

Generic Attribute Profile (GATT)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

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1 General principles

1.1 Implementation Under Test (IUT) identification

Using the Bluetooth SIG qualification tool, the implementer is expected to declare details about what will be implemented.

1.2 Enforcement of inter-layer dependencies

This ICS includes one or more tables with inter-layer dependencies (ILDs). ILDs are used for specification requirements that are dependent on other supporting specifications. ILDs can refer to an individual ICS item in a separate layer (individual ILD), or it can refer to the full layer (full-layer ILD).

ILDs residing in an X2Core layer will be enforced from the Bluetooth SIG qualification tool in the following conditions, depending on where the referred ILD is residing:

Referred ILD resides in	Individual ILD	Full-layer ILD
Controller layer	Core-Complete configuration, or Referred layer is supported	N/A
Lower HCI layer	HCI is supported	N/A
Upper HCI layer	Core-Host configuration, or UHCI is supported	N/A
Host layer	Core-Host configuration, or Core-Complete configuration, or Referred layer is supported	N/A
X2Core layer	Core-Host configuration, or Core-Complete configuration, or Referred layer is supported	Core-Host configuration, or Core-Complete configuration

Table 1.1: Enforcement of an ILD within the Bluetooth SIG qualification tool

2 ICS declarations

2.1 Roles

Table 1: Role Requirements

Item	Capability	Reference	Status
1	Generic Attribute Profile (GATT) Client	[1] 2.2	O
2	Generic Attribute Profile (GATT) Server	[1] 2.2	M

2.2 Transports

Table 1a: Transport Requirements

Item	Transport	Reference	Status
1	GATT Client over LE	[1] 2.2	C.1
2	GATT Client over BR/EDR	[1] 2.2	C.1
3	GATT Server over LE	[1] 2.2	C.2
4	GATT Server over BR/EDR	[1] 2.2	C.2

C.1: Mandatory to support at least one IF GATT 1/1 “Generic Attribute Profile (GATT) Client”, otherwise Excluded.

C.2: Mandatory to support at least one IF GATT 1/2 “Generic Attribute Profile (GATT) Server”, otherwise Excluded.

Table 2: Attribute Protocol Transport Requirements

Item	Transport	Reference	Status	Inter-Layer Dependency
1	Unenhanced ATT bearer over BR/EDR	[1] 2	C.1	[5] ATT 2/1
2	Unenhanced ATT bearer over LE	[1] 2	C.2	[5] ATT 2/2
3	No longer used	N/A	N/A	N/A
3a	Enhanced ATT bearer over LE	[1] 5.5 [3] 3.2.11	C.4, C.3	[5] ATT 2/3a
3b	Enhanced ATT bearer over BR/EDR	[1] 5.5 [3] 3.2.11	C.1, C.3	[5] ATT 2/3b
4	Attribute Protocol Client	[1] 2	C.6	[5] ATT 1/1
5	Attribute Protocol Server	[1] 2	C.7	[5] ATT 1/2

C.1: Mandatory to support at least one IF GATT 1a/2 “GATT Client over BR/EDR” OR GATT 1a/4 “GATT Server over BR/EDR”, otherwise not defined.

C.2: Mandatory IF GATT 1a/1 “GATT Client over LE” OR GATT 1a/3 “GATT Server over LE”, otherwise not defined.

C.3: Optional IF CORE 2a/52 “Host Core v5.2 or later”, otherwise not defined.

C.4: Optional IF GATT 2/2 “Unenhanced ATT bearer over LE”, otherwise not defined.

C.5: No longer used.

C.6: Mandatory IF GATT 1/1 “Generic Attribute Profile (GATT) Client”, otherwise not defined.

C.7: Mandatory IF GATT 1/2 “Generic Attribute Profile (GATT) Server”, otherwise not defined.



2.3 GATT Features

Table 3: Generic Attribute Profile Feature Support, by Client

Prerequisite: GATT 1/1 “Generic Attribute Profile (GATT) Client”

Item	Capability	Reference	Status
1	Exchange MTU	[1] 4.3.1	C.11
2	Discover All Primary Services	[1] 4.4.1	O
3	Discover Primary Service by Service UUID	[1] 4.4.2	O
4	Find Included Services	[1] 4.5.1	O
5	Discover All Characteristics of a Service	[1] 4.6.1	O
6	Discover Characteristics by UUID	[1] 4.6.2	O
7	Discover All Characteristic Descriptors	[1] 4.7.1	O
8	Read Characteristic Value	[1] 4.8.1	O
9	Read Using Characteristic UUID	[1] 4.8.2	O
10	Read Long Characteristic Value	[1] 4.8.3	O
11	Read Multiple Characteristic Values	[1] 4.8.4	O
12	Write Without Response	[1] 4.9.1	O
13	Signed Write Without Response	[1] 4.9.2	C.13
14	Write Characteristic Value	[1] 4.9.3	O
15	Write Long Characteristic Value	[1] 4.9.4	O
16	Characteristic Value Reliable Writes	[1] 4.9.5	O
17	Single Notification (see Note)	[1] 4.10.1	C.7
18	Indication	[1] 4.11.1	M
19	Read Characteristic Descriptor	[1] 4.12.1	O
20	Read Long Characteristic Descriptor	[1] 4.12.2	O
21	Write Characteristic Descriptor	[1] 4.12.3	O
22	Write Long Characteristic Descriptor	[1] 4.12.4	O
23	Service Changed Characteristic	[1] 7.1	M
24	Configured Broadcast	[1] 2.7	C.2
25	Client Supported Features Characteristic	[1] 7.2	C.4
25a	Enabling Robust Caching	[1] 7.2	C.12
26	Database Hash Characteristic	[1] 7.3	C.4
27	Read and Interpret Characteristic Presentation Format	[1] 3.3.3.5	O
28	Read and Interpret Characteristic Aggregate Format	[1] 3.3.3.6	C.6
29	Read Multiple Variable Length Characteristic Values	[4] 4.8.5	C.9
30	Multiple Variable Length Notifications	[4] 4.10.2	C.10

