



Vertex

Onsite Trouble Shooting Guide

Application Note

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1. Basic Indicators of Vertex

1.1 LEDs on RFM

- Flashing Green -RF initialization
- Solid Green -RF initialization finished but instrument hasn't been fully boot up yet. All LEDs will be turned off after instrument boot up.
- Flashing Red- The peak input power is higher than the safe limit
- Solid Red - the RF port is damaged or in danger.

1.2 LED over power button

- Solid Amber - Idle
- Flashing Green -booting up
- Solid Green - fully booted , Operating
- Flashing Amber - firmware upgrade failure

1.3 LEDs on DSPM

- Flashing Green- DSP initialization
- Solid Green- Operating
- Solid Red - DSP fail
- No LED light-DSP power dropped

2. Typical issues and trouble shooting

2.1 Vertex GUI software on controller laptop

2.1.1 Window service pack issue during installation

If Windows security fix in KB 3072630 is installed in the controller laptop, Vertex SW cannot be properly installed on controller PC, and the local service host will automatically shut down in emulator mode. The problem usually happen when installs Vertex software into a new PC or first time install Vertex SW into the PC.

The method to fix this problem is:

- 1) Click Start, click Run, type regedit in the Open box, and then click OK.
- 2) Locate and then click the following subkey in the registry:
HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\Windows\Installer

Note: If this subkey does not exist, create it.

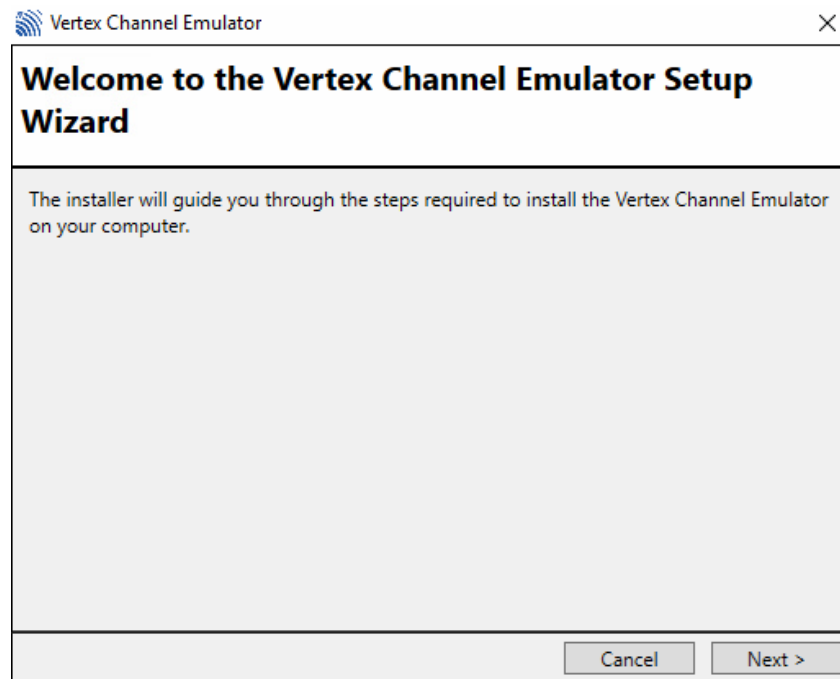
- 3) On the Edit menu, point to New, and then click DWORD Value.
- 4) For the DWORD name, type **RemappedElevatedProxiesPolicy**, and then press Enter.
- 5) Right-click **RemappedElevatedProxiesPolicy**, and then click Modify.
- 6) In the Value data box, type 1, and then click OK.
- 7) Install the Vertex Software
- 8) After the application installs successfully, set back the RemappedElevatedProxiesPolicy DWORD value to 0 to re-enable the security fix for KB 3072630.

2.1.2 Windows versions issue (Such as Windows 10)

Vertex GUI Software is only validated with Windows 7 professional OS platform, for other versions of Windows OS, Vertex may not work properly.

