

Getting Started with PX1120DP Evaluation Board

Top View of PX1120DP EVB

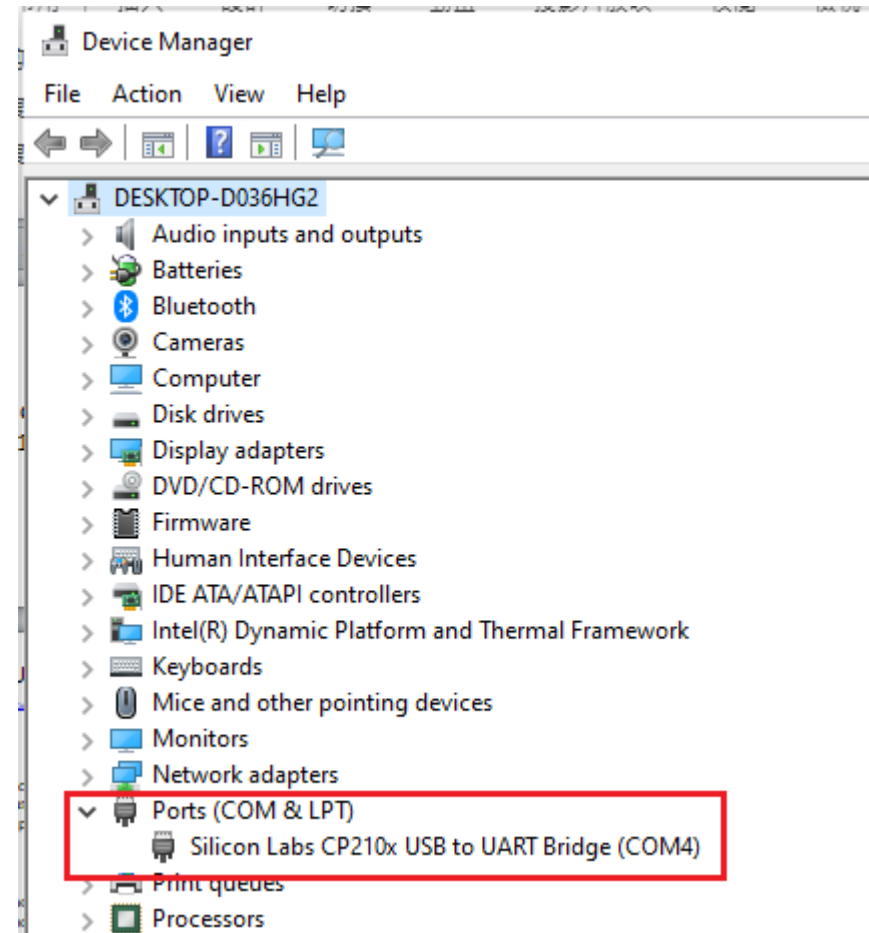
USB1



Install USB Driver from Silicon Lab Site

<https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers>

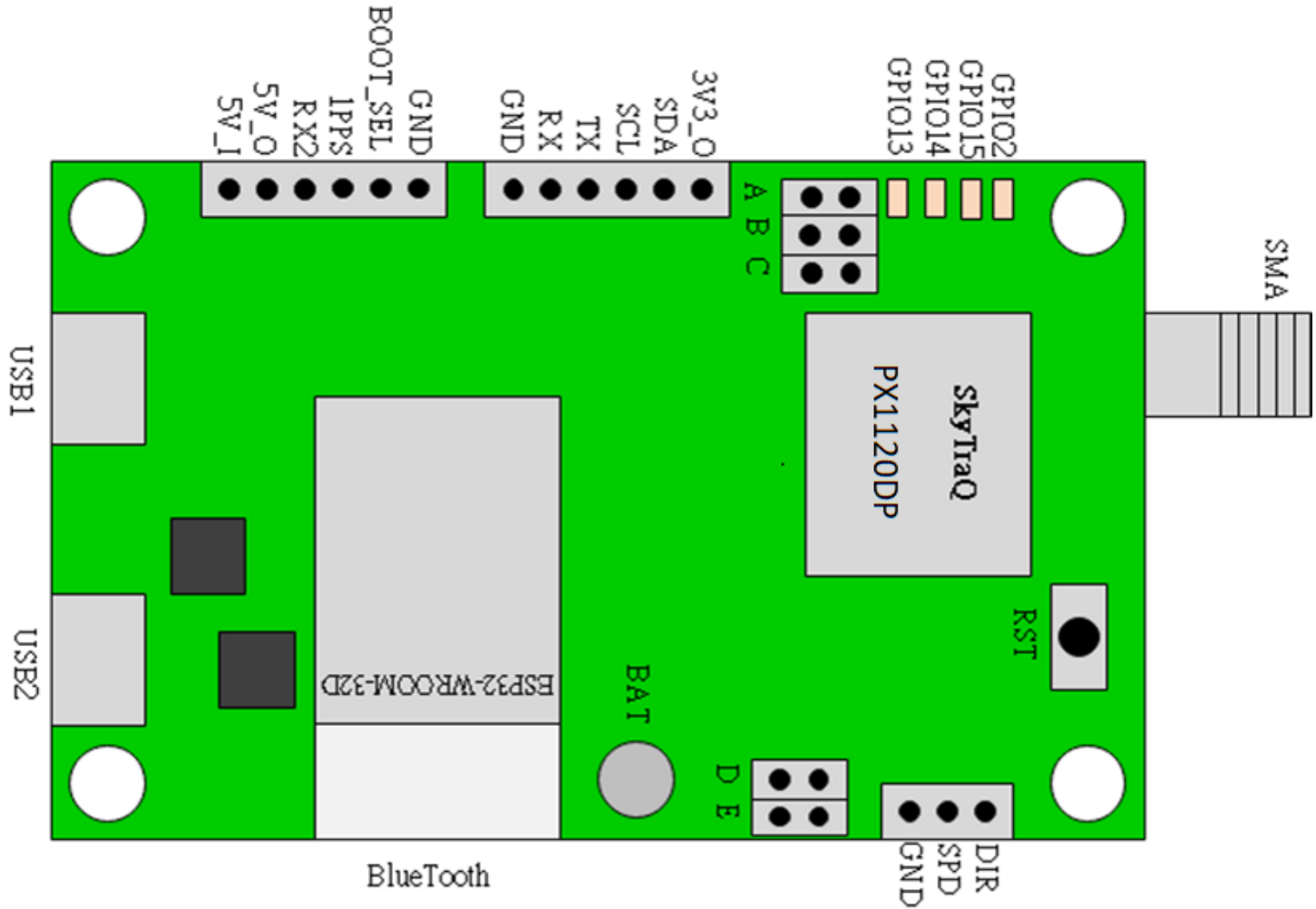
After connecting USB1 cable, user should see COM port appear on Device Manager.



