



Guardwall antenna front (active) side



Guardwall antenna back side

## Overview

For item-level reading of packed goods, the Guardwall antenna provides a tightly controlled read zone and intense RF field, 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.

## Features

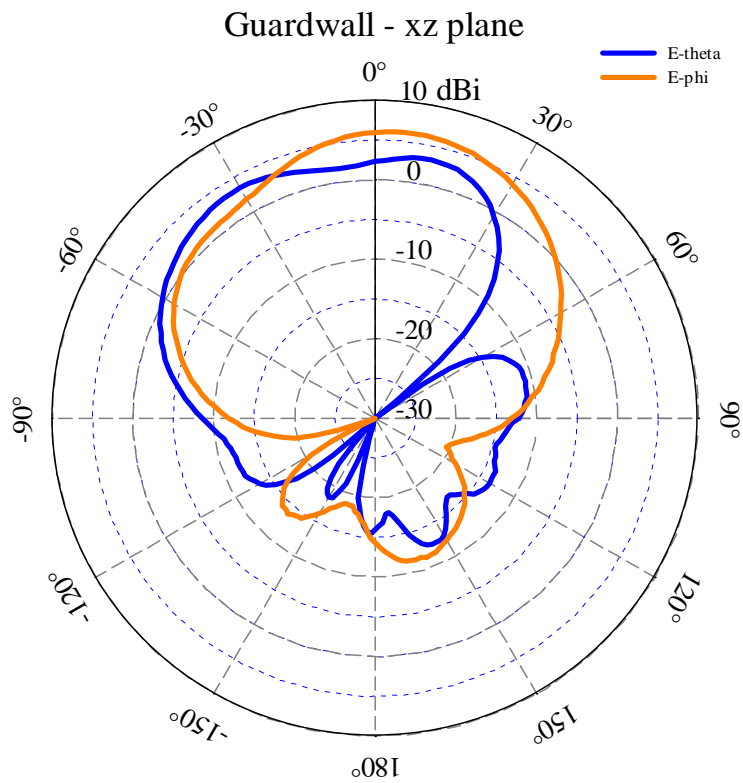
- Well-controlled read zone minimizes stray reads
- Optimized for reading item-level tags packed in cases
- Designed for RoHS compliance

## Read Zone Characteristics

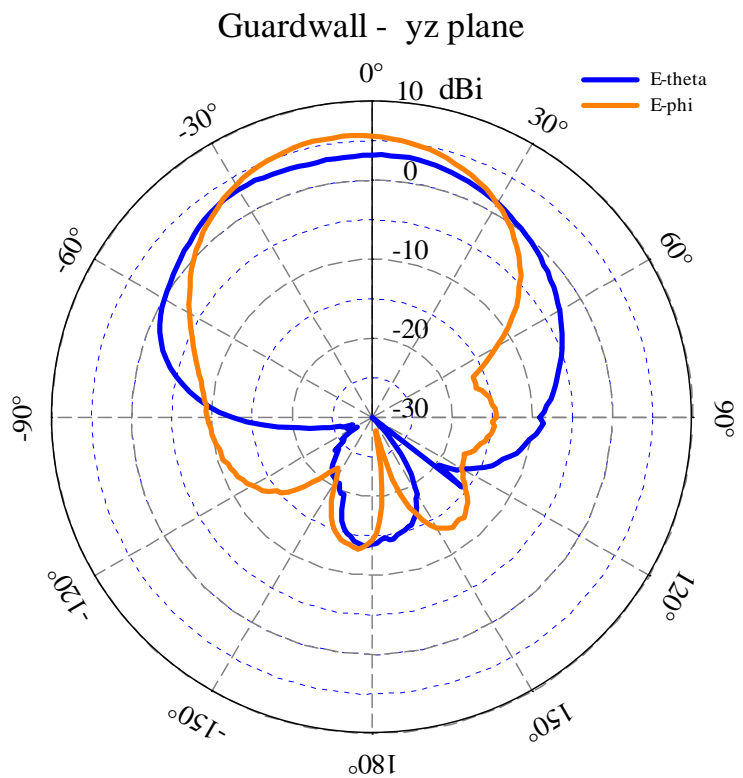
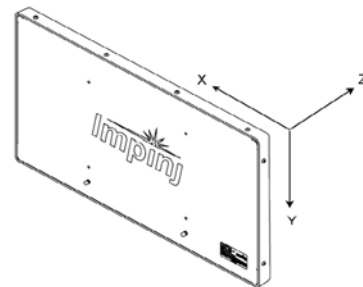


