Qualcomm Technologies International, Ltd.

QCC711.OR.2.1-r00111.1 CS SDK

Release Notes

80-Y7085-7 Rev. AA

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Revision history

Revision	Date	Description
AA	September 2025	Initial release

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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-r00111.1 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: 0x8D1D.

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	FC/ CS	OR.2.1-r00097.1 Post-CS	OR.2.1- r00111.1 Post-CS3
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	●	●	●	●	●

Feature	OR.2.0-r00017.1 CS	OR.2.1-r00037.1 ES	FC/ CS	OR.2.1-r00097.1 Post-CS	OR.2.1- r00111.1 Post-CS3
UART	●	●	●	●	●
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			●	●	●

Feature	OR.2.0-r00017.1 CS	OR.2.1-r00037.1 ES	FC/ CS	OR.2.1-r00097.1 Post-CS	OR.2.1- r00111.1 Post-CS3
Security					
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	●	●	●	●	●
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		●	●	●	●
Update package generation all in one click					
Flashing address calculating automatically					●
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)		●	●	●	●
Bluetooth Low Energy peripheral demo					●
Bluetooth Low Energy central demo					●
Bluetooth Low Energy pairing demo					●
Bluetooth Low Energy PAwR demo					●
Bluetooth Low Energy KPI test demo					●
Bluetooth Low Energy BAS demo					●
Bluetooth Low Energy OTA Demo (FW Upgrade)					●

Feature	OR.2.0-r00017.1 CS	OR.2.1-r00037.1 ES	FC/ CS	OR.2.1-r00097.1 Post-CS	OR.2.1- r00111.1 Post-CS3
External host (AT Command)					
AT command for NVM read/write		●	●	●	●
AT command for Firmware upgrade		●	●	●	●
AT command of Bluetooth Low Energy Application support		●	●	●	●
Build/Debug Env Support					
IAR	●	●	●	●	●
qccsdk.py command		●	●	●	●
qccide		●	●	●	●
Easy-use tool script for setup QCC711SDK development					●

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.
- Added new feature to improve the user experience of QCC710 programmer tool
  - Enhance nvm_programmer to calculate the NVM address for the binary file to be flashed, -b' will become an optional parameter and backward compatible
  - Optimized qcc710_programmer to resolve the mismatch situation between chip and configuration JSON specified by input.
- Added new feature to provide easy-use tool script for setup QCC711SDK development environment and simplify tool chain usage.
  - Provided PowerShell script to download the required package and added these values to the environment variable. If the package user wants to download is at a particular location, they can specify the path.

  - Provide python script where user can pass the key path, APSS images along with other images in SDK release to create update package.
- Added new feature to support OTAU over BLE to update firmware version.
  - Provided Android app application for upgrading the remote QCC711 version. Android app will only connect to one Ziggy and upgrade it one at a time.
  - Provided one OTAU demo at QCC711 side for reference.
- Added new feature to break current general demo with all Bluetooth Low Energy functions into six separate demos to provide more specific Bluetooth Low Energy function demos to user.
- Fixed issue that when switching CS selection in the dual EPD demo, glitches appear on the CS lines before the actual SPI transfer starts.

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-r00111.1 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-r00111.1 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*	300.8
BLE, Max MTU, 1M PHY	*Maximum throughput using payload size of 517 using 1 Mb w/HCI QAPI*	285
BLE, Max MTU, 1M PHY (paired)	*Maximum throughput using payload size of 517 using 1 Mb encrypted link w/HCI QAPI*	266.2
BLE, Min MTU, 2M PHY[1]	*Maximum throughput using payload size of 23 using 2 Mb w/HCI QAPI*	391.5
BLE, Max MTU, 2M PHY	*Maximum throughput using payload size of 517 using 2 Mb w/HCI QAPI*	385.8
BLE, Max MTU, 2M PHY (paired)	*Maximum throughput using payload size of 517 using 2 Mb encrypted link w/HCI QAPI*	356.4
BLE, Max MTU, DLE, 1M PHY	*Maximum throughput using payload size of 517 using 1 Mb with data length extensions w/HCI QAPI*	759.4
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*	739.6
BLE, Max MTU, DLE, 2M PHY	*Maximum throughput using payload size of 517 using 2 Mb with data length extensions w/HCI QAPI*	1378.4
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*	1332.4

6.2 Boot time transitions

Table 6-2 Boot time transitions

Use case	Average
Cold Boot	1*55.56* 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)	2.059 mA
NON_CON ADV (Tx) at 4 dBM (250 msec interval, 12-byte payload) (Full mode)	2.036 mA
NON_CON ADV (Tx) at 4 dBM (1000 msec interval, 12-byte payload) (Full mode)	2.019 mA
NON_CON ADV (Tx) at 4 dBM (1200 msec interval, 12-byte payload) (Full mode)	2.018 mA
BLE Passive Scan with 10 ms window and 400 ms interval (Full mode)	2.171 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	1.261 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)	2.158 mA
Periodic APSS + BTSS wake-up (250 msec interval) for NON_CON ADV (Tx) at 4 dBm (12-byte payload) (LP mode)	1.038 mA
Periodic APSS + BTSS wake-up (1000 msec interval) for NON_CON ADV (Tx) at 4 dBm (12-byte payload) (LP mode)	0.261 mA
Periodic APSS + BTSS wake-up (1200 msec interval) for NON_CON ADV (Tx) at 4 dBm (12-byte payload) (LP mode)	0.216 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)	257.823 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)	55.035 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)	8.112 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)	7.122 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)	10.06 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)	10.154 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)	10.827 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)	354.588 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)	74.772 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)	10.762 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)	9.157 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)	12.479 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)	12.502 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)	13.114 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)	505.751 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)	105.771 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)	14.655 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)	12.369 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)	16.122 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)	16.285 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)	16.47 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)	419.396 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)	87.62 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)	12.262 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)	10.5 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)	13.762 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)	13.867 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)	14.012 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)	71.442 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)	10.245 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)	8.717 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)	11.036 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)	11.288 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)	96.652 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)	13.234 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)	11.326 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)	13.823 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)	225.541 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)	29.291 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)	24.792 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)	27.179 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)	183.384 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)	24.337 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)	20.376 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)	22.369µA

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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