This manual is focused specifically on Huawei E3372**h** LTE USB modem (Serial number starts with **G4P**).
All operations below are supposed to be held on Windows PC.
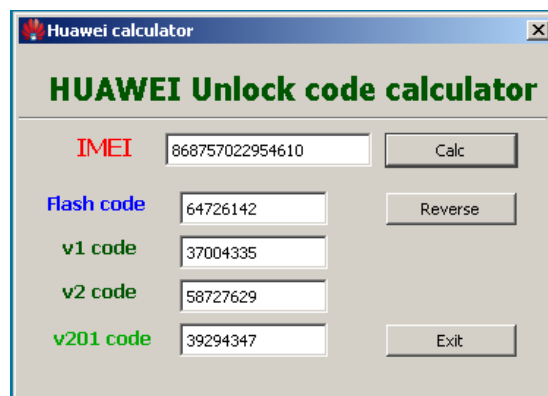Initial modem state (prior to all operations below) is assumed to be sim-locked and in Hi-Link mode.

To make it work with Minla (turn it into modem-only and sim-unlocked mode) follow this step-by-step procedure below.
Make sure you remove SIM card from modem before doing any actions described in this guide.
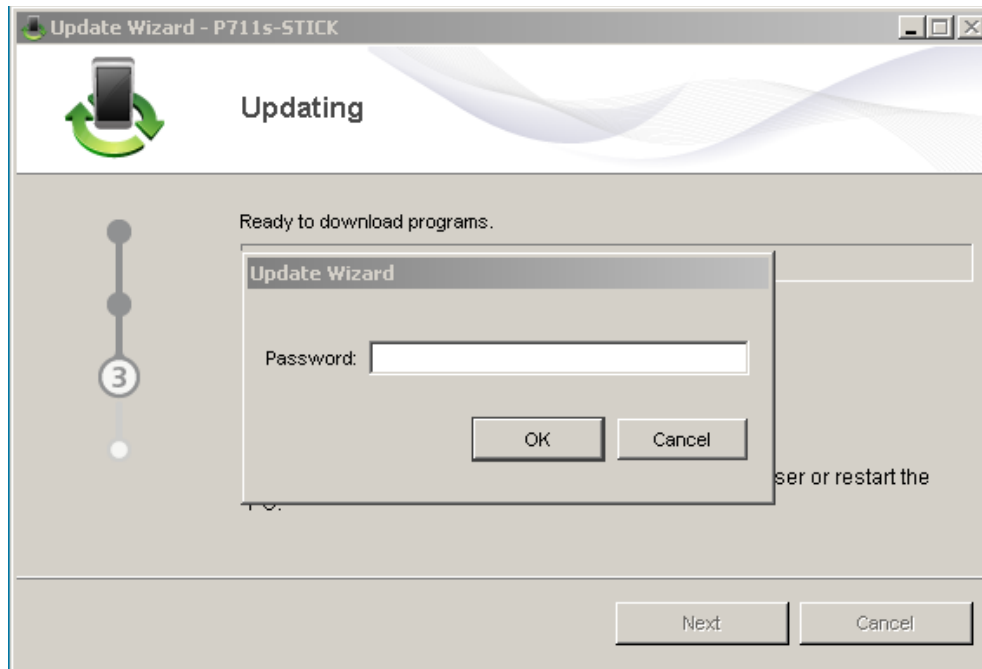
1. Download this zip file with Huawei firmware and extract it to local folder on your hard drive:
https://github.com/minla-rc/Minla-LTE-Receiver/raw/master/configuration/Huawei_E3372h_config.zip

2. Note your modem IMEI number. You can find it under the modem cover.

3. Insert modem in Windows PC USB port. If needed install drivers from
HUAWEI_DataCard_Driver_5.05.03.00 folder extracted from archive.

