

# RYM8838

GNSS

Untethered Dead Reckoning (UDR)

M.2 Card

Datasheet



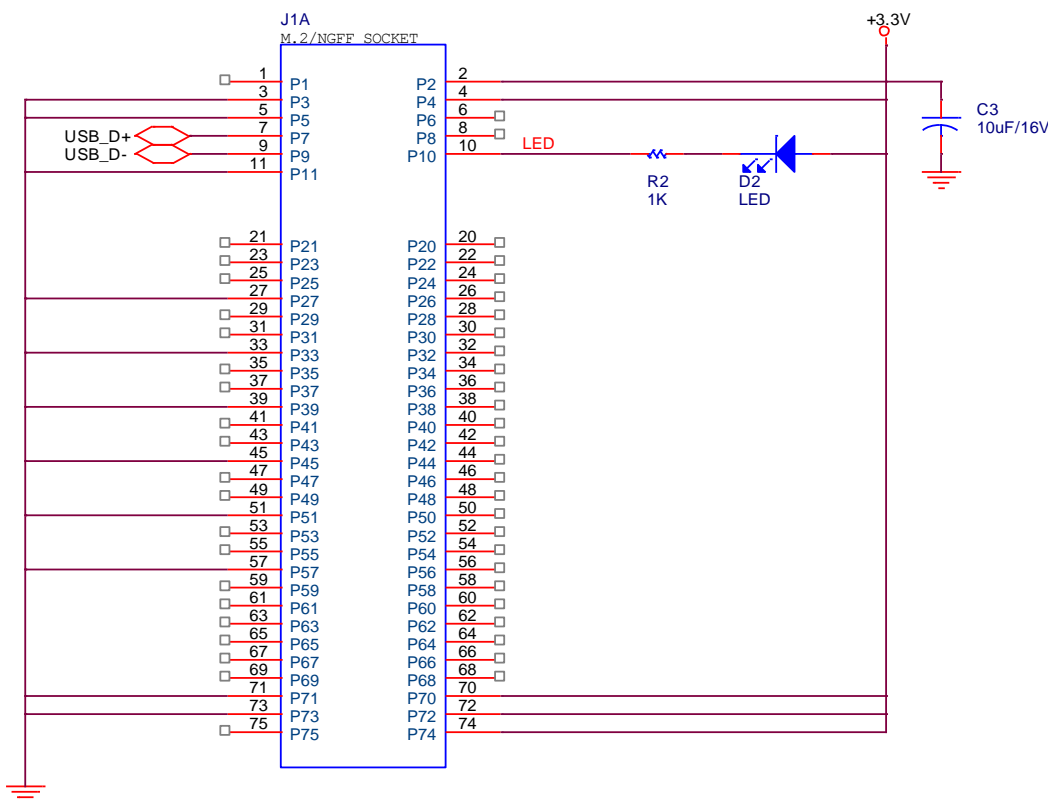
## PRODUCT DESCRIPTION

The REYAX RYM8838 GPS/Glonass/SBAS/QZSS/Galileo/BeiDou Untethered Dead Reckoning(UDR) M.2 Card introduces the Untethered Dead Reckoning (UDR) technology, which provides continuous navigation without requiring speed information from the vehicle. This innovative technology brings the benefits of dead reckoning to installations previously restricted to using GNSS alone and significantly reduces the cost of installation for after-market dead reckoning applications.

## FEATURES

- SONY CXD5608AGF UDR with 3D inertial sensors engine
- Position accuracy 1m CEP
- Temperature range: -40 to +85°C
- M.2 / NGFF Signal Type USB2.0
- 30mm\*42mm size M.2 / NGFF Card connect to computer easily.

