

1. Disable vendor.qcrild

`/device/qcom/common/rootdir/etc/init.class-main.sh:`

...

```
if [ -f /vendor/firmware_mnt/verinfo/ver_info.txt ]; then
    modem=`cat /vendor/firmware_mnt/verinfo/ver_info.txt |
        sed -n 's/^[^:]*modem[^:]*:[[:blank:]]*//p' |
        sed 's/. *MPSS.\(. *\)/\1/g' | cut -d \. -f 1`
    if [ "$modem" = "AT" ]; then
        version=`cat /vendor/firmware_mnt/verinfo/ver_info.txt |
            sed -n 's/^[^:]*modem[^:]*:[[:blank:]]*//p' |
            sed 's/. *AT.\(. *\)/\1/g' | cut -d \. -f 1`
        if [ ! -z $version ]; then
            if [ "$version" < "3.1" ]; then
                qcrild_status=false
            fi
        fi
    elif [ "$modem" = "TA" ]; then
        version=`cat /vendor/firmware_mnt/verinfo/ver_info.txt |
            sed -n 's/^[^:]*modem[^:]*:[[:blank:]]*//p' |
            sed 's/. *TA.\(. *\)/\1/g' | cut -d \. -f 1`
        if [ ! -z $version ]; then
            if [ "$version" < "3.0" ]; then
                qcrild_status=false
            fi
        fi
    fi
    qcrild_status=false
elif [ "$modem" = "JO" ]; then
    version=`cat /vendor/firmware_mnt/verinfo/ver_info.txt |
        sed -n 's/^[^:]*modem[^:]*:[[:blank:]]*//p' |
        sed 's/. *JO.\(. *\)/\1/g' | cut -d \. -f 1`
    if [ ! -z $version ]; then
        if [ "$version" < "3.2" ]; then
            qcrild_status=false
        fi
    fi
fi
```

```

    fi
elif [ "$modem" = "TH" ]; then
    qcrild_status=false
fi
fi

if [ "$qcrild_status" = "true" ]; then
    # Make sure both rild, qcrild are not running at same time.
    # This is possible with vanilla aosp system image.

    stop ril-daemon
    stop vendor.ril-daemon

    start vendor.qcrild
else
    start ril-daemon
    start vendor.ril-daemon
fi

start vendor.ipacm-diag
start vendor.ipacm
case "$baseband" in
    "svlte2a" | "csfb")
        start qmiproxy
        ;;
    "sglte" | "sglte2" )
        if [ "x$sgltecsfb" != "xtrue" ]; then
            start qmiproxy
        else
            setprop persist.vendor.radio.voice.modem.index 0
        fi
        ;;
esac

multisim=`getprop persist.radio.multisim.config`

```

```

if [ "$multisim" = "dsds" ] || [ "$multisim" = "dsda" ]; then
    if [ "$qcrild_status" = "true" ]; then
        start vendor.qcrild2
    else
        start vendor.ril-daemon2
    fi
elif [ "$multisim" = "tsts" ]; then
    if [ "$qcrild_status" = "true" ]; then
        start vendor.qcrild2
        start vendor.qcrild3
    else
        start vendor.ril-daemon2
        start vendor.ril-daemon3
    fi
fi
...

```

2. Add vendor.ril-daemon

/system/core/rootdir/init.rc :

(added to the end)

```

service vendor.ril-daemon /vendor/bin/hw/rild -l /vendor/lib64/libquectel-ril.so
    class main
    user radio
    group radio cache inet misc audio sdcard_rw log
    capabilities BLOCK_SUSPEND NET_ADMIN NET_RAW

```

3. Add libraries to build and libpath

/device/qcom/msm8953_64_a6001/msm8953_64_a6001.mk :

(added)

```

PRODUCT_PACKAGES += \
    rild \

```

```
PRODUCT_COPY_FILES += \
```

```
    mig/ril_quectel/ec200s/libquectel-ril/arm64-v8a/libreference-ril.so:$(TARGET_COPY_OUT_VENDOR)/lib64/libquectel-ril.so \
    mig/ril_quectel/ec200s/libquectel-ril/arm64-v8a/chat:$(TARGET_COPY_OUT_SYSTEM)/bin/chat \
    mig/ril_quectel/ec200s/libquectel-ril/arm64-v8a/ip-down:$(TARGET_COPY_OUT_SYSTEM)/etc/ppp/ip-down \
    mig/ril_quectel/ec200s/libquectel-ril/arm64-v8a/ip-up:$(TARGET_COPY_OUT_SYSTEM)/etc/ppp/ip-up \
    mig/ril_quectel/ec200s/libquectel-ril/ql-ril.conf:$(TARGET_COPY_OUT_SYSTEM)/etc/ql-ril.conf \
```

```
PRODUCT_PROPERTY_OVERRIDES += \
```

```
    vendor.rild.libpath=/vendor/lib64/libquectel-ril.so \
```

