



ZEBRA

# Zebra UHF RFID Antenna Selection

February 18, 2025



# Zebra Antenna Solution Set

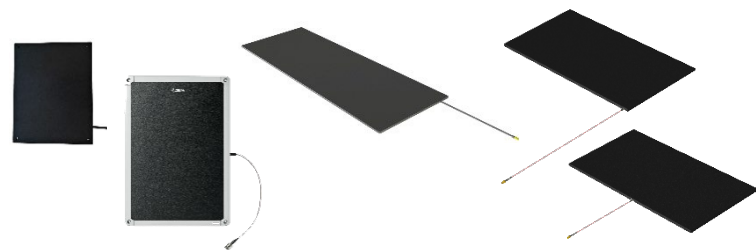
Zebra antenna portfolio offers versatility and performance to meet your diverse application needs

All antennas can be used for global operation.

## General Purpose



## Low Profile

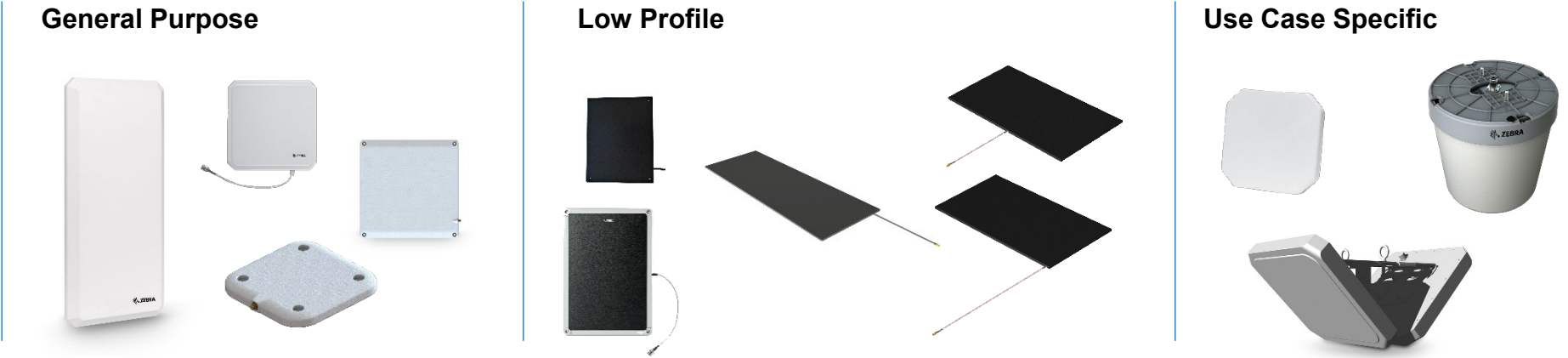


## Use Case Specific



Zebra Offers	
AN440	Dual-element, highly efficient high-performance area antenna, ideally suited for bi-static operation
AN480	Versatile, wide-band, high-performance, general-purpose antenna
AN510	Ultra-rugged and low-profile for use indoors and outdoors
AN520	Small form factor and high performance
AN610	Low-profile flat panel aesthetic antenna–Small
AN620	Ultra-low-profile flat panel aesthetic antenna–Large
AN650	Rugged and ultra-low-profile
AN660	Low-profile, high-gain antenna
AN670	Low-profile, near-field antenna
AN720	Compact indoor/outdoor antenna
SP5504	Point of Sale (POS) RFID antenna
SR5502	Transition point RFID antenna

# Choose the Right Antenna for Your Application



RFID Antennas	AN440	AN480	AN510	AN520	AN610	AN620	AN650	AN660	AN670	AN720	SP5504	SR5502
Manufacturing	•	•	•	•	•	•				•	•	•
T&L	•	•	•					•		•		
Retail			•					•	•	•		
Warehouse	•	•	•	•	•	•				•		
Field Mobility	•	•	•									
Hospitality							•	•	•			
Healthcare							•	•	•			



# How Do I Determine Which Antenna is Right for My Application?

Antenna selection should comprise a judicious analysis of performance and environmental specifications:


- **Environment**  
(Indoor/outdoor, and other extreme requirements such as rain, freezer, moisture, humidity, high temperature, etc.)
- **Frequency band**
- **Gain**
- **Beam-width**
- **Form-factor**
- **Polarization requirements**

One antenna set may provide significant advantage to those characteristics applicable to your environment.

Read range is determined by a number of factors including reader, tag, antenna and environmental factors.



