

Health Thermometer Service (HTS)

Bluetooth® Test Suite

- **Revision:** HTS.TS.p2
- **Revision Date:** 2023-06-29
- **Prepared By:** BTI
- **Published during TCRL:** TCRL.2023-1



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 © 2011–2023 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	Scope	4
2	References, definitions, and abbreviations	5
2.1	References	5
2.2	Definitions	5
2.3	Abbreviations	5
3	Test Suite Structure (TSS)	6
3.1	Overview	6
3.2	Test Strategy	6
3.3	Test groups	7
4	Test cases (TC)	8
4.1	Introduction	8
4.1.1	Test case identification conventions	8
4.1.2	Conformance	8
4.1.3	Pass/Fail verdict conventions	9
4.2	Setup preambles	9
4.2.1	ATT Bearer on LE Transport	9
4.3	Generic GATT Integrated Tests	10
	HTS/SEN/SGGIT/SER/BV-01-C [Service GGIT – Health Thermometer]	10
	HTS/SEN/SGGIT/CHA/BV-01-C [Characteristic GGIT – Temperature Measurement]	10
	HTS/SEN/SGGIT/CHA/BV-02-C [Characteristic GGIT – Temperature Type]	10
	HTS/SEN/SGGIT/CHA/BV-03-C [Characteristic GGIT – Intermediate Temperature]	10
	HTS/SEN/SGGIT/CHA/BV-04-C [Characteristic GGIT – Measurement Interval]	10
	HTS/SEN/SGGIT/CHA/BV-05-C [Characteristic GGIT – Measurement Interval (Write)]	10
	HTS/SEN/SGGIT/CHA/BV-06-C [Characteristic GGIT – Measurement Interval (Indicate)]	10
	HTS/SEN/SGGIT/CHA/BV-07-C [Characteristic GGIT – Measurement Interval (Write and Indicate)]	10
	HTS/SEN/SGGIT/DES/BV-01-C [Characteristic GGIT – Valid Range]	11
4.4	Characteristic Write	12
	HTS/SEN/CW/BV-02-C [Characteristic Write – Measurement Interval]	12
4.5	Configure Indication and Notification	13
	HTS/SEN/CIN/BV-01-C [Configure Indication – Temperature Measurement]	13
	HTS/SEN/CIN/BV-02-C [Configure Notification – Intermediate Temperature]	13
	HTS/SEN/CIN/BV-03-C [Configure Indication – Measurement Interval]	13
4.6	Characteristic Indication	14
	HTS/SEN/CI/BV-01-C [Characteristic Indication – Temperature Measurement]	14
	HTS/SEN/CI/BV-02-C [Characteristic Indication – Measurement Interval]	14
4.7	Service Procedures	15
	HTS/SEN/SP/BV-01-C [Periodic Temperature Measurements]	15
	HTS/SEN/SP/BV-02-C [Stored Temperature Measurements]	16
	HTS/SEN/SP/BV-03-C [Intermediate Temperature Notifications]	16
	HTS/SEN/SP/BI-01-C [Periodic Temperature Measurements – Out of Range]	17
5	Test case mapping	19
6	Revision history and acknowledgments	20

1 Scope

This Bluetooth document contains the Test Suite Structure (TSS) and test cases to test the implementation of the Bluetooth Health Thermometer Service Specification with the objective to provide a high probability of air interface interoperability between the tested implementation and other manufacturers' Bluetooth devices.

2 References, definitions, and abbreviations

2.1 References

This document incorporates provisions from other publications by dated or undated reference. These references are cited at the appropriate places in the text, and the publications are listed hereinafter. Additional definitions and abbreviations can be found in [1] and [2].

- [1] Test Strategy and Terminology Overview
- [2] Bluetooth Core Specification, Version 4.0 or later
- [3] Health Thermometer Service Specification, Version 1.0
- [4] ICS Proforma for Health Thermometer Service, HTS.ICS
- [5] GATT Test Suite, GATT.TS

2.2 Definitions

In this Bluetooth document, the definitions from [1] and [2] apply.

