

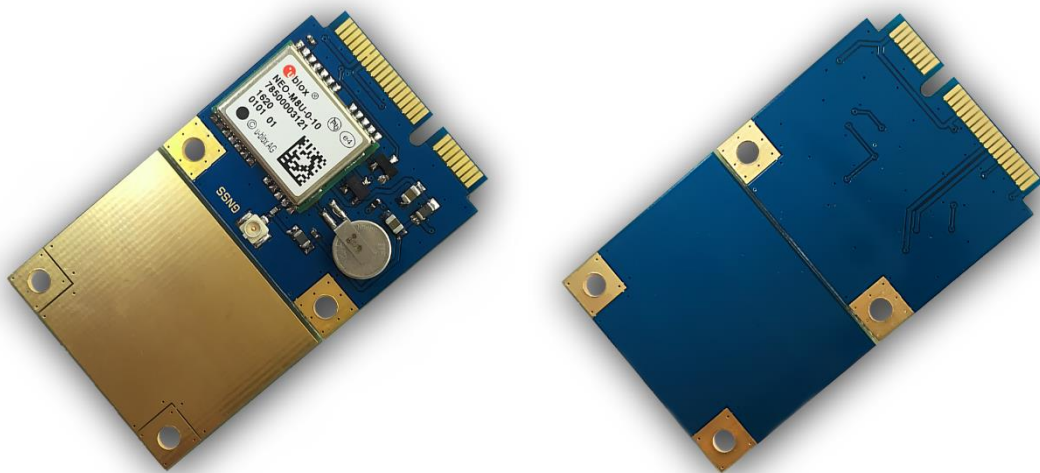
RYP820U

GPS / Glonass / Galileo / BeiDou

Untethered Dead Reckoning (UDR)