# Zebra AN440 Dual-Element RFID Antenna

 <div>AN440</div>	
Description	<ul style="list-style-type: none"><li>• Large area coverage for high-capacity, high-throughput environments</li><li>• Easy to mount on ceilings and walls</li><li>• Dual-element antenna can be used around stockroom shelves, warehouse doorways and dock doors</li></ul>
Features	<ul style="list-style-type: none"><li>• Wide read field and high-speed RF signal conversion enable fast and accurate data capture</li></ul>
Applications	<ul style="list-style-type: none"><li>• Point of sale</li><li>• Conveyor belts</li><li>• Control points</li><li>• Hallways</li><li>• Dock doors</li></ul>

Physical	Dimensions Without Mounting Screws	575.1 mm L x 259.1 mm W x 33.52 mm D 22.6 in. L x 10.2 in. W x 1.32 in. D	
	Connector	Dual N-Type Female	
	Connector Position	Rear	
	Mounting Options	Mounting studs provided	
	Weight	3.2 kg/7.0 lbs	
	Casing/Materials	UV Stable ASA	
Operational	Frequency Ranges	EU: 865–868 MHz	US: 902–928 MHz
	Gain	US/Canada: 6.0 dBiL	
	VSWR (Return Loss)	1.22:1	
	Front-to-Back Ratio	20 dB	
	Polarization	1 x left-hand circular/1 x right-hand circular	
	3 dB Beam Width	70° in both planes	
	Maximum Power	10 Watts	
Environmental	Axial Ratio	1 dB typical	
	Operating Temperature	-30° to +70°C	-22° to +158°F
	IP Sealing	IP67	
	Storage Temperature	-40° to +85°C	-40° to +185°F
	Vibration	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)	
	Humidity	IEC-68-2-30 (-13° to 104°F/-25° to 40°C 24-hour cycles of 90% relative humidity)	

# Zebra AN480 Wide-Band RFID Antenna



## AN480

<b>Description</b>	<ul style="list-style-type: none"><li>• All-purpose, high-performance antenna can be used in indoor settings either in business or industrial environments. If using outdoors, make sure it is not directly under rain or snow.</li><li>• Convenience of a versatile antenna for most general-purpose applications</li></ul>
<b>Features</b>	<ul style="list-style-type: none"><li>• Wide frequency band antenna response covering 865 MHz ~ 956 MHz, ideally suited for global deployments</li><li>• Available in right- and left-hand polarization</li></ul>
<b>Applications</b>	<ul style="list-style-type: none"><li>• Ceilings and walls to create superior read zones around shelves</li><li>• Doorways and chokepoints where boxes and pallets are moving through</li><li>• Portals, outdoor gates and conveyors</li><li>• Indoor and outdoor applications</li></ul>
<b>Mounting</b>	<ul style="list-style-type: none"><li>• Compatible with all bracket and mounting options</li><li>• Brackets and mounts are separately available for the AN480</li></ul>

Physical	Dimensions Without Mounting Screws	259.1 mm L x 259.1 mm W x 33.5 mm D 10.2 in. L x 10.2 in. W x 1.32 in. D	
	Connector	N-Type Female	
	Connector Location	Rear	
	Mounting Options	Mounting studs provided	
	Weight	1.13 kg/2.5 lbs	
	Casing/Materials	Aluminum with white plastic cover	
Operational	Frequency Range	865–956 MHz	
	Gain	6.0 dBiL	
	VSWR (Return Loss)	1.3:1	
	Front-to-Back Ratio	18 dB	
	Polarization	Left-hand circular or right-hand circular	
	3 dB Beam Width	65° in both planes	
	Maximum Power	2 Watts	
Environmental	Axial Ratio	1.5 dB typical	
	Operating Temperature	-25° to +70°C	-13° to +158°F
	IP Sealing	IP54	
	Storage Temperature	-40° to +70°C	-40° to +158°F
	Vibration	IEC-68 series	
	Humidity	IEC-68-2-30	

# Zebra AN510 Ultra-Rugged RFID Antenna



AN510

Description	<ul style="list-style-type: none"><li>• Ultra-rugged, low-profile antenna</li><li>• IP67 rated for use in indoor and outdoor applications</li><li>• Sleek antenna can be used in any business but rugged enough for outdoor industrial environments including outdoor shopping areas, receiving dock doors, ceilings, out on the tarmac, and on conveyor belts</li></ul>
Features	<ul style="list-style-type: none"><li>• Versatile flush and VESA-studded mounting options make installation and mounting simple</li></ul>
Applications	<ul style="list-style-type: none"><li>• Outdoor shopping areas</li><li>• Receiving dock doors</li><li>• Ceilings and walls to create superior read zones around shelves</li><li>• Freezers and freezer trucks</li><li>• Baggage tracking solutions</li><li>• Access control systems</li></ul>

