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USB2230
USB 2.0 Flash Media Controller + IRDA
**Software Performance and
Compatibility Test Report**

Firmware Version: 436
Report Date: 5/26/05

Total Test Time Required: 115 Hours

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Test Environment

Hardware:

Test Machine(s): (Include Host Controller Type, Motherboard Model, BIOS Version and Chipset)	IRDA Devices Used for Testing:	Chipsets Used for Testing:
<p>Machine 1: LAB-ML01 Bios: PHX Tech:ACPI Rev 1002B006 Mother board: ASUST A7N8X Rev 1002A Chipset: NVIDIA NFORCE 2 Rev A2 EHCI: NVIDIA USB 2.0 EHCI</p> <p>Machine 2: LAB-RR02 Bios: American Megatrends Inc. Ver 1007.001 Mother board: ASUS Tek P4P800 Chipset : Intel i865P/PE/G EHCI: Intel 82801EB</p> <p>Machine 3: LAB-DC2 Bios: PHX Tech:ACPI Rev 1002B006 Mother board:ASUST A7N8X Rev 1002A Chipset: NVIDIA NFORCE 2 Rev A2 EHCI: NVIDIA USB 2.0 EHCI</p> <p>Machine 4: LAB-EH01 Bios: NVIDIA USB 2.0 EHCI Mother board: GIGABYTE GA-7VT600 1394 Chipset: VIA KT600 EHCI: VIA PCI to USB EHCI</p> <p>Machine 5: LAB-NJ02 Bios: PHOENIX TECH Rev 1006 Mother board: ASUSTEK A7N8X2.0 Chipset: NVIDIA nForce2 EHCI: NEC PCI To USB EHCI</p>	<p>Handhelds: Hewlett Packard iPAQ rx3700 PalmOne Zire 31 TapWave Zodiac1 NEC MobilePro 900</p> <p>Phones: Sony Ericsson T610</p> <p>Printers: Canon i80</p> <p>Dongles: Sigmatle USB-IRDA Dongle</p>	<p>Intel i845E Intel i865P/PE/G Intel i865P/PE/G/i848P Intel 865PE Intel i875P NVIDIA NFORCE 2 Rev A2 SiS648FX VIA KT600 VIA KT400 VIA P4X400(VT8754) Rev3</p>
	Other Hardware:	3 rd Party Readers Used for Testing:
	<p>CF: Memorex-64MB,128MB MicroDrive: IBM-340MB,1GB MS: Lexar- 32MB, 64MB, 128MB MSPRO: Sony-512MB SD/MMC: I-O Data- 64MB SanDisk- 128MB,(64MB MMC) SM: Lexar- 16MB,32MB,64MB,128MB SanDisk- 128MB</p>	<p>ZiO SM, MS readers Dazzle reader I/O Interconnect reader Firewire reader ImationFlashGO! 2.0</p>

Software:

Drivers and Firmware	Application Software	Operating Systems
<p>Firmware USB2230.1.436.hex 4/13/05</p> <p>MASS STORAGE CLASS DRIVER WINXP:MS - USBSTOR.SYS 5.1.2600.1243</p> <p>EHCI DRIVER: MS USBEHCI.SYS 5.1.2600.1243 MS USBEHCI.SYS 5.0.2195.6907 SIIG / OML OUSBEHCI.SYS 2.1.4 OWC IUSBEHCI.SYS 1.0.3.0 UHCD DRIVER: WINXP: USBUHCI.SYS 5.1.2600.1243</p>	<p>SFV32W.EXE version 1.0.350 SetIcon.exe 1.2.1.2 Bundled Software Production Line Test Utility version 1.0.0.5 Production Line Descriptor Update Utility version 2.0.0.7 Quick Test Production Line Utility Using Filter Driver version 1.0.0.3 USBDM.EXE VERSION 2.0.0.4</p>	<p>WINXP (SP2)</p>

Testing Overview

Standard for Certifying Firmware and Drivers

The USB2230 Test Suite consists of 25 separate functional testing areas designed to fully exercise the capabilities of the USB 2.0 Flash Media Controller chip. For a firmware and driver combination to be considered certified by the SMSC QA Test Laboratory, it must receive passing test results in each of the following functional test suites:

<u>Functional Test Suite</u>	<u>Operating Systems</u>
1. Installation	Windows XP Only
2. USBCV	Windows XP Only
3. Compact Flash / IBM MD	Windows XP Only
4. Smart Media	Windows XP Only
5. XD	Windows XP Only
6. Secure Digital / MMC	Windows XP Only
7. Memory Stick / Memory Stick Pro	Windows XP Only
8. Multiple Device	Windows XP Only
9. Surprise Removal	Windows XP Only
10. Load / Unload	Windows XP Only
11. Booting from USB	Windows XP Only
12. USB 1.1	Windows XP Only
13. WHQL (USB Removable Storage)	Windows XP Only
14. Current Measurement	Windows XP Only
15. Bundled Software	Windows XP Only
16. DFU and Descriptor Update	Windows XP Only
17. LUN Power Configuration	Windows XP Only
18. IRDA Basic Transfers - SIR	Windows XP Only
19. IRDA Basic Transfers– MIR(576K)	Windows XP Only
20. IRDA Basic Transfers–MIR(1152K)	Windows XP Only
21. IRDA Basic Transfers – FIR	Windows XP Only
22. IRDA ADV Transfers - SIR	Windows XP Only
23. IRDA ADV Transfers– MIR (576K)	Windows XP Only
24. IRDA ADV Transfers–MIR (1152K)	Windows XP Only
25. IRDA ADV Transfers – FIR	Windows XP Only
26. IRDA Various Devices	Windows XP Only
27. IRDA Various Transceivers	Windows XP Only
28. Memory Stick Compatibility	Windows XP Only

A new firmware – driver combination must pass all test suites, including WHQL for every operating system listed, to be considered certified. Note that this standard does not apply to beta software released for evaluation purposes.

Test Results

Test Technician: Select One
Test Technician: Shilpa Siva

Test Technician: Cody Welch
Test Technician: Munabo Lwali

Test Suite Results Summary

Test Suite	Windows XP
# 1 Installation	Pass
# 2 USBCV	Pass
# 3 Compact Flash / IBM MicroDrive	Pass
# 4 Smart Media	Pass
# 5 XD	Pass
# 6 Secure Digital / Multimedia Card	Pass
# 7 Memory Stick / Memory Stick Pro	Pass
# 8 Multiple Device	Pass
# 9 Surprise Removal	Pass
# 10 Load / Unload	Pass
# 11 Booting from USB	Pass
# 12 USB 1.1	Pass
# 13 WHQL	Pass
#14 Current Measurements	Pass
#15 Bundled Software	Pass
#16 DFU and Descriptor Update	Pass
#17 LUN Power Configuration	Pass
#18 IRDA Basic Transfers - SIR	Pass
#19 IRDA Basic Transfers – MIR (576KB)	Pass
#20 IRDA Basic Transfers – MIR (1152KB)	Pass
#21 IRDA Basic Transfers - FIR	Pass
#22 IRDA Advanced Transfers - SIR	Pass
#23 IRDA Advanced Transfers – MIR (576KB)	Pass
#24 IRDA Advanced Transfers – MIR (1152KB)	Pass
#25 IRDA Advanced Transfers - FIR	Pass
#26 IRDA Various Devices	Pass
#27 IRDA Various Transceivers	Pass
#28 Memory Stick Compatibility	Pass

Testing Observations and Comments

Comments: Explanation of any marginal or failing results from the Test Suite Results Matrix above, along with any other comments concerning the results of testing:

Test Completion Dates

The test suites were completed for each operating system on the dates indicated below:

Test Suite		WinXP	Testers Initials
# 1	Installation	5/13/05	SS
# 2	USBCV	5/17/05	CW
# 3	Compact Flash	5/16/05	SS
# 4	Smart Media	5/16/05	SS
# 5	XD	5/16/05	SS
# 6	Secure Digital	5/16/05	SS
# 7	Memory Stick	5/16/05	SS
# 8	Multiple Device	5/18/05	JS
# 9	Surprise Removal	5/19/05	ML
# 10	Load / Unload	5/19/05	ML
# 11	Bootting from USB	5/19/05	SS
# 12	USB 1.1	5/19/05	SS
# 13	WHQL (USB)	4/15/05	RT
#14	Current Measurement	5/19/05	ML
#15	Bundled Software	5/26/05	ML
#16	DFU and Descriptor Update	5/17/05	ML
#17	LUN Power Configuration	5/20/05	ML
#18	IRDA Basic Transfers - SIR	5/17/05	CW
#19	IRDA Basic Transfers – MIR (576KB)	5/17/05	ML
#20	IRDA Basic Transfers – MIR (1152KB)	5/17/05	ML
#21	IRDA Basic Transfers - FIR	5/18/05	CW
#22	IRDA Advanced Transfers - SIR	5/18/05	CW
#23	IRDA Advanced Transfers – MIR (576KB)	5/18/05	ML
#24	IRDA Advanced Transfers – MIR (1152KB)	5/18/05	CW
#25	IRDA Advanced Transfers - FIR	5/19/05	CW
#26	IRDA Various Devices	5/10/05	SS
#27	IRDA Various Transceivers	5/12/05	SS
#28	Memory Stick Compatibility	5/25/05	SS

Test Suite #1- Installation

Overview

This test suite evaluates the installation procedures for the USB2230. In order to pass this suite, the following conditions must be met:

1. The operating system correctly identifies all supported flash media devices on attach.
2. The OS automatically loads the native Windows Mass Storage Class driver. All drivers load normally with no blue screens or system freezes before, during or after they are loaded.
3. The system does not request or require a restart after the drivers have been loaded.
4. No devices appear in the device manager with yellow exclamation marks next to them (yellow banded.)
5. The device does not blue screen the host before, during or after a system restart. After a system restart, the device is re-enumerated normally.
6. After installation, all device entries appear correctly in the device manager, showing the correct vendor, date and version information.

#	Test Standard	Windows XP	Comments
1	<p>Make sure there are no previous installations of the USB2230 on the host system.</p> <p>Self-Powered Pre Plug: With no media inserted in any of the media slots, attach the USB cable to the host and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p>	Pass	
2	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Again, with no media inserted in any of the media slots, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p>	Pass	

Test Suite #1 Results (cont.)

#	Test Standard	Windows XP	Comments
3	<p>Uninstall the USB2230 hardware entries from the Device Manager and power off the device.</p> <p>Self-Powered Pre Plug: Insert a Smart Media (SM) card into the SM slot, and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the SM card can be read from and written to by transferring a small file from the host to the SM card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p> <p>Repeat the test with xD media</p>	Pass	
4	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Using the same SM card inserted in the SM slot, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the SM card can be read from and written to by transferring a small file from the host to the SM card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p> <p>Repeat the test with xD media</p>	Pass	

Test Suite #1 Results (cont.)

#	Test Standard	Windows XP	Comments
5	<p>Uninstall the USB2230 hardware entries from the Device Manager and power off the device.</p> <p>Self-Powered Pre Plug: Insert a Compact Flash (CF) card into the CF slot, and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the CF card can be read from and written to by transferring a small file from the host to the CF card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p> <p>Repeat the test with an IBM MicroDrive.</p>	Pass	
6	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Using the same CF card inserted in the CF slot, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the CF card can be read from and written to by transferring a small file from the host to the CF card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p> <p>Repeat the test with an IBM MicroDrive.</p>	Pass	

Test Suite #1 Results (cont.)

#	Test Standard	Windows XP	Comments
7	<p>Uninstall the USB2230 hardware entries from the Device Manager and power off the device.</p> <p>Self-Powered Pre Plug: Insert a Secure Digital (SD) card into the SD slot, and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the SD card can be read from and written to by transferring a small file from the host to the SD card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	
8	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Using the same SD card inserted in the SD slot, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the SD card can be read from and written to by transferring a small file from the host to the SD card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	

Test Suite #1 Results (cont.)

#	Test Standard	Windows XP	Comments
9	<p>Uninstall the USB2230 hardware entries from the Device Manager and power off the device.</p> <p>Self-Powered Pre Plug: Insert a Multimedia Card (MMC) into the MMC slot, and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the MMC card can be read from and written to by transferring a small file from the host to the MMC card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	
10	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Using the same MMC card inserted in the MMC slot, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the MMC card can be read from and written to by transferring a small file from the host to the MMC card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	

Test Suite #1 Results (cont.)

#	Test Standard	Windows XP	Comments
11	<p>Uninstall the USB2230 hardware entries from the Device Manager and power off the device.</p> <p>Self-Powered Pre Plug: Insert a Memory Stick (MS) card into the MS slot, and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the MS card can be read from and written to by transferring a small file from the host to the MS card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p> <p>Repeat the test with Memory Stick Pro media.</p>	Pass	
12	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Using the same MS card inserted in the MS slot, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the MS card can be read from and written to by transferring a small file from the host to the MS card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p> <p>Repeat the test with Memory Stick Pro media.</p>	Pass	

Test Suite #1 Results (cont.)

#	Test Standard	Windows XP	Comments
13	<p>Uninstall the USB2230 hardware entries from the Device Manager and power off the device.</p> <p>Self Powered Pre Plug: Insert IBM MD, SM, MMC and MS Pro cards into their respective slots, and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that all of the cards can be read from and written to by transferring a small file from the host to each card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	
14	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Leave the same flash media cards inserted in their slots, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that all of the cards can be read from and written to by transferring a small file from the host to each card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	
15	<p>Eject and Remove- With media inserted in each reader slot, test the Right-Click eject functionality for each device. Check to see that no error message is displayed, and that the host reports no media present when trying to access it after the eject.</p>	Pass	
16	<p>Repeat steps 13 – 15 with CF, xD, SD, and MS media inserted.</p>	Pass	

Test Suite #2- USB Command Verifier (USBCV)

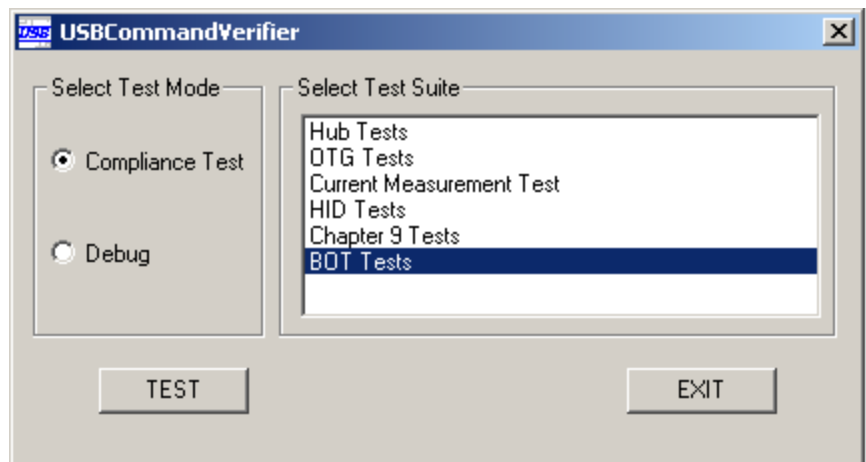
Overview

This test suite utilizes the USB Command Verifier Compliance Tool provided by USB.org, to ensure that the USB2230 complies with Chapter 9 of the USB 2.0 specification. The latest version of the tool is available at <http://www.usb.org/developers/tools.html>. Download and install the latest version of this tool. After installing the USBCV tool, copy the USBCV BOT DLL's from [\\Austinfs\qagroup\QATest\USBCV\bot](#) into the USBCV installation directory. If the defaults are selected when installing USBCV, the folder to copy these files into will be C:\Program Files\USB-IF Test Suite\USB Command Verifier\Libs. Overwrite the older versions of these files in this Lib folder. In order for the device to pass this suite, it must successfully pass all Chapter 9 and BOT tests.

