Human Interface Device (HID)

***Bluetooth*®** **Implementation Conformance Statement (ICS) Proforma**

- **Revision:** HID.ICS.p10
- **Revision Date:** 2025-07-08
- **Prepared By:** BTI
- **Published during TCRL:** TCRL.pkg100

Contents

1   General principles

1.1   Implementation Under Test (IUT) identification

Using the Bluetooth SIG qualification tool, the implementer is expected to declare details about what will be implemented.

1.2   Enforcement of inter-layer dependencies

This ICS includes one or more tables with inter-layer dependencies (ILDs). ILDs are used for specification requirements that are dependent on other supporting specifications. ILDs can refer to an individual ICS item in a separate layer (individual ILD), or it can refer to the full layer (full-layer ILD).

ILDs residing in an X2Core layer will be enforced from the Bluetooth SIG qualification tool in the following conditions, depending on where the referred ILD is residing:

Referred ILD resides in	Individual ILD	Full-layer ILD
Controller layer	Core-Complete configuration, or Referred layer is supported	N/A
Lower HCI layer	HCI is supported	N/A
Upper HCI layer	Core-Host configuration, or UHCI is supported	N/A
Host layer	Core-Host configuration, or Core-Complete configuration, or Referred layer is supported	N/A
X2Core layer	Core-Host configuration, or Core-Complete configuration, or Referred layer is supported	Core-Host configuration, or Core-Complete configuration

Table 1.1: Enforcement of an ILD within the Bluetooth SIG qualification tool

2 ICS declarations

2.1 Versions

Table 0: X.Y Versions

Item	Version	Reference	Status
1	HID v1.0	[1]	M

Note: HID v1.1 ICS is contained in a separate document.

2.2 Core Configuration

Table 0a: Core Configuration Requirements

Item	Core Configuration	Reference	Status
1	Profile supported over BR/EDR	[1] 3.1	C.1, C.3
2	Profile supported over LE	[1] 3.1	C.2

C.1: Excluded for this Profile IF CORE 41/2 "LE Core Configuration".

C.2: Excluded for this Profile.

C.3: Mandatory for this Profile.

2.3 Roles

Table 1: Role Requirements

Item	Role	Reference	Status
1	Host, Report protocol	[1] 3.3, 5	C.1
2	Device	[1] 3.3, 6	C.1
3	Host, Boot protocol	[1] 3.3, 5	C.1

C.1: Mandatory to support at least one.

2.4 Host Role

2.4.1 Application Procedures

Table 2: Application Procedures

Prerequisite: HID 1/1 "Host, Report protocol" OR HID 1/3 "Host, Boot protocol"

Item	Capability	Reference	Status
1	Establish HID connection	[1] 7.1.1	C.1
2	Accept HID connection	[1] 7.1.1	C.1
3	Terminate HID connection	[1] 7.1.1	C.1
4	Accept Termination of HID connection	[1] 7.1.1	C.1
5	Support for virtual cables	[1] 6.4	C.1
6	HID initiated reconnection	[1] 6.4	C.1
7	Host initiated reconnection	[1] 6.4	C.1
8	Host data transfer to HID	[1] 7.1.4	C.1
9	HID data transfer to Host	[1] 7.1.3	C.1

Item	Capability	Reference	Status
10	HID Boot mode data transfer to Host	[1] 7.2.1	C.2
11	Host Boot mode data transfer to HID	[1] 7.2.1	C.2
12	Support for Application to send GET_REPORT	[1] 7.4.3	O
13	Support for Application to send SET_REPORT	[1] 7.4.4	O
14	Support for sending HCI_CONTROL with VIRTUAL_CABLE_UNPLUG	[1] 7.4.2	C.3
15	Support for receiving HCI_CONTROL with VIRTUAL_CABLE_UNPLUG	[1] 7.4.2	C.3

C.1: Mandatory IF HID 1/1 "Host, Report protocol", otherwise Optional.

C.2: Mandatory IF HID 1/3 "Host, Boot protocol", otherwise Optional.

