



# INTERNATIONAL STANDARD



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**Universal serial bus interfaces for data and power –  
Part 1-3: Universal Serial Bus interfaces – Common components –  
USB Type-C™ cable and connector specification**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### UNIVERSAL SERIAL BUS INTERFACES FOR DATA AND POWER –

#### **Part 1-3: Universal Serial Bus interfaces – Common components – USB Type-C™ cable and connector specification**

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The text of this standard is based on the following documents:

| CDV          | Report on voting |
|--------------|------------------|
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This standard is the USB-IF publication USB Type-C™ Cable and Connector Specification Revision 1.1.

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# Universal Serial Bus Type-C Cable and Connector Specification

Revision 1.1  
April 3, 2015

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## CONTENTS

|  |    |
|--|----|
| FOREWORD.....  | 2  |
| INTRODUCTION.....  | 4  |
| Specification Work Group Chairs / Specification Editors.....                     | 15 |
| Specification Work Group Contributors.....                                       | 15 |
| Pre-Release Draft Industry Reviewing Companies That Provided Feedback.....       | 17 |
| Revision History.....  | 17 |
| 1 Introduction.....  | 18 |
| 1.1 Purpose.....   | 18 |
| 1.2 Scope.....   | 18 |
| 1.3 Related Documents.....   | 19 |
| 1.4 Conventions.....   | 19 |
| 1.4.1 Precedence.....  | 19 |
| 1.4.2 Keywords.....  | 19 |
| 1.4.3 Numbering.....   | 20 |
| 1.5 Terms and Abbreviations.....   | 21 |
| 2 Overview.....  | 22 |
| 2.1 Introduction.....  | 22 |
| 2.2 USB Type-C Receptacles, Plugs and Cables.....                                | 23 |
| 2.3 Configuration Process.....   | 25 |
| 2.3.1 DFP-to-UFP Attach/Detach Detection.....                                    | 25 |
| 2.3.2 Plug Orientation/Cable Twist Detection.....                                | 25 |
| 2.3.3 Initial DFP-to-UFP (host-to-device) and Power Relationships Detection..... | 25 |
| 2.3.4 USB Type-C VBUS Current Detection and Usage.....                           | 26 |
| 2.3.5 USB PD Communication.....  | 27 |
| 2.3.6 Functional Extensions.....   | 27 |
| 2.4 Vbus.....  | 27 |
| 2.5 Vconn.....   | 28 |
| 2.6 Hubs.....  | 28 |
| 3 Mechanical.....  | 28 |
| 3.1 Overview.....  | 28 |
| 3.1.1 Compliant Connectors.....  | 28 |
| 3.1.2 Compliant Cable Assemblies.....  | 28 |
| 3.1.3 Compliant USB Type-C to Legacy Cable Assemblies.....                       | 29 |
| 3.1.4 Compliant USB Type-C to Legacy Adapter Assemblies.....                     | 29 |
| 3.2 USB Type-C Connector Mating Interfaces.....                                  | 30 |
| 3.2.1 Interface Definition.....  | 30 |
| 3.2.2 Reference Designs.....   | 45 |
| 3.2.3 Pin Assignments and Descriptions.....                                      | 52 |
| 3.3 Cable Construction and Wire Assignments.....                                 | 54 |
| 3.3.1 Cable Construction (Informative).....                                      | 54 |
| 3.3.2 Wire Assignments.....  | 55 |
| 3.3.3 Wire Gauges and Cable Diameters (Informative).....                         | 57 |
| 3.4 Standard USB Type-C Cable Assemblies.....                                    | 58 |
| 3.4.1 USB Full-Featured Type-C Cable Assembly.....                               | 58 |
| 3.4.2 USB 2.0 Type-C Cable Assembly.....   | 60 |

