

# Audio Stream Control Service (ASCS)

## **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	ASCS v1.0	[1]	M

Table 1: X.Y.Z Versions

Item	Version	Reference	Status
1	ASCS v1.0.1	[4]	O

### 2.2 Transports

Table 2: Transport Requirements

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

C.1: Excluded for this Service IF CORE 41/2 “LE Core Configuration”.

C.2: Excluded for this Service IF CORE 41/1 “BR/EDR Core Configuration”.

C.3: Mandatory to support at least one.

### 2.3 Features

#### 2.3.1 Audio Stream Control Service

Table 3: Included Services

Item	Requirement	Reference	Status	Inter-Layer Dependency
1	Published Audio Capabilities Service	[1] 1.2	M	[3] PACS

Table 4: Features

Item	Requirement	Reference	Status
1	Support Multiple ASEs	[1] 4	O
2	Support Multiple Sink ASEs	[1] 4	C.1
3	Support Multiple Source ASEs	[1] 4	C.2

C.1: Optional IF ASCS 4/1 “Support Multiple ASEs” AND ASCS 5/1 “Sink ASE characteristic”, otherwise Excluded.

C.2: Optional IF ASCS 4/1 “Support Multiple ASEs” AND ASCS 5/2 “Source ASE characteristic”, otherwise Excluded.

**Table 5: Included Characteristics**

Item	Requirement	Reference	Status
1	Sink ASE characteristic	[1] 4.1	C.1
2	Source ASE characteristic	[1] 4.1	C.1
3	ASE Control Point characteristic	[1] 4.2	M

C.1: Mandatory to support at least one.

### 2.3.2 ASE Operations

**Table 6: ASE Control Operations**

Item	Operation	Reference	Status
1	Config Codec	[1] 5.1	M
2	Config QoS	[1] 5.2	M
3	Enable	[1] 5.3	M
4	Receiver Start Ready	[1] 5.4	M
5	Disable	[1] 5.5	M
6	Receiver Stop Ready	[1] 5.6	C.1
7	Update Metadata	[1] 5.7	M
8	Release	[1] 5.8	M
9	Released	[1] 5.9	M

C.1: Mandatory IF ASCS 5/2 “Source ASE characteristic”, otherwise Excluded.

**Table 7: Server-Initiated ASE Control Operations**

Item	Capability	Reference	Status
1	Autonomous Config Codec	[1] 5.1	O
2	Autonomous Receiver Start Ready	[1] 5.4	M
3	Autonomous Disable	[1] 5.5	O
4	Autonomous Update Metadata	[1] 5.7	O
5	Autonomous Release	[1] 5.8	O

**Table 8: ASE State Transitions**

Item	Capability	Reference	Status
1	Released transition to Codec Configured state	[1] 5.9	C.1
2	Released transition to Idle state	[1] 5.9	C.1

C.1: Mandatory to support at least one.

## 2.4 GATT requirements

**Table 9: GATT Requirements**

Item	Feature	Reference	Status	Inter-Layer Dependency
1	Write without Response	[1] 1.4	M	[2] GATT 4/12
2	Write Characteristic Value	[1] 1.4	M	[2] GATT 4/14
3	Write Long Characteristic Values	[1] 1.4	M	[2] GATT 4/15
4	Single Notification	[1] 1.4	M	[2] GATT 4/17
5	Read Characteristic Descriptors	[1] 1.4	M	[2] GATT 4/19
6	Write Characteristic Descriptors	[1] 1.4	M	[2] GATT 4/21
7	Enhanced ATT bearer (BR/EDR or LE)	[1] 1.4	O	[2] GATT 2/3a OR GATT 2/3b
8	GATT Server over BR/EDR	[1] 1.4	C.1	[2] GATT 1a/4
9	GATT Server over LE	[1] 1.4	C.2	[2] GATT 1a/3

C.1: Mandatory IF ASCS 2/1 “Service supported over BR/EDR”, otherwise not defined.

C.2: Mandatory IF ASCS 2/2 “Service supported over LE”, otherwise not defined.

## 2.5 SDP requirements

**Table 10: SDP Requirements**

*Prerequisite: ASCS 2/1 “Service supported over BR/EDR”*

Item	Feature	Reference	Status
1	SDP record present for ASCS	[1] 6	M
2–5	No longer used	N/A	N/A

## 3 References

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- [1] Audio Stream Control Service Specification (ASCS), Version 1.0 or later
- [2] ICS Proforma for Generic Attribute Profile (GATT)
- [3] ICS Proforma for Published Audio Capabilities Service (PACS)
- [4] Audio Stream Control Service Specification (ASCS), Version 1.0.1



## 4 Revision history and acknowledgments

### Revision History

Publication Number	Revision Number	Date	Comments
0	p0	2021-09-21	Approved by BTI on 2021-08-19. Audio Stream Control Service (ASCS) v1.0 adopted by the BoD on 2021-09-14. Prepared for initial publication.
	p0ed2r00–r01	2022-04-04 – 2022-04-21	TSE 18376 (rating 1): Updated “is/are/not supported” language in conditionals globally to align with the latest ICS conventions. Template-related and consistency checker editorials.
	p0 edition 2	2022-04-25	Approved by BTI on 2022-04-25. Prepared for edition 2 publication.
	p0ed3r00	2023-02-13	TSE 22639 (rating 1): In Table 9, replaced GATT 2/3 with “GATT 2/3a or GATT 2/3b”. Editorials to align the document with the latest ICS template.
	p0 edition 3	2023-03-13	Approved by BTI on 2023-03-13. Prepared for edition 3 publication.
	p1r00–r01	2023-10-04 – 2023-11-28	TSE 23657 (rating 2): To resolve GATT and SDP ILDs and update to the latest template conventions, updated naming for 0/1; added 9/8 and 9/9 with related conditionals C.1 and C.2; and updated Table 10 by removing the ILD column, deleting items 10/2–10/5 and conditional C.1, and renaming 10/1.
1	p1	2024-07-01	Approved by BTI on 2024-04-21. Prepared for TCRL 2024-1 publication.
	p2r00	2024-08-13	TSE 25559 (rating 1): Per E18689, E18874, E22139, E22265, E22461, and E23755, added new X.Y.Z version as part of the .Z release. Added a reference to ASCS v1.0.1.
2	p2	2024-10-08	Approved by BTI on 2024-09-11. ASCS v1.0.1 adopted by the BoD on 2024-10-01. Prepared for TCRL 2024-2-addition publication.
	p3r00–r01	2024-10-21 – 2024-12-06	TSE 25916 (rating 2): Added Items 2 and 3 and conditionals C.1 and C.2 to Table 4.
3	p3	2025-02-18	Approved by BTI on 2025-02-09. Prepared for TCRL 2025-1 publication.
	p4r00	2025-04-10	TSE 27312 (rating 1): Updated the Status value for ASCS 2/1 and ASCS 2/2. Added conditionals C.1 and C.2 to Table 2 and renumbered C.1 as C.3.
4	p4	2025-07-08	Approved by BTI on 2025-05-30. Prepared for TCRL pkg100 publication.

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