



# Zebra UHF RFID Antennas

Versatile, high-performance antennas  
for a wide variety of applications



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Zebra's family of Radio Frequency Identification (RFID) Antennas offers the versatility and performance required to meet diverse environmental and application needs—including customer-facing areas, warehouses and outdoor environments. When used in conjunction with Zebra's Fixed RFID Readers, communication with UHF RFID tags is accurate, fast and efficient. Vital components in reader-tag communications, our portfolio of high-performance antennas can meet the needs of any RFID solution.

Whether your application requires an antenna that blends into the environment, is IP67 sealed for rugged and extreme-weather environments, or slim to fit into small spaces, we have the right antenna to complete your solution.

One pain point when choosing an antenna for your RFID solution is knowing which antenna can be used with a fixed RFID reader so as to get maximum performance while not exceeding your local regulations. Zebra's UHF RFID antennas have been specifically tested with our fixed reader portfolio to ensure that the highest performance is capable while still maintaining compliance with regulatory standards.

## Service Complete the Solution

To help you seamlessly and successfully integrate your RFID antennas into your environment, Zebra offers a complete suite of services that span the entire solution lifecycle—from initial planning and assessment through ongoing training and support.

For more information about Zebra RFID antennas for fixed readers and how our enterprise mobility solutions can give your organization a competitive advantage, please visit us on the web at [www.zebra.com/antennas](http://www.zebra.com/antennas) or access our global directory at [www.zebra.com/contact](http://www.zebra.com/contact)



# Zebra AN510

## Ultra-Rugged, Low Profile Antenna

IP67 rated for use in outdoor environments and dock door applications

The AN510 ultra-rugged, low profile antenna, with an IP67 rating, is suitable for use in a wide range of indoor and outdoor environments including outdoor shopping areas, receiving dock doors, ceilings, out on the tarmac, and on conveyor belts to name a few. The outer housing is designed to be sleek and discreet enough to be at home in any business but rugged enough for outdoor industrial environments. The versatile flush and VESA-studded mounting options make installation and mounting simple.



### AN510 Specifications

PHYSICAL CHARACTERISTICS	
Polarization	Right-hand circular
Dimensions	250 mm x 250 mm x 14 mm/ 9.85 in. x 9.85 in. x 0.55 in.
Connector	SMA female
Connector Location	Side mounted
Mounting Options	Flush mount or VESA mount
Weight	1.6 lbs./0.75 kg
Casing/Materials	UV-Resistant ABS
Frequency Ranges	EU: 865–868 MHz US: 902–928 MHz
Gain	8.5 dBic
Type	Patch

VSWR (Return Loss)	1.3:1
Front to Back Ratio	20 dB
3 dB Beam Width	68° in both planes
Maximum Power	3 Watts
Axial Ratio	1 dB
Operating Temperature	-20° to +55°C/-4° to +131°F
Storage Temperature	-30° to +65°C/-22° to +149°F
IP Sealing	IP67
Vibration	MIL-STD-810G
Humidity	72 Hours @ 85°C relative humidity

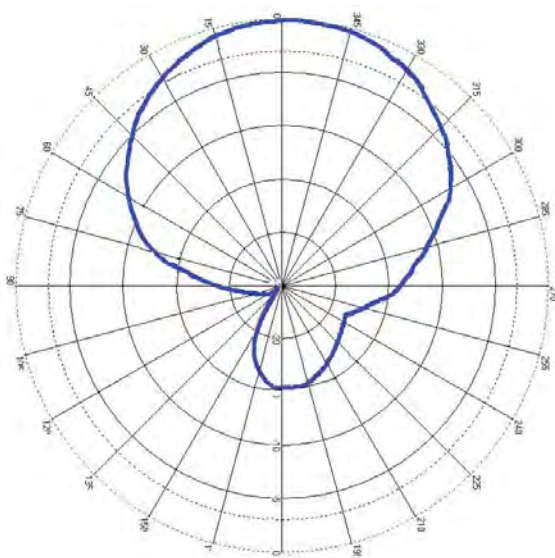
**TAA Compliance: Yes**

#### Vertical Markets

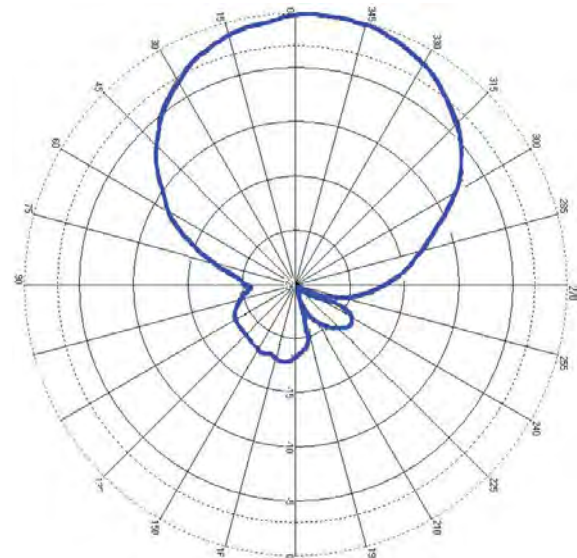
- Retail
- Warehouse management
- Manufacturing
- Cold-chain
- Aviation

#### Applications

- Outdoor shopping areas
- Receiving dock doors
- Ceilings and walls to create superior read zones around shelves
- Freezers and freezer trucks
- Baggage tracking solutions
- Access control systems



Horizontal (ETSI and FCC)



Vertical (ETSI and FCC)

# Zebra AN520

## Ultra-Rugged, Low Profile Antenna

IP68 rated for use in outdoor environments and dock door applications

The AN520 ultra-rugged, low profile antenna, with an IP68 rating, is suitable for use in a variety of indoor and outdoor environments that require a small form factor, high performance antenna. The outer housing is designed to be sleek and discreet enough to be integrated into any business, but rugged enough for outdoor industrial environments. The versatile flush mount blends into any location.



