

USB-IF COMPLIANCE PROGRAM

USB 2.0 Test Report for Low Speed Device

TM

Company Name: Holtek Semiconductor Inc.

Model Name: HT82K95E

Product Type: Keyboard

Product Receive Date: 2006/6/23

Test Start Date: 2006/6/26

Report Date: 2006/6/28

Test Result: **PASS**

USB-IF COMPLIANCE PROGRAM

Company

Company Name: Holtek Semiconductor Inc.
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: 溫植燁
Phone Number: 03-5631999 分機 1397
E-Mail: jackal@holtek.com.tw
FAX Number: 03-5641557

Marketing Contact

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

Product Information:

- Retail Device Device and Silicon Silicon Only
 Hi Power Low Power
 Bus Powered Self Powered
 Tethered Un-tethered with specified "B" connector

(All of low speed devices must use captive cable)

Device Category: _____ Device Description: _____

VID: 04D9 PID: 1203

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

Tester: Gavin Chen

Authorized Signature: James O

Over All Test Result: Pass

Project ID : KB-HOK-USB-004_1



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Legacy USB Compliance Tests

Frameworks Test Result: Pass Fail

Chapter 9: Pass Fail

HID View: Pass Fail

Interface: 2 MAX Power: 100 mA Remote Wakeup: Yes

Power Current Test Result: Pass Fail

Operating Power: 24.68 mA Unconfiguration Power: 5.3 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: 5.3 mA

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

Suspend Mode Power with Remote Wakeup: 350 uA

Suspend Mode Power without Remote Wakeup: 349.8uA

(<= 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: Pass Fail
- 2. Interoperability – Operate all device: Pass Fail
- 3. Hot Detach & Reattach: Pass Fail
- 4. Topology Change: Pass Fail
- 5. Warn Boot: Pass Fail
- 6. Cold Boot: Pass Fail
- 7. Active S1 Suspend and Resume: Pass Fail
- 8. Inactive S1 Suspend and Resume: Pass Fail
- 9. Active S3 Suspend and Resume: Pass Fail

OHCI Controller: (PCI Adapter)

- 1. Enumeration and Driver installation: Pass Fail
- 2. Interoperability – Operate all device: Pass Fail
- 3. Hot Detach & Reattach: Pass Fail
- 4. Topology Change: Pass Fail
- 5. Warn Boot: Pass Fail
- 6. Cold Boot: Pass Fail
- 7. Active S1 Suspend and Resume: Pass Fail
- 8. Inactive S1 Suspend and Resume: Pass Fail
- 9. Active S3 Suspend and Resume: Pass Fail

EHCI Controller: (PCI Adapter)

- 1. Enumeration and Driver installation: Pass Fail
- 2. Interoperability – Operate all device: Pass Fail
- 3. Active S3 Suspend and Resume: Pass Fail

Signal Quality Test Result: Pass Fail

Low 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:

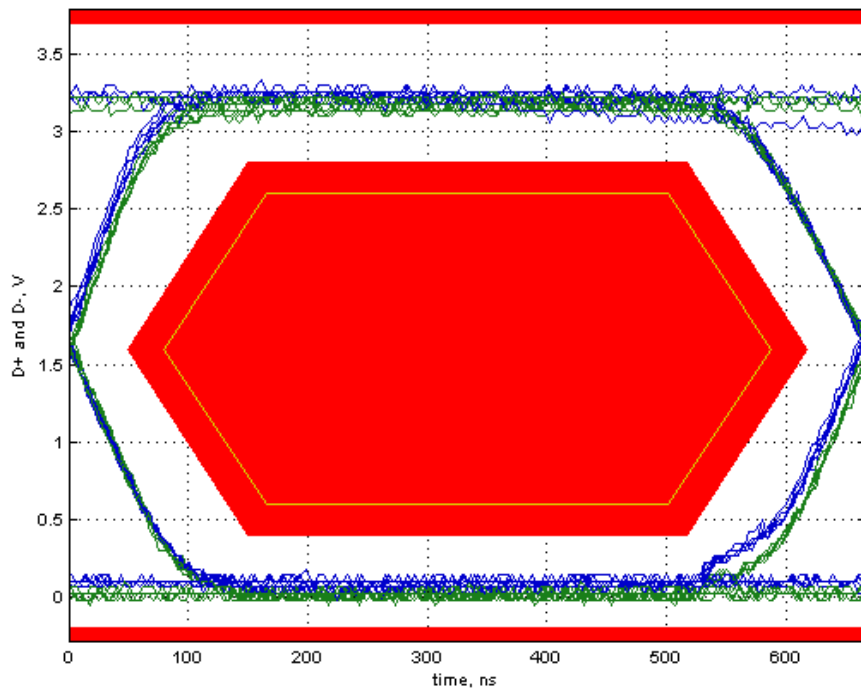
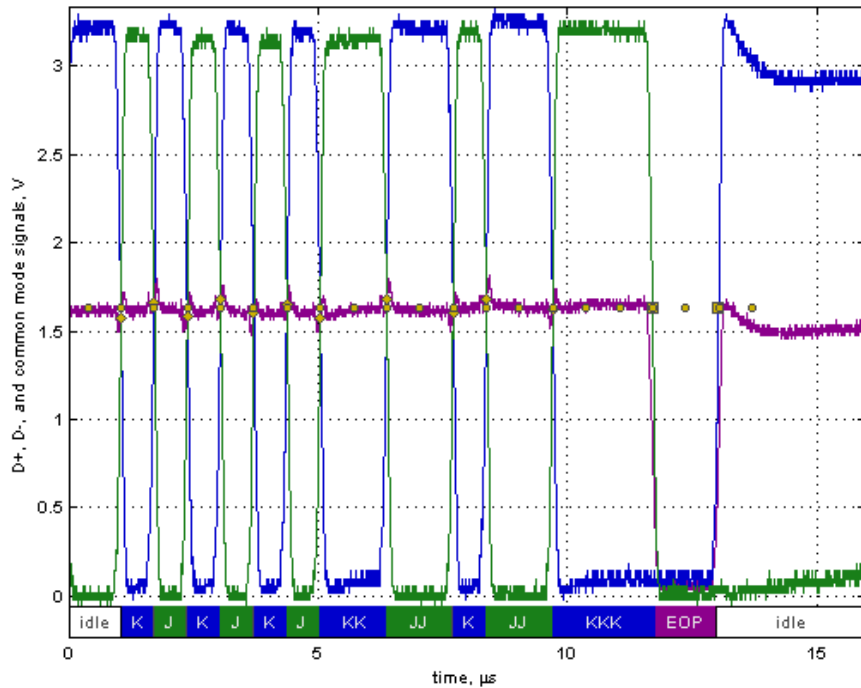
1. Low Speed Upstream Signal Quality Test: Pass