#	Test Standard	Windows XP	Comments
1	The device passes all Chapter 9 tests of the Compliance Utility. Passing logs are generated showing no failures. Save the .htm test output for inclusion with this test report.	Pass	
2	The device passes all BOT tests of the Compliance Utility. Passing logs are generated showing no failures. Save the .htm test output for inclusion with this test report.	Pass	

**USB Command Verifier
Chapter 9 Tests**

**USB Command Verifier
BOT Tests**



Test Suite #3- Compact Flash / IBM MicroDrive

Overview

This test suite evaluates the performance and function of the USB2230 with various Type I and II Compact Flash devices, including the IBM Microdrive. All tests below are performed using a USB 2.0 host controller. Each device is checked to verify proper operation with the USB2230 firmware and drivers under normal and abnormal operating conditions. A 690 MB CD test disk is required for these tests. The test disk contains various files ranging in size from 10 bytes to 300 megabytes, with an accompanying SFV file, which contains a calculated checksum (CRC) for each file.

#	Test Standard	Windows XP	Comments
1	<p>CF Writes- Insert a 16 MB CF card into the CF slot on the USB2230 board. Verify that the correct capacity is shown for the CF card.</p> <p>Open the test files disk in Windows Explorer and sort the test files by size in ascending order. Starting with the smallest size file, select enough of the test files to fill the CF card. Transfer the files to the CF card.</p> <p>Once the files have been written, eject the media and place it in a 3rd party flash reader. Use WinSFV to check the CRC of each file to ensure that the data was not corrupted during the transfer.</p>	Pass	
2	<p>CF Insert/Remove- Double click the 2230 CF drive icon in Windows Explorer. Verify that the OS reports no media present. Reinsert the CF card and check to see that the OS recognizes that a card was inserted. Verify that the contents of the card can be read by transferring a file to the host.</p> <p>Repeat this procedure three times verifying that the media insert and removal is detected correctly each time.</p>	Pass	

Test Suite #3 Results (cont.)

#	Test Standard	Windows XP	Comments
3	CF Reads- Using the same CF card, transfer all of the files that were previously written to the card back to the host. Once the read is complete, CRC check the files on the host to ensure there was no corruption of the data during transfer.	Pass	
4	CF Write, Insert/Remove, Read- Repeat tests 1 through 3 for the following devices: 8MB CF, 32MB CF, 64MB CF, 128MB CF, 256MB CF, 512MB CF, 1GB CF, 2GB CF, 2GB MicroDrive, and the 2.2GB MicroDrive.	32MB CF Pass 128MB CF Pass 512MB CF Pass 1GB CF Pass 2GB MD Pass	

Test Suite #4- Smart Media

Overview

This test suite evaluates the performance and function of the USB2230 with various density Smart Media flash memory cards. All tests below are performed using a USB 2.0 host controller. A 690 MB CD test disk is required for these tests. The test disk contains various files ranging in size from 10 bytes to 300 megabytes, with an accompanying SFV file, which contains a calculated checksum (CRC) for each file.

Test Suite #4 Results

#	Test Standard	Windows XP	Comments
1	<p>SM Writes- Insert an 8 MB SM card into the SM slot on the USB2230 board. Verify that the correct capacity is shown for th SM card.</p> <p>Open the test files disk in Windows Explorer and sort the test files by size in ascending order. Starting with the smallest size file, select enough of the test files to fill the SM card. Transfer the files to the SM card.</p> <p>Once the files have been written, eject the media and place it in a 3rd party flash reader. Use WinSFV to check the CRC of each file to ensure that the data was not corrupted during the transfer.</p>	Pass	
2	<p>SM Insert/Remove- Double click the2230 SM drive icon in Windows Explorer. Verify that the OS reports no media present. Reinsert the SM card and check to see that the OS recognizes that a card was inserted. Verify that the contents of the card can be read by transferring a file to the host.</p> <p>Repeat this procedure three times verifying that the media insert and removal is detected correctly each time.</p>	Pass	

Test Suite #4 Results (cont.)

#	Test Standard	Windows XP	Comments
3	SM Reads- Using the same SM card, transfer all of the files that were previously written to the card back to the host. Once the read is complete, CRC check the files on the host to ensure there was no corruption of the data during transfer.	Pass	
4	SM Write, Insert/Remove, Read- Repeat tests 1 through 3 for the following media: 16MB SM, 32MB SM, 64MB SM, 128MB SM, 256MB SM. Note: If there is not a 256MB SM available, a XD to SM adapter with a 256MB XD card inserted may be used.	32MB SM Pass 128MB SM Pass 256MB SM Pass	
5	SM MPEG Playback Insert a 64 MB SM card into the 2230. From Windows Explorer, perform a Full Format of the media. Copy a MPEG video file that is larger than 15MB to the SM card. Once copy has completed, unplug device. Reattach the device and play the file that was copied to the card. Verify that the file is played back properly. The file should not skip or freeze.	Pass	
6	1-bit ECC Insert a SM card with a 1 bit ECC error on it into the 2230 device. Connect the 2230 to the computer via a 2.0 host controller. Verify that the card contents can be read properly. Inset a SM card with a 2-bit ECC error on it into the 2230 device. Verify that the card contents cannot be read properly. Repeat this step using a 1.1 host controller to connect the 2230 to the computer.	Pass	

Test Suite #4 Results (cont.)

#	Test Standard	Windows XP	Comments
7	<p>CIS Check</p> <p>Set the bit for "Don't Perform Smart Media CIS checking" to 1. (Attribute byte 2, bit 0) This will disable the CIS checking required by the SM spec.</p> <p>Insert a SM card with a corrupt CIS block into the 2230 device. Connect the 2230 to the computer via a 2.0 host controller. Verify that the card contents can be read properly.</p> <p>Clear the bit for "Don't Perform Smart Media CIS checking"(i.e. set it to zero) This will enable the CIS checking required by the SM spec.</p> <p>Insert a SM card with a corrupt CIS block into the 2230 device. Connect the 2230 to the computer via a 2.0 host controller. Verify that the card contents cannot be read.</p>	Pass	
8	<p>SM Write Protect-</p> <p>Enable the write protect on a 32MB SM card, and insert it into the SM slot on the 2230. Check to see that the media is detected properly, and then attempt to copy a file from the host to the SM card. The OS should report that the copy could not be performed.</p> <p>Attempt to format the SM card. The OS should report that the format could not be completed.</p>	Pass	

Test Suite #5 - XD

Overview

This test suite evaluates the performance and function of the USB2230 with various density XD flash memory cards. All tests below are performed using a USB 2.0 host controller. A 690 MB CD test disk is required for these tests. The test disk contains various files ranging in size from 10 bytes to 300 megabytes, with an accompanying SFV file, which contains a calculated checksum (CRC) for each file.

Test Suite #5 Results

#	Test Standard	Windows XP	Comments
1	<p>XD Writes- Insert a 16 MB XD card into the XD slot on the USB2230 board. Verify that the correct capacity is shown for the XD card.</p> <p>Open the test files disk in Windows Explorer and sort the test files by size in ascending order. Starting with the smallest size file, select enough of the test files to fill the XD card. Transfer the files to the XD card.</p> <p>Once the files have been written, eject the media and place it in a 3rd party flash reader. Use WinSFV to check the CRC of each file to ensure that the data was not corrupted during the transfer.</p>	Pass	
2	<p>XD Insert/Remove- Double click the2230 SM drive icon in Windows Explorer. Verify that the OS reports no media present. Reinsert the XD card and check to see that the OS recognizes that a card was inserted. Verify that the contents of the card can be read by transferring a file to the host.</p> <p>Repeat this procedure three times verifying that the media insert and removal is detected correctly each time.</p>	Pass	

Test Suite #5 Results (cont.)

#	Test Standard	Windows XP	Comments
3	XD Reads- Using the same XD card, transfer all of the files that were previously written to the card back to the host. Once the read is complete, CRC check the files on the host to ensure there was no corruption of the data during transfer.	Pass	
4	XD Write, Insert/Remove, Read- Repeat tests 1 through 3 for the following media: 32MB XD, 64MB XD, 128MB XD, 256MB XD, 512MB XD.	64MB XD Pass 256MB XD Pass 512MB XD Pass	
5	1-bit ECC Insert a XD card with a 1-bit ECC error on it into the 2502 device. Connect the 2502 to the computer via a 2.0 host controller. Verify that the card contents can be read properly. Inset a XD card with a 2-bit ECC error on it into the 2502 device. Verify that the card contents cannot be read properly. Repeat this step using a 1.1 host controller to connect the 2502 to the computer.	Pass	

Test Suite #5 Results (cont.)

#	Test Standard	Windows XP	Comments
6	<p>CIS Check</p> <p>Set the bit for "Don't Perform Smart Media CIS checking" to 1. (Attribute byte 2, bit 0) This will disable the CIS checking required by the SM spec.</p> <p>Insert a XD card with a corrupt CIS block into the 2230 device. Connect the 2230 to the computer via a 2.0 host controller. Verify that the card contents can be read properly.</p> <p>Clear the bit for "Don't Perform Smart Media CIS checking"(i.e. set it to zero) This will enable the CIS checking required by the SM spec.</p> <p>Insert a XD card with a corrupt CIS block into the 2230 device. Connect the 2230 to the computer via a 2.0 host controller. Verify that the card contents cannot be read.</p>	Pass	

Test Suite #6- Secure Digital / Multimedia Card

Overview

This test suite evaluates the performance and function of the USB2230 with various density Secure Digital and Multimedia Card flash memory. All tests below are performed using a USB 2.0 host controller. A 690 MB CD test disk is required for these tests. The test disk contains various files ranging in size from 10 bytes to 300 megabytes, with an accompanying SFV file, which contains a calculated checksum (CRC) for each file.

Test Suite #6 Results

#	Test Standard	Windows XP	Comments
1	<p>SD Writes- Turn off the write protection switch on a 32 MB SD card, and insert the card into the SD slot on the USB2230 board. Verify that the correct capacity is shown for the SD card.</p> <p>Open the test files disk in Windows Explorer and sort the test files by size in ascending order. Starting with the smallest size file, select enough of the test files to fill the SD card. Transfer the files to the SD card.</p> <p>Once the files have been written, eject the media and place it in a 3rd party flash reader. Use WinSFV to check the CRC of each file to ensure that the data was not corrupted during the transfer.</p>	Pass	
2	<p>SD Insert/Remove- Double click the2230 SD drive icon in Windows Explorer. Verify that the OS reports no media present. Reinsert the SD card and check to see that the OS recognizes that a card was inserted. Verify that the contents of the card can be read by transferring a file to the host.</p> <p>Repeat this procedure three times verifying that the media insert and removal is detected correctly each time.</p>	Pass	

Test Suite #6 Results (cont.)

#	Test Standard	Windows XP	Comments
3	SD Reads- Using the same SD card, transfer all of the files that were previously written to the card back to the host. Once the read is complete, CRC check the files on the host to ensure there was no corruption of the data during transfer.	Pass	
4	SD/MMC Write, Insert/Remove, Read- Repeat tests 1 through 3 for the following media: 64MB SD, 128MB SD, 256MB SD, 512MB SD, 1GB SD, 16MB MMC, 32MB MMC, 64MB MMC, 128MB MMC, and 256MB MMC.	64MB SD Pass 256MB SD Pass 1GB SD Pass 16MB MMC Pass 64MB MMC Pass	
5	SD Write Protect- Enable the write protect switch on a 32MB SD card, and insert it into the SD slot on the 2230. Check to see that the media is detected properly, and then attempt to copy a file from the host to the SD card. The OS should report that the copy could not be performed. Attempt to format the SD card. The OS should report that the format could not be completed	SD Pass	
6	HS SD Format- Turn off the write protect switch on a HS SD card. Insert the HS SD card into the SD slot of the test device. Verify that the card is recognized properly and the correct capacity is shown. Perform a format on the HS SD card. Verify that the format completes.	HS SD Pass	

Test Suite #6 Results (cont.)

#	Test Standard	Windows XP	Comments
7	<p>HS SD Writes-</p> <p>Open the test files disk in Windows Explorer and sort the test files by size in ascending order. Starting with the smallest size file, select enough of the test files to fill the HS SD card. Transfer the files to the HS SD card.</p> <p>Once the files have been written, eject the media and reinsert it to clear the cache. Use WinSFV to check the CRC of each file to ensure that the data was not corrupted during the transfer.</p>	HS SD Pass	
8	<p>HS SD Reads- Using the same HS SD card, transfer all of the files that were previously written to the card back to the host. Once the read is complete, CRC check the files on the host to ensure there was no corruption of the data during transfer.</p>	HS SD Pass	
9	<p>HS SD Insert/Remove- Remove the HS SD card from the test device. Double click the 2230 SD drive icon in Windows Explorer. Verify that the OS reports no media present. Reinsert the HS SD card and check to see that the OS recognizes that a card was inserted. Verify that the contents of the card can be read by transferring a file to the host.</p> <p>Repeat this procedure three times verifying that the media insert and removal is detected correctly each time.</p>	HS SD Pass	

Test Suite #6 Results (cont.)

