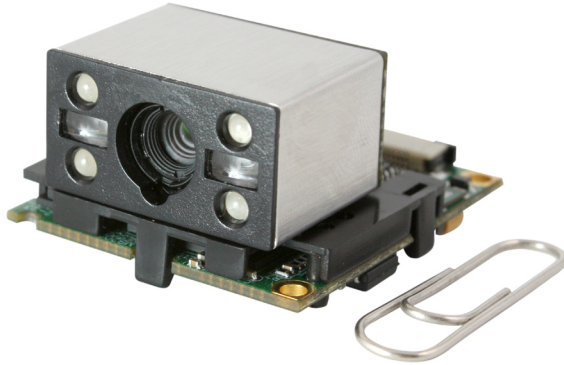


# EM2028

## 1D/2D CMOS Scan Engine



Designed for OEM applications, this high performance CMOS engine can easily be integrated into various solutions such as kiosks, ticketing machines, PDA's and many more.

### Product Features

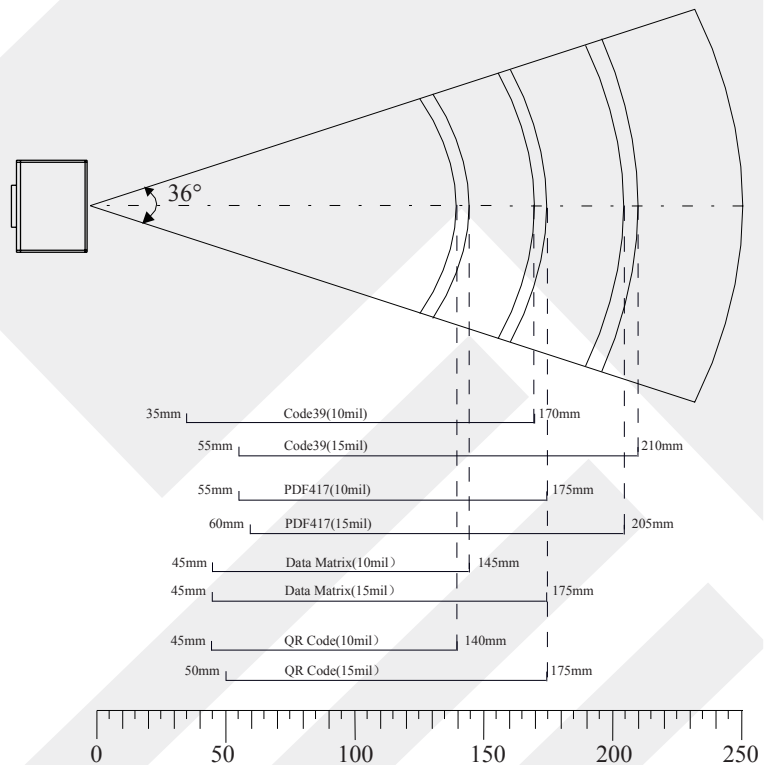
- **Ease of integration**

Compact and easy to integrate design, where the CMOS engine and decoder board can be placed separately into your solution. The small form factor enables easy integration into various solutions.

- **Advance Technology**

Includes core-technology **UIMG™**, which is independently designed and manufactured by Newland Auto-ID. **UIMG™** technology includes the optical, CMOS, digitizer, decoder, image processing & embedded systems. The scanner supports all global standard 1D and most 2D barcode symbologies. Its' reading performance reaches and exceeds global standards. By using the accessories provided, the user can ideally set up the scanner to its user environment.

### EM2028 Decode Zones



## EM2028 Specifications

### Image Capture Specifications

Image Sensor	CMOS
Resolution	752*480
Interface	RS232, USB

### Barcode Scan Specifications

Symbols	2D	PDF417, QR Code(Model 1/2), DataMatrix(ECC200, ECC000, 050, 080, 100,140),Aztec, Maxicode, etc.
	1D	Code128, EAN-13, EAN-8, Code39, UPC-A, UPC-E, Codabar, Interleaved 2 of 5, ISBN, Code 93, UCC/EAN-128, GS1 Databar, etc
Precision		≥ 5mil
Depth of Scan Field		35mm-210mm
Print Contrast Ratio		≥ 30%
Sensitivity**	Roll	360°@ 0°Pitch and 0° Skew
	Yaw (skew)	±60°@ 0°Roll and 0° Pitch
	Pitch	±60°@ 0°Roll and 0° Skew

