⁙ ZEBRA

SE4730/SE4780/SE4790 Scan Engine

High-performance 1D/2D decoding and superior flexibility in a small design that fits anywhere

Your designs demand a scan engine that excels at decoding performance, is easy to integrate, and offers flexibility to meet a wide range of application needs. Zebra's SE4730, SE4780 and SE4790 scan engines deliver exactly that. These miniature engines fit into virtually any design, making it easy to integrate imaging and enable the development of slimmer, lighter devices. Your customers get first-time, every-time barcode capture. With more aimer and illumination options—including an industry-first yellow aimer and outdoor-visible green laser aimer—it's even easier to create the perfect solution for your markets, users and applications. Robust board-to-board connectors ensure faster integration and reliable performance over your product's lifecycle. Empower your products with world-class decoding—faster, easier, and cost-effectively—with the SE4730/SE4780/SE4790.

Flexible Options to Fit More Products, Serve More Markets

Compact, fits-anywhere design
At less than one square inch and weighing less than an ounce, these tiny yet powerful scan engines fit easily into the smallest spaces—ideal for today's ultra-slim mobile devices, sleds, mobile computers, handheld scanners, self-service kiosks, medical and diagnostic equipment and lottery terminals.

Your choice of LED or laser aimers
The type of aimers your customers want varies by market and environment, and this family offers both LED and laser aimers.

The LED aimer in the SE4730 is ideal for markets where laser aimers aren't appropriate, such as healthcare. The laser aimers in the SE4780 and SE4790 provide enhanced visibility at longer ranges and in bright sunlight—making it easy to aim accurately indoors and outdoors.

Best-in-class aimer and illumination color options
Different markets, applications and environments have different aimer and illumination color requirements. That's why this family of scan engines offers more choices than any scan engine in its class. The SE4730 offers two LED aimer and illumination combinations. White illumination with a green LED aimer spot is ideal for healthcare and other environments that are sensitive to laser technology and red light, while red illumination and a first-of-its-kind yellow LED aimer offer greater contrast for easier, more accurate aiming. Two laser options are ideal for customers that need to scan over longer ranges indoors or outside, or in the bright sun. The SE4780 features a sharp red cross hair laser with a choice of white or red illumination. And the SE4790 offers white illumination with a bright green laser cross hair aimer that delivers the highest possible visibility in any lighting condition.

Supports MIPI interface
Connect the SE4730/SE4780/SE4790 scan engines directly to the latest MIPI-compatible processors, eliminating the need for additional hardware components. The result? Faster time to market. Lower development costs. More competitive pricing. And higher margins that improve profitability.

Design better products, faster and for more markets with the SE4730/SE4780/SE4790 OEM 1D/2D Scan Engine.
For more information, please visit www.zebra.com/se4730-se4780-se4790

Choose hardware or software decoding

When you choose the SE4730/SE4780/SE4790, you have the flexibility to choose the decoder strategy that best fits your product designs—software or hardware. Our software decode option allows you to further reduce space and system power requirements—ideal in the smallest of designs. Or integrate the industry-best PL5000-BM000R dual-core hardware decoder.

Richly featured document capture

With advanced focusing, optical and illumination systems, the SE4730/SE4780/SE4790 can capture clear photos and documents. Zebra's Intelligent Document Capture makes it easy to create legible, searchable documents with a single press of a button. Once the image is captured, it is automatically analyzed and optimized, performing up to eight functions as needed—including de-skewing, noise reduction, rotation, cropping, brightening and sharpening—all in a fraction of a second, without any user intervention.

Build Better Products with High-Performance Decoding

Fast barcode capture with global shutter technology

The global shutter captures the entire barcode image at once, ensuring precise data capture in more applications—even on objects that are moving rapidly on assembly lines.

High-quality lens

A superior lens captures clear and accurate images from corner to corner for consistent, reliable reading.

Capture challenging barcodes with a megapixel sensor

The high-resolution megapixel sensor captures the detail needed to successfully decode even small, dense, or damaged barcodes—helping your products deliver peak productivity.

High motion tolerance to capture on the move

Fast first-pass read rates ensure accurate barcode capture, even when the scanner or barcode is in motion.

Easier reading with a wide field of view

A larger 'sweet spot' makes it easier for users to capture large barcodes and multiple barcodes. And the end user experience is faster and more intuitive, as there's less need to precisely align the scanner and barcode.

Wide reading range

A wide working range on all barcodes lets you meet the needs of more types of users and applications.

Built to Perform, Trusted to Last

Improve product reliability with board-to-board connectors

Board-to-board connectors provide a more robust connection for long-term reliability—and simplified product design. By enabling a direct, pin-to-pin interface, these connectors eliminate the need for wiring, reducing potential points of failure. The result: cleaner board layouts and products that perform consistently throughout their lifecycle—satisfying customers and reducing your support costs.