4. Run "**huaweicalc.exe**" extracted from archive. Key in IMEI number you noted in step 2. Press Calc button and note "Flash code" that was generated.
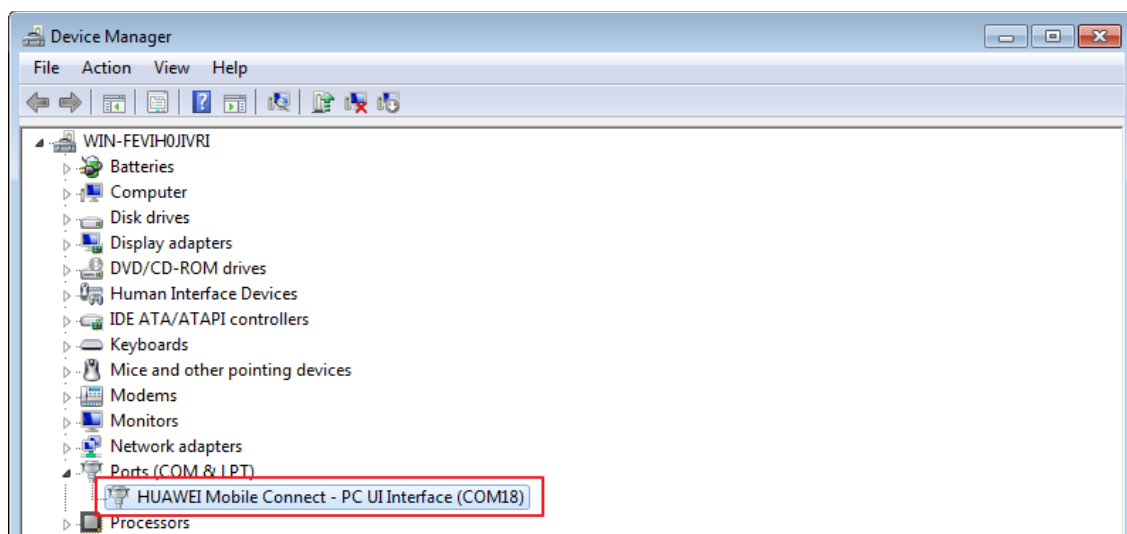
5. Run "**E3372h_firmware\E3372h-607_Update_21.110.99.02.00-service\E3372h-607_Update_21.110.99.02.00.exe**". Press "Start" button. In few seconds you will be requested to provide password. Key in "Flash code" you generated in step 4. Wait for upgrade process to complete and press "Finish" button.
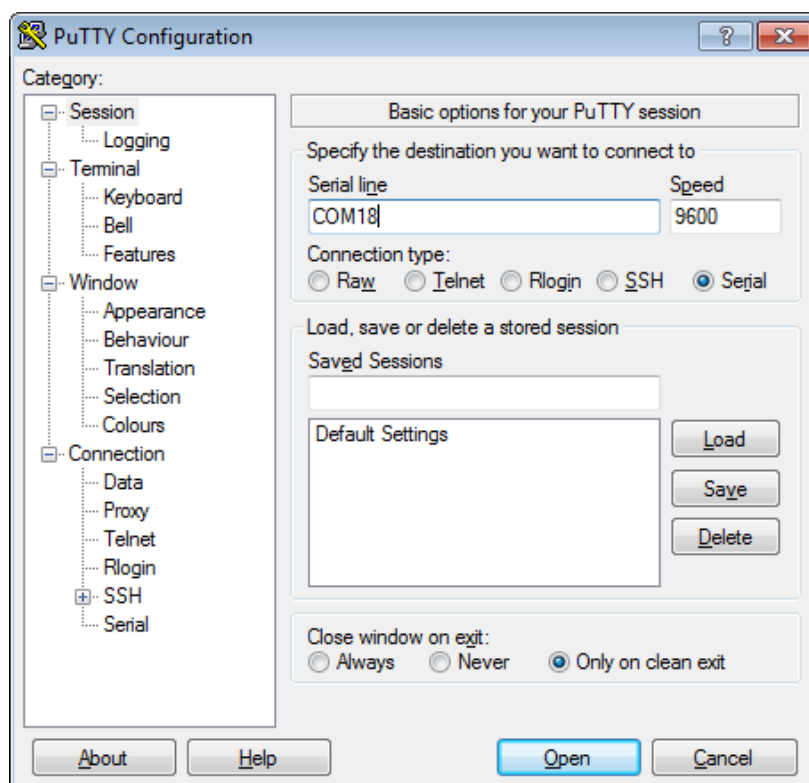

6. Run "**E3372h_firmware\E3372h-153_Update_21.180.01.00.00\E3372h-153_Update_21.180.01.00.00.exe**". Press "Start" button. Wait for upgrade process to complete and press "Finish" button. Normally you will not be requested to enter "Flash code" at this step.