#	Test Standard	Windows XP	Comments
10	<p>HS SD Write Protect-</p> <p>Enable the write protect switch on a HS SD card, and insert it into the SD slot on the 2230. Check to see that the media is detected properly, and then attempt to copy a file from the host to the HS SD card. The OS should report that the copy could not be performed.</p> <p>Attempt to format the HS SD card. The OS should report that the format could not be completed</p>	<p>HS SD Pass</p>	<p>HS SD Read =</p> <p>HS SD Write =</p> <p>SD Read =</p> <p>SD Write =</p>
11	<p>HS SD Read/Write Speeds-</p> <p>Ensure that the test device is operating at USB2.0 speeds.</p> <p>Use HDBench v3.40 to test the read/write speed for a formatted HS SD card. Record the results in the comments section.</p> <p>Use HDBench v3.40 to test the read/write speed for a formatted SD card (not HS). Record the results in the comments section.</p> <p>Verify that the HS SD card results in much faster read/write speeds than the non-high speed SD card.</p> <p>Note: The expected speeds for these card when using brand new media at 2.0 speeds are as follows: HS SD Read = 10.4 MB/s HS SD Write = 7.7 MB/s</p> <p>SD Read = 7275 KB/s SD Write = 5340 KB/s</p> <p>These speeds will not be achieved with "old" media, but for this step you should verify that the differences in speed correlate with the above listed rates in order for this step to pass.</p>	<p>HS SD Pass</p>	<p>HS SD Read =</p> <p>HS SD Write =</p> <p>SD Read =</p> <p>SD Write =</p>

Test Suite #7- Memory Stick / Memory Stick Pro

Overview

This test suite evaluates the performance and function of the USB2230 with various capacity Memory Stick and Memory Stick Pro flash memory cards. All tests below are performed using a USB 2.0 host controller. A 690 MB CD test disk is required for these tests. The test disk contains various files ranging in size from 10 bytes to 300 megabytes, with an accompanying SFV file, which contains a calculated checksum (CRC) for each file.

Test Suite #7 Results

#	Test Standard	Windows XP	Comments
1	<p>MS Writes- Turn off the write protection switch on a 16 MB MS card, and insert the card into the MS slot on the USB2230 board. Verify that the correct capacity is shown for the MS card.</p> <p>Open the test files disk in Windows Explorer and sort the test files by size in ascending order. Starting with the smallest size file, select enough of the test files to fill the MS card. Transfer the files to the MS card.</p> <p>Once the files have been written, eject the media and place it in a 3rd party flash reader. Use WinSFV to check the CRC of each file to ensure that the data was not corrupted during the transfer.</p>	Pass	
2	<p>MS Insert/Remove- Double click the2230 MS drive icon in Windows Explorer. Verify that the OS reports no media present. Reinsert the MS card and check to see that the OS recognizes that a card was inserted. Verify that the contents of the card can be read by transferring a file to the host.</p> <p>Repeat this procedure three times verifying that the media insert and removal is detected correctly each time.</p>	Pass	

Test Suite #7 Results (cont.)

#	Test Standard	Windows XP	Comments
3	MS Reads- Using the same MS card, transfer all of the files that were previously written to the card back to the host. Once the read is complete, CRC check the files on the host to ensure there was no corruption of the data during transfer.	Pass	
4	MS Write, Insert/Remove, Read- Repeat tests 1 through 3 for the following media: 8MB MS, 64MB MS, 128MB MS, 256MB MS, 256MB MS Pro, 512MB MS Pro, 1GB MS Pro.	32MB MS Pass 64MB MS Pass 256MB MS Pass 256MB MS Pro Pass 1GB MS Pro Pass	
5	MS Write Protect- Enable the write protect switch on a 32MB MS card, and insert it into the MS slot on the 2230. Check to see that the media is detected properly, and then attempt to copy a file from the host to the card. The OS should report that the copy could not be performed.	Pass	
6	MS Write Pro Protect- Enable the write protect switch on a 512MB MS Pro card, and insert it into the MS slot on the 2230. Check to see that the media is detected properly, and then attempt to copy a file from the host to the card. The OS should report that the copy could not be performed.	Pass	
7	1-bit ECC Insert a MS card with a 1-bit ECC error on it into the 2230 device. Connect the 2230 to the computer via a 2.0 host controller. Verify that the card contents can be read properly. Insert a MS card with a 2-bit ECC error on it into the 2230 device. Verify that the card contents cannot be read. Repeat this step using a 1.1 host controller.	Pass	

Test Suite #8- Multiple Device

Overview

This test suite evaluates the performance and function of multiple USB2230 devices attached to a single host. All tests below are performed using a USB 2.0 host controller. The focus of this testing is to ensure interoperability between all devices when more than one USB2230 device is running on the same host.

#	Test Standard	Windows XP	Comments
1	<p>Host to B1, B2- Attach two USB2230 boards to the host via the same host controller. Verify that both boards enumerate properly.</p> <p>Insert CF, SM, SD, and MS cards into both boards. Verify that you can read from and write to all cards individually. Simultaneously transfer a couple large files from the host to the CF cards on both boards. Verify that the transfers complete normally. Repeat this transfer for SM, SD and MS. Repeat this step transferring files via IRDA.</p> <p>Also test writing to different cards on each board simultaneously (i.e. MS on board 1 and SD on board 2.)</p>	Pass	
2	<p>B1, B2 to Host- Using the same boards and test setup as Test #1 above, simultaneously transfer a large file from each CF card to the host. Verify that the transfer completes normally. Repeat this transfer for SM, SD, MS and IRDA.</p> <p>Also test reading from different cards on each board simultaneously (i.e. SM on board 1 and CF on board 2.)</p>	Pass	
3	<p>B1 to B2- Again using the same boards and test setup as Test #1, transfer a series of test files (large and small) from the CF card on board 1, to the CF card on board 2. Repeat this transfer for SM, SD, MS, and IRDA</p> <p>Also test writing to different cards on board 2 (i.e. SM on board 1 to CF on board 2.)</p>	Pass	

Test Suite #8 Results (cont.)

#	Test Standard	Windows XP	Comments
4	<p>B1 to Host / Host to B2- Using the same test setup, transfer a test file from the CF card on board 1 to the host, while at the same time transferring a separate file from the host to the CF card on board 2. Repeat this transfer for SM, SD, MS, and IRDA.</p> <p>Also test reading from and writing to different cards on each board (i.e. SM on board 1 to host, host to CF on board 2.)</p>	Pass	
5	<p>B1 to Host / Host to B1- Leave both boards attached to the host, but for this test you will be performing all of the reads/writes on one board only.</p> <p>Copy a large file from the CF to the host, and copy another large file from the host to the SM. Repeat this test using all possible combinations of CF, SM, SD, MS, and IRDA for both reads and writes. Ensure that all transfers complete normally.</p>	Pass	
6	<p>All Media types – Repeat steps 1 – 5 of this test suite using IBM-MD, XD, MMC, MS Pro, and IRDA.</p>	Pass	

Test Suite #9- Surprise Removal

Overview

This test suite evaluates the performance and function of the USB2230 with media and USB cable surprise removals. All tests below are performed using a USB 2.0 host controller. Each device is checked to verify proper operation with the USB2230 firmware and drivers under normal and abnormal operating conditions. A 690 MB CD test disk is required for these tests. The test disk contains various files ranging in size from 10 bytes to 300 megabytes, with an accompanying SFV file, which contains a calculated checksum (CRC) for each file.

Test Suite #9 Results

#	Test Standard	Windows XP	Comments
1	CF/IBM MD Surprise Removal (USB)- Write- Insert a 512 MB CF card and copy a large (~50 MB) test file from the host to the CF card. Once the transfer reaches approximately 50% completion, unplug the USB cable. Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly, and the CF can be read from and written to. Complete the transfer of the test file to the CF card.	Write Pass	
	Read- Using the same CF card, copy the test file from the CF card to the host. Once the transfer reaches approximately 50% completion, unplug the USB cable. Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly, and the CF can be read from and written to. Complete the transfer of the test file to the host.	Read Pass	

Test Suite #9 Results (cont.)

#	Test Standard	Windows XP	Comments
2	<p>CF/IBM MD Surprise Removal (Media)-</p> <p>Write- Using the same 512 MB CF card, copy a large (~50 MB) test file from the host to the CF card. Once the transfer reaches approximately 50% completion, remove the media. Wait 3-5 seconds and close any open warning dialogs. Reinsert the media and check to see that the OS properly recognizes the card, and can read from and write to it. Complete the transfer of the test file to the CF card.</p> <p>Read- Using the same CF card, copy the test file from the CF card to the host. Once the transfer reaches approximately 50% completion, remove the media. Wait 3-5 seconds and close any open warning dialogs. Reinsert the media and check to see that the OS properly recognizes the card, and can read from and write to it. Complete the transfer of the test file to the host.</p>	<p>Write Pass</p> <p>Read Pass</p>	
3	<p>CF/IBM MD Surprise Removal (Format)-</p> <p>Using the same CF card, from Windows Explorer, perform a Full Format of the media. Once the format reaches approximately 20% completion, unplug the USB cable. . Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly. Attempt to format the media again. The format should complete normally.</p>	Pass	
4	<p>Other CF/IBM MD Media</p> <p>Repeat steps 1-3 using a 64MB CF card and 1GB IBM Microdrive.</p>	<p>64MB CF Pass</p> <p>1GB MD Pass</p>	

Test Suite #9 Results (cont.)

#	Test Standard	Windows XP	Comments
5	SM/XD Surprise Removal (USB)-		
	<p>Write- Insert a 64 MB SM card and copy a large (~50 MB) test file from the host to the SM card. Once the transfer reaches approximately 50% completion, unplug the USB cable. Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly, and the SM can be read from and written to. Complete the transfer of the test file to the SM card.</p> <p>Read- Using the same SM card, copy the test file from the SM card to the host. Once the transfer reaches approximately 50% completion, unplug the USB cable. Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly, and the SM can be read from and written to. Complete the transfer of the file to the host.</p>	<p>Write Pass</p> <p>Read Pass</p>	
6	SM/XD Surprise Removal (Media)-		
	<p>Write- Using the same 64 MB SM card, copy a large (~50 MB) test file from the host to the SM card. Once the transfer reaches approximately 50% completion, remove the media. Wait 3-5 seconds and close any open warning dialogs. Reinsert the media and check to see that the OS properly recognizes the card, and can read from and write to it. Complete the transfer of the test file to the SM card.</p> <p>Read- Using the same SM card, copy the test file from the SM card to the host. Once the transfer reaches approximately 50% completion, remove the media. Wait 3-5 seconds and close any open warning dialogs. Reinsert the media and check to see that the OS properly recognizes the card, and can read from and write to it. Complete the transfer of the test file to the host.</p>	<p>Write Pass</p> <p>Read Pass</p>	

Test Suite #9 Results (cont.)

#	Test Standard	Windows XP	Comments
7	SM/XD Surprise Removal (Format)- Using the same SM card, from Windows Explorer, perform a Full Format of the media. Once the format reaches approximately 20% completion, unplug the USB cable. . Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly. Attempt to format the media again. The format should complete normally.	Pass	
8	Other SM/XD Media Repeat steps 5 - 7 using a 128MB SM card and 256MB XD.	128MB SM Pass 256MB XD Pass	
9	SD/MMC Surprise Removal (USB)- Write- Insert a 64 MB SD card and copy a large (~50 MB) test file from the host to the SD card. Once the transfer reaches approximately 50% completion, unplug the USB cable. Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly, and the SD can be read from and written to. Complete the transfer of the test file to the SD card. Read- Using the same SD card, copy the test file from the SD card to the host. Once the transfer reaches approximately 50% completion, unplug the USB cable. Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly, and the SD can be read from and written to. Complete the transfer of the file to the host.	Write Pass Read Pass	

Test Suite #9 Results (cont.)

#	Test Standard	Windows XP	Comments
10	<p>SD/MMC Surprise Removal (Media)-</p> <p>Write- Using the same 64 MB SD card, copy a large (~50 MB) test file from the host to the SD card. Once the transfer reaches approximately 50% completion, remove the media. Wait 3-5 seconds and close any open warning dialogs. Reinsert the media and check to see that the OS properly recognizes the card, and can read from and write to it. Complete the transfer of the test file to the SD card.</p> <p>Read- Using the same SD card, copy the test file from the SD card to the host. Once the transfer reaches approximately 50% completion, remove the media. Wait 3-5 seconds and close any open warning dialogs. Reinsert the media and check to see that the OS properly recognizes the card, and can read from and write to it. Complete the transfer of the test file to the host.</p>	<p>Write Pass</p> <p>Read Pass</p>	
11	<p>SD/MMC Surprise Removal (Format)-</p> <p>Using the same SD, from Windows Explorer, perform a Full Format of the media. Once the format reaches approximately 20% completion, unplug the USB cable. . Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly. Attempt to format the media again. The format should complete normally.</p>	Pass	
12	<p>Other SM/XD Media</p> <p>Repeat steps 9 - 11 using a 256MB SD and 64MB MMC card.</p>	<p>256MB SD Pass</p> <p>64MB MMC Pass</p>	

Test Suite #9 Results (cont.)

#	Test Standard	Windows XP	Comments
1 3	<p>MS/MS Pro Surprise Removal (USB)-</p> <p>Write- Insert a 64 MB MS card and copy a large (~50 MB) test file from the host to the MS card. Once the transfer reaches approximately 50% completion, unplug the USB cable. Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly, and the MS can be read from and written to. Complete the transfer of the test file to the MS card.</p> <p>Read- Using the same MS card, copy the test file from the MS card to the host. Once the transfer reaches approximately 50% completion, unplug the USB cable. Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly, and the MS can be read from and written to. Complete the transfer of the file to the host.</p>	<p>Write Pass</p> <p>Read Pass</p>	
1 4	<p>MS/MS Pro Surprise Removal (Media)-</p> <p>Write- Using the same 64 MB MS card, copy a large (~50 MB) test file from the host to the MS card. Once the transfer reaches approximately 50% completion, remove the media. Wait 3-5 seconds and close any open warning dialogs. Reinsert the media and check to see that the OS properly recognizes the card, and can read from and write to it. Complete the transfer of the test file to the MS card.</p> <p>Read- Using the same MS card, copy the test file from the MS card to the host. Once the transfer reaches approximately 50% completion, remove the media. Wait 3-5 seconds and close any open warning dialogs. Reinsert the media and check to see that the OS properly recognizes the card, and can read from and write to it. Complete the transfer of the test file to the host.</p>	<p>Write Pass</p> <p>Read Pass</p>	

Test Suite #9 Results (cont.)