2.3 Abbreviations

In this Bluetooth document, the definitions, acronyms, and abbreviations from [1] and [2] apply.

3 Test Suite Structure (TSS)

3.1 Overview

The Health Thermometer Service requires the presence of GAP, SM and GATT. This is illustrated in Figure 3.1.

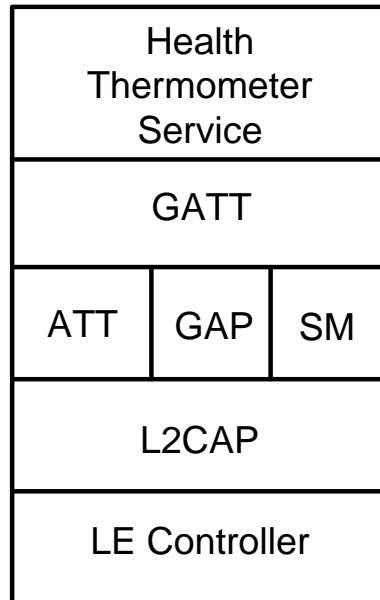


Figure 3.1: Health Thermometer Service test model

3.2 Test Strategy

The test objectives are to verify functionality of the Health Thermometer Service within a Bluetooth Host and enable interoperability between Bluetooth Hosts on different devices. The testing approach covers mandatory and optional requirements in the specification and matches these to the support of the IUT as described in the ICS. Any defined test herein is applicable to the IUT if the ICS logical expression defined in the Test Case Mapping Table (TCMT) evaluates to true.

The test equipment provides an implementation of the Radio Controller and the parts of the Host needed to perform the test cases defined in this Test Suite. A Lower Tester acts as the IUT's peer device and interacts with the IUT over-the-air interface. The configuration, including the IUT, needs to implement similar capabilities to communicate with the test equipment. For some test cases, it is necessary to stimulate the IUT from an Upper Tester. In practice, this could be implemented as a special test interface, a Man Machine Interface (MMI), or another interface supported by the IUT.

This Test Suite contains Valid Behavior (BV) tests complemented with Invalid Behavior (BI) tests where required. The test coverage mirrored in the Test Suite Structure is the result of a process that started with catalogued specification requirements that were logically grouped and assessed for testability enabling coverage in defined test purposes.

3.3 Test groups

The following test groups have been defined:

- Generic GATT Integrated Tests
- Characteristic Write
- Configure Indication and Notification
- Characteristic Indication
- Service Procedures

4 Test cases (TC)

4.1 Introduction

4.1.1 Test case identification conventions

Test cases are assigned unique identifiers per the conventions in [1]. The convention used here is:

<spec abbreviation>/<IUT role>/<class>/<feat>/<func>/<subfunc>/<cap>/<xx>-<nn>-<y>.

Additionally, testing of this specification includes tests from the GATT Test Suite [5] referred to as Generic GATT Integrated Tests (GGIT); when used, the GGIT tests are referred to through a TCID string using the following convention:

<spec abbreviation>/<IUT role>/<GGIT test group>/< GGIT class >/<xx>-<nn>-<y>.

Identifier Abbreviation	Spec Identifier <spec abbreviation>
HTS	Health Thermometer Service
Identifier Abbreviation	Role Identifier <IUT role>
SEN	Sensor Role
Identifier Abbreviation	Reference Identifier <GGIT test group>
SGGIT	Server Generic GATT Integrated Tests
Identifier Abbreviation	Reference Identifier <GGIT class>
CHA	Characteristic
DES	Descriptor
SER	Service
Identifier Abbreviation	Feature Identifier <feat>
CI	Characteristic Indication
CIN	Configure Indication and Notification
CW	Characteristic Write
SP	Service Procedures

Table 4.1: HTS TC feature naming conventions

4.1.2 Conformance

When conformance is claimed for a particular specification, all capabilities are to be supported in the specified manner. The mandated tests from this Test Suite depend on the capabilities to which conformance is claimed.

