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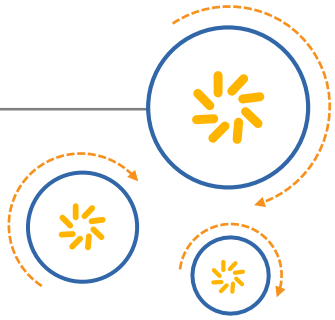

MSM8996 Linux Android Current Consumption Data

User Guide

80-NT204-7 E

June 10, 2016

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Revision history

Revision	Date	Description
A	February 2016	Initial release
B	August 2015	Numerous changes in Chapter 2; Updated Section 4.1, Table 4.1, and Table A.1
C	August 2015	Numerous changes in Chapter 2
D	November 2015	Added Appendix A; Numerous changes in Chapter 4
E	June 2016	Numerous changes in chapter 2; Updated tables in Sections 4.2.1, 4.2.2, and 4.2.3

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1 Introduction

1.1 Purpose

This document provides current consumption data for the MSM8996 device and software. The consumption is highly dependent on software optimization.

This document is intended for engineers and managers who are currently using or are planning to use the MSM8996 device and/or software.

Information provided in this document is subject to change and comments are provided for informational use only. No commitments are expressed or implied.

1.2 Expectations

1.2.1 Device variation

Current consumption measurements recorded in this document are measured on QTI reference hardware and hence may not match current consumption measurements of a customer design.

Variations in measurement compared to the customer device can be caused by the CDP using different components than the customer design, e.g., memory ICs, display ICs, peripheral ICs, etc. Potential variations in measurement compared to an identical CDP loaded with identical software are caused by normal silicon process variations in Qualcomm Technologies, Inc. (QTI) and non-QTI components and power-supply tolerances. Differences in measurement technique, equipment, or temperature also cause variations. Other factors such as floating CMOS inputs or taking measurements at maximum Tx power can affect the reliability and repeatability of current consumption measurements.

Targets and measurements contained herein are typical values measured on a single CDP in a lab bench environment (room temperature). They are provided as a relative reference point, not as an absolute goal to attain.

1.2.2 Test-case selection

The test cases selected for measurement in this document are intended to provide a wide range of coverage. Although the specific conditions a customer needs may not appear in this list, generally there is a test case or combination of test cases that is close enough to the customer requirement to be used for a baseline comparison.

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1.3 Customer-platform power optimization

Customer-platform power optimization is best started with comparisons to the QTI platform under one or more baseline test conditions given in this document. After the customer platform and CDP8996 platform are compared and optimized in this known test case, differences between the baseline and required test cases can be measured on the customer platform and analyzed with QTI for optimization, if necessary.

Power optimization of a customer platform is an iterative process that involves the following:

- Identifying power consumption differences between a customer platform and QTI platform in similar test conditions
- Determining the source of those differences, which could be test conditions, hardware-configuration differences, software-control differences, etc.
- Deciding whether the source is an error that must be corrected or is intentional
- Correcting errors that are identified
- Repeating until all differences are corrected or determined to be intentional

As customers update their hardware platform or integrate new software releases from QTI, power consumption may change, triggering additional power optimization. It is important to understand that during the software development process, current consumption for some test cases may increase, as power improvement features may need to be delayed to a later release to meet stability requirements. Figure 1-1 is a representation of customer power consumption vs CDP power consumption.

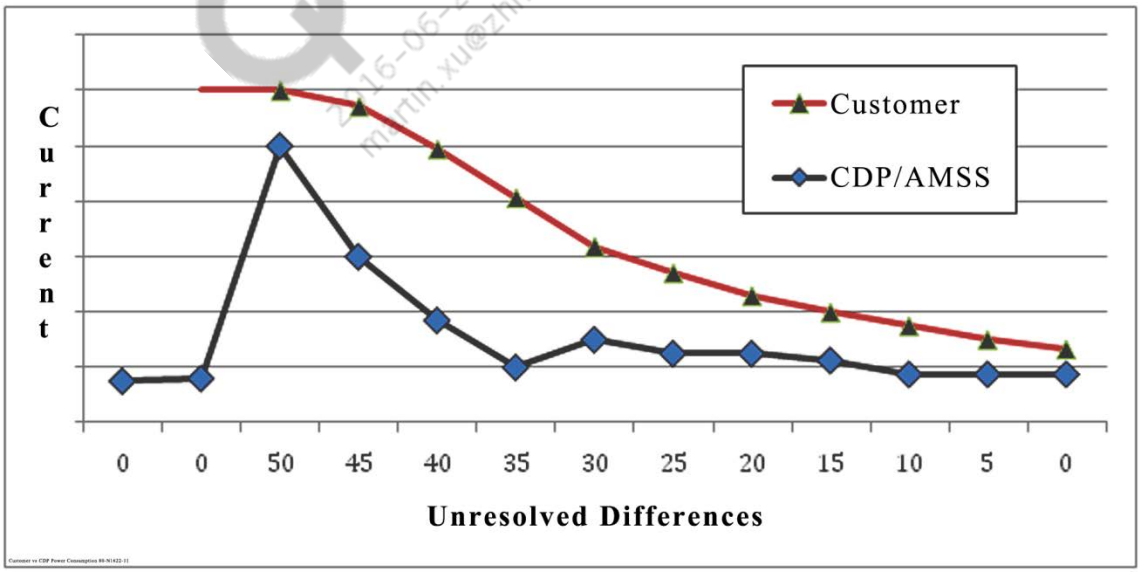

Figure 1-1 Representation of customer vs CDP power consumption

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When discussing power optimization with QTI, provide as much information as possible, including the following:

- Specific test conditions
- Available history of power measurements for these test conditions
- Goals for power optimization
- Recent hardware or software changes that may have affected power consumption
- Power consumption breakdown per voltage rail, if possible

1.4 Publication timeline for power measurement data

This document will be updated approximately monthly with the latest available current consumption goals and battery-level measurements. Following the Feature-Complete (FC) software release, key power-rail breakdowns will be included as they become available. Measurement of these power-rail breakdowns will depend upon customer requests for specific test cases and software releases. Table 1-1 lists the publication timeline for current consumption data.

Table 1-1 Timeline for publishing current consumption data

Information provided	Guideline for availability
Target current consumption for commercial software release	Available at the time of hardware engineering samples
Key power-rail breakdowns for Table 2-1 test cases	Available on an as-requested basis for FC and later software releases; submit a request at https://support.cdmatech.com

1.5 Note regarding GPIO configuration

To minimize current consumption, OEMs must configure unused GPIOs in one of the following ways:

- As output in their logic low state
- As input with their internal pull-downs enabled

In addition, any GPIO pin configured as an input that is normally driven by a peripheral device (Bluetooth®, WLAN, NFC, etc.) must be programmed with an internal pull-down when the corresponding peripheral signal is set to its high-impedance state. The GPIO should then be reprogrammed to remove the pull-down when the peripheral signal is taken out of its high-impedance state.

These steps are required to prevent unwanted oscillation or high current leakage on device pins. For additional information, see *Configuration of Input Pins During Device Sleep* (80-VN499-7).

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1.6 Conventions

Function declarations, function names, type declarations, attributes, and code samples appear in a different font, for example, `#include`.

Code variables appear in angle brackets, for example, `<number>`.

Commands to be entered appear in a different font, for example, **`copy a:*.* b:`**.

Button and key names appear in bold font, for example, click **Save** or press **Enter**.

Shading indicates content that has been added or changed in this revision of the document.

1.7 Technical assistance

For assistance or clarification on information in this document, submit a case to Qualcomm Technologies, Inc. (QTI) at https://createpoint.qti.qualcomm.com/.

If you do not have access to the CDMATech Support website, register for access or send email to support.cdmatech@qti.qualcomm.com.

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2 Test setup

NOTE: Numerous changes were made in this chapter.

2.1 Devices used for testing

The following hardware and software configurations are used for the measurements:

- MSM8996, PM8996, and PMI8994 devices are installed on the specially configured MSM8996 RCM evaluation platform for power measurement purposes only; memory configuration is 3 GB (4×6 Gbit) LPDDR4
- Current consumption measurement is performed using the QTI Kratos power measurement system on the CDP-RCM (or RCM) platform. Figure 2-1 depicts the system.
- The following display resolution is used:
  - WQXGA (2560×1600), dumb panel, and Portrait mode panel orientation
  - WQXGA (2560×1600), smart panel, and Portrait mode panel orientation

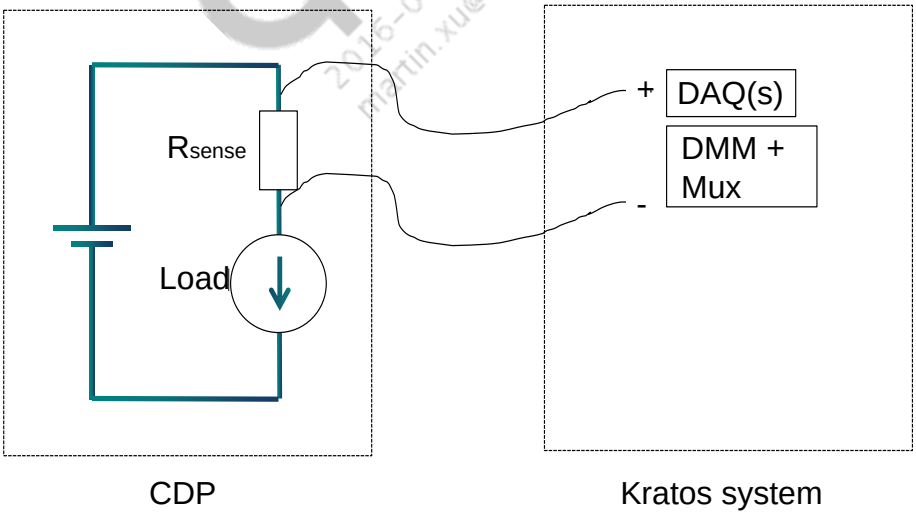

Figure 2-1 CDP-RCM and Kratos system

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Table 2-1 lists the chipset devices used on the MSM8996 power measurement platform for each set of tests. For complete list of MSM8996 device revisions, refer to *MSM8996 Device Revision Guide* (80-NT204-4). Refer to the respective Device Revision Guides for the remaining list of devices on these platforms.

Table 2-1 Chipset ICs tested

QTI IC
MSM8996
PM8996
PMI8994/PMI8996
PMK8001
SMB1351
QCA6174A
WCD9335
WTR3925
WTR4905
WSA811x

2.2 Air interface test equipment

Chipset current consumption is measured with the MSM8996 RCM platform configured for an air interface operating in a specific mode. The tested modes are defined in Chapter 3. The following test equipment is used to emulate the air interface:

- Most CDMA measurements – Agilent 8960 *Wireless Communications Test Set*
- Most LTE measurements – Anritsu MT8820C Radio Communication Analyzer
- Most WCDMA measurements – Agilent 8960 or the Anritsu MT8820C *Radio Communication Analyzer*
- Most GSM measurements – Agilent 8960 or the Anritsu MT8820C Radio Communication Analyzer
- Most LTE CA measurements – CMW500 Wideband Radio Communication Tester
- Most VoLTE measurements – PXT Wireless Communication Test Set

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2.3 Power tree

The power tree for the MSM8996 chipset shows the power rails for other devices such as the QCA6174A and WCD9335, and external circuitry such as eMMC, UFS, SD card, display, camera, and sensors. The RCM channel information for the RCM-configured CDP is also shown on the power tree.

The current consumption numbers listed in the power tree are estimated worst-case currents. These numbers are preliminary and are intended for PCB routing reference only. In a real world scenario, all the loads at a node will not run concurrently with peak consumption.

- Actual currents from third-party components such as eMMC, display, camera, sensors, and so on may be different than what is shown in the grid
- For the over-current protection battery specification, refer to *PM8994/PM8996 and PMI8994/PMI8996 Power Management ICS Design Guidelines/Training Slides* (80-NJ117-5)
- For more information, refer to *Battery Current Limit (BCL) Overview and Tuning* (80-NM328-709) for more details.

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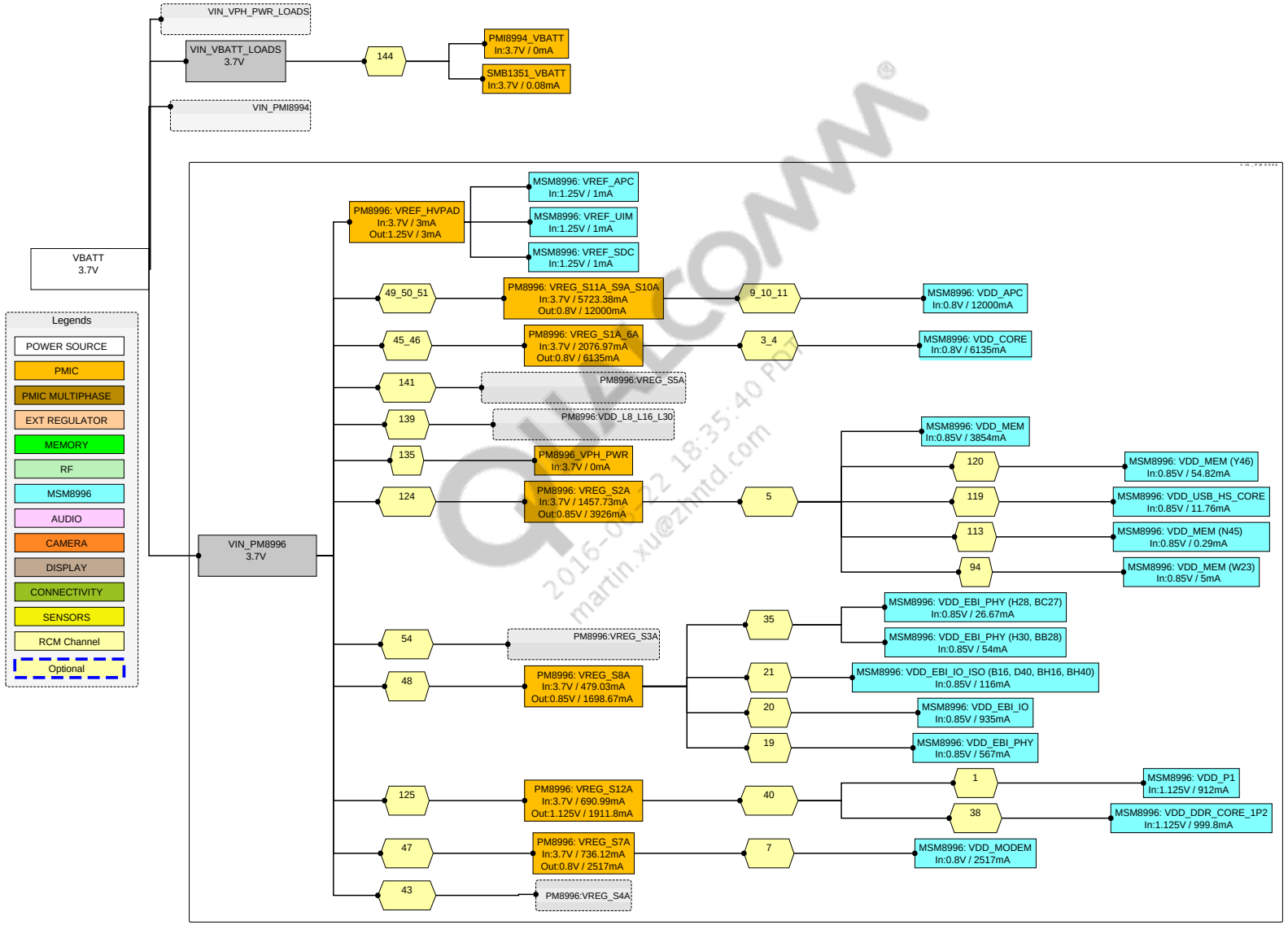

Figure 2-2 MSM8996 power grid (1 of 8)

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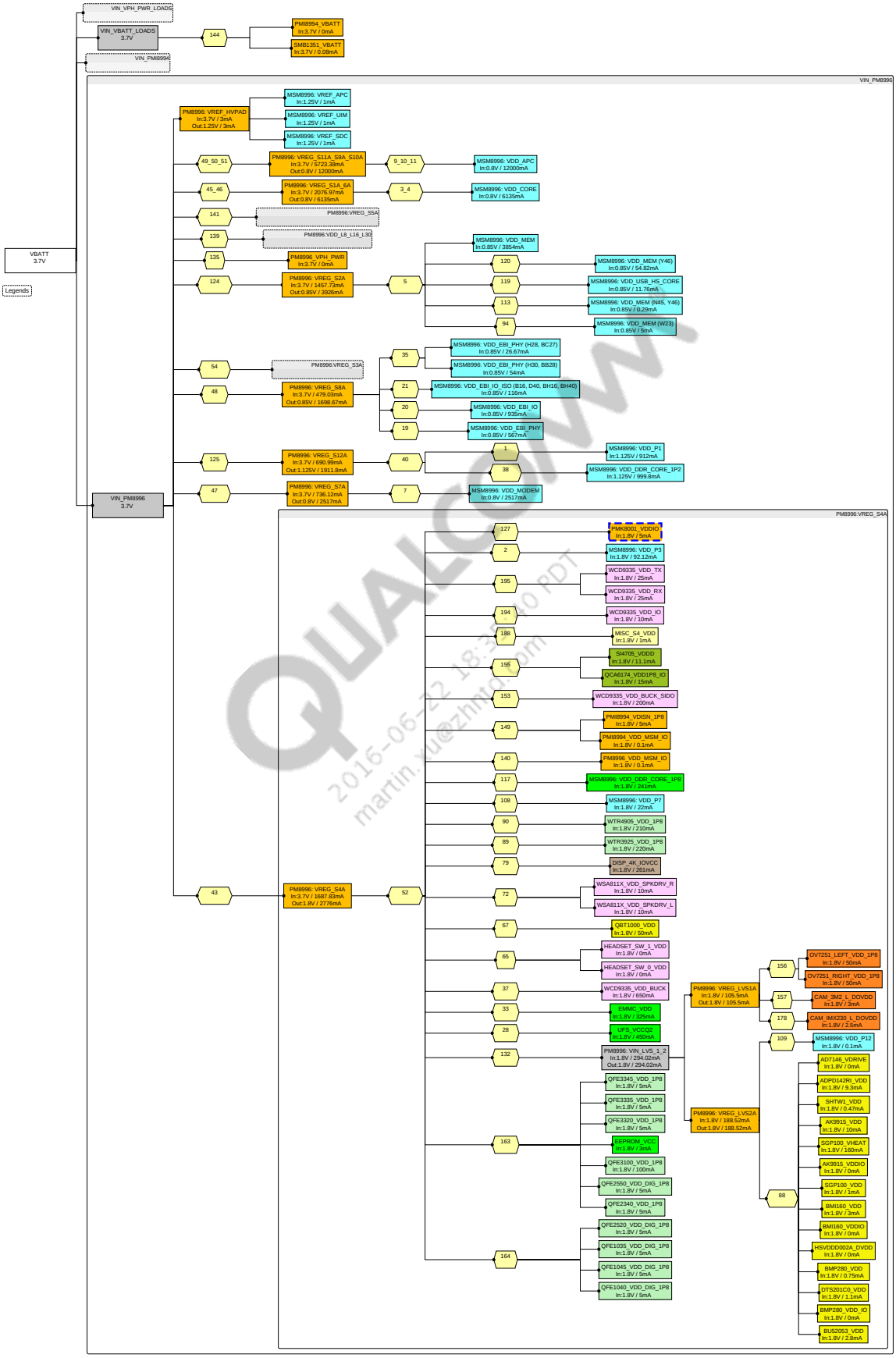

Figure 2-3 MSM8996 power grid (2 of 8)

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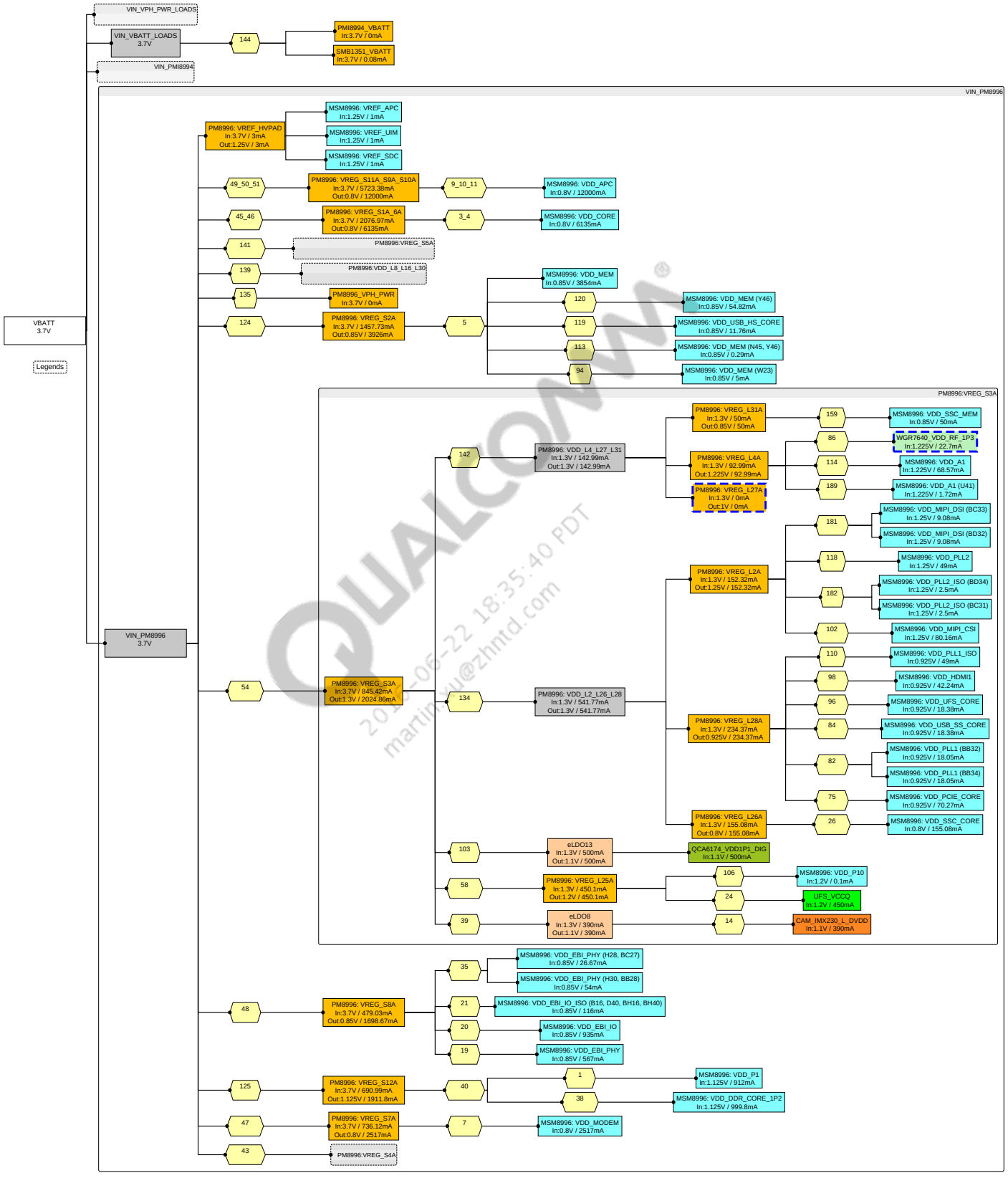

Figure 2-4 MSM8996 power grid (3 of 8)

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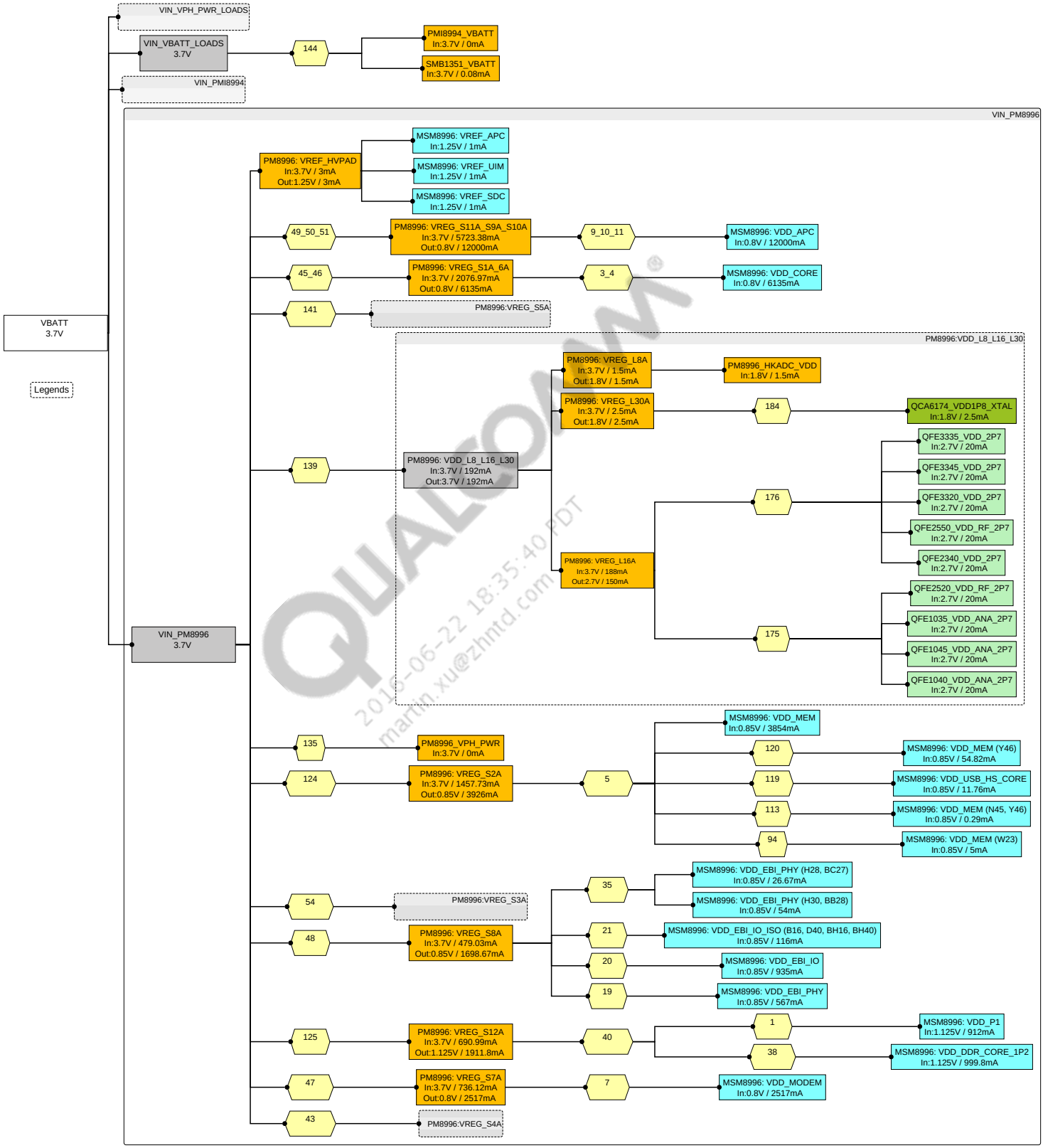

Figure 2-5 MSM8996 power grid (4 of 8)

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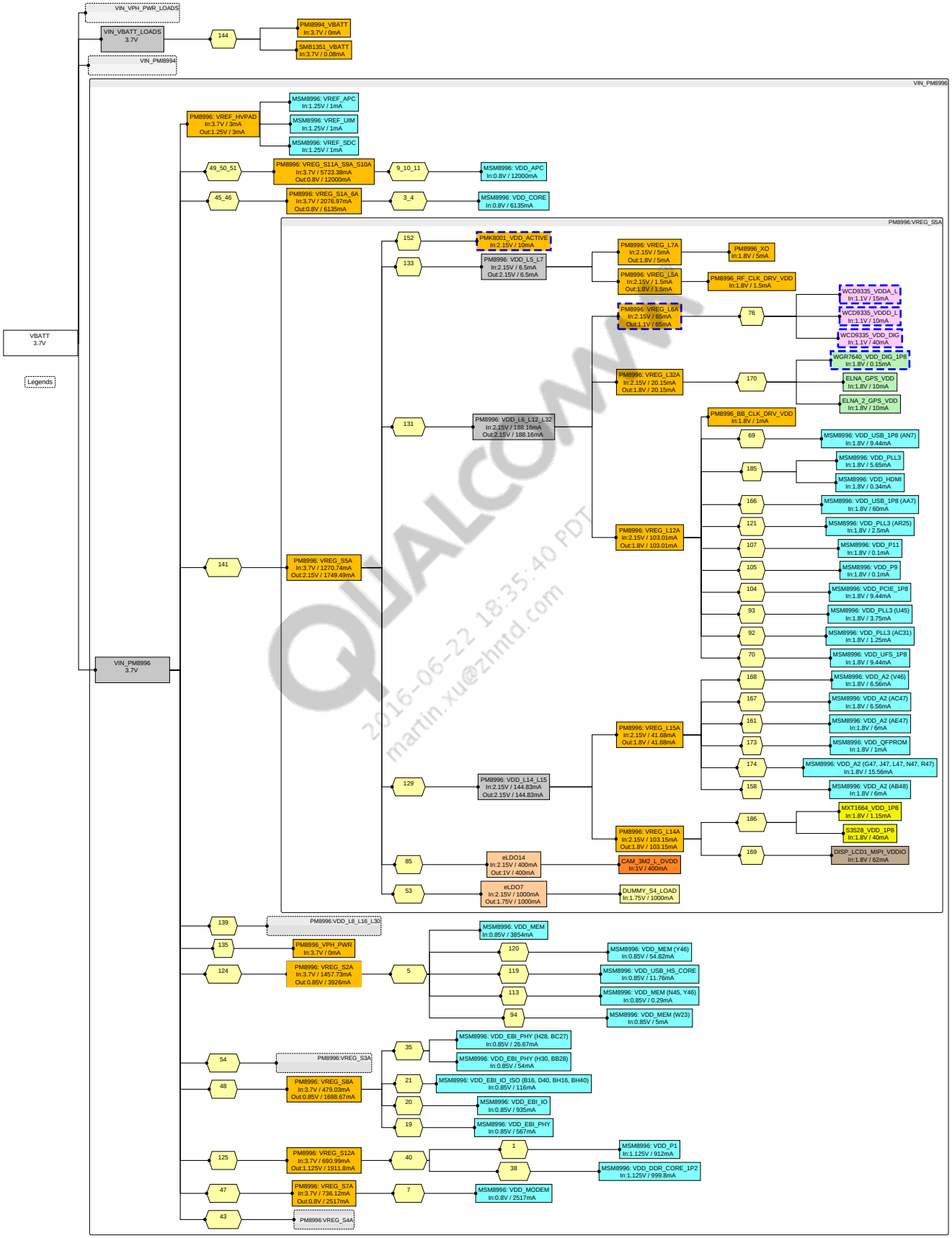

Figure 2-6 MSM8996 power grid (5 of 8)

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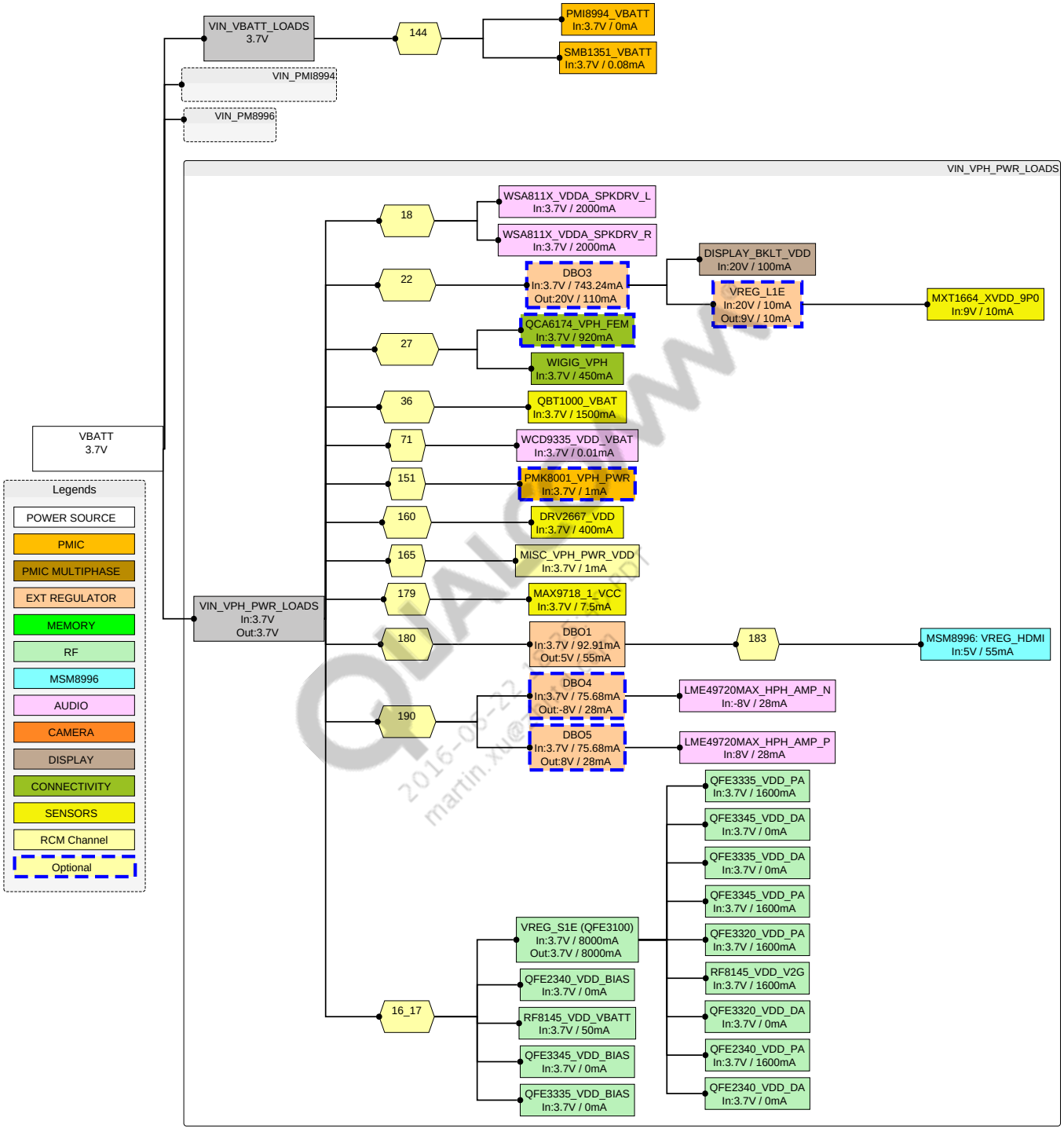

