

# **NLS-EM2039 Series**

## **Embedded 2D Barcode Scan Engine**



NLS-EM2039 series embedded 2D barcode scan engines, armed with the Newland patented **UIMG<sup>®</sup>**, 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<sup>®</sup>** 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<sup>™</sup>(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

<b>Image Sensor</b>		752x480 CMOS
<b>Processor</b>		Newland IOTC 2D Barcode Decoder Chip 72MHz
<b>Illumination</b>		Red LED 625±10 nm
<b>Symbologies</b>	<b>2D</b>	PDF417, Data Matrix (ECC200,ECC000,050,080,100,140), QR Code, etc.
	<b>1D</b>	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.
<b>Reading Precision</b>		≥ 5mil
<b>Depth of Field</b>	<b>UPC-A</b>	55mm - 305mm(13mil);
	<b>PDF417</b>	65mm - 175mm(6.67mil); 50mm - 215mm(10mil)
	<b>Data Matrix</b>	50mm - 220mm(15mil);
	<b>QR Code</b>	65mm - 235mm(15mil)
<b>Symbol Contrast</b>		≥ 25%
<b>Field of View</b>		Horizontal 42°; Vertical 27.5°
<b>Scan Angle**</b>		Roll: 360°; Pitch: ±55°; Skew: ±55°

### Mechanical/Electrical

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

### Environmental

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

### Certifications

### Accessories

<b>NLS-EVK2037</b>		Software development board for the EM2039, equipped with a trigger button, beeper and RS-232 & USB interfaces.
<b>Cables</b>	<b>RS-232 Cable</b>	Equipped with a power connector; used to connect the NLS-EVK2037 to a host device.
	<b>USB Cable</b>	Used to connect the NLS-EVK2037 to a host device.
<b>Power Adaptor</b>		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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