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BSI Standards Publication

## Universal serial bus interfaces for data and power

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Part 1-3: Common components – USB Type-C™ Cable and Connector Specification (IEC 62680-1-3:2018)

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This British Standard is the UK implementation of EN IEC 62680-1-3:2018. It is identical to IEC 62680-1-3:2018. It supersedes BS EN 62680-1-3:2017, which will be withdrawn on 28 June 2021.

The UK participation in its preparation was entrusted to Technical Committee EPL/100, Audio, video and multimedia systems and equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

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(IEC 62680-1-3:2018)

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- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2019-03-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-06-28

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

### Part 1-3: Common components – USB Type-C™ Cable and Connector Specification

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This third edition cancels and replaces the second edition published in 2017 and constitutes a technical revision.

The text of this standard was prepared by the USB Implementers Forum (USB-IF). The structure and editorial rules used in this publication reflect the practice of the organization which submitted it.

The text of this International Standard is based on the following documents:

CDV	Report on voting
100/3011/CDV	100/3099/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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This standard is the USB-IF publication USB Type-C™ Cable and Connector Specification Revision 1.3 as of July 14, 2017.

The USB Implementers Forum, Inc.(USB-IF) is a non-profit corporation founded by the group of companies that developed the Universal Serial Bus specification. The USB-IF was formed to provide a support organization and forum for the advancement and adoption of Universal Serial Bus technology. The Forum facilitates the development of high-quality compatible USB peripherals (devices), and promotes the benefits of USB and the quality of products that have passed compliance testing.

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# **Universal Serial Bus Type-C Cable and Connector Specification**

**Release 1.3  
July 14, 2017**

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## CONTENTS

FOREWORD.....	2
INTRODUCTION.....	4
1 Introduction .....	20
1.1 Purpose .....	20
1.2 Scope .....	20
1.3 Related Documents.....	21
1.4 Conventions.....	21
1.4.1 Precedence .....	21
1.4.2 Keywords .....	21
1.4.3 Numbering.....	22
1.5 Terms and Abbreviations .....	22
2 Overview .....	25
2.1 Introduction.....	25
2.2 USB Type-C Receptacles, Plugs and Cables .....	26
2.3 Configuration Process.....	28
2.3.1 Source-to-Sink Attach/Detach Detection .....	28
2.3.2 Plug Orientation/Cable Twist Detection.....	28
2.3.3 Initial Power (Source-to-Sink) Detection and Establishing the Data (Host-to-Device) Relationship.....	29
2.3.4 USB Type-C VBUS Current Detection and Usage .....	30
2.3.5 USB PD Communication .....	30
2.3.6 Functional Extensions.....	30
2.4 VBUS .....	31
2.5 VCONN.....	31
2.6 Hubs.....	32
3 Mechanical .....	32
3.1 Overview .....	32
3.1.1 Compliant Connectors .....	32
3.1.2 Compliant Cable Assemblies .....	32
3.1.3 Compliant USB Type-C to Legacy Cable Assemblies.....	32
3.1.4 Compliant USB Type-C to Legacy Adapter Assemblies.....	33
3.2 USB Type-C Connector Mating Interfaces.....	34
3.2.1 Interface Definition .....	34
3.2.2 Reference Designs .....	56
3.2.3 Pin Assignments and Descriptions.....	64
3.3 Cable Construction and Wire Assignments.....	65
3.3.1 Cable Construction (Informative) .....	65
3.3.2 Wire Assignments.....	67
3.3.3 Wire Gauges and Cable Diameters (Informative) .....	68
3.4 Standard USB Type-C Cable Assemblies.....	70
3.4.1 USB Full-Featured Type-C Cable Assembly.....	70
3.4.2 USB 2.0 Type-C Cable Assembly .....	71
3.4.3 USB Type-C Captive Cable Assemblies.....	72

