

Glucose Profile (GLP)

Bluetooth® Test Suite

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1 Scope

This Bluetooth document contains the Test Suite Structure (TSS) and Test Cases (TC) to test the Bluetooth Glucose Profile Specification.

The objective of this test suite is to provide a basis for interoperability tests for Bluetooth devices giving a high probability of air interface interoperability between different manufacturers' Bluetooth devices.

2 References, Definitions, and Abbreviations

2.1 References

This Bluetooth document incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter.

- [1] Bluetooth Test Strategy and Terminology Overview
- [2] Bluetooth Core Specification V4.0 or later
- [3] Glucose Profile Specification V1.0 or later
- [4] ICS Proforma for Glucose Profile
- [5] GAP Test Suite GAP.TS
- [6] SM Test Suite SM.TS
- [7] GATT Test Suite GATT.TS
- [8] Glucose Service Specification V1.0
- [9] Device Information Service Specification V1.0 or later
- [10] Glucose Service Test Suite GLS.TS
- [11] Glucose Profile Implementation eXtra Information for Test, IXIT

2.2 Definitions

For the purpose of this Bluetooth document, the definitions in [1] and [2] apply.

2.3 Abbreviations

For the purpose of this Bluetooth document, the abbreviations in [1] and [2] apply.

3 Test Suite Structure (TSS)

3.1 Overview

The Glucose Profile requires the presence of GAP, SM and GATT. This is illustrated in [Figure 3.1](#).

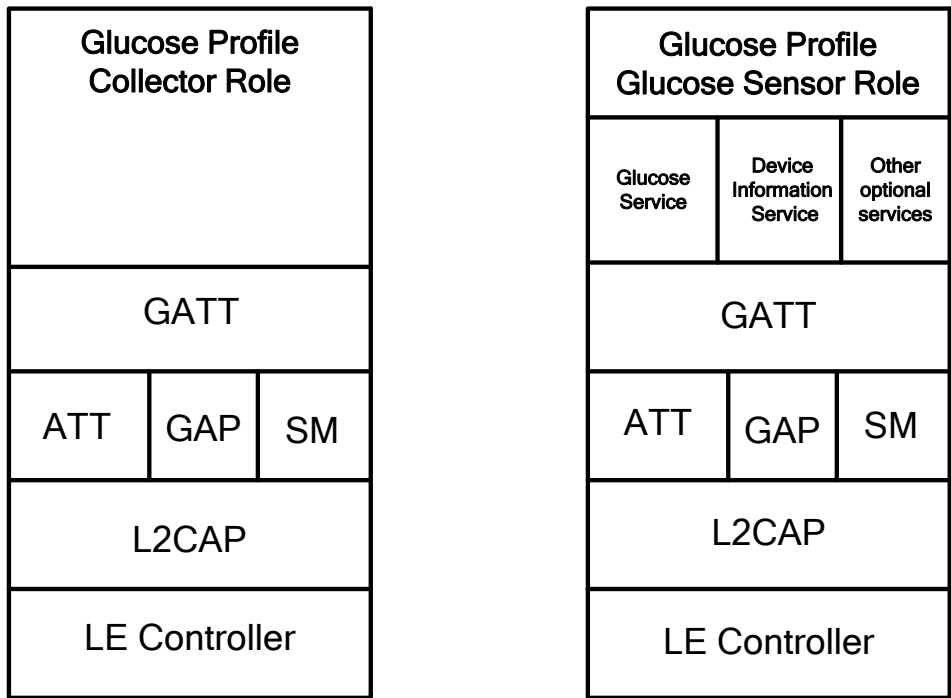


Figure 3.1: Glucose Test Models

3.2 Test Strategy

The test objectives are to verify functionality of the Glucose Profile within a Bluetooth Host and enable interoperability between Bluetooth Hosts on different devices. The testing approach is to cover mandatory and optional requirements in the profile specification and to match these to the support of the IUT as described in the ICS Proforma.

The basis for the test approach is the general concepts and conformance testing principles defined in ISO/ IEC 9646-1 and ISO/IEC 9646-2; both are part of the OSI Conformance Testing Methodology and Framework (CTMF).

The conformance test equipment shall provide an implementation of the Radio Controller and the parts of the Host needed to perform the test cases defined in the Glucose Profile Test Suite. 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, an MMI, or another interface supported by the IUT.

The Glucose Profile 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.

The test suite structure is a tree with the first level representing the protocol groups. This structure is shown in [Section 3.3](#).

The interface between the IUT and the Upper Tester may be:

- A man-machine interface
- Provided by the IUT manufacturer

3.3 Test Groups

The following test groups have been defined:

3.3.1 Discovery of Services and Characteristics

- This group tests IUT discovery of the Glucose Service and characteristics and Device Information Service and characteristics.

3.3.2 Features

- This group tests IUT implementation of Glucose Profile Features.

3.3.3 Service Procedures

This group tests the operation of additional procedures defined in the service specification including aborting procedures, deleting records, reporting records a counting the number of records.

4 Test Cases (TC)

4.1 Introduction

4.1.1 TC Naming Conventions

Test cases shall be assigned unique identifiers per the conventions in [1]. The convention used here is <spec abbreviation>/<IUT role>/<feat>/<xx>-<nn>-<y>.

Test group abbreviations for “class,” feature,” “function,” “sub-function” or “capability” (as applicable to this test suite) are defined in Table 4.1.

Identifier Abbreviation	Feature Identifier <feat>
GLD	Discovery of Services and Characteristics
GLF	Features
CO	Collector Role
GL	Glucose Sensor Role
SPA	Service Procedure – Abort
SPD	Service Procedure – Delete
SPN	Service Procedure – Number
SPR	Service Procedure – Report
SPT	Service Procedure – Time Updates
SPE	Service Procedure – Error Handling

Table 4.1: GLP TP Feature Naming Convention

4.1.2 Conformance

When conformance is claimed, all capabilities indicated as mandatory for this Specification shall be supported in the specified manner (process-mandatory). This also applies for all optional and conditional capabilities for which support is indicated. All mandatory capabilities, and optional and conditional capabilities for which support is indicated, are subject to verification as part of the Bluetooth certification program.

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 that is not excluded by the Specification, OR

- That capabilities enabled by the implementations are sustained over durations expected by the use case, OR
- That the implementation gracefully handles any quantity of data expected by the use case, OR
- That in cases where more than one valid interpretation of the Specification exist, the implementation complies with at least one interpretation and gracefully handles other interpretations OR
- That the implementation is immune to attempted security exploits.

A single execution of each of the required tests is required in order to constitute a pass verdict. However, it is noted that in order 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 Generator, 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 errata request such that the issue may be addressed.

4.1.3 Pass/Fail Verdict Conventions

Each test case has an Expected Outcome section, which outlines all the detailed pass criteria conditions that shall be met by the IUT to merit a Pass Verdict.

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 one of the pass criteria conditions cannot be met and in case this occurs the outcome of the test shall be the 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 Setup LE Transport

Use GATT.TS [7] Preamble [Set up ATT Bearer over LE]

4.2.2 Setup BR/EDR Transport

This procedure is used for negative tests only (see Section 4.3.3)

Use GATT.TS [7] Preamble [Setup ATT Bearer over BR/EDR]

4.2.3 Collector: Configure Sensor for use with RACP

This preamble procedure specifies how the Collector IUT configures the Sensor for use with Record Access Control Point.

1. Establish an ATT Bearer connection between the Lower Tester and IUT as described in Section 4.2.1.
2. The handles of the Glucose Measurement characteristic, Glucose Measurement Context characteristic and Record Access Control Point characteristic have been previously discovered by the IUT during the test procedures in Section 4.3 or are known to the Upper Tester by other means.
3. The handles of the Client Characteristic Configuration descriptor of the Glucose Measurement characteristic, Glucose Measurement Context characteristic and Record Access Control Point

characteristic have been previously discovered by the IUT during the test procedure in Section 4.3 or are known to the Upper Tester by other means.

4. If the Lower Tester and IUT were not previously bonded, perform a bonding procedure. If previously bonded, enable encryption if not already enabled.
5. The Glucose Measurement characteristic and Glucose Measurement Context characteristic are configured for notifications.
6. The Record Access Control Point characteristic is configured for indications.

4.2.4 Collector: Scan to detect Sensor advertisements

This preamble procedure specifies how the Collector IUT scans for Sensor advertisements for the case when a Sensor has new records available.

- Reference

[3] Section 5.2, [2] GAP 9.3.3, 9.3.4

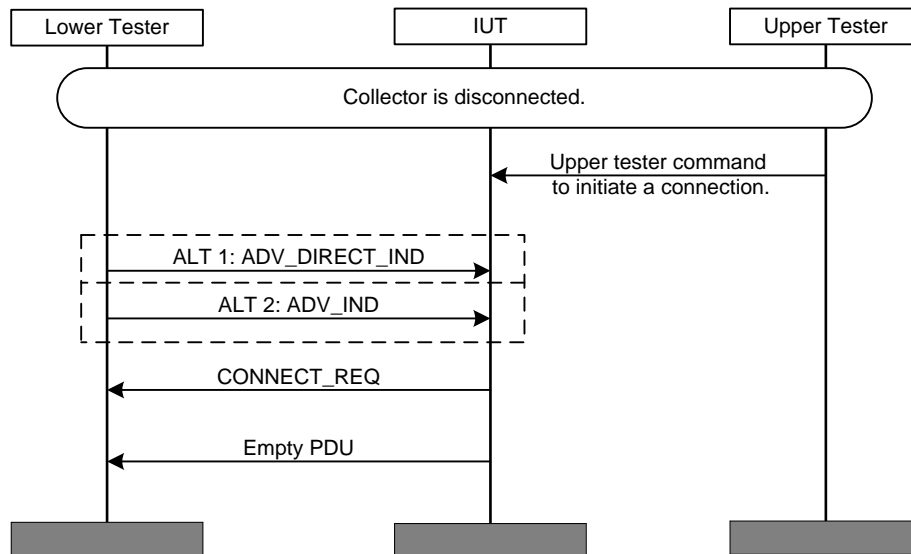
- Initial Condition

A preamble procedure defined in Section 4.2.3 is used as a prerequisite to this preamble.

The Collector has been configured to accept commands from the Upper Tester to request and receive Glucose measurements.

- Preamble Procedure

1. The Upper Tester commands the Collector IUT to initiate a connection and the IUT starts scanning.
2. The Glucose Sensor (Lower Tester) advertises to the Collector IUT either using:
 - ALT 1: GAP Directed Connectable Mode (send ADV_DIRECT_IND packets)or
 - ALT 2: GAP Undirected Connectable Mode (send ADV_IND packets).
3. The Lower Tester waits for responses from the Collector IUT.
4. The Collector IUT sends a CONNECT_REQ and an optionally empty PDU to the Lower Tester.



4.3 Discover Services and Characteristics

The procedures defined in this test group verify IUT's ability to discover the services and characteristics exposed by a Glucose Sensor (Lower Tester).

4.3.1 GLP/COL/GLD/BV-01-I [Discover Glucose Service]

- Test Purpose

Verify that an instantiation of the Glucose Service can be detected by the Collector IUT.

- Reference

[3] 4.2.1

- Initial Condition

The Lower Tester has one instantiation of the Glucose Service [8] as a primary service.

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4. .

- Test Procedure

The Upper Tester issues a command to the IUT to discover primary services. There are two alternatives:

1. Execute the procedure included in GATT.TS [7] Discover All Primary Services, GATT/CL/GAD/BV-01-C once, with the database specified in [8] implemented in the Lower Tester.
2. Execute the procedure included in GATT.TS [7] Discover Primary Services by Service UUID, GATT/CL/GAD/BV-02-C, with the service UUID set to «Glucose Service» once, with the database specified in [8] implemented in the Lower Tester.

- Expected Outcome

Pass verdict

An attribute handle range is returned containing the starting handle and the ending handle of one instantiation of a Glucose Service definition.

4.3.2 GLP/COL/GLD/BV-02-I [Discover Device Information Service]

- Test Purpose

Verify that the Device Information Service can be detected by the Collector IUT.

- Reference

[3] 4.2.2

- Initial Condition

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester has one instantiation of the Device Information Service [9].

- Test Procedure

The Upper Tester issues a command to the IUT to discover primary services. There are two alternatives:

1. The IUT executes the procedure included in GATT.TS [7] Discover All Primary Services, GATT/CL/GAD/BV-01-C once, with the database specified in [9] implemented in the Lower Tester.
2. The IUT executes the procedure included in GATT.TS [7] Discover Primary Services by Service UUID, GATT/CL/GAD/BV-02-C, with the service UUID set to «Device Information Service» once, with the database specified in [9] implemented in the Lower Tester.

- Expected Outcome

Pass verdict

An attribute handle range is returned containing the starting handle and the ending handle of the instantiation of the Device Information Service definition.

4.3.3 GLP/SEN/GLD/BV-03-I [Verify Valid BR/EDR Behavior for Glucose Service]

- Test Purpose

Verify that the Glucose Service on a BR/EDR/LE (i.e., dual mode) Glucose Sensor IUT cannot be discovered by a Collector when using a BR/EDR based ATT Bearer.

- Reference

[3] 2.5

- Initial Condition

The IUT has one instantiation of the Glucose Service [8] as a primary service.

- Test Procedure
 1. Establish a BR/EDR ATT Bearer connection between the Lower Tester and IUT (see Section 4.2.2).
 2. Execute the procedure included in GLS/SEN/SD/BV-01-C of [10] over the BR/EDR ATT Bearer to discover the Glucose Service
- Expected Outcome

Pass verdict

The Glucose Service is not discovered.

4.3.4 GLP/COL/GLD/BV-04-I [Discover Glucose Measurement Characteristic]

- Test Purpose

Verify that a Glucose Measurement characteristic can be detected by the Collector IUT.
- Reference

[3] 4.3.1.1
- Initial Condition

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester has one instance of the Glucose Service [8] as a primary service including all defined characteristics. This instantiation also contains two «future» characteristics:

 - One inserted between the last mandatory characteristic and the first optional characteristic.
 - One appended after the last optional characteristic.
 - The «future» characteristic is a 16-bit UUID randomly selected from unassigned UUIDs at the time of the test.

The IUT has executed the procedure included in GLP/COL/GLD/BV-01-I [Discover Glucose Service], and has saved the handle range for the instantiation of the Glucose Service. The Glucose Service contains one Glucose Measurement characteristic.

- Test Procedure

The Upper Tester issues a command to the IUT to discover the Glucose Measurement characteristic.

The IUT executes either of the procedures included in GATT.TS [7]

 - Discover All Characteristics of a Service, GATT/CL/GAD/BV-04-C, with the specified handle range for the instantiation of the Glucose Service

or

 - Discover Characteristics by UUID, GATT/CL/GAD/BV-05-C, with the specified handle range for the instantiation of the Glucose Service and UUID set to «Glucose Measurement».

In the selected procedure, only one pass is needed with the server database defined in the Initial Condition.

- Expected Outcome

Pass verdict

One attribute handle/value pair is returned containing the UUID «Glucose Measurement» characteristic.

4.3.5 GLP/COL/GLD/BV-05-I [Discover Glucose Measurement – Client Characteristic Configuration Descriptor]

- Test Purpose

Verify that the Collector IUT can discover the Client Characteristic Configuration descriptor of the Glucose Measurement characteristic.

- Reference

[3] 4.3.1.1

- Initial Condition

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester has one instance of the Glucose Service [8] as a primary service and an associated Client Characteristic Configuration descriptor.

The IUT has discovered the handle range of the Glucose Measurement characteristic either by executing the procedure included in GLP/COL/GLD/BV-04-I [Discover Glucose Measurement Characteristic] or by other means.

- Test Procedure

The Upper Tester issues a command to the IUT to Discover All Characteristic descriptors using the handle range of the Glucose Measurement characteristic.

The IUT executes one pass of the procedures included in GATT.TS [7] Discover All Characteristic Descriptors, GATT/CL/GAD/BV-06-C using the specified handle range with the Glucose Measurement characteristic contained in the server database defined in the Initial Condition.

- Expected Outcome

Pass verdict

One attribute handle/value pair is returned containing the UUID «Client Characteristic Configuration» descriptor.

4.3.6 GLP/COL/GLD/BV-06-I [Discover Glucose Measurement Context Characteristic]

- Test Purpose

Verify that a Glucose Measurement Context characteristic can be detected by the Collector IUT.