|        |   |     |
|--------|---|-----|
| 3.4.3  | USB Type-C Captive Cable Assemblies .....                                 | 60  |
| 3.5    | Legacy Cable Assemblies .....   | 60  |
| 3.5.1  | USB Type-C to <i>USB 3.1</i> Standard-A Cable Assembly .....              | 61  |
| 3.5.2  | USB Type-C to <i>USB 2.0</i> Standard-A Cable Assembly .....              | 61  |
| 3.5.3  | USB Type-C to <i>USB 3.1</i> Standard-B Cable Assembly .....              | 62  |
| 3.5.4  | USB Type-C to <i>USB 2.0</i> Standard-B Cable Assembly .....              | 63  |
| 3.5.5  | USB Type-C to <i>USB 2.0</i> Mini-B Cable Assembly .....                  | 64  |
| 3.5.6  | USB Type-C to <i>USB 3.1</i> Micro-B Cable Assembly .....                 | 65  |
| 3.5.7  | USB Type-C to <i>USB 2.0</i> Micro-B Cable Assembly .....                 | 66  |
| 3.6    | Legacy Adapter Assemblies .....   | 67  |
| 3.6.1  | USB Type-C to <i>USB 3.1</i> Standard-A Receptacle Adapter Assembly ..... | 67  |
| 3.6.2  | USB Type-C to <i>USB 2.0</i> Micro-B Receptacle Adapter Assembly .....    | 69  |
| 3.7    | Electrical Characteristics .....  | 69  |
| 3.7.1  | Raw Cable (Informative) .....   | 70  |
| 3.7.2  | Mated Connector (Normative) .....   | 71  |
| 3.7.3  | USB Type-C to Type-C Passive Cable Assemblies (Normative) .....           | 75  |
| 3.7.4  | USB Type-C to Legacy Cable Assemblies (Normative) .....                   | 86  |
| 3.7.5  | USB Type-C to USB Legacy Adapter Assemblies (Normative) .....             | 89  |
| 3.7.6  | Shielding Effectiveness Requirements (Normative) .....                    | 91  |
| 3.7.7  | DC Electrical Requirements (Normative) .....                              | 92  |
| 3.8    | Mechanical and Environmental Requirements (Normative) .....               | 93  |
| 3.8.1  | Mechanical Requirements .....   | 94  |
| 3.8.2  | Environmental Requirements .....  | 97  |
| 3.9    | Docking Applications (Informative) .....                                  | 98  |
| 3.10   | Implementation Notes and Design Guides .....                              | 99  |
| 3.10.1 | EMC Management (Informative) .....  | 99  |
| 3.10.2 | Stacked and Side-by-Side Connector Physical Spacing (Informative) .....   | 101 |
| 3.10.3 | Cable Mating Considerations (Informative) .....                           | 102 |
| 4      | Functional .....  | 103 |
| 4.1    | Signal Summary .....  | 103 |
| 4.2    | Signal Pin Descriptions .....   | 103 |
| 4.2.1  | SuperSpeed USB Pins .....   | 103 |
| 4.2.2  | USB 2.0 Pins .....  | 104 |
| 4.2.3  | Auxiliary Signal Pins .....   | 104 |
| 4.2.4  | Power and Ground Pins .....   | 104 |
| 4.2.5  | Configuration Pins .....  | 104 |
| 4.3    | Sideband Use (SBU) .....  | 104 |
| 4.4    | Power and Ground .....  | 104 |
| 4.4.1  | IR Drop .....   | 104 |
| 4.4.2  | VBUS .....  | 105 |
| 4.4.3  | VCONN .....   | 106 |
| 4.5    | Configuration Channel (CC) .....  | 107 |
| 4.5.1  | Architectural Overview .....  | 107 |
| 4.5.2  | CC Functional and Behavioral Requirements .....                           | 116 |
| 4.5.3  | USB Port Interoperability Behavior .....                                  | 134 |
| 4.6    | Power .....   | 144 |
| 4.6.1  | Power Requirements during USB Suspend .....                               | 145 |



|  |  |     |
|--|--|-----|
| 4.6.2  | VBUS Power Provided Over a USB Type-C Cable .....                          | 145 |
| 4.6.3  | Supporting USB PD BFSK in Addition to USB PD BMC .....                     | 148 |
| 4.7  | USB Hubs .....   | 149 |
| 4.8  | Chargers.....  | 149 |
| 4.8.1  | DFP as a Power Source .....  | 149 |
| 4.8.2  | Non-USB Charging Methods.....  | 150 |
| 4.8.3  | Sinking DFP.....   | 151 |
| 4.8.4  | Charging UFP .....   | 151 |
| 4.8.5  | Charging a System with a Dead Battery.....                                 | 151 |
| 4.9  | Electronically Marked Cables.....  | 151 |
| 4.10   | Vconn-Powered Accessories .....  | 153 |
| 4.11   | Parameter Values .....   | 153 |
| 4.11.1   | Termination Parameters .....   | 153 |
| 4.11.2   | Timing Parameters .....  | 154 |
| 4.11.3   | Voltage Parameters .....   | 156 |
| 4.12   | Summary of Ports by Product Type.....                                      | 157 |
| 5  | Functional Extensions.....   | 160 |
| 5.1  | Alternate Modes.....   | 160 |
| 5.1.1  | Alternate Mode Architecture .....  | 160 |
| 5.1.2  | Alternate Mode Requirements .....  | 160 |
| 5.1.3  | Parameter Values .....   | 162 |
| 5.1.4  | Example Alternate Mode – USB/PCIe Dock .....                               | 162 |
| 5.2  | Managed Active Cables.....   | 165 |
| 5.2.1  | Requirements for Managed Active Cables that respond to SOP' and SOP" ..... | 165 |
| 5.2.2  | Cable Message Structure .....  | 167 |
| 5.2.3  | Modal Cable Management.....  | 167 |
| A  | Audio Adapter Accessory Mode.....  | 168 |
| A.1  | Overview.....  | 168 |
| A.2  | Detail.....  | 168 |
| A.3  | Electrical Requirements.....   | 169 |
| A.4  | Example Implementations.....   | 171 |
| A.4.1  | Passive 3,5 mm to USB Type-C Adapter – Single Pole Detection Switch .....  | 171 |
| A.4.2  | 3,5 mm to USB Type-C Adapter Supporting 500 mA Charge-Through.....         | 171 |
| B  | Debug Accessory Mode .....   | 173 |
|  |  |     |
| Figure 2-1 – USB Type-C Receptacle Interface (Front View).....   |  | 23  |
| Figure 2-2 – USB Full-Featured Type-C Plug Interface (Front View).....                                   |  | 23  |
| Figure 3-1 – USB Type-C Receptacle Interface Dimensions .....  |  | 32  |
| Figure 3-2 – Reference Design USB Type-C Plug External EMC Spring Contact Zones .....                    |  | 34  |
| Figure 3-3 – USB Full-Featured Type-C Plug Interface Dimensions.....                                     |  | 35  |
| Figure 3-4 – Reference Footprint for a USB Type-C Vertical Mount Receptacle (Informative).....           |  | 38  |
| Figure 3-5 – Reference Footprint for a USB Type-C Dual-Row SMT Right Angle Receptacle (Informative)..... |  | 39  |
| Figure 3-6 – Reference Footprint for a USB Type-C Hybrid Right-Angle Receptacle (Informative).....       |  | 40  |