3.5	Legacy Cable Assemblies .....	72
3.5.1	USB Type-C to <i>USB 3.1</i> Standard-A Cable Assembly .....	73
3.5.2	USB Type-C to <i>USB 2.0</i> Standard-A Cable Assembly .....	75
3.5.3	USB Type-C to <i>USB 3.1</i> Standard-B Cable Assembly .....	76
3.5.4	USB Type-C to <i>USB 2.0</i> Standard-B Cable Assembly .....	78
3.5.5	USB Type-C to <i>USB 2.0</i> Mini-B Cable Assembly .....	79
3.5.6	USB Type-C to <i>USB 3.1</i> Micro-B Cable Assembly .....	80
3.5.7	USB Type-C to <i>USB 2.0</i> Micro-B Cable Assembly .....	82
3.6	Legacy Adapter Assemblies .....	83
3.6.1	USB Type-C to <i>USB 3.1</i> Standard-A Receptacle Adapter Assembly .....	83
3.6.2	USB Type-C to <i>USB 2.0</i> Micro-B Receptacle Adapter Assembly .....	85
3.7	Electrical Characteristics .....	86
3.7.1	Raw Cable (Informative) .....	86
3.7.2	USB Type-C to Type-C Passive Cable Assemblies (Normative) .....	87
3.7.3	Mated Connector (Informative) .....	101
3.7.4	USB Type-C to Legacy Cable Assemblies (Normative) .....	105
3.7.5	USB Type-C to USB Legacy Adapter Assemblies (Normative) .....	109
3.7.6	Shielding Effectiveness Requirements (Normative) .....	112
3.7.7	DC Electrical Requirements (Normative) .....	114
3.8	Mechanical and Environmental Requirements (Normative) .....	117
3.8.1	Mechanical Requirements .....	117
3.8.2	Environmental Requirements .....	123
3.9	Docking Applications (Informative) .....	125
3.10	Implementation Notes and Design Guides .....	126
3.10.1	EMC Management (Informative) .....	126
3.10.2	Stacked and Side-by-Side Connector Physical Spacing (Informative) .....	128
3.10.3	Cable Mating Considerations (Informative) .....	129
4	Functional .....	130
4.1	Signal Summary .....	130
4.2	Signal Pin Descriptions .....	131
4.2.1	SuperSpeed USB Pins .....	131
4.2.2	USB 2.0 Pins .....	131
4.2.3	Auxiliary Signal Pins .....	131
4.2.4	Power and Ground Pins .....	131
4.2.5	Configuration Pins .....	131
4.3	Sideband Use (SBU) .....	132
4.4	Power and Ground .....	132
4.4.1	IR Drop .....	132
4.4.2	VBUS .....	133
4.4.3	VCONN .....	134
4.5	Configuration Channel (CC) .....	138
4.5.1	Architectural Overview .....	138
4.5.2	CC Functional and Behavioral Requirements .....	153
4.5.3	USB Port Interoperability Behavior .....	182
4.6	Power .....	195

4.6.1	Power Requirements during USB Suspend .....	196
4.6.2	VBUS Power Provided Over a USB Type-C Cable.....	197
4.7	USB Hubs .....	201
4.8	Power Sourcing and Charging.....	201
4.8.1	DFP as a Power Source.....	202
4.8.2	Non-USB Charging Methods .....	205
4.8.3	Sinking Host .....	205
4.8.4	Sourcing Device .....	205
4.8.5	Charging a System with a Dead Battery.....	205
4.8.6	USB Type-C Multi-Port Chargers .....	205
4.9	Electronically Marked Cables .....	208
4.9.1	Parameter Values .....	209
4.9.2	Active Cables .....	209
4.10	VCONN-Powered Accessories (VPAs) and VCONN-Powered USB Devices (VPDs) .....	209
4.10.1	VCONN-Powered Accessories (VPAs) .....	210
4.10.2	VCONN-Powered USB Devices (VPDs) .....	210
4.11	Parameter Values .....	210
4.11.1	Termination Parameters .....	210
4.11.2	Timing Parameters .....	213
4.11.3	Voltage Parameters .....	216
5	Functional Extensions .....	217
5.1	Alternate Modes.....	217
5.1.1	Alternate Mode Architecture .....	217
5.1.2	Alternate Mode Requirements.....	218
5.1.3	Parameter Values .....	222
5.1.4	Example Alternate Mode – USB DisplayPort™ Dock.....	223
5.2	Managed Active Cables .....	225
5.2.1	Requirements for Managed Active Cables that respond to SOP' and SOP" .....	225
5.2.2	Cable Message Structure .....	226
5.2.3	Modal Cable Management .....	226
A	Audio Adapter Accessory Mode .....	228
A.1.	Overview .....	228
A.2.	Detail .....	228
A.3.	Electrical Requirements .....	230
A.4.	Example Implementations .....	231
A.4.1.	Passive 3.5 mm to USB Type-C Adapter – Single Pole Detection Switch .....	231
A.4.2.	3.5 mm to USB Type-C Adapter Supporting 500 mA Charge-Through.....	231
B	Debug Accessory Mode .....	233
B.1.	Overview .....	233
B.2.	Functional.....	233
B.2.1.	Signal Summary .....	235
B.2.2.	Port Interoperability .....	235
B.2.3.	Debug Accessory Mode Entry .....	235
B.2.4.	Connection State Diagrams .....	236
B.2.5.	DTS Port Interoperability Behavior.....	246