#	Test Standard	Windows XP	Comments
1 5	<p>MS/MS Pro Surprise Removal (Format)-</p> <p>Using the same MS card, from Windows Explorer, perform a Full Format of the media. Once the format reaches approximately 20% completion, unplug the USB cable. . Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly. Attempt to format the media again. The format should complete normally.</p>	Pass	
1 6	<p>Other SM/XD Media</p> <p>Repeat steps 13 - 15 using a 128MB MS and 512MB MS Pro.</p>	<p>128MB MS Pass</p> <p>512MB MS Pro Pass</p>	
1 7	<p>IRDA Surprise Removal (USB)-</p> <p>Write- Connect the 2230 via IR to a IR device that can copy test files. Copy a large (~50 MB) test file from the 2230 host to the IR device. Once the transfer reaches approximately 50% completion, unplug the USB cable. Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly, and the IR device can be discovered. Complete the transfer of the test file to the IR device.</p> <p>Read- Using the same IR device, copy the test file from the IR device to the host via the 2230. Once the transfer reaches approximately 50% completion, unplug the USB cable. Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly, and the IR device can be discovered. Complete the transfer of the file to the host.</p>	<p>Write Pass</p> <p>Read Pass</p>	

Test Suite #9 Results (cont.)

#	Test Standard	Windows XP	Comments
1 8	IRDA Surprise Removal (IRDA device)- Write- Using the same IRDA device, copy a large (~50 MB) test file from the host to the IRDA device via the 2230. Once the transfer reaches approximately 50% completion, pull the IRDA device away from the IR range of the 2230. Wait 3-5 seconds and close any open warning dialogs. Return the IR device to within IR range of the 2230 and check to see that the OS properly discovers the IR device. Complete the transfer of the test file to the IRDA device.	Write Pass	
	Read- Using the same IR Device, copy the test file from the IR device to the host via the 2230. Once the transfer reaches approximately 50% completion, pull the IRDA device away from the IR range of the 2230. Wait 3-5 seconds and close any open warning dialogs. Return the IR device to within IR range of the 2230 and check to see that the OS properly discovers the IR device. Complete the transfer of the test file to the host.	Read Pass	

Test Suite #9 Results (cont.)

#	Test Standard	Windows XP	Comments
19	<p>USB Cable Removal From Host End-</p> <p>Attach a 2230 board to a host computer using a 15ft. USB cable. Fill all slots of the board with media.</p> <p>Write- Copy a large (~50 MB) test file from the host one of the pieces of media in the 2230 board. Once the transfer reaches approximately 50% completion, unplug the USB cable from the host end. Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly, and the media can be read from and written to. Complete the transfer of the test file.</p> <p>Read- Using the same media card, copy the test file from the 2230 board to the host. Once the transfer reaches approximately 50% completion, unplug the USB cable from the host end. Wait 3-5 seconds and close any open warning dialogs. Reattach the USB cable and check to see that the device reenumerates properly, and the media can be read from and written to. Complete the transfer of the file to the host.</p>	<p>Write Pass</p> <p>Read Pass</p>	

Test Suite #10- Load / Unload

Overview

This test suite evaluates the function of the USB2230 under both normal and abnormal conditions, which cause the device to suspend, resume, enumerate or detach from the host. All tests below are performed using a self powered USB2230 attached to a USB 2.0 host controller unless otherwise noted.

#	Test Standard	Windows XP	Comments
1	Remove all media from 2230 device. After disconnecting the USB cable of a properly enumerated USB2230 device, all entries in the Device Manager associated with that device disappear. The device does not blue screen, freeze or otherwise adversely affect the host in any way.	Pass	
2	Upon reattaching the USB cable, the entries in the Device Manager reappear, and the device functions normally.	Pass	
3	After turning off power to the USB2230, all entries in the Device Manager associated with the device disappear. The device does not blue screen, freeze or otherwise adversely affect the host in any way.	Pass	
4	After turning power to the USB2230 back on, the entries in the Device Manager reappear, and the device functions normally.	Pass	
5	Upon rebooting the host with the USB2230 enumerated, it does not blue screen, freeze or otherwise adversely affect the host in any way. All entries associated with the USB2230 device appear in the Device Manager, and are not yellow banded.	Pass	

Test Suite #10 Results (cont.)

#	Test Standard	Windows XP	Comments
6	Suspend the host and wait one minute. Resume the host and verify the device is enumerated and operates properly. Attach a 2 nd USB2230 device to the same host and repeat the test. Verify both boards reenumerate and function properly after being resumed. Remove the 2 nd device.	Pass	
7	<p>Insert CF, SM, SD, and MS media containing data into the USB2230. Verify that all cards can be read.</p> <p>Suspend the host and wait one minute. Resume the host and verify the device is enumerated and operates properly. Check to see that all cards can be read from and written to. Check to see that the 2230 can communicate via IR to an IR device.</p>	Pass	
8	Suspend the host and wait one minute. While host is suspended remove some of the media from the 2230. Resume the host and verify the device is enumerated and operates properly. Check to see that the flash media cards not removed during the suspend can be read from and written to. Verify that the drives for media that was removed during the suspend cannot be accessed. Check to see that the 2230 can communicate via IR to an IR device.	Pass	
9	<p>Remove all of the flash media cards from the 2230 and Suspend the host. While the host is suspended, reinsert the CF, SM, SD, and MS cards and then resume the host.</p> <p>Verify that all cards are recognized, and can be read from and written to. Check to see that the 2230 can communicate via IR to an IR device.</p>	Pass	

Test Suite #10 Results (cont.)

#	Test Standard	Windows XP	Comments
10	Shut down the host. Remove some of the media from the 2230 while host is shut down. Start up the host and verify the device is enumerated and operates properly. Check to see that the flash media cards not removed while the host was shut down can be read from and written to. Verify that the drives for media that was removed while the host was shut down cannot be accessed. Check to see that the 2230 can communicate via IR to an IR device.	Pass	
11	Remove all of the flash media cards from the 2230. Verify that board is properly enumerated. Shut down the host. While host is shut down, insert the same CF, SM, SD, and MS into the 2230. Start up the host. Verify that all cards are recognized, and can be read from and written to. Check to see that the 2230 can communicate via IR to an IR device.	Pass	
12	Using the same test setup as above, with all cards inserted in the 2230 and properly recognized, unplug the USB cable, wait 2-5 seconds and plug the cable back in. Verify that the device enumerates properly. Repeat this test for 20 iterations. Verify the device enumerates correctly each time, and that the media is properly recognized. Check to see that the 2230 can communicate via IR to an IR device.	Pass	
13	Repeat steps 7-12 using IBM MD, XD, MMC, and MS Pro	Pass	

Test Suite #10 Results (cont.)

#	Test Standard	Windows XP	Comments
14	Self-Powered Reboot Endurance- Using the Burn-In Test Pro utility, set a host PC up to continually reboot with a self-powered2230 attached. Allow the test to run overnight. In the morning, check to see that the test is still running. Halt the test and verify that the2230 is enumerated and operating normally.	Pass	
15	Bus-Powered Reboot Endurance- Using the Burn-In Test Pro utility, set a host PC up to continually reboot with a bus-powered2230 attached. Allow the test to run overnight. In the morning, check to see that the test is still running. Halt the test and verify that the2230 is enumerated and operating normally.	Pass	

Test Suite #11- Booting from USB

Overview

This test suite evaluates the function of the USB2230 booting from media. All tests below are performed using a USB 2.0 host controller. This test needs to be performed on a machine that supports booting from a USB device.

Test Suite #11 Results

#	Test Standard	Windows XP	Comments
1	Boot from CF\IBM MD Configure a USB2230 board to have a single active lun for Compact Flash. Create a Win98 startup boot disk on a CF card. Insert CF card with Win98 startup boot disk into test device. Connect test device to test machine. Set up bios to choose USB device as boot option. Restart test machine. Verify that test machine boots off of CF card in test device. Repeat this test using IBM Micro drive.	CF Pass IBM - MD Pass	
2	Boot from SM Configure a USB2230 board to have a single active lun for Smart Media. Create a Win98 startup boot disk on a SM card. Insert SM card with Win98 startup boot disk into test device. Connect test device to test machine. Set up bios to choose USB device as boot option. Restart test machine. Verify that test machine boots off of SM card in test device.	SM Pass	

Test Suite #11 Results

#	Test Standard	Windows XP	Comments
3	<p>Boot from XD</p> <p>Configure a USB2230 board to have a single active lun for XD.</p> <p>Create a Win98 startup boot disk on a XD card.</p> <p>Insert XD card with Win98 startup boot disk into test device.</p> <p>Connect test device to test machine. Set up bios to choose USB device as boot option.</p> <p>Restart test machine.</p> <p>Verify that test machine boots off of XD card in test device.</p>	<p>XD Pass</p>	
4	<p>Boot from SD</p> <p>Configure a USB2230 board to have a single active lun for Secure Digital.</p> <p>Create a Win98 startup boot disk on a SD card.</p> <p>Insert SD card with Win98 startup boot disk into test device.</p> <p>Connect test device to test machine. Set up bios to choose USB device as boot option.</p> <p>Restart test machine.</p> <p>Verify that test machine boots off of SD card in test device.</p> <p>Repeat this test with MMC.</p>	<p>SD Pass</p> <p>MMC Pass</p>	
5	<p>Boot from MS</p> <p>Configure a USB2230 board to have a single active lun for Memory Stick.</p> <p>Create a Win98 startup boot disk on a MS card.</p> <p>Insert MS card with Win98 startup boot disk into test device.</p> <p>Connect test device to test machine. Set up bios to choose USB device as boot option.</p> <p>Restart test machine.</p> <p>Verify that test machine boots off of MS card in test device.</p> <p>Repeat this test with MS Pro.</p>	<p>MS Pass</p> <p>MS Pro Pass</p>	

Test Suite #12- USB 1.1

Overview

This test suite evaluates the performance and function of USB2230 devices while attached to a USB 1.1 host controller. All tests below are performed using a USB 1.1 host controller, unless specified otherwise.

#	Test Standard	Windows XP	Comments
1	<p>Make sure there are no previous installations of the USB2230 on the host system.</p> <p>Self-Powered Pre Plug: With no media inserted in any of the media slots, attach the USB cable to the host and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Verify that the 2230 can communicate to an IR device via IRDA.</p>	Pass	
2	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Again, with no media inserted in any of the media slots, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Verify that the 2230 can communicate to an IR device via IRDA.</p>	Pass	

Test Suite #12 Results (cont.)

#	Test Standard	Windows XP	Comments
3	<p>Uninstall the USB2230 hardware entries from the Device Manager and power off the device.</p> <p>Self-Powered Pre Plug: Insert a Smart Media (SM) card into the SM slot, and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the SM card can be read from and written to by transferring a small file from the host to the SM card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	
4	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Using the same SM card inserted in the SM slot, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the SM card can be read from and written to by transferring a small file from the host to the SM card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	

Test Suite #12 Results (cont.)

#	Test Standard	Windows XP	Comments
5	<p>Uninstall the USB2230 hardware entries from the Device Manager and power off the device.</p> <p>Self-Powered Pre Plug: Insert a Compact Flash (CF) card into the CF slot, and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the CF card can be read from and written to by transferring a small file from the host to the CF card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p> <p>Repeat this test using an IBM MicroDrive.</p>	Pass	
6	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Using the same CF card inserted in the CF slot, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the CF card can be read from and written to by transferring a small file from the host to the CF card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p> <p>Repeat this test using an IBM MicroDrive.</p>	Pass	

Test Suite #12 Results (cont.)

#	Test Standard	Windows XP	Comments
7	<p>Uninstall the USB2230 hardware entries from the Device Manager and power off the device.</p> <p>Self-Powered Pre Plug: Insert a Secure Digital (SD) card into the SD slot, and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the SD card can be read from and written to by transferring a small file from the host to the SD card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	
8	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Using the same SD card inserted in the SD slot, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the SD card can be read from and written to by transferring a small file from the host to the SD card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	

Test Suite #12 Results (cont.)

#	Test Standard	Windows XP	Comments
9	<p>Uninstall the USB2230 hardware entries from the Device Manager and power off the device.</p> <p>Self-Powered Pre Plug: Insert a Multimedia Card (MMC) into the MMC slot, and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the MMC card can be read from and written to by transferring a small file from the host to the MMC card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	
10	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Using the same MMC card inserted in the MMC slot, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the MMC card can be read from and written to by transferring a small file from the host to the MMC card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	

Test Suite #12 Results (cont.)

#	Test Standard	Windows XP	Comments
11	<p>Uninstall the USB2230 hardware entries from the Device Manager and power off the device.</p> <p>Self-Powered Pre Plug: Insert a Memory Stick (MS) card into the MS slot, and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the MS card can be read from and written to by transferring a small file from the host to the MS card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p> <p>Repeat this test using MS Pro media.</p>	Pass	
12	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Using the same MS card inserted in the MS slot, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that the MS card can be read from and written to by transferring a small file from the host to the MS card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p> <p>Repeat this test using MS Pro media.</p>	Pass	

Test Suite #12 Results (cont.)

#	Test Standard	Windows XP	Comments
13	<p>Uninstall the USB2230 hardware entries from the Device Manager and power off the device.</p> <p>Self-Powered Pre Plug: Insert CF, SM, SD, and MS cards into their respective slots, and power up the eval board. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that all of the cards can be read from and written to by transferring a small file from the host to each card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	
14	<p>Uninstall the USB2230 hardware entries from the Device Manager. Detach the USB cable from the host and power off the device.</p> <p>Self Powered Post Plug: Leave the same flash media cards inserted in their slots, power up the eval board, wait a few seconds and then plug the USB cable into the host. Check to see that the device enumerates properly, the correct drivers are loaded, and a drive icon appears for each LUN supported in the firmware.</p> <p>Check to see that all of the cards can be read from and written to by transferring a small file from the host to each card and back. (To avoid caching of the data, hot plug the device between the read and write.)</p>	Pass	
15	<p>Remove the CF, MS, SM, and SD cards from the device.</p> <p>Insert IBM MD, MS Pro, XD, and MMC cards.</p> <p>Repeat steps 13 and 14 using this new set of media.</p>	Pass	

Test Suite #12 Results (cont.)

