

# **USB-IF Compliance Test Report**

**V1.0**

***Publication Release Date: Mar. 2009***

**Support Chips:**  
NUC501

**Support Platforms:**

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# 1 USB-IF Compliance test

## 1.1. USB Framework Test

**WORKSTATION:****DATE:** Wednesday, January 07, 2009**TIME:** 04:55:43 PM**OPERATOR:** SPCheng**NUMBER OF TESTS:** 13**RESULT:** passed

<b>InitializeTestSuite</b>	
INFO	Microsoft Windows XP (Build 2600)
INFO	Service Pack 2.0
INFO	USBCommandVerifier.dll ver 1.3.0.3
INFO	TestServices.dll ver 1.3.0.3
INFO	StackSwitcher.dll ver 1.3.0.3
<b>DeviceDescriptorTest_DeviceConfigured</b> <b>Passed</b>	
INFO	Now Starting Test:Device Descriptor Test (Configuration Index 0)
INFO	Device descriptor length : 12
INFO	Device descriptor type : 1
INFO	Major version : 1
INFO	Minor version : 10
INFO	Each interface specifies its own device class type
INFO	Device sub class : 0
INFO	Device protocol : 0
INFO	Device MaxPacketSize0 : 40
ABORT	Create file on 'usb.if' failed
WARNING	Failed to get vendor information for VendorID : 416
INFO	Device ProductID : b190
INFO	Device BCD : 0
INFO	ENGLISH_US language string descriptor is : NUVOTON
INFO	ENGLISH_US language string descriptor is : WPM USB
INFO	ENGLISH_US language string descriptor is : A02008040114
INFO	Number of configurations device supports : 1
INFO	Stopping Test [ Device Descriptor Test (Configuration Index 0): Number of: Fails (0); Aborts (1); Warnings (1) ]
<b>DeviceDescriptorTest_DeviceAddressed</b> <b>Passed</b>	
INFO	Now Starting Test:Device Descriptor Test (Configuration Index 0)
INFO	Device descriptor length : 12
INFO	Device descriptor type : 1

```

INFO    Major version : 1
INFO    Minor version : 10
INFO    Each interface specifies its own device class type
INFO    Device sub class : 0
INFO    Device protocol : 0
INFO    Device MaxPacketSize0 : 40
ABORT   Create file on 'usb.if' failed
WARNING Failed to get vendor information for VendorID : 416
INFO    Device ProductID : b190
INFO    Device BCD : 0
INFO    ENGLISH_US          language string descriptor is : NUVOTON
INFO    ENGLISH_US          language string descriptor is : WPM USB
INFO    ENGLISH_US          language string descriptor is : A02008040114
INFO    Number of configurations device supports : 1
INFO    Stopping Test [ Device Descriptor Test (Configuration Index 0):
      Number of: Fails (0); Aborts (1); Warnings (1) ]
  
```

**ConfigDescriptorTest\_DeviceConfigured**
**Passed**

```

INFO    Now Starting Test:Configuration Descriptor Test (Configuration Index 0)
INFO    Number of interface descriptors found 1
INFO    Number of alternate interface descriptors found : 0
INFO    Number of endpoint descriptors found : 2
INFO    Configuration descriptor length : 9
INFO    Configuration descriptor type : 2
INFO    Configuration descriptor TotalLength : 20
INFO    Configuration descriptor NumInterfaces : 1
INFO    Configuration descriptor ConfigurationValue: 1
INFO    Configuration descriptor string descriptor index : 0
INFO    Configuration descriptor bmAttributes : c0
INFO    Device does not support remote wake up
INFO    Maximum power device requires : 100mA
INFO    Device is BUS/SELF-POWERED
INFO    Device is currently SELF POWERED
INFO    Currently remote wakeup is DISABLED
INFO    Stopping Test [ Configuration Descriptor Test (Configuration Index 0):
      Number of: Fails (0); Aborts (0); Warnings (0) ]
  
