



**XRT84L38EVAL**

## **T1/E1 Framer Evaluation Board GUI V1.92**

**Documentation Rev 1 Preliminary**

April 29, 2003



### **About this Document**

This document attempts to cover the usage of the XRT84L38 Evaluation GUI. It does not intend to cover the myriad configurations that the XRT84L38 can be configured in and its consequences. The purpose of the document and the GUI is to allow the user to configure and perform some basic tests on the Evaluation Board.

### ***XRT84L38 Evaluation GUI Overview***

#### **Main Window**

The Main Window consists of a menu that will allow the user to access all other test and configuration windows. This is the first window that is displayed when the application starts and it is the window that must be closed to terminate the application. Figure 1 below is how the main window would look like.

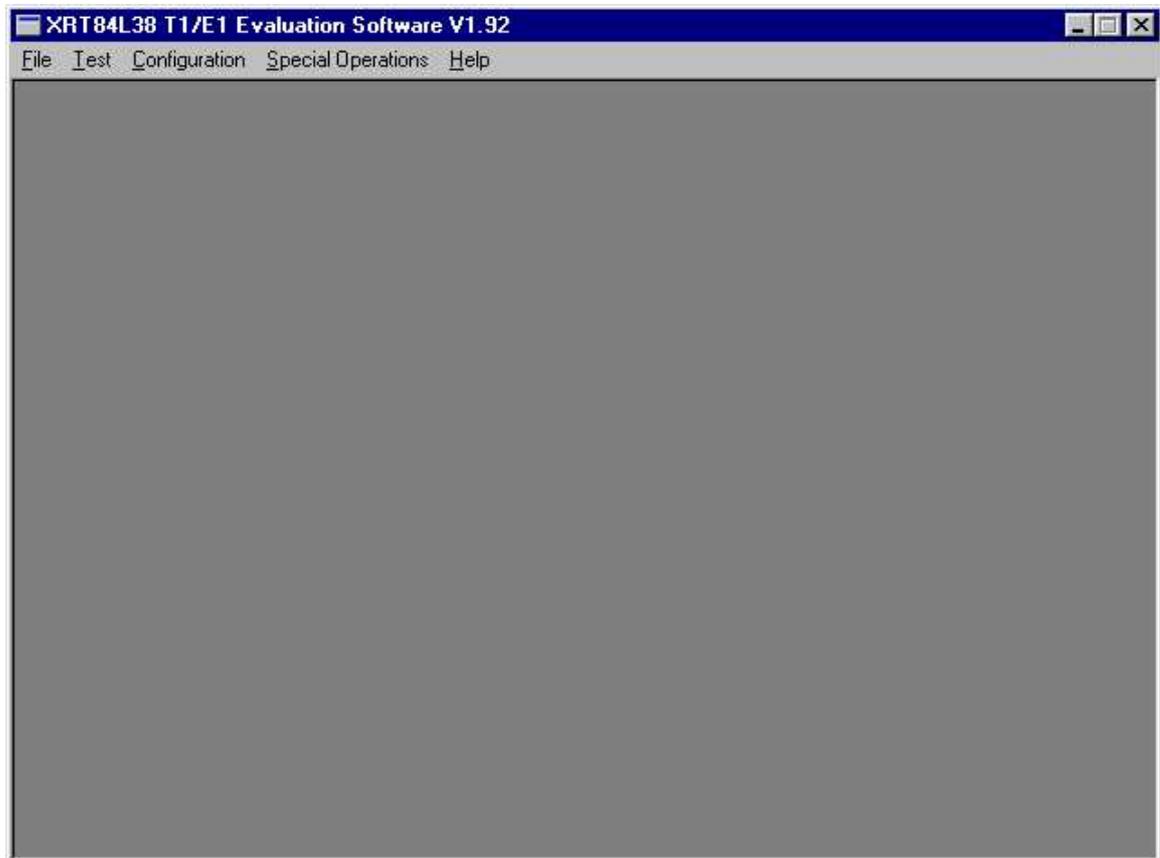


Figure 1



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From this window we can click on Test and select and amongst various test windows which is detailed following.