Figure 2-7 MSM8996 power grid (6 of 8)

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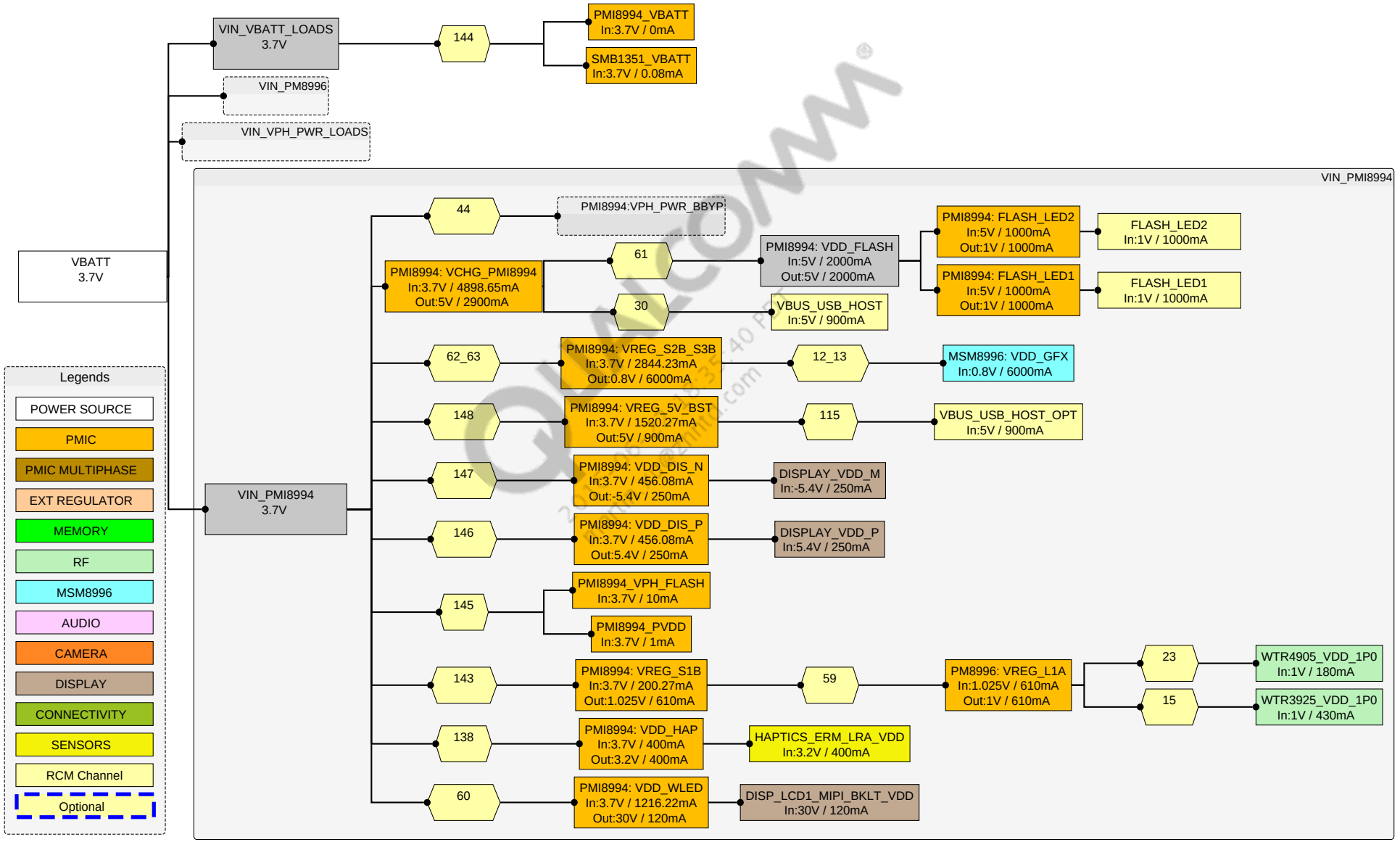

Figure 2-8 MSM8996 power grid (7 of 8)

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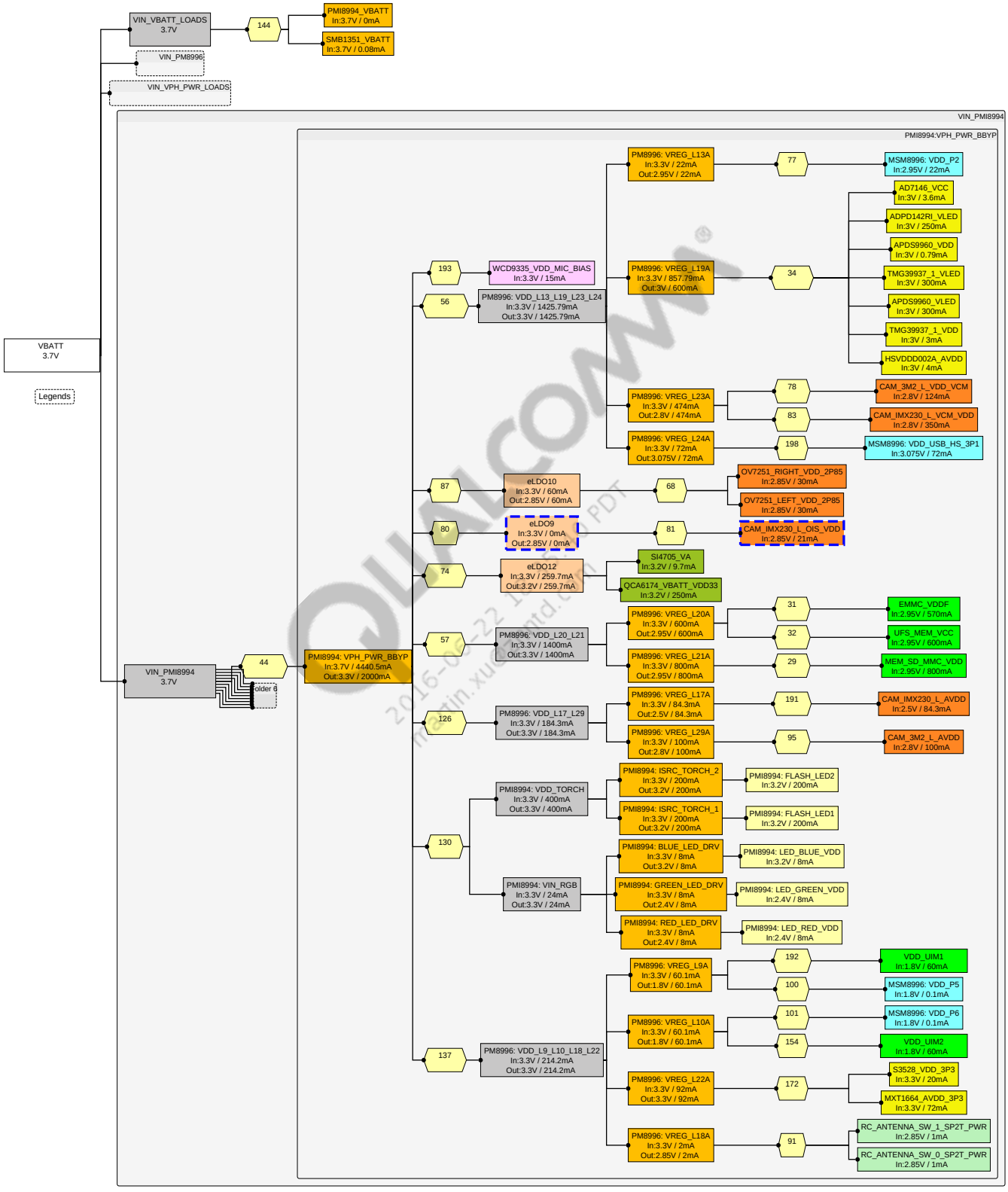

Figure 2-9 MSM8996 power grid (8 of 8)

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3 Test definitions

Definitions of test conditions (air interface configuration, multimedia, display activity, lighting status, etc.) for the current consumption tests are listed in Table 3-1.

Table 3-1 Test definitions

Test case	Code	Operating band	Definition
Airplane mode	AIR1	NA	Airplane mode is selected through the UI; if no UI support, configure modem in low power mode with no wake-ups for paging processing; backlight and display off
WCDMA (2.56s) Standby	WS1	IMT	WCDMA idle, Stationary A, Discontinuous Receive (DRx) 2.56 sec, RxAGC at phone ~ -50 dBm, duration 64 sec; Sintrasearch (intrafrequency) and Sintersearch (interfrequency) CPICH E_c/I_0 < -10 dB; backlight and display off
CDMA (5.12s) QPCH Standby	CS2	Cell	CDMA QPCH Standby mode, SCI = 2 (5.12 sec), RxAGC at phone ~ -50 dBm, single sector, no neighbors; cell band; backlight and display off
GSM (1.18s) Standby	GS1	PGSM	GPRS standby, MFRM5 (1.17 sec), RxAGC at phone ~ -50 dBm, PGSM, no neighbor, duration 59 sec; backlight and display off
LTE FDD (2.56s, 10 MHz) Standby	LS1	B13	LTE Standby mode, DRX = 2.56 sec, RxAGC at phone ~ -50 dBm, no neighbors, duration 64 sec; backlight and display off
LTE TDD Standby (2.56s, 20 MHz)	LS4	B41	LTE TDD Standby mode, DRX = 2.56s, ULDL2 (20 MHz), SSF#7, B41, Rx power level -50 dBm at phone antenna connector, measurement duration 64 sec; Sintra = 0 and Snonintra = 0, no neighbor cells, backlight and display off; EPRE= -50 dbm/kHz
LTE FDD CDRX with 320 ms long CDRX cycle , 10 MHz	CDRXS1	B13	LTE FDD CDRX Standby with idle DRX = 1.28s, RxAGC at phone ~ -50 dBm; no neighbors; display/backlight is off; UE camps on CDRX with no traffic; RRC idle timer is set to a very high value to ensure RRC connection release is not sent; CQI reporting in the first subframe; 40 ms CQI reporting interval CDRX params: 320 ms long CDRX cycle; 200 ms inactivity timer; 10 ms on duration; retransmission time 2 ms; disable short_CDRX_cycle; BW, 1 MHz
TD-SCDMA (1.28s) Standby	TCS1	B34	TD-SCDMA idle Stationary A, DRX 1.28 sec, Rx power level -50 dBm at phone antenna connector, test duration 64 sec; Sintrasearch (intrafrequency) and Sintersearch (interfrequency) CPICH E_c/I_0 is ~ -15 dB; backlight and display off
CDMA Talk, BC0, + 0 dBm	CT1	Cell	CDMA-only mode, muted, empty frames on UL and DL, total Tx = 0 dBm, RxAGC at phone ~ -50 dBm, EVRC RC3 full rate, no headset, cell band; backlight and display off
WCDMA Talk + 0 dBm, B1	WT1	IMT	WCDMA AMR NB voice, muted; empty frames on UL and DL; total Tx 0 dBm, RxAGC at phone ~ -50 dBm; IMT; no RxD; backlight and display off; default MIC settings enabled in software

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Test case	Code	Operating band	Definition
GSM Talk 5 dBm, no DTX	GT1	PGSM	GSM full-rate voice; UL muted; DTx off; empty frames on UL and DL, total Tx = 5 dBm, RxAGC at phone ~ -50 dBm, PGSM, 100% voice activity; backlight and display off
VoLTE FDD 10 MHz 0 dBm 40% voice activity + 40% listen state + 20% silent state, 40 ms CDRX, dynamic scheduling, B13	VoLTE1	B5	Embedded LTE AMR-WB full-rate voice; Tx power 0 dBm, LTE 10 MHz bandwidth, 40 ms CDRX, HARQ: 4; dynamic scheduling in UL and DL; 40% voice activity + 40% listen state + 20% silent state; backlight and display off; on-duration of 2 ms; inactivity timer of 2 ms 1. Average the power over three runs 1a. First run with 0% voice activity (play 100% VA file in the remote device, mute local device) 1b. Second run with 100% voice activity (mute remote device, play 100% VA file in the local device) 1c. Third run with 0% activity with both devices (mute remote device and local device)
VoLTE TDD 40 ms DRX, 20 MHz, + 0 dBm, B7, SP/SR-mask	VOLTE6		Embedded LTE AMR-WB full-rate voice, transmit power 0 dBm, LTE TDD 20 MHz bandwidth, UL/DL config1, SSF7, 40 ms CDRX, HARQ:4 dynamic scheduling in UL and DL, 40% voice activity + 40% listen state + 20% silent state, backlight and display off, on-duration of 2 ms, inactivity timer of 2 ms 1. Average the power over three runs 1a. First run with 0% voice activity (play 100% VA file in the remote device, mute local device) 1b. Second run with 100% voice activity (mute remote device, play 100% VA file in the local device) 1c. Third run with 0% activity with both devices (mute remote device and local device)
TD-SCDMA talk, B34	TCT1	B34	TD-SCDMA voice, muted; empty frames on UL and DL; total Tx 0 dBm; Rx power level -50 dBm at phone antenna connector; B34, backlight and display off
TD-SCDMA HSDPA 2.8 Mbps 0 dbm RXD Off	TDHS1E		TD-SCDMA HSDPA 2.8 Mbps; forced RXD off; embedded full stack call Test mode, without USB; UE Tx Pwr 0 dbm, Ior at -45 dbm; channel coding HSDPA RMC; 16 QAM; VRC; backlight and display off; band A/band 34/39 (2011/1950 MHz UL/DL)
Embedded EVDO data DL 3.1 Mbps, BC0, RxD Off, 0 dBm	DD2E	Cell	EV-DO data DL at 3.1 Mbps [Rev A]; 0 dBm on UL; single carrier; Tx 0 dBm; RxD disabled; CELL band, with USB; CELL power or Ior = -45 dBm, with rake receiver
HSPA+DC Cat 24 (42 Mbps DL, B1), with R99 UL; Tx at 0 dBm, RxD on; embedded	HS62E	IMT	HSPA+ Cat 24 data socket initiated through UI; R99 UL; dual carrier [42 Mbps]; UDP, 64 QAM; RxD On; IMT band
LTE FDD Cat 3 (68/23 DL/UL, B13), 0 dBm, 10 MHz	LTE1E	B13	LTE Data Cat 3, 2x2 MIMO, RB 50, MCS 28, 64 QAM, CP normal; PCFICH 3 sym, DCI 1A, Type 0, PHICH 1/6; Tx 0 dBm, Rx -45 dBm, DL spectrum bandwidth 10 MHz; backlight and display off, embedded; bi-directional data transfer (UDP)
LTE TDD Cat 3 (60/19 Mbps DL/UL, B38) 0 dBm, 20 MHz, MIMO	LTE5E	B38	LTE TDD Data Cat 3; ULDL1; SSF#7; 2x2 MIMO; RB 100; MCS 23; 64 QAM; B38; CP normal; PCFICH 3 sym; DCI 1A; Type 0; PHICH 1/6; Tx 0 dBm; DL spectrum bandwidth 20 MHz; backlight and display off; bi-directional data transfer (UDP)

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Test case	Code	Operating band	Definition
LTE FDD Cat 3 (100/50 DL/UL, B7), Embedded, 0 dBm, 20 MHz bandwidth	LTE6E	B7	LTE data Cat 3, 2x2 MIMO, RB 100, MCS 23, 64 QAM, CP normal; PCFICH 3sym, DCI 1A, Type 0, PHICH 1/6, Tx 0 dBm, DL spectrum BW 20 MHz; backlight and display off; embedded
LTE FDD Cat 3 2xCA, 10 MHz + 10 MHz (100/25 DL/UL, B17tx + B4), 0 dBm	LTE8E	B4, B17	Carrier aggregation ,10 MHz bandwidth from one carrier and 10 MHz bandwidth from second carrier; each carrier uses this parameter: 2x2 MIMO, RB 50, MCS 23, 64 QAM, CP normal; PCFICH 3sym, DCI 1A, DL Res. PHICH 1/6, Tx 0 dBm, TM3; backlight and display off, LTE data socket is initiated through UI; embedded
LTE FDD Cat 6, CA, 20 MHz + 20 MHz (300/50 DL/UL, B3tx + B7), 0 dBm	LTE10E	B3, B7	Carrier aggregation, 20 MHz BW from one carrier and 20 MHz BW from second carrier; backlight and display off, LTE data socket is initiated through UI; embedded
LTE FDD Cat9, 3xCA, 20 MHz + 20 MHz + 20 MHz (450/50 DL/UL, B3 (Tx) + B7 + B20), 0 dBm	LTE21E		Carrier aggregation, 20 MHz BW from all three carriers; backlight and display off, LTE data socket is initiated through UI – Embedded, Tx at 0 dBm; RB = 100 MCS = 28
GNSS 1 Hz Trk high sensitivity + WS1	GNSS1	IMT	GLONASS standalone 1 Hz tracking high sensitivity; backlight and display off
GPS 1 Hz Trk (DPO) + WS1	GPS2	IMT	GPS standalone 1 Hz tracking (DPO); GPS standalone 1 Hz tracking in strong signal conditions; backlight and display off
MP3 at 44.1 kHz 128 kbps stereo (Offload mode)	AU4A		1. System in Airplane mode 2. Audio file pushed to SD card 3. 32 ohm stereo headset 4. Headset calibration at 0.1 mW, if applicable 5. LCD display = Off
Listen keyword detection using 16 KHz mono signal, 100% silence, user verification Off, single keyword	AU34A		1. System in Airplane mode 2. 2Audio test file played through PC using Sound Card USB Sound Wave 7.1 Pro (order externally) 3. Special headset-in cable connected through headset jack [MCN: 45-NJ442-6] 4. Volume on PC and Windows media player: 50% 5; LCD display = Off 5. GPS = Off Wi-Fi Off 6. Standard AIR1 device settings 7. TestVector played on PC : 100p_silence.wav 8. Time duration of power capture: 30s (after display goes Off and after ~30s delay, start test vector playback on PC and immediately start power capture for 30s, file duration is 45 sec or greater) See *Power Consumption Measurement Procedure for MSM (Android-Based)/MDM Devices* (80-N6837-1) for more details about the clip and the procedure

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Test case	Code	Operating band	Definition
Listen keyword detection using 16 KHz mono speech, 100% speech, user verification Off, single keyword	AU35A		1. System in Airplane mode 2. Audio test file played through PC using Sound Card USB Sound Wave 7.1 Pro (order externally) 3. Special headset-in cable connected through headset jack [MCN: 45-NJ442-6] 4. Volume on PC and Windows media player: 50% 5; LCD display = Off 5. GPS = Off Wi-Fi Off 6. Standard AIR1 device settings 7. TestVector played on PC: 100p_speech.wav 8. Time duration of power capture: 30s (after display goes Off and after ~30s delay, start the test vector playback on PC and immediately start power capture for 30s, file duration is 45 sec or greater) See *Power Consumption Measurement Procedure for MSM (Android-Based)/MDM Devices* (80-N6837-1) for more details about the clip and the procedure
Static image display at fullscreen resolution at VSync	LCD04A		1. System in Airplane mode 2. LCD display = On, screen timeout set to 30 min 3. Default display brightness 4. Auto brightness feature disabled, if applicable
30 fps at HD 1080p decode 20 Mbps AAC+ 128 kbps 44 KHz stereo	QTC88A		1. System in Airplane mode 2. Video file pushed to SD card 3. 32 ohm stereo headset 4. Headset calibration at 0.1 mW 5. LCD display = ON, screen timeout set to 30 min 6. Default display brightness 7. Auto brightness feature disabled, if applicable See *Power Consumption Measurement Procedure for MSM (Android-Based)/MDM Devices* (80-N6837-1) for more details about the clip and the procedure
30 fps at UHD 8b H.264 42 Mbps speedboat, AAC + 128 kbps 44 KHz stereo	QTC101A		1. System in Airplane mode 2. Video file pushed to SD card 3. 32 ohm stereo headset 4. Headset calibration at 0.1 mW 5. LCD display = On, screen timeout set to 30 min 6. Default display brightness 7. Auto brightness feature disabled if applicable
60 fps at UHD 10b H.265 50 Mbps Speedboat, AAC + 128 kbps 44 KHz stereo	QTC106A		1. System in Airplane mode 2. Video file pushed to SD card 3. 32 ohm stereo headset 4. Headset calibration at 0.1 mW 5. LCD display = On, screen timeout set to 30 min 6. Default display brightness 7. Auto brightness feature disabled, if applicable

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Test case	Code	Operating band	Definition
30 fps at HD 1080p 20 Mbps normal power encode at full screen resolution, at Vsync, 16 MP, AAC 128 kbps 44.1 KHz stereo	QMC31A		1. System in Airplane mode 2. Attach the camera sensor (only for XPM) 3. Default display brightness 4. Auto brightness feature disabled, if applicable 5. Camera settings to default 6. FPS set at default value of 30 7. Via the camera application, set encode to Normal Power Encode 8. AAC + audio encode 96 kpbs, 48 KHz stereo; recommended audio recording chain: HPF > Audio Mic Gain > EANS > IIR > AIG > MBDRC > Volume (COPP) >Volume (POPP)
ZSL camera preview at 21 MP, 24 fps at display resolution (Tj = 25°C)	QMC38A		1. Use MCC chart as target; MTP/RCM/test device should be oriented so camera is in Landscape mode; place device such that the MCC chart covers the entire field of view of the camera 2. Lighting conditions: 500 lux; ensure light source is pointed at the MCC chart and not visible in camera field of view 3. When device boots up, load appropriate QCN file for target using QPST software download option and then enable Airplane mode; turn off GPS; set display sleep time to maximum duration available; turn off daydream; turn off other sounds; run the following adb command to disable caching: `adb shell setprop persist.camera.mem.usecache 0` adb root may need to run before adb commands run 4. Disconnect USB and turn off display; wait 2 to 3 min to check whether device meets Rock Bottom Sleep Current (RBSC) goal 5. If RBSC number meets acceptable level defined for target, launch camera app in Camera mode 6. In camera settings menu, set resolution to full, quality to High, and Zero Shutter Lag (ZSL) On 7. Set White Balance to Auto; CAF and AEC are always On in ZSL mode 8. Disable Image Stabilization (IS), HDR, and other effects; turn off Face Detection if it is On 9. Verify preview FPS is at expected rate 10. Start measurement
Flatland Omnibox Powerlift [60:27] offscreen, 60 fps	QGC30A		1. Airplane mode 2. Display On 3. Install v6.3.3 of this app; Fullscreen mode of the platform, FPS (Fullspeed, capped by platform VSYNC); note this app is also part of Powerlift, so after installation, Powerlift [06:00] (QGC23A) is replaced with this app; reinstall the intended app if needed
BT (1.28 sec) sniff and page scan + WS1	BT2	IMT	Bluetooth headset bonded, connected, and UE accepting other Bluetooth connection requests; Bluetooth sniff cycle 1.28 sec and page scan cycle of 1.28 sec; backlight and display Off 1. Take baseline current (WCDMA_Standby) from modem power team's results (WS1) 2. Add Bluetooth Sniff/Scan delta on top of WS1 baseline 3. Enter sum of current from step 1 and 2 into QUTE

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Test case	Code	Operating band	Definition
DTIM1 at 2.4 GHz screen room + WS1	WLS1	IMT	1. Turn on Airplane mode 2. In the config file, Listen Interval = 100 ms and BET is enabled 3. Turn on Wi-Fi and connect to the AP 4. Turn off the display 5. Measurement should be in a shielded environment Steps to enter data 1. Take baseline current (WCDMA_Standby) from modem power team's results (WS1) 2. Add DTIM1 delta on top of WS1 baseline
DTIM5 at 2.4 GHz screen room + WS1	WLS5	IMT	1. Turn on Airplane mode 2. In config file, Listen Interval = 100 ms and BET is enabled adn gEnableDynamicDTIM=5 3. Turn on Wi-Fi and connect to the apps processor 4. Turn off Display 5. Measurement should be in shielded environment Steps to enter data 1. Take baseline current (WCDMA_Standby) from modem power team's results (WS1) 2. Add DTIM5 delta on top of WS1 baseline
Accelerometer batching background processing + AIR1	SNS6A		Accelerometer data batched inside sensor at 20 Hz and read by SSC periodically waking up at low rate (rate dependent on sensor part, 1 Hz to 1.2 Hz) with FIFO interrupt from sensor; baseline scenario of Airplane mode (AIR1); no communication to apps processor, Display off
Accelerometer active processing + LCD04A	SNS4A		Accelerometer data sampled by SSC periodically at low rate (rate dependent on sensor part, typical range 10 Hz to 15 Hz) with baseline scenario Static Image mode (LCD04A); the accelerometer data is periodically transferred to the apps processor, display on
Web Browsing over Wi-Fi (Lorem with UI)	WB10A		High-complexity web page with UI navigation (20s), Airplane mode 1. Install SWE browser APK 2. Open SWE browser APK and install bookmarks 3. Install AutoTest and Lorem scripts (modify Lorem script for your IP address) 4. Enable Airplane mode and Wi-Fi 5. LCD display = On, screen timeout set to 30 min 6. Default display brightness 7. Auto brightness feature disabled, if applicable 8. Execute the Lorem ATS script 9. Measure average current over a period of 60 sec
Video streaming over Wi-Fi (1080p 3.5 Mbps) 2 GHz, 11n, 2x2 MCS7 HT20	VS7A		1. Bookmark server URL for video streaming 2. Stop/kill other irrelevant running apps 3. Enable Airplane mode (disable 3G/4G), enable Wi-Fi 4. Insert headphone and set volume to 50% 5. Launch video streaming from bookmark in browser 6. Set capture time to 90 sec; start measuring power when video begins to play 7. Save waveform and measure total power from battery waveform

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Test case	Code	Operating band	Definition
LTE FDD Cat9, 3xCA, 20 MHz + 20 MHz + 20 MHz (450/50 DL/UL, B3 (Tx) + B7 + B20), 23 dBm	LTE21E		Carrier aggregation, 20 MHz bandwidth from all three carriers; backlight and display off; LTE data socket is initiated through UI – Embedded; Tx at 0 dBm, RB = 100 MCS = 28; record Tj for comparison with Tj goal mentioned in Power dashboard
T-rex HD 1080p, at 30 fps at full screen resolution at Vsync (Tj = 45°C)	QGC31AT		1. Install T-REX 30 FPS config file 2. Stop thermal engine `adb shell stop thermal-engine` 3. Set platform temperature value (Tj) as per chipset power dashboard recommendation, i.e. Tj goal 4. Launching T-REX app on phone 5. Unplug USB when temperature is stable 6. Start measuring power

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T-Rex HD 1080p, at 60 fps at full screen resolution at vsync (Tj = 65°C)	QGC29AT		1. Install T-Rex
			2. Stop the thermal engine
			`adb shell stop thermal-engine`
			3. Set frequency to 2.5 GHz and disable test wakelock; use the following commands:
			`adb devices`
			`adb wait-for-device`
			`adb root`
			`adb remount`
			`adb shell stop thermal-engine`
			`adb shell stop mpdecision`
			`adb shell "echo 1 > /sys/devices/system/cpu/cpu0/online"`
			`adb shell "echo 1 > /sys/devices/system/cpu/cpu1/online"`
			`adb shell "echo 1 > /sys/devices/system/cpu/cpu2/online"`
			`adb shell "echo 1 > /sys/devices/system/cpu/cpu3/online"`
			`adb shell "echo 2457600 > /sys/devices/system/cpu/cpu0/cpufreq/scaling_max_freq"`
			`adb shell "echo 2457600 > /sys/devices/system/cpu/cpu1/cpufreq/scaling_max_freq"`
			`adb shell "echo 2457600 > /sys/devices/system/cpu/cpu2/cpufreq/scaling_max_freq"`
			`adb shell "echo 2457600 > /sys/devices/system/cpu/cpu3/cpufreq/scaling_max_freq"`
			`adb shell "cat /sys/devices/system/cpu/cpu0/cpufreq/scaling_max_freq"`
			`adb shell "cat /sys/devices/system/cpu/cpu1/cpufreq/scaling_max_freq"`
			`adb shell "cat /sys/devices/system/cpu/cpu2/cpufreq/scaling_max_freq"`
			`adb shell "cat /sys/devices/system/cpu/cpu3/cpufreq/scaling_max_freq"`
			`adb shell start mpdecision`
			`adb shell "echo test > /sys/power/wake_lock"`
			`adb wait-for-device`
			`adb shell sync`
			`adb shell “echo test > /sys/power/wake_unlock”`
			4. Set platform temperature value (Tj) as per chipset power dashboard recommendation, i.e. Tj goal
			5. Launch T-Rex app on phone
			6. Unplug USB when temperature is stable
			7. Start measuring power

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Test case	Code	Operating band	Definition

30 fps at UHD, H.264 42 Mbps encode, 8 MP, AAC 128 kbps 44.1 KHz stereo (Tj = 65°C)	QMC35AT		1. Stop thermal engine adb shell
			`stop thermal-engine`
			2. Set platform temperature value (Tj) as per chipset power dashboard recommendation, i.e. Tj goal
			3. Ensure device area is well lit
			4. Set Awesome player
			`adb shell setprop media.stagefright.use-awesome 1`
			5. Disable caching
			`adb shell setprop persist.camera.mem.usecache 0`
			6. Enable Power_Save_mode
			`adb shell setprop vidc.debug.perf.mode 2`
			7. Launch noGPU-SnapdragonCamera Camera app
			8. After camera app is launched, disable FD in Camera mode before switching to camcorder
			9. Enable ZSL in Camera mode before switching to camcorder
			10. At camcorder screen, change video quality to 4K UHD and set white balance to Auto; above settings are one time and remain the same even if phone is rebooted
			11. Unplug USB after temperature is stabilized; start recording and after recording for 30 sec start measuring power

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Test case	Code	Operating band	Definition

30 fps at UHD, H.265 29 Mbps encode, 8 MP, AAC 128 kbps 44.1 KHz stereo (Tj = 65° C)	QMC40AT		1. Stop thermal engine adb shell
			`stop thermal-engine`
			2. Set platform temperature value (Tj) as per chipset power dashboard recommendation, i.e. Tj goal
			3. Ensure device area is well lit
			4. Set Awesome player
			`adb shell setprop media.stagefright.use-awesome 1`
			5. Disable caching
			`adb shell setprop persist.camera.mem.usecache 0`
			6. Enable Power_Save_mode
			`adb shell setprop vidc.debug.perf.mode 2`
			7. Launch noGPU-SnapdragonCamera Camera app
			8. After camera app is launched, disable FD in Camera mode before switching to camcorder
			9. Enable ZSL in Camera mode before switching to camcorder
			10. In camcorder screen, change video quality to 4K UHD and set white balance to Auto; above settings are one time and remain the same even if phone is rebooted
			11. Unplug USB after temperature is stabilized; start recording and after recording for 30 sec start measuring power

Manhattan 3.0, 1080p, single frame at 30 fps, off screen (Tj=75C)	QGC33AT		1. Download and install Manhattan 3.0 2. Stop the thermal engine `adb shell stop thermal-engine` 3. Set platform temperature value (Tj) as per chipset power dashboard recommendation, i.e. Tj goal) 4. Run Manhattan (30 FPS) 5. Unplug USB after temperature is stable 6. Start measuring power

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Test case	Code	Operating band	Definition
Asphalt8 (Tj = 65°C)	QGC53		1. Download the game from the Google play store 2. Launch the game, enter age, and click **Accept** 3. Ads appear, click **Next** five times 4. Daily Bonus screen appears, click **OK** 5. Click **Play** 6. Learn to Drive appears, click **No** 7. Game proceeds to a different game location 8. Select **NEVADA Classic** 9. Click **Next** 10. Click **Next** 11. Set Tsense temperature to 65C and manually verify it from the command by running Temp sense commands 12. After temperature reaches 65C, get ready to launch the race 13. Click **Start race** 14. Game loads required settings and graphics 15. Unplug the USB and wait until the game starts 16. Set measurement duration for 180 sec and keep it ready 17. After 3-2-1 countdown on the game appears, start measuring power (power should be measured when car race begins)

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Test case	Code	Operating band	Definition

UHD 30 fps, 8b, H264 local video playback + UHD 30 fps WFD mirroring, Miracast, 11n, 2 x 2 MCS7 HT20 (Tj = 65°C)	VS12T		1. Stop the thermal engine
			`adb shell`
			`stop thermal-engine`
			2. Push the video file into the phone
			`adb push Qtc101.mp4/sdcard/`
			`adb shell chmod 777 /sdcard/`
			`adb reboot`
			3. Turn on Wi-Fi in the Wireless & Networks section of phone settings
			4. Enable Wireless Display in the top-right corner of the Cast Screen in the Display setting; ensure the phone can detect the peer (it should appear)
			5. Set platform temperature value (Tj) as per chipset power dashboard recommendation, i.e. Tj goal
			6. Launch the Wfd Client app
			7. In the top-right corner, search for available peers and wait a few seconds
			8. Select the peer and press **Connect**
			9. After the connection is established, press **Start Session** (phone screen should appear on the monitor)
			10. Press the **Home** icon on the bottom of the phone screen to exit from the Wfd Client app
			11. Play the video from Gallery
			12. Unplug the USB after the temperature is stable
			13. Start measuring power

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Test case	Code	Operating band	Definition

UHD 60 fps, 10b, H265 local video playback + 1080P 60 fps WFD mirroring, Miracast, 11n, 2 x 2 MCS7 HT20 (Tj = 65°C)	VS13T		1. Stop the thermal engine
			
			`adb shell`
			`stop thermal-engine`
			
			2. Push the video file into the phone
			
			`adb push Qtc106.mp4/sdcard/`
			`adb shell chmod 777 /sdcard/`
			`adb reboot`
			
			3. Turn on Wi-Fi in the Wireless & Networks section of phone settings
			4. Enable Wireless Display in the top-right corner of the Cast Screen in the Display setting; ensure the phone can detect the peer (it should appear)
			5. Set platform temperature value (Tj) as per chipset power dashboard recommendation, i.e. Tj goal
			6. Launch the Wfd Client app
			7. In the top-right corner, search for available peers and wait a few seconds
			8. Select the peer and press **Connect**
			9. After the connection is established, press **Start Session** (phone screen should appear on the monitor)
			10. Press the **Home** icon on the bottom of the phone screen to exit from the Wfd Client app
			11. Play the video from Gallery
			12. Unplug the USB after the temperature is stable
			Start measuring power

Note: ▪ Test codes ending in A were performed in Airplane mode. ▪ See *Power Consumption Measurement Procedure for MSM (Android-Based)/MDM Devices* (80-N6837-1) for more details about the clip and the procedure			

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4 Chipset current consumption

4.1 Commercial software release target values – Top-level

Commercial software release target values are predictions of the current consumption for the commercial-quality software release for an operating system. These targets will not be updated after the commercial software has been released.