B.2.6.	Orientation Detection .....	257
B.3.	Security/Privacy Requirements: .....	257
C	USB Type-C Digital Audio.....	258
C.1.	Overview .....	258
C.2.	USB Type-C Digital Audio Specifications .....	258

## FIGURES

Figure 2-1	USB Type-C Receptacle Interface (Front View).....	26
Figure 2-2	USB Full-Featured Type-C Plug Interface (Front View) .....	26
Figure 3-1	USB Type-C Receptacle Interface Dimensions.....	37
Figure 3-2	Reference Design USB Type-C Plug External EMC Spring Contact Zones .....	40
Figure 3-3	USB Full-Featured Type-C Plug Interface Dimensions .....	41
Figure 3-4	Reference Footprint for a USB Type-C Vertical Mount Receptacle (Informative) .	44
Figure 3-5	Reference Footprint for a USB Type-C Dual-Row SMT Right Angle Receptacle (Informative) .....	45
Figure 3-6	Reference Footprint for a USB Type-C Hybrid Right-Angle Receptacle (Informative) .....	46
Figure 3-7	Reference Footprint for a USB Type-C Mid-Mount Dual-Row SMT Receptacle (Informative) .....	47
Figure 3-8	Reference Footprint for a USB Type-C Mid-Mount Hybrid Receptacle (Informative) .....	48
Figure 3-9	Reference Footprint for a USB 2.0 Type-C Through Hole Right Angle Receptacle (Informative).....	49
Figure 3-10	Reference Footprint for a USB 2.0 Type-C Single Row Right Angle Receptacle (Informative).....	50
Figure 3-11	USB 2.0 Type-C Plug Interface Dimensions .....	52
Figure 3-12	USB Type-C Plug EMC Shielding Spring Tip Requirements .....	55
Figure 3-13	Reference Design of Receptacle Mid-Plate .....	56
Figure 3-14	Reference Design of the Retention Latch .....	57
Figure 3-15	Illustration of the Latch Soldered to the Paddle Card Ground .....	57
Figure 3-16	Reference Design of the USB Full-Featured Type-C Plug Internal EMC Spring .	58
Figure 3-17	Reference Design of the USB 2.0 Type-C Plug Internal EMC Spring .....	59
Figure 3-18	Reference Design of Internal EMC Pad .....	61
Figure 3-19	Reference Design of a USB Type-C Receptacle with External EMC Springs .....	62
Figure 3-20	Reference Design for a USB Full-Featured Type-C Plug Paddle Card .....	63
Figure 3-21	Illustration of a USB Full-Featured Type-C Cable Cross Section, a Coaxial Wire Example with VCONN.....	66
Figure 3-22	Illustration of a USB Full-Featured Type-C Cable Cross Section, a Coaxial Wire Example without VCONN .....	66
Figure 3-23	USB Full-Featured Type-C Standard Cable Assembly .....	70
Figure 3-24	USB Type-C to USB 3.1 Standard-A Cable Assembly .....	73
Figure 3-25	USB Type-C to USB 2.0 Standard-A Cable Assembly .....	75