C.1: No longer used.

C.2: Optional IF GATT 3/14 “Write Characteristic Value”, otherwise Excluded.

C.3: No longer used.

C.4: Optional IF CORE 2a/51 “Host Core v5.1 or later”, otherwise Excluded.

C.5: No longer used.



- C.6: Optional IF GATT 3/27 “Read and Interpret Characteristic Presentation Format”, otherwise Excluded.
- C.7: Mandatory IF GATT 2/3a “Enhanced ATT bearer over LE” OR GATT 2/3b “Enhanced ATT bearer over BR/EDR”, otherwise Optional.
- C.8: No longer used.
- C.9: Optional IF CORE 2a/52 “Host Core v5.2 or later”, otherwise Excluded.
- C.10: Mandatory IF CORE 2a/52 “Host Core v5.2 or later” AND (GATT 2/3a “Enhanced ATT bearer over LE” OR GATT 2/3b “Enhanced ATT bearer over BR/EDR”), otherwise Optional IF CORE 2a/52 “Host Core v5.2 or later”, otherwise Excluded.
- C.11: Optional IF GATT 1a/1 “GATT Client over LE”, otherwise Excluded.
- C.12: Optional IF GATT 3/25 “Client Supported Features Characteristic”, otherwise Excluded.
- C.13: Optional IF CORE 2b/62 “Host Core v6.2 or earlier” AND GATT 1a/1 “GATT Client over LE”, otherwise Excluded.

Note: GATT 3/17 “Single Notification” is referred to as GATT 3/17 “Notifications” in other layers’ ILDs.

Table 3a: GAP Requirements for GATT Client

Item	Capability	Reference	Status	Inter-Layer Dependency
1	GAP LE Peripheral	[2] 15.2	C.1	[7] GAP 5/3 OR GAP 18/1
2	GAP LE Central	[2] 15.2	C.1	[7] GAP 5/4 OR GAP 28/1
3	GAP BR/EDR Host	[2] 15.2	C.2	[7] GAP 0b/1

C.1: Mandatory to support at least one IF GATT 1a/1 “GATT Client over LE”, otherwise not defined.

C.2: Mandatory IF GATT 1a/2 “GATT Client over BR/EDR”, otherwise not defined.

Note: GAP 28/1 and GAP 18/1 have been added to the Inter-Layer Dependency column to enable older qualifications of BR/EDR/LE devices, after the removal of GAP Table 38.

Table 3b: No longer used

Table 4: Generic Attribute Profile Feature Support, by Server

Prerequisite: GATT 1/2 “Generic Attribute Profile (GATT) Server”

Item	Capability	Reference	Status
1	Exchange MTU	[1] 4.3.1	C.6
2	Discover All Primary Services	[1] 4.4.1	M
3	Discover Primary Service by Service UUID	[1] 4.4.2	M
4	Find Included Services	[1] 4.5.1	M
5	Discover All Characteristics of a Service	[1] 4.6.1	M
6	Discover Characteristics by UUID	[1] 4.6.2	M
7	Discover All Characteristic Descriptors	[1] 4.7.1	M
8	Read Characteristic Value	[1] 4.8.1	M
9	Read Using Characteristic UUID	[1] 4.8.2	M
10	Read Long Characteristic Value	[1] 4.8.3	C.12
11	Read Multiple Characteristic Values	[1] 4.8.4	O



Item	Capability	Reference	Status
12	Write Without Response	[1] 4.9.1	C.2
13	Signed Write Without Response	[1] 4.9.2	C.15
14	Write Characteristic Value	[1] 4.9.3	C.3
15	Write Long Characteristic Value	[1] 4.9.4	C.12
16	Characteristic Value Reliable Writes	[1] 4.9.5	O
17	Single Notification (see Note)	[1] 4.10.1	O
18	Indication	[1] 4.11.1	C.1
19	Read Characteristic Descriptor	[1] 4.12.1	C.12
20	Read Long Characteristic Descriptor	[1] 4.12.2	C.12
21	Write Characteristic Descriptor	[1] 4.12.3	C.12
22	Write Long Characteristic Descriptor	[1] 4.12.4	O
23	Service Changed Characteristic	[1] 7.1	C.14
24	Configured Broadcast	[1] 2.7	C.5
25	Execute Write Request with empty queue	[1] 4.9.4, 4.9.5, 4.12.4	C.7
26	Client Supported Features Characteristic	[1] 7.2	C.9
27	Database Hash Characteristic	[1] 7.3	C.8
28	Report Characteristic Value: Characteristic Presentation Format	[1] 3.3.3.5	O
29	Report aggregate Characteristic Value: Characteristic Aggregate Format	[1] 3.3.3.6	C.10
30	Read Multiple Variable Length Characteristic Values	[4] 4.8.5	C.13
31	Multiple Variable Length Notifications	[4] 4.10.2	C.13

