



## Project Details

Project Name	PAN1080 5.3
Product Type	Component (Tested)
TCRL Version:	TCRL 2021-2
Referenced Qualified Design(s)	
Previously Qualified Design Used in this Qualification(s)	
Listing Date	2022-05-25
Declaration ID	D057792

### Product Listing(s)

Name	Website	Category	Publish Date	Model Number	Description
BLE5 SOC		Unique Products	5/25/2022 12:00:00 AM	PAN1080	PAN1080 integrates BLE5 and 2.4GHz dual-mode wireless SoC transceiver. PAN1080 is suitable for wireless mouse and keyboard, smart home and electronic shelf label, BLE-AQA indoor locating.

Member Company	Shanghai Panchip Microelectronics Co., Ltd												
Declaring Member Contact / Listing Contact Person	<table><tr><td>Name</td><td>jack zu</td></tr><tr><td>Address</td><td>666 shengxia road,suite D-302 Zhangjiang Hi-TechPark,Shanghai. shangh,shengxia road,666,d 302</td></tr><tr><td>City</td><td>shanghai</td></tr><tr><td>State</td><td>shanghai</td></tr><tr><td>Country</td><td>China</td></tr><tr><td>Postal Code</td><td>201204</td></tr></table>	Name	jack zu	Address	666 shengxia road,suite D-302 Zhangjiang Hi-TechPark,Shanghai. shangh,shengxia road,666,d 302	City	shanghai	State	shanghai	Country	China	Postal Code	201204
Name	jack zu												
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City	shanghai												
State	shanghai												
Country	China												
Postal Code	201204												

## Complete the Project and Submit Product(s) for Qualification

By typing my name or other symbol of my signature into the "Signature" field below, I agree on behalf of Shanghai Panchip Microelectronics Co., Ltd ("Company") to [Bluetooth Launch Studio Terms of Use](#), and I make the following representations and warranties personally and on behalf of Company. The following representations and warranties, together with all project information and the [Bluetooth Launch Studio Terms of Use](#), are the Supplier Declaration of Conformity and Declaration of Compliance described in the [Program Reference Document \(PRD\)](#) and [Declaration Process Document \(DPD\)](#).

- I am authorized by Company to submit all of the information included in this project and all information is complete and accurate.
- Company does not, by its governing documents or other applicable law, require more than one signatory, a stamp or seal, or a witnessed signature to be legally bound.
- I agree on behalf of Company to contract in English and electronically, and adopt the characters and symbols input in the signature field below as my signature, with the same effect as an ink signature.
- The products included in this project are owned and distributed by Company under a Product name that identifies Company as the source of the Product. Company has the right to use and reference all Qualified Designs referenced in the project, and the products and referenced Qualified Designs comply with the version of the Bluetooth Specification identified in the project submission.
- The product(s) included in this project and the corresponding Qualified Designs comply with the [Bluetooth Launch Studio Terms of Use](#).

If any of the foregoing is not correct or you do not agree, you must exit this form without signing.

**Signature:**

jack zu

# BLUETOOTH<sup>®</sup> LAUNCH STUDIO TERMS OF USE

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Last Updated: February 25, 2021.

These Bluetooth Launch Studio Terms of Use (“**Launch Studio Terms**”) are a supplement to the [Bluetooth SIG Website Terms of Use](#) (“**WTOU**”) and together the Launch Studio Terms and WTOU are a legal agreement (collectively the “**Bluetooth Terms**”) between you and Bluetooth SIG, Inc., a Delaware corporation (“**Bluetooth SIG**”) that governs your access to and use of the Bluetooth Launch Studio (the “**Launch Studio Tool**”).

The Launch Studio Tool is a Service (as defined in the WTOU) offered by Bluetooth SIG. Terms used but not defined in these Launch Studio Terms have the meanings ascribed to them in the WTOU. In the event of a conflict between these Launch Studio Terms and the WTOU, these Launch Studio Terms will govern.

PLEASE READ THE BLUETOOTH TERMS CAREFULLY. BY ACCESSING OR USING THE LAUNCH STUDIO TOOL AND/OR CLICKING TO INDICATE THAT YOU AGREE TO THE LAUNCH STUDIO TERMS, YOU REPRESENT THAT YOU ARE AUTHORIZED TO BIND THE ENTITY UNDER WHOSE BLUETOOTH SIG MEMBERSHIP YOU OBTAINED A USER ACCOUNT AND THAT YOU AND THAT MEMBER AGREE TO BE BOUND BY THE BLUETOOTH TERMS. IF YOU ARE NOT AUTHORIZED OR DO NOT AGREE TO THE BLUETOOTH TERMS, DO NOT ACCESS OR USE THE LAUNCH STUDIO TOOL OR CLICK TO INDICATE THAT YOU AGREE TO THESE LAUNCH STUDIO TERMS.

## 1. MEMBERSHIP ACCOUNT REQUIREMENT.

To access and use the Launch Studio Tool, you must have an Account (as defined in the WTOU) issued under the membership account of a current Bluetooth SIG member and log into the Launch Studio Tool with that Account. You acknowledge and agree that when you access the Launch Studio Tool that you are doing so on behalf of the member your Account is associated with (“**Member**”) and you represent and warrant that you are authorized by Member to access and use the Launch Studio Tool and provide Submissions (defined below) on Member’s behalf.

## 2. BLUETOOTH QUALIFICATION PROCESS.

The “**Bluetooth Qualification Process**” is the process created by Bluetooth SIG for qualifying Products. The Launch Studio Tool is the Bluetooth SIG tool designed to implement the Bluetooth Qualification Process. A “**Product**” means a product that:

- (a) if sold, is sold as a single item (consisting of software, firmware, drivers, applications, hardware, or a combination of some or all of the foregoing);
- (b) contains one or more Portions; and
- (c) if marketed, is marketed under a name and/or trademark that uniquely identifies Member as the source of the product. A “**Portion**” means hardware, software, or a combination of hardware and software that implements a Bluetooth Specification. If the hardware, software, or combination contains or consists of more than an implementation of the Bluetooth specification, the “**Portion**” is only the implementation of the Bluetooth Specification. “**Bluetooth Specification**” is defined in the Bylaws of Bluetooth SIG.

## 3. REPRESENTATIONS AND ACKNOWLEDGEMENTS.

- (a) You represent and warrant that you have permission to submit to Bluetooth SIG all information and materials (including design information, product information, test reports, and test results) that you provide through the Launch Studio Tool (“**Submissions**”) and that all Submissions are true, complete, and accurate.
- (b) You represent and warrant that you and Member will comply with the SIG Member Terms (as defined in the WTOU).
- (c) You represent and warrant that all Submissions that you make through the Launch Studio Tool and all Products listed in your Submissions comply with the SIG Member Terms (as defined in the WTOU) and the Bluetooth Specification(s) referenced in your Submission.

(d) You represent and warrant that the products referenced in your Submissions that you submit to the Bluetooth Qualification Process via the Launch Studio Tool will only be Products that, if marketed or distributed, are done so by Member under a name or trademark that uniquely identifies Member as the source of the Product.

(e) You acknowledge and agree that a product is not a Bluetooth Product under the Bluetooth Trademark License Agreement and you and Member will not market or distribute any product that uses any Bluetooth® trademark on it or in connection with any related marketing, promotion, or advertising unless you or Member have been notified by Bluetooth SIG that it has completed the Bluetooth Qualification Process (e.g., via a confirmation screen or email from Bluetooth SIG expressly stating that the Product has completed the Bluetooth Qualification Process).

#### **4. FEES AND PAYMENT TERMS.**

(a) Bluetooth SIG may charge you fees in connection with the Bluetooth Qualification Process including within the Launch Studio Tool and Submissions (e.g., declaration fees, etc.). The type and amount of fees may change at any time. You agree that Member will pay all fees required by Bluetooth SIG in accordance with the instructions provided within the Launch Studio Tool. Bluetooth SIG may accept credit card payments or, if offered within the Launch Studio Tool, may permit you to pay fees offline. If you choose to pay offline, you will pay the invoice issued to you by Bluetooth SIG, according to the terms stated in the invoice. If you provide credit card payment information, you agree that Bluetooth SIG or its third party payment processor may charge your credit card immediately. You acknowledge that, until Bluetooth SIG has processed your payment and received the funds: you and Member will not acquire any of the rights or benefits for those fees. All sales are final and all payments are non-refundable.

(b) If you receive a discount on any fees based on your Member's level of membership and your Member's membership level changes (e.g., the Member moves from an associate to an adopter level), you will no longer be entitled to receive the discount and any fees owed and any outstanding invoices from Bluetooth SIG as of the date of the membership level change will be increased to reflect the amount owed without the discount. Further, if you prepaid any declaration fees and received a discount and you have not used the declaration fees as of the date of the membership level change, you may not use the declaration fees unless you pay the difference between the then-current standard fee and the discounted fee previously paid.

(c) *Declaration Fees.* Member must pay a declaration fee prior to completion of the Bluetooth Qualification Process. Bluetooth SIG will issue a unique identification number confirming payment of the declaration fee ("**Declaration ID**") and Member must provide the Declaration ID in the Submission as proof of payment before completing the Bluetooth Qualification Process. Any declaration fees you pay are paid by you on behalf of Member regardless of the payment method or source of funds and proof of payment is evidenced by the issuance of a Declaration ID. If requested by Member, Bluetooth SIG may reassign, without notice to you, a Declaration ID from your user account to another user account under the Member's membership account. All Declaration IDs expire 12 months from the date of issuance unless the Bluetooth Qualification Process is completed prior to expiration. No declaration fees will be refunded. Declaration IDs are nontransferable and may not be transferred to another member.

#### **5. CONFIDENTIALITY OF SUBMISSIONS.**

You and the Bluetooth SIG agree that Submissions are Confidential Information subject to the Bluetooth SIG Confidentiality Policy even if you do not label the Submission "Confidential." Notwithstanding anything in the Bluetooth SIG Confidentiality Policy and except as described in the following sentence, you agree that Bluetooth SIG will treat your Submissions as confidential, including by not making them available through the searchable database on Bluetooth SIG's web site until the date that you have selected as the "listing date" within the Launch Studio Tool when you click to submit your Submission. Bluetooth SIG further agrees that

(a) if, when you submit a Submission, the "publish date" in your Submission is after the listing date, the following information will be treated as Member Confidential Information and not included in the searchable database on Bluetooth SIG's web site until the "publish date": product name, product number, category, subset ID (if applicable), publish date, and product description and

(b) the test plan and test evidence provided as part of your Submission will continue to be

treated as Member Confidential Information for the period of time required under the Bluetooth SIG Confidentiality Policy regardless of any listing date or publish date in the Submission. To the extent that this Section conflicts with the Bluetooth SIG Confidentiality Policy, this Section supersedes the Bluetooth SIG Confidentiality Policy with respect to Bluetooth SIG's obligations of confidentiality of Submissions.

## **6. RECORD KEEPING AND AUDIT.**

You agree to maintain a complete copy of your Submissions as well as all supporting information and documentation related to each Product you submit for qualification through the Launch Studio Tool ("**Records**") in order to document your compliance with the SIG Member Terms and Bluetooth Specifications. You agree that Bluetooth SIG may request copies of Records relating to or pertaining to your Submissions and all Products referenced therein and you will provide copies of Records and permit Bluetooth SIG and its representatives to audit, examine, and make copies of or extracts from all Records (in whatever form they may be kept, whether written, electronic, or other) in order to verify the truth, accuracy, and completeness of your Submissions as well as compliance with the SIG Member Terms and Bluetooth Specifications. Bluetooth SIG will be responsible for the cost of any audit, unless the audit reveals that any Submission is incomplete or inaccurate or that you, Member, any of your Submissions, or any Product fails to comply with the SIG Member Terms or Bluetooth Specifications, in which case Member will reimburse Bluetooth SIG for the costs of the audit within 30 days after receiving Bluetooth SIG's request for reimbursement.

## **7. ADDITIONAL DISCLAIMERS.**

The Launch Studio Tool is not a record-keeping or storage tool. You are responsible for backing up all of Your Content (as defined in the WTOU) submitted to the Launch Studio Tool. In addition to the disclaimers in the WTOU, Bluetooth SIG does not guarantee that Your Content will not be removed, damaged, corrupted, or lost.

## Appendix A

### Summary ICS

Table 21: Controller Core Configuration

Item	Capability	Reference	Support	Status	Comment
21/21	Core Specification Version 5.3. Adopted 06 July 2021	Core 5.3	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory to support one and only one of SUMICS 21/14 "Core v4.2" OR SUMICS 21/16 "Core v5.0" OR SUMICS 21/18 "Core v5.1" OR SUMICS 21/20 "Core v5.2" OR SUMICS 21/21 "Core v5.3".

Table 22: EDR Features

Item	Capability	Reference	Support	Status	Comment
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Table 31: Host Core Specification

Item	Capability	Reference	Support	Status	Comment
31/22	Core Specification Version 5.3. Adopted 06 July 2021	Core 5.3	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory to support one and only one of SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS" OR SUMICS 31/19 "Core v5.0" OR SUMICS 31/20 "Core v5.1" OR SUMICS 31/21 "Core v5.2" OR SUMICS 31/22 "Core v5.3".

Table 34: LE Host Specification Parts

Item	Capability	Reference	Support	Status	Comment
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Table 41: AMP Controller Core Specification

Prerequisite: SUM ICS 21/14 "Core v4.2" OR SUM ICS 21/16 "Core v5.0" OR SUM ICS 21/18 "Core v5.1" OR SUM ICS 21/20 "Core v5.2"

Item	Capability	Reference	Support	Status	Comment
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Table 42: AMP Controller Specification Parts

Prerequisite: SUM ICS 21/14 "Core v4.2" OR SUM ICS 21/16 "Core v5.0" OR SUM ICS 21/18 "Core v5.1" OR SUM ICS 21/20 "Core v5.2"

Item	Capability	Reference	Support	Status	Comment
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Table 51: Low Energy Controller Configuration

Item	Capability	Reference	Support	Status	Comment
51/1	Low Energy Controller	Core 4.0 or Later	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory if PROD 2/4 or 2/5 or 2/6 is supported, otherwise Excluded.