```

**ConfigDescriptorTest\_DeviceAddressed**
**Passed**

```

INFO    Now Starting Test:Configuration Descriptor Test (Configuration Index 0)
INFO    Number of interface descriptors found 1
INFO    Number of alternate interface descriptors found : 0
INFO    Number of endpoint descriptors found : 2
INFO    Configuration descriptor length : 9
INFO    Configuration descriptor type : 2
INFO    Configuration descriptor TotalLength : 20
INFO    Configuration descriptor NumInterfaces : 1
INFO    Configuration descriptor ConfigurationValue: 1
INFO    Configuration descriptor string descriptor index : 0
INFO    Configuration descriptor bmAttributes : c0
INFO    Device does not support remote wake up
INFO    Maximum power device requires : 100mA
INFO    Device is BUS/SELF-POWERED
INFO    Device is currently SELF POWERED
INFO    Currently remote wakeup is DISABLED
INFO    Stopping Test [ Configuration Descriptor Test (Configuration Index 0):
  
```

Number of: Fails (0); Aborts (0); Warnings (0) ]	
<b>InterfaceDescriptorTest</b>	<b>Passed</b>
INFO	Now Starting Test:Interface Descriptor Test (Configuration Index 0)
INFO	Bandwidth check passed
INFO	Testing Interface number : 0 Alternate setting : 0
INFO	Interface descriptor length : 9
INFO	Interface descriptor bDescriptorType : 4
INFO	Interface descriptor bAlternateSetting : 0
INFO	Interface descriptor bNumEndPoints: 2
INFO	Interface descriptor bInterfaceClass reserved for assignment by the USB-IF : 8
INFO	Interface class code indicates [Mass-Storage] Interface
INFO	Interface descriptor bInterfaceSubClass : 6
INFO	Interface descriptor bInterfaceProtocol assigned by the USB-IF : 50
INFO	Interface descriptor iInterface : 0x0
INFO	Stopping Test [ Interface Descriptor Test (Configuration Index 0):
Number of: Fails (0); Aborts (0); Warnings (0) ]	
<b>EndpointDescriptorTest_DeviceConfigured</b>	<b>Passed</b>
INFO	Now Starting Test:Endpoint Descriptor Test (Configuration Index 0)
INFO	Testing Interface number : 0 Alternate setting : 0
INFO	Endpoint descriptor length : 7
INFO	Endpoint descriptor type : 5
INFO	Endpoint Type : Bulk, Number : 2, Direction : IN
INFO	Endpoint descriptor bmAttributes : 2
INFO	Endpoint descriptor raw MaxPacketSize : 40
INFO	Endpoint descriptor interval : 0
INFO	Endpoint descriptor length : 7
INFO	Endpoint descriptor type : 5
INFO	Endpoint Type : Bulk, Number : 3, Direction : OUT
INFO	Endpoint descriptor bmAttributes : 2
INFO	Endpoint descriptor raw MaxPacketSize : 40
INFO	Endpoint descriptor interval : 0
INFO	Stopping Test [ Endpoint Descriptor Test (Configuration Index 0):
Number of: Fails (0); Aborts (0); Warnings (0) ]	
<b>EndpointDescriptorTest_DeviceAddressed</b>	<b>Passed</b>
INFO	Now Starting Test:Endpoint Descriptor Test (Configuration Index 0)
INFO	Testing Interface number : 0 Alternate setting : 0
INFO	Endpoint descriptor length : 7
INFO	Endpoint descriptor type : 5
INFO	Endpoint Type : Bulk, Number : 2, Direction : IN
INFO	Endpoint descriptor bmAttributes : 2
INFO	Endpoint descriptor raw MaxPacketSize : 40
INFO	Endpoint descriptor interval : 0
INFO	Endpoint descriptor length : 7
INFO	Endpoint descriptor type : 5
INFO	Endpoint Type : Bulk, Number : 3, Direction : OUT
INFO	Endpoint descriptor bmAttributes : 2
INFO	Endpoint descriptor raw MaxPacketSize : 40
INFO	Endpoint descriptor interval : 0
INFO	Stopping Test [ Endpoint Descriptor Test (Configuration Index 0):
Number of: Fails (0); Aborts (0); Warnings (0) ]	
<b>HaltEndpointTest</b>	<b>Passed</b>

