

MOTOROLA RFID AT-A-GLANCE



MAXIMIZE THE BENEFITS OF RFID WITH MOTOROLA'S
COMPLETE RFID PRODUCT PORTFOLIO



**GET THE MOST
RETURN ON
YOUR RFID
INVESTMENTS...
WITH MOTOROLA
RFID SOLUTIONS.**



EVERYTHING YOU NEED TO GET THE MOST OUT OF RFID IN YOUR BUSINESS

When you choose Motorola for your RFID solution, you get the peace of mind that comes with more than 80 years of industry leadership, the broadest RFID portfolio, the most tested and proven RFID readers, plus performance that consistently sets the industry benchmark. In addition, our RFID solutions complement Motorola's broader enterprise mobility portfolio of radio communication devices, wireless infrastructure, data capture and mobile computing products. Now, you can deliver the information each and every one of your workers needs to automate manual processes, improve efficiency and increase task accuracy. The result? Your employees will work more efficiently and be more productive. You'll get more value out of your RFID data. And you'll enjoy a faster return on your RFID investment.

Motorola gives you:

THE INDUSTRY'S BROADEST PORTFOLIO OF RFID READERS

Motorola's RFID products help companies and organizations increase visibility through automation and allow them to more efficiently manage their operations. And, no matter where you want to deploy RFID, we have a reader for your application. Only Motorola offers a business and industrial line of fixed, mobile, handheld and hands-free RFID readers that can meet the needs of most any environment — from the carpeted office space to the retail sales floor, the warehouse, the production line and even the dock doors. Our fixed readers completely automate the capture of inventory information. Our handheld readers allow workers to keep accurate inventories and locate specific assets quickly and easily. While our mobile and hands-free readers allow for dynamic and point of sale read points, enabling increased visibility throughout the enterprise.

TESTED AND FIELD PROVEN BEST-IN-CLASS SOLUTIONS





Motorola has more fixed, handheld and portal RFID systems installed than any other RFID provider, so you get the peace of mind that comes from choosing



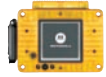
RFID products that are well-tested in practically every industry — including warehousing, retail, transportation and logistics, manufacturing, government, aviation, energy and utilities. And when you choose Motorola, you get access to our industry-leading, world-class partner network so you can get your RFID solution up and running rapidly, reducing deployment time and cost and allowing you to begin reaping the benefits of RFID faster, for a faster return on investment.

A LONG HISTORY OF INNOVATIVE TECHNOLOGY, INDUSTRY FIRSTS AND A WEALTH OF REAL-WORLD EXPERIENCE IN YOUR INDUSTRY

When you choose Motorola, you get leading edge RFID technology. We hold over 300 RFID technology patents that have allowed us to deliver many industry firsts — including the first EPC RFID handheld reader, the first EPC RFID portal system and the first EPC RFID mobile reader. And when it comes to experience, Motorola is unsurpassed. We've spent decades deploying some of the world's largest and most successful RFID implementations in some of the world's largest companies.

MOTOROLA'S FAMILY OF RFID READERS





Product	Description	Geographic Availability*	Operating System	CPU	Memory	Expansion Slot
HANDHELD AND HANDS-FREE RFID READERS						
 <p>MC3190-Z</p>	Designed specifically for customer-facing and business environments, the MC3190-Z starts with Motorola signature rugged design and high performance, then adds the ergonomics required for all day comfort and ease of use. Our advanced, high efficiency RFID reader engine delivers faster read rates and higher throughput. The groundbreaking antenna combines the benefits of linear and circular polarization for superior read range and coverage. And the MC3190-Z increases application versatility with the ability to read RFID tags, as well as capture 1D and 2D bar codes.	<ul style="list-style-type: none"> • NA • LATAM • EMEA • APAC 	Microsoft® Windows® Mobile 6.5	Marvell PXA320 @ 624 MHz	256MB RAM; 1GB Flash	N/A
 <p>MC9090-G RFID</p>	The industrial-class MC9090-G RFID brings handheld, on-the-spot RFID capabilities to the most extreme environments. These multimodal RFID readers provide mobile workers with all the tools needed to get the job done right and fast — with 1D/2D bar code scanning, digital imaging, RFID tag reading and writing, and wireless connectivity to business applications. With handheld RFID, you're able to extend RFID to remote areas where fixed readers cannot reach. And throughout the supply chain, workers are able to pinpoint items, handle exceptions, pricing audits and changes, stock picking and more right on the fly.	<ul style="list-style-type: none"> • NA • LATAM • Middle East • APAC 	Microsoft® Windows® Mobile 6.1 Premium Edition	Intel XScale™ Bulverde PXA270 @ 624 MHz	64MB RAM; 128MB ROM	SD/MMC card
 <p>MC9090-Z</p>	The industrial-class MC9090-Z RFID handheld reader gives your workers the ability to capture a comprehensive range of data in the harshest environments. From RFID tag reading and writing to image capture, 1D/2D bar code scanning and 1D scanning at extended ranges, this multi-function device enables data capture in remote areas where fixed RFID readers can't reach. Built on Motorola's advanced RFID reader engine, it delivers superior read rates and higher throughput for increased productivity. Single device simplicity translates into a simpler and more cost-effective mobility architecture, and anywhere, anytime wireless connectivity provides the real-time information needed to enable more strategic decision-making.	<ul style="list-style-type: none"> • NA • EU 	Microsoft® Windows® Mobile 6.1 Premium Edition	Intel XScale™ Bulverde PXA270 @ 624 MHz	64MB RAM; 128MB ROM	SD/MMC card
 <p>DS9808-R</p>	The DS9808-R hybrid presentation imager is the first combination 1D/2D bar code scanner and RFID reader for hands-free and handheld data capture. In addition to UHF RFID tags, the DS9808-R delivers record swipe speeds for 1D and 2D bar codes, as well as the ability to capture images and signatures. It can also capture and parse the PDF417 bar codes on U.S. driver's licenses and other AAMVA compliant ID cards for auto-population.	<ul style="list-style-type: none"> • NA • LATAM (select countries) 	N/A	N/A	N/A	N/A




