**ZEBRA**
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RE40 RFID Module

The easy way to integrate Zebra's industry-leading RFID technology

Easily and cost-effectively add Zebra's advanced RFID capabilities into your products with Zebra's first highly-integrated OEM RFID UHF module, the RE40. This system in package (SIP) solution provides everything you need to make every aspect of integrating RFID into your products as simple as possible—from manufacturing and design to testing and certification. The result? Fast integration for a fast time-to-market. Easy firmware updates for longer product lifecycles. And devices that set the bar for simplified management.
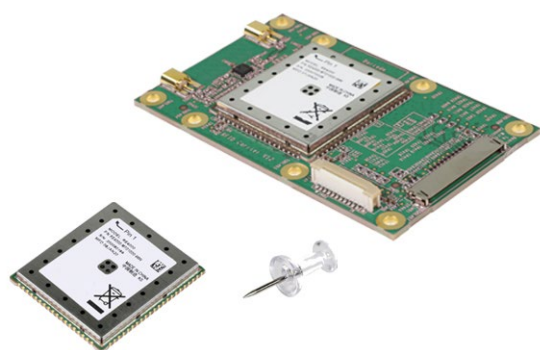
Two Variants to Meet Diverse Needs
The RE40 is available as a SIP surface mount module or SIP module mounted on a PCB for easier integration. The SIP surface mount module is available in two packaging formats: a tray for small quantities and Tape and Reel to support high volume manufacturing.

Industry-Leading Radio Technology
Get peak reliable RFID performance for reading and writing with superior radio sensitivity, an echo-cancellation noise reducing circuit and powerful software for a wide variety of applications. The RE40 supports Dense Reader Mode (DRM) operation and high speed reading of up to 250 tags per second.

Tiny Size Fits in Virtually Any Product
As one of the smallest RFID chip modules in this class, the RE40 can fit on the most space constrained boards in the most space constrained products—ideal for fixed and portable applications.

Rugged
Shock testing and a wide temperature range from subzero to extreme heat ensures reliable operation in many environments.

Simple Device Deployment—No Expertise Required
Zebra's 123RFID Desktop no-cost utility makes it easy to configure and manage your RFID-enabled devices. An intuitive wizard presents easy-to-understand options in drop-down menus, radio buttons and sliders that let you simply click your way through set up. And with built-in help and how-to videos, practically any question can be answered right inside the tool.

Lightning Fast Development
The Development Kit Radio Engine (DKRE) allows you to rapidly test the RE40 RFID capabilities and develop RFID applications. This kit contains everything you need to get started and even read tags in minutes. The kit includes: a development board with two RF ports, a serial and USB port and a power connection; antennas; RF, USB and power cables; sample tags; a Quick Start Guide; USB drive; and RF modules.

Low Power Consumption
Support for a wide operating voltage range and lower power consumption are ideal for portable applications.

The RE40—the quick, easy and cost-effective way to empower your products with Zebra's advanced RFID capabilities. For more information, visit www.zebra.com/re40

Field Upgradeable
Easily update firmware to add features, updates and more, improving device performance, extending device lifecycle and increasing the return-on-investment for your RE40 RFID-enabled devices.

Worldwide Compliance
RE40 solutions are fully tested for world wide compliance and meet regulatory requirements, enabling fast time-to-market and lowering development risks for integration.

Ideal for a Wide Range of Products
Get the versatility to embed RFID quickly, easily and cost-effectively into a wide range of equipment, including medical devices, carts and cabinets, kiosks, commercial refrigeration, access control, smart lockers, robots, vending machines, tool cribs, casino terminals and tables, ticketing systems, printers, sleds and POS terminals.

