

# Heart Rate Profile (HRP)

## **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: Major Versions (X.Y)**

Item	Version	Reference	Status
1	HRP v1.0	[1]	M

## 1.3 Roles

**Table 1: Role Requirements**

Item	Transport	Reference	Status
1	Heart Rate Sensor	[1] 2.1	C.1
2	Collector	[1] 2.1	C.1

C.1: Mandatory to support at least one of HRP 1/1 “Heart Rate Sensor” OR HRP 1/2 “Collector”.

## 1.4 Transports

**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	M

C.1: Excluded for this Profile.

## 1.5 Heart Rate Sensor Role

### 1.5.1 Services – Heart Rate Sensor Role

**Table 3: Services – Heart Rate Sensor Role**

*Prerequisite: HRP 1/1 “Heart Rate Sensor”*

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Heart Rate Service	[1] 3.1	M	[2] HRS 2/1
2	Include Heart Rate Service UUID in AD in GAP Discoverable Mode	[1] 3.1.1	O	N/A
3	Include Local Name in AD or Scan Response	[1] 3.1.2	O	N/A
4	Device Information Service	[1] 3.2	M	[3] DIS 2/1

## 1.5.2 Device Information Service Requirements – Heart Rate Sensor Role

**Table 4: Device Information Service Requirements – Heart Rate Sensor**

*Prerequisite: HRP 1/1 “Heart Rate Sensor”*

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Manufacturer Name String Characteristic	[1] 3.2	M	[3] DIS 2/2

## 1.5.3 GAP Requirements – Heart Rate Sensor Role

**Table 5: GAP Requirements – Heart Rate Sensor**

*Prerequisite: HRP 1/1 “Heart Rate Sensor”*

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Peripheral	[1] 2.4	M	[5] GAP 5/3 or GAP 38/3
2	Bondable mode	[1] 6.1	O	[5] GAP 24/2
3	LE security mode 1	[1] 6.1	C.1	[5] GAP 25/1
4	Unauthenticated Pairing (LE security mode 1 level 2)	[1] 6.1	C.2	[5] GAP 25/8
5	Authenticated Pairing (LE security mode 1 level 3)	[1] 6.1	C.2	[5] GAP 25/7

C.1: Mandatory IF HRP 5/2 “Bondable mode”, otherwise not defined.

C.2: Mandatory to support at least one of HRP 5/4 “Unauthenticated Pairing (LE security mode 1 level 2)” OR HRP 5/5 “Authenticated Pairing (LE security mode 1 level 3)” IF HRP 5/2 “Bondable mode”, otherwise not defined.

**Table 6: No longer used**

## 1.6 Collector Role

**Table 7: No longer used**

### 1.6.1 Discover Services and Characteristics – Collector Role

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

*Prerequisite: HRP 1/2 “Collector”*

Item	Capability	Reference	Status
1	Discover Heart Rate Service	[1] 4.2.1	M
2	Discover Heart Rate Measurement characteristic	[1] 4.3.1.1	M
3	Discover Heart Rate Measurement – Client Characteristic Configuration Descriptor	[1] 4.3.1.1	M



Item	Capability	Reference	Status
4	Discover Body Sensor Location characteristic	[1] 4.3.1.2	O
5	Discover Heart Rate Control Point characteristic	[1] 4.3.1.3	C.1

C.1: Mandatory IF HRP 9/4 “Write Heart Rate Control Point characteristic – Reset Energy Expended”, otherwise Optional.

## 1.6.2 Features – Collector Role

**Table 9: Features – Collector Role**

*Prerequisite: HRP 1/2 “Collector”*

Item	Capability	Reference	Status
1	Configure Heart Rate Measurement characteristic for notifications	[1] 4.4	M
2	Receive Heart Rate Measurement characteristic notifications	[1] 4.4	M
3	Read Body Sensor Location characteristic	[1] 4.5	O
4	Write Heart Rate Control Point characteristic – Reset Energy Expended	[1] 4.6.1	O
5	Verify Bond Status on Reconnection	[1] 5.2.2	C.1

C.1: Mandatory IF HRP 12/3 “Bondable mode”, otherwise Excluded.

