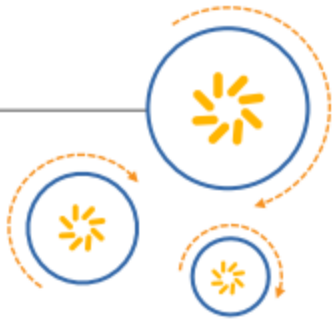
Qualcomm

Qualcomm Technologies, Inc.



00044.1

Release Notes

MSM8909.LA.3.1.1

RNO-190522231728-69836 Rev. 1 (Votary Softech Solutions Private Limited)

May 22, 2019

1. Download

A. ChipCode Location:
https://chipcode.qti.qualcomm.com/software_locator?ref=r00044.1&project=MSM8909-LA-3-1-1_TEST_DEVICE
https://chipcode.qti.qualcomm.com/software_locator?ref=r00044.1&project=MSM8909-LA-3-1-1_AMSS_Standard_OEM

B. ChipCode Commands:
git clone -depth 1 <repo location>

2. Release History

ChipCode Release History:
https://createpoint.qti.qualcomm.com/planner/link/search/releaseHistory/preset/MSM8909-LA-3-1-1_TEST_DEVICE/master/r00044.1
https://createpoint.qti.qualcomm.com/planner/link/search/releaseHistory/preset/MSM8909-LA-3-1-1_AMSS_Standard_OEM/master/r00044.1

3. Getting Started

Release packages

The table below describes the software for this product line, divided into the release packages that must be downloaded separately and combined to have complete product line software set.

Release packages

From chipcode.qti.qualcomm.com	From codeaurora.org
Proprietary non-HLOS software Contains proprietary source and firmware images for all non-apps processors An umbrella package built from a combined set of integrated individual component releases	Open source HLOS software Contains open source for apps processor HLOS
Proprietary HLOS software Contains proprietary source and firmware images for the apps processor HLOS	-

The proprietary and open source HLOS packages are from separate sources and then combined according to the downloading instructions given in Section 1.4 and 1.5 . The unique build identification (build ID) code identifies each package with the following naming convention.

<PL Image>-<Version>-<Chipset>

- <PL_Image> - LA.Branch for Linux Android
- <Version> - Variable number of digits used to represent the build ID version
- <Chipset> - MSM8909

For example, LA.UM.6.7.r1-04102-8x09.1-6 to LA.UM.6.7.r1-04400-8x09.1-3

Note: We have explicitly defined userdata to be 5.5GB so that on the first boot up only we can see this free memory

Component build properties

Component build release	Source or binary only	Toolchain required for building source	Python version	Perl version	Cygwin	Supported build hosts
Android HLOS (LYA)	Source	Android GNU toolchain	–	–	–	Linux only
MPSS	Source	Qualcomm Hexagon™ DSP 6.4.06	Python 2.7.5	Perl 5.14.2	Windows builds only; needs tee.exe	Linux, Windows XP, and Windows 7
Boot loaders	Source	ARM Compiler Tools 5.01 update 3 (build 94)	Python 2.7.5	Perl 5.8.x Linux builds only	Windows builds only; needs tee.exe	Linux, Windows XP, and Windows 7
RPM	Source	ARM Compiler Tools 5.01 update 3 (build 94)	Python 2.6.6	Perl 5.6.1	Windows builds only; needs tee.exe	Linux, Windows XP, and Windows 7
TZ	Source	§ TZAPSS - ARM Compiler Tools 5.01 update 3 (build 94) § TZ - ARMCT600B 21	Python 2.7.5	–	Windows builds only; needs tee.exe	Linux, Windows XP, and Windows 7

Download QTI proprietary software from Qualcomm ChipCode™ portal

QTI software can be downloaded from the ChipCode portal. Designated points of contact in your organization can download the licensed software. The software is organized into distribution packages (distros) composed of subsystem image files. Each distro has a corresponding Git project. The Git tree includes revisions for previous builds that allow you to diff the changes between releases.

1. If you are new to ChipCode, review the following link for up-to-date documentation and a set of tutorial videos:
   https://chipcode.qti.qualcomm.com/projects/help/wiki
2. Create a top-level directory on the build PC and unzip each of the subsystem images to generate the following directory structure. In this example, <target_root> is the top-level directory.
   <target_root>
   /common/
   /boot_images/
   /common/
   /modem_proc/
   /rpm_proc/
   /trustzone_images/
   /wcnss_proc/
   /LINUX/
   contents.xml
3. The following extra lines in contents.xml are applicable only for WAPI-licensed OEMs; other OEMs must delete this:
   <build>
   <name>wapi</name>
   <role>wapi</role>
   <chipset>msm8909</chipset>
   <build_id>WLAN.ADDON_PR.1.2-00001-M8909BAAAANAZW-1</build_id>
   <windows_root_path cmm_root_path_var="WAPI_BUILDROOT">\\snowcone\builds689\
   INTEGRATION\WLAN.ADDON_PR.1.2-00001-M8909BAAAANAZW-1\</windows_root_path>
   <linux_root_path cmm_root_path_var="WAPI_BUILDROOT">/prj/qct/asw/crmbuilds/snowcone/
   builds689/INTEGRATION/WLAN.ADDON_PR.1.2-00001-M8909BAAAANAZW-1/</linux_root_path>
   <image_dir>addon</image_dir>
   <release_path>HY11_CompileTest</release_path>
   <buildfile_path>cd/</buildfile_path>
   <build_command>cd ./addon/build_wapi; source ./build.sh</build_command>
   </build>

Download HLOS software and Compile non-HLOS software

MSM8909 LINUX ANDROID SOFTWARE USER MANUAL SOFTWARE PRODUCT DOCUMENT (SP80-NR964-4)

Commands for building of sampleapp, devcfg for TZ images :

1)DEVCFG: python build_all.py CHIPSET=msm8909 --branch TZ.BF.4.0 --cbt=devcfg

Note:

To generate the Meta build for 8909 variant from apps side , rename "contents_8909.xml" to "contents.xml" and update all the images path to newer ones to compile the build for MSM8909 or update the existing the contents.xml with LINUX/android/out/target/product/msm8909 instead of LINUX/android/out/target/product/msm8909go to compile the build for MSM8909.

Also please increase the size system.img(size_in_kb="1258292")and vendor.img (size_in_kb="512000")of partition.xml to use msm8909 varient

A/B partition changes on MSM8909

Meta Side Changes for A/B Enablement

Need to update two files under

common\config\emmc\partitions.xml and contents.xml

Partition.xml file changes:

The highlighted options of PERFORMANCE_BOUNDARY_IN_KB will align each partition to a specific boundary to improve performance. WRITE_PROTECT_BOUNDARY_IN_KB = 65536

GROW_LAST_PARTITION_TO_FILL_DISK= true

OPTIMIZE_READONLY_PARTITIONS= true

ALIGN_PARTITIONS_TO_PERFORMANCE_BOUNDARY = true

PERFORMANCE_BOUNDARY_IN_KB = 4

Create _a and _b partitions for all below OTA upgradable partitions. Image Binary Name Partition Name NON-HLOS.bin

Image Binary Name	Partition Name
NON-HLOS.bin	<Partition label>="modem_a" <Partition label>="modem_b"
boot.img	<Partition label>="boot_a" <Partition label>="boot_b"
system.img	<Partition label>="system_a" <Partition label>="system_b"
cmnlib.mbn	<Partition label>="cmnlib_a" <Partition label>="cmnlib_b"
keymaster64.mbn	<Partition label>=" keymaster_a" <Partition label>=" keymaster_b"