- Reference

[3] 4.3.1.2

- Initial Condition

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester has one instance of the Glucose Service [8] as a primary service including all defined characteristics. This instantiation also contains two «future» characteristics:

- One inserted between the last mandatory characteristic and the first optional characteristic.
- One appended after the last optional characteristic.
- The «future» characteristic is a 16-bit UUID randomly selected from unassigned UUIDs at the time of the test.

The IUT has executed the procedure included in GLP/COL/GLD/BV-01-I [Discover Glucose Service], and has saved the handle range for the instantiation of the Glucose Service. The Glucose Service contains one Glucose Measurement Context characteristic.

- Test Procedure

The Upper Tester issues a command to the IUT to discover the Glucose Measurement Context characteristic.

The IUT executes either of the procedures included in GATT.TS [7]

- Discover All Characteristics of a Service, GATT/CL/GAD/BV-04-C, with the specified handle range for the instantiation of the Glucose Service

or

- Discover Characteristics by UUID, GATT/CL/GAD/BV-05-C, with the specified handle range for the instantiation of the Glucose Service and UUID set to «Glucose Measurement Context».

In the selected procedure, only one pass is needed with the server database defined in the Initial Condition.

- Expected Outcome

Pass verdict

One attribute handle/value pair is returned containing the UUID «Glucose Measurement Context» characteristic.

4.3.7 GLP/COL/GLD/BV-07-I [Discover Glucose Measurement Context – Client Characteristic Configuration Descriptor]

- Test Purpose

Verify that the Collector IUT can discover the Client Characteristic Configuration descriptor of the Glucose Measurement Context characteristic.



- Reference

[3] 4.3.1.2

- Initial Condition

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester has one instance of the Glucose Service [8] as a primary service and an associated Client Characteristic Configuration descriptor.

The IUT has discovered the handle range of the Glucose Measurement characteristic either by executing the procedure included in GLP/COL/GLD/BV-06-I [Discover Glucose Measurement Context Characteristic] or by other means.

- Test Procedure

The Upper Tester issues a command to the IUT to Discover All Characteristic descriptors using the handle range of the Glucose Measurement Context characteristic.

The IUT executes one pass of the procedures included in GATT.TS [7] Discover All Characteristic Descriptors, GATT/CL/GAD/BV-06-C using the specified handle range with the Glucose Measurement Context characteristic contained in the server database defined in the Initial Condition.

- Expected Outcome

Pass verdict

One attribute handle/value pair is returned containing the UUID «Client Characteristic Configuration» descriptor.

4.3.8 GLP/COL/GLD/BV-08-I [Discover Record Access Control Point Characteristic]

- Test Purpose

Verify that a Record Access Control Point characteristic can be detected by the Collector IUT.

- Reference

[3] 4.3.1.4

- Initial Condition

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester has one instance of the Glucose Service [8] as a primary service including all defined characteristics. This instantiation also contains two «future» characteristics:

- One inserted between the last mandatory characteristic and the first optional characteristic.
- One appended after the last optional characteristic.

- The «future» characteristic is a 16-bit UUID randomly selected from unassigned UUIDs at the time of the test.

The IUT has executed the procedure included in [GLP/COL/GLD/BV-01-I \[Discover Glucose Service\]](#), and has saved the handle range for the instantiation of the Glucose Service. The Glucose Service contains one Record Access Control Point characteristic.

- Test Procedure

The Upper Tester issues a command to the IUT to discover the Record Access Control Point characteristic.

The IUT executes either of the procedures included in GATT.TS [\[7\]](#)

- Discover All Characteristics of a Service, GATT/CL/GAD/BV-04-C, with the specified handle range for the instantiation of the Glucose Service

or

- Discover Characteristics by UUID, GATT/CL/GAD/BV-05-C, with the specified handle range for the instantiation of the Glucose Service and UUID set to «Record Access Control Point».

In the selected procedure, only one pass is needed with the server database defined in the Initial Condition.

- Expected Outcome

Pass verdict

One attribute handle/value pair is returned containing the UUID «Record Access Control Point» characteristic.

4.3.9 GLP/COL/GLD/BV-09-I [Discover Record Access Control Point – Client Characteristic Configuration Descriptor]

- Test Purpose

Verify that the Collector IUT can discover the Client Characteristic Configuration descriptor of the Record Access Control Point characteristic.

- Reference

[\[3\]](#) 4.3.1.4

- Initial Condition

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section [4.2.4](#).

The Lower Tester has one instance of the Glucose Service [\[8\]](#) as a primary service and an associated Client Characteristic Configuration descriptor.

The IUT has discovered the handle range of the Glucose Measurement characteristic either by executing the procedure included in [GLP/COL/GLD/BV-08-I \[Discover Record Access Control Point Characteristic\]](#) or by other means.



- Test Procedure

The Upper Tester issues a command to the IUT to Discover All Characteristic descriptors using the handle range of the Record Access Control Point characteristic.

The IUT executes one pass of the procedures included in GATT.TS [7] Discover All Characteristic Descriptors, GATT/CL/GAD/BV-06-C using the specified handle range with the Record Access Control Point characteristic contained in the server database defined in the Initial Condition.

- Expected Outcome

Pass verdict

One attribute handle/value pair is returned containing the UUID «Client Characteristic Configuration» descriptor.

4.3.10 GLP/COL/GLD/BV-10-I [Discover Glucose Feature Characteristic]

- Test Purpose

Verify that a Glucose Feature characteristic can be detected by the Collector IUT.

- Reference

[3] 4.3.1.3

- Initial Condition

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester has one instance of the Glucose Service [8] as a primary service including all defined characteristics. This instantiation also contains two «future» characteristics:

- One inserted between the last mandatory characteristic and the first optional characteristic.
- One appended after the last optional characteristic.
- The «future» characteristic is a 16-bit UUID randomly selected from unassigned UUIDs at the time of the test.

The IUT has executed the procedure included in GLP/COL/GLD/BV-01-I [Discover Glucose Service], and has saved the handle range for the instantiation of the Glucose Service. The Glucose Service contains one Glucose Feature characteristic.

- Test Procedure

The Upper Tester issues a command to the IUT to discover the Glucose Feature characteristic.

The IUT executes either of the procedures included in GATT.TS [7]

- Discover All Characteristics of a Service, GATT/CL/GAD/BV-04-C, with the specified handle range for the instantiation of the Glucose Service

or



- Discover Characteristics by UUID, GATT/CL/GAD/BV-05-C, with the specified handle range for the instantiation of the Glucose Service and UUID set to «Glucose Feature».

In the selected procedure, only one pass is needed with the server database defined in the Initial Condition.

- Expected Outcome

Pass verdict

One attribute handle/value pair is returned containing the UUID «Glucose Feature» characteristic.

4.3.11 GLP/COL/GLD/BV-11-I [Discover Device Information Service Characteristics]

- Test Purpose

Verify that a Collector IUT can discover all characteristics of a Device Information Service supported by the IUT.

- Reference

[3] 4.3.2

- Initial Condition

Via IXIT [11] the IUT manufacturer specifies all characteristics of the Device Information Service supported by the IUT.

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester has one instance of the Device Information Service including all defined characteristics. This instantiation also contains two «future» characteristics:

- One inserted before the first characteristic defined in [9].
- One appended after the last characteristic defined in [9].
- The «future» characteristic is a 16-bit UUID randomly selected from unassigned UUIDs at the time of the test.

The IUT has executed the procedure included in GLP/COL/GLD/BV-02-I [Discover Device Information Service], and has saved the handle range for the instantiation of the Device Information Service. The Device Information Service contains one or more characteristics.

- Test Procedure

The Upper Tester issues a command to the IUT to discover all characteristics of the Device Information Service supported by the IUT. There are two alternatives:

The IUT executes either of the procedures included in GATT.TS [7]

1. The IUT executes the procedure included in GATT.TS [7] Discover All Characteristics of a Service, GATT/CL/GAD/BV-04-C, using the specified handle range, with the Lower Tester instantiating the database specified in the Initial Condition.
2. The IUT executes the procedure included in GATT.TS [7] Discover Characteristics by UUID, GATT/CL/GAD/BV-05-C several times, using each of the UUIDs for the characteristics of the Device Information Service supported by the IUT, with the Lower Tester instantiating the database specified in the Initial Condition.

- Expected Outcome

Pass verdict

For each characteristic supported by the IUT contained in the Lower Tester's instantiation of the Device Information Service, the IUT shall report an attribute handle/value pair for each characteristic specified in the IXIT [11] to the Upper Tester.

4.3.12 GLP/COL/GLD/BV-12-I [Read Device Information Service Characteristics]

- Test Purpose

Verify that a Collector IUT can read all characteristics of a Device Information Service supported by the IUT.

- Reference

[3] 3.2, 4.3.2

- Initial Condition

Via IXIT [11] the IUT manufacturer specifies all characteristics of the Device Information Service supported by the IUT.

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester includes one instantiation of the Device Information Service [9] including all defined characteristics.

The IUT has previously executed the procedure included in GLP/COL/GLD/BV-11-I [Discover Device Information Service Characteristics], so it has the handle/value pairs for all characteristics of the Device Information Service supported by the IUT.

- Test Procedure

This test shall be run twice and a disconnection may occur between the two tests. In the first pass, the string shall include only character values in the ASCII printable range (i.e., 0x20 – 0x7E). In the second pass, the string shall include character values outside the ASCII printable range.

The Upper Tester issues a command to the IUT to read all characteristics of the Device Information Service supported by the IUT.

For each characteristic of the Device Information Service supported by the IUT, the IUT shall execute the procedure included in GATT.TS [7] GATT/CL/GAR/BV-01-C [Read Characteristic Value – by client].

- Expected Outcome

Pass verdict

For each characteristic contained in the Lower Tester's instantiation of the Device Information Service supported by the IUT, the IUT shall report the characteristic value for all characteristics specified in the IXIT [11] to the Upper Tester, including any printable or non-printable ASCII values.

4.4 Glucose Features

The procedures defined in this test group verify implementation of the Features defined in the Glucose Profile Specification [3] by a Glucose Sensor IUT, and usage of the same features by a Collector IUT.

4.4.1 GLP/SEN/GLF/BV-01-I [Glucose Service UUID in AD]

- Test Purpose

Verify that the Glucose Service UUID is included in AD (Advertising Data) from the Glucose Sensor IUT when in a GAP discoverable mode.

- Reference

[3] Section 3.1.1

- Initial Condition

The IUT is induced to enter a GAP discoverable mode and generate Advertising packets.

- Test Procedure

The Lower Tester listens for Advertising Packets from the IUT.

- Expected Outcome

Pass verdict

The Advertising Packets contain the defined Service UUID for «Glucose Service».

4.4.2 GLP/SEN/GLF/BV-02-I [Local Name included in AD or Scan Response]

- Test Purpose

Verify that the Local Name is included in AD (Advertising Data) or Scan Response data from the Glucose Sensor IUT.

- Reference

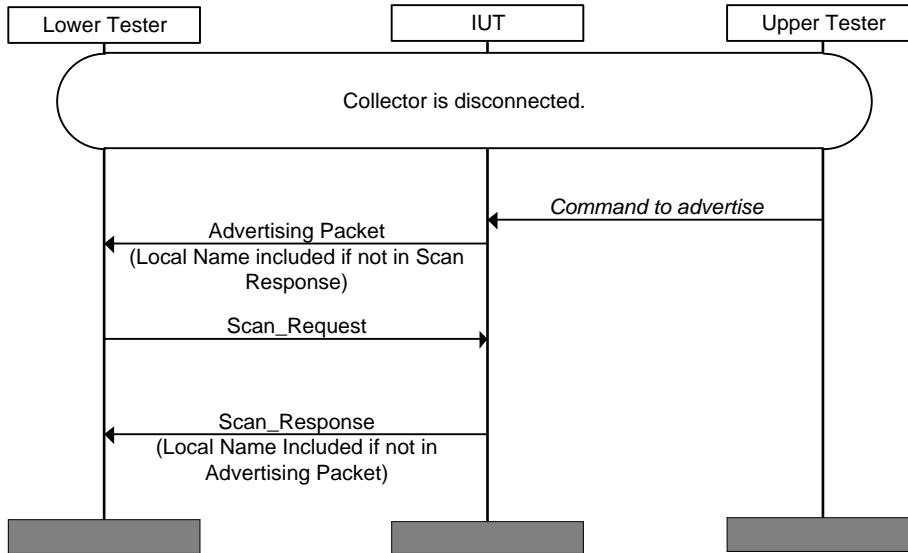
[3] Section 3.1.2

- Initial Condition

The IUT is induced to enter a GAP connectable mode and generate Advertising packets.

- Test Procedure

The Lower Tester listens for Advertising Packets from the IUT. When the Lower Tester receives an Advertising Packet from IUT, it sends a Scan Request to the IUT. Then the Lower Tester listens for a Scan Response from the IUT.



- Expected Outcome

Pass verdict

The IUT sends an Advertising packet and a Scan Response packet.

The IUT includes the Local Name in either the Advertising packet or Scan Response packet, but not both.

4.4.3 GLP/SEN/GLF/BV-03-I [Public Address in AD or Scan Response]

- Test Purpose

Verify that a Glucose Sensor IUT that supports multiple bonds and supports a Target Address AD Type includes the Public Client address in the Public Target Address AD Type in Advertising or Scan Response data and the Multiple Bond Supported bit is properly set.

- Reference

[3] Section 3.1.4, 5.1.5

- Initial Condition

The Lower Tester has previously bonded to the IUT using a public address.

The IUT is induced to enter a GAP connectable mode and generate Advertising Packets.

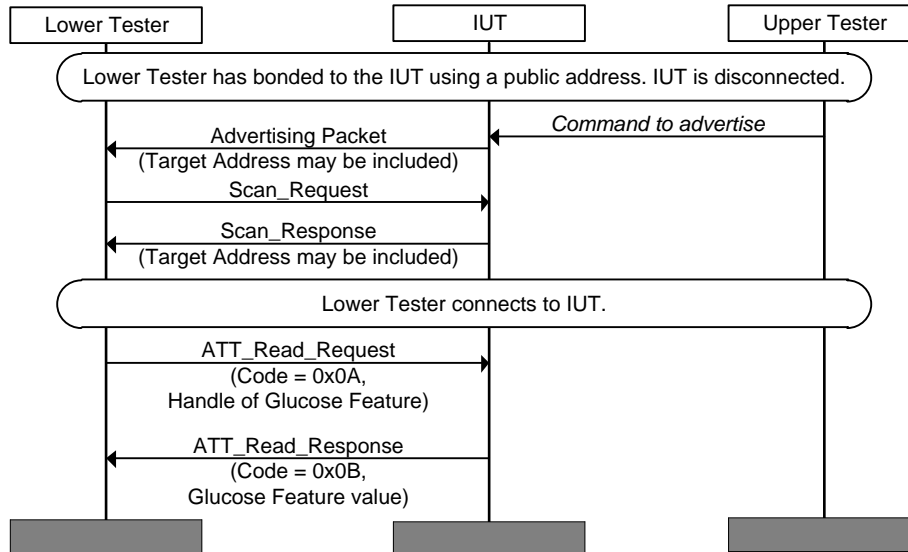
- Test Procedure

The Lower Tester listens for Advertising Packets from the IUT. When the Lower Tester receives an Advertising Packet from the IUT, the Lower Tester sends for a Scan Request to the IUT. Then the Lower Tester listens for a Scan Response from the IUT.

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester executes the procedure included in GLP/COL/GLD/BV-01-I [Discover Glucose Service], and saves the handle range for the Glucose Service.

Send a request from the Lower Tester to IUT to read a Glucose Feature characteristic.



- Expected Outcome

Pass verdict

The value of the Multiple Bond Supported bit of the Glucose Feature characteristic is set to 1.

The IUT includes a Target Address in either the Advertising packet or Scan Response packet, but not both.

The Target Address is a Public Address and 6 octets in length.

4.4.4 GLP/SEN/GLF/BV-04-I [Private Random Address in AD or Scan Response]

- Test Purpose

Verify that a Glucose Sensor IUT that supports multiple bonds and supports a Target Address AD Type includes the Private Random Client address in the Random Target Address AD Type in Advertising or Scan Response data and the Multiple Bond Supported bit is properly set.

- Reference

[3] Section 3.1.4, 5.1.5

- Initial Condition

The Lower Tester has previously bonded to the IUT using a random address.

The IUT is induced to enter a GAP connectable mode and generate Advertising Packets.