- C.1: Mandatory IF GATT 4/23 “Service Changed Characteristic”, otherwise Optional.
- C.2: Mandatory IF GATT 4/13 “Signed Write Without Response” OR GATT 2/3a “Enhanced ATT bearer over LE” OR GATT 2/3b “Enhanced ATT bearer over BR/EDR”, otherwise Optional.
- C.3: Mandatory IF GATT 4/15 “Write Long Characteristic Value” OR GATT 2/3a “Enhanced ATT bearer over LE” OR GATT 2/3b “Enhanced ATT bearer over BR/EDR”, otherwise Optional.
- C.4: No longer used.
- C.5: Optional IF GATT 4/14 “Write Characteristic Value”, otherwise Excluded.
- C.6: Optional IF GATT 1a/3 “GATT Server over LE”, otherwise Excluded.
- C.7: Mandatory IF GATT 4/15 “Write Long Characteristic Value” OR GATT 4/16 “Characteristic Value Reliable Writes” OR GATT 4/22 “Write Long Characteristic Descriptor”, otherwise Excluded.
- C.8: Optional IF CORE 2a/51 “Host Core v5.1 or later”, otherwise Excluded.
- C.9: Mandatory IF CORE 2a/51 “Host Core v5.1 or later” AND GATT 4/23 “Service Changed Characteristic” AND GATT 4/27 “Database Hash Characteristic”, otherwise Excluded.
- C.10: Optional IF GATT 4/28 “Report Characteristic Value: Characteristic Presentation Format”, otherwise Excluded.
- C.11: No longer used.
- C.12: Mandatory IF GATT 2/3a “Enhanced ATT bearer over LE” OR GATT 2/3b “Enhanced ATT bearer over BR/EDR”, otherwise Optional.
- C.13: Mandatory IF CORE 2a/52 “Host Core v5.2 or later” AND (GATT 2/3a “Enhanced ATT bearer over LE” OR GATT 2/3b “Enhanced ATT bearer over BR/EDR”), otherwise Optional IF CORE 2a/52 “Host Core v5.2 or later”, otherwise Excluded.

- C.14: Mandatory IF service definitions on the server can be added, changed, or removed, otherwise Excluded.
- C.15: Optional IF CORE 2b/62 “Host Core v6.2 or earlier” AND GATT 1a/3 “GATT Server over LE”, otherwise Excluded.

Note: GATT 4/17 “Single Notification” is referred to as GATT 4/17 “Notifications” in other layers’ ILDs.

Table 4a: GAP Requirements for GATT Server

Item	Capability	Reference	Status	Inter-Layer Dependency
1	GAP LE Peripheral	[2] 15.2	C.1	[7] GAP 5/3 OR GAP 18/1
2	GAP LE Central	[2] 15.2	C.1	[7] GAP 5/4 OR GAP 28/1
3	GAP BR/EDR Host	[2] 15.2	C.2	[7] GAP 0b/1

C.1: Mandatory to support at least one IF GATT 1a/3 “GATT Server over LE”, otherwise not defined.

C.2: Mandatory IF GATT 1a/4 “GATT Server over BR/EDR”, otherwise not defined.

Note: GAP 28/1 and GAP 18/1 have been added to the Inter-Layer Dependency column to enable older qualifications of BR/EDR/LE devices, after the removal of GAP Table 38.

Table 4b: No longer used

2.4 SDP requirements

Table 6: SDP Interoperability

Item	Capability	Reference	Status	Inter-Layer Dependency
1	No longer used	N/A	N/A	N/A
2	Client	[1] 5.1.2 [4] 5.1.2, 5.3.2	C.1	[6] SDP 1b/2
3	Server	[1] 9	C.2	[6] SDP 1b/1
4	ProtocolDescriptorList	[1] 9, [2] 15.4	C.2	[6] SDP 9/2
5	BrowseGroupList	[1] 9, [2] 15.4	C.2	[6] SDP 9/5
6	AdditionalProtocolDescriptorList	[1] 9, [2] 15.4	C.3	[6] SDP 9/17

C.1: Optional IF GATT 1a/2 “GATT Client over BR/EDR”, otherwise not defined.

C.2: Mandatory IF GATT 1a/4 “GATT Server over BR/EDR”, otherwise not defined.

