BR/EDR Radio Physical Layer (RF)

***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.

2 ICS declarations

2.1 Capability statement

Table 1: RF Capabilities

Item	Capability	Reference	Status
1	No longer used	N/A	N/A
1a	Supports Pav > 2.5 mW	[1] 3 [3] 5	O
2–3	No longer used	N/A	N/A
4	Power Control	[1] 3	C.1
5	1-slot packets	[2] 6.5	M
6	3-slot packets	[2] 6.5	O
7	5-slot packets	[2] 6.5	C.2
8	79 Channels	[1] 2	M
9	GFSK modulation	[1] 3.1	M
10	π/4-DQPSK modulation	[1] 3.2	O
11	8DPSK modulation	[1] 3.2	C.3
12	Enhanced Power Control	[1] 3	C.4

C.1: Mandatory IF RF 1/1a “Supports Pav > 2.5 mW”, otherwise Optional.

C.2: Optional IF RF 1/6 “3-slot packets”, otherwise Excluded.

C.3: Optional IF RF 1/10 “π/4-DQPSK modulation”, otherwise Excluded.

C.4: Optional IF RF 1/4 “Power Control”, otherwise Excluded.

3 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 3.1 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 3.1: Bridge mapping (Example)

Bridge mapping for this layer is provided in Table 3.2:

ICS Item	Description	Bridge Mapping Logic	TCRL Information
RF 1/1a	Supports Pav > 2.5 mW	Not applicable	≥ TCRL pkg105
		RF 1/1	< TCRL pkg105

Table 3.2: Bridge mapping (informational)

4 References

[1] Bluetooth Core Specification, Version 4.2 or later, Volume 2, Part A, BR/EDR Radio Physical Layer (RF)

[2] Bluetooth Core Specification, Volume 2, Part B, Baseband (BB)

[3] Bluetooth Core Specification, Version 6.0 or later, Volume 2, Part A, BR/EDR Radio Physical Layer (RF)

5 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
	D5r3	2003-11-05	Original Release
	D10R00	2004-03-10	Re-partitioned to match Main Specification Volume/Part partitioning.
	D10R01	2004-03-11	Editorial changes
	D12r02	2004-03-25	Editorial changes. Changed reference and document numbering to D12 to reflect applicable Bluetooth version.
	1.2.1	2004-03-29	Changed document number and revision number to conform with legacy system. Added Disclaimer and Copyright Notice.
	1.2.1r01	2004-10-06	Added EDR material.
	2.0.E.0 Draft	2004-10-22	Updated to reflect latest Conformance Requirements.
10	2.0.E.0	2004-11-04	First version for 1.2/2.0/2.0 + EDR available for qualification
	2.1.E.0r0	2006-12-13	Editorial updates; changes to Conditional Statements to accommodate the introduction of the 2.1 and 2.1+EDR Specification.
	2.1.E.0r1	2006-12-26	Editorial changes.
11	2.1.E.0	2006-12-29	Prepare for publication.
	2.1.E.1r0	2009-02-12	Add new item for enhanced power control feature
	2.1.E.1r1	2009-03-25	Added EDR constraint to the C.2, C.3 conditionals, and fixed the (on C.3
12	3.0.H.0	2009-04-21	TSE 2744: add two more rows for each of the power classes in Table 1. Prepare for publication.
13	3.0.H.1	2009-08-12	TSE 2938. Change Table 1 footnote C.4 from 1/2 to 1/4
	4.0.2r0	2010-12-12	TSE 4064: Table 1, Footnote C.2 and C.3
14	4.0.2	2011-07-18	Prepare for publication.
	4.1.0r01	2013-11-11	Updated revision to 4.1.0 Updated top sheet to include version 4.1
15	4.1.0	2013-12-03	Prepare for Publication
	4.2.0r00	2014-11-17	Revved version to align with Core Specification Version 4.2 Release.
	4.2.0r01	2014-11-24	Review by Alicia Minor editorial changes
16	4.2.0	2014-12-04	Corrected conditional in 1/4 to C.1. Prepared for TCRL 2014-2 publication