### AN520 Specifications

PHYSICAL CHARACTERISTICS	
Polarization	RHCP (Right Hand Circular Polarized)
Dimensions	150 mm x 150 mm x 14 mm/ 5.9 in. x 5.9 in. x 0.55 in.
Connector	SMA female
Connector Location	Side connector
Mounting Options	Flush mount
Weight	0.25 kg/0.55 lbs
Casing/Materials	UV-Resistant ABS
Frequency Ranges	ETSI: 865-868 MHz FCC: 902-928 MHz
Gain	5.5 dBIC typical
Type	Patch

VSWR (Return Loss)	1.4 typical
Front to Back Ratio	-10 dB
3 dB Beam Width	115° in both planes
Maximum Power	3 Watts
Axial Ratio	2 dB typical
Operating Temperature	-40° to +65°C/-40° to +149°F
Storage Temperature	-40° to +65°C/-40° to +149°F
IP Sealing	IP68
Vibration	IEC60068-2-64
Humidity	72 Hours @ 85°C relative humidity

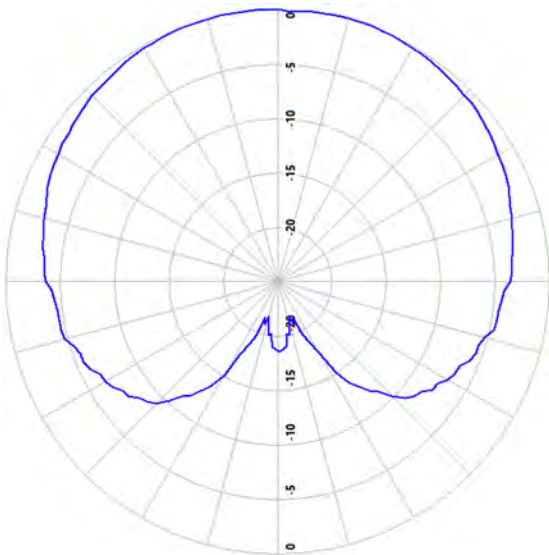
**TAA Compliance: Yes**

#### Vertical Markets

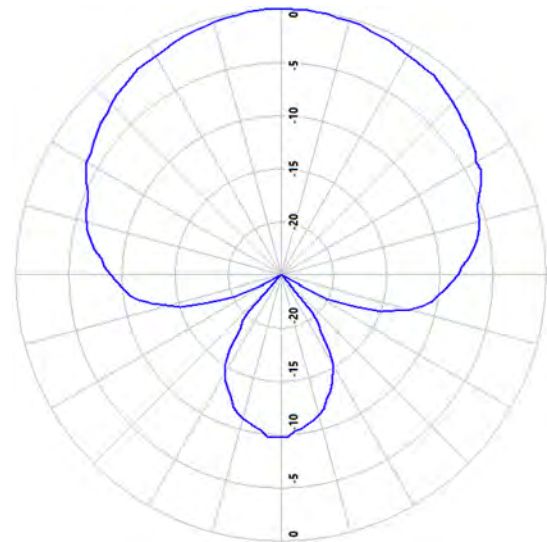
- Retail
- Warehouse management
- Manufacturing
- Cold-chain
- Aviation
- Enterprise

#### Applications

- Point-of-sale
- Under-the-counter/  
within shelving
- In server racks
- Inside medical cabinets
- Luggage tracking
- Access control
- Manufacturing line



Horizontal (ETSI and FCC)



Vertical (ETSI and FCC)

# Zebra AN610

## Ultra-Low Profile RFID Antenna

Slim with integrated mounting holes for a space-saving, simple solution

Whether your application calls for a “picture-frame” aesthetic or a space-saving antenna deployment, look to the ultra-low profile member of the Zebra family—the AN610. The AN610 features a simple, integrated mounting system with holes built right into the antenna that lets them stand just under one-half in. (12 mm) from horizontal or vertical mounting surfaces. Space-saving and stylish, the outer housing is designed to be sleek and discreet enough to be at home in any business setting but rugged enough for indoor industrial environments. A perfect complement to the Zebra fixed RFID readers, the AN610 is ideal for use in wall mount, doorways, under counter, above counter as an RFID pad, on shelves, at the point-of-sale, or end-cap displays, or locations that have limited space like a jewelry counter.