|  |    |
|--|----|
| Figure 3-7 – Reference Footprint for a USB Type-C Mid-Mount Dual-Row SMT Receptacle (Informative).....                                 | 41 |
| Figure 3-8 – Reference Footprint for a USB Type-C Mid-Mount Hybrid Receptacle (Informative).....                                       | 42 |
| Figure 3-9 – <i>USB 2.0</i> Type-C Plug Interface Dimensions .....   | 43 |
| Figure 3-10 – Reference Design of Receptacle Mid-Plate .....   | 46 |
| Figure 3-11 – Reference Design of the Retention Latch .....  | 47 |
| Figure 3-12 – Illustration of the Latch Soldered to the Paddle Card Ground.....  | 47 |
| Figure 3-13 – Reference Design of the USB Full-Featured Type-C Plug Internal EMC Spring .....  | 48 |
| Figure 3-14 – Reference Design of the <i>USB 2.0</i> Type-C Plug Internal EMC Spring.....  | 49 |
| Figure 3-15 – Reference Design of Internal EMC Pad .....   | 50 |
| Figure 3-16 – Reference Design of a USB Type-C Receptacle with External EMC Springs.....   | 51 |
| Figure 3-17 – Reference Design for a USB Full-Featured Type-C Plug Paddle Card.....  | 52 |
| Figure 3-18 – Illustration of a USB Full-Featured Type-C Cable Cross Section, a Coaxial Wire Example with VCONN.....                   | 55 |
| Figure 3-19 – Illustration of a USB Full-Featured Type-C Cable Cross Section, a Coaxial Wire Example without VCONN.....                | 55 |
| Figure 3-20 – USB Full-Featured Type-C Standard Cable Assembly .....   | 59 |
| Figure 3-21 – USB Type-C to USB 3.1 Standard-A Cable Assembly.....   | 61 |
| Figure 3-22 – USB Type-C to <i>USB 2.0</i> Standard-A Cable Assembly.....  | 62 |
| Figure 3-23 – USB Type-C to <i>USB 3.1</i> Standard-B Cable Assembly.....  | 62 |
| Figure 3-24 – USB Type-C to <i>USB 2.0</i> Standard-B Cable Assembly.....  | 63 |
| Figure 3-25 – USB Type-C to <i>USB 2.0</i> Mini-B Cable Assembly .....   | 64 |
| Figure 3-26 – USB Type-C to <i>USB 3.1</i> Micro-B Cable Assembly .....  | 65 |
| Figure 3-27 – USB Type-C to <i>USB 2.0</i> Micro-B Cable Assembly .....  | 66 |
| Figure 3-28 – USB Type-C to <i>USB 3.1</i> Standard-A Receptacle Adapter Assembly.....   | 68 |
| Figure 3-29 – USB Type-C to <i>USB 2.0</i> Micro-B Receptacle Adapter Assembly .....   | 69 |
| Figure 3-30 – Illustration of USB Type-C Mated Connector .....   | 71 |
| Figure 3-31 – Recommended Impedance Limits of a USB Type-C Mated Connector.....  | 71 |
| Figure 3-32 – Recommended Ground Void Dimensions for USB Type-C Receptacle.....  | 72 |
| Figure 3-33 – Recommended Differential Insertion Loss Limits .....   | 72 |
| Figure 3-34 – Recommended Differential Return Loss Limits .....  | 73 |
| Figure 3-35 – Recommended Differential Crosstalk Limits between SuperSpeed Pairs .....   | 73 |
| Figure 3-36 – Recommended Differential Near-End and Far-End Crosstalk Limits between D+/D- Pair and SuperSpeed Pairs.....              | 74 |
| Figure 3-37 – Recommended Limits for Differential-to-Common-Mode Conversion .....  | 74 |
| Figure 3-38 – Illustration of Test Points for a Mated Cable Assembly .....   | 75 |
| Figure 3-39 – Recommended Differential Insertion Loss Requirement.....   | 75 |
| Figure 3-40 – Recommended Differential Return Loss Requirement.....  | 76 |
| Figure 3-41 – Recommended Differential Crosstalk Requirement.....  | 76 |
| Figure 3-42 – Recommended Differential Near-End and Far-End Crosstalk Requirement between USB D+/D- Pair and USB SuperSpeed Pair ..... | 77 |

