

Lab ID#: AS12001876
Receipt Date: Jul 8, 2021
Test Date: Jul 20, 2021

Report: 21PS1876A
Report Date: Jul 20, 2021

DUT INFORMATION	
Brand	Asus
Manufacturer (OEM)	Seasonic
Series	Rog Thor Platinum
Model Number	
Serial Number	
DUT Notes	

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	15-7.5
Rated Frequency (Hz)	50-60
Rated Power (W)	1200
Type	ATX12V
Cooling	135mm Double Ball Bearing Fan (CF1325H12D)
Semi-Passive Operation	✓ (selectable)
Cable Design	Fully Modular

TEST EQUIPMENT	
Electronic Loads	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Keysight AC6804B
Power Analyzers	N4L PPA1530 x2
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2
Tachometer	UNI-T UT372 x2
Digital Multimeter	Keysight U1273AX, Fluke 289, Keithley 2015 - THD
UPS	CyberPower OLS3000E 3kVA x2
Transformer	3kVA x2

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RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6 (+-2°C / +- 3.6°F)
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓

115V

Average Efficiency	89.225%
Efficiency With 10W (≤500W) or 2% (>500W)	62.663
Average Efficiency 5VSB	77.124%
Standby Power Consumption (W)	0.0602698
Average PF	0.986
Avg Noise Output	14.75 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A++

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	100	3	0.3
	Watts	125		1200	15	3.6
Total Max. Power (W)		1200				

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CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (620mm)	1	1	18-20AWG	No
4+4 pin EPS12V (650mm)	2	2	18AWG	No
6+2 pin PCIe (680mm)	4	4	16AWG	No
6+2 pin PCIe (680mm+80mm)	2	4	16-18AWG	No
SATA (460mm+125mm+125mm+125mm)	3	12	18AWG	No
4 pin Molex (460mm+155mm+155mm)	2	6	18AWG	No
RGB Sync Cable (820mm)	1	1	24AWG	No

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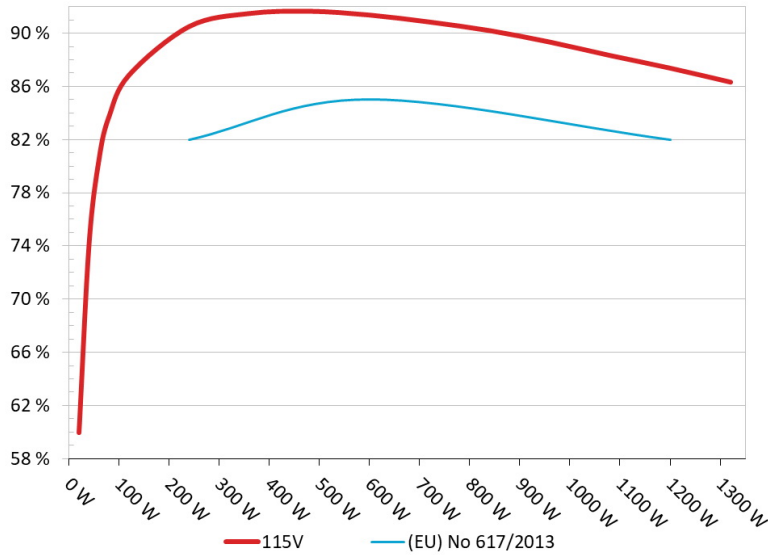
General Data	-
Manufacturer (OEM)	Seasonic
PCB Type	Double Sided
Primary Side	-
Transient Filter	6x Y caps, 3x X caps, 2x CM chokes, 1x MOV, 1x Champion CM02X (Discharge IC)
Inrush Protection	NTC Thermistor JNR20S100L (10 Ohm) & Relay
Bridge Rectifier(s)	2x Vishay LVB2560 (600V, 25A @ 105°C)
APFC MOSFETs	2x Infineon IPP60R060P7 (600V, 30A @ 100°C, Rds(on): 0.06Ohm)
APFC Boost Diode	1x CREE C3D10060 (600V, 10A @ 153°C)
Bulk Cap(s)	2x Nippon Chemi-Con (420V, 820uF & 470uF each or 1,290uF combined, 2,000h @ 105°C, KHE)
Main Switchers	4x Infineon IPP60R120P7 (600V, 16A @ 100°C, Rds(on): 0.12Ohm)
IC Drivers	2x Silicon Labs Si8230BD
APFC Controller	On Semiconductor NCP1654
Resonant Controller	Champion CM6901T2X
Current Sensor IC	Allegro ACS725T
Topology	Primary side: APFC, Full-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	-
+12V MOSFETs	8x Nexperia PSMN1R0-40YLD (40V, 198A @ 100°C, Rds(on): 1.93mOhm)
5V & 3.3V	DC-DC Converters
Filtering Capacitors	Electrolytic: 2x Nippon Chemi-Con (105°C, W), 8x Nippon Chemi-Con (4-10,000h @ 105°C, KY), 2x Rubycon (3-6,000h @ 105°C, ZLQ), 1x Rubycon (3-6,000h @ 105°C, YXG), 1x Rubycon (6-10,000h @ 105°C, ZLJ) Polymer: 24x FPCAP, 8x Nippon Chemi-Con, 11x NIC
Supervisor IC	Weltrend WT7527V (OCP, OVP, UVP, SCP, PG)
Fan Model	Champion CF1325H12D (135mm, 12V, 0.60A, Double Ball Bearing Fan)
Fan Controller	Atmel SAM4N8
Flash Memory	Microchip SST26VF016B
5VSB Circuit	-
Rectifier	1x MCC MBR1045ULPS SBR (45V, 10A) & 1x Infineon IPA60R099P6 FET (600V, 24A @ 100°C, Rds(on): 0.099Ohm)
Standby PWM Controller	Leadtrend LD7750R