Physical	Dimensions Without Mounting Screws	250 mm L x 250 mm W x 14 mm D 9.85 in. L x 9.85 in. W x 0.55 in. D	
	Connector	SMA Female	
	Connector Location	Side-mounted	
	Mounting Options	Flush mount or VESA mount	
	Weight	0.75 kg/1.6 lbs	
	Casing/Materials	UV-resistant ABS	
Operational	Frequency Ranges	EU: 865–868 MHz	US: 902–928 MHz
	Gain	8.5 dBic	
	VSWR (Return Loss)	1.3:1	
	Front-to-Back Ratio	20 dB	
	Polarization	Right-hand circular	
	3 dB Beam Width	68° in both planes	
	Maximum Power	3 Watts	
Environmental	Axial Ratio	1 dB	
	Operating Temperature	-20° to +55°C	-4° to +131°F
	IP Sealing	IP67	
	Storage Temperature	-30° to +65°C	-22° to +149°F
	Vibration	MIL-STD-810G	
	Humidity	72-hours at 85°C relative humidity	

# Zebra AN520 Ultra-Rugged RFID Antenna



AN520

Description	<ul style="list-style-type: none"><li>• Ultra-rugged, low-profile antenna</li><li>• IP68 rated for use in indoor and outdoor applications</li><li>• High-performance antenna with small form factor sleek and discreet enough to be integrated into any business, but rugged enough for outdoor industrial environments</li></ul>
Features	<ul style="list-style-type: none"><li>• Versatile flush mount blends into any location</li></ul>
Applications	<ul style="list-style-type: none"><li>• Point-of-sale</li><li>• Under-the-counter/within shelving</li><li>• In server racks</li><li>• Inside medical cabinets</li><li>• Luggage tracking</li><li>• Access control</li><li>• Manufacturing line</li><li>• Receiving dock doors</li></ul>

Physical	Dimensions Without Mounting Screws	150 mm L x 150 mm W x 14 mm D 5.9 in. L x 5.9 in. W x 0.55 in. D	
	Connector	SMA Female	
	Connector Location	Side connector	
	Mounting Options	Flush mount	
	Weight	0.25 kg/0.55 lbs	
	Casing/Materials	UV-resistant ABS	
Operational	Frequency Range	EU: 864–868 MHz	US: 902–928 MHz
	Gain	5.5 dBiC typical	
	VSWR (Return Loss)	1.4 typical	
	Front-to-Back Ratio	-10 dB	
	Polarization	RHCP (Right-Hand Circular Polarized)	
	3 dB Beam Width	115° in both planes	
	Maximum Power	3 Watts	
	Axial Ratio	2 dB typical	
Environmental	Operating Temperature	-40° to +65°C	-40° to +149°F
	IP Sealing	IP68	
	Storage Temperature	-40° to +65°C	-40° to +149°F
	Vibration	IEC-60068-2-64	
	Humidity	72-hour at 85°C relative humidity	



# General Purpose Antenna Specifications



	AN440 Dual-Element RFID Antenna		AN480 Wide-Band RFID Antenna		AN510 Ultra-Rugged RFID Antenna		AN520 Ultra-Rugged RFID Antenna	
<b>Dimensions Without Mounting Screws:</b>	575.1 mm L x 259.1 mm W x 33.52 mm D 22.6 in. L x 10.2 in. W x 1.32 in. D		259.1 mm L x 259.1 mm W x 33.5 mm D 10.2 in. L x 10.2 in. W x 1.32 in. D		250 mm L x 250 mm W x 14 mm D 9.85 in. L x 9.85 in. W x 0.55 in. D		150 mm L x 150 mm W x 14 mm D 5.9 in. L x 5.9 in. W x 0.55 in. D	
<b>Connector</b>	Dual N-Type Female		N-Type Female		SMA Female		SMA Female	
<b>Connector Location</b>	Rear		Rear		Side-mounted		Side connector	
<b>Mounting Options</b>	Mounting studs provided		Mounting studs provided		Flush mount or VESA mount		Flush mount	
<b>Weight</b>	3.2 kg/7.0 lbs		1.13 kg/2.5 lbs		0.75 kg/1.6 lbs		0.25 kg/0.55 lbs	
<b>Casing/Materials</b>	UV Stable ASA		Aluminum with white plastic cover		UV-resistant ABS		UV-resistant ABS	
<b>Frequency Range</b>	US: 902–928 MHz		865–956 MHz		EU: 865–868 MHz	US: 902–928 MHz	EU: 864–868 MHz	US: 902–928 MHz
<b>Gain</b>	6.0 dBiL		6.0 dBiL		8.5 dBiC		5.5 dBiC typical	
<b>VSWR (Return Loss)</b>	1.22:1 (20 dB)		1.3:1		1.3:1		1.4 typical	
<b>Front-to-Back Ratio</b>	20 dB		18 dB		20 dB		-10 dB	
<b>Polarization</b>	1 x left-hand circular/1 x right-hand circular		Left-hand circular or right-hand circular		Right-hand circular		RHCP (Right-Hand Circular Polarized)	
<b>3 dB Beam Width</b>	70° in both planes		65° in both planes		68° in both planes		115° in both planes	
<b>Maximum Power</b>	10 Watts		2 Watts		3 Watts		3 Watts	
<b>Axial Ratio</b>	1 dB typical		1.5 dB typical		1 dB		2 dB typical	
<b>Operating Temperature</b>	-30° to +70°C	-22° to +158°F	-25° to +70°C	-13° to +158°F	-20° to +55°C	-4° to +131°F	-40° to +65°C	-40° to +149°F
<b>IP Sealing</b>	IP67		IP54		IP67		IP68	
<b>Storage Temperature</b>	-40° to +70°C	-40° to +158°F	-40° to +70°C	-40° to +158°F	-30° to +65°C	-22° to +149°F	-40° to +65°C	-40° to +149°F
<b>Vibration</b>	IEC-68-2-6 (10 to 150 Hz, 0.5 g, 1 hour in each of 2 axes—random Vibration)		IEC-68 series		MIL-STD-810G		IEC-60068-2-64	
<b>Humidity</b>	IEC-68-2-30 (77° to 104°F/-25° to 40°C 24-hour cycles of 90% relative humidity)		IEC-68-2-30		72 hours at 85°C relative humidity		72 hours at 85°C relative humidity	