|  |     |
|--|-----|
| Figure 3-43 – Illustration of Insertion Loss Fit at Nyquist Frequency.....   | 78  |
| Figure 3-44 – Input Pulse Spectrum .....   | 79  |
| Figure 3-45 – IMR Limit as Function of ILfitatNq .....   | 79  |
| Figure 3-46 – IRL Limit as Function of ILfitatNq.....  | 81  |
| Figure 3-47 – Differential-to-Common-Mode Conversion Requirement.....  | 81  |
| Figure 3-48 – Requirement for Differential Coupling between CC and D+/D- .....   | 82  |
| Figure 3-49 – Requirement for Single-Ended Coupling between CC and D- in USB 2.0<br>Type-C Cables.....                 | 83  |
| Figure 3-50 – Requirement for Single-Ended Coupling between CC and D- in USB<br>Full-Featured Type-C Cables .....      | 83  |
| Figure 3-51 – Requirement for Differential Coupling between VBUS and D+/D- .....                                       | 84  |
| Figure 3-52 – Requirement for Single-Ended Coupling between SBU_A and SBU_B .....                                      | 84  |
| Figure 3-53 – Requirement for Single-Ended Coupling between SBU_A/SBU_B and CC.....                                    | 85  |
| Figure 3-54 – Requirement for Coupling between SBU_A and differential D+/D-, and<br>SBU_B and differential D+/D- ..... | 85  |
| Figure 3-55 – IMR Limit as Function of ILfitatNq for USB Type-C to Legacy Cable<br>Assembly.....                       | 89  |
| Figure 3-56 – IRL Limit as Function of ILfitatNq for USB Type-C to Legacy Cable<br>Assembly.....                       | 89  |
| Figure 3-57 – Cable Assembly Shielding Effectiveness Testing .....   | 92  |
| Figure 3-58 – Shielding Effectiveness Pass/Fail Criteria .....   | 92  |
| Figure 3-59 – LLCR Measurement Diagram .....   | 93  |
| Figure 3-60 – 4-Axis Continuity Test.....  | 95  |
| Figure 3-61 – Reference Wrenching Strength Continuity Test Fixture .....   | 96  |
| Figure 3-62 – Example of Wrenching Strength Test Mechanical Failure Point.....   | 96  |
| Figure 3-63 – Wrenching Strength Test with Cable in Fixture .....  | 97  |
| Figure 3-64 – USB Type-C Cable Receptacle Flange Example.....  | 99  |
| Figure 3-65 – EMC Guidelines for Side Latch and Mid-plate.....   | 100 |
| Figure 3-66 – EMC Finger Connections to Plug Shell.....  | 100 |
| Figure 3-67 – EMC Pad Connections to Receptacle Shell .....  | 101 |
| Figure 3-68 – Examples of Connector Apertures.....   | 101 |
| Figure 3-69 – Recommended Minimum Spacing between Connectors .....   | 102 |
| Figure 3-70 – Recommended Minimum Plug Overmold Clearance.....   | 102 |
| Figure 3-71 – Cable Plug Overmold and an Angled Surface .....  | 102 |
| Figure 4-1 – Cable IR Drop .....   | 105 |
| Figure 4-2 – Cable IR Drop for powered cables .....  | 105 |
| Figure 4-3 – Logical Model for Data Bus Routing across USB Type-C-based Ports.....                                     | 108 |
| Figure 4-4 – Logical Model for USB Type-C-based Ports for the Direct Connect Device.....                               | 109 |
| Figure 4-5 – Pull-Up/Pull-Down CC Model .....  | 110 |
| Figure 4-6 – Current Source/Pull-Down CC Model .....   | 110 |
| Figure 4-7 – DFP Functional Model for CC1 and CC2 .....  | 113 |
| Figure 4-8 – DFP Functional Model Supporting USB PD Provider/Consumer .....  | 114 |
| Figure 4-9 – UFP Functional Model for CC1 and CC2 .....  | 114 |