Table 52: Low Energy Host Core Specification

Item	Capability	Reference	Support	Status	Comment
52/1	Low Energy Host	Core 4.0 or Later	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory if PROD 3/3 or 3/4 or 3/5 is supported, otherwise Excluded.

### Product Type

Table 1: Product Types

Item	Capability	Reference	Support	Status	Comment
1/2	Component (Tested)	Vol. 0 Part B	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory to support one and only one Product Type.

Table 2: Controller Core Configuration

Item	Capability	Reference	Support	Status	Comment
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**Table 3: Host Core Configuration**

Item	Capability	Reference	Support	Status	Comment
3/3	LE Host	Vol. 0 Part B	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory to support only one Host Configuration. Optional if 1/2 or 1/3 is Supported.

## Attribute Protocol

**Table 1: Role**

Item	Capability	Reference	Support	Status	Comment
1/1	Attribute Protocol Client	[1] ATT 1.1; [2] GAP 12	O	<input checked="" type="checkbox"/>	
1/2	Attribute Protocol Server	[1] ATT 1.1, [2] GAP 12	M	<input checked="" type="checkbox"/>	

**Table 2: Transport Requirements**

Item	Capability	Reference	Support	Status	Comment
2/2	Attribute Protocol Supported over LE	[1] ATT 1.3	C.2	<input checked="" type="checkbox"/>	C.2: Mandatory IF (SUMICS 12/7 "Bluetooth Low Energy Core Host Configuration" OR SUMICS 12/9 "Bluetooth Basic Rate and Low Energy Combined Core Host Configuration" is supported), otherwise Excluded.

**Table 3: Attribute Protocol Client Messages**

Prerequisite: ATT 1/1 "Attribute Protocol Client"

Item	Capability	Reference	Support	Status	Comment
3/1	Attribute Error Response	[1] ATT, 3.4.1.1	M	<input checked="" type="checkbox"/>	
3/2	Exchange MTU Request	[1] ATT, 3.4.2.1	C.11	<input checked="" type="checkbox"/>	C.11: Mandatory IF GATT 3/1 "Exchange MTU" is supported, otherwise Optional.
3/3	Exchange MTU Response	[1] ATT, 3.4.2.2	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory IF ATT 3/2 "Exchange MTU Request" is supported, otherwise Excluded.
3/4	Find Information Request	[1] ATT, 3.4.3.1	C.13	<input checked="" type="checkbox"/>	C.13: Mandatory IF GATT 3/7 "Discover All Characteristic Descriptors" is supported, otherwise Optional.
3/5	Find Information Response	[1] ATT, 3.4.3.2	C.9	<input checked="" type="checkbox"/>	C.9: Mandatory IF ATT 3/4 "Find Information Request" is supported, otherwise Excluded.
3/6	Find by Type Value Request	[1] ATT, 3.4.4.3	C.12	<input checked="" type="checkbox"/>	C.12: Mandatory IF GATT 3/3 "Discover Primary Services by Service UUID" is supported, otherwise Optional.
3/7	Find by Type Value Response	[1] ATT, 3.4.4.4	C.2	<input checked="" type="checkbox"/>	C.2: Mandatory IF ATT 3/6 "Find by Type Value Request" is supported, otherwise Excluded.
3/8	Read by Type Request	[1] ATT, 3.4.4.1	C.15	<input checked="" type="checkbox"/>	C.15: Mandatory IF GATT 3/9 "Read Using Characteristic UUID" is supported, otherwise Optional.
3/9	Read by Type Response	[1] ATT, 3.4.4.2	C.3	<input checked="" type="checkbox"/>	C.3: Mandatory IF ATT 3/8 "Read by Type Request" is supported, otherwise Excluded.
3/10	Read Request	[1] ATT, 3.4.4.3	C.14	<input checked="" type="checkbox"/>	C.14: Mandatory IF GATT 3/8 "Read Characteristic Value" OR GATT 3/19 "Read Characteristic Descriptors" is supported, otherwise Optional.
3/11	Read Response	[1] ATT, 3.4.4.4	C.10	<input checked="" type="checkbox"/>	C.10: Mandatory IF ATT 3/10 "Read Request" is supported, otherwise Excluded.
3/12	Read Blob Request	[1] ATT, 3.4.4.5	C.16	<input checked="" type="checkbox"/>	C.16: Mandatory IF GATT 3/10 "Read Long Characteristic Values" OR GATT 3/20 "Read Long Characteristic Descriptors" is supported, otherwise Optional.
3/13	Read Blob Response	[1] ATT, 3.4.4.6	C.4	<input checked="" type="checkbox"/>	C.4: Mandatory IF ATT 3/12 "Read Blob Request" is supported, otherwise Excluded.
3/14	Read Multiple Request	[1] ATT, 3.4.4.7	C.17	<input checked="" type="checkbox"/>	C.17: Mandatory IF GATT 3/11 "Read Multiple Characteristic Values" is supported, otherwise Optional.
3/15	Read Multiple Response	[1] ATT, 3.4.4.8	C.5	<input checked="" type="checkbox"/>	C.5: Mandatory IF ATT 3/14 "Read Multiple Request" is supported, otherwise Excluded.
3/16	Read by Group Type Request	[1] ATT, 3.4.4.9	O	<input checked="" type="checkbox"/>	
3/17	Read by Group	[1] ATT,	C.6	<input checked="" type="checkbox"/>	C.6: Mandatory IF ATT 3/16 "Read by Group Type Request" is supported, otherwise Excluded.

Type	Response	3.4.4.10				
3/18	Write Request	[1] ATT, 3.4.5.1	C.20	☑	C.20: Mandatory IF GATT 3/14 "Write Characteristic Value" OR GATT 3/21 "Write Characteristic Descriptors" is supported, otherwise Optional.	
3/19	Write Response	[1] ATT, 3.4.5.2	C.7	☑	C.7: Mandatory IF ATT 3/18 "Write Request" is supported, otherwise Excluded.	
3/20	Write Command	[1] ATT, 3.4.5.3	C.18	☑	C.18: Mandatory IF GATT 3/12 "Write without Response" is supported, otherwise Optional.	
3/21	Signed Write Command	[1] ATT, 3.4.5.3	C.19	☑	C.19: Mandatory IF GATT 3/13 "Signed Write without Response" is supported, otherwise Optional.	
3/22	Prepare Write Request	[1] ATT, 3.4.6.1	C.21	☑	C.21: Mandatory IF GATT 3/15 "Write Long Characteristic Values" OR GATT 3/16 "Characteristic Value Reliable Writes" OR GATT 3/22 "Write Long Characteristic Descriptors" is supported, otherwise Optional.	
3/23	Prepare Write Response	[1] ATT, 3.4.6.2	C.8	☑	C.8: Mandatory IF ATT 3/22 "Prepare Write Request" is supported, otherwise Excluded.	
3/24	Execute Write Request	[1] ATT, 3.4.6.3	C.8	☑	C.8: Mandatory IF ATT 3/22 "Prepare Write Request" is supported, otherwise Excluded.	
3/25	Execute Write Response	[1] ATT, 3.4.6.4	C.8	☑	C.8: Mandatory IF ATT 3/22 "Prepare Write Request" is supported, otherwise Excluded.	
3/26	Handle Value Notification	[1] ATT, 3.4.7.1	C.22	☑	C.22: Mandatory IF GATT 3/17 "Notifications" OR ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSM supported)" is supported, otherwise Optional.	
3/27	Handle-Value Indication	[1] ATT, 3.4.7.2	C.23	☑	C.23: Mandatory IF GATT 3/18 "Indications" is supported, otherwise Optional.	
3/28	Handle Value Confirmation	[1] ATT, 3.4.7.3	C.24	☑	C.24: Mandatory IF ATT 3/27 "Handle-Value Indication" is supported, otherwise Excluded.	
3/29	Client Timeout	[1] ATT, 3.3.3	C.24	☑	C.24: Mandatory IF ATT 3/27 "Handle-Value Indication" is supported, otherwise Excluded.	

**Table 4: Attribute Protocol Server Messages**

Prerequisite: ATT 1/2 "Attribute Protocol Server"

Item	Capability	Reference	Support	Status	Comment
4/1	Attribute Error Response	[1] ATT, 3.4.1.1	M	☑	
4/2	Exchange MTU Request	[1] ATT, 3.4.2.1	C.18	☑	C.18: Mandatory IF GATT 4/1 "Exchange MTU" is supported, otherwise Optional.
4/3	Exchange MTU Response	[1] ATT, 3.4.2.2	C.19	☑	C.19: Mandatory IF ATT 4/2 "Exchange MTU Request" is supported, otherwise Excluded.
4/4	Find Information Request	[1] ATT, 3.4.3.1	M	☑	
4/5	Find Information Response	[1] ATT, 3.4.3.2	M	☑	
4/6	Find by Type Value Request	[1] ATT, 3.4.4.3	M	☑	
4/7	Find by Type Value Response	[1] ATT, 3.4.4.4	M	☑	
4/8	Read by Type Request	[1] ATT, 3.4.4.1	M	☑	
4/9	Read by Type Response	[1] ATT, 3.4.4.2	M	☑	
4/10	Read Request	[1] ATT, 3.4.4.3	M	☑	
4/11	Read Response	[1] ATT, 3.4.4.4	M	☑	
4/12	Read Blob Request	[1] ATT, 3.4.4.5	C.6	☑	C.6: Mandatory IF GATT 4/10 "Read Long Characteristic Values" OR ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSM supported)" is supported, otherwise Optional.
4/13	Read Blob Response	[1] ATT, 3.4.4.6	C.1	☑	C.1: Mandatory IF ATT 4/12 "Read Blob Request" is supported, otherwise Excluded.
4/14	Read Multiple Request	[1] ATT, 3.4.4.7	C.7	☑	C.7: Mandatory IF GATT 4/11 "Read Multiple Characteristic Values" is supported, otherwise Optional.
4/15	Read Multiple Response	[1] ATT, 3.4.4.8	C.2	☑	C.2: Mandatory IF ATT 4/14 "Read Multiple Request" is supported, otherwise Excluded.
4/16	Read by Group Type	[1] ATT,	M	☑	

	Request	3.4.4.9			
4/17	Read by Group Type Response	[1] ATT, 3.4.4.10	M	☑	
4/18	Write Request	[1] ATT, 3.4.5.1	C.10	☑	C.10: Mandatory IF GATT 4/14 "Write Characteristic Value" OR GATT 4/21 "Write Characteristic Descriptors" OR ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSMsupported)" is supported, otherwise Optional.
4/19	Write Response	[1] ATT, 3.4.5.2	C.3	☑	C.3: Mandatory IF ATT 4/18 "Write Request" is supported, otherwise Excluded.
4/20	Write Command	[1] ATT, 3.4.5.3	C.8	☑	C.8: Mandatory IF GATT 4/12 "Write Without Response" OR ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSMsupported)" is supported, otherwise Optional.
4/21	Signed Write Command	[1] ATT, 3.4.5.3	C.9	☑	C.9: Mandatory IF GATT 4/13 "Signed Write Without Response" is supported, otherwise Optional.
4/22	Prepare Write Request	[1] ATT, 3.4.6.1	C.11	☑	C.11: Mandatory IF GATT 4/15 "Write Long Characteristic Values" OR GATT 4/16 "Characteristic Value Reliable Writes" OR GATT 4/22 "Write Long Characteristic Descriptors" OR ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSMsupported)" is supported, otherwise Optional.
4/23	Prepare Write Response	[1] ATT, 3.4.6.2	C.4	☑	C.4: Mandatory IF ATT 4/22 "Prepare Write Request" is supported, otherwise Excluded.
4/24	Execute Write Request	[1] ATT, 3.4.6.3	C.4	☑	C.4: Mandatory IF ATT 4/22 "Prepare Write Request" is supported, otherwise Excluded.
4/25	Execute Write Response	[1] ATT, 3.4.6.4	C.4	☑	C.4: Mandatory IF ATT 4/22 "Prepare Write Request" is supported, otherwise Excluded.
4/26	Handle Value Notification	[1] ATT, 3.4.7.1	C.12	☑	C.12: Mandatory IF GATT 4/17 "Notifications" OR ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSMsupported)" is supported, otherwise Optional.
4/27	Handle-Value Indication	[1] ATT, 3.4.7.2	C.13	☑	C.13: Mandatory IF GATT 4/18 "Indications" is supported, otherwise Optional.
4/28	Handle Value Confirmation	[1] ATT, 3.4.7.3	C.5	☑	C.5: Mandatory IF ATT 4/27 "Handle-Value Indication" is supported, otherwise Excluded.
4/29	Server Timeout	[1] ATT, 3.3.3	C.5	☑	C.5: Mandatory IF ATT 4/27 "Handle-Value Indication" is supported, otherwise Excluded.
4/30	Execute Write Request with no pending prepared write values	[1] ATT, 3.4.6.3	C.14	☑	C.14: Mandatory IF (GATT 4/25 "Execute Write Request with empty queue" OR ATT 4/22 "Prepare Write Request") AND SUMICS 31/19 "Core Spec Version 5.0" is supported, otherwise Optional.

**Table 5: Attribute Protocol Transport Security**

Item	Capability	Reference	Support	Status	Comment
5/2	LE Security Mode 1	[2] GAP 10.2.1	C.2	☑	C.2: Optional IF ATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.
5/3	LE Security Mode 2	[2] GAP 10.2.2	C.2	☑	C.2: Optional IF ATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.
5/4	LE Authentication Procedure	[2] GAP 10.3	C.2	☑	C.2: Optional IF ATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.
5/5	LE connection data signing procedure	[2] GAP 10.4.1	C.2	☑	C.2: Optional IF ATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.
5/6	LE Authenticate signed data procedure	[2] GAP 10.4.2	C.2	☑	C.2: Optional IF ATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.
5/7	LE Authorization Procedure	[2] GAP 10.5	C.2	☑	C.2: Optional IF ATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.