Image Binary Name	Partition Name
sbl1.mbn	<Partition label>=" sbl1_a" <Partition label>=" sbl1_b"
emmc_appsboot.mbn	<Partition label>="aboot_a" <Partition label>="aboot_b"
rpm.mbn	<Partition label>=" rpm_a" <Partition label>=" rpm_b"
tz.mbn	<Partition label>="tz_a" <Partition label>="tz_b"
vendor.img	<Partition label>="vendor_a" <Partition label>="vendor_b"

Example:

<partition label="modem_a" size_in_kb="65536" type="EBD0A0A2-B9E5-4433-87C0-68B6B72699C7" bootable="false" readonly="true" filename="NON-HLOS.bin"/>

<partition label="modem_b" size_in_kb="65536" type="77036CD4-03D5-42BB-8ED1-37E5A88BAA34" bootable="false" readonly="true" filename="NON-HLOS.bin"/>

1. Please use common GUID for all _b partitions.

Example :

<partition label="modem_b" size_in_kb="65536" type="77036CD4-03D5-42BB-8ED1-37E5A88BAA34" bootable="false" readonly="true" filename="NON-HLOS.bin"/>

<partition label="tz_b" size_in_kb="768" type="77036CD4-03D5-42BB-8ED1-37E5A88BAA34" bootable="false" readonly="false" filename="tz.mbn"/>

2. Remove all backup partitions as we now have _b partitions to serve the same purpose.

Example:

<partition label="cmnlibbak" size_in_kb="256" type="73471795-AB54-43F9-A847-4F72EA5CBEF5" bootable="false" readonly="true" filename="cmnlib.mbn"/>

<partition label="keymasterbak" size_in_kb="256" type="E8B7CF6E-5694-4627-8A2A-899B09F2DBEA" bootable="false" readonly="true" filename="keymaster64.mbn"/>

<partition label="sbl1bak" size_in_kb="512" type="DEA0BA2C-CBDD-4805-B4F9-F428251C3E98" bootable="false" readonly="false" filename="sbl1.mbn"/>

<partition label="abootbak" size_in_kb="1024" type="400FFDCD-22E0-47E7-9A23-F16ED9382388" bootable="false" readonly="false" filename="emmc_appsboot.mbn"/>

<partition label="rpmbak" size_in_kb="512" type="098DF793-D712-413D-9D4E-89D711772228" bootable="false" readonly="false" filename="rpm.mbn"/>

<partition label="tzbak" size_in_kb="768" type="A053AA7F-40B8-4B1C-BA08-2F68AC71A4F4" bootable="false" readonly="false" filename="tz.mbn"/>

3. Please remove recovery & cache partitions

<partition label="recovery" size_in_kb="32768" type="9D72D4E4-9958-42DA-AC26-BEA7A90B0434" bootable="false" readonly="true" filename="recovery.img"/>

<partition label="cache" size_in_kb="112640" type="5594C694-C871-4B5F-90B1-690A6F68E0F7" bootable="false" readonly="true" filename="cache.img" sparse="true"/>

<partition label="userdata" size_in_kb="1677722" type="1B81E7E6-F50D-419B-A739-2AEEF8DA3335" bootable="false" readonly="false" filename="userdata.img" sparse="true"/>

4. Change the userdata 3145728

<partition label="userdata" size_in_kb="3145728" type="1B81E7E6-F50D-419B-A739-2AEEF8DA3335" bootable="false" readonly="false" filename="userdata.img" sparse="true"/>

ContentsXML file changes:

Please update all below OTA partition names as "_a".

Image Binary Name	Contents XML file changes
NON-HLOS.bin	<download_file minimized="true" fastboot="modem_a"> <file_name>NON-HLOS.bin</file_name> <file_path flavor="asic">common/build/emmc/bin/asic/</file_path> <file_path>common/build/emmc/bin/asic/</file_path> </download_file>

Image Binary Name	Contents XML file changes
boot.img	<download_file minimized="true" fastboot="boot_a"> <file_name>boot.img</file_name> <file_path>LINUX/android/out/target/product/msm8909go/</file_path> </download_file> <file_ref ignore="true" minimized="true">
system.img	<file_ref sparse_image_path="true" minimized="true" fastboot="system_a"> <file_name>system.img</file_name> <file_path>LINUX/android/out/target/product/msm8909go/</file_path> </file_ref>
vendor.img	<file_ref sparse_image_path="true" minimized="true" fastboot="vendor_a"> <file_name>vendor.img</file_name> <file_path>LINUX/android/out/target/product/msm8909go/</file_path> </file_ref>
emmc_appsboot.mbn	<download_file cmm_file_var="APPSBOOT_BINARY" fastboot_complete="aboot_a" minimized="true"> <file_name>emmc_appsboot.mbn</file_name> <file_path>LINUX/android/out/target/product/msm8909go/</file_path> </download_file>
sbl1.mbn	<download_file cmm_file_var="BOOT_BINARY" fastboot_complete="sbl1_a" minimized="true"> <file_name>sbl1.mbn</file_name> <file_path>boot_images/build/ms/bin/8909/emmc/</file_path> </download_file>

tz.mbn	<download_file cmm_file_var="QSEE_BINARY" fastboot_complete="tz_a" minimized="true"> <file_name>tz.mbn</file_name> <file_path>trustzone_images/build/ms/bin/${tz_bid:MAZAANAA}/</file_path> </download_file>
cmnlib.mbn	<download_file cmm_file_var="cmnlib" fastboot_complete="cmnlib_a" minimized="true"> <file_name>cmnlib.mbn</file_name> <file_path>trustzone_images/build/ms/bin/${tz_bid:MAZAANAA}/</file_path> </download_file>
keymaster64.mbn	<download_file cmm_file_var="keymaster" fastboot_complete="keymaster_a" minimized="true"> <file_name>keymaster64.mbn</file_name> <file_path>trustzone_images/build/ms/bin/${tz_bid:MAZAANAA}/</file_path> </download_file>
rpm.mbn	<download_file fastboot_complete="rpm_a" minimized="true"> <file_name>rpm.mbn</file_name> <file_path>rpm_proc/build/ms/bin/${rpm_bid:8909}/pm8909/</file_path> </download_file>

1. Update update_common_info.py" by changing if(list_partition_el.get('label') == 'modem'): to if(list_partition_el.get('label') == 'modem_a'): to get the build compiled successfully

APP Note for A/B Apps Changes - 8909Go

1. A/B feature is disabled by default.

2. customers can enable it by using the below steps

1. Make the ENABLE_AB flag as true

msm8909go.mk (device/qcom/msm8909go)

ENABLE_AB ?= true

2. Add Boot Control HAL to manifest required for slot switching

manifest.xml (device/qcom/msm8909go)

<hal format="hidl">

<name>android.hardware.boot</name>

<transport>hwbinder</transport>

<version>1.0</version>

<interface>

<name>IBootControl</name>

<instance>default</instance>

</interface>

</hal>

3. Enable slotselect for vendor & disable early mount of system in dtsi

msm8909.dtsi (kernel/msm-3.18/arch/arm/boot/dts/qcom)

firmware: firmware {

android {

compatible = "android,firmware";

fstab {

compatible = "android,fstab";

vendor {

compatible = "android,vendor";

dev = "/dev/block/platform/soc/7824900.sdhci/by-name/vendor";

type = "ext4";

mnt_flags = "ro,barrier=1,discard";

fsmgr_flags = "wait,slotselect";

status = "ok";