Publication Number	Revision Number	Date	Comments
	4.2.1r00	2015-10-14	TSE 6650: Updated conditionals in Table 1 to reflect omitted changes from TSE 4597. Additional editorial changes made to bring document in line with current conventions. TSE 6506: Reworded C.5 of Table 1 to allow support for more than one power class.
17	4.2.1	2015-12-22	Prepared for TCRL 2015-2 publication
	5.0.0r00	2016-11-08	Revision updated for Core Specification 5.0 release
	5.0.0r01	2016-11-08	Updated Template. Removed unnecessary parentheses.
18	5.0.0	2016-12-13	Approved by BTI. Prepared for TCRL 2016-2 publication.
	5.1.0r00	2018-11-13	Updated revision number to 5.1.0 to align with the adoption of Core Specification version 5.1
19	5.1.0	2018-12-07	Approved by BTI. Prepared for TCRL 2018-2 publication.
	p20r00	2019-11-12	Revised document numbering convention, setting last release publication of 5.1.0 as p19; added Publication Number column to Revision History. Moved Revision History and Contributors tables to end of doc. Updated Documentation Disclaimer and Confidentiality Markers to align with updated Documentation Marking Requirements. Made minor editorial changes.
20	p20	2020-01-07	Approved by BTI on 2019-12-22. Prepared for TCRL 2019-2 publication.
	p20ed2r00	2022-07-19	TSE 19146 (rating 1): Updated to align with current ICS conventions/template. Removed Support and Values Allowed/Supported columns. Removed deprecated SUM ICS references in C.2–C.4.
	p20 edition 2	2022-08-23	Approved by BTI on 2022-08-22. Prepared for edition 2 publication.
	p21r00–r01	2023-09-26 – 2023-10-23	TSE 24077 (rating 2): Replaced SUM ICS references with CORE ICS references. In Table 1, deleted C.2 and updated C.3 (affecting 1/11) and updated the status of 1/10 to Optional.
21	p21	2024-07-01	Approved by BTI on 2024-05-22. Prepared for TCRL 2024-1 publication.
	p22r00–r01	2024-07-16 – 2024-07-21	TSE 25655 (rating 1): Corrected RF 1/10 to “Support for π/4-DQPSK modulation” to align with the Core spec. Incorporated integration review feedback.
22	p22	2024-09-04	Approved by BTI on 2024-08-14. Prepared for TCRL 2024-2 publication.

Publication Number	Revision Number	Date	Comments
	p23r00–r03	2024-11-01 – 2024-12-09	TSE 25102 (rating 2): Per E25101, for Table 1 updated text for Items 1–3 and 7; text for conditionals C.1, C.2, and C.5; and formatting for C.4. TSE 26597 (rating 1): Updated test doc title to better align with the associated spec.
23	p23	2025-02-18	Approved by BTI on 2024-12-26. Prepared for TCRL 2025-1 publication.
	p24r00	2025-01-30	TSE 26964 (rating 1): Updated the RF Core references to describe versions. Updated the 1/1 accordingly.
24	p24	2025-05-06	Approved by BTI on 2025-04-16. Prepared for TCRL 2025-2 publication.
	p24ed2r00	2025-08-21	TSE 28074 (rating 1): Updated capability names in Table 1 to align with current conventions.
	p24ed2	2025-11-04	Approved by BTI on 2025-10-05. Prepared for TCRL edition 2 publication.
	p25r00–r01	2026-08-20 – 2026-08-21	TSE 29310 (rating 2): To support ES-29097, set 1/1 to “No longer used” and added new item 1/1a; corrected C.1 accordingly. Also added a Bridge Mapping section. Editorial updates to references to align with BTI’s desired test doc conventions.
25	p25	2026-11-03	Approved by BTI on 2026-10-12. Prepared for TCRL pkg105 publication.

Acknowledgments

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