Qualcomm Technologies International, Ltd.

QCC711.OR.2.1-r00097.1 CS SDK

Release Notes

80-Y7085-6 Rev. AA

July 31, 2025

Revision history

Revision	Date	Description
AA	July 2025	Initial release

Contents

Tables

1 Introduction

Whether downloaded from the Qualcomm ChipCode™ Portal, the Qualcomm CreatePoint site, or embedded on Equipment received from Qualcomm Technologies International, Ltd. ("QTIL") or its affiliates, the `QCC711.OR.2.1-r00097.1 CS` software release (the "SW Package") shall be considered (in order of priority): (i) Evaluation Technology under the terms of the Product Kit License Agreement accompanying the release (the "PKLA"), (ii) Deliverables under the terms of your Limited Use Agreement (the "LUA"), or (iii) Licensed Technology under the terms of your Technology License Agreement (the "TLA"), each with QTIL or its affiliate (the PKLA, LUA, or TLA, as applicable, the "Agreement"). The applicable period for which the SW Package is licensed (the "Use Period") starts on the Effective Date of your Agreement or the date you received the SW Package, whichever is later, and expires on the date specified in the Agreement (if any). By receiving and/or using the SW Package, you acknowledge and agree that your use of the SW Package is subject to the terms and conditions of the Agreement. If you do not agree to the terms of the Agreement, have not accepted any such Agreement, or your agreement with QTIL or its affiliate does not include Deliverables, Evaluation Technology, or Licensed Technology, you shall immediately delete the SW Package from all storage media and destroy any and all copies made.

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1.1 Identification

This document provides details on the `QCC711.OR.2.1-r00097.1 CS` release.

The release version is as presented in Table 1-1:

Table 1-1 Release version information

Variant	Build
QCC711	00097.1 **Note**: BTSS patch version: 0x877d.

Instructions for obtaining this release are described in Section 5.1.

2 Features

This chapter lists in Table 2-1 the features that are present in the current release.

Table 2-1 Release features

Feature	OR.2.0-r00017.1 CS	OR.2.1-r00037.1 ES	OR.2.1-r00058.1 FC	OR.2.1-r00076.1 CS	OR.2.1-r00097.1 Post-CS
Platform Support					
64 KB Application RAM (up to 16 KB Retained)	●	●	●	●	●
416 KB Application and Data NVM	●	●	●	●	●
Programming and Debugging Support for IAR Embedded Workbench	●	●	●	●	●
Task Scheduler	●	●	●	●	●
Heap Manager	●	●	●	●	●
Retained Memory Management	●	●	●	●	●
APSS Power Voting	●	●	●	●	●
Deep Sleep (Shutdown)	●	●	●	●	●
Clock and Power Management	●	●	●	●	●
Manufacturing Support	●	●	●	●	●
NVM (RRAM) Driver	●	●	●	●	●
Ported Arm CMSIS Library	●	●	●	●	●
Example Linker Scripts (IAR)	●	●	●	●	●
Runtime Voltage Failure Mitigation (VDIO event handling)	●	●	●	●	●
Peripherals					
Watchdog	●	●	●	●	●
Battery Monitor	●	●	●	●	●
Flexible Timer/Counter (FTC/PWM)	●	●	●	●	●
Timer	●	●	●	●	●
GPIO	●	●	●	●	●
I²C Slave	●	●	●	●	●
I²C Master	●	●	●	●	●
LED	●	●	●	●	●
M2M DMA	●	●	●	●	●
Voltage and Temperature Sensors	●	●	●	●	●
SPI	●	●	●	●	●
SPI Flash	●	●	●	●	●
UART	●	●	●	●	●

