Running Speed and Cadence Service (RSCS)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

- **Revision:** RSCS.ICS.p5
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- **Prepared By:** BTI
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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	RSCS v1.0	[1]	M

Table 0a: X.Y.Z Versions

Item	Version	Reference	Status
1	RSCS v1.0.1	[3]	O

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: Feature Requirements

Item	Capability	Reference	Status
1	Instantaneous Stride Length Measurement Supported	[1] 3.2.1	O
2	Total Distance Measurement Supported	[1] 3.2.1	O
3	Walking or Running Status Supported	[1] 3.2.1	O
4	Sensor Calibration Procedure Supported	[1] 3.2.1	O
5	Multiple Sensor Locations Supported	[1] 3.2.1	O

Table 3: Service Requirements

Item	Capability	Reference	Status
1	Running Speed and Cadence Service	[1] 2	M
2	RSC Measurement Characteristic	[1] 3.1	M
3	Instantaneous Speed field of RSC Measurement Characteristic	[1] 3.1.1.2	M
4	Instantaneous Cadence field of RSC Measurement Characteristic	[1] 3.1.1.3	M

Item	Capability	Reference	Status
5	Instantaneous Stride Length field of RSC Measurement Characteristic	[1] 3.1.1.4	C.1
6	Total Distance field of RSC Measurement Characteristic	[1] 3.1.1.5	C.2
7	RSC Feature Characteristic	[1] 3.2	M
8	Sensor Location Characteristic	[1] 3.3	C.3
9	SC Control Point Characteristic	[1] 3.4	C.4
10	Set Cumulative Value Procedure – Set to zero	[1] 3.4.1, 3.4.2.1	C.5
11	Set Cumulative Value Procedure – Set to non-zero	[1] 3.4.1, 3.4.2.1	C.2
12	Start Calibration Procedure	[1] 3.4.1, 3.4.2.2	C.6
13	Update Sensor Location Procedure	[1] 3.4.1, 3.4.2.3	C.7
14	Request Supported Sensor Location Procedure	[1] 3.4.1, 3.4.2.4	C.7
15	SDP Record Support	[1] 4	C.8
16	Indications for changes of supported features	[3] 3, 3.2.1	C.9

C.1:   Optional IF RSCS 2/1 "Instantaneous Stride Length Measurement Supported", otherwise Excluded.

C.2:   Optional IF RSCS 2/2 "Total Distance Measurement Supported", otherwise Excluded.

C.3:   Mandatory IF RSCS 2/5 "Multiple Sensor Locations Supported", otherwise Optional.

C.4:   Mandatory IF RSCS 2/2 "Total Distance Measurement Supported" OR RSCS 2/4 "Sensor Calibration Procedure Supported" OR RSCS 2/5 "Multiple Sensor Locations Supported", otherwise Excluded.

C.5:   Mandatory IF RSCS 2/2 "Total Distance Measurement Supported", otherwise Excluded.

C.6:   Mandatory IF RSCS 2/4 "Sensor Calibration Procedure Supported", otherwise Excluded.

C.7:   Mandatory IF RSCS 2/5 "Multiple Sensor Locations Supported", otherwise Excluded.

C.8:   Mandatory IF RSCS 1/1 "Service supported over BR/EDR", otherwise Excluded.

C.9:   Optional IF RSCS 0/1 "RSCS v1.0" AND NOT RSCS 0a/1 "RSCS v1.0.1", otherwise Mandatory.

Table 3a: Indications for Changes of Supported Features

Prerequisite: RSCS 3/16 "Indications for changes of supported features"

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

C.1:   Mandatory IF RSCS 3a/1 "Changeable RSC Feature" AND (RSCS 6/1 "Bondable mode (BR/EDR)" OR RSCS 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

Item	Capability	Reference	Status	Inter-Layer Dependency
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 RSCS 3/9 "SC Control Point Characteristic", otherwise not defined.