Figure 3-26	USB Type-C to <i>USB 3.1</i> Standard-B Cable Assembly .....	76
Figure 3-27	USB Type-C to <i>USB 2.0</i> Standard-B Cable Assembly .....	78
Figure 3-28	USB Type-C to <i>USB 2.0</i> Mini-B Cable Assembly .....	79
Figure 3-29	USB Type-C to <i>USB 3.1</i> Micro-B Cable Assembly .....	80
Figure 3-30	USB Type-C to <i>USB 2.0</i> Micro-B Cable Assembly .....	82
Figure 3-31	USB Type-C to <i>USB 3.1</i> Standard-A Receptacle Adapter Assembly .....	83
Figure 3-32	USB Type-C to <i>USB 2.0</i> Micro-B Receptacle Adapter Assembly.....	85
Figure 3-33	Illustration of Test Points for a Mated Cable Assembly.....	87
Figure 3-34	Recommended Differential Insertion Loss Requirement .....	88
Figure 3-35	Recommended Differential Return Loss Requirement .....	88
Figure 3-36	Recommended Differential Crosstalk Requirement.....	89
Figure 3-37	Recommended Differential Near-End and Far-End Crosstalk Requirement between USB D+/D- Pair and USB SuperSpeed Pair.....	89
Figure 3-38	Illustration of Insertion Loss Fit at Nyquist Frequency .....	90
Figure 3-39	Input Pulse Spectrum.....	91
Figure 3-40	IMR Limit as Function of ILfitatNq .....	92
Figure 3-41	IRL Limit as Function of ILfitatNq .....	94
Figure 3-42	Differential-to-Common-Mode Conversion Requirement .....	95
Figure 3-43	Requirement for Differential Coupling between CC and D+/D- .....	96
Figure 3-44	Requirement for Single-Ended Coupling between CC and D- in USB 2.0 Type-C Cables.....	97
Figure 3-45	Requirement for Single-Ended Coupling between CC and D- in USB Full- Featured Type-C Cables.....	97
Figure 3-46	Requirement for Differential Coupling between VBUS and D+/D- .....	98
Figure 3-47	Requirement for Single-Ended Coupling between SBU_A and SBU_B .....	99
Figure 3-48	Requirement for Single-Ended Coupling between SBU_A/SBU_B and CC .....	99
Figure 3-49	Requirement for Coupling between SBU_A and differential D+/D-, and SBU_B and differential D+/D-.....	100
Figure 3-50	Illustration of USB Type-C Mated Connector .....	101
Figure 3-51	Recommended Impedance Limits of a USB Type-C Mated Connector .....	102
Figure 3-52	Recommended Ground Void Dimensions for USB Type-C Receptacle.....	103
Figure 3-53	Recommended Differential Near-End and Far-End Crosstalk Limits between D+/D- Pair and SuperSpeed Pairs.....	105
Figure 3-54	Recommended Limits for Differential-to-Common-Mode Conversion .....	105
Figure 3-55	IMR Limit as Function of ILfitatNq for USB Type-C to Legacy Cable Assembly	108
Figure 3-56	IRL Limit as Function of ILfitatNq for USB Type-C to Legacy Cable Assembly.	109
Figure 3-57	Cable Assembly Shielding Effectiveness Testing .....	112
Figure 3-58	Shielding Effectiveness Pass/Fail Criteria .....	113
Figure 3-59	LLCR Measurement Diagram .....	114
Figure 3-60	Temperature Measurement Point .....	116
Figure 3-61	Example Current Rating Test Fixture Trace Configuration.....	117

Figure 3-62 Example of 4-Axis Continuity Test Fixture .....	119
Figure 3-63 Example Wrenching Strength Test Fixture for Plugs without Overmold.....	121
Figure 3-64 Reference Wrenching Strength Continuity Test Fixture .....	122
Figure 3-65 Example of Wrenching Strength Test Mechanical Failure Point .....	123
Figure 3-66 Wrenching Strength Test with Cable in Fixture .....	123
Figure 3-67 USB Type-C Cable Receptacle Flange Example .....	126
Figure 3-68 EMC Guidelines for Side Latch and Mid-plate .....	127
Figure 3-69 EMC Finger Connections to Plug Shell.....	127
Figure 3-70 EMC Pad Connections to Receptacle Shell.....	128
Figure 3-71 Examples of Connector Apertures .....	128
Figure 3-72 Recommended Minimum Spacing between Connectors.....	129
Figure 3-73 Recommended Minimum Plug Overmold Clearance .....	129
Figure 3-74 Cable Plug Overmold and an Angled Surface.....	130
Figure 4-1 Cable IR Drop .....	132
Figure 4-2 Cable IR Drop for powered cables .....	133
Figure 4-3 Logical Model for Data Bus Routing across USB Type-C-based Ports.....	140
Figure 4-4 Logical Model for USB Type-C-based Ports for the Direct Connect Device.....	140
Figure 4-5 Pull-Up/Pull-Down CC Model .....	142
Figure 4-6 Current Source/Pull-Down CC Model .....	142
Figure 4-7 Source Functional Model for CC1 and CC2.....	145
Figure 4-8 Source Functional Model Supporting USB PD PR_Swap.....	146
Figure 4-9 Sink Functional Model for CC1 and CC2 .....	147
Figure 4-10 Sink Functional Model Supporting USB PD PR_Swap and VCONN_Swap.....	148
Figure 4-11 DRP Functional Model for CC1 and CC2.....	149
Figure 4-12 Connection State Diagram: Source .....	154
Figure 4-13 Connection State Diagram: Sink.....	155
Figure 4-14 Connection State Diagram: Sink with Accessory Support .....	156
Figure 4-15 Connection State Diagram: DRP .....	157
Figure 4-16 Connection State Diagram: DRP with Accessory and Try.SRC Support.....	158
Figure 4-17 Connection State Diagram: DRP with Accessory and Try.SNK Support .....	159
Figure 4-18 Sink Power Sub-States .....	175
Figure 4-19 Passive Cable eMarker State Diagram .....	177
Figure 4-20 Active Cable eMarker State Diagram.....	177
Figure 4-21 Source to Sink Functional Model.....	182
Figure 4-22 Source to DRP Functional Model .....	183
Figure 4-23 DRP to Sink Functional Model.....	185
Figure 4-24 DRP to DRP Functional Model – CASE 1 .....	186
Figure 4-25 DRP to DRP Functional Model – CASE 2 & 3.....	187
Figure 4-26 Source to Source Functional Model.....	190
Figure 4-27 Sink to Sink Functional Model.....	190

