

# Test Report

**Test Started:** 2022-12-01 13:39:13

**Test Run Time:** 38.45s

**Test Status:** Fail

**Test Profile:** C-C / SS Gen 2 / 5A / SI 5/10Gbps

Test for a Full-Featured Type-C cable that can support USB 3.1 Gen 2 (10 Gbps) and 5 amps. Fails if a cable advertises different capabilities. Requires an E-Marker, all four SuperSpeed pairs, the USB 2.0 D+/D- pair, and SBU1/SBU2 to be present. Signal integrity testing at 10 Gbps and 5 Gbps on the SuperSpeed pairs and 518 Mbps on the high-speed pair is performed.

## Error Summary

Cont Continuity DPDM2  
 DCR DCR D-GND3  
 Sig Int SS Eye 10000 Vertical

Cont VConn Thru - Presence  
 DCR DCR D-GND4

## E-Marker

### "D" Port

| SOP' Data |                  |   |                |
|-----------|------------------|---|----------------|
|           | Field            | Read Value                                | Expected Value |
| ✓         | Product Type     | Passive Cable                             | Passive Cable  |
|           | Product ID       | 0x0000                                    | Not Specified  |
|           | Test ID          | 0x0000                                    | Not Specified  |
|           | Vendor ID        | 0x2109                                    | Not Specified  |
|           | Vendor Name      | VIA Labs, Inc.                            |                |
|           | Hardware Version | 0   | Not Specified  |
|           | Firmware Version | 0   | Not Specified  |
|           | Latency          | < 10ns (~1m)                              | Not Specified  |
|           | Termination      | Passive Cable, V <sub>CONN</sub> required | Not Specified  |
| ✓         | Current          | 5A  | 5A             |

### "U" Port

| SOP' Data |                  |   |                |
|-----------|------------------|---|----------------|
|           | Field            | Read Value                                | Expected Value |
| ✓         | Product Type     | Passive Cable                             | Passive Cable  |
|           | Product ID       | 0x0000                                    | Not Specified  |
|           | Test ID          | 0x0000                                    | Not Specified  |
|           | Vendor ID        | 0x2109                                    | Not Specified  |
|           | Vendor Name      | VIA Labs, Inc.                            |                |
|           | Hardware Version | 0   | Not Specified  |
|           | Firmware Version | 0   | Not Specified  |
|           | Latency          | < 10ns (~1m)                              | Not Specified  |
|           | Termination      | Passive Cable, V <sub>CONN</sub> required | Not Specified  |
| ✓         | Current          | 5A  | 5A             |

|   |                          |                       |                       |
|---|--------------------------|-----------------------|-----------------------|
| ✓ | V <sub>BUS</sub> Through | True                  | True                  |
|   | SOP'' present            | False                 | Not Specified         |
| ✓ | Speed                    | USB 3.1 Gen1 and Gen2 | USB 3.1 Gen1 and Gen2 |

|   |                          |                       |                       |
|---|--------------------------|-----------------------|-----------------------|
| ✓ | V <sub>BUS</sub> Through | True                  | True                  |
|   | SOP'' present            | False                 | Not Specified         |
| ✓ | Speed                    | USB 3.1 Gen1 and Gen2 | USB 3.1 Gen1 and Gen2 |

|                            |
|----------------------------|
| <b>SOP'' Data</b>          |
| SOP'' Controller Not Found |

|                            |
|----------------------------|
| <b>SOP'' Data</b>          |
| SOP'' Controller Not Found |