#	Test Standard	Windows XP	Comments
1 6	<p>Surprise Removal Write (USB): Copy one large file from the host to a CF card. Once the transfer has reached 20% complete, disconnect the USB cable and wait 3 to 5 seconds. Close any warning dialog boxes and reattach the USB cable. Verify that the device reenumerates and the card and be read from and written to.</p> <p>Repeat this procedure using several small files (~1 to 10kb) instead of one large file.</p>	Pass	
1 7	<p>Surprise Removal Read (USB): Copy one large file from a CF card to the host. Once the transfer has reached 20% complete, disconnect the USB cable and wait 3 to 5 seconds. Close any warning dialog boxes and reattach the USB cable. Verify that the device reenumerates and the card and be read from and written to.</p> <p>Repeat this procedure using several small files (~1 to 10kb) instead of one large file.</p>	Pass	
1 8	<p>Surprise Removal Write (Media): Copy one large file from the host to a CF card. Once the transfer has reached 20% complete, remove the CF media and wait 3 to 5 seconds. Close any warning dialog boxes and then reinsert the CF media. Wait a few seconds for the card to be recognized and then verify it can be read from and written to.</p> <p>Repeat this procedure using several small files (~1 to 10kb) instead of one large file.</p>	Pass	

Test Suite #12 Results (cont.)

#	Test Standard	Windows XP	Comments
19	<p>Surprise Removal Read (Media): Copy one large file from a CF card to the host. Once the transfer has reached 20% complete, remove the CF media and wait 3 to 5 seconds. Close any warning dialog boxes and then reinsert the CF media. Wait a few seconds for the card to be recognized and then verify it can be read from and written to.</p> <p>Repeat this procedure using several small files (~1 to 10kb) instead of one large file.</p>	Pass	
20	<p>Repeat steps 16-19 using IBM MD, SM, XD, SD, MMC, MS, and MS Pro.</p>	Pass	

Test Suite #13- USB WHQL

Overview

This test suite checks to ensure that the USB2230 is able to pass the Windows Hardware Quality Lab (WHQL) certification testing. All tests below are performed in a single LUN configuration under Windows XP using the latest HCT available from Microsoft.

Manual Tests:

#	WHQL Test	Windows XP	Comments
1	Enable/Disable- Device I/O (Storage)	Pass	
2	USB Selective Suspend	Pass	
3	USB Serial Number	Pass	

Automated Tests:

#	WHQL Test	Windows XP	Comments
1	ACPI S1 Stress	Pass	
2	ACPI S3 Stress	Pass	
3	Disk Stress	Pass	
4	FAT- File I/O (Removable)	Pass	
5	Storage Device Stress	Pass	
6	Surprise Removal	Pass	
7	Syscache	Pass	
8	Sysparse	Pass	

Test Suite #14- Chapter 9 Current Measurement Tests

Overview

This test suite checks to ensure that the USB2230 meets all Chapter 9 power requirements for both bus and self powered devices. All tests are run in Windows XP.

#	Test Standard	Windows XP	Comments
1	Unconfigured Current (Bus Powered)- Using the USBCV test utility, check the unconfigured current for the USB2230 bus powered. In order to pass, the device must draw no more than 100mA in an unconfigured state. Once the test is complete, close the USBCV application and verify that the test stack driver is unloaded and that the device is enumerated normally as a mass storage class device.	Pass	
2	Operating Current- Verify that the device is bus powered and enumerated properly. Initiate large file transfers simultaneously on all four LUNs. During the transfer, measure the current being drawn by the 2230. In order to pass, the device cannot draw more than 500mA at any time during the operation.	Pass	
3	Suspend Current- Suspend the host. Once the host has stabilized in a suspended state, wait 5 to 10 seconds and then measure the suspended current draw for the 2230. In order to pass the test, the device can draw no more than 500uA while suspended.	Pass	

Test Suite #14 Results (cont.)

#	Test Standard	Windows XP	Comments
4	<p>Unconfigured Current (Self-Powered)-</p> <p>Using the USBCV test utility, check the unconfigured current for the USB2230 self powered.</p> <p>In order to pass, the device must draw no more than 100mA in an unconfigured state.</p> <p>Once the test is complete, close the USBCV application and verify that the test stack driver is unloaded and that the device is enumerated normally as a mass storage class device.</p>	Not Applicable	
5	<p>Operating Current-</p> <p>Verify that the device is self powered and enumerated properly. Initiate large file transfers simultaneously on all four LUNs. During the transfer, measure the current being drawn by the 2230.</p> <p>In order to pass, the device cannot draw more than 100mA from the host at any time during the operation.</p>	Not Applicable	
6	<p>Suspend Current-</p> <p>Suspend the host. Once the host has stabilized in a suspended state, wait 5 to 10 seconds and then measure the suspended current draw for the 2230.</p> <p>In order to pass the test, the device can draw no more than 500uA from the host while suspended.</p>	Not Applicable	

Test Suite #15- Bundled Software Application Tests

Overview

This test suite checks to ensure that all of the applications bundled with the USB2230 operate properly in accordance with the user instructions provided in the USB2230 Software Release Notes.

#	Application	Windows 2000	Windows XP	Comments
1	USBDM	Pass	Pass	
2	PLTU	Pass	Pass	
3	Setlcon.exe	Pass	Pass	
4	Cardreader Installer	Pass	Pass	
5	PLDU	Pass	Pass	FAILS firmware upgrade Passes descriptor Update

Test Suite #16- DFU and Descriptor Update

Overview

This test suite checks to ensure that both the device firmware upgrade (DFU) and descriptor update functionality of the USB2230 work properly. Please note that DFU functionality is only available for devices that utilize an external flash ROM. USBDM 1.407 or later must be used for this test.

#	Test Standard	Windows 2000	Windows XP	Comments
1	<p>DFU from old firmware- Load an eval board with a DFU enabled eeprom version of "both.bin" binary created from the last release version of the firmware.</p> <p>Perform a DFU update to the version of firmware under test. Verify that the operation completes normally.</p> <p>Unplug the device and reattach it to the host. Verify it enumerates and functions properly. Check the version of the firmware using USBView (looking at the bcdDevice string). Verify that the updated version is displayed.</p> <p>Repeat this step using the NO EEPROM version of the last released both.bin</p>	<p>EEPROM Pass</p> <p>NOEEPROM Pass</p>	<p>EEPROM Pass</p> <p>NOEEPROM Pass</p>	
2	<p>DFU from current firmware- Load an eval board with a DFU enabled eeprom version of "both.bin" binary created for the firmware under test.</p> <p>Perform a DFU update to the version of firmware under test. Verify that the operation completes normally.</p> <p>Unplug the device and reattach it to the host. Verify it enumerates and functions properly. Verify by USBView that the correct version is displayed.</p> <p>Repeat this step using the NO EEPROM version of firmware under test both.bin</p>	<p>EEPROM Pass</p> <p>NOEEPROM Pass</p>	<p>EEPROM Pass</p> <p>NOEEPROM Pass</p>	

Test Suite #16 Results (cont.)

#	Test Standard	Windows 2000	Windows XP	Comments
3	<p>Descriptor Update-</p> <p>Modify an eeprom.dat file and upload it to the device. Once the operation completes, hot plug the device and verify that the eeprom contains the new data. Repeat this test using the "NO.EEPROM" version of the firmware.</p> <p>Continue to use descriptor updates to completely verify the LUN configuration and icon sharing functionality of the device.</p> <p>(Refer to the USB2230 Software Release Notes for information on LUN Configuration and Icon Sharing.)</p>	<p>EEPROM Pass</p> <p>NOEEPROM Pass</p>	<p>EEPROM Pass</p> <p>NOEEPROM Pass</p>	
4	<p>Descriptor Update-</p> <p>Repeat this test using both the "EEPROM" and "NO.EEPROM" version of the firmware.</p> <p>Continue to use descriptor updates to completely verify the Descriptor Attribute bits that apply to the 2230.</p> <p>(Refer to the USB2230 Software Release Notes for information on the attribute bit settings for 2230)</p>	<p>EEPROM Pass</p> <p>NOEEPROM Pass</p>	<p>EEPROM Pass</p> <p>NOEEPROM Pass</p>	

Test Suite #18 – LUN Power Configuration

Overview

This test suite checks to ensure that the Internal/External FET functionality of the USB2230 works properly. Internal FETs can be used to operate MS, SM, and SD for the 2230 SVB. CF will only be powered by external GPIO9 when using the 2230 SVB. By default the 2230 SVB is set to run MS, SM, and SD by internal FETs. Since this default setting is used throughout the rest of the test suites, this test suite will focus on external GPIOs powering all cards, a combination of internal and external FETS used to power each slot, and one GPIO powering multiple slots. The 2230 SVB hardware is set up for MS to use FET0 or GPIO8, CF to use GPIO9, SM to use FET1 or GPIO10, and SD to use FET2 or GPIO11. Any other configuration will require hardware wire rework to test.

#	Test Standard	Windows XP	Comments
1	Initial Setup – External GPIOs for MS, SM, CF, and SD Check the attribute bit “Use LUN Power Configuration” Set the LUN Power Config byte to 0x00 Set LUN Power Mask 0 to 0x12 and LUN Power Mask 1 to 0x84. Set the jumpers for external GPIOs to be used for SD, SM, and MS (pins 3-5 and pins 4-6 should have a jumper for J40, J41, and J42)	Pass	
2	Enumeration – no media Remove all media from the 2230 device. Connect the 2230 device to the host computer. Verify that there is no power being supplied to any card. Verify that the device enumerates properly. Verify that the 2230 can communicate to an IR device via IRDA	Pass	
3	Restart – no media Restart the host computer with the 2230 still attached. Verify that after the system restarts that the 2230 is properly enumerated and there is no power being supplied to any card. Verify that the 2230 can communicate to an IR device via IRDA.	Pass	

Test Suite #18 Results (cont.)

#	Test Standard	Windows XP	Comments
4	<p>Suspend – no media</p> <p>Suspend the host computer with the 2230 still attached. Wake the host system.</p> <p>Verify that after the system is no longer suspended that the 2230 is properly enumerated and there is no power being supplied to any card. Verify that the 2230 can communicate to an IR device via IRDA.</p>	Pass	
5	<p>Enumerate with 1 piece of media inserted-</p> <p>Remove the 2230 device from the host computer. Insert a CF card into the 2230. Attach the 2230 to the host computer.</p> <p>Verify that the 2230 enumerates properly. Verify that there is power being supplied to the CF card.</p> <p>Verify that the CF card can be written to and read from. Verify that the 2230 can communicate to an IR device via IRDA.</p> <p>Remove the CF card. Verify that the card removal was recognized. There should be no power supplied to the CF slot and the CF drive should not be able to be accessed. Verify that the 2230 can communicate to an IR device via IRDA.</p>	Pass	
6	<p>Reinsertion of 1 piece of media inserted-</p> <p>With the 2230 board still enumerated, reinsert the CF card.</p> <p>Verify that there is power being supplied to the CF card. Verify that the CF card can be written to and read from. Verify that the 2230 can communicate to an IR device via IRDA.</p>	Pass	

Test Suite #18 Results (cont.)

#	Test Standard	Windows XP	Comments
7	<p>Restart – 1 media Restart the host computer with the 2230 still attached and the CF still inserted.</p> <p>Verify that after the system restarts that the 2230 is properly enumerated and there is power being supplied to the CF card. Verify that the CF card can be written to and read from. Verify that the 2230 can communicate to an IR device via IRDA.</p>	Pass	
8	<p>Suspend – 1 media Suspend the host computer with the 2230 still attached and the CF still inserted. Verify that while the computer is suspended that there is no power being supplied to the CF card.</p> <p>Resume the computer. Verify that after the system is no longer suspended that the 2230 is properly enumerated and there is power being supplied to the CF card. Verify that the CF card can be written to and read from. Verify that the 2230 can communicate to an IR device via IRDA</p> <p>Remove the CF card.</p>	Pass	
9	<p>Other Media Types- Repeat steps 5-8 using IBM MD, SM, XD, SD, MMC, MS, and MS Pro.</p>	Pass	
10	<p>Enumerate with all media inserted- Remove the 2230 device from the host computer. Insert CF, SM, SD, and MS cards into the 2230. Attach the 2230 to the host computer.</p> <p>Verify that the 2230 enumerates properly. Verify that there is power being supplied to all cards.</p> <p>Verify that the cards can be written to and read from.</p> <p>Remove the SD card. Verify that the card removal was recognized. There should be no power supplied to the SD slot and the SD drive should not be able to be accessed. Replace the SD card. Verify that all cards can be accessed.</p>	Pass	

Test Suite #18 Results (cont.)

#	Test Standard	Windows XP	Comments
1 1	<p>Restart – all media Restart the host computer with the 2230 still attached and the media still inserted.</p> <p>Verify that after the system restarts that the 2230 is properly enumerated and there is power being supplied to the cards. Verify that the cards can be written to and read from. Verify that the 2230 can communicate to an IR device via IRDA</p>	Pass	
1 2	<p>Suspend – all media Suspend the host computer with the 2230 still attached and the cards still inserted. Verify that while the computer is suspended that there is no power being supplied to the cards.</p> <p>Resume the computer. Verify that after the system is no longer suspended that the 2230 is properly enumerated and there is power being supplied to the cards. Verify that the cards can be written to and read from. Verify that the 2230 can communicate to an IR device via IRDA</p> <p>Remove the media.</p>	Pass	
1 3	<p>Other Media Types- Repeat steps 10-12 using IBM MD, XD, MMC, and MS Pro.</p>	Pass	
1 5	<p>Setup – MS Internal FET0, SM Internal FET1, CF External GPIO9, SD External GPIO11.</p> <p>Check the attribute bit "Use LUN Power Configuration"</p> <p>Set the LUN Power Config byte to 0x14</p> <p>Set LUN Power Mask 0 to 0x12 and LUN Power Mask 1 to 0x82.</p> <p>Set the jumpers for external GPIOs to be used for SD and internal FETs to be used for SM and MS (pins 3-5 and pins 4-6 should have a jumper for J42 and pins 3-4 should have a jumper for J40 and J41)</p>	Pass	

Test Suite #18 Results (cont.)