The Bluetooth Qualification Program may employ tests to verify implementation robustness. The level of implementation robustness that is verified varies from one specification to another and may be revised for cause based on interoperability issues found in the market.

Such tests may verify:

- That claimed capabilities may be used in any order and any number of repetitions not excluded by the specification
- That capabilities enabled by the implementations are sustained over durations expected by the use case
- That the implementation gracefully handles any quantity of data expected by the use case

- That in cases where more than one valid interpretation of the specification exists, the implementation complies with at least one interpretation and gracefully handles other interpretations
- That the implementation is immune to attempted security exploits

A single execution of each of the required tests is required to constitute a Pass verdict. However, it is noted that to provide a foundation for interoperability, it is necessary that a qualified implementation consistently and repeatedly pass any of the applicable tests.

In any case, where a member finds an issue with the test plan generated by Launch Studio, with the test case as described in the Test Suite, or with the test system utilized, the member is required to notify the responsible party via an erratum request such that the issue may be addressed.

4.1.3 Pass/Fail verdict conventions

Each test case has an Expected Outcome section. The IUT is granted the Pass verdict when all the detailed pass criteria conditions within the Expected Outcome section are met.

The convention in this Test Suite is that, unless there is a specific set of fail conditions outlined in the test case, the IUT fails the test case as soon as one of the pass criteria conditions cannot be met. If this occurs, then the outcome of the test is a Fail verdict.

4.2 Setup preambles

The procedures defined in this section are provided for information, as they are used by test equipment in achieving the initial conditions in certain tests.

4.2.1 ATT Bearer on LE Transport

Follow the preamble procedure described in [5] Section 3.2.1.2 with the IUT operating in the Peripheral role.

4.3 Generic GATT Integrated Tests

Execute the Generic GATT Integrated Tests defined in [5] Section 6.3, Server test procedures (SGGIT), using Table 4.2 below as input:

TCID	Service / Characteristic / Descriptor	Reference	Properties	Value Length (Octets)	Service Type
HTS/SEN/SGGIT/SER/BV-01-C [Service GGIT – Health Thermometer]	Health Thermometer Service	[3] 2	-	-	Primary Service
HTS/SEN/SGGIT/CHA/BV-01-C [Characteristic GGIT – Temperature Measurement]	Temperature Measurement Characteristic	[3] 3	0x20 (Indicate)	Skip	-
HTS/SEN/SGGIT/CHA/BV-02-C [Characteristic GGIT – Temperature Type]	Temperature Type Characteristic	[3] 3	0x02 (Read)	1	-
HTS/SEN/SGGIT/CHA/BV-03-C [Characteristic GGIT – Intermediate Temperature]	Intermediate Temperature Characteristic	[3] 3	0x10 (Notify)	Skip	-
HTS/SEN/SGGIT/CHA/BV-04-C [Characteristic GGIT – Measurement Interval]	Measurement Interval Characteristic	[3] 3	0x02 (Read)	2	-
HTS/SEN/SGGIT/CHA/BV-05-C [Characteristic GGIT – Measurement Interval (Write)]	Measurement Interval Characteristic	[3] 3	0x0A (Read, Write)	Skip-Write	-
HTS/SEN/SGGIT/CHA/BV-06-C [Characteristic GGIT – Measurement Interval (Indicate)]	Measurement Interval Characteristic	[3] 3	0x22 (Read, Indicate)	2	-
HTS/SEN/SGGIT/CHA/BV-07-C [Characteristic GGIT – Measurement Interval (Write and Indicate)]	Measurement Interval Characteristic	[3] 3	0x2A (Read, Write, Indicate)	Skip-Write	-

TCID	Service / Characteristic / Descriptor	Reference	Properties	Value Length (Octets)	Service Type
HTS/SEN/SGGIT/DES/BV-01-C [Characteristic GGIT – Valid Range]	Valid Range Descriptor	[3] 3	0x02 (Read)	4	-

