Video Distribution Profile (VDP)

***Bluetooth*® Test Suite**

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Contents

1 Scope

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

The VDP utilizes the Generic Audio/Video Distribution profile (GAVDP) [2], which defines the signaling procedures. To test VDP procedures, it is necessary to initiate a part of the GAVDP procedures. Conformance tests for GAVDP are fully defined in the GAVDP Test Suite [4].

2 References, definitions, and abbreviations

2.1 References

This document incorporates provisions from other publications by dated or undated reference. These references are cited at the appropriate places in the text, and the publications are listed hereinafter. Additional definitions and abbreviations can be found in [7] and [9].

[1] Video Distribution Profile

[2] Generic Audio/Video Distribution Profile

[3] ICS Proforma for Video Distribution Profile (VDP)

[4] Generic Audio/Video Distribution Profile Test Suite, GAVDP.TS

[5] ISO/IEC 14496-4:2000, Information technology - Coding of audio-visual objects - Part 4: Conformance testing

[6] ISO/IEC 14496-5:2000, Information technology - Coding of audio-visual objects - Part 5: Reference software

[7] Test Strategy and Terminology Overview

[8] Bluetooth SIG, Conformance Test Video available at the Bluetooth SIG website in Test Suite section

[9] Bluetooth Core Specification, Version 2.0 or later

[10] SDP Test Suite, SDP.TS

2.2 Definitions

In this Bluetooth document, the definitions from [7] and [9] apply.

2.3 Acronyms and abbreviations

In this Bluetooth document, the definitions, acronyms, and abbreviations from [7] and [9] apply.

3 Test Suite Structure (TSS)

3.1 Overview

The qualification of products claiming their compliance with the Bluetooth specification involves the execution of Test Suites.

3.2 Test Strategy

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

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

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

3.3 Test groups

The following test groups have been defined:

- Generic SDP Integrated Tests
- Setup Video Streaming
- Release Video Streaming
- Suspend Video Streaming
- Video Streaming
- Synchronous streaming of Audio and Video
- H.263 baseline Codec Conformance Test

4 Test cases (TC)

4.1 Introduction

4.1.1 Test case identification conventions

Test cases are assigned unique identifiers per the conventions in [7]. The convention used here is:
<spec abbreviation>/<IUT role>/<class>/**<feat>**/<func>/<subfunc>/<cap>/**<xx>-<nn>-<y>**.

Additionally, testing of this specification includes tests from the SDP Test Suite [10] referred to as Generic SDP Integrated Tests (GSIT); when used, the test cases in GSIT are referred to through a TCID string using the following convention:
<spec abbreviation>/<IUT role>/<GSIT test group>/< GSIT class >/<xx>-<nn>-<y>.

Identifier Abbreviation	**Spec Identifier <spec abbreviation>**
VDP	Video Distribution Profile
Identifier Abbreviation	**Role Identifier <IUT role>**
SNK	Sink
SRC	Source
Identifier Abbreviation	**Reference Identifier <GSIT test group>**
CGSIT	Client Generic SDP Integrated Tests
SGSIT	Server Generic SDP Integrated Tests
Identifier Abbreviation	**Reference Identifier <GSIT class>**
ATTR	Attribute
OFFS	Attribute ID Offset String
SERR	Service Record
SFC	SDP Future Compatibility
Identifier Abbreviation	**Feature Identifier <feat>**
HC	H.263 Baseline Decoder Conformance
REL	Release Video Streaming
SET	Setup Video Streaming
SUS	Suspend Video Streaming
SYN	Synchronous Streaming of Audio and Video
VS	Video Streaming

Table 4.1: VDP TC feature naming conventions

4.1.2 Conformance

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

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

Such tests may verify:

- That claimed capabilities may be used in any order and any number of repetitions not excluded by the specification
- That capabilities enabled by the implementations are sustained over durations expected by the use case
- That the implementation gracefully handles any quantity of data expected by the use case
- That in cases where more than one valid interpretation of the specification exists, the implementation complies with at least one interpretation and gracefully handles other interpretations
- That the implementation is immune to attempted security exploits