};

system {

compatible = "android,system";

dev = "/dev/block/platform/soc/7824900.sdhci/by-name/system";

type = "ext4";

type = "ext4";

mnt_flags = "ro,barrier=1";

fsmgr_flags = "wait";

status = "disabled";

};

};

};

};

4.Currently on MTP due to storage restrictions to accommodate additional system, vendor & modem partitions (slot B), we have to reduce the userdata to 3GB. This is dependent on our META & device and customer can optionally pick this change

Boardconfig.mk (device/qcom/msm8909go)

BOARD_USERDATAIMAGE_PARTITION_SIZE := 3221225472

Loading the build after A/B partition changes are included

1. Once the build is loaded with all the above changes (_a changes will be loaded),Let the device be in fastboot mode only.
2. Please flash both _a and _b partitions and run command 'fastboot set-active=a' after flashing is completed (before 'fastboot reboot' command) as below

fastboot flash vendor_b \\<APPS_BUILD>\LINUX\android\out\target\product\msm8909go\vendor.img

fastboot flash tz_b <TZ_BUILD>\trustzone_images\build\ms\bin\MAZAANAA\tz.mbn

fastboot flash cmnlib_b <TZ_BUILD>\\trustzone_images\build\ms\bin\MAZAANAA\cmnlib.mbn

fastboot flash keymaster_b <TZ_BUILD>\\trustzone_images\build\ms\bin\MAZAANAA\keymaster64.mbn

fastboot flash rpm_b <RPM_BUILD>\rpm_proc\build\ms\bin\8909\pm8909\rpm.mbn

fastboot flash boot_b <APPS_BUILD>\LINUX\android\out\target\product\msm8909go\boot.img

fastboot flash aboot_b <APPS_BUILD>\LINUX\android\out\target\product\msm8909go\
emmc_appsboot.mbn

fastboot flash system_b <APPS_BUILD>\LINUX\android\out\target\product\msm8909go\system.img

fastboot --set-active=a

Reboot the device and the device comes up.

4. Build Instructions

For the build components and IDs, refer to the about.html file in the root of the repository on Qualcomm ChipCode portal.

The following table shows the Android build information for this release. Also, the CAF website is provided.

Android build information

CAF details:

https://wiki.codeaurora.org/xwiki/bin/QAEP/release

Date	Tag / Build ID	Chipset	Manifest	Android Version
May 21, 2019	LA.UM.6.7.r1-08300-8x09.0	msm8909go	LA.UM.6.7.r1-08300-8x09.0.xml	08.01.00

Please find CAF

https://source.codeaurora.org/quic/la/platform/manifest/tag/?h=AU_LINUX_ANDROID_LA.UM.6.7.R1.08.01.00.315.083

https://source.codeaurora.org/quic/la/platform/manifest/tag/?h=LA.UM.6.7.r1-08300-8x09.0

Security Patch : 2019-04-05

- **NOTE:** Look for the project name platform/vendor/qcom/ferrum.git for MSM8909.

Metabuild components

Product Line	Build Id/Label
MSM8909.LA.3.1.1	MSM8909.LA.3.1.1-00044-STD.PROD-1
BOOT.BF.3.1.2.c2	BOOT.BF.3.1.2.c2.2-00014-M8909AAAAANAZB-1
CNSS.PR.4.0.2	CNSS.PR.4.0.2-00215-M8909BAAAANAZW-1

Product Line	Build Id/Label
LA.UM.6.7.r1	LA.UM.6.7.r1-08300-8x09.0-1 (PLATFORM_Security Patch : 2019-04-05)
MPSS.JO.3.0.1	MPSS.JO.3.1-00204-8909_GEN_PACK-1
RPM.BF.2.1.1.c4	RPM.BF.2.1.1.c4-00003-M8909AAAAANAZR-2
TZ.BF.4.0.9	TZ.BF.4.0.9-00055-M8909AAAAANAZT-1
VIDEO.VE_ULT.3.1	VIDEO.VE_ULT.3.1-00037-PROD-1

NOTE: For the build components and IDs, refer to the about.html file in the root of the repository on Qualcomm ChipCode.

NOTE : If customer want to use "genns" flavour please note there will be a increase of 4 MB in nHLOS . Change the dtsi file size with 4 MB increase from nHLOS side

5. Memory configuration

This software can be used with the MSM™ ASICs and revisions shown in *MSM8909 Linux Android Software User Manual Software Product Document* [SP80-NR964-4], with the indicated release quality. ASIC revisions available at the time of this release are assumed to be supported, unless otherwise indicated.

Supported ASICs

ASIC hardware	ASIC hardware rev	P-code	RR code	Note
MSM8909 (000-0)	0×009600E1	0	00	-
**MSM8209(000-0)	0×009610E1	0	00	-
**MSM8208(000-0)	0×009620E1	0	00	-
MSM8909(001-0)	0×109600E1	0	01	-
**MSM8209(001-0)	0×109610E1	0	01	-
**MSM8208(001-0)	0×109620E1	0	01	-
APQ8009 (001-0)	0×109680E1	0	01	-
*MSM8909(201-0-AA)	0×109600E1	2	01	-
*MSM8909(301-0-AA)	0×109600E1	3	01	-
*MSM8909(501-0-AA)	0×109600E1	5	01	-

*MSM8909(601-0-AA)	0×109600E1	6	01	-
*APQ8009(001-0-AA)	0×109680E1	0	01	-

ES = Engineering Sample; FC = Feature Complete; CS = Commercial Sample

* = MSM variants with 1.267 GHz support

** = 3G SKU variants

Platform information

CDP/MTP 8909 with PM8909 + WTR4905 + WCN3610

CDP/MTP 8909 with PM8916 + WTR4905 + WCN3610

Software platform version

The following software platforms are supported in this release:

- Linux kernel - Ver 3.18
- Android version - Android Nougat Version 8.1.0

Memory platform information

The following memory platforms are supported in this release:

- 1 GB and 2 GB LPDDR2
- 1 GB and 2 GB LPDDR3

SD card information

There is no restriction on the SD card size from SD host controller. Tested 128 GB SD card with FAT.

NOTE: For QTI reference platforms, this support is configured through CDT platform information, programmed into the EEPROM for the CDP and MTP platforms, and must match the hardware configuration.

Supported RF bands

The following bands are supported.

