



# i.MX Windows 10 IoT Release Notes

for NXP i.MX Platform

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# Contents

<b>1</b>	<b>Overview</b>	<b>4</b>
1.1	References . . . . .	4
<b>2</b>	<b>BSP change history</b>	<b>5</b>
2.1	1/2022 : W0.9.0 . . . . .	5
2.2	3/2022 : W0.9.1 . . . . .	5
<b>3</b>	<b>BSP Supported Features</b>	<b>6</b>
<b>4</b>	<b>Known Issues/Limitations</b>	<b>10</b>
<b>5</b>	<b>Revision History</b>	<b>13</b>

# 1 Overview

This document contains important information about the package contents, supported features, known issues and limitations in this release. This release is an engineering release for Windows 10 IoT and supports SoC in the i.MX 8 families.

## 1.1 References

For more information about Windows 10 IoT Enterprise, see Microsoft online documentation.

- <http://windowsondevices.com>

The quick start guides contain basic information on the board and setting it up. They are on the NXP website.

- [i.MX 8M Quad Evaluation Kit Quick Start Guide \(IMX8MQADEVKQSG\)](#)

Documentation is available online at [nxp.com](http://nxp.com)

- i.MX 8 information is at <http://www.nxp.com/imx8>

## 2 BSP change history

This chapter lists changes in releases, including new features and defect fixes.

### 2.1 1/2022 : W0.9.0

Initial preview engineering release for i.MX8MQ platform.

- **Supported boards:** The existing BSP with support for MCIMX8M-EVK NXP board.

### 2.2 3/2022 : W0.9.1

Initial preview engineering release for i.MX8MQ platform bug fixes.

- Fixes:
  - **eMMC driver:** eMMC tuning parameters add to the Dsdt-Sdhc.asl.
  - **BSP deployment:** Removed invalid characters from make-winpe-enterprise.cmd.

### 3 BSP Supported Features

The following table displays the features supported in this BSP release. If no board is explicitly mentioned, the feature is shared across All boards listed in Supported Hardware in the Release contents section; otherwise, the feature is only supported on the boards listed.

Table 3.1: Supported boards

Board name	Board revision	Schema revision	BSP name
MCIMX8M-EVK	700-29615 REV A3	SCH-29615 REV B4	NXPEVK_iMX8M_4GB

Table 3.2: Supported features

Feature	Supported board	Comment
<b>Boot Image</b>		
U-Boot	All i.MX	<ul style="list-style-type: none"><li>• Clock, Anatop regulator, ENET, UART, MMC/SD, eMMC4.3/4.4/4.5.</li><li>• SPI-NOR, Parallel NOR, SATA, NAND, FlexSPI-NOR, USB MassStorage.</li></ul>
OP-TEE	All i.MX	<ul style="list-style-type: none"><li>• OP-TEE OS is required on the boot partition with the TEE file for OP-TEE enablement.</li></ul>
<b>Machine-specific layer</b>		
Arm® Core	All i.MX	<ul style="list-style-type: none"><li>• i.MX 8M Quad supports four Cortex-A53 cores.</li></ul>

Feature	Supported board	Comment
Memory	All i.MX	<ul style="list-style-type: none"><li>i.MX 8M Quad supports one 32-bit LPDDR4 channel @ 1600 MHz and 50 MHz.</li></ul>
Interrupt	All i.MX	<ul style="list-style-type: none"><li>GIC</li></ul>
Clock	All i.MX	<ul style="list-style-type: none"><li>Controls the system frequency and clock tree distribution.</li></ul>
Timer	All i.MX	<ul style="list-style-type: none"><li>System timer tick and broadcast timer support.</li></ul>
GPIO/EDIO	All i.MX	<ul style="list-style-type: none"><li>GPIO is initialized in earlier phase according to hardware design.</li></ul>
IOMUX	All i.MX	<ul style="list-style-type: none"><li>Provides the interfaces for I/O configuration.</li></ul>
<b>DMA engine</b>		
SDMA	8M Quad	<ul style="list-style-type: none"><li>SDMA HAL.</li></ul>
<b>Character device drivers</b>		
UART	All i.MX	<ul style="list-style-type: none"><li>i.MX 8 supports Cortex-A53 processor through UART0 and Cortex-M4 processor through UART2.</li></ul>

