Seasonic Prime Noctua Edition TX-1600

Serial Number STR2-1600 A3B0810154

Lab ID SS16002521

Certification ID 252521

Test Result Report ID: 24PS2521A

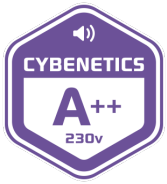
Certificate Issue Date: Jul 30, 2024

Scheme: ETA-EMI PSU



Scheme: LAMBDA PSU







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	Seasonic
Model	Prime Noctua Edition TX-1600
OEM/ODM	Seasonic
Serial Number	STR2-1600 A3B0810154
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	15-10

Rated Frequency (Hz)	50-60
Rated Power (W)	1600
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120mm Hydraulic Bearing Fan (NF-A12X25)
Semi-Passive Operation	✓ (selectable)
Cybenetics Testing Information	
Lab ID	SS16002521
Date of receipt	Jul 23, 2024
Testing Date	Jul 29, 2024
Report Issued Date	Jul 30, 2024
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 (610mm)	1	1	16-18AWG	No
4+4 pin EPS12V (700mm)	3	3	16AWG	No
6+2 pin PCIe (750mm)	6	6	16AWG	No
12+4 pin PCIe (750mm) (600W)	2	2	16-28AWG	No
SATA (510mm+155mm+155mm+155mm)	4	16	16AWG	No
SATA 3.3 (410mm+160mm)	1	2	18AWG	No
4-pin Molex (460mm+125mm+125mm)	1	3	18AWG	No

AC Power Cord (1390mm) - C19 coupler	1	1	16AWG	-

Protection Features

Over Power Protection	✓
Over Current (+12V) Protection	✓
Over Temperature Protection	✓
Short Circuit Protection	✓
Surge Protection	✓
Inrush Current Protection	✓
Fan Failure Protection	✓

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	133.33	3	0.5
	Watts	125		1600	15	6
Total Max. Power (W)		1600				

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
Inrush Protection	2x NTC Thermistor MF72-20D20M (20 Ohm) & Relay
Rectifier FETs	4x IPB60R040C7 600V ,1x LL25XB60 25A 600V
APFC MOSFETs	4x Infineon IPA60R099P6 (600V, 24A @ 100°C, Rds(on): 0.099Ohm)
APFC Boost Diode	2x Cree C6D10065A (650V, 10A @ 155°C)
Bulk Cap(s)	3x Nippon Chemi-Con (420V, 820uF each or 2460uF combined, 2,000h @ 105°C,KHE)
Main Switchers	4x Infineon IPA60R080P7 (600V, 23A @ 100°C, Rds(on): 0.08Ohm)
Drivers IC	2x Silicon Labs Si8233BD
APFC Controller	Texas Instruments UCD28070

Resonant Controller	Champion CM6901T2X
Topology	Primary side: Bridgeless, Interleaved PFC, Full-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETs	16x Nexperia PSMN1R0-40YLD (40V, 198A @ 100°C, Rds(on): 1.93mOhm)
5V & 3.3V	DC-DC Converters
Filtering Capacitors	Electrolytic: 5x Nippon Chemi-Con (105°C, W), 1x Nippon Chemi-Con (5-6,000h @ 105°C, KZH), 1x Nippon Chemi-Con (2-5,000h @ 105°C, KZE), 3x Rubycon (6-10,000h @ 105°C, ZLH), 1x Rubycon (3-6,000h @ 105°C, YXG) Polymer: 18x Nippon Chemi-Con, 20x Nichicon (FPCAP)
Supervisor IC	Weltrend WT7527RA (OCP, OVP, UVP, SCP, PG)
Fan Controller	Nuvoton M031
Fan Model	Noctua NF-A12X25 (120mm, 12V, 0.14A, Hydraulic Bearing Fan)
5VSB Circuit	
Rectifier	1x Infineon BSC100N06LS3 FET (60V, 36A @ 100°C, Rds(on): 10mOhm)
Standby PWM Controller	Power Integrations INN3164C

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)	92.224%
Average Noise Output (>1450 Load Combinations)	12.64dBA
Average PF (>1450 Load Combinations)	0.990
Efficiency With 10W (≤500W) or 2% (>500W) Load	71.725%
Standby Power Consumption	0.0347W
Non-Accredited	
12V Ripple (Full Load)	16.76mV
5V Ripple (Full Load)	7.94mV
3.3V Ripple (Full Load)	10.58mV
5VSB Ripple (Full Load)	33.04mV
12V Load Regulation	1.41%
5V Load Regulation	0.68%
3.3V Load Regulation	1.34%
5VSB Load Regulation	0.73%
Inrush Current	17.530A

230V

Accredited	
Average Efficiency (>1450 load combinations)	93.989%
Average Noise Output (>1450 Load Combinations)	13.03dBA
Average PF (>1450 Load Combinations)	0.948
Efficiency With 10W (≤500W) or 2% (>500W) Load	70.903%
Standby Power Consumption	0.0984W
Non-Accredited	
12V Ripple (Full Load)	17.11mV
5V Ripple (Full Load)	8.19mV
3.3V Ripple (Full Load)	10.90mV