Commercial software release target values for the operational modes defined within Table 3-1 are listed in Table 4-1. These values reflect optimized hardware and software configurations. These values are normalized to a 3.7 V supply voltage.

The current ranges shown in Table 4-1 are projections of the current that is expected to be drained from the battery during each use case. These current ranges are the projected power consumption for a typical device (50th percentile) and a device at the 95th percentile of the device distribution. Devices that fall outside this range are to be expected. For maximum power specifications, QTI provides a power limit for AP Dhrystone power and sleep power of the VDD_CORE and VDD_MEM voltage rails. See *MSM8996 Device Specification* (80-NT204-1) for details.

The 14nm manufacturing process variation across parts lead to a power distribution. The exact shape and median of this distribution is expected to vary over time with the maturing of the 14nm process.

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Table 4-1 Commercial software release current consumption targets (in mA at 3.7 V)

	Test case	Code	Tj (C)	MSM8996 CS goal WQXGA dumb panel 3 GB – LPDDR4 (50%ile to 95%ile)	MSM8996 CS goal WQXGA smart panel 3 GB – LPDDR4 (50%ile to 95%ile)
Modem	Airplane mode	AIR1*	25	3.07 to 3.72	3.07 to 3.72
	WCDMA (2.56s) Standby	WS1	25	3.46 to 4.19	3.46 to 4.19
	CDMA (5.12s) QPCH Standby	CS2	25	3.36 to 4.07	3.36 to 4.07
	GSM (1.18s) Standby	GS1	25	3.76 to 4.55	3.76 to 4.55
	LTE FDD (2.56s, 10 MHz) Standby	LS1	25	3.56 to 4.31	3.56 to 4.31
	LTE TDD Standby (2.56s, 20 MHz)	LS4	25	3.66 to 4.43	3.66 to 4.43
	LTE FDD CDRX with 320 ms long CDRX cycle, 10 MHz	CDRXS1	25	12 to 13	12 to 13
	TDSCDMA (1.28s) Standby	TCS1	25	3.71 to 4.49	3.71 to 4.49
	CDMA Talk, BC0, +0 dBm	CT1	25	89 to 98	89 to 98
	WCDMA Talk + 0dBm, B1	WT1	25	89 to 98	89 to 98
	GSM Talk 5 dBm, no DTX	GT1	25	82 to 90	82 to 90
	VoLTE FDD 10 MHz 0 dBm 40% voice activity + 40% listen state + 20% silent state, 40 ms CDRX, dynamic scheduling, B13	VOLTE1	25	70 to 77	70 to 77
	VoLTE TDD 40 ms DRX, 20 MHz, +0 dBm, B7, SP/SR-mask	VOLTE6	25	95 to105	95 to 105
	TD-SCDMA Talk, B34	TCT1	25	68 to 75	68 to 75
	TD-SCDMA HSDPA 2.8 Mbps 0 dbm RXD off	TDHS1E	25	106 to 117	106 to 117
	Embedded EVDO Data DL 3.1 Mbps, BC0, RxD Off, 0 dBm	DD2E	25	125 to 138	125 to 138
	HSPA+DC Cat 24 (42 Mbps DL, B1), with R99 UL, Tx at 0 dBm, RxD on	HS62E	25	169 to 186	169 to 186
	LTE FDD Cat 3 (68/23 DL/UL, B13), 0 dBm, 10MHz	LTE1E	25	229 to 252	229 to 252
	LTE TDD Cat 3 (60/19 Mbps DL/UL, B38) 0dBm, 20Mhz, MIMO	LTE5E	25	209 to 230	209 to 230
	LTE FDD Cat 3 (100/50 DL/UL, B7), 0 dBm, 20MHz	LTE6E	25	295 to 325	295 to 325
	LTE FDD Cat 3 2 x CA, 10 MHz + 10 MHz (100/25 DL/UL, B17tx + B4), 0 dBm	LTE8E	25	309 to 340	309 to 340

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	Test case	Code	Tj (C)	MSM8996 CS goal WQXGA dumb panel 3 GB – LPDDR4 (50%ile to 95%ile)	MSM8996 CS goal WQXGA smart panel 3 GB – LPDDR4 (50%ile to 95%ile)
	LTE FDD Cat 6, CA, 20 MHz + 20 MHz (300/50 DL/UL, B3tx + B7), 0 dBm	LTE10E	25	469 to 516	469 to 516
	LTE FDD Cat9, 3xCA, 20 MHz + 20 MHz + 20 MHz (450/50 DL/UL, B3 (Tx) + B7 + B20), embedded, 0 dBm	LTE21E	25	689 to 758	689 to 758
DSDS	WCDMA + GSM Standby (0.64 + 0.47)		25	6.6	6.6
	TDSCDMA + GSM Standby (0.64 + 0.47)		25	6.3	6.3
	WCDMA +WCDMA Standby (0.64 + 0.64)		25	6.4	6.4
	LTE +WCDMA Standby (1.28 + 0.64)		25	6.15	6.15
	SxLTE + G (1.28, 2.56 + 0.47) Standby		25	6.6	6.6
GPS	GNSS 1 Hz Trk high sensitivity + WS1	GNSS1	25	43 to 48	43 to 48
	GPS 1 Hz Trk (DPO) + WS1	GPS2	25	11 to 12	11 to 12

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	Test case	Code	Tj (C)	MSM8996 CS goal WQXGA dumb panel 3 GB – LPDDR4 (50%ile to 95%ile)	MSM8996 CS goal WQXGA smart panel 3 GB – LPDDR4 (50%ile to 95%ile)
Multimedia	MP3 at 44.1 kHz 128 kbps stereo (Offload mode)	AU4A	25	21 to 25	21 to 25
	Listen keyword detection using 16 KHz mono signal, 100% silence, user verification Off, single keyword	AU34A	25	3.37 to 4.08	3.37 to 4.08
	Listen keyword detection using 16 KHz mono speech, 100% speech, user verification Off, single keyword	AU35A	25	4.02 to 4.87	4.02 to 4.87
	Static image display, at fullscreen resolution, at VSync	LCD04A	25	77 to 80	8 to 8.4
	30 fps at HD 1080p decode 20 Mbps AAC + 128 kbps 44 kHz stereo	QTC88A	25	120 to 126	106 to 112
	30 fps at UHD 8b H.264 42 Mbps Speedboat, AAC+ 128 kbps 44 KHz stereo	QTC101A	25	205 to 220	182 to 195
	60 fps at UHD 10b H.265 50 Mbps Speedboat, AAC+ 128 kbps 44 KHz stereo	QTC106A	25	374 to 405	370 to 402
	30 fps at HD 1080p 20 Mbps normal power encode at fullscreen resolution, at VSync, 16 MP, AAC 128 kbps 44.1 KHz stereo	QMC31A	25	348 to 371	333 to 354
	ZSL camera preview at 21 MP, 24 fps at display resolution	QMC38A	25	381 to 407	362 to 388
	Flatland Omnibox Powerlif t[60:27] offscreen, 60 fps	QGC30A	25	346 to 381	320 to 352
Connectivity	BT (1.28 sec) sniff and page scan + WS1	BT2	25	4.11 to 4.98	4.11 to 4.98
	DTIM1 at 2.4 GHz screen room + WS1	WLS1	25	5.01 to 6.07	5.01 to 6.07
	DTIM5 at 2.4 GHz screen room + WS1	WLS5	25	4.11 to 4.98	4.11 to 4.98

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	Test case	Code	Tj (C)	MSM8996 CS goal WQXGA dumb panel 3 GB – LPDDR4 (50%ile to 95%ile)	MSM8996 CS goal WQXGA smart panel 3 GB – LPDDR4 (50%ile to 95%ile)
Sensors	Accelerometer batching background processing + AIR1	SNS6A	25	3.17 to 3.84	3.17 to 3.84
	Accelerometer active processing + LCD04A	SNS4A	25	81.20 to 85.25	NA*
Netapps	Web browsing over Wi-Fi (Lorem webpage with UI)	WB10A	25	184 to 203	140 to 154
	Video streaming over Wi-Fi (1080p 3.5 Mbps) 2 GHz, 11n, 2 x 2 MCS7 HT20	VS7A	25	187 to 195	172 to 179
Performance	LTE FDD Cat9, 3 x CA, 20 MHz + 20 MHz+20 MHz (450/50 DL/UL, B3 (Tx) + B7 + B20), 23 dBm	LTE21E	25	1114 to 1225	1114 to 1225
	T-Rex HD 1080p, at 30 fps at fullscreen resolution at vsync	QGC31AT	45	297 to 327	NA*
	T-Rex HD 1080p, at 60 fps at fullscreen resolution at Vsync	QGC29AT	65	702 to 778	702 to 778
	30 fps at UHD, H.264 42 Mbps encode, 8 MP, AAC 128 kbps 44.1 KHz stereo	QMC35AT	65	635 to 701	618 to 684
	Manhattan 3.0, 1080p, single frame at 30 fps, off screen	QGC33AT	75	984 to 1118	970 to 1102
	Asphalt8	QGC53	65	732 to 825	728 to 820
	UHD 30 fps, 8b, H264 local video playback +UHD 30 fps WFD mirroring, Miracast, 11n, 2 x 2 MCS7 HT20	VS12T	65	879 to 929	856 to 905

Note:

- The CS goals in the table exclude display panel, touch, and camera sensor current consumption.
- The power dashboard is based on a UFS configuration but does not include the power of the memory storage itself (only the controller and PHY are included).
- AIR1 and all Use Cases defined on top of it include 1.47 mA LPDDR4 memory self-refresh power.

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4.2 Breakdown measurements per regulator values

This section shows breakdown data for dashboard use cases based on the MSM8996 chipset with 3 GB LPDDR4 configuration. The software release version is 1600.

4.2.1 Modem breakdown data

NOTE: The following tables have been updated.

Table 4-2 Airplane mode

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.699	3.17
	Adjustment (UFS Power)	3.669	0.27
	Adjusted Battery		2.9
22	Disp_BKLT	3.699	0.00
180	VIN_DBO1	3.699	0.07
190	VPH_HIFI_AMP	3.699	0.00
165	VPH_PWR_MISC	3.699	0.00
16	S1E_PA_1	3.699	0.04
17	S1E_PA_2	3.699	0.08
18	SPKR_DRV	3.699	0.00
27	VPH_WLAN_CARD	3.699	0.12
71	VPH_CDC	3.699	0.00
160	HAPTICS_DRV	3.699	0.00
36	FINGERPRINT	3.699	0.07
116	NFC	3.699	0.00
179	ULTRASOUND	3.699	0.01
144	VBATT_PMI8994_SMB1351	3.698	0.20
45	S1A_INPUT[CX]	3.699	0.63
46	S6A_INPUT[CX]	3.699	0.00
124	S2A_INPUT [MX]	3.699	0.23
125	S12A_INPUT [LPDDR4]	3.699	0.71
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.699	0.29
43	S4A_INPUT [RF2, DDR,CDC,EMMC,CAM]	3.699	1.10
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.699	0.03
47	S7A_INPUT [MSS]	3.699	0.00
135	VPH_PWR_PM8996	3.699	0.04
48	S8A_INPUT [EBI]	3.699	0.01
49	S9A_INPUT [Hydra]	3.699	0.00
50	S10A_INPUT[Hydra]	3.699	0.00
51	S11A_INPUT [Hydra]	3.699	0.07

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RCM channel	Regulator	V (volts)	I (mA)
139	VIN_L8A_L16A_L30A	3.699	0.00
44	BBYP1_INPUT	3.699	0.36
143	S1B_INPUT [RF1]	3.699	0.00
62	S2B_INPUT [GFX]	3.699	0.01
63	S3B_INPUT [GFX]	3.699	0.01
148	VPH_VIN_5VBOOST	3.699	0.03
60	LCD1_MIPI_BKLT	3.699	0.02
138	HAPTICS_ERM	3.699	0.01
61	VIN_FLASH_1_2	3.462	0.04
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.699	0.01
147	VPH_PWR_DISP_M	3.699	0.01
146	VPH_PWR_DISP_P	3.699	0.03
3	S1A_OUTPUT [CX,SMPS,S1A]	0.424	3.10
4	S6A_OUTPUT [CX,SMPS,S6A]	0.424	0.03
5	S2A_OUTPUT [MX,SMPS,S2A]	0.498	0.54
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.315	0.01
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.315	0.00
58	L25_INPUT [UFS, PX10, SMPS,S3A]	1.315	0.43
39	L8_INPUT [CAM_R, SMPS,S3A]	1.315	0.02
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.315	0.05
52	S4A_OUTPUT [RF2, DDR,CDC,EMMC,CAM,SMPS,S4A]	1.824	1.49
129	L14_L15_INPUT [QFPROM, HV_BBRX,SMPS,S5A]	2.122	0.01
131	L6_L12_L32_INPUT [PLL, GPS, USB,SMPS,S5A]	2.122	0.01
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.122	0.00
53	ELDO7 [SMPS,S5A]	2.122	0.00
85	ELDO14_IN [FRONT_CAM, SMPS,S5A]	2.122	0.07
7	S7A_OUTPUT [MSS,SMPS,S7A]	0.000	0.01
9	S9A_OUTPUT [HYDRA]	0.000	0.00
10	S10A_OUTPUT [HYDRA]	0.000	0.00
11	S11A_OUTPUT [HYDRA]	0.000	0.00
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.000	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1,SMPS,S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.000	0.00
13	GFX [SMPS,S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD,EMMC,BBYP]	3.699	0.00

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RCM channel	Regulator	V (volts)	I (mA)
56	L13A_L19A_L23A_L24A_INPUT [USB,CAM,BBYP]	3.699	0.22
137	L9A_L10A_L18A_L22A_INPUT [UIM,DISP,ANTENNA,BBYP]	3.699	0.06
87	ELDO10 [BBYP]	3.699	0.00
193	CDC_MIC_BIAS [BBYP]	3.699	0.00
130	RGB,TORCH [BBYP]	3.699	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.699	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.699	0.00
115	5V_BOOST_OUT [PMI8994]	3.396	0.02
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.129	1.81
117	LPDDR4_VDD1 [SMPS, S4A]	1.821	0.93
37	CDC_BUCK [SMPS, S4A]	1.821	0.00

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Table 4-3 CDMA talk, BC0 +0 dBm

RCM channel	Regulator	V (volts)	I (mA)
0	Battery measurement #1	3.699	80.9
22	Disp_BKLT	3.696	0.00
180	VIN_DBO1	3.696	0.07
190	VPH_HIFI_AMP	3.696	0.00
165	VPH_PWR_MISC	3.696	0.00
16	S1E_PA_1	3.696	0.04
17	S1E_PA_2	3.696	4.24
18	SPKR_DRV	3.696	0.02
27	VPH_WLAN_CARD	3.696	0.06
71	VPH_CDC	3.696	0.00
160	HAPTICS_DRV	3.696	0.00
36	FINGERPRINT	3.696	0.06
116	NFC	3.696	0.00
179	ULTRASOUND	3.696	0.01
144	VBATT_PMI8994_SMB1351	3.698	0.18
45	S1A_INPUT [CX]	3.695	12.78
46	S6A_INPUT [CX]	3.696	0.01
124	S2A_INPUT [MX]	3.696	5.47
125	S12A_INPUT [LPDDR4]	3.696	5.78
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.696	1.40
43	S4A_INPUT [RF2, DDR,CDC,EMMC,CAM]	3.696	15.27
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.696	9.16
47	S7A_INPUT [MSS]	3.696	4.59
135	VPH_PWR_PM8996	3.693	0.54
48	S8A_INPUT [EBI]	3.696	2.00
49	S9A_INPUT [Hydra]	3.696	0.00
50	S10A_INPUT[Hydra]	3.696	0.00
51	S11A_INPUT [Hydra]	3.696	0.07
139	VIN_L8A_L16A_L30A	3.695	2.71
44	BBYP1_INPUT	3.696	2.57
143	S1B_INPUT [RF1]	3.692	15.04
62	S2B_INPUT [GFX]	3.696	0.02
63	S3B_INPUT [GFX]	3.696	0.02
148	VPH_VIN_5VBOOST	3.696	0.05
60	LCD1_MIPI_BKLT	3.696	0.02
138	HAPTICS_ERM	3.696	0.00
61	VIN_FLASH_1_2	3.461	0.05
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.695	0.18
147	VPH_PWR_DISP_M	3.696	0.01

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RCM channel	Regulator	V (volts)	I (mA)
146	VPH_PWR_DISP_P	3.696	0.03
3	S1A_OUTPUT [CX,SMPS,S1A]	0.601	60.75
4	S6A_OUTPUT [CX,SMPS,S6A]	0.601	0.02
5	S2A_OUTPUT [MX,SMPS,S2A]	0.853	20.56
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.313	0.85
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.313	2.02
58	L25_INPUT [UFS, PX10, SMPS,S3A]	1.313	0.45
39	L8_INPUT [CAM_R, SMPS,S3A]	1.313	0.03
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.314	0.02
52	S4A_OUTPUT [RF2, DDR,CDC,EMMC,CAM,SMPS,S4A]	1.823	27.29
129	L14_L15_INPUT [QFPROM, HV_BBRX,SMPS,S5A]	2.119	4.31
131	L6_L12_L32_INPUT [PLL, GPS, USB,SMPS,S5A]	2.118	4.84
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.094	5.21
53	ELDO7 [SMPS,S5A]	2.120	0.04
85	ELDO14_IN [FRONT_CAM, SMPS,S5A]	2.120	0.06
7	S7A_OUTPUT [MSS,SMPS,S7A]	0.641	20.74
9	S9A_OUTPUT [HYDRA]	0.002	0.00
10	S10A_OUTPUT [HYDRA]	0.002	0.00
11	S11A_OUTPUT [HYDRA]	0.002	0.00
175	QFE_ANA [LDO, L16A, PM8994]	2.696	0.45
176	QFE_RF [LDO, L16A, PM8994]	2.695	1.59
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.696	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1,SMPS,S1B]	1.083	44.14
12	GFX [SMPS,S2C/S2B]	0.000	0.00
13	GFX [SMPS,S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD,EMMC,BBYP]	3.696	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB,CAM,BBYP]	3.696	0.64
137	L9A_L10A_L18A_L22A_INPUT [UIM,DISP,ANTENNA,BBYP]	3.696	0.14
87	ELDO10 [BBYP]	3.696	0.00
193	CDC_MIC_BIAS [BBYP]	3.691	1.56
130	RGB,TORCH [BBYP]	3.696	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.696	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.696	0.00
115	5V_BOOST_OUT [PMI8994]	3.395	0.01
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.129	16.29
117	LPDDR4_VDD1 [SMPS, S4A]	1.816	4.45
37	CDC_BUCK [SMPS, S4A]	1.816	1.19

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Table 4-4 WCDMA Talk + 0 dBm, B1

RCM Channel	Regulator	V (volts)	I (mA)
0	Battery measurement #1	3.699	84.2
22	Disp_BKLT	3.696	0.00
180	VIN_DBO1	3.696	0.08
190	VPH_HIFI_AMP	3.696	0.00
165	VPH_PWR_MISC	3.696	0.00
16	S1E_PA_1	3.696	0.03
17	S1E_PA_2	3.696	6.72
18	SPKR_DRV	3.696	0.00
27	VPH_WLAN_CARD	3.696	0.12
71	VPH_CDC	3.696	0.00
160	HAPTICS_DRV	3.696	0.00
36	FINGERPRINT	3.696	0.06
116	NFC	3.696	0.00
179	ULTRASOUND	3.696	0.01
144	VBATT_PMI8994_SMB1351	3.698	0.18
45	S1A_INPUT[CX]	3.695	12.57
46	S6A_INPUT[CX]	3.696	0.00
124	S2A_INPUT [MX]	3.696	5.01
125	S12A_INPUT [LPDDR4]	3.695	5.34
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.696	0.82
43	S4A_INPUT [RF2, DDR,CDC,EMMC,CAM]	3.696	14.71
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.695	10.48
47	S7A_INPUT [MSS]	3.695	4.66
135	VPH_PWR_PM8996	3.693	0.54
48	S8A_INPUT [EBI]	3.696	2.19
49	S9A_INPUT [Hydra]	3.696	0.00
50	S10A_INPUT[Hydra]	3.696	0.00
51	S11A_INPUT [Hydra]	3.696	0.04
139	VIN_L8A_L16A_L30A	3.695	2.22
44	BBYP1_INPUT	3.696	2.51
143	S1B_INPUT [RF1]	3.691	17.45
62	S2B_INPUT [GFX]	3.696	0.02
63	S3B_INPUT [GFX]	3.696	0.02
148	VPH_VIN_5VBOOST	3.696	0.03
60	LCD1_MIPI_BKLT	3.696	0.02
138	HAPTICS_ERM	3.696	0.01
61	VIN_FLASH_1_2	3.461	0.06
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.695	0.18
147	VPH_PWR_DISP_M	3.696	0.00

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RCM Channel	Regulator	V (volts)	I (mA)
146	VPH_PWR_DISP_P	3.696	0.01
3	S1A_OUTPUT [CX,SMPS,S1A]	0.611	57.71
4	S6A_OUTPUT [CX,SMPS,S6A]	0.611	0.00
5	S2A_OUTPUT [MX,SMPS,S2A]	0.853	18.84
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.314	0.86
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.314	0.59
58	L25_INPUT [UFS, PX10, SMPS,S3A]	1.314	0.45
39	L8_INPUT [CAM_R, SMPS,S3A]	1.314	0.02
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.314	0.04
52	S4A_OUTPUT [RF2, DDR,CDC,EMMC,CAM,SMPS,S4A]	1.823	26.48
129	L14_L15_INPUT [QFPROM, HV_BBRX,SMPS,S5A]	2.119	6.44
131	L6_L12_L32_INPUT [PLL, GPS, USB,SMPS,S5A]	2.118	4.84
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.094	5.21
53	ELDO7 [SMPS,S5A]	2.120	0.01
85	ELDO14_IN [FRONT_CAM, SMPS,S5A]	2.120	0.04
7	S7A_OUTPUT [MSS,SMPS,S7A]	0.641	21.28
9	S9A_OUTPUT [HYDRA]	0.002	0.00
10	S10A_OUTPUT [HYDRA]	0.002	0.00
11	S11A_OUTPUT [HYDRA]	0.002	0.00
175	QFE_ANA [LDO, L16A, PM8994]	2.696	0.45
176	QFE_RF [LDO, L16A, PM8994]	2.695	1.09
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.696	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1,SMPS,S1B]	1.082	51.15
12	GFX [SMPS,S2C/S2B]	0.000	0.00
13	GFX [SMPS,S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD,EMMC,BBYP]	3.696	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB,CAM,BBYP]	3.696	0.64
137	L9A_L10A_L18A_L22A_INPUT [UIM,DISP,ANTENNA,BBYP]	3.696	0.15
87	ELDO10 [BBYP]	3.696	0.00
193	CDC_MIC_BIAS [BBYP]	3.691	1.56
130	RGB,TORCH [BBYP]	3.696	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.696	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.696	0.01
115	5V_BOOST_OUT [PMI8994]	3.395	0.02
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.129	15.17
117	LPDDR4_VDD1 [SMPS, S4A]	1.816	4.09
37	CDC_BUCK [SMPS, S4A]	1.816	1..20

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Table 4-5 GSM Talk 5 dBm, no DTX

RCM channel	Regulator	V (volts)	I (mA)
0	Battery measurement #1	3.699	74.8
22	Disp_BKLT	3.696	0.03
180	VIN_DBO1	3.696	0.07
190	VPH_HIFI_AMP	3.696	0.00
165	VPH_PWR_MISC	3.696	0.00
16	S1E_PA_1	3.696	0.19
17	S1E_PA_2	3.696	14.64
18	SPKR_DRV	3.696	0.03
27	VPH_WLAN_CARD	3.696	0.11
71	VPH_CDC	3.696	0.00
160	HAPTICS_DRV	3.696	0.00
36	FINGERPRINT	3.696	0.10
116	NFC	3.696	0.00
179	ULTRASOUND	3.696	0.01
144	VBATT_PMI8994_SMB1351	3.698	0.18
45	S1A_INPUT[CX]	3.695	13.11
46	S6A_INPUT[CX]	3.696	0.00
124	S2A_INPUT [MX]	3.696	3.85
125	S12A_INPUT [LPDDR4]	3.695	7.04
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.696	0.70
43	S4A_INPUT [RF2, DDR,CDC,EMMC,CAM]	3.696	15.72
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.696	7.27
47	S7A_INPUT [MSS]	3.696	1.70
135	VPH_PWR_PM8996	3.693	0.53
48	S8A_INPUT [EBI]	3.696	2.55
49	S9A_INPUT [Hydra]	3.696	0.00
50	S10A_INPUT[Hydra]	3.696	0.00
51	S11A_INPUT [Hydra]	3.696	0.00
139	VIN_L8A_L16A_L30A	3.695	2.32
44	BBYP1_INPUT	3.696	2.36
143	S1B_INPUT [RF1]	3.695	3.49
62	S2B_INPUT [GFX]	3.696	0.05
63	S3B_INPUT [GFX]	3.696	0.06
148	VPH_VIN_5VBOOST	3.696	0.00
60	LCD1_MIPI_BKLT	3.696	0.07
138	HAPTICS_ERM	3.696	0.00
61	VIN_FLASH_1_2	3.462	0.09
30	USB_HOST	0.002	0.01
145	VPH_FLASH	3.695	0.16
147	VPH_PWR_DISP_M	3.696	0.00

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RCM channel	Regulator	V (volts)	I (mA)
146	VPH_PWR_DISP_P	3.696	0.01
3	S1A_OUTPUT [CX,SMPS,S1A]	0.613	60.65
4	S6A_OUTPUT [CX,SMPS,S6A]	0.613	0.19
5	S2A_OUTPUT [MX,SMPS,S2A]	0.853	13.94
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.313	0.86
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.313	0.29
58	L25_INPUT [UFS, PX10, SMPS,S3A]	1.313	0.49
39	L8_INPUT [CAM_R, SMPS,S3A]	1.313	0.05
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.313	0.05
52	S4A_OUTPUT [RF2, DDR,CDC,EMMC,CAM,SMPS,S4A]	1.823	28.54
129	L14_L15_INPUT [QFPROM, HV_BBRX,SMPS,S5A]	2.120	1.54
131	L6_L12_L32_INPUT [PLL, GPS, USB,SMPS,S5A]	2.118	4.84
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.094	5.21
53	ELDO7 [SMPS,S5A]	2.120	0.00
85	ELDO14_IN [FRONT_CAM, SMPS,S5A]	2.120	0.01
7	S7A_OUTPUT [MSS,SMPS,S7A]	0.641	8.60
9	S9A_OUTPUT [HYDRA]	0.002	0.05
10	S10A_OUTPUT [HYDRA]	0.002	0.00
11	S11A_OUTPUT [HYDRA]	0.002	0.00
175	QFE_ANA [LDO, L16A, PM8994]	2.696	0.52
176	QFE_RF [LDO, L16A, PM8994]	2.695	1.17
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.696	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1,SMPS,S1B]	1.084	10.23
12	GFX [SMPS,S2C/S2B]	0.000	0.03
13	GFX [SMPS,S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD,EMMC,BBYP]	3.696	0.04
56	L13A_L19A_L23A_L24A_INPUT [USB,CAM,BBYP]	3.696	0.69
137	L9A_L10A_L18A_L22A_INPUT [UIM,DISP,ANTENNA,BBYP]	3.696	0.14
87	ELDO10 [BBYP]	3.696	0.00
193	CDC_MIC_BIAS [BBYP]	3.691	1.56
130	RGB,TORCH [BBYP]	3.696	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.696	0.01
74	ELDO12 [QCA6174, SI4705, BBYP]	3.696	0.00
115	5V_BOOST_OUT [PMI8994]	3.396	0.03
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.129	19.42
117	LPDDR4_VDD1 [SMPS, S4A]	1.816	4.69
37	CDC_BUCK [SMPS, S4A]	1.816	1.21

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Table 4-6 VoLTE FDD 10 MHz 0 dBm 40% voice activity + 40% listen state + 20% silent state, 40 ms CDRX, dynamic scheduling, B13

RCM channel	Regulator	Talk		Listen		Silent	
		V (volts)	I (mA)	V (volts)	I (mA)	V (volts)	I (mA)
0	Battery Measurement #1	3.704	88.56	3.704	71.56	3.704	66.4
22	Disp_BKLT	3.700	0.00	3.701	0.00	3.701	0.00
180	VIN_DBO1	3.701	0.07	3.701	0.08	3.701	0.08
190	VPH_HIFI_AMP	3.701	0.00	3.701	0.01	3.701	0.00
165	VPH_PWR_MISC	3.701	0.00	3.701	0.01	3.701	0.00
16	S1E_PA_1	3.700	0.00	3.701	0.00	3.701	0.02
17	S1E_PA_2	3.700	0.48	3.701	0.38	3.701	0.30
18	SPKR_DRV	3.700	0.00	3.701	0.00	3.701	0.00
27	VPH_WLAN_CARD	3.700	0.00	3.701	0.07	3.701	0.18
71	VPH_CDC	3.700	0.00	3.701	0.00	3.701	0.00
160	HAPTICS_DRV	3.701	0.00	3.701	0.00	3.701	0.00
36	FINGERPRINT	3.700	0.04	3.701	0.04	3.701	0.06
116	NFC	3.701	0.00	3.701	0.00	3.701	0.00
179	ULTRASOUND	3.700	0.01	3.701	0.01	3.701	0.01
144	VBATT_PMI8994_SMB1351	3.703	0.18	3.703	0.18	3.703	0.18
45	S1A_INPUT[CX]	3.699	25.70	3.700	20.67	3.700	19.19
46	S6A_INPUT[CX]	3.700	0.00	3.701	0.00	3.701	0.00
124	S2A_INPUT [MX]	3.700	6.02	3.701	4.32	3.701	4.21
125	S12A_INPUT [LPDDR4]	3.699	11.99	3.700	8.83	3.700	8.17
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.700	1.98	3.701	1.44	3.701	1.40
43	S4A_INPUT [RF2, DDR,CDC,EMMC,CAM]	3.700	15.24	3.701	15.00	3.701	12.51
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.700	7.63	3.701	6.90	3.701	6.79
47	S7A_INPUT [MSS]	3.700	5.53	3.701	3.36	3.701	3.28
135	VPH_PWR_PM8996	3.698	0.55	3.698	0.55	3.699	0.55
48	S8A_INPUT [EBI]	3.700	4.33	3.701	3.28	3.701	3.11
49	S9A_INPUT [Hydra]	3.700	0.00	3.701	0.00	3.701	0.00
50	S10A_INPUT[Hydra]	3.700	0.00	3.701	0.00	3.701	0.00
51	S11A_INPUT [Hydra]	3.700	0.00	3.701	0.00	3.701	0.00
139	VIN_L8A_L16A_L30A	3.700	2.03	3.701	2.01	3.701	2.01
44	BBYP1_INPUT	3.700	1.17	3.701	1.21	3.701	1.22
143	S1B_INPUT [RF1]	3.699	5.90	3.700	4.36	3.700	4.10
62	S2B_INPUT [GFX]	3.700	0.00	3.701	0.00	3.701	0.00
63	S3B_INPUT [GFX]	3.700	0.00	3.701	0.00	3.701	0.00
148	VPH_VIN_5VBOOST	3.701	0.00	3.701	0.00	3.701	0.00

