

# Qualcomm® Robotics RB3 Platform

## Release Notes

Rev. A

February 14, 2019

# 1. Release History

Revision	Date	Description
A	February 2019	Initial release

# 2. Introduction

## 2.1 Purpose

This document provides information for Qualcomm Robotics RB3 Platform LE.1.0 Release for Robotics Dragonboard 845c device, about image release and App SDK release of the software.

## 2.2 Release availability

This document and related product documents are available to individuals who purchase the Robotics Dragonboard 845c device.

These documents are available on Thundercomm website:

<https://thundercomm.com/>.

## 2.3 Technical assistance

For assistance or clarification on information in this document, submit a case to forum

<https://www.thundercomm.com/forum/category/1/qualcomm-robotics-rb3-platform>

## 2.4 Based on Qualcomm Metabuild components

PL Name	Component Build ID
ADSP.HT.4.0	<u><a href="#">ADSP.HT.4.0-00501-SDM845-1</a></u>
AOP.HO.1.0	<u><a href="#">AOP.HO.1.0-00132-SDM845AAAAANAZO-1</a></u>
BOOT.XF.2.0	<u><a href="#">BOOT.XF.2.0-00355-SDM845LZB-1</a></u>
BTFM.CHE.2.1.3	<u><a href="#">BTFM.CHE.2.1.3-00289-QCACHROMZ-1</a></u>
CDSP.HT.1.0	<u><a href="#">CDSP.HT.1.0-00474-SDM845-1</a></u>
GLUE.SDA845_LE.1.1	<u><a href="#">GLUE.SDA845_LE.1.1-00021-NOOP_TEST-1</a></u>
LE.UM.2.3.7	<u><a href="#">LE.UM.2.3.7-07600-sda845.0-1</a></u>
MPSS.AT.4.0.c2	<u><a href="#">MPSS.AT.4.0.c2-00779-SDM845_GEN_PACK-1</a></u>
SLPI.HY.1.0	<u><a href="#">SLPI.HY.1.0-00322-SDM845AZL-1</a></u>
TZ.XF.5.0.1.c5	<u><a href="#">TZ.XF.5.0.1.c5-00006-S845AAAAANAZT-1</a></u>
VIDEO.VE.5.0	<u><a href="#">VIDEO.VE.5.0-00069-PROD-2</a></u>
WDSP.9340.1.0	<u><a href="#">WDSP.9340.1.0-00266-W9340AAAAAAAZQ-1</a></u>
WIGIG.SPR.5.3	<u><a href="#">WIGIG.SPR.5.3-00025-WIGIGSWZ-1</a></u>
WLAN.HL.2.0.c10	<u><a href="#">WLAN.HL.2.0.c10-00085-QCAHLSWMTPLZ-1</a></u>
WLAN_ADDON.HL.1.0	<u><a href="#">WLAN_ADDON.HL.1.0-00025-CNSS_RMZ_WAPI-1</a></u>

# 3.Features

This chapter describes the new software features introduced in this release and a description of those features.

## 3.1 Features

Component	Category	Feature	Status	Comments
Linux Kernel	Kernel-4.9		Ready	
	FFBM		Ready	
	Secure Boot		Ready	
Audio	Decoder	LPCM	Ready	
	Decoder	AAC-LC	Ready	
	Decoder	HE-AAC V1	Ready	
	Decoder	HE-AAC v2	Ready	
	Decoder	Mp3	Ready	
	Decoder	FLAC	Ready	
	Decoder	Playback WAV file by aplay command	Ready	
	Encoder	LPCM	Ready	
	Encoder	AAC-LC	Ready	
	Encoder	HE-AAC V1	Ready	
	ACDB	Audio Calibration Database	Ready	
	QACT	Qualcomm Audio Calibration Tool	Ready	
	Mic Recording	Recording Mic input by arecord command	Ready	
	Factory Test Mode	"Internal" Audio Loopback	Ready	
	Factory Test Mode	"External" Audio Loopback	Ready	
	Framework	Low Latency Audio	Ready	
	Microphone	Digital Mics	Ready	
	Interface	SPI/Slimbus	Ready	
Wireless	BT(A2DP and SCO)	Ready		
Open Access	WCD	Ready		