Table 4.2: Input for the GGIT Server test procedure

4.4 Characteristic Write

- Test Purpose
Write and verify that the characteristic values required by the service are compliant.
- Reference
[\[3\]](#) 3.4
- Initial Condition
 - The handle of the characteristic value referenced in the test case below has been previously discovered by the Lower Tester during the test procedure in Section [4.3](#) or is known to the Lower Tester by other means.
 - Establish an ATT Bearer connection between the Lower Tester and the IUT as described in Section [4.2.1](#).
- Test Case Configuration

Test Case	Requirements
HTS/SEN/CW/BV-02-C [Characteristic Write – Measurement Interval]	[3] 3.4.1

Table 4.3: Characteristic Write Value test cases

- Test Procedure
 1. The Lower Tester and the IUT perform an authentication procedure and encryption is enabled.
 2. The Lower Tester sends an ATT_Write_Request to the IUT to write the characteristic value.
 3. The IUT sends an ATT_Write_Response to the Lower Tester.
 4. The Lower Tester sends an ATT_Read_Request to the IUT to read the characteristic value written in step 1.
 5. The IUT sends an ATT_Read_Response to the Lower Tester.
 6. Verify that the characteristic value is successfully written and that the value returned when read is consistent with the value written.
- Expected Outcome

Pass verdict

The authentication procedure is successful and encryption is enabled.

The characteristic value is successfully written and the value returned when read is consistent with the value written.

4.5 Configure Indication and Notification

- Test Purpose

Verify compliant operation in response to enable and disable characteristic indication or notification.

- Reference

[3] 3.1.2.1, 3.3.2.1, 3.4.2.1

- Initial Condition

- The handle of each characteristic value referenced in the test cases below has been previously discovered by the Lower Tester during the test procedure in Section 4.3 or is known to the Lower Tester by other means.
- The handle of the client characteristic configuration descriptor of each characteristic referenced in the test cases below has been previously discovered by the Lower Tester during the test procedure in Section 4.3 or is known to the Lower Tester by other means.
- If the IUT requires a bonding procedure then perform a bonding procedure.
- Establish an ATT Bearer connection between the Lower Tester and IUT as described in Section 4.2.1.
- If IUT permissions for the characteristic require a specific security mode or security level, establish a connection meeting those requirements.

- Test Case Configuration

Test Case	Requirements
HTS/SEN/CIN/BV-01-C [Configure Indication – Temperature Measurement]	[3] 3.1.2.1
HTS/SEN/CIN/BV-02-C [Configure Notification – Intermediate Temperature]	[3] 3.3.2.1
HTS/SEN/CIN/BV-03-C [Configure Indication – Measurement Interval]	[3] 3.4.2.1

Table 4.4: Configure Indication and Notification test cases

- Test Procedure

1. The Lower Tester sends an ATT_Write_Request to disable indication or notification by writing value 0x0000 to the client characteristic configuration descriptor of the characteristic.
2. If the test case is for notification, the Lower Tester sends an ATT_Write_Request to enable notification by writing value 0x0001 to the client characteristic configuration descriptor of the characteristic.
3. Otherwise, if the test case is for indication, the Lower Tester sends an ATT_Write_Request to enable indication by writing value 0x0002 to the client characteristic configuration descriptor of the characteristic.

- Expected Outcome

Pass verdict

The characteristic descriptor is successfully written and the value returned when read is consistent with the value written.

4.6 Characteristic Indication

- Test Purpose

Verify compliant operation when the IUT sends indications of characteristic values. Verify that the IUT sends indications of characteristic values.

- Reference

[3] 3.1.1, 3.4.1

- Initial Condition

- The handle of the characteristic value referenced in the test case below has been previously discovered by the Lower Tester during the test procedure in Section 4.3 or is known to the Lower Tester by other means.
- The characteristic is configured for indication.
- If the IUT requires a bonding procedure then perform a bonding procedure.
- Establish an ATT Bearer connection between the Lower Tester and IUT as described in Section 4.2.1.
- If IUT permissions for the characteristic require a specific security mode or security level, establish a connection meeting those requirements.