C.2:   Mandatory IF RSCS 1/1 "Service supported over BR/EDR", otherwise not defined.

C.3:   Mandatory IF RSCS 1/2 "Service supported over LE", otherwise not defined.

2.5   SDP requirements

Table 5: SDP Requirements

Prerequisite: RSCS 1/1 "Service supported over BR/EDR"

Item	Capability	Reference	Status
1	SDP record present for RSCS	[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	[4] GAP 1/7
2	Bondable mode (LE)	[1] 3	O	[4] GAP 24/2
3	Bonding procedure	[1] 3	C.1	[4] GAP 24/3

C.1:   Mandatory IF RSCS 6/2 "Bondable mode (LE)", otherwise not defined.

3 References

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

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

[3]   Running Speed and Cadence Service Specification, Version 1.0.1

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

4   Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	1.0.0	2012-08-07	Adopted by the Bluetooth SIG Board of Directors.
	1.0.1r00	2016-10-05	TSE 7547: New Table 0 added for version RSCS v1.0; In Table 1, "Reference" entries for "Service supported over BR/EDR" and "Service supported over LE," GAP entries added; "C.1" footnote to Table 1 updated to generalize mandatory support to "the defined transports" rather than "1/1 or 1/2"; Table 3 footnotes updated to identify "Capacity" entries for column references and uppercase Boolean operators; Version 4.0.n support updated in "References"
1	1.0.1	2016-12-13	Approved by BTI. Prepared for TCRL 2016-2 publication.
	1.0.1 edition 2r00	2018-11-26	Editorial changes only. Template updated. Revision History and contributors moved to the end of the document.
	1.0.1 edition 2	2020-01-09	Updated copyright page and confidentiality markings to support new Documentation Marking Requirements, performed minor formatting updates, and accepted all tracked changes to prepare for edition 2 publication.
	p2r00–r02	2022-03-23 – 2022-05-05	TSE 18601 (rating 2): Add C.1 to Table 4. TSE 18725 (rating 1): Editorials to align the document with the latest ICS template in anticipation of a future .Z release. Editorials, including assigning publication number 1 to previous v1.0.1, consistency checker updates, and aligning the copyright page with v2 of the DNMD.
2	p2	2022-06-28	Approved by BTI on 2022-05-31. Prepared for TCRL 2022-1 publication.
	p3r00	2023-10-10	TSE 23678 (rating 2): Resolved GATT and SDP inter-layer dependencies. Updated C.1 for Table 1. 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, deleted the ILD column, updated the Capability and Reference values for Item 1, and marked Items 2 and 3 as no longer used. Updated the references. Made editorial edits to align the document with the latest ICS template, including updates to section and table titles.
3	p3	2024-07-01	Approved by BTI on 2024-04-21. Prepared for TCRL 2024-1 publication.

Publication Number	Revision Number	Date	Comments
	p4r00–r02	2024-08-01 – 2024-08-26	TSE 17245 (rating 4): Per E16650, added new Tables 0a, 3a, and 6. Added Item 3/16 and conditional C.9 to Table 3. Updated the references list. TSE 25594 (rating 1): Per E16642, E16650, and E18757, added a version table for RSCS v1.0.1 as part of the .Z release. Updated the references list.
4	p4	2024-10-08	Approved by BTI on 2024-09-11. RSCS v1.0.1 adopted by the BoD on 2024-10-01. Prepared for TCRL 2024-2-addition publication.
	p4ed2r00	2025-07-11	TSE 27336 (rating 1): Updated the Status for RSCS 1/1 and RSCS 1/2, added conditions C.1 and C.2, and renumbered the previous C.1 as C.3. Updated the Capability for RSCS 4/3.
	p4 edition 2	2025-08-05	Approved by BTI on 2025-08-05. Prepared for edition 2 publication.
	p5r00–r01	2025-12-04 – 2026-01-12	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.
5	p5	2026-02-17	Approved by BTI on 2026-01-21. Prepared for TCRL pkg102 publication.