Mini PCIe Card

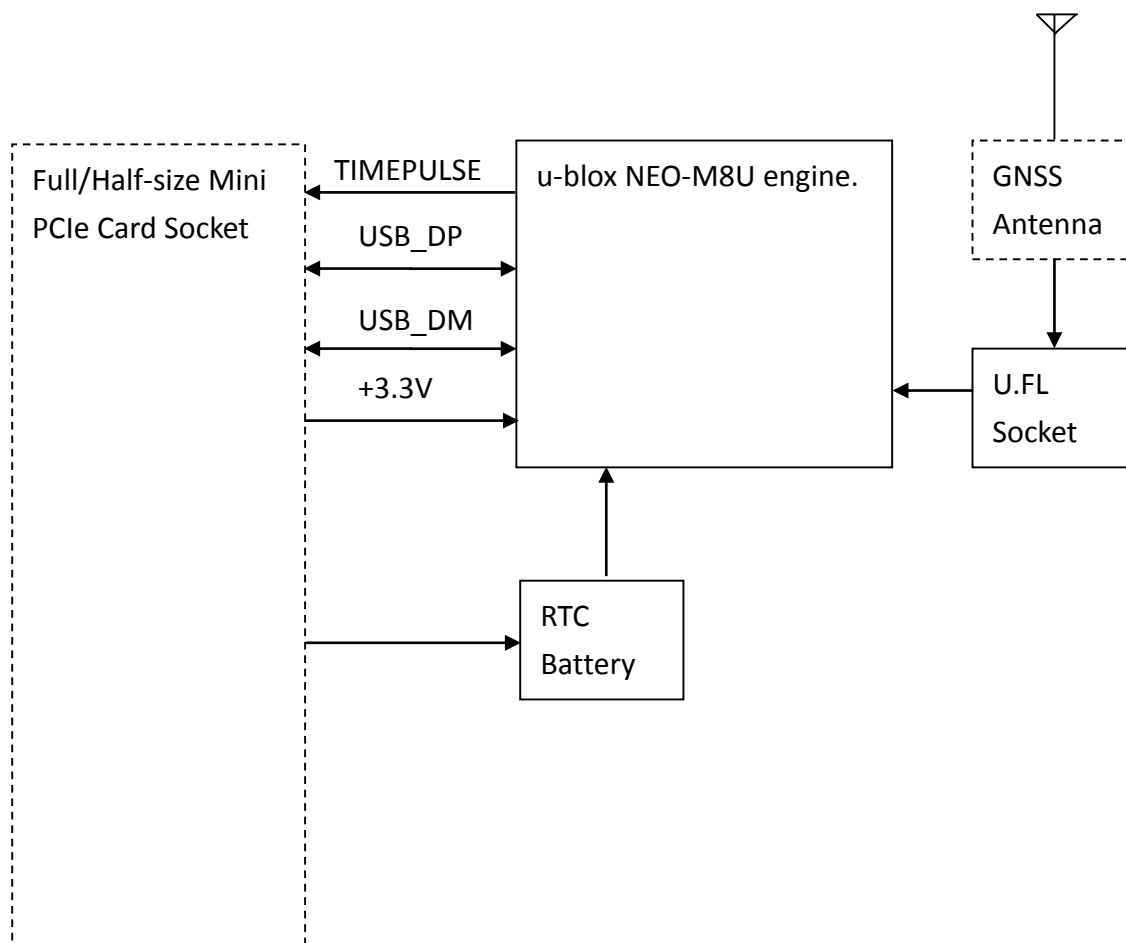
Datasheet



PIN DESCRIPTION

Pin	Name	I/O	Condition
2,24,39,41,52	VCC_3V3	I	Supply voltage
4,9,15,18,21,26,27, 29,34,35,37,40,43, 50	GND	-	Ground
36	USB_DM	I/O	USB Data
38	USB_DP	I/O	USB Data
42	LED_TIMEPULSE	O	Time pulse, Open Collector
U.FL	U.FL Socket	I	+3.3V Active GNSS Antenna

