OSFP Host User Manual

Rev 1.1
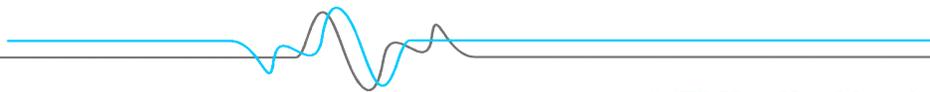
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1. Operating conditions

Parameter	Symbol	Conditions	Min	Typical	Max	Unit
+3.3V power supply	Vcc	Main Supply voltage	3	3.3	3.6	V
I/O Load resistance	RI	AC-Coupled, Differential	90	100	110	Ω

2. LED indicators

The LED D11 indicates whether a USB cable is plugged or not.

The other two LEDs, D12 and D13, are used for diagnostic purposes.

- o If the green LED, D12, is on: USB is locked and device is recognized by the USB driver.
- o If the red LED, D13, is on: USB not connected or USB driver not found.
- o If both LEDs are off: Board not powered correctly or firmware is corrupted.

2.1 Bootloader

You can access the bootlaoder to reprogram the microcontroller, to do that, simply:

1. Connect a jumper on (P15) situated between the USB plug and the red power plug.
2. Connect a USB cable between the PC and Board.
3. Power up the board with a +3.3V supply.
4. LEDs (D12, D13) start blinking.
5. Remove jumper.
6. Open the software "Microchip USB HID Bootloader v2.3".
7. Click on "Open Hex File".
8. Choose the new FW to download.
9. Click on "Program/Verify".
10. Once the software finishes programming press on "Reset Device".
11. After reset the Firmware is successfully updated.

3. Graphical User Interface sections

3.1 Communication Window

The communication window is the first window to appear when you run the GUI.

The Initialize button is the application's main entry point, used to establish a connection with the OSFP Host board and the Module. Once a USB connection is established, the Host checks if a OSFP Module is inserted, and accordingly illuminates the corresponding (Module Found or Module Not Found) LED. If a OSFP Module is inserted, the initialization process proceeds with checking the related Hardware pins to ensure that the module is selected and ready to communicate with host.

You can check the "Autolog" check box for activating the silent logging mode. In this mode, a log file will be automatically generated, and all software steps will be logged during runtime. This is useful for debugging purposes when communicating with Multilane applications engineering support.

Note that multiple boards can be connected via USB. The desired board is selected using *USB Instance* field from the *Communication* window.

Refresh button: Checks for connection status, refresh Hardware Readings and updates GUI.

Pause Monitor button: Pause/Resume monitoring.

About Us button: Shows program information (name, version) and company information.
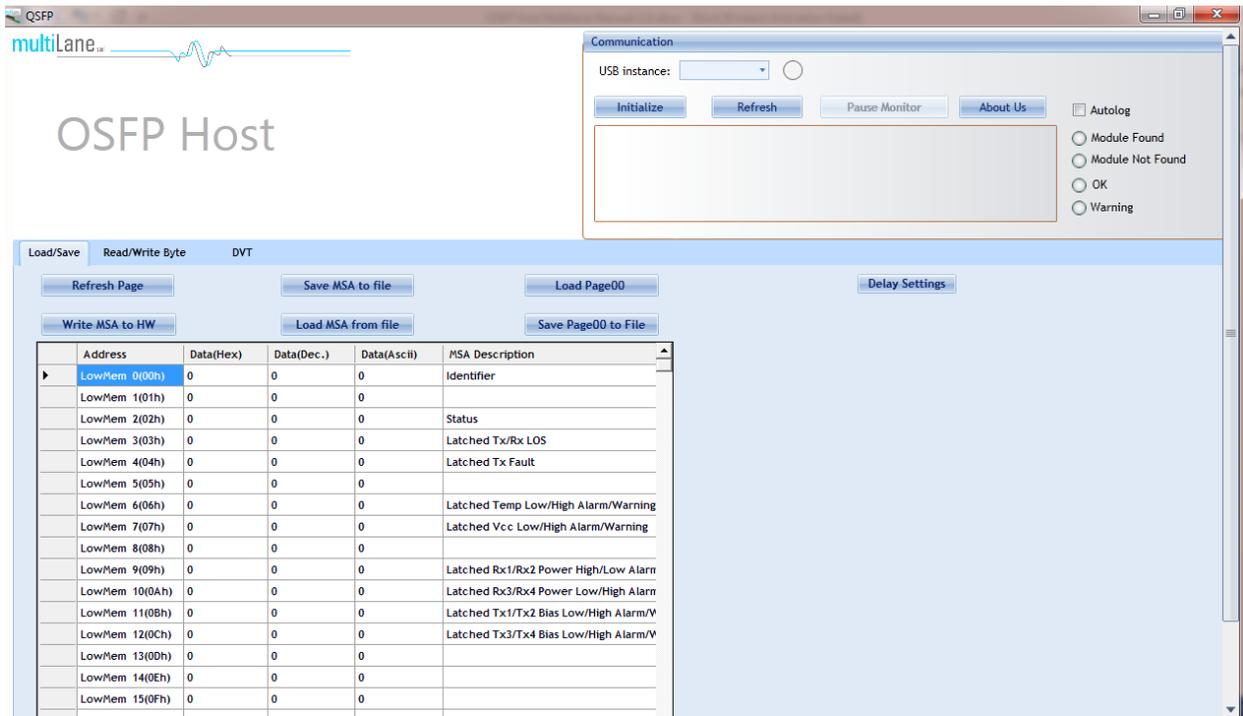
3.2 Load/Save tab

