Datasheet of LOCOSYS USB Card

GNSS USB Series

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1. Introduction

LOCOSYS USB series is a GNSS receiver based on the very small industry standard USB Type B form factor. Using the USB interface, the USB series provides global positioning and time-stamp information, while taking up little space and power within a system. Also considering the existing support for Windows and Linux, the USB series can easily integrate into any existing system, as well as easily implemented into new systems.

2. Features

- Multipath detection and suppression
- Works with passive and active antenna
- Alarm statuses detected by VMDS
- RoHS compliant (Lead-free)
- Integrated LOCOSYS 1612 series GNSS module

3. Application

- Automotive navigation
- Vehicle Remote Monitoring
- Router and IDC application
- IPC with GNSS Function.
- 5G AIoT & Smart Industry

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4. Product Features and Specifications of USB board
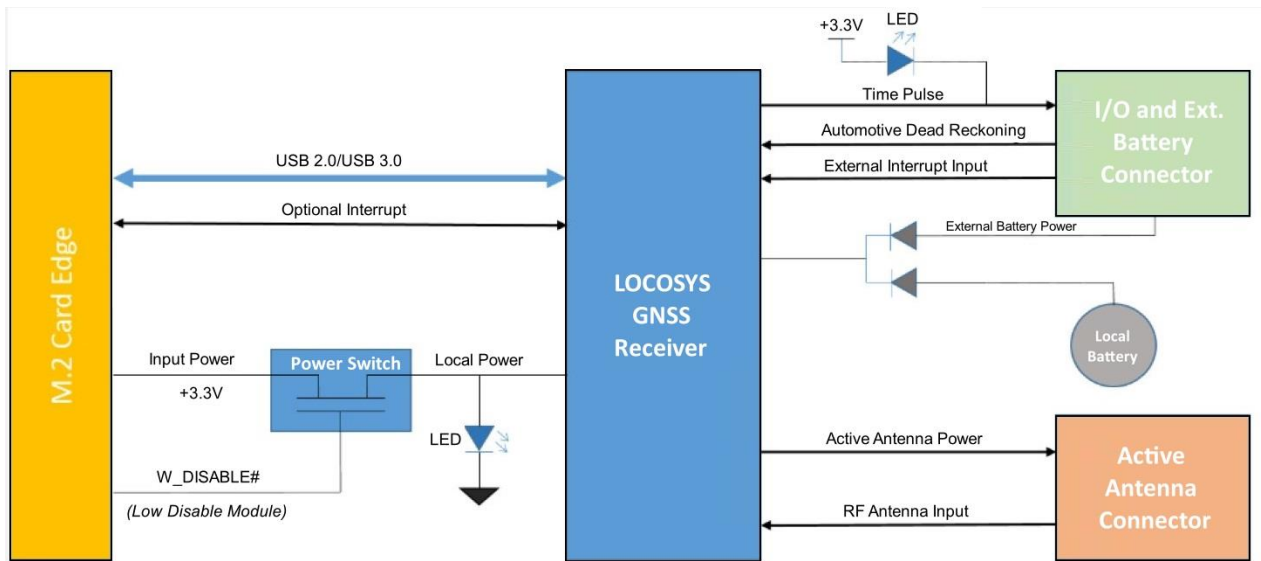
Figure 1. Block Diagram

Figure 2. Connector Summary & Locations

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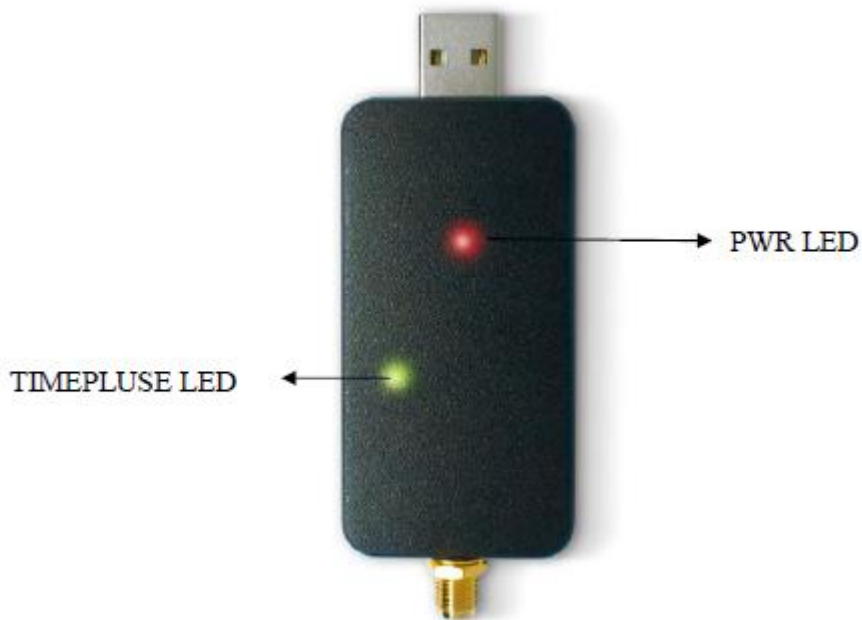Xizhi District, New Taipei City 221, Taiwan
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5. Pin assignment and descriptions

The USB interface pin-out is compliant to the USB Socket.

