# Intel® Media Streaming Library for ST 2110 Release Notes for Beta 1

Revision: 1.0

June 2021

# Revision History

| Date | Revision | Reason for Changes |
|---|---|---|
| September 2020 | 0.5 | Initial release of the document for the first review. |
| January 2021 | 0.6 | Known issues updated; HT information added. |
| June 2021 | 1.0 | Beta 1 Release |

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# 1. Definitions

| Term | Definition |
|---|---|
| DPDK | Data Plane Development Kit |
| SMPTE | Society for Motion Picture and Television |

# 2. Introduction

This document provides a brief introduction to the Intel® Media Streaming Library for ST 2110, lists known issues, and provides available workarounds. In addition, a list of important acronyms and terminology is provided. The content of this document will be updated as applicable and updates will be reflected in the Revision History.

The Intel® Media Streaming Library for ST 2110 is an implementation of a library that uses DPDK to accelerate lossless media transfer using IP networks. It implements the SMPTE (Society for Motion Picture and Television Engineers) ST 2110 standard for the transmission of digital video, audio, and auxiliary data over an IP network.

This library utilizes the Open Source DPDK (Data Plane Development Kit) to accelerate the transfer of packets by eliminating much of the kernel processing, interrupt handling, and data copying typically required with sending and receiving network data.

# 3. Supported Features

This version of the Intel® Media Streaming Library for ST 2110 supports following functionalities:

- Transmit/Receive Raw Video Frames in HD-SDI format (Pixel format: YUV 4:2:2 10bit)
  - Tested video formats are: 1080p59 and 1080p50.
  - Early support for 1080p29, 1080p25.
- Transmit/Receive Raw Audio Frames and Ancillary data.
- Support for 10/25/40 Gb/s Intel Fortville Network Interface Cards.
- Supports transmit and receive for unicast and multicast.
- Time synchronization using PTP (Precision Time Protocol).
- Supports IGMP v2 and selected v3 functionalities.
- ST 2110 protocols suite supported:

- ST 2110-20
- ST 2110-21 (experimental)
- ST 2110-30
- ST 2110-40
- ST 2022-7

# 4. Supported versions

## 4.1 OS

Developed and tested using Ubuntu 20.04 LTS with Linux kernel 5.4.0.

## 4.2 Components and tools

- Compiler: gcc 7.5.0
- DPDK: 21.02

## 4.3 NIC support

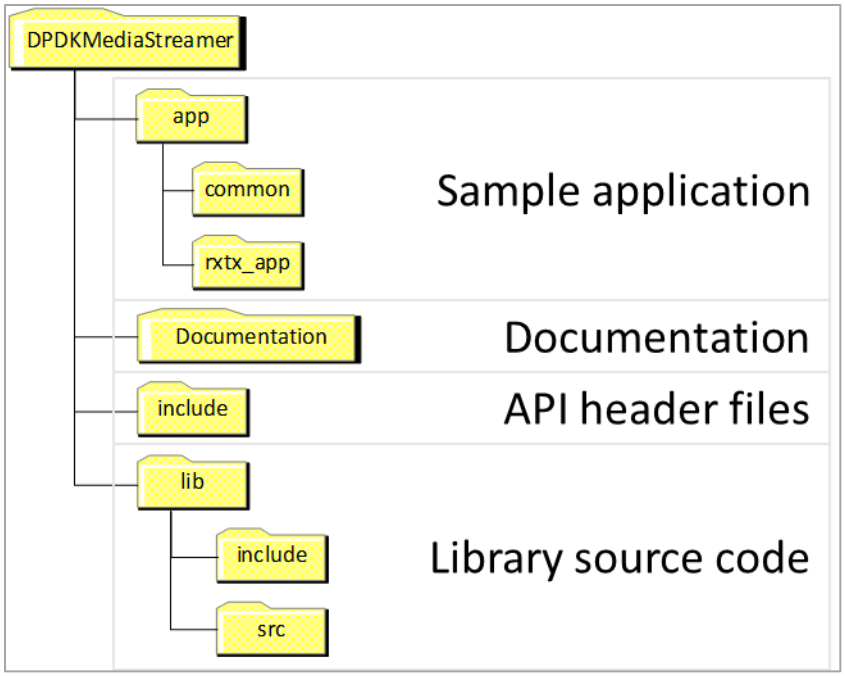
Intel® Ethernet Controller E710:

- 40 GbE
- 25 GbE
- 10 GbE

Minimum Firmware version: 8.20

# 5. Release content

Structure of folders:




| Folder name | Description |
|---|---|
| DPDKMediaStreamer | Main folder of the *Intel® Media Streaming Library for ST 2110* project. |
| app | Folder with reference implementation of the library usage. Basic scenarios for TX and RX implemented |
| common | Common components for sample application |
| rxtx_app | Main source code for the sample application |
| Documentation | Folder with documentation. |
| include | API headers with public interface of the *Intel® Media Streaming Library for ST 2110* project |
| lib | Main folder of the library |
| include | Header filed for internal library implementation |
| src | Main source code of the library. |

# 6. Validation platforms

This release was validated on the following platforms:

| Platform description | NIC |
|---|---|
| Intel(R) Xeon(R) Platinum 8260M CPU @ 2.40GHz (Cascade Lake), 507GB RAM | Intel® Ethernet Controller X710, 10 GbE |
| Intel(R) Xeon(R) Gold 6140 CPU @ 2.30GHz (Skylake), 95GB RAM | Intel® Ethernet Controller X710, 25 GbE |
| Intel(R) Xeon(R) Gold 6140M CPU @ 2.30GHz (Skylake), 257GB RAM | Intel® Ethernet Controller X710, 40 GbE |

Note: Minimum CPU required for either TX or RX is 6 cores. For more details, please, see *Hardware Considerations* section in the README.MD file.

# 7. Known issues

| ID | Description |
|---|---|
| DPDKMS-487 | Library outputs a log “Conflicting rules exist”.<br><*Workaround*> This is known DPDK PMD logging issue for Fortville NIC. RTE FLOW rules are applied hence no fix must be provided. |
| DPDKMS-621 | Memory Leak occurs after creating and destroying TX session.<br><*Workaround*> None. Will be investigated. |
| DPDKMS-689 | CreateSession() API cannot be called twice on running application.<br><*Workaround*> None. Will be investigated. |
| DPDKMS-655 | At the beginning of the session bad audio rewinding errors appear. After a while this issue is not observed.<br><*Workaround*> None. Will be investigated. |
| DPDKMS-673 | IGMP v3 packet "leave group" is not sent from RX app during application exit.<br><*Workaround*> None. As per IGMP v3 standard “leave group” packet is optional. Under investigation for next release. |

| | |
|---|---|
| | Incorrect behavior of dual <TX &RX> mode of application.<br><br><*Workaround*> Please start app as either TX or RX (not both). Under investigation for next release. |
| | Send and Receive on DPDK KNI with virtual IP is not working.<br><br><*Workaround*> None. Will be investigated. |
| | Maximum number of 8 ST2110-20 Video session format 1080p59 as supported and verified.<br><br><*Workaround*> None. |
| | Library does not select free or underutilized performance cores.<br><br><*Workaround*> Select performance cores and ensure no other applications are running with help of grub isol (as documented in README.md). |