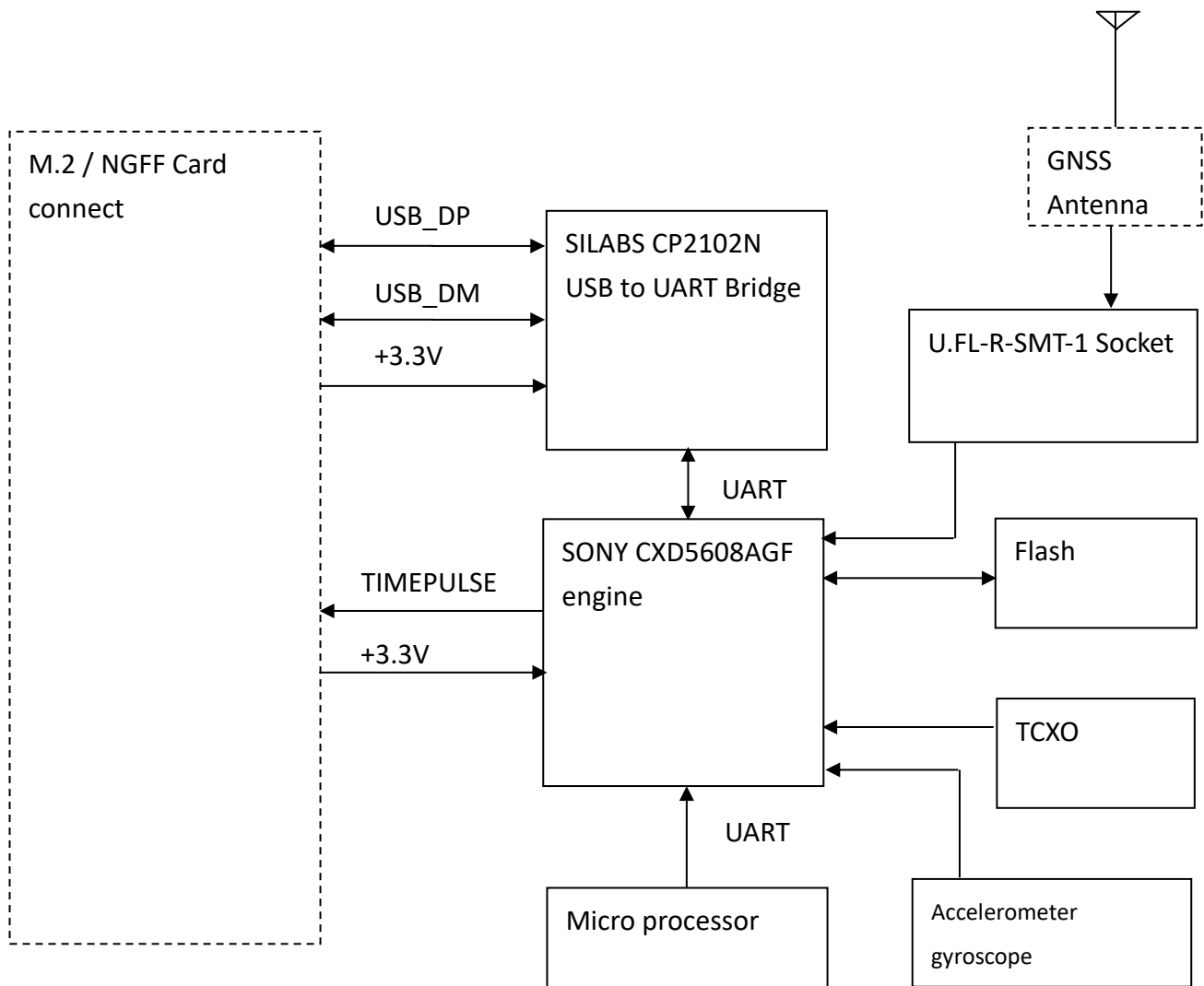
## APPLICATION SCHEMATIC



## PIN DESCRIPTION

Pin	Name	I/O	Condition
2,4,70,72,74	VCC	I	Supply voltage
3,5,11,27,33,39,45, 51,57,71,73	GND	-	Ground
7	USB_DM	I/O	USB Data
9	USB_DP	I/O	USB Data
10	LED_TIMEPULSE	O	Time pulse, Open Drain
U.FL	U.FL Socket	I	+3.3V Active GNSS Antenna

## BLOCK DIAGRAM



## SPECIFICATION

Item	Min.	Typical	Max.	Unit	Condition
Operation Voltage	3.1	3.3	3.5	V	VCC
Current		27		mA	
USB Interface					V2.0
GNSS Center Frequency		1561.098 1575.42 1602.5625 1575.42 1575.42 1575.42		MHz	BeiDou GPS Glonass QZSS L1(C/A) SBAS Galileo
Navigation update rate		1		Hz	
Accuracy		1		M	CEP, Signal strength is -130dBm
Cold starts		35		Sec.	
Aided starts		3		Sec.	
Reacquisition		2		Sec.	
Tracking Sensitivity		-161		dBm	
Cold starts Sensitivity		-147		dBm	
Hot starts Sensitivity		-160		dBm	
Operating Temperature	-40	25	+85	°C	
Antenna supply current			100	mA	+3.3V Active GNSS Antenna
Weight		4		g	

## DRIVER AND CONFIGURATION TOOLS

Complete software along with host driver for various operating systems such as Windows, Linux, Windows CE, and Android.