## Device Information Service

**Table 0: Service Version**

Item	Capability	Reference	Support	Status	Comment
0/1	Device Information Service v1.1	DIS 1.1	M	☑	

**Table 1: Transport Requirements**

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Item	Capability	Reference	Support	Status	Comment
1/2	Service supported over LE	1.5	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory to support at least one of the defined transports.

**Table 2: Service Requirements**

Item	Capability	Reference	Support	Status	Comment
2/1	Device Information Service	2	M	<input checked="" type="checkbox"/>	
2/2	Manufacturer Name String Characteristic	3.1	O	<input checked="" type="checkbox"/>	
2/3	Model Number String Characteristic	3.2	O	<input checked="" type="checkbox"/>	
2/4	Serial Number String Characteristic	3.3	O	<input checked="" type="checkbox"/>	
2/5	Hardware Revision String Characteristic	3.4	O	<input checked="" type="checkbox"/>	
2/6	Firmware Revision String Characteristic	3.5	O	<input checked="" type="checkbox"/>	
2/7	Software Revision String Characteristic	3.6	O	<input checked="" type="checkbox"/>	
2/11	PnP ID	3.9	O	<input checked="" type="checkbox"/>	

## Generic Access Profile

**Table 0: Device Configuration**

Item	Capability	Reference	Support	Status	Comment
0/2	LE	[2] 1.1	C.2	<input checked="" type="checkbox"/>	C.2: Mandatory IF SUMICS 34/2 "Generic Access Profile (LE)" AND NOT SUMICS 32/3 "Generic Access Profile (BR/EDR)", otherwise Excluded.

**Table 1: Modes**

Prerequisite: GAP 0/1 "BR/EDR" OR GAP 0/3 "BR/EDR/LE"

Item	Capability	Reference	Support	Status	Comment
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**Table 2: Security Aspects**

Prerequisite: GAP 0/1 "BR/EDR" OR GAP 0/3 "BR/EDR/LE"

Item	Capability	Reference	Support	Status	Comment
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**Table 3: Idle Mode Procedures**

Prerequisite: GAP 0/1 "BR/EDR" OR GAP 0/3 "BR/EDR/LE"

Item	Capability	Reference	Support	Status	Comment
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**Table 4: Establishment Procedures**

Prerequisite: GAP 0/1 "BR/EDR" OR GAP 0/3 "BR/EDR/LE"

Item	Capability	Reference	Support	Status	Comment
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**Table 5: LE Roles**

Prerequisite: GAP 0/2 "LE"

Item	Capability	Reference	Support	Status	Comment
5/1	Broadcaster	[2] 2.2.2	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory to support at least one of GAP 5/1 "Broadcaster" OR GAP 5/2 "Observer" OR GAP 5/3 "Peripheral" OR GAP 5/4 "Central".
5/2	Observer	[2] 2.2.2	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory to support at least one of GAP 5/1 "Broadcaster" OR GAP 5/2 "Observer" OR GAP 5/3 "Peripheral" OR GAP 5/4 "Central".
5/3	Peripheral	[2] 2.2.2	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory to support at least one of GAP 5/1 "Broadcaster" OR GAP 5/2 "Observer" OR GAP 5/3 "Peripheral" OR GAP 5/4 "Central".
5/4	Central	[2] 2.2.2	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory to support at least one of GAP 5/1 "Broadcaster" OR GAP 5/2 "Observer" OR GAP 5/3 "Peripheral" OR GAP 5/4 "Central".

**Table 6: Broadcaster Physical Layer**

Prerequisite: GAP 5/1 "Broadcaster (LE-Only)" OR GAP 38/1 "Broadcaster (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
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6/1	Transmitter	[2] 2.2.2	M	<input checked="" type="checkbox"/>
6/2	Receiver	[2] 2.2.2	O	<input checked="" type="checkbox"/>

**Table 7: Broadcaster Link Layer States**

Prerequisite: GAP 5/1 "Broadcaster (LE-Only)" OR GAP 38/1 "Broadcaster (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
7/1	Standby state	[2] 2.2.2, 2.2.2.1	M	<input checked="" type="checkbox"/>	
7/2	Advertising state	[2] 2.2.2, 2.2.2.1	M	<input checked="" type="checkbox"/>	

**Table 8: Broadcaster Link Layer Advertising Event Types**

Prerequisite: GAP 5/1 "Broadcaster (LE-Only)" OR GAP 38/1 "Broadcaster (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
8/1	Non-connectable and non-scannable undirected event	[2] 2.2.2	M	<input checked="" type="checkbox"/>	
8/2	Scannable undirected event	[2] 2.2.2	O	<input checked="" type="checkbox"/>	
8/3	Non-connectable and non-scannable directed event	[7] 2.2.2	C.1	<input checked="" type="checkbox"/>	C.1: Excluded IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS", otherwise Optional.
8/4	Scannable directed event	[7] 2.2.2	C.1	<input checked="" type="checkbox"/>	C.1: Excluded IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS", otherwise Optional.

**Table 8a: Broadcaster Link Layer Advertising Data Types**

Prerequisite: GAP 5/1 "Broadcaster (LE-Only)" OR GAP 38/1 "Broadcaster (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
8a/1	Service UUID	[3] 1.1	O	<input checked="" type="checkbox"/>	
8a/2	Local Name	[3] 1.2	O	<input checked="" type="checkbox"/>	
8a/3	Flags	[3] 1.3	O	<input checked="" type="checkbox"/>	
8a/4	Manufacturer Specific Data	[3] 1.4	O	<input checked="" type="checkbox"/>	
8a/5	TX Power Level	[3] 1.5	O	<input checked="" type="checkbox"/>	
8a/7	Security Manager TK Value	[3] 1.8	O	<input checked="" type="checkbox"/>	
8a/8	Peripheral Connection Interval Range	[3] 1.9	O	<input checked="" type="checkbox"/>	
8a/9	Service Solicitation	[3] 1.10	O	<input checked="" type="checkbox"/>	
8a/10	Service Data	[3] 1.11	O	<input checked="" type="checkbox"/>	
8a/11	Appearance	[3] 1.12	O	<input checked="" type="checkbox"/>	
8a/12	Public Target Address	[3] 1.13	O	<input checked="" type="checkbox"/>	
8a/13	Random Target Address	[3] 1.14	O	<input checked="" type="checkbox"/>	
8a/14	Advertising Interval	[3] 1.15	O	<input checked="" type="checkbox"/>	
8a/14a	Advertising Interval – Long	[3] 1.15	O	<input checked="" type="checkbox"/>	
8a/15	LE Bluetooth Device Address	[3] 1.16	O	<input checked="" type="checkbox"/>	
8a/16	LE Role	[3] 1.17	O	<input checked="" type="checkbox"/>	
8a/17	Uniform Resource Identifier	[3] 1.18	O	<input checked="" type="checkbox"/>	

**Table 9: Broadcaster Connection Modes and Procedures**

Prerequisite: GAP 5/1 "Broadcaster (LE-Only)" OR GAP 38/1 "Broadcaster (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
9/1	Non-connectable mode	[2] 9.3.2	M	<input checked="" type="checkbox"/>	

**Table 10: Broadcaster Broadcasting and Observing Features**

Prerequisite: GAP 5/1 "Broadcaster (LE-Only)" OR GAP 38/1 "Broadcaster (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
10/1	Broadcast mode	[2] 9.1.1	M	<input checked="" type="checkbox"/>	

**Table 11: Broadcaster Privacy Feature**

Prerequisite: GAP 5/1 "Broadcaster (LE-Only)" OR GAP 38/1 "Broadcaster (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
11/1	Privacy feature	[5] 10.7	O	<input checked="" type="checkbox"/>	
11/2	Resolvable private address generation procedure	[5] 10.8.2.2, [6] 1.3.2.2	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory IF GAP 11/1 "Privacy feature" AND NOT GAP 11/3 "Non-resolvable private address generation procedure", otherwise Optional.
11/3	Non-resolvable private address generation procedure	[5] 10.8.2.1, [6] 1.3.2.2	C.2	<input checked="" type="checkbox"/>	C.2: Mandatory IF GAP 11/1 "Privacy feature" AND NOT GAP 11/2 "Resolvable private address generation procedure", otherwise Optional.

**Table 11a: Periodic Advertising Modes and Procedures**

Prerequisite: (GAP 5/1 "Broadcaster (LE-Only)" OR GAP 38/1 "Broadcaster (BR/EDR/LE)") AND NOT (SUM ICS 31/17 "Core v4.2" OR SUM ICS 31/18 "Core v4.2+HS")

Item	Capability	Reference	Support	Status	Comment
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**Table 11b: Broadcaster Security Aspects Features**

Prerequisite: GAP 5/1 "Broadcaster (LE-Only)" OR GAP 38/1 "Broadcaster (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
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**Table 12: Observer Physical Layer**

Prerequisite: GAP 5/2 "Observer (LE-Only)" OR GAP 38/2 "Observer (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
12/1	Receiver	[2] 2.2.2	M	<input checked="" type="checkbox"/>	
12/2	Transmitter	[2] 2.2.2	O	<input checked="" type="checkbox"/>	

**Table 13: Observer Link Layer States**

Prerequisite: GAP 5/2 "Observer (LE-Only)" OR GAP 38/2 "Observer (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
13/1	Standby state	[2] 2.2.2	M	<input checked="" type="checkbox"/>	
13/2	Scanning state	[2] 2.2.2	M	<input checked="" type="checkbox"/>	

**Table 14: Observer Link Layer Scanning Types**

Prerequisite: GAP 5/2 "Observer (LE-Only)" OR GAP 38/2 "Observer (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
14/1	Passive scanning	[2] 2.2.2	M	<input checked="" type="checkbox"/>	
14/2	Active scanning	[2] 2.2.2	O	<input checked="" type="checkbox"/>	

**Table 15: Observer Connection Modes and Procedures**

Prerequisite: GAP 5/2 "Observer (LE-Only)" OR GAP 38/2 "Observer (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
15/1	Non-connectable mode	[2] 9.3.2	M	<input checked="" type="checkbox"/>	

**Table 16: Observer Broadcasting and Observing Features**

Prerequisite: GAP 5/2 "Observer (LE-Only)" OR GAP 38/2 "Observer (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
16/1	Observation procedure	[2] 9.1.2	M	<input checked="" type="checkbox"/>	

**Table 17: Observer Privacy Feature**

Prerequisite: GAP 5/2 "Observer (LE-Only)" OR GAP 38/2 "Observer (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
17/1	Privacy feature	[5] 10.7	O	<input checked="" type="checkbox"/>	
17/2	Non-resolvable private	[5] 10.8.2.1, C.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	C.1: Mandatory IF GAP 17/1 "Privacy feature" AND GAP 14/2 "Active scanning" AND NOT

	address generation procedure	[6] 1.3.2.2			GAP 17/4 "Resolvable private address generation procedure", otherwise Optional.
17/3	Resolvable private address resolution procedure	[5] 10.8.2.3, [6] 1.3.2.2	O	<input checked="" type="checkbox"/>	
17/4	Resolvable private address generation procedure	[5] 10.8.2.2, [6] 1.3.2.3	C.2	<input checked="" type="checkbox"/>	C.2: Mandatory IF GAP 17/1 "Privacy feature" AND GAP 14/2 "Active scanning" AND NOT GAP 17/2 "Non-resolvable private address generation procedure", otherwise Optional.

**Table 17a: Periodic Advertising Modes and Procedures**

Prerequisite: (GAP 5/2 "Observer (LE-Only)" OR GAP 38/2 "Observer (BR/EDR/LE)") AND NOT (SUM ICS 31/17 "Core v4.2" OR SUM ICS 31/18 "Core v4.2+HS")

Item	Capability	Reference	Support	Status	Comment
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**Table 17b: Observer Security Aspects Features**

Prerequisite: GAP 5/2 "Observer (LE-Only)" OR GAP 38/2 "Observer (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
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**Table 18: Peripheral Physical Layer**

Prerequisite: GAP 5/3 "Peripheral (LE-Only)" OR GAP 38/3 "Peripheral (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
18/1	Transmitter	[2] 2.2.2	M	<input checked="" type="checkbox"/>	
18/2	Receiver	[2] 2.2.2	M	<input checked="" type="checkbox"/>	

**Table 19: Peripheral Link Layer States**

Prerequisite: GAP 5/3 "Peripheral (LE-Only)" OR GAP 38/3 "Peripheral (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
19/1	Standby state	[2] 2.2.2	M	<input checked="" type="checkbox"/>	
19/2	Advertising state	[2] 2.2.2	M	<input checked="" type="checkbox"/>	
19/3	Connection state, Peripheral role	[4] 2.2.2	M	<input checked="" type="checkbox"/>	

**Table 20: Peripheral Link Layer Advertising Event Types**

Prerequisite: GAP 5/3 "Peripheral (LE-Only)" OR GAP 38/3 "Peripheral (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
20/1	Connectable and scannable undirected event	[4] 2.2.2	M	<input checked="" type="checkbox"/>	
20/2	Connectable directed event	[4] 2.2.2	O	<input checked="" type="checkbox"/>	
20/3	Non-connectable and non-scannable undirected event	[4] 2.2.2, 9.3.2.2, 9.3.11.2	O	<input checked="" type="checkbox"/>	
20/4	Scannable undirected event	[4] 2.2.2, 9.3.4.2	O	<input checked="" type="checkbox"/>	
20/5	Connectable undirected event	[7] 2.2.2	C.1	<input checked="" type="checkbox"/>	C.1: Excluded IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS", otherwise Optional.
20/6	Non-connectable and non-scannable directed event	[7] 2.2.2	C.1	<input checked="" type="checkbox"/>	C.1: Excluded IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS", otherwise Optional.
20/7	Scannable directed event	[7] 2.2.2	C.1	<input checked="" type="checkbox"/>	C.1: Excluded IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS", otherwise Optional.

