

Heart Rate Service (HRS)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

- **Revision:** HRP.ICS.p3 edition 2
- **Revision Date:** 2025-08-05
- **Prepared By:** BTI
- **Published during TCRL:** TCRL.2022-2



Bluetooth SIG Proprietary

This document, regardless of its title or content, is not a Bluetooth Specification as defined in the Bluetooth Patent/Copyright License Agreement ("PCLA") and Bluetooth Trademark License Agreement. Use of this document by members of Bluetooth SIG is governed by the membership and other related agreements between Bluetooth SIG Inc. ("Bluetooth SIG") and its members, including the PCLA and other agreements posted on Bluetooth SIG's website located at www.bluetooth.com.

THIS DOCUMENT IS PROVIDED "AS IS" AND BLUETOOTH SIG, ITS MEMBERS, AND THEIR AFFILIATES MAKE NO REPRESENTATIONS OR WARRANTIES AND DISCLAIM ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY, TITLE, NON-INFRINGEMENT, FITNESS FOR ANY PARTICULAR PURPOSE, THAT THE CONTENT OF THIS DOCUMENT IS FREE OF ERRORS.

TO THE EXTENT NOT PROHIBITED BY LAW, BLUETOOTH SIG, ITS MEMBERS, AND THEIR AFFILIATES DISCLAIM ALL LIABILITY ARISING OUT OF OR RELATING TO USE OF THIS DOCUMENT AND ANY INFORMATION CONTAINED IN THIS DOCUMENT, INCLUDING LOST REVENUE, PROFITS, DATA OR PROGRAMS, OR BUSINESS INTERRUPTION, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES, HOWEVER CAUSED AND REGARDLESS OF THE THEORY OF LIABILITY, AND EVEN IF BLUETOOTH SIG, ITS MEMBERS, OR THEIR AFFILIATES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

This document is proprietary to Bluetooth SIG. This document may contain or cover subject matter that is intellectual property of Bluetooth SIG and its members. The furnishing of this document does not grant any license to any intellectual property of Bluetooth SIG or its members.

This document is subject to change without notice.

Copyright © 2011–2025 by Bluetooth SIG, Inc. The Bluetooth word mark and logos are owned by Bluetooth SIG, Inc. Other third-party brands and names are the property of their respective owners.



Contents

1	General principles	4
1.1	Implementation Under Test (IUT) identification	4
1.2	Enforcement of inter-layer dependencies.....	4
2	ICS declarations.....	5
2.1	Versions	5
2.2	Transports.....	5
2.3	Service Requirements	5
2.4	GATT Requirements.....	5
3	References	7
4	Revision history and acknowledgments.....	8



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	HRS v1.0	[1]	M

2.2 Transports

Table 1: Transport Requirements

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

C.1: Excluded for this Service.

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

C.3: Mandatory for this Service.

2.3 Service Requirements

Table 2: Service Requirements

Item	Capability	Reference	Status
1	Heart Rate Service	[1] 2	M
2	Heart Rate Measurement Characteristic	[1] 3.1	M
3	Support for Heart Rate Measurement Values in UINT16 format	[1] 3.1.1.1.1	O
4	Sensor Contact feature	[1] 3.1.1.1.2	O
5	Energy Expended feature	[1] 3.1.1.3	O
6	RR-Interval feature	[1] 3.1.1.4	O
7	Body Sensor Location Characteristic	[1] 3.2	O
8	Heart Rate Control Point Characteristic	[1] 3.3	C.1
9	Heart Rate Control Point Characteristic – Reset Energy Expended	[1] 3.3.1	C.1

C.1: Mandatory IF HRS 2/5 “Energy Expended feature”, otherwise Excluded.

2.4 GATT Requirements

Table 3: GATT Requirements

Item	Capability	Reference	Status	Inter-Layer Dependency
1	No longer used	N/A	N/A	N/A
2	GATT Server over LE	[1] 1.5	M	[2] GATT 1a/3
3	Write Characteristic Value	[1] 1.4	C.1	[2] GATT 4/14
4	Single Notification	[1] 1.4	M	[2] GATT 4/17



Item	Capability	Reference	Status	Inter-Layer Dependency
5	Read Characteristic Descriptors	[1] 1.4	M	[2] GATT 4/19
6	Write Characteristic Descriptors	[1] 1.4	M	[2] GATT 4/21

C.1: Mandatory IF HRS 2/8 “Heart Rate Control Point Characteristic”, otherwise not defined.



3 References

- [1] Heart Rate Service Specification, Version 1.0
- [2] ICS Proforma for Generic Attribute Profile (GATT)



4 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	1.0.0	2011-07-12	Adopted by Bluetooth SIG Board of Directors
	1.0.1r0	2011-12-15	TSE 4632: Update Table 1 to align with GATT based services and profiles
1	1.0.1	2012-03-30	Prepare for publication.
	1.0.2r00	2016-10-05	TSE 7518: Table 0 added; copyedited table notes; "References" updated; new(ish) template.
2	1.0.2	2016-12-13	Approved by BTI. Prepared for TCRL 2016-2 publication.
	1.0.2 edition 2r00	2018-11-26	Editorial changes only. Template updated. Revision History and contributors moved to the end of the document.
	1.0.2 edition 2	2019-12-13	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.
	p3r00	2022-10-18	TSE 19333 (rating 1): Updated to align with current ICS conventions/template. Removed Support columns and added an Inter-Layer Dependency column where appropriate. Updated the references list. Added a Publication Number column to the Revision History. Revised the document numbering convention, setting the last release publication of 1.0.2 as p2. Performed additional template-related formatting fixes. Replaced the Bluetooth logo in the footer and updated the copyright page to align with v2 of the DNMD.
3	p3	2023-02-07	Approved by BTI on 2022-12-28. Prepared for TCRL 2022-2 publication.
	p3ed2r00	2025-07-10	TSE 27298 (rating 1): Updated the title for Table 0. Updated the Status for HRS 1/2, added conditions C.2 and C.3, and updated the Capability in HRS 3/4.
	p3 edition 2	2025-08-05	Approved by BTI on 2025-08-05. Prepared for edition 2 publication.

Acknowledgments

Name	Company
Joe Decuir	CSR
Robert Hughes	Intel
Guillaume Schatz	Polar
Jason Hillyard	Wicentric