Feature	OR.2.0-r00017.1 CS	OR.2.1-r00037.1 ES	OR.2.1-r00058.1 FC	OR.2.1-r00076.1 CS	OR.2.1-r00097.1 Post-CS
Qualcomm® Bluetooth Low Energy (BLE)					
Bluetooth Low Energy 5.4 Controller	●	●	●	●	●
Bluetooth Low Energy 5.4 Host	●	●	●	●	●
Low Energy Ping	●	●	●	●	●
Low Energy Privacy 1.2	●	●	●	●	●
Low Energy Data Length Extensions	●	●	●	●	●
Low Energy Secure Connections	●	●	●	●	●
Simultaneous Central and Peripheral Modes	●	●	●	●	●
Multiple Low Energy Connections	●	●	●	●	●
Advertising Extensions	●	●	●	●	●
Extended Scanning	●	●	●	●	●
High Duty Cycle Non-Connectable Advertising	●	●	●	●	●
Channel Selection Algorithm 2	●	●	●	●	●
2 Mb PHY	●	●	●	●	●
Whitelist	●	●	●	●	●
EIR and AD Data Types	●	●	●	●	●
Fast Data Advertising Interval	●	●	●	●	●
Advertising Interval Data Type	●	●	●	●	●
Connection-Oriented L2CAP Channels	●	●	●	●	●
Enhanced Link Layer Topology	●	●	●	●	●
Low Duty Cycle Directed Advertising	●	●	●	●	●
Low Energy Long Range	●	●	●	●	●
Low Energy Advertisement Extensions	●	●	●	●	●
RSSI Filtering	●	●	●	●	●
GATT Caching	●	●	●	●	●
Advertising Channel Index	●	●	●	●	●
Periodic Advertising Sync Transfer	●	●	●	●	●
AoA			●	●	●
Battery Alert Service (BAS)	●	●	●	●	●
Constant Tone Extension Service (CTES)	●	●	●	●	●
Device Information Service (DIS)	●	●	●	●	●
Generic Access Profile Service (GAPS)	●	●	●	●	●
Object Transfer Service (OTS)	●	●	●	●	●
Radio Brownout Detection	●	●	●	●	●
RF Coexistence via PTA	●	●	●	●	●
Low Energy Runtime Statistics/Metrics	●	●	●	●	●
Low Energy Direct Test Mode (DTM)	●	●	●	●	●
HCI mode			●	●	●
Periodic Advertising with Responses			●	●	●
Security					

Feature	OR.2.0-r00017.1 CS	OR.2.1-r00037.1 ES	OR.2.1-r00058.1 FC	OR.2.1-r00076.1 CS	OR.2.1-r00097.1 Post-CS
Boot Time Image Authentication	●	●			
Authenticated Firmware Update	●	●	●	●	●
Update Package Verification	●	●	●	●	●
Authenticated Debug Unlock	●	●	●	●	●
Random Number Generator	●	●	●	●	●
SHA-256 and SHA-512	●	●	●	●	●
Encryption and Decryption (AES-128/256 GCM, CBC, CTR)	●	●	●	●	●
Key Derivation (HKDF)	●	●	●	●	●
ECC Curves: NIST P256 P521	●	●	●	●	●
Signing and Verification (ECDSA)	●	●	●	●	●
Shared Secret Derivation (ECDH)	●	●	●	●	●
Fuse read/write	●	●	●	●	●
Token Generation					
Tools					
Signing and Update Packaging	●	●	●	●	●
NVM Programmer	●	●	●	●	●
OTP Programmer	●	●	●	●	●
Secure Programmer	●	●	●	●	●
IAR Flash loader	●	●	●	●	●
File Encryption	●	●	●	●	●
Bluetooth Low Energy Config Tag (CFGTAG)	●	●	●	●	●
OEM Debug Unlock	●	●	●	●	●
Batch Programming/Manufacturing	●	●	●	●	●
Unified Python3 support for tools		●	●	●	●
Demos (QCLI)					
General Demo (Bluetooth Low Energy, Crypto, Platform)	●	●	●	●	●
Peripheral Demo (e-Ink Display, SPI Flash, FTC, GPIO, I²C, M2MDMA, MFP, Sensors, SPI, Timer, UART, WDOG)	●	●	●	●	●
Beacon Demo (iBeacon, Eddystone)		●	●	●	●
External host (AT Command)					
AT command for NVM read/write		●	●	●	●
AT command for Firmware upgrade		●	●	●	●
AT command for Bluetooth Low Energy Application support		●	●	●	●
Build/Debug Env Support					
IAR	●	●	●	●	●
qccsdk.py command		●	●	●	●
qccide		●	●	●	●