## 1.6.3 Discover DIS and Related Characteristics – Collector Role

**Table 10: DIS and Related Characteristics – Collector Role**

*Prerequisite: HRP 1/2 “Collector”*

Item	Capability	Reference	Status
1	Discover Device Information Service	[1] 4.2.2	O
2	Manufacturer Name String Characteristic	[1] 3.2, 4.3.2, 4.7	C.2

C.1: No longer used.

C.2: Optional IF HRP 10/1 “Discover Device Information Service”, otherwise Excluded.

## 1.6.4 GATT Requirements – Collector Role

**Table 11: GATT Requirements – Collector Role**

*Prerequisite: HRP 1/2 “Collector”*

Item	Capability	Reference	Status	Inter-Layer Dependency
1	No longer used	N/A	N/A	N/A
2	GATT Client over LE	[1] 2.5	M	[4] GATT 1a/1
3	Discover All Primary Services	[1] 4.2	C.1	[4] GATT 3/2
4	Discover Primary Services by Service UUID	[1] 4.2	C.1	[4] GATT 3/3



Item	Capability	Reference	Status	Inter-Layer Dependency
5	Discover All Characteristics of a Service	[1] 4.3.1, 4.3.2	C.2	[4] GATT 3/5
6	Discover Characteristics by UUID	[1] 4.3.1, 4.3.2	C.2	[4] GATT 3/6
7	Discover All Characteristic Descriptors	[1] 4.3.1	M	[4] GATT 3/7
8	Read Characteristic Value	[1] 4.5	C.3	[4] GATT 3/8
9	Write Characteristic Value	[1] 4.6	C.4	[4] GATT 3/14
10	Notifications	[1] 4.4	M	[4] GATT 3/17
11	Read Characteristic Descriptors	[1] 4.1	M	[4] GATT 3/19
12	Write Characteristic Descriptors	[1] 4.1	M	[4] GATT 3/21

C.1: Mandatory to support at least one of HRP 11/3 “Discover All Primary Services” OR HRP 11/4 “Discover Primary Services by Service UUID”.

C.2: Mandatory to support at least one of HRP 11/5 “Discover All Characteristics of a Service” OR HRP 11/6 “Discover Characteristics by UUID”.

C.3: Mandatory IF HRP 9/3 “Read Body Sensor Location characteristic”, otherwise Optional.

C.4: Mandatory IF HRP 9/4 “Write Heart Rate Control Point characteristic – Reset Energy Expended”, otherwise Optional.

### 1.6.5 GAP Requirements – Collector Role

**Table 12: GAP Requirements – Collector Role**

*Prerequisite: HRP 1/2 “Collector”*

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Central	[1] 2.4	M	[5] GAP 5/4 or GAP 38/4
2	LE security mode 1	[1] 6.2	M	[5] GAP 35/1
3	Bondable mode	[1] 6.1	O	[5] GAP 34/2
4	Unauthenticated Pairing (LE security mode 1 level 2)	[1] 6.1	M	[5] GAP 35/8
5	Authenticated Pairing (LE security mode 1 level 3)	[1] 6.1	M	[5] GAP 35/7

**Table 13: No longer used**



## 2 References

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- [1] Heart Rate Profile, Version 1.0
- [2] ICS Proforma for Heart Rate Service (HRS)
- [3] ICS Proforma for Device Information Service (DIS)
- [4] ICS Proforma for Generic Attribute Profile (GATT)
- [5] ICS Proforma for Generic Access Profile (GAP)

### 3 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	1.0.1r0	2011-11-04	TSE 4581: Table 9, Change C.1. Table 12, add row 3 TSE 4555: Tables 2, 5, 11, 12. Cf. TSE 4515 for HTP ICS
	1.0.2r00	2016-08-16	TSE 7488: Added Table 0. Corrected reference in Table 3. Updated conditionals for Table 5, 8, 9, and 10. Updated References section.
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–r01	2022-10-17 – 2022-11-15	TSE 19334 (rating 2): Updated to align with current ICS conventions/template. Replaced SM references with GAP references. Added missing “otherwise” clauses. Removed Support columns and added an Inter-Layer Dependency column where appropriate. Deleted Tables 6 and 13 because they are no longer used. Updated references. 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.

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