## Continuity

| Connector Orientation |                |             |
|-----------------------|----------------|-------------|
| Port                  | Connector Type | Orientation |
| "U" Port              | USB 3.1 Type-C | Flipped     |
| "D" Port              | USB 3.1 Type-C | Normal      |

| V <sub>BUS</sub> Voltage Reference |         |               |
|------------------------------------|---------|---------------|
|                                    | Voltage | Valid Range   |
| ✓                                  | 4.75 V  | 4.75 - 5.10 V |

| Power Shorts |                         |        |
|--------------|-------------------------|--------|
|              | Wires                   | Shorts |
| ✓            | V <sub>BUS</sub> to GND | None   |
| ✓            | CC to GND               | None   |
| ✓            | CC to V <sub>BUS</sub>  | None   |

| Physical Wiring |              |               |
|-----------------|--------------|---------------|
|                 | "D" Port Pin | "U" Port Pin  |
| ✓               | DM1          | DM1           |
| ✓               | DP1          | DP1           |
| ✗               | DM2          | No Connection |
| ✗               | DP2          | No Connection |
| ✓               | SBU1         | SBU2          |
| ✓               | SBU2         | SBU1          |
| ✓               | TX1          | RX1           |
| ✓               | RX1          | TX1           |

| Functional Signals |                        |         |
|--------------------|------------------------|---------|
|                    | Wire                   | Present |
| ✓                  | CC                     | Present |
| ✓                  | V <sub>CONN</sub>      | Present |
| ✗                  | V <sub>CONN</sub> Thru | Absent  |
| ✓                  | SBU                    | Present |
| ✓                  | DP/DM1                 | Present |
| ✗                  | DP/DM2                 | Absent  |
|                    | SOP'                   | Present |
|                    | SOP''                  | Absent  |
| ✓                  | TX1                    | Present |

|   |     |     |
|---|-----|-----|
| ✓ | TX2 | RX2 |
| ✓ | RX2 | TX2 |

|   |                |         |
|---|----------------|---------|
| ✓ | RX1            | Present |
| ✓ | TX2            | Present |
| ✓ | RX2            | Present |
|   | R <sub>A</sub> | Present |

