BR/EDR Security (SEC)

***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 Auto-fill tables

This ICS includes one or more tables that are defined as auto-fill tables. Auto-fill tables are defined to allow for less-complex conditions within other tables. Auto-fill tables are distinguished from regular ICS tables by the addition of “(auto-fill)” after the table number, prior to the colon “:”.

An auto-fill table is automatically populated based on selected capabilities elsewhere in the ICS. The populated settings in the auto-fill table are not user editable.

1.3 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 Features

Table 1: Security Mechanisms

Item	Capability	Reference	Status
1	Legacy Security	[1] 1	M
2	Secure Simple Pairing	[1] 1	M
3	Secure Connections	[1] 1	O

Table 2 (auto-fill): Security Algorithms

Item	Capability	Reference	Status
1	E0 encryption	[1] 1	C.1
2	AES-CCM encryption	[1] 1	C.2
3	Legacy authentication	[1] 1	C.1
3a	Secure Simple Pairing Authentication	[1] 1	C.5
4	Secure authentication	[1] 1	C.2
5	E3 key generation	[1] 1	C.3
6	AES key generation h3	[1] 1	C.5
7	P-192 elliptic curve	[1] 1	C.4
8	P-256 elliptic curve	[1] 1	C.2

C.1: Mandatory IF SEC 1/1 “Legacy Security” OR SEC 1/2 “Secure Simple Pairing”, otherwise Excluded.

C.2: Mandatory IF SEC 1/3 “Secure Connections”, otherwise Excluded.

C.3: Mandatory IF SEC 1/1 “Legacy Security”, otherwise Excluded.

C.4: Mandatory IF SEC 1/2 “Secure Simple Pairing”, otherwise Excluded.

C.5: Mandatory IF SEC 1/2 “Secure Simple Pairing” OR SEC 1/3 “Secure Connections”, otherwise Excluded.

Table 3: Broadcast Encryption Options

Item	Capability	Reference	Status
1	No encryption	[1] 4.2	M
2	Point-to-point only encryption	[1] 4.2	M
3	Point-to-point and broadcast encryption	[1] 4.2	C.1

C.1: Excluded IF NOT SEC 4/4 “Broadcast encryption”, otherwise Mandatory IF SEC 1/1 “Legacy Security” OR SEC 1/2 “Secure Simple Pairing”, otherwise Optional.

2.2 LMP requirements

Table 4 (auto-fill): LMP Requirements

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Encryption	[1] 1	M	[2] LMP 2/3
2	Secure Simple Pairing (Controller Support)	[1] 1	C.1	[2] LMP 2/19b
3	Secure Connections (Controller Support)	[1] 1	C.2	[2] LMP 2/26
4	Broadcast encryption	[1] 4.2	C.3	[2] LMP 2/14
5	AES CCM Encryption	[1] 1	C.4	[2] LMP 6/11

C.1: Mandatory IF SEC 1/2 “Secure Simple Pairing”, otherwise not defined.

C.2: Mandatory IF SEC 1/3 “Secure Connections”, otherwise not defined.

C.3: Mandatory IF SEC 3/3 “Point-to-point and broadcast encryption”, otherwise not defined.

C.4: Mandatory IF SEC 2/2 “AES-CCM encryption”, otherwise not defined.

3 References

[1] Bluetooth Core Specification, Volume 2, Part H, Security (SEC)

[2] ICS Proforma for Link Manager Protocol (LMP)

Appendix A BR/EDR Security tests

The capabilities in this ICS are tested in the LMP test documents.

Appendix B Bridge mapping (informational)

Bridge mapping provides a logical mapping for ICS items defined in the latest TCRL release to one or more ICS items present in an older TCRL release. The bridge mapping logic can change depending on the old TCRL release. An implementation qualified under an older TCRL release will use the bridge mapping logic to indicate support for an ICS item that is missing from the old TCRL release when upgrading to a new TCRL release. Using bridge mapping when upgrading a design to a new TCRL release should prevent unnecessary consistency check errors.

Table B.1 provides a bridge mapping example for GAP 7/3a (from the GAP ICS as defined in TCRL pkg103). Depending on the TCRL of the old design, the following apply:

- GAP 7/3a was introduced in TCRL pkg103. Therefore, bridge mapping is not applicable for designs qualified on TCRL pkg103 or newer TCRL releases.
- For old designs qualified before TCRL pkg103, but not before TCRL 2019-2, support for GAP 7/3a in the upgraded design is determined by the support of LL 9/33 in the old design and by whether GAP itself was selected in the original design. The addition of GAP into the bridge mapping logic prevents the GAP layer from being added to the old design in the event that it did not exist before (e.g., in the case of a Core-Controller design), unless it is intended (e.g., automatically adding SEC or LESEC to an older design from before Core v6.0).
- For old designs qualified before TCRL 2019-2, GAP 7/3a is not supported in the upgraded design.