### AN610 Specifications

PHYSICAL CHARACTERISTICS	
Polarization	Left-hand circular
Dimensions	275 mm x 214 mm x 12 mm/ 10.8 in. x 8.5 in. x 0.3 in.
Connector	N-Type Female
Connector Location	Pigtail-Side
Mounting Options	Flush mount
Weight	1.3 lbs./0.6 kg
Casing/Materials	Aluminum with Kydex Casing
Frequency Ranges	EU: 865–868 MHz US: 902–928 MHz
VSWR (Return Loss)	1.4:1
Gain	5.0 dBic

Type	Patch
Front to Back Ratio	18 dB
3 dB Beam Width	80° in both planes
Maximum Power	6 Watts
Axial Ratio	less than 2 dB
Operating Temperature	-20° to +55°C/-4° to +131°F
Storage Temperature	-30° to +65°C/-22° to +149°F
IP Sealing	IP54
Vibration	IEC-68-2-6 (10 to 150 Hz, 0.5 g, one hour in each of two axes) (Random Vibration)
Humidity	IEC-68-2-30 (-13°F to 104°F, -25°C to 40°C) 24 hour cycles of 90% relative humidity

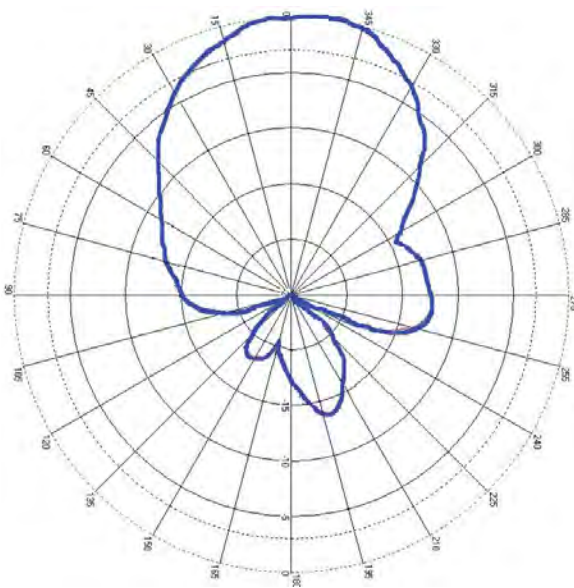
**TAA Compliance: Yes**

**Vertical Markets**

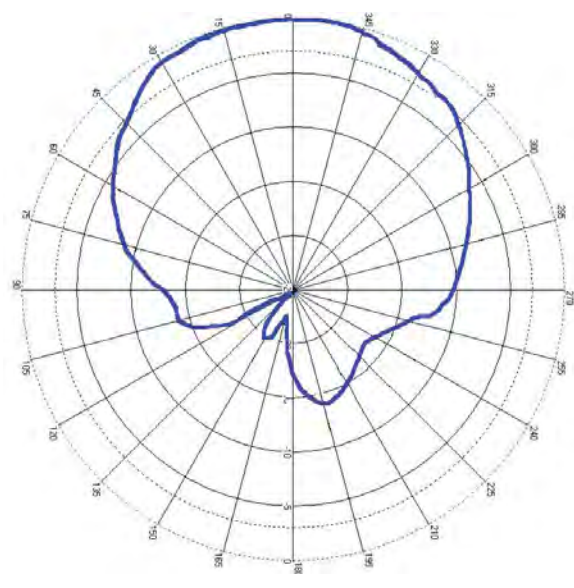
- Retail
- Enterprise/office
- Data center
- Hospitality
- Healthcare

**Applications**

- Point-of-sale
- Receiving dock doors
- Under-the-counter/within shelving
- In server racks
- Inside medical cabinets



Horizontal (ETSI and FCC)



Vertical (ETSI and FCC)

# Zebra AN620

## Ultra-Low Profile RFID Antenna

Slim with integrated mounting holes for a space-saving, simple solution

Whether your application calls for a “picture-frame” aesthetic or a space-saving antenna deployment, look to the ultra-low profile member of the Zebra family—the AN620. The AN620 features a simple, integrated mounting system with holes built right into the antenna that lets them stand just under one-half in. (12 mm) from horizontal or vertical mounting surfaces. Space-saving and stylish, the outer housing is designed to be sleek and discreet enough to be at home in any business setting but rugged enough for indoor industrial environments. A perfect complement to the Zebra fixed RFID readers, the AN620 is ideal for use in wall mount, doorways, under counter, above counter as an RFID pad, on shelves, at the point-of-sale, or end-cap displays, or locations that have limited space like a jewelry counter.



### AN620 Specifications

PHYSICAL CHARACTERISTICS	
<b>Polarization</b>	Left-hand circular
<b>Dimensions</b>	391 mm x 275 mm X 12 mm/ 15.39 in. x 10.82 in. x 0.47 in.
<b>Connector</b>	N-Type Female
<b>Connector Location</b>	Pigtail-Side
<b>Mounting Options</b>	Flush mount
<b>Weight</b>	2.2 lbs./1.0 kg
<b>Casing/Materials</b>	Aluminum with Kydex Casing
<b>Frequency Ranges</b>	EU: 865–868 MHz US: 902–928 MHz
<b>VSWR (Return Loss)</b>	1.4:1
<b>Gain</b>	7.0 dBic

<b>Type</b>	Patch
<b>Front to Back Ratio</b>	22 dB
<b>3 dB Beam Width</b>	75° in horizontal plane, 48° in vertical plane
<b>Maximum Power</b>	6 Watts
<b>Axial Ratio</b>	less than 2 dB
<b>Operating Temperature</b>	-20° to +55°C/-4° to +131°F
<b>Storage Temperature</b>	-30° to +65°C/-22° to +149°F
<b>IP Sealing</b>	IP54
<b>Vibration</b>	IEC-68-2-6 (10 to 150 Hz, 0.5 g, one hour in each of two axes) (Random Vibration)
<b>Humidity</b>	IEC-68-2-30 (-13°F to 104°F, -25°C to 40°C) 24 hour cycles of 90% relative humidity