Supported RF bands

RF configuration	GSM	CDMA	WCDMA	TD-SCDMA	TD-LTE	FD-LTE	WLAN
WTR4905	Quad-band	BC0, 1, 6	B1, 2, 3, 4, 5, 8	B34 ,39	B38, 39, 40, 41	B1, 2, 3, 4, 5 7, 8, 17, 20, 26, 28	
WCN3610							2.4G
WCN3615							2.4G
WCN3660B							2.4G/5.0G
RFC_WTR4905_CHINA_CMCC_3M	G900 G1800 G1900			B34, B39	B38 B39 B40 B41		
RFC_WTR4905_CHINA_CU_4M	G900 G1800	-	B1, B8		B3, B40, B41		
RFC_WTR4905_CHINA_CT_4M	G900 G1800 G1900	BC0			B1, B3, B41		
RFC_WTR4905_AMX	G850, G900, G1800, G1900		B1, B2, B5		B2, B3, B4, B7, B17, B20, B28		

RF configuration	GSM	CDMA	WCDMA	TD-SCDMA	TD-LTE	FD-LTE	WLAN
RFC_WTR4905_OM	G850, G900, G1800, G1900		B1, B5, B8		B1, B3, B7, B20, B38, B40		
RFC_WTR4905_NON_CA	Quad-band	BC0	B1, 2, 5, 8	B34, 39	B38, 39, 40, 41	B1, 3, 4, 7, 17, 20, 26, 28	
RFC_WTR4905_JAPAN_V2	Quad-band	BC0, 1, 6, 10	B1, 2, 3, 5, 6, 8, 9, 11, 19		B41	B1, 2, 3, 5, 8, 9, 11, 18, 19, 21, 25, 26, 28	
RFC_WTR4905_CHILE_3G	Quad-band	BC0, 1, 6	B1, 2, 3, 4, 5, 8	B34 ,39			
RFC_WTR4905_NA_DLCA	Quad-band	BC0, 1, 6, 10, 15	B1, 2, 4, 5, 8		B41	B1, 2, 4, 5, 7, 8, 10,12, 13, 17, 23, 25, 26, 29, 30	

CA band combos

Feature ID	Title	Class	Comments
PR13187	4A+17A	LTE/2DLCA	
PR13191	4A+13A	LTE/2DLCA	
PR13192	4A+12A	LTE/2DLCA	

Feature ID	Title	Class	Comments
PR13194	2A+4A	LTE/2DLCA	
PR13201	4A+5A	LTE/2DLCA	
PR13205	25A+26A	LTE/2DLCA	
PR13771	2A+13A	LTE/2DLCA	(FR 26191)
PR13779	2A+17A	LTE/2DLCA	
PR14228	2A+29A	LTE/2DLCA	
PR14229	4A+29A	LTE/2DLCA	
PR14241	17A+30A	LTE/2DLCA	
PR14242	2A+30A	LTE/2DLCA	
PR14243	4A+30A	LTE/2DLCA	
PR31799	12A+30A	LTE/2DLCA	
PR32855	5A+30A	LTE/2DLCA	

Memory configuration and usage

Figure 5-1 shows the memory map for the MSM8909 ASIC. Figure 5-2 shows the detail on the relocatable partition of the MSM8909 memory map. Figure 5-3 shows the detail on the MPSS_EFS / SBL (BOOT) partition of the MSM8909 memory map.

Figure 5-1 MSM8909 memory map diagram

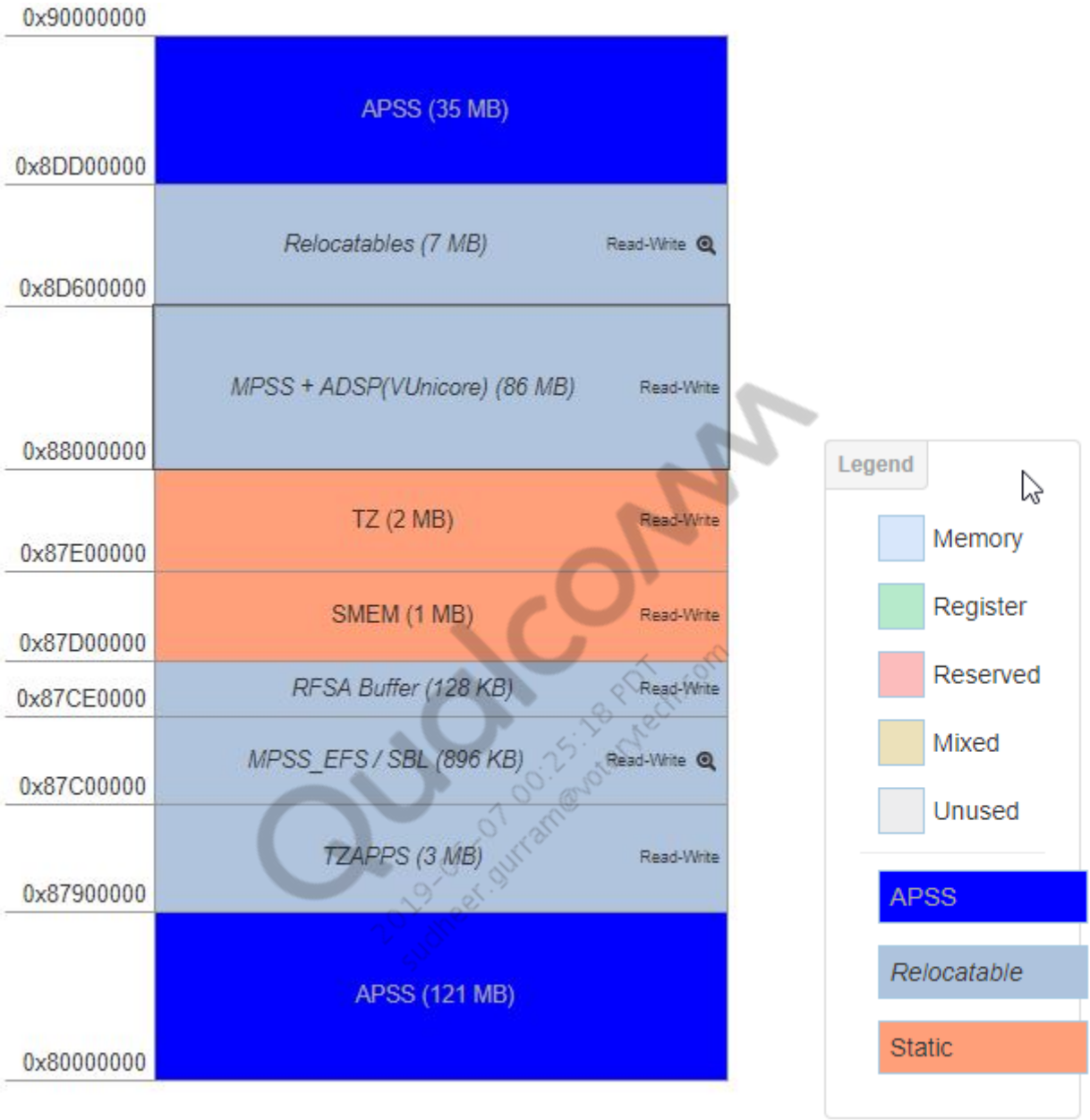


Figure 5-2 Relocatable partition of MSM8909 memory map

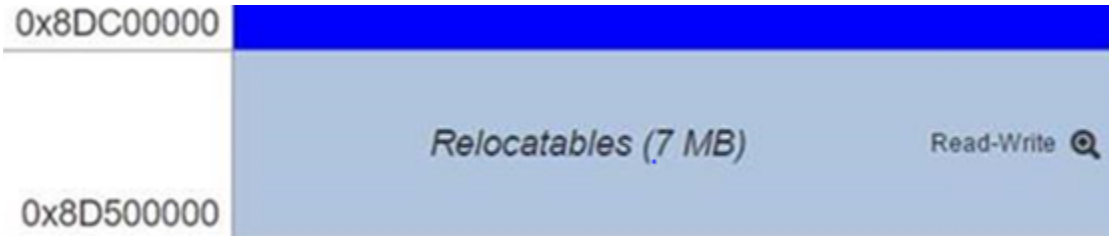
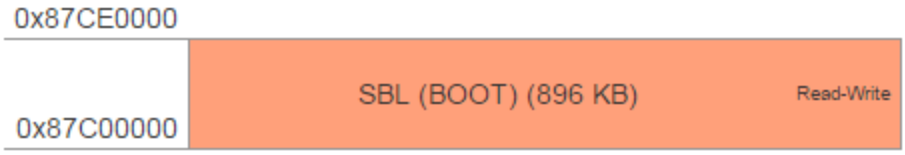


Figure 5-3 MPSS_EFS/SBL (BOOT) partition of MSM8909 memory map



The following table shows the MSM8909 memory map.