Figure 4-28	DRP to VPD Model .....	191
Figure 4-29	Source to Legacy Device Port Functional Model .....	192
Figure 4-30	Legacy Host Port to Sink Functional Model .....	193
Figure 4-31	DRP to Legacy Device Port Functional Model .....	194
Figure 4-32	Legacy Host Port to DRP Functional Model.....	195
Figure 4-33	Sink Monitoring for Current in Pull-Up/Pull-Down CC Model.....	198
Figure 4-34	Sink Monitoring for Current in Current Source/Pull-Down CC Model.....	199
Figure 4-35	USB PD over CC Pins.....	200
Figure 4-36	USB PD BMC Signaling over CC.....	200
Figure 4-37	USB Type-C Cable's Output as a Function of Load for Non-PD-based USB Type-C Charging .....	203
Figure 4-38	0 – 3 A USB PD-based Charger USB Type-C Cable's Output as a Function of Load .....	204
Figure 4-39	3 – 5 A USB PD-based Charger USB Type-C Cable's Output as a Function of Load .....	204
Figure 4-40	Electronically Marked Cable with VCONN connected through the cable .....	208
Figure 4-41	Electronically Marked Cable with SOP' at both ends .....	209
Figure 4-42	DRP Timing .....	214
Figure 5-1	Pins Available for Reconfiguration over the Full-Featured Cable .....	219
Figure 5-2	Pins Available for Reconfiguration for Direct Connect Applications .....	219
Figure 5-3	Alternate Mode Implementation using a USB Type-C to USB Type-C Cable.....	220
Figure 5-4	Alternate Mode Implementation using a USB Type-C to Alternate Mode Cable or Device .....	221
Figure 5-5	USB DisplayPort Dock Example .....	223
Figure 5-6	Managed Active Cable .....	226
Figure A-1	Example Passive 3.5 mm to USB Type-C Adapter .....	231
Figure A-2	Example 3.5 mm to USB Type-C Adapter Supporting 500 mA Charge-Through .....	233
Figure B-1	USB Type-C Debug Accessory Layered Behavior .....	234
Figure B-2	DTS Plug Interface .....	235
Figure B-3	Connection State Diagram: DTS Source .....	237
Figure B-4	Connection State Diagram: DTS Sink .....	238
Figure B-5	Connection State Diagram: DTS DRP .....	239
Figure B-6	TS Sink Power Sub-States .....	244

## TABLES

Table 2-1	Summary of power supply options.....	31
Table 3-1	USB Type-C Standard Cable Assemblies .....	32
Table 3-2	USB Type-C Legacy Cable Assemblies .....	33
Table 3-3	USB Type-C Legacy Adapter Assemblies.....	34
Table 3-4	USB Type-C Receptacle Interface Pin Assignments .....	64
Table 3-5	USB Type-C Receptacle Interface Pin Assignments for USB 2.0-only Support .....	65