BLOCK DIAGRAM

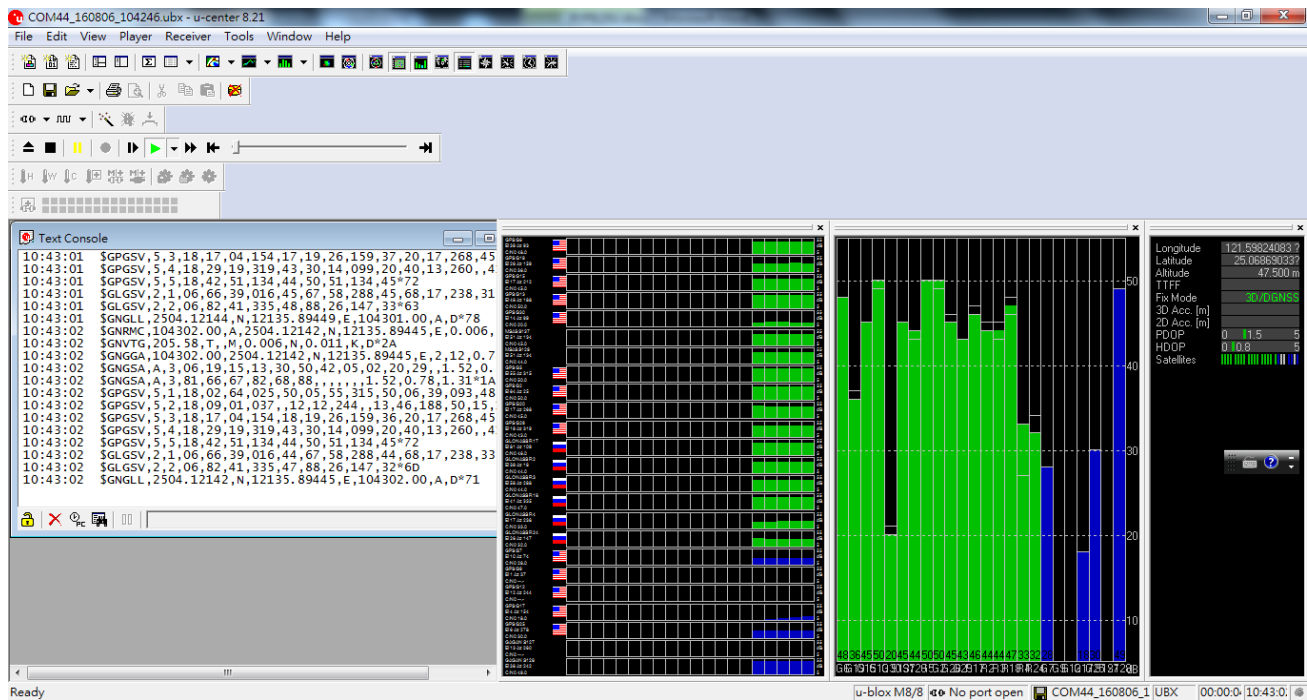


SPECIFICATION

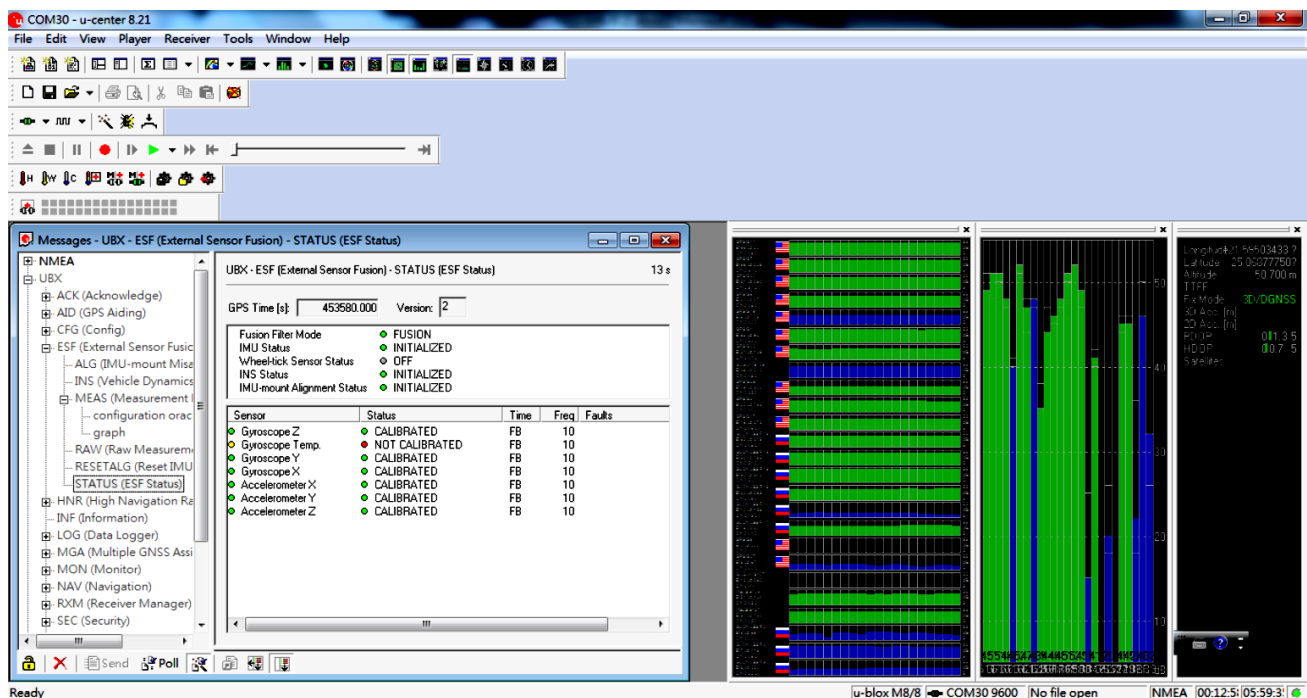
Item	Min.	Typical	Max.	Unit	Condition
Operation Voltage	3.1	3.3	3.5	V	VCC
Current		27		mA	
USB Interface					V2.0
GNSS Center Frequency		1561.098 1575.42 1602.5625		MHz	BeiDou GPS Glonass
Receiver type					72-channel u-blox M8 engine GPS/QZSS L1 C/A, GLONASS L10F, BeiDou B1I, Galileo E1B/C SBAS L1 C/A: WAAS, EGNOS, MSAS, GAGAN
Navigation update rate		1	20	Hz	Configurable
Accuracy		2		M	CEP
Cold starts		26		Sec.	
Aided starts		3		Sec.	
Reacquisition		1		Sec.	
Tracking Sensitivity		-160		dBm	
Cold starts Sensitivity		-148		dBm	
Hot starts Sensitivity		-157		dBm	
Operating Temperature	-40	25	+85	°C	
Antenna supply current			100	mA	+3.3V Active GNSS Antenna
Weight		4		g	