Product	Description	Geographic Availability*	Read Points	External Interfaces	Network
FIXED RFID READERS					
 <p>FX7400</p>	Easy to deploy, use, and manage, the FX7400 fixed RFID reader is ideally suited for indoor, space-constrained, customer-facing environments. This high performance reader packs best-in-class RFID features and functionality into a sleek, attractive form factor that makes RFID cost-effective for business-class applications such as item-level inventory management, IT asset management and more. The plenum rating increases deployment flexibility — this reader can be safely mounted above a drop ceiling or below a raised floor, virtually invisible to customers and employees. Power over Ethernet (POE) eliminates the need for costly power drops, while other advanced features such as auto-discovery and remote configuration simplify management and offer easy integration into your existing technology environment.	<ul style="list-style-type: none"> • NA • LATAM • EMEA • APAC 	4 mono-static ports	2 inputs, 2 outputs, optically isolated (Terminal Block); USB Client — USB Type B	10/100 BaseT Ethernet (RJ45) with PoE support
 <p>FX9500</p>	The rugged Motorola FX9500 Fixed RFID Reader is built to perform in today's toughest industrial environments, and ready to meet tomorrow's most advanced challenges. High read performance lets you quickly move and track high volumes of densely tagged cases, pallets and items, with greater accuracy, even in RF-challenging environments and with RF-challenging materials. Longer read ranges, an IP53 sealing rating and an extremely durable design make the FX9500 ideal for large distribution center and yard management applications. Add options for 4- or 8-port configurations and mono-static/bi-static modes, and the FX9500 delivers complete control for optimizing advanced applications.	<ul style="list-style-type: none"> • NA • EMEA 	FX9500-4: 4 mono-static or 2 bi-static ports FX9500-8: 8 mono-static or 4 bi-static ports	4 inputs, 4 outputs, optically isolated (Terminal Block); USB Host & Client (Type A & B); Serial (DB9)	10/100 BaseT Ethernet; RJ45
MOBILE RFID READERS					
 <p>RD5000</p>	The rugged RD5000 Mobile RFID reader extends the reach of your RFID network. Self-contained and cable-free, this compact reader can be easily installed anywhere — on material handling equipment such as forklifts, on mobile carts, portable skate wheel conveyors or even in hard to reach places where a cabled fixed reader would not be practical. Designed for true mobility and rugged use, the device provides real-time wireless LAN connectivity so assets and inventory are easily tracked as they move throughout your operations.	<ul style="list-style-type: none"> • APAC (select countries) • LATAM (select countries) • NA 	N/A	N/A	802.11a/b/g; WPAN

*Check SolutionBuilder for country-specific availability






APAC = Asia Pacific; EMEA = Europe, Middle East, Africa; LATAM = Latin America; NA = North America

MOTOROLA'S FAMILY OF RFID READERS (continued from page 4)



