**Qualcomm build flashing procedure**

Qualcomm build is divided into 2 parts. Meta and apps.

Generally in Qualcomm, meta and apps images are combined and there will be a fastboot\_complete.py (python file) file. If we just execute this file by keeping device in fastboot mode (command: adb reboot bootloader), all meta and apps binaries will gets flashed onto the device. Once the flashing is done we can need to move device from fastboot mode to adb mode (command: fastboot reboot) and we can start our testing.

**Qualcomm build contains below binaries:**

**Meta binaries:**

**RPM**: Resource and Power Manager

**TZ**: Trust Zone for security

**ADSP**: Application Digital Signal Processor to support image processing for multimedia processing

(camera, audio and video)

**Modemst1, Modemst2**: Partitions to store qcn file with relavent IMEI numbers for each device

**ABOOT**: AP Bootloader

**SBL1, SBL2**: Secondary Boot loaders

Most boot loaders load in two stages due to the very small amount of data the BIOS can access.

**NON-HLOS.bin**: modem firmware

**Modem**: RF/baseband firmware

**APPS binaries:**

**bootloader.img**

The bootloader initializes memory. It loads and boot kernel and initial ram file system.

**boot.img**

The boot image contains all required kernel changes and used to boot the android device/OS.

**cache.img**

The cache partition stores temporary data.

**radio.img**

This one controls connectivity on your device like RF/Baseband

**recovery.img**

Used to boot device into recovery mode, booted during the OTA process.

**system.img** (GSI System image from Google for VTS & CTS testing)

File system image for /system partition where actual OS presents. This file includes all framework related changes, some packages and some lib file...

**userdata.img**

The userdata partition contains user-installed applications and data, including customization data.

**persist.img**

persist.img contains data which shouldn't be changed after the device shipped.

for example: DRM related files, sensor reg file, calibration data of chips(wifi, bt, camera, etc.), certificates and other security related files

**vendor.img**

Vendor image contains device-specific hardware drivers (hw specific code) which is not part of Android Open Source Project (AOSP). If there is no proprietary information, this partition may be omitted.

/vendor partition for hardware specific code, /system containing only generic code from AOSP. Interaction with AOSP code will be through HIDL (HAL interface definition language) interfaces.

**Note:** Some more binaries may add/removed based on the specific Qualcomm chipset

**General Build flashing commands:**

To check connected devices:

adb devices

To boot into bootloader/fastboot mode:

adb reboot bootloader

volume down+power button

To check connected devices when in bootloader mode:

fastboot devices

To boot device into adb mode:

fastboot reboot/fastboot continue

If we want to flash apps images separately, need to use below commands:

fastboot flash boot boot.img

fastboot flash system system.img

fastboot flash cache cache.img

fastboot flash radio radio.img

fastboot flash recovery recovery.img

fastboot flash userdata userdata.img