Hearing Access Profile (HAP) (HAP)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

- **Revision:** HAP.ICS.p6
- **Revision Date:** 2026-02-17
- **Prepared By:** Hearing Aid Working Group
- **Published during TCRL:** TCRL.pkg102

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 Roles

Table 1: Role Requirements

Item	Role	Reference	Status
1	Hearing Aid (HA)	[1] 3	C.1
2	Hearing Aid Unicast Client (HAUC)	[1] 4	C.1
3	Hearing Aid Remote Controller (HARC)	[1] 5	C.1
4	Immediate Alert Client (IAC)	[1] 6	C.2

C.1:   Mandatory to support at least one.

C.2:   Optional IF HAP 1/2 "Hearing Aid Unicast Client (HAUC)" OR HAP 1/3 "Hearing Aid Remote Controller (HARC)", otherwise Excluded.

2.2 Transports

Table 2: Transport Requirements

Item	Transport	Reference	Status
1	Profile supported over BR/EDR	[1] 2.5	C.1
2	Profile supported over LE	[1] 2.5	C.2, C.3

C.1:   Excluded for this Profile.

C.2:   Excluded for this Profile IF CORE 41/1 "BR/EDR Core Configuration" OR CORE 40/1 "Core-Controller".

C.3:   Mandatory for this Profile.

2.3 Hearing Aid role

2.3.1 Versions

Table 10: Hearing Aid, X.Y Versions

Prerequisite: HAP 1/1 "Hearing Aid (HA)"

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

Table 11: Hearing Aid, X.Y.Z Versions

Prerequisite: HAP 1/1 "Hearing Aid (HA)"

Item	Version	Reference	Status
1	HAP v1.0.1	[14]	O

2.3.2 Features

Table 12: Hearing Aid, Features

Prerequisite: HAP 1/1 "Hearing Aid (HA)"

Item	Capability	Reference	Status
1	Volume Balance	[1] 3.1	O
2	Binaural Hearing Aid Set	[1] 3.1	C.1
3	Banded Hearing Aid	[1] 3.5	C.1
4	Monaural Hearing Aid	[1] 3.5	C.1
5	Connected Isochronous Stream	[1] 3.2	M
6	Broadcast Isochronous Stream	[1] 3.2	M
7	7.5 ms Transport Interval	[1] 3.2	O

C.1: Mandatory to support at least one.

2.3.3 Profile and service dependencies

Table 13: Hearing Aid, Profile Dependencies

Prerequisite: HAP 1/1 "Hearing Aid (HA)"

Item	Service	Reference	Status	Inter-Layer Dependency
1	Call Control Client (CCP)	[1] 2.2	O	[9] CCP 1/2
2	Volume Renderer (VCP)	[1] 2.2	M	[5] VCP 1/1
3	Microphone Device (MICP)	[1] 2.2	C.1	[6] MICP 1/1
4	Set Member (CSIP)	[1] 2.2	C.2	[7] CSIP 1/1
5	Unicast Server (BAP)	[1] 2.2	M	[10] BAP 1/1
6	Acceptor (CAP)	[1] 2.2	M	[11] CAP 1/1
7	Broadcast Sink (BAP)	[1] 2.2	M	[10] BAP 1/4

C.1: Mandatory IF HAP 19/2 "Audio Source", otherwise not defined.
C.2: Mandatory IF HAP 12/2 "Binaural Hearing Aid Set", otherwise not defined.

Table 14: Hearing Aid, Service Dependencies

Prerequisite: HAP 1/1 "Hearing Aid (HA)"

Item	Service	Reference	Status	Inter-Layer Dependency
1	Hearing Access Service (HAS)	[1] 3.5.1	M	[12] HAS
2	Immediate Alert Service (IAS)	[1] 3.5.3	O	[13] IAS
3	Coordinated Set Identification Service (CSIS)	[1] 3.6	C.1	[8] CSIS

C.1: Mandatory IF HAP 12/2 "Binaural Hearing Aid Set", otherwise not defined.