	Sense Audio	Voice Activation	Ready	
	Software Module	CAPI V2	Ready	
	App	ALSA App type config switch topology on DSP	Ready	
Camera	Interface	CHI	Ready	
	3A	AF	Ready	
	3A	AE	Ready	
	3A	AWB	Ready	
	3A	Auto Flicker Detection and Correction	Ready	
	3A	ASD	Ready	
	3A	HDR Scene Detection	Ready	
	3A	Low Light Scene Detection	Ready	
	Feature	HVX Streaming	Ready	
	Feature	Digital Zoom	Ready	
	Feature	ISO	Ready	
	Feature	EXIF/JFIF Support	Ready	
	Feature	Exposure Mode	Ready	
	Feature	Manual Exposure	Ready	
	Feature	Zero Shutter Lag	Ready	
	Feature	Live Snapshot	Ready	
	Additional camera	SLM camera	Ready	
	Additional camera	ToF camera	Ready	
	Additional camera	Main camera	Ready	
	Additional camera	Tracking camera	Ready	
	Three cameras concurrency	Main+Tracking+ToF	Ready	
	Three cameras concurrency	Main+Stereo (depth)+ToF	Ready	
Three cameras concurrency	Tracking+Stereo (depth)+ToF	Ready		
Graphic	Compute API	OpenCL 1.1	Ready	
	Compute API	OpenGL ES 1.1 plux	Ready	

		extension pack		
	Compute API	OpenGL ES 2.0	Ready	
	Compute API	OpenGLES 3.0	Ready	
	Compute API	OpenGLES 3.1	Ready	
Video	Video Encode	OMX	Ready	
		Using GST plugin to test OMX	Partial Ready	GST H265 not ready
	Video Decode	OMX	Ready	
		Using GST plugin to test OMX	Partial Ready	GST H265 not ready
Sensor	Hardware and Software	L2 Cache Memory Requirement	Ready	
	Hardware and Software	Accurate Timestamps	Ready	
	Hardware and Software	Sensor Data Rates	Ready	
	Interface	Accelerometer support	Ready	
	Interface	Gyro support	Ready	
	Interface	ALS/proximity sensor support	Ready	
	Interface	Concurrency ( Overall) - External	Ready	
	Interface	Sensors Supported - External	Ready	
	Software	Accelerometer Factory Calibration	Ready	
	Software	Gyro Calibration	Ready	
	Software	Serviceability	Ready	
	Software	FiFo Accel	Ready	
	Software	Factory self test	Ready	
	Software	Batch mode	Ready	
	Software	6 axis fusion	Ready	
	Software	Open SSC	Ready	
	Software	Gyro Dynamic Range	Ready	
	Software	Output Data Rates	Ready	

	Software	Fifi Gyro	Ready	
	Software	6 axis accel/mag fusion (soft gyro)	Ready	
	Software	SSC uImage	Ready	
	Software	Wakeup sensors	Ready	
	Software	64-bit time stamp	Ready	
	Software	Just get gyro & accel data using	Ready	
	Software	SSC.	Ready	
	Software	test command and any are acceptable.	Ready	
Connectivity	WLAN	FTM - WLAN	Ready	
	WLAN	WPA/WPA2 Personal	Ready	
	WLAN	STA/SAP/P2P/TDLS	Ready	
	WLAN	PS and Offload	Ready	
	WLAN	Roaming	Ready	
	WLAN	80+80MHz 11ac in STA	Ready	
	WLAN	Wifi Location	Ready	
	WLAN	P2P Listening Offload	Ready	
	WLAN	SSC_MCC	Ready	
	WLAN	DBS in STA + P2P	Ready	
	WLAN	Tx Beam formee	Ready	
	WLAN	BT/WLAN/WAN Co-Ex	Ready	
	WLAN	RTT	Ready	
	WLAN	P2P GO PS	Ready	
	WLAN	TDLS over P2P	Ready	
	WLAN	MU-MIMO(2.4 and 5G)	Ready	
	WLAN	NAN discover/RTT	Ready	
	WLAN	NAN Data Path	Ready	
	Wifi-HW connection test	scan/connect to AP by wpa_cli command	Ready	