3 Fixes and updates

- The current release supports *Bluetooth Core Specification*, version 5.4:
  - Complete version 5.4 controller certification. QDID: D061740.
  - Complete version 5.4 host certification. QDID: D063922.
- Supports retained mode advertising, including legacy and extended advertising, so that devices can operate at low power levels to send advertising.
- Supports reading of the minimum free space of stack memory using a CLI command.
- Added a PHY parameter for advertising, scanning, connection, and PAwR cases in the General demo.
- Fixed that an advertising event is not reported during scanning (caused by BTSS memory). This ensures that an advertising event can be reported when there are many Bluetooth devices nearby.
- Optimized the BTSS scheduler to improve data throughput.
- Supports upper layer changes to baud rate using a vendor HCI command (in HCI mode).
- Updated general AT demo
  - Supports bypass challenge response and bond process through the new AT command.
  - Supports configuring service UUID and scan response when sending ADV through the new AT command.
  - Supports registration and operation of larger characteristic values.
- Optimized and upgraded the programming tools:
  - Reduced unnecessary GDB start and stop cycles to speed up the programming procedure.
  - Added speed parameter to support user to set the SWD speed.
- Refactored the source code by replacing hard-coded values with static variables to enhance readability and maintainability.
- Bug fix in at_programmer.py:
  - The script does not handle the return value when the update package exceeds the expected size, causing it to get stuck in the while loop.

4 Limitations

This chapter lists the limitations for the current release.

Limitations with IAR EWARM:

- Only IAR EWARM 8.11 (and greater) are supported by this SDK release.
- If a watchdog bite occurs when a debugger is attached, it can cause subsequent resets triggered by the debugger to fail and the chip becomes unresponsive. The chip can be recovered by power cycling the chip. Note that an alternative workaround for IAR is to change the reset logic in `pre_reset_cspy.mac` from "`_writeMemory32(0x5A5A0100, 0x50006828, "Memory");`" to "`__writeMemory32(0x00D1ED1E, 0x50006828, "Memory");`". This alternative reset method does not work with older J-Link hardware.

Limitations with SPI:

- For SPI master and SPI slave transfer, SPI Master/Slave can use DMA to transfer the data from flash to SPI connected devices. When SPI is used for this purpose, the source address of an SPI DMA transfer should be a system address mapped from a flash address. When SPI works in this mode, if the data length to be transmitted is in 4*n+3 format (where n is a non-negative integer), the last byte of data transmitted is corrupted. A workaround is to pad the data (with zeros) so that the total amount transferred does not equal the mentioned length (add one more byte at the END of the transmission or ignore the last byte if receiving 4*n+3 bytes). Application code should handle this padding on both the sending and receiving side.

NOTE: If the source address of an SPI transfer is SRAM, or RRAM, no such issue exists.

5 Deliverable download and build

Released software and documents are downloaded from Qualcomm-hosted servers and third-party vendor websites.

5.1 Deliverables

The `QCC711.OR.2.1-r00097.1 CS` release consists of proprietary software by Qualcomm Technologies, Inc. (QTI) and by third-party vendors.

- The QTI proprietary software is hosted on ChipCode (http://chipcode.qualcomm.com). It consists of board-specific archives that contain proprietary modules for inclusion in the target system builds. QTI does not provide the source code for these components.
- The QTI proprietary Qualcomm Development Acceleration Resource Toolkit – Connectivity (QDART-Connectivity) is hosted on Qualcomm CreatePoint at https://createpoint.qti.qualcomm.com/tools/#.

5.1.1 QTI packages on ChipCode

The QTI proprietary packages listed in Table 5-1 are downloaded from a private access customer support account. The variable `<customer_name>` indicates specific customer route since each customer is given a dedicated link to ChipCode.

Table 5-1 QTI packages

Software package	Software location at ChipCode
QCC711.OR.2.1	`<customer_name>/qcc711-or-2-1.`

5.1.2 Reference documentation

Table 5-2 lists the supporting documents available for this release.

Table 5-2 Reference documentation

Document number	Title
80-Y7085-5 (this document)	*QCC711.OR.2.1-r00097.1 CS SDK Release Notes*
80-70852-1	*QCC711 Development Kit Quick Start Guide*
80-70851-1	*QCC711 Bluetooth Low Energy QAPI v2.1 API Reference*
80-77358-1	*QCC711 Bluetooth Low Energy Throughput Testing Guide*
80-77903-1	*QCC711 HCI Mode User Guide*
80-70850-1	*QCC711 v2.1 Bluetooth Low Energy Software Programming Guide*
80-68118-1	*QCC711 with External Host - Bluetooth Low Energy Application User Guide*

6 Performance measurement

6.1 Bluetooth Low Energy throughput/performance

This section lists measured Bluetooth Low Energy throughput and performance data.