### Illumination Specifications

Light Source	LED (622 nm - 628 nm)
Light Intensity	330 LUX (130 mm )

### Electrical and Mechanical Specifications

Power Consumption(Max)	2W	
Voltage	DC 5V (4.5-5.5)	
Current	Working	400mA
	Idle	78mA
	Standby	18mA
	Deep Sleep	800A
Dimensions(L*W*H)	35.0 *30.0*19.0mm	
Weight	14g	

### Environment Specifications

Operating Temperature	-5°C - +45°C
Storage Temperature	-40°C - +60°C
Humidity	5% - 95% (non-condensing)
Ambient Illumination	0 ~ 100,000 LUX

### Certificates

FCC Part15 Class B, CE EMC Class B

\*\*Test Condition:

Code39: 4 Bytes ; Resolution = 10mil; W:N = 3:1 ; PCS = 1.0 ;  
Barcode Height = 12mm; Distance = 100mm; T=23°C; Illumination= 200 LUX

## Accessories

### Cradle

EVK2028 The Evaluation Kit for EM2028, with trigger, beep functions and USB, RS232 interfaces.

### Flex Cable

This cable connect to the RS232 port of EVK2028 with a RJ45 port.

RS232 Cable With a standard female RS232 port to connect to standard male RS232 port.

With a power port to accept power adapter supply.

This cable connect to the USB Slave port of EVK2028 with a USB-B male port.

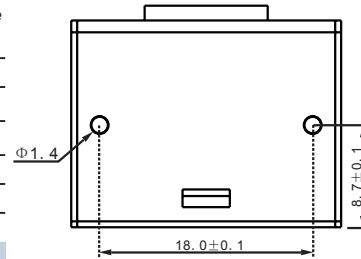
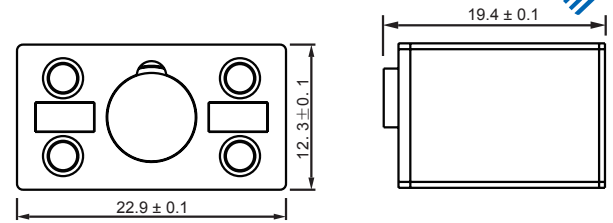
USB Cable With a standard USB Slave port to connect to standard USB Host port.

### Power

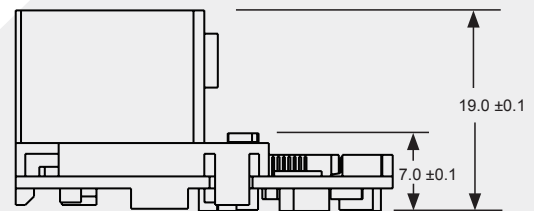
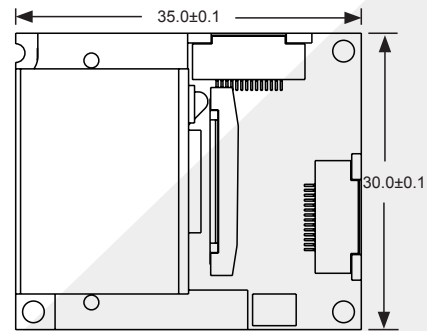
Power Adapter The power adapter for EVK2028 by the RS232 Cable.  
Output: DC5V, 2A; Input: AC100~240V, 50~60HZ.

## Dimension (Unit: mm)

### EM2028 Sensor



### EM2028



## Applicable Accessories

### Quick Set

A platform for 2D barcode scanning configuration based on the Microsoft Windows. Quick set connects the scanner engine thru USB or RS-232, users are able to modify the parameters for scanner engine in real-time through this Windows operation interface.

### Programming Guide

A manual for user who can scans the pre-printed barcodes to define the configuration, by reaching the same functionality as the Quick Set. Reading performance reaches global standard. By using accessories provided, scan all kinds of barcodes defined by customers.

### uTools Lite

A developing tools for the 2D scanning engine based on the Microsoft Windows or Linux. Includes the tools needed for programming likes compiler, C/ C++ libraries, user can directly control the scanner engine by those programs, to achieve a self defined decoding.



## Revisions

Version	Description	Date
Version 1.0	Support as from EM2028 hardware version 3.06.021 and higher.	20100809