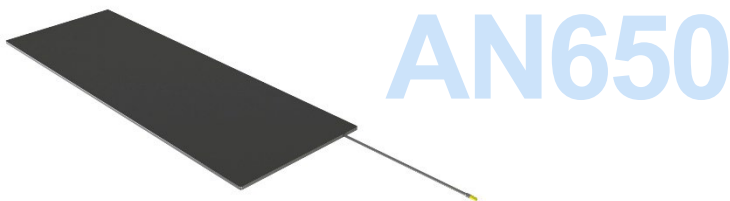
# Zebra AN610 and AN620 Low-Profile Antennas



<b>Description</b>	<ul style="list-style-type: none"> <li>Ultra-low-profile flat panel aesthetic antenna</li> </ul>
<b>Features</b>	<ul style="list-style-type: none"> <li>Sleek, rectangular circularly or near-field polarized antenna</li> </ul>
<b>Applications</b>	<ul style="list-style-type: none"> <li>Suitable for use in indoor environments: wall mount, doorways, under counter, above counter as an RFID pad, on shelves, on end-cap displays, POS, etc.</li> </ul>
<b>Mounting</b>	<ul style="list-style-type: none"> <li>Integrated mounting holes</li> <li>Comes with mounting hardware for flat panel mounting</li> <li>Comes with 1 ft. of pigtail cable, compatible with Zebra's standard antenna cables for extension</li> </ul>

		AN610 Low-Profile Antenna		AN620 Low-Profile Antenna	
Physical	<b>Dimensions (in./mm)</b>	10.8 in. L x 8.42 in. W x 0.47 in. D 275 mm L x 214 mm W x 12 mm D		15.39 in. L x 10.82 in. W x 0.47 in. D 391 mm L x 275 mm W x 12 mm D	
	<b>Connector</b>	N-Type Female		N-Type Female	
	<b>Connector Location</b>	Side		Side	
	<b>Mounting Options</b>	Integrated mounting holes		Integrated mounting holes	
	<b>Weight</b>	1.3 lbs/0.6 kg		2.2 lbs/1.0 kg	
Operational	<b>Casing/Materials</b>	Superior Kydex		Superior Kydex	
	<b>Frequency Range</b>	EU: 864–868 MHz	US: 902–928 MHz	EU: 864-868 MHz	US: 902-928 MHz
	<b>Gain</b>	1.0 dBiL		4.0 dBiL	
	<b>VSWR (Return Loss)</b>	1.4:1		1.4:1	
	<b>Front-to-Back Ratio</b>	18 dB		22 dB	
	<b>Polarization</b>	LHCP		LHCP	
	<b>3 dB Beam Width</b>	80° in both phases		75° in both phases	
	<b>Maximum Power</b>	6 Watts		6 Watts	
	<b>Axial Ratio</b>	< 2 dB		< 2 dB	
Environmental	<b>Operating Temperature</b>	-4° to +131°F	-20° to +55°C	-4° to +131°F	-20° to +55°C
	<b>IP Sealing</b>	IP -65		IP -65	
	<b>Storage Temperature</b>	-22° to +149°F	-30° to +65°C	-22° to +149°F	-30° to +65°C
	<b>Vibration</b>	IEC-68-2-6 (10 to 150 Hz, 0.5 g, 1 hour in each of 2 axes—random Vibration)		IEC-68-2-6 (10 to 150 Hz, 0.5 g, 1 hour in each of 2 axes—random Vibration)	
	<b>Humidity</b>	IEC-68-2-30 (-13° to 104° F/-25° to 40°C 24-hour cycles of 90% relative humidity)		IEC-68-2-30 (-13° to 104° F/-25° to 40°C 24-hour cycles of 90% relative humidity)	