The Table 6-1 lists Bluetooth Low Energy throughput measurements.

NOTE: All data was obtained using two QCC711 devices (acting as central and peripheral) using the QAPI interface provided by the SDK on the APSS.

Table 6-1 Bluetooth Low Energy throughput

Test case name	Summary	Results (Kbps)
BLE, Min MTU, 1M PHY	*Maximum throughput using payload size of 23 using 1 Mb w/HCI QAPI*	299.2
BLE, Max MTU, 1M PHY	*Maximum throughput using payload size of 517 using 1 Mb w/HCI QAPI*	298.8
BLE, Max MTU, 1M PHY (paired)	*Maximum throughput using payload size of 517 using 1 Mb encrypted link w/HCI QAPI*	287.4
BLE, Min MTU, 2M PHY[1]	*Maximum throughput using payload size of 23 using 2 Mb w/HCI QAPI*	371.2
BLE, Max MTU, 2M PHY	*Maximum throughput using payload size of 517 using 2 Mb w/HCI QAPI*	408.8
BLE, Max MTU, 2M PHY (paired)	*Maximum throughput using payload size of 517 using 2 Mb encrypted link w/HCI QAPI*	398.4
BLE, Max MTU, DLE, 1M PHY	*Maximum throughput using payload size of 517 using 1 Mb with data length extensions w/HCI QAPI*	759
BLE, Max MTU, DLE, 1M PHY (paired)	*Maximum throughput using payload size of 517 using 1 Mb with data length extensions encrypted link w/HCI QAPI*	751.2
BLE, Max MTU, DLE, 2M PHY	*Maximum throughput using payload size of 517 using 2 Mb with data length extensions w/HCI QAPI*	1370.8
BLE, Max MTU, DLE, 2M PHY (paired)	*Maximum throughput using payload size of 517 using 2 Mb with data length extensions encrypted link w/HCI QAPI*	1320.2

6.2 Boot time transitions

Table 6-2 Boot time transitions

Use case	Average
Cold Boot	156.86 ms

6.3 RoT time transitions

Table 6-3 RoT time transitions

Use case	Average
*Start RoT Session**	13.5 ms
End RoT Session	103 µs
Time to Verify Update - BTSS, APSS, TME	613 ms
Time to Verify Update - APSS Large	628 ms
Time to Verify Update - APSS Small	529 ms
Time to Encrypt - 128 bit, 450 bytes	7.6 ms
Time to Encrypt - 128 bit, 900 bytes	7.8 ms
Time to Encrypt - 256 bit, 450 bytes	7.6 ms
Time to Encrypt - 256 bit, 900 bytes	7.8 ms
Time to Decrypt - 128 bit, 450 bytes	7.5 ms
Time to Decrypt - 128 bit, 900 bytes	7.6 ms
Time to Decrypt - 256 bit, 450 bytes	7.5 ms
Time to Decrypt - 256 bit, 900 bytes	7.7 ms
Time to get random Number, 32 Bytes	6.9 ms
Time to write to NVM: 1 k bytes, all different	5.2 ms
Time to write to NVM: 2 k bytes, all different	10.6 ms
Time to write to NVM: 1 k bytes, all same	454 µs
Time to write to NVM: 2 k bytes, all same	903 µs

* *Start RoT Session* must be done before all other operations requiring the RoT.

6.4 Power measurements

6.4.1 Full mode power measurements

Table 6-4 lists full mode power measurements.

NOTE: All data was obtained using one QCC711 device using the General demo.

Table 6-4 Full mode power measurements

Use case	Average (v2.1)
NON_CON ADV (Tx) at 4 dBM (120 msec interval, 12-byte payload) (Full mode)	2.043 mA
NON_CON ADV (Tx) at 4 dBM (250 msec interval, 12-byte payload) (Full mode)	2.021 mA
NON_CON ADV (Tx) at 4 dBM (1000 msec interval, 12-byte payload) (Full mode)	2.003 mA
NON_CON ADV (Tx) at 4 dBM (1200 msec interval, 12-byte payload) (Full mode)	2.002 mA
BLE Passive Scan with 10 ms window and 400 ms interval (Full mode)	2.062 mA

6.4.2 Dormant (Hibernate) mode power measurement

Table 6-5 lists Dormant (Hibernate) mode power measurements.