Get Windows GNSS Viewer

- https://navspark.mybigcommerce.com/content/GNSS_Viewer-CustomerRelease.zip
- <http://navspark.mybigcommerce.com/content/GNSSViewerUserGuide.pdf>

Interface of PX1120DP EVB (1/4)



Interface of PX1120DP EVB (2/4)

NAME	DESCRIPTION
USB1	USB port used for NMEA output and configuration with GNSS Viewer
USB2	Unused
Bluetooth	The Bluetooth supports SPP protocol to send NMEA output to Android phone. Using Mock Location setting on Android, Android App can use external PX1120D EVB result.
SMA	The RF connector for GNSS antenna
5V_I	An extra 5V power input
5V_O	5V power output from USB1 or 5V_I
RX2	Unused
1PPS	Pin for generating an 1Hz pulse with pulse width is about 100ms
BOOT_SEL	Pin for choosing which mode to boot, given 'H' during boot time selects flash mode and 'L' selects ROM mode. This pin is pulled high internally.
RX	Input pin for alternative UART Rx data to replace USB1, see jumper D
TX	Output pin for UART Tx NMEA message output

Interface of PX1120DP EVB (3/4)

NAME	DESCRIPTION
SDA	Unused
SCL	Unused
3V3_O	3.3V power output from on-board LDO
GPIO15	LED indicator that can be used by module firmware
GPIO14	LED indicator that can be used by module firmware
GPIO13	LED indicator that can be used by module firmware
GPIO2	LED indicator that can be used by module firmware
RST	Reset button
DIR	Forward or reverse direction input from vehicle. Reverse (HIGH > 2.0V), Forward (LOW < 0.8V), max input 36V
SPD	Car speed pulse input, frequency < 4kHz. LOW < 0.8V, HIGH > 2.0V, max input 36V.
GND	Ground pin

Interface of PX1120DP EVB (4/4)

NAME	DESCRIPTION
A/B/C	Unused
D/E	Jumpers to select the source of PX1120D pin-21 RXD D : from connector pin RX E : from USB1

Automotive Dead-Reckoning Usage

- The PX1120DP EVB should be placed in a fixed orientation relative to the vehicle
- Connect vehicle wheel-tick signal to SPD header pin
- Connect vehicle forward/reverse signal to DIR header pin (optional)
- Connect USB1 to laptop to perform evaluation using GNSS Viewer

Odometer-less Dead-Reckoning Usage

- The PX1120DP EVB should be placed in a fixed orientation relative to the vehicle
- Connect USB1 to laptop to perform evaluation using GNSS Viewer

Firmware Update

To update firmware to PX1120DP EVB:

- 1. Unzip the firmware file
- 2. Connect EVB USB1 to a Windows PC running GNSS Viewer. Connect GNSS Viewer to the EVB.
- 3. Select the unzipped .bin file using the small button on right of the Download button.
- 4. Click the Download button, first boot-loader will be downloaded, and then main firmware will be downloaded. After downloading is done, the pop-up window will close and module will reboot.