This module uses +5V for input power and all I/O is +5V signaling.

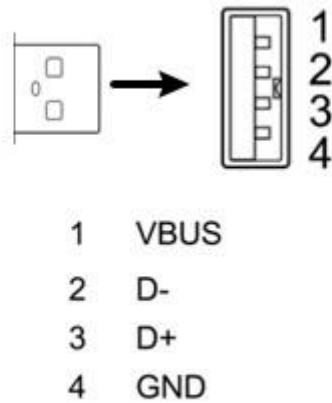| Pin#	Name	Type	Description
1	VBUS	P	+5V
2	D-		Data -
3	D+		Data +
4	GND	P	Ground

Fig 5 Pin descriptions

6. Part Numbers / Ordering Information

6.1   Product list of LOCOSYS USB series

Part Number	
UB-52Q	USB GNSS Receiver populated with MG-1612-52Q
UB-V2b	USB GNSS Receiver populated with MC-1612-V2b
UB-15R	USB GNSS Receiver populated with RTK-1612
UB-35AD	USB GNSS Receiver populated with MG-1612AD-DR
UB-R35AD	USB GNSS Receiver populated with RTK-1612AD-DR

<Note>   The performance of the GNSS function, please refer to our LOCOSYS website

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6.2   Electrical Specification

Parameter	Minimum	Maximum	Condition
Supply Voltage (VCC)	3	5	Volt
RF Power at RF_IN	Follow the Spec	Follow the Spec	dBm
Operation Temperature	-40	+85	°C
Storage Temperature	-40	+85	°C

Table 6.2-1 Maximum Ratings

Parameter	Min	Typ	Max	Unit
Supply Voltage (VCC)	3	3.3	5	Volt
Acquisition Current (exclude active antenna current)				mA
Tracking Current (exclude active antenna current)				mA

Table 6.2-2 Operating Conditions

<Note>   Please follow the LOCOSYS GNSS module datasheet.