3. Clear previously properties and set ro.telephony.default_network=10

/device/qcom/msm8953_64_a6001/system.prop :

...

```
#rild.libpath=/vendor/lib64/libril-qc-qmi-1.so
```

```
#rild.libargs=-d /dev/smd0
```

```
#persist.rild.nitz_plmn=
```

```
#persist.rild.nitz_long_ons_0=
```

```
#persist.rild.nitz_long_ons_1=
```

```
#persist.rild.nitz_long_ons_2=
```

```
#persist.rild.nitz_long_ons_3=
```

```
#persist.rild.nitz_short_ons_0=
```

```
#persist.rild.nitz_short_ons_1=
```

```
#persist.rild.nitz_short_ons_2=
```

```
#persist.rild.nitz_short_ons_3=
```

```
#ril.subscription.types=NV,RUIM
```

```
#DEVICE_PROVISIONED=1
```

```
#
```

```
# Set network mode to (T/L/G/W/1X/EVDO, T/G/W/L) for 7+5 mode device on DSDS mode
```

```
#
```

```
#ro.telephony.default_network=22,22
```

```
ro.telephony.default_network=10
```

...

4. Edit HIDL

/device/qcom/msm8953_64_a6001/manifest.xml :

(added and commented)

...

```
<!--<hal format="hidl">
    <name>android.hardware.radio</name>
    <transport>hwbinder</transport>
    <version>1.2</version>
    <interface>
        <name>IRadio</name>
        <instance>slot1</instance>
        <instance>slot2</instance>
    </interface>
    <interface>
        <name>ISap</name>
        <instance>slot1</instance>
        <instance>slot2</instance>
    </interface>
</hal>-->
```

...

```
<hal format="hidl">
    <name>android.hardware.radio.deprecated</name>
    <transport>hwbinder</transport>
    <version>1.0</version>
    <interface>
        <name>IOemHook</name>
        <instance>slot1</instance>
    </interface>
</hal>

<hal format="hidl">
    <name>android.hardware.radio</name>
    <transport>hwbinder</transport>
```

```
<version>1.0</version>
```

```
<interface>
```

```
    <name>IRadio</name>
```

```
    <instance>slot1</instance>
```

```
</interface>
```

```
</hal>
```

```
<hal format="hidl" optional="true">
```

```
    <name>vendor.qti.hardware.servicetracker</name>
```

```
    <transport>hwbinder</transport>
```

```
    <version>1.0</version>
```

```
    <interface>
```

```
        <name>IServicetracker</name>
```

```
        <instance>default</instance>
```

```
    </interface>
```

```
</hal>
```

...

/device/qcom/msm8953_64_a6001/vendor_framework_compatibility_matrix.xml :

(added)

...

```
<hal format="hidl" optional="true">
```

```
    <name>android.hardware.radio.deprecated</name>
```

```
    <transport>hwbinder</transport>
```

```
    <version>1.0</version>
```

```
    <interface>
```

```
        <name>IOemHook</name>
```

```
        <instance>slot1</instance>
```

```
    </interface></hal>
```

```
<hal format="hidl" optional="true">
```

```
    <name>vendor.qti.hardware.servicetracker</name>
```

```
    <transport>hwbinder</transport>
```

```
    <version>1.0</version>
```

```
<interface>
  <name>IServicetracker</name>
  <instance>default</instance>
</interface>
</hal>
```

...

7. Add Quectel modem usb device

[/kernel/msm-4.9/drivers/usb/serial/option.c](#) :

(added)

...

```
{ USB_DEVICE(0x2c7c, 0x6002) }, /* Add EC200S Module */
```

...

6. SE Linux parts

(like-in-manual edited)

[/device/qcom/common/rootdir/etc/ueventd.qcom.rc](#)

[/system/core/rootdir/eventd.rc](#)

[/device/qcom/sepo;icy/vendor/msm8953/file_contexts/](#)

[/device/qcom/sepolicy/vendor/common/rild.te](#)