### XRT84L38 Tests

#### T1 – Bit Oriented Signaling Test

This test window (Figure 2 below) allows you to do Bit-Oriented Signalling testing for the selected Channel. Initialize Button initializes the channel to a default configuration that will work for this particular test in a large number of cases. The 6-bit message to be sent can be modified by clicking on the 0's and 1's to toggle. The Send Button performs the test by writing to the Data Link Control Register. The Check Button is used to check what the current Received BOS Message is.

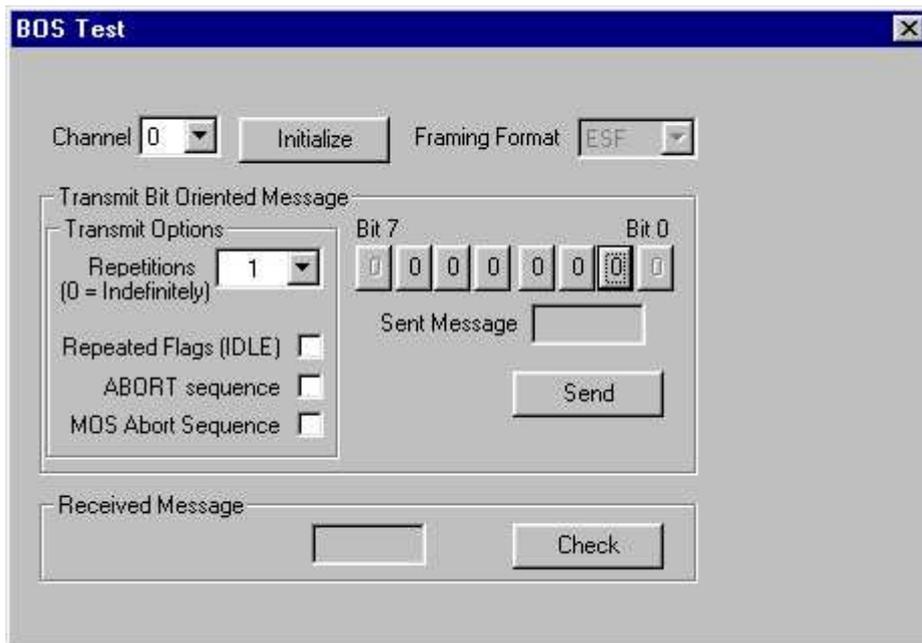


Figure 2

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#### T1 – Message Oriented Signaling Test

This Test Window (Figure 3 below) allows you to do Message-Oriented Signalling testing for the selected Channel. Initialize Button initializes the channel to a default configuration that will work for this particular test in a large number of cases. The message can be modified manually or selecting a fill pattern. Header bytes can also be specified. The Test Button performs the test by writing to the Data Link Control Register to send the message. The Received Message box will display any received message. In order to received messages, the Data Link Alarms Monitor must be started by Clicking the Start Button.