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

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

4.1.3 Pass/Fail verdict conventions

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

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

4.2 Generic SDP Integrated Tests

4.2.1 Server Generic SDP Integrated Tests

4.2.1.1 Video Distribution Profile – Source

Execute the Generic SDP Integrated Tests defined in Section 6.3, Server test procedures (SGSIT), in [10] using Table 4.2 below as input:

TCID	Reference	Attribute ID name	Attribute ID definition source (Universal, Profile)	Value/secondary value	Attribute presence (Present/Present for [role], Optionally present, TCMT defined)
VDP/SRC/SGSIT/SERR/BV-01-C [Service record GSIT – VDP SRC]	[1] 5.3	ServiceClassIDList	Universal	"Video Source" (UUID)	Present for SRC
VDP/SRC/SGSIT/ATTR/BV-01-C [Attribute GSIT – Protocol Descriptor List]	[1] 5.3	ProtocolDescriptorList	Universal	"L2CAP" (UUID): PSM – "AVDTP" (Uint16), "AVDTP" (UUID): Version – skip (Uint16)	Present for SRC
VDP/SRC/SGSIT/ATTR/BV-03-C [Attribute GSIT – Bluetooth Profile Descriptor List, VDP 1.1]	[1] 5.3	BluetoothProfileDescriptorList	Universal	"Video Distribution" (UUID): Version – "0x0101" (Uint16)	TCMT defined

Table 4.2: Input for the Video Distribution Profile Source SGSIT SDP test procedure

4.2.1.2 Video Distribution Profile – Sink

Execute the Generic SDP Integrated Tests defined in Section 6.3, Server test procedures (SGSIT), in [10] using Table 4.3 below as input:

TCID	Reference	Attribute ID name	Attribute ID definition source (Universal, Profile)	Value/secondary value	Attribute presence (Present/Present for [role], Optionally present, TCMT defined)
VDP/SNK/SGSIT/SERR/BV-02-C [Service record GSIT – VDP SNK]	[1] 5.3	ServiceClassIDList	Universal	"Video Sink" (UUID)	Present for SNK
VDP/SNK/SGSIT/ATTR/BV-04-C [Attribute GSIT – Protocol Descriptor List]	[1] 5.3	ProtocolDescriptorList	Universal	"L2CAP" (UUID): PSM – "AVDTP" (Uint16), "AVDTP" (UUID): Version – skip (Uint16)	Present for SNK
VDP/SNK/SGSIT/ATTR/BV-06-C [Attribute GSIT – Bluetooth Profile Descriptor List, VDP 1.1]	[1] 5.3	BluetoothProfileDescriptorList	Universal	"Video Distribution" (UUID): Version – "0x0101" (Uint16)	TCMT defined

Table 4.3: Input for the Video Distribution Profile Sink SGSIT SDP test procedure

4.2.1.3 Video Distribution Profile – Attribute ID Offset String tests

Execute the Generic SDP Integrated Tests defined in Section 6.3, Server test procedures (SGSIT), in [10] using Table 4.4 below as input:

TCID	Reference	ServiceSearchPattern	Attribute ID name	Attribute ID Offset	Attribute presence (Present/Present for [role], Optionally present, TCMT defined)
VDP/SRC/SGSIT/OFFS/BV-01-C [Attribute ID Offset String GSIT – Service Name]	[1] 5.3	Video Source	ServiceName	0x0000	Optionally present
VDP/SRC/SGSIT/OFFS/BV-02-C [Attribute ID Offset String GSIT – Provider Name]	[1] 5.3	Video Source	ProviderName	0x0002	Optionally present
VDP/SNK/SGSIT/OFFS/BV-03-C [Attribute ID Offset String GSIT – Service Name]	[1] 5.3	Video Sink	ServiceName	0x0000	Optionally present
VDP/SNK/SGSIT/OFFS/BV-04-C [Attribute ID Offset String GSIT – Provider Name]	[1] 5.3	Video Sink	ProviderName	0x0002	Optionally present

