Cycling Speed and Cadence Profile (CSCP)

***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	CSCP v1.0	[1]	M

Table 0a: X.Y.Z Versions

Item	Version	Reference	Status
1	CSCP v1.0.1	[6]	C.1

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

2.2 Roles

Table 1: Role Requirements

Item	Role	Reference	Status
1	CSC Sensor	[1] 2.1	C.1
2	Collector	[1] 2.1	C.1

C.1: Mandatory to support at least one.

2.3 Transports

Table 2: Transport Requirements

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

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

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

C.3: Mandatory to support at least one.

2.4 CSC Sensor role

2.4.1 Services (CSC Sensor)

Table 3: Services (CSC Sensor)

Prerequisite: CSCP 1/1 “CSC Sensor”

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Cycling Speed and Cadence Service	[1] 3	M	[2] CSCS
2	Cycling Speed and Cadence Service UUID in AD in GAP Discoverable Mode	[1] 3.1.1.1	C.1	N/A

Item	Capability	Reference	Status	Inter-Layer Dependency
3	Local Name in AD or Scan Response	[1] 3.1.1.2	C.1	N/A
4	Appearance in AD or Scan Response	[1] 3.1.1.4	C.1	N/A
5	Device Information Service	[1] 3	O	[5] DIS

C.1: Optional IF CSCP 2/2 “Profile supported over LE”, otherwise Excluded.

2.4.2 DIS requirements (CSC Sensor)

Table 4: DIS Requirements (CSC Sensor)

Prerequisite: CSCP 1/1 “CSC Sensor”

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Manufacturer Name String Characteristic	[1] 3.2	C.1	[5] DIS 2/2
2	Model Number String Characteristic	[1] 3.2	C.1	[5] DIS 2/3

C.1: Optional IF CSCP 3/5 “Device Information Service”, otherwise not defined.

2.4.3 GAP requirements (CSC Sensor)

Table 5: GAP Requirements (CSC Sensor)

Prerequisite: CSCP 1/1 “CSC Sensor”

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Peripheral	[1] 2.4	C.1	[4] GAP 5/3
2	LE security mode 1	[1] 6.1	C.1	[4] GAP 25/1
3	General discoverable mode (BR/EDR)	[1] 5.3.1.1	C.2	[4] GAP 1/3
4	Unauthenticated Pairing (LE security mode 1 level 2)	[1] 6.1	C.3	[4] GAP 25/8
5	Authenticated Pairing (LE security mode 1 level 3)	[1] 6.1	C.3	[4] GAP 25/7

C.1: Mandatory IF CSCP 2/2 “Profile supported over LE”, otherwise not defined.

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

C.3: Optional IF CSCP 2/2 “Profile supported over LE”, otherwise not defined.

Table 6: No longer used

2.5 Collector role

2.5.1 Service Support (Collector)

Table 7: Service Support (Collector)

Prerequisite: CSCP 1/2 "Collector"

Item	Capability	Reference	Status
1	Cycling Speed and Cadence Service	[1] 4	M
2	Device Information Service	[1] 4	O

2.5.2 Discover Services and Characteristics (Collector)

Table 8: Discover CSC Services and Characteristics (Collector)

Prerequisite: CSCP 1/2 "Collector"

Item	Capability	Reference	Status
1	Discover Cycling Speed and Cadence Service	[1] 4.2.1	M
2	Discover CSC Measurement characteristic	[1] 4.3.1.1	M
3	Discover CSC Measurement - Client Characteristic Configuration Descriptor	[1] 4.3.1.1	M
4	Discover CSC Feature characteristic	[1] 4.3.1.2	M
4a	Discover CSC Feature – Client Characteristic Configuration Descriptor	[6] 4.3.1.2	C.2
5	Discover Sensor Location	[1] 4.3.1.3	O
6	Discover SC Control Point characteristic	[1] 4.3.1.4	O
7	Discover SC Control Point - Client Characteristic Configuration Descriptor	[1] 4.3.1.4	C.1

C.1: Mandatory IF CSCP 8/6 "Discover SC Control Point characteristic", otherwise Excluded.

C.2: Optional IF CSCP 0/1 "CSCP v1.0" AND NOT CSCP 0a/1 "CSCP v1.0.1", otherwise Mandatory.

Table 9: Discover DIS Services and Characteristics (Collector)

Prerequisite: CSCP 1/2 "Collector"

Item	Capability	Reference	Status
1	Discover Device Information Service	[1] 4, 4.2.2	C.1
2	Discover Manufacturer Name String Characteristic	[1] 4.3.2	C.2
3	Read Manufacturer Name String Characteristic	[1] 4.8	O
4	Discover Model Number String Characteristic	[1] 4.3.2	C.2
5	Read Model Number String Characteristic	[1] 4.8	O

C.1: Mandatory IF CSCP 9/2 "Discover Manufacturer Name String Characteristic" OR CSCP 9/4 "Discover Model Number String Characteristic", otherwise Optional.

