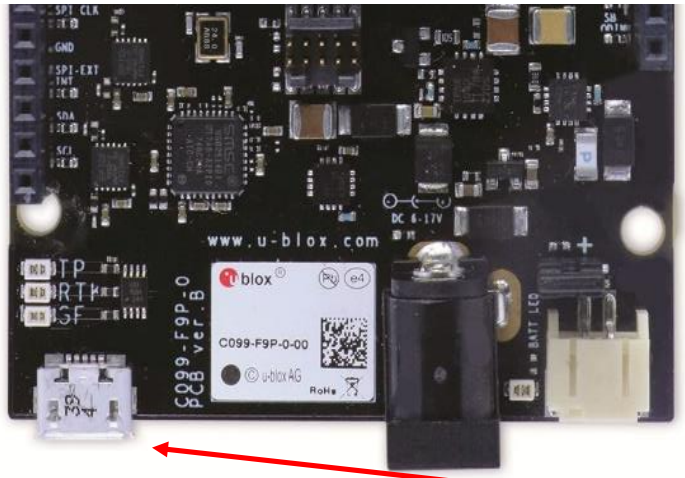
C099 ZED-F9P quick configuration – Moving Base, WIFI base and rover

January, 2019

New configuration file download

- Easy to use new configuration files have been created to allow very easy set up of a C99 base and Rover.
- These use the new configuration commands and the new ublox 9 Advanced configuration view in u-center.
- These files **cannot** be downloaded using the legacy config txt file download. You must use the new config download process.

C099 REV B hook-up

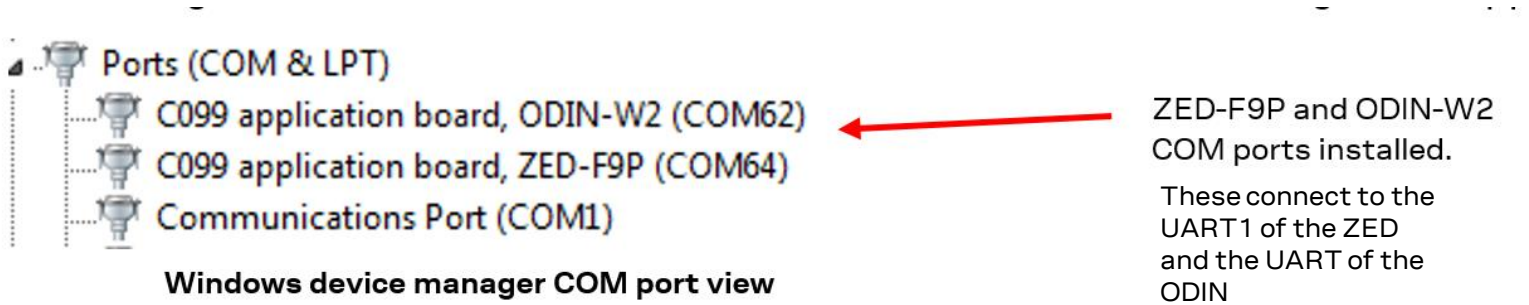


Single USB connector for connection to ZED-F9P UART1, ODIN UART, ZED-F9P USB

- C099-F9P-AppBoard_UserGuide_(UBX-18055649).pdf (REV B PCB)
- Use dual band GNSS antenna
- Requires Installation of u-blox FTDI driver and ZED-F9P USB driver automatically by Windows update via internet connection

Installed USB drivers

1



Windows device manager COM port view

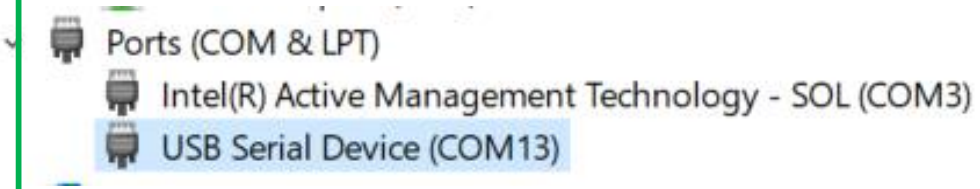
ZED-F9P and ODIN-W2 COM ports installed.

These connect to the UART1 of the ZED and the UART of the ODIN

In addition, a third VCP will be created corresponding to the ZED-F9P direct USB port.

