



ADVANCED SOC TEST SYSTEM MODEL 3680

Semiconductor manufacturing is a fast-moving industry, with more and more devices highly integrated with various functions. Capital equipment must be built to outlive several device generations and applications.

Chroma's SoC Test System 3680 provides flexible configurations and wide coverages to compatibly test different types of devices. The system is flexible to deploy the configuration up to 2048 pins within 24 universal slots with the digital performance up to 1Gbps, the largest default 256MW vector memory, $\pm 150\text{ps}$ EPA for superior timing accuracy in high speed application, and provides various options such as HDADDA2 for converter test, HDVI for high voltage & automotive, HDAVO for performance mix-signal with video applications of 400Msps AWG & 250Msps DIG and another high precision audio application of 24bits AWG & DIG. Additionally, HCDPS offers a high current capability of up to 32A per channel, and HDRF2 provides RF testing functionality featuring 32 ports and 4 VST.

The 3680 also includes mainframe cabinet containing AC, DC power distribution unit

and system power supply. An optional test head manipulator is offered for docking with automated device handling equipment.

The system is specifically designed for high-throughput and high parallel testing capability to provide the best solution for fabless, IDM and testing houses. With full functions of test capability, high accuracy, powerful software, and excellent reliability, the 3680 is ideal for testing consumer devices, high-performance microcontrollers, analog devices and SoC devices.

APPLICATIONS

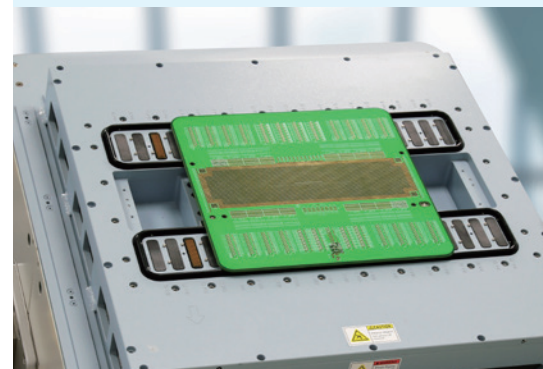
- Radio frequency (RF)
- Internet of Things (IoT)
- Artificial Intelligence (AI)
- Microcontroller Unit (MCU)
- Digital Audio
- Digital TV (DTV)
- Set Top Box (STB)
- Digital Signal Processing (DSP)
- Network Processor and Field Programmable Gate Array (FPGA)

MODEL 3680

KEY FEATURES

- 24 interchangeable slots for digital, analog and mixed-signal applications
- Data rate up to 1Gbps
- Up to 2048 sites parallel test
- Up to 2048 digital I/O pins
- 256 MW vector memory (512 MW option) (X2 mode)
- Up to 64 CH PMU for high precision measurement
- Per-pin timing measurement unit/PPMU/frequency measurement
- SCAN up to 64 chains/16G depth
- Edge placement accuracy (EPA) : $\pm 150\text{ps}$
- Up to 128 CH High density DPS32
- High density HDADDA2 mixed-signal option
- Efficient high power HCDPS analog option
- High performance HDAVO option
- High density HDVI analog option
- High density HDRF2 option
- Direct probing system*
- Multi-time domain function*
- Microsoft Windows® 10 OS
- C#.NET and GUI programming interface
- CRISPro, full suite of intuitive software tools
- Test program and pattern converters for other platforms
- Accept PIB and probe card of other testers directly
- Support STDF data output and customized data format
- Air-cooled, small footprint tester-in-a-test-head design

* Call for availability.



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SPECIFICATIONS

Model	3680
Digital IO Channels	2048 Channels
Data Rate	Maximum 1Gbps
Multi-site Test Capability	2048 sites
Software	CRISPro
Programming Language	C#.NET
Operating System	Windows® 10
Logic Pin Card	LPC128
IO Channels	128 CH per board
Pattern Memory	256 / 512M(option) vector depth (X2 mode)
Drive VIL / VIH	-1.5V ~ +6.4V / -1.4V ~ +6.5V
Maximum Drive Current	± 50mA (static)
Comparator VOL / VOH	-1.5V ~ +6.5V
Comparator Modes	Edge, Window
EPA (Drive / IO / Compare)	± 150ps / ± 150ps / ± 150ps
Dynamic Load Current	± 25mA
External High Voltage Driver	18V, 12 CH per board, maximum 192 CH per system
High Voltage Driver	13.5V, 32 CH per instrument board
Timing Edges	6
Rate / Edge resolution	50ps / 12.5ps
Utility Pin Control	8 utility bits per 64 IO, maximum 256 bits per system
SCAN	1 / 2 / 4 / 8 / 16 / 32 / 64 scan chains, maximum 16G depth
Precision Measurement Unit	PMU
Number of Channels	1 CH per 32 IO
Voltage Range	± 2.5V, ± 8V, ± 24V
Current Range	± 800nA ~ ± 250mA
Device Power Supply	DPS32 / DPS64
Number of Channels	32 / 64 CH per board
Voltage Range	-6V ~ +6V ; -6V ~ +12.5V ; -12.5V ~ +12.5V
Maximum Output Current	1A @ ± 6V ; 500mA @ -6V ~ +12.5V
Current Gang Channels	Maximum 32 / 64A
System and Dimension	
Power Consumption / Cooling	Maximum 16.5KW / Forced air cooling
Test Head Dimension (L x W x H)	900 x 744 x 736 mm
Mainframe Dimension (L x W x H)	802 x 596 x 1018 mm

Options	
HDAVO	
Number of Channels	8 CH AWG and 8 CH DIG per board
AWG Resolution	HR: 24bits / 2Msps, HS: 16bits / 400Msps
DIG Resolution	HR: 24bits / 1.5Msps, HS: 16bits / 250Msps
Bandwidth	Maximum 120MHz for HS
V Reference Source	20 bits resolution, voltage range from -1V ~ 6V
HDADDA2	
Number of Channels	32 CH AWG and 8 CH DIG per board
AWG Resolution	16bits / 500Ksps
DIG Resolution	16bits / 500Ksps
V Reference Source	Force voltage range ± 9V, output current ± 20mA
HDAWDG	
Number of Channels	32 CH AWG and 8 CH DIG per board
AWG Resolution	20bits / 1Msps
DIG Resolution	20bits / 1Msps
V Reference Source	20 bits resolution, voltage range from 0V ~ +6V

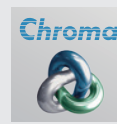
Options	
HCDPS	
Number of Channels	4 CH per board
Current Range	Maximum ± 32A
Current Gang Channels	Maximum 512A
Voltage Range	± 1V, ± 2V, ± 4V
HDVI	
Number of Channels	32 CH per board
Voltage Range	Maximum -40V ~ +70V
Current Range	± 200mA ~ ± 500nA
HDRF2	
Number of VSTs / RF ports	Maximum 4 VSTs / 32 RF ports
VSG Frequency Range	1 MHz ~ 6 GHz
VSA Frequency Range	300 KHz ~ 6 GHz
IF Bandwidth	200 MHz

* All specifications are subject to change without notice.

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