



i.MX6Q SABRE-AI Android_N7.1.1_1.0.0

WL8 integration Release Note

Date: 2017/07/11

Version History

Date	Version	Remark
2016/07/11	Ver.0.1	The initial version

1. Preparation

1.1. Software Version

Host OS: Ubuntu14.04 64bit

BSP Version: i.MX Android™ N7.1.1_1.0.0

GCC Version: arm-eabi-4.8

Kernel Version: Linux3.14.52

WL8 driver Version: R8.6_SP1

wpa_supplicant:

https://github.com/pistacho-android-7/android_external_wpa_supplicant_8.git

1.2. Get BSP from NXP's web site

[Freescale Android7.0 BSP](#)

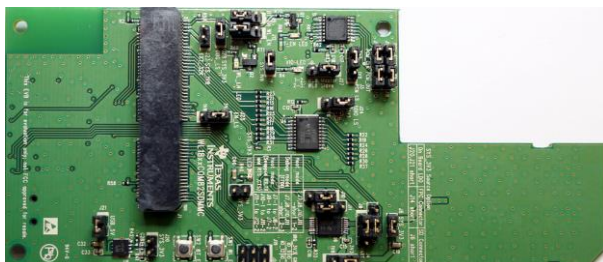
Please follow document to set build environment and build image to boot the board.

1.3. Wilink8 Release Notes/R8.6_SP1

http://processors.wiki.ti.com/index.php/WiLink8_Release_Notes/R8.6_SP1

1.4. TI WiLink™ WL18xx WLAN SDIO/BT UART adapter Board

[wl18xxcom82sdmmc Adapter kit](#)



2. Prepare Linux Kernel and Android layer

2.1. Change gcc version

In Android User's guide, the default version of gcc in BSP is 4.9. This will cause issue for wl8 driver. We need to use gcc4.8 to build kernel and wl8 driver.

See: **0001-Change-the-toolchain-to-arm-eabi-4.8-for-comapt_wl18.patch**

2.2. Integration of the wl18xx related package into the android repo

2.2.1. Get wl18xx compat wireless driver

```
cd $MYDROID/hardware/ti  
tar xvf wlan.tar.bz2
```

2.2.2. Get user space bluetooth driver

```
cd $MYDROID/hardware/ti  
tar xvf wpan.tar.bz2
```

2.2.3. Get wifi/BT firmware

```
cd $MYDROID/device  
mkdir ti; cd ti  
tar xvf proprietary-open.tar.bz2
```

2.2.4. Get crda

```
cd $MYDROID/external  
tar xvf crda.tar.bz2
```

2.2.5. Replace wpa_supplicant

```
cd $MYDROID/external  
rm -rf wpa_supplicant_8  
tar xvf wpa_supplicant.tar.bz2
```

2.2.6. Patching the netd and core

See:

0001-Support-CRDA-uevent.patch

0001-Support-TI-Softap.patch

2.2.7. Patching the policy for uim & crda

See:

01- Added-uim-crda-policy.patch

2.2.8. Patching the tethering java code to fix HotSpot bug

See:

0001-Fix-HotSpot-enable-fail-in-the-first-time.patch

2.2.9. Patching the bluetooth option in Android Settings

See:

0001-Added-bluetooth-in-Android-Settings.patch

2.2.10. Patching the sabresd_sdq platform for enabling wl18xx

See:

0001-Added-TI-WL8-supported-in-imx6.patch

2.2.11. Remove old conifg file for wpa_supplicant

```
rm -rf $MYDROID device/fsl/common/wifi/
```

2.3. Adding wilink8 related support to the android kernel

See:

0001-TI-WL8-WIFI-BT-supported-Kernel-4.1.15.patch

Rebuild the android kernel after applying the kernel patches using the following

sequence:

```
cd $MYDROID/kernel_imx
make imx_v7_android_defconfig
make ulmage LOADADDR=0x10008000
```

2.4. Building the wl18xx related module with the updated kernel

```
export ARCH=arm
export
CROSS_COMPILE=${MYDROID}/prebuilts/gcc/linux-x86/arm/arm-eabi-4.6/bin/arm-ea
bi-
export KERNEL_DIR=${YOUR_PATH}/kernel_imx/
export KLIB=${KERNEL_DIR}
export KLIB_BUILD=${KERNEL_DIR}
cd ${MYDROID}/hardware/ti/wlan/mac80211/compat_wl18xx/
make defconfig-wl18xx
make
```

2.5. Patching for BT test tool

See:

0001-TI-WL8-bluetooth-test-tool.patch

2.6. Rebuild Android final image

```
cd ${MYDROID}
source build/envsetup.sh
lunch sabreauto_6q-user
```

3. Function test

3.1. Station mode

1. Go to Settings→Wireless & networks→Wi-Fi
2. Turn on wifi
3. Scan and choose an AP to connect
4. Browse to internet

3.2. AP mode

1. Go to Settings→Wireless & networks→ More→ Tethering & portable hotspot
2. Enable Portable Wi-Fi hotspot
3. Use another device connect to i.MX6 as access point

3.3. P2P mode

1. Go to Settings→Wireless & networks→Wi-Fi→ Advanced→ Wi-Fi Direct
2. Scan and connect to another wifi direct peer

3.4. Miracast source mode

1. Go to Settings→ Device→ Display→ Cast
2. Enable wireless display
3. Scan and connect to another device as sink mode
4. You can see your device is streaming and display at sink device

3.5. Bluetooth

1. Go to Settings→ Wireless & networks→ Bluetooth
2. Enable Bluetooth
3. Scan and pair to another bluetooth device
4. Transfer/Receiver file from remote bluetooth device



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