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RCM channel	Regulator	Talk		Listen		Silent	
		V (volts)	I (mA)	V (volts)	I (mA)	V (volts)	I (mA)
60	LCD1_MIPI_BKLT	3.700	0.01	3.701	0.00	3.701	0.01
138	HAPTICS_ERM	3.701	0.00	3.701	0.01	3.701	0.00
61	VIN_FLASH_1_2	3.486	0.02	3.487	0.01	3.487	0.03
30	USB_HOST	0.001	0.00	0.001	0.00	0.001	0.00
145	VPH_FLASH	3.701	0.01	3.701	0.01	3.701	0.01
147	VPH_PWR_DISP_M	3.701	0.00	3.701	0.00	3.701	0.00
146	VPH_PWR_DISP_P	3.701	0.00	3.701	0.00	3.701	0.00
3	S1A_OUTPUT [CX,SMPS,S1A]	0.699	108.20	0.688	87.75	0.680	83.10
4	S6A_OUTPUT [CX,SMPS,S6A]	0.699	0.00	0.687	0.00	0.680	0.03
5	S2A_OUTPUT [MX,SMPS,S2A]	0.852	22.01	0.853	15.82	0.853	15.41
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.308	0.85	1.308	0.86	1.308	0.85
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.307	3.85	1.308	2.24	1.308	2.16
58	L25_INPUT [UFS, PX10, SMPS,S3A]	1.308	0.38	1.308	0.37	1.308	0.40
39	L8_INPUT [CAM_R, SMPS, S3A]	1.308	0.01	1.308	0.01	1.308	0.02
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.308	0.01	1.308	0.05	1.308	0.07
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.817	27.23	1.817	27.12	1.817	22.63
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.114	2.00	2.114	1.75	2.114	1.63
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.113	4.77	2.113	3.63	2.113	3.63
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.087	5.46	2.087	5.46	2.087	5.46
53	ELDO7 [SMPS,S5A]	2.114	0.00	2.114	0.00	2.114	0.00
85	ELDO14_IN [FRONT_CAM, SMPS,S5A]	2.114	0.00	2.114	0.00	2.114	0.00
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.646	25.54	0.647	15.26	0.647	15.19
9	S9A_OUTPUT [HYDRA]	0.002	0.00	0.002	0.00	0.002	0.00
10	S10A_OUTPUT [HYDRA]	0.002	0.00	0.002	0.00	0.002	0.00
11	S11A_OUTPUT [HYDRA]	0.002	0.00	0.002	0.00	0.002	0.00
175	QFE_ANA [LDO, L16A, PM8994]	2.695	0.81	2.695	0.80	2.695	0.81
176	QFE_RF [LDO, L16A, PM8994]	2.695	0.56	2.695	0.55	2.696	0.55
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.696	0.00	2.696	0.00	2.696	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00	0.000	0.00	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	1.082	17.20	1.082	12.60	1.082	11.70
12	GFX [SMPS,S2C/S2B]	0.000	0.00	0.000	0.00	0.000	0.00
13	GFX [SMPS,S4C/S3B]	0.000	0.00	0.000	0.00	0.000	0.00

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RCM channel	Regulator	Talk		Listen		Silent	
		V (volts)	I (mA)	V (volts)	I (mA)	V (volts)	I (mA)
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.700	0.00	3.701	0.00	3.701	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.700	0.55	3.701	0.52	3.701	0.55
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.700	0.14	3.701	0.14	3.701	0.14
87	ELDO10 [BBYP]	3.701	0.00	3.701	0.00	3.701	0.00
193	CDC_MIC_BIAS [BBYP]	3.699	0.35	3.700	0.35	3.700	0.35
130	RGB, TORCH [BBYP]	3.701	0.01	3.701	0.02	3.701	0.01
126	L17A_L29A_INPUT [CAM, BBYP]	3.700	0.00	3.701	0.00	3.701	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.700	0.00	3.701	0.00	3.701	0.00
115	5V_BOOST_OUT [PMI8994]	3.405	0.02	3.405	0.02	3.406	0.02
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.130	34.01	1.130	24.18	1.130	22.66
117	LPDDR4_VDD1 [SMPS, S4A]	1.816	7.09	1.816	5.36	1.817	5.03
37	CDC_BUCK [SMPS, S4A]	1.817	1.56	1.817	5.48	1.817	1.58

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Table 4-7 VoLTE TDD 40 ms DRX, 20 MHz, + 0 dBm, B7, SP/SR-mask

RCM channel	Regulator	V (volts)	I (mA)	V (volts)	I (mA)	V (volts)	I (mA)
0	Battery Measurement #1	3.703	100.55	3.703	89.28	3.703	80.32
22	Disp_BKLT	3.700	0.00	3.700	0.00	3.700	0.00
180	VIN_DBO1	3.700	0.07	3.700	0.08	3.701	0.06
190	VPH_HIFI_AMP	3.700	0.00	3.700	0.00	3.701	0.00
165	VPH_PWR_MISC	3.700	0.00	3.700	0.00	3.701	0.00
16	S1E_PA_1	3.700	0.00	3.700	0.00	3.700	0.00
17	S1E_PA_2	3.700	0.87	3.700	0.77	3.700	0.66
18	SPKR_DRV	3.700	0.00	3.700	0.00	3.700	0.00
27	VPH_WLAN_CARD	3.700	0.02	3.700	0.00	3.700	0.02
71	VPH_CDC	3.700	0.00	3.700	0.00	3.700	0.00
160	HAPTICS_DRV	3.700	0.00	3.700	0.00	3.701	0.00
36	FINGERPRINT	3.700	0.04	3.700	0.02	3.700	0.03
116	NFC	3.700	0.00	3.700	0.00	3.701	0.00
179	ULTRASOUND	3.700	0.01	3.700	0.01	3.701	0.01
144	VBATT_PMI8994_SMB1351	3.701	0.48	3.702	0.18	3.702	0.18
45	S1A_INPUT[CX]	3.698	25.13	3.699	23.10	3.699	20.79
46	S6A_INPUT[CX]	3.700	0.00	3.700	0.00	3.700	0.00
124	S2A_INPUT [MX]	3.700	6.60	3.700	5.31	3.700	5.03
125	S12A_INPUT [LPDDR4]	3.699	10.42	3.699	9.59	3.700	8.31
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.699	3.61	3.700	2.70	3.700	2.64
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.699	14.93	3.700	15.99	3.700	12.72
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.699	9.13	3.700	8.37	3.700	8.10
47	S7A_INPUT [MSS]	3.699	11.29	3.699	8.09	3.700	7.84
135	VPH_PWR_PM8996	3.697	0.55	3.695	1.15	3.698	0.55
48	S8A_INPUT [EBI]	3.699	3.80	3.700	3.55	3.700	3.19
49	S9A_INPUT [Hydra]	3.700	0.00	3.700	0.00	3.700	0.00
50	S10A_INPUT[Hydra]	3.700	0.00	3.700	0.00	3.700	0.00
51	S11A_INPUT [Hydra]	3.700	0.03	3.700	0.01	3.700	0.01
139	VIN_L8A_L16A_L30A	3.699	2.26	3.700	2.26	3.700	2.24
44	BBYP1_INPUT	3.700	1.47	3.700	0.78	3.700	1.40
143	S1B_INPUT [RF1]	3.697	10.82	3.698	8.60	3.698	7.30
62	S2B_INPUT [GFX]	3.700	0.00	3.700	0.00	3.700	0.00
63	S3B_INPUT [GFX]	3.700	0.00	3.700	0.00	3.700	0.00
148	VPH_VIN_5VBOOST	3.700	0.02	3.700	0.01	3.701	0.02
60	LCD1_MIPI_BKLT	3.700	0.01	3.700	0.00	3.700	0.00
138	HAPTICS_ERM	3.700	0.02	3.700	0.01	3.701	0.03
61	VIN_FLASH_1_2	3.472	0.03	3.486	0.02	3.486	0.02
30	USB_HOST	0.001	0.00	0.001	0.00	0.001	0.00

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RCM channel	Regulator	V (volts)	I (mA)	V (volts)	I (mA)	V (volts)	I (mA)
145	VPH_FLASH	3.700	0.02	3.700	0.02	3.701	0.01
147	VPH_PWR_DISP_M	3.700	0.00	3.700	0.00	3.701	0.00
146	VPH_PWR_DISP_P	3.700	0.02	3.700	0.02	3.701	0.02
3	S1A_OUTPUT [CX,SMPS,S1A]	0.704	105.52	0.706	95.68	0.697	88.24
4	S6A_OUTPUT [CX,SMPS,S6A]	0.704	0.00	0.706	0.00	0.697	0.00
5	S2A_OUTPUT [MX,SMPS,S2A]	0.852	24.15	0.852	19.15	0.852	18.19
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.308	0.87	1.308	0.85	1.308	0.86
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.307	7.75	1.307	5.57	1.307	5.07
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.308	0.40	1.308	0.39	1.308	0.39
39	L8_INPUT [CAM_R, SMPS, S3A]	1.308	0.01	1.308	0.00	1.308	0.01
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.308	0.06	1.308	0.01	1.308	0.06
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.817	26.91	1.817	28.37	1.817	22.77
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.113	3.79	2.113	3.79	2.113	3.46
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.112	4.80	2.113	3.93	2.113	3.90
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.087	5.46	2.087	5.46	2.087	5.46
53	ELDO7 [SMPS,S5A]	2.114	0.02	2.114	0.00	2.114	0.02
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.114	0.03	2.114	0.03	2.114	0.03
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.692	49.64	0.677	35.20	0.684	32.66
9	S9A_OUTPUT [HYDRA]	0.002	0.00	0.002	0.00	0.002	0.00
10	S10A_OUTPUT [HYDRA]	0.002	0.00	0.002	0.00	0.002	0.00
11	S11A_OUTPUT [HYDRA]	0.002	0.00	0.002	0.00	0.002	0.00
175	QFE_ANA [LDO, L16A, PM8994]	2.695	0.81	2.695	0.81	2.695	0.81
176	QFE_RF [LDO, L16A, PM8994]	2.695	0.77	2.695	0.77	2.695	0.77
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.696	0.00	2.696	0.00	2.696	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00	0.000	0.00	0.000	0.00
59	S1B_OUTPUT [RF1,SMPS,S1B]	1.081	31.61	1.081	25.07	1.081	21.37
12	GFX [SMPS,S2C/S2B]	0.000	0.00	0.000	0.00	0.000	0.00
13	GFX [SMPS,S4C/S3B]	0.000	0.00	0.000	0.00	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.700	0.00	3.700	0.00	3.700	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.700	0.57	3.700	0.00	3.700	0.54
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.700	0.15	3.700	0.14	3.701	0.15
87	ELDO10 [BBYP]	3.700	0.00	3.700	0.00	3.701	0.00

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RCM channel	Regulator	V (volts)	I (mA)	V (volts)	I (mA)	V (volts)	I (mA)
193	CDC_MIC_BIAS [BBYP]	3.699	0.37	3.699	0.37	3.699	0.37
130	RGB, TORCH [BBYP]	3.700	0.02	3.700	0.01	3.701	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.700	0.00	3.700	0.00	3.700	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.700	0.00	3.700	0.00	3.700	0.00
115	5V_BOOST_OUT [PMI8994]	3.404	0.01	3.405	0.01	3.405	0.01
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.130	28.99	1.130	26.39	1.130	23.06
117	LPDDR4_VDD1 [SMPS, S4A]	1.816	6.38	1.816	5.76	1.817	5.21
37	CDC_BUCK [SMPS, S4A]	1.817	1.53	1.817	5.37	1.817	1.53

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Table 4-8 TD-SCDMA Talk, B34

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.699	61.64
22	Disp_BKLT	3.697	0.01
180	VIN_DBO1	3.697	0.07
190	VPH_HIFI_AMP	3.697	0.00
165	VPH_PWR_MISC	3.697	0.00
16	S1E_PA_1	3.697	0.66
17	S1E_PA_2	3.697	0.72
18	SPKR_DRV	3.697	0.03
27	VPH_WLAN_CARD	3.697	0.10
71	VPH_CDC	3.697	0.00
160	HAPTICS_DRV	3.697	0.00
36	FINGERPRINT	3.697	0.07
116	NFC	3.697	0.00
179	ULTRASOUND	3.697	0.01
144	VBATT_PMI8994_SMB1351	3.698	0.18
45	S1A_INPUT[CX]	3.696	15.18
46	S6A_INPUT[CX]	3.697	0.00
124	S2A_INPUT [MX]	3.697	4.21
125	S12A_INPUT [LPDDR4]	3.696	5.50
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.697	1.33
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.696	10.26
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.696	7.76
47	S7A_INPUT [MSS]	3.696	3.78
135	VPH_PWR_PM8996	3.694	0.53
48	S8A_INPUT [EBI]	3.696	2.13
49	S9A_INPUT [Hydra]	3.697	0.00
50	S10A_INPUT [Hydra]	3.697	0.00
51	S11A_INPUT [Hydra]	3.697	0.04
139	VIN_L8A_L16A_L30A	3.696	1.42
44	BBYP1_INPUT	3.697	2.48
143	S1B_INPUT [RF1]	3.695	6.70
62	S2B_INPUT [GFX]	3.697	0.00
63	S3B_INPUT [GFX]	3.697	0.00
148	VPH_VIN_5VBOOST	3.697	0.03
60	LCD1_MIPI_BKLT	3.697	0.01
138	HAPTICS_ERM	3.697	0.02
61	VIN_FLASH_1_2	3.462	0.02
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.697	0.01
147	VPH_PWR_DISP_M	3.697	0.00

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RCM channel	Regulator	V (volts)	I (mA)
146	VPH_PWR_DISP_P	3.697	0.03
3	S1A_OUTPUT [CX, SMPS, S1A]	0.684	64.29
4	S6A_OUTPUT [CX, SMPS, S6A]	0.684	0.04
5	S2A_OUTPUT [MX, SMPS, S2A]	0.853	15.52
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.314	0.86
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.314	1.89
58	L25_INPUT [UFS, PX10, SMPS,S3A]	1.314	0.42
39	L8_INPUT [CAM_R, SMPS,S3A]	1.314	0.03
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.314	0.03
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.823	18.37
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.119	2.56
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.118	4.84
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.096	4.84
53	ELDO7 [SMPS, S5A]	2.120	0.01
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.120	0.03
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.653	17.37
9	S9A_OUTPUT [HYDRA]	0.002	0.00
10	S10A_OUTPUT [HYDRA]	0.002	0.00
11	S11A_OUTPUT [HYDRA]	0.002	0.00
175	QFE_ANA [LDO, L16A, PM8994]	2.696	0.63
176	QFE_RF [LDO, L16A, PM8994]	2.696	0.16
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.696	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	1.084	19.27
12	GFX [SMPS, S2C/S2B]	0.000	0.00
13	GFX [SMPS, S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.696	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.696	0.58
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.696	0.14
87	ELDO10 [BBYP]	3.696	0.00
193	CDC_MIC_BIAS [BBYP]	3.692	1.56
130	RGB,TORCH [BBYP]	3.696	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.697	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.696	0.00
115	5V_BOOST_OUT [PMI8994]	3.396	0.02
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.129	15.20
117	LPDDR4_VDD1 [SMPS, S4A]	1.816	3.85
37	CDC_BUCK [SMPS, S4A]	1.816	1.21

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Table 4-9 TD-SCDMA HSDPA 2.8 Mbps 0 dbm RXD off

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.699	100.00
22	Disp_BKLT	3.695	0.01
180	VIN_DBO1	3.695	0.08
190	VPH_HIFI_AMP	3.695	0.00
165	VPH_PWR_MISC	3.695	0.00
16	S1E_PA_1	3.695	1.07
17	S1E_PA_2	3.695	1.21
18	SPKR_DRV	3.695	0.03
27	VPH_WLAN_CARD	3.695	0.12
71	VPH_CDC	3.695	0.00
160	HAPTICS_DRV	3.695	0.01
36	FINGERPRINT	3.695	0.07
116	NFC	3.695	0.00
179	ULTRASOUND	3.695	0.01
144	VBATT_PMI8994_SMB1351	3.698	0.18
45	S1A_INPUT[CX]	3.694	19.84
46	S6A_INPUT[CX]	3.695	0.00
124	S2A_INPUT [MX]	3.695	6.11
125	S12A_INPUT [LPDDR4]	3.694	10.14
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.695	1.40
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.695	13.54
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.695	7.82
47	S7A_INPUT [MSS]	3.695	5.14
135	VPH_PWR_PM8996	3.692	0.58
48	S8A_INPUT [EBI]	3.695	3.62
49	S9A_INPUT [Hydra]	3.695	0.00
50	S10A_INPUT[Hydra]	3.695	0.00
51	S11A_INPUT [Hydra]	3.695	14.69
139	VIN_L8A_L16A_L30A	3.695	1.48
44	BBYP1_INPUT	3.695	1.11
143	S1B_INPUT [RF1]	3.691	14.07
62	S2B_INPUT [GFX]	3.695	0.00
63	S3B_INPUT [GFX]	3.695	0.01
148	VPH_VIN_5VBOOST	3.695	0.03
60	LCD1_MIPI_BKLT	3.695	0.02
138	HAPTICS_ERM	3.695	0.01
61	VIN_FLASH_1_2	3.460	0.04
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.694	0.18
147	VPH_PWR_DISP_M	3.695	0.00

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RCM channel	Regulator	V (volts)	I (mA)
146	VPH_PWR_DISP_P	3.695	0.02
3	S1A_OUTPUT [CX, SMPS, S1A]	0.689	84.13
4	S6A_OUTPUT [CX, SMPS, S6A]	0.689	0.11
5	S2A_OUTPUT [MX, SMPS, S2A]	0.853	22.55
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.314	0.89
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.313	1.92
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.314	0.44
39	L8_INPUT [CAM_R, SMPS, S3A]	1.314	0.03
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.314	0.02
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.823	24.32
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.119	2.50
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.118	4.80
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.096	4.84
53	ELDO7 [SMPS, S5A]	2.120	0.01
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.120	0.05
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.641	23.76
9	S9A_OUTPUT [HYDRA]	0.572	0.00
10	S10A_OUTPUT [HYDRA]	0.572	0.00
11	S11A_OUTPUT [HYDRA]	0.572	68.69
175	QFE_ANA [LDO, L16A, PM8994]	2.696	0.63
176	QFE_RF [LDO, L16A, PM8994]	2.696	0.19
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.696	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	1.083	41.19
12	GFX [SMPS,S2C/S2B]	0.000	0.00
13	GFX [SMPS,S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.695	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.695	0.79
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.695	0.15
87	ELDO10 [BBYP]	3.695	0.00
193	CDC_MIC_BIAS [BBYP]	3.695	0.00
130	RGB,TORCH [BBYP]	3.695	0.03
126	L17A_L29A_INPUT [CAM, BBYP]	3.695	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.695	0.00
115	5V_BOOST_OUT [PMI8994]	3.394	0.02
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.129	27.66
117	LPDDR4_VDD1 [SMPS, S4A]	1.816	6.44
37	CDC_BUCK [SMPS, S4A]	1.816	0.00

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Table 4-10 Embedded EVDO data DL 3.1 Mbps, BC0, RxD Off, 0 dBm

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.704	114.0
22	Disp_BKLT	3.700	0.01
180	VIN_DBO1	3.700	0.07
190	VPH_HIFI_AMP	3.700	0.01
165	VPH_PWR_MISC	3.700	0.00
16	S1E_PA_1	3.700	0.10
17	S1E_PA_2	3.700	5.94
18	SPKR_DRV	3.700	0.02
27	VPH_WLAN_CARD	3.700	0.15
71	VPH_CDC	3.700	0.00
160	HAPTICS_DRV	3.700	0.00
36	FINGERPRINT	3.700	0.07
116	NFC	3.700	0.00
179	ULTRASOUND	3.700	0.01
144	VBATT_PMI8994_SMB1351	3.701	0.49
45	S1A_INPUT [CX]	3.699	18.25
46	S6A_INPUT [CX]	3.700	0.00
124	S2A_INPUT [MX]	3.700	7.09
125	S12A_INPUT [LPDDR4]	3.699	7.64
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.700	1.81
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.700	15.38
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.700	11.31
47	S7A_INPUT [MSS]	3.699	5.18
135	VPH_PWR_PM8996	3.695	0.96
48	S8A_INPUT [EBI]	3.700	2.72
49	S9A_INPUT [Hydra]	3.700	0.00
50	S10A_INPUT[Hydra]	3.700	0.07
51	S11A_INPUT [Hydra]	3.700	13.58
139	VIN_L8A_L16A_L30A	3.699	2.72
44	BBYP1_INPUT	3.700	1.05
143	S1B_INPUT [RF1]	3.694	21.47
62	S2B_INPUT [GFX]	3.700	0.00
63	S3B_INPUT [GFX]	3.700	0.00
148	VPH_VIN_5VBOOST	3.700	0.02
60	LCD1_MIPI_BKLT	3.700	0.00
138	HAPTICS_ERM	3.700	0.00
61	VIN_FLASH_1_2	3.472	0.03
30	USB_HOST	0.001	0.00
145	VPH_FLASH	3.700	0.02
147	VPH_PWR_DISP_M	3.700	0.00

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RCM channel	Regulator	V (volts)	I (mA)
146	VPH_PWR_DISP_P	3.700	0.01
3	S1A_OUTPUT [CX, SMPS, S1A]	0.681	78.70
4	S6A_OUTPUT [CX, SMPS, S6A]	0.681	0.12
5	S2A_OUTPUT [MX, SMPS, S2A]	0.852	26.67
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.308	1.00
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.308	2.00
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.308	1.13
39	L8_INPUT [CAM_R, SMPS, S3A]	1.308	0.04
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.308	0.07
52	S4A_OUTPUT [RF2, DDR,CDC,EMMC, CAM, SMPS, S4A]	1.817	27.58
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.112	7.06
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.112	5.57
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.087	5.46
53	ELDO7 [SMPS, S5A]	2.114	0.00
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.114	0.02
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.634	23.22
9	S9A_OUTPUT [HYDRA]	0.563	0.06
10	S10A_OUTPUT [HYDRA]	0.563	0.40
11	S11A_OUTPUT [HYDRA]	0.563	66.25
175	QFE_ANA [LDO, L16A, PM8994]	2.695	0.47
176	QFE_RF [LDO, L16A, PM8994]	2.695	1.54
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.696	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	1.080	61.70
12	GFX [SMPS, S2C/S2B]	0.000	0.00
13	GFX [SMPS, S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.700	0.08
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.700	0.39
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.700	0.16
87	ELDO10 [BBYP]	3.700	0.00
193	CDC_MIC_BIAS [BBYP]	3.700	0.00
130	RGB,TORCH [BBYP]	3.700	0.00
126	L17A_L29A_INPUT [CAM, BBYP]	3.700	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.700	0.00
115	5V_BOOST_OUT [PMI8994]	3.404	0.02
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.130	21.21
117	LPDDR4_VDD1 [SMPS, S4A]	1.816	5.46
37	CDC_BUCK [SMPS, S4A]	1.817	0.00

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Table 4-11 HSPA+DC Cat 24 (42 Mbps DL, B1), with R99 UL, Tx at 0 dBm, RxD on

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.704	169.0
22	Disp_BKLT	3.698	0.02
180	VIN_DBO1	3.698	0.06
190	VPH_HIFI_AMP	3.698	0.01
165	VPH_PWR_MISC	3.698	0.00
16	S1E_PA_1	3.698	0.14
17	S1E_PA_2	3.697	6.43
18	SPKR_DRV	3.698	0.06
27	VPH_WLAN_CARD	3.698	0.21
71	VPH_CDC	3.698	0.00
160	HAPTICS_DRV	3.698	0.00
36	FINGERPRINT	3.698	0.08
116	NFC	3.698	0.00
179	ULTRASOUND	3.698	0.01
144	VBATT_PMI8994_SMB1351	3.701	0.49
45	S1A_INPUT[CX]	3.696	24.04
46	S6A_INPUT[CX]	3.698	0.00
124	S2A_INPUT [MX]	3.697	10.67
125	S12A_INPUT [LPDDR4]	3.696	12.69
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.697	3.97
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.697	29.71
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.697	12.42
47	S7A_INPUT [MSS]	3.696	13.38
135	VPH_PWR_PM8996	3.693	0.95
48	S8A_INPUT [EBI]	3.697	5.69
49	S9A_INPUT [Hydra]	3.698	0.00
50	S10A_INPUT[Hydra]	3.698	0.09
51	S11A_INPUT [Hydra]	3.697	22.28
139	VIN_L8A_L16A_L30A	3.697	2.27
44	BBYP1_INPUT	3.698	1.05
143	S1B_INPUT [RF1]	3.691	23.59
62	S2B_INPUT [GFX]	3.698	0.00
63	S3B_INPUT [GFX]	3.698	0.00
148	VPH_VIN_5VBOOST	3.698	0.00
60	LCD1_MIPI_BKLT	3.698	0.00
138	HAPTICS_ERM	3.698	0.00
61	VIN_FLASH_1_2	3.470	0.02
30	USB_HOST	0.001	0.01
145	VPH_FLASH	3.698	0.02
147	VPH_PWR_DISP_M	3.698	0.00

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RCM channel	Regulator	V (volts)	I (mA)
146	VPH_PWR_DISP_P	3.698	0.01
3	S1A_OUTPUT [CX, SMPS, S1A]	0.681	104.14
4	S6A_OUTPUT [CX, SMPS, S6A]	0.681	0.13
5	S2A_OUTPUT [MX, SMPS, S2A]	0.852	38.96
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.308	0.96
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.307	7.90
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.308	0.84
39	L8_INPUT [CAM_R, SMPS, S3A]	1.308	0.05
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.308	0.12
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.818	54.09
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.112	8.87
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.112	5.55
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.086	5.46
53	ELDO7 [SMPS, S5A]	2.114	0.00
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.114	0.02
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.634	61.17
9	S9A_OUTPUT [HYDRA]	0.565	0.09
10	S10A_OUTPUT [HYDRA]	0.565	0.44
11	S11A_OUTPUT [HYDRA]	0.565	106.59
175	QFE_ANA [LDO, L16A, PM8994]	2.696	0.47
176	QFE_RF [LDO, L16A, PM8994]	2.695	1.09
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.696	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	1.080	68.75
12	GFX [SMPS,S2C/S2B]	0.000	0.00
13	GFX [SMPS,S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.697	0.06
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.697	0.43
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.698	0.14
87	ELDO10 [BBYP]	3.698	0.00
193	CDC_MIC_BIAS [BBYP]	3.698	0.00
130	RGB,TORCH [BBYP]	3.698	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.698	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.698	0.01
115	5V_BOOST_OUT [PMI8994]	3.403	0.03
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.130	35.81
117	LPDDR4_VDD1 [SMPS, S4A]	1.816	7.94
37	CDC_BUCK [SMPS, S4A]	1.817	0.00

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Table 4-12 LTE FDD Cat 3 (68/23 DL/UL, B13), 0 dBm, 10 MHz

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.694	227.0
22	Disp_BKLT	3.688	0.00
180	VIN_DBO1	3.688	0.06
190	VPH_HIFI_AMP	3.688	0.01
165	VPH_PWR_MISC	3.688	0.01
16	S1E_PA_1	3.688	0.02
17	S1E_PA_2	3.688	5.94
18	SPKR_DRV	3.688	0.00
27	VPH_WLAN_CARD	3.688	0.03
71	VPH_CDC	3.688	0.00
160	HAPTICS_DRV	3.688	0.02
36	FINGERPRINT	3.688	0.05
116	NFC	3.688	0.00
179	ULTRASOUND	3.688	0.01
144	VBATT_PMI8994_SMB1351	3.693	0.49
45	S1A_INPUT [CX]	3.687	33.06
46	S6A_INPUT [CX]	3.688	0.00
124	S2A_INPUT [MX]	3.688	15.28
125	S12A_INPUT [LPDDR4]	3.686	26.22
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.688	4.02
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.688	30.36
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.688	11.86
47	S7A_INPUT [MSS]	3.686	19.97
135	VPH_PWR_PM8996	3.686	0.60
48	S8A_INPUT [EBI]	3.687	10.59
49	S9A_INPUT [Hydra]	3.688	0.00
50	S10A_INPUT[Hydra]	3.688	0.00
27	S11A_INPUT [Hydra]	3.687	34.98
71	VPH_CDC	3.688	2.05
44	BBYP1_INPUT	3.688	1.06
143	S1B_INPUT [RF1]	3.679	30.12
62	S2B_INPUT [GFX]	3.688	0.00
63	S3B_INPUT [GFX]	3.688	0.00
148	VPH_VIN_5VBOOST	3.688	0.02
60	LCD1_MIPI_BKLT	3.688	0.00
138	HAPTICS_ERM	3.688	0.03
61	VIN_FLASH_1_2	3.460	0.01
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.687	0.21
147	VPH_PWR_DISP_M	3.689	0.00

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RCM channel	Regulator	V (volts)	I (mA)
146	VPH_PWR_DISP_P	3.689	0.00
3	S1A_OUTPUT [CX, SMPS, S1A]	0.689	140.97
4	S6A_OUTPUT [CX, SMPS, S6A]	0.689	0.04
51	S2A_OUTPUT [MX, SMPS, S2A]	0.851	55.43
139	VIN_L8A_L16A_L30A	1.310	0.96
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.309	8.40
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.310	0.40
39	L8_INPUT [CAM_R, SMPS, S3A]	1.310	0.02
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.310	0.03
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.821	52.21
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.106	8.95
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.107	4.81
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.081	5.45
53	ELDO7 [SMPS, S5A]	2.108	0.03
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.108	0.04
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.634	91.33
9	S9A_OUTPUT [HYDRA]	0.563	0.00
10	S10A_OUTPUT [HYDRA]	0.563	0.00
5	S11A_OUTPUT [HYDRA]	0.563	171.17
175	QFE_ANA [LDO, L16A, PM8994]	2.690	0.51
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	2.690	0.82
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.690	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	1.075	88.12
12	GFX [SMPS,S2C/S2B]	0.000	0.00
13	GFX [SMPS,S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC,BBYP]	3.688	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.688	0.79
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.688	0.14
87	ELDO10 [BBYP]	3.688	0.00
193	CDC_MIC_BIAS [BBYP]	3.688	0.00
130	RGB,TORCH [BBYP]	3.688	0.04
126	L17A_L29A_INPUT [CAM, BBYP]	3.688	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.688	0.01
11	5V_BOOST_OUT [PMI8994]	3.395	0.01
176	QFE_RF [LDO, L16A, PM8994]	1.128	71.84
117	LPDDR4_VDD1 [SMPS, S4A]	1.820	14.66
37	CDC_BUCK [SMPS, S4A]	1.821	0.00

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Table 4-13 LTE TDD Cat 3 (60/19 Mbps DL/UL, B38) 0 dBm, 20 MHz, MIMO

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.694	204.0
22	Disp_BKLT	3.690	0.00
180	VIN_DBO1	3.690	0.07
190	VPH_HIFI_AMP	3.690	0.00
165	VPH_PWR_MISC	3.690	0.00
16	S1E_PA_1	3.690	0.07
17	S1E_PA_2	3.690	2.85
18	SPKR_DRV	3.690	0.00
27	VPH_WLAN_CARD	3.690	0.03
71	VPH_CDC	3.690	0.00
160	HAPTICS_DRV	3.690	0.01
36	FINGERPRINT	3.690	0.06
116	NFC	3.690	0.00
179	ULTRASOUND	3.689	0.01
144	VBATT_PMI8994_SMB1351	3.694	0.49
45	S1A_INPUT[CX]	3.688	28.53
46	S6A_INPUT[CX]	3.690	0.00
124	S2A_INPUT [MX]	3.689	13.17
125	S12A_INPUT [LPDDR4]	3.687	21.16
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.689	5.87
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.689	24.95
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.689	11.15
47	S7A_INPUT [MSS]	3.687	26.15
135	VPH_PWR_PM8996	3.682	1.47
48	S8A_INPUT [EBI]	3.689	8.82
49	S9A_INPUT [Hydra]	3.690	0.00
50	S10A_INPUT[Hydra]	3.690	0.00
51	S11A_INPUT [Hydra]	3.689	30.66
139	VIN_L8A_L16A_L30A	3.689	2.16
44	BBYP1_INPUT	3.690	0.25
143	S1B_INPUT [RF1]	3.682	27.05
62	S2B_INPUT [GFX]	3.690	0.00
63	S3B_INPUT [GFX]	3.690	0.00
148	VPH_VIN_5VBOOST	3.690	0.00
60	LCD1_MIPI_BKLT	3.690	0.01
138	HAPTICS_ERM	3.690	0.04
61	VIN_FLASH_1_2	3.462	0.03
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.689	0.20
147	VPH_PWR_DISP_M	3.690	0.00

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RCM channel	Regulator	V (volts)	I (mA)
146	VPH_PWR_DISP_P	3.690	0.00
3	S1A_OUTPUT [CX, SMPS, S1A]	0.691	121.68
4	S6A_OUTPUT [CX, SMPS, S6A]	0.691	0.14
5	S2A_OUTPUT [MX, SMPS, S2A]	0.851	48.46
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.310	0.94
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.309	12.78
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.310	0.43
39	L8_INPUT [CAM_R, SMPS, S3A]	1.310	0.03
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.310	0.00
52	S4A_OUTPUT [RF2, DDR,CDC, EMMC, CAM, SMPS, S4A]	1.821	42.52
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.106	7.54
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.106	4.89
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.081	5.46
53	ELDO7 [SMPS, S5A]	2.108	0.05
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.108	0.05
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.706	111.58
9	S9A_OUTPUT [HYDRA]	0.563	0.01
10	S10A_OUTPUT [HYDRA]	0.563	0.00
11	S11A_OUTPUT [HYDRA]	0.563	149.72
175	QFE_ANA [LDO, L16A, PM8994]	2.690	0.67
176	QFE_RF [LDO, L16A, PM8994]	2.690	0.78
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.690	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	1.076	79.07
12	GFX [SMPS, S2C/S2B]	0.000	0.00
13	GFX [SMPS, S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC,BBYP]	3.690	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.690	0.00
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.690	0.14
87	ELDO10 [BBYP]	3.690	0.00
193	CDC_MIC_BIAS [BBYP]	3.690	0.00
130	RGB,TORCH [BBYP]	3.690	0.03
126	L17A_L29A_INPUT [CAM, BBYP]	3.690	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.690	0.00
115	5V_BOOST_OUT [PMI8994]	3.396	0.00
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.128	58.42
117	LPDDR4_VDD1 [SMPS, S4A]	1.820	12.39
37	CDC_BUCK [SMPS, S4A]	1.821	0.00