Table 3-6	USB Type-C Standard Cable Wire Assignments .....	67
Table 3-7	USB Type-C Cable Wire Assignments for Legacy Cables/Adapters .....	68
Table 3-8	Reference Wire Gauges for standard USB Type-C Cable Assemblies .....	69
Table 3-9	Reference Wire Gauges for USB Type-C to Legacy Cable Assemblies.....	69
Table 3-10	USB Full-Featured Type-C Standard Cable Assembly Wiring .....	71
Table 3-11	USB 2.0 Type-C Standard Cable Assembly Wiring .....	72
Table 3-12	USB Type-C to USB 3.1 Standard-A Cable Assembly Wiring.....	74
Table 3-13	USB Type-C to USB 2.0 Standard-A Cable Assembly Wiring.....	75
Table 3-14	USB Type-C to USB 3.1 Standard-B Cable Assembly Wiring.....	77
Table 3-15	USB Type-C to USB 2.0 Standard-B Cable Assembly Wiring.....	78
Table 3-16	USB Type-C to USB 2.0 Mini-B Cable Assembly Wiring .....	79
Table 3-17	USB Type-C to USB 3.1 Micro-B Cable Assembly Wiring .....	81
Table 3-18	USB Type-C to USB 2.0 Micro-B Cable Assembly Wiring .....	82
Table 3-19	USB Type-C to USB 3.1 Standard-A Receptacle Adapter Assembly Wiring .....	84
Table 3-20	USB Type-C to USB 2.0 Micro-B Receptacle Adapter Assembly Wiring.....	85
Table 3-21	Differential Insertion Loss Examples for USB SuperSpeed with Twisted Pair Construction .....	86
Table 3-22	Differential Insertion Loss Examples for USB SuperSpeed with Coaxial Construction .....	87
Table 3-23	Electrical Requirements for CC and SBU wires .....	95
Table 3-24	Coupling Matrix for Low Speed Signals .....	96
Table 3-25	Maximum Mutual Inductance (M) between VBUS and Low Speed Signal Lines....	98
Table 3-26	USB D+/D– Signal Integrity Requirements for USB Type-C to USB Type-C Passive Cable Assemblies .....	100
Table 3-27	USB Type-C Mated Connector Recommended Signal Integrity Characteristics (Informative) .....	104
Table 3-28	USB D+/D– Signal Integrity Requirements for USB Type-C to Legacy USB Cable Assemblies .....	106
Table 3-29	Design Targets for USB Type-C to USB 3.1 Gen 2 Legacy Cable Assemblies (Informative) .....	107
Table 3-30	USB Type-C to USB 3.1 Gen 2 Legacy Cable Assembly Signal Integrity Requirements (Normative) .....	107
Table 3-31	USB D+/D– Signal Integrity Requirements for USB Type-C to Legacy USB Adapter Assemblies (Normative).....	110
Table 3-32	Design Targets for USB Type-C to USB 3.1 Standard-A Adapter Assemblies (Informative) .....	110
Table 3-33	USB Type-C to USB 3.1 Standard-A Receptacle Adapter Assembly Signal Integrity Requirements (Normative).....	111
Table 3-34	Current Rating Test PCB.....	116
Table 3-35	Force and Moment Requirements.....	120
Table 3-36	Environmental Test Conditions.....	124
Table 3-37	Reference Materials .....	125
Table 4-1	USB Type-C List of Signals.....	130

