SX127x Development Kit

Troubleshooting Guide

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1. Preamble

This document gives a troubleshooting list of hardware or firmware issues which can appear on both SX1272 and SX1276 Development kits. This document describes especially the SX12xx Eiger platform (STMPRIMER) with SX127xRF1xAS Module. We also strongly recommend that the user reads thoroughly the SX1272 and SX1276 userguide and datasheet prior to start working on this device.

In case of issues with the SX1272 or SX1276 Development kits, please contact directly Semtech support:

support_rf@semtech.com
Internet: http://www.semtech.com

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2. Troubleshooting List

2.1. Wrong Part Number configured on the SX127xR1xAS module

If the part number of the SX127xRF1xAS module configured in the EEPROM (Target device) is not correct, take the Eiger platform configured with the SX127xDVK1xAS PER firmware **V2.1.0-RC** or later version and plug the SX127xRF1xAS module on the kit.

You can re-program the EEPROM by clicking on the virtual green line, at the same level as the LED on the left, from the Home menu.

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Select the correct SX1272RF1 or SX1276RF1xAS part number as seen on the image below.

Switch-OFF and ON the Eiger platform to read the new part number from the EEPROM, the firmware will automatically select the right modules settings. Check the Part number of the module plugged on the Eiger platform by clicking on menu ->System->About->Target device.

2.2. Updating the latest PER firmware

We recommend updating Packet Error Rate - PER firmware, if version is prior to V2.1.2-RC.

Updating the Eiger platform firmware is straight forward given that the user follows some simple steps. The first step is to install the Eiger platform drivers on the PC used to update the firmware. These drivers, called RLink USB drivers, are located in the folder RLinkDrv given with every version of the firmware. To install the driver, simply launch the file RLinkUSBInstall.exe.

Please, refer to section 3.3 of the Development kit userguide for all details.

You can find the latest Packet Error Rate firmware version in the "Docs and Resources" section of the SX1272 or SX1276 Semtech webpage.

http://www.semtech.com/wireless-rf/rf-transceivers/sx1272/
http://www.semtech.com/wireless-rf/rf-transceivers/sx1276/

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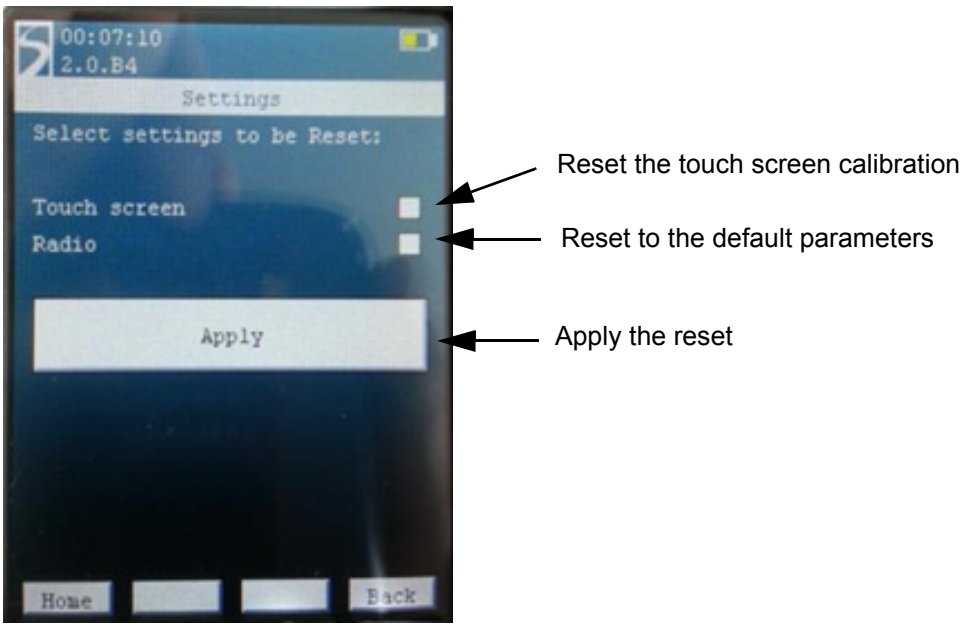
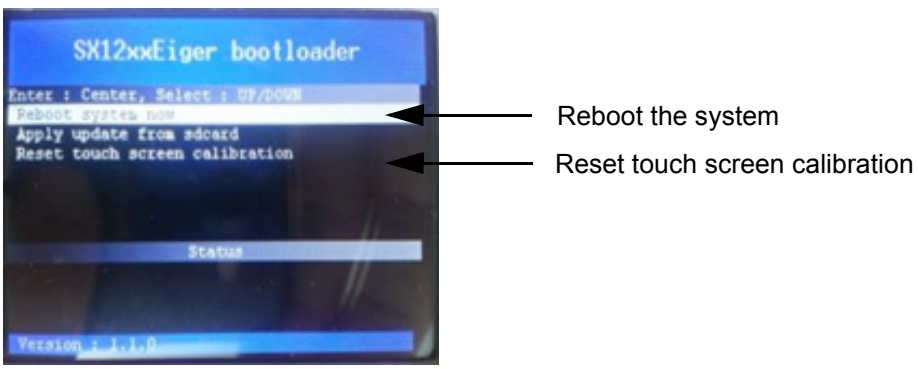
2.3. Touch Screen is not Accurate or not Usable (frozen display)

