

## RFID ANTENNAS

### Comprehensive RFID Antenna Portfolio for Diverse Application Needs

Radio Frequency Identification (RFID) Antennas from Symbol Technologies offer versatility and performance to meet diverse application needs. When used in conjunction with Symbol's RFID systems, communication with Electronic Product Code (EPC™)-compliant RFID tags is accurate, fast and efficient. Vital components in reader-tag communications, Symbol offers highly efficient dual-directional panel array, high-performance area, and general purpose antennas to meet the needs of any RFID solution.

### High-Performance Area Antennas for High-Capacity, High Throughput Environments

High-Performance Area Antennas are general-purpose antennas for long range and large area RFID tag reading. Optimized to perform in all environments, these area antennas are easy to mount on ceilings and walls to create superior read zones around shelves, doorways and dock doors – anywhere boxes and pallets are moving into and out of a facility.

These packaged, rectangular antenna arrays offer a wide read field and high-speed RF signal conversion for fast and optimal communication of EPC-compliant passive tag data. High-Performance Area Antennas are typically used in applications requiring the longest read ranges and highest levels of performance. They meet standard technical requirements for any RFID implementation and are deployment-ready with Symbol RFID readers.

### Dual Directional Panel Antenna Array for Compact Applications

Dual directional antennas deliver RFID performance in a compact, low-profile housing designed for greater mounting and application flexibility. Easy to install, the antenna can be mounted using the supplied adjustable diversity bracket or any other standard or custom mounting solutions, delivering the performance you need in nearly any environment.

### General Purpose Antenna for Indoor or Outdoor Applications

Get the convenience of a versatile antenna that can be utilized throughout your enterprise, from the warehouse floor and production line to outside the dock door. Able to withstand extreme heat and cold as well as moisture and vibration, this antenna is ideal for nearly any application, including retail, manufacturing, wholesale distribution, healthcare, government and more.

This all-purpose antenna can be used in standard RFID applications with power levels up to one watt, as well as custom high-power applications requiring up to 20 watts. The antenna is traditionally used in pairs, with right and left hand polarization.



### Symbol RFID Antennas – A Vital RFID System Component

RFID Antennas complement the portfolio of Symbol enterprise mobility solutions that enable organizations to capture, move and manage critical information to and from every point of business activity. These efficient antennas are ideal for high-throughput, high-capacity communication of EPC-compliant RFID tag data.

For more information, contact us at +1.800.722.6234 or +1.631.738.2400, or visit us on the web at [www.symbol.com/rfidantennas](http://www.symbol.com/rfidantennas).

### Services for a More Successful Mobility Solution

Symbol offers a full suite of services, including complete analysis, design, installation, training and ongoing support for the seamless deployment, management and continued support of your RFID solution.

# RFID Antennas Specification Highlights

## High-Performance Area Antenna

### Physical Characteristics

Dimensions:	28.3 in. L x 12.5 in. W x 1.5 in. D /71.7 cm L x 31.7 cm W x 3.8 cm D
Weight:	~8 pounds (~3.6 Kg)
Casing:	Aluminum with PVC plastic cover
Polarization:	Two circular polarized patch array

### User Environment

Operating Temperature:	+32° to +122° F/0° to +50° C
Storage Temperature:	-4° to +158° F/-20° to +70° C
Connectors:	2 type "N" female connectors
Voltage Standing Wave Ratio (VSWR):	1.25
Isolation -db:	-37
3db Beam Width:	60°
Gain in dbd/Linear:	6.75

## Dual Directional Panel Antenna Array

### Physical Characteristics

Polarization:	Aperture 1: left hand circular Aperture 2: right hand circular
Nominal Impedance:	50 Ohms
Dimensions:	8.8 in. L x 8.1 in. W x 1.6 in. D (22.4 cm L x 20.6 cm W x 4.1 cm D)
Weight:	~1.2 pounds (0.54 kg)
Radome Material:	UL 94 V0 plastic
Operating Temperature :	-40° to +80° C (-4° to +158° F)
Frontal Wind Loading at 125 mph Winds:	45 pounds (20.4 Kg)

### Electrical Characteristics

Frequency Range:	900-928 MHz
Gain:	5.25 dBi linear
Front-to-Back Ratio:	20 dB
3dB Horizontal Beamwidth:	70°
3dB Vertical Beamwidth:	70°
Voltage Standing Wave Ratio (VSWR):	< 1.5:1 across frequency range
Maximum Input Power:	5 watts
Connector:	"N" female

## General Purpose Indoor-Outdoor Antenna

### Physical Characteristics

Dimensions:	11.1 in. L x 11.1 in. W x 1.9 in. D /28.19 cm L x 28.19 cm W x 4.83 cm D
Weight:	3 lbs/1.26 kg
Connector:	Type N female
Connector Position:	Rear

### User Environment

Operating Temperature:	-40° to +149° F/-40° to +65° C
Cold Test:	IEC-68-2-1 (-40° F/-40° C for 24 hours)
Heat Test:	IEC-68-2-2 (158° F/70° C for 24 hours)
Temperature Shock Test:	IEC-68-2-14 (-40° F rising to 158° F/ -40° C rising to 70° C in 10 cycles of 60 minutes each)
Humidity Test:	IEC-68-2-30 (77° to 104° F/-25° to 40° C 24 hour cycles of 90% relative humidity)
Rain Test:	IEC-68-2-18 (8 hours minimum in rain chamber at 43 psi)
Salt Fog Test:	IEC-68-2-11 (96 hours, repetitive cycling)
Random Vibration Test:	IEC-68-2-6 (10 to 150 Hz, 05 g, 1 hour in each of 2 axes)

### Electrical Characteristics

Frequency Range:	900-928 MHz
Nominal Impedance:	50 Ohm
Impedance, DC:	10 kOhm +/- 5%
Gain (linearly polarized):	6 dBi
Polarization:	Right and left-hand circular polarization
Axial Ratio at Boresight:	< 3 db
AZ, EL BW:	60 degrees
Front to Back Ratio:	< 10 db
Return Loss (VSWR):	20 dB (1.22)
Maximum Input Power:	20 watts

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