Corsair HX1500i (ATX v3.1)

Serial Number

Lab ID CR15002099

Certification ID 252099

Test Result Report ID: 22PS2099A

Certificate Issue Date: Dec 7, 2022

Scheme: ETA-EMI PSU

115V



230V



Scheme: LAMBDA PSU

115V



230V





Outside Validation Scope



General Information

Test Equipment

Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 Chroma 63640-80-80 x10 Chroma 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P, GW Instek ASR-3500
Power Analyzers	Rohde & Schwarz HMC8015 & NPA701
Oscilloscopes	Picoscope 4444, Siglent SDS2104X PLUS
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Temperature Logger	Picoscope TC-08
Tachometer	UNI-T UT372
Multimeters	Keysight 34465A
EMI Analyzer	TekBox TBMR-110M-EU
Isolation Transformer	4kVA
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Testing Methodology	Cybenetics PSU Test Protocol

DUT Information(Non-accredited measurements)

Product Identification Details	
Brand	Corsair
Model	HX1500i (ATX v3.1)
OEM/ODM	Channel Well Technology
Serial Number	
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5

Rated Frequency (Hz)	47-63
Rated Power (W)	1500
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	140mm Fluid Dynamic Bearing Fan (NR140P)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	CR15002099
Date of receipt	Nov 23, 2022
Testing Date	Dec 7, 2022
Report Issued Date	Dec 7, 2022
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Modular Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	16-20AWG	No
4+4 pin EPS12V (650mm)	2	2	18AWG	No
6+2 pin PCIe (670mm+100mm)	2	4	16-18AWG	No
6+2 pin PCIe (650mm)	3	3	16AWG	No
12+2 pin PCIe (650mm)	1	1	16-24AWG	No
SATA (460mm+115mm+115mm+115mm)	2	8	18AWG	No
4 pin Molex (450mm+100mm+100mm+100mm)	2	8	18AWG	No

USB Type C to Motherboard Header Cable (530mm)	1	1	24-28AWG	No
AC Power Cord (1360mm) - C19 coupler	1	1	16AWG	-

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	125	3	0.3
	Watts	150		1500	15	3.6
Total Max. Power (W)		1500				

Parts Description

General Data	
Manufacturer (OEM)	CWT
PCB Type	Double Sided
Primary Side	
Transient Filter	6x Y caps, 3x X caps, 2x CM chokes, 1x MOV
Inrush Protection	2x NTC Thermistor SCK-075 (7 Ohm) & Relay
Bridge Rectifier(s)	2x VISHAY LVB2560 (600V, 25A @ 105°C)
APFC MOSFETs	2x Infineon IPW60R099P6 (600V, 24A @ 100°C, Rds(on): 0.099Ohm)
APFC Boost Diode	2x Infineon IDH10G65C6 (650V, 10A @ 140°C)
Driver IC(s)	Texas Instruments LM2724A
Bulk Cap(s)	2x Nippon Chemi-Con (450V, 680uF each or 1,360uF combined, 2,000h @ 105°C, KMZ) & 1x Nippon Chemi-Con (420V, 470uF, 2,000h @ 105°C, KMZ)
Main Switchers	4x Alpha & Omega AOTF29S50 (500V, 18A @ 100°C, Rds(on): 0.15Ohm)
Digital Controllers	2x Texas Instruments UCD3138A
MCU	Microchip PIC32MM0064GPM036
Topology	Primary side: Semi-Digital, Interleaved PFC, Full-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETs	12x Infineon BSC014N06NS (60V, 152A @ 100°C, Rds(on): 1.45mOhm)
5V & 3.3V	DC-DC Converters

Filtering Capacitors	Electrolytic: 4x Nichicon (2-4,000h @ 105°C, HD), 6x Rubycon (6-10,000h @ 105°C, ZLH), 4x Rubycon (4-10,000h @ 105°C, YXF), 2x Rubycon (4-10,000h @ 105°C, YXJ) Polymer: 26x Nippon Chemi-Con, 18x FPCAP
Driver IC(s)	Texas Instruments LM2724A
Supervisor IC	Weltrend WT7502R (OVP, UVP, SCP, PG)
Fan Controller	Microchip PIC32MM0064GPM036
Fan Model	Corsair NR140P (140mm, 12V, 0.22A, Fluid Dynamic Bearing Fan)

5VSB Circuit

Test Results

Temperature & Compliance Info

Temperature Range (°C /°F)	28-32 / 82.4-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.1 PSU Power Excursion	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	89.693%
Average Noise Output (>1450 Load Combinations)	27.55dBA
Average PF (>1450 Load Combinations)	0.996
Efficiency With 10W (≤500W) or 2% (>500W) Load	76.053%
Standby Power Consumption	0.0257W
Non-Accredited	
12V Ripple (Full Load)	16.68mV
5V Ripple (Full Load)	6.01mV
3.3V Ripple (Full Load)	11.75mV
5VSB Ripple (Full Load)	11.57mV
12V Load Regulation	0.93%
5V Load Regulation	0.64%
3.3V Load Regulation	0.82%
5VSB Load Regulation	1.36%
Inrush Current	25.350A

230V

Accredited	
Average Efficiency (>1450 load combinations)	91.739%