Cycling Speed and Cadence Service (CSCS)

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

- **Revision:** CSCS.ICS.p7
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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	CSCS v1.0	[1]	M

Table 0a: X.Y.Z Versions

Item	Version	Reference	Status
1	CSCS v1.0.1	[4]	C.1

C.1: Optional IF CSCS 0/1 “CSCS v1.0”, otherwise Excluded.

2.2 Transports

Table 1: 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” OR CORE 40/1 “Core-Controller”.

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

C.3: Mandatory to support at least one.

2.3 Service requirements

Table 2: Service Requirements

Item	Capability	Reference	Status
1	Wheel Revolution Data	[1] 3.2.1	C.1
2	Crank Revolution Data	[1] 3.2.1	C.1
3	Multiple Sensor Locations	[1] 3.2.1	O

C.1: Mandatory to support at least one.

Table 3: Service Requirements

Item	Capability	Reference	Status
1	Cycling Speed and Cadence Service	[1] 2	M
2	CSC Measurement Characteristic	[1] 3.1	M
3	Cumulative Wheel Revolutions and Last Wheel Event Time fields of CSC Measurement Characteristic	[1] 3.1.1.2	C.1
4	Cumulative Crank Revolutions and Last Crank Event Time fields of CSC Measurement Characteristic	[1] 3.1.1.3	C.2

Item	Capability	Reference	Status
5	Cumulative Wheel Revolutions value can count in reverse	[1] 3.1.1.2	C.3
6	CSC Feature Characteristic	[1] 3.2	M
7	Sensor Location Characteristic	[1] 3.3	C.4
8	SC Control Point Characteristic	[1] 3.4	C.5
9	Set Cumulative Value Procedure – Set to zero	[1] 3.4.1, 3.4.2.1	C.1
10	Set Cumulative Value Procedure – Set to non-zero	[1] 3.4.1, 3.4.2.1	C.3
11	Update Sensor Location Procedure	[1] 3.4.1, 3.4.2.2	C.6
12	Request Supported Sensor Location Procedure	[1] 3.4.1, 3.4.3.3	C.6
13	SDP Record Support	[1] 4	C.7
14	Indications for changes of supported features	[4] 3, 3.2.1	C.8

C.1: Mandatory IF CSCS 2/1 “Wheel Revolution Data”, otherwise Excluded.

C.2: Mandatory IF CSCS 2/2 “Crank Revolution Data”, otherwise Excluded.

C.3: Optional IF CSCS 2/1 “Wheel Revolution Data”, otherwise Excluded.

C.4: Mandatory IF CSCS 2/3 “Multiple Sensor Locations”, otherwise Optional.

C.5: Mandatory IF CSCS 2/1 “Wheel Revolution Data” OR CSCS 2/3 “Multiple Sensor Locations”, otherwise Excluded.

C.6: Mandatory IF CSCS 2/3 “Multiple Sensor Locations”, otherwise Excluded.

C.7: Mandatory IF CSCS 1/1 “Service supported over BR/EDR”, otherwise Excluded.

C.8: Optional IF CSCS 0/1 “CSCS v1.0” AND NOT CSCS 0a/1 “CSCS v1.0.1”, otherwise Mandatory.

Table 3a: Indications for changes of supported features

Prerequisite: CSCS 3/14 “Indications for changes of supported features”

Item	Capability	Reference	Status
1	Changeable CSC Feature	[4] 3	O
2	CSC Feature characteristic indication	[4] 3.2.1	C.1

C.1: Mandatory IF CSCS 3a/1 “Changeable CSC Feature” AND (CSCS 6/1 “Bondable mode (BR/EDR)” OR CSCS 6/2 “Bondable mode (LE)”), otherwise Excluded.

2.4 GATT requirements

Table 4: GATT Requirements

Item	Capability	Reference	Status	Inter-Layer Dependency
1	No longer used	N/A	N/A	N/A
1a	GATT Server over BR/EDR	[1] 1.4	C.2	[2] GATT 1a/4
1b	GATT Server over LE	[1] 1.4	C.3	[2] GATT 1a/3
2	Write Characteristic Value	[1] 1.4	C.1	[2] GATT 4/14
3	Single Notification	[1] 1.4	M	[2] GATT 4/17
4	Indication	[1] 1.4	C.1	[2] GATT 4/18
5	Read Characteristic Descriptor	[1] 1.4	M	[2] GATT 4/19
6	Write Characteristic Descriptor	[1] 1.4	M	[2] GATT 4/21

C.1: Mandatory IF CSCS 3/8 “SC Control Point Characteristic”, otherwise not defined.
C.2: Mandatory IF CSCS 1/1 “Service supported over BR/EDR”, otherwise not defined.
C.3: Mandatory IF CSCS 1/2 “Service supported over LE”, otherwise not defined.