C.3: Optional IF HID 2/5 "Support for virtual cables", otherwise Excluded.

2.4.2 HID Protocol Procedures

2.4.2.1 Device to Host Transfers

Table 3: Device to Host Transfers

Prerequisite: HID 1/1 "Host, Report protocol" OR HID 1/3 "Host, Boot protocol"

Item	Capability	Reference	Status
1	Data reports larger than host MTU on Control channel	[1] 7.4.10	O
2	Data reports larger than host MTU on Interrupt channel	[1] 7.4.10	C.1
3	Data reports to host	[1] 7.4.9	C.1
4	Boot mode reports to host	[1] 7.2.1	C.2

C.1: Excluded IF HID 1/3 "Host, Boot protocol", otherwise Mandatory IF HID 2/12 "Support for Application to send GET_REPORT", otherwise Optional.

C.2: Mandatory IF HID 1/3 "Host, Boot protocol", otherwise Optional.

2.4.2.2 Host to Device Transfers

Table 4: Host to Device Transfers

Prerequisite: HID 1/1 "Host, Report protocol" OR HID 1/3 "Host, Boot protocol"

Item	Capability	Reference	Status
1	Data reports larger than device MTU on Control channel	[1] 7.4.10	C.1
2	Data reports larger than device MTU on Interrupt channel	[1] 7.4.10	C.1
3	Data reports to device	[1] 7.4.9	C.2
4	Boot mode reports to device	[1] 7.2.1	O

C.1: Excluded IF HID 1/3 "Host, Boot protocol", otherwise Optional.

C.2: Excluded IF HID 1/3 "Host, Boot protocol", otherwise Mandatory.

2.4.2.3 HID Control Commands

Table 5: HID Control Commands

Prerequisite: HID 1/1 "Host, Report protocol" OR HID 1/3 "Host, Boot protocol"

Item	Capability	Reference	Status
1	Set_Protocol command	[1] 7.4.6	C.1, C.4
2	Get_Protocol command	[1] 7.4.5	C.1, C.4
3	Set_Idle command	[1] 7.4.8	O
4	Get_Idle command	[1] 7.4.7	O
5	Set_Report command	[1] 7.4.4	C.2
6	Get_Report command	[1] 7.4.3	C.3

C.1:   Mandatory IF HID 1/3 "Host, Boot protocol", otherwise Optional.

C.2:   Mandatory IF HID 1/1 "Host, Report protocol" AND HID 2/13 "Support for Application to send SET_REPORT", otherwise Excluded.

C.3:   Mandatory IF HID 1/1 "Host, Report protocol" AND HID 2/12 "Support for Application to send GET_REPORT", otherwise Excluded.

C.4:   Mandatory to support none or all.

2.4.3 LMP Requirements

Table 6: LMP Requirements

Prerequisite: HID 1/1 "Host, Report protocol" OR HID 1/3 "Host, Boot protocol"

Item	Capability	Reference	Status	Inter-Layer Dependency
1–7	No longer used	N/A	N/A	N/A
8	Role switch	[1] 9	C.4	[3] LMP 2/6
9	Request role switch	[1] 9	C.4	[3] LMP 13/1
10–11	No longer used	N/A	N/A	N/A
12	Sniff mode	[1] 9	C.4	[3] LMP 2/8
13	No longer used	N/A	N/A	N/A

C.1–C.3:   No longer used.

C.4:   Mandatory IF HID 1/1 "Host, Report protocol", otherwise not defined.

Table 7: No longer used

2.5 HID Role

Table 8: HID Device Types

Prerequisite: HID 1/2 "Device"

Item	Capability	Reference	Status
1	Pointing HID	[1] 6	C.1
2	Keyboard HID	[1] 6	C.1
3	Identification HID	[1] 6	C.1

Item	Capability	Reference	Status
4	Other HID	[1] 6	C.1

C.1:   Mandatory to support at least one.