2.3.4 Feature requirements in dependent services

2.3.4.1 CCP Client requirements

Table 15: Hearing Aid, CCP Client Requirements

Table number reserved but not yet in use

2.3.4.2 VCP Volume Renderer requirements

Table 16: Hearing Aid, VCP Volume Renderer Requirements

Prerequisite: HAP 13/2 "Volume Renderer (VCP)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Volume Offset Control Service	[1] 3.8	C.1	[5] VCP 5/2
2	Audio Input Control Service	[1] 3.8	O	[5] VCP 5/3

C.1: Mandatory IF HAP 12/1 "Volume Balance", otherwise not defined.

2.3.4.3 MICP Microphone Device requirements

Table 17: Hearing Access, MICP Microphone Device Requirements

Prerequisite: HAP 13/3 "Microphone Device (MICP)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Microphone Control Service	[1] 3.9	M	[5] MICP 5/1

2.3.4.4 CSIP Set Member requirements

Table 18: Hearing Aid, CSIP Set Member Requirements

Prerequisite: HAP 13/4 "Set Member (CSIP)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Coordinated Set Size Characteristic	[1] 3.6	M	[8] CSIS 2/2

2.3.4.5 BAP Unicast Server requirements

Table 19: Hearing Aid, BAP Unicast Server Requirements

Prerequisite: HAP 13/5 "Unicast Server (BAP)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Audio Sink	[1] 3.7	M	[10] BAP 8/1
2	Audio Source	[1] 3.7	O	[10] BAP 8/2

2.3.4.6 CAP Acceptor requirements

Table 20: Hearing Aid, CAP Acceptor Requirements

Table number reserved but not yet in use

2.3.4.7 Hearing Access Service requirements

Table 21: Hearing Aid, Hearing Access Service Requirements

Table number reserved but not yet in use

2.3.4.8 Immediate Alert Service requirements

Table 22: Hearing Access, Immediate Alert Service Requirements

Table number reserved but not yet in use

2.3.4.9 Coordinated Set Identification Service requirements

Table 23: Hearing Access, Coordinated Set Identification Service Requirements

Table number reserved but not yet in use

2.3.5 Feature requirements in Core layers

2.3.5.1 GAP requirements

Table 24: Hearing Aid, GAP Requirements

Prerequisite: HAP 1/1 "Hearing Aid (HA)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Unauthenticated Pairing (LE security mode 1 level 2) with LE Secure Connections Pairing only	[1] 9.1	M	[4] GAP 25/11
2	Minimum 128-bit entropy key	[1] 9.1	M	[4] GAP 25/13
3	Service UUID	[1] 3.3	O	[4] GAP 20a/1
4	Appearance	[1] 3.4	O	[4] GAP 20a/11
5	Resolvable private address generation procedure	[1] 3.4	O	[4] GAP 26/3
6	LE Secure Connections	[1] 9.1	M	[4] GAP 27b/5

Table 25: No longer used

2.3.5.2 Link Layer requirements

Table 26: Hearing Aid, LL Requirements

Prerequisite: HAP 1/1 "Hearing Aid (HA)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	LE 2M PHY	[1] 3.2	M	[3] LL 9/7

2.4 Hearing Aid Unicast Client role

2.4.1 Versions

Table 40: Hearing Aid Unicast Client, X.Y Versions

Prerequisite: HAP 1/2 "Hearing Aid Unicast Client (HAUC)"

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

Table 41: Hearing Aid Unicast Client, X.Y.Z Versions

Prerequisite: HAP 1/2 "Hearing Aid Unicast Client (HAUC)"

Item	Version	Reference	Status
1	HAP v1.0.1	[14]	O

2.4.2 Features

Table 42: Hearing Aid Unicast Client, Features

Table number reserved but not yet in use

2.4.3 Profile and service dependencies

Table 43: Hearing Aid Unicast Client, Profile Dependencies

Prerequisite: HAP 1/2 "Hearing Aid Unicast Client (HAUC)"

Item	Service	Reference	Status	Inter-Layer Dependency
1	Call Control Server (CCP)	[1] 2.2	O	[9] CCP 1/1
2	Set Coordinator (CSIP)	[1] 2.2	M	[7] CSIP 1/2
3	Unicast Client (BAP)	[1] 2.2	M	[10] BAP 1/2
4	Initiator (CAP)	[1] 2.2	M	[11] CAP 1/2