Specifications

General Specifications

Dimensions	RE40 SIP: 1.06 in. L x 1.18 in. W x 0.118 in. D/ 27 mm L x 30 mm W x 3 mm D RE40 Carrier PCB: 2.72 in. L x 1.69 in. W x 0.22 in. H /69 mm L x 43 mm W x 10mm H
Weight	RE40 SIP: 0.187 oz./5.3 g RE40 Carrier PCB: 0.66 oz./18.6 g
Physical Interfaces	RE40 SIP: 62-pin surface-mount package (SMT Compatible) RE40 Carrier PCB: Hiorse DF19-20S-1C (Plug 20-pin board edge connector for power, communication, GPIO); 2 or 4 monostatic MMCX antenna ports
Air Interface Protocol	EPC Global UHF Class 1 Gen2/ ISO 18000-63
TX Output Power	Single mono-static RF port Worldwide: -10 dBm to +27 dBm (adjustable) Japan: -10 dBm to +24 dBm (adjustable)
Receiver Sensitivity	-78 dBm
Operating Frequency	865-928 MHz band for worldwide support
DC Power Supply	2.7V to 5.5V operating voltage
Power Consumption	Operation mode < 3.3 watts 0.49 W in ready mode, 0.015 W in sleep mode, 0.000001 W in shutdown mode
General Purpose I/O	Four (4) GPI/O, two (2) GPO
Host Interfaces	UART and USB serial communication

User Environment

Operating Temperature	-4° F to 140° F/-20° C to 60° C
Storage Temperature	-40° F to 185° F/-40° C to +85° C
Humidity	Operating: 95% RH, non-condensing at 131° F/ 55° C Storage: 85% RH, non-condensing at 158° F/70° C
Shock Rating	2000 G ± 5% for a period of 0.85 ± 0.05 msec over three (3) axes (X, Y and Z), two (2) directions per axis at all temperatures
ESD	±2kV (HBM) at pins; receiver pin ±1kV

Software Interface

RFID4 SDK for C, C# and Java	C, C# (.NET core 3.0) and Java supported for Windows® 10 64 bit, Ubuntu Linux® 64 bit; Raspberry Pi Linux (Raspbian 4.19) 32 bit C# (.NET 4.5.2 framework) for Windows
RCI	Windows® 10 64 bit; Raspberry Pi Linux (Raspbian 4.19) 32 bit, Ubuntu Linux

Tools

123RFID Desktop	GUI-based application for Windows 10 64 bit
Console Based Demo Tool for .NET Core 3.0	Console application for .NET core 3.0 to demonstrate reader configuration and file-based f/w update (in hosts where 123RFID Desktop cannot be used)

Development Kit

Fast testing and software development with the complete Development Kit Radio Engine (DKRE), which includes:

- Development PCB (2 RF ports, Serial, USB, power connection)
- Antennas
- Power supply
- Cables—RF cable, USB cable, power cable
- Tag samples
- Quick Start Guide and USB drive with additional documentation
- RF modules

Regulatory and Compliance

- Certified: FCC, Canada and ETSI modular operation
- Environmental EN 50581:2012
- Electrical Safety IEC 62368-1 (ed.2) EN 62368-1:2014/AC:2015
- EMI/RFI EN 55032:2012/AC:2013 (Class B) EN 55032:2015/AC:2016 (Class B) EN 55024:2010 EN 55024:2010/A1:2015 EN 55035:2017 47 CFR Part 15, Subpart B, Class B
- RoHS compliant

Warranty

Subject to the terms of Zebra's hardware warranty statement, the RE40 is warranted against defects in workmanship and materials for a period of 15 months from the date of shipment. For complete warranty statement, go to: http://www.zebra.com/warranty

Markets and Applications

Healthcare
- Medical devices
- Medical carts
- Medical cabinets

Manufacturing
- Tool cribs
- Robots
- Industrial automation
- Process control
- Item verification and authentication

Retail
- Point-of-Sale (POS) terminals
- Smart lockers
- Kiosks
- Asset Tracking
- Gaming

Transportation and Logistics
- Inventory management
- Robots

Government
- Access control
- Casino terminals and tables
- Ticketing systems