**Table 20A: Peripheral Link Layer Advertising Data Types**

Prerequisite: GAP 5/3 "Peripheral (LE-Only)" OR GAP 38/3 "Peripheral (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
20A/1	Service UUID	[3] 1.1	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/2	Local Name	[3] 1.2	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/3	Flags	[3] 1.3	C.2	<input checked="" type="checkbox"/>	C.2: Mandatory IF GAP 22/2 "Limited discoverable mode" OR GAP 22/3 "General discoverable mode", otherwise Optional.

20A/4	Manufacturer Specific Data	[3] 1.4	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/5	TX Power Level	[3] 1.5	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/7	Security Manager TK Value	[3] 1.8	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/8	Peripheral Connection Interval Range	[3] 1.9	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/9	Service Solicitation	[3] 1.10	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/10	Service Data	[3] 1.11	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/11	Appearance	[3] 1.12	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/12	Public Target Address	[3] 1.13	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/13	Random Target Address	[3] 1.14	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/14	Advertising Interval	[3] 1.15	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/14a	Advertising Interval – Long	[3] 1.15	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/15	LE Bluetooth Device Address	[3] 1.16	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/16	LE Role	[3] 1.17	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF GAP 20/1 "Connectable and scannable undirected event" OR GAP 20/3 "Non-connectable and non-scannable undirected event" OR GAP 20/4 "Scannable undirected event", otherwise Excluded.
20A/17	Uniform Resource Identifier	[3] 1.18	O	<input checked="" type="checkbox"/>	

**Table 21: Peripheral Link Layer Control Procedures**

Prerequisite: GAP 5/3 "Peripheral (LE-Only)" OR GAP 38/3 "Peripheral (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
21/1	Connection Update procedure	[4] 2.2.2	M	<input checked="" type="checkbox"/>	
21/2	Channel Map Update procedure	[4] 2.2.2	M	<input checked="" type="checkbox"/>	
21/3	Encryption procedure	[4] 2.2.2	O	<input checked="" type="checkbox"/>	
21/4	Central-initiated Feature Exchange procedure	[4] 2.2.2	M	<input checked="" type="checkbox"/>	
21/5	Version Exchange procedure	[4] 2.2.2	M	<input checked="" type="checkbox"/>	
21/6	Termination procedure	[4] 2.2.2	M	<input checked="" type="checkbox"/>	
21/7	LE Ping procedure	[4] 2.2.2	O	<input checked="" type="checkbox"/>	
21/8	Peripheral-initiated Feature Exchange procedure	[4] 2.2.2	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory IF GAP 21/9 "Connection Parameter Request procedure", otherwise Optional.
21/9	Connection Parameter Request procedure	[4] 2.2.2	O	<input checked="" type="checkbox"/>	
21/10	Data Length Update procedure	[8] 2.2.2	O	<input checked="" type="checkbox"/>	
21/11	PHY Update procedure	[8] 2.2.2	C.2	<input checked="" type="checkbox"/>	C.2: Excluded IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS", otherwise Optional.

**Table 22: Peripheral Discovery Modes and Procedures**

Prerequisite: GAP 5/3 "Peripheral (LE-Only)" OR GAP 38/3 "Peripheral (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
22/1	Non-discoverable mode	[4] 9.2.2, 13.1	M	☑	
22/2	Limited discoverable mode	[4] 9.2.3, 13.1	O	☑	
22/3	General discoverable mode	[4] 9.2.4, 13.1	C.1	☑	C.1: Mandatory IF NOT GAP 22/2 "Limited discoverable mode", otherwise Optional.

**Table 23: Peripheral Connection Modes and Procedures**

Prerequisite: GAP 5/3 "Peripheral (LE-Only)" OR GAP 38/3 "Peripheral (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
23/1	Non-connectable mode	[4] 9.3.2	M	☑	
23/3	Undirected connectable mode	[4] 9.3.4	M	☑	
23/4	Connection parameter update procedure	[4] 9.3.9	O	☑	
23/5	Terminate connection procedure	[4] 9.3.10	M	☑	

**Table 24: Peripheral Bonding Modes and Procedures**

Prerequisite: GAP 5/3 "Peripheral (LE-Only)" OR GAP 38/3 "Peripheral (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
24/1	Non-bondable mode	[2] 9.4.2	M	☑	
24/2	Bondable mode	[4] 9.4.3, 13.2	O	☑	
24/3	Bonding procedure	[4] 9.4.4, 13.2	O	☑	
24/4	Multiple Bonds	[4] 9.4	C.1	☑	C.1: Optional IF GAP 24/2 "Bondable mode", otherwise Excluded.

**Table 25: Peripheral Security Aspects Features**

Prerequisite: GAP 5/3 "Peripheral (LE-Only)" OR GAP 38/3 "Peripheral (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
25/1	LE security mode 1	[4] 10.2.1	O	☑	
25/2	LE security mode 2	[4] 10.2.2	O	☑	
25/3	Authentication procedure	[4] 10.3	O	☑	
25/4	Authorization procedure	[4] 10.5	O	☑	
25/5	Connection data signing procedure	[4] 10.4.1	O	☑	
25/6	Authenticate signed data procedure	[4] 10.4.3	O	☑	
25/7	Authenticated Pairing (LE security mode 1 level 3)	[4] 10.3	C.1	☑	C.1: Optional IF GAP 25/1 "LE security mode 1", otherwise Excluded.
25/8	Unauthenticated Pairing (LE security mode 1 level 2)	[4] 10.3	C.1	☑	C.1: Optional IF GAP 25/1 "LE security mode 1", otherwise Excluded.
25/9	LE security mode 1 level 4	[5] 10.3	C.3	☑	C.3: Optional IF SM2/5 "LE Secure Connections" AND GAP 25/1 "LE security mode 1", otherwise Excluded.
25/10	Secure Connections Only mode	[5] 10.2.4	C.4	☑	C.4: Optional IF GAP 25/9 "LE security mode 1 level 4", otherwise Excluded.
25/13	Minimum 128 Bit entropy key	[5] 10.3	C.5	☑	C.5: Mandatory IF GAP 25/9 "LE security mode 1 level 4", otherwise Optional IF GAP 25/11 "Unauthenticated Pairing (LE security mode 1 level 2) with LE Secure Connections Pairing only" OR GAP 25/12 "Authenticated Pairing (LE security mode 1 level 3) with LE Secure Connections Pairing only", otherwise Excluded.

**Table 26: Peripheral Privacy Feature**

Prerequisite: GAP 5/3 "Peripheral (LE-Only)" OR GAP 38/3 "Peripheral (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
26/1	Privacyfeature	[5] 10.7	O	☑	
26/2	Non-resolvable private address generation procedure	[5] 10.7, 10.8.2.1, [6] 1.3.2.2	O	☑	
26/3	Resolvable private address generation procedure	[5] 10.7, 10.8.2.2, [6] 1.3.2.2	C.1	☑	C.1: Mandatory IF GAP 26/1 "Privacy feature", otherwise Optional.
26/4	Resolvable private address resolution procedure	[5] 10.7, 10.8.2.3, [6] 1.3.2.2	C.1	☑	C.1: Mandatory IF GAP 26/1 "Privacy feature", otherwise Optional.

**Table 27: Peripheral GAP Characteristics**

Prerequisite: GAP 5/3 "Peripheral (LE-Only)" OR GAP 38/3 "Peripheral (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
27/1	Device Name	[2] 12.1	M	☑	
27/2	Appearance	[2] 12.2	M	☑	
27/5	Peripheral Preferred Connection Parameters	[2] 12.5	O	☑	
27/6	Writable Device Name	[2] 12.1	O	☑	

**Table 27a: Periodic Advertising Modes and Procedures**

Prerequisite: (GAP 5/3 "Peripheral (LE-Only)" OR GAP 38/3 "Peripheral (BR/EDR/LE)") AND NOT (SUM ICS 31/17 "Core v4.2" OR SUM ICS 31/18 "Core v4.2+HS" OR SUM ICS 31/19 "Core v5.0")

Item	Capability	Reference	Support	Status	Comment
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**Table 28: Central Physical Layer**

Prerequisite: GAP 5/4 "Central (LE-Only)" OR GAP 38/4 "Central (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
28/1	Transmitter	[2] 2.2.2	M	☑	
28/2	Receiver	[2] 2.2.2	M	☑	

**Table 29: Central Link Layer States**

Prerequisite: GAP 5/4 "Central (LE-Only)" OR GAP 38/4 "Central (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
29/1	Standby state	[2] 2.2.2	M	☑	
29/2	Scanning state	[2] 2.2.2	M	☑	
29/3	Initiating state	[2] 2.2.2	M	☑	
29/4	Connection state, Central role	[2] 2.2.2	M	☑	

**Table 30: Central Link Layer Scanning Types**

Prerequisite: GAP 5/4 "Central (LE-Only)" OR GAP 38/4 "Central (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
30/1	Passive scanning	[2] 2.2.2	O	☑	
30/2	Active scanning	[2] 2.2.2	C.1	☑	C.1: Mandatory IF NOT GAP 30/1 "Passive scanning", otherwise Optional.

**Table 31: Central Link Layer Control Procedures**

Prerequisite: GAP 5/4 "Central (LE-Only)" OR GAP 38/4 "Central (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
31/1	Connection Update procedure	[2] 2.2.2	M	☑	
31/2	Channel Map Update procedure	[2] 2.2.2	M	☑	
31/4	Central-initiated Feature Exchange procedure	[2] 2.2.2	M	☑	

31/5	Version Exchange procedure	[2] 2.2.2	M	☑	
31/6	Termination procedure	[2] 2.2.2	M	☑	
31/8	Peripheral-initiated Feature Exchange procedure	[4] 2.2.2	C.1	☑	C.1: Mandatory IF GAP 31/9 "Connection Parameter Request procedure", otherwise Optional.
31/9	Connection Parameter Request procedure	[4] 2.2.2	O	☑	
31/10	Data Length Update procedure	[8] 2.2.2	O	☑	
31/11	PHY Update procedure	[8] 2.2.2	C.2	☑	C.2: Excluded IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS", otherwise Optional.

**Table 32: Central Discovery Modes and Procedures**

Prerequisite: GAP 5/4 "Central (LE-Only)" OR GAP 38/4 "Central (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
32/1	Limited Discovery procedure	[4] 9.2.5	O	☑	
32/2	General Discovery procedure	[4] 9.2.6	M	☑	
32/3	Name Discovery procedure	[4] 9.2.7	O	☑	

**Table 33: Central Connection Modes and Procedures**

Prerequisite: GAP 5/4 "Central (LE-Only)" OR GAP 38/4 "Central (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
33/1	Auto connection establishment procedure	[2] 9.3.5	O	☑	
33/2	General connection establishment procedure	[4] 9.3.6	O	☑	
33/4	Direct connection establishment procedure	[2] 9.3.8	M	☑	
33/5	Connection parameter update procedure	[2] 9.3.9	M	☑	
33/6	Terminate connection procedure	[2] 9.3.10	M	☑	

**Table 34: Central Bonding Modes and Procedures**

Prerequisite: GAP 5/4 "Central (LE-Only)" OR GAP 38/4 "Central (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
34/1	Non-bondable mode	[4] 9.4.2, 13.2	M	☑	
34/2	Bondable mode	[4] 9.4.3, 13.2	O	☑	
34/3	Bonding procedure	[4] 9.4.4, 13.2	O	☑	

**Table 35: Central Security Features**

Prerequisite: GAP 5/4 "Central (LE-Only)" OR GAP 38/4 "Central (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
35/1	LE security mode 1	[2] 10.2.1	O	☑	
35/2	LE security mode 2	[2] 10.2.2	O	☑	
35/3	Authentication procedure	[2] 10.3	O	☑	
35/4	Authorization procedure	[2] 10.5	O	☑	
35/5	Connection data signing procedure	[2] 10.4.1	O	☑	
35/6	Authenticate signed data procedure	[2] 10.4.3	O	☑	
35/7	Authenticated Pairing (LE security mode 1 level 3)	[2] 10.3	C.1	☑	C.1: Optional IF GAP 35/1 "LE security mode 1", otherwise Excluded.
35/8	Unauthenticated	[2] 10.3	C.1	☑	C.1: Optional IF GAP 35/1 "LE security mode 1", otherwise Excluded.

	Pairing (LE security mode 1 level 2)					
35/9	LE security mode 1 level 4	[5] 10.3	C.2	<input checked="" type="checkbox"/>	C.2: Optional IF SM2/5 "LE Secure Connections" AND GAP 35/1 "LE security mode 1", otherwise Excluded.	
35/10	Secure Connections Only mode	[5] 10.2.4	C.3	<input checked="" type="checkbox"/>	C.3: Optional IF GAP 35/9 "LE security mode 1 level 4", otherwise Excluded.	
35/13	Minimum 128 Bit entropy key	[5] 10.3	C.4	<input checked="" type="checkbox"/>	C.4: Mandatory IF GAP 35/9 "LE security mode 1 level 4", otherwise Optional IF GAP 35/11 "Unauthenticated Pairing (LE security mode 1 level 2) with LE Secure Connections Pairing only" OR GAP 35/12 "Authenticated Pairing (LE security mode 1 level 3) with LE Secure Connections Pairing only", otherwise Excluded.	

**Table 36: Central Privacy Feature**

Prerequisite: GAP 5/4 "Central (LE-Only)" OR GAP 38/4 "Central (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
36/1	Privacy feature	[5] 10.7	O	<input checked="" type="checkbox"/>	
36/2	Non-resolvable private address generation procedure	[5] 10.7, 10.8.2.1, [6] 1.3.2.2	O	<input checked="" type="checkbox"/>	
36/3	Resolvable private address resolution procedure	[5] 10.7, 10.8.2.3, [6] 1.3.2.2	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory IF GAP 36/1 "Privacy feature", otherwise Optional.
36/5	Resolvable private address generation procedure	[5] 10.7, 10.8.2.2, [6] 1.3.2.3	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory IF GAP 36/1 "Privacy feature", otherwise Optional.

