Hearing Access Service (HAS)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

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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	HAS v1.0	[1]	M

Table 1: X.Y.Z Versions

Item	Version	Reference	Status
1	HAS v1.0.1	[3]	O

2.2 Transports

Table 2: Transport Requirements

Item	Transport	Reference	Status
1	Service supported over BR/EDR	[1] 1.5	C.1
2	Service supported over LE	[1] 1.5	C.2, C.3

C.1: Excluded for this Service.
C.2: Excluded for this Service IF CORE 41/1 “BR/EDR Core Configuration” OR CORE 40/1 “Core-Controller”.
C.3: Mandatory for this Service.

2.3 Service requirements

2.3.1 Hearing Access Service

Table 3: Hearing Access Service

Item	Capability	Reference	Status
1	Hearing Aid Preset Control Point Characteristic	[1] 3.2	O
1a	Hearing Aid Preset Control Point Characteristic Notifications	[1] 3	C.5
2	Active Preset Index Characteristic	[1] 3.3	C.1
3	Hearing Aid Features Characteristic	[1] 3.1	M
4	Hearing Aid Features Characteristic Notification	[1] 3.1	C.2
5	Preset Synchronization Support	[1] 3.1	O
6	Dynamic Presets	[1] 3.1	O
7	Writable Presets	[1] 3.1	O
8	Independent Presets	[1] 3.1	O
9	Binaural Hearing Aid	[1] 3.1	C.3
10	Monaural Hearing Aid	[1] 3.1	C.3
11	Banded Hearing Aid	[1] 3.1	C.3
12	One or More Writable Preset Records	[1] 3.1	C.4

Item	Capability	Reference	Status
13	One or More Not Writable Preset Records	[1] 3.1	O
14	One or More Not Available Preset Records	[1] 3.1	O

C.1: Mandatory IF HAS 3/1 “Hearing Aid Preset Control Point Characteristic”, otherwise Excluded.
C.2: Optional IF HAS 3/3 “Hearing Aid Features Characteristic”, otherwise Excluded.
C.3: Mandatory to support at least one.
C.4: Optional IF HAS 3/7 “Writable Presets”, otherwise Excluded.
C.5: Optional IF HAS 5/6 “Enhanced ATT bearer over LE”, otherwise Excluded.

Table 4: Hearing Aid Preset Control Point Requirements

Prerequisite: HAS 3/1 “Hearing Aid Preset Control Point Characteristic”

Item	Capability	Reference	Status
1	Read Presets Request Procedure	[1] 3.2.2.1	M
2	Read Preset Response Procedure	[1] 3.2.2.1	M
3	Preset Changed Procedure	[1] 3.2.2.2	C.2
4	Write Preset Name Procedure	[1] 3.2.2.3	C.1
5	Set Active Preset Procedure	[1] 3.2.2.4	M
6	Set Next Preset Procedure	[1] 3.2.2.5	M
7	Set Previous Preset Procedure	[1] 3.2.2.6	M
8	Set Active Preset – Synchronized Locally Procedure	[1] 3.2.2.7	C.3
9	Set Next Preset – Synchronized Locally Procedure	[1] 3.2.2.8	C.3
10	Set Previous Preset – Synchronized Locally Procedure	[1] 3.2.2.9	C.3

C.1: Mandatory IF HAS 3/7 “Writable Presets”, otherwise Excluded.
C.2: Mandatory IF HAS 3/6 “Dynamic Presets”, otherwise Excluded.
C.3: Mandatory IF HAS 3/5 “Preset Synchronization Support”, otherwise Excluded.

2.4 GATT requirements

Table 5: GATT Requirements

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Write Characteristic Value	[1] 1.4	C.1	[2] GATT 4/14
2	Single Notification	[1] 1.4	C.2	[2] GATT 4/17
3	Indication	[1] 1.4	C.1	[2] GATT 4/18
4	Read Characteristic Descriptor	[1] 1.4	C.1	[2] GATT 4/19
5	Write Characteristic Descriptor	[1] 1.4	C.1	[2] GATT 4/21
6	Enhanced ATT bearer over LE	[1] 3	O	[2] GATT 2/3a
7	GATT Server over LE	[1] 1.4	M	[2] GATT 1a/3

C.1: Mandatory IF HAS 3/1 “Hearing Aid Preset Control Point Characteristic”, otherwise Optional.
C.2: Mandatory IF HAS 3/1a “Hearing Aid Preset Control Point Characteristic Notifications”, otherwise not defined.

3 References

[1] Hearing Access Service Specification, Version 1.0 or later

[2] ICS Proforma for Generic Attribute Profile (GATT)

[3] Hearing Access Service Specification, Version 1.0.1

4 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	p0	2022-06-14	Adopted by the BoD on 2022-06-07. Prepared for initial publication.
	p1r00–r01	2024-12-18 – 2025-01-02	TSE 26910 (rating 1): Per E19133, E23816, and E25541, added Table 1 to account for HAS v1.0.1 as part of the .Z release. Updated the references list. Editorial updates to align with the current ICS template and for consistency in C.3 for Table 3 and Items 5/2 and 5/6.
1	p1	2025-02-18	Approved by BTI on 2025-02-09. HAS v1.0.1 adopted by the BoD on 2024-02-11. Prepared for TCRL 2025-1 publication.
	p2r00–r02	2025-02-19 – 2025-04-22	TSE 26841 (rating 2): Added Item 7 to Table 5. TSE 27306 (rating 1): Updated the Status value for HAS 2/2. Added conditionals C.2 and C.3 to Table 2.
2	p2	2025-07-08	Approved by BTI on 2025-05-30. Prepared for TCRL pkg100 publication.
	p3r00–r01	2025-12-05 – 2026-01-14	TSE 28372 (rating 1): Updated the conditions in the transport table to make sure the layer is excluded when the design is an implementation of the Core-Controller Configuration by adding "OR CORE 40/1 “Core-Controller”" to an already excluded transport based on Core Configuration support.
3	p3	2026-02-17	Approved by BTI on 2026-01-26. Prepared for TCRL pkg102 publication.

Acknowledgments

Name	Company
Gene Chang	Bluetooth SIG, Inc.