C.3: Mandatory IF GATT 1a/4 “GATT Server over BR/EDR” AND GATT 2/1 “Unenhanced ATT bearer over BR/EDR” AND GATT 2/3b “Enhanced ATT bearer over BR/EDR”, otherwise Optional IF GATT 1a/4 “GATT Server over BR/EDR”, otherwise not defined.

2.5 GAP requirements

Table 7: GAP Requirements

Item	Capability	Reference	Status	Inter-Layer Dependency
1	No longer used	N/A	N/A	N/A
2	LE security mode 1	[2] 10.2.1	C.2	[7] GAP 25/1 OR GAP 35/1



Item	Capability	Reference	Status	Inter-Layer Dependency
3	LE security mode 2	[2] 10.2.2	C.2	[7] GAP 25/2 OR GAP 35/2
4	Authentication procedure	[2] 10.3	C.2	[7] GAP 25/3 OR GAP 35/3
5	Connection data signing procedure	[2] 10.4.1	C.1	[7] GAP 25/5 OR GAP 35/5
6	Authenticate signed data procedure	[2] 10.4.2	C.1	[7] GAP 25/6 OR GAP 35/6
7	Authorization procedure	[2] 10.5	C.2	[7] GAP 25/4 OR GAP 35/4
8	Client security checks for GATT indications and notifications	[2] 10.3.2.2	C.3	[7] GAP 25/14 OR GAP 35/15

- C.1: Optional IF CORE 2b/62 “Host Core v6.2 or earlier” AND GATT 2/2 “Unenhanced ATT bearer over LE”, otherwise not defined.
- C.2: Optional IF GATT 2/2 “Unenhanced ATT bearer over LE”, otherwise not defined.
- C.3: Mandatory IF CORE 2a/53 “Host Core v5.3 or later” AND GATT 1a/1 “GATT Client over LE”, otherwise Optional IF GATT 1a/1 “GATT Client over LE”, otherwise not defined.

2.6 Multiple Bearer Support

Table 8: Multiple Simultaneous ATT Bearers

Item	Capability	Reference	Status
1	Support for multiple simultaneous active ATT bearers from same device – ATT over LE and ATT over BR/EDR	[3] 3.3.3	C.1
2	Support for multiple simultaneous active ATT bearers from same device – ATT over LE and EATT over LE	[4] 5.5	C.2
3	Support for multiple simultaneous active ATT bearers from same device – ATT over BR/EDR and EATT over BR/EDR	[4] 5.5	C.3
4	Support for multiple simultaneous active ATT bearers from same device – ATT over LE and EATT over BR/EDR	[4] 5.5	C.4
5	Support for multiple simultaneous active ATT bearers from same device – ATT over BR/EDR and EATT over LE	[4] 5.5	C.5
6	Support for multiple simultaneous active EATT bearers from same device – EATT over BR/EDR and EATT over LE	[4] 5.5	C.6
7	Support for multiple simultaneous active EATT bearers from same device – EATT over BR/EDR	[4] 5.5	C.7
8	Support for multiple simultaneous active EATT bearers from same device – EATT over LE	[4] 5.5	C.7

- C.1: Optional IF GATT 2/1 “Unenhanced ATT bearer over BR/EDR” AND GATT 2/2 “Unenhanced ATT bearer over LE”, otherwise Excluded.
- C.2: Optional IF GATT 2/2 “Unenhanced ATT bearer over LE” AND GATT 2/3a “Enhanced ATT bearer over LE”, otherwise Excluded.
- C.3: Optional IF GATT 2/1 “Unenhanced ATT bearer over BR/EDR” AND GATT 2/3b “Enhanced ATT bearer over BR/EDR”, otherwise Excluded.
- C.4: Optional IF GATT 2/2 “Unenhanced ATT bearer over LE” AND GATT 2/3b “Enhanced ATT bearer over BR/EDR”, otherwise Excluded.
- C.5: Optional IF GATT 2/1 “Unenhanced ATT bearer over BR/EDR” AND GATT 2/3a “Enhanced ATT bearer over LE”, otherwise Excluded.

- C.6: Optional IF GATT 2/3a “Enhanced ATT bearer over LE” AND GATT 2/3b “Enhanced ATT bearer over BR/EDR”, otherwise Excluded.
- C.7: Optional IF GATT 2/3a “Enhanced ATT bearer over LE” OR GATT 2/3b “Enhanced ATT bearer over BR/EDR”, otherwise Excluded.

2.7 ATT requirements

Table 9: Attribute Protocol Client Requirements

Prerequisite: GATT 1/1 “Generic Attribute Profile (GATT) Client”