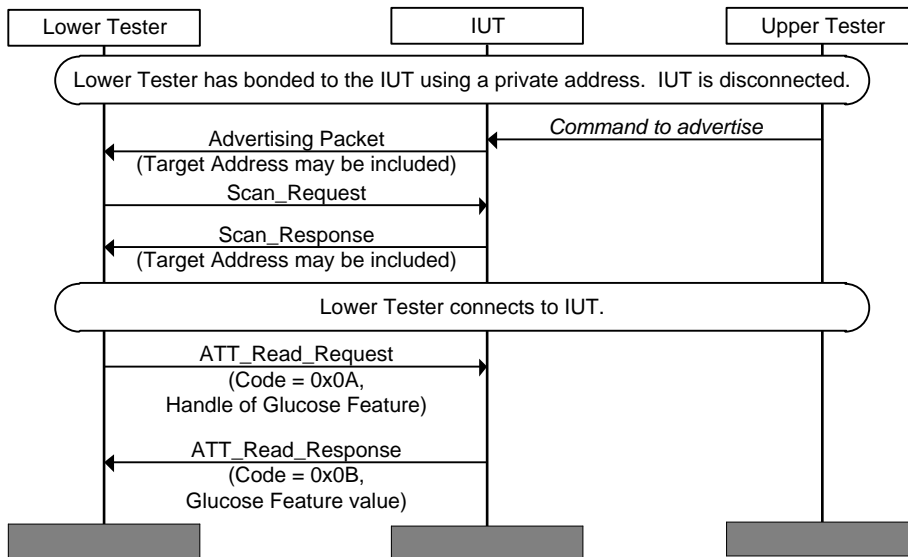
- Test Procedure

The Lower Tester listens for Advertising Packets from the IUT. When the Lower Tester receives an Advertising Packet from the IUT, the Lower Tester sends for a Scan Request to the IUT. Then the Lower Tester listens for a Scan Response from the IUT.

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester executes the procedure included in GLP/COL/GLD/BV-01-I [Discover Glucose Service], and saves the handle range for the Glucose Service.

Send a request from the Lower Tester to IUT to read a Glucose Feature characteristic.



- Expected Outcome

Pass verdict

The value of the Multiple Bond Supported bit of the Glucose Feature characteristic is set to one.

The IUT includes a Target Address in either the Advertising packet or Scan Response packet, but not both.

The Target Address is a Private Random Address and six octets in length.

4.4.5 GLP/SEN/GLF/BV-05-I [Static Random Address in AD or Scan Response]

- Test Purpose

Verify that a Glucose Sensor IUT that supports multiple bonds and supports a Target Address AD Type includes the Static Random Client address in the Random Target Address AD Type in Advertising or Scan Response data and the Multiple Bond Supported bit is properly set.

- Reference

[3] Section 3.1.4, 5.1.5

- Initial Condition

The Lower Tester has previously bonded to the IUT using a static random address.

The IUT is induced to enter a GAP connectable mode and generate Advertising Packets.

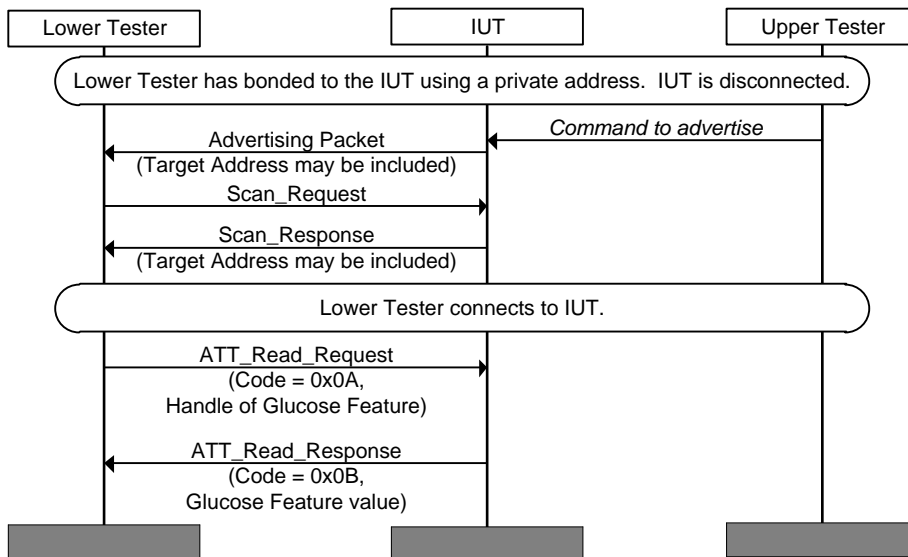
- Test Procedure

The Lower Tester listens for Advertising Packets from the IUT. When the Lower Tester receives an Advertising Packet from the IUT, the Lower Tester sends for a Scan Request to the IUT. Then the Lower Tester listens for a Scan Response from the IUT.

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester executes the procedure included in [GLP/COL/GLD/BV-01-I \[Discover Glucose Service\]](#), and saves the handle range for the Glucose Service.

Send a request from the Lower Tester to IUT to read a Glucose Feature characteristic.



- Expected Outcome

Pass verdict

The value of the Multiple Bond Supported bit of the Glucose Feature characteristic is set to one.

The IUT includes a Target Address in either the Advertising packet or Scan Response packet, but not both.

The Target Address is a Static Random Address and six octets in length.

4.4.6 GLP/SEN/GLF/BV-06-I [No Target Address in AD or Scan Response – Multi-Bond]

- Test Purpose

Verify that a Glucose Sensor IUT that supports multiple bonds and does not claim to support a Target Address AD Type does not include the Client address in a Target Address AD Type in Advertising or Scan Response data and the Multiple Bond Supported bit is properly set.

- Reference

[3] Section 3.1.4, 5.1.5

- Initial Condition

The Lower Tester has previously bonded to the IUT.

The IUT is induced to enter a GAP connectable mode and generate Advertising Packets.

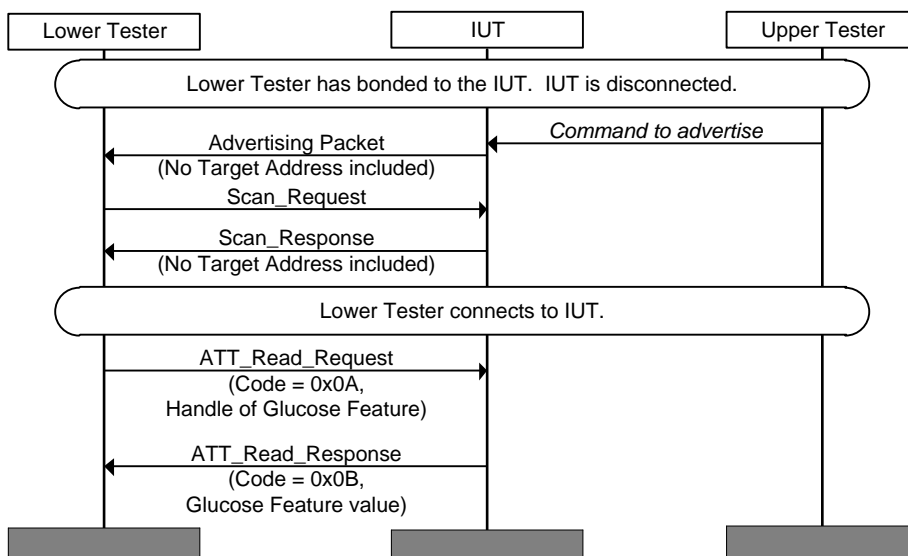
- Test Procedure

The Lower Tester listens for Advertising Packets from the IUT. When the Lower Tester receives an Advertising Packet from the IUT, the Lower Tester sends for a Scan Request to the IUT. Then the Lower Tester listens for a Scan Response from the IUT.

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester executes the procedure included in GLP/COL/GLD/BV-01-I [Discover Glucose Service], and saves the handle range for the Glucose Service.

Send a request from the Lower Tester to IUT to read a Glucose Feature characteristic.



- Expected Outcome

Pass verdict

The value of the Multiple Bond Supported bit of the Glucose Feature characteristic is set to one.

The IUT does not include the Client address in either the Advertising packet or in a Scan Response packet.

4.4.7 GLP/SEN/GLF/BV-07-I [No Target Address in AD or Scan Response – Single Bond]

- Test Purpose

Verify that a Glucose Sensor IUT that does not support multiple bonds and does not claim to support a Target Address AD Type does not include the Client address in a Target Address AD Type in Advertising or Scan Response data and the Multiple Bond Supported bit is properly set.

- Reference

[3] Section 3.1.4

- Initial Condition

The Lower Tester has previously bonded to the IUT.

The IUT is induced to enter a GAP connectable mode and generate Advertising Packets.

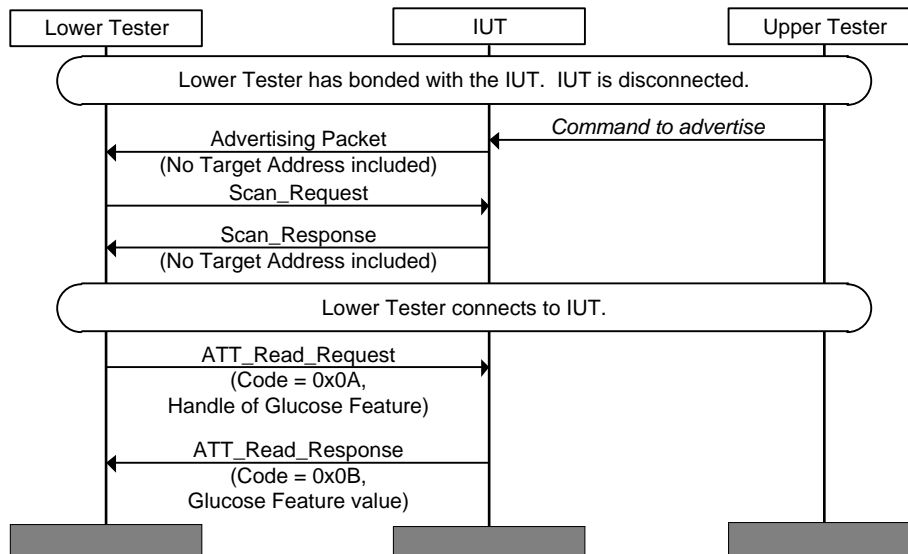
- Test Procedure

The Lower Tester listens for Advertising Packets from the IUT. When the Lower Tester receives an Advertising Packet from the IUT, the Lower Tester sends for a Scan Request to the IUT. Then the Lower Tester listens for a Scan Response from the IUT.

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

The Lower Tester executes the procedure included in GLP/COL/GLD/BV-01-I [Discover Glucose Service], and saves the handle range for the Glucose Service.

Send a request from the Lower Tester to IUT to read a Glucose Feature characteristic.



- Expected Outcome

Pass verdict

The value of the Multiple Bond Supported bit of the Glucose Feature characteristic is set to 0.

The IUT does not include the Client address in either the Advertising packet or in a Scan Response packet.

4.4.8 GLP/SEN/GLF/BV-08-I [Glucose Service as Primary Service]

- Test Purpose

Verify that the Glucose Service in a Glucose Sensor IUT is instantiated as a primary service.

- Reference

[3] Section 3

- Initial Condition

Run the preamble procedure to enable the Collector to initiate connection to a Glucose Sensor included in Section 4.2.4.

- Test Procedure

- Discover primary services by service UUID by executing the test procedure of GATT.TS [7] GATT/SR/GAD/BV-02-C with the service UUID set to «Glucose Service».
- Verify one attribute handle range is returned, containing the starting handle and the ending handle of the service definition.

- Expected Outcome

Pass verdict

The IUT has one instantiation of the Glucose Service.

The Glucose Service is a primary service.

4.4.9 GLP/COL/GLF/BV-09-I [Configure Glucose Measurement Characteristic for Notification]

- Test Purpose

Verify that the Collector IUT can configure a Glucose Sensor (Lower Tester) to Notify Glucose Measurement characteristics.

- Reference

[3] Section 4.4

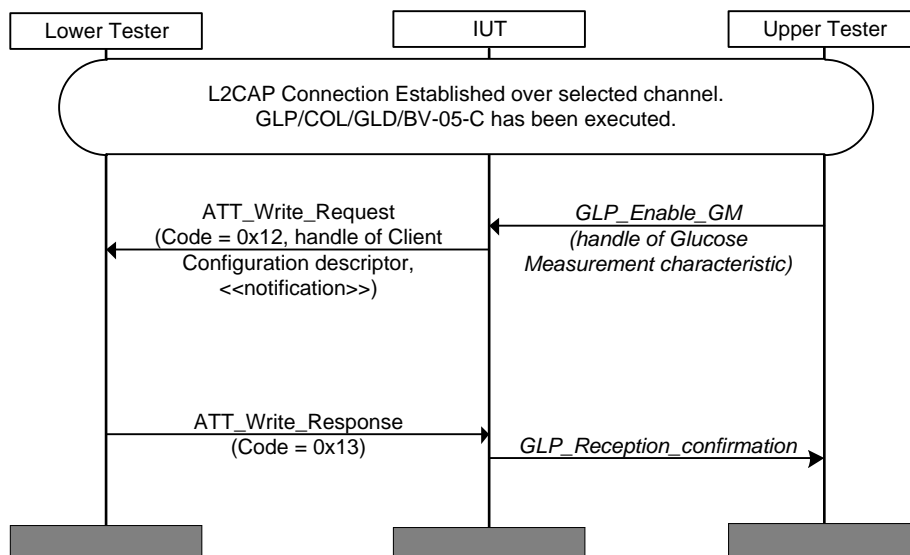
- Initial Condition

A preamble procedure defined in Section 4.2.4 is used to set up the LE transport and L2CAP channel and initiate connection to a Glucose Sensor.

The IUT has executed the procedure included in [GLP/COL/GLD/BV-05-I \[Discover Glucose Measurement – Client Characteristic Configuration Descriptor\]](#), which returns the handle of a Client Characteristic Configuration Descriptor for a Glucose Measurement characteristic contained in the Lower Tester.

- Test Procedure

The Upper Tester sends a command to the IUT to configure it to receive Glucose Measurement characteristic notifications



- Expected Outcome

Pass verdict

The IUT sends a correctly formatted *ATT_Write_Request* (0x12) to the Lower Tester, with the handle set to that of the Client Characteristic Configuration Descriptor for a Glucose Measurement characteristic, and the value set to «notification».

4.4.10 GLP/COL/GLF/BV-10-I [Receive Glucose Measurement Notifications]

- Test Purpose

Verify that the Collector IUT can receive notifications of the Glucose Measurement Characteristic for various field configurations.

- Reference

[3] Section 4.4

- Initial Condition

A preamble procedure defined in Section 4.2.4 is used to set up the transport and L2CAP channel and initiate connection to a Glucose Sensor.

The IUT has executed the procedure included in [GLP/COL/GLF/BV-09-I \[Configure Glucose Measurement Characteristic for Notification\]](#), which configures it to expect Glucose Measurement Notification.

The IUT has the handle of the Glucose Measurement characteristic.

- Test Procedure

The IUT writes the Report Stored Records Op Code (0x01) to the RACP of the Lower Tester using an Operator of 'all records' (0x01) and no Operand.

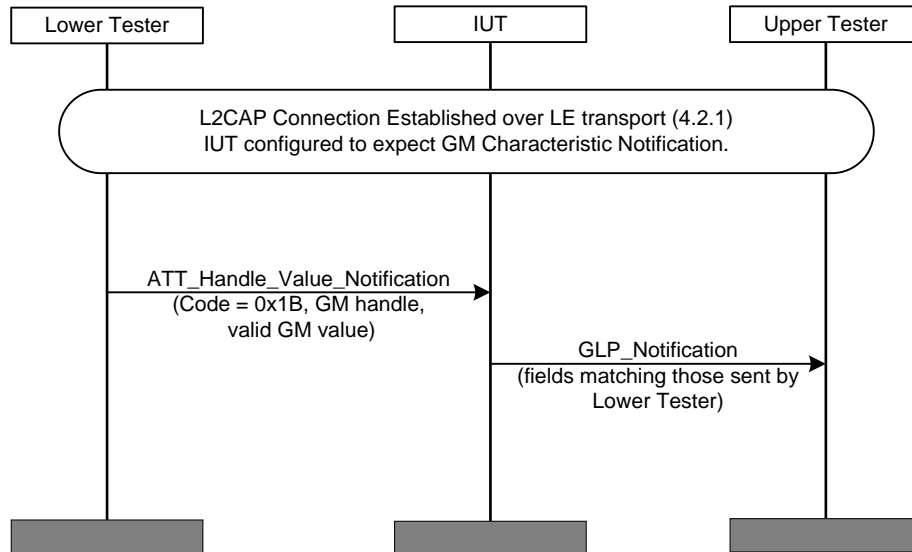
The Lower Tester sends an *ATT_Handle_Value_Notification* containing a Glucose Measurement characteristic value to the IUT.