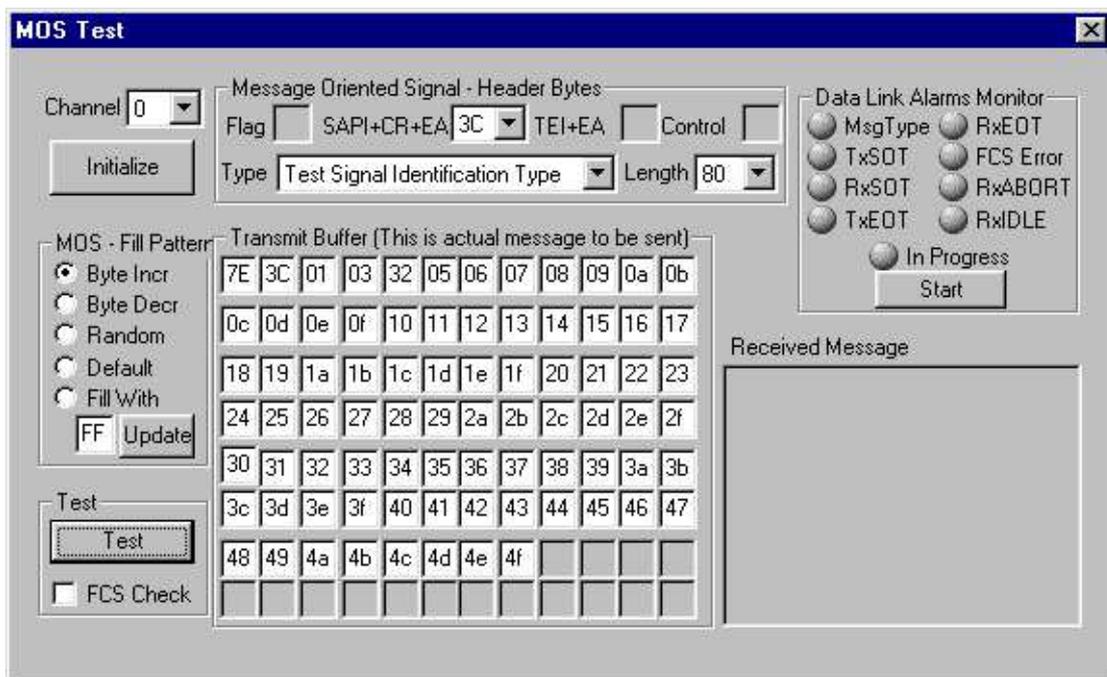


Figure 3

#### T1 – Robbed Bit Signaling Test

This Test Window (Figure 4 below) allows you to do Robbed-Bit Signaling testing for the selected Channel. Initialize Button initializes the channel to a default configuration that will work for this particular test in a large number of cases. The ABCD Transmit Signaling Bits can be selected via a dropdown list box. Additional options include signaling substitution, signaling OH interface output, Per-channel debounce, Signal Substitution Conditioning, and Signal Extraction. The Check Button is used to check the current Received Signaling Bits.

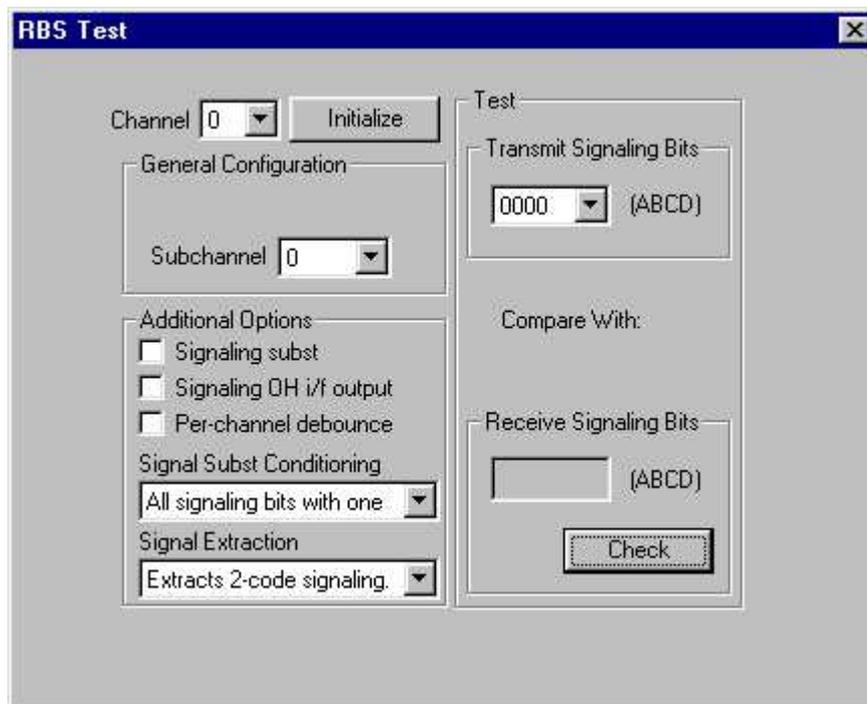


Figure 4



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### Alarm & PMON Monitoring Window

This window allows the user to monitor PMON counts and alarms. The Data Link Alarms monitoring can be disabled in order to properly detect Bit-Oriented and Message-Oriented signals in their respective tests.