C.2: Mandatory IF CSCP 9/3 "Read Manufacturer Name String Characteristic" OR CSCP 9/5 "Read Model Number String Characteristic", otherwise Optional.

2.5.3 Features (Collector)

Table 10: SC Control Point Procedures (Collector)

Prerequisite: CSCP 1/2 "Collector"

Item	Capability	Reference	Status
1	Set Cumulative Value – Set to zero	[1] 4.7.1	O
2	Set Cumulative Value – Set to non-zero	[1] 4.7.1	O
3	Update Sensor Location	[1] 4.7.1	C.1
4	Request Supported Sensor Locations	[1] 4.7.1	C.1
5	Calculates Instantaneous Speed	[1] 4.4	M
6	Calculates Instantaneous Cadence	[1] 4.4	M

C.1: Mandatory to support none or all.

Table 11: Features (Collector)

Prerequisite: CSCP 1/2 "Collector"

Item	Capability	Reference	Status
1	Configure CSC Measurement characteristic for notifications	[1] 4.4	M
2	Receive CSC Measurement characteristic notifications	[1] 4.4	M
3	Read CSC Feature characteristic	[1] 4.5	M
4	Read Sensor Location characteristic	[1] 4.6	O
5	Configure SC Control Point characteristic for indications	[1] 4.7	C.1
6	Receive SC Control Point characteristic indications	[1] 4.7.2, 4.7.3	C.1
7	Write to SC Control Point characteristic	[1] 4.7	C.1
8	SC Control Point Characteristic - Set Cumulative Value Op Code	[1] 4.7.2.1	C.2
9	SC Control Point Characteristic - Update Sensor Location Op Code	[1] 4.7.2.2	C.3
10	SC Control Point Characteristic - Request Supported Sensor Locations Op Code	[1] 4.7.2.3	C.3
11	SC Control Point Characteristic – Procedure Time Out	[1] 4.7.4	C.1
12	Verify Bond Status on Reconnection	[1] 5.2.2	C.4
13	Configure characteristic for indications to determine supported features	[6] 4.5	C.5

C.1: Mandatory IF CSCP 10/1 "Set Cumulative Value – Set to zero" OR CSCP 10/2 "Set Cumulative Value – Set to non-zero" OR CSCP 10/3 "Update Sensor Location" OR CSCP 10/4 "Request Supported Sensor Locations", otherwise Excluded.

C.2: Mandatory IF CSCP 10/1 "Set Cumulative Value – Set to zero" OR CSCP 10/2 "Set Cumulative Value – Set to non-zero", otherwise Excluded.

C.3: Mandatory IF CSCP 10/3 "Update Sensor Location" AND CSCP 10/4 "Request Supported Sensor Locations", otherwise Excluded.

C.4: Mandatory IF CSCP 13/3 "Bondable mode (LE)", otherwise Excluded.

C.5: Optional IF CSCP 0/1 "CSCP v1.0" AND NOT CSCP 0a/1 "CSCP v1.0.1", otherwise Mandatory.

Table 11a: Determining Supported Features – Configure Characteristic for Indications

Prerequisite: CSCP 11/13 "Configure characteristic for indications to determine supported features"

Item	Capability	Reference	Status
1	Configure and receive CSC Feature characteristic indications	[6] 4.5	C.1
2	Read CSC Feature characteristic on reconnection	[6] 4.5	C.1

C.1: Mandatory to support at least one IF (CSCP 13/3 "Bondable mode (LE)" OR CSCP 13/4 "Bondable mode (BR/EDR)"), otherwise Excluded.

2.5.4 GATT requirements (Collector)

Table 12: GATT Requirements (Collector)

Prerequisite: CSCP 1/2 "Collector"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	No longer used	N/A	N/A	N/A
2	GATT Client over BR/EDR	[1] 4.2	C.4	[3] GATT 1a/2
3	GATT Client over LE	[1] 4.2	C.5	[3] GATT 1a/1
4	Discover All Primary Services	[1] 4.2	C.1	[3] GATT 3/2
5	Discover Primary Service by Service UUID	[1] 4.2	C.1	[3] GATT 3/3
6	Discover All Characteristics of a Service	[1] 4.3.1	C.2	[3] GATT 3/5
7	Discover Characteristics by UUID	[1] 4.3.1	C.2	[3] GATT 3/6
8	Discover All Characteristic Descriptors	[1] 4.3.1	M	[3] GATT 3/7
9	Read Characteristic Value	[1] 4.1	M	[3] GATT 3/8
10	Single Notification	[1] 4.1, 4.4, 5.2.1	M	[3] GATT 3/17
11	Write Characteristic Value	[1] 4.1, 4.7.2	C.3	[3] GATT 3/14
12	Read Characteristic Descriptor	[1] 4.1	M	[3] GATT 3/19
13	Write Characteristic Descriptor	[1] 4.1	M	[3] GATT 3/21

C.1: Mandatory to support at least one.

