ASUS ROG-THOR-1200P2-GAMING

Lab ID AS12001876

Certification ID 251876

Test Result Report ID: 21PS1876A

Certificate Issue Date: Jul 20, 2021

115V

Scheme: ETA-EMI PSU



115V



Scheme: LAMBDA PSU



Aristeidis Bitziopoulos, Certification Body General Manager

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	ASUS
Model	ROG-THOR-1200P2-GAMING
OEM/ODM	Seasonic
Serial Number	
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	15-7.5
□□□□ (Hz)	50-60

□□□□ (W)	1200
Operating Temperature (Continuous Full Load) (°C)	
□□	ATX12V
□□□□	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
□□	135mm Double Ball Bearing Fan (CF1325H12D)
□□□□□	✓ (selectable)
Cybenetics Testing Information	
Lab ID	AS12001876
Date of receipt	Jul 8, 2021
Testing Date	Jul 20, 2021
Report Issued Date	Jul 20, 2021
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□ (Non-accredited measurements)

□□□□				
□□	□□□	□□□□□	Gauge	In Cable Capacitors
ATX □□ 20+4 pin (620mm)	1	1	18-20AWG	□
4+4 pin EPS 12V □□ (650mm)	2	2	18AWG	□
6+2pin PCIe□□ (680mm)	4	4	16AWG	□
6+2pin PCIe□□ (680mm+80mm)	2	4	16-18AWG	□
SATA□□ (460mm+125mm+125mm+125mm)	3	12	18AWG	□
□ 4pin Molex□□ (460mm+155mm+155mm)	2	6	18AWG	□
RGB Sync Cable (820mm)	1	1	24AWG	□

		3.3V	5V	12V	5VSB	-12V
		25	25	100	3	0.3
		125		1200	15	3.6
(W)		1200				

Parts Description

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

Test Results

Temperature & Compliance Info

□□□□ (°C /°F)	28-32 / 82.4-89.6
□□ ErP Lot3/6□□	✓
□□ (EU) No 617/2013□□	✓

Performance Summary 115V

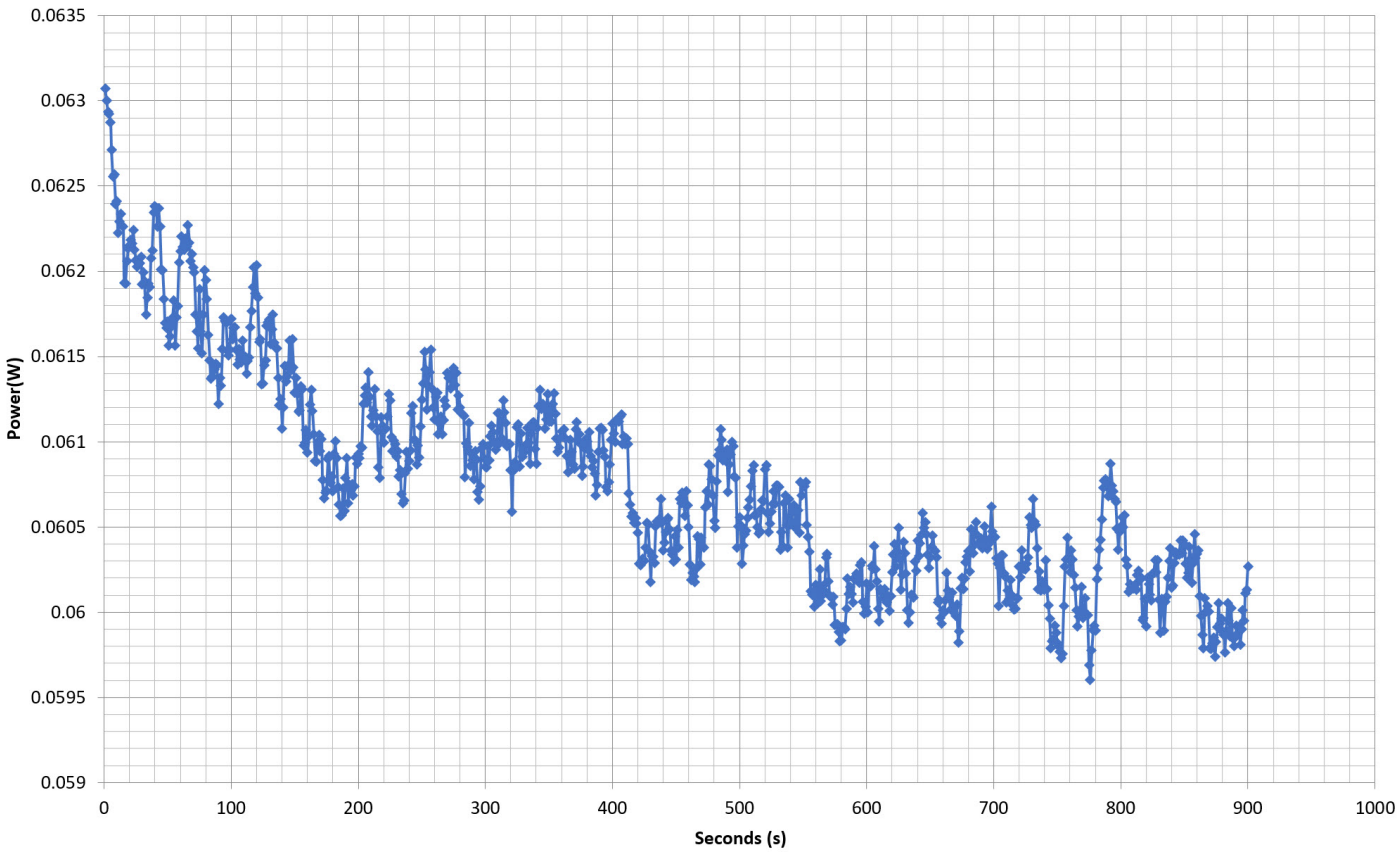
Accredited	
□□□□ (>1450 load combinations)	89.225%
Average Noise Output (>1450 Load Combinations)	14.75dBA
PF□□□ (>1450 Load Combinations)	0.986
Efficiency With 10W (≤500W) or 2% (>500W) Load	62.663%
□□□□□□	0.0603W
Non-Accredited	
12V Ripple (Full Load)	21.67mV
5V Ripple (Full Load)	6.39mV
3.3V Ripple (Full Load)	14.94mV
5VSB Ripple (Full Load)	11.02mV
12V Load Regulation	0.35%
5V Load Regulation	1.93%
3.3V Load Regulation	0.73%
5VSB Load Regulation	4.34%