The issue when installing Vertex GUI SW into Windows 10PC:

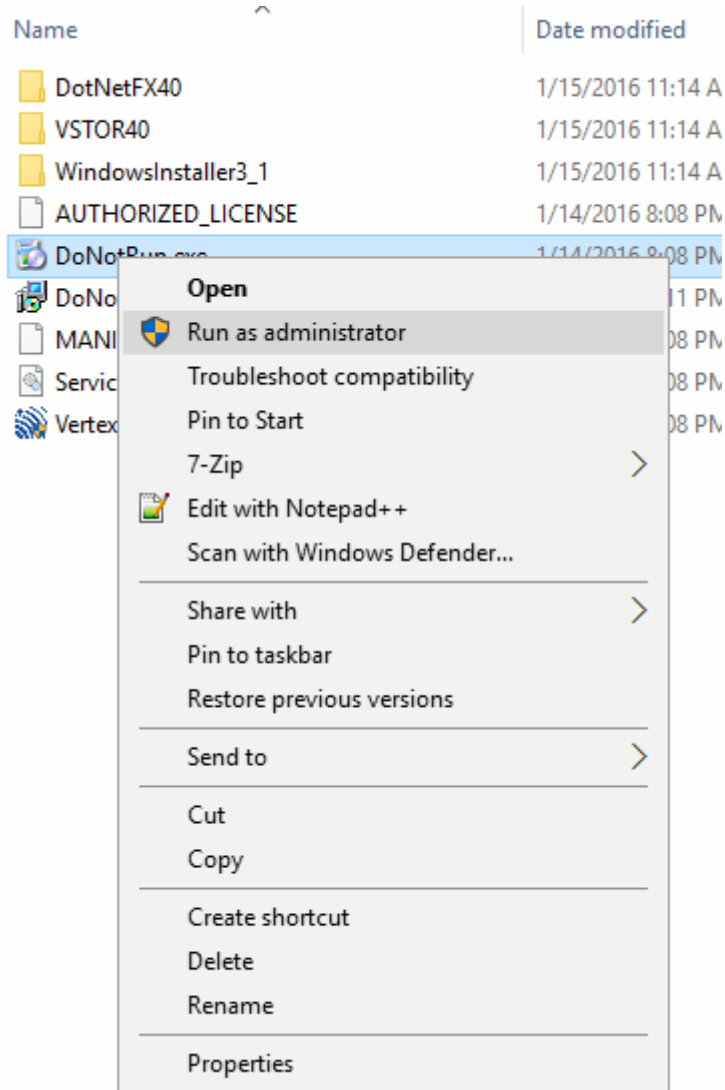
Vertex won't install on Windows 10,



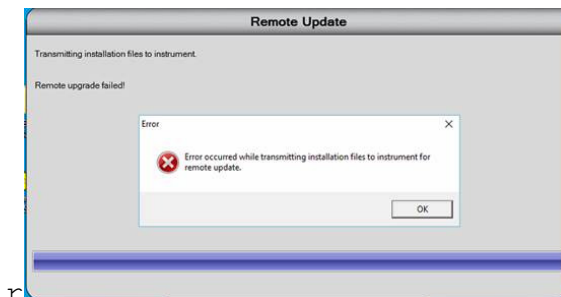
Once you click "next", the installer will be vanished very soon and there is no any installation process after the installation GUI is gone.

The Workaround is:

You can use administrative permission to run "DoNotRun.exe" instead of "VertexInstall.exe" , then the Vertex GUI SW can be installed.



There is another issue with Windows 10, the remote upgrade failed due to transmitting file error, remote upgrade cannot be supported with Windows 10 PC.