Use this procedure if the touch screen is not accurate but still usable. You can perform simple re-calibration by clicking on menu -> System -> Settings -> Touch screen (select) -> Apply

Perform a new calibration of the touch screen on each cross with the stylus provided. Wait 10sec to record parameters in the EEPROM when the procedure is finished.



If the touch screen is frozen and display does not respond, follow this second procedure. Switch-OFF and ON the Eiger platform, and maintain the joystick center button (5-Way main button), when the green "Semtech logo" appears on the main display. Release directly the button when you enter in the "SX12xxEiger Bootloader" menu (see below). Use the Joystick to go down in the menu and to select "Reset touch screen calibration", then click on "Reboot the system now". Perform a new calibration of the touch screen carefully on each cross. Wait 10sec to record parameters when the procedure is finished.



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2.4. Frequency set by default to 868MHz on SX1272DVK1CAS (915MHz)

As the Hardware for SX1272SVK1CAS and SX1272SVK1BAS are the same for both kits except RF antennas, the default frequency is set to 868MHz by default. You can change the frequency to 915MHz by selecting

->PER->Settings>RF Settings->868 MHz (RF Band) then select 915MHz band. Then, you can go back in PER menu to perform TRX testing @915MHz.

2.5. S_VDD_SEL commutator not selected on VBAT

In normal mode, S_VDD_SEL commutator on the Eiger Platform must be always on VBAT position. Place the selector on VEXT only to supply RF module with an external +5VDC on VEXT_DC_5V connector.

2.6. The SX127xSKA do not detect the device through the USB

This issue is usually caused by a wrong connection of the USB. The steps below should fix the issue.

- Make sure the Eiger Platform is powered down (Battery switch set to "0") and is not connected to the PC through the USB.
- Reconnect the side USB to the PC, the red LED on the left side should light up
- Connect the bottom USB to the PC.
- Power the device up (Battery switch set to "1")
- Press the five-way central push button until the screen light up.
- Launch the SX1272SKA or SX1276SKA on the PC-GUI, depending on the kit used.

2.7. Battery charging not performing correctly

The Main battery switch of the Eiger platform must be ON (indicated by "1" on the plastic case) to enable battery charging. If the battery doesn't charge with Main battery switch on, contact Semtech support.

2.8. The Eiger platform does not seem to work anymore

The battery is probably empty and you should connect the device through the USB side to a computer for a few hours, time for the battery to charge.

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