**Table 37: Central GAP Characteristics**

Prerequisite: GAP 5/4 "Central (LE-Only)" OR GAP 38/4 "Central (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
37/1	Device Name	[2] 12.1	M	<input checked="" type="checkbox"/>	
37/2	Appearance	[2] 12.2	M	<input checked="" type="checkbox"/>	

**Table 37a: Periodic Advertising Modes and Procedures**

Prerequisite: (GAP 5/4 "Central (LE-Only)" OR GAP 38/4 "Central (BR/EDR/LE)") AND NOT (SUM ICS 31/17 "Core v4.2" OR SUM ICS 31/18 "Core v4.2+HS" OR SUM ICS 31/19 "Core v5.0")

Item	Capability	Reference	Support	Status	Comment
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**Table 38: BR/EDR/LE Roles**

Prerequisite: GAP 0/3 "BR/EDR/LE"

Item	Capability	Reference	Support	Status	Comment
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**Table 41: Central BR/EDR/LE Security Aspects**

Prerequisite: GAP 38/4 "Central (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
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**Table 43: Peripheral BR/EDR/LE Security Aspects**

Prerequisite: GAP 38/3 "Peripheral (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
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**Table 44: Central Simultaneous BR/EDR and LE Transports**

Prerequisite: GAP 38/4 "Central (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
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**Table 45: Peripheral Simultaneous BR/EDR and LE Transports**

Prerequisite: GAP 38/3 "Peripheral (BR/EDR/LE)"

Item	Capability	Reference	Support	Status	Comment
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## Generic Attribute Profile

**Table 1: Generic Attribute Profile Support**

Item	Capability	Reference	Support	Status	Comment
1/1	Generic Attribute Profile (GATT) Client	[1] 2.2, [2] 12	C.1	☑	C.1: Mandatory IF GATT 1a/1 "GATT Client over LE" OR GATT 1a/2 "GATT Client over BR/EDR" is supported, otherwise Excluded.
1/2	Generic Attribute Profile (GATT) Server	[1] 2.2, [2] 12	C.2	☑	C.2: Mandatory IF GATT 1a/3 "GATT Server over LE" OR GATT 1a/4 "GATT Server over BR/EDR" is supported, otherwise Excluded.

**Table 1a: GATT role configuration**

Item	Capability	Reference	Support	Status	Comment
1a/1	GATT Client over LE	[1] 2.2, [2] 12	C.1	☑	C.1: Optional IF GATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.
1a/3	GATT Server over LE	[1] 2.2, [2] 12	C.3	☑	C.3: Mandatory IF GATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.

**Table 2: Attribute Protocol Transport**

Item	Capability	Reference	Support	Status	Comment
2/2	Attribute Protocol Supported over LE	[1] 2	C.2	☑	C.2: Mandatory IF ATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.
2/3	Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSM supported)	[3] 2	C.3	☑	C.3: Excluded IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS" OR SUMICS 31/19 "Core v5.0" OR SUMICS 31/20 "Core v5.1" is supported, otherwise Optional IF at least one of GATT 2/3a "Enhanced ATT bearer supported over LE" OR GATT 2/3b "Enhanced ATT bearer supported over BR/EDR" is supported, otherwise Excluded.
2/3a	Enhanced ATT bearer supported over LE	[3] 3.2.11	C.4	☑	C.4: Excluded IF GATT 2/2 "Attribute Protocol Supported over LE" is not supported, otherwise Optional IF GATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSMsupported)" is supported.

**Table 3: Generic Attribute Profile Feature Support, by Client**

Prerequisite: GATT 1/1 "Generic Attribute Profile (GATT) Client" AND (GATT 1a/1 "GATT Client over LE" OR GATT 1a/2 "GATT Client over BR/EDR")

Item	Capability	Reference	Support	Status	Comment
3/1	Exchange MTU	[1] 4.3.1	C.11	☑	C.11: Optional IF GATT 1a/1 "GATT Client over LE" is supported, otherwise Excluded.
3/2	Discover All Primary Services	[1] 4.4.1	O	☑	
3/3	Discover Primary Services by Service UUID	[1] 4.4.2	O	☑	
3/4	Find Included Services	[1] 4.5.1	O	☑	
3/5	Discover All characteristics of a Service	[1] 4.6.1	O	☑	
3/6	Discover Characteristics by UUID	[1] 4.6.2	O	☑	
3/7	Discover All Characteristic Descriptors	[1] 4.7.1	O	☑	
3/8	Read Characteristic Value	[1] 4.8.1	O	☑	
3/9	Read Using Characteristic UUID	[1] 4.8.2	O	☑	
3/10	Read Long Characteristic Values	[1] 4.8.3	O	☑	
3/11	Read Multiple Characteristic Values	[1] 4.8.4	O	☑	
3/12	Write without Response	[1] 4.9.1	O	☑	
3/13	Signed Write Without Response	[1] 4.9.2	C.11	☑	C.11: Optional IF GATT 1a/1 "GATT Client over LE" is supported, otherwise Excluded.
3/14	Write Characteristic Value	[1] 4.9.3	O	☑	
3/15	Write Long Characteristic Values	[1] 4.9.4	O	☑	
3/16	Characteristic Value Reliable	[1] 4.9.5	O	☑	

Writes					
3/17	Notifications	[1] 4.10.1	C.7	☑	C.7: Mandatory IF ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSMsupported)" is supported, otherwise Optional.
3/18	Indications	[1] 4.11.1	M	☑	
3/19	Read Characteristic Descriptors	[1] 4.12.1	O	☑	
3/20	Read Long Characteristic Descriptors	[1] 4.12.2	O	☑	
3/21	Write Characteristic Descriptors	[1] 4.12.3	O	☑	
3/22	Write Long Characteristic Descriptors	[1] 4.12.4	O	☑	
3/23	Service Changed Characteristic	[1] 7.1	M	☑	
3/25	Client Supported Features Characteristic	[1] 7.2	C.4	☑	C.4: Excluded IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS" OR SUMICS 31/19 "Core v5.0" is supported, otherwise Optional.
3/26	Database Hash Characteristic	[1] 7.3	C.4	☑	C.4: Excluded IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS" OR SUMICS 31/19 "Core v5.0" is supported, otherwise Optional.

**Table 4: Generic Attribute Profile Feature Support, by Server**

Prerequisite: GATT 1/2 "Generic Attribute Profile (GATT) Server" AND (GATT 1a/3 "GATT Server over LE" OR GATT 1a/4 "GATT Server over BR/EDR")

Item	Capability	Reference	Support	Status	Comment
4/1	Exchange MTU	[1] 4.3.1	C.6	☑	C.6: Optional IF GATT 1a/3 "GATT Server over LE" is supported, otherwise Excluded.
4/2	Discover All Primary Services	[1] 4.4.1	M	☑	
4/3	Discover Primary Services by Service UUID	[1] 4.4.2	M	☑	
4/4	Find Included Services	[1] 4.5.1	M	☑	
4/5	Discover All characteristics of a Service	[1] 4.6.1	M	☑	
4/6	Discover Characteristics by UUID	[1] 4.6.2	M	☑	
4/7	Discover All Characteristic Descriptors	[1] 4.7.1	M	☑	
4/8	Read Characteristic Value	[1] 4.8.1	M	☑	
4/9	Read Using Characteristic UUID	[1] 4.8.2	M	☑	
4/10	Read Long Characteristic Values	[1] 4.8.3	C.12	☑	C.12: Mandatory IF ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSM supported)" is supported, otherwise Optional.
4/11	Read Multiple Characteristic Values	[1] 4.8.4	O	☑	
4/12	Write without Response	[1] 4.9.1	C.2	☑	C.2: Mandatory IF (GATT 4/13 "Signed Write Without Response" OR ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSMsupported)") is supported, otherwise Optional.
4/13	Signed Write Without Response	[1] 4.9.2	C.6	☑	C.6: Optional IF GATT 1a/3 "GATT Server over LE" is supported, otherwise Excluded.
4/14	Write Characteristic Value	[1] 4.9.3	C.3	☑	C.3: Mandatory IF (GATT 4/15 "Write Long Characteristic Values" OR ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSMsupported)") is supported, otherwise Optional.

4/15	Write Long Characteristic Values	[1] 4.9.4	C.12	☑	C.12: Mandatory IF ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSM supported)" is supported, otherwise Optional.
4/16	Characteristic Value Reliable Writes	[1] 4.9.5	O	☑	
4/17	Notifications	[1] 4.10.1	O	☑	
4/18	Indications	[1] 4.11.1	C.1	☑	C.1: Mandatory IF service definitions on the server can be added, changed, or removed, otherwise Optional.
4/19	Read Characteristic Descriptors	[1] 4.12.1	C.12	☑	C.12: Mandatory IF ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSM supported)" is supported, otherwise Optional.
4/20	Read Long Characteristic Descriptors	[1] 4.12.2	C.12	☑	C.12: Mandatory IF ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSM supported)" is supported, otherwise Optional.
4/21	Write Characteristic Descriptors	[1] 4.12.3	C.12	☑	C.12: Mandatory IF ATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSM supported)" is supported, otherwise Optional.
4/22	Write Long Characteristic Descriptors	[1] 4.12.4	O	☑	
4/23	Service Changed Characteristic	[1] 7.1	C.1	☑	C.1: Mandatory IF service definitions on the server can be added, changed, or removed, otherwise Optional.
4/25	Execute Write Request with empty queue	[1] 4.9.4, 4.9.5, 4.12.4	C.7	☑	C.7: Optional IF (SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS") AND (GATT 4/15 "Write Long Characteristic Values" OR GATT 4/16 "Characteristic Value Reliable Writes" OR GATT 4/22 "Write Long Characteristic Descriptors") are supported, otherwise Mandatory IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS" is not supported AND GATT 4/15 "Write Long Characteristic Values" OR GATT 4/16 "Characteristic Value Reliable Writes" OR GATT 4/22 "Write Long Characteristic Descriptors" is supported, otherwise Excluded.
4/26	Client Supported Features Characteristic	[1] 7.2	C.9	☑	C.9: Excluded IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS" OR SUMICS 31/19 "Core v5.0" is supported, otherwise Mandatory IF GATT 4/23 "Service Changed Characteristic" AND GATT 4/27 "Database Hash Characteristic" are supported, otherwise Excluded.
4/27	Database Hash Characteristic	[1] 7.3	C.8	☑	C.8: Excluded IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS" OR SUMICS 31/19 "Core v5.0" is supported, otherwise Optional.

**Table 6: SDP Interoperability**

Prerequisite: GATT 2/1 "Attribute Protocol Supported over BR/EDR (L2CAP fixed channel support)"

Item	Capability	Reference	Support	Status	Comment
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**Table 7: Attribute Protocol Transport Security**

Item	Capability	Reference	Support	Status	Comment
7/2	LE Security Mode 1	[2] 10.2.1	C.5	☑	C.5: Mandatory IF ATT 5/2 "LE Security Mode 1" is supported, otherwise Optional IF GATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.
7/3	LE Security Mode 2	[2] 10.2.2	C.6	☑	C.6: Mandatory IF ATT 5/3 "LE Security Mode 2" is supported, otherwise Optional IF GATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.
7/4	LE Authentication Procedure	[2] 10.3	C.4	☑	C.4: Mandatory IF ATT 5/4 "LE Authentication Procedure" is supported, otherwise Optional IF GATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.
7/5	LE connection data signing procedure	[2] 10.4.1	C.2	☑	C.2: Optional IF GATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.
7/6	LE Authenticate signed data procedure	[2] 10.4.2	C.2	☑	C.2: Optional IF GATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.
7/7	LE Authorization Procedure	[2] 10.5	C.3	☑	C.3: Mandatory IF ATT 5/7 "LE Authorization Procedure" is supported, otherwise Optional IF GATT 2/2 "Attribute Protocol Supported over LE" is supported, otherwise Excluded.

**Table 8: Multiple Simultaneous ATT Bearers**

Item	Capability	Reference	Support	Status	Comment
8/2	Support for multiple simultaneous active ATT bearers	[4] 5.5	C.2	☑	C.2: Optional IF GATT 2/2 "Attribute Protocol Supported over LE"

from same device – ATT over LE and EATT over LE

AND GATT 2/3a "Enhanced ATT bearer supported over LE" is supported, otherwise Excluded.

8/8	Support for multiple simultaneous active EATT bearers from same device – EATT over LE	[4] 5.5	C.7	☑	C.7: Optional IF GATT 2/3 "Enhanced ATT bearer Attribute Protocol Supported (L2CAP fixed EATT PSM supported)" is supported, otherwise Excluded.
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## Logical Link Control and Adaption Protocol

**Table 0: L2CAP Transport Configuration**

Item	Capability	Reference	Support	Status	Comment
0/2	LE	[6] 1.1	C.2	☑	C.2: Mandatory IF SUMICS 34/1 "Logical Link Control and Adaptation Protocol (L2CAP)", otherwise Excluded.

**Table 1: Role Requirements**

Item	Capability	Reference	Support	Status	Comment
1/3	LE Central	[4] 2	C.2	☑	C.2: Mandatory to support at least one of L2CAP 1/3 "LE Central" OR L2CAP 1/4 "LE Peripheral" IF L2CAP 0/2 "LE" OR L2CAP 0/3 "BR/EDR/LE", otherwise Excluded.
1/4	LE Peripheral	[4] 2	C.2	☑	C.2: Mandatory to support at least one of L2CAP 1/3 "LE Central" OR L2CAP 1/4 "LE Peripheral" IF L2CAP 0/2 "LE" OR L2CAP 0/3 "BR/EDR/LE", otherwise Excluded.
1/5	LE Data Channel Initiator	[5] 3.4	C.4	☑	C.4: Optional IF (L2CAP 0/2 "LE" OR L2CAP 0/3 "BR/EDR/LE") AND L2CAP 2/46 "LE Credit Based Flow Control Mode", otherwise Excluded.
1/6	LE Data Channel Acceptor	[5] 3.4	C.5	☑	C.5: Mandatory IF (L2CAP 0/2 "LE" OR L2CAP 0/3 "BR/EDR/LE") AND L2CAP 2/46 "LE Credit Based Flow Control Mode", otherwise Excluded.