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Exchange MTU Request	[1] 4.3.1	C.1	[5] ATT 3/2
2	Find Information Request	[1] 4.7.1	C.2	[5] ATT 3/4
3	Find by Type Value Request	[1] 4.4.2	C.3	[5] ATT 3/6
4	Read by Type Request	[1] 4.8.1	C.4	[5] ATT 3/8
5	Read Request	[1] 4.8.1, 4.12.1	C.5	[5] ATT 3/10
6	Read Blob Request	[1] 4.8.2, 4.12.2	C.6	[5] ATT 3/12
7	Read Multiple Request	[1] 4.8.3	C.7	[5] ATT 3/14
8	Write Request	[1] 4.9.3, 4.12.3	C.8	[5] ATT 3/18
9	Write Command	[1] 4.9.1	C.9	[5] ATT 3/20
10	Signed Write Command	[1] 4.9.2	C.10	[5] ATT 3/21
11	Prepare Write Request	[1] 4.9.4, 4.9.5, 4.9.12.4	C.11	[5] ATT 3/22
12	Handle Value Notification	[1] 4.10.1	C.12	[5] ATT 3/26
13	Handle Value Indication	[1] 4.11.1	C.13	[5] ATT 3/27
14	Read Multiple Variable Length Request	[4] 4.8.5	C.14	[5] ATT 3/30
15	Handle Value Multiple Notification	[4] 4.10.2	C.15	[5] ATT 3/32

- C.1: Mandatory IF GATT 3/1 “Exchange MTU”, otherwise not defined.
- C.2: Mandatory IF GATT 3/7 “Discover All Characteristic Descriptors”, otherwise not defined.
- C.3: Mandatory IF GATT 3/3 “Discover Primary Service by Service UUID”, otherwise not defined.
- C.4: Mandatory IF GATT 3/9 “Read Using Characteristic UUID”, otherwise not defined.
- C.5: Mandatory IF GATT 3/8 “Read Characteristic Value” OR GATT 3/19 “Read Characteristic Descriptor”, otherwise not defined.
- C.6: Mandatory IF GATT 3/10 “Read Long Characteristic Value” OR GATT 3/20 “Read Long Characteristic Descriptor”, otherwise not defined.
- C.7: Mandatory IF GATT 3/11 “Read Multiple Characteristic Values”, otherwise not defined.
- C.8: Mandatory IF GATT 3/14 “Write Characteristic Value” OR GATT 3/21 “Write Characteristic Descriptor”, otherwise not defined.
- C.9: Mandatory IF GATT 3/12 “Write Without Response”, otherwise not defined.
- C.10: Mandatory IF GATT 3/13 “Signed Write Without Response”, otherwise not defined.
- C.11: Mandatory IF GATT 3/15 “Write Long Characteristic Value” OR GATT 3/16 “Characteristic Value Reliable Writes” OR GATT 3/22 “Write Long Characteristic Descriptor”, otherwise not defined.
- C.12: Mandatory IF GATT 3/17 “Single Notification”, otherwise Optional.
- C.13: Mandatory IF GATT 3/18 “Indication”, otherwise not defined.

- C.14: Mandatory IF GATT 3/29 “Read Multiple Variable Length Characteristic Values”, otherwise not defined.
- C.15: Mandatory IF GATT 3/30 “Multiple Variable Length Notifications”, otherwise not defined.

Table 10: Attribute Protocol Server Requirements

Prerequisite: GATT 1/2 “Generic Attribute Profile (GATT) Server”

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Exchange MTU Request	[1] 4.3.1	C.1	[5] ATT 4/2
2	Read Blob Request	[1] 4.8.2, 4.12.2	C.2	[5] ATT 4/12
3	Read Multiple Request	[1] 4.8.3	C.3	[5] ATT 4/14
4	Write Request	[1] 4.9.3, 4.12.3	C.4	[5] ATT 4/18
5	Write Command	[1] 4.9.1	C.5	[5] ATT 4/20
6	Signed Write Command	[1] 4.9.2	C.6	[5] ATT 4/21
7	Prepare Write Request	[1] 4.9.4, 4.9.5, 4.9.12.4	C.7	[5] ATT 4/22
8	Handle Value Notification	[1] 4.10.1	C.8	[5] ATT 4/26
9	Handle Value Indication	[1] 4.11.1	C.9	[5] ATT 4/27
10	No longer used	N/A	N/A	N/A
11	Read Multiple Variable Length Request	[4] 4.8.5	C.11	[5] ATT 4/31
12	Handle Value Multiple Notification	[4] 4.10.2	C.12	[5] ATT 4/33
13	Change Database during connection	[4] 3.4.6.3	O	N/A

- C.1: Mandatory IF GATT 4/1 “Exchange MTU”, otherwise not defined.
- C.2: Mandatory IF GATT 4/10 “Read Long Characteristic Value”, otherwise not defined.
- C.3: Mandatory IF GATT 4/11 “Read Multiple Characteristic Values”, otherwise Optional.
- C.4: Mandatory IF GATT 4/14 “Write Characteristic Value” OR GATT 4/21 “Write Characteristic Descriptor”, otherwise Optional.
- C.5: Mandatory IF GATT 4/12 “Write Without Response”, otherwise Optional.
- C.6: Mandatory IF GATT 4/13 “Signed Write Without Response”, otherwise Optional.
- C.7: Mandatory IF GATT 4/15 “Write Long Characteristic Value” OR GATT 4/16 “Characteristic Value Reliable Writes” OR GATT 4/22 “Write Long Characteristic Descriptor” OR GATT 2/3a “Enhanced ATT bearer over LE” OR GATT 2/3b “Enhanced ATT bearer over BR/EDR”, otherwise Optional.
- C.8: Mandatory IF GATT 4/17 “Single Notification”, otherwise Optional.
- C.9: Mandatory IF GATT 4/18 “Indication”, otherwise Optional.
- C.10: No longer used.
- C.11: Mandatory IF GATT 4/30 “Read Multiple Variable Length Characteristic Values”, otherwise Optional.
- C.12: Mandatory IF GATT 4/31 “Multiple Variable Length Notifications”, otherwise Optional.