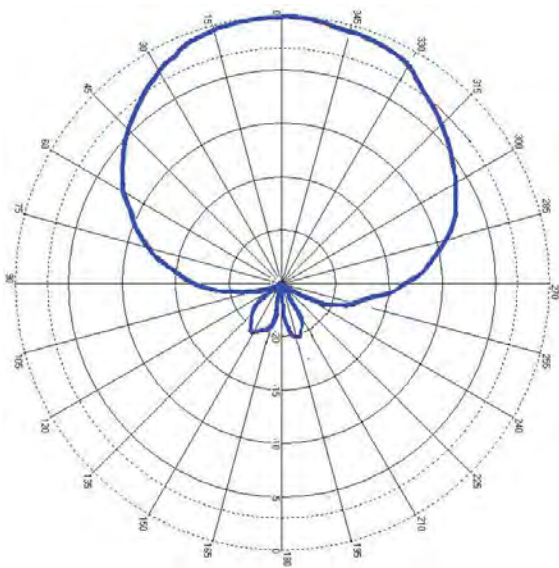
**TAA Compliance: Yes**

#### Vertical Markets

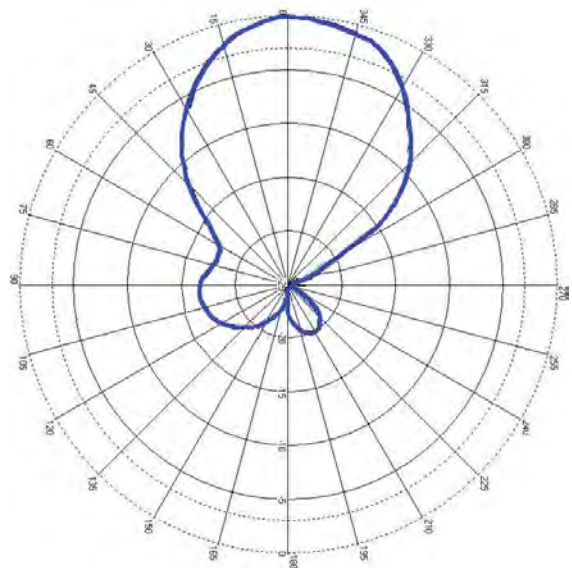
- Retail
- Enterprise/office
- Data center
- Hospitality
- Healthcare

#### Applications

- Point-of-sale
- Receiving dock doors
- Under-the-counter/within shelving
- In server racks
- Inside medical cabinets



Horizontal (ETSI and FCC)



Vertical (ETSI and FCC)

# Zebra AN650

## Ultra-Low Profile Circularly Polarized UHF Ground Antenna

Slim, ultra-low profile ground antenna designed to lay flat on the ground and support moderate loads

The AN650 ultra-low profile ground is optimized for RFID deployments involving moving products, assets and people. From conference attendee and people tracking, retail presence aware/loyalty marketing and race timing, the AN650 is ideal for applications where traditional side antennas are unsuitable or not optimized for the application. At just 8 mm/0.3 in. thick, the durable, high performance AN650 is uniquely capable of lying flat on the ground within a doorway sized footprint.



### AN650 Specifications

PHYSICAL CHARACTERISTICS	
Polarization	RHCP (Right Hand Circular Polarized)
Dimensions	915 mm x 305 mm X 8 mm/ 36.02 in. x 12.00 in. x 0.31 in.
Connector	SMA female side fly lead (300 mm/1 ft.)
Radome Material	Fire retardant ABS
Anti-static Protection	Yes, DC grounded
Weight	2.4 kg/5.29 lbs. Gross: 2.8 kg/6.17 lbs.
Radome Material	Fire retardant ABS
Frequency Ranges	EU: 865–868 MHz US: 902–928 MHz
VSWR (Return Loss)	1.4 typical
Gain	9 dBiC typical
Type	Patch

Front to Back Ratio	24 dB
3 dB Beam Width	20° in xz-plane, 80° in yz-plane
Maximum Power	3 Watts
Axial Ratio	2 dB typical
Operating Temperature	-20° to +55°C/-4° to +131°F
Storage Temperature	-30° to +65°C/-22 to +149°F
IP Sealing	IP65
Nominal Impedance	50 Ω
Antenna Detection	10 K Ω resistance