Table 4.4: Input for the Video Distribution Profile SGSIT Attribute ID Offset String tests

4.2.2 Client Generic SDP Integrated Tests

Execute the Generic SDP Future Compatibility Tests defined in Section 6.4, Client test procedures (CGSIT), in [10] using Table 4.5 below as input:

TCID	Reference	Service Record Service Class UUID description	Lower Tester SDP record initial conditions
VDP/SRC/CGSIT/SFC/BV-01-C [SDP Future Compatibility – IUT is VDP SRC]	[1] 5.3	VDP Sink	The Lower Tester exposes a VDP Sink SDP record. The version in the Bluetooth Profile Descriptor List is greater than the most recently adopted version.
VDP/SNK/CGSIT/SFC/BV-02-C [SDP Future Compatibility – IUT is VDP SNK]	[1] 5.3	VDP Source	The Lower Tester exposes a VDP Source SDP record. The version in the Bluetooth Profile Descriptor List is greater than the most recently adopted version.

Table 4.5: Input for the Client CGSIT SDP future compatibility tests

4.3 Setup Video Streaming

Verify streaming setup.

4.3.1 Establish Connection initiated by the SRC

Verify that the parameters are configured and stream connection is established by the SRC.

4.3.1.1 Establish Connection – SRC

- Test Purpose

  Verify that the SRC can establish stream connection successfully.

- Reference

  [1] 5.1.1

  [2] 4.1.1

- Initial Condition

  - Both devices are in standby mode.

- Test Case Configuration

Test Case
VDP/SRC/SET/BV-01-C [Establish Connection – SRC]
VDP/SNK/SET/BV-01-C [Establish Connection – SRC]

Table 4.6: Establish Connection – SRC test cases

- Test Procedure

  1. Initiate the user action (e.g., press button) on the SRC to set up connection.
  2. Initiate another user action (e.g., press button) on the SRC to start video streaming, if it does not start streaming consecutively after connection establishment.

- Expected Outcome

  Pass verdict

  If there is a corresponding indicator, then establishment of connection is indicated.

  It is indicated that video streaming started upon user action.

4.3.2 Establish Connection Initiated by the SNK

Verify that the parameters are configured and stream connection is established by the SNK.

4.3.2.1 Establish Connection – SNK

- Test Purpose

  Verify that the SNK can establish stream connection successfully.

- Reference

  [1] 5.1.1

  [2] 4.1.1

- Initial Condition
  - Both devices are in standby mode.
- Test Case Configuration

Test Case
VDP/SRC/SET/BV-02-C [Establish Connection – SNK]
VDP/SNK/SET/BV-02-C [Establish Connection – SNK]

Table 4.7: Establish Connection – SNK test cases

- Test Procedure

  Initiate the user action (e.g., press button) on the SNK to set up connection. If it does not start streaming consecutively after connection establishment, initiate another user action (e.g., press button) on the SNK to start video streaming.

- Expected Outcome

  Pass verdict

  If there is a corresponding indicator, then establishment of connection is indicated.

  It is indicated that video streaming started upon user action.

4.3.3 Start Video Streaming initiated by the SRC

Verify that video streaming is started by the SRC.

4.3.3.1 Start Streaming – SRC

- Test Purpose

  Verify that the SRC can start video streaming.

- Reference

  [1] 5.1.1

  [2] 4.1.1

- Initial Condition
  - Connection has been established.
- Test Case Configuration

Test Case
VDP/SRC/SET/BV-03-C [Start Streaming – SRC]
VDP/SNK/SET/BV-03-C [Start Streaming – SRC]

Table 4.8: Start Streaming – SRC test cases

- Test Procedure

  Initiate the user action (e.g., press button) on the SRC to start video streaming. No user action may be required when Start streaming is preceded from connection establishment consecutively.

- Expected Outcome

  Pass verdict

  If there is a corresponding indicator, then start video streaming is indicated. Otherwise, streaming video is monitored on the SNK.

4.3.4 Start Video Streaming initiated by the SNK

Verify that video streaming is started by the SNK.

