MODEL A223806

KEY FEATURES

- Option module for Chroma 2238 Video Pattern Generator
- Supports analog frequencies up to 300 MHz
- Supports digital DVI frequencies up to 330 MHz (Dual Link)
- HDCP 1.0 test functions
- RGB 4:4:4 format setting
- EDID reading / writing / comparing / analysis
- Built-in methods of measurement for digital television flat panel displays (SJT 11348-2006) test patterns
- ESD protection

DVI **VGA** **L R Audio** **EDID** **1.0 HDCP** **300MHz**

DVI SIGNAL MODULE
MODEL A223806

Chroma A223806 DVI Signal Module features a built-in high-speed graphic engine as well as a wide variety of standard analog and digital video signal outputs, and supports testing of various functions of VGA and DVI signal interfaces. In addition to basic image output test functionality, the module also provides HDCP and EDID testing. RGB (D-Sub) is available for analog signals, enabling output of a variety of standard signal formats for traditional analog interface test applications. The DVI output has a pixel rate of up to 330 MHz, and supports testing of Dual-Link mode HDCP functions for high-resolution display inspection. In addition, the VPG Master software enables convenient editing of test sequences and parameters. Its user-friendly interface and comprehensive test functions enable users to tailor test programs to each DUT's specific requirements, and carry out automated testing of a wide variety of video signal products with the tap of a button.

DVI Digital Signal Output

For DVI (Digital Visual Interface) digital signal output, the A223806 follows the DVI 1.0 specification for TMDS (Transition-Minimized Differential Signaling) output, with pixel rates up to 330MHz and test screen resolutions up to QXGA. In addition, the module supports DVI Dual HDCP testing for higher frequency signal inspections, as well as Dual-Link DVI testing.

VGA Analog Signal Output

For the RGB output of the VGA (Video Graphics Array) analog signal, the A223806 follows the VESA VSIS 1.1 specification. Additionally, the Read, Write, Compare, and Analysis capabilities of the EDID test function are well-suited to analog interface testing applications.
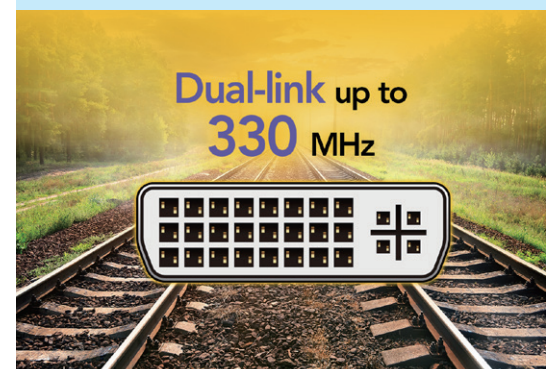
HDCP Testing

HDCP (High-Bandwidth Digital Content Protection) is a protection mechanism that ensures digital video and audio data is not illegally copied when transmitted through the interface. The A223806 complies with HDCP 1.0 specification. With its built-in dedicated HDCP test images, users can set up the automated HDCP function and execute the Link program in a single step. The display will directly show that HDCP is properly activated, or an error message if a problem has occurred.
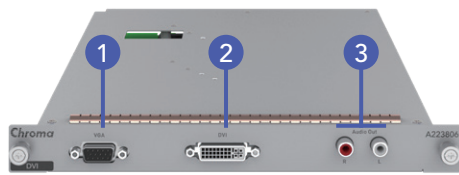
EDID Testing

EDID (Extended Display Identification Data) is a VESA-defined data standard for identifying DDC displays. The A223806 uses I²C to directly read, compare and write to the EDID register inside the display, which includes supplier information, image size, color setting, and frequency range, providing configuration data to the signal source. Users can edit the EDID through a software interface and display the complete analysis results.