**Table 2: General Operation**

Item	Capability	Reference	Support	Status	Comment
2/40	L2CAP LE Signaling channel	[4] 2.1, 2.2	C.13	☑	C.13: Mandatory IF L2CAP 0/2 "LE" OR L2CAP 0/3 "BR/EDR/LE", otherwise Excluded.
2/41	Command reject	[4] 4.10	C.13	☑	C.13: Mandatory IF L2CAP 0/2 "LE" OR L2CAP 0/3 "BR/EDR/LE", otherwise Excluded.
2/42	Send Connection Parameter Update Request	[4] 4.20	C.14	☑	C.14: Optional IF L2CAP 1/4 "LE Peripheral", otherwise Excluded.
2/43	Send Connection Parameter Update Response	[4] 4.21	C.15	☑	C.15: Mandatory IF L2CAP 1/3 "LE Central", otherwise Excluded.
2/45a	Send Disconnect Request Command – LE	[5] 4.6	C.22	☑	C.22: Optional IF L2CAP 2/40 "L2CAP LE Signaling channel" AND L2CAP 2/46 "LE Credit Based Flow Control Mode", otherwise Excluded.
2/46	LE Credit Based Flow Control Mode	[5] 3.4	C.19	☑	C.19: Optional IF L2CAP 0/2 "LE" OR L2CAP 0/3 "BR/EDR/LE", otherwise Excluded.
2/47	LE Data Channel	[1] 3.4	C.20	☑	C.20: Mandatory IF L2CAP 2/46 "LE Credit Based Flow Control Mode", otherwise Excluded.
2/48	Enhanced Credit Based Flow Control Mode	[7] 3.4	C.23	☑	C.23: Excluded IF SUMICS 31/17 "Core v4.2" OR SUMICS 31/18 "Core v4.2+HS" OR SUMICS 31/19 "Core v5.0" OR SUMICS 31/20 "Core v5.1", otherwise Optional.

**Table 3: Configurable Parameters**

Item	Capability	Reference	Support	Status	Comment
3/1	RTX timer	[1] 6.2.1	M	☑	
3/12	Minimum MTU size of 23 octets	[4] 5.1	C.6	☑	C.6: Mandatory IF L2CAP 0/2 "LE" OR L2CAP 0/3 "BR/EDR/LE", otherwise Excluded.
3/16	Support Multiple Simultaneous LE Data Channels	[5] 3.4	C.10	☑	C.10: Optional IF L2CAP 2/47 "LE Data Channel", otherwise Excluded.

**Table 4: GAP Requirements – Security Aspects (LE)**

Item	Capability	Reference	Support	Status	Comment
4/1	Authentication procedure (LE)	[1] 4.23, 4.26	C.1	☑	C.1: Optional IF L2CAP 0/2 "LE" OR L2CAP 0/3 "BR/EDR/LE", otherwise not defined.

4/2	Authorization procedure (LE)	[1] 4.23, 4.26	C.1	☑	C.1: Optional IF L2CAP 0/2 "LE" OR L2CAP 0/3 "BR/EDR/LE", otherwise not defined.
4/3	Encryption procedure	[1] 4.23, 4.26	C.2	☑	C.2: Mandatory IF GAP 25/6 "Authenticate signed data procedure" OR GAP 25/7 "Authenticated Pairing (LE security mode 1 level 3)" OR GAP 25/9 "LE security mode 1 level 4" OR GAP 35/6 "Authenticate signed data procedure" OR GAP 35/7 "Authenticated Pairing (LE security mode 1 level 3)" OR GAP 35/9 "LE security mode 1 level 4", otherwise Optional.

**Table 5: GAP Requirements – Security Aspects (BR/EDR)**

Item	Capability	Reference	Support	Status	Comment
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## Low Energy Link Layer

**Table 1: Controller States/Roles**

Item	Capability	Reference	Support	Status	Comment
1/1	Advertising State	[1] 4.4.2	C.1	☑	C.1: Mandatory to support at least one of LL 1/1 "Advertising State" OR LL 1/2 "Scanning State" OR LL 1/3 "Initiating State".
1/2	Scanning State	[1] 4.4.3	C.1	☑	C.1: Mandatory to support at least one of LL 1/1 "Advertising State" OR LL 1/2 "Scanning State" OR LL 1/3 "Initiating State".
1/3	Initiating State	[1] 4.4.4	C.1	☑	C.1: Mandatory to support at least one of LL 1/1 "Advertising State" OR LL 1/2 "Scanning State" OR LL 1/3 "Initiating State".
1/4	Peripheral Role	[1] 4.5.5	C.3	☑	C.3: Optional IF LL 1/1 "Advertising State", otherwise Excluded.
1/5	Central Role	[1] 4.5.4	C.2	☑	C.2: Mandatory IF LL 1/3 "Initiating State", otherwise Excluded.

**Table 2: Device Address Types**

Prerequisite: LL 1/1 "Advertising State" OR LL 1/2 "Scanning State" OR LL 1/3 "Initiating State"

Item	Capability	Reference	Support	Status	Comment
2/1	Public Address	[1] 1.3	C.1	☑	C.1: Mandatory to support at least one of LL 2/1 "Public Address" OR LL 2/2 "Random Address" OR LL 2/3 "Static Address".
2/6	Network Privacy Mode – Ignore Identity Address when IRK is present in resolving list	[4] 4.7	C.4	☑	C.4: Mandatory IF LL 9/13 "LL Privacy", otherwise Excluded.
2/7	Device Privacy Mode	[4] 4.7	C.5	☑	C.5: Optional IF LL 9/13 "LL Privacy" AND SUMICS 21/14 "Core v4.2", otherwise Mandatory IF LL 9/13 "LL Privacy", otherwise Excluded.

**Table 3: Protocol Advertising Features**

Prerequisite: LL 1/1 "Advertising State"

Item	Capability	Reference	Support	Status	Comment
3/1	Non-Connectable and Non-Scannable Undirected Events	[1] 4.4.2.6	C.1	☑	C.1: Mandatory IF GAP 5/1 "Broadcaster", otherwise Optional IF GAP 5/3 "Peripheral", otherwise Excluded.
3/2	Connectable and Scannable Undirected Events	[1] 4.4.2.3	C.2	☑	C.2: Mandatory IF GAP 5/3 "Peripheral", otherwise Optional.
3/3	Advertising Data	[1] 4.4.2.3, 4.4.2.5, 4.4.2.6	M	☑	
3/4	Connectable Directed Events	[1] 4.4.2.4	O	☑	
3/4a	Low Duty Cycle Direct Advertising	[1] 4.4.2.4	O	☑	
3/5	Scannable Undirected Events	[1] 4.4.2.5	O	☑	
3/6	Sending Scan Responses	[1] 4.4.2.3, 4.4.2.5	C.2	☑	C.2: Mandatory IF GAP 5/3 "Peripheral", otherwise Optional.
3/7	Accepting Connection Requests	[1] 4.4.2.3, 4.4.2.4	C.2	☑	C.2: Mandatory IF GAP 5/3 "Peripheral", otherwise Optional.

**Table 4: Protocol Scanning Features**

Prerequisite: LL 1/2 "Scanning State"

Item	Capability	Reference	Support	Status	Comment
4/1	Passive Scanning	[1] 4.4.3.1	C.1	☑	C.1: Mandatory to support at least one of LL 4/1 "Passive Scanning" OR LL 4/3 "Active Scanning" IF GAP 5/2 "Observer" OR GAP 5/4 "Central", otherwise Excluded.

4/2	Receiving Advertising Data	[1] 4.4.3.1, 4.4.3.2	M	☑	
4/3	Active Scanning	[1] 4.4.3.2	C.1	☑	C.1: Mandatory to support at least one of LL 4/1 "Passive Scanning" OR LL 4/3 "Active Scanning" IF GAP 5/2 "Observer" OR GAP 5/4 "Central", otherwise Excluded.
4/4	Backoff Procedure	[1] 4.4.3.2	C.2	☑	C.2: Mandatory IF LL 4/3 "Active Scanning", otherwise Excluded.
4/5	Filtering Policies	[1] 4.3.3	M	☑	
4/6	Extended Scanner filter policies	[4] 4.4.3	O	☑	

**Table 5: Protocol Initiating Features**

Prerequisite: LL 1/3 "Initiating State"

Item	Capability	Reference	Support	Status	Comment
5/1	Requesting Connections	[1] 4.4.4	M	☑	
5/2	Requesting to Directed Advertising	[1] 4.4.4	M	☑	
5/3	Initiator Filtering	[1] 4.3.4	M	☑	

**Table 6: Protocol Peripheral Role Features**

Prerequisite: LL 1/4 "Peripheral Role"

Item	Capability	Reference	Support	Status	Comment
6/1	Peripheral Transmissions	[1] 4.5.1, 4.5.5, 4.5.6	M	☑	
6/2	Acknowledgement Scheme	[1] 4.5.9	M	☑	
6/3	Unknown Response	[1] 5.1.4, 2.4.2	M	☑	
6/4	Responding in Feature Setup	[1] 5.1.4.1	M	☑	
6/4a	Requesting Feature Setup	[1] 5.1.4.2	C.18	☑	C.18: Mandatory IF LL 9/5 "Peripheral-initiated Features Exchange", otherwise Excluded.
6/5	Sending Data (Device supports data output from a Host)	[1] 4.5.1, 4.5.6	M	☑	
6/6	Receiving Data (Device supports data input to a Host)	[1] 4.5.1, 4.5.6	M	☑	
6/7	More Data	[1] 4.5.6	O	☑	
6/10	Accepting Parameter Update	[1] 5.1.1	M	☑	
6/11	Accepting Channel Map Update	[1] 5.1.2	M	☑	
6/13	Connection Control Timer	[1] 5.2	M	☑	
6/14	Sending Termination	[1] 5.1.6	M	☑	
6/15	Accepting Termination	[1] 5.1.6	M	☑	
6/16	Connection Supervision Timer	[1] 4.5.2	M	☑	
6/19	Peripheral Version Exchange	[1] 5.1.5	M	☑	
6/20	Peripheral listens to multiple packets per connection event	[1] 4.5.7	O	☑	
6/22	Data Length Update Procedure	[4] 5.1.9	C.4	☑	C.4: Mandatory IF LL 9/6 "LE Data Packet Length Extension", otherwise Excluded.
6/23a	PHY Update procedure	[5] 5.1.10	C.9	☑	C.9: Excluded IF SUMICS 21/14 "Core v4.2", otherwise Mandatory IF LL 9/6a "Multiple PHYs", otherwise Optional.
6/24	Constant Tone Extension Request Procedure as Initiator	[7] 5.1.12	C.7	☑	C.7: Mandatory IF LL 9/14 "Connection CTE Request", otherwise Excluded.
6/25	Constant Tone Extension Request Procedure as Responder	[7] 5.1.12	C.8	☑	C.8: Mandatory IF LL 9/15 "Connection CTE Response", otherwise Excluded.

**Table 7: Protocol Central Role Features**

Prerequisite: LL 1/5 "Central Role"

Item	Capability	Reference	Support	Status	Comment
7/1	Central Transmissions	[1] 4.5.1,	M	☑	

4.5.4, 4.5.6

7/2	Acknowledgement Scheme	[1] 4.5.9	M	☑	
7/3	Unknown Responses	[1] 5.1.4, 2.4.2	M	☑	
7/4	Requesting Feature Setup	[1] 5.1.4.1	M	☑	
7/4a	Responding in Feature Setup	[1] 5.1.4.2	C.18	☑	C.18: Mandatory IF LL 9/5 "Peripheral-initiated Features Exchange", otherwise Excluded.
7/5	Sending Data (Device supports data output from a Host)	[1] 4.5.1, 4.5.6	M	☑	
7/6	Receiving Data (Device supports data input to a Host)	[1] 4.5.1, 4.5.6	M	☑	
7/7	More Data	[1] 4.5.6	O	☑	
7/10	Requesting Parameter Update	[1] 5.1.1	M	☑	
7/10a	Initiating Connection Parameter Request	[1] 5.1	C.2	☑	C.2: Mandatory IF LL 7/10b "Accepting Connection Parameter Request", otherwise Excluded.
7/10b	Accepting Connection Parameter Request	[1] 5.1	O	☑	
7/11	Requesting Channel Map Update	[1] 5.1.2	M	☑	
7/13	Connection Control Timer	[1] 5.2	M	☑	
7/14	Sending Termination	[1] 5.1.6	M	☑	
7/15	Accepting Termination	[1] 5.1.6	M	☑	
7/16	Connection Supervision Timer	[1] 4.5.2	M	☑	
7/20	Central Version Exchange	[1] 5.1.5	M	☑	
7/22	Data Length Update Procedure	[4] 5.1.9	C.4	☑	C.4: Mandatory IF LL 9/6 "LE Data Packet Length Extension", otherwise Excluded.
7/23a	PHY Update procedure	[5] 5.1.10	C.9	☑	C.9: Excluded IF SUMICS 21/14 "Core v4.2", otherwise Mandatory IF LL 9/6a "Multiple PHYs", otherwise Optional.
7/24	Constant Tone Extension Request Procedure as Initiator	[7] 5.1.12	C.7	☑	C.7: Mandatory IF LL 9/14 "Connection CTE Request", otherwise Excluded.
7/25	Constant Tone Extension Request Procedure as Responder	[7] 5.1.12	C.8	☑	C.8: Mandatory IF LL 9/15 "Connection CTE Response", otherwise Excluded.

**Table 8: Physical Channels**

Item	Capability	Reference	Support	Status	Comment
8/1	Data channels (channel index 0 to 36)	[1] 1.4.1	C.1	☑	C.1: Mandatory IF LL 1/4 "Peripheral Role" OR LL 1/5 "Central Role", otherwise Excluded.
8/2	Advertising channels (at least one of channel index 37, 38, 39)	[1] 1.4.1	M	☑	
8/3	Support Data channel selection algorithm	[1] 4.5.8	C.1	☑	C.1: Mandatory IF LL 1/4 "Peripheral Role" OR LL 1/5 "Central Role", otherwise Excluded.

