

USB-IF COMPLIANCE PROGRAM

USB 2.0 Test Report for Full Speed Device

TM

Company Name: Holtek Semiconductor

Model Name: HT46RB50

Product Type: HID Class

Product Receive Date: 2006/6/20

Test Start Date: 2006/6/20

Report Date: 2006/6/23

Test Result: **PASS**

Project ID : UNC-HOK-USB-003_1



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USB-IF COMPLIANCE PROGRAM

Company

Company Name: Holtek Semiconductor
Company Address: No.3, Creation Rd II, Science Park, Hsinchu 300, Taiwan, R.O.C.
VID (Dec): 1241 The VID for the company who apply the USB-IF logo.

Technical Contact

Name: Chen Nan Chang (陳南強)
Phone Number: 03-5631999 ex.1389
E-Mail: roney@holtek.com.tw
FAX Number: 03-5641554

Marketing Contact

Name: _____
Phone Number: _____
E-Mail: _____
FAX Number: _____

Product Information:

Silicon Model Name: _____ TID (If you know): _____

*** These are requirement fields. All testing will be held until information is completed. ***

- Retail Device Device and Silicon Silicon Only
 Hi Power Low Power
 Bus Powered Self Powered
 Untethered B Tethered

Highest capacity tested for Mass Storage Device: _____

Device Category: _____ Device Description: _____

VID: 04D9 PID: 0006

Tested OS: Win 2000 Win XP (Standard test fee will cover 1 OS only.)

Tester: Sam Chen

Authorized Signature: James O

Over All Test Result: Pass

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Legacy USB Compliance Tests

Frameworks Test Result: Pass Fail

Chapter 9: Pass Fail

HID View: Pass Fail

MSC Test: Pass Fail N/A

UVC Test: Pass Fail N/A

Interface: 1 MAX Power: 100 mA Remote Wakeup: Yes

Power Current Test Result: Pass Fail

Operating Power: 11.24 mA

(<= Max Power <= 100mA for Low Power
<= Max Power <= 100mA for Self Power
<= Max Power <= 500mA for High Power)

Unconfiguration Power: 10.1 mA (<100mA)

(<=Max Power <= 100mA)

Configuration Power: 10.3 mA

(<= Max Power <= 100mA for Low Power
<= Max Power <= 500mA for High Power)

Suspend Mode Power: 344.4 uA

(<= 2500uA for High Power /w Remote Wake Up
<= 500uA for others)

Interoperability Test Overall Result: Pass Fail OS: W2k XP

EHCI Controller: (Intel D865GLC Motherboard)

- | | | | |
|---|--|-------------------------------|---|
| 1. Enumeration and Driver installation: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail | |
| 2. Operation with Default Driver: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail | |
| 3. Update Driver: | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input checked="" type="checkbox"/> N/A |
| 4. Install Additional Software: | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input checked="" type="checkbox"/> N/A |
| 5. DUT Demonstrates Operation: | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input checked="" type="checkbox"/> N/A |
| 6. DUT Operation Speed: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail | |
| 7. Interoperability – Operate all device: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail | |
| 8. Hot Detach & Reattach: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail | |
| 9. Topology Change: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail | |
| 10. Warn Boot: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail | |
| 11. Cold Boot: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail | |
| 12. Active S1 Suspend and Resume: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail | |
| 13. Inactive S1 Suspend and Resume: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail | |
| 14. Active S3 Suspend and Resume: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail | |

UHCI Controller: (Intel D865GLC Motherboard)

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- | | | |
|---|--|-------------------------------|
| 1. Enumeration and Driver installation: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 2. Interoperability – Operate all device: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 3. Hot Detach & Reattach: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 4. Topology Change: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 5. Warn Boot: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 6. Cold Boot: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 7. Active S1 Suspend and Resume: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 8. Inactive S1 Suspend and Resume: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 9. Active S3 Suspend and Resume: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |

OHCI Controller: (PCI Adapter)

- | | | |
|---|--|-------------------------------|
| 1. Enumeration and Driver installation: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 2. Interoperability – Operate all device: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 3. Hot Detach & Reattach: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 4. Topology Change: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 5. Warn Boot: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 6. Cold Boot: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 7. Active S1 Suspend and Resume: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 8. Inactive S1 Suspend and Resume: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 9. Active S3 Suspend and Resume: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |

EHCI Controller: (PCI Adapter)

- | | | |
|---|--|-------------------------------|
| 1. Enumeration and Driver installation: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 2. Interoperability – Operate all device: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 3. Active S3 Suspend and Resume: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |

Signal Quality Test Result: Pass Fail

Full Speed UP Stream Signal Quality: Pass Fail

Inrush Current Test: Pass Fail

Back Voltage Test Result: (Enumerate before/after) Pass Fail

D+: 0 mV / 0 mV

D- : 0 mV / 0 mV

V_{Bus}: 0 mV / 0 mV

(All values <= 400mV)

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More Detail Test Result:

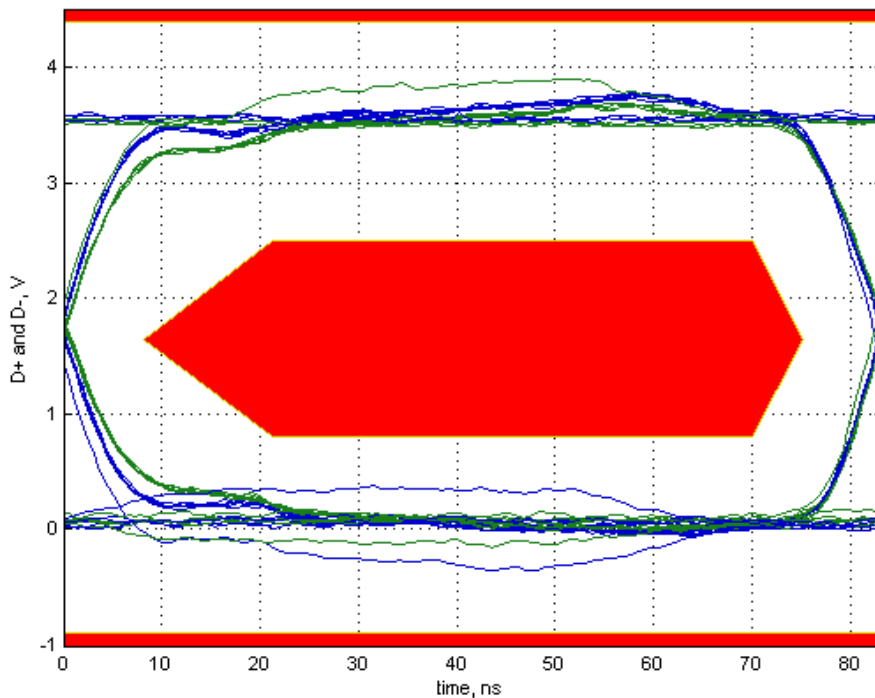
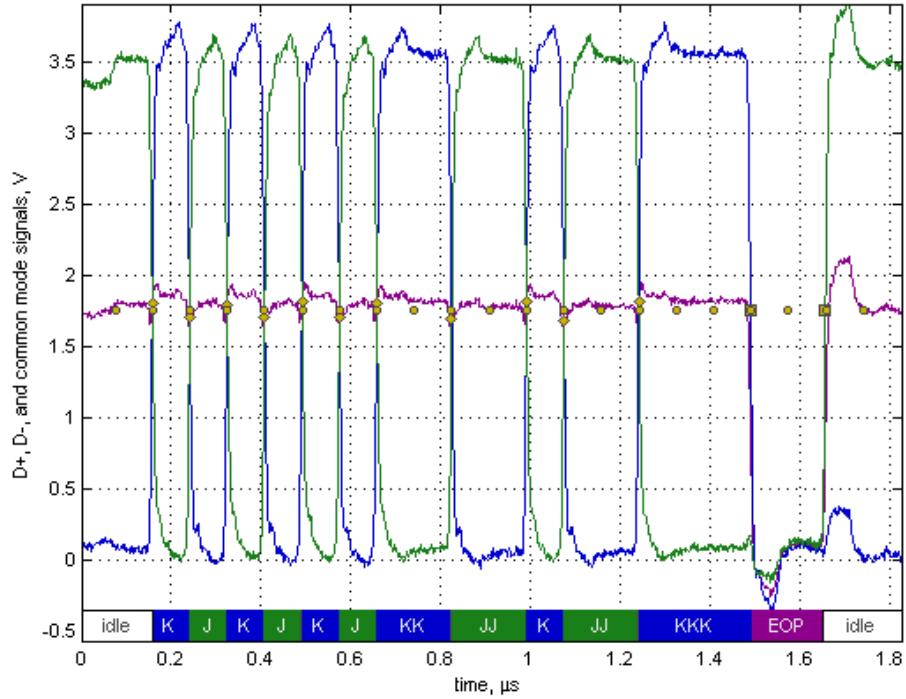
1. Full Speed Upstream Signal Quality: Pass