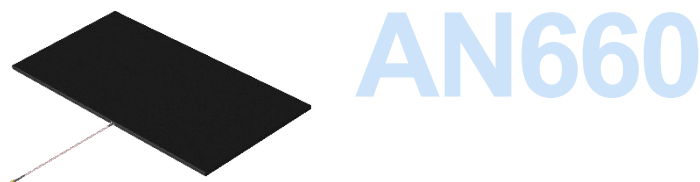
# Zebra AN650 Rugged and Ultra-Low-Profile RFID Antenna



Description	<ul style="list-style-type: none"><li>Ultra-low-profile flat panel aesthetic antenna</li></ul>
Features	<ul style="list-style-type: none"><li>Sleek, rectangular circularly or near-field polarized antenna</li></ul>
Applications	<ul style="list-style-type: none"><li>Suitable for use in indoor environments: wall mount, doorways, under counter, above counter as an RFID pad, on shelves, on end-cap displays, POS, etc.</li></ul>
Mounting	<ul style="list-style-type: none"><li>Integrated mounting holes</li><li>Comes with mounting hardware for flat panel mounting</li><li>Comes with 1 ft. of pigtail cable, compatible with Zebra's standard antenna cables for extension</li></ul>

Physical	Dimensions Without Mounting Screws	915 mm x 305 mm x 8 mm D 36.02 in. x 12.00 in. x 0.31 in. D	
	Connector	SMA Female	
	Connector Position	Side fly lead (300 mm/1 ft.)	
	Mounting Options	Flush mount	
	Weight	2.4 kg/5.29 lbs Gross: 2.8 kg/6.17 lbs	
	Casing/Materials	Fire-retardant ABS	
Operational	Frequency Ranges	EU: 865–868 MHz	US: 902–928 MHz
	Gain	9 dBiC typical	
	VSWR (Return Loss)	1.4 typical	
	Front-to-Back Ratio	24 dB	
	Polarization	RHCP	
	3 dB Beam Width	20° in xz-plane, 80° in yz-plane	
	Max Power	3 Watts	
	Axial Ratio	2 dB	
Environmental	Oper. Temps	-4° to +131°F	-20° to +55°C
	IP Sealing	IP65	
	Storage Temperature	-22° to +149°F	-30° to +65°C
	Nominal Impedance	50 Ω	
	Antenna Detection	10 K Ω resistance	

# Zebra AN660 Low-Profile, High-Gain Antenna



AN660

Description	<ul style="list-style-type: none"><li>Integrated high-performance RFID reader tracks the movement of items</li><li>Obtain real-time visibility into what is happening on your sales floor</li></ul>
Features	<ul style="list-style-type: none"><li>Designed to accommodate different store ceiling types and heights</li><li>Sensor housings can be customized to complement your store's architecture and aesthetics</li></ul>
Applications	<ul style="list-style-type: none"><li>Automated inventory tracking</li><li>In-store fulfillment</li><li>Asset protection</li></ul>

Physical	Polarization	Right-hand circular	
	Dimensions Without Mounting Screws	604 mm x 304 mm x 8.6 mm 23.78 in. x 11.97 in. x 0.34 in.	
	Connector	SMA Female Fly Lead	
	Connector Location	Side	
	Mounting Options	Integrated flush mounting holes with VESA mount	
	Weight	1.48 kg/3.3 lbs	
	Casting/Materials	Flame retardant ABS	
Operational	Frequency Range	EU: 865–868 MHz	US: 902–928 MHz
	Gain	10.5 dBiC	
	VSWR (Return Loss)	1.4 typical	
	Front-to-Back Ratio	-25 dB	
	3 dB Beam Width	25° in xz-plane, 60° in yz-plane	
	Maximum Power	3W	
	Axial Ratio	2 dB typical	
Environmental	Operating Temperature	-20° to +55°C	-4° to +131°F
	Storage Temperature	-30° to +60°C	-22° to +140°F
	IP Sealing	IP54	
	Nominal Impedence	50 Ω	
	Antenna Detection	10 K Ω Resistance	