2.5.1   Application Procedures

Table 9: Application Procedures

Prerequisite: HID 1/2 "Device"

Item	Capability	Reference	Status
1	Establish HID connection	[1] 7.1.1	O
2	Accept HID connection	[1] 7.1.1	M
3	Terminate HID connection	[1] 7.1.1	O
4	Accept Termination of HID connection	[1] 7.1.1	M
5	Support for virtual cables	[1] 6.4	O
6	HID initiated reconnection	[1] 6.4	C.1
7	Host initiated reconnection	[1] 6.4	C.1
8	Host data transfer to HID	[1] 7.1.4	C.2
9	HID data transfer to Host	[1] 7.1.3	C.2
10	HID Boot mode data transfer to Host	[1] 7.2.1	C.3
11	Host Boot mode data transfer to HID	[1] 7.2.1	C.4
12	Output reports declared	[1] 7.4.4	C.4
13	Input reports declared	[1] 7.4.3	C.3
14	Feature reports declared	[1] 7.4.3, 7.4.4	O
15	Support for sending HCI_CONTROL with VIRTUAL_CABLE_UNPLUG	[1] 7.4.2	C.5
16	Support for receiving HCI_CONTROL with VIRTUAL_CABLE_UNPLUG	[1] 7.4.2	C.5

C.1:   Mandatory to support at least one IF HID 9/5 "Support for virtual cables", otherwise Excluded.
C.2:   Mandatory to support at least one.
C.3:   Mandatory IF HID 8/1 "Pointing HID" OR HID 8/2 "Keyboard HID", otherwise Excluded.
C.4:   Mandatory IF HID 8/2 "Keyboard HID", otherwise Excluded.
C.5:   Optional IF HID 9/5 "Support for virtual cables", otherwise Excluded.

2.5.2   HID Protocol Procedures

2.5.2.1   Device to Host Transfers

Table 10: Device to Host Transfers

Prerequisite: HID 9/13 "Input reports declared" OR HID 9/14 "Feature reports declared"

Item	Capability	Reference	Status
1	Data reports larger than host MTU on Control channel	[1] 7.4.10	O
2	Data reports larger than host MTU on Interrupt channel	[1] 7.4.10	O
3	Data reports to host	[1] 7.4.9	O
4	Boot mode reports to host	[1] 7.2.1	C.1

C.1: Mandatory IF HID 8/1 "Pointing HID" OR HID 8/2 "Keyboard HID", otherwise Optional IF HID 8/3 "Identification HID" OR HID 8/4 "Other HID", otherwise Excluded.

2.5.2.2 Host to Device Transfers

Table 11: Host to Device Transfers

Prerequisite: HID 9/12 "Output reports declared" OR HID 9/14 "Feature reports declared"

Item	Capability	Reference	Status
1	Data reports larger than device MTU on Control channel	[1] 7.4.10	O
2	Data reports larger than device MTU on Interrupt channel	[1] 7.4.10	O
3	Data reports to device	[1] 7.4.9	O
4	Boot mode reports to device	[1] 7.2.1	C.1

C.1: Mandatory IF HID 8/2 "Keyboard HID", otherwise Optional IF HID 8/1 "Pointing HID" OR HID 8/3 "Identification HID" OR HID 8/4 "Other HID", otherwise Excluded.

2.5.2.3 HID Control Commands

Table 12: HID Control Commands

Prerequisite: HID 1/2 "Device"

Item	Capability	Reference	Status
1	Set_Protocol command	[1] 7.4.6	C.1, C.5
2	Get_Protocol command	[1] 7.4.5	C.1, C.5
3	Set_Idle command	[1] 7.4.8	C.2
4	Get_Idle command	[1] 7.4.7	C.2
5	Set_Report command	[1] 7.4.4	C.3
6	Get_Report command	[1] 7.4.3	C.4

C.1: Mandatory IF HID 8/1 "Pointing HID" OR HID 8/2 "Keyboard HID", otherwise Optional IF HID 8/3 "Identification HID" OR HID 8/4 "Other HID", otherwise Excluded.