2.2 Vertex offline mode issues with VR5 installed

2.2.1 Using VR5 and Vertex offline mode in same PC

If you installed both VR5 and Vertex GUI SW in your PC, and you want to use both of them at offline emulator mode. You must install the offline license to different registry path. The license code is same, but the path of Vertex is:

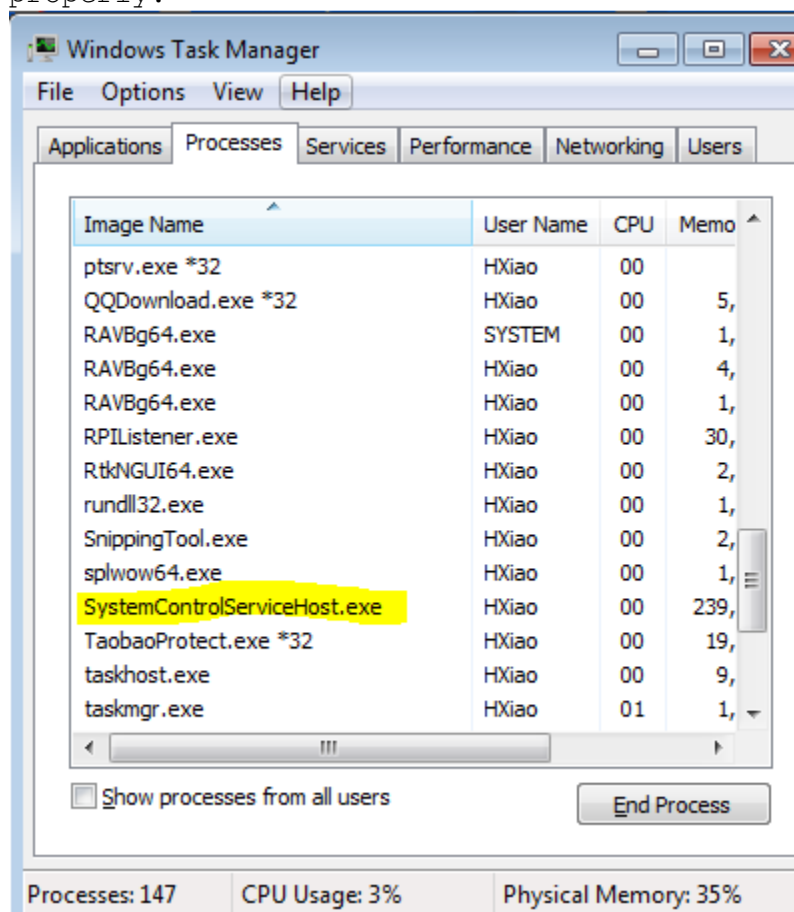
Windows Registry Editor Version 5.00

[HKEY_CURRENT_USER\Software\Spirent Communications\Vertex Family]

"OFFLINE_MODE"=dword:00000001

"OFFLINE_MODE_PWD"="81f9e73fe93d1c99d6fdb52c20b16794"

After you stopped VR5 Emulator in the controller PC, you must kill the SystemControlServiceHost.exe process from Windows task manager. Otherwise, the Vertex Emulator cannot run properly.



2.2.2 Emulator booting time:

It will take about 20 second to run start Vertex Emulator after you click the button. Then you can connect to localhost



2.3 Vertex instrument cannot successfully boot up after turned on for long time (>10Min)

When this kind of issue happens, and reboot doesn't solve the issue, you need to connect a monitor, mouse and keyboard to the embedded PC of Vertex to check what happening.

If Vertex has a connected monitor, when booting it up, you can use mouse to double click the Spirent logo on boot up screen, then the boot up logging message will show up. Then you can check whether there are errors or failures.

2.3.1 Firmware upgrade issue

Sometime the issue may related with firmware upgrade, if something wrong happened in FPGA firmware, Vertex will automatically refresh the firmware, but if firmware upgrade also fails, please save the log file, and feedback it to customer support team.