# Zebra AN670 Low-Profile, Near-Field Antenna

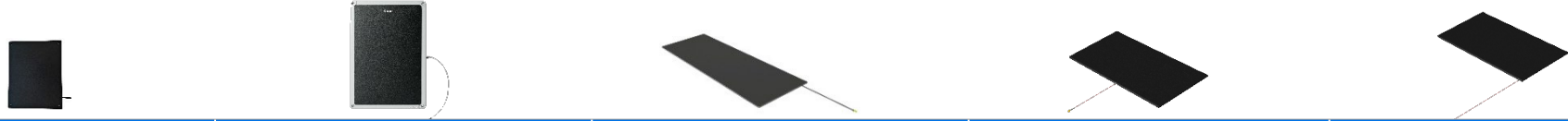


Description	<ul style="list-style-type: none"><li>• Ultra-low-profile, near-field antenna</li><li>• Obtain precise control to read assets within a specific proximity</li></ul>
Features	<ul style="list-style-type: none"><li>• Designed with a tightly constrained spatial range</li><li>• Increased power density allows you to read a broader range of product types</li></ul>
Applications	<ul style="list-style-type: none"><li>• Point of sale</li><li>• Under the counter</li><li>• Within shelving</li><li>• Inside medical cabinets</li></ul>

Physical	Dimensions Without Mounting Screws	604 mm x 304 mm x 8.5 mm 23.77 in. x 11.96 in. x 0.33 in.	
	Connector	SMA Female Fly Lead	
	Connector Location	Side	
	Mounting Options	Integrated flush mounting holes with VESA mount	
	Weight	1.18 kg/2.59 lbs	
	Casting/Materials	Flame retardant ABS	
Operational	Frequency Range	EU: 865–868 MHz	N Am./US: 902–928 MHz
	VSWR (Return Loss)	1.95 typical	
	Maximum Power	3W	
Environmental	Operating Temperature	0° to +50°C	32° to +122°F
	Storage Temperature	-30° to +50°C	-22° to +122°F
	IP Sealing	IP54	
	Nominal Impedence	50 Ω	
	Antenna Detection	10 K Ω Resistance	



# Antenna Specifications



	AN610 Low-Profile Antenna		AN620 Low-Profile Antenna		AN650 Rugged and Ultra-Low-Profile Antenna		AN660 Low-Profile Antenna		AN670 Low-Profile Antenna	
<b>Dimensions (mm/in.)</b>	275 mm L x 214 mm W x 12 mm D 10.8 in. L x 8.42 in. W x 0.47 in. D		391 mm L x 275 mm W x 12 mm D 15.39 in. L x 10.82 in. W x 0.47 in. D		915 mm L x 305 mm W x 8 mm D 36.702 in. L x 12.00 in. W x 0.31 in. D		604 mm L x 304 mm W x 8.6 mm D 23.78 in. L x 11.97 in. W x 0.34 in. D		604 mm L x 304 mm W x 8.5 mm D 23.77 in. L x 11.96 in. W x 0.33 in. D	
<b>Connector</b>	N-Type Female		N-Type Female		SMA Female Fly Lead		SMA Female Fly Lead		SMA Female Fly Lead	
<b>Connector Location</b>	Side		Side		Side		Side		Side	
<b>Mounting Options</b>	Integrated mounting holes		Integrated mounting holes		Integrated flush mounting holes		Integrated flush mounting holes or VESA mount		Integrated flush mounting holes or VESA mount	
<b>Weight</b>	0.6 kg/1.3 lbs.		1.0 kg/2.2 lbs.		2.4 kg/5.29 lbs.		1.8 kg/3.3 lbs.		1.18 kg/2.59 lbs.	
<b>Casing/Materials</b>	Superior Kydex		Superior Kydex		Flame Retardant ABS		Flame Retardant ABS		Flame Retardant ABS	
<b>Frequency Range</b>	EU: 864–868 MHz	US: 902–928 MHz	EU: 864–868 MHz	US: 902–928 MHz	EU: 865–867 MHz	US: 902–928 MHz	EU: 865–868 MHz	US: 902–928 MHz	EU: 865–867 MHz	US: 902–928 MHz
<b>Gain</b>	1.0 dBiL		4.0 dBiL		9.0 dBiC typical		10.5 dBiC		N/A	
<b>VSWR (Return Loss)</b>	1.4: 1		1.4: 1		1.4 typical		1.4 typical		1.95 typical	
<b>Front-to-Back Ratio</b>	18 dB		22 dB		24 dB		-25 dB		N/A	
<b>Polarization</b>	Left-hand circular		Left-hand circular		Right-hand circular		N/A		Near-field	
<b>3 dB Beam Width</b>	80° in both phases		75° in both phases		20° in xz-plane, 80° in yz-plane		25° in xz-plane, 60° in yz-plane		N/A	
<b>Maximum Power</b>	6 Watts		6 Watts		3 Watts		6 Watts		3 Watts	
<b>Axial Ratio</b>	< 2 dB		< 2 dB		2 dB typical		2 dB typical		N/A	
<b>Nominal Impedance</b>	N/A		N/A		50 Ω		50 Ω		50 Ω	
<b>Antenna Detection</b>	N/A		N/A		10 K Ω resistance		10 K Ω resistance		10 K Ω resistance	
<b>Operating Temperature</b>	-20° to +55°C	-4° to +131°F	-20° to +55°C	-4° to +131°F	-20° to +55°C	-4° to +131°F	20°C to +55°C	-4° to +131°F	0° to +50°C	+32° to +122°F
<b>IP Sealing</b>	IP -65		IP -65		IP -65		IP 54		IP 54	
<b>Storage Temperature</b>	-30° to +65°C	-22° to +149°F	-30° to +65°C	-22° to +149°F	-30° to +65°C	-22° to +149°F	-30°C to +60°C	-22° to +140°F	-30° to +50°C	-22° to +122°F
<b>Vibration</b>	IEC-68-2-6 (10 to 150 Hz, 0.5 g, 1 hour in each of 2 axes–random vibration)		IEC-68-2-6 (10 to 150 Hz, 0.5 g, 1 hour in each of 2 axes–random vibration)		N/A		N/A		N/A	
<b>Humidity</b>	IEC-68-2-30 (77° to 104° F/-25° to 40°C 24-hour cycles of 90% relative humidity)		IEC-68-2-30 (77° to 104° F/-25° to 40°C 24-hour cycles of 90% relative humidity)		N/A		N/A		N/A	