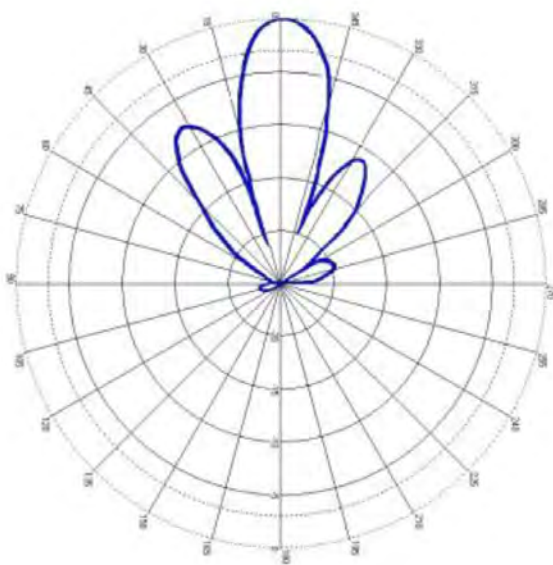
**TAA Compliance: Yes**

**Vertical Markets**

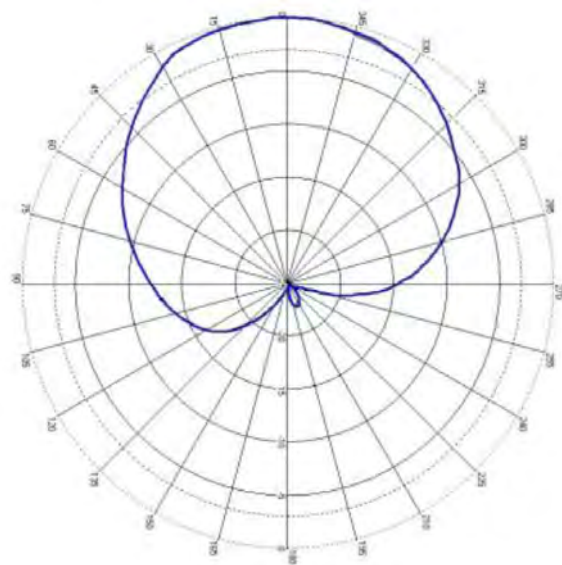
- Retail
- Enterprise/office
- Data center
- Hospitality
- Healthcare

**Applications**

- Conference attendee/ people tracking
- Retail presence aware/ loyalty based marketing
- Race and event timing



XZ-plane



YZ-plane

# Zebra AN720

## Compact, Rugged RFID Antenna

Compact antenna for rugged and outdoor environments

The AN720, with an IP67 rating, is at home indoors or out. Well-suited for customer facing, rugged and outdoor environments, shopping areas, receiving dock doors, ceilings, out on the tarmac, and on conveyor belts to name a few. The outer housing is designed to be sleek and discreet enough to be at home in any business but rugged enough for outdoor industrial environments.



### AN720 Specifications

PHYSICAL CHARACTERISTICS	
<b>Polarization</b>	Left-hand circular
<b>Dimensions</b>	132.8 mm x 132.8 mm x 18.1 mm/ 5.2 in. x 5.2 in. x 0.7 in.
<b>Connector</b>	N-Type Female
<b>Connector Location</b>	Rear
<b>Mounting Options</b>	Articulating mounting bracket included
<b>Weight</b>	0.8 lbs./0.37 kg
<b>Casing/Materials</b>	Aluminum with white plastic cover
<b>Frequency Ranges</b>	EU: 865–868 MHz US: 902–928 MHz
<b>VSWR (Return Loss)</b>	1.5:1
<b>Gain</b>	US/Canada: 3.0 dBIL; EU: 3.5 dBIL

<b>Type</b>	Patch
<b>Front to Back Ratio</b>	8 dB
<b>3 dB Beam Width</b>	100° in both planes
<b>Maximum Power</b>	10 Watts
<b>Axial Ratio</b>	2 dB
<b>Operating Temperature</b>	-25° to +70°C/-13° to +158°F
<b>Storage Temperature</b>	-40° to +70°C/-40° to +158°F
<b>IP Sealing</b>	IP67
<b>Vibration</b>	MIL-STD-810
<b>Humidity</b>	IEC-68-2-30

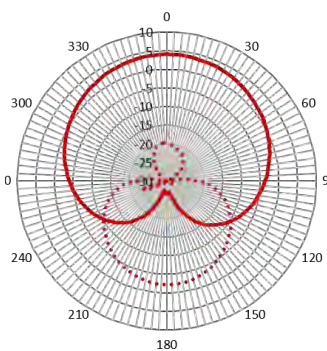
#### TAA Compliance: Yes

##### Vertical Markets

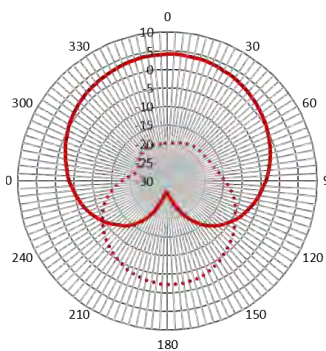
- Retail
- Enterprise/office
- Hospitality
- Healthcare
- Transportation and logistics

##### Applications

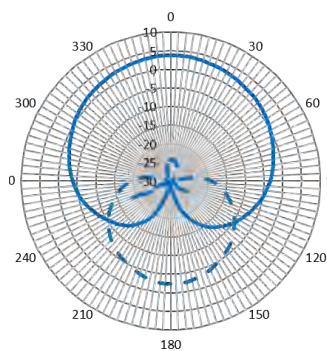
- Point-of-sale
- Conveyor belts
- Choke points
- Hallways



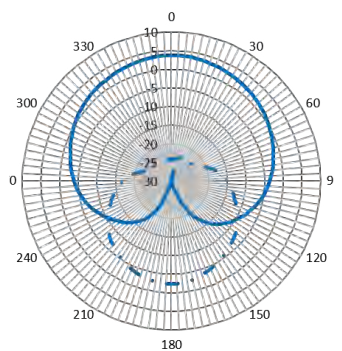
Horizontal (FCC)



Vertical (FCC)



Horizontal (ETSI)



Vertical (ETSI)



# Zebra AN440 Dual-Element RFID Antenna

Large area coverage for high-capacity, high throughput environments

The AN440 RFID antenna gives you a wide read field and high-speed RF signal conversion, so data capture is fast and accurate, even in expansive, high-demand environments. The AN440 is easy to mount on ceilings and walls, and its rugged housing is at home in both customer-facing and industrial settings. You can achieve superior read zones around stockroom shelves, warehouse doorways, and dock platforms—anywhere boxes and pallets are moving in and out of your facility. Your workflow keeps flowing, your inventory count stays accurate, and your productivity can reach new heights.



