Bluetooth®

Project Details

Project Name	BLE 5.3
Product Type	Controller Subsystem
TCRL Version:	TCRL 2021-1
Referenced Qualified Design(s)	
Previously Qualified Design Used in this Qualification(s)	
Listing Date	2021-11-17
Declaration ID	D057791

Product Listing(s)

Name	Website	Category	Publish Date	Model Number	Description
BLE transceiver		Unique Products	11/18/2021 12:00:00 AM	PAN1026	BLE 5.3

Member Company	Shanghai Panchip Microelectronics Co., Ltd

Declaring Member Contact / Listing Contact Person

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City	
State	
Country	China
Postal Code	

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

Signature:

jack zu

BLUETOOTH® LAUNCH STUDIO TERMS OF USE

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 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	☑	C.1: Mandatory to support one and only one of 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" OR SUM ICS 21/21 "Core v5.3".

Table 22: EDR Features

Item	Capability	Reference	Support	Status	Comment

Table 31: Host Core Specification

Item	Capability	Reference	Support	Status	Comment

Table 34: LE Host Specification Parts

Item	Capability	Reference	Support	Status	Comment

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

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

Table 51: Low Energy Controller Configuration

Item	Capability	Reference	Support	Status	Comment
51/1	Low Energy Controller	Core 4.0 or Later	C.1	☑	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

Product Type

Table 1: Product Types

Item	Capability	Reference	Support	Status	Comment
1/5	Controller Subsystem	Vol. 0 Part B	C.1	☑	C.1: Mandatory to support one and only one Product Type.

Table 2: Controller Core Configuration

Item	Capability	Reference	Support	Status	Comment
2/4	LE Controller	Vol. 0 Part B	C.1	☑	C.1: Mandatory to support only one Controller Configuration. Optional if 1/2 or 1/3 is Supported.

Table 3: Host Core Configuration

Item	Capability	Reference	Support	Status	Comment

4.0 Host Controller Interface

Table 1a: IUT Configuration

Item	Capability	Reference	Support	Status	Comment
1a/2	Host	[1] 1.0	C.0	☑	C.0: Mandatory to support at least one of the defined IUT Configurations.

Table 1:

Item	Capability	Reference	Support	Status	Comment

Table 2:

Item	Capability	Reference	Support	Status	Comment

Table 3:

Item	Capability	Reference	Support	Status	Comment

Table 4:

Item	Capability	Reference	Support	Status	Comment

Table 5:

Item	Capability	Reference	Support	Status	Comment

Table 6:

Item	Capability	Reference	Support	Status	Comment

Table 7:

Item	Capability	Reference	Support	Status	Comment

Table 8:

Item	Capability	Reference	Support	Status	Comment

Table 10:

Item	Capability	Reference	Support	Status	Comment

Table 13:

Item	Capability	Reference	Support	Status	Comment

Table 14:

Item	Capability	Reference	Support	Status	Comment

Table 15:

Item	Capability	Reference	Support	Status	Comment

Table 16:

Item	Capability	Reference	Support	Status	Comment

Table 17:

Item	Capability	Reference	Support	Status	Comment

Table 20:

Item	Capability	Reference	Support	Status	Comment

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".

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".

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" is supported, otherwise Optional IF GAP 5/3 "Peripheral" is supported, otherwise Optional.
3/3	Advertising Data	[1] 4.4.2.3, 4.4.2.5, 4.4.2.6	M	☑	

Table 4: Protocol Scanning Features

Prerequisite: LL 1/2 "Scanning State"

Item	Capability	Reference	Support	Status	Comment

Table 5: Protocol Initiating Features

Prerequisite: LL 1/3 "Initiating State"

Item	Capability	Reference	Support	Status	Comment

Table 6: Protocol Peripheral Role Features

Prerequisite: LL 1/4 "Peripheral Role"

Item	Capability	Reference	Support	Status	Comment

Table 7: Protocol Central Role Features

Prerequisite: LL 1/5 "Central Role"

Item	Capability	Reference	Support	Status	Comment

Table 8: Physical Channels

Item	Capability	Reference	Support	Status	Comment
8/2	Advertising channels (at least one of channel index 37, 38, 39)	[1] 1.4.1	M	☑	

Table 9: Supported Features

Item	Capability	Reference	Support	Status	Comment

Table 10: Scatternet Capabilities

Item	Capability	Reference	Support	Status	Comment

Table 11: Protocol Synchronizing Features

Prerequisite: LL 1/3a "Synchronized State"

Item	Capability	Reference	Support	Status	Comment

Table 11a: Synchronized Receiver Features

Prerequisite: LL 9/34 "Synchronized Receiver"

Item	Capability	Reference	Support	Status	Comment

Table 12: Protocol Isochronous Broadcasting Features

Prerequisite: LL 1/6 "Isochronous Broadcasting State"

Item	Capability	Reference	Support	Status	Comment

Low Energy RF PHY

Table 1: Bluetooth LE RF Capabilities

Item	Capability	Reference	Support	Status	Comment
1/1	LE Transmitter	[1] 3	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.
1/2	LE Receiver	[1] 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.
1/3	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.

Table 2: Bluetooth LE Test Interface Capabilities

Item	Capability	Reference	Support	Status	Comment
2/2	UART Test Interface	[2] 3	C.1	☑	C.1: Mandatory to support at least one of RFPHY 2/1 "HCI Test Interface" OR RFPHY 2/2 "UART Test Interface".