- For Windows 10 it will be shown as "USB Serial Device (COMx)"
- For Windows 7 64-Bit it will be shown as "u-blox GNSS Receiver (COMx)"

Windows 7 64-bit ZED-F9P USB port view



Windows 10 ZED-F9P USB port view

2

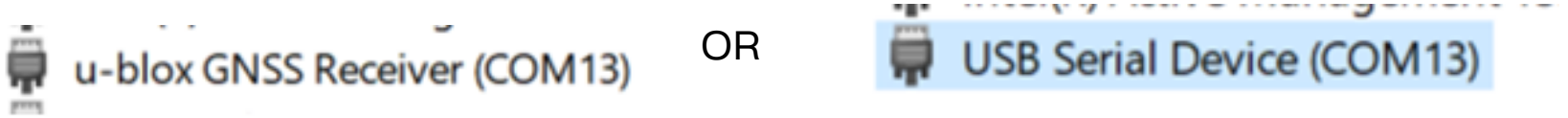
Connecting and downloading config

- Use the ZED-F9P direct USB port to download the config as it will keep communicating with u-center after config file download. 1

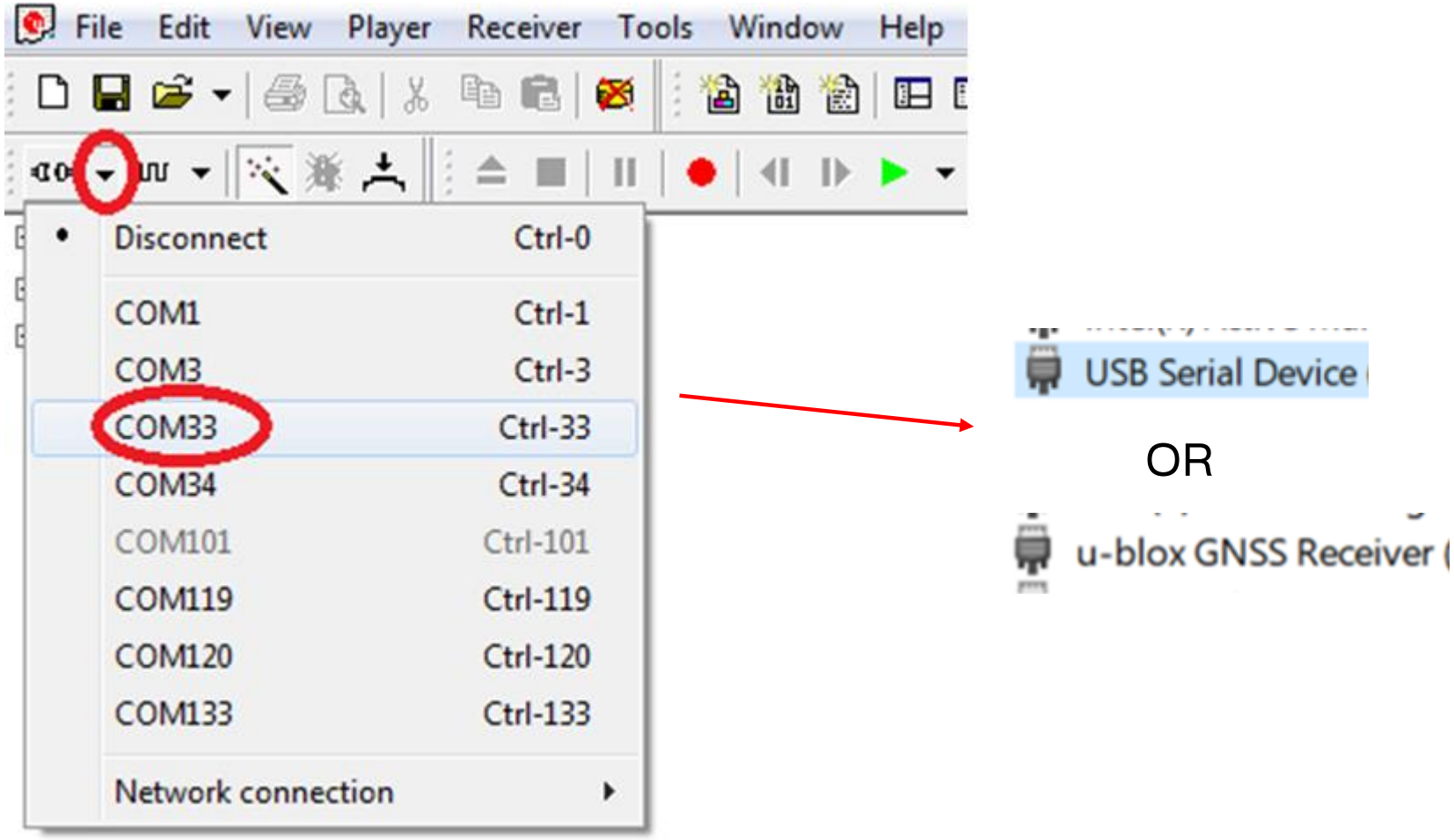
- It is important that the Base C99 ZED-F9P UART1 does not output any other messages besides RTCM3 messages. The Base config file ensures this. You can use the Base ZED-F9P direct USB port to view debug messages etc. 2