INFO	Now Starting Test:Halt Endpoint Test (Configuration Index 0)
INFO	Testing Interface number : 0 Alternate setting : 0
INFO	Testing EndPoint type : Bulk, Address : 82
INFO	Endpoint is currently not halted
INFO	Endpoint is halted
INFO	Cleared endpoint halt
INFO	Testing EndPoint type : Bulk, Address : 3
INFO	Endpoint is currently not halted
INFO	Endpoint is halted
INFO	Cleared endpoint halt
INFO	Stopping Test [ Halt Endpoint Test (Configuration Index 0): Number of: Fails (0); Aborts (0); Warnings (0) ]
<b>SetConfigurationTest</b>	
<b>Passed</b>	
INFO	Now Starting Test:SetConfiguration Test (Configuration Index 0)
INFO	SetConfiguration with configuration value : 1
INFO	Unconfigured the device
INFO	SetConfiguration with configuration value : 1
INFO	Stopping Test [ SetConfiguration Test (Configuration Index 0): Number of: Fails (0); Aborts (0); Warnings (0) ]
<b>SuspendResumeTest</b>	
<b>Passed</b>	
INFO	Now Starting Test:Suspend/Resume Test (Configuration Index 0)
INFO	Suspended the parent port of the device
INFO	Stopping Test [ Suspend/Resume Test (Configuration Index 0): Number of: Fails (0); Aborts (0); Warnings (0) ]
<b>RemoteWakeupTestEnabled</b>	
<b>Passed</b>	
INFO	Now Starting Test:Remote Wakeup Test (Configuration Index 0)
INFO	The device does not support remote wakeup
INFO	Stopping Test [ Remote Wakeup Test (Configuration Index 0): Number of: Fails (0); Aborts (0); Warnings (0) ]
<b>RemoteWakeupTestDisabled</b>	
<b>Passed</b>	
INFO	Now Starting Test:Remote Wakeup Test (Configuration Index 0)
INFO	The device does not support remote wakeup
INFO	Stopping Test [ Remote Wakeup Test (Configuration Index 0): Number of: Fails (0); Aborts (0); Warnings (0) ]
<b>EnumerationTest</b>	
<b>Passed</b>	
INFO	Now Starting Test:Enumeration Test (repeat 150 times)
INFO	Device speed is Full
INFO	Stopping Test [ Enumeration Test (repeat 150 times): Number of: Fails (0); Aborts (0); Warnings (0) ]
<b>Summary</b>	
INFO	Summary Log Counts [ Fails (0); Aborts (2); Warnings (2) ]