4.3.4.1 Start Streaming – SNK

- Test Purpose

  Verify that the SNK can start video streaming.

- Reference

  [1] 5.1.1

  [2] 4.1.1

- Initial Condition

  - Connection has been established.

- Test Case Configuration

Test Case
VDP/SRC/SET/BV-04-C [Start Streaming – SNK]
VDP/SNK/SET/BV-04-C [Start Streaming – SNK]

Table 4.9: Start Streaming – SNK

- Test Procedure

  Initiate the user action (e.g., press button) on the SNK to start video streaming. No user action may be required when Start streaming is preceded from connection establishment consecutively.

- Expected Outcome

  Pass verdict

  If there is a corresponding indicator, then start video streaming is indicated. Otherwise, streaming video is monitored on the SNK.

4.4 Release Video Streaming

Verify that the video stream connection is released.

4.4.1 Release Video Streaming initiated by the SRC

Verify that the video stream connection is released by the SRC.

4.4.1.1 Release Streaming – SRC

- Test Purpose

  Verify that the SRC can release streaming and that the SNK can accept streaming release.

- Reference

  [1] 5.1.1

  [2] 4.1.3

- Initial Condition

  - Streaming connection is established.

- Test Case Configuration

Test Case
VDP/SRC/REL/BV-01-C [Release Streaming – SRC]
VDP/SNK/REL/BV-01-C [Release Streaming – SRC]

Table 4.10: Release Streaming – SRC test cases

- Test Procedure

  Initiate the user action (e.g., press button) on the SRC to release streaming. Then, re-establish a video streaming connection and start video streaming.

- Expected Outcome

  Pass verdict

  If there is a corresponding indicator, release video streaming is indicated. Otherwise, video streaming is stopped.

  The user action releases video streaming connection, and it is possible to re-establish a video streaming connection and start video streaming.

4.4.2 Release Video Streaming initiated by the SNK

Verify that the video stream connection is released by the SNK.

4.4.2.1 Release Streaming – SNK

- Test Purpose

  Verify that the SRC can accept streaming release and that the SNK can release streaming.

- Reference

  [1] 5.1.1

  [2] 4.1.3

- Initial Condition
  - Streaming connection is established.
- Test Case Configuration

Test Case
VDP/SRC/REL/BV-02-C [Release Streaming – SNK]
VDP/SNK/REL/BV-02-C [Release Streaming – SNK]

Table 4.11: Release Streaming – SNK test cases

- Test Procedure

  Initiate the user action (e.g., press button) on the SNK to release streaming. Then, re-establish a video streaming connection and start video streaming.

- Expected Outcome

  Pass verdict

  If there is a corresponding indicator, release video streaming is indicated. Otherwise, video streaming is stopped.

  The user action releases video streaming connection and is possible to re-establish a video streaming connection and start video streaming.

4.5 Suspend Video Streaming

Verify that the video streaming is suspended.

4.5.1 Suspend Video Streaming initiated by the SRC

Verify that the video streaming is suspended by the SRC.

4.5.1.1 Suspend Stream – SRC

- Test Purpose

  Verify that the SRC can suspend streaming and that the SNK can accept streaming suspend.

- Reference

  [1] 5.1.1

  [2] 4.1.4

- Initial Condition
  - Streaming connection is established.
- Test Case Configuration

Test Case
VDP/SRC/SUS/BV-01-C [Suspend Stream – SRC]
VDP/SNK/SUS/BV-01-C [Suspend Stream – SRC]

Table 4.12: Suspend Stream – SRC test cases

- Test Procedure

  Initiate the user action (e.g., press button) on the SRC to suspend streaming. Then resume video streaming by restarting video streaming afterwards.

- Expected Outcome

  Pass verdict

  If there is a corresponding indicator, suspend video streaming is indicated.

  Video streaming is stopped by the user action. Indication of restart video streaming is monitored when resumed.

4.5.2 Suspend Video Streaming initiated by the SNK

Verify that the video stream connection is suspended by the SNK.