|  |     |
|--|-----|
| Figure 4-10 – UFP Functional Model Supporting USB PD Consumer/Provider and VCONN_Swap..... | 115 |
| Figure 4-11 – DRP Functional Model for CC1 and CC2.....                                    | 115 |
| Figure 4-12 – Connection State Diagram: Source .....                                       | 117 |
| Figure 4-13 – Connection State Diagram: Sink .....   | 118 |
| Figure 4-14 – Connection State Diagram: Sink with Accessory Support.....                   | 119 |
| Figure 4-15 – Connection State Diagram: DRP .....  | 120 |
| Figure 4-16 – Connection State Diagram: DRP with Accessory and Try.SRC Support.....        | 121 |
| Figure 4-17 – Sink Power Sub-States .....  | 132 |
| Figure 4-18 – DFP to UFP Functional Model.....   | 135 |
| Figure 4-19 – DFP to DRP Functional Model .....  | 136 |
| Figure 4-20 – DRP to UFP Functional Model .....  | 137 |
| Figure 4-21 – DRP to DRP Functional Model – CASE 1 .....                                   | 138 |
| Figure 4-22 – DRP to DRP Functional Model – CASE 2 .....                                   | 139 |
| Figure 4-23 – DFP to DFP Functional Model.....   | 140 |
| Figure 4-24 – UFP to UFP Functional Model.....   | 141 |
| Figure 4-25 – DFP to Legacy Device Port Functional Model.....                              | 141 |
| Figure 4-26 – Legacy Host Port to UFP Functional Model .....                               | 142 |
| Figure 4-27 – DRP to Legacy Device Port Functional Model.....                              | 143 |
| Figure 4-28 – Legacy Host Port to DRP Functional Model.....                                | 144 |
| Figure 4-29 – UFP Monitoring for Current in Pull-Up/Pull-Down CC Model.....                | 147 |
| Figure 4-30 – UFP Monitoring for Current in Current Source/Pull-Down CC Model.....         | 147 |
| Figure 4-31 – USB PD over CC Pins .....  | 148 |
| Figure 4-32 – USB PD BMC Signaling over CC.....  | 148 |
| Figure 4-33 – Example implementation of CC input protection in a UFP .....                 | 149 |
| Figure 4-34 – Electronically Marked Cable with VCONN connected through the cable .....     | 152 |
| Figure 4-35 – Electronically Marked Cable with SOP' at both ends.....                      | 152 |
| Figure 4-36 – DRP Timing.....  | 155 |
| Figure 5-1 – Pins Available for Reconfiguration over the Full-Featured Cable.....          | 161 |
| Figure 5-2 – Pins Available for Reconfiguration for Direct Connect Applications .....      | 161 |
| Figure 5-3 – USB/PCIe Dock Example.....  | 163 |
| Figure 5-4 – Managed Active Cable Plug SOP' and SOP" Assignment .....                      | 166 |
| Figure 5-5 – Managed Active Cable.....   | 166 |
| Figure A.1 – Example Passive 3,5 mm to USB Type-C Adapter.....                             | 171 |
| Figure A.2 – Example 3.5 mm to USB Type-C Adapter Supporting 500 mA Charge-Through.....    | 172 |
| <br>   |     |
| Table 2-1 – Summary of power supply options.....   | 27  |
| Table 3-1 – USB Type-C Standard Cable Assemblies .....                                     | 28  |
| Table 3-2 – USB Type-C Legacy Cable Assemblies .....                                       | 29  |
| Table 3-3 – USB Type-C Legacy Adapter Assemblies .....                                     | 30  |
| Table 3-4 – USB Type-C Receptacle Interface Pin Assignments .....                          | 53  |

|  |     |
|--|-----|
| Table 3-5 – USB Type-C Receptacle Interface Pin Assignments for USB 2.0-only Support .....                                       | 54  |
| Table 3-6 – USB Type-C Standard Cable Wire Assignments .....   | 56  |
| Table 3-7 – USB Type-C Cable Wire Assignments for Legacy Cables/Adapters .....   | 57  |
| Table 3-8 – Reference Wire Gauges for standard USB Type-C Cable Assemblies .....   | 58  |
| Table 3-9 – Reference Wire Gauges for USB Type-C to Legacy Cable Assemblies .....  | 58  |
| Table 3-10 – USB Full-Featured Type-C Standard Cable Assembly Wiring .....   | 59  |
| Table 3-11 – <i>USB 2.0</i> Type-C Standard Cable Assembly Wiring .....  | 60  |
| Table 3-12 – USB Type-C to <i>USB 3.1</i> Standard-A Cable Assembly Wiring .....   | 61  |
| Table 3-13 – USB Type-C to <i>USB 2.0</i> Standard-A Cable Assembly Wiring .....   | 62  |
| Table 3-14 – USB Type-C to <i>USB 3.1</i> Standard-B Cable Assembly Wiring .....   | 63  |
| Table 3-15 – USB Type-C to <i>USB 2.0</i> Standard-B Cable Assembly Wiring .....   | 64  |
| Table 3-16 – USB Type-C to <i>USB 2.0</i> Mini-B Cable Assembly Wiring .....   | 65  |
| Table 3-17 – USB Type-C to <i>USB 3.1</i> Micro-B Cable Assembly Wiring .....  | 66  |
| Table 3-18 – USB Type-C to <i>USB 2.0</i> Micro-B Cable Assembly Wiring .....  | 67  |
| Table 3-19 – USB Type-C to <i>USB 3.1</i> Standard-A Receptacle Adapter Assembly Wiring .....                                    | 68  |
| Table 3-20 – USB Type-C to <i>USB 2.0</i> Micro-B Receptacle Adapter Assembly Wiring .....                                       | 69  |
| Table 3-21 – Differential Insertion Loss Examples for USB SuperSpeed with Twisted Pair Construction .....                        | 70  |
| Table 3-22 – Differential Insertion Loss Examples for USB SuperSpeed with Coaxial Construction .....                             | 70  |
| Table 3-23 – Coupling Matrix for Low Speed Signals .....   | 82  |
| Table 3-24 – USB D+/D– Signal Integrity Requirements .....   | 86  |
| Table 3-25 – USB D+/D– Signal Integrity Requirements for USB Type-C to Legacy USB Cable Assemblies .....                         | 87  |
| Table 3-26 – Design Targets for USB Type-C to <i>USB 3.1</i> Gen 2 Legacy Cable Assemblies (Informative) .....                   | 87  |
| Table 3-27 – USB Type-C to <i>USB 3.1</i> Gen 2 Legacy Cable Assembly Signal Integrity Requirements (Normative) .....            | 88  |
| Table 3-28 – USB D+/D– Signal Integrity Requirements for USB Type-C to Legacy USB Adapter Assemblies (Normative) .....           | 90  |
| Table 3-29 – Design Targets for USB Type-C to <i>USB 3.1</i> Standard-A Adapter Assemblies (Informative) .....                   | 90  |
| Table 3-30 – USB Type-C to <i>USB 3.1</i> Standard-A Receptacle Adapter Assembly Signal Integrity Requirements (Normative) ..... | 91  |
| Table 3-31 – Environmental Test Conditions .....   | 97  |
| Table 3-32 – Reference Materials .....   | 98  |
| Table 4-1 – USB Type-C List of Signals .....   | 103 |
| Table 4-2 – VBUS Leakage .....   | 106 |
| Table 4-3 – VCONN Source Characteristics .....   | 106 |
| Table 4-4 – VCONN Sink Characteristics .....   | 107 |
| Table 4-5 – USB Type-C-based Port Interoperability .....   | 109 |
| Table 4-6 – Source Perspective .....   | 111 |
| Table 4-7 – Source and Sink Behaviors by State .....   | 112 |