C.2: Mandatory IF HID 8/2 "Keyboard HID", otherwise Optional IF HID 8/1 "Pointing HID" OR HID 8/3 "Identification HID" OR HID 8/4 "Other HID", otherwise Excluded.

C.3: Mandatory IF HID 9/12 "Output reports declared" OR HID 9/14 "Feature reports declared", otherwise Excluded.

C.4: Mandatory IF HID 9/13 "Input reports declared" OR HID 9/14 "Feature reports declared", otherwise Excluded.

C.5: Mandatory to support none or all.

2.5.3 LMP Requirements

Table 13: LMP Requirements

Prerequisite: HID 1/2 "Device"

Item	Capability	Reference	Status	Inter-Layer Dependency
1–7	No longer used	N/A	N/A	N/A
8	Role switch	[1] 9	C.3	[3] LMP 2/6
9–13	No longer used	N/A	N/A	N/A

C.1–C.2: No longer used.

C.3:   Mandatory IF HID 9/6 "HID initiated reconnection", otherwise not defined.

Table 14: No longer used

2.5.4   SDP Requirements

Table 15: SDP Requirements

Prerequisite: HID 1/2 "Device"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Server	[1] 7.13	M	[2] SDP 1b/1
2	LanguageBaseAttributeIdList	[1] 7.13	M	[2] SDP 9/6
3	ServiceClassIDList	[1] 7.11	M	[2] SDP 9/19
4	ProtocolDescriptorList	[1] 7.11	M	[2] SDP 9/2
5	BluetoothProfileDescriptorList	[1] 7.11	M	[2] SDP 9/14
6	AdditionalProtocolDescriptorList	[1] 7.11	M	[2] SDP 9/17

3 References

[1]   Human Interface Device (HID), Version 1.0

[2]   ICS Proforma for Service Discovery Protocol (SDP)

[3]   ICS Proforma for Link Manager Profile (LMP)

4   Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
	0.9	2002/02/16	Initial release
	0.9a	2002/03/05	Additions and clarifications and removal of unnecessary references to other layer features
	0.95draft	2002/12/20	Incorporated changes from erratum E2577: Table 3.4.3: Changed HOLD to mandatory for devices. Reformatted table to remove separate column for keyboards. Table 3.3.4:Changed inquiry scan to X for host to match profile spec Table 3.4.4: Changed inquiry to X for device to match profile spec
	0.95draftA	2003/03/10	3.2: Added Identification HID type 3.4.4: Inquiry changed from excluded to optional 3.4.3: Updated paragraph references in footnote C1 Added declaration of GAP and L2CAP conformance
0	1.0	2003/04/06	Removed mandatory HOLD mode for devices in accordance with HID Profile Specification 1.0 Final release for use with 1.0 Profile Specification
	1.0.1r1	2005/01/12	Editorial and format changes. Change document numbering format.
1	1.0.1	2005/01/19	Incorporate review comments for release.
	1.0.2r1	2005/06/20	Incorporate TSE 799 to accommodate boot mode hosts
2	1.0.2	2005/09/27	Accept changes. Prepare for publication.
	1.0.3r0	2006/12/01	TSE 1797: Change Table 3.3.2.3 (Table 5 after TSE 1979 is implemented) TSE 1856: Update C1. for Table 3.3.2.3 (5) and 3.4.2.3 (13) TSE 1979: Number tables consecutively
3	1.0.3	2007/01/10	Prepare for publication.
	1.0.4r0	2008/02/01	TSE 2308: Change Table 1 description and footnote TSE 2468: Add prerequisites to Tables 2,4, 6, and 7
4	1.0.4	2008/04/01	Prepare for publication.
	1.0.5r0	2008/07/29	TSE: 2648: Aligned table numbers with TPG; Aligned Table 1 items with TPG Table 1. Removed duplicate table 17, moved Tables 8 and 9 to end.
	1.0.5r1-4	2008/08/09 – 2008/11/21	Further edits based on feedback in TSE 2648 comments. TSE 2582: Additions to Tables 2, 5, 9, and 12 TSE 2562: TP/HCE/BV-02-I optional Removed 15 and 16.
5	1.0.5	2008/12/04	Prepare for publication.

