Features

- SMPTE 424M, SMPTE 292M, and SMPTE 259M, SMPTE 425A (Mapping 1), SMPTE 425B (372M Mapping)
- SDI Reclocked Loopback to host connector
- Supported format: 525/625, 720p/1080i (50/ 59.94/60 Hz), 1080p (23.98/24/25/29.97/30/50/ 59.94/60 Hz)
- HDMI Output:
  - 24bit (3x8bit), BW=150MHz
  - RGB 4:4:4, YCbCr 4:2:2, YCbCr 4:4:4
  - DVI 1.0 Mode
  - RGB Range (Full/SMPTE)
  - Up to 8 channel audio embedding (PCM)
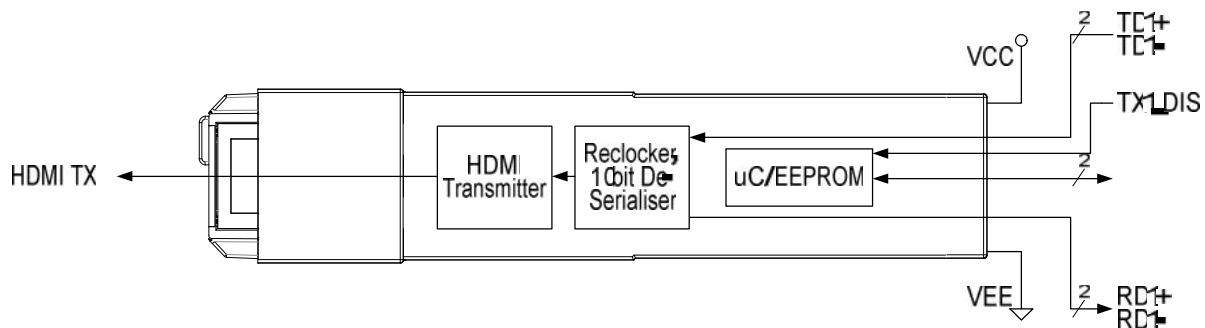- HDMI 1.4 type D connector

- HDMI type D plug with locking mechanism
- Hot-pluggable
- Pb-free and RoHS compliant
- Operating temperature range: -20°C to 80°C
- 64.1mm x 13.4mm x 8.6mm SFP Package

General Description

The SFP-3G-TX-HDMIF-TypeD is an electrical emSFP transmitter module designed to convert an SDI signals to an HDMI output (High definition multimedia interface®) without scaling artifacts.

It is also hot-pluggable solution for in field system upgrade and maintenance. The SFP-3G-TX-HDMIF-TypeD is interchangeable with others optical or coaxial video SFP improving product flexibility.

1   Functional Block Diagram

Block Diagram

2   Functional Description

The emSFP 3G-SDI to HDMI converter output displays the native resolution without introducing any scaling artifacts. The SDI input format is automatically detected and converted by the module to CEA-861 format to respect HDMI video format timing specifications. The HDMI output provides a 150MHz bandwidth with 24bit of resolution, enabling the direct mapping of SDI source up to 1080p at 60Hz. An integrated color space converter combined with a 4:2:2 to 4:4:4 interpolation up-conversions give the flexibility to convert the YCbCr source to RBG with a limited or full range to support DVI display. Output format can be configured to YCbCr 4:2:2, YCrCr 4:4:4, or RBG 4:4:4 in HDMI mode. By default, the module output format is YCbCr 4:2:2 in HDMI mode.

The module can also read the sink (monitor) EDID content. Monitor presence is available via the hot plug detection registry.

The emSFP housing provides the option to use a PLURA HDMI Type D cables with an innovative and robust locking mechanism.

Video

For 3G-SDI source, the module support SMPTE 425-AB: For Level B, only the Dual Link mapping (372M) is supported. The table below list all supported SDI input format.