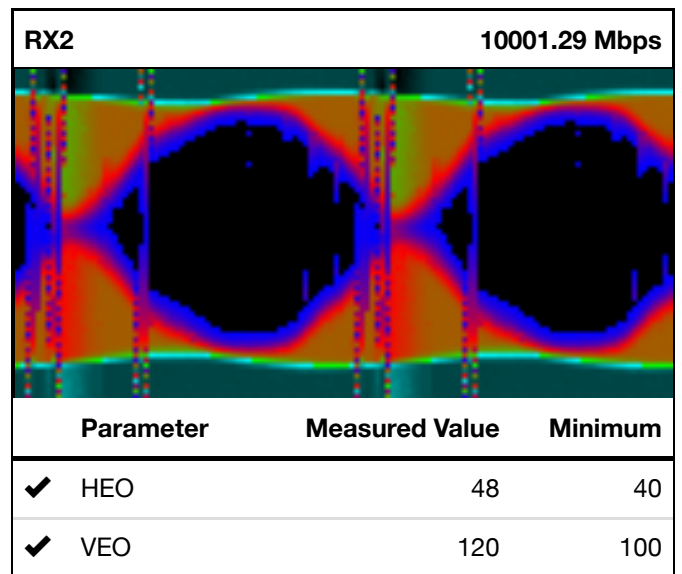
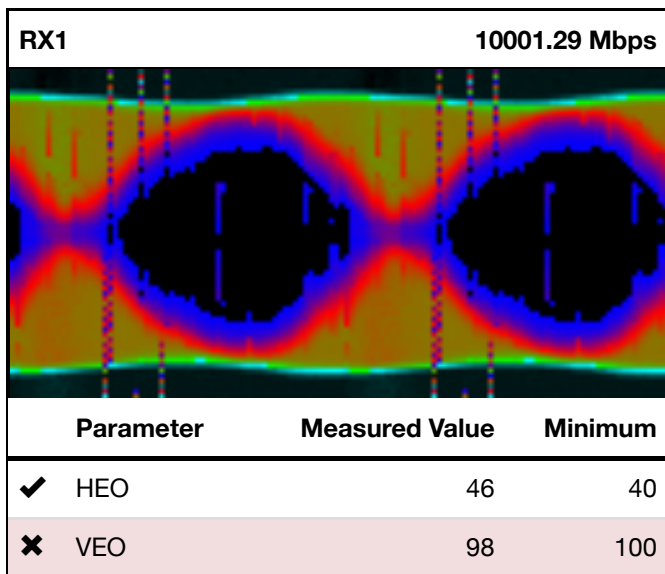
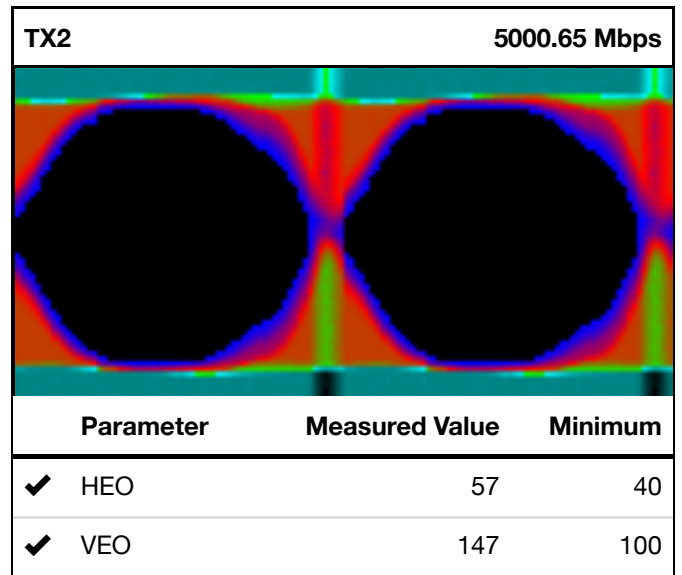
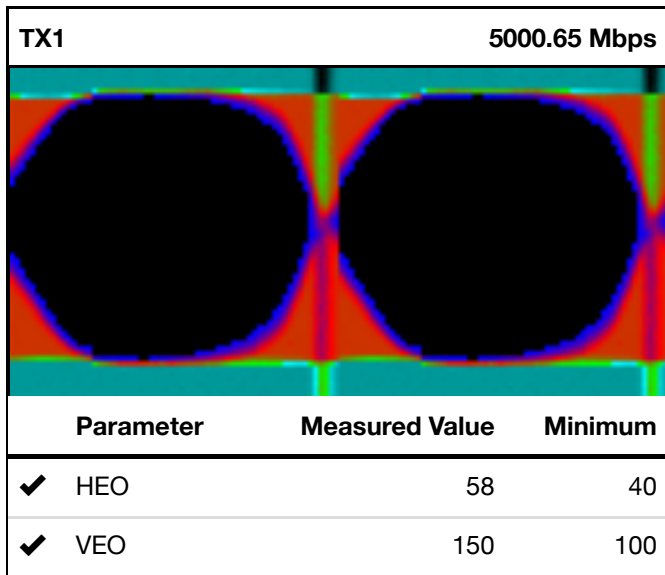
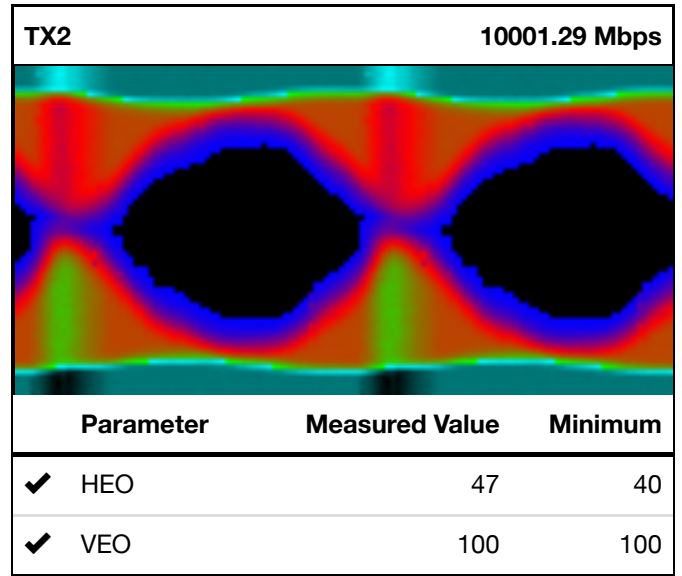
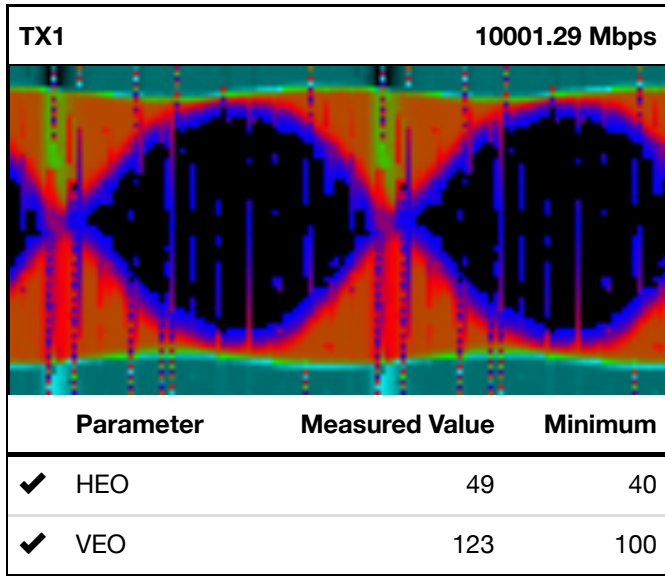
## DC Resistance