2.4.4   Feature requirements in dependent profiles and services

2.4.4.1   CCP Server requirements

Table 44: Hearing Aid Unicast Client, CCP Server Requirements

Table number reserved but not yet in use

2.4.4.2   CSIP Set Coordinator requirements

Table 45: Hearing Aid Unicast Client, CCP Server Requirements

Table number reserved but not yet in use

2.4.4.3   BAP Unicast Client requirements

Table 46: Hearing Aid Unicast Client, BAP Unicast Client Requirements

Prerequisite: HAP 43/3 "Unicast Client (BAP)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Audio Source	[1] 5.3	M	[10] BAP 29/2
2	Audio Sink	[1] 5.3	C.1	[10] BAP 29/1

C.1:   Mandatory IF HAP 43/1 "Call Control Server (CCP)", otherwise not defined.

Tables 47 – 48: No longer used

2.4.4.4   CAP Initiator

Table 49: Hearing Aid Unicast Client, CCP Server Requirements

Table number reserved but not yet in use

2.4.5   Feature requirements in Core layers

2.4.5.1   GATT requirements

Table 50: GATT Requirements – Hearing Aid Unicast Client Role

Prerequisite: HAP 1/2 "Hearing Aid Unicast Client (HAUC)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Discover All Primary Services	[1] 4.2	C.1	[2] GATT 3/2
2	Discover Primary Service by Service UUID	[1] 4.2	C.1	[2] GATT 3/3
3	GATT Client over LE	[1] 4.2	M	[10] GATT 1a/1

C.1:   Mandatory to support at least one.

2.4.5.2 Link Layer requirements

Table 51: Hearing Aid Unicast Client, LL Requirements

Prerequisite: HAP 1/2 "Hearing Aid Unicast Client (HAUC)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	LE 2M PHY	[1] 5.1	M	[3] LL 9/7

2.5 Hearing Aid Remote Controller role

2.5.1 Versions

Table 70: Hearing Aid Remote Controller, X.Y Versions

Prerequisite: HAP 1/3 "Hearing Aid Remote Controller (HARC)"

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

Table 71: Hearing Aid Remote Controller, X.Y.Z Versions

Prerequisite: HAP 1/3 "Hearing Aid Remote Controller (HARC)"

Item	Version	Reference	Status
1	HAP v1.0.1	[14]	O

2.5.2 Features

2.5.2.1 Characteristic Discovery requirements

Table 72: Hearing Aid Remote Controller, Characteristic Discovery Requirements

Prerequisite: HAP 1/3 "Hearing Aid Remote Controller (HARC)"

Item	Capability	Reference	Status
1	Active Preset Index Characteristic	[1] 5.6	O
2	Hearing Aid Preset Control Point Characteristic	[1] 5.5	C.1
3	Hearing Aid Features Characteristic	[1] 5.4	C.2
4	Hearing Aid Features Characteristic, Notifications	[1] 5.4	C.3

C.1: Mandatory IF HAP 72/1 "Active Preset Index Characteristic", otherwise Optional.

C.2: Mandatory IF HAP 72/2 "Hearing Aid Preset Control Point Characteristic", otherwise Excluded.

C.3: Optional IF HAP 72/3 "Hearing Aid Features Characteristic", otherwise Excluded.

2.5.2.2 Preset Control Point requirements

Table 73: Hearing Aid Remote Controller, Preset Control Point Requirements

Prerequisite: HAP 72/2 "Hearing Aid Preset Control Point Characteristic"

Item	Capability	Reference	Status
1	Write Preset Name Procedure	[1] 5.5.4	O
2	Set Active Preset Procedure	[1] 5.5.5	C.3
3	Set Next Preset Procedure	[1] 5.5.6	C.3
4	Set Previous Preset Procedure	[1] 5.5.7	C.3
5	Set Active Preset – Synchronized Locally Procedure	[1] 5.5.8	C.4
6	Set Next Preset – Synchronized Locally Procedure	[1] 5.5.9	C.5
7	Set Previous Preset – Synchronized Locally Procedure	[1] 5.5.10	C.6
8	Read Preset by Index Procedure	[1] 5.5.2	C.2
9	Preset Changed Procedure	[1] 5.5.3	C.1

C.1: Mandatory IF HAP 73/1 "Write Preset Name Procedure" OR HAP 73/2 "Set Active Preset Procedure", otherwise Optional.