7. At this point you've got a right firmware in you modem. Now let's configure it properly.
Download "putty" at link below and extract it:
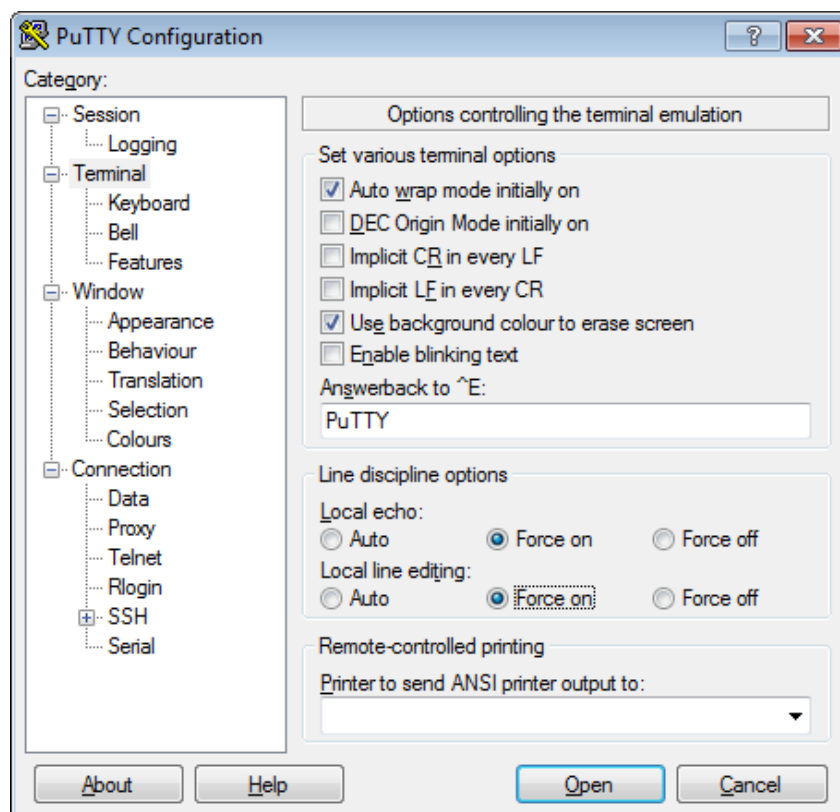http://portableapps.com/apps/internet/putty_portable

8. Remove and re-insert your modem in usb port on your PC. Then go to
    Control Panel → System → Device manager → Ports (COM & LPT)
Note your Huawei mobile connect - PC UI interface COM port number.
In this case it's COM18.

9. Run "PuTTYPortable.exe" you downloaded at step 1.
Select "Serial" and specify "Serial line" as your Huawei COM port number (in this case it's COM18)
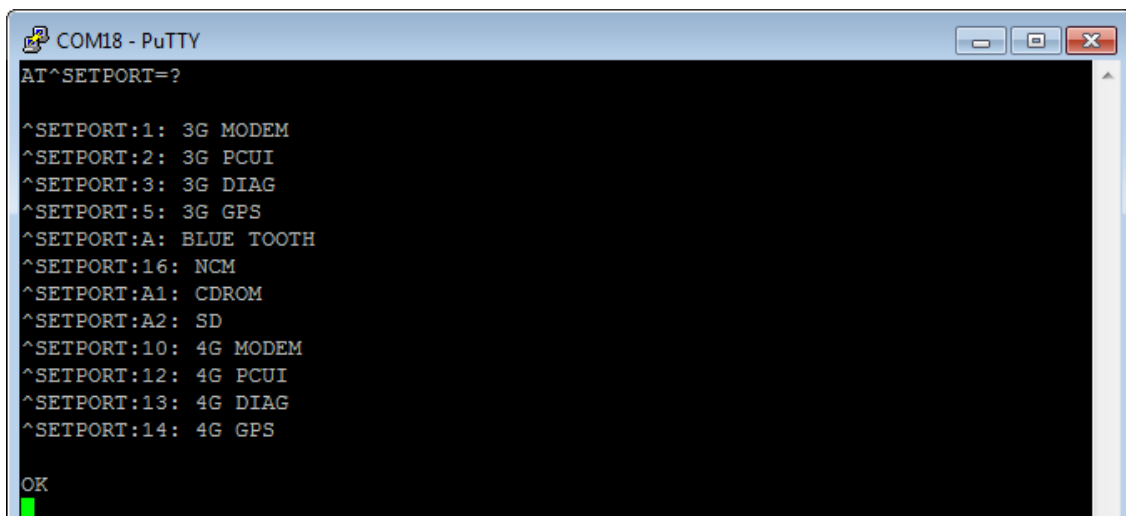
Go to "Terminal" category and select "Local echo" Force on and "Local line editing" Force on.

