

# Cycling Speed and Cadence Profile (CSCP)

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

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# 1 Identification of the implementation

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## 1.1 Implementation Under Test (IUT) identification

Identification of the Implementation Under Test (IUT) is to be filled in to provide as much detail as possible regarding version numbers and configuration options.

An ICS contact person to respond to queries regarding information supplied in this ICS proforma is named in the Declaration of Compliance: Summary of Selected Specifications in Implementation.

## 1.2 Versions

**Table 0: Versions**

Item	Version	Reference	Status
1	CSCP 1.0	[1]	M

## 1.3 Profile roles

**Table 1: Profile Roles**

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 of CSCP 1/1 “CSC Sensor” OR CSCP 1/2 “Collector”.

## 1.4 Transport requirements

**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.1

C.1: Mandatory to support at least one of CSCP 2/1 “Profile supported over BR/EDR” OR CSCP 2/2 “Profile supported over LE”.

## 1.5 CSC Sensor role

### 1.5.1 Services – CSC Sensor role

**Table 3: Services - CSC Sensor Role**

*Prerequisite: CSCP 1/1 “CSC Sensor”*

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

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

## 1.5.2 DIS Requirements – CSC Sensor role

**Table 4: DIS Requirements - CSC Sensor Role**

*Prerequisite: CSCP 1/1 “CSC Sensor”*

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Manufacturer Name String Characteristic	[1] 3.2	C.1	[7] DIS 2/2
2	Model Number String Characteristic	[1] 3.2	C.1	[7] DIS 2/3

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

## 1.5.3 GAP Requirements – CSC Sensor role

**Table 5: GAP Requirements - CSC Sensor Role**

*Prerequisite: CSCP 1/1 “CSC Sensor”*

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Peripheral	[1] 2.4	C.1	[4] GAP 5/3 or GAP 38/3
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

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.

## 1.5.4 SM Requirements – CSC Sensor role

**Table 6: SM Requirements - CSC Sensor Role**

*Prerequisite: CSCP 1/1 “CSC Sensor” AND CSCP 2/2 “Profile supported over LE”*

Item	Capability	Reference	Status	Inter-Layer Dependency
1	No security requirements	[1] 6.1	C.1	[5] SM 2/3
2	Unauthenticated no MITM protection	[1] 6.1	C.1	[5] SM 2/2
3	Authenticated MITM protection	[1] 6.1	C.1	[5] SM 2/1

C.1: Mandatory to support at least one of CSCP 6/1 “No security requirements” OR CSCP 6/2 “Unauthenticated no MITM protection” OR CSCP 6/3 “Authenticated MITM protection”.

## 1.6 CSC Collector role

### 1.6.1 Service Support – CSC Collector role

**Table 7: Service Support – CSC Collector Role**

*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

## 1.6.2 Discover Services and Characteristics – CSC Collector role

**Table 8: Discover CSC Services and Characteristics – CSC Collector Role**

*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
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.

**Table 9: Discover DIS Services and Characteristics – CSC Collector Role**

*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.

## 1.6.3 Features – CSC Collector role

**Table 10: SC Control Point Procedures – CSC Collector Role**

*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

Item	Capability	Reference	Status
5	Calculates Instantaneous Speed	[1] 4.4	M
6	Calculates Instantaneous Cadence	[1] 4.4	M

C.1: Mandatory to support none or all of CSCP 10/3 “Update Sensor Location” AND CSCP 10/4 “Request Supported Sensor Locations”.

**Table 11: Features – CSC Collector Role**

*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

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.

#### 1.6.4 GATT Requirements – CSC Collector role

**Table 12: GATT Requirements – CSC Collector Role**

*Prerequisite: CSCP 1/2 “Collector”*

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Generic Attribute Profile (GATT) Client	[1] 2.1	M	[3] GATT 1/1
2	Attribute Protocol Supported over BR/EDR (L2CAP fixed channel support)	[1] 4.2	C.4	[3] GATT 2/1



Item	Capability	Reference	Status	Inter-Layer Dependency
3	Attribute Protocol Supported over LE	[1] 4.2	C.5	[3] GATT 2/2
4	Discover All Primary Services	[1] 4.2	C.1	[3] GATT 3/2
5	Discover Primary Services 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	Notifications	[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 Descriptors	[1] 4.1	M	[3] GATT 3/19
13	Write Characteristic Descriptors	[1] 4.1	M	[3] GATT 3/21

C.1: Mandatory to support at least one of CSCP 12/4 “Discover All Primary Services” OR CSCP 12/5 “Discover Primary Services by Service UUID”.

C.2: Mandatory to support at least one of CSCP 12/6 “Discover All Characteristics of a Service” OR CSCP 12/7 “Discover Characteristics by UUID”.

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.

### 1.6.5 GAP Requirements – CSC Collector role

**Table 13: GAP Requirements – CSC Collector Role**

*Prerequisite: CSCP 1/2 “Collector”*

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Central	[1] 2.4	C.1	[4] GAP 5/4 or GAP 38/4
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

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

## 1.6.6 SM Requirements – CSC Collector role

**Table 14: SM Requirements – CSC Collector Role**

*Prerequisite: CSCP 1/2 “Collector” AND CSCP 2/2 “Profile supported over LE”*

Item	Capability	Reference	Status	Inter-Layer Dependency
1	No security requirements	[1] 6.2	M	[6] SM 2/3
2	Unauthenticated no MITM protection	[1] 6.2	M	[6] SM 2/2
3	Authenticated MITM protection	[1] 6.2	M	[6] SM 2/1

## 2 References

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- [1] Cycling Speed and Cadence Profile Specification
- [2] ICS Proforma for Cycling Speed and Cadence Service (CSCS.ICS)
- [3] ICS Proforma for Generic Attribute Profile (GATT.ICS)
- [4] ICS Proforma for Generic Access Profile (GAP.ICS)
- [5] ICS Proforma for Security Manager (SM.ICS)
- [6] Bluetooth Core Specification, Volume 3, Part C, Version 4.0 or later
- [7] ICS Proforma for Device Information Service (DIS.ICS)

### 3 Revision history and acknowledgments

#### Revision History

Publication Number	Revision Number	Date	Comments
	D0.9.0	2012-04-03	First draft based on RSC Profile ICS.
	D0.9.1	2012-04-03	Accepted all changes.
	D0.9.2	2012-04-11	Accepted all changes and aligned with the latest changes of the Running Speed and Cadence test specifications
	D0.9.3	2012-04-11	Accepted all changes. Submitted for BTI review.
	D1.0.0r0	2012-06-05	Changed revision to draft 1.0.0
	D1.0.0r1	2012-07-25	Incorporated latest changes from RSCP.ICS D1.0.0r3.
	D1.0.0r2	2012-08-06	Accepted all changes. Submitted for BTI review. Incorporated feedback from BTI.
	D1.0.0r3	2012-08-06	Accepted all changes. Submitted for BTI approval.
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	<p>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].</p> <p>TSE 18713 (rating 1): Editorials to align the document with the latest ICS template in anticipation of a future .Z release.</p> <p>Assigned publication number 3 to previous v1.0.3 and aligned copyright page with v2 of the DNMD.</p> <p>Consistency checker update.</p>
4	p4	2022-06-28	Approved by BTI on 2022-05-31. Prepared for TCRL 2022-1 publication.

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