

Description

The STSW-M07SPI-ADIS is the Graphical User Interface (GUI) dedicated to set and control the 12V M0-7 SPI kit VIP-M07SPI-ADIS able to create a solution for a specific 12V SPI BCM system.

The STSW-M07SPI-ADIS has been developed by using Visual Express for Desktop 2013

Table 1. Device summary

Order Code	Reference
STSW-M07SPI-ADIS	STSW-M07SPI-ADIS GUI for VIP-M07SPI-ADIS

Features

- Vdd control, enable or disable Vdd power supply signaled by the LED12 on VIP-M07SPI-ADIS
- Device diagnostic reading, WD serving
- MCU analog diagnostic
- Enter requested device mode
- Temperature threshold warning
- Status information of GSB
- Channels control
- Channels diagnostic flags

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1 Installation

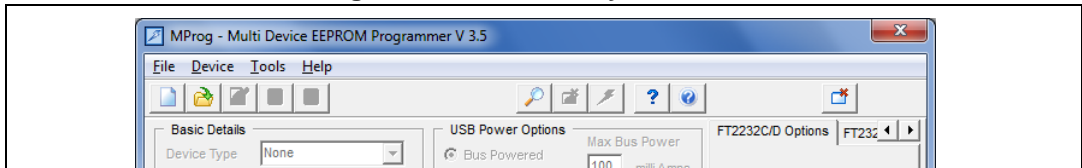
1.1 Firmware

1. Apply power supply to SPC560B-DIS, attach standard JTAG debugging tool (PLS/iSystem/Lauterbach) download firmware (.elf file) into microcontroller.
2. *After code download, code start (debugger run or reset button)*

1.2 GUI

1. Download files necessary to run PC GUI application.
2. GUI has been developed in Visual Express for Desktop 2013, therefore .NET v4.5 is necessary to run application. If this SW package is not preinstalled on PC, automatic request to download .NET package is displayed (internet connection is necessary to download files).
Once NET is stored in PC, GUI application will be able to start
3. Keep board supplied and connect FTDI communication interface with PC.
4. If Bolero board applies fresh FTDI chips, PC will probably ask to install FTDI drivers (any other changed descriptors in FTDI memory will ask to install modified drivers). For installation steps, please check <http://ftdichip.com>.
5. Once FTDI drivers are installed correctly, run MPROG tool to get FTDI descriptor. This one is needed to successful GUI connection with microcontroller board (see [Figure 1](#)).

Figure 1. FTDI correctly connected



6. Read and parse connected devices (see [Figure 2](#)). Copy Product descriptor, this one has to be applied in GUI configuration xml file (GuiConfig.xml). Close MPROG

Figure 2. Read and parse

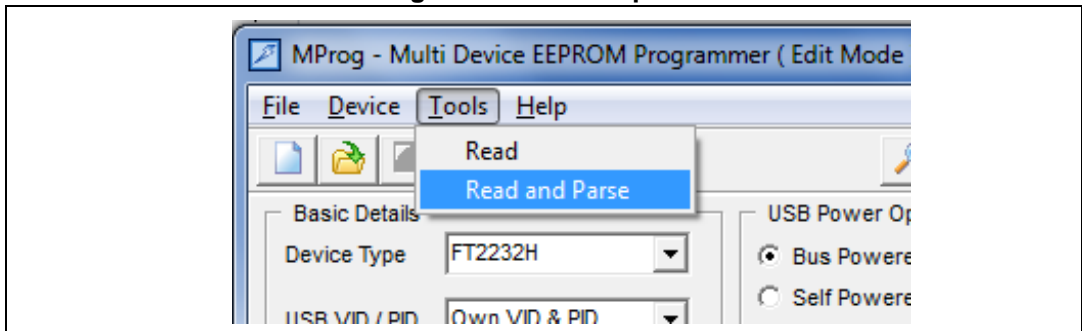
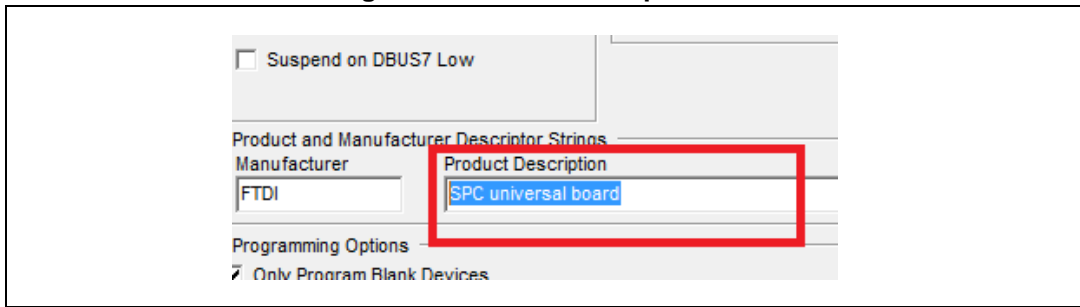
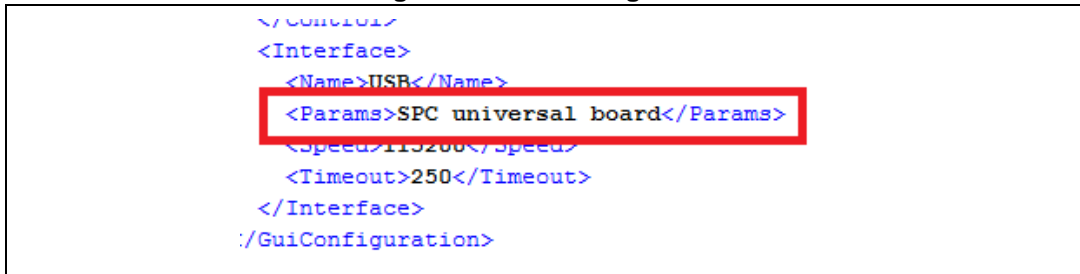