This screen allows user to Load or Save his custom MSA configuration.

Data is displayed in a grid showing: register address, hex value, Decimal Values, ASCII value, MSA description.

- **Refresh Page** button: Read MSA Registers, and refresh values.
- **Write MSA to HW** button: Write the current MSA configuration to OSFP module.
- **Save MSA to file** button: saves the current MSA memory to a file using Comma separated values (CSV) format.
- **Load MSA from file** button: Loads MSA values from file and map it to MSA memory.
- **Load Page00** button: same as Load MSA from file, but loads only page 0 data.
- **Save Page00 to file** button: same as Save MSA to file, but saves only page0 data.

3.3 Read/Write Byte tab

This tab gives access to MSA registers.

1. First, the user selects which page in the **Memory Location** he needs to perform a read or write operation on.
2. Then, he can use the **Single Byte** window to read/write one byte from the memory.
   a. Address: The address to read/write from.
   b. Memory Content: The data value to be read/written to the selected address (in Hex or in Binary)
3. Or, the user can use the **Multi-byte Read** to read/write multiple bytes between a Starting Address and an End Address that he specifies.
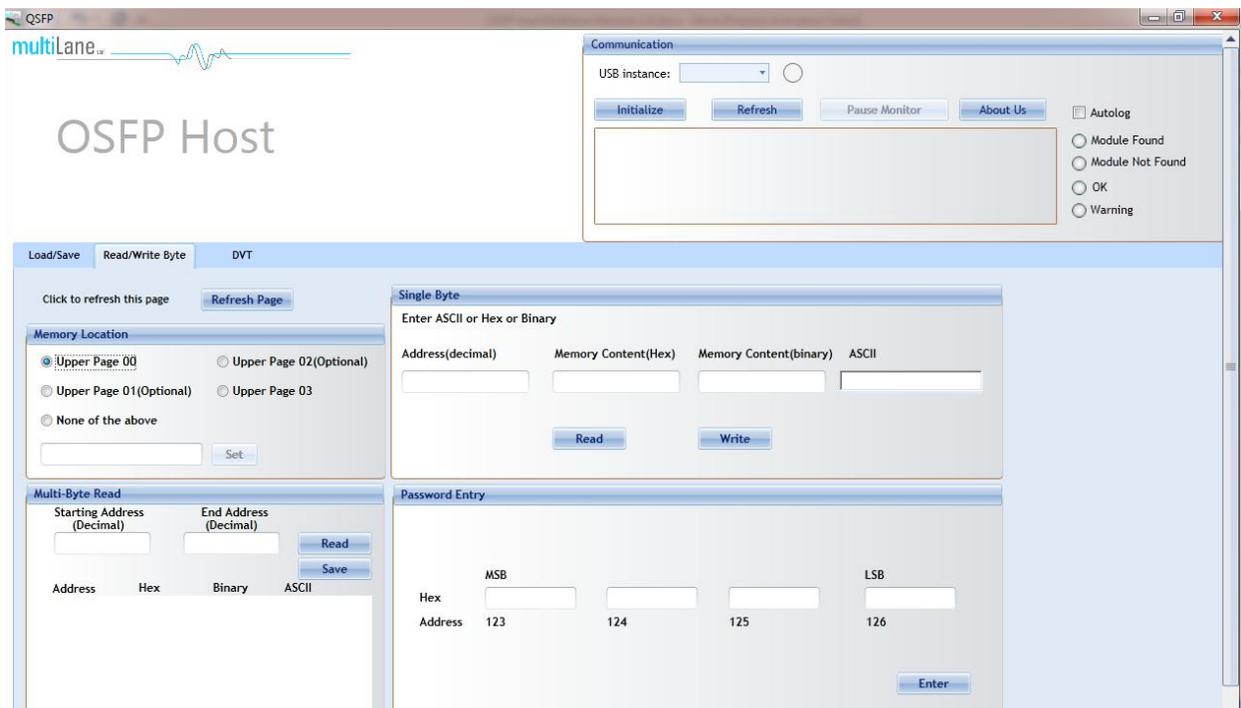