4.5.2.1 Suspend Stream – SNK

- Test Purpose

  Verify that the SNK can suspend streaming and that the SRC can accept streaming suspend.

- Reference

  [1] 5.1.1

  [2] 4.1.4

- Initial Condition

  - Streaming connection is established.

- Test Case Configuration

Test Case
VDP/SRC/SUS/BV-02-C [Suspend Stream – SNK]
VDP/SNK/SUS/BV-02-C [Suspend Stream – SNK]

Table 4.13: Suspend Stream – SNK test cases

- Test Procedure

  Initiate the user action (e.g., press button) on the SNK to suspend streaming. Then resume video streaming by restarting video streaming afterwards.

- Expected Outcome

  Pass verdict

  If there is a corresponding indicator, suspend video streaming is indicated.

  Video streaming is stopped by the user action. Indication of restart video streaming is monitored when resumed.

4.6 Video Streaming

Verify that video streaming is executed successfully by streaming video data.

The video data to test this test case can be arbitrary provided that the expected outcome of decoded video is known beforehand. Some codec has reference test vectors for codec conformance test such as MPEG-4 in [5] which can be used for streaming. The expected outcome of decoded video from such

reference test vectors can be reproduced by using the reference codec software which is also provided. With the reference codec software test vectors can be generated as well.

If a codec does not have reference test vector nor reference codec software, it is advised to consult with the codec owner organization on how to verify conformance of codec implementation.

4.6.1 Video Streaming for H.263 baseline

Verify that video streaming based on H.263 baseline is executed successfully.

4.6.1.1 Streaming – H.263 baseline

- Test Purpose

  Verify that the SRC can stream video data encoded in H.263 baseline and that the SNK can successfully receive the video data.

- Reference

  [1] 3.2

- Initial Condition

  - Streaming connection is established and configured using H.263 baseline.

- Test Case Configuration

Test Case
VDP/SRC/VS/BV-01-C [Streaming – H.263 baseline]
VDP/SNK/VS/BV-01-C [Streaming – H.263 baseline]

Table 4.14: Streaming – H.263 baseline test cases

- Test Procedure

  Start streaming on the SRC. If defined test vectors are available, then they should be used for the input, otherwise appropriate input is applied. For more information on test vectors for H.263 baseline, refer to Section 4.8 of this document.

- Expected Outcome

  Pass verdict

  If a video output is available, the video is monitored. Otherwise, it is indicated that streaming was successfully executed.

  If a test vector is used as an input of the SRC, the video output matches the expected outcome derived by the reference codec software.

4.6.2 Video Streaming for Optional Codecs

Verify that video streaming based on optional codec format is executed successfully.

4.6.2.1 Streaming – Optional Codecs

- Test Purpose

  Verify that the SRC can stream video data encoded in an optional codec and that the SNK can successfully receive the video data.

- Reference

  [1] 3.2

- Initial Condition

  - Streaming connection is established and configured using an optional codec.

- Test Case Configuration

Test Case
VDP/SRC/VS/BV-02-C [Streaming – Optional Codecs]
VDP/SNK/VS/BV-02-C [Streaming – Optional Codecs]

Table 4.15: Streaming – Optional Codecs test cases

- Test Procedure

  Start streaming on the SRC. If defined test vectors for the codec under test are available, then they should be used for the input, otherwise appropriate input is applied. For more information on test vectors for the optional codec, refer to the codec owner organization.

- Expected Outcome

  Pass verdict

  If a video output is available, the video is monitored. Otherwise, it is indicated that streaming was successfully executed.

  If a test vector is used as an input of the SRC, the video output matches to expected outcome derived by the reference codec software.

4.7 Synchronous streaming of Audio and Video

Verify the correct implementation of audio video synchronization.

VDP/SNK/SYN/BV-02-C [Delay Reporting with VDP video playback]

- Test Purpose

  The presentation of audio and video is synchronized, e.g., the presentation has to occur without a noticeable delay.

- Reference

  [2] 4.1.18

  [8]

- Initial Condition

  - The Source is connected with an A2DP sink and a VDP sink (IUT).