The Lower Tester sends one Glucose Measurement characteristic notification for each Test Pattern shown in the following table. For each Test Pattern, the value of the Flags field is shown along with the corresponding pass criteria. For the case where bit 4 is set, the Lower Tester will also notify a corresponding Glucose Measurement Context characteristic.

Test Pattern	Flags Field Value	Pass Criteria
1	000000000	No optional fields are present and no Glucose Measurement Context characteristic is notified.
2	000000001	Only optional field present is Time Offset and no Glucose Measurement Context characteristic is notified.
3	000000010	Only optional fields present are Glucose concentration and Type-Sample Location fields and Glucose concentration is in units of kg/L and no Glucose Measurement Context characteristic is notified.
4	000000110	Only optional fields present are Glucose concentration and Type-Sample Location fields and Glucose concentration is in units of mol/L and no Glucose Measurement Context characteristic is notified.

Test Pattern	Flags Field Value	Pass Criteria
5	000001000	Only optional field present is Sensor Status Annunciation and no Glucose Measurement Context characteristic is notified.
6	000010000	No optional fields are present and Glucose Measurement Context characteristic is notified

Table 4.2: Pass Criteria for Glucose Measurement Characteristic



- Expected Outcome

Pass verdict

The IUT sends notifications of Glucose Measurement values in expected combinations to the Upper Tester using the pass criteria in the table above.

The reported field values and units match the ones sent by the Lower Tester.

4.4.11 GLP/COL/GLF/BI-01-I [Receive Glucose Measurement Notifications with reserved Flags bits]

- Test Purpose

Verify that the Collector IUT can receive notifications of the Glucose Measurement Characteristic from a Glucose Sensor including reserved Flags bits.

- Reference

[3] Section 4.4

- Initial Condition

A preamble procedure defined in Section 4.2.4 is used to set up the transport and L2CAP channel and initiate connection to a Glucose Sensor.

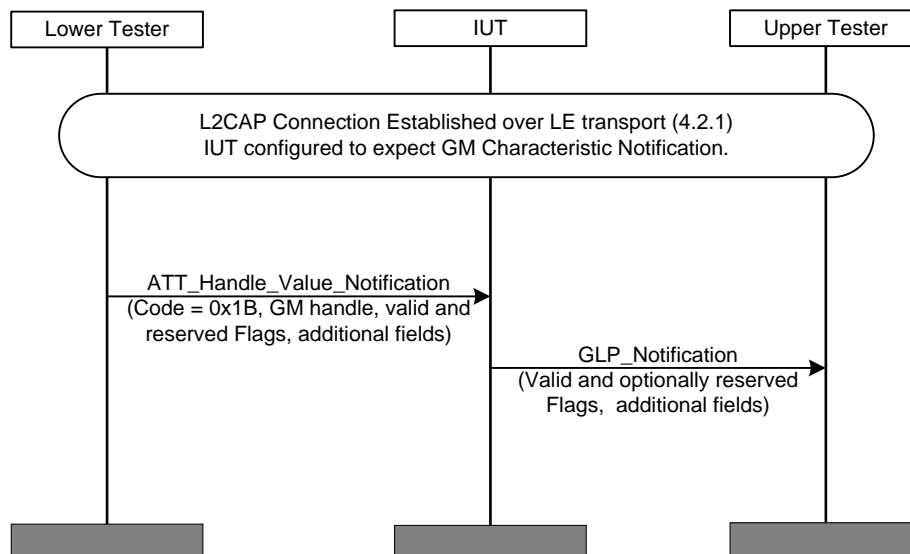
The IUT has executed the procedure included in [GLP/COL/GLF/BV-09-I \[Configure Glucose Measurement Characteristic for Notification\]](#), which configures it to expect Glucose Measurement Notification.

The IUT has the handle of the Glucose Measurement characteristic.

- Test Procedure

The IUT writes the Report Stored Records Op Code (0x01) to the RACP of the Lower Tester using an Operator of 'all records' (0x01) and no Operand.

The Lower Tester sends an *ATT_Handle_Value_Notification* containing a Glucose Measurement characteristic value to the IUT. There are many combinations of reserved flag settings. For this test use Flags = 0xEB (valid and reserved Flags bits, sequence number, base time, time offset, glucose concentration, type-sample location, sensor status annunciation). Any valid values for the Sensor Status Annunciation field may be sent by the Lower Tester.



- Expected Outcome

Pass verdict

The IUT reports the received Glucose Measurement characteristic value to the Upper Tester, e.g., *GLP_Notification* (sequence number, base time, time offset, glucose concentration in kg/L, type-sample location, sensor status annunciation). The reported field values match the ones sent by the Lower Tester optionally including the reserved bits of the Flags field.

4.4.12 GLP/COL/GLF/BI-02-I [Receive Glucose Measurement Notifications with reserved Type-Sample Location]

- Test Purpose

Verify that the Collector IUT can receive notifications of the Glucose Measurement Characteristic from a Glucose Sensor including reserved value of the type nibble and the sample location nibble of the type-sample location field.

- Reference

[3] Section 4.4

- Initial Condition

A preamble procedure defined in Section 4.2.4 is used to set up the transport and L2CAP channel and initiate connection to a Glucose Sensor.

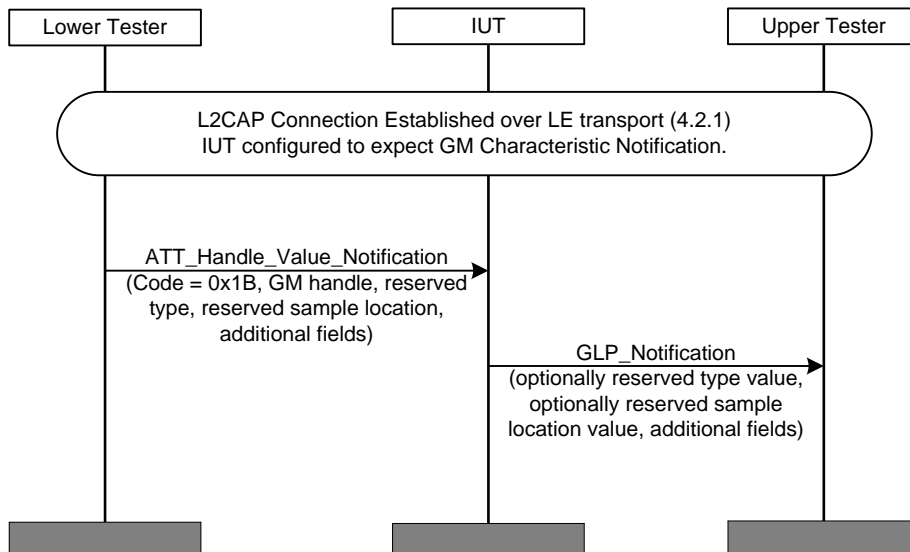
The IUT has executed the procedure included in GLP/COL/GLF/BV-09-I [Configure Glucose Measurement Characteristic for Notification], which configures it to expect Glucose Measurement Notifications.

The IUT has the handle of the Glucose Measurement characteristic.

- Test Procedure

The IUT writes the Report Stored Records Op Code (0x01) to the RACP of the Lower Tester using an Operator of 'all records' (0x01) and no Operand.

The Lower Tester sends an *ATT_Handle_Value_Notification* to the IUT containing a Glucose Measurement characteristic value. That value shall contain: flags = 0x0A, valid glucose concentration in kg/L, reserved value in the type nibble, reserved value in the sample location nibble, valid sensor status annunciation bits.



- Expected Outcome

Pass verdict

The IUT reports the received Glucose Measurement characteristic value to the Upper Tester, e.g., *GLP_Notification* (sequence number, base time, glucose concentration in kg/L, optionally reserved type value, optionally reserved sample location value, sensor status annunciation bits). The reported field values match the ones sent by the Lower Tester.

4.4.13 GLP/COL/GLF/BI-03-I [Receive Glucose Measurement Notifications with reserved sensor status annunciation bits]

- Test Purpose

Verify that the Collector IUT can receive notifications of the Glucose Measurement Characteristic from a Glucose Sensor including reserved bits of the sensor status annunciation field.

- Reference

[3] Section 4.4

- Initial Condition

A preamble procedure defined in Section 4.2.4 is used to set up the transport and L2CAP channel and initiate connection to a Glucose Sensor.

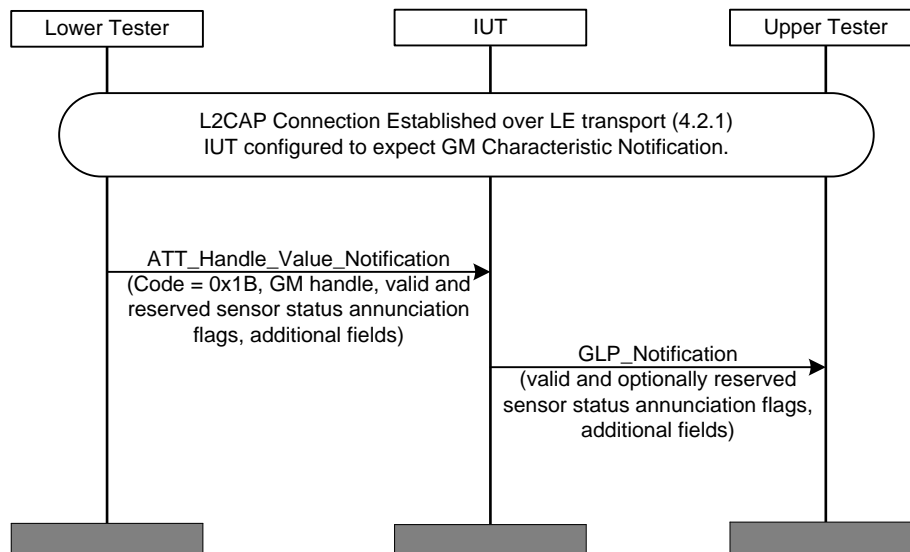
The IUT has executed the procedure included in [GLP/COL/GLF/BV-09-I \[Configure Glucose Measurement Characteristic for Notification\]](#), which configures it to expect Glucose Measurement Notifications.

The IUT has the handle of the Glucose Measurement characteristic.

- Test Procedure

The IUT writes the Report Stored Records Op Code (0x01) to the RACP of the Lower Tester using an Operator of 'all records' (0x01) and no Operand.

The Lower Tester sends an *ATT_Handle_Value_Notification* to the IUT containing a Glucose Measurement characteristic value. That value shall contain: flags = 0x0A, valid glucose concentration in kg/L, Type-Sample Location, sensor status annunciation bits (e.g., 0xFFFF).



- Expected Outcome

Pass verdict

The IUT reports the received Glucose Measurement characteristic value to the Upper Tester, e.g., *GLP_Notification* (sequence number, base time, glucose concentration in kg/L, valid type-sample location, valid and optionally reserved sensor status annunciation bits). The reported field values match the ones sent by the Lower Tester.

4.4.14 GLP/COL/GLF/BI-04-I [Receive Glucose Measurement Notifications with additional octets not comprehended]

- Test Purpose

Verify that the Collector IUT can receive notifications of the Glucose Measurement Characteristic from a Glucose Sensor including additional octets not comprehended by the Collector.

- Reference

[3] Section 4.4

- Initial Condition

A preamble procedure defined in Section 4.2.4 is used to set up the transport and L2CAP channel and initiate connection to a Glucose Sensor.

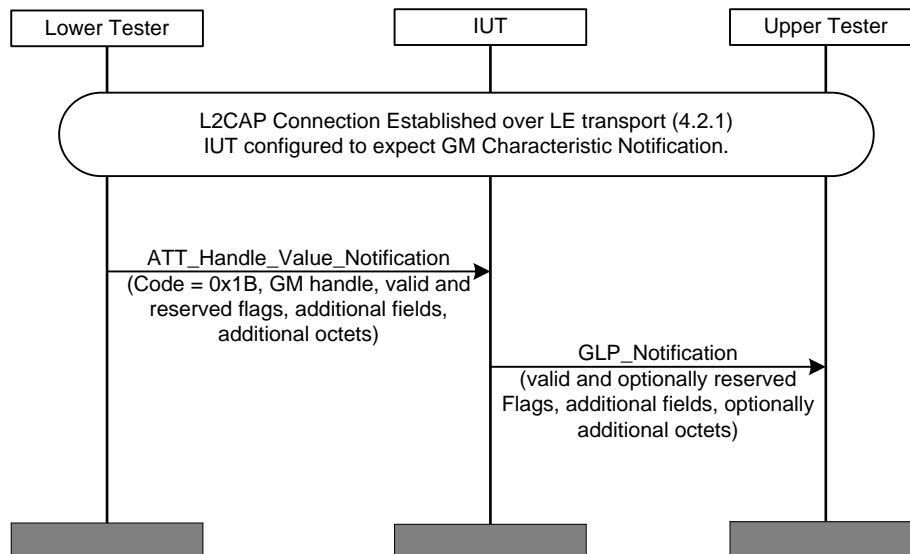
The IUT has executed the procedure included in [GLP/COL/GLF/BV-09-I \[Configure Glucose Measurement Characteristic for Notification\]](#), which configures it to expect Glucose Measurement Notifications.

The IUT has the handle of the Glucose Measurement characteristic.

- Test Procedure

The IUT writes the Report Stored Records Op Code (0x01) to the RACP of the Lower Tester using an Operator of 'all records' (0x01) and no Operand.

The Lower Tester sends an *ATT_Handle_Value_Notification* to the IUT containing a Glucose Measurement characteristic value. That value shall contain: flags = 0x02 or, optional reserved Flags bits set, valid glucose concentration in kg/L, valid type-sample location, and at least two additional octets not comprehended by the Collector. The total number of octets shall not exceed the maximum MTU size.



- Expected Outcome

Pass verdict

The IUT reports the received Glucose Measurement characteristic value to the Upper Tester, e.g., *GLP_Notification* (valid and optionally reserved Flags, glucose concentration in kg/L, type-sample location, optionally additional octets). The reported field values match the ones sent by the Lower Tester.

4.4.15 GLP/COL/GLF/BV-11-I [Configure Glucose Measurement Context Characteristic for Notification]

- Test Purpose

Verify that the Collector IUT can configure a Glucose Sensor (Lower Tester) to Notify Glucose Measurement Context characteristics.

- Reference

[3] Section 4.5

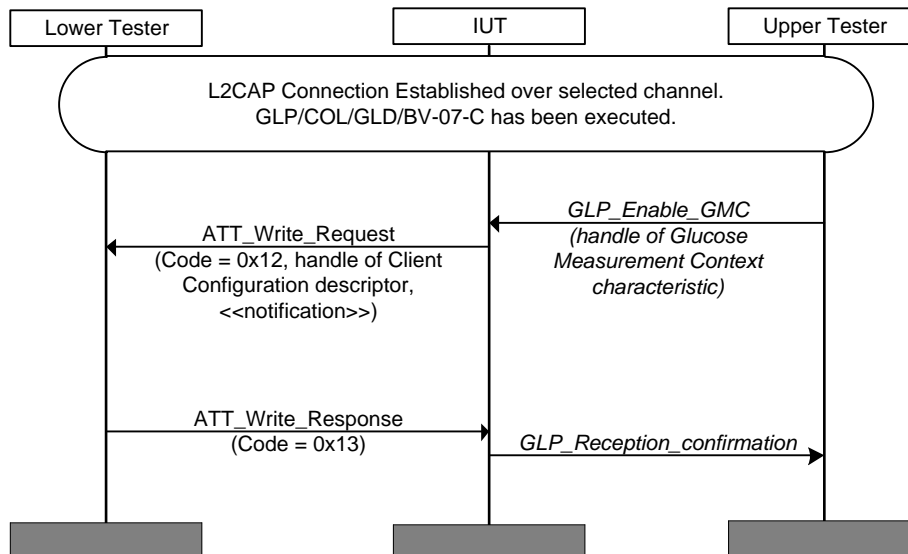
- Initial Condition

A preamble procedure defined in Section 4.2.4 is used to set up the LE transport and L2CAP channel and initiate connection to a Glucose Sensor.

The IUT has executed the procedure included in GLP/COL/GLD/BV-07-I [Discover Glucose Measurement Context – Client Characteristic Configuration Descriptor], which returns the handle of a Client Characteristic Configuration Descriptor for a Glucose Measurement Context characteristic contained in the Lower Tester.

- Test Procedure

The Upper Tester sends a command to the IUT to configure it to receive Glucose Measurement Context characteristic notifications.