- Overall result: pass!
- Signal eye:
eye passes
- EOP width: 1.33 μ s
EOP width passes
- Receivers: reliable operation on tier 6
receivers pass
- Measured signaling rate: 1.5000MHz
signal rate passes
- Crossover voltage range: 1.57V to 1.68V, mean crossover 1.63V
(first crossover at 1.57V, 10 other differential crossovers checked)
crossover voltages pass
- Consecutive jitter range: -2.139ns to 2.661ns, RMS jitter 1.502ns
Paired JK jitter range: -0.267ns to 1.600ns, RMS jitter 1.058ns
Paired KJ jitter range: -0.000ns to 1.333ns, RMS jitter 0.694ns
jitter passes

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Signal Data and Eye



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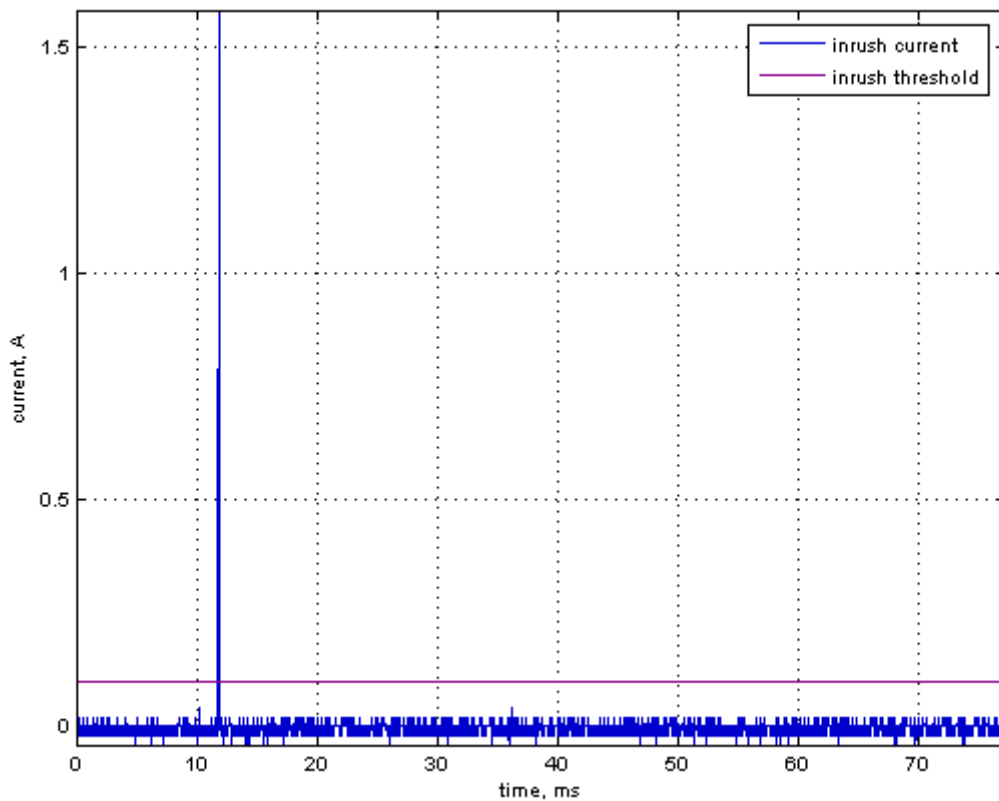
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2. Inrush Current Test: Pass

- Overall result: pass!
- Inrush at 5.100V: 48.79 μ C
inrush passes

Hot Plug (Attach) Current Draw



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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