- Test Procedure

  Start streaming of a test video.

  A sample video [8] is provided that contains a sequence of numbers that are spoken by a user and displayed at the same time. An acoustic marker appears whenever the number changes.

  It is up to the manufacturer to use the provided video or to apply their own test procedure to ensure audio and video presentation is synchronized if the sample video cannot be used for some reason.

- Expected Outcome

  Pass verdict

  Audio and video are synchronized.

  This means the spoken number needs to be the same as the number shown on the screen and the number change in the video needs to be aligned with the corresponding acoustic marker in the video.

- Notes

  If the test video is not used the manufacturer is responsible to use an effective method to verify the synchronization.

VDP/SNK/SYN/BV-01-C [Delay Value]

- Test Purpose

  Verify that the reported delay value is correct.

- Reference

  [2] 4.1.18

- Initial Condition

  - A stream connection is established.
  - IUT is SNK.

- Test Procedure

  Start streaming and receive a delay report from SNK.

- Expected Outcome

  Pass verdict

  The reported delay value is within a given range expected by the manufacturer.

- Notes

  This is a subjective plausibility test.

4.8 H.263 baseline Codec Conformance Test

Verify that the mandatory codec H.263 baseline is properly implemented.

This conformance test is conducted locally by the implementer. Furthermore, the intent of this test is to assure basic conformity to the codec specification and is not to control the quality or performance of the codec implementation. The quality and performance of the codec is up to the implementation as far as it complies with the specification.

The conformance test of H.263 baseline codec is performed according to the MPEG-4 conformance testing [5] and its reference software [6]. It is mandated to satisfy the requirement described in [5] to be compliant with H.263 baseline. The reasons for utilizing MPEG-4 conformance test [5] to H.263 baseline codec are:

- There is no conformance Test Suite in ITU standard for H.263 baseline codec available in public.
- H.263 baseline (without annexes) is incorporated as part of MPEG-4 visual specification (known as ‘short header’ in the specification), and the conformance Test Suite of MPEG-4 [5] covers H.263 baseline as well.

4.8.1 H.263 baseline Decoder Conformance

Verify that H.263 baseline decoder is properly implemented.

VDP/SNK/HC/BV-01-C [H.263 baseline Conformance – Decoder]

- Test Purpose

  Verify that H.263 baseline decoder is properly implemented on the SNK.

  Check that the decoder satisfies the requirement for conformance. See [5] and [6].

- Reference

  [5]

  [6]

- Initial Condition

  - SNK device is in decoding mode of H.263 baseline bitstreams.
  - IUT in normal operation with supported parameters defined in Section 4.3 in [1].

- Test Procedure

  Input test bitstreams in the electronics annex in [5]. The bitstream files are located on the CD-ROM which is included as an electronic annex in reference [5] as following: ./CONFORMANCE_BITSTREAMS_CD1/Visual/natural/simple/Short.zip.

- Expected Outcome

  Pass verdict

  The video output of the decoder satisfies the requirement in [5].

4.8.2 H.263 baseline Encoder Conformance

Verify that H.263 baseline Encoder is properly implemented.

VDP/SRC/HC/BV-02-C [H.263 baseline Conformance – Encoder]

- Test Purpose

  Verify that H.263 baseline encoder is properly implemented on the SRC.

  Check that the bitstreams produced by the encoder satisfies the requirement for conformance. See [5] and [6].

- Reference

  [5]

  [6]

- Initial Condition

  - SRC device is in encoding mode of H.263 baseline.
  - IUT in normal operation with supported parameters defined Section 4.3 in [1].

- Test Procedure

  Activate the encoder and input video sequence.

- Expected Outcome

  Pass verdict

  The video output of the encoder satisfies the requirement in [5]. Furthermore, in detail, the following items are observed:

  - The reference decoder [6] can decode the bitstreams encoded by the implementation without an error.
  - It is confirmed that the reference decoder [6] can decode the bitstreams encoded by the implementation as a short header bitstream.

