

MODEL A223810

Key Features

- Module options for signal generator 2238
- Supports monitoring of:
 - Roles & modes status
 - Power role
 - Data role (UFP / DFP / DRP)
 - VCONN status
 - DP Alt mode status
 - Fixed supply PDO
 - Contract RDO
- Supports DP Alternate Mode:
 - Display Port v1.4
 - Max. resolution 8Kx4K@30Hz
 - Supports HBR3 rate (4 lanes) bandwidth transmission
 - Supports HDCP 1.3 / 2.2 / 2.3
 - 1.62 / 2.7 / 5.4 / 8.1 Gbps per lane
- Supports power delivery 3.0 testing:
 - Supports voltage / current measurement
 - Power source & power sink role switch
 - Built-in power output 15W (5V/3A)
 - Supports external power module 100W (20V/5A)
- USB pass-through testing:
 - USB 3.2 Gen 2 (10 Gbps)
 - USB 3.1 Gen 1 (5 Gbps)
 - USB 2.0 (480 Mbps)
 - USB version detection
 - USB transfer speed check
- USB-C cable information interpretation (E-marked)
- Supports cable flip testing
- Supports Programmable Power Supply (PPS) testing
- Supports Fast Role Swap (FRS) testing
- Supports Multi-Stream Transport (MST) testing
- Built-in 4 ports USB-B simulator
- Automatized editing & test result display



USB-C SIGNAL MODULE MODEL A223810

Chroma A223810 USB-C Signal Module supports myriad functions of the USB-C signal interface. In addition to basic data transmission (pass-through), USB Power Delivery, and DisplayPort Alternate Mode functionality testing, it also provides a status monitor function allowing users to confirm the current communication role and status and various parameters. In addition, the programmable automatic test functions enables users to tailor test programs according to each UUT's specific requirements, and start testing with just a single push on the button.

DisplayPort Alternate Mode Testing

The American Video Electronics Standards Association (VESA) officially supports DisplayPort Alternate Mode (DP Alt Mode) through the USB Type-C standard. With DP Alt Mode, the USB-C interface can be used to provide complete audio and video output. The USB-C Signal Module supports DP 1.4 Alt Mode video transmission with up to High Bit Rate 3 (HBR3) 8.1Gbps bandwidth transmission and provides 8K (7680x4320)@30Hz display testing. A223810 also has High-Bandwidth Digital Content Protection (HDCP) 1.3, 2.2 and 2.3 test functions.

Power Delivery 3.0 Testing

The USB-C Power Delivery (PD) 3.0 protocol supports up to 100W (20V/5A) power output and the programmable power supply (PPS) protocol allows precise adjustment of voltage and current and meets the actual application requirements. Compatible with various PD

3.0 fast charging protocols, the signal module offers fast role swap (FRS) functionality between power supply and power receiving modes.

USB Pass-Through Testing

Chroma A223810 supports both USB 3.2 Gen 2 specifications and 10Gbps/5Gbps/480Mbps transfer speed. The USB-C simulator measures data including voltage, current, USB version, and USB read/write file transfer rate.

Programmable Automated Testing

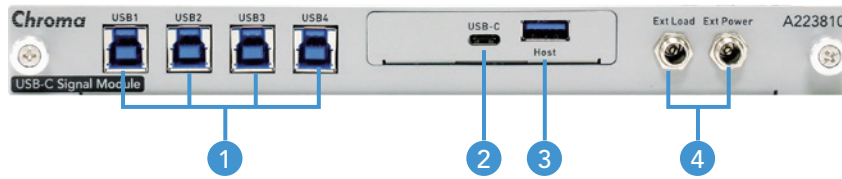
For USB-C testing, the Chroma A223810 module supports programmable automated test functions. Users can edit the test program according to the specifications of the test object. Test items cover DP Alt Mode image output, Power Delivery VBus/CC Pin, Power Data Object (PDO) setting parameter comparison, pass-through rate, software-based cable flip, and other test items required by various USB-C products, even including simultaneous testing of multiple modules. The test results can be confirmed directly through the output screen, or read through communication commands.

Multi-Stream Transport Test Function

Multi-Stream Transport (MST) can output images by cascading multiple sets of displays. Whereas other signal interfaces require multi-screen output in parallel, the MST function allows the signal source to drive multiple displays with only one output port. Chroma A223810 greatly simplifies the configuration of cables.