DRIVER AND CONFIGURATION TOOLS

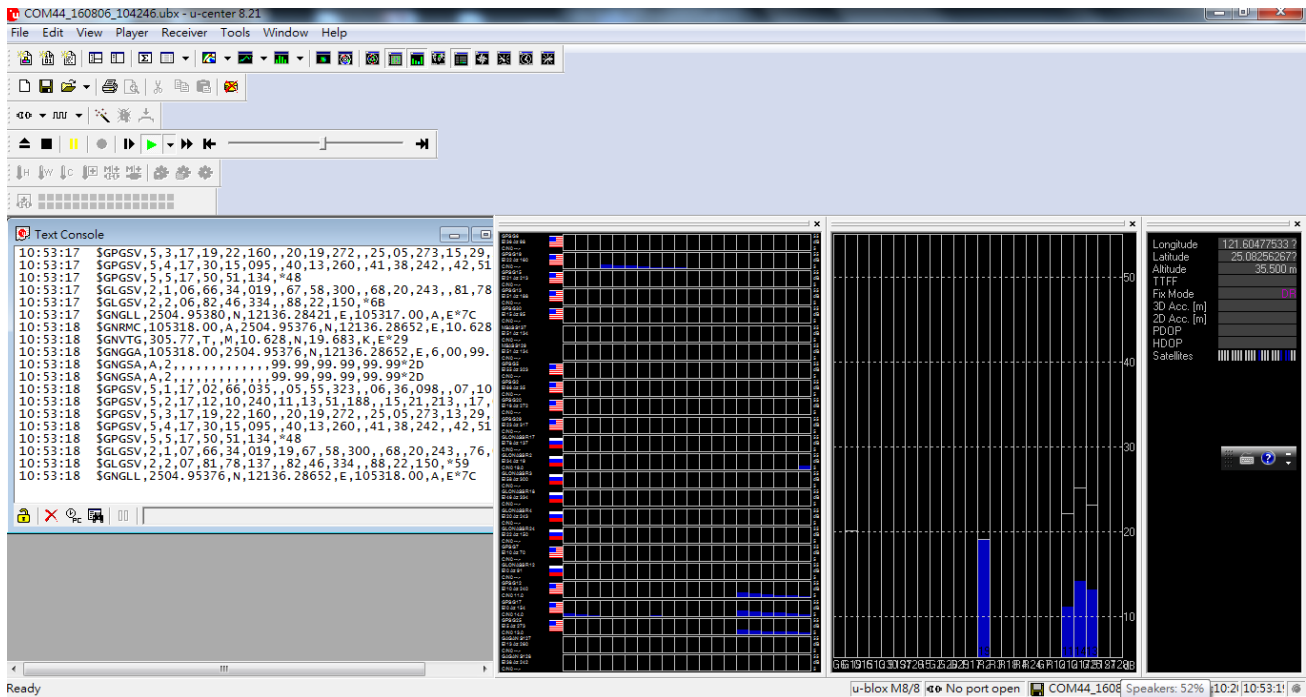
- NMEA format output - Normal mode.