Figure 3: Read/Write Byte tab

3.4   DVT tab

This tab allows the user to control/monitor the low speed signals.
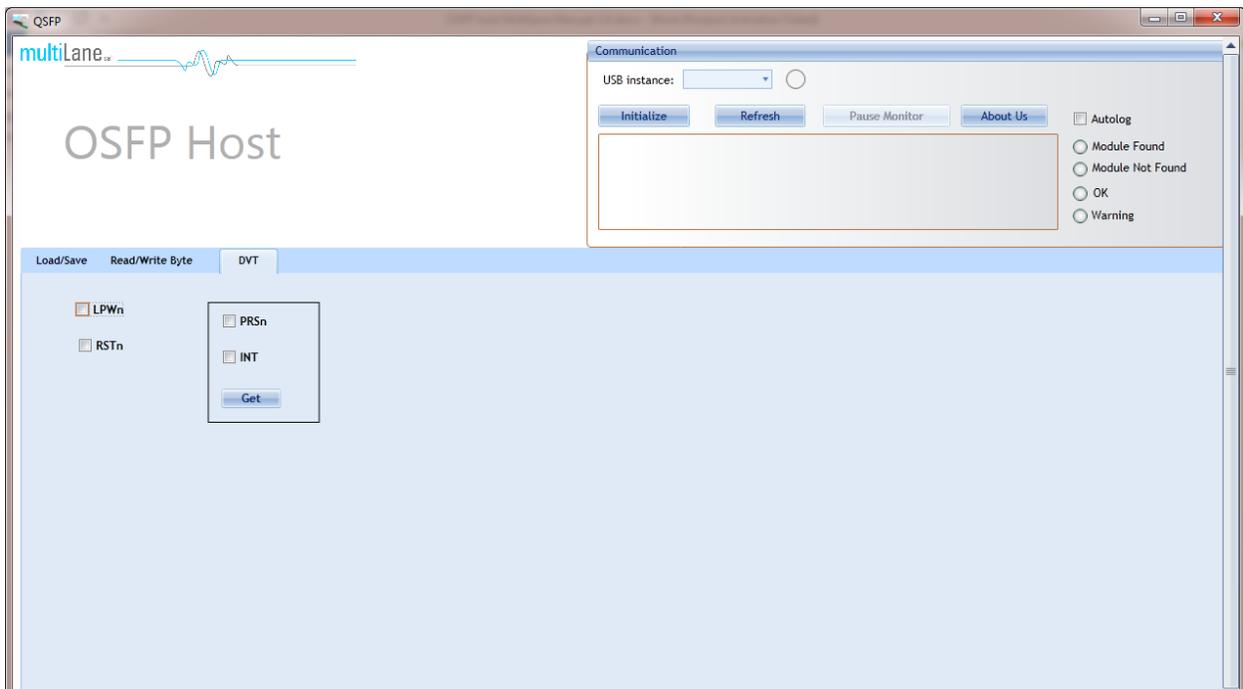

<p align="center">Figure 4: DVT tab</p>

➢ Signals controlled from the host:
- LPWn: Allows the host to signal Low Power mode. Low Power mode is an active-low signal.
- RSTn: Allows the host to reset the module. Reset is an active-low signal on the host.

NB: Toggle the relative checkboxes to control these signals.

➢ Signals read only from module:
- INT: Allows the module to raise an interrupt to the host.
- PRSn: Allows the module to indicate Module Present. Module Present is an active-low logic signal on the host.

NB: **Get** button is clicked to get these signals statuses.