MSM8909 Oreo illustrative memory map

Memory Map	8909(32-bit) 1GB/HD with GMS
Non-HLOS	92
Free	550MB

The performance-optimized DDR frequency plan is given in the table below. Optimizations are made for the following performance parameters:

- Avoidance known RF de-sense frequencies
- Maximize throughput
- Minimize power

NOTE: Modifications to the released DDR frequency plan can adversely impact system performance.

Performance-optimized DDR frequency plan

DDR frequency plan (MHz)
9.60
50.00
100.00
200.00
400.00
533.00

GPU frequency performance

GPU frequency (MHz)
19.200
50.000
80.000
100.000
160.000
177.780
200.000
266.670
307.200
409.600

6. New Features

There are no new features introduced in the MSM8909.LA.3.1.1-00033-STD.PROD-1 release.

For features introduced in the previous releases, see section 6.1.

Cumulative features

The table below provides a list of supported software features from previous releases.

Cumulative features

Subsystem	Area	Feature
CBSP	RPM	Open loop CPR is enabled
	CBSP	• BSP Drivers • LPDDR2 @ 533 MHz • Full boot chain, • USB, UART, SD-card, Sec-boot, QDSS • SMMU, xPUs fully verified • Security: TZ Cold/Warm Boot, MBA, Crypto-MBA • eMMC download support • QuRT, DAL support • Services: Access Control -Modem, SSM Support • Buses - Bus PM APPS Linux • Power - open loop CPR enabled • CX thermal mitigation
	Modem	• LTE • LTE OTDOA/PRS • IMS • VT - Media
	MMCP	MMODE • FR 26591 - QMI Indication for one-round manual scan fail notification Policy Manager • FR 27445: LTE B26 + CDMA BC0 + GSM B3/B8 1xSxLTE+G DSDS • FR26435: Roaming enhancement with Dual IMSI CT SIM card
		• Basic Data call • ePDG/iwlan • v6 tethering • Tethering offload and stats • WQE

Subsystem	Area	Feature
	DATA	• FD/CT • NSRM • TCM
	LTE	• Basic LTE data call • LTE - 10 MHz - TM1-TM6 LTE release 8, 9, 10 signaling • LTE frequency scan • Basic TDD LTE call • LTE CAT3 (reduced data rate) peak throughput in 15 MHz • Intra-LTE reselections, OOS, RLF • Extend Cyclic Prefix and ECP with CA
		• LTE (TDD) - Various UL and DL configurations (lower BW) • IDLE RxD • LTE SPS/TTI bundling • LTE intra-and inter frequency handover • LTE 20 MHz TM1-TM4 (FDD/TDD) • LTE intra, interfreq SON • FDD/TDD 10/20Mhz TM 7.8& CSI-RS (special SF (all configurations)) • LTE BPLMN • LTE eMBMS • LTE 4X2 MIMO • FR27114: LTE to GSM SRVCC Enhancements
	WCDMA	• Voice/data call • HHO interfreq and intrafreq • WCDMA W2W interfreq Compressed mode • W multiband frequency scan • Basic data call • WCDMA MultiRAB • WCDMA connected RxD • CM: interfreq • HSDPA, HSUPA • W DC-HSDPA • R99/HSPA mobility (serving cell change), • DC-HSDPA mobility • Mobility - Blind HHO, ASU/SHO • Mobility HHO interfreq and intrafreq • CPC-DTX/DRX • Advance receivers • Connected mode RxD • CSG/BPLMN • Advance receivers - 3-cell DC-HSDPA+QICE+RxD • WW Idle intraF, interF reselection • FACH FMO intra and interfreq, reselection • FR 22769: LTE Uplink Data Compression (UDC) • FR 23335: LTE CAT1 2Rx support
		• Voice call, 1X advanced Call • Data call (DO REV0/A) • SMS

Subsystem	Area	Feature
	1X/DO	• EV-DO nonslotted mode • 1X-ADV DTX, smart blanking • 1X+HDR hybrid • 1X /DO Slotted-mode • 1X handoff/DO handoff (three fingers) • 1X/DO RxD • 1x-ADV FET • 1x-QPCH/RTL timelines • 1X Traffic Diversity support + eRDDS • 1X + HDR Hybrid support • HDR Traffic Diversity • 1x-Datacall Turbo 4x-16x
	TDS	• R4 voice/data call • TDS HSDPA call • TDS HSUPA call • TDS MRAB call • TDS Idle/Sleep mode operation • TDS intra/inter frequency HHO/BHO TDS MRAB (R4+HS) • DSDS
	GSM	• Voice call • Data call • SMS • GSM handover • GSM cell reselection • RxD (voice) • GSM DTM/EDTM, HSMC • Cell broadcast • G VAMOS level 1/2 • GSM R-SACCH/R-FACCH
	IRAT	• L2DO blind redirection • L21x blind redirection • L2W2L blind redirection • L2G2L blind redirection • L2W PSHO • W2L PSHO • L2W connected measurement (Stage2 Direct) • L2W connected measurement (Step1 + NASTT) • L2G Connected mode measurement, then redirection • L2W reselection • L2G reselection • W2L reselection • W2L CM • G2L reselection • L1X Idle • LDO Idle • GW Idle/ Connected • WG Idle/Connected • DOG Connected • TG Blind Handover

Subsystem	Area	Feature
Modem		• GT • GL PTM
		• GL Dedicated • L1X Conn • LDO Conn • 1XL • DOL • LT Idle • LT Conn • TL Idle • TL Conn • LG SON/CGI/CCO/SRVCC/CSFB • LW conn mode meas/SON/PSHO/CGI/SRVCC/CSFB • LW/G ISR
	CRAT	• 1xSRLTE • Multi-SIM • C+G • DO+G • W/G+G • T/G+G • T/G/L+G • L/W/G/T+G(CSFB) • 1xSRLTE+G • DSDS L+G VoLTE
	RFA	• EPT calibration • RF nonsignaling • RF FTM Devices FR 25835: QFE4320(QFE3320 HVMOS version) HW/SW alignment LTE • FR 26191: B25+B26 (CA_25A-26A) for Sprint • FR 27655: New CA band combos required on MSM8909: B2+B12 and B2+B5 RFC/DTR • FR 23609: BBRx Vcm CAL • FR27868: Need to mainline RF PA drivers for QRD program for TMobile • FR26236: LTE B26 + CDMA BC0 + GSM B3/B8 1xSxLTE+G
		• IMS/SMS over eHRPD • IMS/SMS over LTE • VoLTE (Signaling) • VoLTE - Media

