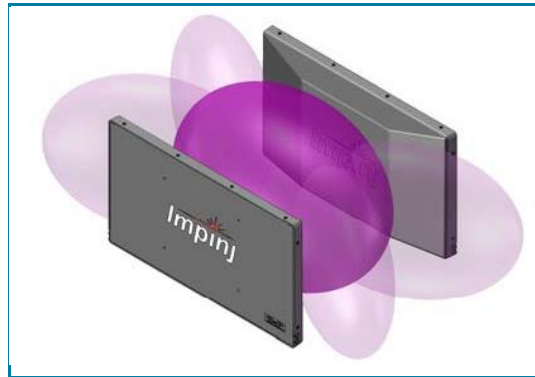
- A pair of Guardwall antennas creates a tightly controlled read zone and intense RF field to penetrate boxes and cases of items
- Designed to smoothly integrate into conveyor systems
- FCC and ETSI versions available
- Designed to be used in a pair

## READ ZONE CHARACTERISTICS

A pair of Guardwall antennas used together creates an intense, well-contained read zone, with little spillover beyond the exterior faces.

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**Figure 2: Guardwall Read Zone Diagram**



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## SPECIFICATIONS

### Electrical Specifications

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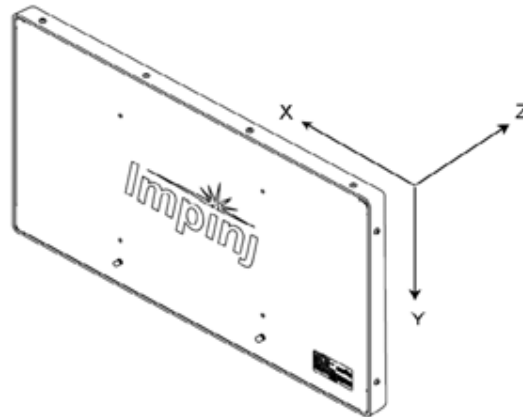
**Table 1: Electrical Specifications**

PARAMETER	VALUE
Frequency Range	FCC: 902-928 MHz ETSI: 865-868 MHz
Polarization	RH Circular & LH Circular (Dual Elements)
Input Power	30 dBm
3 dB Beamwidth	55°
Far-Field Gain	6 dBi
VSWR Across Frequency Range	1.5:1
Front-to-Back Ratio	22 dB
Axial Ratio	3 dB
Nominal Impedance	50Ω

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Figure 5: Guardwall Plane Coordinate Key



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## Environmental Specifications

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Table 2: Environmental Specifications

PARAMETER	VALUE
Environmental Rating	IP51 (Indoor Use Only)
Operating & Storage Temperature	0 °C to 40 °C (32 °F to 104 °F)
Humidity	5% to 95% (Relative, Non-Condensing)

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## Mechanical Specifications

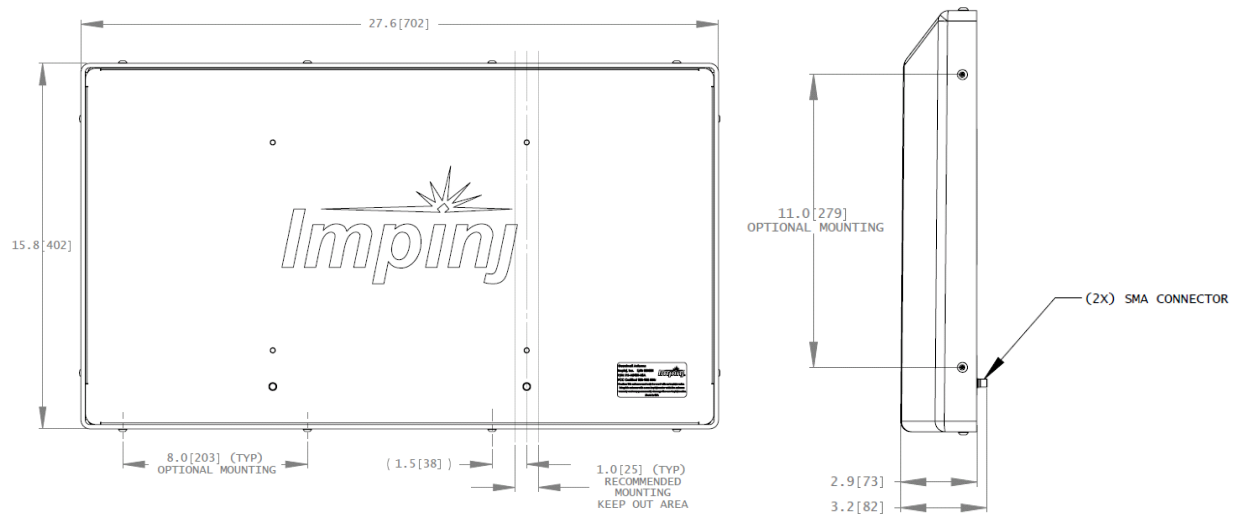
**Table 3: Mechanical Specifications**

PARAMETER	VALUE
<b>Dimensions (L x W x D)</b>	27.6 x 15.8 x 2.9 in 70.2 x 40.2 x 7.3 cm
<b>Weight</b>	11 lbs(5 kgs)
<b>Mounting</b>	2X SMA female*
<b>RoHS</b>	RoHS Compliant
<b>Radome</b>	ABS
<b>Enclosure</b>	Aluminum
<b>Mounting</b>	Brackets sold separately
<b>Connector Type</b>	SMA Female (x2)

\*Requires accessory cable to connect to reader's RP-TNC connector

## Mechanical Drawings

**Figure 6: Guardwall Mechanical Drawings**



Included with the antenna are two cables and their connectors: 2x Cable, Male RP-TNC / Male SMA, RG58 (6.2 ft / 2 m)