Inrush Current	37.750A

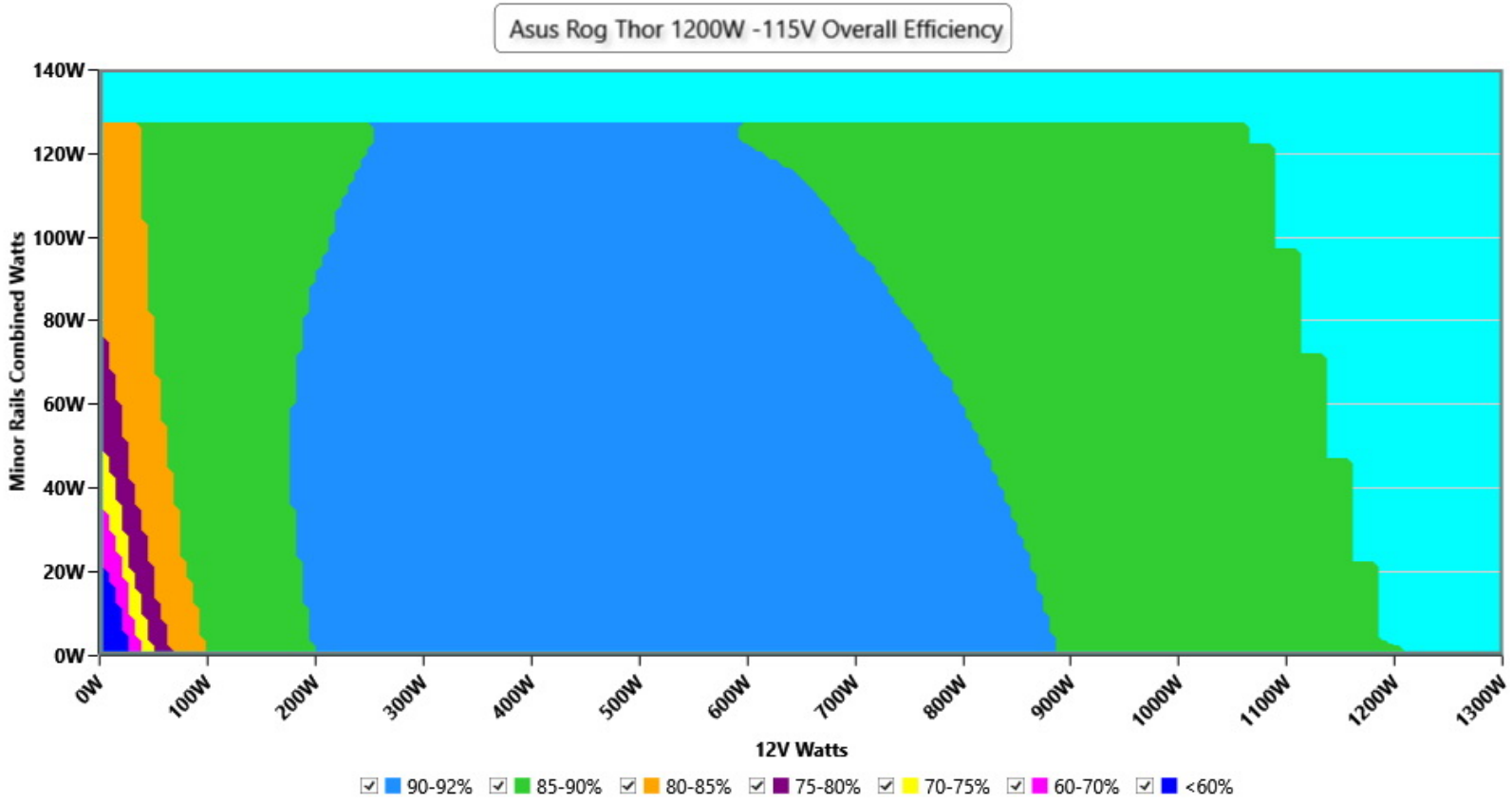
□□□□ & PG□□

Hold-Up Time (ms)	27.4
AC Loss to PWR_OK Hold Up Time (ms)	23.8
PWR_OK Inactive to DC Loss Delay (ms)	3.6

Graphs 115V


Power - 20/07/2021 - 09:05
Power(W)
0.0635
0.063
0.0625
0.062
0.0615
0.061
0.0605
0.06
0.0595
0.059
0
100
200
300
400
500
600
700
800
900
1000
Seconds (s)

