



EIQMPPRN

eIQ Media Processing Pipeline Release Notes

Rev. 1 — 6 September 2022

Release notes

Document information

Information	Content
Keywords	eIQ, Media, Media Processing, Processing Pipeline, Library
Abstract	This document is the release notes for the Media Processing Pipeline software library for MCUs.



1 Overview

This document contains information about the content, new features, and limitations of the eIQ Media Processing Pipeline. eIQ Media Processing Pipeline is a software library for constructing media-handling components graphs for Vision-specific applications on NXP hardware.

2 Development tools

The MCUXpresso SDK is compiled and tested with these development tools:

- MCUXpresso IDE, version is 11.6.0
- GCC Arm Embedded, version is 10.3-2021.10

3 Supported development system

This release supports boards and devices listed in table below. The boards and devices in bold were tested in this release.

Table 1. Supported boards and devices

Development boards	MCU devices
MIMXRT1170-EVK	MIMXRT1176AVM8A, MIMXRT1176CVM8A, MIMXRT1176DVMAA, MIMXRT1171DVMAA, MIMXRT1171AVM8A, MIMXRT1171CVM8A, MIMXRT1173CVM8A, MIMXRT1175DVMAA, MIMXRT1175AVM8A, MIMXRT1175CVM8A, MIMXRT1172DVMAA, MIMXRT1172AVM8A, MIMXRT1172CVM8A

4 New features

The following features are added to this release:

- GLOW framework support for the machine learning (ML) inference element.
- Stop pipeline functionality.
- Models with multiple output tensors support for the ML inference element.
- Example camera_mobilenet_view is available in two variants:
 - Using Tensorflow Lite inference.
 - Using GLOW inference.
- Object detection example application (model: nanodet M) with both Tensorflow Lite Micro and GLOW ML frameworks.
- User configuration of the input tensor dimensions order.
Note: The supported tensor orders are: NCHW and NHWC.
- Image flip operation.
- Intersection Over Union (IOU) and Non-Maximum Suppression (NMS) computation added as utility functions of the example.
- RGB 32 bits input format support for PXP HAL.

5 Known issues

The following are the known issues:

- The only TFLite and GLOW model component order supported by the HAL is NHWC (N: dimension size, H: height, W: width, C: channels).
- The PXP driver does not support RGB888 as output format.
Note: The RGB888 output format is obtained with a combination of the PXP conversion and a CPU conversion from BGR888 to RGB888.
- TFLite and GLOW processing block supports only a single instance.
- A pipeline does not support multiple inference processing blocks.
- IAR and MDK toolchains are not supported.
- Top lines of PXP output may contain garbage pixels.
- PXP output window left position does not work.
- camera_mobilenet_view_tflm freezes with compiler option -O0 of ARMGCC 10.3-2021.10.
- camera_mobilenet_view_tflm example application freezes with armgcc toolchain in debug configuration with XMCD (only DCD works).
- Armgcc build for debug target is failing when using the SDK generated build script. This script is calling 'make' with just one process. To apply the workaround when building debug target with armgcc, see the eIQ MPP User's Guide.

6 Revision history

[Table 2](#) summarizes the changes done to this document since the initial release.

Table 2. Revision history

Revision number	Date	Substantive changes
0	30 June 2022	Initial release
1	06 September 2022	Updated for MCUXpresso SDK 2.12.1

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