Table 4-2	VBUS Source Characteristics .....	133
Table 4-3	VBUS Sink Characteristics .....	134
Table 4-4	USB Type-C Source Port's VCONN Requirements Summary .....	135
Table 4-5	VCONN Source Characteristics.....	135
Table 4-6	Cable VCONN Sink Characteristics.....	136
Table 4-7	VCONN-Powered Accessory (VPA) Sink Characteristics .....	137
Table 4-8	VCONN-Powered USB Device (VPD) Sink Characteristics .....	138
Table 4-9	USB Type-C-based Port Interoperability.....	141
Table 4-10	Source Perspective .....	143
Table 4-11	Source (Host) and Sink (Device) Behaviors by State .....	144
Table 4-12	USB PD Swapping Port Behavior Summary.....	151
Table 4-13	Power Role Behavioral Model Summary.....	152
Table 4-14	Source Port CC Pin State.....	160
Table 4-15	Sink Port CC Pin State .....	160
Table 4-16	Mandatory and Optional States .....	180
Table 4-17	Precedence of power source usage.....	196
Table 4-18	USB Type-C Current Advertisement and PDP Labeling .....	198
Table 4-19	SOP' and SOP'' Timing.....	209
Table 4-20	Source CC Termination (Rp) Requirements.....	211
Table 4-21	Sink CC Termination (Rd) Requirements.....	211
Table 4-22	Powered Cable Termination Requirements.....	211
Table 4-23	Sink CC Termination Requirements.....	212
Table 4-24	SBU Termination Requirements .....	212
Table 4-25	VBUS and VCONN Timing Parameters .....	213
Table 4-26	DRP Timing Parameters.....	214
Table 4-27	CC Timing.....	215
Table 4-28	CC Voltages on Source Side – Default USB .....	216
Table 4-29	CC Voltages on Source Side – 1.5 A @ 5 V .....	216
Table 4-30	CC Voltages on Source Side – 3.0 A @ 5 V .....	216
Table 4-31	Voltage on Sink CC Pins (Default USB Type-C Current only) .....	216
Table 4-32	Voltage on Sink CC pins (Multiple Source Current Advertisements).....	217
Table 5-1	USB Safe State Electrical Requirements .....	222
Table 5-2	USB Billboard Device Class Availability Following Alternate Mode Entry Failure .....	222
Table 5-3	Alternate Mode Signal Noise Ingression Requirements .....	222
Table A-1	USB Type-C Analog Audio Pin Assignments .....	229
Table A-2	USB Type-C Analog Audio Pin Electrical Parameter Ratings.....	230
Table B-1	DTS to TS Port Interoperability .....	235
Table B-2	Rp/Rp Charging Current Values for a DTS Source .....	244
Table B-3	Mandatory and Optional States.....	246

## Specification Work Group Chairs / Specification Editors

Intel Corporation (USB 3.0 Promoter company)	Yun Ling – Mechanical WG co-chair, Mechanical Chapter Co-editor Brad Saunders – Plenary/Functional WG chair, Specification Co-author
Renesas Electronics Corp. (USB 3.0 Promoter company)	Bob Dunstan – Functional WG co-chair, Specification Co-author
Seagate	Alvin Cox, Mechanical WG co-chair, Mechanical Chapter Co-editor

## Specification Work Group Contributors

Advanced-Connectek, Inc. (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		
Analogix Semiconductor, Inc.	Mehran Badii	Greg Stewart	
Apple Inc. (USB 3.0 Promoter company)	Mahmoud Amini	Zheng Gao	Keith Porthouse
	Sree Anantharaman	Girault Jones	Sascha Tietz
	Paul Baker	Keong Kam	Jennifer Tsai
	Jason Chung	Min Kim	Colin Whitby- Strevens
	David Conroy	Chris Ligtenberg	Dennis Yarak
	Bill Cornelius	Nathan Ng	
	William Ferry	James Orr	
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.	Pete Burgers		
Electronics Testing Center, Taiwan	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
	Fred Fons	Steve Sedio	Andy Yao
	Bob Hall		
Foxlink/Cheng Uei Precision 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	Mark Hayter	Adam Rodriguez
	Alec Berg	Nithya Jagannathan	David Schneider
	Todd Broch	Lawrence Lam	Ken Wu
	Jim Guerin	Ingrid Lin	
	Jeffrey Hayashida	Richard Palatin	
Granite River Labs	Mike Engbretson	Johnson Tan	
Hewlett Packard Inc. (USB 3.0 Promoter company)	Alan Berkema	Michael Krause	Linden McClure
	Robin Castell	Jim Mann	Mike Pescetto
Hirose Electric Co., Ltd.	Jeremy Buan	Gourgen Oganessyan	Sid Tono
	William MacKillop		
Intel Corporation (USB 3.0 Promoter company)	Dave Ackelson	Luke Johnson	Chee Lim Nge
	Mike Bell	Jerzy Kolinski	Sridharan Ranganathan
	Kuan-Yu Chen	Rolf Kuhniss	Brad Saunders
	Hengju Cheng	Christine Krause	Amit Srivastava
	Paul Durley	Henrik Leegaard	Ron Swartz
	Howard Heck	Yun Ling	Karthi Vadivelu
	Hao-Han Hsu	Xiang Li	Rafal Wielicki
	Abdul (Rahman) Ismail	Guobin Liu	
	James Jaussi	Steve McGowan	
		Sankaran Menon	
Japan Aviation Electronics Industry Ltd. (JAE)	Kenji Hagiwara	Kimiaki Saito	Jussi Takaneva
	Masaki Kimura	Yuichi Saito	Tomohiko Tamada
	Toshio Masumoto	Mark Saubert	Kentaro Toda
	Joe Motojima	Toshio Shimoyama	Kouhei Ueda
	Ron Muir	Tatsuya Shioda	Takakazu Usami
	Tadashi Okubo	Atsuo Tago	Masahide Watanabe
	Kazuhiro Saito	Masaaki Takaku	Youhei Yokoyama
	Sam Tseng	Ray Yang	
JPC/Main Super Inc.			
LeCroy Corporation	Daniel H. Jacobs		
Lenovo	Rob Bowser	Wei Liu	Howard Locker
	Tomoki Harada		
Lotes Co., Ltd.	Ariel Delos Reyes	Regina Liu-Hwang	John Lynch
	Ernest Han	Charles Kaun	JinYi Tu
	Mark Ho	Max Lo	Jason Yang
LSI Corporation	Dave Thompson		
Luxshare-ICT	Josue Castillo	CY Hsu	Stone Lin
	Daniel Chen	Alan Kinningham	Pat Young
	Lisen Chen	John Lin	
MegaChips Corporation	Alan Kobayashi		
Microchip (SMSC)	Josh Averyt	Donald Perkins	Mohammed Rahman
	Mark Bohm	Richard Petrie	