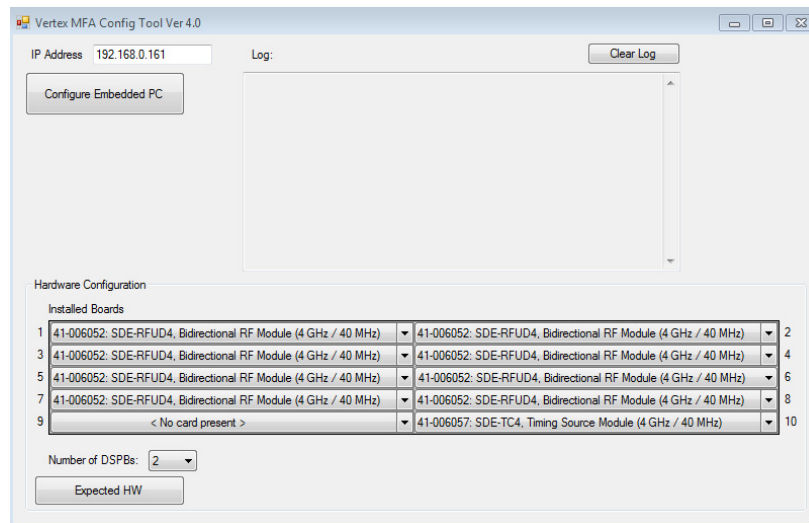
2.3.2 HW configuration file after new module installed or removed, if the configuration file was not updated, the Vertex instrument cannot boot.

If there is any new RF module, DSP module added or removed, the hardware configuration file should be updated. The updated can be done only from local embedded PC.

1. Update the configuration from cocal embedded PC with MFA config Tool:

- Run the MFAPCConfiguration.exe from the path:
C:\Program Files(x86)\Spirent Communications\Vertex

- Then select right RF module at the slot installed and how many DSPs are installed, the DSP board installation sequence is from up to down.
- Click **“Expected HW”** to implement.
- Close the application



2. Manually update HW configuration file from with embedded PC
You can use the Windows explore of the embedded PC to find the folder:

D:\FTPROOT\Spirent\HW

There are two files located at this folder,

Dspb.xml

Rf.xml

You can use wordpad to edit these two files.

If the HW is installed at any slot , please set

<IsPresent="True"> , otherwise , set < Is present="False">

2.3.3 RF or DSP initialization failure

RF or DSP initialization failure may happen with different reason, if the failure happens, you should get the log and send it back to support team. Please also write down the LED indication on RF module and DSP module.

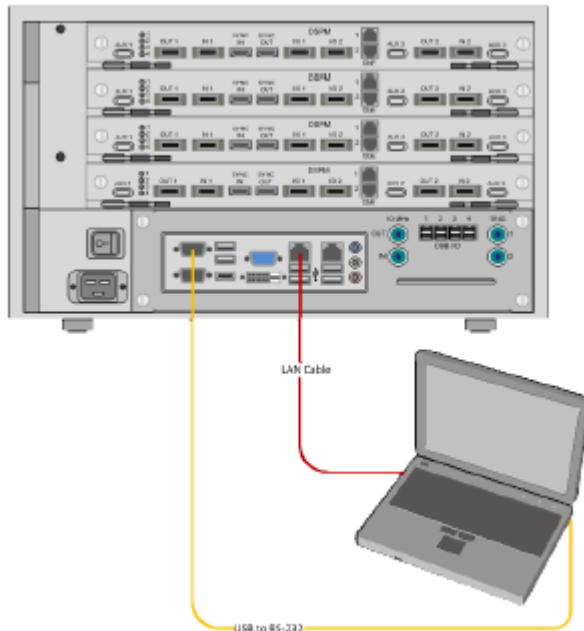
2.4 Vertex instrument suddenly shut off during booting up

MCU boot up occasionally fail may cause this problem. But the possibility is very low. Rebooting Vertex instrument can solve the problem.