115V

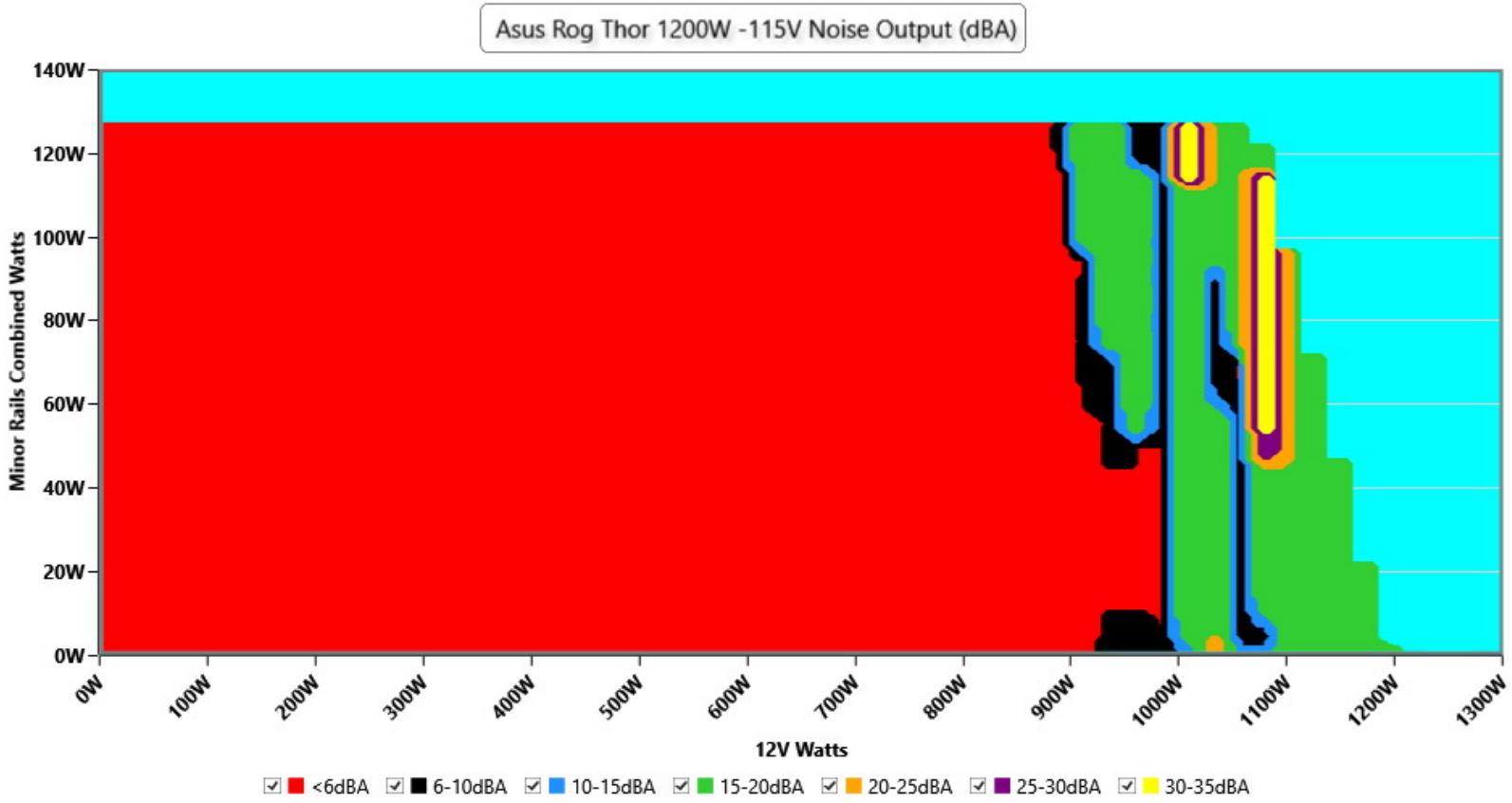


□□

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

□□□□□

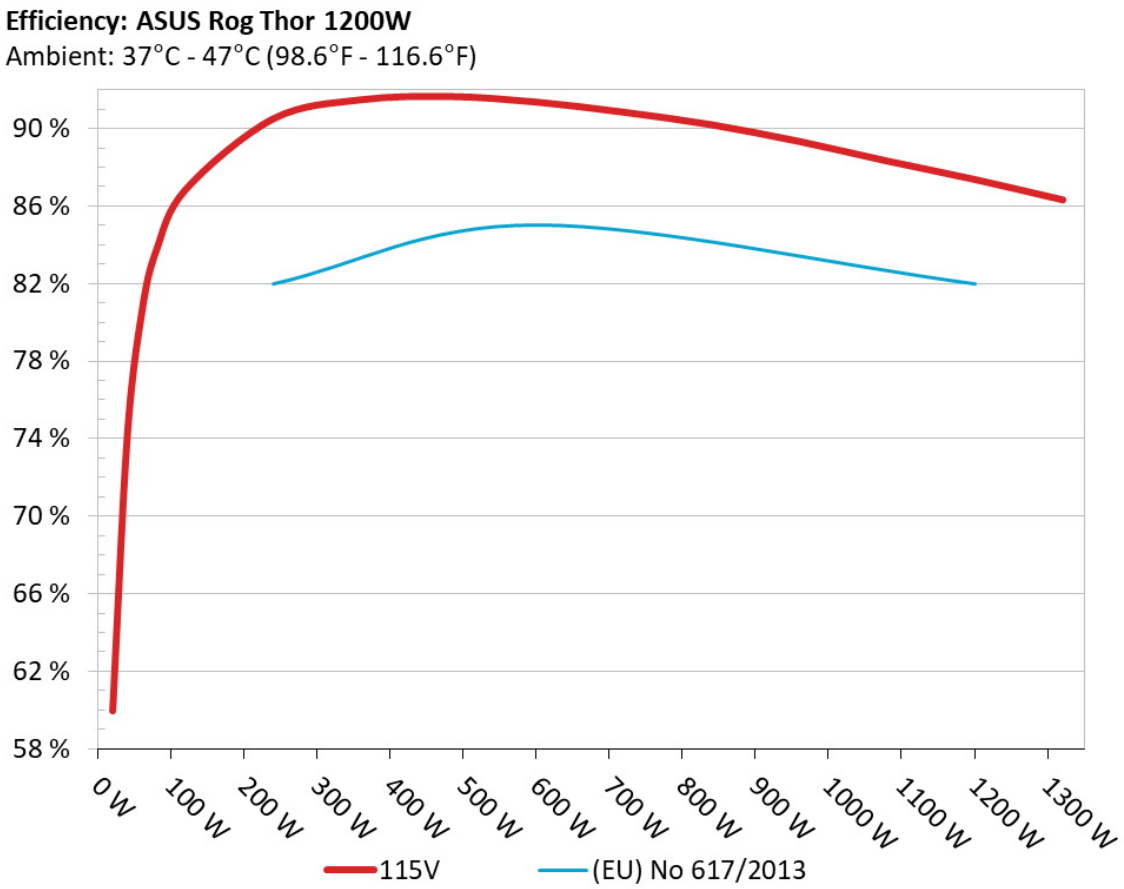
115V



□□

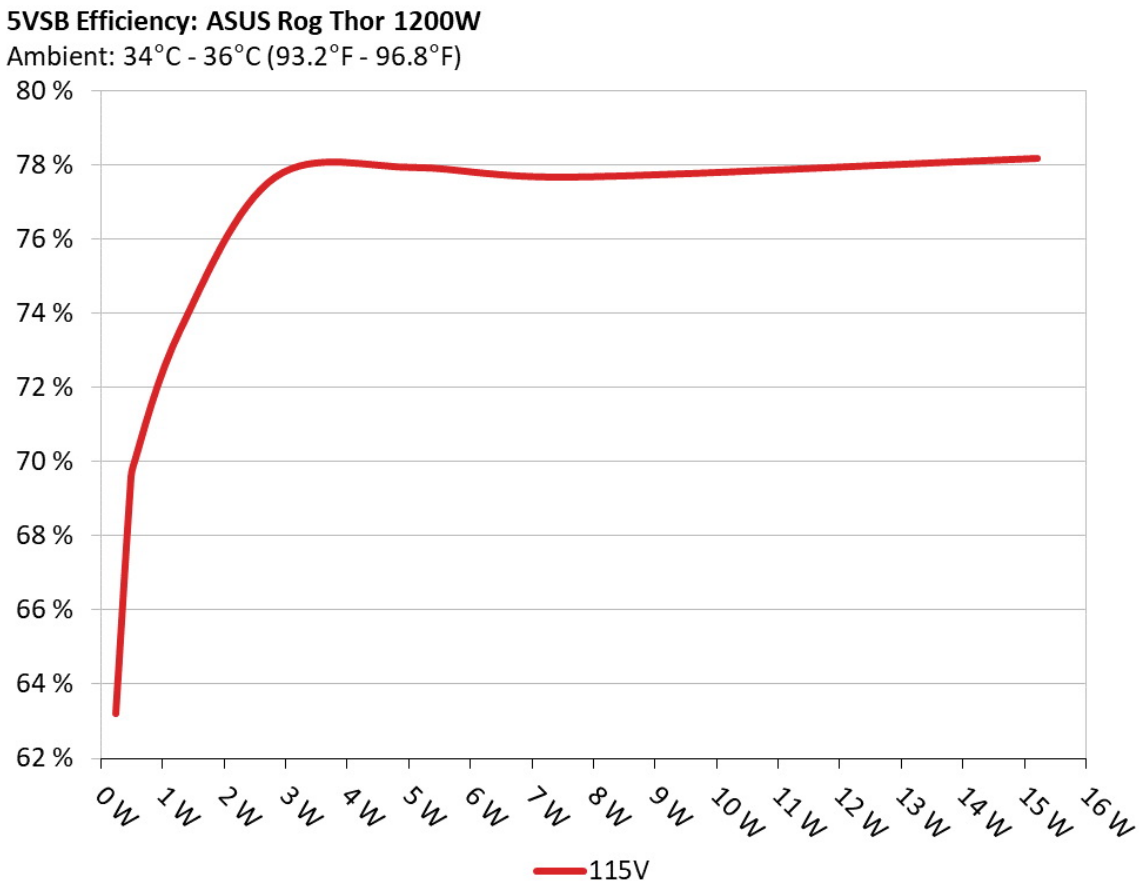
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance



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□□□□



□□

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

□□□□ □□ 5Vsb □□ (ErP Lot3/6 & CEC) 115V

5VSB	DC/AC (□)	□□	PF/AC □□	
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

Supplementary Tests (For Reference)