# Zebra AN720 Rugged Indoor and Outdoor RFID Antenna



AN720

Description	<ul style="list-style-type: none"><li>Industrial, rugged, small form-factor, wide-beam width antenna</li><li>Ideal for indoor or outdoor use in harsh environments such as: dock doors, gated access control, outdoor storage locations, etc.</li></ul>
Features	<ul style="list-style-type: none"><li>Industrial class, IP67 rated</li><li>Wide beam-width of 100 degrees for wider coverage</li><li>Ideal for short-range applications to create targeted zones</li></ul>
Applications	<ul style="list-style-type: none"><li>Suitable for use in indoor and outdoor environments</li><li>Indoors: doorways, shelves, end-cap displays</li><li>Outdoors: doorways, small conveyors</li></ul>

Physical	Dimensions Without Mounting Screws	132.8 mm L x 132.8 mm W x 18.1 mm D 5.2 in. L x 5.2 in. W x 0.7 in. D	
	Dimensions with mounting screws	N/A	
	Connector	N-Type Female	
	Connector Location	Rear	
	Mounting Options	Articulating mounting bracket included	
	Weight	0.37 kg/0.8 lbs	
	Casing/Materials	Aluminum with white plastic cover	
Operational	Frequency Range	EU: 865–868 MHz	US: 902–928 MHz
	Gain	EU: 3.5 dBiL	US/Canada: 3.0 dBiL
	VSWR (Return Loss)	1.5:1	
	Front-to-Back Ratio	8 dB	
	Polarization	Left-hand circular	
	3 dB Beam Width	100° in both planes	
	Max Power	10 Watts	
	Axial Ratio	2 dB	
Environmental	Operating Temperature	-25° to +70°C	-13° to +158°F
	IP Sealing	IP67	
	Storage Temperature	-40° to +70°C	-40° to +158°F
	Vibration	MIL-STD-810	
	Humidity	IEC-68-2-30	

# Zebra SP5504 Point of Sale (POS) RFID Antenna



SP5504

- |             |   |
|-------------|---|
| Description | <ul style="list-style-type: none"><li>• Highly localized sensor</li><li>• Cost-effective solution for POS lanes, will-call areas and omnichannel pickup</li></ul> |
|-------------|---|

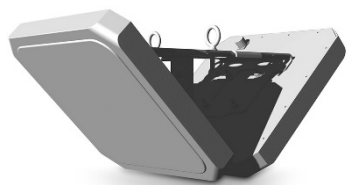
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|----------|---|
| Features | <ul style="list-style-type: none"><li>• Tracks inventory in areas with limited space</li><li>• Can be installed in multiple places without risking interference</li><li>• Ideal for short-range applications to create targeted zones</li></ul> |
|----------|---|

- |              |  |
|--------------|--|
| Applications | <ul style="list-style-type: none"><li>• Point of sale</li><li>• BOPIS or staging areas</li><li>• Fitting rooms</li></ul> |
|--------------|--|

- |          |  |
|----------|--|
| Mounting | <ul style="list-style-type: none"><li>• Accessory pole available</li></ul> |
|----------|--|

Physical	Dimensions Without Mounting Screws	184 mm x 184 mm diameter	
		7.2 in. x 7.2 in. diameter	
	Connector	N-Type Female	
	Connector Location	Top	
	Mounting Options	Accessory pole available	
	Weight	1.0 kg/2.2 lbs.	
	Casing/Materials	Aluminum with white plastic cover	
Operational	Frequency Range	EU: 865–868 MHz	US: 900–928 MHz
	Gain	4.9 dBiL	
	VSWR (Return Loss)	1.5:1	
	Polarization	Left-hand circular	
	3 dB Beam Width	63°/60°	
	Maximum Power	13 Watts (37–55 VDC POE)	
Environmental	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	

