



Arrow Lake S Intel® Platform for Linux* Kernel 6.11 Audio Integration BKM

Validation Report

WW46, November 2024



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Contents

1	Overview	5
	1.1 Security Considerations.....	5
2	Audio Setup and Test	6
3	Using Audacity App for Testing.....	7
4	Known Issues.....	8



Revision History

Revision	Description	Revision Date
1.0	• Initial Release	September 2023
2.0	• Updated Kernel Version to 6.5.7	February 2024
3.0	• Updated Kernel Version to 6.8.0	June 2024
4.0	• Updated Kernel Version to 6.9.0	July 2024
5.0	• Updated Kernel Version to 6.10.1	August 2024
6.0	• Updated Kernel Version to 6.11	November 2024

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1 Overview

This document covers the BKM for integrating the Audio driver on Intel® Platform for Linux Kernel 6.11 platform.

1.1 Security Considerations

This document provides a sample integration workflow to integrate the Audio on Intel® Platform for Linux Kernel 6.11 platform. These instructions shall be used as reference only, and it's the responsibility of the <integrator> to ensure that all components and their dependencies are using the latest available secure versions of the implementation. These instructions are for reference only, hence it's the responsibility of the <integrator> to take security considerations into account prior building a production capable system-

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2 Audio Setup and Test

1. Firmware is available here
<https://github.com/thesofproject/sof-bin/tree/main/v2.10.x/sof-ipc4-v2.10/arl-s/intel-signed>
2. Copy the generated audio FW sof-arl.ri to /lib/firmware/intel/sof-ipc4/arl-s/sof-arl-s.ri
3. Download topology files from <https://github.com/thesofproject/sof-bin/tree/main/v2.10.x/sof-ipc4-tplg-v2.10>
4. Copy downloaded topology files to /lib/firmware/intel/sof-ace-tplg/
5. Open /etc/default/grub and add snd-intel-dspcfg.dsp_driver=3
snd_sof_intel_hda_common.sof_use_tplg_nhlt=1 parameter to
GRUB_CMDLINE_LINUX
6. sudo update-grub
7. Reboot
8. Check audio messages
9. sudo dmesg | grep sof-audio
10. Setting sound

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3 *Using Audacity App for Testing*

- a. DMIC recording.
- b. speaker
- c. headset recording
- d. headset playback

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4 Known Issues

For Bug report refer to [Link](#)

Table 4-1: Known Issues

Description	Component	Priority	Exposure	Status
[ARL-S][RVP][B0][PV]: A soft hang was observed when the TBT dock unplugged while in S3 / S4 state, with tbt devices connected in a daisy chain	TBT	p2-high	2-high	open
[ARL-S][RVP][PV][Canonical Checkbox]: memory/memory_stress_ng test getting crashed when initiated through checkbox.	Canonical	p2-high	2-high	open
[ARL-S Linux][RVP]: Spec n copy benchmark exits with failure sporadically	PnP	p2-high	2-high	open
[ARL-S][RVP][B0][PV]: Sporadically DUT takes long time to enter and exit from S4 with external monitor connected	Display	p2-high	2-high	open
[ARL-S][RVP][B0][PV]: TBT3 4K External monitor fails to display after waking from S4 state.	TBT	p2-high	2-high	open
[ARL-S][RVP][PV][Canonical Checkbox]:power-management/suspend-30-cycles-log/time-check-with-reboots is failing when initiated through checkbox.	Canonical	p3-medium	3-medium	open
[ARL-S][RVP][B0][PV]: Audio streaming is not automatically switching from onboard audio to external HDMI display	Audio	p3-medium	3-medium	open
[ARL-S][RVP][B0][PV]: Spordically Audio glitches observed on on-board speakers while playing Youtube videos/Localvideo playback/teams/hangoutcalls	Audio	p3-medium	3-medium	open
[ARL-S][RVP][A1][Alpha/Beta]: BT audio playback is not getting paused during Teams call.	Bluetooth	p3-medium	3-medium	open
[ARL-S Linux] AER not enabled for PCIe slot in ARL-S	Power Management	p3-medium	3-medium	open
[ARL-S][RVP][A2][Beta]:TBT SSD not enumerating behind DELL TBT3 Dock.	TBT	p3-medium	3-medium	open
[ARL-S][RVP][A1][Alpha]: CPU workload is not reflecting in monitor tab of the PTAT tool.	Thermal	p4-low	4-low	open

Table 4-2: Stability Known Issues

Description	Component	Priority	Exposure	Status
[ARL-S][RVP][B0][PV][DPMO] System throws write error while running S3 DPMO test.	Power Management	p2-high	2-high	open
[ARL-S][RVP][B0][PV][DPMO] System throws write error while running S4 DPMO test.	Power Management	p2-high	2-high	open

Known Issues

Description	Component	Priority	Exposure	Status
[ARL-S][RVP][B0][PV][DPMO]: System hung with postcode 'b504' while running S4 DPMO test	Power Management	p3-medium	3-medium	open
[ARL-S][RVP][B0][PV][DPMO]: Unexpected system reset observed while running S4 DPMO test	Power Management	p3-medium	3-medium	open
[ARL-S][RVP][B0][PV][DPMO]: System hung with postcode 'b503' while running S3 DPMO test	Power Management	p3-medium	3-medium	open
[ARL-S][RVP][B0][PV][DPMO]: System was hung with postcode '0005' during Warm boot DPMO test	Power Management	p3-medium	3-medium	open
[ARL-S][RVP][B0][PV][DPMO]: System was hung with postcode 'B505' during Cold boot DPMO test.	Power Management	p3-medium	3-medium	open
[ARL-S][RVP][B0][PV][DPMO]: Unexpected system reset observed while running S3 DPMO test	Power Management	p3-medium	3-medium	open

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