- The Base ZED-F9P UART1 interface must have all input protocols disabled. The Base ZED config file ensures this. The Rover ZED data is fed back into the Base ZED UART1 and will overload the receiver. 3

- The Rover UBX and Debug messages will be visible on the Base C99, ODIN FTDI port as the ODIN will transparently transfer them over the Wifi link. Otherwise connect directly to the Rover C99 ZED-F9P direct USB port. The direct ZED USB port will be shown as below: 4

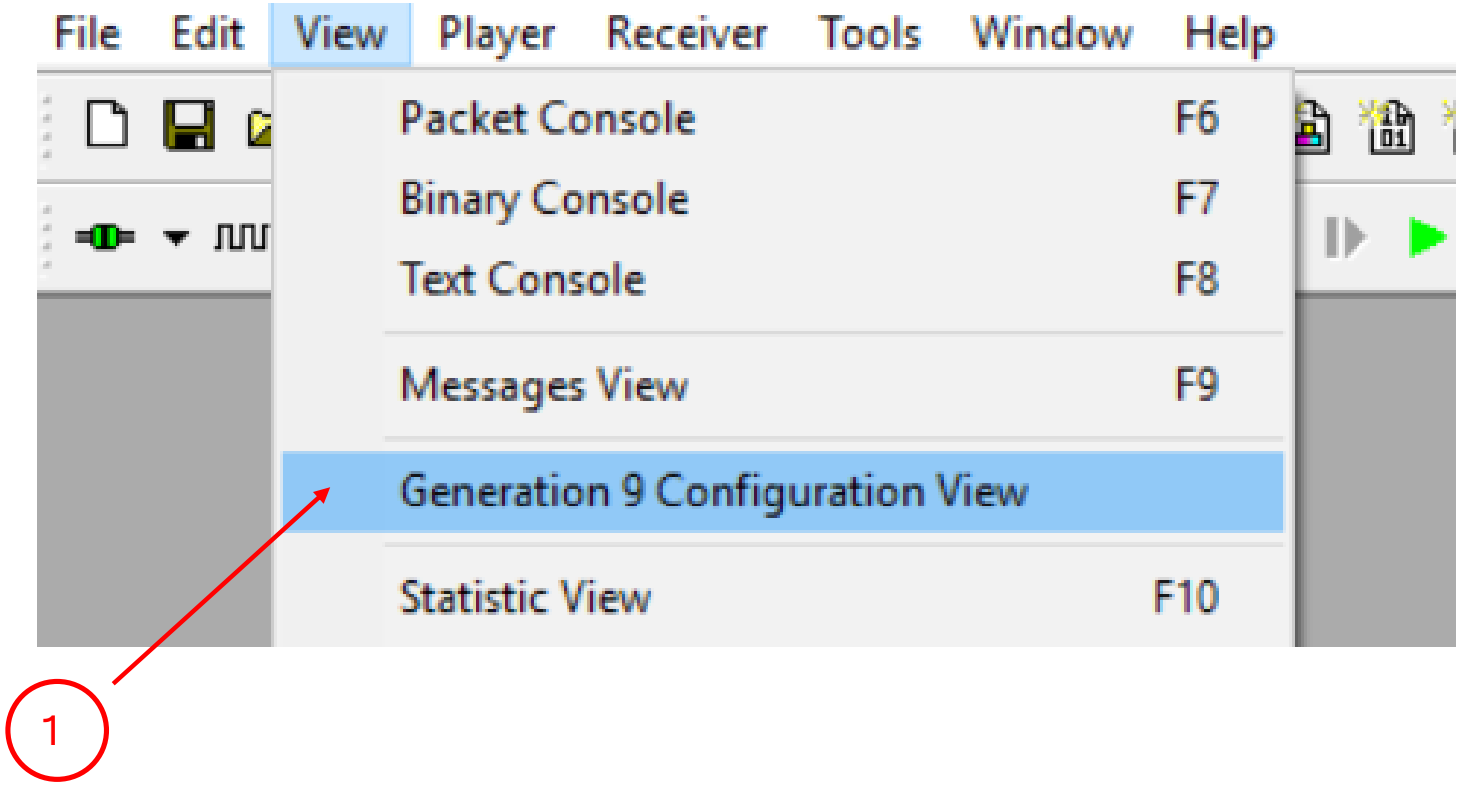


u-center select port

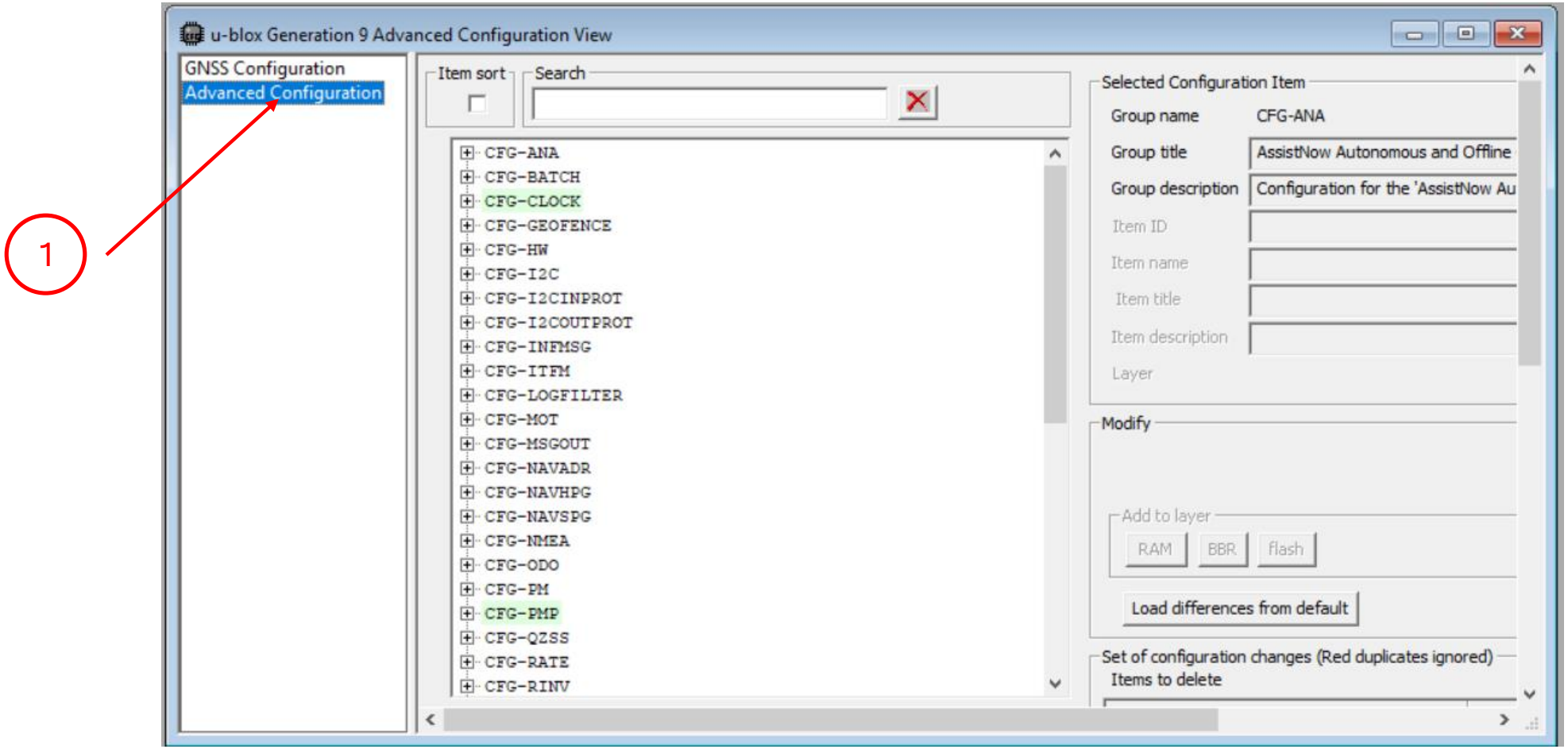


- Select ZED-F9P direct USB port from device manager

Select u-center Generation 9 Configuration view

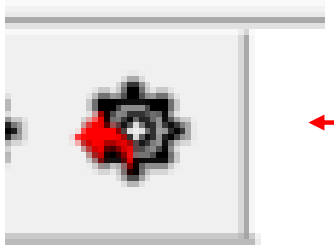


Click on Advanced Configuration



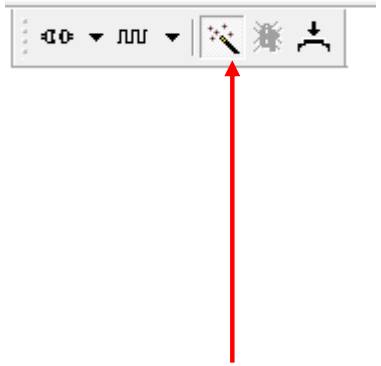
Important next step – return receiver to defaults