- Expected Outcome

Pass verdict

The IUT sends a correctly formatted *ATT_Write_Request* (0x12) to the Lower Tester, with the handle set to that of the Client Characteristic Configuration Descriptor for a Glucose Measurement Context characteristic, and the value set to «notification».

4.4.16 GLP/COL/GLF/BV-12-I [Receive Glucose Measurement Context Notifications]

- Test Purpose

Verify that the Collector IUT can receive notifications of the Glucose Measurement Context Characteristic for various field configurations.

- Reference

[3] Section 4.5

- Initial Condition

A preamble procedure defined in Section 4.2.4 is used to set up the transport and L2CAP channel and initiate connection to a Glucose Sensor.

The IUT has executed the procedure included in [GLP/COL/GLF/BV-09-I \[Configure Glucose Measurement Characteristic for Notification\]](#), which configures it to expect Glucose Measurement Context characteristic Notification.

The IUT has the handle of the Glucose Measurement Context characteristic.

- Test Procedure

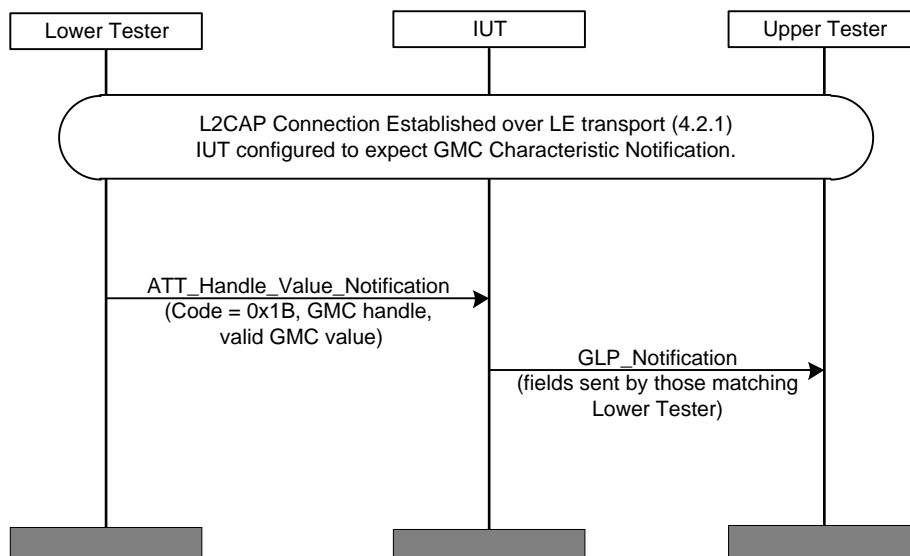
The IUT writes the Report Stored Records Op Code (0x01) to the RACP of the Lower Tester using an Operator of 'all records' (0x01) and no Operand.

The Lower Tester sends an *ATT_Handle_Value_Notification* containing a Glucose Measurement Context characteristic value to the IUT.

The Lower Tester sends one Glucose Measurement characteristic notification and one Glucose Measurement Context characteristic notification for each Test Pattern shown in the following table. For each Test Pattern, the value of the Flags field is shown along with the corresponding pass criteria. Note that a Flags combination of 00000000 is not valid since, by definition, at least one optional field for this characteristic is to be present.

Test Pattern	Flags Field Value	Pass Criteria
1	00000001	Only optional fields present are the Carbohydrate ID and Carbohydrate fields
2	00000010	Only optional field present is the Meal field
3	00000100	Only optional field present is the Tester-Health field
4	00001000	Only optional fields present are the Exercise Duration and Exercise Intensity fields
5	00010000	Only optional fields present are the Medication ID and Medication fields and Medication is in units of kilograms
6	00110000	Only optional fields present are the Medication ID and Medication fields and Medication is in units of liters
7	01000000	Only optional field present is the HbA1c field
8	10000000	Only optional field present is the Extended Flags field

Table 4.3: Pass Criteria for Glucose Measurement Context Characteristic



- Expected Outcome

Pass verdict

The IUT sends notifications of Glucose Measurement Context values in expected combinations to the Upper Tester using the pass criteria in the table above.

The reported field values and units match the ones sent by the Lower Tester.

4.4.17 GLP/COL/GLF/BI-06-I [Receive Glucose Measurement Context Notifications with reserved Extended Flags bits]

- Test Purpose

Verify that the Collector IUT can receive notifications of the Glucose Measurement Context characteristic from a Glucose Sensor including reserved bits of the Extended Flags field.

- Reference

[3] Section 4.5

- Initial Condition

A preamble procedure defined in Section 4.2.4 is used to set up the transport and L2CAP channel and initiate connection to a Glucose Sensor.

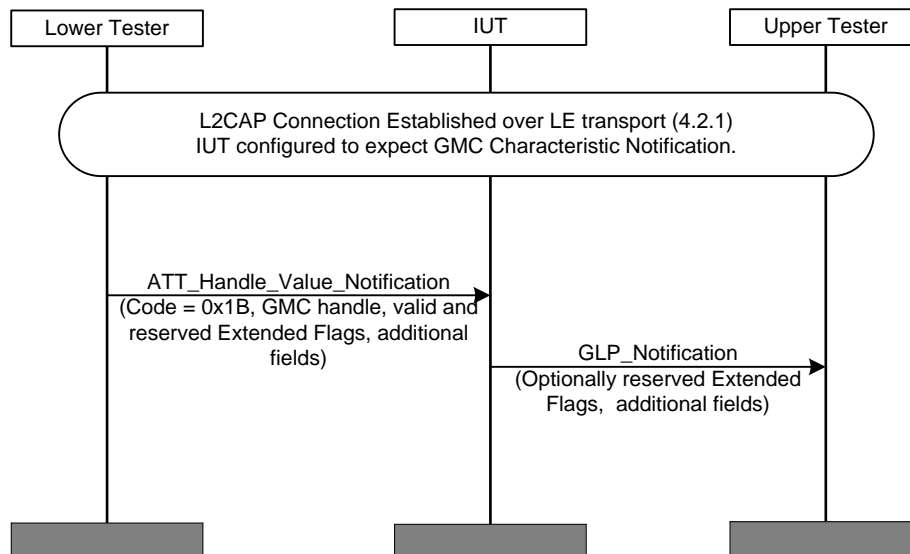
The IUT has executed the procedure included in GLP/COL/GLF/BV-11-I [Configure Glucose Measurement Context Characteristic for Notification], which configures it to expect Glucose Measurement Context characteristic notification.

The IUT has the handle of the Glucose Measurement Context characteristic.

- Test Procedure

The IUT writes the Report Stored Records Op Code (0x01) to the RACP of the Lower Tester using an Operator of 'all records' (0x01) and no Operand.

The Lower Tester sends an *ATT_Handle_Value_Notification* containing a Glucose Measurement Context characteristic value to the IUT. There are many combinations of reserved flag settings. For this test use Flags = 0xFF (Flags bits, sequence number, reserved extended flags, carbohydrate ID, carbohydrate, meal, tester-health, exercise duration, exercise intensity, medication ID, medication, HbA1c).



- Expected Outcome

Pass verdict

The IUT reports the received Glucose Measurement Context characteristic value to the Upper Tester, e.g., *GLP_Notification* (Flags bits, sequence number, optionally reserved extended flags, carbohydrate ID, carbohydrate, meal, tester-health, exercise duration, exercise intensity, medication ID, medication, HbA1c). The reported field values match the ones sent by the Lower Tester optionally including the reserved bits of the Extended Flags field.

4.4.18 GLP/COL/GLF/BI-07-I [Receive Glucose Measurement Context Notifications with reserved Carbohydrate ID value]

- Test Purpose

Verify that the Collector IUT can receive notifications of the Glucose Measurement Context characteristic from a Glucose Sensor including at least two different reserved values of the Carbohydrate ID field.

- Reference

[3] Section 4.5

- Initial Condition

A preamble procedure defined in Section 4.2.4 is used to set up the transport and L2CAP channel and initiate connection to a Glucose Sensor.

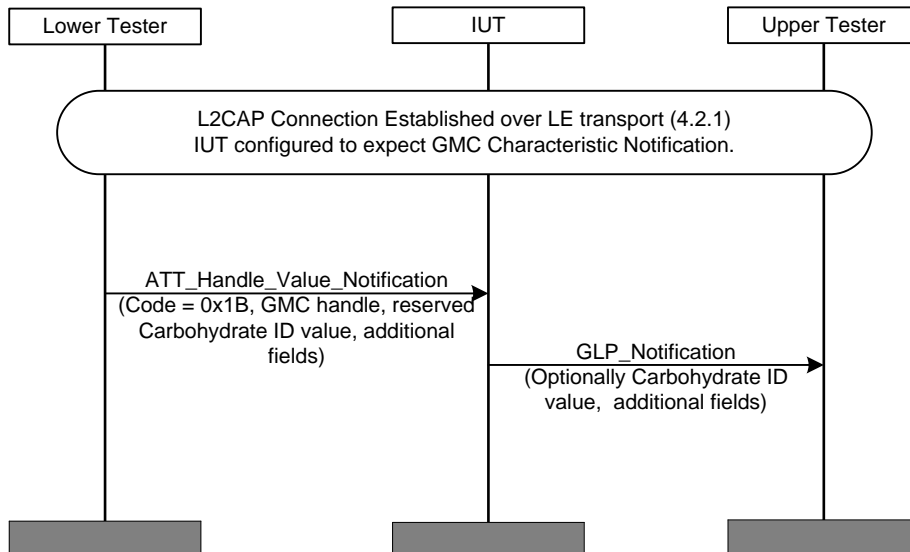
The IUT has executed the procedure included in GLP/COL/GLF/BV-11-I [Configure Glucose Measurement Context Characteristic for Notification], which configures it to expect Glucose Measurement Context characteristic notifications.

The IUT has the handle of the Glucose Measurement Context characteristic.

- Test Procedure

The IUT writes the Report Stored Records Op Code (0x01) to the RACP of the Lower Tester using an Operator of 'all records' (0x01) and no Operand.

The Lower Tester sends an *ATT_Handle_Value_Notification* containing a Glucose Measurement Context characteristic value to the IUT. There are many combinations of reserved flag settings. For this test use Flags = 0x7F (Flags bits, sequence number, reserved carbohydrate ID, carbohydrate, meal, tester-health, exercise duration, exercise intensity, medication ID, medication, HbA1c).



The Lower Tester sends a second *ATT_Handle_Value_Notification* containing a Glucose Measurement Context characteristic value to the IUT, this time with a different Carbohydrate ID value than was sent with the first Glucose Measurement Context notification.

- Expected Outcome

Pass verdict

The IUT reports the received Glucose Measurement Context characteristic values to the Upper Tester, e.g., *GLP_Notification* (Flags bits, sequence number, reserved carbohydrate ID, carbohydrate, meal, tester-health, exercise duration, exercise intensity, medication ID, medication, HbA1c).

The reported field values in each of the Glucose Measurement Context notifications match the ones sent by the Lower Tester optionally including the reserved values of the Carbohydrate ID field.

4.4.19 GLP/COL/GLF/BI-08-I [Receive Glucose Measurement Context Notifications with reserved Meal value]

- Test Purpose

Verify that the Collector IUT can receive notifications of the Glucose Measurement Context characteristic from a Glucose Sensor including at least two different reserved values of the Meal field.

- Reference

[3] Section 4.5



- Initial Condition

A preamble procedure defined in Section 4.2.4 is used to set up the transport and L2CAP channel and initiate connection to a Glucose Sensor.

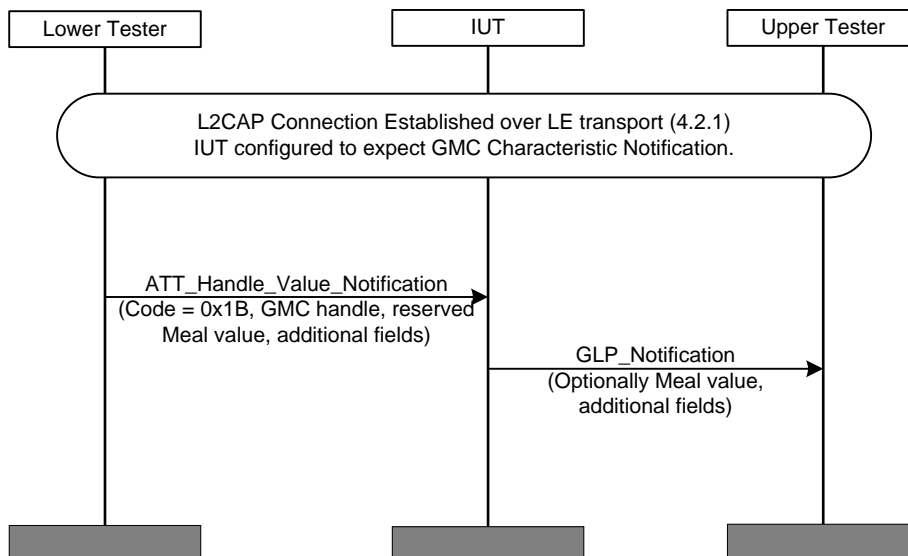
The IUT has executed the procedure included in [GLP/COL/GLF/BV-11-I \[Configure Glucose Measurement Context Characteristic for Notification\]](#), which configures it to expect Glucose Measurement Context characteristic notification.

The IUT has the handle of the Glucose Measurement Context characteristic.

- Test Procedure

The IUT writes the Report Stored Records Op Code (0x01) to the RACP of the Lower Tester using an Operator of 'all records' (0x01) and no Operand.

The Lower Tester sends an *ATT_Handle_Value_Notification* containing a Glucose Measurement Context characteristic value to the IUT. There are many combinations of reserved flag settings. For this test use Flags = 0x7F (Flags bits, sequence number, carbohydrate ID, carbohydrate, reserved meal value, tester-health, exercise duration, exercise intensity, medication ID, medication, HbA1c).



The Lower Tester sends a second *ATT_Handle_Value_Notification* containing a Glucose Measurement Context characteristic value to the IUT, this time with a different Meal value than was sent with the first Glucose Measurement Context notification.

- Expected Outcome

Pass verdict

The IUT reports the received Glucose Measurement Context characteristic values to the Upper Tester, e.g., *GLP_Notification* (Flags bits, sequence number, reserved carbohydrate ID, carbohydrate, optionally reserved meal value, tester-health, exercise duration, exercise intensity, medication ID, medication, HbA1c).

The reported field values in each of the Glucose Measurement Context notifications match the ones sent by the Lower Tester optionally including the reserved bits of the Extended Flags field.

4.4.20 GLP/COL/GLF/BI-09-I [Receive Glucose Measurement Context Notifications with reserved Medication ID value]

- Test Purpose

Verify that the Collector IUT can receive notifications of the Glucose Measurement Context characteristic from a Glucose Sensor including a reserved value of the Medication ID field.

- Reference

[3] Section 4.5

- Initial Condition

A preamble procedure defined in Section 4.2.4 is used to set up the transport and L2CAP channel and initiate connection to a Glucose Sensor.

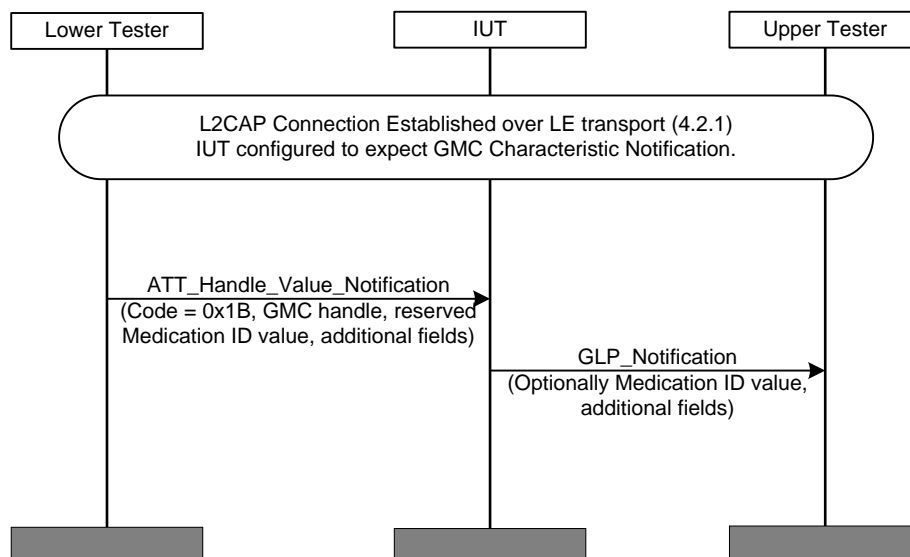
The IUT has executed the procedure included in [GLP/COL/GLF/BV-11-I \[Configure Glucose Measurement Context Characteristic for Notification\]](#), which configures it to expect Glucose Measurement Context characteristic notification.