The A223806 can be combined with the Chroma 2238 Video Pattern Generator's full-color graphical human-machine interface. With the Instant Pattern View function, users can browse and edit test patterns directly on the device or choose from a wide selection of built-in test patterns, such as HDCP, EDID, static 3D patterns, and methods of measurement for digital television flat panel displays (SJT 11348-2006) test patterns for streamlined testing and judgment. By effectively reducing test time and increasing production capacity, this solution greatly improves cost control. The easy-to-use interface and comprehensive test functions serve many applications, including R&D, production testing and QA in all display related industries.
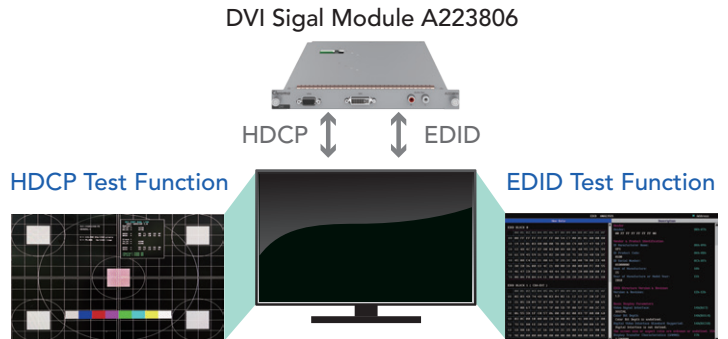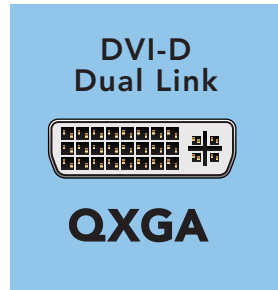
Dual-link up to 330 MHz

Chroma

PANEL DESCRIPTION

DVI Signal Module
1. VGA Port
2. DVI Port
3. Audio Output (R/L)

APPLICATIONS

DVI-D Dual Link

QXGA


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DVI PORT DUAL LINK
HDCP VERSION 1.0
Master:
TX_Ri  =  FA51
RX_Ri  =  FA51

AKSV  =  B8 71 A0 C5 9F
BKSV  =  99 67 CB CC 81

Slave :
TX_Ri  =  D9D3
RX_Ri  =  D9D3

AKSV  =  5D FE 43 52 50
BKSV  =  99 67 CB CC 81

<Master> PASS 48
<Slave > PASS 48
```

DVI Sigal Module A223806

HDCP ⇅   EDID ⇅

HDCP Test Function

EDID Test Function

DVI Dual Link

- Supports frequencies up to 330 MHz
- Maximum resolution of 2048 x 1536
- Supports DVI Dual HDCP testing

HDCP & EDID Test Patterns and Functions

- HDCP 1.0 test function
- EDID test function: supports reading, writing, comparing and analysis
- Real-time DUT analysis

SPECIFICATIONS

DVI Signal Module A223806

Analog Output	
Pixel Rate Range	Max. 300 MHz
Video Signal	R、G、B (75 ohms)
Video Level	0 ~ 1.0V, 1 mV/step
White Level	0 ~ 1.2V, 1 mV/step
Black Level	7.5 IRE / 0 IRE programmable
Sync Level	0 ~ 0.5V, 1 mV/step
Sync on Green	On / Off programmable
Rise/fall Time	1.6nS (typical)，2.0nS (maximum)
Separate Sync	Hs / Vs / Xs
Video Format	R、G、B / RS-343A / RS-170 / VESA Y、R-Y、B-Y Y、b、Pr / ITU601，ITU709，RP177，SMPTE240M
EDID	Version 1.3 Read / Write / Compare / Edit / Analysis
Signal Compliant	VSIS v1.1

Audio	
Channel	2 Channel (R,L)
Sample Rate	32，44.1，48，88.2，96，176.4，192 KHz
Amplitude	0V ~ 2V，50 mV/step (at 600 Ohms Load)
Frequency	10 Hz ~ 20 KHz，1 Hz / step
T.H.D	0.2 %
Output waveform	Sin wave
Special Control Mode	Tone / Sweep / Mute / Repeat / Play Time

DVI	
Pixel Rate Range	25 MHz ≤ Single-link ≤ 165 MHz 165 MHz < Dual-link ≤ 330 MHz
3D Format	Frame sequential
EDID	Version 1.3 Read / Write / Compare / Edit / Analysis
HDCP	Version 1.0 (with dual-link mode)
Compliant	DVI 1.0 specification
Video Signal Type	RGB
Sampling Mde	4:4:4

Other	
Connector	D-Sub 15 pin x 1 (Analog RGB) DVI x 1 RCA x 2 (Audio)
Dimensions (H x W x D)	25 x 232 x 300 mm
Operating Temperature	+5 ~ +40°C
Storage Temperature	-20 ~ 60°C
Humidity	20 ~ 90%
Weight	< 2 kgs

* All specifications are subject to change without notice.

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Search Keyword

A223806

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