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Table 4-14 LTE FDD Cat 3 (100/50 DL/UL, B7), 0 dBm, 20 MHz

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.694	279.0
22	Disp_BKLT	3.687	0.03
180	VIN_DBO1	3.687	0.07
190	VPH_HIFI_AMP	3.687	0.00
165	VPH_PWR_MISC	3.687	0.00
16	S1E_PA_1	3.687	0.20
17	S1E_PA_2	3.687	5.46
18	SPKR_DRV	3.687	0.05
27	VPH_WLAN_CARD	3.687	0.24
71	VPH_CDC	3.687	0.00
160	HAPTICS_DRV	3.687	0.00
36	FINGERPRINT	3.687	0.09
116	NFC	3.687	0.00
179	ULTRASOUND	3.687	0.01
144	VBATT_PMI8994_SMB1351	3.693	0.49
45	S1A_INPUT [CX]	3.685	34.48
46	S6A_INPUT [CX]	3.687	0.00
124	S2A_INPUT [MX]	3.686	19.43
125	S12A_INPUT [LPDDR4]	3.684	28.11
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.686	6.95
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.686	34.02
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.686	13.55
47	S7A_INPUT [MSS]	3.683	40.72
135	VPH_PWR_PM8996	3.683	0.67
48	S8A_INPUT [EBI]	3.686	11.47
49	S9A_INPUT [Hydra]	3.687	0.00
50	S10A_INPUT [Hydra]	3.687	0.00
51	S11A_INPUT [Hydra]	3.685	46.34
139	VIN_L8A_L16A_L30A	3.686	2.19
44	BBYP1_INPUT	3.687	1.32
143	S1B_INPUT [RF1]	3.676	35.25
62	S2B_INPUT [GFX]	3.687	0.01
63	S3B_INPUT [GFX]	3.687	0.01
148	VPH_VIN_5VBOOST	3.687	0.05
60	LCD1_MIPI_BKLT	3.687	0.00
138	HAPTICS_ERM	3.687	0.00
61	VIN_FLASH_1_2	3.460	0.04
30	USB_HOST	0.002	0.01
145	VPH_FLASH	3.686	0.22
147	VPH_PWR_DISP_M	3.687	0.00

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RCM channel	Regulator	V (volts)	I (mA)
146	VPH_PWR_DISP_P	3.687	0.01
3	S1A_OUTPUT [CX, SMPS, S1A]	0.689	146.93
4	S6A_OUTPUT [CX, SMPS, S6A]	0.689	0.21
5	S2A_OUTPUT [MX, SMPS, S2A]	0.851	71.11
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.310	0.93
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.309	15.64
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.310	0.56
39	L8_INPUT [CAM_R, SMPS, S3A]	1.310	0.04
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.310	0.00
52	S4A_OUTPUT [RF2, DDR,CDC, EMMC, CAM, SMPS, S4A]	1.821	58.68
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.106	10.97
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.106	5.38
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.081	5.46
53	ELDO7 [SMPS, S5A]	2.108	0.05
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.108	0.05
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.703	172.76
9	S9A_OUTPUT [HYDRA]	0.569	0.07
10	S10A_OUTPUT [HYDRA]	0.569	0.03
11	S11A_OUTPUT [HYDRA]	0.570	223.36
175	QFE_ANA [LDO, L16A, PM8994]	2.690	0.67
176	QFE_RF [LDO, L16A, PM8994]	2.690	0.80
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.690	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	1.074	103.72
12	GFX [SMPS, S2C/S2B]	0.000	0.03
13	GFX [SMPS, S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.687	0.03
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.687	0.92
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.687	0.13
87	ELDO10 [BBYP]	3.687	0.00
193	CDC_MIC_BIAS [BBYP]	3.687	0.00
130	RGB,TORCH [BBYP]	3.687	0.01
126	L17A_L29A_INPUT [CAM, BBYP]	3.687	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.687	0.00
115	5V_BOOST_OUT [PMI8994]	3.394	0.01
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.128	77.81
117	LPDDR4_VDD1 [SMPS, S4A]	1.820	15.28
37	CDC_BUCK [SMPS, S4A]	1.822	0.00

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Table 4-15 LTE FDD Cat 3 2 x CA, 10 MHz + 10 MHz (100/25 DL/UL, B17tx + B4), 0 dBm

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.694	307.0
22	Disp_BKLT	3.686	0.04
180	VIN_DBO1	3.686	0.08
190	VPH_HIFI_AMP	3.686	0.00
165	VPH_PWR_MISC	3.686	0.00
16	S1E_PA_1	3.686	0.24
17	S1E_PA_2	3.686	7.87
18	SPKR_DRV	3.686	0.13
27	VPH_WLAN_CARD	3.686	0.24
71	VPH_CDC	3.686	0.00
160	HAPTICS_DRV	3.686	0.00
36	FINGERPRINT	3.686	0.11
116	NFC	3.686	0.00
179	ULTRASOUND	3.686	0.01
144	VBATT_PMI8994_SMB1351	3.693	0.49
45	S1A_INPUT[CX]	3.684	39.48
46	S6A_INPUT [CX]	3.686	0.01
124	S2A_INPUT [MX]	3.685	19.57
125	S12A_INPUT [LPDDR4]	3.683	31.26
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.685	7.54
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.685	46.34
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.685	14.09
47	S7A_INPUT [MSS]	3.682	39.36
135	VPH_PWR_PM8996	3.683	0.67
48	S8A_INPUT [EBI]	3.684	13.16
49	S9A_INPUT [Hydra]	3.686	0.00
50	S10A_INPUT[Hydra]	3.686	0.05
51	S11A_INPUT [Hydra]	3.685	41.03
139	VIN_L8A_L16A_L30A	3.685	2.25
44	BBYP1_INPUT	3.686	1.36
143	S1B_INPUT [RF1]	3.673	43.35
62	S2B_INPUT [GFX]	3.686	0.00
63	S3B_INPUT [GFX]	3.686	0.00
148	VPH_VIN_5VBOOST	3.686	0.05
60	LCD1_MIPI_BKLT	3.686	0.00
138	HAPTICS_ERM	3.686	0.00
61	VIN_FLASH_1_2	3.459	0.02
30	USB_HOST	0.002	0.01
145	VPH_FLASH	3.686	0.04

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RCM channel	Regulator	V (volts)	I (mA)
147	VPH_PWR_DISP_M	3.686	0.00
146	VPH_PWR_DISP_P	3.686	0.02
3	S1A_OUTPUT [CX, SMPS, S1A]	0.700	164.86
4	S6A_OUTPUT [CX, SMPS, S6A]	0.700	0.28
5	S2A_OUTPUT [MX, SMPS, S2A]	0.851	71.35
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.310	1.45
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.309	16.24
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.310	0.72
39	L8_INPUT [CAM_R, SMPS, S3A]	1.310	0.05
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.310	0.00
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.821	80.30
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.106	11.50
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.107	5.62
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.081	5.48
53	ELDO7 [SMPS, S5A]	2.108	0.07
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.108	0.06
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.708	166.38
9	S9A_OUTPUT [HYDRA]	0.566	0.16
10	S10A_OUTPUT [HYDRA]	0.566	0.21
11	S11A_OUTPUT [HYDRA]	0.566	198.25
175	QFE_ANA [LDO, L16A, PM8994]	2.690	0.66
176	QFE_RF [LDO, L16A, PM8994]	2.690	0.84
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.690	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	1.074	127.16
12	GFX [SMPS,S2C/S2B]	0.000	0.10
13	GFX [SMPS,S4C/S3B]	0.000	0.05
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.686	0.04
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.686	0.92
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.686	0.13
87	ELDO10 [BBYP]	3.686	0.01
193	CDC_MIC_BIAS [BBYP]	3.686	0.00
130	RGB,TORCH [BBYP]	3.686	0.01
126	L17A_L29A_INPUT [CAM, BBYP]	3.686	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.686	0.00
115	5V_BOOST_OUT [PMI8994]	3.393	0.00
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.128	86.87
117	LPDDR4_VDD1 [SMPS, S4A]	1.820	16.56
37	CDC_BUCK [SMPS, S4A]	1.822	0.00

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Table 4-16 LTE FDD Cat 6, CA, 20 MHz + 20 MHz (300/50 DL/UL, B3tx + B7), 0 dBm

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.693	483.0
22	Disp_BKLT	3.679	0.00
180	VIN_DBO1	3.679	0.08
190	VPH_HIFI_AMP	3.679	0.00
165	VPH_PWR_MISC	3.679	0.00
16	S1E_PA_1	3.679	0.03
17	S1E_PA_2	3.679	6.02
18	SPKR_DRV	3.679	0.00
27	VPH_WLAN_CARD	3.679	0.18
71	VPH_CDC	3.679	0.00
160	HAPTICS_DRV	3.679	0.00
36	FINGERPRINT	3.679	0.06
116	NFC	3.679	0.00
179	ULTRASOUND	3.679	0.01
144	VBATT_PMI8994_SMB1351	3.691	0.81
45	S1A_INPUT [CX]	3.675	84.48
46	S6A_INPUT [CX]	3.679	0.00
124	S2A_INPUT [MX]	3.677	36.50
125	S12A_INPUT [LPDDR4]	3.675	38.78
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.678	15.69
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.678	51.46
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.678	17.08
47	S7A_INPUT [MSS]	3.672	70.43
135	VPH_PWR_PM8996	3.676	0.70
48	S8A_INPUT [EBI]	3.677	23.39
49	S9A_INPUT [Hydra]	3.679	0.00
50	S10A_INPUT[Hydra]	3.679	0.09
51	S11A_INPUT [Hydra]	3.676	90.94
139	VIN_L8A_L16A_L30A	3.678	2.62
44	BBYP1_INPUT	3.679	1.50
143	S1B_INPUT [RF1]	3.666	42.87
62	S2B_INPUT [GFX]	3.679	0.00
63	S3B_INPUT [GFX]	3.679	0.00
148	VPH_VIN_5VBOOST	3.679	0.00
60	LCD1_MIPI_BKLT	3.679	0.00
138	HAPTICS_ERM	3.679	0.00
61	VIN_FLASH_1_2	3.455	0.02
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.678	0.23
147	VPH_PWR_DISP_M	3.679	0.00

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RCM channel	Regulator	V (volts)	I (mA)
146	VPH_PWR_DISP_P	3.679	0.00
3	S1A_OUTPUT [CX, SMPS, S1A]	0.897	288.85
4	S6A_OUTPUT [CX, SMPS, S6A]	0.897	0.10
5	S2A_OUTPUT [MX, SMPS, S2A]	0.856	132.31
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.311	7.58
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.308	30.50
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.312	0.44
39	L8_INPUT [CAM_R, SMPS, S3A]	1.312	0.02
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.312	0.01
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.822	89.94
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.105	15.41
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.106	5.87
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.080	5.46
53	ELDO7 [SMPS, S5A]	2.108	0.01
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.108	0.02
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.706	302.70
9	S9A_OUTPUT [HYDRA]	0.617	0.31
10	S10A_OUTPUT [HYDRA]	0.617	0.38
11	S11A_OUTPUT [HYDRA]	0.618	406.90
175	QFE_ANA [LDO, L16A, PM8994]	2.690	0.67
176	QFE_RF [LDO, L16A, PM8994]	2.690	1.19
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.690	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	1.073	125.21
12	GFX [SMPS,S2C/S2B]	0.001	0.00
13	GFX [SMPS,S4C/S3B]	0.001	0.00
57	L20A_L21A_INPUT [MEM_SD,EMMC,BBYP]	3.679	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.679	1.21
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.679	0.14
87	ELDO10 [BBYP]	3.679	0.00
193	CDC_MIC_BIAS [BBYP]	3.679	0.00
130	RGB,TORCH [BBYP]	3.679	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.679	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.679	0.00
115	5V_BOOST_OUT [PMI8994]	3.389	0.00
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.128	108.32
117	LPDDR4_VDD1 [SMPS, S4A]	1.820	19.65
37	CDC_BUCK [SMPS, S4A]	1.822	0.00

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Table 4-17 LTE FDD Cat9, 3xCA, 20 MHz + 20 MHz + 20 MHz (450/50 DL/UL, B3 (Tx) + B7 + B20), embedded, 0 dBm

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.693	664.0
22	Disp_BKLT	3.673	0.00
180	VIN_DBO1	3.673	0.08
190	VPH_HIFI_AMP	3.674	0.00
165	VPH_PWR_MISC	3.673	0.00
16	S1E_PA_1	3.673	0.03
17	S1E_PA_2	3.673	5.72
18	SPKR_DRV	3.673	0.01
27	VPH_WLAN_CARD	3.673	0.09
71	VPH_CDC	3.674	0.00
160	HAPTICS_DRV	3.674	0.00
36	FINGERPRINT	3.674	0.06
116	NFC	3.673	0.00
179	ULTRASOUND	3.673	0.01
144	VBATT_PMI8994_SMB1351	3.691	0.81
45	S1A_INPUT[CX]	3.669	95.83
46	S6A_INPUT[CX]	3.673	0.00
124	S2A_INPUT [MX]	3.671	49.38
125	S12A_INPUT [LPDDR4]	3.669	47.71
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.672	21.72
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.672	67.04
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.672	20.08
47	S7A_INPUT [MSS]	3.661	125.13
135	VPH_PWR_PM8996	3.669	0.86
48	S8A_INPUT [EBI]	3.671	27.02
49	S9A_INPUT [Hydra]	3.673	0.84
50	S10A_INPUT[Hydra]	3.673	2.06
51	S11A_INPUT [Hydra]	3.670	143.23
139	VIN_L8A_L16A_L30A	3.673	2.62
44	BBYP1_INPUT	3.674	2.09
143	S1B_INPUT [RF1]	3.658	52.86
62	S2B_INPUT [GFX]	3.674	0.00
63	S3B_INPUT [GFX]	3.674	0.00
148	VPH_VIN_5VBOOST	3.674	0.03
60	LCD1_MIPI_BKLT	3.674	0.03
138	HAPTICS_ERM	3.674	0.00
61	VIN_FLASH_1_2	3.449	0.02
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.673	0.04

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RCM channel	Regulator	V (volts)	I (mA)
147	VPH_PWR_DISP_M	3.674	0.00
146	VPH_PWR_DISP_P	3.674	0.02
3	S1A_OUTPUT [CX, SMPS, S1A]	0.897	326.51
4	S6A_OUTPUT [CX, SMPS, S6A]	0.897	0.07
5	S2A_OUTPUT [MX, SMPS, S2A]	0.856	179.39
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.311	7.59
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.307	45.11
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.311	0.42
39	L8_INPUT [CAM_R, SMPS, S3A]	1.311	0.02
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.311	0.00
52	S4A_OUTPUT [RF2, DDR,CDC, EMMC, CAM, SMPS, S4A]	1.793	121.53
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.103	19.75
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.106	6.45
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.080	5.48
53	ELDO7 [SMPS, S5A]	2.107	0.06
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.107	0.05
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.791	493.27
9	S9A_OUTPUT [HYDRA]	0.669	3.20
10	S10A_OUTPUT [HYDRA]	0.669	8.00
11	S11A_OUTPUT [HYDRA]	0.669	606.32
175	QFE_ANA [LDO, L16A, PM8994]	2.690	0.66
176	QFE_RF [LDO, L16A, PM8994]	2.690	1.16
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	2.690	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	1.072	154.39
12	GFX [SMPS, S2C/S2B]	0.001	0.00
13	GFX [SMPS, S4C/S3B]	0.001	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.673	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.673	1.77
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.673	0.13
87	ELDO10 [BBYP]	3.673	0.00
193	CDC_MIC_BIAS [BBYP]	3.673	0.00
130	RGB,TORCH [BBYP]	3.673	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.673	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.673	0.01
115	5V_BOOST_OUT [PMI8994]	3.383	0.01
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.128	131.31
117	LPDDR4_VDD1 [SMPS,S4A]	1.790	23.32
37	CDC_BUCK [SMPS,S4A]	1.793	0.00

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4.2.2 Multimedia breakdown data smart panel

NOTE: The following tables have been updated.

Table 4-18 MP3 at 44.1 kHz 128 kbps stereo (Offload mode)

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.699	20.11
22	Disp_BKLT	3.699	0.01
180	VIN_DBO1	3.699	0.08
190	VPH_HIFI_AMP	3.699	0.01
165	VPH_PWR_MISC	3.699	0.01
16	S1E_PA_1	3.699	0.07
17	S1E_PA_2	3.699	0.02
18	SPKR_DRV	3.699	0.02
27	VPH_WLAN_CARD	3.699	0.17
71	VPH_CDC	3.699	0.00
160	HAPTICS_DRV	3.699	0.01
36	FINGERPRINT	3.699	0.06
116	NFC	3.699	0.00
179	ULTRASOUND	3.699	0.01
144	VBATT_PMI8994_SMB1351	3.699	0.18
45	S1A_INPUT [CX]	3.699	7.09
46	S6A_INPUT[CX]	3.699	0.00
124	S2A_INPUT [MX]	3.699	0.95
125	S12A_INPUT [LPDDR4]	3.699	1.34
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.699	0.70
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.699	5.87
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.699	2.23
47	S7A_INPUT [MSS]	3.699	0.00
135	VPH_PWR_PM8996	3.697	0.35
48	S8A_INPUT [EBI]	3.699	1.05
49	S9A_INPUT [Hydra]	3.699	0.00
50	S10A_INPUT[Hydra]	3.699	0.00
51	S11A_INPUT [Hydra]	3.699	0.36
139	VIN_L8A_L16A_L30A	3.699	0.22
44	BBYP1_INPUT	3.699	0.75
143	S1B_INPUT [RF1]	3.699	0.01
62	S2B_INPUT [GFX]	3.699	0.00
63	S3B_INPUT [GFX]	3.699	0.00
148	VPH_VIN_5VBOOST	3.699	0.05
60	LCD1_MIPI_BKLT	3.699	0.01
138	HAPTICS_ERM	3.699	0.03

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RCM channel	Regulator	V (volts)	I (mA)
61	VIN_FLASH_1_2	3.535	0.03
30	USB_HOST	0.001	0.00
145	VPH_FLASH	3.699	0.06
147	VPH_PWR_DISP_M	3.699	0.00
146	VPH_PWR_DISP_P	3.699	0.02
3	S1A_OUTPUT [CX, SMPS, S1A]	0.617	33.25
4	S6A_OUTPUT [CX, SMPS, S6A]	0.617	0.02
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	3.31
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.309	0.93
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.309	0.02
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.308	0.57
39	L8_INPUT [CAM_R, SMPS, S3A]	1.308	0.02
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.309	1.54
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.823	10.55
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.099	0.02
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.099	2.43
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.094	1.03
53	ELDO7 [SMPS, S5A]	2.099	0.06
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.099	0.05
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.04
9	S9A_OUTPUT [HYDRA]	0.071	0.00
10	S10A_OUTPUT [HYDRA]	0.071	0.00
11	S11A_OUTPUT [HYDRA]	0.071	1.34
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.000	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.000	0.00
13	GFX [SMPS,S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.699	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.699	0.51
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.699	0.01
87	ELDO10 [BBYP]	3.699	0.00
193	CDC_MIC_BIAS [BBYP]	3.699	0.00
130	RGB,TORCH [BBYP]	3.699	0.03
126	L17A_L29A_INPUT [CAM, BBYP]	3.699	0.01
74	ELDO12 [QCA6174, SI4705, BBYP]	3.699	0.01
115	5V_BOOST_OUT [PMI8994]	3.406	0.05
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.132	3.67
117	LPDDR4_VDD1 [SMPS, S4A]	1.822	1.31

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RCM channel	Regulator	V (volts)	I (mA)
37	CDC_BUCK [SMPS, S4A]	1.823	2.37

Table 4-19 Listen keyword detection using 16 KHz mono signal, 100% silence, user verification Off, single keyword

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.699	3.38
22	Disp_BKLT	3.700	0.03
180	VIN_DBO1	3.700	0.09
190	VPH_HIFI_AMP	3.700	0.01
165	VPH_PWR_MISC	3.700	0.00
16	S1E_PA_1	3.700	0.16
17	S1E_PA_2	3.700	0.12
18	SPKR_DRV	3.700	0.05
27	VPH_WLAN_CARD	3.700	0.19
71	VPH_CDC	3.700	0.00
160	HAPTICS_DRV	3.700	0.00
36	FINGERPRINT	3.700	0.09
116	NFC	3.700	0.00
179	ULTRASOUND	3.700	0.01
144	VBATT_PMI8994_SMB1351	3.699	0.18
45	S1A_INPUT[CX]	3.700	0.40
46	S6A_INPUT [CX]	3.700	0.00
124	S2A_INPUT [MX]	3.700	0.14
125	S12A_INPUT [LPDDR4]	3.700	0.84
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.700	0.30
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.700	1.07
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.700	0.03
47	S7A_INPUT [MSS]	3.700	0.00
135	VPH_PWR_PM8996	3.700	0.04
48	S8A_INPUT [EBI]	3.700	0.00
49	S9A_INPUT [Hydra]	3.700	0.00
50	S10A_INPUT[Hydra]	3.700	0.00
51	S11A_INPUT [Hydra]	3.700	0.03
139	VIN_L8A_L16A_L30A	3.700	0.00
44	BBYP1_INPUT	3.700	0.25
143	S1B_INPUT [RF1]	3.700	0.00
62	S2B_INPUT [GFX]	3.700	0.01
63	S3B_INPUT [GFX]	3.700	0.01
148	VPH_VIN_5VBOOST	3.700	0.03

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RCM channel	Regulator	V (volts)	I (mA)
60	LCD1_MIPI_BKLT	3.700	0.03
138	HAPTICS_ERM	3.700	0.01
61	VIN_FLASH_1_2	3.536	0.05
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.700	0.01
147	VPH_PWR_DISP_M	3.700	0.00
146	VPH_PWR_DISP_P	3.700	0.01
3	S1A_OUTPUT [CX, SMPS, S1A]	0.417	2.47
4	S6A_OUTPUT [CX, SMPS, S6A]	0.417	0.12
5	S2A_OUTPUT [MX, SMPS, S2A]	0.493	0.93
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.309	0.02
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.309	0.00
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.309	0.57
39	L8_INPUT [CAM_R, SMPS, S3A]	1.309	0.04
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.309	0.61
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.823	1.77
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.097	0.01
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.097	0.00
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.097	0.00
53	ELDO7 [SMPS, S5A]	2.097	0.00
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.097	0.05
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.15
9	S9A_OUTPUT [HYDRA]	0.000	0.01
10	S10A_OUTPUT [HYDRA]	0.000	0.00
11	S11A_OUTPUT [HYDRA]	0.000	0.00
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.000	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.000	0.00
13	GFX [SMPS,S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.700	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.700	0.24
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.700	0.00
87	ELDO10 [BBYP]	3.700	0.00
193	CDC_MIC_BIAS [BBYP]	3.700	0.00
130	RGB,TORCH [BBYP]	3.700	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.700	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.700	0.00
115	5V_BOOST_OUT [PMI8994]	3.412	0.02

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RCM channel	Regulator	V (volts)	I (mA)
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.131	2.26
117	LPDDR4_VDD1 [SMPS, S4A]	1.822	0.93
37	CDC_BUCK [SMPS, S4A]	1.823	0.00

Table 4-20 Listen keyword detection using 16 KHz mono speech, 100% speech, user verification Off, single keyword

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.699	4.17
22	Disp_BKLT	3.700	0.03
180	VIN_DBO1	3.700	0.08
190	VPH_HIFI_AMP	3.700	0.01
165	VPH_PWR_MISC	3.700	0.01
16	S1E_PA_1	3.700	0.16
17	S1E_PA_2	3.700	0.13
18	SPKR_DRV	3.700	0.04
27	VPH_WLAN_CARD	3.700	0.17
71	VPH_CDC	3.700	0.00
160	HAPTICS_DRV	3.700	0.01
36	FINGERPRINT	3.700	0.09
116	NFC	3.700	0.00
179	ULTRASOUND	3.700	0.01
144	VBATT_PMI8994_SMB1351	3.699	0.18
45	S1A_INPUT [CX]	3.700	0.49
46	S6A_INPUT [CX]	3.700	0.00
124	S2A_INPUT [MX]	3.700	0.12
125	S12A_INPUT [LPDDR4]	3.700	0.86
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.700	0.27
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.700	1.80
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.700	0.04
47	S7A_INPUT [MSS]	3.700	0.00
135	VPH_PWR_PM8996	3.700	0.04
48	S8A_INPUT [EBI]	3.700	0.00
49	S9A_INPUT [Hydra]	3.700	0.00
50	S10A_INPUT[Hydra]	3.700	0.00
51	S11A_INPUT [Hydra]	3.700	0.02
139	VIN_L8A_L16A_L30A	3.700	0.00
44	BBYP1_INPUT	3.700	0.21
143	S1B_INPUT [RF1]	3.700	0.00
62	S2B_INPUT [GFX]	3.700	0.00

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RCM channel	Regulator	V (volts)	I (mA)
63	S3B_INPUT [GFX]	3.700	0.00
148	VPH_VIN_5VBOOST	3.700	0.02
60	LCD1_MIPI_BKLT	3.700	0.02
138	HAPTICS_ERM	3.700	0.02
61	VIN_FLASH_1_2	3.535	0.04
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.700	0.01
147	VPH_PWR_DISP_M	3.700	0.00
146	VPH_PWR_DISP_P	3.700	0.01
3	S1A_OUTPUT [CX, SMPS, S1A]	0.417	2.74
4	S6A_OUTPUT [CX, SMPS, S6A]	0.417	0.10
5	S2A_OUTPUT [MX, SMPS, S2A]	0.493	0.78
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.309	0.04
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.309	0.00
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.309	0.56
39	L8_INPUT [CAM_R, SMPS, S3A]	1.309	0.04
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.309	0.64
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.823	3.09
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.097	0.02
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.097	0.01
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.097	0.00
53	ELDO7 [SMPS, S5A]	2.097	0.00
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.097	0.04
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.15
9	S9A_OUTPUT [HYDRA]	0.000	0.02
10	S10A_OUTPUT [HYDRA]	0.000	0.00
11	S11A_OUTPUT [HYDRA]	0.000	0.00
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.000	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.000	0.00
13	GFX [SMPS,S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.700	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.700	0.22
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.700	0.01
87	ELDO10 [BBYP]	3.700	0.00
193	CDC_MIC_BIAS [BBYP]	3.700	0.00
130	RGB,TORCH [BBYP]	3.700	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.700	0.00

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RCM channel	Regulator	V (volts)	I (mA)
74	ELDO12 [QCA6174, SI4705, BBYP]	3.700	0.01
115	5V_BOOST_OUT [PMI8994]	3.413	0.02
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.131	2.49
117	LPDDR4_VDD1 [SMPS, S4A]	1.823	0.93
37	CDC_BUCK [SMPS, S4A]	1.823	0.00

Table 4-21 Static image display, at fullscreen resolution, at VSync

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.693	226.47
	Adjusted Battery		218.86
	Dashboard		8.00
22	Disp_BKLT	3.686	0.01
180	VIN_DBO1	3.687	0.08
190	VPH_HIFI_AMP	3.687	0.01
165	VPH_PWR_MISC	3.687	0.01
16	S1E_PA_1	3.686	0.14
17	S1E_PA_2	3.686	0.07
18	SPKR_DRV	3.686	0.00
27	VPH_WLAN_CARD	3.687	0.09
71	VPH_CDC	3.686	0.00
160	HAPTICS_DRV	3.687	0.02
36	FINGERPRINT	3.687	0.08
116	NFC	3.687	0.00
179	ULTRASOUND	3.687	0.01
144	VBATT_PMI8994_SMB1351	3.692	0.49
45	S1A_INPUT [CX]	3.686	0.64
46	S6A_INPUT [CX]	3.686	0.00
124	S2A_INPUT [MX]	3.687	0.19
125	S12A_INPUT [LPDDR4]	3.687	0.88
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.686	0.99
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.686	2.51
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.685	37.24
47	S7A_INPUT [MSS]	3.687	0.01
135	VPH_PWR_PM8996	3.685	0.31
48	S8A_INPUT [EBI]	3.687	0.07
49	S9A_INPUT [Hydra]	3.686	0.00
50	S10A_INPUT[Hydra]	3.686	0.00
51	S11A_INPUT [Hydra]	3.687	0.29
139	VIN_L8A_L16A_L30A	3.687	0.27

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RCM channel	Regulator	V (volts)	I (mA)
44	BBYP1_INPUT	3.686	14.34
143	S1B_INPUT [RF1]	3.687	0.01
62	S2B_INPUT [GFX]	3.687	0.01
63	S3B_INPUT [GFX]	3.687	0.00
148	VPH_VIN_5VBOOST	3.687	0.02
60	LCD1_MIPI_BKLT	3.680	128.67
138	HAPTICS_ERM	3.687	0.01
61	VIN_FLASH_1_2	3.490	0.06
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.686	0.14
147	VPH_PWR_DISP_M	3.685	19.83
146	VPH_PWR_DISP_P	3.685	18.57
3	S1A_OUTPUT [CX, SMPS, S1A]	0.422	3.74
4	S6A_OUTPUT [CX, SMPS, S6A]	0.422	0.10
5	S2A_OUTPUT [MX, SMPS, S2A]	0.511	1.17
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.314	1.83
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.315	0.03
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.314	0.37
39	L8_INPUT [CAM_R, SMPS, S3A]	1.314	0.04
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.314	2.27
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.821	4.40
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.096	59.36
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.108	0.14
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.108	0.04
53	ELDO7 [SMPS, S5A]	2.108	0.06
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.108	0.04
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.09
9	S9A_OUTPUT [HYDRA]	0.072	0.01
10	S10A_OUTPUT [HYDRA]	0.072	0.00
11	S11A_OUTPUT [HYDRA]	0.072	1.02
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.001	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.001	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.000	0.00
13	GFX [SMPS,S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.684	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.684	0.02
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.682	14.18
87	ELDO10 [BBYP]	3.685	0.00

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RCM channel	Regulator	V (volts)	I (mA)
193	CDC_MIC_BIAS [BBYP]	3.685	0.00
130	RGB,TORCH [BBYP]	3.685	0.03
126	L17A_L29A_INPUT [CAM, BBYP]	3.685	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.684	0.00
115	5V_BOOST_OUT [PMI8994]	3.410	0.02
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.128	2.81
117	LPDDR4_VDD1 [SMPS, S4A]	1.823	0.98
37	CDC_BUCK [SMPS, S4A]	1.823	0.00

Table 4-22 Adjustment for static image display, at fullscreen resolution, at VSync

RCM channel	Regulator	I (mA) at 3.7 V
22	Disp_BKLT	0.008
190	VPH_HIFI_AMP	0.006
160	HAPTICS_DRV	0.017
179	ULTRASOUND	0.010
60	LCD1_MIPI_BKLT	128.666
138	HAPTICS_ERM	0.015
147	VPH_PWR_DISP_M	19.827
146	VPH_PWR_DISP_P	18.574
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.163
24	UFS [LDO, L25A, SUB SMPS, S3A]	0.164
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS, S4A]	0.002
67	FP_HOME_KEY [SMPS, S4A]	0.001
188	MISC [SMPS, S4A]	0.012
33	EMMC_VDDQ [SMPS, S4A]	0.014
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.033
88	SNS [LDO,LVS2A, SUB SMPS, S4A]	0.537
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	20.999
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.730
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	0.000
31	EMMC [LDO, L20A, BBYP]	0.000

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RCM channel	Regulator	I (mA) at 3.7 V
83	CAM_REAR [LDO, L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.002
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	14.075
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	0.000
95	CAM_FRONT [LDO, L29A, BBYP]	0.001
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.002

Table 4-23 30 fps at HD 1080p decode 20 Mbps AAC + 128 kbps 44 kHz stereo

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.693	342.10
	Adjusted Battery		237.81
	Dashboard		103.33
22	Disp_BKLT	3.682	0.00
180	VIN_DBO1	3.683	0.09
190	VPH_HIFI_AMP	3.683	0.01
165	VPH_PWR_MISC	3.683	0.01
16	S1E_PA_1	3.682	0.05
17	S1E_PA_2	3.682	0.00
18	SPKR_DRV	3.682	0.00
27	VPH_WLAN_CARD	3.683	0.02
71	VPH_CDC	3.683	0.00
160	HAPTICS_DRV	3.683	0.01
36	FINGERPRINT	3.682	0.05
116	NFC	3.683	0.00
179	ULTRASOUND	3.683	0.01
144	VBATT_PMI8994_SMB1351	3.692	0.49
45	S1A_INPUT [CX]	3.681	21.16
46	S6A_INPUT [CX]	3.682	0.00
124	S2A_INPUT [MX]	3.683	6.74
125	S12A_INPUT [LPDDR4]	3.681	20.20
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.682	9.43
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.682	15.70
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.680	52.86
47	S7A_INPUT [MSS]	3.683	0.00
135	VPH_PWR_PM8996	3.681	0.46
48	S8A_INPUT [EBI]	3.682	5.95