#	Test Standard	Windows XP	Comments
1 6	Internal and External- Repeat steps 2-14 with this setup of SD and CF being powered by external GPIOs and SM and MS being powered by internal FETs..	Pass	
1 7	Setup – Internal FET0 powering shared LUN for MS, SM, and SD, External GPIO9 powering CF. Check the attribute bit “Use LUN Power Configuration” Set the LUN Power Config byte to 0x54 Set LUN Power Mask 0 to 0x12 and LUN Power Mask 1 to 0x11. Configure the board to have two luns – one for CF and one shared for MS, SM, and SD The SVB will need to be wired for FET0 to be powering the MS, SM, and SD slots. Remove all jumpers from J40, 41, and 42. These jumpers will be replaced with 3 wires that are connected together at one end. The end with all of the wires connected needs to be placed on pin 4 of J40. The other ends of the 3 wires need to be placed on pin 3 of J40, pin 4 of J41, and pin 4 of J42.	Pass	
1 8	Enumeration – no media Remove all media from the 2230 device. Connect the 2230 device to the host computer. Verify that there is no power being supplied to any card and that the device enumerates. Verify that the 2230 can communicate to an IR device via IRDA	Pass	

Test Suite #18 Results (cont.)

#	Test Standard	Windows XP	Comments
19	<p>Restart – no media</p> <p>Restart the host computer with the 2230 still attached.</p> <p>Verify that after the system restarts that the 2230 is properly enumerated and there is no power being supplied to any card. Verify that the 2230 can communicate to an IR device via IRDA</p>	Pass	
20	<p>Suspend – no media</p> <p>Suspend the host computer with the 2230 still attached. Wake the host system.</p> <p>Verify that after the system is no longer suspended that the 2230 is properly enumerated and there is no power being supplied to any card. Verify that the 2230 can communicate to an IR device via IRDA</p>	Pass	
21	<p>Enumerate with 1 piece of media inserted-</p> <p>Remove the 2230 device from the host computer. Insert a CF card into the 2230. Attach the 2230 to the host computer.</p> <p>Verify that the 2230 enumerates properly. Verify that there is power being supplied to the CF card.</p> <p>Verify that the CF card can be written to and read from.</p> <p>Remove the CF card. Verify that the card removal was recognized. There should be no power supplied to the CF slot and the CF drive should not be able to be accessed.</p>	Pass	
22	<p>Reinsertion of 1 piece of media inserted-</p> <p>With the 2230 board still enumerated, reinsert the CF card.</p> <p>Verify that there is power being supplied to the CF card. Verify that the CF card can be written to and read from.</p>	Pass	

Test Suite #18 Results (cont.)

#	Test Standard	Windows XP	Comments
2 3	Restart – 1 media Restart the host computer with the 2230 still attached and the CF still inserted. Verify that after the system restarts that the 2230 is properly enumerated and there is power being supplied to the CF card. Verify that the CF card can be written to and read from.	Pass	
2 4	Suspend – 1 media Suspend the host computer with the 2230 still attached and the CF still inserted. Verify that while the computer is suspended that there is no power being supplied to the CF card. Resume the computer. Verify that after the system is no longer suspended that the 2230 is properly enumerated and there is power being supplied to the CF card. Verify that the CF card can be written to and read from. Remove the CF card.	Pass	
2 5	Other Media Types- Repeat steps 21-24 using IBM MD, SM, XD, SD, MMC, MS, and MS Pro.	Pass	
2 6	Enumerate with all media inserted- Remove the 2230 device from the host computer. Insert CF and SD cards into the 2230. Attach the 2230 to the host computer. Verify that the 2230 enumerates properly. Verify that there is power being supplied to all cards. Verify that the cards can be written to and read from. Remove the SD card. Verify that the card removal was recognized. There should be no power supplied to the SD slot and the SD drive should not be able to be accessed. Replace the SD card. Verify that all cards can be accessed. Verify that the 2230 can communicate to an IR device via IRDA	Pass	

Test Suite #18 Results (cont.)

#	Test Standard	Windows XP	Comments
27	Restart – all media Restart the host computer with the 2230 still attached and the media still inserted. Verify that after the system restarts that the 2230 is properly enumerated and there is power being supplied to the cards. Verify that the cards can be written to and read from. Verify that the 2230 can communicate to an IR device via IRDA.	Pass	
28	Suspend – all media Suspend the host computer with the 2230 still attached and the cards still inserted. Verify that while the computer is suspended that there is no power being supplied to the cards. Resume the computer. Verify that after the system is no longer suspended that the 2230 is properly enumerated and there is power being supplied to the cards. Verify that the cards can be written to and read from. Verify that the 2230 can communicate to an IR device via IRDA. Remove the media.	Pass	
29	Other Media Types- Repeat steps 26-28 using the following combinations: CF/MS, CF/SM, IBM MD/MMC, IBM MD/XD, IBM MD/MS Pro.	Pass	

Test Suite #19- IRDA Basic Transfers - SIR

Overview

This test suite verifies IRDA basic functionality when the USB2230 is communicating with a HP iPAQ rx3700 handheld device. If this model is not available at the time of testing, a different model with similar capabilities may be substituted. The capabilities assumed for this test are as follows: capable of receiving and sending photos, test files, word doc, and video via IR, has SD slot, ActiveSync

#	Test Standard	Windows XP	Comments
1	Discovery – Connect a USB2230 to a host computer. Verify that it enumerates properly. Verify that the IRDA driver is loaded properly and is not yellow banded. Power on a HP iPAQ. Line up the IR port of the iPAQ with the IRDA dongle of the 2230. Ensure that the devices are approximately 2 inches apart. Verify that after several seconds the host computer recognizes the nearby iPAQ.	Pass	
2	Photo 2230 -> iPAQ Send a photo from the 2230 host to the iPAQ. View the photo on the iPAQ and verify that it transferred correctly.	Pass	
3	Photo iPAQ-> 2230 Copy the same photo from the iPAQ to the 2230 host. View the photo on the host and verify that it transferred correctly.	Pass	
4	Test File 2230 -> iPAQ ->2230 Copy a file from the CDTest folder from the 2230 host to the iPAQ. Send the same test file back from the iPAQ to the 2230 host. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.	Pass	
5	Complete Activesync Install the software for the iPAQ activesync if it is not already installed on the 2230 host. Complete a sync between the iPAQ and 2230 host via IR. Verify this sync completes.	Pass	

Test Suite #19 Results (cont.)

#	Test Standard	Windows XP	Comments
6	Photo 2230 -> iPAQ SD/MMC Send a photo from the 2230 host to the iPAQ SD/MMC card using the ActiveSync connection. View the photo on the iPAQ and verify that it transferred correctly.	Pass	
7	Photo iPAQ SD/MMC -> 2230 Copy the same photo from the iPAQ SD/MMC to the 2230 host using the ActiveSync connection. View the photo on the host and verify that it transferred correctly.	Pass	
8	Test File 2230 -> iPAQ SD/MMC -> 2230 Copy a file from the CDTest folder from the 2230 host to the storage card on the iPAQ. Send the same test file back from the iPAQ to the 2230 host. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.	Pass	
9	Word Doc iPAQ -> 2230 Create a word document on the iPAQ and save it with a .rtf extension. Transfer this file via IR to the 2230 host. Open the word doc on the host and verify its contents are correct.	Pass	
10	Word Doc 2230 -> iPAQ Create a word document on the 2230 host and save it with a .doc extension. Transfer this file via IR to the iPAQ. Open the word doc on the iPAQ and verify its contents are correct.	Pass	
11	Video file 2230 -> iPAQ -> 2230 Beam a video file from the 2230 host to the iPAQ. Resend this video form the iPAQ back to the 2230 host. Play the video file on the 2230 host and verify that it plays correctly.	Pass	

Test Suite #20 - IRDA Basic Transfers – MIR (576K speed)

Overview

This test suite verifies IRDA basic functionality when the USB2230 is communicating with another USB2230 device. These devices should be connected to two separate hosts and should communicate with each other at an MIR speed of 576KB/sec.

#	Test Standard	Windows XP	Comments
1	<p>Discovery – Connect one USB2230 (device A) to a host computer (host A). Verify that it enumerates properly. Verify that the IRDA driver is loaded properly and is not yellow banded. Connect a second USB2230 (device B) to a different host computer (host B). Verify that it enumerates properly. Verify that the IRDA driver is loaded properly and is not yellow banded.</p> <p>Line up the IR ports of device A and device B. Ensure that the devices are approximately 2 inches apart.</p> <p>Verify that after several seconds both host computers recognize the other 2230 device is nearby.</p>	Pass	
2	<p>Photo host A -> host B Send a photo from host A to host B via the 2230 IR ports.</p> <p>View the photo on host B and verify that it transferred correctly.</p>	Pass	
3	<p>Photo host B -> host A Copy the same photo from host B to host A via 2230 IR ports.</p> <p>View the photo on host A and verify that it transferred correctly.</p>	Pass	
4	<p>Test File host A -> host B Copy a file from the CDTest folder on host A to host B via the 2230 IR ports. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.</p>	Pass	
5	<p>Test File host B -> host A Copy the same test file from the host B to host A via the 2230 IR ports. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.</p>	Pass	

Test Suite #20 Results (cont.)

#	Test Standard	Windows XP	Comments
6	Test File host A -> 2230 B CF Copy a file from the CDTest folder from host A to the CF card of device B. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.	Pass	
7	Test File 2230 B CF -> host A Copy the same file from the CF card of device B to host A. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.	Pass	
8	Other Media – Repeat steps 6 and 7 for all media types – Microdrive, MS, MS Pro, SD, MMC, XD, SM	Pass	
9	Word Doc host A -> host B Create a word document on host A. Transfer this file via the 2230 IR ports to host B. Open the word doc on host B and verify its contents are correct.	Pass	
10	Video file host A -> host B Beam a video file from host A to host B via the 2230 IR ports. Play the video file on host B and verify that it plays correctly.	Pass	

Test Suite #21 - IRDA Basic Transfers – MIR (1152K speed)

Overview

This test suite verifies IRDA basic functionality when the USB2230 is communicating with another USB2230 device. These devices should be connected to two separate hosts and should communicate with each other at an MIR speed of 1152KB/sec.

#	Test Standard	Windows XP	Comments
1	<p>Discovery – Connect one USB2230 (device A) to a host computer (host A). Verify that it enumerates properly. Verify that the IRDA driver is loaded properly and is not yellow banded. Connect a second USB2230 (device B) to a different host computer (host B). Verify that it enumerates properly. Verify that the IRDA driver is loaded properly and is not yellow banded.</p> <p>Line up the IR ports of device A and device B. Ensure that the devices are approximately 2 inches apart.</p> <p>Verify that after several seconds both host computers recognize the other 2230 device is nearby.</p>	Pass	
2	<p>Photo host A -> host B Send a photo from host A to host B via the 2230 IR ports.</p> <p>View the photo on host B and verify that it transferred correctly.</p>	Pass	
3	<p>Photo host B -> host A Copy the same photo from host B to host A via 2230 IR ports.</p> <p>View the photo on host A and verify that it transferred correctly.</p>	Pass	
4	<p>Test File host A -> host B Copy a file from the CDTest folder on host A to host B via the 2230 IR ports. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.</p>	Pass	
5	<p>Test File host B -> host A Copy the same test file from the host B to host A via the 2230 IR ports. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.</p>	Pass	

Test Suite #21 Results (cont.)

#	Test Standard	Windows XP	Comments
6	Test File host A -> 2230 B CF Copy a file from the CDTest folder from host A to the CF card of device B. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.	Pass	
7	Test File 2230 B CF -> host A Copy the same file from the CF card of device B to host A. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.	Pass	
8	Other Media – Repeat steps 6 and 7 for all media types – Microdrive, MS, MS Pro, SD, MMC, XD, SM	Pass	
9	Word Doc host A -> host B Create a word document on host A. Transfer this file via the 2230 IR ports to host B. Open the word doc on host B and verify its contents are correct.	Pass	
10	Video file host A -> host B Beam a video file from host A to host B via the 2230 IR ports. Play the video file on host B and verify that it plays correctly.	Pass	

Test Suite #22- IRDA Basic Transfers - FIR

Overview

This test suite verifies IRDA basic functionality when the USB2230 is communicating with another USB2230 device. These devices should be connected to two separate hosts and should communicate with each other at FIR speeds.

#	Test Standard	Windows XP	Comments
1	Discovery – Connect one USB2230 (device A) to a host computer (host A). Verify that it enumerates properly. Verify that the IRDA driver is loaded properly and is not yellow banded. Connect a second USB2230 (device B) to a different host computer (host B). Verify that it enumerates properly. Verify that the IRDA driver is loaded properly and is not yellow banded. Line up the IR ports of device A and device B. Ensure that the devices are approximately 2 inches apart. Verify that after several seconds both host computers recognize the other 2230 device is nearby.	Pass	
2	Photo host A -> host B Send a photo from host A to host B via the 2230 IR ports. View the photo on host B and verify that it transferred correctly.	Pass	
3	Photo host B -> host A Copy the same photo from host B to host A via 2230 IR ports. View the photo on host A and verify that it transferred correctly.	Pass	
4	Test File host A -> host B Copy a file from the CDTest folder on host A to host B via the 2230 IR ports. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.	Pass	
5	Test File host B -> host A Copy the same test file from the host B to host A via the 2230 IR ports. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.	Pass	

Test Suite #22 Results (cont.)

#	Test Standard	Windows XP	Comments
6	Test File host A -> 2230 B CF Copy a file from the CDTest folder from host A to the CF card of device B. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.	Pass	
7	Test File 2230 B CF -> host A Copy the same file from the CF card of device B to host A. Once this transfer is complete, use WinSFV to CRC the file and verify there was no corruption during the transfer.	Pass	
8	Other Media – Repeat steps 6 and 7 for all media types – Microdrive, MS, MS Pro, SD, MMC, XD, SM	Pass	
9	Word Doc host A -> host B Create a word document on host A. Transfer this file via the 2230 IR ports to host B. Open the word doc on host B and verify its contents are correct.	Pass	
10	Video file host A -> host B Beam a video file from host A to host B via the 2230 IR ports. Play the video file on host B and verify that it plays correctly.	Pass	

Test Suite #23- IRDA Advanced Transfers - SIR

Overview

This test suite verifies IRDA advanced functionality when the USB2230 is communicating with a HP iPAQ rx3700 handheld device. If this model is not available at the time of testing, a different model with similar capabilities may be substituted. The capabilities assumed for this test are as follows: capable of receiving and sending photos, test files, word doc, and video via IR, has SD slot, ActiveSync

#	Test Standard	Windows XP	Comments
1	Transfer from each media card to iPAQ Line up the IR ports of the 2230 and the iPAQ. Insert a CF card into the 2230. Write a large test file from the CDTest folder onto the CF card. Beam this file from the CF card to the iPAQ via IR. (Right click file and choose send to – a nearby computer to beam file)	Pass	
2	Transfer from iPAQ to each media card Delete the test files from the CF card in the 2230. Copy the test file from the iPAQ back to the CF into the 2230. CRC the files to verify that there was no corruption during the transfers.	Pass	
3	IR transfer during media transfers Keep the same CF card inserted in the 2230. Begin a large file transfer from the 2230 host to the CF card. While this transfer is completing, begin an IR transfer from the iPAQ to the 2230 host. Verify that both transfers complete properly.	Pass	
4	Media transfer during IR transfer Keep the same CF card inserted in the 2230. Begin a large IR transfer from the iPAQ to the 2230 host. While this transfer is completing, begin a file transfer from the 2230 host to the CF card. Verify that both transfers complete properly.	Pass	

Test Suite #23 Results (cont.)