Subsystem	Area	Feature
	IMS	• VT (Signaling) • EVS Codec • IMS - E (CD, instant message, file sharing, image sharing) • IMS - E911 • Basic VoLTE • Basic VoLTE + Supplementary • VoLTE Conference • Call Barring • DSDS • VoWLAN • Basic VT • FR 23577 - CANCEL for re-INVITE • FR 23822 - EE - Ut over ePDG support • FR 24482 - SBM SUBSCRIBE failure process • FR 24482 - SBM SUBSCRIBE failure process • FR 24937 - Verizon Wireless requirement - If the device moves to 1X after SIP BYE is sent out, the device should terminate the session and dialog just like it times out • FR 24984 - SIM Swap without RESET - IMS • FR 25037 - Sprint - Inclusion of Country Code in IMS REGISTER over Wi-Fi • FR 25037 - Sprint - Inclusion of Country Code in IMS REGISTER over Wi-Fi • FR 25135 - IMS Reregistration with New P-CSCF IP address list. • FR 25145 - Context-based SIP 488 and SIP 486 Reason Header Setting • FR 25159 - Anonymous User in Initial SIP INVITE header • FR 25201 - Session Initiation Protocol (SIP) 180 Ringing on the MO side for SIP • FR 25340 - Extended RTCP reporting, including the VoIP metrics block as per GSMA IR.92 and RFC 3611 • FR 25341 - Verizon Wireless re-Subscribe algorithm for SIP error codes • FR 25411 - Supported header in the response to SIP OPTIONS request shall list all SIP extensions supported by the UA • FR 25461 - ATT - Video call downgrade to Audio on severe packet loss • FR 25634 - Extending TR1M to be longer than Timer F to avoid duplicate SMS • FR 25868 - ATT - G.711 as a valid codec for VoLTE and VoWi-Fi use cases • FR 25901 - Generic bootstrapping architecture (GBA) for third-party clients • FR 26143 - E911: Self-Activation use cases • FR 26376 - TMO - Start 10 s Timer at INVITE, end at DRB setup • FR 26378 - TMO - Location Reporting Requirements for Emergency Calling including VoWi-Fi
		• FR 26384 - ATT - VoLTE, VT, RCS Messaging Enable/Disable requirements • FR 26411 - IMS Precondition handling for call hold and call resume

Subsystem	Area	Feature
	-	• FR 26518 - IR.92 - If-Match header field for conditional operations as defined in IETF RFC 4825 [8] • FR 26518 - IR.92 - If-Match header field for conditional operations as defined in IETF RFC 4825 [8] • FR 26775 - KT - Passing P-Called-Party-ID info to UI • FR 26778 - KT - IMS service disable in 3G on PDP failure with any error code • FR 27276 - IMS/DDS switch across subs in 7-modes DSDS • FR 27419 - VoLTE for Internet Connected Endpoint (VICE) / MULTI-ENDPOINT DEVICES • FR 27427 - [T-Mobile Wi-Fi Calling Requirement] Handling of non-T-Mobile SIM or a non-GBA capable SIM card • FR 27458 - Originating Identification Restriction (OIR) for conference calls • FR 27504 - TMO UCE -- Authorization for capabilities retrieval (Phase 1) • FR 27767 - Graceful handling of multiple SMS messages without intervening ACK from UE • FR 27785 - Populate the error codes and error text to the UI • FR 27797 - Handling of Handover Failures errors related to ER041, ER081 and ER082 reported by DS • FR 27857 - Session Description Protocol (SDP) codec with an open offer as specified in Verizon Wireless Feb. Spec • FR 27910 - LGU+ - Playing network initiated ringback tone and local ringback tone • FR 28086 - Perform initial IMS registration on Wi-Fi when leaving 2G/3G
		WLAN • WLAN STA, SAP, P2P • WLAN Security/WPA2 • 802.11 b/g/n Legacy features • AOSP Fixes
		Bluetooth • CoEX with WLAN/Bluetooth • Multi-Bluetooth profile CoEX • Bluetooth A2DP, HFP, SAP, DUN, AVRCP, PAN, SPP, SDP, FTP, OPP, PBAP, HID • N Host features L0
		FM - Station scan and seek

Subsystem	Area	Feature
Connectivity	-	NFC - Tag-read, P2P Mode, card emulation
Multimedia	Video	• End-to-end video playback for all hardware decoders • Camcorder recording with H264 • Hardware decoders VP8, H264, and HeVC • Hardware encoder H264 • Video 1080p @ 30 fps • Support error concealment • Venus 3.0 FW/LA Driver • Software decoder and encoder support(MP4,H.263, DivX, XVID) • FR26811: QGP-TMO: Support Multimedia Quality of Experience requirements from TMO • MediaCodec priority • Media sync and media clock • Media resource managers • Video playback, default container use cases ((H.264, MPEG-4) • Video streaming • AV enhancements and DIVX/VC1/XVID/HEVC codecs • Video playback and recording, container use cases (all formats)
	Display	• qHD • Postprocessing - CABL/SVI • Splash screen during bootup • Rotation • 720p • MDP3, 4-lane, DSI • 2-layer bypass composition • FR26590: Support decompress splash screen in LK • GPU composition • MDP composition • CABL • Partial Update • SVI
	Graphics	• EGL1.4, RenderScript • Legacy features • Partial update
		• Stock Android - MP3/AAC//MIIDI • Audio Proxy • AMR-NB/AMR-WB playback • AMR WB NT Decoding • Compressed offload • Headset detection • Basic Voice call • VoIP using audio path • WFD
	Audio	• Fluence • DSDS • Surround sound recording, SVA

Subsystem	Area	Feature
		• QCELP/EVRC • ALAC, APE, AIFF, WMA, Vorbis, FLAC • Voice Call Recording
	Camera	• Snapshot and Preview (Non-ZSL mode) • Digital Zoom • JPEG encode • 3A (AE, AWB, AF), Touch AF/AEC • Auto frame rate • Live snapshot • Continuous AF • Image Snapshot (all resolutions), Scene Mode, Picture Quality • Exposure, White Balance, Selectable Zone AF, auto exposure mode • Sharpness, Contrast, Saturation • Zero Shutter Lag • Color Effect, Picture Format, ISO • AV timer, video rotation (VT dependencies) • Panorama capture, SE enablement • Wavelet Noise Reduction, HDR • Timer and Timer sound effects • Flash mode, Focus Mode, Red Eye Reduction, AE Bracket • Skin Tone Enhancement, Anti-Banding, Storage position (Phone or SD card) • CDS, TNR, Picture format • Extended Face detection • Auto HDR, Histogram, Auto Scene Detection, AOST Features, Manual 3A • Long shot/Continuous Shot, Extended Face Detection (smile, gaze, blink) • Camcorder, Video recording (default resolution), Video Effect, Time Lapse Interval, Video HDR, Live snapshot • Video quality, Video encoder selection, Audio Encoder selection in video recording, Shutter Tone, HFR/HSR
	-	• APSS Power features fully verified • Kernel up with all four cores • Full UI bootup with Android logo • AOSP 32-bit L Release • Kernel 3.10 • APSS power features enabled
		• Offline GNSS RF Dev 4.0 • End-to-end stand-alone GNSS in Low-power Mode (LPM) • Stand-alone GNSS 2.0 with XTRA3.0 (including BeiDou) • Stand-alone GNSS concurrent with GSM, LTE, CDMA, WCDMA, and TD-SCDMA • DPO 2.1 • Coarse position injection and intermediate positioning • User plane A-GNSS on GSM, LTE, CDMA, WCDMA, and TD-SCDMA • Control plane A-GPS on GSM, LTE, CDMA, and WCDMA • Global Terrestrial Positioning (GTP) - Wi-Fi 1.5