## AN440 Specifications

PHYSICAL CHARACTERISTICS	
<b>Polarization</b>	1 x Left-hand circular/1 x Right-hand circular
<b>Dimensions</b>	575.1 mm x 259.1 mm x 33.52 mm/ 22.6 in. x 10.2 in. x 1.32 in.
<b>Connector</b>	Dual N-Type Female
<b>Connector Location</b>	Rear
<b>Mounting Options</b>	Mounting studs provided
<b>Weight</b>	7.0 lbs /3.2 kg
<b>Casing/Materials</b>	UV Stable ASA
<b>Frequency Ranges</b>	EU: 865–868 MHz US: 902–928 MHz*
<b>VSWR (Return Loss)</b>	1.22:1
<b>Gain</b>	US/Canada: 6.0 dBIL
<b>Type</b>	Patch

<b>Front to Back Ratio</b>	20 dB
<b>3 dB Beam Width</b>	70° in both planes
<b>Maximum Power</b>	10 Watts
<b>Axial Ratio</b>	1 dB typical
<b>Operating Temperature</b>	-30° to +70°C/-22° to +158°F
<b>Storage Temperature</b>	-40° to +85°C/-40° to +185°F
<b>IP Sealing</b>	IP67
<b>Vibration</b>	MIL-STD-810G, Method 507.5, Procedure II–Aggravated, IEC-68-2-6 (10 to 150 Hz, 0.5g, one hour in each of two axes—random vibration)
<b>Humidity</b>	IEC-68-2-30 (-25° to +40°C/-13° to +104°F) 24 hour cycles of 90% relative humidity

\*Optimized for US

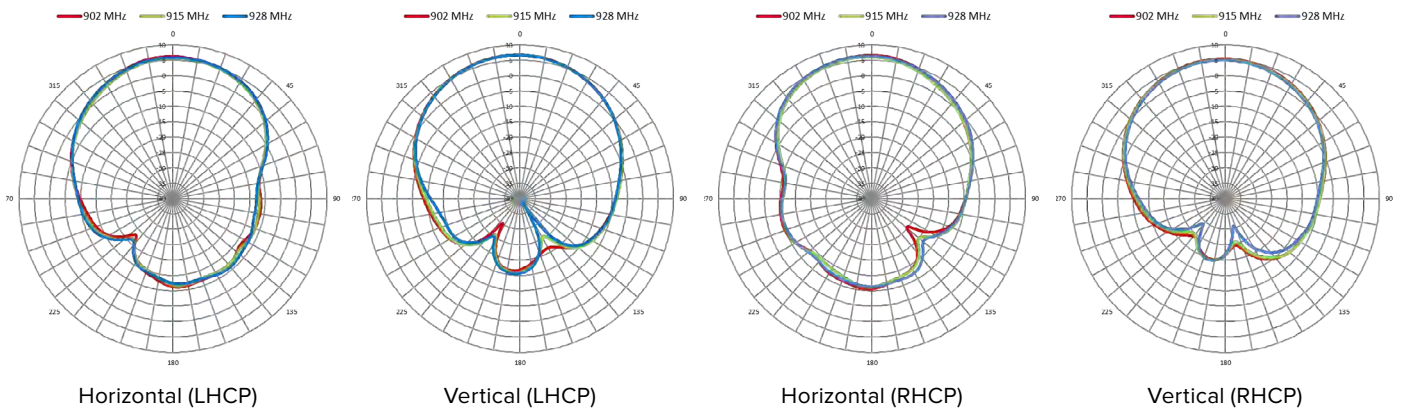
### TAA Compliance: No

#### Vertical Markets

- Retail
- Enterprise/office
- Hospitality
- Healthcare
- Transportation and logistics
- Manufacturing

#### Applications

- Point-of-sale
- Conveyor belts
- Choke points
- Hallways



# Zebra AN480 Wide-Band RFID Antenna

High-performance, wide-band antenna for worldwide use

The AN480 single port antenna offers maximum performance and flexibility. The low axial ratio is nearly 50 percent lower than typical competitive devices, delivering a more uniform gain—and better performance. The wide frequency range enables this antenna to be utilized in worldwide deployments, providing cost-efficiencies and a simplified RFID infrastructure. The AN480 can be installed throughout the enterprise in manufacturing and warehouse floor environments, or any dock door receiving application. As with all Zebra antennas, the AN480 uses Zebra’s standard mounting bracket—mounting the antenna for the first time or upgrading an existing Zebra antenna with the AN480 is fast and easy.