1



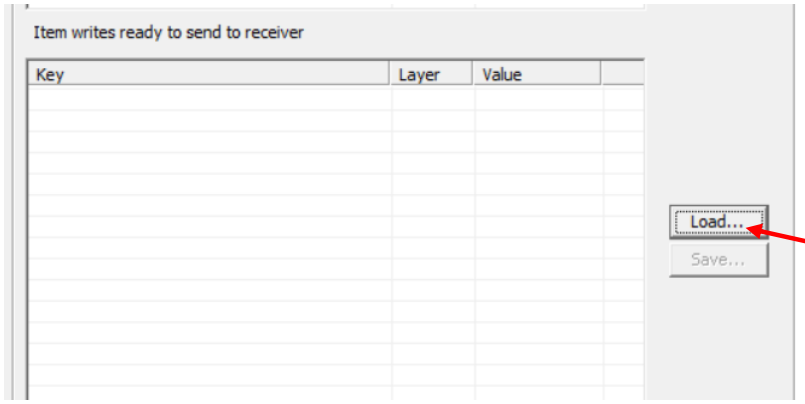
Click return to defaults button

2



Click autobaud or select 38400 baud

Rover C99 ZED-F9P configuration download

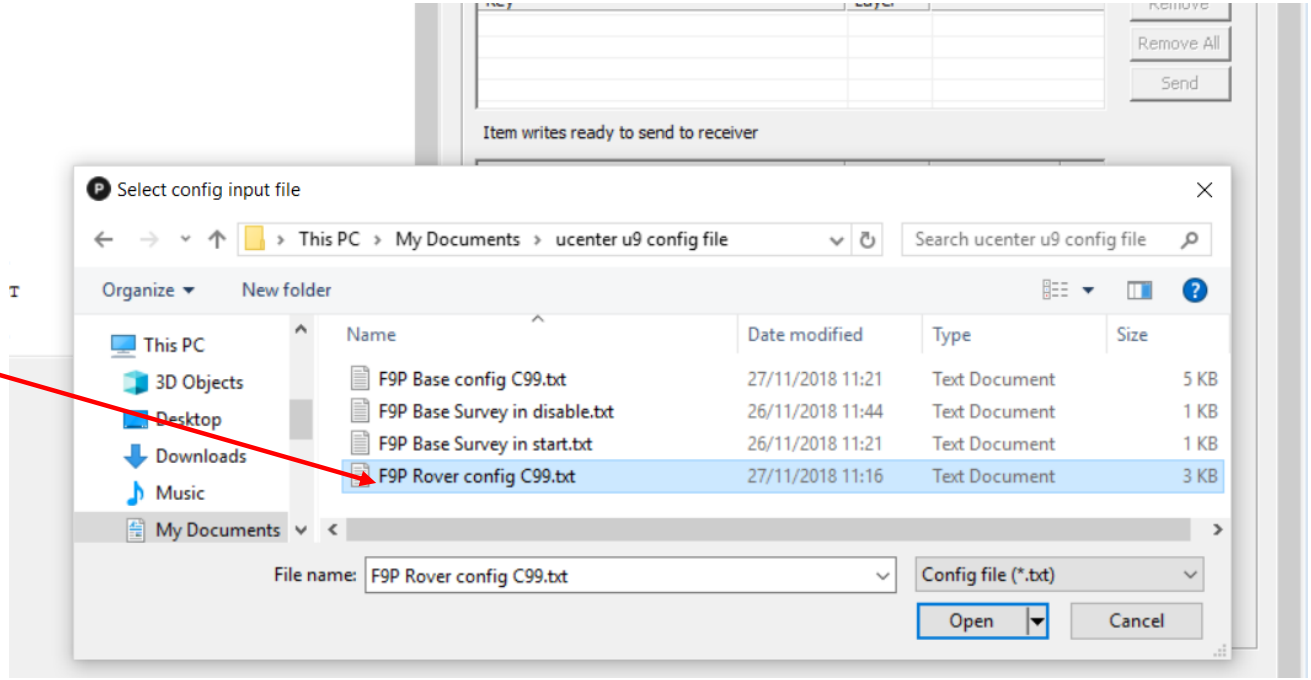


1

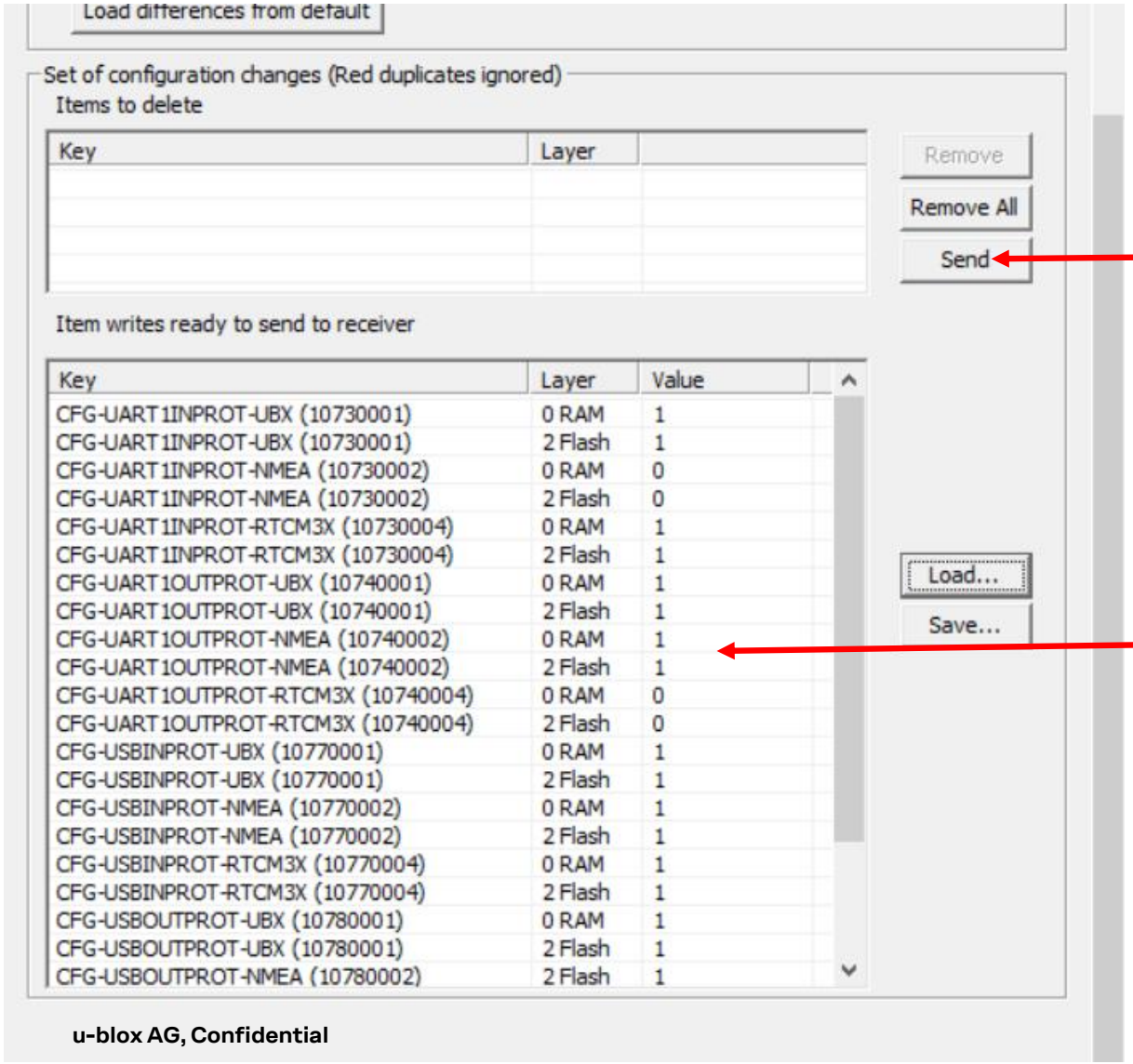
Click load button

2

Select:
F9P Rover config C99



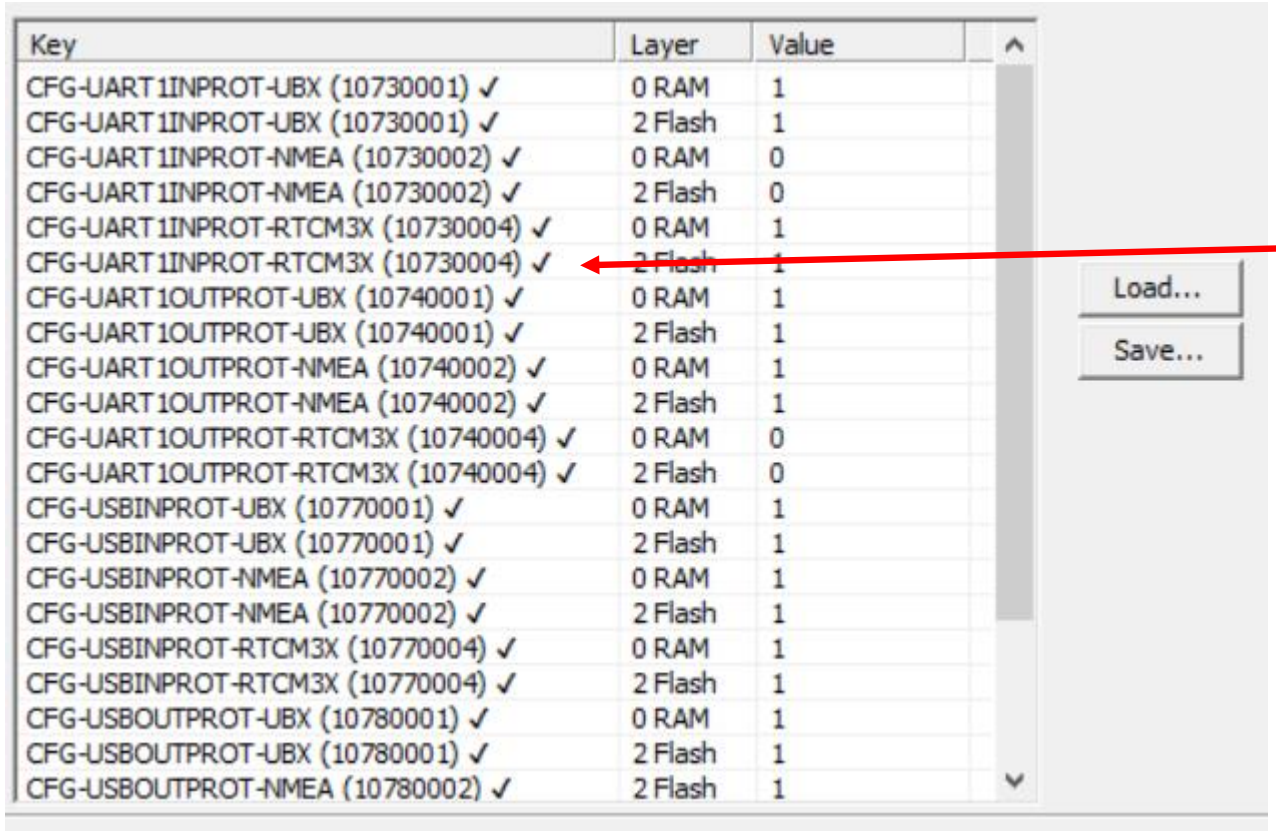
Rover ZED-F9P config Load and Send



Click Send button (2)

Configuration ready to send (1)

Checking configs are sent

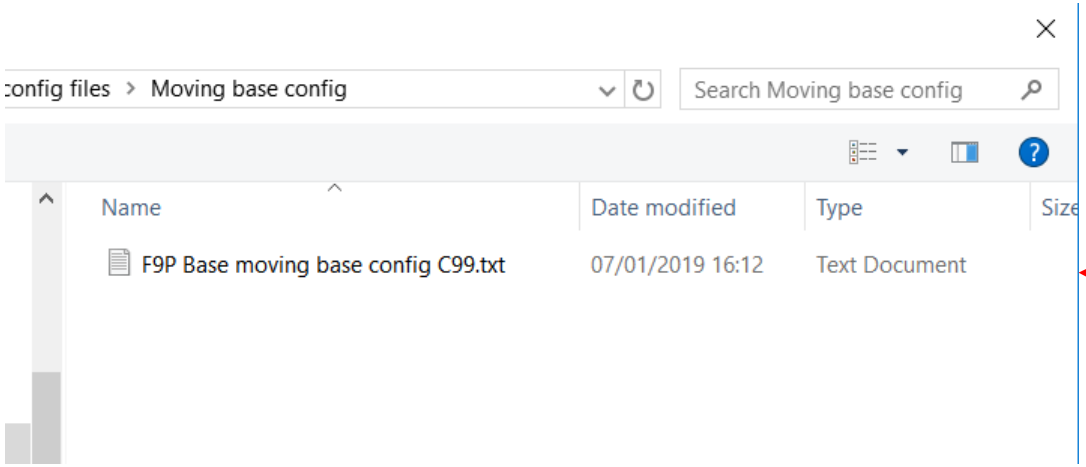


Ticks indicate config is sent

Moving Base config file download

- Identical procedure – connect Base ZED-F9P direct USB port to u-center (1)

- Open u-center, select view/u-blox generation 9/Advanced view. (2)
- Return receiver to defaults. (3)
- Select load and ensure you select the “F9P Base moving base config C99 .txt” file and click send. (4)