|   |     |
|---|-----|
| Table 4-8 – USB PD Swapping Port Behavior Summary.....  | 116 |
| Table 4-9 – Source Port CC Pin State .....  | 122 |
| Table 4-10 – Sink Port CC Pin State .....   | 122 |
| Table 4-11 – Mandatory and Optional States .....  | 134 |
| Table 4-12 – Precedence of power source usage.....  | 145 |
| Table 4-13 – DFP CC Termination (Rp) Requirements .....   | 153 |
| Table 4-14 – UFP CC Termination (Rd) Requirements .....   | 154 |
| Table 4-15 – Powered Cable Termination Requirements.....  | 154 |
| Table 4-16 – UFP CC Termination Requirements.....   | 154 |
| Table 4-17 – SBU Termination Requirements .....   | 154 |
| Table 4-18 – VBUS and VCONN Timing Parameters.....  | 155 |
| Table 4-19 – DRP Timing Parameters .....  | 156 |
| Table 4-20 – CC Timing .....  | 156 |
| Table 4-21 – CC Voltages on Source Side – Default USB .....                                     | 156 |
| Table 4-22 – CC Voltages on Source Side – 1,5 A @ 5 V .....                                     | 156 |
| Table 4-23 – CC Voltages on Source Side – 3,0 A @ 5 V .....                                     | 157 |
| Table 4-24 – Voltage on Sink CC Pins (Default USB Type-C Current only) .....                    | 157 |
| Table 4-25 – Voltage on Sink CC pins (Multiple Source Current Advertisements) .....             | 157 |
| Table 4-26 – Summary of Ports and Behaviors by Product Type .....                               | 159 |
| Table 5-1 – USB Safe State Electrical Requirements .....  | 162 |
| Table 5-2 – USB Billboard Device Class Availability Following Alternate Mode Entry Failure..... | 162 |
| Table 5-3 – Alternate Mode Signal Noise Ingression Requirements.....                            | 162 |
| Table 5-4 – SOP' and SOP'' Timing .....   | 167 |
| Table A.1 – USB Type-C Analog Audio Pin Assignments .....                                       | 169 |
| Table A.2 – USB Type-C Analog Audio Pin Electrical Parameter Ratings .....                      | 170 |

## Specification Work Group Chairs / Specification Editors

Intel Corporation  
(USB 3.0 Promoter  
company)

Seagate

Yun Ling – Mechanical WG co-chair, Mechanical Chapter Co-editor  
Bob Dunstan – Functional WG co-chair, Specification Co-author  
Brad Saunders – Plenary/Functional WG chair, Specification Co-author

Alvin Cox, Mechanical WG co-chair, Mechanical Chapter Co-editor

## Specification Work Group Contributors

|   |                      |                    |                       |
|---|----------------------|--------------------|-----------------------|
| Advanced-Connectek, Inc.<br>(ACON)                                  | Glen Chandler        | Vicky Chuang       | Alan Tsai             |
|   | Jeff Chien           | Aven Kao           | Stephen Yang          |
|   | Lee (Dick Lee) Ching | Danny Liao         |                       |
|   | Conrad Choy          | Alan MacDougall    |                       |
| Advanced Micro Devices  | Steve Capezza        | Walter Fry         | Will Harris           |
| Agilent Technologies, Inc.  | James Choate         |                    |                       |
| Apple   | Mahmoud Amini        | William Ferry      | Nathan Ng             |
|   | Sree Anantharaman    | Zheng Gao          | James Orr             |
|   | Paul Baker           | Girault Jones      | Keith Porthouse       |
|   | Jason Chung          | Keong Kam          | Sascha Tietz          |
|   | David Conroy         | Min Kim            | Colin Whitby-Strevens |
|   | Bill Cornelius       | Chris Ligtenberg   | Dennis Yarak          |
|   |                      |                    |                       |
| Cypress Semiconductor   | Mark Fu              | Anup Nayak         | Sanjay Sancheti       |
|   | Rushil Kadakia       | Jagadeesan Raj     | Subu Sankaran         |
| Dell  | Mohammed Hijazi      | Sean O'Neal        | Thomas Voor           |
|   | David Meyers         | Ernesto Ramirez    |                       |
| DisplayLink (UK) Ltd.<br>Electronics Testing Center,<br>Taiwan      | Pete Burgers         | Richard Petrie     |                       |
|   | Sophia Liu           |                    |                       |
| Foxconn   | Asroc Chen           | Chien-Ping Kao     | Pei Tsao              |
|   | Allen Cheng          | Ji Li              | AJ Yang               |
|   | Jason Chou           | Ann Liu            | Yuan Zhang            |
|   | Edmond Choy          | Terry Little       | Jessica Zheng         |
|   | Bob Hall             | Steve Sedio        | Andy Yao              |
|   |                      |                    |                       |
| Foxlink/Cheng Uei Precision<br>Industry Co., Ltd.                   | Robert Chen          | Armando Lee        | Steve Tsai            |
|   | Sunny Chou           | Dennis Lee         | Wen Yang              |
|   | Carrie Chuang        | Justin Lin         | Wiley Yang            |
|   | Wen-Chuan Hsu        | Tse Wu Ting        | Junjie Yu             |
|   | Alex Hsue            |                    |                       |
| Google  | Joshua Boilard       | Nithya Jagannathan | David Schneider       |
|   | Jim Guerin           | Lawrence Lam       | Ken Wu                |
|   | Jeffrey Hayashida    | Ingrid Lin         |                       |
|   | Mark Hayter          | Adam Rodriguez     |                       |
| Granite River Labs<br>Hewlett Packard<br>(USB 3.0 Promoter company) | Mike Engbretson      | Johnson Tan        |                       |
|   | Alan Berkema         | Michael Krause     | Linden McClure        |
|   | Robin Castell        | Jim Mann           | Mike Pescetto         |