Publication Number	Revision Number	Date	Comments
	1.0.6r0	2011/04/14	TSE 3343: Change Table 3/1 to O TSE 3878: Duplicate of TSE 3343 TSE 4227: 13/1, 13/2 TSE 3317: Table 2, add rows 14, 15. Table 9, add rows 15, 16 TSE 3318: Table 2, footnote C.1 TSE 3958: Table 3 Footnote C.1
6	1.0.6	2011/07/21	Prepare for publication.
	1.0.7r00	2014/05/01	TSE 5473: Removed references to X and N/A in Notation Conventions, Changed PICS to ICS, Updated O.1 to C.1, Updated text for Table 1 C.1, Revised Table 2 prerequisite, Rewrote conditionals to match current conditional language and conventions, Added Table 5 C.4, Updated 5/1 and 5/2 to include C.4, Updated 5/5 to be C.3, Updated Table 6 C.1, Renamed Table 6 M.1 to C.4, Updated 6/8, 6/9, 6/10 and 6/12 to C.4, Updated Table 7 M.1 to be C.1, Updated Table 7 X to C.2, Updated Table 8 C.1, Updated Table 9 C.1 and C.2. Added prerequisties to Table 10, 11, 12, 13, and 14, Added C.5 to Table 12 and updated 12/1 and 12/2, Made 13/3 and 13/4 "No Longer Used", Updated Table 13 C.1.
	1.0.7r01	2014/06/06	BQRB Review, Alicia: Editorial corrections
7	1.0.7	2014/07/07	TCRL 2014-1 Publication
	1.0.8r00	2017-04-07	TSE 8414: Template conversion, some references updated, and Table 0 added.
8	1.0.8	2017-07-03	Approved by BTI. Prepared for TCRL 2017-1 publication.
	p9r00–r02	2022-10-31 – 2022-12-02	TSE 20398 (rating 1): Updated to align with current ICS conventions/template. Removed Support columns and "is supported" language. In Table 0, updated the table title, reference, and note. In Table 1, updated the table title, references, C.1, and the capability of Item 2. In Tables 2 and 5, updated the prerequisite, references, and C.1–C.4. In Tables 3 and 4, updated the prerequisite, references, C.1, and C.2. In Table 6, added an ILD column; updated the prerequisite, C.4, and Items 8, 9, and 12; and marked Items 1–7, 10–11, and 13 and C.1–C.3 as no longer used. Marked Tables 7 and 14 as no longer used. In Table 8, updated the table title, prerequisite, references, and C.1. In Tables 9 and 12, updated the prerequisite, references, and C.1–C.5. In Tables 10 and 11, updated the prerequisite, references, and C.1. In Table 13, added an ILD column; updated the table title, prerequisite, C.3, and Item 8; and marked Items 1–7 and 9–13 and C.1–C.2 as no longer used. In Table 15, updated the table title, prerequisite, and references; updated the capability for Item 1; and added an ILD column. Updated the references list.

Publication Number	Revision Number	Date	Comments
			Added a Publication Number column to the Revision History. Revised the document numbering convention, setting the last release publication of 1.0.8 as p8. Performed additional template-related formatting fixes. Replaced the Bluetooth logo in the footer and updated the copyright page to align with v2 of the DNMD.
9	p9	2023-02-07	Approved by BTI on 2022-12-19. Prepared for TCRL 2022-2 publication.
	p10r00	2025-02-26	TSE 27005 (rating 2): Updated Table 0 title. Added "Core Configuration" section and Table 0a. Updated conditional C.1 for Tables 1 and 8. Deleted Table 2 C.4. Updated Table 5 C.4. Updated Table 9 C.1 and C.2. Updated Table 12 C.5. Applied the current ICS template.
10	p10	2025-07-08	Approved by BTI on 2025-05-30. Prepared for TCRL pkg100 publication.

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