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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: ASUS Rog Thor 1200W
Ambient: 37°C - 47°C (98.6°F - 116.6°F)

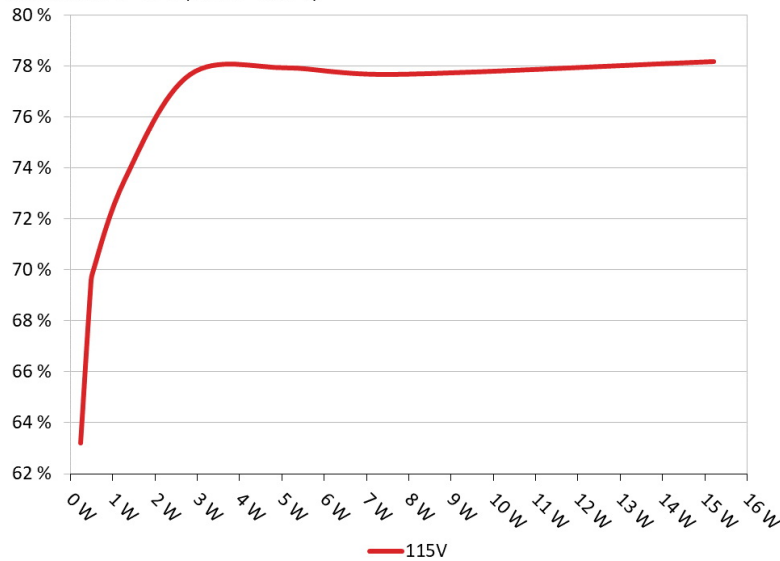


INFO

The PSU's efficiency under high ambient temperatures with 115V and 230V input. For this graph the results of the 10-110% load regulation table are used

5VSB EFFICIENCY

5VSB Efficiency: ASUS Rog Thor 1200W
Ambient: 34°C - 36°C (93.2°F - 96.8°F)



INFO

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input

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5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts	
1	0.045A	0.232W	63.206%	0.04
	5.148V	0.367W		115.17V
2	0.09A	0.463W	69.194%	0.072
	5.147V	0.669W		115.17V
3	0.55A	2.825W	77.663%	0.297
	5.135V	3.638W		115.16V
4	1A	5.124W	77.92%	0.402
	5.123V	6.576W		115.16V
5	1.5A	7.667W	77.666%	0.462
	5.11V	9.872W		115.16V
6	3A	15.214W	78.168%	0.527
	5.071V	19.463W		115.15V

Test #

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)

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115V

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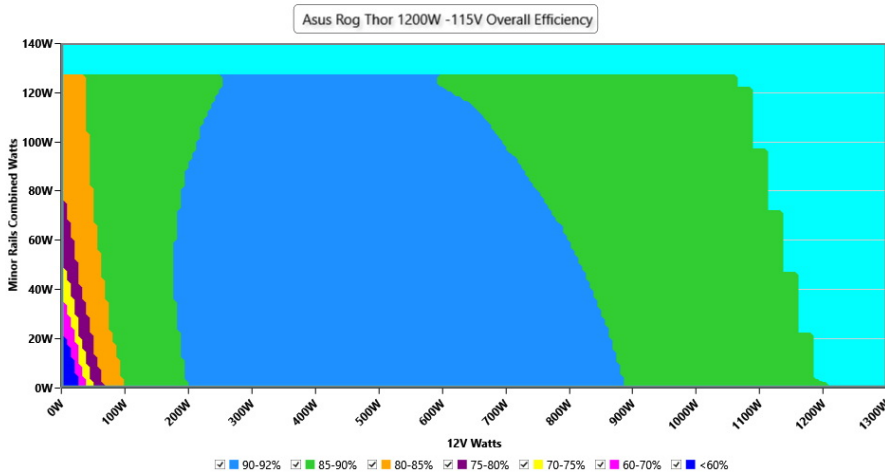
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EFFICIENCY GRAPH 115V