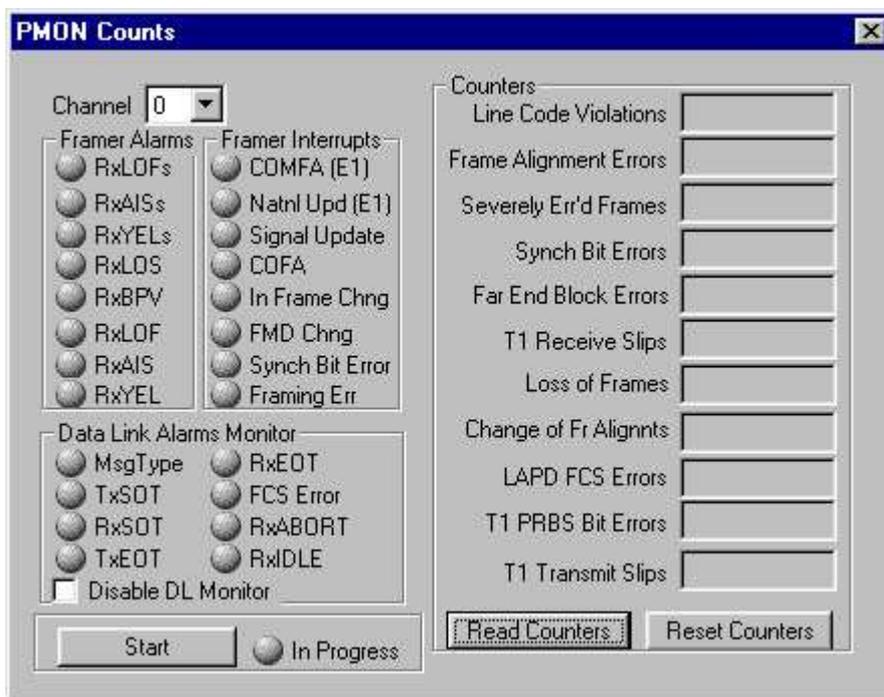


Figure 5



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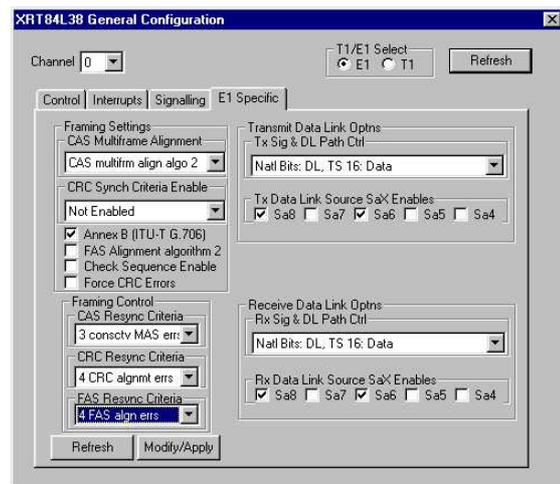
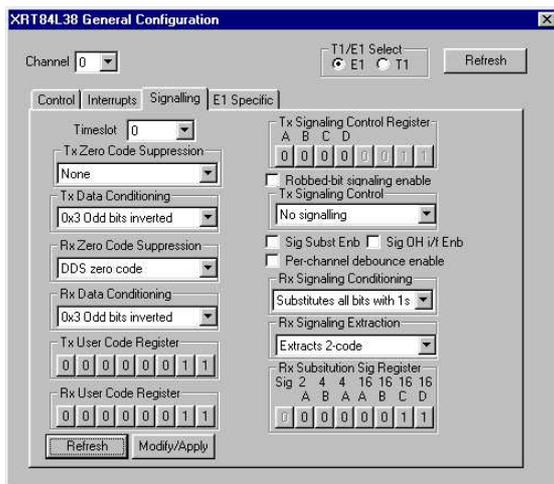
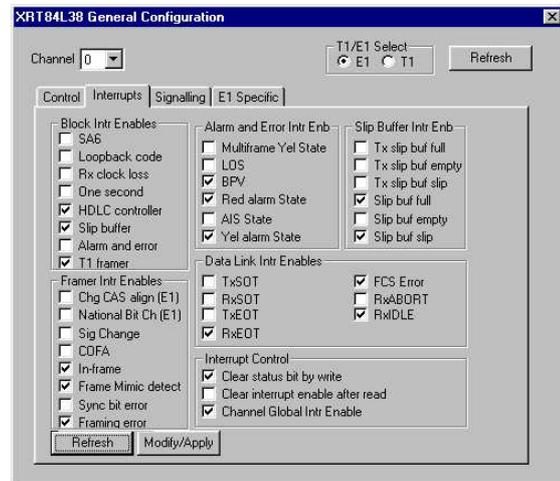
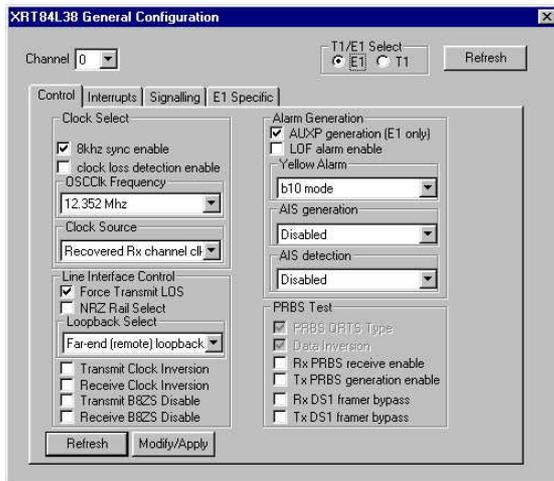
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### Framer Evaluation Board Configuration

