|  |  |
| --- | --- |
| Analysing No SOUND CARD issue in MSM8x74 , MSM8x26 Android Builds | |
| Solution Details | |  | | --- | | Some times OEM report no sound issue due to no sound card detected   In order to analyse such issues one need to have kernel logs from the boot up time  .   **Step 1:** On MSM8974 and MSM8x26, ADSP is master of SlimBus . In  MSM8960 and Fusion3 based Targes APSS was the Master for SlimBus . So, ADSP must be loaded before Linux SlimBus driver can be initialized then CODEC driver can be initialized as it requires SlimBus services. One should see message in kernel log similar to the following:  <6>[    6.410851] apr\_tal:Q6 Is Up -> This means PIL has successfully loaded DSP image and SMD driver find services in ADSP SO APR driver is notified of DSP service availability When DSP image is loaded, kernel should call probe function of SLIMBUS driver again and SLIMBUS driver should detect ADSP state is ready.  <3>[    6.416867] ngd\_msm\_ctrl fe12f000.slim: ADSP slimbus not up yet <6>[    6.518030] sps:BAM 0xf9944000 (va:0xf0480000) enabled: ver:0x13, number of pipes:24 <6>[    6.530771] Slimbus QMI NGD CB received event:2 <6>[    6.542924] warning: `qrngd' uses 32-bit capabilities (legacy support in use) <6>[    6.544052] slim\_clk\_pause: txn-rsp for 0 pending <6>[    6.554372] SLIM SAT: Received master capability <6>[    6.558532] sps:BAM 0xfe104000 (va:0xf2ec0000) enabled: ver:0x13, number of pipes:31 <6>[    6.575399] sps:BAM 0xfe104000 is registered. <6>[    6.622756] slimbus:1 laddr:0xcb, EAPC:0x1:0xa0 <6>[    6.627552] slimbus:1 laddr:0xca, EAPC:0x0:0xa0  **Step 2:**  Once SLIMBUS driver is ready, one should see CODEC driver start to get instantiated  <6>[    6.653368] taiko-slim taiko-slim-pgd: wcd9xxx\_check\_codec\_type: detected taiko\_codec, major 0x102, minor 0x1, ver 0x2   **Step 3:**  Once all the CPU DAIs and  CODEC DAIs specified by machine driver,ASoC framework will begin to instantiate sound card. You should see message in kernel log similar to the following:  <6>[    6.951408] asoc: snd-soc-dummy-dai <-> MultiMedia1 mapping ok <6>[    6.961037] asoc: snd-soc-dummy-dai <-> MultiMedia2 mapping ok <6>[    6.982859] asoc: snd-soc-dummy-dai <-> CS-VOICE mapping ok <6>[    6.999609] asoc: snd-soc-dummy-dai <-> VoIP mapping ok <6>[    7.007044] asoc: snd-soc-dummy-dai <-> MultiMedia3 mapping ok <6>[    7.016329] asoc: snd-soc-dummy-dai <-> SLIMBUS0\_HOSTLESS mapping ok <6>[    7.039254] asoc: snd-soc-dummy-dai <-> INT\_FM\_HOSTLESS mapping ok <6>[    7.040421] pil-q6v5-mss fc880000.qcom,mss: mba: Brought out of reset <6>[    7.050873] dwc3 f9200000.dwc3: Avail curr from USB = 2 <6>[    7.056130] android\_work: android\_work: did not send uevent (0 0   (null)) <6>[    7.068130] asoc: msm-stub-rx <-> msm-dai-q6-dev.241 mapping ok <6>[    7.078256] asoc: msm-stub-tx <-> msm-dai-q6-dev.240 mapping ok <6>[    7.083871] asoc: snd-soc-dummy-dai <-> MultiMedia4 mapping ok  . .  <6>[    7.213775] asoc: msm-stub-rx <-> msm-dai-q6.4106 mapping ok <6>[    7.219424] asoc: msm-stub-tx <-> msm-dai-q6.4107 mapping ok <6>[    7.224997] asoc: msm-stub-rx <-> msm-dai-q6.4108 mapping ok <6>[    7.230725] asoc: msm-stub-tx <-> msm-dai-q6.4109 mapping ok <6>[    7.236235] msm\_audrx\_init(), dev\_namemsm-dai-q6-dev.16384  **Userspace logs if  Sound Card is not detected  .**   After boot up the user space will check for the the valid sound card enumeration in the path  /proc/asound/cards .  If  there si no soundcard  then it will try to check again after 1 sec   and it will continue   this for 15 times. Below are the logs for a failure case    05-29 00:05:16.898  5495  5495 E ALSADevice: NO SOUND CARD DETECTED --- no soundcards --- 05-29 00:05:16.898  5495  5495 D ALSADevice: Sleeping for 1 second ... continue 15 times  05-29 00:05:31.908  5495  5495 E ALSADevice: NO SOUND CARD DETECTED --- no soundcards --- 05-29 00:05:31.908  5495  5495 E ALSADevice: Failed 15 attempts for sound card detection 05-29 00:05:31.908  5495  5495 E AudioHardwareALSA: NULL - AHAL creation failed   **What to check if  ADSP is not Loaded** In some cases the  below  message  indicating ADSP firmware image  load is not present   in the kernel logs  .  <6>[    2.816384 / 01-01 22:35:15.500] adsp\_loader\_probe: Q6/ADSP image is loaded  One need to check  if the  module adsp-loader.ko is present in the  /system/lib/modules folder  root@android:/system/lib/modules # ls adsp\*  ls adsp\*  adsp-loader.ko  adsprpc.ko  The  config macro   CONFIG\_MSM\_ADSP\_LOADER  should  be present in   /kernel/arch/arm/configs/msm8226\_defconfig   ..  CONFIG\_MSM\_ADSP\_LOADER=m  . .  Also the below  code should be present   in the   device/qcom/common/rootdir/etc/init.qcom.audio.sh insmod /system/lib/modules/adsp-loader.ko | | |