Feature	Supported board	Comment
<b>Networking drivers</b>		
ENET	All i.MX	<ul style="list-style-type: none"> <li>i.MX 8 supports Atheros AR8031 PHY with 10/100/1000 bps mode</li> </ul>
PCIe	All i.MX	<ul style="list-style-type: none"> <li>i.MX 8 supports M.2 interface.</li> </ul>
<b>Sound drivers</b>		
WM8524	8M Quad	<ul style="list-style-type: none"> <li>Supports playback</li> </ul>
<b>USB drivers</b>		
USB Host	All i.MX	<ul style="list-style-type: none"> <li>Supports USB-A and USB-C connectors.</li> </ul>
<b>Video</b>		
HDMI/Display Port	8M Quad	<ul style="list-style-type: none"> <li>i.MX 8M Quad supports HDMI through DCSS.</li> </ul>
GPU	8M Quad	<ul style="list-style-type: none"> <li>HW acceleration for 3D rendering through D3D11 API, thus accelerates D2D, XAML, UWP, WinUI, Windows desktop UI and D3D11 apps.</li> </ul>
<b>General drivers</b>		



Feature	Supported board	Comment
uSDHC	All i.MX	• Supports SD, SDXC, eMMC.
I2C	All i.MX	• Supports I2C master.
SPI	All i.MX	• Supports SPI master mode.

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## 4 Known Issues/Limitations

Read through all hardware-related reference material and ensure that you have made all the necessary hardware modifications before using the software.

The imx-windows-bsp reference BSP has the following limitations:

- SD/eMMC is the only supported boot media

Table 4.1: Common known issues and workarounds for i.MX Family SoC

SoC	Module	Source	Description	Workaround
All SoC	Boot	Software	In case multiple SD cards marked as bootable are inserted before power on target might fail to boot.	It is recommended to newly format the SD card using Diskpart.
All SoC	UEFI/Boot	Software	Build script/make files may generate incorrect binaries if clean build is not used.	Use ./buildme64.sh script with “-c” parametr
All SoC	USB	Software	Only USB HOST mode is supported.	No workaround
All SoC	VS2017 build	Software	Build of iMXPlatform.sln fails if there are spaces in project path.	Place the imx-windows-iot directory in way its path doesn't contain spaces.
All SoC	WSL build	Software	On older versions of Windows the OP-TEE Trusted OS build might fail inside WSL environment if the BSP is located in Windows file system.	Move sources to WSL root drive (eg. \$HOME).

SoC	Module	Source	Description	Workaround
All SoC	Drivers	Software	NXP precompiled drivers are signed by NXP test certificates. Some windows features may not work correctly.	Sign drivers by certificate provided by Software Publisher Certificate (SPC) from a commercial CA.
All SoC	HAL Drivers	Software	The HAL Extensions must be signed by certificates provided by Microsoft. Unfortunately required certificates that are included in WDK 1809 have expired.	Download the Microsoft Kits Package from Collaborate and use the “Windows OEM HAL Extension Test Cert 2017 (TEST ONLY)” and “Windows OEM Intermediate 2017 (TEST ONLY)” found in the EWDC.iso file or contact Microsoft for help.
All SoC	Drivers	Software	The sdport.sys in the recommended Windows build W10-19044.1288.211006 could cause the blue bug check screen. This could be observed when encrypting volumes with Bitlocker or using Cfmager.	Patch the operating system with newer sport.sys included in bsp. When deploying bsp use <a href="#">/patch_sdport</a> option as described in Install Windows IOT Enterprise to eMMC chapter.
i.MX 8MQ	Power management	Software	Device is unable to enter sleep and then wakeup. Device that is left unattended for longer period of time might hang.	Disable sleep.

SoC	Module	Source	Description	Workaround
i.MX 8MQ	Power management	Software	Windows may hang if SOC temperature reaches PSV level.	Do not rise CPU and GPU clock. Do not lower temperature limit.
i.MX 8MQ	UART	Software	The RTS-CTS hardware flow control is not available.	No workaround
i.MX 8MQ	Display	Software	Display driver supports 1280 x 720 60 Hz resolution only.	No workaround
i.MX 8MQ	Display	Software	The driver only supports HDMI monitor.	No workaround
i.MX 8MQ	Display	Software	Monitor power-off is emulated by displaying a blank image.	No workaround
i.MX 8MQ	GPU	Software	The driver doesn't support D3D9, so WPF (Windows Present Foundation) will not be accelerated.	No workaround

## 5 Revision History

Table 5.1: Revision history

Revision number	Date	Substantive changes
W0.9.0	1/2022	Initial engineering release for i.MX8M platform.
W0.9.1	3/2022	Initial engineering release for i.MX8M platform bugs fixes.