NOTE: All data was obtained using one QCC711 device using the General demo.

Table 6-5 Dormant (Hibernate) mode power measurements

Use case	Average (v2.1)
Dormant (Hibernate) mode	1.198 µA

6.4.3 LP mode power measurements

Table 6-6 lists LP mode power measurements.

NOTE: All data was obtained using one QCC711 device using the General demo.

Table 6-6 LP mode power measurements

Use case	Average (v2.1)
Periodic APSS + BTSS wake-up (120 msec interval) for NON_CON ADV (Tx) at 4 dBm (12-byte payload) (LP mode)	1.998 mA
Periodic APSS + BTSS wake-up (250 msec interval) for NON_CON ADV (Tx) at 4 dBm (12-byte payload) (LP mode)	0.965 mA
Periodic APSS + BTSS wake-up (1000 msec interval) for NON_CON ADV (Tx) at 4 dBm (12-byte payload) (LP mode)	0.243 mA
Periodic APSS + BTSS wake-up (1200 msec interval) for NON_CON ADV (Tx) at 4 dBm (12-byte payload) (LP mode)	0.201 mA

6.4.4 Retain mode with legacy ADV power measurements

Table 6-7 lists retain mode with legacy ADV power measurements.

NOTE: All data was obtained using one QCC711 device using the General demo.

Table 6-7 Retain mode with legacy ADV power measurements

Use case	Average (v2.1)
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (20 msec interval, 4 dBM Tx power, 0-byte payload)	263.94 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (120 msec interval, 4 dBM Tx power, 0-byte payload)	55.329 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (1000 msec interval, 4 dBM Tx power, 0-byte payload)	8.268 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (1200 msec interval, 4 dBM Tx power, 0-byte payload)	7.096 µA
Periodic BTSS wake-up for CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (1000 msec interval, 4 dBM Tx power, 0-byte payload)	10.080 µA
Periodic BTSS wake-up for CON_ADV and SCANNABLE_ADV in retain mode with legacy ADV (1000 msec interval, 4 dBM Tx power, 0-byte payload)	10.092 µA
Periodic BTSS wake-up for NON_CON_ADV and SCANNABLE_ADV with scan response in retain mode with legacy ADV (1000 msec interval, 4 dBM Tx power, 0-byte payload)	10.083 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (20 msec interval, 4 dBM Tx power, 12-byte payload)	362.069 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (120 msec interval, 4 dBM Tx power, 12-byte payload)	75.215 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (1000 msec interval, 4 dBM Tx power, 12-byte payload)	10.630 µA

Use case	Average (v2.1)
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (1200 msec interval, 4 dBM Tx power, 12-byte payload)	9.148 µA
Periodic BTSS wake-up for CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (1000 msec interval, 4 dBM Tx power, 12-byte payload)	12.489 µA
Periodic BTSS wake-up for CON_ADV and SCANNABLE_ADV in retain mode with legacy ADV (1000 msec interval, 4 dBM Tx power, 12-byte payload)	12.507 µA
Periodic BTSS wake-up for NON_CON_ADV and SCANNABLE_ADV with scan response in retain mode with legacy ADV (1000 msec interval, 4 dBM Tx power, 12-byte payload)	12.519 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (20 msec interval, 4 dBM Tx power, 31-byte payload)	517.417 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (120 msec interval, 4 dBM Tx power, 31-byte payload)	106.637 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (1000 msec interval, 4 dBM Tx power, 31-byte payload)	14.467 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (1200 msec interval, 4 dBM Tx power, 31-byte payload)	12.398 µA
Periodic BTSS wake-up for CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (1000 msec interval, 4 dBM Tx power, 31-byte payload)	15.936 µA
Periodic BTSS wake-up for CON_ADV and SCANNABLE_ADV in retain mode with legacy ADV (1000 msec interval, 4 dBM Tx power, 31-byte payload)	16.406 µA
Periodic BTSS wake-up for NON_CON_ADV and SCANNABLE_ADV with scan response in retain mode with legacy ADV (1000 msec interval, 4 dBM Tx power, 31-byte payload)	16.332 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (20 msec interval, 0 dBM Tx power, 31-byte payload)	425.964 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (120 msec interval, 0 dBM Tx power, 31-byte payload)	88.612 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (1000 msec interval, 0 dBM Tx power, 31-byte payload)	12.257 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (1200 msec interval, 0 dBM Tx power, 31-byte payload)	10.509 µA
Periodic BTSS wake-up for CON_ADV and NON_SCANNABLE_ADV in retain mode with legacy ADV (1000 msec interval, 0 dBM Tx power, 31-byte payload)	13.823 µA
Periodic BTSS wake-up for CON_ADV and SCANNABLE_ADV in retain mode with legacy ADV (1000 msec interval, 0 dBM Tx power, 31-byte payload)	14.056 µA
Periodic BTSS wake-up for NON_CON_ADV and SCANNABLE_ADV with scan response in retain mode with legacy ADV (1000 msec interval, 0 dBM Tx power, 31-byte payload)	15.753 µA