3 References

- [1] Specification of the Bluetooth System, Volume 3, Part G (GATT)
- [2] Specification of the Bluetooth System, Volume 3, Part C (GAP)
- [3] Specification of the Bluetooth System, Volume 3, Part F (ATT)
- [4] Specification of the Bluetooth System, Volume 3, Part G, (GATT), Version 5.2 or later
- [5] ICS Proforma for Attribute Protocol (ATT)
- [6] ICS Proforma for Service Discovery Protocol (SDP)
- [7] ICS Proforma for Generic Access Profile (GAP)

4 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	4.0.0	2010-06-30	Publication.
	4.0.1r0	2011-02-02	TSE 4236: Remove 5/1, add 3/23 and 4/23, 4. C1 TSE 4252: Table 2 C.1, C.2 additions
	4.0.1r1	2011-03-09	TSE 4225: Removal of Table 6 (never tested)
	4.0.1r1 (cont.)	2011-03-10	TSE 3862: Add tables 8A and 20A
	4.0.1r2	2011-03-16	Per review comments, reinstate Table 6 except for Row 1 TSE 4286: Edit Table 3 and Table 4 titles
1	4.0.1	2011-07-15	Prepare for publication.
	4.0.2r0	2011-11-21 – 12-16	TSE 4559: Update Table 1 to make server mandatory, client optional. TSE 4661 Additions from GATT-3 Test CR D09r08
2	4.0.2	2012-03-30	Prepare for publication.
	4.0.3r0	2012-09-07	TSE 4915: Note added after Table 1, Changes to Prerequisites and Conditionals in Table 3b and 4b.
3	4.0.3	2012-11-12	Prepare for Publication
	4.0.4rT	2013-08-12	Template Conversion
	4.0.4rTr3	2013-09-27	Template Review Comment Resolution
	4.0.4rTr4	2013-09-27	TSE 5303: Updated references in Table 2 from 2.2 to 2.4. TSE 5344: Updated C.1 and C.2 for Table 1.
	4.1.0r01	2013-10-04	LE Dual Mode Topology CR
	4.1.0r02	2013-11-06	Comment resolution
4	4.1.0	2013-12-03	Prepare for Publication
5	4.1.1r00	2014-10-20	TSE 5873: Added C.2 to Table 3 and updated the status of 3/1.
	4.2.0r00	2014-11-17	Revved version to align with Core Specification Version 4.2 Release.
6	4.2.0	2014-12-04	Prepare for TCRL 2014-2 publication
	4.2.1r00	2015-05-05	TSE 6320: Revised Table 3 conditionals TSE 6274: Added ATT reference to References section and corrected reference in Table 8.
	4.2.1r01	2015-06-05	Deleted Section 1.2 (Global Statement of Conformance) per current ICS template standards.
7	4.2.1	2015-07-14	Prepared for TCRL 2015-1 publication
	4.2.2r00	2016-01-15	TSE 6876: Added Item 24, Configured Broadcast, to Tables 3 and 4. Added new conditional statements, C.3 and C.5. (TSE 5448: Change addressed, but not integrated.)

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	4.2.2r01	2016-03-04	TSE 6651: For Table 3, Item 3, Status changed from C.1 to C.4. Expanded conditional statement C.2 for Table 3. Added new conditional statement C.4 for Table 3. For Table 4, Item 1, Status changed from C.4 to C.6. Added new conditional statement C.6 for Table 4. For Table 7, Items 3, 4, and 7, Status updated. Added three new conditional statements for Table 7.
	4.2.2r02	2016-04-27	Editorial changes.
8	4.2.2	2016-07-13	Prepared for TCRL 2016-1 publication.
	5.0.0r00	2016-08-16	TSE 7430: Updated Status column of and added one conditional to Table 7.
	5.0.0r01	2016-10-17	TSE 7573 (erratum 5610): Added item 4/25 – Execute Write Request with empty queue.
	5.0.0r02	2016-11-08	Updated Template. Removed unnecessary parentheses.
9	5.0.0	2016-12-13	Approved by BTI. Prepared for TCRL 2016-2 publication.
	5.0.1r00-r03	2018-03-01 – 2018-11-13	TSE 8319 (rating 3): Table 1: For items 1 and 2, added (GATT) to the Capability column. Deleted items 3 and 4. Revised C.2 (changed "or" to "OR"). Deleted C.3, C.4, and Note. Table 1a: Added new table and conditionals. Table 2: For C.1, changed "Mandatory" to "Optional". Table 3: Replaced with new table. Deleted old C.1, renumbered and revised subsequent conditionals. Table 3B: Revised Prerequisite. Changed "Status" column heading to "Prerequisite 1a/5 Status". Added new column "Prerequisite 1a/6 Status". Table 4: Replaced with new table. Revised C.6. Table 4B: Revised Prerequisite. Changed "Status" column heading to "Prerequisite 1a/7 Status". Added new column "Prerequisite 1a/8 Status". Table 6: Revised C.1 and C.2. Table 8: For item 1, changed Status from "O" to "C.1". Added new C.1. Incorporated GATT Caching TEST CR r09. Added items 3/25, 3/26, and new conditionals C.4 and C.5 to Table 3. Added items 4/26, 4/27, and new conditional C.8 to Table 4. Issue 11143: Changes to Table 4 to make the GATT Caching feature optional. Production edits.
	5.1.0r00-r01	2018-11-13 – 2018-12-09	Updated revision number from 5.0.1 to 5.1.0 to align with the adoption of Core Specification version 5.1. Corrected Table 4 C.4 to refer to new items 1a/7 and 1a/8 instead of deleted item 1/4.
10	5.1.0	2018-12-07	Approved by BTI. Prepared for TCRL 2018-2 publication.