A pair of Guardwall antennas used together creates an intense, well-contained read zone, with little spillover beyond the exterior faces.

## Radiation Patterns



Key for planes:





## Environmental Specifications

Parameter	Typical	Units	Conditions/Notes
IP Rating	IP51		Indoor use only
Temperature	0–40	°C	Indoor use only
Humidity	5–95	%	Relative, non-condensing
RoHS	N/A		Designed to meet RoHS, not certified RoHS


## Electrical Specifications

Parameter	Typical	Units	Conditions/Notes
Frequency Range (FCC)	902–928	MHz	North America
Far Field Gain	6	dBi	
Polarization	RHCP & LHCP		Dual elements with separate connectors for two circular polarizations (RHCP and LHCP)
Axial Ratio (Max)	3	dB	
3-dB Beamwidth	55	Deg	
Front to Back Ratio	22	dB	
VSWR <sup>1</sup>	1.5:1		50 Ω reference
Input Power	30	dBm	30 dBm absolute max

## Mechanical Specifications

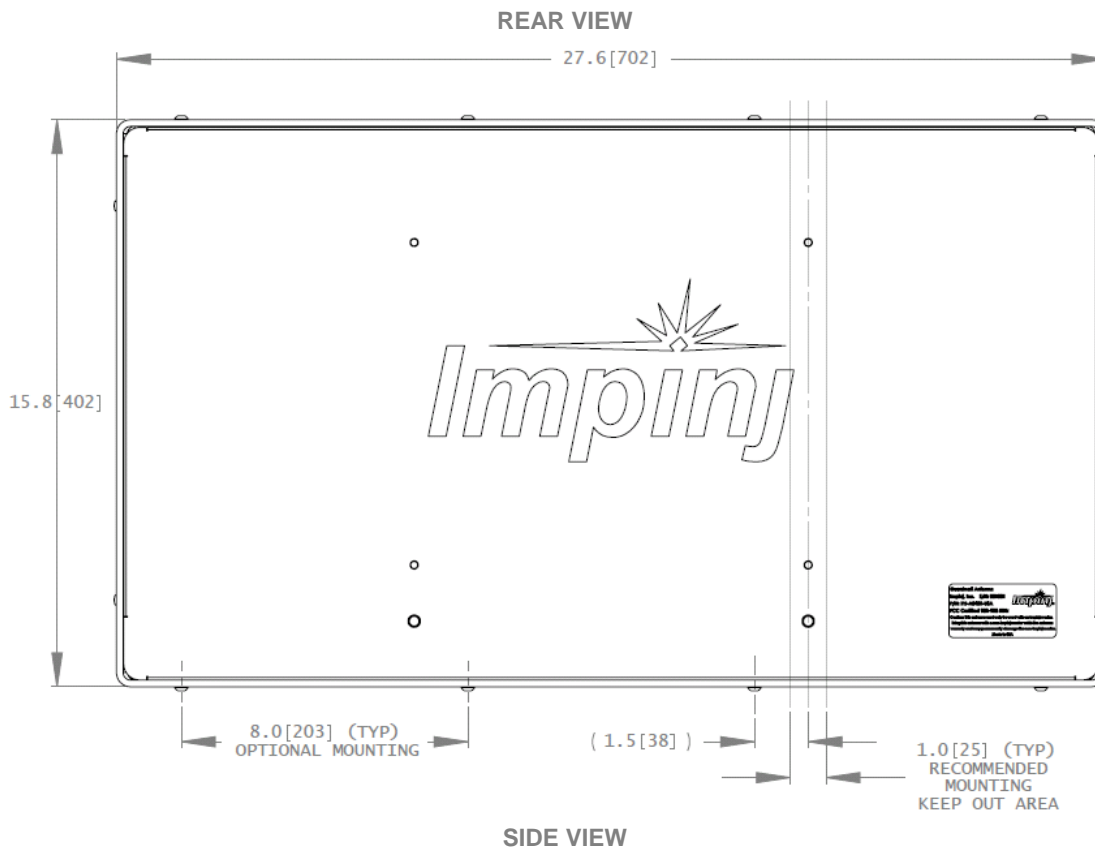
Parameter	Typical	Units	Conditions/Notes
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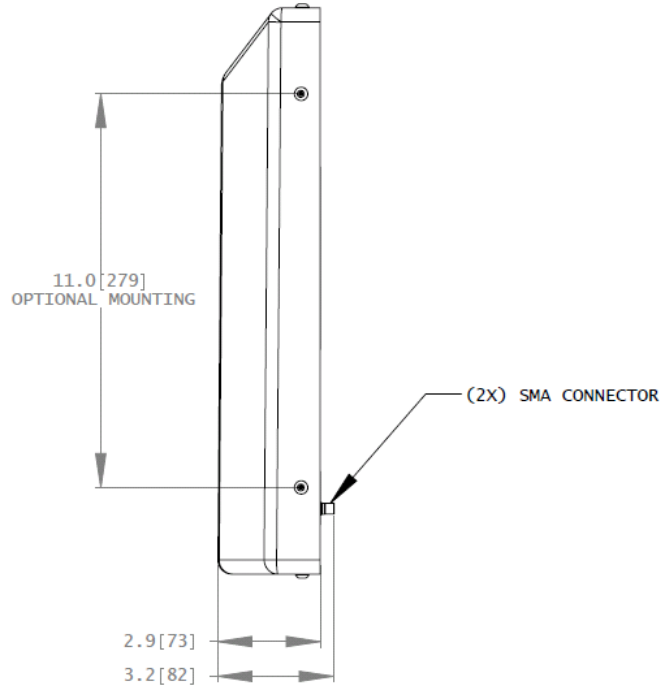