6.4.5 Retain mode with extended ADV power measurements

Table 6-8 lists retain mode with extended ADV power measurements.

NOTE: All data was obtained using one QCC711 device using the General demo.

Table 6-8 Retain mode with extended ADV power measurements

Use case	Average (v2.1)
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (120 msec interval, 4 dBM Tx power, 0-byte payload)	71.925 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (1000 msec interval, 4 dBM Tx power, 0-byte payload)	10.265 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (1200 msec interval, 4 dBM Tx power, 0-byte payload)	8.751 µA
Periodic BTSS wake-up for CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (1000 msec interval, 4 dBM Tx power, 0-byte payload)	11.323 µA
Periodic BTSS wake-up for NON_CON_ADV and SCANNABLE_ADV with scan response in retain mode with extended ADV (1000 msec interval, 4 dBM Tx power, 0-byte payload)	11.545 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (120 msec interval, 4 dBM Tx power, 40-byte payload)	97.422 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (1000 msec interval, 4 dBM Tx power, 40-byte payload)	13.464 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (1200 msec interval, 4 dBM Tx power, 40-byte payload)	11.388 µA
Periodic BTSS wake-up for CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (1000 msec interval, 4 dBM Tx power, 40-byte payload)	14.066 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (120 msec interval, 4 dBM Tx power, 252-byte payload)	228.648 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (1000 msec interval, 4 dBM Tx power, 252-byte payload)	29.924 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (1200 msec interval, 4 dBM Tx power, 252-byte payload)	25.000 µA
Periodic BTSS wake-up for CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (1000 msec interval, 4 dBM Tx power, 245-byte payload)	28.105 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (120 msec interval, 0 dBM Tx power, 252-byte payload)	185.862 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (1000 msec interval, 0 dBM Tx power, 252-byte payload)	24.542 µA
Periodic BTSS wake-up for NON_CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (1200 msec interval, 0 dBM Tx power, 252-byte payload)	20.547 µA
Periodic BTSS wake-up for CON_ADV and NON_SCANNABLE_ADV in retain mode with extended ADV (1000 msec interval, 0 dBM Tx power, 245-byte payload)	23.126 µA

Terms and definitions

Term	Definition
AES	Advanced encryption standard
API	Application programming interface
APSS	Applications subsystem
BLE	Qualcomm Bluetooth Low Energy
BTSS	Bluetooth Subsystem
CLI	Command-line interface
DMA	Dynamic memory allocation
FTC	Flexible timer/counter
GAP	Generic Access Profile
GATT	Generic attribute profile
GPIO	General purpose input/output
I²C	Inter-integrated circuit interface
L2CAP	Logical link control and adaption protocol
LE	Low energy
LED	Light-emitting diode
MFP	Multi-function pin
NVM	Non-volatile memory
OEM	Original equipment manufacturer
OTP	One-time programmable
PHY	Physical layer
PIO	Programmable input/output
PTA	Packet traffic arbitrator
PWM	Pulse width modulation
QAPI	Qualcomm application programming interface
QCLI	Qualcomm command-line interface
QTI	Qualcomm Technologies Inc. (QTI)
QTIL	Qualcomm Technologies International, Ltd.
RRAM	Resistive random-access memory
RSSI	Received signal strength indication
SDK	Software development kit
SHA	Secure hash algorithm
SPI	Serial peripheral interface
SW	Software
UART	Universal asynchronous receiver transmitter

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