Publication Number	Revision Number	Date	Comments
	5.1.1r00	2019-04-10	TSE 11538 (rating 4): Removed Complete GATT ICS items and Tables 3B and 4B. Added new ICS for Server and Client for Characteristic Presentation Format and Characteristic Aggregate Format. TSE 11781 (rating 2): Updated C.4 note in Table 3 to reference appropriate Host Configuration Spec Version.
	5.1.1r01-r03	2019-05-30 – 2019-06-18	Updated to accommodate additional changes made by Alicia to incorporate TSE 11781 fully (Table 4 required changes similar to those made in Table 3 earlier).
11	5.1.1	2019-08-01	Approved by BTI. Prepared for TCRL 2019-1 publication.
	p12r00-r06	2019-08-20 – 2019-11-21	Added test groups to accommodate adoption of Core Specification Milan with regard to EATT CR r07. Added items 29 and 30 and notes C.7–C.11 to Table 3 and updated status of items 1, 13, 17, 18; added items 30 and 31 and notes C.11–C.14 to Table 4 and updated table title and status of items 10, 13, 15, 17, and 19–21; updated references section with new Core Specification. TSE 12444 (rating 2): Updated conditional statements C.1 and C.2 after Table 1. Updated conditional statements C.1–C.4 after Table 1a. TSE 12440 (rating 3): For Table 3, updated prerequisite statement and edited two prerequisite columns into a single Status column, removed conditional 3 (changed to No Longer Used) and added conditional C.12 (renumbered to C.11 after removal of Milan's C.7 during BTI F2F), and updated status for items 1, 3, and 13; for Table 4, updated prerequisite statement and edited two prerequisite columns into a single Status column, updated conditional statement C.6 (revised further at BTI F2F from Milan, thereby deleting Milan's C.13), and updated status for item 13. TSE 12780 (rating 2): Updated the conditionals for Table 2 to align with ATT changes (after incorporation of TSE 12739). Issue 12503 (CR from comment 51825): For Table 3, deleted conditional C.8 and changed item 18's status to M accordingly; for Table 4, modified C.6 and C.13 and deleted C.11. Issue 12740 (CR from comment 51451): For Table 2, added item 3 and note C.3. Updated .X references and Milan references to real numbers. Revised document numbering convention, setting last release publication of 5.1.1 as p11; added publication number column to Revision History.
12	p12	2020-01-07	Approved by BTI on 2019-12-22. Prepared for TCRL 2019-2 publication.

Publication Number	Revision Number	Date	Comments
	p13r00-r03	2020-03-26 – 2020-11-16	TSE 13111 (rating 3): To align ICS with revised TS addressing issue with “ATT 2/3 does not mean multiple ATT bearer support”: updated items and added conditionals to Tables 2 and 8, renamed Table 7. TSE 14883 (rating 2): Corrected C.3 in Table 2 after the additions from TSE 13111. Consistency Checker fixes and template-related editorials.
13	p13	2020-12-22	Approved by BTI on 2020-12-03. Prepared for TCRL 2020-1 publication.
	p14r00-r02	2021-02-23 – 2021-06-11	TSE 16382 (rating 1): To address an “or-later” issue from TSE 16342, revised C.7 for Table 4 so that it reflects the correct Core versions in the Mandatory and Optional logical clauses. Template-related and consistency checker editorials.
14	p14	2021-07-13	Approved by BTI on 2021-06-27. Prepared for TCRL 2021-1 publication.
	p15r00-r03	2022-02-02 – 2022-04-06	TSE 17969 (rating 2): Updated references for item 2 in Table 6 and changed C.1 from “Mandatory” to “Optional”. TSE 18361 (rating 1): Removed “is/not supported” language globally. Updated C.4 of Table 2 to correct an “otherwise” clause. Updated C.7 of Table 4 to remove SUM.ICS reference. TSE 18641 (rating 2): To address an issue with a condition not related to an ICS item, updated C.3 in Table 2; modified the prerequisite of Tables 3 and 4; and updated the status of item 23 in Table 4, modifying C.1 and adding C.14. Performed template-related editorials, including updating the copyright page to align with v2 of the DNMD.
15	p15	2022-06-28	Approved by BTI on 2022-05-31. Prepared for TCRL 2022-1 publication.
	p16r00-r05	2022-09-30 – 2022-12-08	TSE 20594 (rating 3): Resolved inter-layer dependencies with ATT by updating the conditionals in the Role and Transport Requirements tables, introducing ILD tables toward ATT, replacing ATT references with GATT references in conditionals, and introducing GAP and SDP ILD tables. TSE 22134 (rating 3): Added missing ILD from GATT to GAP, specified in Vol 3, Part C, Section 15.2, by adding Tables 3a and 4a. Minor editorials to 3/5 and 4/5. Made editorial fixes related to the consistency checker. Removed revision history entries related to pre-initial-publication activities per the latest BTI conventions.
16	p16	2023-02-07	Approved by BTI on 2022-12-28. Prepared for TCRL 2022-2 publication.