## AN480 Specifications

PHYSICAL CHARACTERISTICS	
Polarization	Left-hand circular or Right-hand circular
Dimensions	259.1 mm x 259.1 mm x 33.5 mm/ 10.2 in. x 10.2 in. x 1.32 in.
Connector	N-Type Female
Connector Location	Rear
Mounting Options	Mounting studs provided
Weight	2.5 lbs./1.13 kg
Casing/Materials	Aluminum with white plastic cover
Frequency Ranges	865–956 MHz
VSWR (Return Loss)	1.3:1
Gain	6.0 dBiL

Type	Patch
Front to Back Ratio	18 dB
3 dB Beam Width	65° in both planes
Maximum Power	2 Watts
Axial Ratio	1.5 dB typical
Operating Temperature	-25° to +70°C/-13° to +158°F
Storage Temperature	-40° to +70°C/-40° to +158°F
IP Sealing	IP54
Vibration	IEC-68 series
Humidity	IEC-68-2-30

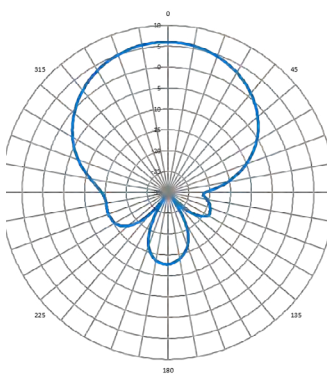
**TAA Compliance: No**

**Vertical Markets**

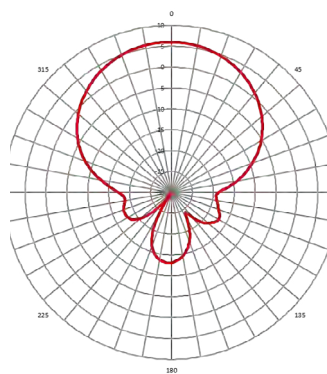
- Retail
- Enterprise/office
- Hospitality
- Healthcare

**Applications**

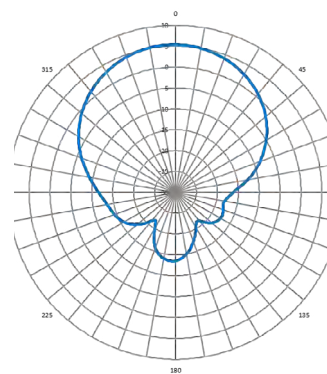
- Point-of-sale
- Choke points
- Hallways



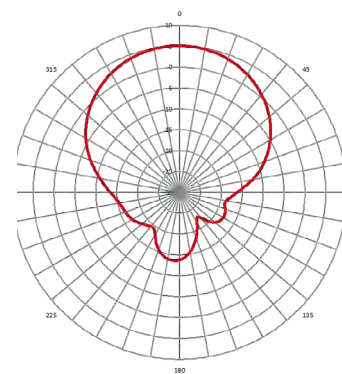
Horizontal (FCC)



Vertical (FCC)



Horizontal (ETSI)

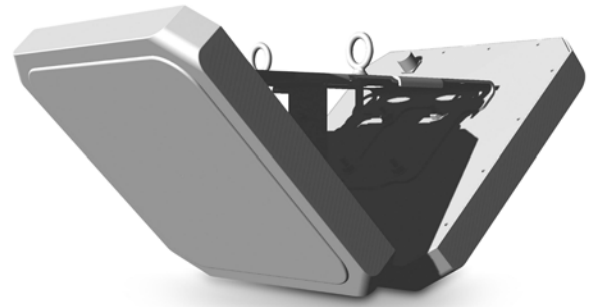


Vertical (ETSI)

# Zebra SR5502 Backroom and Warehouse RFID Antenna

Track inventory in the backroom from ‘arrival to departure’

Start the tracking cycle by detecting and recording the movement of RFID-tagged inventory from the moment it enters your backroom to the moment it leaves. Handle high tag volumes with increased accuracy and read rates. Installation is simple—just mount the supplied bracket and insert the Backroom SmartLens Sensor. Eliminate the need to install power outlets with Power-over-Ethernet (PoE)—ideal for typical complex backroom environments. Easily deploy by just turning on the device and you’re up and running.



## SR5502 Specifications

PHYSICAL CHARACTERISTICS	
<b>Polarization</b>	Left-hand circular
<b>Dimensions</b>	432 mm x 260 mm x 178 mm/ 17.0 in. x 10.0 in. x 7.00 in.
<b>Connector</b>	N-Type Female x 2
<b>Connector Location</b>	Rear
<b>Mounting Options</b>	Mounting bracket provided
<b>Weight</b>	5.5 lbs./2.5 kg
<b>Casing/Materials</b>	Aluminum with white plastic cover
<b>Gain</b>	US: 6.7 dBil; EU: 2 dBil

<b>Type</b>	Patch
<b>Frequency Ranges</b>	865–956 MHz
<b>3 dB Beam Width</b>	83°x84°/71°x67°
<b>Maximum Power</b>	18 Watts (37-55 VDC POE)
<b>Operating Temperature</b>	-20° to +55°C/-4° to +131°F
<b>Storage Temperature</b>	-40° to +70°C/-40° to +158°F
<b>Humidity</b>	95% RH non-condensing

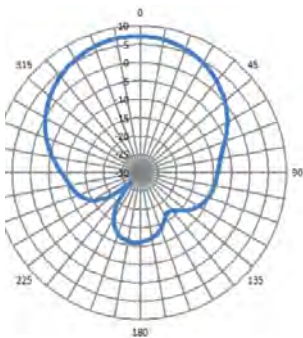
**TAA Compliance: Yes**

**Vertical Markets**

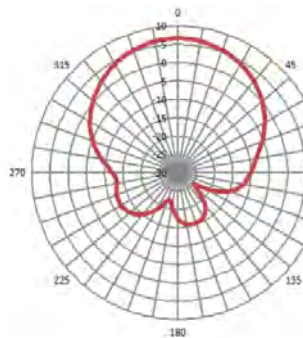
- Retail
- Warehouse management
- Manufacturing