5 Test case mapping

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

The columns for the TCMT are defined as follows:

Item: Contains a logical expression based on specific entries from the associated ICS document. Contains a logical expression (using the operators AND, OR, NOT as needed) based on specific entries from the applicable ICS document(s). The entries are in the form of y/x references, where y corresponds to the table number and x corresponds to the feature number as defined in the ICS document for Video Distribution Profile (VDP) [3].

If a test case is mandatory within the respective layer, then the y/x reference is omitted.

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

Test Case(s): The applicable test case identifiers are required for Bluetooth Qualification if the corresponding y/x references defined in the Item column are supported. Further details about the function of the TCMT are elaborated in [7].

For purpose and structure of the ICS/IXIT, refer to [7].

Item	Feature	Test Case(s)
VDP 1/1	VDP Source SDP Service	VDP/SRC/SGSIT/SERR/BV-01-C VDP/SRC/SGSIT/ATTR/BV-01-C VDP/SRC/SGSIT/OFFS/BV-01-C VDP/SRC/SGSIT/OFFS/BV-02-C VDP/SRC/CGSIT/SFC/BV-01-C
VDP 0/2 AND VDP 1/1	VDP Source SDP Service, VDP 1.1	VDP/SRC/SGSIT/ATTR/BV-03-C
VDP 1/2	VDP Sink SDP Service	VDP/SNK/SGSIT/SERR/BV-02-C VDP/SNK/SGSIT/ATTR/BV-04-C VDP/SNK/SGSIT/OFFS/BV-03-C VDP/SNK/SGSIT/OFFS/BV-04-C
VDP 1/2 AND VDP 4/1	Successful Connection with future SDP Record value – VDP Sink	VDP/SNK/CGSIT/SFC/BV-02-C
VDP 0/2 AND VDP 1/2	VDP Sink SDP Service, VDP 1.1	VDP/SNK/SGSIT/ATTR/BV-06-C
VDP 2/1	Connection Establishment by SRC	VDP/SRC/SET/BV-01-C
VDP 4/2	Connection Establishment by SRC	VDP/SNK/SET/BV-01-C
VDP 2/2	Connection Establishment by SNK	VDP/SRC/SET/BV-02-C
VDP 4/1	Connection Establishment by SNK	VDP/SNK/SET/BV-02-C
VDP 2/3	Start Streaming by SRC	VDP/SRC/SET/BV-03-C
VDP 4/4	Start Streaming by SRC	VDP/SNK/SET/BV-03-C
VDP 2/4	Start Streaming by SNK	VDP/SRC/SET/BV-04-C
VDP 4/3	Start Streaming by SNK	VDP/SNK/SET/BV-04-C
VDP 2/5	H.263 baseline Video Stream	VDP/SRC/VS/BV-01-C
VDP 4/5	H.263 baseline Video Stream	VDP/SNK/VS/BV-01-C
VDP 2/6 OR VDP 2/7 OR VDP 2/8	Other Video Streams	VDP/SRC/VS/BV-02-C

Item	Feature	Test Case(s)
VDP 4/6 OR VDP 4/7 OR VDP 4/8	Other Video Streams	VDP/SNK/VS/BV-02-C
VDP 2/10	Connection Release by SRC	VDP/SRC/REL/BV-01-C
VDP 4/10	Connection Release by SRC	VDP/SNK/REL/BV-01-C
VDP 2/11	Connection Release by SNK	VDP/SRC/REL/BV-02-C
VDP 4/9	Connection Release by SNK	VDP/SNK/REL/BV-02-C
VDP 2/12	Suspend by SRC	VDP/SRC/SUS/BV-01-C
VDP 4/12	Suspend by SRC	VDP/SNK/SUS/BV-01-C
VDP 2/13	Suspend by SNK	VDP/SRC/SUS/BV-02-C
VDP 4/11	Suspend by SNK	VDP/SNK/SUS/BV-02-C
VDP 5/2	Decode H.263 baseline	VDP/SNK/HC/BV-01-C
VDP 3/2	Encode H.263 baseline	VDP/SRC/HC/BV-02-C
VDP 4/13	Delay Reporting with VDP video playback	VDP/SNK/SYN/BV-02-C
VDP 4/13	Delay Value	VDP/SNK/SYN/BV-01-C