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RCM channel	Regulator	V (volts)	I (mA)
49	S9A_INPUT [Hydra]	3.682	0.00
50	S10A_INPUT[Hydra]	3.682	0.00
51	S11A_INPUT [Hydra]	3.682	25.19
139	VIN_L8A_L16A_L30A	3.683	0.28
44	BBYP1_INPUT	3.682	15.83
143	S1B_INPUT [RF1]	3.683	0.01
62	S2B_INPUT [GFX]	3.683	0.00
63	S3B_INPUT [GFX]	3.683	0.00
148	VPH_VIN_5VBOOST	3.683	0.01
60	LCD1_MIPI_BKLT	3.676	129.81
138	HAPTICS_ERM	3.683	0.03
61	VIN_FLASH_1_2	3.487	0.04
30	USB_HOST	0.001	0.00
145	VPH_FLASH	3.682	0.14
147	VPH_PWR_DISP_M	3.681	19.99
146	VPH_PWR_DISP_P	3.681	18.56
3	S1A_OUTPUT [CX, SMPS, S1A]	0.616	98.89
4	S6A_OUTPUT [CX, SMPS, S6A]	0.616	0.00
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	24.00
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.315	11.44
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.315	0.02
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.314	11.78
39	L8_INPUT [CAM_R, SMPS, S3A]	1.315	0.00
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.315	0.00
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.821	28.33
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.090	76.61
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.104	6.14
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.101	1.00
53	ELDO7 [SMPS, S5A]	2.106	0.00
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.106	0.02
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.01
9	S9A_OUTPUT [HYDRA]	0.583	0.00
10	S10A_OUTPUT [HYDRA]	0.583	0.00
11	S11A_OUTPUT [HYDRA]	0.583	119.06
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.001	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.001	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.003	0.00
13	GFX [SMPS,S4C/S3B]	0.003	0.00

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RCM channel	Regulator	V (volts)	I (mA)
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.681	0.79
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.681	0.78
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.679	14.16
87	ELDO10 [BBYP]	3.682	0.00
193	CDC_MIC_BIAS [BBYP]	3.682	0.00
130	RGB,TORCH [BBYP]	3.682	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.682	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.681	0.01
115	5V_BOOST_OUT [PMI8994]	3.407	0.02
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.129	54.79
117	LPDDR4_VDD1 [SMPS, S4A]	1.820	12.47
37	CDC_BUCK [SMPS, S4A]	1.821	3.53

Table 4-24 Adjustment for 30 fps at HD 1080p decode 20 Mbps AAC + 128 kbps 44 kHz stereo

RCM channel	Regulator	I (mA) at 3.7V
22	Disp_BKLT	0.000
190	VPH_HIFI_AMP	0.005
160	HAPTICS_DRV	0.006
179	ULTRASOUND	0.013
60	LCD1_MIPI_BKLT	129.811
138	HAPTICS_ERM	0.030
147	VPH_PWR_DISP_M	19.990
146	VPH_PWR_DISP_P	18.560
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.075
24	UFS [LDO, L25A, SUB SMPS, S3A]	4.696
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS, S4A]	1.507
67	FP_HOME_KEY [SMPS, S4A]	0.001
188	MISC [SMPS, S4A]	0.012
33	EMMC_VDDQ [SMPS, S4A]	0.003
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.030
88	SNS [LDO, LVS2A, SUB SMPS, S4A]	0.529
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	32.006
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.845
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000

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RCM channel	Regulator	I (mA) at 3.7V
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	0.694
31	EMMC [LDO, L20A, BBYP]	0.000
83	CAM_REAR [LDO, L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.000
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	13.992
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	0.000
95	CAM_FRONT [LDO, L29A, BBYP]	0.000
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.002

Table 4-25 30 fps at UHD 8b H.264 42 Mbps Speedboat, AAC + 128 kbps 44 KHz stereo

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.694	415.93
	Adjusted Battery		246.13
	Dashboard		168.36
22	Disp_BKLT	3.680	0.00
180	VIN_DBO1	3.681	0.07
190	VPH_HIFI_AMP	3.681	0.03
165	VPH_PWR_MISC	3.681	0.01
16	S1E_PA_1	3.680	0.05
17	S1E_PA_2	3.680	0.00
18	SPKR_DRV	3.680	0.12
27	VPH_WLAN_CARD	3.680	0.23
71	VPH_CDC	3.680	0.00
160	HAPTICS_DRV	3.681	0.01
36	FINGERPRINT	3.680	0.06
116	NFC	3.681	0.00
179	ULTRASOUND	3.681	0.01
144	VBATT_PMI8994_SMB1351	3.690	0.76
45	S1A_INPUT [CX]	3.678	49.08
46	S6A_INPUT [CX]	3.680	0.00
124	S2A_INPUT [MX]	3.680	12.89
125	S12A_INPUT [LPDDR4]	3.677	33.80

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RCM channel	Regulator	V (volts)	I (mA)
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.679	16.44
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.680	19.96
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.678	57.56
47	S7A_INPUT [MSS]	3.680	0.00
135	VPH_PWR_PM8996	3.678	0.46
48	S8A_INPUT [EBI]	3.678	17.28
49	S9A_INPUT [Hydra]	3.680	0.00
50	S10A_INPUT[Hydra]	3.680	0.00
51	S11A_INPUT [Hydra]	3.680	23.15
139	VIN_L8A_L16A_L30A	3.681	0.29
44	BBYP1_INPUT	3.680	16.59
143	S1B_INPUT [RF1]	3.681	0.00
62	S2B_INPUT [GFX]	3.680	0.01
63	S3B_INPUT [GFX]	3.680	0.01
148	VPH_VIN_5VBOOST	3.681	0.06
60	LCD1_MIPI_BKLT	3.673	129.88
138	HAPTICS_ERM	3.681	0.02
61	VIN_FLASH_1_2	3.485	0.06
30	USB_HOST	0.001	0.00
145	VPH_FLASH	3.680	0.14
147	VPH_PWR_DISP_M	3.679	19.71
146	VPH_PWR_DISP_P	3.679	18.30
3	S1A_OUTPUT [CX, SMPS, S1A]	0.693	206.51
4	S6A_OUTPUT [CX, SMPS, S6A]	0.693	0.02
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	47.35
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.314	21.59
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.315	0.03
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.314	19.30
39	L8_INPUT [CAM_R, SMPS, S3A]	1.315	0.02
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.314	40.94
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.821	35.71
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.089	83.07
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.103	7.10
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.101	1.00
53	ELDO7 [SMPS, S5A]	2.105	0.03
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.106	0.03
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.02
9	S9A_OUTPUT [HYDRA]	0.583	0.00
10	S10A_OUTPUT [HYDRA]	0.583	0.00
11	S11A_OUTPUT [HYDRA]	0.583	109.02
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00

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RCM channel	Regulator	V (volts)	I (mA)
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.001	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.001	0.00
59	S1B_OUTPUT [RF1,SMPS, S1B]	0.000	0.00
12	GFX [SMPS, S2C/S2B]	0.000	0.00
13	GFX [SMPS, S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.679	1.32
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.679	0.83
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.676	14.23
87	ELDO10 [BBYP]	3.680	0.00
193	CDC_MIC_BIAS [BBYP]	3.680	0.00
130	RGB,TORCH [BBYP]	3.680	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.679	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.679	0.00
115	5V_BOOST_OUT [PMI8994]	3.405	0.02
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.129	94.69
117	LPDDR4_VDD1 [SMPS, S4A]	1.820	17.34
37	CDC_BUCK [SMPS, S4A]	1.821	3.58

Table 4-26 Adjustments for 30 fps at UHD 8b H.264 42 Mbps Speedboat, AAC + 128 kbps 44 KHz stereo

RCM channel	Regulator	I (mA) at 3.7V
22	Disp_BKLT	0.000
190	VPH_HIFI_AMP	0.032
160	HAPTICS_DRV	0.012
179	ULTRASOUND	0.011
60	LCD1_MIPI_BKLT	129.883
138	HAPTICS_ERM	0.023
147	VPH_PWR_DISP_M	19.714
146	VPH_PWR_DISP_P	18.303
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.074
24	UFS [LDO, L25A, SUB SMPS, S3A]	7.590
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS, S4A]	2.711
67	FP_HOME_KEY [SMPS, S4A]	0.001
188	MISC [SMPS, S4A]	0.011
33	EMMC_VDDQ [SMPS, S4A]	0.001
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.028
88	SNS [LDO,LVS2A,SUB SMPS, S4A]	0.535

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RCM channel	Regulator	I (mA) at 3.7V
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	36.054
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.779
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	1.191
31	EMMC [LDO, L20A, BBYP]	0.001
83	CAM_REAR [LDO, L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.000
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	14.167
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	0.000
95	CAM_FRONT [LDO, L29A, BBYP]	0.000
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.002

Table 4-27 60 fps at UHD 10b H.265 50 Mbps Speedboat, AAC + 128 kbps 44 KHz stereo

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.694	611.85
	Adjusted Battery		257.93
	Dashboard		350.73
22	Disp_BKLT	3.674	0.00
180	VIN_DBO1	3.674	0.08
190	VPH_HIFI_AMP	3.674	0.01
165	VPH_PWR_MISC	3.674	0.01
16	S1E_PA_1	3.674	0.09
17	S1E_PA_2	3.674	0.03
18	SPKR_DRV	3.674	0.05
27	VPH_WLAN_CARD	3.674	0.00
71	VPH_CDC	3.674	0.00
160	HAPTICS_DRV	3.674	0.00
36	FINGERPRINT	3.674	0.06
116	NFC	3.674	0.00

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RCM channel	Regulator	V (volts)	I (mA)
179	ULTRASOUND	3.674	0.01
144	VBATT_PMI8994_SMB1351	3.690	0.79
45	S1A_INPUT [CX]	3.667	139.63
46	S6A_INPUT [CX]	3.674	0.00
124	S2A_INPUT [MX]	3.673	24.30
125	S12A_INPUT [LPDDR4]	3.667	69.49
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.673	22.83
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.673	28.69
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.671	65.80
47	S7A_INPUT [MSS]	3.674	0.00
135	VPH_PWR_PM8996	3.670	0.90
48	S8A_INPUT [EBI]	3.670	36.43
49	S9A_INPUT [Hydra]	3.674	0.00
50	S10A_INPUT[Hydra]	3.674	0.00
51	S11A_INPUT [Hydra]	3.673	36.64
139	VIN_L8A_L16A_L30A	3.674	0.30
44	BBYP1_INPUT	3.674	17.32
143	S1B_INPUT [RF1]	3.674	0.01
62	S2B_INPUT [GFX]	3.674	0.02
63	S3B_INPUT [GFX]	3.674	0.02
148	VPH_VIN_5VBOOST	3.674	0.01
60	LCD1_MIPI_BKLT	3.667	130.49
138	HAPTICS_ERM	3.674	0.00
61	VIN_FLASH_1_2	3.478	0.05
30	USB_HOST	0.001	0.00
145	VPH_FLASH	3.674	0.14
147	VPH_PWR_DISP_M	3.673	19.31
146	VPH_PWR_DISP_P	3.673	17.91
3	S1A_OUTPUT [CX, SMPS, S1A]	0.842	499.94
4	S6A_OUTPUT [CX, SMPS, S6A]	0.842	0.05
5	S2A_OUTPUT [MX, SMPS, S2A]	0.853	89.23
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.314	27.33
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.315	0.03
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.314	28.98
39	L8_INPUT [CAM_R, SMPS, S3A]	1.315	0.01
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.314	56.35
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.821	52.18
129	L14_L15_INPUT [QFPROM, HV_BBRX,SMPS,S5A]	2.086	93.82
131	L6_L12_L32_INPUT [PLL, GPS, USB,SMPS,S5A]	2.102	9.43
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.100	1.00
53	ELDO7 [SMPS,S5A]	2.104	0.00

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RCM channel	Regulator	V (volts)	I (mA)
85	ELDO14_IN [FRONT_CAM, SMPS,S5A]	2.105	0.01
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.05
9	S9A_OUTPUT [HYDRA]	0.583	0.00
10	S10A_OUTPUT [HYDRA]	0.583	0.00
11	S11A_OUTPUT [HYDRA]	0.583	172.67
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.001	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.001	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS, S2C/S2B]	0.004	0.00
13	GFX [SMPS, S4C/S3B]	0.004	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.663	1.71
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.663	1.02
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.661	14.23
87	ELDO10 [BBYP]	3.664	0.00
193	CDC_MIC_BIAS [BBYP]	3.664	0.00
130	RGB,TORCH [BBYP]	3.664	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.664	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.663	0.00
115	5V_BOOST_OUT [PMI8994]	3.399	0.03
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.126	185.37
117	LPDDR4_VDD1 [SMPS, S4A]	1.823	30.76
37	CDC_BUCK [SMPS, S4A]	1.823	3.53

Table 4-28 Adjustments 60 fps at UHD 10b H.265 50 Mbps Speedboat, AAC + 128 kbps 44 KHz stereo

RCM channel	Regulator	I (mA) at 3.7V
22	Disp_BKLT	0.000
190	VPH_HIFI_AMP	0.013
160	HAPTICS_DRV	0.001
179	ULTRASOUND	0.014
60	LCD1_MIPI_BKLT	130.491
138	HAPTICS_ERM	0.000
147	VPH_PWR_DISP_M	19.314
146	VPH_PWR_DISP_P	17.906
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.074
24	UFS [LDO,L25A,SUB SMPS, S3A]	11.511
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS,S4A]	3.742

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RCM channel	Regulator	I (mA) at 3.7V
67	FP_HOME_KEY [SMPS, S4A]	0.001
188	MISC [SMPS, S4A]	0.008
33	EMMC_VDDQ [SMPS, S4A]	0.000
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.027
88	SNS [LDO, LVS2A, SUB SMPS, S4A]	0.518
156	CAM_GEST [LDO, LVS1A, SUB SMPS,S 4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	42.683
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.759
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO,L21A, BBYP]	0.000
29	MEM_SD [LDO,L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	1.606
31	EMMC [LDO, L20A, BBYP]	0.005
83	CAM_REAR [LDO, L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.000
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	14.258
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	0.000
95	CAM_FRONT [LDO, L29A, BBYP]	0.000
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.002

Table 4-29 ZSL camera preview at 21 MP, 24 fps at display resolution

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.699	789.65
	Adjusted Battery		392.36
	Dashboard		397.29
22	Disp_BKLT	3.674	0.02
180	VIN_DBO1	3.674	0.08
190	VPH_HIFI_AMP	3.674	0.00
165	VPH_PWR_MISC	3.674	0.17
16	S1E_PA_1	3.674	0.13
17	S1E_PA_2	3.674	0.11
18	SPKR_DRV	3.674	0.00

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RCM channel	Regulator	V (volts)	I (mA)
27	VPH_WLAN_CARD	3.674	0.00
71	VPH_CDC	3.674	0.00
160	HAPTICS_DRV	3.674	0.00
36	FINGERPRINT	3.674	0.08
116	NFC	3.674	0.00
179	ULTRASOUND	3.674	0.00
144	VBATT_PMI8994_SMB1351	3.695	0.81
45	S1A_INPUT[CX]	3.664	181.93
46	S6A_INPUT[CX]	3.674	0.00
124	S2A_INPUT [MX]	3.672	47.69
125	S12A_INPUT [LPDDR4]	3.669	47.31
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.668	107.98
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.674	17.97
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.672	49.96
47	S7A_INPUT [MSS]	3.674	0.00
135	VPH_PWR_PM8996	3.672	0.46
48	S8A_INPUT [EBI]	3.671	26.74
49	S9A_INPUT [Hydra]	3.674	0.00
50	S10A_INPUT [Hydra]	3.674	0.64
51	S11A_INPUT [Hydra]	3.672	58.09
139	VIN_L8A_L16A_L30A	3.674	0.40
44	BBYP1_INPUT	3.673	80.65
143	S1B_INPUT [RF1]	3.674	0.00
62	S2B_INPUT [GFX]	3.674	0.00
63	S3B_INPUT [GFX]	3.674	0.00
148	VPH_VIN_5VBOOST	3.674	0.00
60	LCD1_MIPI_BKLT	3.667	130.10
138	HAPTICS_ERM	3.674	0.00
61	VIN_FLASH_1_2	3.480	0.01
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.674	0.14
147	VPH_PWR_DISP_M	3.673	20.89
146	VPH_PWR_DISP_P	3.673	19.60
3	S1A_OUTPUT [CX, SMPS, S1A]	0.796	676.06
4	S6A_OUTPUT [CX, SMPS, S6A]	0.796	0.26
5	S2A_OUTPUT [MX, SMPS, S2A]	0.849	175.45
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.293	27.66
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.293	0.01
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.293	0.72
39	L8_INPUT [CAM_R, SMPS, S3A]	1.276	244.32
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.293	272.71

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RCM channel	Regulator	V (volts)	I (mA)
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.824	32.27
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.081	74.68
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.095	3.96
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.091	1.04
53	ELDO7 [SMPS, S5A]	2.096	0.00
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.096	0.00
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.13
9	S9A_OUTPUT [HYDRA]	0.614	0.13
10	S10A_OUTPUT [HYDRA]	0.614	2.95
11	S11A_OUTPUT [HYDRA]	0.614	258.68
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.001	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.001	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS, S2C/S2B]	0.001	0.00
13	GFX [SMPS, S4C/S3B]	0.001	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.668	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.667	17.79
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.665	13.75
87	ELDO10 [BBYP]	3.669	0.05
193	CDC_MIC_BIAS [BBYP]	3.669	0.00
130	RGB,TORCH [BBYP]	3.669	0.00
126	L17A_L29A_INPUT [CAM, BBYP]	3.653	47.88
74	ELDO12 [QCA6174, SI4705, BBYP]	3.668	0.00
115	5V_BOOST_OUT [PMI8994]	3.402	0.01
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.129	127.00
117	LPDDR4_VDD1 [SMPS, S4A]	1.823	21.69
37	CDC_BUCK [SMPS, S4A]	1.823	0.00

Table 4-30 Adjustments for ZSL camera preview at 21 MP, 24 fps at display resolution

RCM channel	Regulator	I (mA) at 3.7V
22	Disp_BKLT	0.024
190	VPH_HIFI_AMP	0.000
160	HAPTICS_DRV	0.000
179	ULTRASOUND	0.000
60	LCD1_MIPI_BKLT	130.103
138	HAPTICS_ERM	0.004

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RCM channel	Regulator	I (mA) at 3.7V
147	VPH_PWR_DISP_M	20.887
146	VPH_PWR_DISP_P	19.600
98	HDMI [LDO,L28A, SUB SMPS, S3A]	0.069
24	UFS [LDO, L25A, SUB SMPS, S3A]	0.311
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	95.819
28	UFC [SMPS, S4A]	0.034
67	FP_HOME_KEY [SMPS, S4A]	0.000
188	MISC [SMPS, S4A]	0.000
33	EMMC_VDDQ [SMPS, S4A]	0.016
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.007
88	SNS [LDO, LVS2A, SUB SMPS, S4A]	0.012
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	1.209
169	DISP [LDO, L14A, SUB SMPS, S5A]	29.756
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	16.447
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	0.019
31	EMMC [LDO, L20A, BBYP]	0.001
83	CAM_REAR [LDO, L23A, BBYP]	16.469
78	CAM_FRONT [LDO, L23A, BBYP]	0.000
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	13.750
154	UIM2_DUAL [LDO,L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	47.824
95	CAM_FRONT [LDO, L29A, BBYP]	0.000
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.000

Table 4-31 Flatland Omnibox Powerlift [60:27] offscreen, 60 fps

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.693	494.86
	Adjusted Battery		225.59
	Dashboard		267.20
22	Disp_BKLT	3.677	0.00

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RCM channel	Regulator	V (volts)	I (mA)
180	VIN_DBO1	3.678	0.09
190	VPH_HIFI_AMP	3.678	0.00
165	VPH_PWR_MISC	3.678	0.01
16	S1E_PA_1	3.677	0.10
17	S1E_PA_2	3.677	0.02
18	SPKR_DRV	3.677	0.20
27	VPH_WLAN_CARD	3.677	0.15
71	VPH_CDC	3.677	0.00
160	HAPTICS_DRV	3.678	0.01
36	FINGERPRINT	3.677	0.08
116	NFC	3.678	0.00
179	ULTRASOUND	3.678	0.01
144	VBATT_PMI8994_SMB1351	3.690	0.79
45	S1A_INPUT[CX]	3.676	31.46
46	S6A_INPUT[CX]	3.677	0.00
124	S2A_INPUT [MX]	3.677	24.70
125	S12A_INPUT [LPDDR4]	3.673	43.61
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.677	9.67
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.677	15.01
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.676	43.89
47	S7A_INPUT [MSS]	3.677	0.01
135	VPH_PWR_PM8996	3.676	0.40
48	S8A_INPUT [EBI]	3.675	22.67
49	S9A_INPUT [Hydra]	3.677	0.00
50	S10A_INPUT[Hydra]	3.677	0.01
51	S11A_INPUT [Hydra]	3.676	45.55
139	VIN_L8A_L16A_L30A	3.678	0.29
44	BBYP1_INPUT	3.677	15.20
143	S1B_INPUT [RF1]	3.678	0.01
62	S2B_INPUT [GFX]	3.674	72.86
63	S3B_INPUT [GFX]	3.677	0.02
148	VPH_VIN_5VBOOST	3.678	0.02
60	LCD1_MIPI_BKLT	3.671	130.03
138	HAPTICS_ERM	3.678	0.00
61	VIN_FLASH_1_2	3.484	0.06
30	USB_HOST	0.001	0.00
145	VPH_FLASH	3.677	0.17
147	VPH_PWR_DISP_M	3.676	19.91
146	VPH_PWR_DISP_P	3.676	19.55
3	S1A_OUTPUT [CX, SMPS, S1A]	0.678	136.39
4	S6A_OUTPUT [CX, SMPS, S6A]	0.677	0.08

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RCM channel	Regulator	V (volts)	I (mA)
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	88.61
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.314	23.57
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.315	0.04
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.315	0.38
39	L8_INPUT [CAM_R, SMPS, S3A]	1.315	0.02
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.314	24.01
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.821	26.62
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.094	65.54
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.106	2.52
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.102	1.00
53	ELDO7 [SMPS, S5A]	2.107	0.05
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.107	0.04
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.06
9	S9A_OUTPUT [HYDRA]	0.605	0.00
10	S10A_OUTPUT [HYDRA]	0.605	0.00
11	S11A_OUTPUT [HYDRA]	0.605	205.55
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.001	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.001	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.668	307.82
13	GFX [SMPS,S4C/S3B]	0.668	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.676	0.01
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.676	0.83
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.674	14.11
87	ELDO10 [BBYP]	3.677	0.00
193	CDC_MIC_BIAS [BBYP]	3.677	0.00
130	RGB,TORCH [BBYP]	3.677	0.03
126	L17A_L29A_INPUT [CAM, BBYP]	3.677	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.676	0.02
115	5V_BOOST_OUT [PMI8994]	3.404	0.02
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.129	121.65
117	LPDDR4_VDD1 [SMPS, S4A]	1.819	19.8
37	CDC_BUCK [SMPS, S4A]	1.821	0.00

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Table 4-32 Adjustments for Flatland Omnibox Powerlift [60:27] offscreen, 60 fps

RCM channel	Regulator	I (mA) at 3.7V
22	Disp_BKLT	0.000
190	VPH_HIFI_AMP	0.002
160	HAPTICS_DRV	0.012
179	ULTRASOUND	0.011
60	LCD1_MIPI_BKLT	130.025
138	HAPTICS_ERM	0.000
147	VPH_PWR_DISP_M	19.907
146	VPH_PWR_DISP_P	19.552
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.076
24	UFS [LDO, L25A, SUB SMPS, S3A]	0.150
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS, S4A]	0.027
67	FP_HOME_KEY [SMPS, S4A]	0.002
188	MISC [SMPS, S4A]	0.013
33	EMMC_VDDQ [SMPS, S4A]	0.013
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.041
88	SNS [LDO,LVS2A, SUB SMPS, S4A]	0.593
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	25.301
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.817
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	0.000
31	EMMC [LDO, L20A, BBYP]	0.000
83	CAM_REAR [LDO, L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.002
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	14.040
154	UIM2_DUAL [LDO, L10A, BBYP]	0.002
191	CAM_REAR [LDO, L17A, BBYP]	0.000
95	CAM_FRONT [LDO, L29A, BBYP]	0.000
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.001

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Table 4-33 Accelerometer batching background processing + AIR1

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.698	3.89
22	Disp_BKLT	3.699	0.03
180	VIN_DBO1	3.699	0.08
190	VPH_HIFI_AMP	3.699	0.01
165	VPH_PWR_MISC	3.699	0.00
16	S1E_PA_1	3.699	0.18
17	S1E_PA_2	3.699	0.15
18	SPKR_DRV	3.699	0.04
27	VPH_WLAN_CARD	3.699	0.21
71	VPH_CDC	3.699	0.00
160	HAPTICS_DRV	3.699	0.00
36	FINGERPRINT	3.699	0.10
116	NFC	3.699	0.00
179	ULTRASOUND	3.699	0.01
144	VBATT_PMI8994_SMB1351	3.698	0.19
45	S1A_INPUT[CX]	3.699	0.48
46	S6A_INPUT[CX]	3.699	0.01
124	S2A_INPUT [MX]	3.699	0.17
125	S12A_INPUT [LPDDR4]	3.699	0.88
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.699	0.36
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.699	1.47
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.699	0.00
47	S7A_INPUT [MSS]	3.699	0.00
135	VPH_PWR_PM8996	3.699	0.04
48	S8A_INPUT [EBI]	3.699	0.01
49	S9A_INPUT [Hydra]	3.699	0.00
50	S10A_INPUT[Hydra]	3.699	0.00
51	S11A_INPUT [Hydra]	3.699	0.06
139	VIN_L8A_L16A_L30A	3.699	0.02
44	BBYP1_INPUT	3.699	0.28
143	S1B_INPUT [RF1]	3.699	0.00
62	S2B_INPUT [GFX]	3.699	0.02
63	S3B_INPUT [GFX]	3.699	0.01
148	VPH_VIN_5VBOOST	3.699	0.05
60	LCD1_MIPI_BKLT	3.699	0.03
138	HAPTICS_ERM	3.699	0.00
61	VIN_FLASH_1_2	3.535	0.06
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.699	0.01
147	VPH_PWR_DISP_M	3.699	0.00

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RCM channel	Regulator	V (volts)	I (mA)
146	VPH_PWR_DISP_P	3.699	0.02
3	S1A_OUTPUT [CX, SMPS, S1A]	0.418	2.79
4	S6A_OUTPUT [CX, SMPS, S6A]	0.418	0.14
5	S2A_OUTPUT [MX, SMPS, S2A]	0.493	1.05
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.309	0.05
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.309	0.05
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.309	0.59
39	L8_INPUT [CAM_R, SMPS, S3A]	1.309	0.05
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.309	0.74
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.823	2.59
129	L14_L15_INPUT [QFPROM, HV_BBRX,SMPS, S5A]	2.097	0.02
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.097	0.00
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.097	0.00
53	ELDO7 [SMPS, S5A]	2.097	0.00
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.097	0.06
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.15
9	S9A_OUTPUT [HYDRA]	0.000	0.04
10	S10A_OUTPUT [HYDRA]	0.000	0.00
11	S11A_OUTPUT [HYDRA]	0.000	0.00
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.000	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.000	0.00
13	GFX [SMPS, S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD,EMMC,BBYP]	3.699	0.01
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.699	0.25
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.699	0.00
87	ELDO10 [BBYP]	3.699	0.00
193	CDC_MIC_BIAS [BBYP]	3.699	0.00
130	RGB, TORCH [BBYP]	3.699	0.00
126	L17A_L29A_INPUT [CAM, BBYP]	3.699	0.01
74	ELDO12 [QCA6174, SI4705, BBYP]	3.699	0.00
115	5V_BOOST_OUT [PMI8994]	3.409	0.04
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.131	2.58
117	LPDDR4_VDD1 [SMPS, S4A]	1.823	0.93
37	CDC_BUCK [SMPS, S4A]	1.823	0.00

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Table 4-34 Web browsing over Wi-Fi (Lorem webpage with UI) browser over Wi-Fi (heavier workload with more frequent page loading and scrolling)

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.699	330.25
	Adjusted Battery		218.84
	Dashboard		110.48
22	Disp_BKLT	3.689	0.04
180	VIN_DBO1	3.689	0.08
190	VPH_HIFI_AMP	3.689	0.01
165	VPH_PWR_MISC	3.689	0.00
16	S1E_PA_1	3.689	0.15
17	S1E_PA_2	3.689	0.14
18	SPKR_DRV	3.689	0.04
27	VPH_WLAN_CARD	3.689	1.42
71	VPH_CDC	3.689	0.00
160	HAPTICS_DRV	3.689	0.00
36	FINGERPRINT	3.689	0.08
116	NFC	3.689	0.00
179	ULTRASOUND	3.689	0.01
144	VBATT_PMI8994_SMB1351	3.697	0.58
45	S1A_INPUT[CX]	3.688	15.69
46	S6A_INPUT[CX]	3.689	0.01
124	S2A_INPUT [MX]	3.689	3.42
125	S12A_INPUT [LPDDR4]	3.688	13.29
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.689	9.38
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.689	8.48
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.687	40.29
47	S7A_INPUT [MSS]	3.689	0.00
135	VPH_PWR_PM8996	3.687	0.46
48	S8A_INPUT [EBI]	3.688	8.00
49	S9A_INPUT [Hydra]	3.689	1.66
50	S10A_INPUT[Hydra]	3.689	9.35
51	S11A_INPUT [Hydra]	3.688	33.27
139	VIN_L8A_L16A_L30A	3.689	0.64
44	BBYP1_INPUT	3.689	17.15
143	S1B_INPUT [RF1]	3.689	0.00
62	S2B_INPUT [GFX]	3.689	2.47
63	S3B_INPUT [GFX]	3.689	0.04
148	VPH_VIN_5VBOOST	3.689	0.05
60	LCD1_MIPI_BKLT	3.682	129.54
138	HAPTICS_ERM	3.689	0.00
61	VIN_FLASH_1_2	3.490	0.07

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RCM channel	Regulator	V (volts)	I (mA)
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.689	0.15
147	VPH_PWR_DISP_M	3.688	18.59
146	VPH_PWR_DISP_P	3.688	17.15
3	S1A_OUTPUT [CX, SMPS, S1A]	0.618	65.31
4	S6A_OUTPUT [CX, SMPS, S6A]	0.618	0.12
5	S2A_OUTPUT [MX, SMPS, S2A]	0.772	12.39
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.308	9.45
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.308	0.00
58	L25_INPUT [UFS, PX10, SMPS,S3A]	1.308	3.33
39	L8_INPUT [CAM_R, SMPS, S3A]	1.308	0.04
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.308	12.82
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.823	15.12
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.084	58.10
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.094	5.48
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.091	0.98
53	ELDO7 [SMPS, S5A]	2.096	0.08
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.096	0.06
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.12
9	S9A_OUTPUT [HYDRA]	0.444	5.46
10	S10A_OUTPUT [HYDRA]	0.444	32.03
11	S11A_OUTPUT [HYDRA]	0.444	132.98
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.000	0.00
184	QCA_XO [LDO, L30A, PM8994]	1.793	0.35
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.261	11.27
13	GFX [SMPS, S4C/S3B]	0.261	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.688	0.32
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.688	0.86
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.685	14.76
87	ELDO10 [BBYP]	3.688	0.00
193	CDC_MIC_BIAS [BBYP]	3.688	0.00
130	RGB,TORCH [BBYP]	3.688	0.01
126	L17A_L29A_INPUT [CAM, BBYP]	3.688	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.688	0.90
115	5V_BOOST_OUT [PMI8994]	3.413	0.02
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.130	35.72
117	LPDDR4_VDD1 [SMPS, S4A]	1.823	6.92
37	CDC_BUCK [SMPS, S4A]	1.823	0.00

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Table 4-35 Adjustments for web browsing over Wi-Fi

RCM channel	Regulator	I (mA) at 3.7V
22	Disp_BKLT	0.045
190	VPH_HIFI_AMP	0.011
160	HAPTICS_DRV	0.000
179	ULTRASOUND	0.008
60	LCD1_MIPI_BKLT	129.542
138	HAPTICS_ERM	0.000
147	VPH_PWR_DISP_M	18.590
146	VPH_PWR_DISP_P	17.149
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.077
24	UFS [LDO,L25A, SUB SMPS, S3A]	1.346
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS, S4A]	0.548
67	FP_HOME_KEY [SMPS, S4A]	0.000
188	MISC [SMPS, S4A]	0.000
33	EMMC_VDDQ [SMPS, S4A]	0.011
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.020
88	SNS [LDO, LVS2A, SUB SMPS, S4A]	0.570
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.001
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	20.187
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.659
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	0.206
31	EMMC [LDO, L20A, BBYP]	0.006
83	CAM_REAR [LDO, L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.000
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	14.857
154	UIM2_DUAL [LDO, L10A, BBYP]	0.001
191	CAM_REAR [LDO, L17A, BBYP]	0.000
95	CAM_FRONT [LDO,L29A, BBYP]	0.001
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.002

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Table 4-36 Video streaming over Wi-Fi (1080p 3.5 Mbps) 2 GHz, 11n, 2 x 2 MCS7 HT20 video streaming over Wi-Fi

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.699	372.59
	Adjusted Battery		227.42
	Dashboard		144.04
22	Disp_BKLT	3.688	0.02
180	VIN_DBO1	3.688	0.07
190	VPH_HIFI_AMP	3.689	0.00
165	VPH_PWR_MISC	3.689	0.00
16	S1E_PA_1	3.688	0.16
17	S1E_PA_2	3.688	0.15
18	SPKR_DRV	3.688	0.05
27	VPH_WLAN_CARD	3.688	6.48
71	VPH_CDC	3.688	0.00
160	HAPTICS_DRV	3.688	0.00
36	FINGERPRINT	3.688	0.09
116	NFC	3.688	0.00
179	ULTRASOUND	3.688	0.02
144	VBATT_PMI8994_SMB1351	3.697	0.56
45	S1A_INPUT[CX]	3.687	26.15
46	S6A_INPUT[CX]	3.688	0.01
124	S2A_INPUT [MX]	3.688	7.18
125	S12A_INPUT [LPDDR4]	3.686	22.15
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.687	17.40
43	S4A_INPUT [RF2, DDR,CDC, EMMC, CAM]	3.688	15.10
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.686	50.27
47	S7A_INPUT [MSS]	3.688	0.00
135	VPH_PWR_PM8996	3.686	0.42
48	S8A_INPUT [EBI]	3.688	7.04
49	S9A_INPUT [Hydra]	3.688	0.00
50	S10A_INPUT[Hydra]	3.688	0.17
51	S11A_INPUT [Hydra]	3.687	33.79
139	VIN_L8A_L16A_L30A	3.688	0.97
44	BBYP1_INPUT	3.688	19.17
143	S1B_INPUT [RF1]	3.689	0.00
62	S2B_INPUT [GFX]	3.688	0.09
63	S3B_INPUT [GFX]	3.688	0.00
148	VPH_VIN_5VBOOST	3.688	0.06
60	LCD1_MIPI_BKLT	3.682	129.63
138	HAPTICS_ERM	3.688	0.03
61	VIN_FLASH_1_2	3.490	0.03

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RCM channel	Regulator	V (volts)	I (mA)
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.688	0.14
147	VPH_PWR_DISP_M	3.687	18.87
146	VPH_PWR_DISP_P	3.687	17.57
3	S1A_OUTPUT [CX, SMPS, S1A]	0.666	112.50
4	S6A_OUTPUT [CX, SMPS, S6A]	0.666	0.15
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	26.13
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.307	14.32
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.307	0.00
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.307	0.77
39	L8_INPUT [CAM_R, SMPS, S3A]	1.307	0.05
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.307	15.15
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.823	27.10
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.080	73.58
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.094	6.01
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.090	1.03
53	ELDO7 [SMPS, S5A]	2.095	0.07
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.096	0.06
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.15
9	S9A_OUTPUT [HYDRA]	0.588	0.09
10	S10A_OUTPUT [HYDRA]	0.588	0.52
11	S11A_OUTPUT [HYDRA]	0.588	156.67
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.000	0.00
184	QCA_XO [LDO, L30A, PM8994]	1.790	0.66
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS, S2C/S2B]	0.023	0.45
13	GFX [SMPS, S4C/S3B]	0.023	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.687	0.02
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.687	0.80
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.684	14.65
87	ELDO10 [BBYP]	3.687	0.01
193	CDC_MIC_BIAS [BBYP]	3.687	0.00
130	RGB,TORCH [BBYP]	3.687	0.01
126	L17A_L29A_INPUT [CAM, BBYP]	3.687	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.686	3.22
115	5V_BOOST_OUT [PMI8994]	3.412	0.03
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.131	60.75
117	LPDDR4_VDD1 [SMPS, S4A]	1.823	13.48
37	CDC_BUCK [SMPS, S4A]	1.823	2.41

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Table 4-37 Adjustments for video streaming over Wi-Fi

RCM channel	Regulator	I (mA) at 3.7V
22	Disp_BKLT	0.021
190	VPH_HIFI_AMP	0.004
160	HAPTICS_DRV	0.000
179	ULTRASOUND	0.016
60	LCD1_MIPI_BKLT	129.635
138	HAPTICS_ERM	0.030
147	VPH_PWR_DISP_M	18.868
146	VPH_PWR_DISP_P	17.566
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.073
24	UFS [LDO, L25A, SUB SMPS, S3A]	0.330
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS,S4A]	0.044
67	FP_HOME_KEY [SMPS, S4A]	0.000
188	MISC [SMPS, S4A]	0.002
33	EMMC_VDDQ [SMPS, S4A]	0.017
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.019
88	SNS [LDO, LVS2A, SUB SMPS, S4A]	0.584
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	29.732
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.632
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	0.000
31	EMMC [LDO, L20A, BBYP]	0.000
83	CAM_REAR [LDO, L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.000
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	14.842
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	0.000
95	CAM_FRONT [LDO, L29A, BBYP]	0.001
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.003

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4.2.3 Multimedia breakdown data dumb panel

- Table 4-49 – MP3 at 44.1 kHz 128 kbps stereo (Offload mode)
- Table 4-50 – Listen keyword detection using 16 KHz mono signal, 100% silence, user verification Off, and single keyword
- Table 4-51 – Listen keyword detection using 16 KHz mono speech, 100% speech, user verification Off, and single keyword.