Product	Display	Keyboard	Sealing	Drop Spec	Tumble Tested	Data Capture	Wireless	Warranty	Recommended Service
HANDHELD AND HANDS-FREE RFID READERS									
MC3190-Z 	3 in. QVGA color	48-key alphanumeric	IP54; meets and exceeds MIL-STD 810F	4 ft./1.2 m across the operating temperature range	500 1.64 ft./0.5 m tumbles at room temperature (1,000 hits)	Gen 2 RFID tags, omnidirectional reading of 1D and 2D bar codes	802.11a/b/g; WPAN Bluetooth® (regional dependent)	1 year	Service from the Start with Comprehensive Coverage
MC9090-G RFID 	3.8 in. QVGA color	53-key alphanumeric	IP64 (electronic enclosure, display and keypad)	6 ft./1.8 m drops per MIL -STD 810G specifications	2,000 3.2 ft./1 m tumbles at room temperature (4,000 hits)	Gen 2 RFID tags, omnidirectional reading of 1D and 2D bar codes; image capture	802.11a/b/g; WPAN Bluetooth®	1 year	Service from the Start with Device Management (North America); Service from the Start with Comprehensive Coverage
MC9090-Z 	3.8 in. QVGA color	53-key alphanumeric	IP64 (electronic enclosure, display and keypad)	6 ft./1.8 m drops per MIL -STD 810G specifications	2,000 3.2 ft./1 m tumbles at room temperature (4,000 hits)	Gen 2 RFID tags, omnidirectional reading of 1D and 2D bar codes; image capture	802.11a/b/g; WPAN Bluetooth®	1 year	Service from the Start with Device Management (North America); Service from the Start with Comprehensive Coverage
DS9808-R 	N/A	N/A	N/A	4 ft./1.2 m drops to concrete	N/A	Gen 2 RFID tags; 1D/2D bar codes; images and signatures	N/A	3 years	Service from the Start Advance Exchange Support

Product	Frequency	Tag Protocol	Host Interface Protocols	Management Protocols	Rugged Specs.	Operating Temp.	Operating System	Memory	Warranty	Recommended Service
FIXED RFID READERS										
FX7400 	902 MHz-928 MHz, 865 MHz-868 MHz Other global frequencies as regionally defined	EPC Gen 2 (Dense Reader Mode)	LLRP + RM, C, Java API	RM 1.0.1 (with XML over HTTP/HTTPS and SNMP binding); AirBEAM firmware upgrade (Level 2 support)	●	-4° F to +131° F -20° C to +55° C	Microsoft® Windows® CE 5.0 (Core)	64MB Flash; 64MB DRAM	1 year	RFID Design and Deployment Services; Service from the Start On Site System Support
FX9500 	902 MHz – 928 MHz, 865 MHz – 868 MHz, and all sub-bands	EPC Gen 2 (Dense Reader Mode)	LLRP + RM	RM 1.0.1 (with XML over HTTP/HTTPS and SNMP binding)	IP53	-4° F to +131° F -20° C to +55° C	Linux	128MB Flash; 128MB DRAM	1 year	RFID Design and Deployment Services; Service from the Start Advance Exchange Support
MOBILE RFID READERS										
RD5000 	902-928 MHz	EPC Gen 2 (Dense Reader Mode)	N/A	N/A	IP66	-4° F to 122° F -20° C to 50° C	Microsoft® Windows® CE 5.0	64MB Flash; 64MB DRAM	1 year	Advanced Services for RFID; Service from the Start On Site System Support