C.2: Mandatory to support at least one.

C.3: Mandatory IF CSCP 10/1 "Set Cumulative Value – Set to zero" OR CSCP 10/2 "Set Cumulative Value – Set to non-zero" OR CSCP 10/3 "Update Sensor Location", otherwise not defined.

C.4: Mandatory IF CSCP 2/1 "Profile supported over BR/EDR", otherwise not defined.

C.5: Mandatory IF CSCP 2/2 "Profile supported over LE", otherwise not defined.

2.5.5 GAP requirements (Collector)

Table 13: GAP Requirements (Collector)

Prerequisite: CSCP 1/2 "Collector"

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Central	[1] 2.4	C.1	[4] GAP 5/4
2	LE security mode 1	[1] 6.2	C.1	[4] GAP 35/1
3	Bondable mode (LE)	[1] 5.2	O	[4] GAP 34/2
4	Bondable mode (BR/EDR)	[1] 5.3	O	[4] GAP 1/7
5	Unauthenticated Pairing (LE security mode 1 level 2)	[1] 6.2	C.1	[4] GAP 35/8
6	Authenticated Pairing (LE security mode 1 level 3)	[1] 6.2	C.1	[4] GAP 35/7

C.1: Mandatory IF CSCP 2/2 "Profile supported over LE", otherwise not defined.

Table 14: No longer used

3 References

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

[2] ICS Proforma for Cycling Speed and Cadence Service (CSCS)

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

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

[5] ICS Proforma for Device Information Service (DIS)

[6] Cycling Speed and Cadence Profile 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	2014-10-20	TSE 5798: Updated 11/11 from M to C.1.
1	1.0.1	2014-12-05	Prepare for TCRL 2014-2 publication
	1.0.2r00	2015-10-01	TSE 6527: Added item 13/3 for Bondable Mode in Table 13 and made item 11/12 in Table 11 dependent on it.
	1.0.2r01	2015-10-23	Converted to current document template.
2	1.0.2	2015-12-22	Prepared for TCRL 2015-2 publication.
	1.0.3r00	2018-02-07	TSE 9950 (rating 1): Updated ICS template. Added Table 0.
3	1.0.3	2018-06-27	Approved by BTI. Prepared for TCRL 2018-1 publication.
	p4r00–r02	2022-03-17 – 2022-04-19	TSE 18636 (rating 2): Updated the title of Tables 6 and 14 and C.4 for Table 11. Updated the status for items 1 and 2 and the capability for item 3 and added item 4 and C.1 to Table 13. Made a correction to reference [7]. TSE 18713 (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	2023-09-05 – 2023-09-25	TSE 17238 (rating 4): Per E17169, added conditional C.1 in Table 0. Added Table 0a and Item 1 for CSCP v1.0.1. Added new Items CSCP 8/4a and CSCP 11/13 and Table 11a. Added a reference for CSCP v1.0.1. Updated references. Updated the acknowledgments. TSE 23351 (rating 2): Resolved GAP/SM inter-layer dependencies: Added Items 4 and 5 and C.3 to Table 5. In Table 12, marked Item 1 as no longer used and updated the Capability and ILD values for Items 2 and 3. Added Items 5 and 6 to Table 13. Marked Tables 6 and 14 as no longer used. Updated references. Updated the section heading for the Roles section. Editorials to align the document with the latest ICS template. Deleted draft revision history comments prior to p0.
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–r01	2025-04-30 – 2025-05-06	TSE 27368 (rating 1): Updated the Status value for CSCP 2/1 and CSCP 2/2. In Table 2, added conditions C.1 and C.2 and renumbered C.1 as C.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	2025-07-17	TSE 27538 (rating 1): Updated ILD in CSCP 5/1 and CSCP 13/1.
7	p7	2025-11-04	Approved by BTI on 2025-10-02. Prepared for TCRL pkg101 publication.
	p8r00–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.
8	p8	2026-02-17	Approved by BTI on 2026-01-21. Prepared for TCRL pkg102 publication.

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