**Applications**

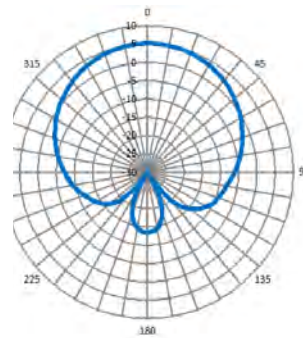
- Stock room aisles
- Flush mount ceiling or wall applications
- Receiving and staging areas
- Open work areas



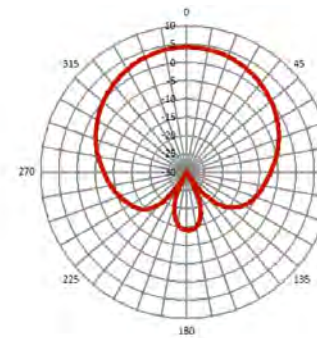
Horizontal (FCC)



Vertical (FCC)



Horizontal (ETSI)



Vertical (ETSI)

# Zebra SP5504 Point of Sale (POS) RFID Antenna

Track inventory in your POS lanes or will-call areas

This sensor logs items passing through your POS lanes, through will-call areas and omnichannel pickup or anywhere you want to track inventory in an area with limited space. A cost-effective solution with a highly localized antenna technology, a Zebra SP5504 Point of Sale (POS) RFID Antenna can be installed in multiple places without risking interference.



## SP5504 Specifications

PHYSICAL CHARACTERISTICS	
Polarization	Left-hand circular
Dimensions	184 mm x 184 mm diameter/ 7.0 in. x 7.3 in. diameter
Connector	N-Type Female
Connector Location	Top
Mounting Options	Accessory pole available
Weight	2.2 lbs./1.0 kg
Casing/Materials	Alum diecast w/white plastic cover
Gain	4.9 dB dBiL
Type	Patch

Frequency Ranges	865 to 868 MHz or 902 to 928 MHz
VSWR (Return Loss)	1.5:1
3 dB Beam Width	63°/60°
Maximum Power	13 Watts (37-55 VDC POE)
Operating Temperature	0° to +50°C/32° to +122°F
Storage Temperature	-40° to +70°C/-40° to +158°F
Humidity	95% RH non-condensing

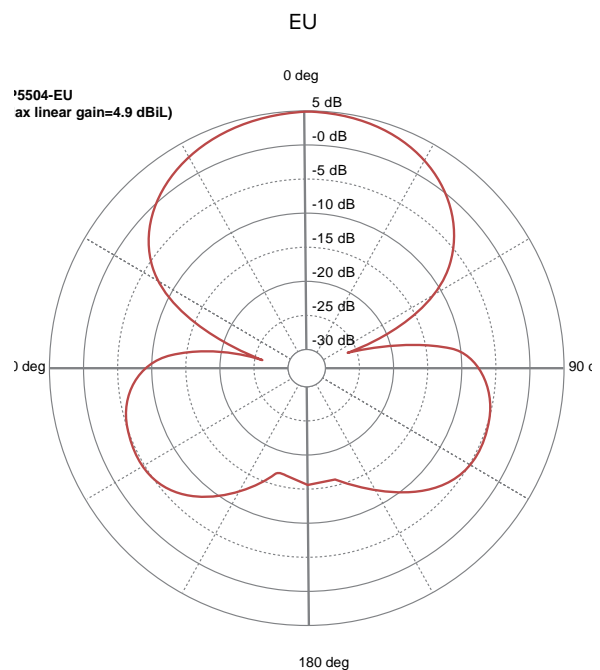
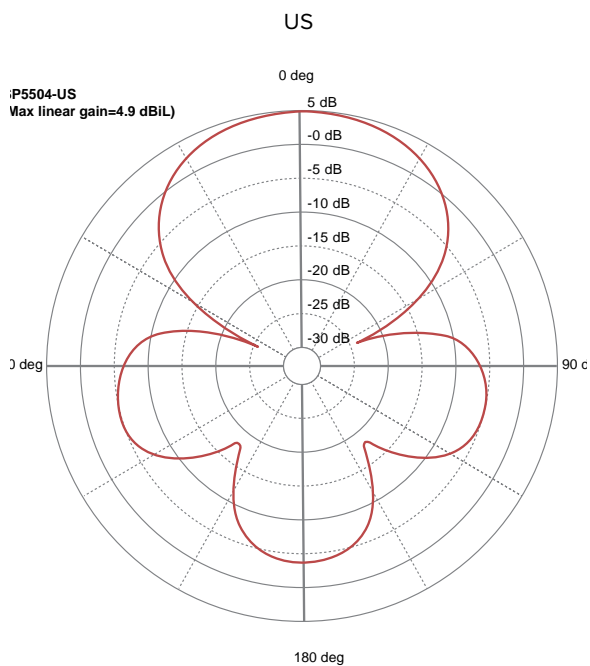
**TAA Compliance: Yes**

### Vertical Markets

- Retail
- Warehouse management
- Manufacturing

### Applications

- Point-of-sale
- Under-the-counter/  
within shelving
- Will call BOPIS or  
staging areas
- Fitting rooms



**Manufacturer:**

Zebra Technologies Corp, 1 Zebra Plaza, Holtsville, NY 11742 USA

For more information on Zebra RFID Antennas,  
please visit [www.zebra.com/rfid](http://www.zebra.com/rfid)



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