- Test Case Configuration

Test Case	Value (Requirements)
HTS/SEN/CI/BV-01-C [Characteristic Indication – Temperature Measurement]	[3] 3.1.1
HTS/SEN/CI/BV-02-C [Characteristic Indication – Measurement Interval]	[3] 3.4.1

Table 4.5: Characteristic Indication Value test cases

- Test Procedure

1. Perform an action on the IUT that will induce it to send an indication of the characteristic.
2. A connection is established between the Lower Tester and IUT meeting the security requirements of the IUT, if not already done so prior to step 1.
3. The Lower Tester receives an ATT_Handle_Value_Indication from the IUT containing the characteristic handle and value.
4. The Lower Tester sends an ATT_Handle_Value_Confirmation to the IUT.
5. Verify that the characteristic value meets the requirements of the service.

- Expected Outcome

Pass verdict

The characteristic is successfully indicated and the characteristic value meets the requirements of the service.

4.7 Service Procedures

Verify the operation of additional procedures defined in the service specification.

HTS/SEN/SP/BV-01-C [Periodic Temperature Measurements]

- Test Purpose

Verify that the IUT can perform periodic temperature measurements using the Measurement Interval characteristic.
- Reference

[3] 3.4
- Initial Condition
 - The Temperature Measurement characteristic is configured for indication.
 - If the IUT requires a bonding procedure then perform a bonding procedure.
 - Establish an ATT Bearer connection between the Lower Tester and IUT as described in Section 4.2.1.
 - If IUT permissions require a specific security mode or security level, establish a connection meeting those requirements.
- Test Procedure
 1. Set the value of the Measurement Interval characteristic to a value supported by the IUT greater than zero. This is done from the Lower Tester by establishing a connection and writing the value to the Measurement Interval characteristic, if the IUT supports writing to this characteristic. Otherwise, it is done by other action on the IUT.
 2. A connection is established between the Lower Tester and IUT meeting the security requirements of the IUT, if not already established.
 3. The Lower Tester receives an ATT_Handle_Value_Indication from the IUT containing the Temperature Measurement characteristic handle and value.
 4. The Lower Tester sends an ATT_Handle_Value_Confirmation to the IUT before the next ATT_Handle_Value_Indication is due as specified in the Measurement Interval characteristic.
 5. Repeat steps 2–4 until two or more measurements are received. Note that the IUT may terminate the connection after each indication.
 6. Verify that the time between indications is consistent with the value of the Measurement Interval characteristic. Note that the time between indications will be affected by the LE connection interval and the connection establishment time.
 7. Set the value of the Measurement Interval characteristic to zero.
 8. The IUT stops sending periodic indications of the temperature measurement characteristic.
- Expected Outcome

Pass verdict

The IUT sends two or more indications of the Temperature Measurement characteristic.

The time between indications is consistent with the value of the Measurement Interval characteristic.

The IUT stops sending periodic indications of the temperature measurement characteristic when the value of the Measurement Interval characteristic is set to zero.

HTS/SEN/SP/BV-02-C [Stored Temperature Measurements]

- Test Purpose

Verify that the IUT can send indications of stored temperature measurements.
- Reference

[3] 3.1.1, 3.5
- Initial Condition
 - The Temperature Measurement characteristic is configured for indication.
 - If the IUT requires a bonding procedure then perform a bonding procedure.
 - Establish an ATT Bearer connection between the Lower Tester and IUT as described in Section 4.2.1.
- Test Procedure
 1. Perform an action on the IUT that will induce it to store temperature measurements.
 2. Perform an action on the IUT that will induce it to send stored temperature measurements to the Lower Tester.
 3. A connection is established between the Lower Tester and IUT meeting the security requirements of the IUT, if not already done so prior to step 1.
 4. The Lower Tester receives an ATT_Handle_Value_Indication from the IUT containing the Temperature Measurement characteristic handle and value.
 5. The Lower Tester sends an ATT_Handle_Value_Confirmation to the IUT.
 6. Repeat steps 4–5 until all stored measurements are received or the IUT terminates the connection.
 7. Verify that the characteristic value in each indication contains the time stamp field.
 8. Verify that the indications are received in order, so that the time stamp with the oldest measurement is received first.
- Expected Outcome

Pass verdict

The IUT sends one or more indications of the Temperature Measurement characteristic.