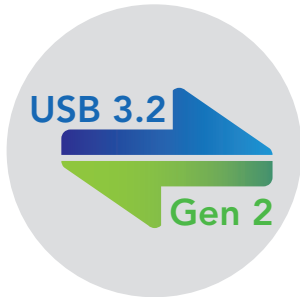
PANEL DESCRIPTION



USB-C Signal Module

1. USB-B Port (Simulator)
2. USB-C Port
3. USB-A Port (Host)
4. External Load/Power

USB-C APPLICATIONS



External Source & Load
(PD 3.0 up to 100W)



USB



USB 3.2/Pass- Thru & Status Monitor

- Role/modes status monitoring
- Data role swap (UFP/DFP/DRP)
- USB-C cable information interpretation (E-marked)
- Supports USB 3.2 Gen2 (10Gbps) / 3.1 Gen1 (5Gbps) / USB 2.0 (480Mbps)
- USB data read/write transfer rate & version detection
- Built-in USB simulator (USB 3.0/USB 2.0)

USB-C Power Delivery 3.0

- Power role switch between power source and power sink
- Supports Programmable Power Supply (PPS)
- Supports Fast Role Swap (FRS) between power source and power sink modes
- Built-in power output 15W
- Supports external power module 100W

USB-C Alternate Mode

- Supports DisplayPort (DP) 1.4 specifications
- Supports up to 8K@30Hz resolution (HBR3, 4 lanes)
- Supports HDCP 1.3/2.2/2.3
- Supports EDID/DPCD reading/writing

SPECIFICATIONS

A223810 USB-C Signal Module	
USB-C Applications	
USB over USB-C	USB 3.2 Gen 2 (10 Gbps), USB 3.1 Gen 1 (5 Gbps), USB 2.0 (480 Mbps)
USB-C Cable Flip	Automatic cable flip test (straight/flipped)
USB Simulator (USB 2.0 & 3.0)	Read/write speed test
	Version detection
	Voltage/current measurement
USB Power Delivery	Internal power source Up to 5V/3A
	Source & sink up to 20V/5A with external power test unit
PPS (Program Power Supply)	5V~20V/5A max., 20mV/step
FRS (Fast Role Swap)	Supported
DisplayPort Alternate Mode	
Signal Compliant	DisplayPort v1.4 specification
Pixel Rate Range	Max. 1,200 MHz
Resolution	Max. 8Kx4K@30Hz
Video Signal Type	RGB/YCbCr
Sampling Mode	RGB 4:4:4/YCbCr 4:4:4 or 4:2:2
Color Depth	6/8/10/12 bits per component
HDCP	HDCP v1.3/2.2 /2.3
Main Link Data Rate	1.62/2.7/5.4/8.1 Gbps per lane
Lane Count	1/2/4 lanes
MST	Max. 4 streams

* All specifications are subject to change without notice.

Power Delivery 3.0		
Power Source Capability		
Output Power	Internal source Max.15W	External source Max.100W
Voltage Support	5V only	5~20V
Current Support	0~3A	0~5A
Measurement Voltage		
Resolution	10 mV	10 mV
Accuracy	2%	2%
Measurement Current		
Resolution	10 mA	10 mA
Accuracy	2% + 0.35% F.S.	2% + 0.2% F.S.
Power Sink Capability		
Output Load	External sink, max. 100W	
Voltage Support	5~20V	
Current Support	0~5A	
Measurement Voltage		
Resolution	10mV	
Accuracy	2%	
Measurement Current		
Resolution	10mA	
Accuracy	2% + 0.2% F.S.	

Note*1: Each host supports up to two A223810 modules.

Get more product & global distributor information in Chroma ATE APP



iOS



Android

Search Keyword

A223810

HEADQUARTERS
CHROMA ATE INC.
88 Wenmao Rd.,
Guishan Dist.,
Taoyuan City
333001, 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.chroma.us
info@chroma.us

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

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

JAPAN
CHROMA JAPAN
CORP.
888 Nippa-cho,
Kohoku-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 Richtogether
Center, 14,
Pangyoyeok-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)
25 Kallang Avenue #05-02
Singapore 339416
T +65-6745-3200
F +65-6745-9764
www.quantel-global.com
sales@quantel-global.com