Please download the driver from [www.silabs.com](http://www.silabs.com)

## GNSS SIGNALS TEST

We use the REYAX [SMAF2IPEX110](#) cable and REYAX [RYAGN3I](#) active GPS& Glonass antenna.

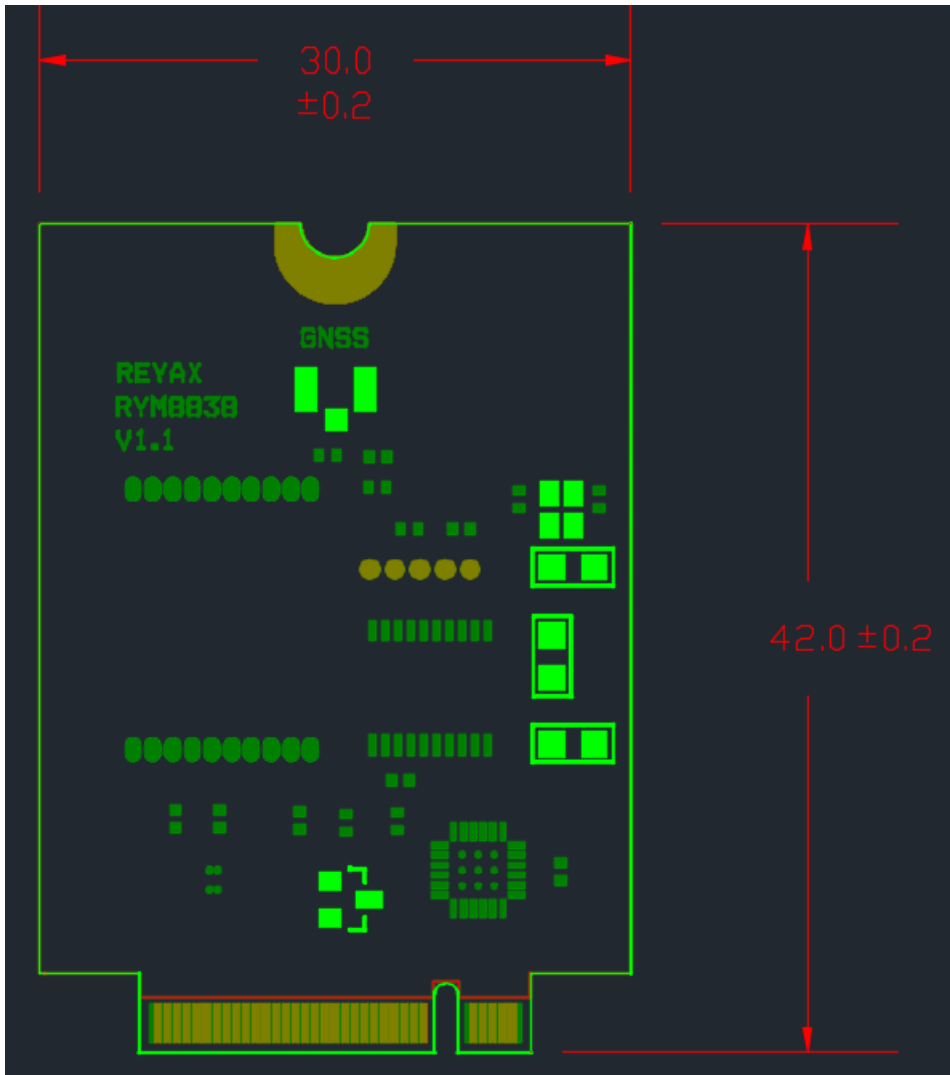


REYAX [SMAF2IPEX110](#)



REYAX [RYAGN3I](#)

## DIMENSIONS



Unit: mm

Tolerance  $\pm 0.2\text{mm}$

PCB Thickness 0.8mm

## ORDER INFORMATION

Ordering No.	GNSS Default	UDR Function
RYM8838	GPS + GLONASS + QZSS L1-CA	Yes



**E-mail:** [sales@reyax.com](mailto:sales@reyax.com)

**Website:** <http://reyax.com>