#### General Configuration

This window allows you to configure many options available within the XRT84L38 Framer. It is separated four sections: Control, Interrupt, Signaling, and T1/E1 specific settings. The windows are displayed below.



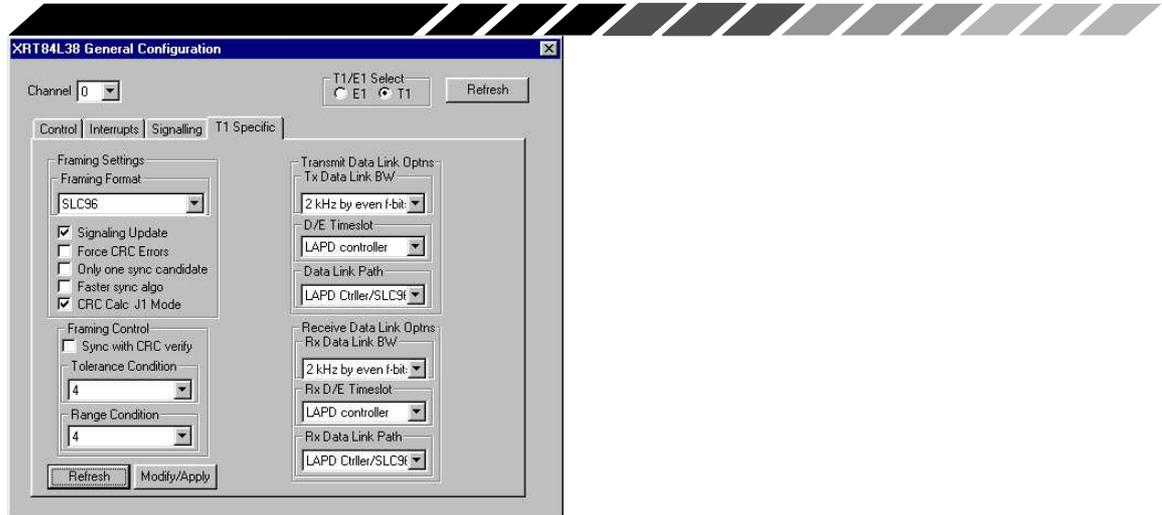


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Note that each section is accessed by switching tabs. Also, note the settings apply only for the currently selected channel. For more details on each setting please refer to the XRT84L38 data sheet.

### XRT83L38 LIU Configuration Window

This window allows you to configure the XRT83L38 chip on the Evaluation Board. The window is depicted below in.