Proven technology from the world leader in scanning technology

The SE4730/SE4780/SE4790 delivers the confidence that comes with unmatched, proven, well-tested technology. Every day, all around the world, Zebra OEM products power over tens of millions of devices in thousands of applications in practically every industry. With fast, straightforward integration into your products and Zebra's award-winning technology, you can design built-to-last data capture solutions that boost scanning performance, worker productivity and your profitability.

Specifications

Physical Characteristics

Dimensions	SE4730/SE4780 (H x W x D): 0.32 x 0.88 x 0.43 inches (8.1 x 22.3 x 10.8 mm) SE4790: (H x W x D): 0.32 x 0.97 x 0.43 inches (8.1 x 24.6 mm x 10.8 mm)
Weight	SE4730/SE4780: 0.148 ± 0.009 oz. (4.2 g ± 0.25 g) SE4790: 0.152 ± 0.009 oz. (4.3 g ± 0.25 g)
Interface	Camera Port on 24 pin B2B connector; MIPI only

User Environment

Ambient Light	107,639 lux
Operating Temperature	-22°F to 140°F (-30°C to 60°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)
Humidity	Operating: 95% RH, non-condensing at 140°F (60°C) Storage: 85% RH, non-condensing at 158°F (70°C)
Shock Rating	2500 ± 100 g, ½ sine, 0.70 ± 0.1 msec shock, +X, −X, +Y, −Y, +Z, −Z directions, 6 shocks in each direction for a total of 36 shocks at +68°F/+20°C 2000 ± 100 g, ½ sine, 0.85 ± 0.1 msec shock, +X, −X, +Y, −Y, +Z, −Z directions, 6 shocks in each direction for a total of 36 shocks at -22°F/-30°C and 36 shocks at +140°F/+60°C
Power	Operational Input Voltage Engine: VCC = 3.135 < 3.3 < 3.6 V VCC_ILLUM = 4.75 < 5.0 < 5.5 V VDD_IO_HOST = 1.7 < 3.3 < 3.6 V VCC_ENG + VDD_IO_HOST = 3.3 V with illumination and aiming on (SE4730/SE4780/SE4790) = 130mA/110mA/110mA VCC_ILLUM = 5.0 V with illumination and aiming on = 320mA Pk for 4 ms or 1.2A for <1 ms VCC_ENG Power Modes Current (Idle/Low Power) = 40mA / 3mA

Performance Characteristics

Sensor Resolution	1280 x 800 pixels
Field Of View	Horizontal: 48°, Vertical: 30°
Skew Tolerance	±60°
Pitch Tolerance	±60°
Roll Tolerance	360°
Aiming Element	SE4730: 590 nm Yellow LED or 525 nm Green LED SE4780: 655 nm Red Laser SE4790: 520 nm Green Laser
Illumination Element	Hyper Red 660 nm LED or Warm-White LED

Regulatory

Laser/LED Classification	SE4780/SE4790 (Laser Aim): Intended for use in CDRH Class II/IEC 825 Class 2 devices SE4730/SE4780/SE4790: Classified as Exempt Risk Group per IEC/EN 62471
Environmental	ROHS compliant

Decode Ranges (SE4730/SE4780 Typical Working Ranges)[1]

Symbology/Resolution	Distance
3 mil Code 39	3.0 inches (7.6 cm) to 5.8 inches (14.7 cm)
5 mil Code 39	2.0 inches (5.1 cm) to 9.6 inches (24.4 cm)
5 mil Code 128	2.3 inches (5.8 cm) to 9.8 inches (24.9 cm)
10 mil Code 39	*[2] to 21 inches (53.3 cm)
15 mil Code 128	2.8 inches (7.1 cm) to 27.8 inches (70.6 cm)
20 mil Code 39	2.6 inches (6.6 cm) to 36.1 inches (91.7 cm)
UPCA (100%)	1.6 inches (4.1 cm) to 24.9 inches (63.2 cm)
PDF 417: 6.76 mil	2.5 inches (6.3 cm) to 10.1 inches (25.7 cm)
DataMatrix 10	2.1 inches (5.3 cm) to 11.0 inches (27.8 cm)
15 mil Code 128 (4 inches wide)	2.4 inches (6.1 cm) to 27.8 inches (70.6 cm)

Warranty

Subject to terms of Zebra's hardware warranty statement, the SE4730/SE4780/SE4790 is warranted against defects in workmanship and materials for a period of fifteen (15) months from the date of shipment. For the complete Zebra hardware product warranty statement, please visit: www.zebra.com/warranty

Footnotes

1. Distance dependent on symbology type and size; range is reduced under lower ambient light level.
2. Dependent on the width of the barcode (shorter barcodes can be read even closer, and wider barcodes farther).
Specifications are subject to change without notice.