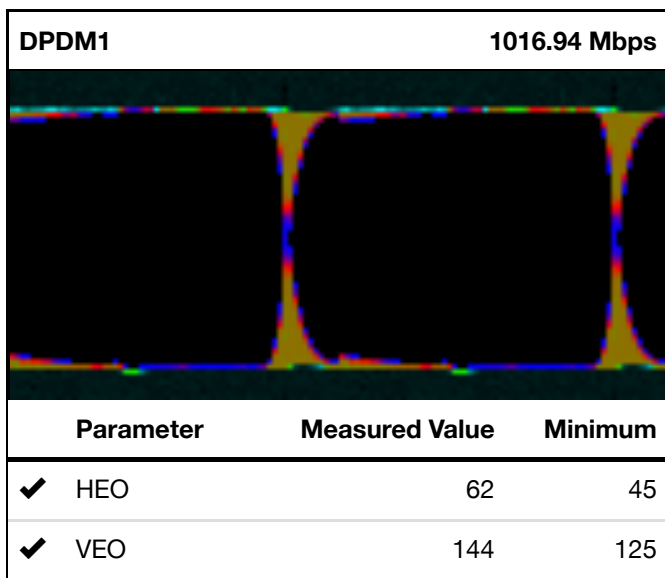
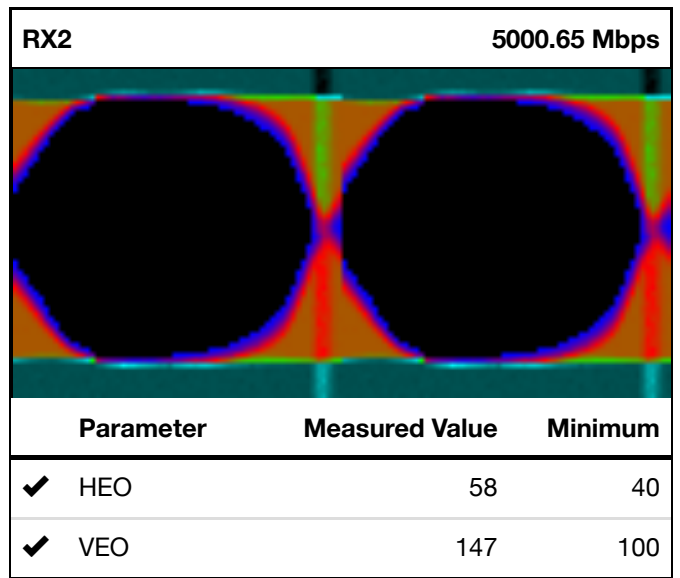
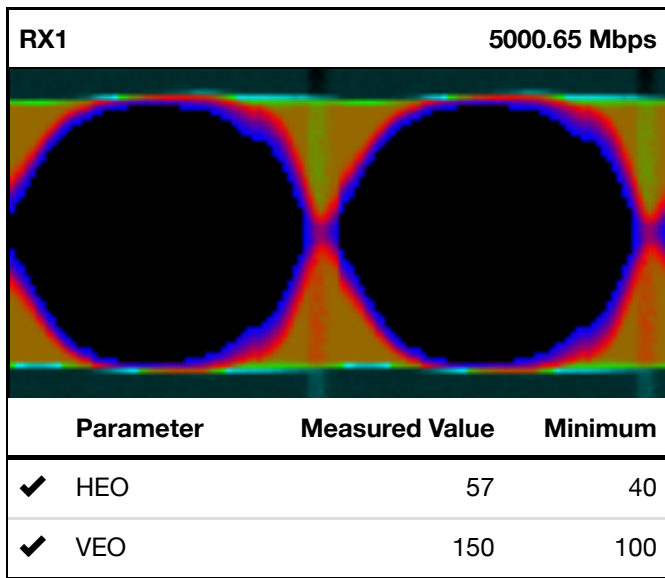
| Power Wires |                  |                |           |
|-------------|------------------|----------------|-----------|
|             | Wire             | Measured Value | Maximum   |
| ✓           | GND              | 42.86 mΩ       | 50.00 mΩ  |
| ✓           | V <sub>BUS</sub> | 36.25 mΩ       | 100.00 mΩ |