Publication Number	Revision Number	Date	Comments
	p17r00-r02	2023-04-16 – 2023-05-26	TSE 22911 (rating 2): Added GATT 3/25a to the TCMT for GATT/CL/GPM/BV-07-C – -12-C and GATT/CL/GAS/BV-03-C.
17	p17	2023-06-29	Approved by BTI on 2023-05-28. Prepared for TCRL 2023-1 publication.
	p18r00-r05	2023-08-07 – 2023-10-30	TSE 23651 (rating 2): Updated C.14 in Table 4 from Optional to Excluded. TSE 23968 (rating 2): Added 6/6 and related C.3 and updated the references for 6/4 and 6/5. TSE 23974 (rating 2): Added 7/8 and related C.3. TSE 24071 (rating 1): Replaced SUM ICS references with CORE ICS references. Updated Table 2 conditional C.2, affecting 2/3a and 2/3b; updated Table 3 conditionals C.4, C.9, and C.10, affecting 3/25, 3/26, 3/29, and 3/30; updated Table 4 conditionals C.7–C.9 and C.13, affecting 4/25, 4/26, 4/27, 4/30, and 4/31; updated Table 7 conditional C.3, affecting 7/8; and updated Table 10 conditional C.10, affecting 10/10. Updated the document to align with the latest standards.
18	p18	2024-07-01	Approved by BTI on 2024-05-22. Prepared for TCRL 2024-1 publication.
	p19r00	2024-07-16	TSE 25250 (rating 2): Per E24891, removed the conditional from Table 1 and reset 1/1 to Optional and 1/2 to Mandatory. TSE 25735 (rating 1): Removed GATT 10/10, related C.10, and the associated ILD to ATT 4/30, which was removed by TSE 25734.
19	p19	2024-09-04	Approved by BTI on 2024-08-14. Prepared for TCRL 2024-2 publication.
	p20r00-r05	2024-10-24 – 2024-12-16	TSE 25976 (rating 1): Per E19169, updated GATT 3/17 and 4/17 from “Notifications” to “Single Notifications” and added notes to both tables explaining the naming for other layers’ ILDs. TSE 25977 (rating 1): Updated the conditional C.13 in Table 4 to align with the equivalent conditional C.10 in Table 3.
20	p20	2025-02-18	Approved by BTI on 2024-12-26. Prepared for TCRL 2025-1 publication.
	p21r00	2025-01-30	TSE 25608 (rating 2): To accommodate ES-25255, removed the prerequisites from Tables 3a and 4a and updated 3a/1, 3a/2, 4a/1, and 4a/2 to specify LE, and added associated new conditionals. Added new items 3a/3 and 4a/3 and associated new conditionals.
21	p21	2025-05-06	Approved by BTI on 2025-04-16. Prepared for TCRL 2025-2 publication.

Publication Number	Revision Number	Date	Comments
	p22r00-r02	2025-07-18 – 2025-09-15	TSE 26905 (rating 4): To accommodate changes needed for E20421, add new item 10/13. TSE 27527 (rating 1): Revised the ILDs for 3a/1, 3a/2, 3a/3, 4a/1, 4a/2, and 4a/3. Updated table and item names to use the latest conventions. TSE 28196 (rating 1): Per E24247, updated singular/plural Capability names in Tables 3 and 4; aligned related conditionals throughout.
22	p22	2025-11-04	Approved by BTI on 2025-10-05. Prepared for TCRL pkg101 publication.
	p23r00-r03	2026-01-16 – 2026-03-16	TSE 28341 (rating 4): To support E18901, updated the status for GATT 3/13 and GATT 4/13 and added conditions 3:C.13 and 4:C.15. TSE 28546 (rating 1): To accommodate changes needed for the deprecation of Core v4.2, updated Table 4's C.7. TSE 28784 (rating 1): Corrected the status of GATT 7/5 and GATT 7/6 with an updated 7:C.1 to address an updated ILD. Corrected ILDs for 3a/1, 3a/2, 4a/1, and 4a/2 and added a note to Tables 3a and 4a.
23	p23	2026-05-05	Approved by BTI on 2026-04-07. Prepared for TCRL pkg103 publication.

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