	Bluetooth	FTM command for Ready factory test	Ready	
	Bluetooth	HCI access by linux command line	Ready	
	Bluetooth	(btconfig+wdsdaemon) test command for certification	Ready	
Power&PMIC	Low Power Mode	All subsystem LPM	Ready	
	Voltage Scaling	Digital Rails Voltage Scaling	Ready	
	Frequency Scaling	CPU/Q6 Freq Scaling	Ready	
	Bus Scaling	DDR/NOC Freq Scaling	Ready	
	Clock Reference	Clock Buffer Management	Ready	
	Debug	PMIC Register Dump Capture and Analysis	Ready	
	Debug	OXDM Dashbord	Ready	
	IO	Non-HLOS GPIO Configuration and Control	Ready	
	Lighting	LPG/PWM Interface Support	Ready	
	Lighting	RGB LED Interface Support	Ready	
	Output Voltage Regulation	SBL Direct voltage Regulation	Ready	
	Output Voltage Regulation	Support System " Buck to Boost" Regulator	Ready	
	PMIC Interface	ADC Driver	Ready	
	PMIC Interface	ADC Threshold monitoring feature	Ready	
	PMIC Interface	ADC Linux Debug Interface	Ready	
PMIC Interface	PMIC Version Detection	Ready		
PMIC Interface	PON(Power ON)	Ready		



		controller		
	PMIC Interface	Power-On with Long Key Press	Ready	
	PMIC Interface	PSI(PMIC Settings Image) support	Ready	
Peripherals	I2C	Low footprint/ single mode driver	Ready	
	PCIE	Enable PCIe suspend/resume interface for PCIe based client drivers	Ready	
	PCIE	PCIe Switch driver	Ready	
	Slimbus	Subsystem/domain restart-recover	Ready	
	SPI	Low footprint/ single mode driver	Ready	
	UART	Low footprint/ single mode driver	Ready	
	UFS	UFS 2 lane	Ready	
	UFS	UFS Block IO	Ready	
	UFS	UFS Block IO 2	Ready	
	UFS	UFS driver	Ready	
	UFS	UFS Kernel upgrade	Ready	
	UFS	UFS Gear 3	Ready	
	UFS	UFS Performance	Ready	
	UFS	UFS Power management	Ready	
	UFS	UFS Secure Write protect	Ready	
	Interface	USB3.0 TYPE A(CPU)	Ready	
	Interface	USB3.0 TYPE C double inserted;	Ready	
	Interface	USB3.0 TYPE C OTG	Ready	
	Interface	SPI2CAN	Ready	
	Interface	HS/LS IO links to mez board without Peripheral port	Ready	
Interface	WSA stereo speaker output	Ready		

	Interface	FAN ctrl	Ready	
	Interface	USB3.0 (PCIe2USB links to mez board without Peripheral port)	Ready	
	Interface	USB2.0 (PCIe2USB links to mez board without Peripheral port)	Ready	
	Interface	Dip switch	Ready	
	Interface	vol+/vol-	Ready	
	Interface	Power	Ready	
	Interface	Force_Download	Ready	
	Interface	T-Flash card	Ready	
Security	Security	Secure Boot - NHLOS	Ready	
	Security	Secure Boot - HLOS	Ready	
	Security	QSEE COM	Ready	
	Security	3rd party apps on QSEECOM	Ready	
	Security	SEE	Ready	
	Security	QSEE Debugging	Ready	
	Security	Capability to access RPMB from APL	Ready	
	Security	FDE	Ready	
	Security	Trusted App - Contents Protection	Ready	
	Security	Trusted User Interface	Ready	
	Security	TZ - Key Management	Ready	
	Security	SPSS	Ready	
	Security	SPU - Key Management	Ready	
	Security	tz to allow tzapp to write fuses(used in XFL context)	Ready	
	Security	bootup with enforcing mode	Ready	
Tools	ADB		Ready	
	Fastboot		Ready	
	ROS		Ready	

	QPST		Ready	
	Neural Processing SDK		Not Ready	
	Hexagon SDK for computation offload		Ready	
	App SDK		Ready	

# 4. Limitations

This chapter lists the bugs and limitations reported for this product:

- New - Newly reported bugs and limitations
- Ongoing - Previously reported bugs and limitations
- Resolved - Previously reported bugs and limitations that have been resolved and are no longer relevant

## 4.1 New bugs

## 4.2 Ongoing bugs

## 4.3 Resolved bugs

# 5. Additional Information

## 5.1 Change Request

This section is not applicable to this release.

## 5.2 Dependency Information

This section is not applicable to this release