10-110%□□□□ 115V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
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
30%	26.880A	3.442A	3.488A	1.379A	359.454	91.474%	0	<6.0	46.26°C	0.978
	12.031V	5.085V	3.311V	5.077V	392.955				41.69°C	115.1V
40%	36.467A	3.94A	3.99A	1.582A	479.842	91.645%	0	<6.0	47.62°C	0.984
	12.028V	5.078V	3.309V	5.058V	523.588				42.45°C	115.11V
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
60%	54.920A	5.932A	5.992A	1.993A	720.131	90.831%	0	<6.0	49.78°C	0.991
	12.023V	5.058V	3.305V	5.019V	792.827				43.46°C	115.14V
70%	64.147A	6.936A	6.995A	2.201A	839.845	90.186%	316	<6.0	43.8°C	0.993
	12.015V	5.048V	3.303V	4.998V	931.24				50.87°C	115.16V
80%	73.419A	7.942A	7.999A	2.31A	959.883	89.325%	317	<6.0	44.14°C	0.994
	12.013V	5.038V	3.301V	4.98V	1074.602				52.13°C	115.18V

90%	83.081A	8.454A	8.491A	2.419A	1079.729	88.322%	755	18.7	44.23°C	0.994
	12.003V	5.028V	3.298V	4.962V	1222.492				52.78°C	115.14V
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
110%	101.921A	9.993A	10.12A	3.053A	1320.354	86.318%	1765	45.4	46.82°C	0.995
	11.990V	5.004V	3.29V	4.915V	1529.65				56.58°C	115.18V
CL1	0.116A	14.937A	14.854A	0A	126.305	83.709%	0	<6.0	49.25°C	0.975
	12.047V	5.041V	3.339V	5.111V	150.887				42.97°C	115.17V
CL2	0.116A	25.008A	0A	0A	126.397	80.898%	0	<6.0	50.36°C	0.979
	12.054V	4.999V	3.3V	5.125V	156.244				43.39°C	115.17V
CL3	0.116A	0A	24.394A	0A	83.897	78.221%	0	<6.0	52.39°C	0.969
	12.054V	5.117V	3.382V	5.111V	107.255				44.42°C	115.17V
CL4	100.015A	0A	0A	0A	1200.297	88.079%	757	18.8	45.58°C	0.994
	12.001V	5.071V	3.279V	5.022V	1362.747				55.03°C	115.15V

The results above are not used in the certification process

20-80□□□□□ 115V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
20W	1.236A	0.489A	0.497A	0.194A	20.006	59.976%	0	<6.0	38.16°C	0.849
	12.025V	5.115V	3.318V	5.145V	33.357				36.81°C	115.18V
40W	2.718A	0.685A	0.696A	0.292A	40.004	74.121%	0	<6.0	39.13°C	0.919
	12.026V	5.113V	3.318V	5.141V	53.971				37.12°C	115.16V
60W	4.201A	0.881A	0.896A	0.39A	60.002	80.547%	0	<6.0	41.05°C	0.959
	12.028V	5.11V	3.316V	5.136V	74.493				38.31°C	115.15V
80W	5.679A	1.077A	1.095A	0.487A	79.962	83.738%	0	<6.0	42.85°C	0.954
	12.032V	5.108V	3.315V	5.131V	95.491				39.84°C	115.16V

The results above are not used in the certification process

□□□ 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	13.16mV	4.86mV	4.76mV	7.29mV	Pass
20% Load	14.06mV	5.06mV	4.71mV	6.73mV	Pass
30% Load	7.95mV	5.06mV	5.17mV	7.04mV	Pass
40% Load	8.92mV	5.17mV	5.12mV	7.60mV	Pass
50% Load	10.20mV	6.24mV	5.99mV	7.50mV	Pass
60% Load	11.22mV	5.47mV	5.43mV	7.90mV	Pass
70% Load	11.73mV	5.11mV	5.48mV	8.01mV	Pass
80% Load	12.14mV	5.88mV	13.00mV	8.92mV	Pass
90% Load	13.14mV	5.98mV	13.00mV	9.02mV	Pass
100% Load	21.67mV	6.39mV	14.94mV	11.02mV	Pass
110% Load	23.84mV	8.40mV	15.94mV	15.64mV	Pass
Crossload1	14.85mV	6.73mV	15.29mV	11.42mV	Pass
Crossload2	11.07mV	6.19mV	5.42mV	10.40mV	Pass
Crossload3	12.75mV	5.73mV	19.09mV	11.06mV	Pass
Crossload4	20.45mV	5.27mV	7.34mV	14.36mV	Pass

The results above are not used in the certification process





ASUS ROG-THOR-1200P2-GAMING

Top side

Power specifications label

本测试报告中包含的所有数据和图表均可在以下条件下由任何人使用：使用过程需提及测试结果由 Cybenetics提供。
在任何情况下都应提供原始测试结果文档的网站链接

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