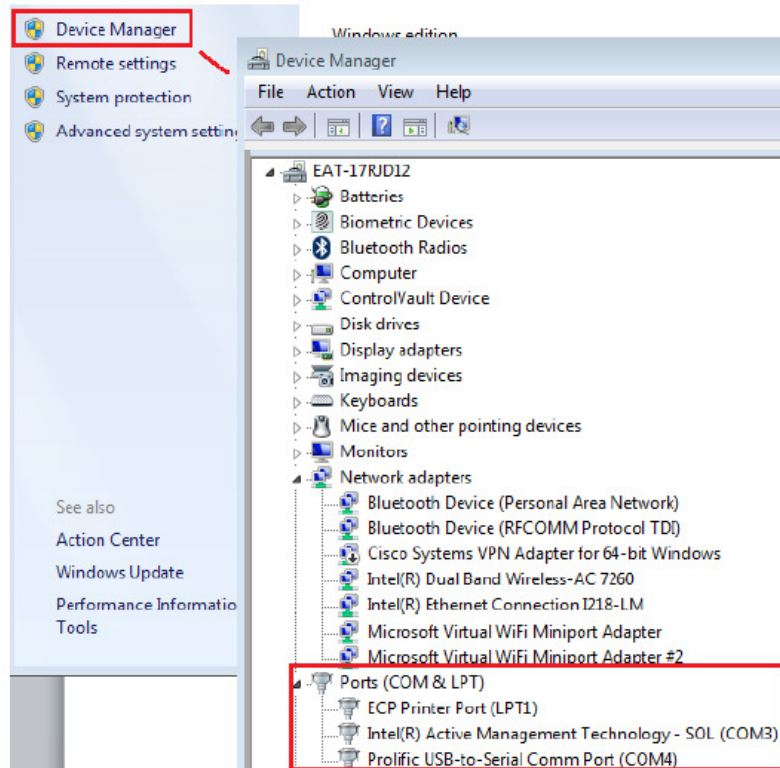
2.5 Remote GUI cannot connect to Vertex instrument

- o Cable connection

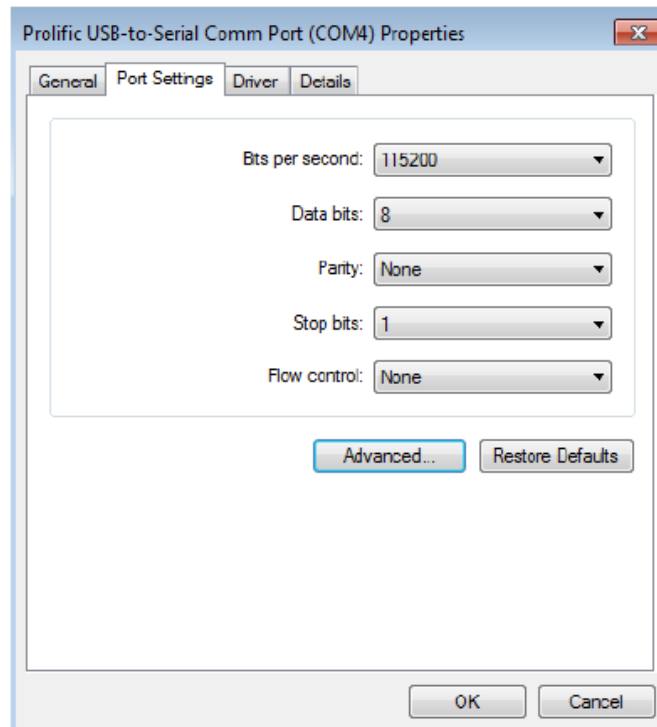
The User Ethernet port is the left one , and RS-232 cable should be connect to the upper port.



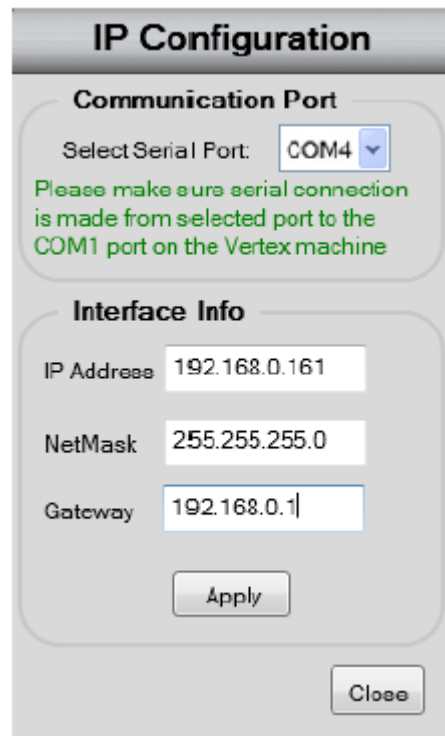
- o IP address is wrong
If IP address is unknown, you can use the USB-RS232 Null model cable to get the IP address of Vertex instrument.
- o Cannot configure IP address through USB-RS232 cable
Check the
Please verify the COM port setting of the USB to Serial comm port, make sure it is the correct COM port to connect.
PC setting:



Set the bit rate to 115200.



On Vertex GUI, select the serial port as set in device manager.



- o SW version doesn't match
If the SW version in the Controller laptop doesn't match the SW version installed in Embedded PC, you will get alert to upgrade or downgrade software remotely; you can install a new version SW on the remote PC or update the SW in the instrument.

2.6 Remote Firmware upgrade

Remote firmware upgrade is not supported with Windows 10 Operation system.

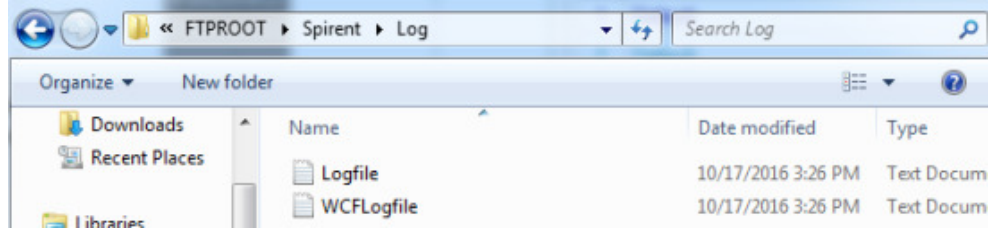
3. Necessary Information for trouble shooting

If the issue cannot be solved onsite, please collection the information below and send them back to fader support team.

3.1 Instrument log

When the embedded PC have boot up errors, exceptions, it will log all the booting information and critical/exception errors during the boot up as well as running specific fading scenarios.

- Navigate to D:\FTPROOT\Spirent\Log\

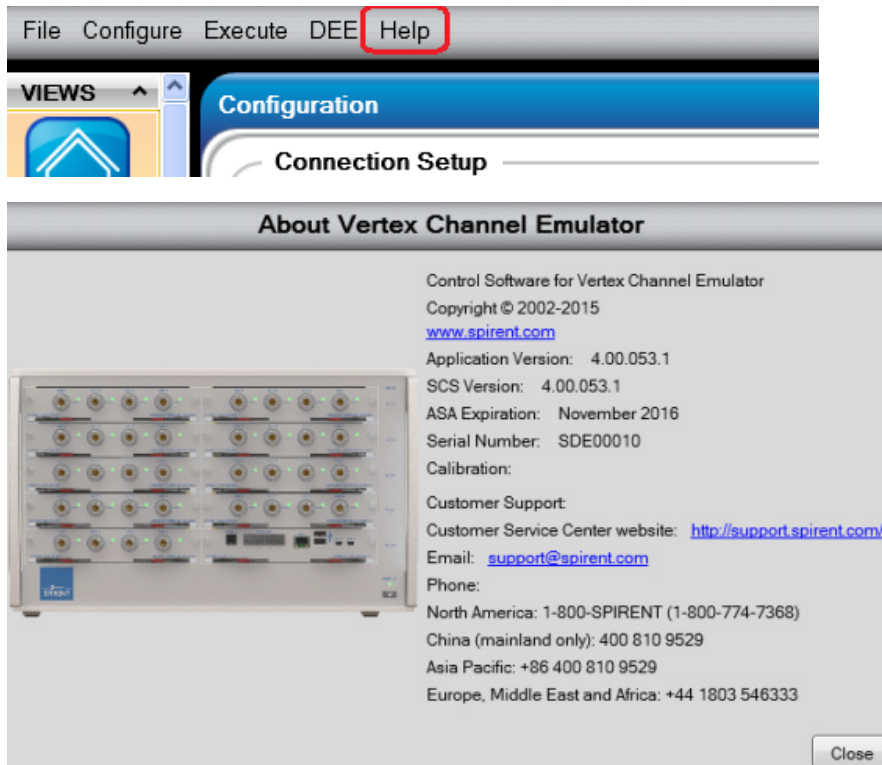


- Copy the Logfile.log file and WCFLlogfile.log to the USB drive.

