

UHD 4K



USB-C SIGNAL MODULE MODEL A223804

A223804 USB-C signal module can support various required testing functions for USB-C interface not only basic Data transmission (Pass-Thru), USB PD (Power Delivery) functional test, DisplayPort Alternate Mode functional test but provide Status Monitor for users to check the characters and parameters of current status of equipment's communication, and support programmable auto inspected function simultaneously for users to edit a Test Program to achieve automatic testing with one button.

DP Alternate Mode Test Function

Video Electronics Standards Association VESA announced DisplayPort Alternate Mode (Alt Mode) will be supported via USB Type-C. By DisplayPort Alt Mode which utilizes USB Type-C interface and connection cable to provide a complete video output. A223804 USB-C signal module supports DisplayPort 1.3 Alt Mode and the bandwidth transmission can up to HBR2(High Bit Rate 2, 5.4Gbps), and supports 4K(4096x2160)@60Hz for video testing. It is also equipped with HDCP (High-Bandwidth Digital Content Protection) 1.4 and 2.2 testing function.

USB Pass-Through Test Function

In USB data transmission (Pass-Through), USB-C supports the latest USB3.1 standard among USB 3.1 Gen1 which is compatible for the main third revised version of Universal Serial Bus (USB). Compare to 480Mb/s half-duplex USB 2.0, USB 3.1 Gen1 is capable for 5Gb/s full-duplex for writing and reading simultaneously which is ten times transmission improvement. A223804 supports USB Pass Thru testing function for user not only focusing on determining data version of the interface, but through real transferred document to do actual rating test to ensure the rate of the product is compliance with the standard requirement.

Power Delivery Test Function

The charging interfaces for laptops and mobile phones varies greatly, and the chargers between different brands and models are mostly incompatible. Therefore, USB-IF association promotes the USB Power Delivery power transmitting protocol, which became more popular recently for devices to support USB PD charging, including cell phones, digital cameras, mobile devices, external storages, laptops and monitors, allowing charging, data transmission and video playback all to be supported by one single cable.

In PD 2.0 standard, the power specification is defined at a maximum of 100W(20V/5A). To accommodating this requirement, an External Power Unit is designed to support the A223804 USB-C Signal Module to support the power testing up to 100W. The External Power Unit is adjustable to switching between Power Roles, to match the different voltage and current specifications of the unit under test.

Programmable Automated Test Function

The A223804 signal module supports programmable automated test function for users to edit the USB-C Test Program according to the specs of the unit under test. Test items including DP Alt Mode video output, Power Delivery VBUS / CC Pin testing, PDO setting parameter comparison, Pass Through speed testing, cable flip and other required USB-C testing. The test results are directly shown on the monitor, or could be retrieve by commutation commands. Users will be benefited by uploading the test results to the SAP system from the test-result retrieving function.

MODEL A223804

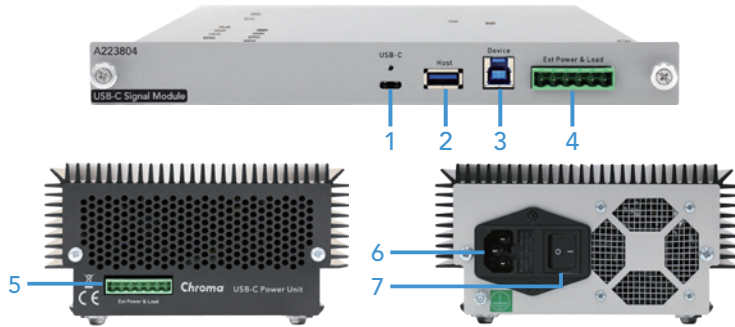
KEY FEATURES

- VPG 2238 option module
- USB-C status monitor
 - Roles & modes status
 - Power role
 - Data role (UFP/DFP/DRP)
 - VCONN status
 - DP Alt mode status
 - Fixed supply PDO
 - Contract RDO
- DP alternate mode
 - DisplayPort 1.3
 - Max 4Kx2K@60Hz resolution
 - Up to HBR2 rate (4 lanes)
 - Support HDCP 1.3 and 2.2
- USB-C power delivery 2.0
 - Voltage and current measurement
 - Power source & power sink role switch
 - Internal power can support to 15W(5V/3A), and via external power module to reach 100W(20V/5A) (option)
- USB Pass-through test
 - USB 3.1 Gen1 (5 Gbps) and USB 2.0 version check
 - USB pass-through testing
- USB-C cable information check
- Programmable automation test function
- Test result can be read by remote command
- BMP file format support



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PANEL DESCRIPTION



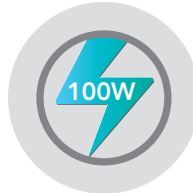
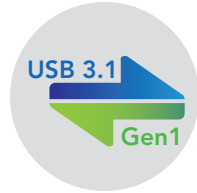
USB-C Signal Module

1. USB-C Port
2. USB Port (Host)
3. USB Port (Device)
4. External Power / Load connection port

Power Unit (Option)