2.5 SDP requirements

Table 5: SDP Requirements

Prerequisite: CSCS 1/1 “Service supported over BR/EDR”

Item	Capability	Reference	Status
1	SDP record present for CSCS	[1] 4	M
2–3	No longer used	N/A	N/A

2.6 GAP requirements

Table 6: GAP Requirements

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Bondable mode (BR/EDR)	[1] 3	O	[3] GAP 1/7
2	Bondable mode (LE)	[1] 3	O	[3] GAP 24/2
3	Bonding procedure	[1] 3	C.1	[3] GAP 24/3

C.1: Mandatory IF CSCS 6/2 “Bondable mode (LE)”, otherwise not defined.

3 References

[1] Cycling Speed and Cadence Service Specification, Version 1.0 or later

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

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

[4] Cycling Speed and Cadence Service Specification, Version 1.0.1

4 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	1.0.0	2012-08-21	Adopted by the Bluetooth SIG Board of Directors
	1.0.1r00	2016-07-29	TSE 7386: In Table 3, deleted redundant conditionals C.6 and C.7 and renumbered remaining conditionals.
1	1.0.1	2016-12-13	Approved by BTI. Prepared for TCRL 2016-2 publication.
	1.0.2r00	2018-02-07	TSE 9949 (rating 1): Converted ICS template. Added Table 0 for versions.
2	1.0.2	2018-06-27	Approved by BTI. Prepared for TCRL 2018-1 publication.
	1.0.3r00	2018-10-02	TSE 10858 (rating 1): Corrected capability names in Table 2
3	1.0.3	2018-11-21	Approved by BTI. Prepared for TCRL 2018-2 publication.
	p4r00–r02	2022-03-18 – 2022-05-13	TSE 18714 (rating 1): Editorials to align the document with the latest ICS template in anticipation of a future .Z release. Assigned publication number 3 to previous v1.0.3 and aligned copyright page with v2 of the DNMD. Consistency checker update.
4	p4	2022-06-28	Approved by BTI on 2022-05-31. Prepared for TCRL 2022-1 publication.
	p5r00–r02	2023-09-06 – 2023-09-25	TSE 17239 (rating 4): Per E16649, added new Item 14 and C.8 to Table 3 and added Table 3a. Added Table 0a and Item 1 for CSCS v1.0.1 and conditional C.1 in Table 0 for CSCS v1.0. Added Table 6 for GAP inter-layer dependencies. Added a reference for CSCS v1.0.1. Updated the acknowledgments. TSE 23352 (rating 2): Resolved GATT and SDP inter-layer dependencies. In Table 4, marked Item 1 as no longer used, added Items 1a and 1b, and added conditionals C.2 and C.3. In Table 5, updated the Capability value for Item 1, marked Items 2 and 3 as no longer used, and deleted the ILD column. Updated references. Deleted draft revision history comments prior to p0. Editorials to align the document with the latest ICS template.
5	p5	2024-07-01	Approved by BTI on 2024-04-21. Prepared for TCRL 2024-1 publication.

Publication Number	Revision Number	Date	Comments
	p6r00	2025-04-30	TSE 27320 (rating 1): Updated the Status value for CSCS 1/1 and CSCS 1/2. In Table 1, added conditions C.1 and C.2 and renumbered C.1 as C.3. Updated the capability for CSCS 4/3. Incorporated editorials to align the document with the latest ICS template, including updates to Section 1 and the addition of a section heading for the ICS declarations section.
6	p6	2025-07-08	Approved by BTI on 2025-06-15. Prepared for TCRL pkg100 publication.
	p7r00–r01	2025-12-04 – 2025-12-30	TSE 28169 (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.
7	p7	2026-02-17	Approved by BTI on 2026-01-21. Prepared for TCRL pkg102 publication.

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