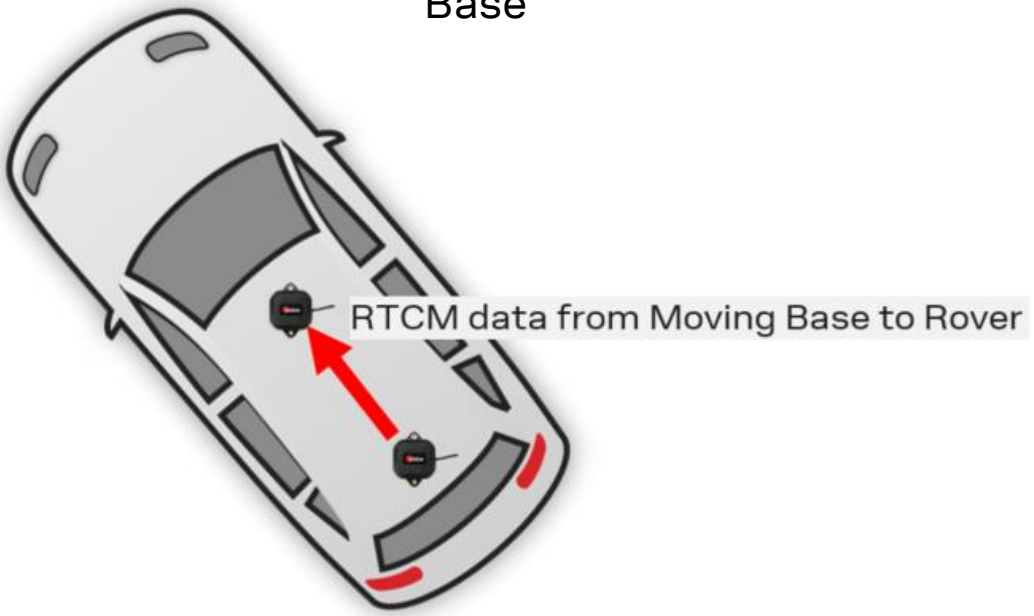
Select F9P Base moving base config file

Moving base RTK after configuration

- Power both Base and Rover ON – Base will show 3D FIX only (1)
- Rover will go to RTK Fixed mode (2)
- If you send RTCM3 corrections into the Base ZED-F9P direct USB port (Using u-center NTRIP client) it will go to RTK Fixed mode – This provides ultimate base and rover accuracy. But it must be continually supplied for a moving base application. (3)

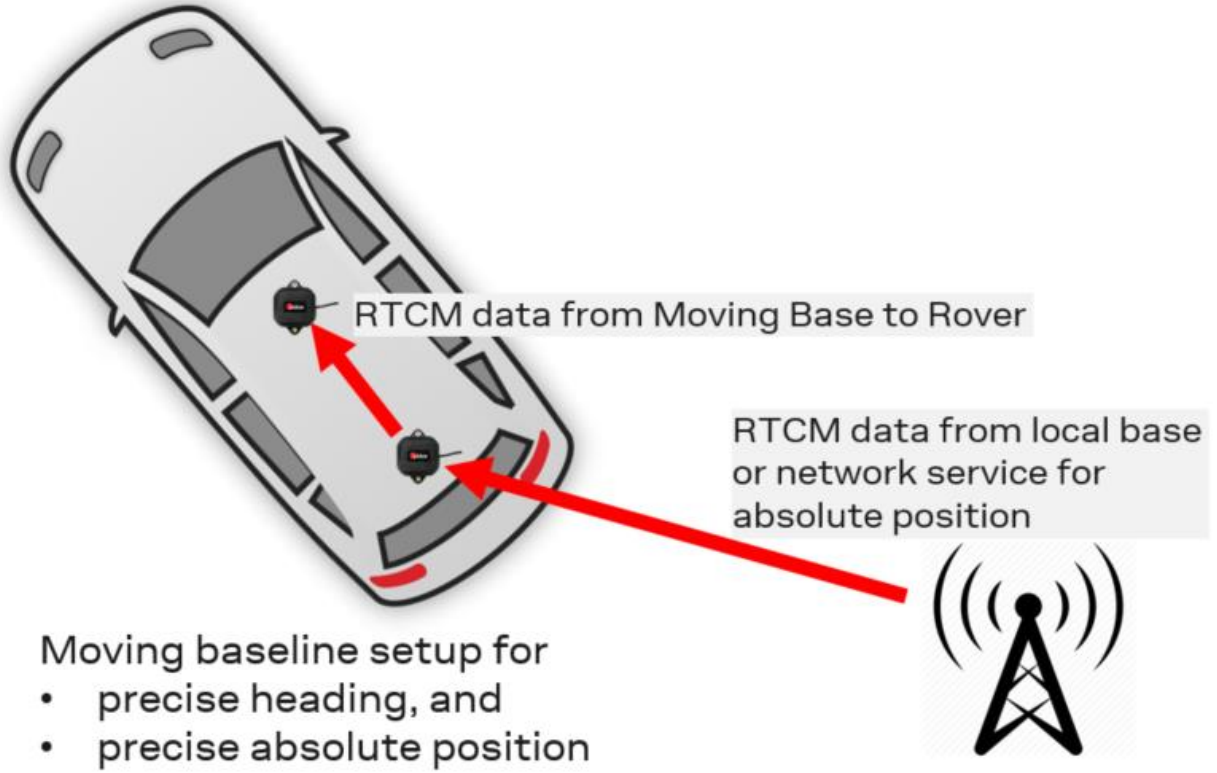
RTCM3 input to Base

1 Standard Moving Base



Moving baseline setup for precise heading

2 Moving Base with RTCM3 corrections into Base



Moving baseline setup for
- precise heading, and
- precise absolute position