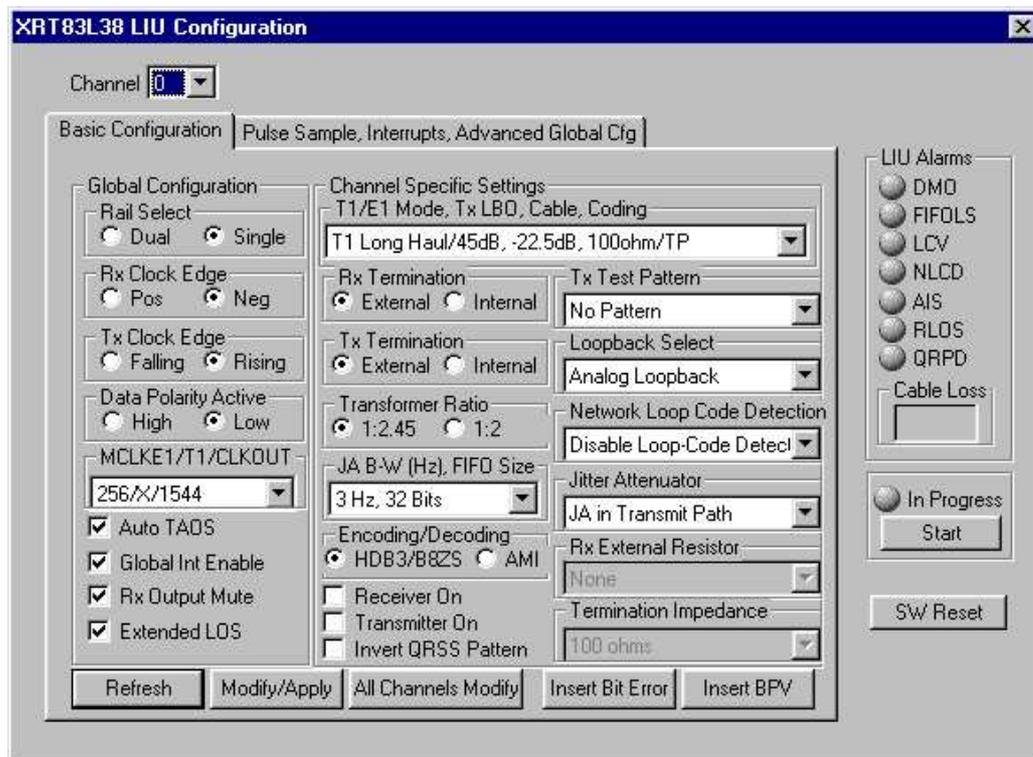


Figure 11

For more information on each of the specific settings, please refer to the register map descriptions in the XRT83L38 datasheet.

### *Special Operations Menu*

#### **Read/Write Register Window**

This window allows the user to read/write to any register on the board. The reading and writing automatically is done indirectly for device 03:XRT84L38. The window is shown below.

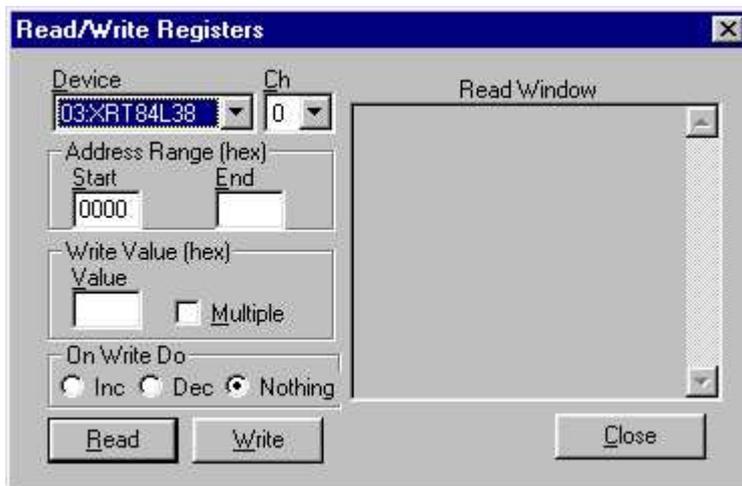


Figure 12

#### **Framer Reset**

By means of writing to the CPLD, this menu item resets the XRT84L38 Framer.

#### **Download FPGA**

This options allows the user to download to the onboard FPGA. FPGA files may have been supplied to perform various tests.

#### **Run Python Script**

This option allows the user to run a python script to configure the chip. Scripts may or may not have been provided.



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**Debug Window**

This window provides information about what actions are being attempted. Namely attempted reads and writes to the any device on board. It is not meant for general use but can be used to determine if the software is not performing what is expected.