Table 5.1: Test case mapping

6 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	D10r00	2004-08-11	Clarification amended in section 4.6.1.1.
1	1.0.1r1	2006-02-28	Editorial Updates
2	1.2.0	2006-05-31	Update document number, prepare for publication
	1.1.0r1	2011-03-01	Update after AV F2F
	1.1.0r2	2011-11-01	Incorporated changes from Core Spec 2.1+EDR updates
	1.1.0r3	2012-04-01	BTI comment resolution
	1.1.0r4	2012-04-15	Removed redundant references from Section 2.1
	1.1.0r5	2012-05-01	Changed the TCMT to align with the revised PICS
	1.1.0r6	2012-06-01	Added a Conformance section with the current text to 4.2.1. Miscellaneous editing of bulleting in test cases.
	1.1.0r7	2012-07-01	Added reference to A/V synchronization test video and referred to this from test case VDP/SNK/SYN/BV-01-I (legacy test case ID TP/SYN/BV-01-I).
3	1.1.0	2012-07-24	Prepare for publication.
	1.1.1r00	2016-08-03	Converted to new Test Case ID conventions as defined in TSTO v4.1.
	1.1.1r01	2016-11-06	Converted test specification template.
4	1.1.1	2016-12-13	Approved by BTI. Prepared for TCRL 2016-2 publication.
	p5r00	2022-02-25 – 2022-02-28	TSE 17931 (rating 2): Updated the TCMT to reflect the renumbered VDP Sink features and codecs tables to align with Launch Studio. Template-related editorials, including aligning the copyright page with v2 of the DNMD and assigning publication number 4 to previous v1.1.1.
5	p5	2022-06-28	Approved by BTI on 2022-05-31. Prepared for TCRL 2022-1 publication.
	p6r00–r05	2023-10-24 – 2024-04-09	TSE 23889 (rating 1): Converted -I tests to -C tests as appropriate; updated the TCMT and TCRL accordingly. Removed intro text in the TSS overview related to interoperability. Renumbered VDP/SNK/SYN/BV-01-I to VDP/SNK/SYN/BV-02-C to avoid duplicate created by the -I to -C conversion. TSE 24538 (rating 4): Added new GSIT section with new TCs VDP/SRC/CGSIT/SFC/BV-01-C, VDP/SRC/SGSIT/SERR/BV-01-C, VDP/SRC/SGSIT/OFFS/BV-01-C and -02-C, VDP/SRC/SGSIT/ATTR/BV-01-C – -03-C, VDP/SNK/CGSIT/SFC/BV-02-C, VDP/SNK/SGSIT/SERR/BV-02-C, VDP/SNK/SGSIT/OFFS/BV-03-C and -04-C, and VDP/SNK/SGSIT/ATTR/BV-04-C – -06-C. Updated the TCMT accordingly. Added a reference to the SDP

Publication Number	Revision Number	Date	Comments
			TS. Updated the Test Groups and TC Conventions sections. Modernized test language/format globally. Editorials to align the document with the latest TS template, including simplifying the test groups section, adding the boilerplate test strategy, and removing draft rev history entries.
6	p6	2024-07-01	Approved by BTI on 2024-05-22. Prepared for TCRL 2024-1 publication.
	p7r00–r02	2024-10-15 – 2024-12-09	TSE 25420 (rating 2): Updated TCMT for VDP/SNK/CGSIT/SFC/BV-02-C. TSE 26775 (rating 2): Deleted VDP/SRC/SGSIT/ATTR/BV-02-C and VDP/SNK/SGSIT/ATTR/BV-05-C because VDP v1.0 is deprecated. Updated the TCMT accordingly. Updated the TCMT introduction to align with the current TS template.
7	p7	2025-02-18	Approved by BTI on 2024-12-25. Prepared for TCRL 2025-1 publication.

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