<sup>1</sup> Some item-level applications—where the tag is close to the reader antenna—can cause a 2:1 VSWR from the antenna to the reader. Users should ensure that their reader can tolerate a VSWR as high as 2:1.

Parameter	Typical	Units	Conditions/Notes
Weight	11 lbs. 5 kgs.	lbs/kgs	
Connector	2X SMA female		Requires accessory cable to connect to reader's RP-TNC connector
Radome	ABS		Designed to meet RoHS, not certified RoHS
Backplane	Aluminum, Alloy 5052 H32		Class 3 iridite finish
Enclosure	Aluminum, painted black		Designed to meet RoHS, not certified RoHS
Dimensions	27.6 in. x 15.8 in. x 2.9 in. 702 mm. x 402 mm. x 73 mm.	in/mm	See drawing for detailed dimensions
Mounting Brackets			Available from McMasterCarr ( <a href="http://www.mcmaster.com/">http://www.mcmaster.com/</a> ) Part Number: 8809T64

## Mechanical Enclosure

Dimensions are in millimeters, with inches shown in brackets.





**Note:** Included with the antenna are two cables and their connectors—2X CABLE, MALE RP-TNC/ MALE SMA, RG58, (6.2/2m)

## Ordering Information

Part number	Frequency Range
IPJ-A0402-USA	(902 – 928MHz)

## Notices:

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