

USB-IF COMPLIANCE PROGRAM

USB 2.0 Test Report for Full Speed Device

TM

Company Name: Holtek Semiconductor

Model Name: HT82A851R

Product Type: Audio Class

Product Receive Date: 2007/06/08

Test Start Date: 2007/06/08

Report Date: 2007/06/13

Test Result: **PASS**

Notice: Test result is valid only to the original tested device model. Allion reserves the right to prohibit others to distort, isolate, falsify, copied and/or by any process to change the content of this test report unless it is prior approved by Allion.

Project ID : UNC-HOK-USB-012_1



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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: Lee Chien Chia (李乾嘉)
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E-Mail: eric_lee@holtek.com.tw
FAX Number: 03-5641557

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: 0x04D9 PID: 0x2851

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

Tester: Robert Liu

Authorized Signature: James O

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Legacy USB Compliance Tests

Frameworks Test Result: Pass Fail

Chapter 9: Pass Fail

HID View: Pass Fail N/A

MSC Test: Pass Fail N/A

UVC Test: Pass Fail N/A

Interface: 4 MAX Power: 500 mA Remote Wakeup: N/A

Power Current Test Result: Pass Fail

Operating Power: 30.8 mA Unconfiguration Power: 15.96 mA (<100mA)

(≤ Max Power ≤ 100mA for Low Power)

(≤ Max Power ≤ 100mA)

(≤ Max Power ≤ 100mA for Self Power)

(≤ Max Power ≤ 500mA for High Power)

Configuration Power: 24.68 mA Suspend Mode Power: 378.2 uA

(≤ Max Power ≤ 100mA for Low Power)

(≤ 2500uA for High Power /w Remote Wake Up)

(≤ Max Power ≤ 500mA for High Power)

(≤ 500uA for others)

Interoperability Test Overall Result: Pass Fail OS: W2k XP

EHCI Controller:

- | | | |
|---|--|-------------------------------|
| 1. Enumeration and Driver installation: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 2. Check operation of device | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 3. Interoperability – Operate all device: | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 4. Hot plug test | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 5. Warm Boot test | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 6. Remote Wake-up test | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 7. S3 Active Standby Test | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 8. S3 Active Standby Resume Test | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 9. Topology change | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 10. S4 Active Hibernate Test | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |
| 11. S4 Active Hibernate Resume Test | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |

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UHCI Controller:

12. Interoperability – Operate all device: Pass Fail

OHCI Controller:

13. Interoperability – Operate all device: Pass 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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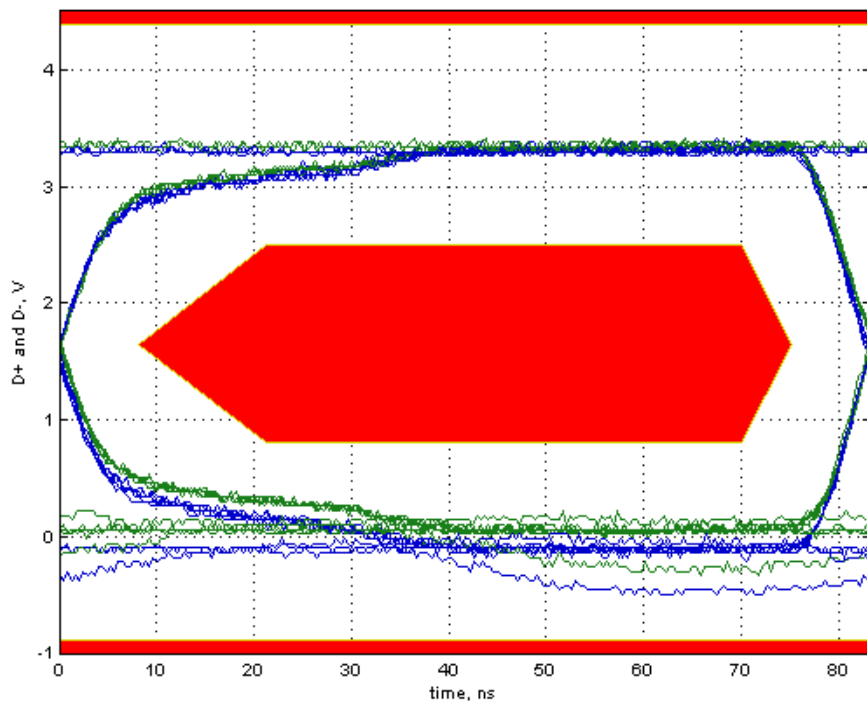
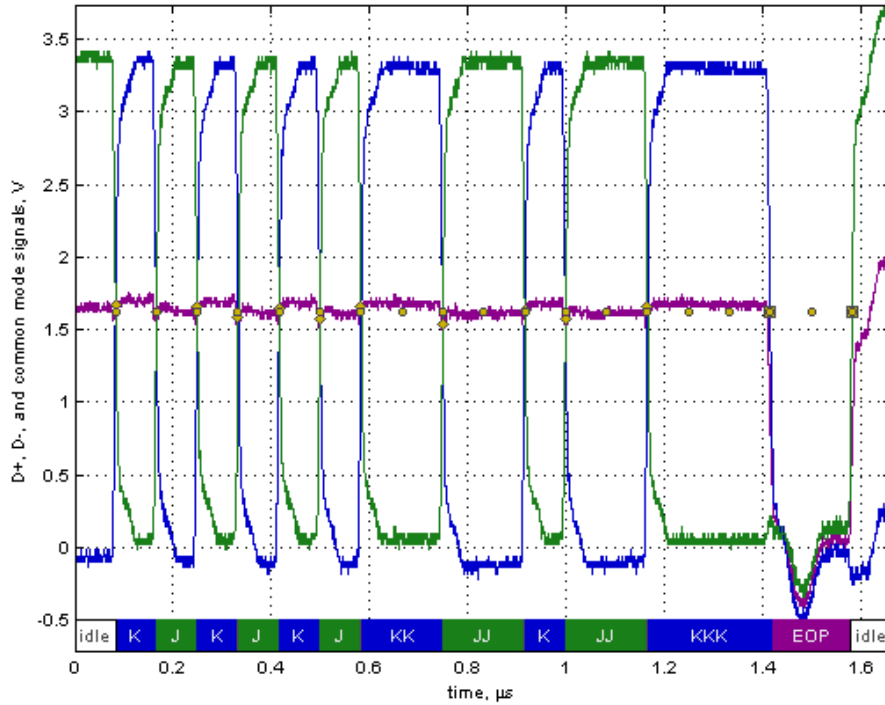
More Detail Test Result:

1. Full Speed Upstream Signal Quality: Pass

- Overall result: pass!
- Signal eye:
eye passes
- EOP width: 166.82ns
EOP width passes
- Receivers: reliable operation on tier 6
receivers pass
- Measured signaling rate: 11.9976MHz
signal rate passes
- Crossover voltage range: 1.54V to 1.68V, mean crossover 1.62V
(first crossover at 1.68V, 10 other differential crossovers checked)
crossover voltages pass
- Consecutive jitter range: -230.303ps to 119.697ps, RMS jitter 130.625ps
Paired JK jitter range: -20.000ps to 66.667ps, RMS jitter 37.156ps
Paired KJ jitter range: -0.000ps to 200.000ps, RMS jitter 106.066ps
jitter passes

[Signal Data and Eye](#)

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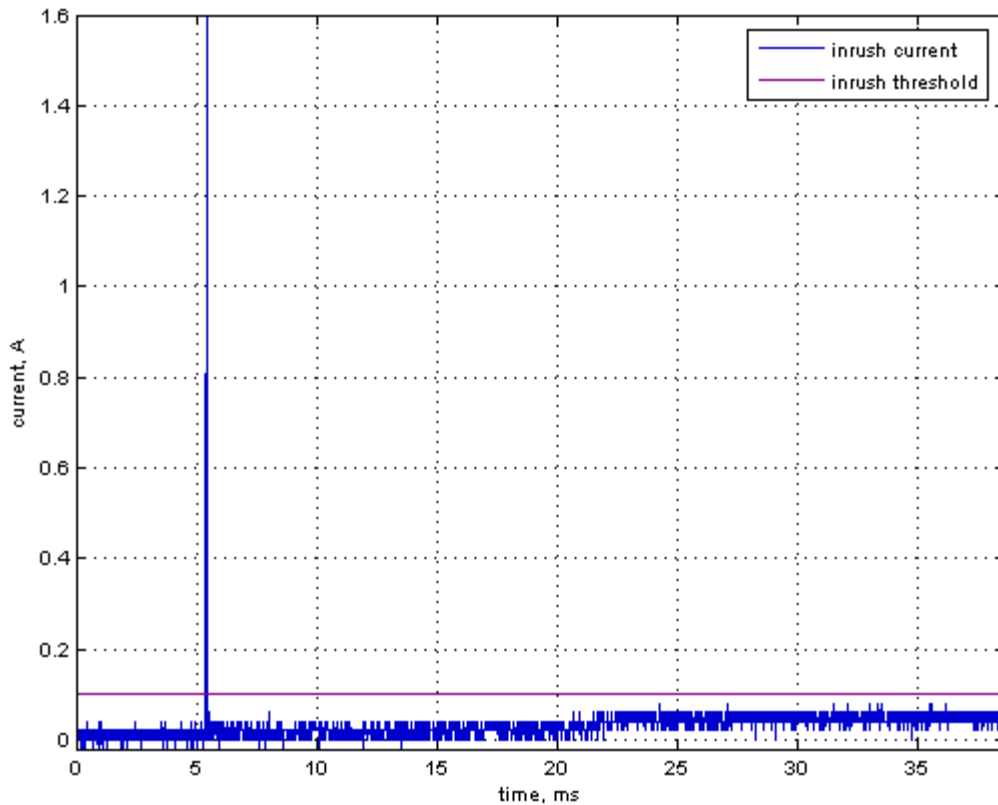
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2. Inrush Current Test: Pass

- Overall result: pass!
- Inrush at 5.080V: 20.19 μ C
inrush passes

Hot Plug (Attach) Current Draw



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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