To ensure the log files do not surpass 100 MB in size, the logging mechanism switches log files periodically. If the history in log files does not go back far enough to encompass the field issue, compress and send the subsequent LOGFILE_1.LOG log file

3.2 Hardware and software information

1. Software information can be found at the Help->about:



2. Software option information can be found at Help->Instrument options

Instrument Options

Name	SW/HW	Feature ID	Present
Annual Service Agreement	ASA	ASA	present
Bi-Directionality	SW	DPLX	present
Geometric Channel Modes Fading Engine	SW	GCM	present
Wifi Cluster Modeling	SW	WIFICM	present
MIMO OTA - 8 Channel	SW	MOTA_8	present
MIMO OTA - 32 Channel	SW	MOTA_32	present
Independent Channel Models	SW	ICM	present
Virtual OTA	SW	VOTA	present
Automatic Input Tracking	SW	AUTOMATIC_INPUT_TRACKING	present
Predicted Input Tracking	SW	PREDICTED_INPUT_TRACKING	present
Number of Input RF Channels	HW	FADER_INPUT_RF_CHANNELS	8
Number of Output RF Channels	HW	FADER_OUTPUT_RF_CHANNELS	8
Number of Digital Links	HW	FADER_DIG_LINKS	32
10 MHz Reference			EXTERNAL

3. Hardware information can be found at Help->Hardware Information, hardware information can be saved to a VertexhardwareInfo.csv file with details.

Module Versions

Name	Index	IP Address	Board Rev	Expected Version	Firmware Version	Cal Version	Cal Date	Serial Num
DSPB_UBLAZE	0	192.168.199.10		03.00.00	03.00.000			
DSPB_IFPGA	0	192.168.199.10		01.00.010	01.00.010			
DSPB_OFFPGA	0	192.168.199.10		01.00.015	01.00.015			
DSPB_CFFPGA	0.0			01.00.007	01.00.007			
DSPB_DSP	0.0.0			01.01.050	01.01.050			
DSPB_DSP	0.0.1			01.01.050	01.01.050			
DSPB_DSP	0.0.2			01.01.050	01.01.050			
DSPB_CFFPGA	0.1			01.00.007	01.00.007			
DSPB_DSP	0.0.0			01.01.050	01.01.050			
DSPB_DSP	0.0.1			01.01.050	01.01.050			
DSPB_DSP	0.0.2			01.01.050	01.01.050			
DSPB_CFFPGA	0.2			01.00.007	01.00.007			
DSPB_DSP	0.0.0			01.01.050	01.01.050			
DSPB_DSP	0.0.1			01.01.050	01.01.050			
DSPB_DSP	0.0.2			01.01.050	01.01.050			
DSPB_CFFPGA	0.3			01.00.007	01.00.007			
DSPB_DSP	0.0.0			01.01.050	01.01.050			
DSPB_DSP	0.0.1			01.01.050	01.01.050			
DSPB_DSP	0.0.2			01.01.050	01.01.050			

3.3 Emulation configuraiton (x.sde)

You can save Vertex channel emulator settings information to a x.sde file with "File-> Save Settings as" , then send this file to support team to replicated the configuration.



3.4 RPI log

If customer runs automation test, if there is any problem happen with the script, you can save the script log and send to support team.

1. Enable Monitor Message at RPI control window



2. Run the test script, then the scripts will be displayed in the window.
3. After the script finish, save the monitor to file.