Figure 3. XML file descriptor info



7. Go to folder with unpacked GUI files, edit file GuiConfig.xml.
8. Search xml item `<Interface> <Params>`, verify there is the same descriptor with copied from MPROG. If it is different, apply description taken from MPROG. Save and close configuration file.

Figure 4. GUI running mode



9. Run GUI, check successful connection of board with PC in status strip of main window.
10. If board is not responding, check power supply to board, USB cable, close all programs which could potentially connect to the FTDI (MPROG), verify name of descriptor in configuration xml file. If new name in FTDI has been applied, please keep in mind that USB reconnection is necessary to load valid USB drivers in PC.

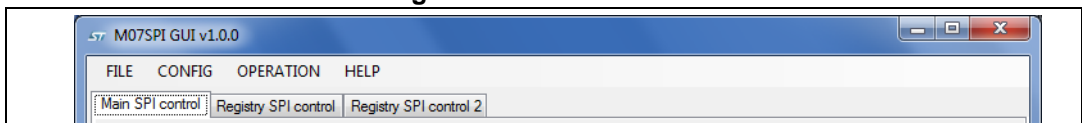
2 GUI

Application consists from main form, storing 3 tabs for direct SPI access of the two devices. Communication form history is used to monitor communication over FTDI interface. Last available form can be used for user defined sequences of commands to be applied into device, having capability to evaluate device response.

2.1 Main menu

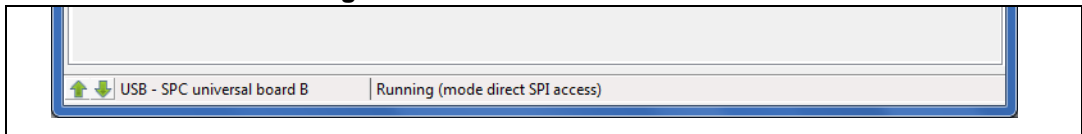
Allows open briefly described forms, select SPI bit clk speed (1MHz / 2MHz / 4MHz) for communication between MCU and M07SPI device.



Figure 5. GUI main menu



2.2 Status strip

Figure 6. GUI communication status



Arrow icons show communication activity between FTDI and GUI. Arrow  depicts communication activity from GUI to FTDI, arrow  means direction FTDI to GUI.

Colors meaning:

 or  - valid communication

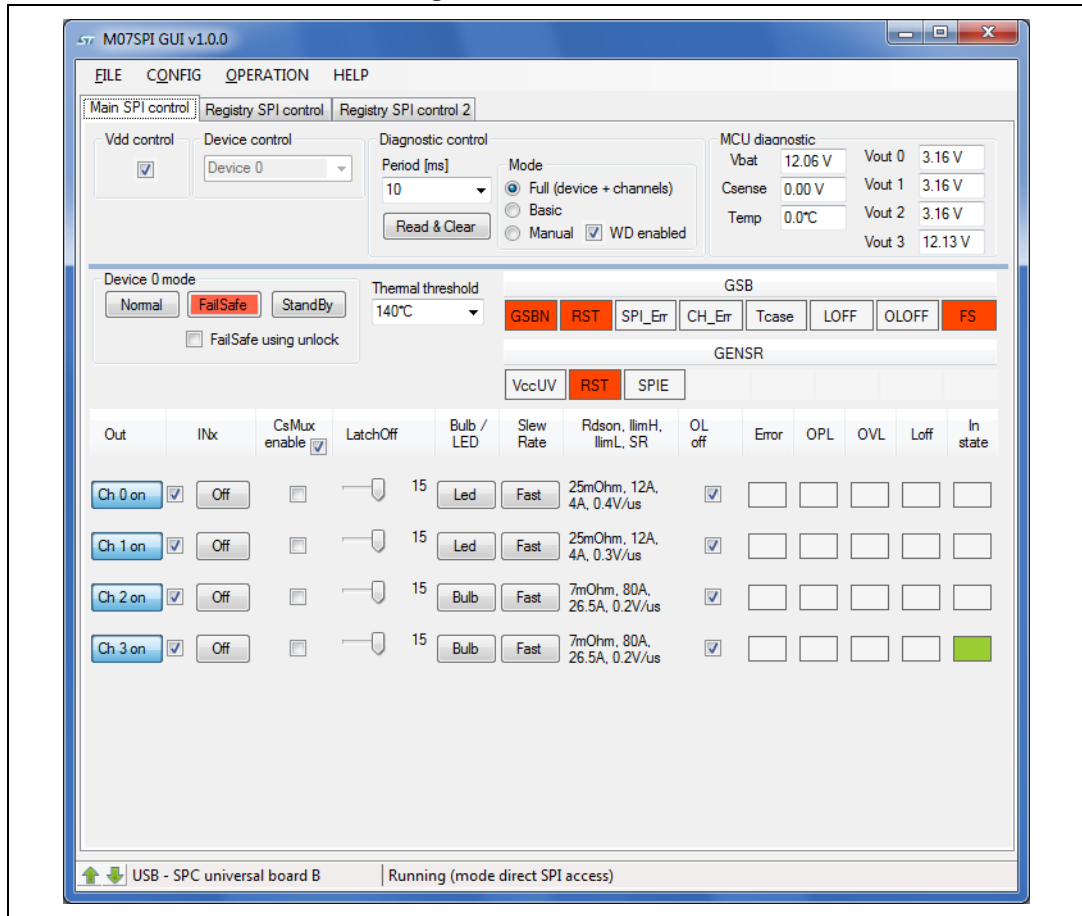
 - no communication (idle state)

 - awaited data from FTDI, but communication missing

 USB - unknown status - connection with board has been lost

2.3 Main SPI control

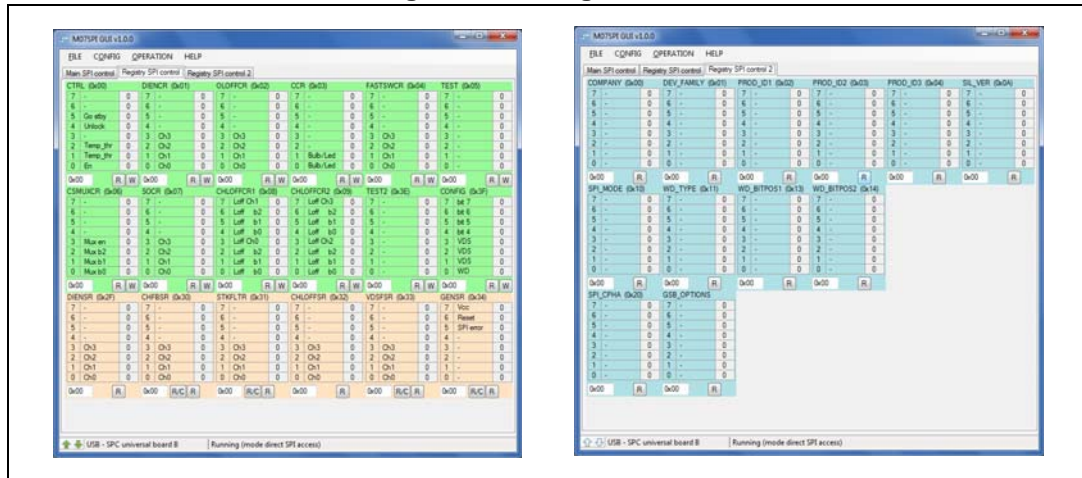
Figure 7. GUI main tab



This main tab shows main device features, giving possibility to apply different device mode, configure output channels and select diagnostic data to be periodically read and displayed.

2.4 Registry SPI control 1,2

Figure 8. GUI registers tab



This tab contains RAM control and diagnostic registers. Green color signals control registers, light orange shows status registers; blue color depicts ROM (read only) registers.

2.5 Communication history form

Displays communication frames applied over GUI.

3 Revision history

Table 2. Document revision history

Date	Revision	Changes
04-Oct-2017	1	Initial release.

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