The IUT has the handle of the Glucose Measurement Context characteristic.

- Test Procedure

The IUT writes the Report Stored Records Op Code (0x01) to the RACP of the Lower Tester using an Operator of 'all records' (0x01) and no Operand.

The Lower Tester sends an *ATT_Handle_Value_Notification* containing a Glucose Measurement Context characteristic value to the IUT. There are many combinations of reserved flag settings. For this test use Flags = 0x7F (Flags bits, sequence number, carbohydrate ID, carbohydrate, meal, tester-health, exercise duration, exercise intensity, reserved medication ID value, medication, HbA1c).



- Expected Outcome

Pass verdict

The IUT reports the received Glucose Measurement Context characteristic value to the Upper Tester, e.g., *GLP_Notification* (Flags bits, sequence number, reserved carbohydrate ID, carbohydrate, meal, tester-health, exercise duration, exercise intensity, optionally medication ID value, medication, HbA1c).

The reported field values match the ones sent by the Lower Tester optionally including the reserved bits of the Extended Flags field.

4.4.21 GLP/COL/GLF/BI-10-I [Receive Glucose Measurement Context Notifications with additional octets not comprehended]

- Test Purpose

Verify that the Collector IUT can receive notifications of the Glucose Measurement Context Characteristic from a Glucose Sensor including additional octets not comprehended by the Collector.

- Reference

[3] Section 4.5

- Initial Condition

A preamble procedure defined in Section 4.2.4 is used to set up the transport and L2CAP channel and initiate connection to a Glucose Sensor.

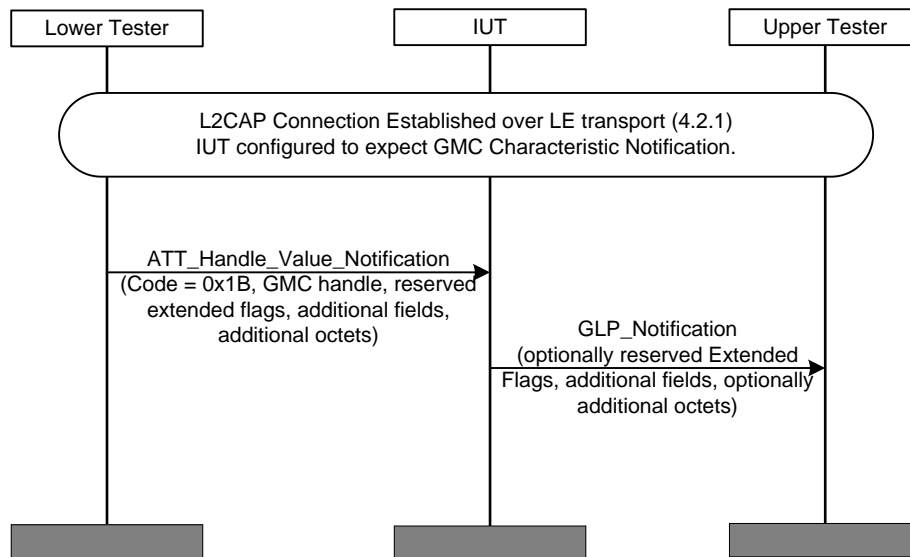
The IUT has executed the procedure included in [GLP/COL/GLF/BV-11-I \[Configure Glucose Measurement Context Characteristic for Notification\]](#), which configures it to expect Glucose Measurement Context characteristic notification.

The IUT has the handle of the Glucose Measurement Context characteristic.

- Test Procedure

The IUT writes the Report Stored Records Op Code (0x01) to the RACP of the Lower Tester using an Operator of 'all records' (0x01) and no Operand.

The Lower Tester sends an *ATT_Handle_Value_Notification* containing a Glucose Measurement Context characteristic value to the IUT. That value shall contain: flags = 0xFF, 2 Extended Flags bits set (0x03), sequence number, carbohydrate ID, carbohydrate, meal, tester-health, exercise duration, exercise intensity, medication ID, medication, HbA1c, and at least two additional octets not comprehended by the Collector. The total number of octets shall not exceed the maximum MTU size.



- Expected Outcome

Pass verdict

The IUT reports the received Glucose value to the Upper Tester, e.g., *GLP_Notification* (optionally Extended Flags bits set, sequence number, carbohydrate ID, carbohydrate, meal, tester-health, exercise duration, exercise intensity, medication ID, medication, HbA1c, and at least two additional octets not comprehended by the Collector). The reported field values match the ones sent by the Lower Tester.

4.4.22 GLP/COL/GLF/BV-13-I [Read Glucose Feature characteristic]

- Test Purpose

Verify that the Collector IUT can read the Glucose Feature characteristic from a Glucose Sensor.

- Reference

[3] Section 4.6

- Initial Condition

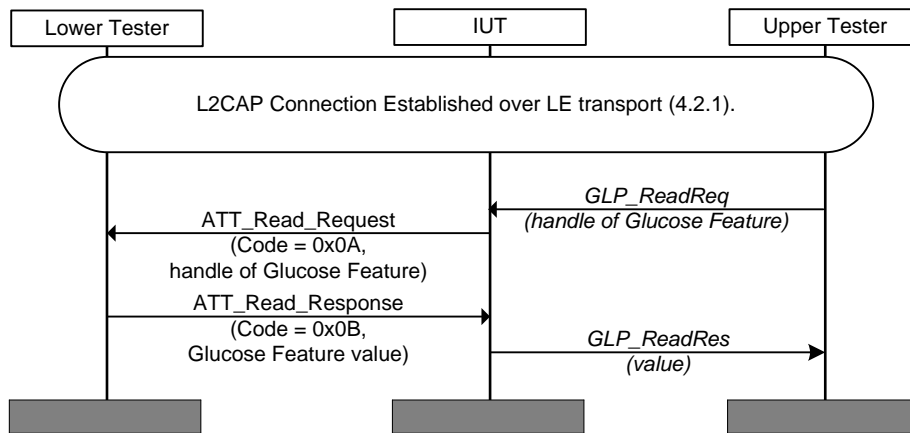
A preamble procedure defined in Section 4.2.4 is used to set up the transport and L2CAP channel and initiate connection to a Glucose Sensor.

The Upper Tester has the handle of a Glucose Feature characteristic contained in the Lower Tester

- Test Procedure

Send a command from the Upper Tester to request the IUT to read a Glucose Feature characteristic from the Lower Tester e.g., *GLP_ReadRequest* (*handle*).

After receipt of the expected result by the Lower Tester, send an *ATT_Read_Response* (*0x0B*) from the Lower Tester to the IUT.



- Expected Outcome

Pass verdict

The IUT sends a correctly formatted *ATT_Read_Request* (0x0A) to the Lower Tester, containing the handle specified by the Upper Tester.

The IUT receives the response from the Lower Tester and sends the *GLP_ReadResponse* containing the correct Glucose Feature value to the Upper Tester.

4.4.23 GLP/COL/GLF/BI-11-I [Read Glucose Feature characteristic with reserved value]

- Test Purpose

Verify that the Collector IUT can read the Glucose Feature characteristic from a Glucose Sensor and can ignore reserved values.

- Reference

[3] Section 4.6

- Initial Condition

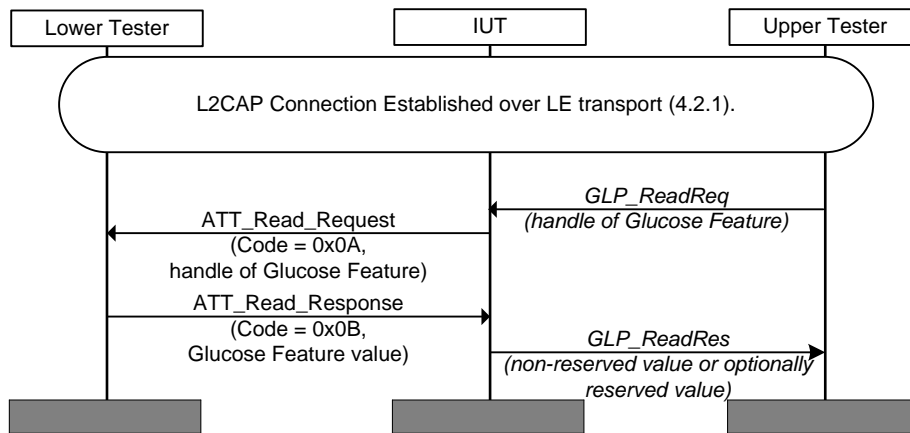
A preamble procedure defined in Section 4.2.4 is used to set up the transport and L2CAP channel.

The Upper Tester has the handle of a Glucose Feature characteristic contained in the Lower Tester

- Test Procedure

Send a command from the Upper Tester to request the IUT to read a Glucose Feature characteristic from the Lower Tester e.g., *GLP_ReadRequest* (handle).

After receipt of the expected result by the Lower Tester, send an *ATT_Read_Response* (0x0B) from the Lower Tester to the IUT containing a reserved value e.g., 0xFFFF.



- Expected Outcome

Pass verdict

The IUT sends a correctly formatted *ATT_Read_Request* (0x0A) to the Lower Tester, containing the handle specified by the Upper Tester.

The IUT receives the response from the Lower Tester and ignores the reserved bits.

The IUT reports the non-reserved values and optionally reports the reserved values to the Upper Tester.

4.4.24 GLP/COL/GLF/BV-14-I [Verify Bond Status on Reconnection]

- Test Purpose

Verify that the Collector IUT starts encryption with a bonded Glucose Sensor on reconnection.

- Reference

[3] Section 5.2.2

- Initial Condition

The IUT and Lower Tester are bonded.

Perform the preamble procedure defined in Section 4.2.3 to enable indications and notifications on the required characteristics of the Lower Tester's Glucose Service.

If a connection exists, it should be disconnected.

- Test Procedure

1. The Lower Tester begins advertising using a GAP connectable mode.
2. The IUT establishes a connection to the Lower Tester.
3. The Lower Tester does not send any indications or notifications to the IUT.
4. The IUT starts encryption when the connection is established.

- Expected Outcome

Pass verdict

The IUT starts encryption when the connection is established.

4.5 Service Procedures – Report Stored Records

This test group contains test cases to verify compliant operation when the Record Access Control Point (RACP) Report Stored Records procedure is used.

4.5.1 GLP/COL/SPR/BV-01-I [Report Stored Records – All records]

- Test Purpose

Verify that the Collector IUT can perform the Report Stored Records procedure with an Operator of 'all records'.

- Reference

[3] 4.7.3.4

- Initial Condition

If a connection exists, it should be disconnected.

- Test Procedure

1. Perform an action on the Lower Tester that will induce it to generate 3 records, of which a Glucose Measurement Context characteristic is in only the second record.
2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
3. The IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'all records' (0x01) and no Operand.
4. The Lower Tester sends three notifications of Glucose Measurement characteristics with a notification for Glucose Measurement Context characteristic after the second Glucose Measurement Characteristic, representing all records.
5. The IUT receives three ATT_Handle_Value_Notification from the Lower Tester containing the Glucose Measurement characteristic handle and value and one ATT_Handle_Value_Notification of the Glucose Measurement Context characteristic handle and value, all in the order sent by the Lower Tester.
6. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x01) followed by the Response Code for 'success' (0x01).
7. The IUT receives an ATT_Handle_Value_Indication from the Lower Tester containing the Record Access Control Point characteristic handle and value.
8. The IUT sends an ATT_Handle_Value_Confirmation to the Lower Tester.
9. Verify the characteristic value meets the requirements of the service.

- Expected Outcome

Pass verdict

The IUT receives three notifications of the Glucose Measurement characteristic and one notification of the Glucose Measurement Context characteristic after the second Glucose Measurement characteristic.

The IUT receives one indication of the Record Access Control Point characteristic with the Response Code Op Code containing a valid Operator and Operand.

The IUT receives the Request Op Code 'success'.

4.5.2 GLP/COL/SPR/BV-02-I [Report Stored Records – Less than or equal to Sequence Number]

- Test Purpose

Verify that the Collector IUT can perform the Report Stored Records procedure with an Operator of 'less than or equal to' and using the Sequence Number Filter Type.

- Reference

[3] 4.7.3.4

- Initial Condition

If a connection exists, it shall be disconnected.

- Test Procedure

1. Perform an action on the Lower Tester that will induce it to generate 3 records, of which a Glucose Measurement Context characteristic is in only the second record.
2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
3. The IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'less than or equal to' (0x02) and an Operand representing the Sequence Number Filter Type (0x01) and the maximum value for the filter representing sequence number of the second record.
4. The Lower Tester sends two notifications of the Glucose Measurement characteristic and one notification of the Glucose Measurement Context characteristic representing the oldest two records.
5. The IUT receives two ATT_Handle_Value_Notification from the Lower Tester containing the Glucose Measurement characteristic handle and value and one ATT_Handle_Value_Notification of the Glucose Measurement Context characteristic handle and value.
6. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x01) followed by the Response Code for 'success' (0x01).
7. The IUT receives an ATT_Handle_Value_Indication from the Lower Tester containing the Record Access Control Point characteristic handle and value.

8. The IUT sends an ATT_Handle_Value_Confirmation to the Lower Tester.
9. Verify the characteristic value meets the requirements of the service.

- Expected Outcome

Pass verdict

The IUT receives two notifications of the Glucose Measurement characteristic and one notification of the Glucose Measurement Context characteristic after the second Glucose Measurement characteristic that represent the oldest two records.

The IUT receives one indication of the Record Access Control Point characteristic with the Response Code Op Code containing a valid Operator and Operand.

The IUT receives the Request Op Code 'success'.

4.5.3 GLP/COL/SPR/BV-03-I [Report Stored Records – Greater than or equal to Sequence Number]

- Test Purpose

Verify that the Collector IUT can perform the Report Stored Records procedure with an Operator of 'greater than or equal to' and using the Sequence Number Filter Type.

- Reference

[3] 4.7.3.4

- Initial Condition

If a connection exists, it shall be disconnected.

- Test Procedure

1. Perform an action on the Lower Tester that will induce it to generate 3 records, of which a Glucose Measurement Context characteristic is in only the second record.
2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
3. The IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'greater than or equal to' (0x03) and an Operand representing the Sequence Number Filter Type (0x01) followed by the value of the sequence number for the second record.
4. The Lower Tester sends two notifications of the Glucose Measurement characteristic and one notification of the Glucose Measurement Context characteristic representing the two most recent records.
5. The IUT receives two ATT_Handle_Value_Notification from the Lower Tester containing the Glucose Measurement characteristic handle and value and one ATT_Handle_Value_Notification of the Glucose Measurement Context characteristic handle and value.
6. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x01) followed by the Response Code for 'success' (0x01).

7. The IUT receives an ATT_Handle_Value_Indication from the Lower Tester containing the Record Access Control Point characteristic handle and value.
 8. The IUT sends an ATT_Handle_Value_Confirmation to the Lower Tester.
 9. Perform step 3 again using a Sequence Number greater than the most recent record.
 10. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x01) followed by the Response Code for 'no records found' (0x06).
 11. Verify the characteristic value meets the requirements of the service.
- Expected Outcome

Pass verdict

The IUT receives two notifications of the Glucose Measurement characteristic and one notification of the Glucose Measurement Context characteristic after the first Glucose Measurement characteristic representing the two most recent records.

For the 'success' case, the IUT receives one indication of the Record Access Control Point characteristic with the Response Code Op Code containing a valid Operator and Operand. The IUT receives the Request Op Code 'success'.

For the 'no records found' case, the IUT receives one indication of the Record Access Control Point characteristic with the Response Code Op Code containing a valid Operator and Operand.

4.5.4 GLP/COL/SPR/BV-04-I [Report Stored Records – Greater than or equal to User Facing Time]

- Test Purpose

Verify that the Collector IUT can perform the Report Stored Records procedure with an Operator of 'greater than or equal to' and using the User Facing Time Filter Type.
- Reference

[3] 4.7.3.4
- Initial Condition

Perform the preamble described in Section 4.2.3.

If a connection exists, it shall be disconnected.
- Test Procedure
 1. Perform an action on the Lower Tester that will induce it to generate 3 records, of which a Glucose Measurement Context characteristic is in only the second record.
 2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
 3. The IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'greater than or equal to' (0x03) and an Operand representing the User Facing Time Filter Type (0x02) followed by the value of the user facing time for the second record.