**Table 9: Supported Features**

Item	Capability	Reference	Support	Status	Comment
9/3	Connection Parameters Request Procedure	[1] 4.6.2	C.2	☑	C.2: Mandatory IF (LL 6/10a "Initiating Connection Parameter Request" OR LL 7/10b "Accepting Connection Parameter Request"), otherwise Excluded.
9/4	Extended Reject Indication	[1] 4.6.3	C.3	☑	C.3: Mandatory IF LL 9/3 "Connection Parameters Request Procedure" OR LL 9/6a "Multiple PHYs" OR LL 9/14 "Connection CTE Request" OR LL 9/15 "Connection CTE Response" OR LL 9/31 "Connected Isochronous Stream Central" OR LL 9/32 "Connected Isochronous Stream Peripheral" OR LL 9/37 "LE Power Control Request", otherwise Optional.
9/5	Peripheral-initiated Features Exchange	[1] 4.6.4	O	☑	
9/6	LE Data Packet Length Extension	[4] 4.6.6	O	☑	
9/6a	Multiple PHYs	[5] 4.6.9	C.6	☑	C.6: Mandatory IF LL 9/7 "LE 2MPHY" OR LL 9/9 "LE Coded PHY", otherwise Excluded.
9/7	LE 2MPHY	[4] 2.1	C.5	☑	C.5: Excluded IF SUMICS 21/14 "Core v4.2", otherwise Optional.

9/8	Asymmetric Connections	[5] 4.6.9.1	C.7	<input checked="" type="checkbox"/>	C.7: Optional IF LL 9/6a "Multiple PHYs", otherwise Excluded.
9/9	LE Coded PHY	[5] 2.2	C.5	<input checked="" type="checkbox"/>	C.5: Excluded IF SUMICS 21/14 "Core v4.2", otherwise Optional.
9/10	Channel Selection Algorithm #2	[5] 4.6.14	C.8	<input checked="" type="checkbox"/>	C.8: Excluded IF SUMICS 21/14 "Core v4.2", otherwise Mandatory IF (LL 9/41 "Extended Advertising" AND (LL 1/4 "Peripheral Role" OR LL 1/5 "Central Role")) OR LL 9/42 "Periodic Advertising", otherwise Optional.
9/13	LL Privacy	[5] 4.6.7	O	<input checked="" type="checkbox"/>	
9/14	Connection CTE Request	[7] 4.6.16	C.11	<input checked="" type="checkbox"/>	C.11: Excluded IF SUMICS 21/14 "Core v4.2" OR SUMICS 21/16 "Core v5.0", otherwise Optional IF (LL 1/4 "Peripheral Role" OR LL 1/5 "Central Role") AND RFPHY 1/11 "2 $\mu$ s Antenna Sampling During Constant Tone Extension Reception (AoD)", otherwise Excluded.
9/15	Connection CTE Response	[7] 4.6.17	C.4	<input checked="" type="checkbox"/>	C.4: Excluded IF SUMICS 21/14 "Core v4.2" OR SUMICS 21/16 "Core v5.0", otherwise Optional IF (LL 1/4 "Peripheral Role" OR LL 1/5 "Central Role") AND RFPHY 1/8 "Transmitting Constant Tone Extensions", otherwise Excluded.
9/20	2 $\mu$ s Antenna Sampling During Constant Tone Extension Reception (AoD)	[7] 4.6.20	C.16	<input checked="" type="checkbox"/>	C.16: Optional IF RFPHY 1/11 "2 $\mu$ s Antenna Sampling During Constant Tone Extension Reception (AoD)", otherwise Excluded.
9/21	2 $\mu$ s Antenna Switching And Sampling During Constant Tone Extension Reception (AoA)	[7] 4.6.21	C.27	<input checked="" type="checkbox"/>	C.27: Optional IF LL 9/20 "2 $\mu$ s Antenna Sampling During Constant Tone Extension Reception (AoD)" AND RFPHY 1/12 "2 $\mu$ s Antenna Switching and Sampling During Constant Tone Extension Reception (AoA)", otherwise Excluded.
9/23	1 $\mu$ s Antenna Sampling During Constant Tone Extension Reception (AoD)	[7] 4.6.20	C.18	<input checked="" type="checkbox"/>	C.18: Optional IF LL 9/20 "2 $\mu$ s Antenna Sampling During Constant Tone Extension Reception (AoD)" AND RFPHY 1/13 "1 $\mu$ s Antenna Sampling During Constant Tone Extension Reception (AoD)", otherwise Excluded.
9/24	1 $\mu$ s Antenna Switching and Sampling During Constant Tone Extension Reception (AoA)	[7] 4.6.21	C.19	<input checked="" type="checkbox"/>	C.19: Optional IF LL 9/21 "2 $\mu$ s Antenna Switching And Sampling During Constant Tone Extension Reception (AoA)" AND RFPHY 1/14 "1 $\mu$ s Antenna Switching and Sampling During Constant Tone Extension Reception (AoA)", otherwise Excluded.

**Table 10: Scatternet Capabilities**

Item	Capability	Reference	Support	Status	Comment
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**Table 11: Protocol Synchronizing Features**

Prerequisite: LL 1/3a "Synchronized State"

Item	Capability	Reference	Support	Status	Comment
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**Table 11a: Synchronized Receiver Features**

Prerequisite: LL 9/34 "Synchronized Receiver"

Item	Capability	Reference	Support	Status	Comment
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**Table 12: Protocol Isochronous Broadcasting Features**

Prerequisite: LL 1/6 "Isochronous Broadcasting State"

Item	Capability	Reference	Support	Status	Comment
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## Mesh Profile

**Table 0: Major Versions (X.Y)**

Item	Capability	Reference	Support	Status	Comment
0/1	Mesh v1.0	[2]	M	<input checked="" type="checkbox"/>	

**Table 0a: Minor Versions (X.Y.Z)**

Item	Capability	Reference	Support	Status	Comment
0a/1	Erratum 10395	[5]	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory IF MESH 0/1 "Mesh v1.0" is supported, otherwise Excluded.
0a/2	Mesh v1.0.1	[2]	C.2	<input checked="" type="checkbox"/>	C.2: Optional IF MESH 0/1 "Mesh v1.0" is supported, otherwise Excluded.
0a/3	Erratum 16350	[6]	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory IF MESH 0/1 "Mesh v1.0" is supported, otherwise Excluded.

**Table 2: Role Requirements**

Item	Capability	Reference	Support	Status	Comment
2/1	Node	[2] 2.3.11	C.1	☑	C.1: Mandatory to support at least one of MESH 2/1 "Node" OR MESH 2/2 "Provisioner".
2/2	Provisioner	[2] 5	C.1	☑	C.1: Mandatory to support at least one of MESH 2/1 "Node" OR MESH 2/2 "Provisioner".

**Table 3: Node Capabilities - Bearers**

Prerequisite: MESH 2/1 "Node"

Item	Capability	Reference	Support	Status	Comment
3/1	Advertising Bearer	[2] 3.3.1	C.1	☑	C.1: Mandatory to support at least one of MESH 3/1 "Advertising Bearer" OR MESH 3/2 "GATT Bearer".
3/2	GATT Bearer	[2] 3.3.2	C.1	☑	C.1: Mandatory to support at least one of MESH 3/1 "Advertising Bearer" OR MESH 3/2 "GATT Bearer".

**Table 4: Node Capabilities - Provisioning**

Prerequisite: MESH 2/1 "Node"

Item	Capability	Reference	Support	Status	Comment
4/1	PB-ADV	[2] 5.2.1	C.1	☑	C.1: Optional IF MESH 3/1 "Advertising Bearer" is supported, otherwise Excluded.
4/2	PB-GATT	[2] 5.2.2, 6.7	C.2	☑	C.2: Mandatory to support at least one of MESH 4/2 "PB-GATT" OR MESH 12/5 "Proxy Client" IF MESH 3/2 "GATT Bearer" is supported, otherwise Excluded.
4/3	Device UUID	[2] 3.10.3	C.3	☑	C.3: Mandatory IF MESH 4/1 "PB-ADV" OR MESH 4/2 "PB-GATT" is supported, otherwise Excluded.
4/4	Sending Unprovisioned Device Beacon	[2] 3.9.2	C.4	☑	C.4: Mandatory IF MESH 4/1 "PB-ADV" is supported, otherwise Excluded.
4/5	Generic Provisioning Layer	[2] 5.3	C.3	☑	C.3: Mandatory IF MESH 4/1 "PB-ADV" OR MESH 4/2 "PB-GATT" is supported, otherwise Excluded.
4/6	Provisioning Protocol (Provisioning Server)	[2] 5.4	C.3	☑	C.3: Mandatory IF MESH 4/1 "PB-ADV" OR MESH 4/2 "PB-GATT" is supported, otherwise Excluded.
4/7	Provisioning: Public Key OOB	[2] 5.4.1.2	C.5	☑	C.5: Mandatory to support at least one of MESH 4/7 "Provisioning: Public Key OOB" OR MESH 4/8 "Provisioning: Public Key No OOB" IF MESH 4/1 "PB-ADV" OR MESH 4/2 "PB-GATT" is supported, otherwise Excluded.
4/8	Provisioning: Public Key No OOB	[2] 5.4.1.2	C.5	☑	C.5: Mandatory to support at least one of MESH 4/7 "Provisioning: Public Key OOB" OR MESH 4/8 "Provisioning: Public Key No OOB" IF MESH 4/1 "PB-ADV" OR MESH 4/2 "PB-GATT" is supported, otherwise Excluded.
4/9	Provisioning: Authentication Output OOB	[2] 5.4.1.2	C.6	☑	C.6: Optional IF MESH 4/1 "PB-ADV" OR MESH 4/2 "PB-GATT" is supported, otherwise Excluded.
4/10	Provisioning: Authentication Input OOB	[2] 5.4.1.2	C.6	☑	C.6: Optional IF MESH 4/1 "PB-ADV" OR MESH 4/2 "PB-GATT" is supported, otherwise Excluded.
4/11	Provisioning: Authentication Static OOB	[2] 5.4.1.2	C.6	☑	C.6: Optional IF MESH 4/1 "PB-ADV" OR MESH 4/2 "PB-GATT" is supported, otherwise Excluded.
4/12	Provisioning: Authentication No OOB	[2] 5.4.1.2	C.3	☑	C.3: Mandatory IF MESH 4/1 "PB-ADV" OR MESH 4/2 "PB-GATT" is supported, otherwise Excluded.
4/13	Provisioning algorithm: ECDH_P256 + CMAC_AES128 + CCM_AES128	[2] 5.4.1.2, 5.4.2.4.1	M	☑	

**Table 5: Node Capabilities – Network Layer**

Prerequisite: MESH 2/1 "Node"

Item	Capability	Reference	Support	Status	Comment
5/1	Transmitting and Receiving Secured Network Layer Messages	[2] 3.4.6.2, 3.4.6.3	M	☑	
5/2	Relay Feature	[2] 3.4.6.1	C.1	☑	C.1: Optional IF MESH 3/1 "Advertising Bearer" is supported, otherwise Excluded.
5/3	Network Message Cache	[2] 3.4.6.4	C.2	☑	C.2: Mandatory IF MESH 5/2 "Relay Feature" is supported, otherwise Excluded.
5/4	Multiple Subnet Support	[2] 2.2.1	O	☑	

**Table 6: Node Capabilities – Lower Transport Layer**

Prerequisite: MESH 2/1 "Node"

Item	Capability	Reference	Support	Status	Comment
6/1	Transmitting and Receiving a Lower Transport PDU	[2] 3.5.4.1, 3.5.4.2	M	☑	
6/2	Segmentation and Reassembly Behavior	[2] 3.5.3.3, 3.5.3.4	M	☑	
6/3	Friend Cache	[2] 3.5.5	C.1	☑	C.1: Mandatory IF MESH 7/3 "Friend Feature" is supported, otherwise Excluded.

**Table 7: Node Capabilities – Upper Transport Layer**

Prerequisite: MESH 2/1 "Node"

Item	Capability	Reference	Support	Status	Comment
7/1	Transmitting a Secured Access Payload	[2] 3.6.4.1	M	☑	
7/2	Receiving a Secured Upper Transport PDU	[2] 3.6.4.2	M	☑	
7/3	Friend Feature	[2] 3.6.6.3	C.1	☑	C.1: Optional IF MESH 3/1 "Advertising Bearer" is supported, otherwise Excluded.
7/4	Low Power Feature	[2] 3.6.6.4	C.1	☑	C.1: Optional IF MESH 3/1 "Advertising Bearer" is supported, otherwise Excluded.
7/5	Heartbeat	[2] 3.6.7	M	☑	

**Table 8: Node Capabilities – Access Layer**

Prerequisite: MESH 2/1 "Node"

Item	Capability	Reference	Support	Status	Comment
8/1	Transmitting and Receiving an Access Layer Message	[2] 3.7.4.1	M	☑	

**Table 9: Node Capabilities – Security**

Prerequisite: MESH 2/1 "Node"

Item	Capability	Reference	Support	Status	Comment
9/1	Message Replay Protection	[2] 3.8.7	M	☑	

**Table 10: Node Capabilities – Mesh Management**

Prerequisite: MESH 2/1 "Node"

Item	Capability	Reference	Support	Status	Comment
10/1	Secure Network Beacon	[2] 3.9.3	M	☑	
10/2	Key Refresh Procedure	[2] 3.10.4	M	☑	
10/3	IV Update Procedure	[2] 3.10.5	M	☑	
10/4	IV Index Recovery Procedure	[2] 3.10.6	M	☑	

**Table 11: Node Capabilities – Foundation Mesh Models**

Prerequisite: MESH 2/1 "Node"

Item	Capability	Reference	Support	Status	Comment
11/1	Configuration Server Model	[2] 4.4.1	M	☑	
11/2	Health Server Model	[2] 4.4.3	M	☑	
11/3	Configuration Client Model	[2] 4.4.2	O	☑	
11/4	Health Client Model	[2] 4.4.4	O	☑	

**Table 12: Node Capabilities – Proxy**

Prerequisite: MESH 3/2 "GATT Bearer"

Item	Capability	Reference	Support	Status	Comment
12/1	Proxy Server	[2] 6.2, 6.6	C.1	☑	C.1: Optional IF MESH 3/1 "Advertising Bearer" is supported, otherwise Excluded.
12/2	Generic Attribute Profile (GATT)	[2] 3.3.2	C.2	☑	C.2: Mandatory IF MESH 12/1 "Proxy Server" OR MESH 4/2 "PB-GATT" is supported,

Server	otherwise not defined.				
12/3	Advertising with Network ID	[2] 7.2.2.2.2	C.2	☑	C.2: Mandatory IF MESH 12/1 "Proxy Server" OR MESH 4/2 "PB-GATT" is supported, otherwise not defined.
12/4	Advertising with Node Identity	[2] 7.2.2.2.3	C.2	☑	C.2: Mandatory IF MESH 12/1 "Proxy Server" OR MESH 4/2 "PB-GATT" is supported, otherwise not defined.