Microsoft Corporation (USB 3.0 Promoter company)	Randy Aull	Robert Hollyer	Ivan McCracken
	Fred Bhesania	Kai Inha	Toby Nixon
	Anthony Chen	Jayson Kastens	Gene Obie
	Marty Evans	Andrea Keating	Srivatsan Ravindran
	Vivek Gupta	Eric Lee	David Voth
	Robbie Harris		
Monolithic Power Systems	Chris Sporck		
MQP Electronics Ltd.	Sten Carlsen	Pat Crowe	
Nokia Corporation	Daniel Gratiot	Samuli Makinen	Timo Toivola
	Pekka Leinonen	Pekka Talmola	Panu Ylihaavisto
NXP Semiconductors	Vijendra Kuroodi	Guru Prasad	
Renesas Electronics Corp. (USB 3.0 Promoter company)	Bob Dunstan	Philip Leung	Kiichi Muto
	Nobuo Furuya		
Rohm Co., Ltd.	Mark Aaldering	Arun Kumar	Takashi Sato
	Kris Bahar	Chris Lin	Hiroshi Yoshimura
	Yusuke Kondo		
Samsung Electronics Co., Ltd.	Cheolyoon Chung	Woonki Kim	Cheolho Lee
	Soondo Kim	Jagoun Koo	Jun Bum Lee
Seagate	Alvin Cox	Tom Skaar	Dan Smith
	Tony Priborsky		
SiliConch Systems Private Limited	Jaswanth Ammineni	Aniket Mathad	Rakesh Polasa
	Pavitra Balasubramanian	Shubham Paliwal	Abhishek Sardeshpande
	Kaustubh K		
STMicroelectronics (USB 3.0 Promoter company)	Nathalie Ballot	Christophe Lorin	Federico Musarra
	Nicolas Florenchie	Patrizia Milazzo	Pascal Legrand
	Joel Huloux		
Tektronix, Inc.	Randy White		
Texas Instruments (USB 3.0 Promoter company)	Jawaid Ahmad	Win Maung	Anwar Sadat
	Richard Hubbard	Lauren Moore	Sue Vining
	Scott Jackson	Martin Patoka	Deric Waters
	Yoon Lee	Brian Quach	
	Grant Ley	Wes Ray	
Tyco Electronics Corp. (TE Connectivity Ltd.)	Max Chao	Jim McGrath	Scott Shuey
	Robert E. Cid	Takeshi Nakashima	Hidenori Taguchi
	Kengo Ijiri	Luis A. Navarro	Bernard Vetten
	Eiji Ikematsu	Masako Saito	Ryan Yu
	Joan Leu	Yoshiaki Sakuma	Sjoerd Zwartkruis
	Clark Li	Gavin Shih	
	Mike Lockyer	Hiroshi Shirai	
VIA Technologies Inc.	Terrance Shih	Jay Tseng	Fong-Jim Wang

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

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

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Revision	Date	Description
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1.1	April 3, 2015	Reprint release including incorporation of all approved ECNs as of the revision date plus editorial clean-up.
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## 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.