ICS Item	Description	Bridge Mapping Logic	TCRL Information
GAP 7/3a	Isochronous Broadcaster	Not applicable	≥ TCRL pkg103
		GAP AND LL 9/33	< TCRL pkg103
		Not supported	< TCRL 2019-2 (Core v5.2)

Table B.1: Bridge mapping (Example)

Bridge mapping for this layer is provided in Table B.2:

ICS Item	Description	Bridge Mapping Logic	TCRL Information
SEC 1/1	Legacy Security	Not applicable	≥ TCRL 2024-1
		LMP	< TCRL 2024-1 (Core v6.0)
SEC 1/2	Secure Simple Pairing	Not applicable	≥ TCRL 2024-1
		LMP	< TCRL 2024-1 (Core v6.0)
SEC 1/3	Secure Connections	Not applicable	≥ TCRL 2024-1
		LMP 2/26	< TCRL 2024-1 (Core v6.0)
SEC 2/1	E0 encryption	Not applicable	≥ TCRL 2024-1
		LMP	< TCRL 2024-1 (Core v6.0)
SEC 2/2	AES-CCM encryption	Not applicable	≥ TCRL 2024-1
		LMP 2/26	< TCRL 2024-1 (Core v6.0)
SEC 2/3	Legacy authentication	Not applicable	≥ TCRL 2024-1
		LMP	< TCRL 2024-1 (Core v6.0)
SEC 2/4	Secure authentication	Not applicable	≥ TCRL 2024-1
		LMP 2/26	< TCRL 2024-1 (Core v6.0)
SEC 2/5	E3 key generation	Not applicable	≥ TCRL 2024-1
		LMP	< TCRL 2024-1 (Core v6.0)

ICS Item	Description	Bridge Mapping Logic	TCRL Information
SEC 2/6	AES key generation h3	Not applicable	≥ TCRL 2024-1
		LMP	< TCRL 2024-1 (Core v6.0)
SEC 2/7	P-192 elliptic curve	Not applicable	≥ TCRL 2024-1
		LMP	< TCRL 2024-1 (Core v6.0)
SEC 2/8	P-256 elliptic curve	Not applicable	≥ TCRL 2024-1
		LMP 2/26	< TCRL 2024-1 (Core v6.0)
SEC 2/3a	Secure Simple Pairing Authentication	Not applicable	≥ TCRL 2024-1
		LMP	< TCRL 2024-1 (Core v6.0)
SEC 3/1	No encryption	Not applicable	≥ TCRL 2024-1
		LMP	< TCRL 2024-1 (Core v6.0)
SEC 3/2	Point-to-point only encryption	Not applicable	≥ TCRL 2024-1
		LMP	< TCRL 2024-1 (Core v6.0)
SEC 3/3	Point-to-point and broadcast encryption	Not applicable	≥ TCRL 2024-1
		LMP 2/14	< TCRL 2024-1 (Core v6.0)
SEC 4/1	Encryption	Not applicable	≥ TCRL 2024-1
		LMP	< TCRL 2024-1 (Core v6.0)
SEC 4/2	Secure Simple Pairing (Controller Support)	Not applicable	≥ TCRL 2024-1
		LMP	< TCRL 2024-1 (Core v6.0)
SEC 4/3	Secure Connections (Controller Support)	Not applicable	≥ TCRL 2024-1
		LMP 2/26	< TCRL 2024-1 (Core v6.0)
SEC 4/4	Broadcast encryption	Not applicable	≥ TCRL 2024-1
		LMP 2/14	< TCRL 2024-1 (Core v6.0)
SEC 4/5	AES CCM Encryption	Not applicable	≥ TCRL 2024-1
		LMP 6/11	< TCRL 2024-1 (Core v6.0)

Table B.2: Bridge mapping (informational)

4 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
	p0r00–r02	2023-05-02 – 2023-12-19	TSE 24100 (rating 2): New ICS document covering the Security Specification, created to support new Core Configurations material.
0	p0	2024-07-01	Approved by BTI on 2024-05-22. Prepared for TCRL 2024-1 publication.
	p1r00–r02	2026-08-06 – 2026-08-21	TSE 29200 (rating 1): Global Bridge Mapping section format updates to allow for easier automatic import. Made template updates, as well as editorial updates to references to align with BTI's desired test doc conventions.
1	p1	2026-11-03	Approved by BTI on 2026-10-12. Prepared for TCRL pkg105 publication.

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