5. External Power / Load connection port
6. AC Power Input
7. Power Switch

USB-C Applications



USB 3.1/2.0 Pass-Thru & Status Monitor

- Role and mode inspection (Power Role/Data Role)
- Data Role switching function (UFP/DFP / DRP)
- USB-C cable data judgment (E-marked)
- Support USB 3.1 Gen1 (5Gbps) and USB 2.0 pass-thru test

USB-C Power Delivery

- Support for USB-C PD 2.0 specification
- Power Role switching function (Power Source / Power Sink)
- VBUS & VCONN Voltage/ Current test function
- Power delivery can support to 15W(5V/3A), and via external power module to reach 100W(20V/5A)

USB-C Alternate Mode

- Support DP (DisplayPort) 1.3 specification (HBR2 , 4Lanes)
- Support HDCP 2.2/1.3 test function
- Support EDID/DPCD reading and editing function

SPECIFICATION

A223804 USB-C SIGNAL MODULE			
USB-C Pass-Through			
USB over USB-C	USB 3.1 Gen 1 (5Gbps) & USB 2.0 pass - thru		
DisplayPort Alternate Mode			
Signal Compliant	DisplayPort 1.3 specification		
Resolution	Up to 4096x2160@60Hz (HBR2 4 Lanes)		
Link Data Rate	1.62 / 2.7 / 5.4 Gbps per lane		
Lane Count	1 / 2 / 4 lanes		
HDCP	HDCP 1.3 / 2.2		
Power Delivery 2.0			
Power Source Capability	Internal	External (optional)	
Output Power	15W	100W	
Current Support	@5V	3A max.	3A max.
	@9V	--	3A max.
	@12V	--	3A max.
	@15V	--	3A max.
	@20V	--	5A max.
Voltage Support	5V only 5V, 9V, 12V, 15V, 20V		

Power Sink Capability	Internal	External (optional)	
Output Load	15W max.	100W max.	
Load Support	1.7/2.2/2.3/2.8/3.6/4.9/5.8ohm	2.1/4/5/6/7/8/9.4/11/14ohm	
Current Support	@5V	3A max.	2.4A max. (support 0.3/0.4/0.5/0.6/0.7/0.8/1.0/1.3/2.4A)
	@9V	--	3A max. (support 0.7/0.8/1.0/1.1/1.3/1.5/1.8/2.4/3.0A)
	@12V	--	3A max. (support 0.8/1.1/1.3/1.5/1.7/2.0/2.4/3.0A)
	@15V	--	3A max. (support 1.0/1.4/1.6/1.9/2.2/2.5/3.0A)
	@20V	--	5A max. (support 1.4/1.8/2.1/2.5/2.9/3.4/4.0/5.0A)
Voltage Support	5V only	5V , 9V , 12V , 15V , 20V	

* All specifications are subject to change without notice.

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HEADQUARTERS
CHROMA ATE INC.
66 Huaya 1st Road,
Guishan, Taoyuan
33383, Taiwan
T +886-3-327-9999
F +886-3-327-8898
www.chromaate.com
info@chromaate.com

U.S.A.
CHROMA ATE, INC.
(U.S.A.)
7 Chrysler, Irvine,
CA 92618
T +1-949-421-0355
F +1-949-421-0353
Toll Free +1-800-478-2026
www.chromaus.com
info@chromaus.com

EUROPE
CHROMA ATE EUROPE B.V.
Morsestraat 32,
6716 AH Ede,
The Netherlands
T +31-318-648282
F +31-318-648288
www.chromaeu.com
sales@chromaeu.com

CHROMA GERMANY GMBH
Südtiroler Str. 9, 86165,
Augsburg, Germany
T +49-821-790967-0
F +49-821-790967-600
www.chromaeu.com
sales@chromaeu.com

JAPAN
CHROMA JAPAN
CORP.
888 Nippa-cho,
Kouhoku-ku,
Yokohama-shi,
Kanagawa,
223-0057 Japan
T +81-45-542-1118
F +81-45-542-1080
www.chroma.co.jp
info@chroma.co.jp

KOREA
CHROMA ATE
KOREA BRANCH
3F Richtogther
Center, 14,
Pangyoeyeok-ro 192,
Bundang-gu,
Seongnam-si,
Gyeonggi-do
13524, Korea
T +82-31-781-1025
F +82-31-8017-6614
www.chromaate.co.kr
info@chromaate.com

CHINA
CHROMA ELECTRONICS
(SHENZHEN) CO., LTD.
8F, No.4, Nanyou Tian
An Industrial Estate,
Shenzhen, China
T +86-755-2664-4598
F +86-755-2641-9620
www.chroma.com.cn
info@chromaate.com

SOUTHEAST ASIA
QUANTEL PTE LTD.
(A company of Chroma Group)
46 Lorong 17 Geylang # 05-02
Enterprise Industrial Building,
Singapore 388568
T +65-6745-3200
F +65-6745-9764
www.quantel-global.com
sales@quantel-global.com