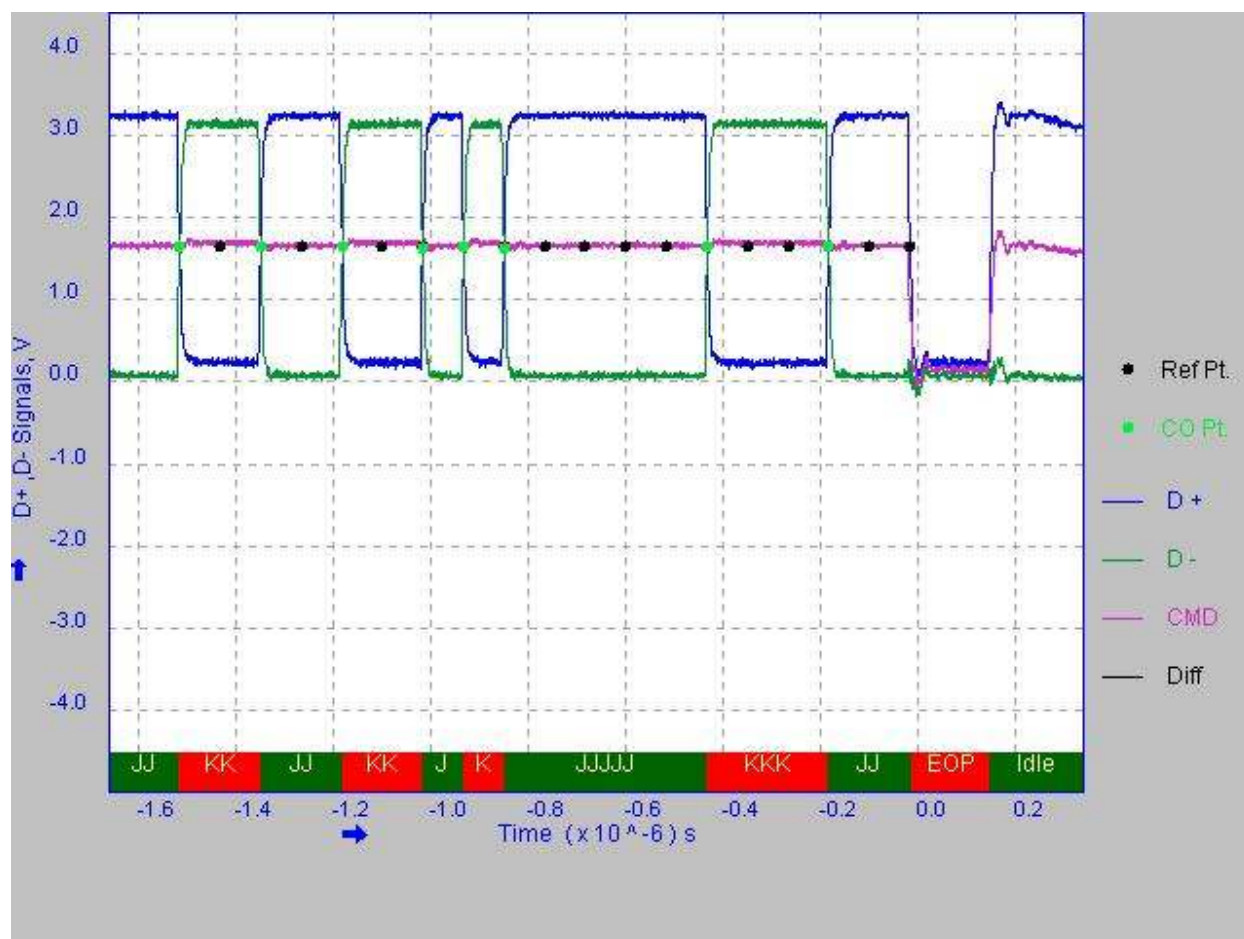
## 1.2 USB 1.1 Device Signal Quality Test Results in Tek format

Device ID: NUC501

Device Description: Full Speed, Far End Device, Up Stream Testing, Tier 6, Dummy Device.

