

Test Report

Test Started: 2017-05-03 12:52:20

Test Run Time: 11.64s

TESTING STANDARD: USB Type-C Specification Release 1.2

Test Profile: A-C / SS Gen1 / 3A / SI

Test for a Standard-A to Type-C cable that can support USB 3.1 Gen 1 (5 Gbps). Requires all four SuperSpeed pairs and the USB 2.0 D+/D- pair. Signal integrity testing at 5 Gbps on the SuperSpeed pairs and 518 Mbps on the high-speed pair is performed.

E-Marker

"D" Port

SOP' Data
SOP' Controller Not Found

"U" Port

SOP' Data
SOP' Controller Not Found

Continuity

WIRING: USB Type-C Specification Release 1.3

Connector Orientation		
Port	Connector Type	Orientation
"U" Port	USB 3.1 Type-C	Normal
"D" Port	USB 3.1 Standard-A	Normal

Power Shorts		
	Wires	Shorts
✓	V _{BUS} to GND	None
✓	CC to GND	None
✓	CC to V _{BUS}	None

Physical Wiring		
	"U" Port Pin	"D" Port Pin
✓	DM1	DM1
✓	DP1	DP1
✓	DM2	
✓	DP2	
	SBU1	
	SBU2	
✓	TX1	RX1
✓	RX1	TX1

Functional Signals		
	Wire	Present
✓	CC	Present
	V _{CONN}	Absent
	V _{CONN} Thru	Absent
	SBU	Absent
✓	DP/DM1	Present
✓	DP/DM2	Absent
	SOP'	Absent
	SOP''	Absent
✓	TX1	Present
✓	RX1	Present

	Wire	Present
✓	TX2	Absent
✓	RX2	Absent
	R _p	Present
	R _D	Absent

DC Resistance

This testing is for IR drop. The maximum allowable cable IR drop for ground (including ground on a captive cable) shall be 250 mV and for VBUS shall be 500 mV when the min required current is 3A

Power Wires			
	Wire	Measured Value	Maximum
✓	GND	44.32 mΩ	83.00 mΩ
✓	V _{BUS}	102.00 mΩ	167.00 mΩ

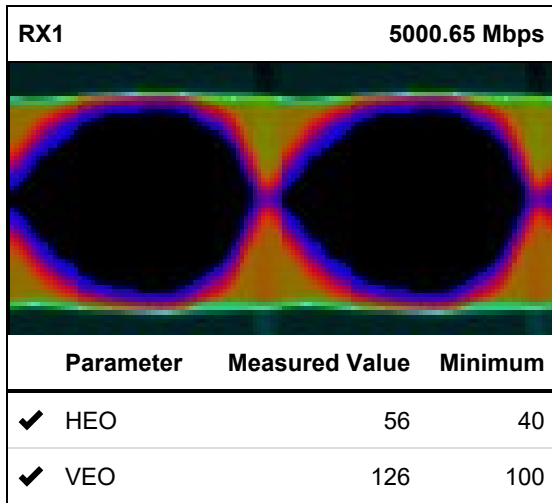
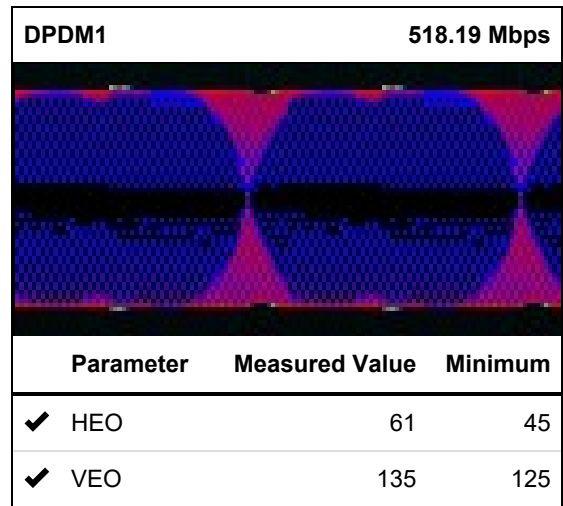
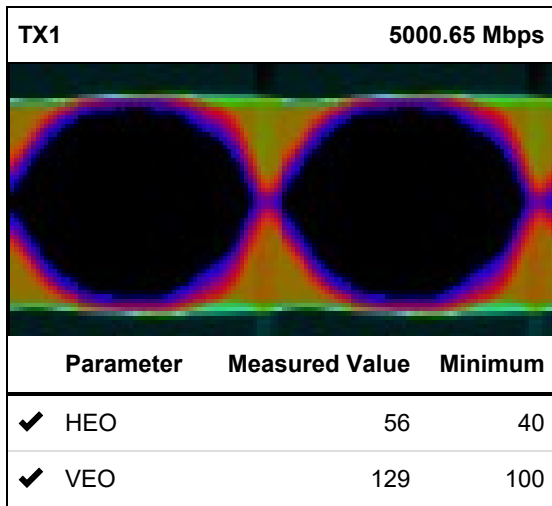
Why we only test DC resistance is according to $V=UI$. $250mV=3A * 83m\ ohm$, $500mV=3A * 167m\ ohm$.

GND Pins			
	Pin	Measured Value	Maximum
✓	U-A1	27.07 mΩ	40.00 mΩ
✓	U-A12	31.39 mΩ	40.00 mΩ
✓	U-B1	33.87 mΩ	40.00 mΩ
✓	U-B12	26.08 mΩ	40.00 mΩ
	D-A1	No Continuity	40.00 mΩ
	D-A12	No Continuity	40.00 mΩ
	D-B1	No Continuity	40.00 mΩ
	D-B12	No Continuity	40.00 mΩ

V _{BUS} Pins			
	Pin	Measured Value	Maximum
✓	U-A4	31.58 mΩ	40.00 mΩ
✓	U-A9	33.21 mΩ	40.00 mΩ
✓	U-B4	31.10 mΩ	40.00 mΩ
✓	U-B9	33.71 mΩ	40.00 mΩ
	D-A4	No Continuity	40.00 mΩ
	D-A9	No Continuity	40.00 mΩ
	D-B4	No Continuity	40.00 mΩ
	D-B9	No Continuity	40.00 mΩ

Signal Integrity

- 1) USB 3.1 Gen 1 (SuperSpeed): Signal integrity & eye diagrams at 5 Gbps (5000.65Mbps)
- 2) USB 2.0: Signal integrity & eye diagrams at 480 Mbps (518.19Mbps)



Equipment

Device Information	
Name	Value
Promira Serial Platform Serial Number	2416-615490
Advanced Cable Tester Serial Number	2468-194169
Hardware Version	0.93
Firmware Version	1.10
Web Version	1.10

Connector Insertion Counts		
Port	Connector	Count
Upstream	USB 3.1 Type-C	146
Downstream	USB 3.1 Type-C	78
Upstream Adapter	None	
Downstream Adapter	USB 3.1 Standard-A	26