7. Detailed Feature Description

7.1   On-Board Indicator LEDs

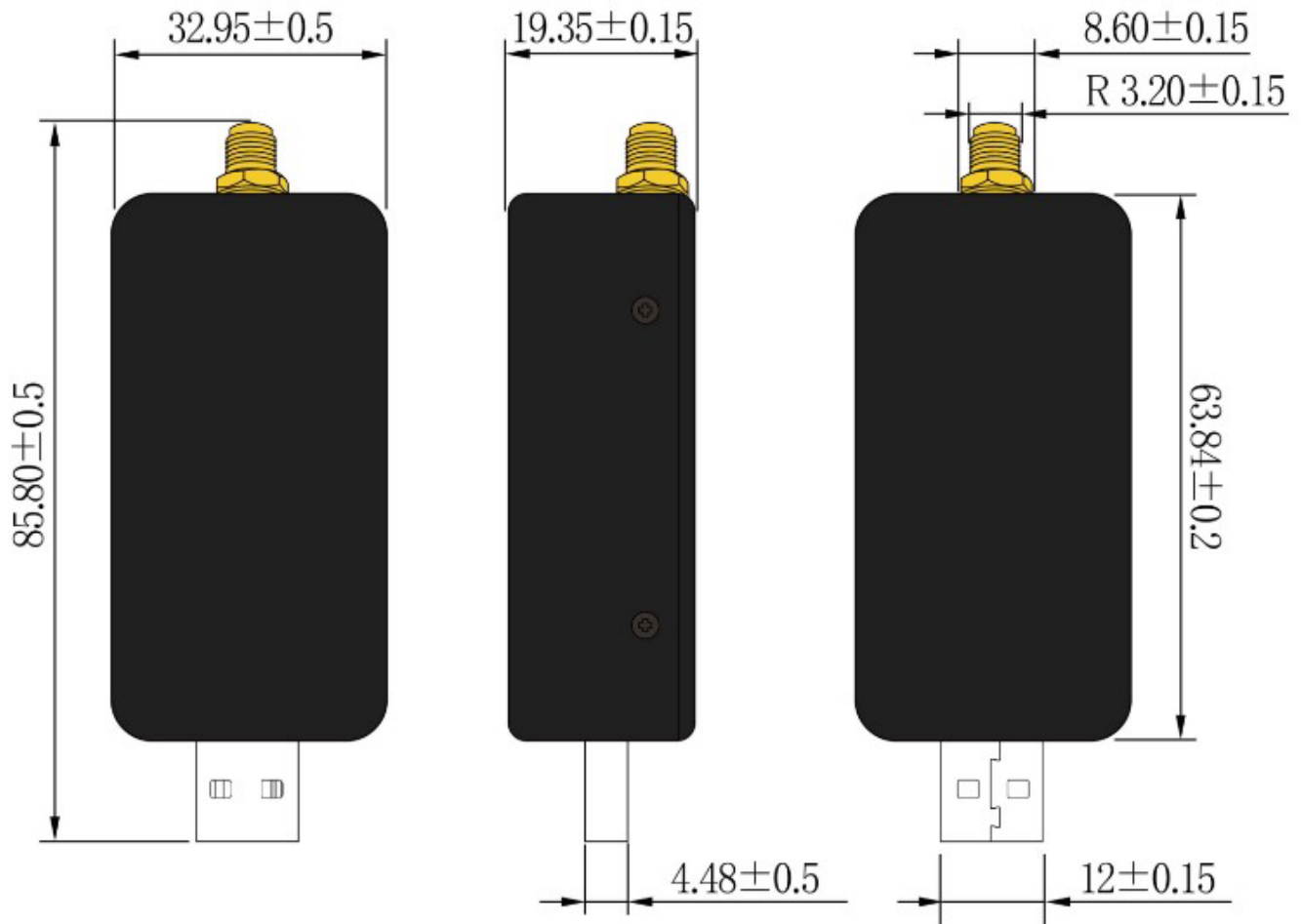| LED	Description
TIMEPULSE	TIMEPULSE visualizing indicator. This LED will blink at the rate and duty cycle of the TIMEPULSE output.
PWR	ON: indicates the module is powered on and enabled OFF: indicated the module is not powered and is disabled *the module is enabled/disabled using the W_DISABLE1# input from the USB card edge connector

8. Outline dimensions

Figure 3

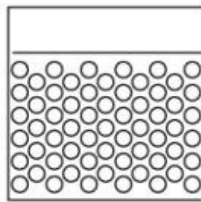| Symbol	Min. (mm)	Typ. (mm)	Max. (mm)
W	32.45	32.95	33.45
L	85.30	85.80	86.30
H	19.20	19.35	19.50

9. Packing information

USB dongle is electrostatic sensitive device. Handling the product without proper ESD protection may result in severe damage to them. ESD protection must be implemented throughout the processing, handling and even when the product being returned for repair.

The product is sealed in a antistatic bag and will be packed with bubble bag. And will use carton for packing when the quantity reach to 20pcs.
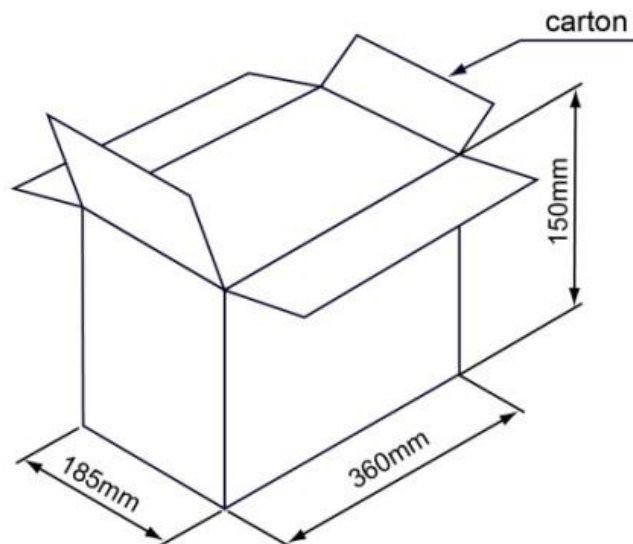

1pcs in an antistatic bag

2pcs in a bubble bag

20 bubble bags in a carton (40pcs)

carton
150mm
185mm
360mm

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10. Document change list

Revision 0.1
- Draft release on Apr.21, 2023.

Revision 0.2 (September 21, 2023)
- Revised part number UB-35AD information.

Revision 0.3 (September 24, 2024)
- Added part number UB-52Q.
- Removed part number UB-STi-DG、UB-STi-GT.