# Zebra SR5502 Backroom and Warehouse RFID Antenna



SR5502

Description	<ul style="list-style-type: none"><li>Dual antenna tracks and records from arrival to departure</li><li>Handles high tag volumes with increased accuracy and read rates</li></ul>
Features	<ul style="list-style-type: none"><li>Simple installation with mounting bracket and Backroom SmartLens Sensor</li><li>Power-over-Ethernet (PoE) eliminates need to install power outlets</li><li>Ideal for typical complex backroom environments</li></ul>
Applications	<ul style="list-style-type: none"><li>Stock room aisles</li><li>Receiving and staging areas</li><li>Open work areas</li></ul>
Mounting	<ul style="list-style-type: none"><li>Comes complete with mounting bracket</li></ul>

Physical	Dimensions Without Mounting Screws	432 mm x 254 mm x 178 mm 17.0 in. L x 10.0 in. W x 7.00 in. D	
	Connector	N-Type Female x2	
	Connector Location	Rear	
	Mounting Options	Integrated mounting bracket	
	Weight	2.5 kg/5.5 lbs	
	Casing/Materials	Aluminum with white plastic cover	
Operational	Frequency Range	EU: 865-868, US:902-928 MHz	
	Gain	EU: 2 dBiL	US: 6.7 dBiL
	VSWR (Return Loss)	N/A	
	Polarization	Left-hand circular	
	3 dB Beam Width	83°x84°/71°x67°	
	Maximum Power	18 Watts (37–55 VDC POE)	
Environmental	Operating Temperature	-20° to +55°C	-4° to +131°F
	Storage Temperature	-40° to +70°C	-40° to +158°F
	Humidity	95% RH non-condensing	

# Use Case Specific Antenna Specifications



	AN720 Rugged Indoor/Outdoor RFID Antenna		SP5504 Point of Sale (POS) RFID Antenna		SR5502 Backroom and Warehouse RFID Antenna	
<b>Dimensions Without Mounting Screws:</b>	132.8 mm L x 132.8 mm W x 18.1 mm D 5.2 in. L x 5.2 in. W x 0.7 in. D		184 mm x 184 mm diameter 7.2 in. x 7.2 in. diameter		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		N-Type Female		N-Type Female x2	
<b>Connector Position</b>	Rear		Top		Rear	
<b>Mounting Options</b>	Articulating mounting bracket included		Accessory pole available		Integrated mounting bracket	
<b>Weight</b>	0.37 kg/0.8 lbs.		1.0 kg/2.2 lbs.		2.5 kg/5.5 lbs.	
<b>Casing/Materials</b>	Aluminum with white plastic cover		Aluminum with white plastic cover		Aluminum with white plastic cover	
<b>Frequency Range</b>	EU: 865–868 MHz	US: 902–928 MHz	EU: 865–868 MHz	US: 902–928 MHz	EU: 865–868 MHz	US: 902–928 MHz
<b>Gain</b>	EU: 3.5 dBiL	US/Canada: 3.0 dBiL	4.9 dBiL		EU: 2 dBiL	US: 6.7 dBiL
<b>VSWR (Return Loss)</b>	1.5:1		1.5:1		N/A	
<b>Front-to-Back Ratio</b>	8 dB		N/A		N/A	
<b>Polarization</b>	Left-hand circular		Left-hand circular		Left-hand circular	
<b>3 dB Beam Width</b>	100° in both planes		63°/60°		83°x84°/71°x67°	
<b>Maximum Power</b>	10 Watts		13 Watts (37–55 VDC POE)		18 Watts (37–55 VDC POE)	
<b>Axial Ratio</b>	2 dB		N/A		N/A	
<b>Operating Temperature</b>	-25° to +70°C	-13° to +158°F	0° to +50°C	32° to +122°F	-20° to +55°C	-4° to +131°F
<b>IP Sealing</b>	IP67		N/A		N/A	
<b>Storage Temperature</b>	-40° to +70°C	-40° to +158°F	-40° to +70°C	-40° to +158°F	-40° to +70°C	-40° to +158°F
<b>Vibration</b>	MIL-STD-810		N/A		MIL-STD-810G	
<b>Humidity</b>	IEC-68-2-30		95% RH non-condensing		95% RH non-condensing	





# Thank you!

For more information, visit [zebra.com/us/en/products/rfid/rfid-reader-antennas.html](https://zebra.com/us/en/products/rfid/rfid-reader-antennas.html)

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