



MODEL A223805

KEY FEATURES

- Option module for Chroma 2238 Video Pattern Generator
- FRL image output mode
 - Up to 8K@60Hz image output
 - 3/6/8/10/12Gbps modes
 - 3/4 Lane modes
- Supports HDCP 2.3 / 2.2 / 1.4 testing
- DSC functionality
- Wide Color Gamut
- RGB / ITU-R BT.601 / ITU-R BT.709 / ITU-R BT.2020 color space
- 8 / 10 / 12 bit color depth
- RGB 4:4:4 and YCbCr 4:4:4 / 4:2:2 / 4:2:0 formats
- HDR (High Dynamic Range) testing
 - HDR Metadata display and editing
 - HDR 10 / HLG / Dolby Vision formats
- Supports SCDC (Status & Control Data Channel) data reading
- Supports eARC channel testing
- EDID reading / writing / comparing / analysis
- BMP format image output

HDMI SIGNAL MODULE MODEL A223805

Chroma HDMI Signal Module A223805 supports 48G bandwidth transmission and a variety of applications such as HDCP, eARC channel, DSC, and HDR testing in addition to standard test functions. The A223805 adopts a single-port 8K output and supports color depths up to 36 bits, as well as ITU-R BT.2020 Wide Color Gamut output. In addition, programmable automated test functions enable the user to tailor test programs to each DUT's specific requirements and start testing with a single tap on the screen.

FRL (Fixed Rate Link) Mode

FRL mode improves on the TMDS (Transition - Minimized Differential Signaling) transmission mode previously used in HDMI 1.4/2.0, enabling more efficient image transmission. In FRL mode, the data rate can be set to 3, 6, 8, 10 or 12 Gbps according to different resolutions, and the number of Lanes can be set to 3 or 4. At the same time, by increasing the overall bandwidth, a single port can deliver 8K signal output, in line with today's high-specification 8K image testing needs.

DSC (Display Stream Compression)

VESA DSC has been adopted by the HDMI Forum in its HDMI 2.1 specification. Chroma A223805 supports VESA DSC 1.2a with a maximum compression ratio of 3:1. With DSC, users can transmit a larger amount of data using the same bandwidth. When DSC is not used, the HDMI 2.1 specification supports 4:2:0 pixel encoding image output to a maximum resolution of 8K@60Hz. With the DSC function, the color depth can be raised further to either 4:4:4 or 4:2:2.

HDCP

HDCP (High-Bandwidth Digital Content Protection) is a form of digital copy protection to prevent copying of digital audio & video content as it travels across connections. A223805 supports the latest HDCP 2.3 standard and is switchable between 2.3, 2.2 and 1.4. With the built-in HDCP test patterns, test results is directly printed on the screen for the conveniences of the users.

HDR (High Dynamic Range) / Dolby Vision

HDR output is supported, including HDR 10, HLG and Dolby Vision HDR format settings, with freely adjustable HDR metadata for relevant tests. Chroma A223805 has a built-in library of indispensable HDR testing patterns that mainly serve to measure brightness, contrast, color, and sharpness, such as grayscale, color bars and window shapes, providing testing patterns in line with today's richly colored video output. The built-in Dolby Vision test pattern additionally enables users to quickly assess the DUT's Dolby Vision function.

eARC Function

The A223805 can act as an eARC Receiver to monitor the Training process and verify the DUT's eARC test results. As a Transmitter, it can transfer lossless and uncompressed audio information through LPCM. The module features 8 independent audio test signal generators (FL, FR, RL, RR, FC, LFE, RLC, RRC), which can each be modulated by enabling or disabling its respective sound volume, tone, audio frequency, sample rate, sample bit and sweep, providing a total of 48 different test combinations.