|   |   |   |  |
|---|---|---|--|
| Hirose Electric Co., Ltd.                               | Jeremy Buan<br>William MacKillop  | Gourgen Oganessyan  | Sid Tono   |
| Intel Corporation<br>(USB 3.0 Promoter company)         | Dave Ackelson<br>Mike Bell<br>Kuan-Yu Chen<br>Hengju Cheng<br>Bob Dunstan<br>Paul Durley<br>Howard Heck<br>Hao-Han Hsu<br>Abdul (Rahman) Ismail | James Jaussi<br>Luke Johnson<br>Jerzy Kolinski<br>Christine Krause<br>Yun Ling<br>Xiang Li<br>Guobin Liu<br>Steve McGowan | Chee Lim Nge<br>Sridharan Ranganathan<br>Brad Saunders<br>Amit Srivastava<br>Ron Swartz<br>Karthi Vadivelu<br>Rafal Wielicki |
| Japan Aviation Electronics<br>Industry Ltd. (JAE)       | Kenji Hagiwara<br>Masaki Kimura<br>Toshio Masumoto<br>Joe Motojima<br>Ron Muir<br>Tadashi Okubo<br>Kazuhiro Saito                               | Kimiaki Saito<br>Yuichi Saito<br>Mark Saubert<br>Toshio Shimoyama<br>Tatsuya Shioda<br>Atsuo Tago<br>Masaaki Takaku       | Jussi Takaneva<br>Tomohiko Tamada<br>Kentaro Toda<br>Kouhei Ueda<br>Takakazu Usami<br>Masahide Watanabe<br>Youhei Yokoyama   |
| JPC/Main Super Inc.                                     | Sam Tseng   | Ray Yang  |  |
| LeCroy Corporation                                      | Daniel H. Jacobs  |   |  |
| Lenovo  | Rob Bowser<br>Tomoki Harada   | Wei Lie   | Howard Locker  |
| Lotes Co., Ltd.   | Ariel Delos Reyes<br>Ernest Han<br>Mark Ho  | Regina Liu-Hwang<br>Max Lo<br>Charles Kaun  | JinYi Tu<br>Jason Yang   |
| LSI Corporation   | Dave Thompson   |   |  |
| Luxshare-ICT  | Josue Castillo<br>Daniel Chen<br>Lisen Chen   | CY Hsu<br>Alan Kinningham<br>John Lin   | Stone Lin<br>Pat Young   |
| MegaChips Corporation                                   | Alan Kobayashi  |   |  |
| Microchip (SMSC)  | Josh Averyt<br>Mark Bohm  | Donald Perkins  | Mohammed Rahman  |
| Microsoft Corporation<br>(USB 3.0 Promoter company)     | Randy Aull<br>Fred Bhesania<br>Anthony Chen<br>Marty Evans<br>Vivek Gupta<br>Robbie Harris  | Robert Hollyer<br>Kai Inha<br>Jayson Kastens<br>Andrea Keating<br>Eric Lee  | Ivan McCracken<br>Toby Nixon<br>Gene Obie<br>Srivatsan Ravindran<br>David Voth   |
| MQP Electronics Ltd.                                    | Sten Carlsen  | Pat Crowe   |  |
| Nokia Corporation                                       | Daniel Gratiot<br>Pekka Leinonen  | Samuli Makinen<br>Pekka Talmola   | Timo Toivola<br>Panu Ylihaavisto   |
| NXP Semiconductors                                      | Vijendra Kuroodi  | Guru Prasad   |  |
| Renesas Electronics Corp.<br>(USB 3.0 Promoter company) | Nobuo Furuya  | Philip Leung  | Kiichi Muto  |