Click "Open" button

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10. Type **AT^SETPORT=?** and press Enter, you shall see following output:
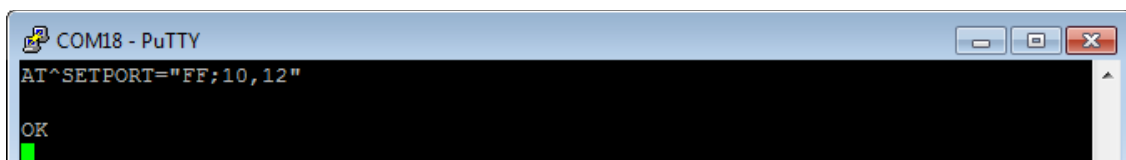
```
COM18 - PuTTY
AT^SETPORT=?

^SETPORT:1: 3G MODEM
^SETPORT:2: 3G PCUI
^SETPORT:3: 3G DIAG
^SETPORT:5: 3G GPS
^SETPORT:A: BLUE TOOTH
^SETPORT:16: NCM
^SETPORT:A1: CDROM
^SETPORT:A2: SD
^SETPORT:10: 4G MODEM
^SETPORT:12: 4G PCUI
^SETPORT:13: 4G DIAG
^SETPORT:14: 4G GPS

OK
```

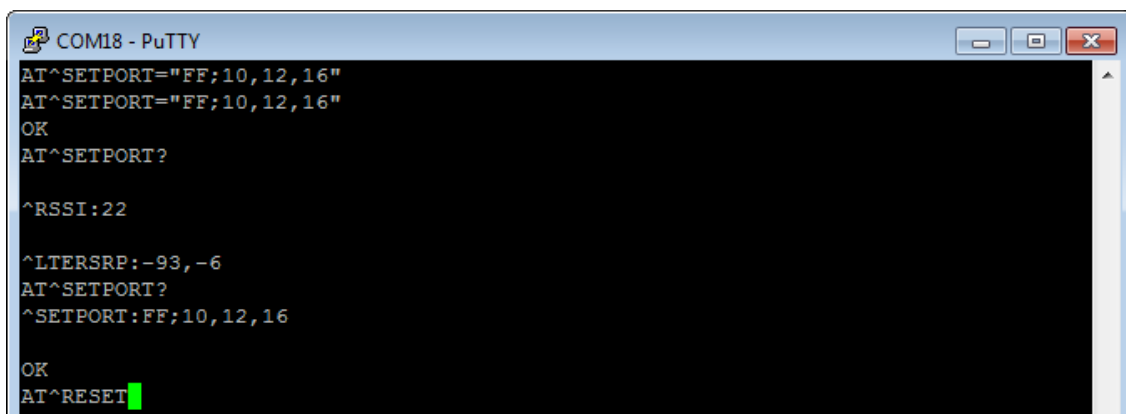This is the list of all ports your modem has. You are specifically interested in number 10, 12 and 16.

11. Type **AT^SETPORT="FF;10,12,16"** and press Enter.
Make sure you see same line repeated and OK.

```
COM18 - PuTTY
AT^SETPORT="FF;10,12"

OK
```

12. Now check if modem has saved new configuration.
Type **AT^SETPORT?** and press Enter.
You should see following output: **^SETPORT:FF;10,12,16**
Now your modem is configured in modem only mode but it's still sim-locked.
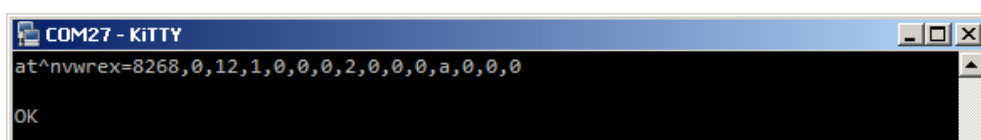
```
COM18 - PuTTY
AT^SETPORT="FF;10,12,16"
AT^SETPORT="FF;10,12,16"
OK
AT^SETPORT?

^RSSI:22

^LTERSRP:-93,-6
AT^SETPORT?
^SETPORT:FF;10,12,16

OK
AT^RESET
```

13. To unlock it (make it work with any mobile operator sim card) type:
at^nvwrex=8268,0,12,1,0,0,0,2,0,0,0,a,0,0,0
Make sure modem is responded with **OK.**
At this step you have fully configured modem that is ready to be used with Minla.

```
COM27 - KiTTY
at^nvwrex=8268,0,12,1,0,0,0,2,0,0,0,a,0,0,0

OK
```