NOTE: All three are same as the smart panel data.

NOTE: The following tables have been updated.

Table 4-38 Static image display, at fullscreen resolution, at VSync

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.699	285.14
—	Adjusted Battery	—	221.41
—	Dashboard	—	63.08
22	Disp_BKLT	3.690	0.00
180	VIN_DBO1	3.690	0.07
190	VPH_HIFI_AMP	3.690	0.00
165	VPH_PWR_MISC	3.690	0.00
16	S1E_PA_1	3.690	0.07
17	S1E_PA_2	3.690	0.05
18	SPKR_DRV	3.690	0.00
27	VPH_WLAN_CARD	3.690	0.06
71	VPH_CDC	3.690	0.00
160	HAPTICS_DRV	3.690	0.01
36	FINGERPRINT	3.690	0.06
116	NFC	3.690	0.00
179	ULTRASOUND	3.690	0.01
144	VBATT_PMI8994_SMB1351	3.697	0.50
45	S1A_INPUT[CX]	3.690	14.51
46	S6A_INPUT[CX]	3.690	0.00
124	S2A_INPUT [MX]	3.690	2.32
125	S12A_INPUT [LPDDR4]	3.689	14.69
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.689	15.99
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.690	7.64
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.688	42.30
47	S7A_INPUT [MSS]	3.690	0.00
135	VPH_PWR_PM8996	3.689	0.35
48	S8A_INPUT [EBI]	3.690	4.11

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RCM channel	Regulator	V (volts)	I (mA)
49	S9A_INPUT [Hydra]	3.690	0.00
50	S10A_INPUT[Hydra]	3.690	0.00
51	S11A_INPUT [Hydra]	3.690	0.15
139	VIN_L8A_L16A_L30A	3.690	0.31
44	BBYP1_INPUT	3.690	15.93
143	S1B_INPUT [RF1]	3.690	0.00
62	S2B_INPUT [GFX]	3.690	0.01
63	S3B_INPUT [GFX]	3.690	0.01
148	VPH_VIN_5VBOOST	3.690	0.00
60	LCD1_MIPI_BKLT	3.684	128.97
138	HAPTICS_ERM	3.690	0.02
61	VIN_FLASH_1_2	3.490	0.05
30	USB_HOST	0.001	0.00
145	VPH_FLASH	3.690	0.14
147	VPH_PWR_DISP_M	3.689	18.83
146	VPH_PWR_DISP_P	3.689	17.72
3	S1A_OUTPUT [CX, SMPS, S1A]	0.617	66.94
4	S6A_OUTPUT [CX, SMPS, S6A]	0.617	0.03
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	8.69
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.307	39.06
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.309	0.02
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.308	0.59
39	L8_INPUT [CAM_R, SMPS, S3A]	1.308	0.02
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.307	39.69
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.823	13.49
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.083	64.82
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.095	2.40
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.091	1.03
53	ELDO7 [SMPS, S5A]	2.096	0.03
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.096	0.02
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.03
9	S9A_OUTPUT [HYDRA]	0.054	0.00
10	S10A_OUTPUT [HYDRA]	0.054	0.00
11	S11A_OUTPUT [HYDRA]	0.054	0.53
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.000	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.000	0.00
13	GFX [SMPS, S4C/S3B]	0.000	0.00

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RCM channel	Regulator	V (volts)	I (mA)
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.689	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.689	0.60
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA,BBYP]	3.686	15.14
87	ELDO10 [BBYP]	3.689	0.00
193	CDC_MIC_BIAS [BBYP]	3.689	0.00
130	RGB,TORCH [BBYP]	3.689	0.03
126	L17A_L29A_INPUT [CAM, BBYP]	3.689	0.01
74	ELDO12 [QCA6174, SI4705, BBYP]	3.689	0.00
115	5V_BOOST_OUT [PMI8994]	3.407	0.05
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.131	41.16
117	LPDDR4_VDD1 [SMPS, S4A]	1.819	8.81
37	CDC_BUCK [SMPS, S4A]	1.823	0.00

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Table 4-39 Adjustments for static image display, at fullscreen resolution, at VSync

RCM channel	Regulator	I (mA) at 3.7 V
22	Disp_BKLT	0.003
190	VPH_HIFI_AMP	0.003
160	HAPTICS_DRV	0.008
179	ULTRASOUND	0.013
60	LCD1_MIPI_BKLT	128.968
138	HAPTICS_ERM	0.022
147	VPH_PWR_DISP_M	18.833
146	VPH_PWR_DISP_P	17.721
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.069
24	UFS [LDO, L25A, SUB SMPS, S3A]	0.241
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS, S4A]	0.012
67	FP_HOME_KEY [SMPS, S4A]	0.001
188	MISC [SMPS, S4A]	0.002
33	EMMC_VDDQ [SMPS, S4A]	0.010
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.027
88	SNS [LDO, LVS2A, SUB SMPS, S4A]	0.584
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	24.163
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.612
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	0.000
31	EMMC [LDO, L20A, BBYP]	0.000
83	CAM_REAR [LDO, L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.000
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	15.113
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	0.001
95	CAM_FRONT [LDO, L29A, BBYP]	0.000
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.004

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Table 4-40 30 fps at HD 1080p decode 20 Mbps AAC + 128 kbps 44 kHz stereo

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.694	352.24
—	Adjusted Battery	—	233.84
—	Dashboard	—	117.37
22	Disp_BKLT	3.683	0.00
180	VIN_DBO1	3.683	0.08
190	VPH_HIFI_AMP	3.683	0.00
165	VPH_PWR_MISC	3.683	0.01
16	S1E_PA_1	3.683	0.03
17	S1E_PA_2	3.683	0.00
18	SPKR_DRV	3.683	0.00
27	VPH_WLAN_CARD	3.683	0.00
71	VPH_CDC	3.683	0.00
160	HAPTICS_DRV	3.683	0.01
36	FINGERPRINT	3.683	0.05
116	NFC	3.683	0.00
179	ULTRASOUND	3.683	0.01
144	VBATT_PMI8994_SMB1351	3.692	0.49
45	S1A_INPUT [CX]	3.682	23.18
46	S6A_INPUT [CX]	3.683	0.01
124	S2A_INPUT [MX]	3.683	7.48
125	S12A_INPUT [LPDDR4]	3.681	20.76
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.682	21.71
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.683	15.80
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.681	49.24
47	S7A_INPUT [MSS]	3.683	0.01
135	VPH_PWR_PM8996	3.681	0.46
48	S8A_INPUT [EBI]	3.682	6.17
49	S9A_INPUT [Hydra]	3.683	0.00
50	S10A_INPUT [Hydra]	3.683	0.02
51	S11A_INPUT [Hydra]	3.682	23.21
139	VIN_L8A_L16A_L30A	3.683	0.30
44	BBYP1_INPUT	3.683	15.97
143	S1B_INPUT [RF1]	3.683	0.00
62	S2B_INPUT [GFX]	3.683	0.00
63	S3B_INPUT [GFX]	3.683	0.00
148	VPH_VIN_5VBOOST	3.683	0.01
60	LCD1_MIPI_BKLT	3.676	129.61
138	HAPTICS_ERM	3.683	0.05
61	VIN_FLASH_1_2	3.487	0.02
30	USB_HOST	0.001	0.00

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RCM channel	Regulator	V (volts)	I (mA)
145	VPH_FLASH	3.683	0.14
147	VPH_PWR_DISP_M	3.682	19.86
146	VPH_PWR_DISP_P	3.682	18.38
3	S1A_OUTPUT [CX, SMPS, S1A]	0.608	110.19
4	S6A_OUTPUT [CX, SMPS, S6A]	0.608	0.00
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	27.80
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.314	41.74
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.315	0.03
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.314	11.78
39	L8_INPUT [CAM_R, SMPS, S3A]	1.315	0.01
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.314	53.57
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.821	28.27
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.092	71.06
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.105	6.13
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.101	0.99
53	ELDO7 [SMPS, S5A]	2.106	0.09
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.106	0.06
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.00
9	S9A_OUTPUT [HYDRA]	0.583	0.00
10	S10A_OUTPUT [HYDRA]	0.582	0.00
11	S11A_OUTPUT [HYDRA]	0.583	109.52
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.001	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.001	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS, S2C/S2B]	0.000	0.00
13	GFX [SMPS, S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.682	0.79
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.682	0.75
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.679	14.20
87	ELDO10 [BBYP]	3.682	0.00
193	CDC_MIC_BIAS [BBYP]	3.682	0.00
130	RGB,TORCH [BBYP]	3.682	0.03
126	L17A_L29A_INPUT [CAM, BBYP]	3.682	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.682	0.04
115	5V_BOOST_OUT [PMI8994]	3.407	0.02
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.129	56.29
117	LPDDR4_VDD1 [SMPS, S4A]	1.820	12.51
37	CDC_BUCK [SMPS, S4A]	1.821	3.55

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Table 4-41 Adjustments for 30 fps at HD 1080p decode 20 Mbps AAC + 128 kbps 44 kHz stereo

RCM channel	Regulator	I (mA) at 3.7 V
22	Disp_BKLT	0.000
190	VPH_HIFI_AMP	0.000
160	HAPTICS_DRV	0.011
179	ULTRASOUND	0.012
60	LCD1_MIPI_BKLT	129.606
138	HAPTICS_ERM	0.047
147	VPH_PWR_DISP_M	19.859
146	VPH_PWR_DISP_P	18.383
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.076
24	UFS [LDO, L25A, SUB SMPS, S3A]	4.717
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS, S4A]	1.535
67	FP_HOME_KEY [SMPS, S4A]	0.002
188	MISC [SMPS, S4A]	0.008
33	EMMC_VDDQ [SMPS, S4A]	0.000
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.028
88	SNS [LDO, LVS2A, SUB SMPS, S4A]	0.545
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	28.454
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.750
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	0.695
31	EMMC [LDO, L20A, BBYP]	0.000
83	CAM_REAR [LDO, L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.003
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	14.102
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	0.000
95	CAM_FRONT [LDO, L29A, BBYP]	0.002
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.002

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Table 4-42 30 fps at UHD 8b H.264 42 Mbps Speedboat, AAC + 128 kbps 44 KHz stereo

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.693	433.74
—	Adjusted Battery	—	239.71
—	Dashboard	—	192.44
22	Disp_BKLT	3.680	0.00
180	VIN_DBO1	3.680	0.07
190	VPH_HIFI_AMP	3.680	0.01
165	VPH_PWR_MISC	3.680	0.01
16	S1E_PA_1	3.680	0.00
17	S1E_PA_2	3.680	0.00
18	SPKR_DRV	3.680	0.01
27	VPH_WLAN_CARD	3.680	0.29
71	VPH_CDC	3.680	0.00
160	HAPTICS_DRV	3.680	0.02
36	FINGERPRINT	3.680	0.04
116	NFC	3.680	0.00
179	ULTRASOUND	3.680	0.01
144	VBATT_PMI8994_SMB1351	3.690	0.79
45	S1A_INPUT[CX]	3.677	54.68
46	S6A_INPUT[CX]	3.680	0.02
124	S2A_INPUT [MX]	3.680	15.50
125	S12A_INPUT [LPDDR4]	3.677	36.79
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.678	27.18
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.679	20.62
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.677	51.65
47	S7A_INPUT [MSS]	3.680	0.01
135	VPH_PWR_PM8996	3.678	0.48
48	S8A_INPUT [EBI]	3.678	18.04
49	S9A_INPUT [Hydra]	3.680	0.01
50	S10A_INPUT [Hydra]	3.680	0.03
51	S11A_INPUT [Hydra]	3.679	23.77
139	VIN_L8A_L16A_L30A	3.680	0.30
44	BBYP1_INPUT	3.679	16.57
143	S1B_INPUT [RF1]	3.680	0.00
62	S2B_INPUT [GFX]	3.680	0.01
63	S3B_INPUT [GFX]	3.680	0.00
148	VPH_VIN_5VBOOST	3.680	0.07
60	LCD1_MIPI_BKLT	3.673	129.12
138	HAPTICS_ERM	3.680	0.08
61	VIN_FLASH_1_2	3.484	0.05

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RCM channel	Regulator	V (volts)	I (mA)
30	USB_HOST	0.001	0.00
145	VPH_FLASH	3.679	0.14
147	VPH_PWR_DISP_M	3.678	19.68
146	VPH_PWR_DISP_P	3.678	18.55
3	S1A_OUTPUT [CX, SMPS, S1A]	0.706	225.92
4	S6A_OUTPUT [CX, SMPS, S6A]	0.706	0.00
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	58.43
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.313	47.95
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.315	0.04
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.314	19.20
39	L8_INPUT [CAM_R, SMPS, S3A]	1.315	0.00
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.313	67.19
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.821	37.19
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.091	74.15
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.104	7.11
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.101	1.00
53	ELDO7 [SMPS, S5A]	2.106	0.08
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.106	0.06
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.00
9	S9A_OUTPUT [HYDRA]	0.583	0.00
10	S10A_OUTPUT [HYDRA]	0.583	0.00
11	S11A_OUTPUT [HYDRA]	0.583	111.27
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.001	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.001	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.006	0.00
13	GFX [SMPS,S4C/S3B]	0.006	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.677	1.31
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.677	0.82
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.675	14.23
87	ELDO10 [BBYP]	3.678	0.01
193	CDC_MIC_BIAS [BBYP]	3.678	0.00
130	RGB,TORCH [BBYP]	3.678	0.03
126	L17A_L29A_INPUT [CAM, BBYP]	3.678	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.678	0.02
115	5V_BOOST_OUT [PMI8994]	3.404	0.02
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.129	101.55
117	LPDDR4_VDD1 [SMPS, S4A]	1.820	18.58
37	CDC_BUCK [SMPS, S4A]	1.821	3.44

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Table 4-43 Adjustments for 30 fps at UHD 8b H.264 42 Mbps Speedboat, AAC + 128 kbps 44 KHz stereo

RCM channel	Regulator	I (mA) at 3.7 V
22	Disp_BKLT	0.000
190	VPH_HIFI_AMP	0.014
160	HAPTICS_DRV	0.020
179	ULTRASOUND	0.011
60	LCD1_MIPI_BKLT	129.124
138	HAPTICS_ERM	0.078
147	VPH_PWR_DISP_M	19.685
146	VPH_PWR_DISP_P	18.551
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.076
24	UFS [LDO,L25A, SUB SMPS, S3A]	7.622
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS, S4A]	2.636
67	FP_HOME_KEY [SMPS, S4A]	0.002
188	MISC [SMPS, S4A]	0.014
33	EMMC_VDDQ [SMPS, S4A]	0.003
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.032
88	SNS [LDO,LVS2A, SUB SMPS, S4A]	0.539
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	30.272
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.706
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	1.199
31	EMMC [LDO, L20A, BBYP]	0.000
83	CAM_REAR [LDO, L23A, BBYP]	0.002
78	CAM_FRONT [LDO, L23A, BBYP]	0.004
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	14.116
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO,L17A, BBYP]	0.000
95	CAM_FRONT [LDO, L29A, BBYP]	0.002
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.001

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Table 4-44 60 fps at UHD 10b H.265 50 Mbps Speedboat, AAC + 128 kbps 44 KHz stereo

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.693	602.09
—	Adjusted Battery	—	247.00
—	Dashboard	—	352.00
22	Disp_BKLT	3.674	0.00
180	VIN_DBO1	3.674	0.08
190	VPH_HIFI_AMP	3.674	0.01
165	VPH_PWR_MISC	3.674	0.01
16	S1E_PA_1	3.674	0.00
17	S1E_PA_2	3.674	0.00
18	SPKR_DRV	3.674	0.00
27	VPH_WLAN_CARD	3.674	0.00
71	VPH_CDC	3.674	0.00
160	HAPTICS_DRV	3.674	0.02
36	FINGERPRINT	3.674	0.03
116	NFC	3.674	0.00
179	ULTRASOUND	3.674	0.01
144	VBATT_PMI8994_SMB1351	3.690	0.79
45	S1A_INPUT [CX]	3.666	137.28
46	S6A_INPUT [CX]	3.673	0.01
124	S2A_INPUT [MX]	3.673	23.54
125	S12A_INPUT [LPDDR4]	3.667	68.38
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.672	31.92
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.673	28.47
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.671	53.86
47	S7A_INPUT [MSS]	3.674	0.00
135	VPH_PWR_PM8996	3.670	0.90
48	S8A_INPUT [EBI]	3.670	36.27
49	S9A_INPUT [Hydra]	3.673	0.00
50	S10A_INPUT[Hydra]	3.674	0.00
51	S11A_INPUT [Hydra]	3.673	36.82
139	VIN_L8A_L16A_L30A	3.674	0.31
44	BBYP1_INPUT	3.673	17.43
143	S1B_INPUT [RF1]	3.674	0.00
62	S2B_INPUT [GFX]	3.674	0.00
63	S3B_INPUT [GFX]	3.674	0.00
148	VPH_VIN_5VBOOST	3.674	0.06
60	LCD1_MIPI_BKLT	3.667	130.82
138	HAPTICS_ERM	3.674	0.02
61	VIN_FLASH_1_2	3.479	0.03

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RCM channel	Regulator	V (volts)	I (mA)
30	USB_HOST	0.001	0.00
145	VPH_FLASH	3.673	0.14
147	VPH_PWR_DISP_M	3.672	19.28
146	VPH_PWR_DISP_P	3.673	18.08
3	S1A_OUTPUT [CX, SMPS, S1A]	0.839	491.49
4	S6A_OUTPUT [CX, SMPS, S6A]	0.839	0.00
5	S2A_OUTPUT [MX, SMPS, S2A]	0.853	86.38
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.313	48.74
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.315	0.04
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.314	29.07
39	L8_INPUT [CAM_R, SMPS, S3A]	1.315	0.00
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.313	77.84
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.821	51.51
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.091	74.56
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.103	9.51
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.101	1.00
53	ELDO7 [SMPS, S5A]	2.106	0.05
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.106	0.05
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.00
9	S9A_OUTPUT [HYDRA]	0.583	0.00
10	S10A_OUTPUT [HYDRA]	0.583	0.00
11	S11A_OUTPUT [HYDRA]	0.584	171.66
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.001	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.001	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.006	0.00
13	GFX [SMPS,S4C/S3B]	0.006	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.663	1.66
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.663	0.99
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.661	14.23
87	ELDO10 [BBYP]	3.664	0.01
193	CDC_MIC_BIAS [BBYP]	3.664	0.00
130	RGB,TORCH [BBYP]	3.664	0.03
126	L17A_L29A_INPUT [CAM, BBYP]	3.664	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.663	0.03
115	5V_BOOST_OUT [PMI8994]	3.399	0.01
40	S12A_OUTPUT [LPDDR4, SMPS,S12A]	1.126	182.11
117	LPDDR4_VDD1 [SMPS, S4A]	1.819	30.50
37	CDC_BUCK [SMPS, S4A]	1.821	3.48

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Table 4-45 Adjustments for 60 fps at UHD 10b H.265 50 Mbps Speedboat, AAC + 128 kbps 44 KHz stereo

RCM channel	Regulator	I (mA) at 3.7 V
22	Disp_BKLT	0.000
190	VPH_HIFI_AMP	0.013
160	HAPTICS_DRV	0.018
179	ULTRASOUND	0.014
60	LCD1_MIPI_BKLT	130.820
138	HAPTICS_ERM	0.016
147	VPH_PWR_DISP_M	19.284
146	VPH_PWR_DISP_P	18.083
98	HDMI [LDO,L28A, SUB SMPS, S3A]	0.077
24	UFS [LDO,L25A, SUB SMPS, S3A]	11.707
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS, S4A]	3.842
67	FP_HOME_KEY [SMPS, S4A]	0.002
188	MISC [SMPS, S4A]	0.011
33	EMMC_VDDQ [SMPS, S4A]	0.000
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.037
88	SNS [LDO, LVS2A, SUB SMPS, S4A]	0.532
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	30.740
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.810
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	1.629
31	EMMC [LDO, L20A, BBYP]	0.000
83	CAM_REAR [LDO, L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.003
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	14.362
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	0.000
95	CAM_FRONT [LDO, L29A, BBYP]	0.001
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.000

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Table 4-46 30 fps at HD 1080p 20 Mbps normal power encode at fullscreen resolution, at VSync, 16 MP, AAC 128 kbps 44.1 Khz stereo

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.699	782.90
—	Adjusted Battery	—	395.70
—	Dashboard	—	381.98
22	Disp_BKLT	3.674	0.00
180	VIN_DBO1	3.674	0.07
190	VPH_HIFI_AMP	3.674	0.01
165	VPH_PWR_MISC	3.674	0.17
16	S1E_PA_1	3.674	0.16
17	S1E_PA_2	3.674	0.14
18	SPKR_DRV	3.674	0.00
27	VPH_WLAN_CARD	3.674	0.02
71	VPH_CDC	3.674	0.00
160	HAPTICS_DRV	3.674	0.00
36	FINGERPRINT	3.674	0.09
116	NFC	3.674	0.00
179	ULTRASOUND	3.674	0.01
144	VBATT_PMI8994_SMB1351	3.696	0.80
45	S1A_INPUT [CX]	3.667	138.07
46	S6A_INPUT [CX]	3.674	0.00
124	S2A_INPUT [MX]	3.672	43.37
125	S12A_INPUT [LPDDR4]	3.670	45.60
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.668	119.85
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.673	19.40
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.671	51.52
47	S7A_INPUT [MSS]	3.674	0.00
135	VPH_PWR_PM8996	3.669	1.09
48	S8A_INPUT [EBI]	3.671	27.74
49	S9A_INPUT [Hydra]	3.674	0.00
50	S10A_INPUT[Hydra]	3.674	0.00
51	S11A_INPUT [Hydra]	3.672	78.29
139	VIN_L8A_L16A_L30A	3.674	0.52
44	BBYP1_INPUT	3.673	85.68
143	S1B_INPUT [RF1]	3.674	0.00
62	S2B_INPUT [GFX]	3.674	0.04
63	S3B_INPUT [GFX]	3.674	0.00
148	VPH_VIN_5VBOOST	3.674	0.02
60	LCD1_MIPI_BKLT	3.667	130.48
138	HAPTICS_ERM	3.674	0.00
61	VIN_FLASH_1_2	3.482	0.03

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RCM channel	Regulator	V (volts)	I (mA)
30	USB_HOST	0.002	0.01
145	VPH_FLASH	3.674	0.14
147	VPH_PWR_DISP_M	3.672	21.20
146	VPH_PWR_DISP_P	3.673	20.39
3	S1A_OUTPUT [CX, SMPS, S1A]	0.686	586.16
4	S6A_OUTPUT [CX, SMPS, S6A]	0.686	0.19
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	158.74
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.298	61.66
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.299	0.58
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.299	4.40
39	L8_INPUT [CAM_R, SMPS, S3A]	1.283	235.84
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.298	302.48
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.822	34.49
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.091	74.44
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.105	5.96
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.102	1.00
53	ELDO7 [SMPS, S5A]	2.107	0.00
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.107	0.01
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.17
9	S9A_OUTPUT [HYDRA]	0.616	0.12
10	S10A_OUTPUT [HYDRA]	0.616	0.18
11	S11A_OUTPUT [HYDRA]	0.616	347.35
175	QFE_ANA [LDO, L16A, PM8994]	0.001	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.001	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.001	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.001	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS, S2C/S2B]	0.092	0.39
13	GFX [SMPS, S4C/S3B]	0.092	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.665	0.93
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.665	19.54
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.663	13.81
87	ELDO10 [BBYP]	3.666	0.05
193	CDC_MIC_BIAS [BBYP]	3.658	2.89
130	RGB,TORCH [BBYP]	3.666	0.01
126	L17A_L29A_INPUT [CAM, BBYP]	3.651	47.21
74	ELDO12 [QCA6174, SI4705, BBYP]	3.666	0.02
115	5V_BOOST_OUT [PMI8994]	3.402	0.03
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.126	113.52
117	LPDDR4_VDD1 [SMPS, S4A]	1.819	19.63
37	CDC_BUCK [SMPS, S4A]	1.821	0.00

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Table 4-47 Adjustments for 30 fps at HD 1080p 20 Mbps normal power encode at Fullscreen Resolution, at VSync, 16 MP, AAC 128 kbps 44.1 Khz stereo

RCM channel	Regulator	I (mA) at 3.7 V
22	Disp_BKLT	0.000
190	VPH_HIFI_AMP	0.005
160	HAPTICS_DRV	0.000
179	ULTRASOUND	0.006
60	LCD1_MIPI_BKLT	130.481
138	HAPTICS_ERM	0.000
147	VPH_PWR_DISP_M	21.200
146	VPH_PWR_DISP_P	20.389
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.069
24	UFS [LDO, L25A, SUB SMPS, S3A]	1.736
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	92.413
28	UFC [SMPS, S4A]	0.982
67	FP_HOME_KEY [SMPS, S4A]	0.000
188	MISC [SMPS, S4A]	0.010
33	EMMC_VDDQ [SMPS, S4A]	0.012
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.017
88	SNS [LDO, LVS2A, SUB SMPS, S4A]	0.571
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.001
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	1.221
169	DISP [LDO, L14A, SUB SMPS, S5A]	29.833
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	16.611
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	0.880
31	EMMC [LDO, L20A, BBYP]	0.002
83	CAM_REAR [LDO, L23A, BBYP]	18.293
78	CAM_FRONT [LDO, L23A, BBYP]	0.005
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	13.813
154	UIM2_DUAL [LDO,L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	47.147
95	CAM_FRONT [LDO, L29A, BBYP]	0.000
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.001

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Table 4-48 ZSL Camera Preview at 21 MP, 24 fps at display resolution

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.699	825.45
—	Adjusted Battery	—	391.00
—	Dashboard	—	428.66
22	Disp_BKLT	3.672	0.03
180	VIN_DBO1	3.673	0.07
190	VPH_HIFI_AMP	3.673	0.03
165	VPH_PWR_MISC	3.673	0.19
16	S1E_PA_1	3.672	0.22
17	S1E_PA_2	3.672	0.23
18	SPKR_DRV	3.672	0.14
27	VPH_WLAN_CARD	3.672	0.33
71	VPH_CDC	3.672	0.00
160	HAPTICS_DRV	3.673	0.00
36	FINGERPRINT	3.672	0.11
116	NFC	3.673	0.00
179	ULTRASOUND	3.673	0.01
144	VBATT_PMI8994_SMB1351	3.696	0.79
45	S1A_INPUT[CX]	3.663	186.69
46	S6A_INPUT[CX]	3.672	0.00
124	S2A_INPUT [MX]	3.671	49.03
125	S12A_INPUT [LPDDR4]	3.668	50.47
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.666	121.39
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.672	19.94
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.670	47.54
47	S7A_INPUT [MSS]	3.673	0.00
135	VPH_PWR_PM8996	3.668	0.95
48	S8A_INPUT [EBI]	3.669	29.29
49	S9A_INPUT [Hydra]	3.672	0.00
50	S10A_INPUT[Hydra]	3.672	1.48
51	S11A_INPUT [Hydra]	3.671	65.72
139	VIN_L8A_L16A_L30A	3.673	0.52
44	BBYP1_INPUT	3.672	81.96
143	S1B_INPUT [RF1]	3.673	0.00
62	S2B_INPUT [GFX]	3.673	0.00
63	S3B_INPUT [GFX]	3.673	0.00
148	VPH_VIN_5VBOOST	3.673	0.08
60	LCD1_MIPI_BKLT	3.666	130.35
138	HAPTICS_ERM	3.673	0.00
61	VIN_FLASH_1_2	3.481	0.02
30	USB_HOST	0.002	0.01

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RCM channel	Regulator	V (volts)	I (mA)
145	VPH_FLASH	3.672	0.14
147	VPH_PWR_DISP_M	3.671	20.35
146	VPH_PWR_DISP_P	3.671	19.63
3	S1A_OUTPUT [CX, SMPS, S1A]	0.799	697.78
4	S6A_OUTPUT [CX, SMPS, S6A]	0.798	0.27
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	177.50
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.298	61.93
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.299	0.57
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.299	0.86
39	L8_INPUT [CAM_R, SMPS, S3A]	1.283	243.01
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.298	306.38
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.822	35.56
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.093	69.18
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.106	4.56
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.102	1.00
53	ELDO7 [SMPS, S5A]	2.107	0.00
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.107	0.00
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.22
9	S9A_OUTPUT [HYDRA]	0.623	0.36
10	S10A_OUTPUT [HYDRA]	0.623	6.40
11	S11A_OUTPUT [HYDRA]	0.623	288.05
175	QFE_ANA [LDO, L16A, PM8994]	0.001	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.001	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.001	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.001	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.004	0.07
13	GFX [SMPS,S4C/S3B]	0.004	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.661	0.04
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.661	18.47
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.659	13.77
87	ELDO10 [BBYP]	3.663	0.05
193	CDC_MIC_BIAS [BBYP]	3.663	0.00
130	RGB,TORCH [BBYP]	3.662	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.647	47.95
74	ELDO12 [QCA6174, SI4705, BBYP]	3.662	0.02
115	5V_BOOST_OUT [PMI8994]	3.400	0.02
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.128	136.27
117	LPDDR4_VDD1 [SMPS, S4A]	1.819	23.65
37	CDC_BUCK [SMPS, S4A]	1.822	0.00