Please place the RYP820U to a fixed position on the cars. The RYP820U will calibrate the parameters automatically when the GNSS signals well. The following is the calibration picture.

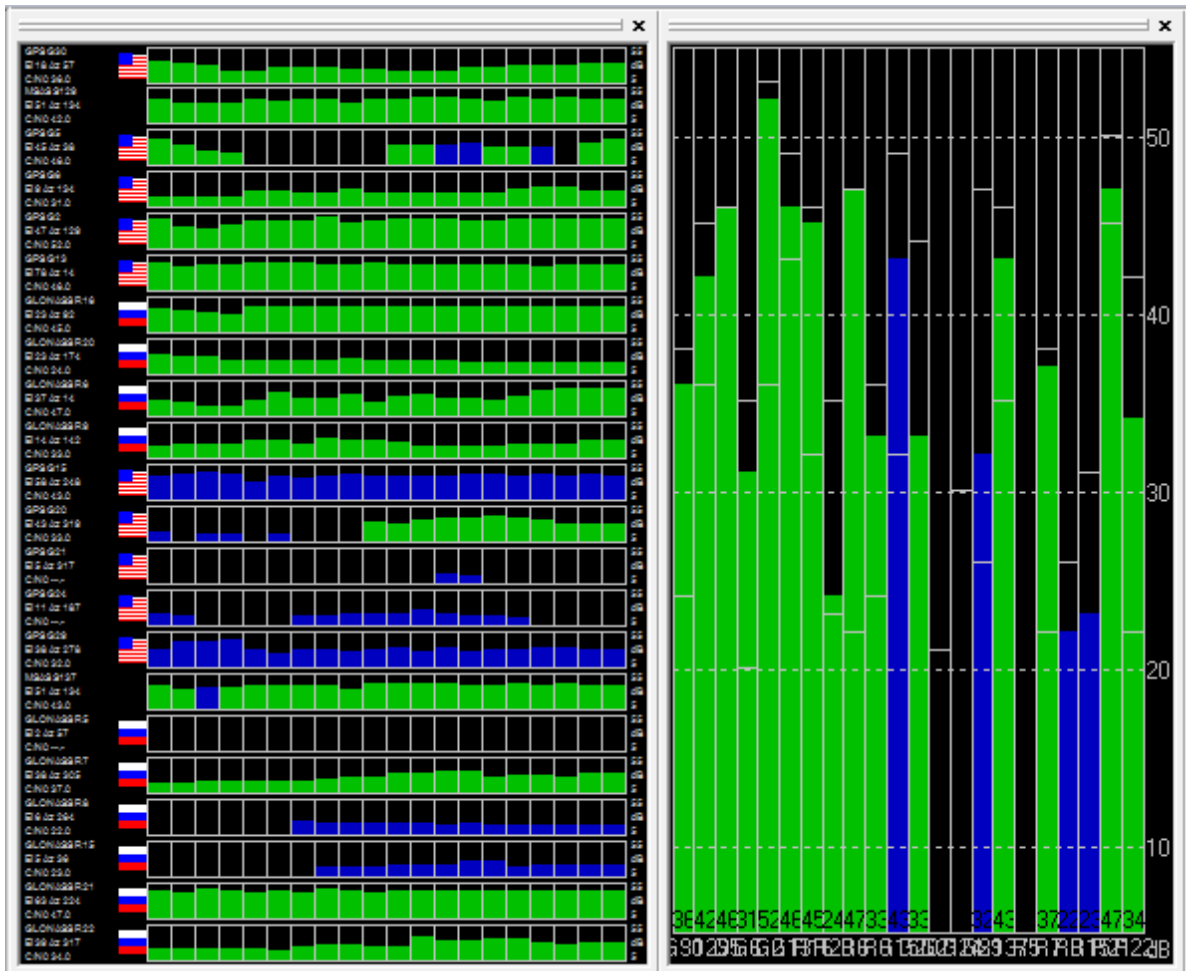


- NMEA format output - UDR



GNSS SIGNALS TEST

We use the REYAX SMAF2IPEX110 cable and REYAX RYAGN3 active GPS& Glonass antenna.