- Overall result: pass!
- Signal eye:
eye passes
- EOP width: 167.04ns
EOP width passes
- Receivers: reliable operation on tier 6
receivers pass
- Measured signaling rate: 11.9992MHz
signal rate passes
- Crossover voltage range: 1.68V to 1.82V, mean crossover 1.76V
(first crossover at 1.81V, 10 other differential crossovers checked)
crossover voltages pass
- Consecutive jitter range: -0.1ns to 0.1ns, RMS jitter 0.0ns
Paired JK jitter range: -0.1ns to 0.1ns, RMS jitter 0.1ns
Paired KJ jitter range: -0.1ns to 0.1ns, RMS jitter 0.1ns
jitter passes

[Signal Data and Eye](#)

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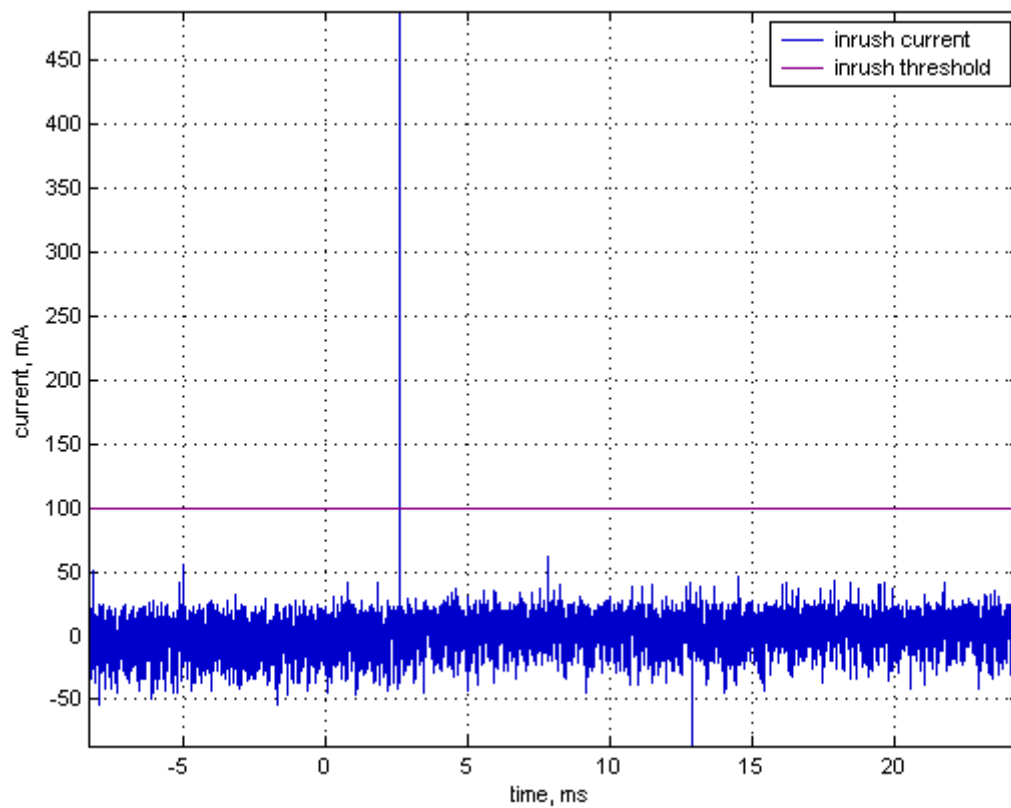
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2. Inrush Current: Pass

- Overall result: pass!
- Inrush at 5.150V: 0.858 μ C
inrush passes

Hot Plug (Attach) Current Draw

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Notice: Test result is valid only to the original tested device model. The content of test report may not be copied or re-transmitted (except for the entire report) unless it is prior approved by Allion.

Test Procedure Reference:

1. Universal Serial Bus Implementers Forum Full and Low Speed Electrical and Interoperability Compliance Test Procedure, version: 1.3

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