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Table 4-49 Adjustments for ZSL Camera Preview at 21 MP, 24 fps at display resolution

RCM channel	Regulator	I (mA) at 3.7 V
22	Disp_BKLT	0.032
190	VPH_HIFI_AMP	0.029
160	HAPTICS_DRV	0.001
179	ULTRASOUND	0.005
60	LCD1_MIPI_BKLT	130.352
138	HAPTICS_ERM	0.000
147	VPH_PWR_DISP_M	20.353
146	VPH_PWR_DISP_P	19.632
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.069
24	UFS [LDO, L25A, SUB SMPS, S3A]	0.375
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	95.196
28	UFC [SMPS, S4A]	0.061
67	FP_HOME_KEY [SMPS, S4A]	0.000
188	MISC [SMPS, S4A]	0.009
33	EMMC_VDDQ [SMPS, S4A]	0.019
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.027
88	SNS [LDO, LVS2A, SUB SMPS, S4A]	0.620
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	1.215
169	DISP [LDO, L14A, SUB SMPS, S5A]	26.826
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	16.581
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	0.056
31	EMMC [LDO, L20A, BBYP]	0.007
83	CAM_REAR [LDO, L23A, BBYP]	17.532
78	CAM_FRONT [LDO, L23A, BBYP]	0.006
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	13.848
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	48.148
95	CAM_FRONT [LDO, L29A, BBYP]	0.000
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.001

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Table 4-50 Flatland Omnibox Powerlift [60:27] offscreen, 60 fps

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.693	495.95
—	Adjusted Battery	—	222.21
—	Dashboard	—	271.66
22	Disp_BKLT	3.678	0.02
180	VIN_DBO1	3.678	0.09
190	VPH_HIFI_AMP	3.678	0.00
165	VPH_PWR_MISC	3.678	0.01
16	S1E_PA_1	3.678	0.12
17	S1E_PA_2	3.678	0.04
18	SPKR_DRV	3.678	0.07
27	VPH_WLAN_CARD	3.678	0.10
71	VPH_CDC	3.678	0.00
160	HAPTICS_DRV	3.678	0.01
36	FINGERPRINT	3.678	0.08
116	NFC	3.678	0.00
179	ULTRASOUND	3.678	0.01
144	VBATT_PMI8994_SMB1351	3.690	0.79
45	S1A_INPUT[CX]	3.676	31.03
46	S6A_INPUT[CX]	3.677	0.00
124	S2A_INPUT [MX]	3.677	23.57
125	S12A_INPUT [LPDDR4]	3.674	43.69
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.677	17.22
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.677	14.67
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.676	39.16
47	S7A_INPUT [MSS]	3.678	0.00
135	VPH_PWR_PM8996	3.676	0.40
48	S8A_INPUT [EBI]	3.675	22.02
49	S9A_INPUT [Hydra]	3.677	0.00
50	S10A_INPUT[Hydra]	3.678	0.00
51	S11A_INPUT [Hydra]	3.676	48.40
139	VIN_L8A_L16A_L30A	3.678	0.29
44	BBYP1_INPUT	3.677	15.21
143	S1B_INPUT [RF1]	3.678	0.01
62	S2B_INPUT [GFX]	3.675	70.72
63	S3B_INPUT [GFX]	3.678	0.02
148	VPH_VIN_5VBOOST	3.678	0.00
60	LCD1_MIPI_BKLT	3.671	131.26
138	HAPTICS_ERM	3.678	0.03
61	VIN_FLASH_1_2	3.483	0.07
30	USB_HOST	0.001	0.00

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RCM channel	Regulator	V (volts)	I (mA)
145	VPH_FLASH	3.677	0.17
147	VPH_PWR_DISP_M	3.676	19.93
146	VPH_PWR_DISP_P	3.676	19.46
3	S1A_OUTPUT [CX, SMPS, S1A]	0.668	136.46
4	S6A_OUTPUT [CX, SMPS, S6A]	0.668	0.10
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	86.48
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.314	41.99
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.315	0.04
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.315	0.37
39	L8_INPUT [CAM_R, SMPS, S3A]	1.315	0.02
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.314	42.42
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.821	26.54
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.095	58.21
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.107	2.53
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.102	1.00
53	ELDO7 [SMPS, S5A]	2.107	0.00
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.107	0.02
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.09
9	S9A_OUTPUT [HYDRA]	0.615	0.02
10	S10A_OUTPUT [HYDRA]	0.615	0.00
11	S11A_OUTPUT [HYDRA]	0.615	216.07
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.001	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.001	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.658	303.08
13	GFX [SMPS,S4C/S3B]	0.658	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.676	0.00
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.676	0.84
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.674	14.22
87	ELDO10 [BBYP]	3.677	0.00
193	CDC_MIC_BIAS [BBYP]	3.677	0.00
130	RGB,TORCH [BBYP]	3.677	0.03
126	L17A_L29A_INPUT [CAM, BBYP]	3.677	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.676	0.00
115	5V_BOOST_OUT [PMI8994]	3.404	0.01
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.129	120.48
117	LPDDR4_VDD1 [SMPS, S4A]	1.819	19.63
37	CDC_BUCK [SMPS, S4A]	1.821	0.00

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Table 4-51 Adjustments for Flatland Omnibox Powerlift [60:27] offscreen, 60 fps

RCM channel	Regulator	I (mA) at 3.7 V
22	Disp_BKLT	0.023
190	VPH_HIFI_AMP	0.003
160	HAPTICS_DRV	0.012
179	ULTRASOUND	0.010
60	LCD1_MIPI_BKLT	131.263
138	HAPTICS_ERM	0.026
147	VPH_PWR_DISP_M	19.931
146	VPH_PWR_DISP_P	19.463
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.075
24	UFS [LDO, L25A, SUB SMPS, S3A]	0.149
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS, S4A]	0.003
67	FP_HOME_KEY [SMPS, S4A]	0.001
188	MISC [SMPS, S4A]	0.010
33	EMMC_VDDQ [SMPS, S4A]	0.013
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.030
88	SNS [LDO, LVS2A,SUB SMPS, S4A]	0.575
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMP, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	20.629
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.880
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	0.000
31	EMMC [LDO, L20A, BBYP]	0.000
83	CAM_REAR [LDO, L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.002
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	14.115
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	0.000
95	CAM_FRONT [LDO, L29A, BBYP]	0.000
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.001

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- Table Table 4-56 provides the accelerometer batching background processing + AIR1
  - Same as smart panel data

Table 4-52 Accelerometer active processing + LCD04A

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.699	288.99
—	Adjusted Battery	—	223.02
—	Dashboard	—	65.28
22	Disp_BKLT	3.691	0.01
180	VIN_DBO1	3.691	0.07
190	VPH_HIFI_AMP	3.691	0.00
165	VPH_PWR_MISC	3.691	0.00
16	S1E_PA_1	3.691	0.02
17	S1E_PA_2	3.691	0.00
18	SPKR_DRV	3.691	0.00
27	VPH_WLAN_CARD	3.691	0.21
71	VPH_CDC	3.691	0.00
160	HAPTICS_DRV	3.691	0.00
36	FINGERPRINT	3.691	0.06
116	NFC	3.691	0.00
179	ULTRASOUND	3.691	0.01
144	VBATT_PMI8994_SMB1351	3.697	0.50
45	S1A_INPUT [CX]	3.690	14.02
46	S6A_INPUT [CX]	3.691	0.00
124	S2A_INPUT [MX]	3.691	2.46
125	S12A_INPUT [LPDDR4]	3.689	15.40
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.690	16.18
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.691	7.92
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.689	42.61
47	S7A_INPUT [MSS]	3.691	0.00
135	VPH_PWR_PM8996	3.689	0.36
48	S8A_INPUT [EBI]	3.690	4.17
49	S9A_INPUT [Hydra]	3.691	0.00
50	S10A_INPUT[Hydra]	3.691	0.00
51	S11A_INPUT [Hydra]	3.691	2.64
139	VIN_L8A_L16A_L30A	3.691	0.31
44	BBYP1_INPUT	3.691	16.07
143	S1B_INPUT [RF1]	3.691	0.00
62	S2B_INPUT [GFX]	3.691	0.03
63	S3B_INPUT [GFX]	3.691	0.03
148	VPH_VIN_5VBOOST	3.691	0.02
60	LCD1_MIPI_BKLT	3.684	129.90

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RCM channel	Regulator	V (volts)	I (mA)
138	HAPTICS_ERM	3.691	0.00
61	VIN_FLASH_1_2	3.490	0.07
30	USB_HOST	0.001	0.00
145	VPH_FLASH	3.690	0.14
147	VPH_PWR_DISP_M	3.689	18.98
146	VPH_PWR_DISP_P	3.689	17.92
3	S1A_OUTPUT [CX, SMPS, S1A]	0.600	66.66
4	S6A_OUTPUT [CX, SMPS, S6A]	0.600	0.00
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	9.18
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.307	39.29
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.309	0.14
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.308	0.61
39	L8_INPUT [CAM_R, SMPS, S3A]	1.308	0.03
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.307	40.07
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.823	14.15
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.083	64.95
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.096	2.42
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.091	1.03
53	ELDO7 [SMPS, S5A]	2.096	0.00
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.096	0.04
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.01
9	S9A_OUTPUT [HYDRA]	0.330	0.00
10	S10A_OUTPUT [HYDRA]	0.330	0.00
11	S11A_OUTPUT [HYDRA]	0.330	12.35
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.000	0.00
184	QCA_XO [LDO, L30A, PM8994]	0.000	0.00
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.000	0.00
13	GFX [SMPS,S4C/S3B]	0.000	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.690	0.02
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.690	0.65
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.686	15.21
87	ELDO10 [BBYP]	3.690	0.00
193	CDC_MIC_BIAS [BBYP]	3.690	0.00
130	RGB,TORCH [BBYP]	3.690	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.690	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.690	0.01
115	5V_BOOST_OUT [PMI8994]	3.413	0.02
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.131	41.65

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RCM channel	Regulator	V (volts)	I (mA)
117	LPDDR4_VDD1 [SMPS,S4A]	1.819	9.15
37	CDC_BUCK [SMPS,S4A]	1.823	0.00

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Table 4-53 Adjustments for accelerometer active processing + LCD04A

RCM channel	Regulator	I (mA) at 3.7 V
22	Disp_BKLT	0.006
190	VPH_HIFI_AMP	0.004
160	HAPTICS_DRV	0.001
179	ULTRASOUND	0.014
60	LCD1_MIPI_BKLT	129.896
138	HAPTICS_ERM	0.000
147	VPH_PWR_DISP_M	18.977
146	VPH_PWR_DISP_P	17.921
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.070
24	UFS [LDO, L25A, SUB SMPS, S3A]	0.238
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS, S4A]	0.002
67	FP_HOME_KEY [SMPS, S4A]	0.001
188	MISC [SMPS, S4A]	0.000
33	EMMC_VDDQ [SMPS, S4A]	0.007
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.022
88	SNS [LDO, LVS2A, SUB SMPS, S4A]	0.585
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.001
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	24.396
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.694
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	0.000
31	EMMC [LDO, L20A, BBYP]	0.000
83	CAM_REAR [LDO,L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.000
34	SNS_3P0 [LDO,L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	15.185
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	0.000
95	CAM_FRONT [LDO, L29A, BBYP]	0.000
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.002

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Table 4-54 Web browsing over Wi-Fi (Lorem webpage with UI) browser over Wi-Fi (heavier workload with more frequent page loading and scrolling)

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.698	376.54
—	Adjusted Battery	—	220.05
—	Dashboard	—	155.43
22	Disp_BKLT	3.687	0.02
180	VIN_DBO1	3.687	0.08
190	VPH_HIFI_AMP	3.687	0.00
165	VPH_PWR_MISC	3.687	0.01
16	S1E_PA_1	3.687	0.09
17	S1E_PA_2	3.687	0.11
18	SPKR_DRV	3.687	0.05
27	VPH_WLAN_CARD	3.687	2.74
71	VPH_CDC	3.687	0.00
160	HAPTICS_DRV	3.687	0.01
36	FINGERPRINT	3.687	0.07
116	NFC	3.687	0.00
179	ULTRASOUND	3.687	0.02
144	VBATT_PMI8994_SMB1351	3.696	0.58
45	S1A_INPUT[CX]	3.686	24.46
46	S6A_INPUT[CX]	3.687	0.01
124	S2A_INPUT [MX]	3.687	4.70
125	S12A_INPUT [LPDDR4]	3.685	22.62
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.686	24.73
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.687	11.65
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.685	42.50
47	S7A_INPUT [MSS]	3.687	0.00
135	VPH_PWR_PM8996	3.685	0.49
48	S8A_INPUT [EBI]	3.686	10.86
49	S9A_INPUT [Hydra]	3.687	1.68
50	S10A_INPUT[Hydra]	3.687	9.20
51	S11A_INPUT [Hydra]	3.686	32.70
139	VIN_L8A_L16A_L30A	3.687	0.77
44	BBYP1_INPUT	3.687	19.18
143	S1B_INPUT [RF1]	3.687	0.00
62	S2B_INPUT [GFX]	3.687	2.58
63	S3B_INPUT [GFX]	3.687	0.01
148	VPH_VIN_5VBOOST	3.687	0.03
60	LCD1_MIPI_BKLT	3.681	129.48
138	HAPTICS_ERM	3.687	0.03
61	VIN_FLASH_1_2	3.489	0.05

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RCM channel	Regulator	V (volts)	I (mA)
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.687	0.15
147	VPH_PWR_DISP_M	3.686	18.25
146	VPH_PWR_DISP_P	3.686	17.03
3	S1A_OUTPUT [CX, SMPS, S1A]	0.666	103.16
4	S6A_OUTPUT [CX, SMPS, S6A]	0.666	0.06
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	16.78
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.307	40.82
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.308	0.02
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.308	3.49
39	L8_INPUT [CAM_R, SMPS, S3A]	1.308	0.04
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.307	44.37
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.823	21.15
129	L14_L15_INPUT [QFPROM, HV_BBRX,SMPS, S5A]	2.084	60.36
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.094	6.64
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.091	1.03
53	ELDO7 [SMPS, S5A]	2.096	0.04
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.096	0.05
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.08
9	S9A_OUTPUT [HYDRA]	0.446	5.66
10	S10A_OUTPUT [HYDRA]	0.446	31.43
11	S11A_OUTPUT [HYDRA]	0.446	131.48
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.000	0.00
184	QCA_XO [LDO, L30A, PM8994]	1.792	0.45
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.303	12.34
13	GFX [SMPS,S4C/S3B]	0.303	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.686	0.29
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.686	0.91
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.683	15.02
87	ELDO10 [BBYP]	3.686	0.01
193	CDC_MIC_BIAS [BBYP]	3.686	0.00
130	RGB,TORCH [BBYP]	3.686	0.02
126	L17A_L29A_INPUT [CAM, BBYP]	3.686	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.685	2.66
115	5V_BOOST_OUT [PMI8994]	3.410	0.02
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.130	60.90
117	LPDDR4_VDD1 [SMPS, S4A]	1.817	12.26
37	CDC_BUCK [SMPS, S4A]	1.823	0.00

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Table 4-55 Adjustments for web browsing over Wi-Fi (Lorem webpage with UI) browser over Wi-Fi (heavier workload with more frequent page loading and scrolling)

RCM channel	Regulator	I (mA) at 3.7 V
22	Disp_BKLT	0.016
190	VPH_HIFI_AMP	0.002
160	HAPTICS_DRV	0.006
179	ULTRASOUND	0.017
60	LCD1_MIPI_BKLT	129.482
138	HAPTICS_ERM	0.026
147	VPH_PWR_DISP_M	18.255
146	VPH_PWR_DISP_P	17.025
98	HDMI [LDO, L28A, SUB SMPS, S3A]	0.071
24	UFS [LDO, L25A, SUB SMPS, S3A]	1.399
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS, S4A]	0.571
67	FP_HOME_KEY [SMPS, S4A]	0.001
188	MISC [SMPS, S4A]	0.000
33	EMMC_VDDQ [SMPS, S4A]	0.008
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.031
88	SNS [LDO, LVS2A, SUB SMPS, S4A]	0.571
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS,S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	21.666
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.649
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230[ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO, L20A, BBYP]	0.201
31	EMMC [LDO, L20A, BBYP]	0.003
83	CAM_REAR [LDO, L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.000
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	15.051
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	0.000
95	CAM_FRONT [LDO, L29A, BBYP]	0.000
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.002

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Table 4-56 Video streaming over Wi-Fi (1080p 3.5 Mbps) 2 GHz, 11n, 2 x 2 MCS7 HT20 video streaming over Wi-Fi

RCM channel	Regulator	V (volts)	I (mA)
0	Battery Measurement #1	3.700	386.03
—	Adjusted Battery	—	224.28
—	Dashboard	—	160.46
22	Disp_BKLT	3.688	0.03
180	VIN_DBO1	3.688	0.07
190	VPH_HIFI_AMP	3.688	0.01
165	VPH_PWR_MISC	3.688	0.00
16	S1E_PA_1	3.688	0.15
17	S1E_PA_2	3.688	0.15
18	SPKR_DRV	3.688	0.04
27	VPH_WLAN_CARD	3.688	7.23
71	VPH_CDC	3.688	0.00
160	HAPTICS_DRV	3.688	0.00
36	FINGERPRINT	3.688	0.08
116	NFC	3.688	0.00
179	ULTRASOUND	3.688	0.01
144	VBATT_PMI8994_SMB1351	3.697	0.60
45	S1A_INPUT [CX]	3.686	29.77
46	S6A_INPUT [CX]	3.688	0.00
124	S2A_INPUT [MX]	3.688	8.04
125	S12A_INPUT [LPDDR4]	3.686	22.39
54	S3A_INPUT [LV_BBRX, MIPI, PCIE, EBI]	3.686	30.20
43	S4A_INPUT [RF2, DDR, CDC, EMMC, CAM]	3.688	14.50
141	S5A_INPUT [HV_BBRX, PLL, QFPROM]	3.686	47.85
47	S7A_INPUT [MSS]	3.688	0.00
135	VPH_PWR_PM8996	3.686	0.44
48	S8A_INPUT [EBI]	3.687	6.68
49	S9A_INPUT [Hydra]	3.688	0.00
50	S10A_INPUT[Hydra]	3.688	0.13
51	S11A_INPUT [Hydra]	3.687	32.40
139	VIN_L8A_L16A_L30A	3.688	0.99
44	BBYP1_INPUT	3.688	19.81
143	S1B_INPUT [RF1]	3.688	0.00
62	S2B_INPUT [GFX]	3.688	0.06
63	S3B_INPUT [GFX]	3.688	0.00
148	VPH_VIN_5VBOOST	3.688	0.04
60	LCD1_MIPI_BKLT	3.681	129.40
138	HAPTICS_ERM	3.688	0.00
61	VIN_FLASH_1_2	3.490	0.03

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RCM channel	Regulator	V (volts)	I (mA)
30	USB_HOST	0.002	0.00
145	VPH_FLASH	3.687	0.14
147	VPH_PWR_DISP_M	3.686	18.69
146	VPH_PWR_DISP_P	3.686	17.46
3	S1A_OUTPUT [CX, SMPS, S1A]	0.671	127.72
4	S6A_OUTPUT [CX, SMPS, S6A]	0.671	0.12
5	S2A_OUTPUT [MX, SMPS, S2A]	0.850	29.93
134	L2_L26_L28_INPUT [PCIE, MIPI, EBI, SMPS, S3A]	1.306	43.77
142	L4_L27_L31_INPUT [LV_BBRX, CAM, GPSADC, SMPS, S3A]	1.307	0.00
58	L25_INPUT [UFS, PX10, SMPS, S3A]	1.307	1.47
39	L8_INPUT [CAM_R, SMPS, S3A]	1.307	0.04
103	ELDO13 [QCA6174_1P1, SMPS, S3A]	1.306	45.26
52	S4A_OUTPUT [RF2, DDR, CDC, EMMC, CAM, SMPS, S4A]	1.823	26.05
129	L14_L15_INPUT [QFPROM, HV_BBRX, SMPS, S5A]	2.082	68.69
131	L6_L12_L32_INPUT [PLL, GPS, USB, SMPS, S5A]	2.094	6.76
133	L5_L7_INPUT [RFCLK_DRV, PM_XO, SMPS, S5A]	2.091	1.03
53	ELDO7 [SMPS, S5A]	2.096	0.07
85	ELDO14_IN [FRONT_CAM, SMPS, S5A]	2.096	0.05
7	S7A_OUTPUT [MSS, SMPS, S7A]	0.000	0.14
9	S9A_OUTPUT [HYDRA]	0.587	0.07
10	S10A_OUTPUT [HYDRA]	0.587	0.47
11	S11A_OUTPUT [HYDRA]	0.587	150.85
175	QFE_ANA [LDO, L16A, PM8994]	0.000	0.00
176	QFE_RF [LDO, L16A, PM8994]	0.000	0.00
177	ELNA_GPS_BCKUP [LDO, L16A, PM8994]	0.000	0.00
184	QCA_XO [LDO, L30A, PM8994]	1.790	0.69
59	S1B_OUTPUT [RF1, SMPS, S1B]	0.000	0.00
12	GFX [SMPS,S2C/S2B]	0.013	0.18
13	GFX [SMPS,S4C/S3B]	0.013	0.00
57	L20A_L21A_INPUT [MEM_SD, EMMC, BBYP]	3.686	0.13
56	L13A_L19A_L23A_L24A_INPUT [USB, CAM, BBYP]	3.686	0.80
137	L9A_L10A_L18A_L22A_INPUT [UIM, DISP, ANTENNA, BBYP]	3.683	15.13
87	ELDO10 [BBYP]	3.686	0.00
193	CDC_MIC_BIAS [BBYP]	3.687	0.00
130	RGB,TORCH [BBYP]	3.686	0.01
126	L17A_L29A_INPUT [CAM, BBYP]	3.687	0.00
74	ELDO12 [QCA6174, SI4705, BBYP]	3.686	3.36
115	5V_BOOST_OUT [PMI8994]	3.412	0.03
40	S12A_OUTPUT [LPDDR4, SMPS, S12A]	1.131	61.17
117	LPDDR4_VDD1 [SMPS, S4A]	1.817	13.62
37	CDC_BUCK [SMPS, S4A]	1.823	2.42

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Table 4-57 Adjustments for video streaming over Wi-Fi (1080p 3.5 Mbps) 2 GHz, 11n, 2 x 2 MCS7 HT20 video streaming over Wi-Fi

RCM channel	Regulator	I (mA) at 3.7 V
22	Disp_BKLT	0.033
190	VPH_HIFI_AMP	0.011
160	HAPTICS_DRV	0.000
179	ULTRASOUND	0.014
60	LCD1_MIPI_BKLT	129.399
138	HAPTICS_ERM	0.005
147	VPH_PWR_DISP_M	18.688
146	VPH_PWR_DISP_P	17.456
98	HDMI [LDO,L28A, SUB SMPS, S3A]	0.071
24	UFS [LDO, L25A, SUB SMPS, S3A]	0.603
14	REAR_CAM [ELDO8, SUB SMPS, S3A]	0.000
28	UFC [SMPS, S4A]	0.175
67	FP_HOME_KEY [SMPS, S4A]	0.000
188	MISC [SMPS, S4A]	0.001
33	EMMC_VDDQ [SMPS, S4A]	0.014
65	HEADSET_SW [SMPS, S4A]	0.000
79	DISP_4K [SMPS, S4A]	0.017
88	SNS [LDO, LVS2A, SUB SMPS, S4A]	0.000
156	CAM_GEST [LDO, LVS1A, SUB SMPS, S4A]	0.000
157	CAM_FRONT [LDO, LVS1A, SUB SMPS, S4A]	0.000
178	CAM_REAR [LDO, LVS1A, SUB SMPS, S4A]	0.000
169	DISP [LDO, L14A, SUB SMPS, S5A]	26.777
186	MXT1664_S3528 [LDO, L14A, SUB SMPS, S5A]	15.692
170	ELNA_GPS [LDO, L32A, SUB SMPS, S5A]	0.000
81	CAM_IMX230 [ELDO9, BBYP]	0.000
25	UFS [LDO, L21A, BBYP]	0.000
29	MEM_SD [LDO, L21A, BBYP]	0.000
32	UFS_MEM [LDO,L20A, BBYP]	0.078
31	EMMC [LDO,L20A, BBYP]	0.000
83	CAM_REAR [LDO,L23A, BBYP]	0.000
78	CAM_FRONT [LDO, L23A, BBYP]	0.000
34	SNS_3P0 [LDO, L19A, BBYP]	0.000
172	MXT1664_S3528_DISP [LDO, L22A, BBYP]	15.238
154	UIM2_DUAL [LDO, L10A, BBYP]	0.000
191	CAM_REAR [LDO, L17A, BBYP]	0.000
95	CAM_FRONT [LDO, L29A, BBYP]	0.000
68	CAM_GEST [ELDO10, BBYP]	0.000
183	HDMI [DBO1, EXT]	0.003

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A MSM8996 AP Dhrystone curves

Figure A-1 shows TT parts (~7.5 mW) quad Dhrystone power curves.

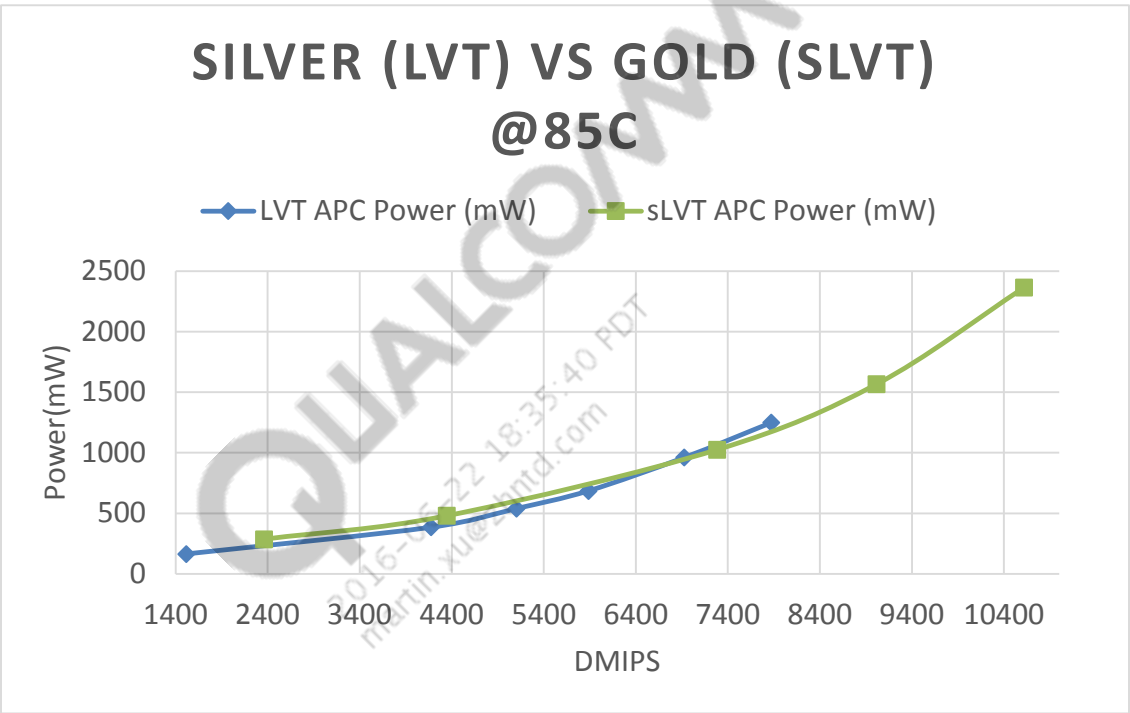

Figure A-1 Qualcomm Kryo™ Dhrystone single core power vs. DMIPS

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Figure A-2 and Figure A-3 show power vs. DMIPS at the given temperatures. The Kryo junction temperature is regulated at the given temperature while this measurement is performed. LVT curves are slightly overlapping between 85°C and 95°C due to ~5-10 mV lower voltage at 95C.

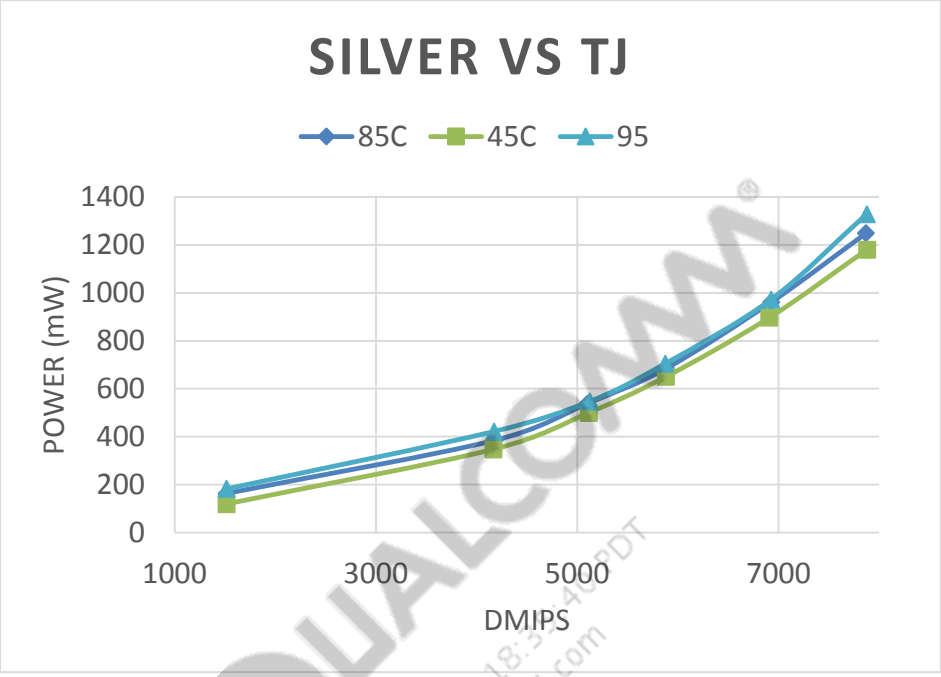

Figure A-2 Kryo Dhrystone single core power vs. DMIPS and junction temperature (Silver vs. Tj)

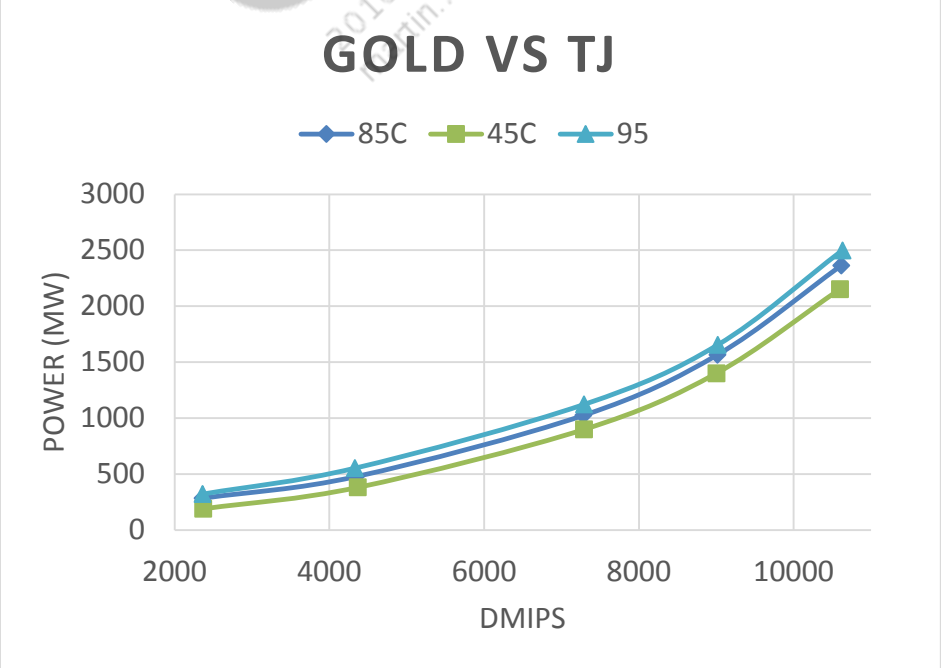

Figure A-3 Kryo Dhrystone single core power vs. DMIPS and junction temperature (Gold vs. Tj)

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B References

B.1 Related documents

Title	Number
Qualcomm Technologies, Inc.	
POP Memory for MSM8994 and MSM8996 Recommendations	80-VP300-9
MSM8996 Chipset Introduction Design Guidelines	80-NT204-5A
MSM8996/MSM8996SG Digital Baseband Design Guidelines/Training Slides	80-NT204-5B
MSM8996/APQ8096/MSM8996SG/APQ8096SG Device Specification	80-NT204-1
MSM8996 Baseband Reference Schematic	80-NT204-41
Configuration of Input PINS During Device Sleep	80-VN499-7
PM8994/PM8996 and PMI8994/PMI8996 Power Management ICS Design Guidelines/Training Slides	80-NJ117-5
MSM8996/APQ8096/MSM8996SG/APQ8096SG Device Revision Guide	80-NT204-4
Battery Current Limit (BCL) Overview and Tuning	80-NM328-709
Power Consumption Measurement Procedure for MSM (Android-Based)/MDM Devices	80-N6837-1

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