The Temperature Measurement characteristic contains the time stamp field.

The indications are received in order, so that the time stamp with the oldest measurement is received first.

HTS/SEN/SP/BV-03-C [Intermediate Temperature Notifications]

- Test Purpose

Verify that the IUT can send notifications of intermediate temperature values followed by the temperature measurement.
- Reference

[3] 3.3
- Initial Condition
 - The Intermediate Temperature characteristic is configured for notification.
 - The Temperature Measurement characteristic is configured for indication.

- If the IUT requires a bonding procedure then perform a bonding procedure.
- Establish an ATT Bearer connection between the Lower Tester and IUT as described in Section 4.2.1.
- If IUT permissions for the Intermediate Temperature characteristic require a specific security mode or security level, establish a connection meeting those requirements.
- Test Procedure
 1. Perform an action on the IUT that will induce it to send notifications of the Intermediate Temperature characteristic.
 2. A connection is established between the Lower Tester and IUT meeting the security requirements of the IUT, if not already established.
 3. The Lower Tester receives an ATT_Handle_Value_Notification from the IUT containing the Intermediate Temperature characteristic handle and value.
 4. Verify that the characteristic value meets the requirements of the service.
 5. Repeat steps 2–4 for each received notification until the IUT stops sending notifications. Note that the IUT may terminate the connection after each notification.
 6. The Lower Tester receives an ATT_Handle_Value_Indication from the IUT containing the Temperature Measurement characteristic handle and value.
 7. The Lower Tester sends an ATT_Handle_Value_Confirmation to the IUT.
 8. Verify that the characteristic value meets the requirements of the service.

- Expected Outcome

Pass verdict

The IUT sends one or more notifications of the Intermediate Temperature characteristic.

The value of the Intermediate Temperature characteristic meets the requirements of the service.

The IUT stops sending notifications of the Intermediate Temperature characteristic after the temperature measurement is available.

The IUT sends an indication of the Temperature Measurement characteristic.

The value of the Temperature Measurement characteristic meets the requirements of the service.

HTS/SEN/SP/BI-01-C [Periodic Temperature Measurements – Out of Range]

- Test Purpose

Verify that the IUT that supports periodic temperature measurements using the Measurement Interval characteristic responds with an 'out of range' error code if a Client attempts to write an invalid value.
- Reference

[3] 3.4.1
- Initial Condition
 - The Lower Tester has read the valid range of the Measurement Interval characteristic by executing test case [HTS/SEN/SGGIT/DES/BV-01-C \[Characteristic GGIT – Valid Range\]](#) .
 - Establish an ATT Bearer connection between the Lower Tester and IUT as described in Section 4.2.1.

- Test Procedure
 1. The Lower Tester and IUT perform an authentication procedure and encryption is enabled.
 2. Select a measurement interval value that is non-zero and not supported by the IUT. Write the value to the Measurement Interval characteristic by executing the GATT Write Characteristic Value sub-procedure.
 3. Verify that the characteristic write fails with error code 'out of range'.

- Expected Outcome

Pass verdict

The characteristic write fails with error code 'out of range'.

The test cannot be executed because the valid range is 1 to 65535.

5 Test case mapping

The Test Case Mapping Table (TCMT) maps test cases to specific requirements in the ICS. The IUT is tested in all roles for which support is declared in the ICS document.

The columns for the TCMT are defined as follows:

Item: Contains a logical expression based on specific entries from the associated ICS document. Contains a logical expression (using the operators AND, OR, NOT as needed) based on specific entries from the applicable ICS document(s). The entries are in the form of y/x references, where y corresponds to the table number and x corresponds to the feature number as defined in the ICS document for Health Thermometer Service (HTS) [4].