Subsystem	Area	Feature
Android	GPS	• Global Terrestrial Positioning (GTP) - Cell 1.6 • Zero Power Positioning (ZPP) 2.0 • OTDOA-LTE measurements 2.0 • Combo NW location provider • Geofencing 3.1 • Location batching 1.0 • Multilocation ID 2.0, SUPL (V2.0) • All legacy features
	UI	• Converged UI • FR27069 - QGP-AMX: Peru: 3G USIM PHONEBOOK SUPPORT • FR27133 - QGP-AMX: VAS delta - Appearance changes • FR27134 - QGP-AMX: VAS delta - Screen Customization changes • FR27135 - QGP-AMX: VAS delta - Preloaded application changes • FR27136 - QGP-AMX: VAS delta - Application Menu Enhancements • FR27137 - QGP-AMX: VAS delta - Plugger removal • FR27138 - QGP-AMX: VAS delta - Browser Changes • FR27139 - QGP-AMX: Chile: Messaging enhancements • FR27142 - QGP-AMX: Chile: Platform enhancements • FR27143 - QGP-AMX: Chile: Email Enhancements • FR27145 - QGP-AMX: Chile: Emergency Alert System • FR27146 - QGP-AMX: Chile: Phonebook enhancements • FR27147 - QGP-AMX: Chile: Regional Data customization for Chile • FR27148 - QGP-OM: International Prefix requirements • FR27149 - QGP-OM: Voice mail number requirement • FR27150 - QGP-OM: Settings to Configure Model/Brand name • FR27151 - QGP-OM: Messaging - CDMA send blank SMS • FR27152 - QGP-OM: Operator name on status bar • FR27158 - QGP-OM: Indonesia Openmarket data pack • FR27159 - QGP-OM: Indonesia Telkomsel data pack • FR27160 - QGP-OM: Indonesia Smartfren data pack • FR27164 - QGP-OM: Philippines Open market data pack • FR27165 - QGP-OM: Cherry data pack • FR27166 - QGP-OM: Thailand open market data pack • FR27167 - QGP-OM: Thailand iMobile data pack • FR27168 - QGP-OM: Malaysia open market data pack
		• FR27190 - QGP-OM: LatAm TEF Argentina data pack • FR27191 - QGP-OM: LatAm TEF Chile data pack • FR27194 - QGP-OM: LatAm TEF Ecuador data pack • FR27195 - QGP-OM: LatAm TEF El Salvador data pack
		• FR27196 - QGP-OM: LatAm TEF Guatemala data pack • FR27197 - QGP-OM: LatAm TEF Mexico data pack • FR27198 - QGP-OM: LatAm TEF Nicaragua data pack • FR27199 - QGP-OM: LatAm TEF Panama data pack • FR27200 - QGP-OM: LatAm TEF Peru data pack • FR27209 - QGP-AMX: Brazil: Contacts nine digit • FR27210 - QGP-AMX: Brazil: Contacts eight digit • FR27211 - QGP-AMX: Brazil: Contacts - International • FR27222 - QGP-OM: SIM Insert attribute values for Orange-Spain

Subsystem	Area	Feature
		• FR27223 - QGP-OM: SIM Insert attribute values for Orange-Slovakia • FR27224 - QGP-OM: SIM Insert attribute values for Orange-Poland • FR27225 - QGP-OM: SIM Insert attribute values for Orange-Romania • FR27227 - QGP-OM: SIM Insert attribute values for Telefonica-Germany • FR27244 - QGP-OM: LatAm TEF Brazil data pack • FR27282 - QGP-AMX: Change the AMX pack based on latest SVA document • FR27948 - QGP-OM: Add support for Single SIM insert use case when user selects option NO • FR27955 - QGP-AMX: LTM Preloads and Bookmarks • FR27957 - QGP-AMX: LTM Main Menu and Client ID
Debug		RAM dump collection
Miscellaneous		• GSM - Voice/Data/SMS • WCDMA - Voice/Data/SMS • 1X - Voice/1X Advanced/Data(DO Rev 0 /A) /SMS/EV-DO Nonslotted mode • TD-SCDMA - Voice/Data/SMS • Basic LTE data call • LTE-FD - Data 10 MHz TM1-M6 • LTE release 8, 9, 10 signaling • LTE Frequency scan • UIM1, UIM2, and SIM hot swap • Full bias RF cal
Thermal		• All Thermal features verified • FR 26103 - Q6zip to use MCPM to boost clock instead of DCVS (Dynamic Clock & Voltage Scaling)
Regional		• Regional: Framework Enhancements for new triggers and configurations • Regional: Use regional framework to apply first SIM insert based SIM lock • Regional: Mainline Sales Tracker and ESN tracker APKs • Regional: Clear codes for LatAm market • Regional: Right to Left changes support for Arabic • Regional: Configure parameters in various modules to support runtime dynamic switch • Regional pack update from cloud • Follow-on to FR17652: Update Modem configurations based on configuration triggers • Smartfren (Indonesia) Regional Pack • iMobile (Thailand) Regional Pack • Cherry Mobile (Philippines) Regional Pack • Cherry Mobile (Thailand) Regional Pack • Cherry Mobile (Myanmar) Regional Pack

Subsystem	Area	Feature
		• Fly (Russia, Ukraine) Regional Pack • MTN (South Africa) Regional Pack • India Open Market Regional Pack • Brazil Open Market Regional Pack • Carrier Aggregation is enabled.
APSS		• FR24540 - Camera app - Screen orientation issue • FR25130 - The power setting for 2.0 to set CMCC testing is added • FR17799 - MMI - User experience for 2.0 release is evaulated • FR25642 - CT Carrier name display is enabled • FR24754 - AMX - GlobalPass architecture compliance • FR24755 - AMX - Platform enhancements are made • FR24756 - AMX - Language requirements are updated • FR24758 - AMX - Customization for Telcel is added • FR24759 - AMX - Customization For Claro (Chile, Columbia, and Peru) is added • FR24760 - AMX - Modem requirements for Telcel pack is added • FR24761 - AMX - Telephony enhancements are made • FR24762 - AMX - New telephony and calling features are enabled • FR24763 - AMX - Calling enhancements are made • FR24765 - AMX - OMA DRM Phase 2 v2.0 is enabled
		• FR24767 - AMX - Messaging enhancements are made • FR24768 - AMX - New messaging enhancements are made • FR24769/FR25408 - AMX - Browser enhancements are made\ • FR24770/FR25409 - AMX - Telcel accounts • FR25414 - AMX Regional data configuration requirements are enabled • FR25410 - OMA CP 1.1 and OMA DL • FR25412 - AMX terminal services requirements are enabled
Other		• APQ8009 (with WGR7640 GPS receiver IC): • GPS E2E functionality • Offline GNSS RF dev 4.0 support
Performance		FR 27307 - DIAG-based framework for deterministically stressing modem Hexagon system parameters
UIM		• FR 25424 - Modem optimization to speed up PB record reads by using SEARCH record functionality • FR 25884 - Support for GBA_U functionality as defined by 3GPP TS 33.220 • FR 26629 - QGP-TMO: Add modem APIs for Remote SIM Unlock support • FR 26854 - Support for enabling the sim lock with multibyte GID values • FR 27673 - Conversion of MANAGE CHANNEL APDU and SELECT by DF name APDU on nonexisting channel into high-level commands

