

NLS-EM2039 Series

Embedded 2D Barcode Scan Engine



NLS-EM2039 series embedded 2D barcode scan engines, armed with the Newland patented **UIMG[®]**, a computerized image recognition system, bring about a new era of 2D barcode scan engines.

The NLS-EM2039s' 2D barcode decoder chip ingeniously blends **UIMG[®]** technology and advanced chip design & manufacturing, which significantly simplifies application design and delivers superior performance and solid reliability with low power consumption.

The NLS-EM2039s support all mainstream 1D and standard 2D barcode symbologies (e.g., PDF417, QR Code Model 1/2, Micro QR and Data Matrix) as well as GS1-DataBar[™](RSS) (Limited/Stacked/Expanded versions).

Image capture, illumination/aiming and decoder are built into such compact, lightweight engines that fit easily into even the most space-constrained equipments such as data collectors, meter readers, ticket validators and PDAs.

Features:

- **2D Barcode Decoder Chip:** The engine armed with the state-of-the-art 2D barcode decoder chip invented by Newland demonstrates unprecedented reading performance.
- **Two-In-One Design:** Seamless integration of CMOS image sensor and decoder board makes the engine small, lightweight and easy for integration.
- **Outstanding Reading Capability:** The EM2039s can read most 1D and 2D barcodes.
- **Compatibility:** The EM2039s are compatible with the EM2037s in interface and installation.

Specifications

Performance

Image Sensor		752x480 CMOS
Processor		Newland IOTC 2D Barcode Decoder Chip 72MHz
Illumination		Red LED 625±10 nm
Symbologies	2D	PDF417, Data Matrix (ECC200,ECC000,050,080,100,140), QR Code, etc.
	1D	Code128, EAN-13, EAN-8, Code39, UPC-A, UPC-E, Codabar, Interleaved 2 of 5, ITF-6, ITF-14, ISBN, Code 93, UCC/EAN-128, GS1 Databar, Matrix 2 of 5, Code 11, Industrial 2 of 5, Standard 2 of 5, Plessey, MSI-Plessey, etc.
Reading Precision		≥ 5mil
Depth of Field	UPC-A	55mm - 305mm(13mil);
	PDF417	65mm - 175mm(6.67mil); 50mm - 215mm(10mil)
	Data Matrix	50mm - 220mm(15mil);
	QR Code	65mm - 235mm(15mil)
Symbol Contrast		≥ 25%
Field of View		Horizontal 42°; Vertical 27.5°
Scan Angle**		Roll: 360°; Pitch: ±55°; Skew: ±55°

Mechanical/Electrical

Interface		TTL-232, USB (USB HID-KBW, USB COM Port Emulation)
Operating Voltage		3.3~5.5VDC
Current @5VDC	Operating Current	260 mA
	Idle Current	12mA
Weight		Combined type: 11.5g; Discrete type: 8.2g

Environmental

Operating Temperature	-20°C to +60°C
Storage Temperature	-40°C to +80°C
Humidity	5% to 95% (non-condensing)
Ambient Light	0 ~ 100,000 LUX (natural light)

Certifications

Accessories

NLS-EVK2037		Software development board for the EM2039, equipped with a trigger button, beeper and RS-232 & USB interfaces.
Cables	RS-232 Cable	Equipped with a power connector; used to connect the NLS-EVK2037 to a host device.
	USB Cable	Used to connect the NLS-EVK2037 to a host device.
Power Adaptor		Used to provide power for the NLS-EVK2037. Output: DC5V,1.5A; Input: AC100~240V, 50~60Hz.

**Test conditions:

Code 39; 3 Bytes; Resolution=10mil; W:N=3:1; PCS=0.8; Barcode Height=11mm; Scan Distance=120mm; T=23°C; Illumination=300 lux.

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Specifications are subject to change without notice.

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