Supported Formats

	Format	CEA-861 VIC
SD-SDI	720x480i @ 60/59.94Hz	6
SD-SDI	720x576i @ 50Hz	21
HD-SDI	1280x720p @ 60/59.94Hz	4
HD-SDI	1280x720p @ 50Hz	19
HD-SDI	1920x1080i @ 60/59.94Hz	5
HD-SDI	1920x1080i @ 50Hz	20
HD-SDI	1920x1080p @ 30/29.97Hz	34
HD-SDI	1920x1080p @ 25Hz	33
HD-SDI	1920x1080p @ 24/23.98Hz	32
3G-SDI	1920x1080p @ 60/59.94Hz	16
3G-SDI	1920x1080p @ 50Hz	31

By default, the module will convert the SDI source to YCbCr 4:2:2 video output format in HDMI mode.

Audio

SDI de-embedded audio is re-embedded in the HDMI Stream. No down-mix is performed by the module, only channel mapping.
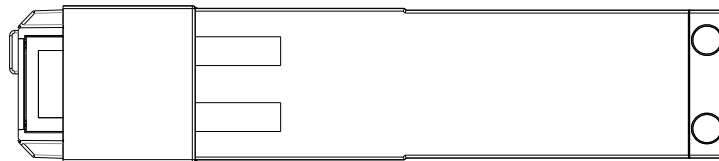
The HDMI audio automatically use 24bit resolution in HD. In SD, the resolution is 20 bit and automatically set to 24 bit based on the detection of audio extended data packet.

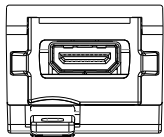For 425M Level B source (372M mapping), audio can be extracted for Link A/Stream 1 or Link B/Stream 2.

3   Mechanical Specification

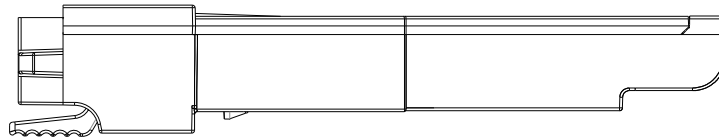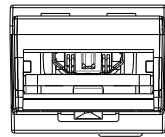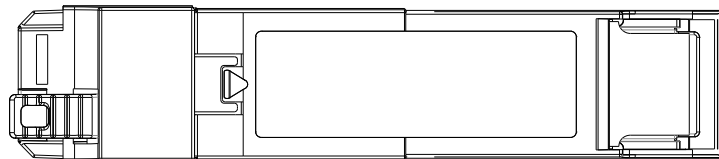| Item	Description
Connector Type	HDMI 1.4 Type D
Plug Mechanical Retention	Custom Design to enable cable mechanical retention
Ganged Cages	Ganged cages mounting supported
Stacked Cages	Stacked cages mounting supported
Mechanical release	Simple pull up mechanical release system to disengage the module from his cage

TOP VIEW

FRONT VIEW   SIDE VIEW   REAR VIEW

BOTTOM VIEW

SFP-3G-TX-HDMIF-TypeD Note: All Dimensions in mm

4   Ordering Information

Part Number	Type	Package
SFP-3G-TX-HDMIF-TypeD	Tx	SFP

5   Related Products

Complete Plura SFP Modules Selection

Model #	Type	Coaxial	Fiber	Hybrid
SFP-3G-TXRX-HD-BF-LR	Rx/Tx	HD-BNC-Mini	N/A	N/A
SFP-3G-TXRX-HD-BF-LR-C	Rx/Tx-rclk	HD-BNC-Mini	N/A	N/A
SFP-3G-2RX-1310F-LC-MH	2Rx	N/A	LC-Single Mode	N/A
SFP-3G-2TX-1310F-LC-MH	2Tx	N/A	LC-Single Mode	N/A
SFP-3G-TXRX-1310F-LC-MH	Rx/Tx	N/A	LC-Single Mode	N/A
SFP-3G-TX-HDMIF-TypeD	Rx	HDMI-TypeD	N/A	N/A
SFP-3G-2RX-1310F-LC-BF	2Rx	HD-BNC-Mini	LC-Single Mode	YES
SFP-3G-2TX-HD-BF-LR	2Tx	HD-BNC-Mini	N/A	N/A
SFP-3G-2TX-HD-BF-LR-C	2Tx-rclk	HD-BNC-Mini	N/A	N/A

The product is in a development phase and specifications are subject to change without notice. Plura reserves the right to modify and/or update the product specifications at any time.

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