Subsystem	Area	Feature
RIL		FR26153 - AP side implementation for allowing modem configuration updates received over FOTA using QMI-PDC Interface
Telephony		• FR26591 - Improved solution for 'Manual PLMN Search Menu for SIM1 should be gray out when device is at China mainland/Macau' • FR26673 - Add the ability to enable/disable VoWi-Fi calling • FR27063 - QGP-AMX: Peru: SERVICE DIALING NUMBERS • FR27064 - QGP-AMX: Peru: EMERGENCY CALL • FR27065 - QGP-AMX: Peru: SMS Service • FR27066 - QGP-AMX: Peru: APN settings • FR27067 - QGP-AMX: Peru: Device Management • FR27068 - QGP-AMX: Peru: VideoCall • FR27140 - QGP-AMX: Chile: Telephony enhancements • FR27141 - QGP-AMX: Chile: SIM Lock and APN enhancements • FR27144 - QGP-AMX: Chile: Video Call • FR27205 - QGP-AMX: Brazil: Cell broadcast display on 3G • FR27212 - QGP-AMX: Brazil: Video call support • FR27213 - QGP-AMX: Brazil: STK name • FR27214 - QGP-AMX: Brazil: Default APN Names • FR27245 - QGP-AMX: Brazil: Cell broadcast default • Device Camping • Signal Strength • Basic Voice Call MO/MT • SMS • Airplane mode • Supplementary services • Network Selection • APNPreferred and Other Network Settings • ETWS • CMAS • eMBMS • Multimode Support • MMS support • SIM/USIM/R-UIM phone book • Voice mail • Multiple PDP • Cell Broadcast • DSDS • Voice,SMS,Data,Statusbar,Lock • Screen,PIN,PUK, FDN, X-Divert, • MMS on non-DDS SUB • STK • Flex SIM/Smart SIM detection • Fixed Dialing Number (FDN) • TD-SCDMA Support • SMS OVER IMS • PIN/PUK Notifications (Single SIM) • Primary card feature

Subsystem	Area	Feature
Linux_PMIC		FR25637 - QGP-OM: High temperature charging cut-off function
TD-SCDMA		FR 27029 - Optimization For Single Radio Dual-SIM Dual-Standby TDS Mobile Terminated Call Success Rate Under GSM PS Call
UTILS		FR 27594 - A2 power collapse synchronization with CDRX
Data 3GPP		FR 27909 - UE Detach & Re-Attach upon IMS Failures.
Miscellaneous		• DSDS L/W/T/G + 1x/G • VoWi-Fi enhancements

7. Limitations

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

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

NOTE: For a list of all completed and known Change Requests (CRs), see the Release History tab of the product on CreatePoint. Known CRs are selected based on information available at the time of release taking into accounting the following:

- CR is applicable to a software product.
- CR changes are likely to be included in an upcoming release.

However, due to the dynamic nature of the development environment, the schedule, and actual contents of upcoming releases are subject to change.

Google bug:

https://partnerissuetracker.corp.google.com/u/1/issues/73015323 : CTS fix is up on AOSP ,will be released in CTS 8.1 R2,

For Single sim configuration please reveert this gerrit : https://review-android.quicinc.com/#/c/2164563

NOTE: EVS is enabled in kitchen sink flavour (8909.gen.prod) so the nHLOS will be increased by 3MB

Limitations:

Ongoing Issues:

CR ID	CR Title
2126321	[MSM8909] Encryption is failing
2138651	Title: APT_TEL_8909.LA.3.0.1:- Phone app crash on initiating SRVCC handover when DUT is getting MT VOLTE call on top of active Conference call where midcall support is false.
2241604	2017 to 2018 pixel porting
2262482	APTTEL_MSM8909_3.1.1_[O-GO]_ASANbuild: Fatal signal 6 (SIGABRT), code -6 in tid 504 (rild), pid 504 (rild), buffer overflow
2264038	QIPLTEL-6001: APTTEL_MSM8909_3.1.1_[O-GO]: Mobile data does not get refreshed when mobile data toggled after reboot
2245546	MSM 8909.O-Go: Goto Gallery and Take Snap Using Camera..Observed, Can't connect to Camera
2245602	System and Graphics bench marks degraded on 8909 LA.3.1.1 compared to 8909 LA.3.0.1

2246257	MSM8909.LA.3.1.1 [O-Go]: Fake Signal for sub2 observed when user reboot the DUT soon after disabling sub2.
2249973	APTTEL_MSM8909_3.1.1_[O-GO]_DSDS: Preferred calls changes to sub1 after reboot
2287251	QIPLTEL-6097:APTTEL_MSM8909_3.1.1_[O-GO]: DUT does not trigger flex mapping after reboot while WiFi connected and DDS on sub2
2262379	APTTEL_MSM8909_3.1.1_[O-GO]_DSDS: Data limit does not work after multiple DDS switch
2264908	QIPLTEL-6008: APTTEL_MSM8909_3.1.1_[O-GO]_DSDS: Data limit does not get resumed after rebooted and sim inserted on other sub
2273410	MSM8909.LA.3.1.1.c1 [O-Go] No Smart Call Divert annunciator in status bar after reboot, until user visits Smart Divert Setting.
2278253	QIPLTEL-6066: APTTEL_MSM8909_3.1.1_[O-GO]: NullPointerException android.net.NetworkStatsHistory process crash observed after sim removal during shutdown
2280898	MSM8909.LA.3.1.1.c1: Tap on Back Button Observed Music.apk is getting crashed
2285365	MSM8909.LA.3.1.1.c1 [O-Go] [FR30575_G2L]: iWLAN does not get deRegister after Primary card switch from SUB1 to SUB2.

New issues:

CR ID	CR Title
2146751	[8909_LA_3.0.1_Testing] - [MSM8909.LA.3.0.1-00027-1G.PM8916.SLE.1XGWLT.INT-1] - APPS Crash - Kernel BUG at /drivers/iommu/msm_iommu-v1.c:318! [PC at __sync_tlb+0xa0/0xd0] [LR at __atomic_notifier_call_chain]
2272215	[MSM8909 LA.3.1.1] Secure UI sampelp app cmd 22 and 23 leading to device crash and sample client failures is seen
2291613	QIPLTEL-6114: APTTEL_MSM8909_3.1.1_[O-GO][FR33060-Primary card]: Fake signal bar and VoLTE icon displayed on status bar
2291655	QIPLTEL-6115:APTTEL_MSM8909_3.1.1_[O-GO][FR33060-Primary card]: Flex mapping does not trigger after reboot when PIN locked and screen locked
2307012	QIPLTEL-6174: APTTEL_MSM8909_3.1.1_[O-GO]: Audio stops working after ModemSSR
2306840	MSM8909.LA3.1 || DUT indicating incorrect 64QAM support in RRC UE capability when HW does not support

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8. Additional Information

Change request

This section is not applicable to this release.

Dependency information

This section is not applicable to this release.

9. Test Reports

MPSS test report

This section is not applicable to this release.

CNSS test report

This section is not applicable to this release.

APSS test report

RN Test Reports for MSM8909.LA.3.1.1-00044-STD.PROD-1 (KBA-190522072934)

Hardware Bring Up Test (BUT) report

This section is not applicable to this release.

10. References

Related documents

Title	Number
Qualcomm Technologies, Inc.	
VAMOS Overview	80-NH874-1
IMS IR.94 Compliance Matrix	80-NJ396-1
Dual Carrier-High Speed Uplink Packet Access (DC-HSUPA)	80-NK352-1
MSM8916/MSM8909 Linux Android Debug Overview	80-NL239-7
Mandatory Features Support for Rel 10 UEs	80-NM005-1
LTE Transmission Mode 9 (TM9) Feature Overview	80-NM107-1
MSM8x09 Linux Android Thermal Management Overview	80-NR964-10
MSM8x09 Modem Software Overview	80-NR964-11
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