C.2: Mandatory IF HAP 72/1 "Active Preset Index Characteristic", otherwise Optional.

C.3: Mandatory to support at least one.

C.4: Mandatory IF HAP 73/2 "Set Active Preset Procedure", otherwise Excluded.

C.5: Mandatory IF HAP 73/3 "Set Next Preset Procedure", otherwise Excluded.

C.6: Mandatory IF HAP 73/4 "Set Previous Preset Procedure", otherwise Excluded.

2.5.3 Profile and service dependencies

Table 74: Hearing Aid Remote Controller, Profile Dependencies

Prerequisite: HAP 1/3 "Hearing Aid Remote Controller (HARC)"

Item	Service	Reference	Status	Inter-Layer Dependency
1	Volume Controller (VCP)	[1] 2.2	M	[5] VCP 1/2
2	Microphone Controller (MICP)	[1] 2.2	O	[6] MICP 1/2
3	Set Coordinator (CSIP)	[1] 2.2	M	[7] CSIP 1/2
4	Commander (CAP)	[1] 2.2	M	[11] CAP 1/3

Table 75: Hearing Aid Remote Controller, Service Dependencies

Prerequisite: HAP 1/3 "Hearing Aid Remote Controller (HARC)"

Item	Service	Reference	Status	Inter-Layer Dependency
1	Hearing Access Service Client (HAS)	[1] 2.2	M	N/A

2.5.4 Feature requirements in dependent profiles and services

2.5.4.1 VCP Volume Controller requirements

Table 76: Hearing Aid Remote Controller, VCP Volume Controller Requirements

Prerequisite: HAP 74/1 "Volume Controller (VCP)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Set Absolute Volume	[1] 6.5	M	[5] VCP 12/6

2.5.4.2 MICP Microphone Controller requirements

Table 77: Hearing Aid Remote Controller, MICP Microphone Controller Requirements

Table number reserved but not yet in use

2.5.4.3 CSIP Set Coordinator requirements

Table 78: Hearing Aid Remote Controller, CSIP Set Coordinator Requirements

Table number reserved but not yet in use

2.5.4.4 CAP Commander requirements

Table 79: Hearing Aid Remote Controller, CAP Commander Requirements

Table number reserved but not yet in use

2.5.4.5 HAS Hearing Access Service Client requirements

Table 80: Hearing Aid Remote Controller, HAS Hearing Access Service Client Requirements

Table number reserved but not yet in use

2.5.5 Feature requirements in Core layers

2.5.5.1 Link Layer requirements

Table 81: Hearing Aid Remote Controller, LL Requirements

Prerequisite: HAP 1/3 "Hearing Aid Remote Controller (HARC)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	LE 2M PHY	[1] 3.2	M	[3] LL 9/7

2.5.5.2   GAP requirements

Table 82: GAP Requirements – Immediate Alert Client Role

Prerequisite: HAP 1/3 "Hearing Aid Remote Controller (HARC)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Bondable mode (LE)	[1] 9.4	M	[4] GAP 34/2

2.5.5.3   GATT requirements

Table 83: GATT Requirements – Immediate Alert Client Role

Prerequisite: HAP 1/3 "Hearing Aid Remote Controller (HARC)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Enhanced ATT bearer over LE	[1] 5.5	O	[2] GATT 2/3a
2	GATT Client over LE	[1] 5.2	M	[2] GATT 1a/1

2.6   Immediate Alert Client role

2.6.1   Versions

Table 90: Immediate Alert Client, X.Y Versions

Prerequisite: HAP 1/4 "Immediate Alert Client (IAC)"

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

Table 91: Immediate Alert Client, X.Y.Z Versions

Prerequisite: HAP 1/4 "Immediate Alert Client (IAC)"

Item	Version	Reference	Status
1	HAP v1.0.1	[14]	O

2.6.2   Service dependencies

Table 92: Immediate Alert Client, Service Dependencies

Prerequisite: HAP 1/4 "Immediate Alert Client (IAC)"

Item	Service	Reference	Status	Inter-Layer Dependency
1	Immediate Alert Service (IAS)	[1] 6.1	M	[13] IAS