MOTOROLA'S FAMILY OF RFID ANTENNAS

	Description	Type/ Gain	Frequency Range	Operating Temp.	Sealing	Environmental	Worldwide Use	Services
RFID ANTENNAS								
AN200 	<p>The general purpose AN200 RFID antenna can be used reliably in a wide range of indoor and outdoor environments, from the warehouse to the production line to the docking zone. Its rugged design withstands a range of environmental conditions from extreme heat and cold to moisture and vibration. The AN200 Antenna can be used in standard RFID applications at power levels of up to 1 watt and in customized applications at power levels up to 20 watts.</p>	<p>General purpose, indoor/outdoor RFID antenna</p> <p>6 dBi</p>	<p>900-928 MHz</p> <p>(Will perform reasonably well in EU frequency in most applications)</p>	<p>-40° F to 149° F -40° C to 65° C</p>	Supports weep holes	Cold, heat, temperature, shock, humidity, rain, salt fog, random vibration	●*	N/A
AN400 	<p>The AN400 dual-element antenna brings a new level of operational efficiency to areas previously too large to accommodate RFID technology. The single housing packaging makes it cost-effective and ideally suited for bi-static operation. These high-performance 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.</p>	<p>High-performance dual RFID antenna, ideal for bi-static operation</p> <p>6 dBi</p>	<p>900-928 MHz</p> <p>(Will perform reasonably well in EU frequency in most applications)</p>	<p>32° F to 122° F 0° C to 50° C</p>	Supports weep holes	Cold, heat, temperature, shock, humidity, rain, salt fog, random vibration	●*	N/A
AN480 	<p>The AN480 single port antenna offers the flexibility and performance required to meet the needs of enterprises around the world. A perfect complement to Motorola's FX7400 RFID Reader, the AN480 can be installed throughout the enterprise in manufacturing and warehouse floor environments or any dock door receiving application. A low axial ratio delivers a more uniform gain for superior performance. And as with all Motorola antennas, the AN480 uses our standard mounting bracket — so mounting the antenna for the first time or upgrading an existing Motorola antenna with the AN480 is fast and easy.</p>	<p>High-performance indoor wide band RFID antenna</p> <p>6 dBi</p>	<p>865-956 MHz</p>	<p>-40° F to 149° F -40° C to 65° C</p>	IP54	Cold, heat, temperature, shock, humidity, rain, salt fog, random vibration	●	N/A
AN610 	<p>The ultra-low profile small AN610 Slimline antenna offers the "picture-frame" discreet aesthetics needed in smaller workspaces, such as boutique apparel shops and bookstores. This easy-to-mount space-saving and stylish antenna is discreet enough for businesses with the most discerning customers, yet rugged enough to handle everyday life wherever you need an RFID reader: in a doorway, on an end-cap display, on shelves, above the counter as an RFID pad, on the wall.</p>	<p>Flat panel, slim line, ultra-low profile "picture-frame" aesthetic antenna</p> <p>1.0 dBiL</p>	<p>864-868 MHz (EU Version) 902-928 MHz (US Version)</p>	<p>-22° F to +149° F -30° C to +65° C</p>	N/A	N/A	●	N/A
AN620 	<p>The ultra-low profile AN620 offers the same "picture-frame" discreet aesthetics as the AN610 in a slightly larger form factor that offers an increased read range. The AN620 is designed for larger customer-facing sales spaces — such as do-it-yourself or large department stores — where the increase in performance will ensure accurate reading of many items, while helping to minimize the volume of readers required. The AN620 offers the same rugged specifications as the AN610, and can be installed virtually anywhere in your customer-facing areas — from doorways and walls to shelves, end-cap displays, at the point-of-sale, under the counter or even above the counter as a RFID pad.</p>	<p>Flat panel, slim line, ultra-low profile "picture-frame" aesthetic antenna</p> <p>4.0 dBiL</p>	<p>864-868 MHz (EU Version) 902-928 MHz (US Version)</p>	<p>-22° F to +149° F -30° C to +65° C</p>	N/A	N/A	●	N/A

MOTOROLA'S FAMILY OF RFID ANTENNAS (continued from page 6)

	Description	Type/ Gain	Frequency Range	Operating Temp.	Sealing	Rugged Tested	Worldwide Use	Services
RFID ANTENNAS								
AN710 	The compact AN710 RFID antenna offers all the features required for carpeted and customer-facing environments. A low gain antenna (3.5 dBi), the AN710 is extremely compact and offers the sleek aesthetics needed for discreet installation in the most space-constrained spaces — for example, under the point of sale (POS) counter. And an integrated mounting bracket enables easy installation in minutes.	Compact general purpose indoor antenna 3.5 dBi	<i>US and Canada:</i> 900-928 MHz <i>Europe:</i> 865-868 MHz	-22° F to 158° F -30° C to 70° C	N/A	N/A	●	N/A
AN720 	Similar to the AN710, the AN720 RFID antenna features a compact form factor and discreet aesthetics for customer-facing environments. Together, the two models provide coverage wherever you need it — the AN710 on the sales floor and the AN720 at the dock door or outdoor shopping areas. The device is built for rough environments — it's impact and vibration resistant, and can withstand exposure to rain, snow and extreme temperatures.	Compact rugged indoor-outdoor antenna 3.5 dBi	<i>US and Canada:</i> 900-928 MHz <i>Europe:</i> 865-868 MHz	-22° F to 158° F -30° C to 70° C	IP67	Cold, heat, temperature, shock, humidity, rain, salt fog, random vibration	●	N/A

* The AN400 and AN200 will perform reasonably well in EU frequency in most applications.

RFID Antenna Notices

Repairs of Motorola RFID antennas for fixed readers may require the use of Motorola proprietary parts (and/or Motorola proprietary information). Motorola will sell these parts (and provide this proprietary information) only to end-user customers for self-service. Applicable in the U.S. For all other countries, please contact the Motorola account manager in your area for further details.

The antenna frequency specification and label is a characteristic trait of the antenna's peak frequency response. The RFID reader, when professionally installed and selected for a country of operation, dictates the actual frequency of transmission/reception to ensure regulatory compliance for operation in a designated country. The actual frequency specification of the antenna is not material to regulatory compliance.

Let Motorola Solutions help you make
the most out of RFID in your business.

For more information, please visit

WWW.MOTOROLASOLUTIONS.COM/RFID

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