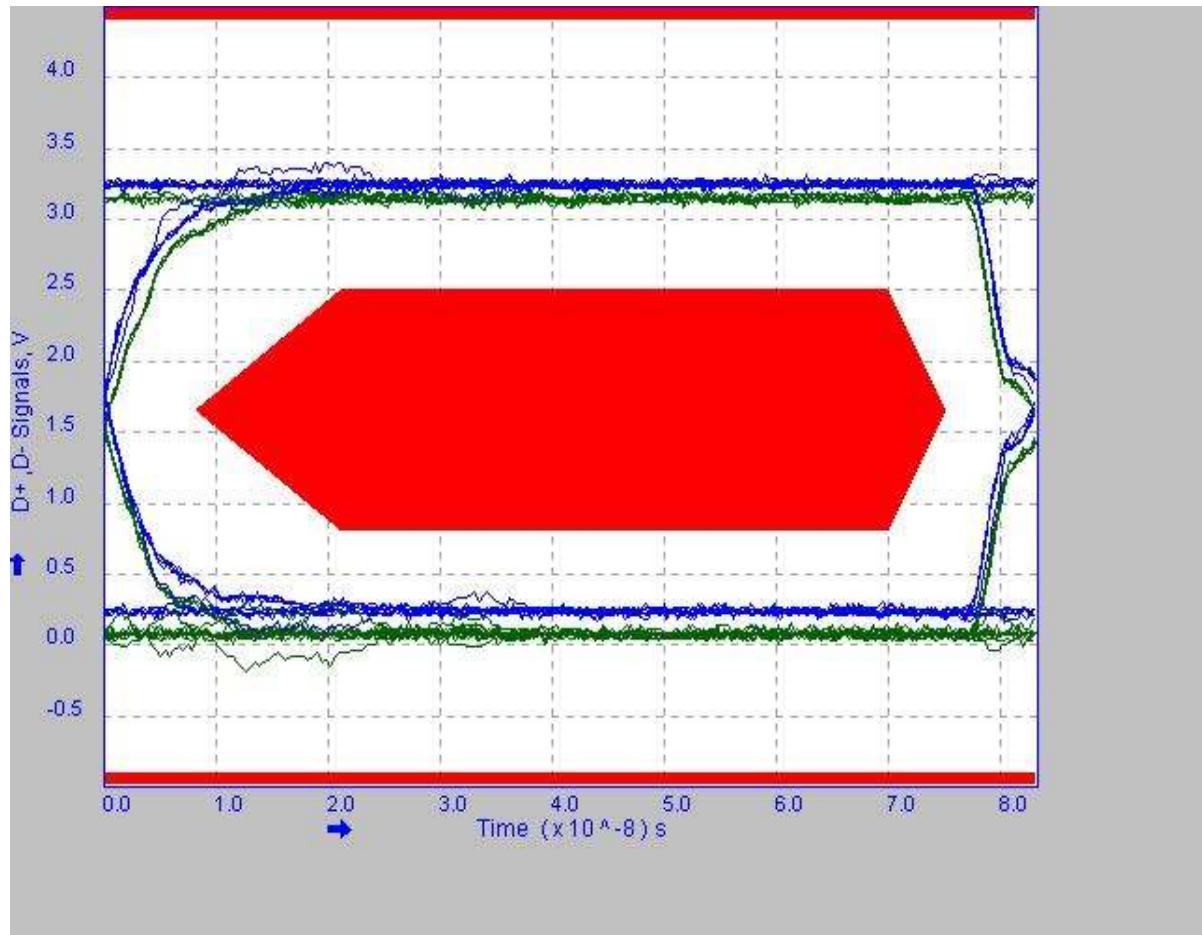
Date: Mon Feb 09 13:32:44 PST 2009

Overall Result: **Pass\***



Waveform Plot





Eye Diagram

Results based on USB-IF / Waiver Limits:

Measurement Name	Minimum	Maximum	Mean	pk-pk	Standard Deviation	RMS	Population	Status
Eye Diagram Test	-	-	-	-	-	-	-	Pass
Signal Rate	11.88739Mbps	12.11888Mbps	12.00439Mbps	0.0000bps	84.12211kbps	12.00659Mbps	14	Pass
Crossover Voltage	1.630358 V	1.661847 V	1.644096 V	31.48855mV	10.76958mV	1.644127 V	8	Pass
EOP Width	-	-	165.7543ns	-	-	-	1	Pass
Consecutive Jitter	-436.1891ps	450.7320ps	-51.22710ps	886.9212ps	430.1894ps	401.5589ps	7	Pass
Paired JK Jitter	-50.57790ps	-50.57790ps	-50.57790ps	0.0000s	0.0000s	50.57790ps	1	Pass
Paired KJ Jitter	-67.04762ps	-67.04762ps	-67.04762ps	0.0000s	0.0000s	67.04762ps	1	Pass
Falling Edge Rate	224.6861 V/us	234.2370 V/us	229.4172 V/us	9.550893 V/us	3.362979 V/us	229.4391 V/us	9	Pass
Rising Edge Rate	210.7104 V/us	243.0728 V/us	226.7660 V/us	32.36245 V/us	16.17665 V/us	227.2703 V/us	8	Pass

## Additional Information:

Rising Edge Rate: 226.7660 V/us (Equivalent Rise Time = 11.642 ns)

Falling Edge Rate: 229.4172 V/us (Equivalent Fall Time = 11.507 ns)

\* The Overall Result for this test is **Pass**, because individual status of the measurements is **Pass** and it is performed on Tier 6 (as per USB-IF).

## 2 Revision History

Version	Date	Description
V1.0	Mar. 20,2009	• Created

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