UHD
8K

4K

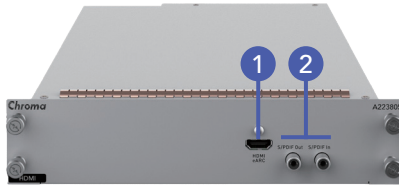
FHD

SD



Chroma

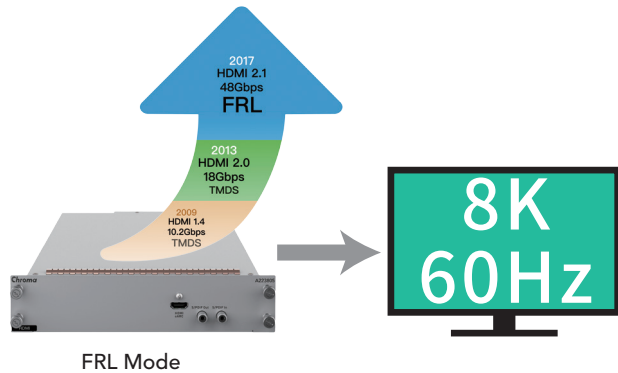
PANEL DESCRIPTION



HDMI Signal Module

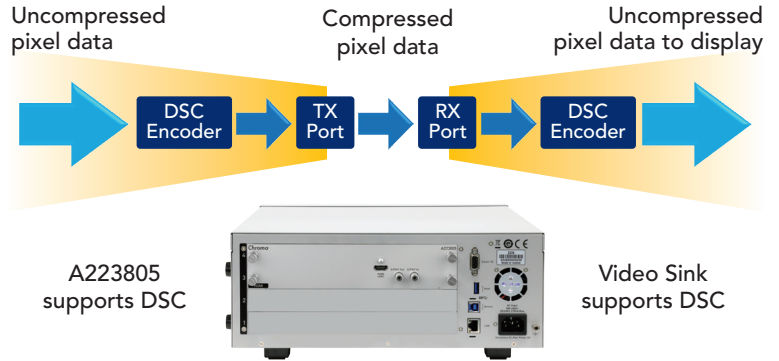
1. HDMI Output (48G)
2. S/PDIF Port (Input & Output)

APPLICATIONS



FRL (Fixed Rate Link) Mode

- Single port 8K@60Hz image output
- Up to 48Gbps bandwidth
- Supports 3/6/8/10/12 Gbps modes, 3 and 4 Lane modes



DSC (Display Stream Compression)

- Supports VESA DSC v1.2a
- Maximum compression ratio of 3:1
- Frame by Frame lossless compression

SPECIFICATIONS

| HDMI Signal Module A223805 | |
|----------------------------|--|
| Video Output | |
| Protocols | FRL 3&4 Lane Configuration/TMDS |
| FRL Bit Rates | Max 48Gbps (12Gbpsx4 lane) ; Support 3/6/8/10/12 Gbps |
| Resolution | Max. 8Kx4K@60Hz (4:2:0 without DSC , 4:2:2/4:4:4 with DSC) |
| Timing Standard | Follow CTA-861-G specification * For detail support timing list pls. refer to the user's manual |
| Sampling Mode | RGB 4:4:4/YCbCr 4:4:4 or 4:2:2 or 4:2:0 |
| Color depth | 24/30/36 bits |
| Color Space | RGB/ITU-R BT.601/ITU-R BT.709/ITU-R BT.2020 |
| HDCP | v2.3/2.2/1.4 |
| DSC | VESA DSC 1.2a |
| Static HDR | HDR 10 / HLG / Dolby Vision |
| 3D | Side by Side/Top and Bottom/ Dual Pipe (with two modules) |
| E-EDID | Version 1.3 (Read/Write/Compare/Analysis) |
| SCDC | Read/Write |

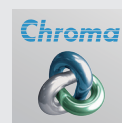
* All specifications are subject to change without notice.

| Audio Output | |
|-----------------------|---|
| Channel | 8 Channel (FL/FR/RL/RR/FC/LFE/RLC/RRC) |
| Sample Rate | 32, 44.1, 48, 88.2, 96, 176.4, 192KHz +/- 1000ppm |
| Bits per sample | 16/20/24 Bits |
| Amplitude | -90.3~0.0 dBFS/-138.47~0.0 dBFS programmable |
| Frequency | 10 Hz~20 KHz, 1 Hz/step |
| eARC | Support, output by S/PDIF (Coaxial) |
| Other | |
| Connector | HDMIx1, S/PDIF Inx1 (Coaxial), S/PDIF Outx1 (Coaxial) |
| Dimensions (HxWxD mm) | 50 x 232 x 300 mm (2 x 2238 module slots) |
| Operating temperature | +5°C~+40°C |
| Weight | <2 kgs |

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Search Keyword

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