4. The Lower Tester sends two notifications of the Glucose Measurement characteristic and one notification of the Glucose Measurement Context characteristic representing the two most recent records.
 5. The IUT receives two *ATT_Handle_Value_Notification* from the Lower Tester containing the Glucose Measurement characteristic handle and value and one *ATT_Handle_Value_Notification* of the Glucose Measurement Context characteristic handle and value.
 6. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x01) followed by the Response Code for 'success' (0x01).
 7. The IUT receives an *ATT_Handle_Value_Indication* from the Lower Tester containing the Record Access Control Point characteristic handle and value.
 8. The IUT sends an *ATT_Handle_Value_Confirmation* to the Lower Tester.
 9. Verify the characteristic value meets the requirements of the service.
- Expected Outcome

Pass verdict

The IUT receives two notifications of the Glucose Measurement characteristic and one notification of the Glucose Measurement Context characteristic after the first Glucose Measurement characteristic representing the two most recent records.

The IUT receives one indication of the Record Access Control Point characteristic with the Response Code Op Code containing a valid Operator and Operand.

The IUT receives the Request Op Code 'success'.

4.5.5 GLP/COL/SPR/BV-05-I [Report Stored Records – Within range of Sequence Number value pair]

- Test Purpose

Verify that the Collector IUT can perform the Report Stored Records procedure with an Operator of 'within range of' and using the Sequence Number Filter Type.
- Reference

[3] 4.7.3.4
- Initial Condition

If a connection exists, it shall be disconnected.
- Test Procedure
 1. Perform an action on the Lower Tester that will induce it to generate 4 records, of which a Glucose Measurement Context characteristic is in only the second record.
 2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
 3. The IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'within range of' (0x04) and an Operand representing the Sequence Number Filter Type (0x01)

followed by a pair of sequence number values representing the value of the second record and the value of the third record.

4. The Lower Tester sends two notifications of the Glucose Measurement characteristic and one notification of the Glucose Measurement Context characteristic representing the second and third records.
 5. The IUT receives two *ATT_Handle_Value_Notification* from the Lower Tester containing the Glucose Measurement characteristic handle and value and one *ATT_Handle_Value_Notification* of the Glucose Measurement Context characteristic handle and value.
 6. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x01) followed by the Response Code for 'success' (0x01).
 7. The IUT receives an *ATT_Handle_Value_Indication* from the Lower Tester containing the Record Access Control Point characteristic handle and value.
 8. The IUT sends an *ATT_Handle_Value_Confirmation* to the Lower Tester.
 9. Verify the characteristic value meets the requirements of the service.
- Expected Outcome

Pass verdict

The IUT receives two notifications of the Glucose Measurement characteristic and one notification of the Glucose Measurement Context characteristic after the first Glucose Measurement characteristic representing the second and third records.

The IUT receives one indication of the Record Access Control Point characteristic with the Response Code Op Code containing a valid Operator and Operand.

The IUT receives the Request Op Code 'success'.

4.5.6 GLP/COL/SPR/BV-06-I [Report Stored Records – First record]

- Test Purpose

Verify that the Collector IUT can perform the Report Stored Records procedure with an Operator of 'first record'.
- Reference

[3] 4.7.3.4
- Initial Condition

If a connection exists, it shall be disconnected.
- Test Procedure
 1. Perform an action on the Lower Tester that will induce it to generate 3 records, of which a Glucose Measurement Context characteristic is in only the second record.
 2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.

3. The IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'first record' (0x05) and no Operand.
4. The Lower Tester sends one notification of the Glucose Measurement characteristic representing the oldest record.
5. The IUT receives one *ATT_Handle_Value_Notification* from the Lower Tester containing the Glucose Measurement characteristic handle and value.
6. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x01) followed by the Response Code for 'success' (0x01).
7. The IUT receives an *ATT_Handle_Value_Indication* from the Lower Tester containing the Record Access Control Point characteristic handle and value.
8. The IUT sends an *ATT_Handle_Value_Confirmation* to the Lower Tester.
9. Verify the characteristic value meets the requirements of the service.

- Expected Outcome

Pass verdict

The IUT receives one notification of the Glucose Measurement characteristic representing the oldest record.

The IUT receives one indication of the Record Access Control Point characteristic with the Response Code Op Code containing a valid Operator and Operand.

The IUT receives the Request Op Code 'success'.

4.5.7 GLP/COL/SPR/BV-07-I [Report Stored Records – Last record]

- Test Purpose

Verify that the Collector IUT can perform the Report Stored Records procedure with an Operator of 'last record'.

- Reference

[3] 4.7.3.4

- Initial Condition

If a connection exists, it shall be disconnected.

- Test Procedure

1. Perform an action on the Lower Tester that will induce it to generate 3 records, of which a Glucose Measurement Context characteristic is in only the second record.
2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
3. The IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'last record' (0x06) and no Operand.
4. The Lower Tester sends one notification of the Glucose Measurement characteristic representing the most recent record.

5. The IUT receives one *ATT_Handle_Value_Notification* from the Lower Tester containing the Glucose Measurement characteristic handle and value.
 6. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x01) followed by the Response Code for 'success' (0x01).
 7. The IUT receives an *ATT_Handle_Value_Indication* from the Lower Tester containing the Record Access Control Point characteristic handle and value.
 8. The IUT sends an *ATT_Handle_Value_Confirmation* to the Lower Tester.
 9. Verify the characteristic value meets the requirements of the service.
- Expected Outcome

Pass verdict

The IUT receives one notification of the Glucose Measurement characteristic representing the most recent record.

The IUT receives one indication of the Record Access Control Point characteristic with the Response Code Op Code containing a valid Operator and Operand.

The IUT receives the Request Op Code 'success'.

4.5.8 GLP/COL/SPR/BV-08-I [Report Stored Records – All records – Record Added]

- Test Purpose

Verify that the Collector IUT responds properly for the case where a record is added between the Report Number of Stored Records procedure and the Report Stored Records procedure.
- Reference

[3] 4.7.3.4
- Initial Condition

If a connection exists, it shall be disconnected.
- Test Procedure
 1. Perform an action on the Lower Tester that will induce it to generate 3 records, of which a Glucose Measurement Context characteristic is in only the second record.
 2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
 3. The IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'all records' (0x01) and no Operand.
 4. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Number of stored records response Op Code (0x05) an Operator of Null (0x00) and an Operand representing that three records were found (0x0003).
 5. A new record is added at the Lower Tester via the user interface or other means.

6. IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'all records' (0x01) and no Operand.
 7. The Lower Tester sends four notifications of Glucose Measurement characteristics with a notification for Glucose Measurement Context characteristic after the second Glucose Measurement Characteristic, representing all records (one more record than the IUT expected).
 8. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x01) followed by the Response Code for 'success' (0x01).
 9. Verify that the IUT continues to process commands normally.
- Expected Outcome

Pass verdict

The IUT receives four notifications of the Glucose Measurement.

The IUT continues to process commands normally.

4.5.9 GLP/COL/SPR/BV-09-I [Report Stored Records – All records – Record Deleted]

- Test Purpose

Verify that the Collector IUT responds properly for the case where a record is deleted between the Report Number of Stored Records procedure and the Report Stored Records procedure.
- Reference

[3] 4.7.3.4
- Initial Condition

If a connection exists, it shall be disconnected.
- Test Procedure
 1. Perform an action on the Lower Tester that will induce it to generate 3 records, of which a Glucose Measurement Context characteristic is in only the second record.
 2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
 3. The IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'all records' (0x01) and no Operand.
 4. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Number of stored records response Op Code (0x05) an Operator of Null (0x00) and an Operand representing that three records were found (0x0003).
 5. The second record is deleted at the Lower Tester via the user interface or other means.
 6. IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'all records' (0x01) and no Operand.
 7. The Lower Tester sends two notifications of Glucose Measurement characteristics, representing all records (one less record than the IUT expected).

8. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x01) followed by the Response Code for 'success' (0x01).
 9. Verify that the IUT continues to process commands normally.
- Expected Outcome
Pass verdict
 The IUT receives two notifications of the Glucose Measurement.

 The IUT continues to process commands normally.

4.6 Service Procedures – Delete Stored Records

This test group contains test cases to verify compliant operation when the Record Access Control Point (RACP) Delete Stored Records procedure is used.

4.6.1 GLP/COL/SPD/BV-01-I [Delete Stored Records – All records]

- Test Purpose
 Verify that the Collector IUT can perform the Delete Stored Records procedure with an Operator of 'all records'.
- Reference
[\[3\]](#) 4.7.3.3
- Initial Condition
 If a connection exists, it shall be disconnected.
- Test Procedure
 1. Perform an action on the Lower Tester that will induce it to generate 3 records, of which a Glucose Measurement Context characteristic is in only the second record.
 2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
 3. The IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'all records' (0x01) and no Operand.
 4. The Lower Tester sends three notifications of Glucose Measurement characteristics with a notification for Glucose Measurement Context characteristic after the second Glucose Measurement Characteristic, representing all records.
 5. The IUT receives three *ATT_Handle_Value_Notification* from the Lower Tester containing the Glucose Measurement characteristic handle and value and one *ATT_Handle_Value_Notification* of the Glucose Measurement Context characteristic handle and value, all in the order sent by the Lower Tester.
 6. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x01) followed by the Response Code for 'success' (0x01).

7. IUT writes the Delete stored records Op Code (0x02) to the RACP using an Operator of 'all records' (0x01) and no Operand.
8. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x02) followed by the Response Code for 'success' (0x01).
9. The IUT receives an *ATT_Handle_Value_Indication* from the Lower Tester containing the Record Access Control Point characteristic handle and value.
10. The IUT sends an *ATT_Handle_Value_Confirmation* to the Lower Tester.
11. Verify that there are no longer any records in the Lower Tester.
12. Verify the characteristic value meets the requirements of the service.

- Expected Outcome

Pass verdict

The IUT receives one indication of the Record Access Control Point characteristic with the Response Code Op Code containing a valid Operator and Operand.

All records have been deleted from the Lower Tester.

The IUT receives the Request Op Code 'success'.

4.6.2 GLP/COL/SPD/BV-02-I [Delete Stored Records – Within range of Sequence Number value pair]

- Test Purpose

Verify that the Collector IUT can perform the Delete Stored Records procedure with an Operator of "within range of" and using the Sequence Number Filter Type.

- Reference

[3] 4.7.3.3

- Initial Condition

If a connection exists, it shall be disconnected.

- Test Procedure

1. Perform an action on the Lower Tester that will induce it to generate 4 records, of which a Glucose Measurement Context characteristic is in only the second record.
2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
3. The IUT writes the Delete stored records Op Code (0x02) to the RACP using an Operator of 'within range of' (0x04) and a Operand containing the Sequence Number Filter Type (0x01) followed by a pair of sequence number values representing the value of the second record and the value of the third record.
4. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x02) followed by the Response Code for 'success' (0x01).

5. The IUT receives an *ATT_Handle_Value_Indication* from the Lower Tester containing the Record Access Control Point characteristic handle and value.
6. The IUT sends an *ATT_Handle_Value_Confirmation* to the Lower Tester.
7. Verify that the second and third records have been deleted from the Lower Tester.
8. Verify the characteristic value meets the requirements of the service.

- Expected Outcome

Pass verdict

The IUT receives one indication of the Record Access Control Point characteristic with the Response Code Op Code containing a valid Operator and Operand.

The second and third records have been deleted from the IUT.

The IUT receives the Request Op Code 'success'.

4.7 Service Procedures – Abort Operation

This test group contains test cases to verify compliant operation when the Record Access Control Point (RACP) Abort Operation procedure is used.

4.7.1 GLP/COL/SPA/BV-01-I [Abort Operation – Report Stored Records]

- Test Purpose

Verify that the Collector IUT can perform an Abort of the Report Stored Records procedure.

- Reference

[3] 4.7.3.4, 4.7.3.5

- Initial Condition

If a connection exists, it shall be disconnected.

- Test Procedure

1. Perform an action on the Lower Tester that will induce it to generate enough records such that the transmission is not able to complete before the RACP abort is attempted. In most cases ~200 records is sufficient since this will take over 5 seconds to transfer. The records may or may not contain Glucose Measurement Context characteristics.
2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
3. The IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'all records' (0x01) and no Operand.
4. The Lower Tester starts to send notifications of the Glucose Measurement characteristic and optionally, the Glucose Measurement Context characteristic.
5. The IUT receives one or more *ATT_Handle_Value_Notification* from the Lower Tester containing the Glucose Measurement characteristic handle and value and one or more notifications of the Glucose Measurement Context characteristic handle and value.

6. IUT writes the Abort Operation Op Code (0x03) to the RACP with an Operator of Null and no Operand.
7. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code (0x03) followed by the Response Code for 'success' (0x01).
8. The IUT receives an *ATT_Handle_Value_Indication* from the Lower Tester containing the Record Access Control Point characteristic handle and value.
9. The IUT sends an *ATT_Handle_Value_Confirmation* to the Lower Tester.
10. Verify the notifications stop.
11. Verify the characteristic value meets the requirements of the service.

- Expected Outcome

Pass verdict

The IUT receives some, but not all notifications of the Glucose Measurement characteristic which may include notifications of the Glucose Measurement Context characteristic.

The IUT receives one indication of the Record Access Control Point characteristic with the Response Code Op Code containing a valid Operator and Operand for Abort Operation.

4.8 Service Procedures – Report Number of Stored Records

This test group contains test cases to verify compliant operation when the Record Access Control Point (RACP) Report Number of Stored Records procedure is used.

4.8.1 GLP/COL/SPN/BV-01-I [Report Number of Stored Records – All records]

- Test Purpose

Verify that the Collector IUT can perform the Report Number of Stored Records procedure with an Operator of 'all records'.

- Reference

[3] 4.7.3.2

- Initial Condition

If a connection exists, it shall be disconnected.

- Test Procedure

1. Perform an action on the Lower Tester that will induce it to generate 3 records, of which a Glucose Measurement Context characteristic is in only the second record.
2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
3. The IUT writes the Report number of stored records Op Code (0x04) to the RACP using an Operator of 'all records' (0x01) and no Operand.

4. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Number of stored records response Op Code (0x05) an Operator of Null (0x00) and an Operand representing that three records were found (0x0003).
 5. The IUT receives an *ATT_Handle_Value_Indication* from the Lower Tester containing the Record Access Control Point characteristic handle and value.
 6. The IUT sends an *ATT_Handle_Value_Confirmation* to the Lower Tester.
 7. Verify the characteristic value meets the requirements of the service.
- Expected Outcome

Pass verdict

The IUT receives one indication of the Record Access Control Point characteristic with the Response Code Op Code containing a valid Operator and Operand.

The value of the Operand represents that 3 records were found.

4.8.2 GLP/COL/SPN/BV-02-I [Report Number of Stored Records – Greater than or equal to Sequence Number]

- Test Purpose

Verify that the Collector IUT can perform the Report Number of Stored Records procedure with an Operator of 'greater than or equal to' and using the Sequence Number as Filter Type.
- Reference

[3] 4.7.3.2
- Initial Condition

If a connection exists, it shall be disconnected.
- Test Procedure
 1. Perform an action on the Lower Tester that will induce it to generate 3 records, of which a Glucose Measurement Context characteristic is in only the second record.
 2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
 3. The IUT writes the Report number of stored records Op Code (0x04) to the RACP using an Operator of 'greater than or equal to' (0x03) and an Operand containing the Sequence Number Filter Type (0x01) followed by the value of the sequence number for second record.
 4. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Number of stored records response Op Code (0x05) an Operator of Null (0x00) and an Operand representing that two records were found (0x0002).
 5. The IUT receives an *ATT_Handle_Value_Indication* from the Lower Tester containing the Record Access Control Point characteristic handle and value.
 6. The IUT sends an *ATT_Handle_Value_Confirmation* to the Lower Tester.
 7. Verify the characteristic value meets the requirements of the service.

- Expected Outcome

Pass verdict

The IUT sends one indication of the Record Access Control Point characteristic with the Response Code Op Code containing a valid Operator and Operand.

The value of the Operand represents that two records were found.

4.9 Service Procedures – General Error Handling

This test group contains test cases to verify compliant operation when an error is caused by the Server side.

4.9.1 GLP/COL/SPE/BI-01-I [Unsupported Op Code]

- Test Purpose

Verify that the Collector IUT is unaffected after receiving an 'Op Code not supported' RACP Response Code.

- Reference

[3] 4.7.2 and 4.7.4

- Initial Condition

If a connection exists, it shall be disconnected.