Feature: A brief, informal description of the feature being tested.

Test Case(s): The applicable test case identifiers are required for Bluetooth Qualification if the corresponding y/x references defined in the Item column are supported. Further details about the function of the TCMT are elaborated in [1].

For the purpose and structure of the ICS/IXIT, refer to [1].

Item	Feature	Test Case(s)
HTS 2/1	Health Thermometer Service	HTS/SEN/SGGIT/SER/BV-01-C
HTS 2/2	Temperature Measurement Characteristic	HTS/SEN/SGGIT/CHA/BV-01-C HTS/SEN/CIN/BV-01-C HTS/SEN/CI/BV-01-C
HTS 2/3	Temperature Type Characteristic	HTS/SEN/SGGIT/CHA/BV-02-C
HTS 2/4	Intermediate Temperature Characteristic	HTS/SEN/SGGIT/CHA/BV-03-C HTS/SEN/CIN/BV-02-C HTS/SEN/SP/BV-03-C
HTS 2/5 AND NOT HTS 2/6 AND NOT HTS 2/7	Measurement Interval Characteristic Discovery – Read	HTS/SEN/SGGIT/CHA/BV-04-C
HTS 2/5 AND HTS 2/6 AND NOT HTS 2/7	Measurement Interval Characteristic Discovery – Read and Write	HTS/SEN/SGGIT/CHA/BV-05-C
HTS 2/5 AND NOT HTS 2/6 AND HTS 2/7	Measurement Interval Characteristic Discovery – Read and Indicate	HTS/SEN/SGGIT/CHA/BV-06-C
HTS 2/5 AND HTS 2/6 AND HTS 2/7	Measurement Interval Characteristic Discovery – Read, Write, and Indicate	HTS/SEN/SGGIT/CHA/BV-07-C
HTS 2/5	Measurement Interval Characteristic	HTS/SEN/SP/BV-01-C
HTS 2/6	Measurement Interval Characteristic, Write	HTS/SEN/CW/BV-02-C HTS/SEN/SGGIT/DES/BV-01-C HTS/SEN/SP/BI-01-C
HTS 2/7	Measurement Interval Characteristic, Indicate	HTS/SEN/CIN/BV-03-C HTS/SEN/CI/BV-02-C
HTS 2/8	Stored Measurements	HTS/SEN/SP/BV-02-C

Table 5.1: Test case mapping

6 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	1.0.0	2011-05-24	Prepare for publication.
	1.0.1r00	2016-05-24	Converted to new Test Case ID conventions as defined in TSTO v4.1.
	1.0.1r01	2016-06-04	Converted to current TS template
1	1.0.1	2016-07-14	Prepared for TCRL 2016-1 publication.
	1.0.1 edition 2r00	2018-11-29	Editorial changes only. Template updated. Revision History and contributors moved to the end of the document.
	1.0.1 edition 2	2019-12-16	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–r01	2023-05-03 – 2023-05-09	TSE 22819 (rating 2): Converted the following test cases to GGIT: HTS/SEN/CR/BV-01-C and -02-C; HTS/SEN/DEC/BV-02-C – -05-C; HTS/SEN/DES/BV-01-C and -03-C – -05-C; and HTS/SEN/SD/BV-01-C. The new GGIT converted TCIDs are: HTS/SEN/SGGIT/CHA/BV-01-C – -07-C, HTS/SEN/SGGIT/DES/BV-01-C, and HTS/SEN/SGGIT/SER/BV-01-C. Updated the TCMT accordingly. Editorials to align the document with the latest TS template and DNMD, including setting the previous v1.0.1 as p1.
2	p2	2023-06-29	Approved by BTI on 2023-05-28. Prepared for TCRL 2023-1 publication.

Acknowledgments

Name	Company
Joe Decuir	CSR
Bob Hughes	Intel
Jason Hillyard	Wicentric