#	Test Standard	Windows XP	Comments
5	<p>Surprise IR insertion during media write</p> <p>Remove the iPAQ from the IR range of the 2230.</p> <p>Begin a large file transfer from the 2230 host to the CF card.</p> <p>While this transfer is completing, line up the IR ports of the 2230 and iPAQ.</p> <p>Verify that the 2230 host recognizes the iPAQ is nearby. Verify that recognizing this IR device does not impact the CF write. Verify that the write completes properly. Verify that a small file can be sent from the iPAQ to the 2230 host.</p>	Pass	
6	<p>Surprise IR removal during media write</p> <p>Begin a large file transfer from the 2230 host to the CF card.</p> <p>While this transfer is completing, remove the iPAQ from the IR range of the 2230.</p> <p>Verify that the 2230 host recognizes the iPAQ is removed. Verify that recognizing this IR removal does not impact the CF write. Verify that the write completes properly.</p>	Pass	
7	<p>Other Media</p> <p>Repeat steps 1-6 for MicroDrive, MS, MS Pro, SD, MMC, SM and XD.</p>	Pass	
8	<p>Surprise IR removal during IR transfer</p> <p>Remove all media from the 2230. Begin a large IR transfer from the 2230 host to the iPAQ.</p> <p>During this transfer, remove the iPAQ from the IR range of the 2230. Verify that the 2230 host recognizes this removal.</p> <p>Line up the IR ports of the 2230 and iPAQ. Verify that the 2230 host recognizes the iPAQ and that a small file can be transferred via IR correctly.</p>	Pass	

Test Suite #23 Results (cont.)

#	Test Standard	Windows XP	Comments
9	<p>Activesync IR transfer from 2230 host to IPAQ SD card Using Activesync, sync the PDA with a SD or MMC card inserted to the hosts through the IR port.</p> <p>Transfer a large file to the PDA by copying and pasting the file to the SD card in the PDA using the "Mobile Device" icon to access the PDA SD card.</p> <p>Once the transfer completes, remove the SD/MMC card, plug it into the host, and CRC the files.</p>	Pass	
10	<p>Activesync IR transfer from iPAQ SD card to 2230 host Remove the SD/MMC card from the host and plug it into the PDA.</p> <p>Transfer the file by pasting it from the "Mobile Device" back to the desktop. CRC the file.</p>	Pass	
11	<p>Overload IR and media</p> <p>Note: This step will take a long time to complete. May want to set this up at the end of the day to complete overnight.</p> <p>Insert media into all available slots in the 2230.</p> <p>Insert a 512MB SD card into the iPAQ.</p> <p>Line up the IR ports of the 2230 and the iPAQ so that the 2230 host is ready to send files to the iPAQ.</p> <p>Run the format/write/CRC scripts for each media type inserted. If these scripts are not available, perform large writes to each of the media cards.</p> <p>Begin a large file transfer (larger than 1MB) from the 2230 host to the iPAQ's SD card. (Bliss.bmp is recommended)</p> <p>Verify that the IR transfer completes properly and that all media cards pass the scripts. (CRC the large file writes if the scripts were not available)</p>	Pass	

Test Suite #24- IRDA Advanced Transfers – MIR (576K)

Overview

This test suite verifies IRDA advanced functionality when the USB2230 is communicating with another USB2230 device. These devices should be connected to two separate hosts and should communicate with each other at an MIR speed of 576KB/sec.

#	Test Standard	Windows XP	Comments
1	<p>Transfer from each media card of device A to each media card of device B</p> <p>Connect one USB2230 (device A) to a host computer (host A). Connect a second USB2230 (device B) to a different host computer (host B). Verify that both devices enumerate properly.</p> <p>Line up the IR ports of the 2230 devices.</p> <p>Insert a CF card that contains test files into device A. Insert a blank CF card into device B. Beam these files from device A's CF card to device B's CF card via the 2230 IR ports. (Right click file and choose send to – a nearby computer to beam file)</p> <p>CRC the files to verify that there was no corruption during the transfer.</p>	Pass	
2	<p>IR transfer during media transfers</p> <p>Keep the same CF card inserted in the 2230 device A.</p> <p>Begin a large file transfer from the 2230 host A to the CF card in device A. While this transfer is completing, begin an IR transfer of test files from device B to host A. Verify that both transfers complete properly. CRC the test files to verify that there was no corruption during the transfer.</p>	Pass	
3	<p>Media transfer during IR transfer</p> <p>Begin a large IR transfer of test files from device B to host A via IR. While this transfer is completing, begin a file transfer from host A to the CF card in device A. Verify that both transfers complete properly. CRC the test files to verify that there was no corruption during the transfer.</p>	Pass	

Test Suite #24 Results (cont.)

#	Test Standard	Windows XP	Comments
4	<p>Surprise IR insertion during media write</p> <p>Remove device B from the IR range of device A.</p> <p>Begin a large file transfer from the host A to the CF card in device A.</p> <p>While this transfer is completing, line up the IR ports of the device A and device B.</p> <p>Verify that both hosts recognize the other device is nearby. Verify that recognizing an IR device does not impact the CF write to device A. Verify that the write completes properly. Verify that a small file can be sent from the device B to host A via IR.</p>	Pass	
5	<p>Surprise IR removal during media write</p> <p>Begin a large file transfer from host A to the CF card in device A.</p> <p>While this transfer is completing, remove device B from the IR range of device A.</p> <p>Verify that host A recognizes that device B is removed. Verify that recognizing this IR removal does not impact the CF write. Verify that the write completes properly. CRC the files.</p>	Pass	
6	<p>Other Media</p> <p>Repeat steps 1-5 for MicroDrive, MS, MS Pro, SD, MMC, SM and XD.</p>	Pass	

Test Suite #24 Results (cont.)

#	Test Standard	Windows XP	Comments
7	<p>Surprise IR removal during IR transfer</p> <p>Remove all media from both devices. Begin a large IR transfer from host A to host B via the 2230 IR ports.</p> <p>During this transfer, remove device B from the IR range of device A. Verify that host A recognizes this removal.</p> <p>Line up the IR ports of device A and device B. Verify that host A recognizes device B and that a small file can be transferred via IR correctly.</p>	Pass	
8	<p>Overload IR and media</p> <p>Note: This step will take a long time to complete. May want to set this up at the end of the day to complete overnight.</p> <p>Insert media into all available slots in device A.</p> <p>Line up the IR ports of device A and device B so that host A is ready to send files to device B.</p> <p>Run the format/write/CRC scripts for each media type inserted. If these scripts are not available, perform large writes to each of the media cards.</p> <p>Begin a large file transfer (larger than 1MB) from host A to the host B via the 2230 IR ports. (Bliss.bmp is recommended)</p> <p>Verify that the IR transfer completes properly and that all media cards pass the scripts. (CRC the large file writes if the scripts were not available)</p>	Pass	

Test Suite #25- IRDA Advanced Transfers – MIR (1152K)

Overview

This test suite verifies IRDA advanced functionality when the USB2230 is communicating with another USB2230 device. These devices should be connected to two separate hosts and should communicate with each other at an MIR speed of 1152KB/sec.

#	Test Standard	Windows XP	Comments
1	<p>Transfer from each media card of device A to each media card of device B</p> <p>Connect one USB2230 (device A) to a host computer (host A). Connect a second USB2230 (device B) to a different host computer (host B). Verify that both devices enumerate properly.</p> <p>Line up the IR ports of the 2230 devices.</p> <p>Insert a CF card that contains test files into device A. Insert a blank CF card into device B. Beam these files from device A's CF card to device B's CF card via the 2230 IR ports. (Right click file and choose send to – a nearby computer to beam file)</p> <p>CRC the files to verify that there was no corruption during the transfer.</p>	Pass	
2	<p>IR transfer during media transfers</p> <p>Keep the same CF card inserted in the 2230 device A.</p> <p>Begin a large file transfer from the 2230 host A to the CF card in device A. While this transfer is completing, begin an IR transfer of test files from device B to host A. Verify that both transfers complete properly. CRC the test files to verify that there was no corruption during the transfer.</p>	Pass	
3	<p>Media transfer during IR transfer</p> <p>Begin a large IR transfer of test files from device B to host A via IR. While this transfer is completing, begin a file transfer from host A to the CF card in device A. Verify that both transfers complete properly. CRC the test files to verify that there was no corruption during the transfer.</p>	Pass	

Test Suite #25 Results (cont.)

#	Test Standard	Windows XP	Comments
4	<p>Surprise IR insertion during media write</p> <p>Remove device B from the IR range of device A.</p> <p>Begin a large file transfer from the host A to the CF card in device A.</p> <p>While this transfer is completing, line up the IR ports of the device A and device B.</p> <p>Verify that both hosts recognize the other device is nearby. Verify that recognizing an IR device does not impact the CF write to device A. Verify that the write completes properly. Verify that a small file can be sent from the device B to host A via IR.</p>	Pass	
5	<p>Surprise IR removal during media write</p> <p>Begin a large file transfer from host A to the CF card in device A.</p> <p>While this transfer is completing, remove device B from the IR range of device A.</p> <p>Verify that host A recognizes that device B is removed. Verify that recognizing this IR removal does not impact the CF write. Verify that the write completes properly. CRC the files.</p>	Pass	
6	<p>Other Media</p> <p>Repeat steps 1-5 for MicroDrive, MS, MS Pro, SD, MMC, SM and XD.</p>	Pass	

Test Suite #25 Results (cont.)

#	Test Standard	Windows XP	Comments
7	<p>Surprise IR removal during IR transfer</p> <p>Remove all media from both devices. Begin a large IR transfer from host A to host B via the 2230 IR ports.</p> <p>During this transfer, remove device B from the IR range of device A. Verify that host A recognizes this removal.</p> <p>Line up the IR ports of device A and device B. Verify that host A recognizes device B and that a small file can be transferred via IR correctly.</p>	Pass	
8	<p>Overload IR and media</p> <p>Note: This step will take a long time to complete. May want to set this up at the end of the day to complete overnight.</p> <p>Insert media into all available slots in device A.</p> <p>Line up the IR ports of device A and device B so that host A is ready to send files to device B.</p> <p>Run the format/write/CRC scripts for each media type inserted. If these scripts are not available, perform large writes to each of the media cards.</p> <p>Begin a large file transfer (larger than 1MB) from host A to the host B via the 2230 IR ports. (Bliss.bmp is recommended)</p> <p>Verify that the IR transfer completes properly and that all media cards pass the scripts. (CRC the large file writes if the scripts were not available)</p>	Pass	

Test Suite #26- IRDA Advanced Transfers - FIR

Overview

This test suite verifies IRDA advanced functionality when the USB2230 is communicating with another USB2230 device. These devices should be connected to two separate hosts and should communicate with each other at FIR speeds.

#	Test Standard	Windows XP	Comments
1	<p>Transfer from each media card of device A to each media card of device B</p> <p>Connect one USB2230 (device A) to a host computer (host A). Connect a second USB2230 (device B) to a different host computer (host B). Verify that both devices enumerate properly.</p> <p>Line up the IR ports of the 2230 devices.</p> <p>Insert a CF card that contains test files into device A. Insert a blank CF card into device B. Beam these files from device A's CF card to device B's CF card via the 2230 IR ports. (Right click file and choose send to – a nearby computer to beam file)</p> <p>CRC the files to verify that there was no corruption during the transfer.</p>	Pass	
2	<p>IR transfer during media transfers</p> <p>Keep the same CF card inserted in the 2230 device A.</p> <p>Begin a large file transfer from the 2230 host A to the CF card in device A. While this transfer is completing, begin an IR transfer of test files from device B to host A. Verify that both transfers complete properly. CRC the test files to verify that there was no corruption during the transfer.</p>	Pass	
3	<p>Media transfer during IR transfer</p> <p>Begin a large IR transfer of test files from device B to host A via IR. While this transfer is completing, begin a file transfer from host A to the CF card in device A. Verify that both transfers complete properly. CRC the test files to verify that there was no corruption during the transfer.</p>	Pass	

Test Suite #26 Results (cont.)

#	Test Standard	Windows XP	Comments
4	<p>Surprise IR insertion during media write</p> <p>Remove device B from the IR range of device A.</p> <p>Begin a large file transfer from the host A to the CF card in device A.</p> <p>While this transfer is completing, line up the IR ports of the device A and device B.</p> <p>Verify that both hosts recognize the other device is nearby. Verify that recognizing an IR device does not impact the CF write to device A. Verify that the write completes properly. Verify that a small file can be sent from the device B to host A via IR.</p>	Pass	
5	<p>Surprise IR removal during media write</p> <p>Begin a large file transfer from host A to the CF card in device A.</p> <p>While this transfer is completing, remove device B from the IR range of device A.</p> <p>Verify that host A recognizes that device B is removed. Verify that recognizing this IR removal does not impact the CF write. Verify that the write completes properly. CRC the files.</p>	Pass	
6	<p>Other Media</p> <p>Repeat steps 1-5 for MicroDrive, MS, MS Pro, SD, MMC, SM and XD.</p>	Pass	
7	<p>Large File Transfer</p> <p>Copy a 450MB file from the device. Verify it copies correctly. Repeat the test copying the file to the device.</p>	Pass	

Test Suite #26 Results (cont.)