2.6.3 Feature requirements in Core layers

2.6.3.1 GATT requirements

Table 93: GATT Requirements – Immediate Alert Client Role

Prerequisite: HAP 1/4 "Immediate Alert Client (IAC)"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	GATT Client over LE	[1] 6.1	M	[2] GATT 1a/1
2	Discover All Primary Services	[1] 6.1	C.1	[2] GATT 3/2
3	Discover Primary Service by Service UUID	[1] 6.1	C.1	[2] GATT 3/3
4	Discover All Characteristics of a Service	[1] 6.2	C.2	[2] GATT 3/5
5	Discover Characteristics by UUID	[1] 6.2	C.2	[2] GATT 3/6

C.1: Mandatory to support at least one.

C.2: Mandatory to support at least one.

3   References

[1]   Hearing Access Profile, Version 1.0 or later

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

[3]   ICS Proforma for Bluetooth Low Energy Link Layer Protocol Specification

[4]   ICS Proforma for Generic Access Profile (GAP)

[5]   ICS Proforma for Volume Control Profile (VCP)

[6]   ICS Proforma for Microphone Control Profile (MICP)

[7]   ICS Proforma for Coordinated Set Identification Profile (CSIP)

[8]   ICS Proforma for Coordinated Set Identification Service (CSIS)

[9]   ICS Proforma for Call Control Profile (CCP)

[10]   ICS Proforma for Basic Audio Profile (BAP)

[11]   ICS Proforma for Common Audio Profile (CAP)

[12]   ICS Proforma for Hearing Access Service (HAS)

[13]   ICS Proforma for Immediate Alert Service (IAS)

[14]   Hearing Access Profile, Version 1.0.1

4 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	p0	2022-06-14	HAP v1.0 adopted by the BoD on 2022-06-07. Prepared for initial publication.
	p1r00–r01	2022-07-28 – 2022-11-21	TSE 19154 (rating 2): Updated Status for 1/1 and updated C.1 and C.2 for Table 1. Consistency checker editorials.
1	p1	2023-02-07	Approved by BTI on 2022-12-19. Prepared for TCRL 2022-2 publication.
	p2r00–r03	2023-08-25 – 2024-04-11	TSE 23342 (rating 2): To resolve GAP/SM ILDs, removed the SM ICS from the References section and deleted the SM Requirements table (Table 25). Added 24/6. Other changes throughout to align with the latest ICS template conventions. TSE 25097 (rating 2): Added new Table 83 "GATT Requirements – Immediate Alert Client Role" to account for GATT ILDs. Removed extra "Feature requirements in Core layers" subheading.
2	p2	2024-07-01	Approved by BTI on 2024-04-21. Prepared for TCRL 2024-1 publication.
	p3r00–r01	2024-08-09 – 2024-08-12	TSE 25408 (rating 2): Per E19220, added item 7, Broadcast Sink (BAP) service, for Table 13. TSE 25567 (rating 1): Per E19220, E23132, and E23815, added new X.Y.Z version as part of the .Z release. Added Tables 11, 41, 71, and 91. Added a reference to Hearing Access Profile, Version 1.0.1.
3	p3	2024-10-08	Approved by BTI on 2024-09-11. HAP v1.0.1 adopted by the BoD on 2024-10-01. Prepared for TCRL 2024-2-addition publication.
	p4r00–r01	2025-02-03 – 2025-02-18	TSE 27125 (rating 2): For Table 2, added conditionals C.2 and C.3 and updated 2/2 Status value. Made an editorial update to 24/2 Capability value. Updated Reference values for 50/1 and 50/2 and added 50/3. Added 83/2. Added "Feature requirements in Core layers" section, "GATT requirements" subsection, and Table 93.
4	p4	2025-07-08	Approved by BTI on 2025-05-30. Prepared for TCRL pkg100 publication.
	p5r00	2025-07-23	TSE 27782 (rating 1): Removed Tables 47–48.
5	p5	2025-11-04	Approved by BTI on 2025-09-29. Prepared for TCRL pkg101 publication.
	p6r00–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.

Publication Number	Revision Number	Date	Comments
6	p6	2026-02-17	Approved by BTI on 2026-01-26. Prepared for TCRL pkg102 publication.