



Arrow Lake S Intel® Platform for Linux* Kernel 6.11

Validation Report

WW46, November 2024



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Revision History

Revision	Description	Revision Date
WW45, 2024	<ul style="list-style-type: none">Initial Release	November 2024

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1 *References*

- Intel_Platform_for_Linux_Kernel_6.11_Audio_Integration_BKM_for_ARL-S_WW46.pdf
- Intel_Platform_for_Linux_Kernel_6.11_CNVi_Integration_BKM_for_ARL-S_WW46.pdf
- Intel_Platform_for_Linux_Kernel_6.11_NPU_Integration_BKM_for_ARL-S_WW46.pdf
- Intel_Platform_for_Linux_Kernel_6.11_Kernel_BKM_for_ARL-S_WW46.pdf
- Intel_Platform_for_Linux_Kernel_6.11_Kernel_Config_BKM_for_ARL-S_WW46.pdf
- Intel_Platform_for_Linux_Kernel_6.11_Patches_for_ARL-S_WW46.xlsx
- Intel_Platform_for_Linux_Kernel_6.11_Graphics_and_Media_Driver_Integration_BKM_for_ARL-S_WW46.pdf
- Intel_Platform_for_Linux_Kernel_6.11_Openvino_Integration_BKM_for_ARL-S_WW46.pdf

This release is for the **Intel® Platform for Linux Kernel 6.11** on ARL-S platform. The Intel® Platform for Linux Kernel 6.11 is based on upstream kernel version 6.11 and set of upstream patches needed for ARL-S.

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2 Configuration

OS	Ubuntu-24.04
Kernel	6.11-arl-ww40bkc Base Branch: 6.11-stage Base commit: 71f609e1b2bc844316538bb1f72b90132a5824b7
IFWI	ARL_SS02_B0B0-ODCA_CPSF_SEP0_04F40408_2024WW46.1.00.bin
PD FW	ARL_S_2xBP_Retimer_Ports_TPS65994BF_F709_08_9E_0020_WW31_24.bin TPSxFwUpdateApp_8bytes_reset_0131.efi
RETIMER FW	HBR_MTLARL_ALL_ALL_6.24.2V2_Rel_ALL_SEC1_PROD_MTL_DDR5_UDIMM_1DPC_TCP0_1_sign.bin HBR_MTL_S_6.24.2V2_Rel_SEC1_Prod_single_RT_DDR5_UDIMM_1DPC_TCP0_1_sign.cap CapsuleApp.efi

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3 Known Issues

Title	Status	Priority/Exposure
[ARL-S][RVP][A1][Alpha/Beta]: BT audio playback is not getting paused during Teams call.	open	p3-medium
[ARL-S][RVP][A2][Beta]:TBT SSD not enumerating behind DELL TBT3 Dock.	open	p3-medium
[ARL-S][RVP][B0][PV]: Sporadically Audio glitches observed on on-board speakers while playing You tube videos/Local video playback/teams/hang outcalls.	open	p3-medium
[ARL-S][RVP][B0][PV]: TBT3 4K External monitor fails to display after waking from S4 state.	open	p2-high
[ARL-S][RVP][B0][PV]: Sporadically DUT takes long time to enter and exit from S4 with external monitor connected	open	p2-high

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4 *List of Changes*

Refer to the **Intel_Platform_for_Linux_Kernel_6.11_Patches_for_ARL-S_WW46.xlsx** in the release package for the list of ARL-S patches applied on top of 6.11 kernel.

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5 *Building the Intel® Kernel*

Refer to the

Intel_Platform_for_Linux_Kernel_6.11_Kernel_BKM_for_ARL-S_WW46.pdf document for instructions on how to build the kernel.

The **Intel_Platform_for_Linux_Kernel_6.11_Kernel_Config_BKM_for_ARL-S_WW46.pdf** document provides a sample reference config.

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6 *Additional BKMs*

Refer to the following BKM documents for steps to build the CNVi and user space drivers and Firmware.

- Intel_Platform_for_Linux_Kernel_6.11_Audio_Integration_BKM_for_ARL-S_WW46.pdf
- Intel_Platform_for_Linux_Kernel_6.11_NPU_Integration_BKM_for_ARL-S_WW46.pdf
- Intel_Platform_for_Linux_Kernel_6.11_CNVi_Integration_BKM_for_ARL-S_WW46.pdf
- Intel_Platform_for_Linux_Kernel_6.11_Graphics_and_Media_Driver_Integration_BKM_for_ARL-S_WW46.pdf
- Intel_Platform_for_Linux_Kernel_6.11_Openvino_Integration_BKM_for_ARL-S_WW46.pdf

*BKM for installation of Chromium browser with hardware acceleration features will be available only on request.



7 BIOS Settings

Change the below settings on the ARL-S system.

7.1 Wi-Fi

Go to Intel Advanced Menu->Connectivity Configuration->WiFi core -> enabled

7.2 Audio Configuration

Go to Intel Advanced Menu->PCH-IO configuration -> HD Audio configuration

- Enable HDA link
- Enable SDIO
- Disable SDI1
- Enable DMIC0 with ClkA (BIOS default)
- Enable DMIC1 with ClkA (BIOS default)
- Disable SNDW#0, SNDW#1, SNDW#2, SNDW#3 (make sure all other SNDW link are disabled)
- Disable SSP#0, SSP#1, SSP#2, SSP#3
 - go to HD Audio DSP feature Configuration settings and make sure
 - DMIC Stereo option is disabled.
 - DMIC Quad option is enabled.
- Intel Advanced Menu - PCH IO configuration - HD Audio configuration - HD Audio DSP feature configuration - Clock source - 38.4 MHz

7.3 BIOS Settings for S3 and S4

BIOS Configuration:

- Go to Intel Advanced Menu -> ACPI Settings -> Wakeup system from S5 via RTC -> Enabled
- Go to Intel Advanced Menu -> ACPI Settings -> S0 Idle Low Power Idle Capability -> Disabled

7.4 BIOS Settings for Ubuntu* 24.04 Installation

Go to Intel Advanced Menu -> Thermal Configuration -> Intel Innovation Platform Framework Configuration -> Processor Thermal device->Disabled

7.5 BIOS Settings for S0ix

- Go to Intel Advanced Menu -> ACPI Settings -> S0 Idle Low Power Idle Capability -> Enabled
- Go to Intel Advanced -> ACPI Settings -> PEP Constraints Configuration -> PEP Enumerated SATA Ports -> Enabled
- Go to Intel Advance -> Power and Performance -> CPU - Power Management Control -> C states auto demotion -> Disabled
- Go to Intel Advance -> Power and Performance -> CPU - Power Management Control -> C states auto Undemotion -> Disabled
- Go to Intel Advance -> Power and Performance -> CPU - Power Management Control -> PKGC states auto demotion -> Disabled
- Go to Intel Advance -> Power and Performance -> CPU - Power Management Control -> PKGC states auto Undemotion -> Disabled

7.6 BIOS Settings for DPMO

- Go to Intel Advanced Menu -> Platform Settings -> HID event filter -> Disable
- Go to Intel Advanced Menu -> Platform Settings -> TCSS Platform Settings -> USB connector manager selection -> Disabled

7.7 Third Party Packages

Package Name	Version
Chromium Browser	123.0.6312.99
QEMU-KVM	8.2.2
Gstreamer	1.24.2

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