#	Test Standard	Windows XP	Comments
7	<p>Surprise IR removal during IR transfer</p> <p>Remove all media from both devices. Begin a large IR transfer from host A to host B via the 2230 IR ports.</p> <p>During this transfer, remove device B from the IR range of device A. Verify that host A recognizes this removal.</p> <p>Line up the IR ports of device A and device B. Verify that host A recognizes device B and that a small file can be transferred via IR correctly.</p>	Pass	
8	<p>Overload IR and media</p> <p>Note: This step will take a long time to complete. May want to set this up at the end of the day to complete overnight.</p> <p>Insert media into all available slots in device A.</p> <p>Line up the IR ports of device A and device B so that host A is ready to send files to device B.</p> <p>Run the format/write/CRC scripts for each media type inserted. If these scripts are not available, perform large writes to each of the media cards.</p> <p>Begin a large file transfer (larger than 1MB) from host A to the host B via the 2230 IR ports. (Bliss.bmp is recommended)</p> <p>Verify that the IR transfer completes properly and that all media cards pass the scripts. (CRC the large file writes if the scripts were not available)</p>	Pass	

Test Suite #27- IRDA Various Devices

Overview

This test suite verifies IRDA basic functionality when the USB2230 is communicating with a variety of IR capable devices. If any of the models are not available at the time of testing, a different model with similar capabilities may be substituted.

#	Test Standard	Windows XP	Comments
1	Setup – Connect a USB2230 to a host computer. Verify that the 2230 is properly enumerated. Verify that the IRDA drivers are loaded and not yellow banded.	Pass	
2	QA IRDA 001 – Sony Ericsson T610 camera phone Line up the IR ports of the Sony phone with the 2230 IRDA dongle Verify that a picture can be sent from the host to the phone. Verify that a picture can be sent from the phone to the host. Take a photo with the phones built in camera. Verify this photo can be sent to the host. Remove the phone from the IR range of the 2230. Verify that the host recognizes this loss of connection.	Pass	
3	QA IRDA 003 – NEC MobilePro 900 Line up the IR ports of the NEC Mobile Pro with the IRDA dongle of the 2230. Send a file from the NEC to the 2230 host. To do this, open the bContacts on the NEC Mobile Pro by selecting Start-Programs-bContacts. Click on a contact in the contact list. Got to file – infrared send & receive and select “send”. From the dropdown menu select “Other Infrared Enabled Device”. Click “Send” to send the file. Send a file from the NEC to the 2230 host. To do this, open the bcontacts program on the NEC device. Choose file – infrared send & receive – and select “receive”. When the NEC 900 is detected, right-click on a photo on the host and select “Send to a nearby computer”. Verify the picture by viewing it from the MyDocuments\DefaultInbox folder on the NEC device.	Pass	

Test Suite #27 Results (cont.)

#	Test Standard	Windows XP	Comments
4	<p>QA IRDA 004 – SigmaTel USB-IRDA dongle</p> <p>Connect a SigmaTel dongle to a host computer. (Not the same one as the 2230 is connected to) Verify that the dongle is properly enumerated. Verify that the dongle drivers are loaded and not yellow banded.</p> <p>Line up the IR ports of the SigmaTel dongle with the IRDA dongle of the 2230.</p> <p>Verify that a picture can be sent from the dongle to the 2230.</p> <p>Verify that a picture can be sent from the 2230 to the dongle.</p> <p>Send a test file from the 2230 hosts to the dongle host. Verify that the file passes CRC check on the dongle host.</p> <p>Send a test file from the dongle host to the 2230 host. Verify the file passes CRC check on the 2230 host.</p> <p>Transfer a large file from the 2230 host to the dongle host. During the transfer, verify that both IR hosts are sending information at FIR speeds.</p> <p>Remove the dongle from the IR range of the 2230. Verify that the hosts recognize this loss of connection.</p>	Pass	

Test Suite #27 Results (cont.)

#	Test Standard	Windows XP	Comments
5	<p>QA IRDA 005 – PalmOne Zire31</p> <p>Note: the host that the 2230 is connected to needs the PalmOne hotsync software installed in order to communicate with the Zire31. This software is found at austinfo\qagroup\qatest\Usb2230\IRDAfiles\PalmOne Zire31 files</p> <p>Line up the IR ports of the PalmOne handheld with the IRDA dongle of the 2230.</p> <p>Verify that hotsync can complete between the handheld and the host via IR.</p> <p>Send picture from the host to the PalmOne Zire31. Verify this picture can be sent to and viewed on the palm. Fotogather can be used to view the photo on the palm.</p> <p>Send picture from the palm to the 2230 host. Verify that the picture on the can be viewed properly on the host.</p> <p>Remove the palm from the IR range of the 2230. Verify the host recognizes the lost connection.</p>	Pass	
6	<p>QA IRDA 006 – Tapwave Zodiac1 handheld</p> <p>Line up the IR ports of the Zodiac1 handheld with the IRDA dongle of the 2230.</p> <p>Verify that the Zodiac1 handheld can communicate with the 2230 via IR.</p>	Pass	
7	<p>QA IRDA 007 – Canon i80 printer</p> <p>Line up the IR ports of the Canon printer with the IRDA dongle of the 2230.</p> <p>Verify that the Canon printer can communicate with the 2230 via IR.</p>	Pass	

Test Suite #28- IRDA Various Transceivers

Overview

This test suite verifies IRDA functionality when the USB2230 is communicating with a variety of IR transceivers. It is assumed that the rest of the test suite is completed with the Agilent HSDL-3602-007. The transceivers currently under test are: Agilent HSDL-3603-007, Vishay TFDU6102, and Agilent HSDL-3602-007.

#	Test Standard	Windows XP	Comments
1	<p>Setup 1– Disable the onboard IRDA transceiver on a USB2230 SVB.(Device A) Connect an external Agilent HSDL-3603-007 transceiver. Ensure that "Mode Pin Active" is selected in USBDM.</p> <p>Connect the USB2230 SVB to a host computer(A). Verify that the IRDA drivers and loaded properly and the device is properly enumerated.</p>	Pass	
2	<p>IRDA Transfers between Agilent 3603 and Vishay onboard Connect a second 2230 SVB(Device B) with the onboard Vishay transceiver active and "Mode Pin Inactive" selected to host computer (B).</p> <p>Line up the IR ports of Device A and Device B.</p> <p>Transfer a small test file from Device A to Device B. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from Device B to Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p>	Pass	
3	<p>Media Transfers via IRDA between Agilent 3603 and Vishay onboard Insert CF media into Devices A and B.</p> <p>Transfer a small test file from CF media in Device A to the CF media in Device B. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from the CF of Device B to the CF Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Repeat this step for all media types: Microdrive, MS, MS Pro, SD, MMC, SM, and xD.</p>	Pass	

Test Suite #28 Results (cont.)

#	Test Standard	Windows XP	Comments
4	<p>IRDA Transfers between Agilent 3603 and Agilent 3602</p> <p>Disconnect the onboard Vishay transceiver for Device A and connect an external Agilent 3602 transceiver. Select "Mode Pin Inactive" in USBDM.</p> <p>Line up the IR ports of Device A and Device B.</p> <p>Transfer a small test file from Device A to Device B. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from Device B to Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p>	Pass	
5	<p>Media Transfers via IRDA between Agilent 3603 and Agilent 3602</p> <p>Insert CF media into Devices A and B.</p> <p>Transfer a small test file from CF media in Device A to the CF media in Device B. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from the CF of Device B to the CF Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Repeat this step for all media types: Microdrive, MS, MS Pro, SD, MMC, SM, and xD.</p>	Pass	
6	<p>IRDA Transfers between Agilent 3603 and Agilent 3603</p> <p>Disconnect the Agilent 3602 transceiver of Device B and connect an external Agilent 3603 transceiver. Select "Mode Pin Active" in USBDM.</p> <p>Line up the IR ports of Device A and Device B.</p> <p>Transfer a small test file from Device A to Device B. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from Device B to Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p>	Pass	

Test Suite #28 Results (cont.)

#	Test Standard	Windows XP	Comments
7	<p>Media Transfers via IRDA between Agilent 3603 and Agilent 3603. Insert CF media into Devices A and B.</p> <p>Transfer a small test file from CF media in Device A to the CF media in Device B. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from the CF of Device B to the CF Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Repeat this step for all media types: Microdrive, MS, MS Pro, SD, MMC, SM, and xD.</p>	Pass	
8	<p>SIR IRDA Transfers Agilent 3603 and SIR device. Remove Device B from the IRDA range of the Agilent 3603.</p> <p>Line up the IRDA transceivers of Device A and any SIR IRDA device.</p> <p>Transfer a small test file from Device A to the SIR device. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from the SIR Device to Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p>	Pass	
9	<p>FIR IRDA Transfers Agilent 3603 and FIR device. Remove the SIR Device from the IRDA range of the Agilent 3603.</p> <p>Line up the IRDA transceivers of Device A and any third party FIR IRDA device.</p> <p>Transfer a small test file from Device A to the FIR device. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from the FIR Device to Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p>	Pass	

Test Suite #28 Results (cont.)

#	Test Standard	Windows XP	Comments
10	<p>Setup 2 – Remove the external Agilent 3603 from Device A and replace it with a Agilent HSDL-3602-007 transceiver. Ensure that "Mode Pin Inactive" is selected in USBDM.</p> <p>Connect the USB2230 SVB to a host computer(A). Verify that the IRDA drivers and loaded properly and the device is properly enumerated.</p>	Pass	
11	<p>IRDA Transfers between Agilent 3602 and Vishay onboard Connect a second 2230 SVB(Device B) with the onboard Vishay transceiver active and "Mode Pin Inactive" selected to host computer (B).</p> <p>Line up the IR ports of Device A and Device B.</p> <p>Transfer a small test file from Device A to Device B. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from Device B to Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer</p>	Pass	
12	<p>Media Transfers via IRDA between Agilent 3602 and Vishay onboard Insert CF media into Devices A and B.</p> <p>Transfer a small test file from CF media in Device A to the CF media in Device B. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from the CF of Device B to the CF Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Repeat this step for all media types: Microdrive, MS, MS Pro, SD, MMC, SM, and xD.</p>	Pass	

Test Suite #28 Results (cont.)

#	Test Standard	Windows XP	Comments
1 3	<p>IRDA Transfers between Agilent 3602 and Agilent 3602</p> <p>Disconnect the onboard Vishay transceiver of Device B and connect an external Agilent 3602 transceiver. Select "Mode Pin Inactive" in USBDM.</p> <p>Line up the IR ports of Device A and Device B.</p> <p>Transfer a small test file from Device A to Device B. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from Device B to Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p>	Pass	
1 4	<p>Media Transfers via IRDA between Agilent 3602 and Agilent 3602</p> <p>Insert CF media into Devices A and B.</p> <p>Transfer a small test file from CF media in Device A to the CF media in Device B. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from the CF of Device B to the CF Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Repeat this step for all media types: Microdrive, MS, MS Pro, SD, MMC, SM, and xD.</p>	Pass	
1 5	<p>SIR IRDA Transfers Agilent 3602 and SIR device.</p> <p>Remove Device B from the IRDA range of the Agilent 3602.</p> <p>Line up the IRDA transceivers of Device A and any SIR IRDA device.</p> <p>Transfer a small test file from Device A to the SIR device. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from the SIR Device to Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p>	Pass	

Test Suite #28 Results (cont.)

#	Test Standard	Windows XP	Comments
1 6	<p>FIR IRDA Transfers Agilent 3602 and FIR device. Remove the SIR Device from the IRDA range of the Agilent 3602.</p> <p>Line up the IRDA transceivers of Device A and any third party FIR IRDA device.</p> <p>Transfer a small test file from Device A to the FIR device. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from the FIR Device to Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p>	Pass	
1 7	<p>Setup 3 – Remove the external Agilent 3602 from Device A and replace it with the onboard Vishay transceiver. Ensure that "Mode Pin Inactive" is selected in USBDM.</p> <p>Connect the USB2230 SVB to a host computer(A). Verify that the IRDA drivers and loaded properly and the device is properly enumerated.</p>	Pass	
1 8	<p>IRDA Transfers between Vishay and Vishay onboard Connect a second 2230 SVB(Device B) with the onboard Vishay transceiver active and "Mode Pin Inactive" selected to host computer (B).</p> <p>Line up the IR ports of Device A and Device B.</p> <p>Transfer a small test file from Device A to Device B. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from Device B to Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer</p>	Pass	

Test Suite #28 Results (cont.)

#	Test Standard	Windows XP	Comments
19	<p>Media Transfers via IRDA between Vishay and Vishay onboard Insert CF media into Devices A and B.</p> <p>Transfer a small test file from CF media in Device A to the CF media in Device B. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from the CF of Device B to the CF Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Repeat this step for all media types: Microdrive, MS, MS Pro, SD, MMC, SM, and xD.</p>	Pass	
20	<p>SIR IRDA Transfers Vishay and SIR device. Remove Device B from the IRDA range of the Vishay.</p> <p>Line up the IRDA transceivers of Device A and any SIR IRDA device.</p> <p>Transfer a small test file from Device A to the SIR device. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from the SIR Device to Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p>	Pass	
21	<p>FIR IRDA Transfers Vishay and FIR device. Remove the SIR Device from the IRDA range of the Vishay.</p> <p>Line up the IRDA transceivers of Device A and any third party FIR IRDA device.</p> <p>Transfer a small test file from Device A to the FIR device. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p> <p>Transfer a small test file from the FIR Device to Device A. CRC the test file after the transfer completes to verify there was no corruption during the transfer.</p>	Pass	

Test Suite #29- Memory Stick Compatibility Testing

Overview

This test ensures that all tests listed in Sony Corporation's *Memory Stick Implementation Check Procedures* pass with USB2230. Refer to the *Memory Stick Implementation Check Procedures* document for specific instructions on how to perform each individual test listed below. All tests are run using Windows XP.

Chapter 7 of Memory Stick Compatibility test results:

Test #	Test Description	Windows XP	Comments
7001	1.6 Logical / Physical Translation Table Block	Pass	
7002	1.7 Data Write/Read (when W/P SW is turned ON)	Pass	
7003	1.8 Data Read/Write (when W/P SW is turned OFF)	Pass	
7004	1.9 Duplicated Logical Addresses	Pass	
7005	1.10 Alternative Blocks	Pass	
7006	1.11 Disabled Blocks	Pass	
7007	1.12 Digital Read Protected Bit	Pass	
7008	1.13 Block Status/Page Status	Pass	

7009	1.14 Abnormal Boot Block	Pass	
7010	1.15 Boot Area Protection Processing	Pass	
7011	1.16 128MB Support	Pass	
7012	1.17 Alternative Blocks	Pass	

Chapter 8 of Memory Stick Compatibility test results:

Test #	Test Description	Windows XP	Comments
8001	2.6 Mount Processing	Pass	
8002	2.7 Write Processing	Pass	
8003	2.8 Delete and Format Processing	Pass	
8004	2.9 Relating to Archive Bits	Pass	
8005	2.10 Memory Stick formatted by Windows	Pass	