**Table 13: Mesh GATT Services**

Prerequisite: MESH 12/2 "Generic Attribute Profile (GATT) Server"

Item	Capability	Reference	Support	Status	Comment
13/1	Mesh Provisioning Service	[2] 7.1	C.1	☑	C.1: Mandatory IF MESH 4/2 "PB-GATT" is supported, otherwise Excluded.
13/2	Mesh Proxy Service	[2] 7.2	C.2	☑	C.2: Mandatory IF MESH 12/1 "Proxy Server" is supported, otherwise Excluded.

**Table 14: GATT Server Requirements**

Prerequisite: MESH 12/2 "Generic Attribute Profile (GATT) Server"

Item	Capability	Reference	Support	Status	Comment
14/1	Discover All Primary Services	[2] 3.3.2	M	☑	
14/2	Discover Primary Services by Service UUID	[2] 3.3.2	M	☑	
14/3	Write without Response	[2] 3.3.2	M	☑	
14/4	Notifications	[2] 3.3.2	M	☑	
14/5	Write Characteristic Descriptors	[2] 3.3.2	M	☑	

**Table 15: GATT Client Requirements**

Prerequisite: MESH 12/6 "Generic Attribute Profile (GATT) Client"

Item	Capability	Reference	Support	Status	Comment
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**Table 16: GAP Requirements**

Prerequisite: MESH 2/1 "Node"

Item	Capability	Reference	Support	Status	Comment
16/1	Broadcaster	[2] 3.3.1	C.1	☑	C.1: Mandatory IF MESH 3/1 "Advertising Bearer" is supported, otherwise not defined.
16/2	Observer	[2] 3.3.1	C.1	☑	C.1: Mandatory IF MESH 3/1 "Advertising Bearer" is supported, otherwise not defined.
16/3	Peripheral	[2] 3.3.2, 7.1.1, 7.2.1, 7.2.2.1	C.2	☑	C.2: Mandatory IF MESH 12/1 "Proxy Server" OR MESH 4/2 "PB-GATT" is supported, otherwise not defined.
16/4	Authorization procedure (Peripheral)	[2] 2.2.3	C.2	☑	C.2: Mandatory IF MESH 12/1 "Proxy Server" OR MESH 4/2 "PB-GATT" is supported, otherwise not defined.

**Table 17: Provisioner – Bearers**

Prerequisite: MESH 2/2 "Provisioner"

Item	Capability	Reference	Support	Status	Comment
17/1	Advertising Bearer	[2] 3.3.1	C.1	☑	C.1: Mandatory to support at least one of MESH 17/1 "Advertising Bearer" OR MESH 17/2 "GATT Bearer".

**Table 18: Provisioner – Provisioning**

Prerequisite: MESH 2/2 "Provisioner"

Item	Capability	Reference	Support	Status	Comment
18/1	Receiving Unprovisioned Device Beacon	[2] 3.9.2	C.1	☑	C.1: Mandatory IF MESH 17/1 "Advertising Bearer" is supported, otherwise Excluded.
18/2	PB-ADV	[2] 5.2.1	C.1	☑	C.1: Mandatory IF MESH 17/1 "Advertising Bearer" is supported, otherwise Excluded.
18/3	Generic Provisioning Layer	[2] 5.3	M	☑	
18/4	Provisioning Protocol (Provisioning Client)	[2] 5.4	M	☑	
18/7	Provisioning: Public Key OOB	[2] 5.4.1.2	M	☑	
18/8	Provisioning: Public Key No OOB	[2] 5.4.1.2	M	☑	

18/9	Provisioning: Authentication Output OOB	[2] 5.4.1.2	M	✓
18/10	Provisioning: Authentication Input OOB	[2] 5.4.1.2	M	✓
18/11	Provisioning: Authentication Static or No OOB	[2] 5.4.1.2, 5.4.3	M	✓
18/12	Provisioning algorithm: ECDH_P256 + CMAC_AES128 + CCM_AES128	[2] 5.4.2.4.1	M	✓

**Table 19: Provisioner – Mesh Management**

Prerequisite: MESH 2/2 "Provisioner"

Item	Capability	Reference	Support	Status	Comment
19/1	Receiving Secure Network Beacon	[2] 3.9.3	M	✓	

**Table 20: GATT Client Requirements**

Prerequisite: MESH 18/6 "Generic Attribute Profile (GATT) Client"

Item	Capability	Reference	Support	Status	Comment
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**Table 21: GAP Requirements**

Prerequisite: MESH 2/2 "Provisioner"

Item	Capability	Reference	Support	Status	Comment
21/1	Broadcaster	[2] 3.3.1	C.1	✓	C.1: Mandatory IF MESH 17/1 "Advertising Bearer" is supported, otherwise not defined.
21/2	Observer	[2] 3.3.1	C.1	✓	C.1: Mandatory IF MESH 17/1 "Advertising Bearer" is supported, otherwise not defined.

## Low Energy RF PHY

**Table 1: Bluetooth LE RF Capabilities**

Item	Capability	Reference	Support	Status	Comment
1/3	LE Transceiver	[1] 3, 4	C.1	✓	C.1: Mandatory to support at least one of RFPHY 1/1 "LE Transmitter" OR RFPHY 1/2 "LE Receiver" OR RFPHY 1/3 "LE Transceiver". Note: Selecting both RFPHY 1/1 "LE Transmitter" and RFPHY 1/2 "LE Receiver" is equivalent to selecting RFPHY 1/3 "LE Transceiver" and vice versa.
1/4	LE 2MPHY	[3] 3, 4	C.2	✓	C.2: Excluded IF SUMICS 21/14 "Core v4.2", otherwise Optional.
1/5	Stable Modulation Index-Transmitter	[3] 3.1.1	C.3	✓	C.3: Excluded IF SUMICS 21/14 "Core v4.2", otherwise Optional IF RFPHY 1/1 "LE Transmitter" OR RFPHY 1/3 "LE Transceiver", otherwise Excluded.
1/6	Stable Modulation Index-Receiver	[3] 3.1.1	C.4	✓	C.4: Excluded IF SUMICS 21/14 "Core v4.2", otherwise Optional IF RFPHY 1/2 "LE Receiver" OR RFPHY 1/3 "LE Transceiver", otherwise Excluded.
1/7	LE Coded PHY	[3] 3, 4	C.2	✓	C.2: Excluded IF SUMICS 21/14 "Core v4.2", otherwise Optional.
1/8	Transmitting Constant Tone Extensions	[4] 5	C.3	✓	C.3: Excluded IF SUMICS 21/14 "Core v4.2", otherwise Optional IF RFPHY 1/1 "LE Transmitter" OR RFPHY 1/3 "LE Transceiver", otherwise Excluded.
1/9	2 μs Antenna Switching During Constant Tone Extension Transmission (AoD)	[4] 5	C.5	✓	C.5: Optional IF RFPHY 1/8 "Transmitting Constant Tone Extensions", otherwise Excluded.
1/10	1 μs Antenna Switching During Constant Tone Extension Transmission (AoD)	[4] 5	C.6	✓	C.6: Optional IF RFPHY 1/9 "2 μs Antenna Switching During Constant Tone Extension Transmission (AoD)", otherwise Excluded.
1/11	2 μs Antenna Sampling During Constant Tone Extension Reception (AoD)	[4] 5	C.4	✓	C.4: Excluded IF SUMICS 21/14 "Core v4.2", otherwise Optional IF RFPHY 1/2 "LE Receiver" OR RFPHY 1/3 "LE Transceiver", otherwise Excluded.
1/12	2 μs Antenna Switching and Sampling During Constant Tone Extension Reception (AoA)	[4] 5	C.7	✓	C.7: Optional IF RFPHY 1/11 "2 μs Antenna Sampling During Constant Tone Extension Reception (AoD)", otherwise Excluded.
1/13	1 μs Antenna Sampling During Constant Tone Extension Reception (AoD)	[4] 5	C.7	✓	C.7: Optional IF RFPHY 1/11 "2 μs Antenna Sampling During Constant Tone Extension Reception (AoD)", otherwise Excluded.
1/14	1 μs Antenna Switching and Sampling During Constant Tone Extension Reception (AoA)	[4] 5	C.8	✓	C.8: Mandatory IF RFPHY 1/12 "2 μs Antenna Switching and Sampling During Constant Tone Extension Reception (AoA)" AND RFPHY 1/13 "1 μs Antenna Sampling During Constant Tone Extension Reception (AoD)", otherwise Excluded.

**Table 2: Bluetooth LE Test Interface Capabilities**

Item	Capability	Reference	Support	Status	Comment
2/1	HCI Test Interface	[2] 2	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory to support at least one of RFPHY 2/1 "HCI Test Interface" OR RFPHY 2/2 "UART Test Interface".

## Security Manager Protocol

**Table 1: Role Requirements**

Item	Capability	Reference	Support	Status	Comment
1/1	Central Role (Initiator)	[1] 2.4	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory IF NOT SM 1/2 "Peripheral Role (Responder)", otherwise Optional.
1/2	Peripheral Role (Responder)	[1] 2.4	C.2	<input checked="" type="checkbox"/>	C.2: Optional IF GAP 5/3 "Peripheral (LE-Only)" OR GAP 38/3 "Peripheral (BR/EDR/LE)", otherwise Excluded.

**Table 2: Security Properties**

Item	Capability	Reference	Support	Status	Comment
2/1	Authenticated MITM protection	[1] 2.3.1	O	<input checked="" type="checkbox"/>	
2/2	Unauthenticated no MITM protection	[1] 2.3.1	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory IF SM 2/1 "Authenticated MITM protection", otherwise Optional.
2/3	No security requirements	[1] 2.3.1	M	<input checked="" type="checkbox"/>	
2/4	OOB supported	[1] 2.3.1	O	<input checked="" type="checkbox"/>	
2/5	LE Secure Connections	[3] 2.3.1	O	<input checked="" type="checkbox"/>	

**Table 3: Encryption Key Size**

Prerequisite: SM 2/1 "Authenticated MITM protection" OR SM 2/2 "Unauthenticated no MITM protection" OR SM 2/4 "OOB supported"

Item	Capability	Reference	Support	Status	Comment
3/1	Encryption Key Size	[1] 2.3.4	M	<input checked="" type="checkbox"/>	

**Table 4: Pairing Method**

Item	Capability	Reference	Support	Status	Comment
4/1	Just Works	[1] 2.3.5	O	<input checked="" type="checkbox"/>	
4/2	Passkey Entry	[1] 2.3.5	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory to support at least one of SM 4/2 "Passkey Entry" OR SM 4/3 "Out of Band" IF SM 2/1 "Authenticated MITM protection", otherwise Excluded.
4/3	Out of Band	[1] 2.3.5	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory to support at least one of SM 4/2 "Passkey Entry" OR SM 4/3 "Out of Band" IF SM 2/1 "Authenticated MITM protection", otherwise Excluded.

**Table 5: Security Initiation**

Item	Capability	Reference	Support	Status	Comment
5/1	Encryption Setup using STK	[1] 2.4	C.3	<input checked="" type="checkbox"/>	C.3: Mandatory IF SM 2/1 "Authenticated MITM protection" OR SM 2/2 "Unauthenticated no MITM protection" OR SM 2/4 "OOB supported", otherwise Excluded.
5/2	Encryption Setup using LTK	[1] 2.4	O	<input checked="" type="checkbox"/>	
5/3	Peripheral Initiated Security	[1] 2.4.6	C.1	<input checked="" type="checkbox"/>	C.1: Optional IF SM 1/2 "Peripheral Role (Responder)", otherwise Excluded.
5/4	Peripheral Initiated Security – Central response	[1] 2.4.6	C.2	<input checked="" type="checkbox"/>	C.2: Mandatory IF SM 1/1 "Central Role (Initiator)", otherwise Excluded.

**Table 6: Signing Algorithm**

Item	Capability	Reference	Support	Status	Comment
6/1	Signing Algorithm - Generation	[1] 2.4	O	<input checked="" type="checkbox"/>	
6/2	Signing Algorithm - Resolving	[1] 2.4	O	<input checked="" type="checkbox"/>	

**Table 7: Key Distribution**

Item	Capability	Reference	Support	Status	Comment
7/1	Encryption Key	[2] 9.4.3	C.1	<input checked="" type="checkbox"/>	C.1: Mandatory IF GAP 24/2 "Bondable mode" OR GAP 34/2 "Bondable mode", otherwise Optional.
7/2	IdentityKey	[2] 10.7	C.2	<input checked="" type="checkbox"/>	C.2: Mandatory IF GAP 26/3 "Resolvable private address generation procedure", otherwise Optional.
7/3	Signing Key	[2] 10.4	C.3	<input checked="" type="checkbox"/>	C.3: Mandatory IF GAP 25/6 "Authenticate signed data procedure" OR GAP 35/6 "Authenticate signed data procedure", otherwise Optional.

**Table 8: Cross-Transport Key Derivation**

Item	Capability	Reference	Support	Status	Comment
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