| GND Pins |       |                |          |
|----------|-------|----------------|----------|
|          | Pin   | Measured Value | Maximum  |
| ✓        | U-A1  | 10.20 mΩ       | 40.00 mΩ |
| ✓        | U-A12 | 18.19 mΩ       | 40.00 mΩ |
| ✓        | U-B1  | 11.93 mΩ       | 40.00 mΩ |
| ✓        | U-B12 | 36.37 mΩ       | 40.00 mΩ |
| ✓        | D-A1  | 23.96 mΩ       | 40.00 mΩ |
| ✓        | D-A12 | 18.74 mΩ       | 40.00 mΩ |
| ✗        | D-B1  | 58.75 mΩ       | 40.00 mΩ |
| ✗        | D-B12 | 44.58 mΩ       | 40.00 mΩ |

| V <sub>BUS</sub> Pins |      |                |          |
|-----------------------|------|----------------|----------|
|                       | Pin  | Measured Value | Maximum  |
| ✓                     | U-A9 | 9.22 mΩ        | 40.00 mΩ |
| ✓                     | U-B4 | 8.98 mΩ        | 40.00 mΩ |
| ✓                     | U-B9 | 10.80 mΩ       | 40.00 mΩ |
| ✓                     | U-A4 | 6.65 mΩ        | 40.00 mΩ |
| ✓                     | D-A9 | 14.58 mΩ       | 40.00 mΩ |
| ✓                     | D-B4 | 15.90 mΩ       | 40.00 mΩ |
| ✓                     | D-B9 | 12.49 mΩ       | 40.00 mΩ |
| ✓                     | D-A4 | 14.02 mΩ       | 40.00 mΩ |

# Signal Integrity





## Equipment

| Device Information                    |             |
|---------------------------------------|-------------|
| Name                                  | Value       |
| Promira Serial Platform Serial Number | 2416-622816 |
| Advanced Cable Tester Serial Number   | 2468-196450 |
| Hardware Version                      | 0.93        |
| Firmware Version                      | 1.13        |
| Web Version                           | 1.13        |

| Connector Test & Insertion Counts |                |        |
|-----------------------------------|----------------|--------|
| Port                              | Connector      | Counts |
| Upstream                          | USB 3.1 Type-C | 165    |
| Downstream                        | USB 3.1 Type-C | 165    |
| Upstream Adapter                  | None           |        |
| Downstream Adapter                | None           |        |