- Test Procedure

1. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
2. The IUT writes any Op Code that is not supported by the Sensor to the RACP using an appropriate Operator and Operand for the Op Code.
3. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code followed by the Response Code Value for 'Op Code not supported' (0x02).
4. Verify the IUT considers the procedure to have failed.

- Expected Outcome

Pass verdict

The IUT returns to a stable state and can process commands normally.

- Notes

The test purpose is to verify the IUTs capability to handle an Op Code not supported response by the Sensor. This Sensor response may be provoked by the IUT writing an Op Code that is not supported by the responding compliant Sensor, or where the Sensor response to the IUT may be yielded by a test system that emulates that it does not support an Op Code.

4.9.2 GLP/COL/SPE/BI-02-I [Unsupported Operator]

- Test Purpose

Verify that the Collector IUT is unaffected after receiving an 'Operator not supported' RACP Response Code.

- Reference

[3] 4.7.2 and 4.7.4

- Initial Condition

If a connection exists, it shall be disconnected.

- Test Procedure

1. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
2. The IUT writes the Report stored records Op Code (0x01) to the RACP using any Operator not supported by the Sensor.
3. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code followed by the Response Code Value for 'Operator not supported' (0x04).
4. Verify the IUT considers the procedure to have failed.

- Expected Outcome

Pass verdict

The IUT returns to a stable state and can process commands normally.

- Notes

The test purpose is to verify the IUTs capability to handle an Operator not supported response by the Sensor. This Sensor response may be provoked by the IUT writing an Operator that is not supported by the responding compliant Sensor, or where the Sensor response to the IUT may be yielded by a test system that emulates that it does not support an Operator.

4.9.3 GLP/COL/SPE/BI-03-I [Unsupported Operand]

- Test Purpose

Verify that the Collector IUT is unaffected after receiving an 'Operand not supported' RACP Response Code.

- Reference

[3] 4.7.2 and 4.7.4

- Initial Condition

If a connection exists, it shall be disconnected.

- Test Procedure
 1. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
 2. The IUT writes any Op Code to the RACP using an appropriate Operator and Operand not supported by the Sensor for the Op Code.
 3. The Lower Tester sends an indication of the Record Access Control Point characteristic with the Response Code Op Code (0x06) an Operator of Null (0x00) and an Operand representing Request Op Code followed by the Response Code Value for 'Operand not supported' (0x09).
 4. Verify the IUT considers the procedure to have failed.

- Expected Outcome

Pass verdict

The IUT returns to a stable state and can process commands normally.

- Notes

The test purpose is to verify the IUTs capability to handle an Operand not supported response by the Sensor. This Sensor response may be provoked by the IUT writing an Operand that is not supported by the responding compliant Sensor, or where the Sensor response to the IUT may be yielded by a test system that emulates that it does not support an Operand.

4.9.4 GLP/COL/SPE/BI-04-I [RACP Procedure Timeout]

- Test Purpose

Verify that the Collector IUT does not receive a response to an RACP Op Code, it will time out after the Attribute Protocol Timeout.

- Reference

[3] 4.7.3.4 and 4.7.5

- Initial Condition

If a connection exists, it shall be disconnected.

- Test Procedure

1. Perform an action on the Lower Tester that will induce it to generate 3 records, of which a Glucose Measurement Context characteristic is in only the second record.
2. A connection is established between the IUT and Lower Tester using the Preamble defined in Section 4.2.4.
3. The IUT writes the Report stored records Op Code (0x01) to the RACP using an Operator of 'all records' (0x01) and no Operand.
4. The Lower Tester sends three notifications of the Glucose Measurement characteristic and one notification of the Glucose Measurement Context characteristic representing all records.
5. The Lower Tester does NOT send an indication of the Record Access Control Point characteristic for at least longer than the Attribute Protocol Timeout.
6. Verify that the IUT considers the procedure to have failed and notifies the local upper layer.

- Expected Outcome

Pass verdict

After the Attribute Protocol Timeout, the IUT notifies the local upper layer of the time out.

5 Test Case Mapping

The Test Case Mapping Table (TCMT) maps test cases to specific capabilities in the ICS. Profiles, protocols and services may define multiple roles, and it is possible that a product may implement more than one role. The product shall be tested in all roles for which support is declared in the ICS document.

The columns for the TCMT are defined as follows:

Item: contains an y/x reference, where y corresponds to the table number and x corresponds to the feature number as defined in the ICS Proforma for the Glucose Profile [4]. If the item is defined with Protocol, Profile or Service abbreviation before y/x, the table and feature number referenced are defined in the abbreviated ICS proforma document.

Feature: recommended to be the primary feature defined in the ICS being tested or may be the test case name.

Test Case(s): the applicable test case identifiers required for Bluetooth Qualification if the corresponding y/x references defined in the Item column are supported.

Test Case Applicable: may be used to note if a test is required based on the supported features.

For purpose and structure of the ICS/IXIT proforma and instructions for completing the ICS/IXIT proforma refer to the Bluetooth ICS and IXIT proforma document.

Item	Feature	Test Case(s)	Test Case Applicable
GLP 1/2	General Error Handling	GLP/COL/SPE/BI-01-I GLP/COL/SPE/BI-02-I GLP/COL/SPE/BI-03-I	
GLP 3/1	Glucose Service as a Primary Service	GLP/SEN/GLF/BV-08-I	
GLP 3/2	Glucose Service UUID in AD in GAP Discoverable Mode	GLP/SEN/GLF/BV-01-I	
GLP 3/3	Local Name in AD or Scan Response	GLP/SEN/GLF/BV-02-I	
GLP 3/4	Public Target Address in AD or Scan Response	GLP/SEN/GLF/BV-03-I	
GLP 3/5	Private Random Target Address in AD or Scan Response	GLP/SEN/GLF/BV-04-I	
GLP 3/6	Static Random Target Address in AD or Scan Response	GLP/SEN/GLF/BV-05-I	

Item	Feature	Test Case(s)	Test Case Applicable
GLP 3/8 AND NOT (GLP 3/4 OR GLP 3/5 OR GLP 3/6)	No Target Address in AD or Scan Response – Multi-Bond	GLP/SEN/GLF/BV-06-I	
GLP 3/1 AND GLP 3/9	No Target Address in AD or Scan Response – Single Bond	GLP/SEN/GLF/BV-07-I	
GAP 0/3 AND GATT 1a/4 AND GLP 1/1 AND GLP 2/2 AND NOT GLP 2/1	Glucose Sensor support for BR/EDR/LE (dual mode)	GLP/SEN/GLD/BV-03-I	
GLP 8/1	Discover Glucose Service	GLP/COL/GLD/BV-01-I	
GLP 8/2	Discover Glucose Measurement characteristic	GLP/COL/GLD/BV-04-I	
GLP 8/3	Discover Glucose Measurement – Client Characteristic Configuration Descriptor	GLP/COL/GLD/BV-05-I	
GLP 8/4	Discover Glucose Measurement Context characteristic	GLP/COL/GLD/BV-06-I	
GLP 8/5	Discover Glucose Measurement Context - Client Characteristic Configuration Descriptor	GLP/COL/GLD/BV-07-I	
GLP 8/6	Discover Glucose Feature characteristic	GLP/COL/GLD/BV-10-I	
GLP 8/7	Discover Record Access Control Point characteristic	GLP/COL/GLD/BV-08-I	
GLP 8/8	Discover Record Access Control Point - Client Characteristic Configuration Descriptor	GLP/COL/GLD/BV-09-I	
GLP 9/1	Configure Glucose Measurement characteristic for notifications	GLP/COL/GLF/BV-09-I	

Item	Feature	Test Case(s)	Test Case Applicable
GLP 9/2	Receive Glucose Measurement characteristic notifications	GLP/COL/GLF/BV-10-I GLP/COL/GLF/BI-01-I GLP/COL/GLF/BI-02-I GLP/COL/GLF/BI-03-I GLP/COL/GLF/BI-04-I	
GLP 9/3	Configure Glucose Measurement Context characteristic for notifications	GLP/COL/GLF/BV-11-I	
GLP 9/4	Receive Glucose Measurement Context characteristic notifications	GLP/COL/GLF/BV-12-I GLP/COL/GLF/BI-06-I GLP/COL/GLF/BI-07-I GLP/COL/GLF/BI-08-I GLP/COL/GLF/BI-09-I GLP/COL/GLF/BI-10-I	
GLP 9/8	Report Stored Records Op Code of RACP Characteristic – RACP Procedure Timeout	GLP/COL/SPE/BI-04-I	
GLP 9/10	Abort Procedure Op Code of RACP Characteristic	GLP/COL/SPA/BV-01-I	
GLP 9/14	Read Glucose Feature characteristic	GLP/COL/GLF/BV-13-I GLP/COL/GLF/BI-11-I	
GLP 9/15	Verify Bond Status on Reconnection	GLP/COL/GLF/BV-14-I	
GLP 10/1	Report Stored Records Op Code of RACP Characteristic - All Records Operator	GLP/COL/SPR/BV-01-I	
GLP 10/1 AND GLP 12/1	Report Stored Records Op Code of RACP Characteristic - Record Added/Deleted	GLP/COL/SPR/BV-08-I GLP/COL/SPR/BV-09-I	
GLP 10/3	Report Stored Records Op Code of RACP Characteristic - Less than or equal to Sequence Number	GLP/COL/SPR/BV-02-I	

Item	Feature	Test Case(s)	Test Case Applicable
GLP 10/6	Report Stored Records Op Code of RACP Characteristic - Greater than or equal to Operator – Sequence Number Operand	GLP/COL/SPR/BV-03-I	
GLP 10/7	Report Stored Records Op Code of RACP Characteristic - Greater than or equal to User Facing Time	GLP/COL/SPR/BV-04-I	
GLP 10/9	Report Stored Records Op Code of RACP Characteristic – Within Range of Sequence Number value pair	GLP/COL/SPR/BV-05-I	
GLP 10/11	Report Stored Records Op Code of RACP Characteristic – First Record Operator	GLP/COL/SPR/BV-06-I	
GLP 10/12	Report Stored Records Op Code of RACP Characteristic – Last Record Operator	GLP/COL/SPR/BV-07-I	
GLP 11/1	Delete Stored Records Op Code of RACP Characteristic – All Records	GLP/COL/SPD/BV-01-I	
GLP 11/9	Delete Stored Records Op Code of RACP Characteristic – Within Range Of Sequence Number value pair	GLP/COL/SPD/BV-02-I	
GLP 12/1	Report Number of Stored Records Op Code of RACP Characteristic - All Records Operator	GLP/COL/SPN/BV-01-I	
GLP 12/6	Report Number of Stored Records Op Code of RACP Characteristic - Greater than or equal to Operator – Sequence Number Operand	GLP/COL/SPN/BV-02-I	
GLP 13/1	Discover Device Information Service	GLP/COL/GLD/BV-02-I	

Item	Feature	Test Case(s)	Test Case Applicable
GLP 13/2 OR GLP 13/3 OR GLP 13/4	Manufacturer Name String Characteristic Model Number String Characteristic System ID Characteristic	GLP/COL/GLD/BV-11-I GLP/COL/GLD/BV-12-I	

Table 5.1: Test Case Mapping

6 Revision History and Contributors

Revision History

Revision History	Date	Comments
D0.9.0	2011-11-22	Initial draft based on BLP.TS.1.0.0
D0.9.1	2011-11-27	Submitted for MED WG and BTI review. Added error test cases. Incorporated feedback from BTI.
D0.9.2	2011-11-29	Accepted all changes. Candidate for BTI approval. Incorporated feedback from Reviewers. Version used at IOP.
D1.0.0	2011-12-14	Rolled version to Draft 1.0. Incorporated updates to align with GLP D10r01.
D1.0.1	2012-02-23	Accepted all changes. Incorporated feedback from MED WG review. Resubmitted for BTI review.
D1.0.2	2012-03-21	Accepted all changes. Resubmitted for BTI review.
1.0.0	2012-04-03	Adopted by the SIG Board of Directors
1.0.1r1	2013-05-05	TSE 5158: Change all the GATT Client Discovery test case references from –I to –C: TP/GLD/CO/BV-01-I, TP/GLD/CO/BV-02-I, TP/GLD/CO/BV-04-I, TP/GLD/CO/BV-05-I, TP/GLD/CO/BV-06-I, TP/GLD/CO/BV-07-I, TP/GLD/CO/BV-08-I, TP/GLD/CO/BV-09-I, TP/GLD/CO/BV-10-I, TP/GLD/CO/BV-11-I (GLP/COL/GLD/BV-01-I, GLP/COL/GLD/BV-02-I, GLP/COL/GLD/BV-04-I, GLP/COL/GLD/BV-05-I, GLP/COL/GLD/BV-06-I, GLP/COL/GLD/BV-07-I, GLP/COL/GLD/BV-08-I, GLP/COL/GLD/BV-09-I, GLP/COL/GLD/BV-10-I, and GLP/COL/GLD/BV-11-I, after ID conversion)
1.0.1	2013-07-02	Prepare for Publication
1.0.2r01	2013-09-30	<p>TSE 5296: Updated first sentence of test procedure in TP/GLD/CO/BV-12-I (GLP/COL/GLD/BV-12-I after ID conversion) to add, “and a disconnection may occur between the two tests” for clarification.</p> <p>TSE 5339: Updated the flags in the test procedure for TP/GLF/CO/BI-01-I to “0xEB” (GLP/COL/GLD/BI-01-I after ID conversion), for TP/GLF/CO/BI-02-I and TP/GLF/CO/BI-03-I to “0x0A” (GLP/COL/GLF/BI-02-I and GLP/COL/GLF/BI-03-I after ID conversion) and for GLF/CO/BI-04-I to “0x02 or optional reserved flags” (GLP/COL/GLF/BI-04-I after ID conversion).</p>

Revision History	Date	Comments
1.0.2	2013-12-03	Prepare for Publication
1.0.3r00	2014-04-11	TSE 5361: Removed TP/GLF/CO/BI-05-I and associated TCMT entry.
1.0.3r01	2014-06-01	Added Pass/Fail Verdict Conventions according to applicable test specification template.
1.0.3	2014-07-07	TCRL 2014-1 Publication
1.0.4r00	2015-05-10	TSE 6282: Updated mapping in TCMT for TP/GLF/GL/BV-05-I, 06-I, 07-I (GLP/SEN/GLF/BV-05-I, 06-I, 07-I after ID conversion) for changes to GLP.ICS.
1.0.4r01	2015-05-25	Converted to current document template.
1.0.4	2015-07-14	Prepared for TCRL 2015-1 publication
1.0.5r00	2016-04-20	<p>TSE 5395: Updated RACP Preamble for test cases GLP/COL/GLF/BV-10-I, GLP/COL/GLF/BI-01-I, GLP/COL/GLF/BI-02-I, GLP/COL/GLF/BI-03-I, GLP/COL/GLF/BI-04-I, GLP/COL/GLF/BV-12-I, GLP/COL/GLF/BI-06-I, GLP/COL/GLF/BI-07-I, GLP/COL/GLF/BI-08-I, GLP/COL/GLF/BI-09-I, GLP/COL/GLF/BI-10-I.</p> <p>TSE 6999: Added RACP procedure to Test Procedure for test cases GLP/COL/GLF/BV-10-I, GLP/COL/GLF/BI-01-I, GLP/COL/GLF/BI-02-I, GLP/COL/GLF/BI-03-I, GLP/COL/GLF/BI-04-I, GLP/COL/GLF/BV-12-I, GLP/COL/GLF/BI-06-I, GLP/COL/GLF/BI-07-I, GLP/COL/GLF/BI-08-I, GLP/COL/GLF/BI-09-I, and GLP/COL/GLF/BI-10-I.</p> <p>Other editorial changes made by Alicia Courtney and Magnus Sommansson.</p>
1.0.5r01	2016-04-20	Converted to new Test Case ID conventions as described in TSTO v4.1
1.0.5	2016-07-13	Prepared for TCRL 2016-1 publication.
1.0.6r00	2018-10-03	TSE 10179 (rating 2): Updated TCMT for GLP/SEN/GLD/BV-03-I
1.0.6	2018-11-21	Approved by BTI. Prepared for TCRL 2018-2 publication.

Revision History	Date	Comments
1.0.7r00	2019-09-06	TSE 12246 (rating 1): Updated test case GLP/SEN/GLD/BV-03-I so that step 2 of the test procedure references test case GLS/SEN/SD/BV-01-C instead of GLS/SR/SD/BV-01-C. Additionally, deleted abstract, moved revision history and contributors lists to the end of the doc, and updated copyright page text.
1.0.7	2020-01-07	Approved by BTI on 2019-11-03. Prepared for TCRL 2019-2 publication.

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