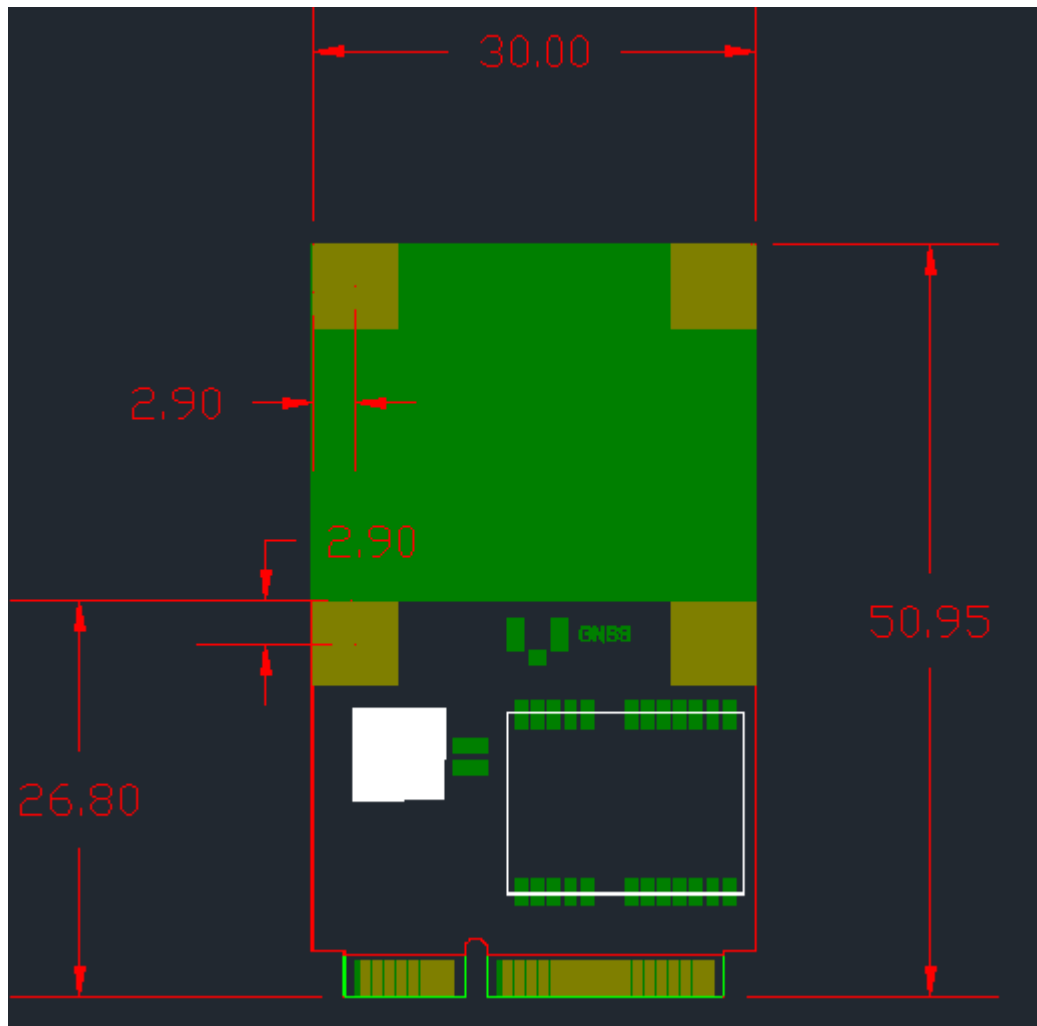


REYAX SMAF2IPEX110



REYAX RYAGN3

DIMENSIONS



Unit: mm

PCB Thickness: 1mm

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 and u-blox u-center from <http://www.u-blox.com>

ORDER INFORMATION

Ordering No.	GNSS Engine	UDR Function
RYP820U	NEO-M8U	Yes