INFO

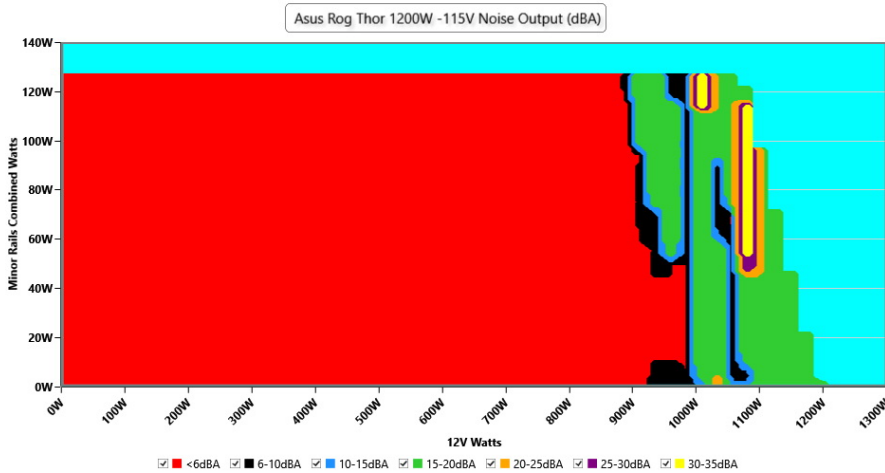
This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations



NOISE GRAPH 115V

INFO

The PSU's noise in its entire operational range and under 30-32 °C (+2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

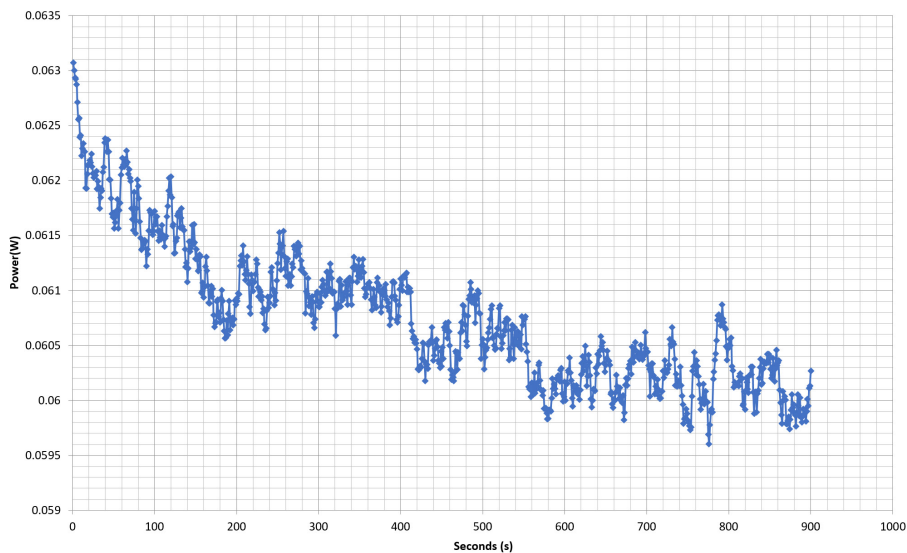


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VAMPIRE POWER -115V

Power - 20/07/2021 - 09:05



INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

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COMMISSION REGULATION (EU) NO 617/2013 TESTING 115V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	8.174A	1.96A	1.99A	0.978A	120.013	86.856%	0	<6.0	44.11°C	0.974
	12.039V	5.103V	3.316V	5.114V	138.174				40.53°C	115.2V
20%	17.371A	2.946A	2.987A	1.178A	239.98	90.497%	0	<6.0	45.27°C	0.975
	12.035V	5.092V	3.314V	5.095V	265.179				41.13°C	115.09V
50%	45.660A	4.934A	4.99A	1.787A	599.591	91.358%	0	<6.0	48.29°C	0.989
	12.025V	5.068V	3.307V	5.039V	656.306				42.64°C	115.15V
100%	92.527A	8.969A	9.017A	3.042A	1199.791	87.368%	1092	31.1	45.7°C	0.994
	11.997V	5.018V	3.294V	4.931V	1373.256				54.86°C	115.16V

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EFFICIENCY AND NOISE REPORT IN ACCORDANCE WITH
CYBENETICS ETA AND CYBENETICS LAMBDA PROCEDURE

Asus ROG-THOR-1200P2-GAMING

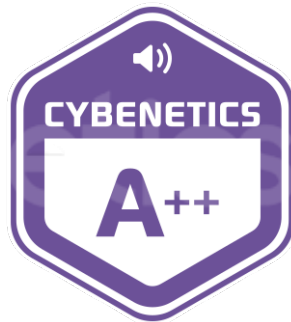
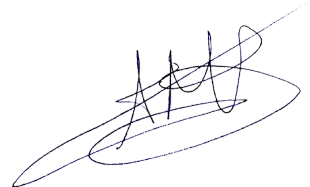


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Power specifications label

CERTIFICATIONS 115V

Aristeidis Bitziopoulos
Lab Director

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