|  |   |  |   |
|--|---|--|---|
| Rohm Co., Ltd.                                   | Mark Aaldering<br>Kris Bahar<br>Yusuke Kondo  | Arun Kumar<br>Chris Lin  | Takashi Sato<br>Hiroshi Yoshimura   |
| Samsung Electronics Co., Ltd.                    | Soondo Kim<br>Woonki Kim  | Jagoun Koo<br>Cheolho Lee  | Jun Bum Lee   |
| Seagate  | Alvin Cox<br>Tony Priborsky   | Tom Skaar  | Dan Smith   |
| STMicroelectronics<br>(USB 3.0 Promoter company) | Nicolas Florenchie<br>Joel Huloux   | Christophe Lorin<br>Patrizia Milazzo   | Federico Musarra<br>Pascal Legrand  |
| Tektronics, Inc.                                 | Randy White   |  |   |
| Texas Instruments<br>(USB 3.0 Promoter company)  | Jawaid Ahmad<br>Richard Hubbard<br>Scott Jackson<br>Yoon Lee<br>Grant Ley                         | Win Maung<br>Lauren Moore<br>Martin Patoka<br>Brian Quach<br>Wes Ray   | Anwar Sadat<br>Sue Vining<br>Deric Waters   |
| Tyco Electronics Corp.<br>(TE Connectivity Ltd.) | Max Chao<br>Robert E. Cid<br>Kengo Ijiro<br>Eiji Ikematsu<br>Joan Leu<br>Clark Li<br>Mike Lockyer | Jim McGrath<br>Takeshi Nakashima<br>Luis A. Navarro<br>Masako Saito<br>Yoshiaki Sakuma<br>Gavin Shih<br>Hiroshi Shirai | Scott Shuey<br>Hidenori Taguchi<br>Bernard Vetten<br>Ryan Yu<br>Sjoerd Zwartkruis |
| VIA Technologies Inc.                            | Terrance Shih   | Jay Tseng  | Fong-Jim Wang   |

### Pre-Release Draft Industry Reviewing Companies That Provided Feedback

|   |  |   |
|---|--|---|
| Aces  | Johnson Components & Equipment Co., Ltd.       | Parade Technology                                   |
| Allion Labs, Inc.                               | Joinsoon Electronics Mfg. Co. Ltd.             | Pericom   |
| Analogix Semiconductor                          | JST Mfg. Co., Ltd.                             | Qualcomm  |
| BizLink International Corp.                     | Korea Electric Terminal                        | Semtech Corporation                                 |
| Corning Optical Communications LLC              | Marvell Semiconductor                          | Shenzhen Deren Electronic Co., Ltd.                 |
| Cypress Semiconductor                           | Motorola Mobility LLC                          | Silicon Image                                       |
| Etron Technology Inc.                           | NEC  | Simula Technology Corp.                             |
| Fairchild Semiconductor                         | Newnex Technology Corp.                        | SMK Corporation                                     |
| Fujitsu Ltd.                                    | NXP Semiconductors                             | Sony Corporation                                    |
| Industrial Technology Research Institute (ITRI) | PalCONN/PalNova (Palpilot International Corp.) | Sumitomo Electric Industries<br>Toshiba Corporation |

### Revision History

| Revision | Date            | Description   |
|----------|-----------------|---|
| 1.0      | August 11, 2014 | Initial Release   |
| 1.1      | April 3, 2015   | Reprint release including incorporation of all approved ECNs as of the revision date plus editorial clean-up. |

## 1 Introduction

With the continued success of the USB interface, there exists a need to adapt USB technology to serve newer computing platforms and devices as they trend toward smaller, thinner and lighter form-factors. Many of these newer platforms and devices are reaching a point where existing USB receptacles and plugs are inhibiting innovation, especially given the relatively large size and internal volume constraints of the Standard-A and Standard-B versions of USB connectors. Additionally, as platform usage models have evolved, usability and robustness requirements have advanced and the existing set of USB connectors were not originally designed for some of these newer requirements. This specification is to establish a new USB connector ecosystem that addresses the evolving needs of platforms and devices while retaining all of the functional benefits of USB that form the basis for this most popular of computing device interconnects.

### 1.1 Purpose

This specification defines the USB Type-C™ receptacles, plug and cables.

The USB Type-C Cable and Connector Specification is guided by the following principles:

- Enable new and exciting host and device form-factors where size, industrial design and style are important parameters
- Work seamlessly with existing USB host and device silicon solutions
- Enhance ease of use for connecting USB devices with a focus on minimizing user confusion for plug and cable orientation

The USB Type-C Cable and Connector Specification defines a new receptacle, plug, cable and detection mechanisms that are compatible with existing USB interface electrical and functional specifications. This specification covers the following aspects that are needed to produce and use this new USB cable/connector solution in newer platforms and devices, and that interoperate with existing platforms and devices:

- USB Type-C receptacles, including electro-mechanical definition and performance requirements
- USB Type-C plugs and cable assemblies, including electro-mechanical definition and performance requirements
- USB Type-C to legacy cable assemblies and adapters
- USB Type-C-based device detection and interface configuration, including support for legacy connections
- USB Power Delivery optimized for the USB Type-C connector

The USB Type-C Cable and Connector Specification defines a standardized mechanism that supports Alternate Modes, such as repurposing the connector for docking-specific applications.

### 1.2 Scope

This specification is intended as a supplement to the existing [USB 2.0](#), [USB 3.1](#) and [USB Power Delivery](#) specifications. It addresses only the elements required to implement and support the USB Type-C receptacles, plugs and cables.

Normative information is provided to allow interoperability of components designed to this specification. Informative information, when provided, may illustrate possible design implementations.