5VSB Ripple (Full Load)		32.74mV
12V Load Regulation		1.42%
5V Load Regulation		0.68%
3.3V Load Regulation		1.31%
5VSB Load Regulation		0.65%
Inrush Current		34.590A
12V Transient Response (200%)		11.27V
5V Transient Response (200%)		4.949V
3.3V Transient Response (200%)		3.160V
5VSB Transient Response (200%)		4.892V
Hold-Up Time & PWR_OK Signal		24.10ms
AC Loss to PWR_OK Hold Up Time		20.70ms
PWR_OK Inactive to DC Loss Delay		3.40ms
PSU Timings: T1 (20% / 100%)	69.0ms	40.0ms
PSU Timings: T3 (20% / 100%)	129.0ms	128.0ms
12V OCP (29.7°C / 44.2°C)	177.20A (132.90%), 12.012V	176.20A (132.15%), 12.003V
5V OCP (29.7°C / 44.2°C)	34.6A (138.40%), 4.984V	34.5A (138.00%), 4.977V
3.3V OCP (29.7°C / 44.2°C)	36.7A (146.80%), 3.293V	36.8A (147.20%), 3.293V
5VSB OCP (29.7°C / 44.2°C)	5A (166.67%), 5.225V	4.6A (153.33%), 5.224V
OPP (31.07°C / 44.91°C)	134.17%	131.70%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	24.1
AC Loss to PWR_OK Hold Up Time (ms)	20.7
PWR_OK Inactive to DC Loss Delay (ms)	3.4

Tables

115V

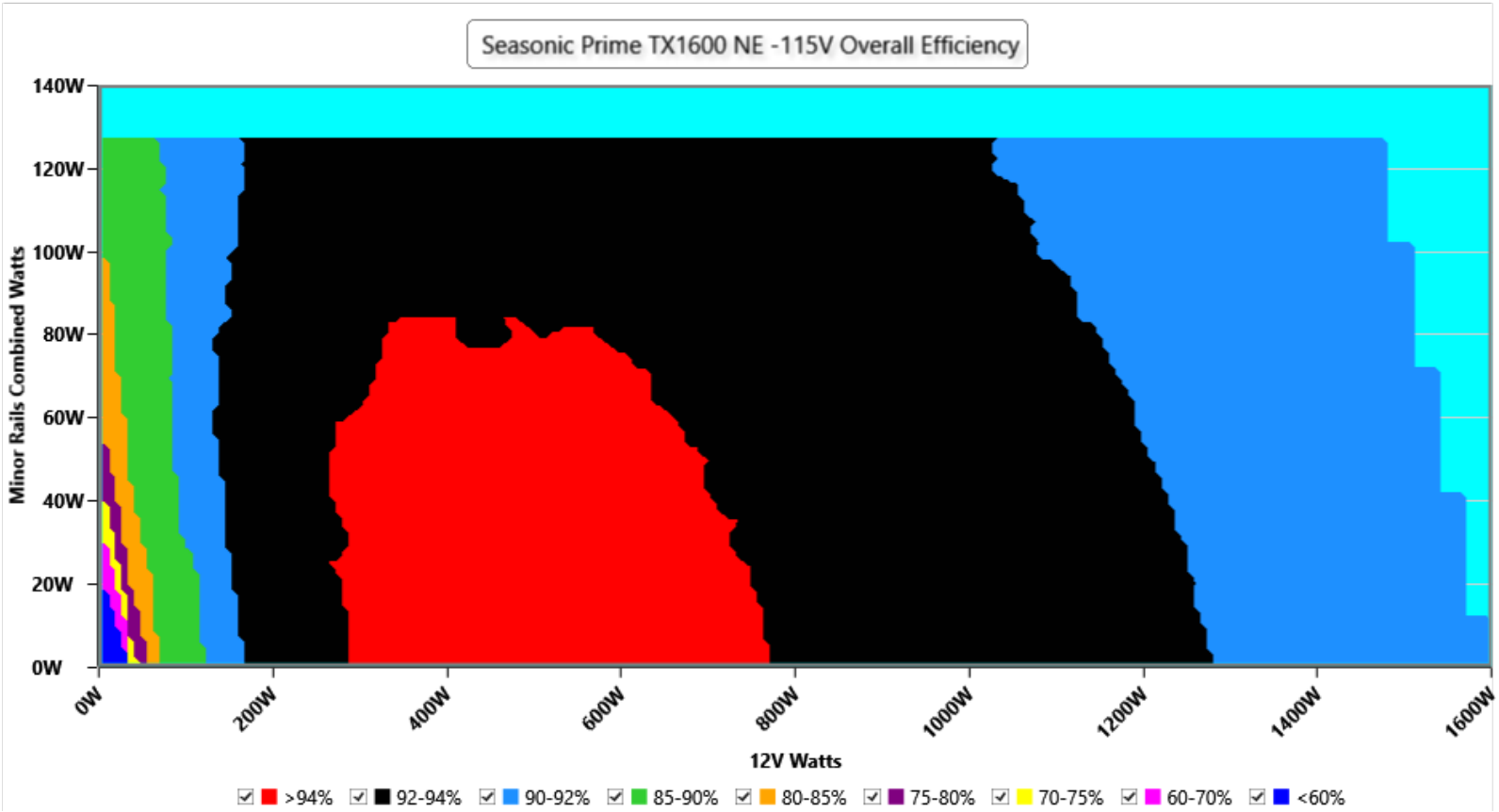
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.08 V	115.04 V	113.85 V	115.13 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.09 %	N/A	0.17 %	2.00 %	PASS
Real Power:	0.035 W	0.001 W	N/A	0.070 W	N/A	N/A
Apparent Power:	10.650 W	10.342 W	N/A	10.974 W	N/A	N/A
Power Factor:	0.003	N/A	N/A	N/A	N/A	N/A

230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	231.03 V	230.94 V	227.70 V	231.10 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	49.99 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.417	1.417	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.17 %	0.14 %	N/A	0.27 %	2.00 %	PASS
Real Power:	0.098 W	0.054 W	N/A	0.215 W	N/A	N/A
Apparent Power:	35.589 W	34.958 W	N/A	36.273 W	N/A	N/A
Power Factor:	0.003	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

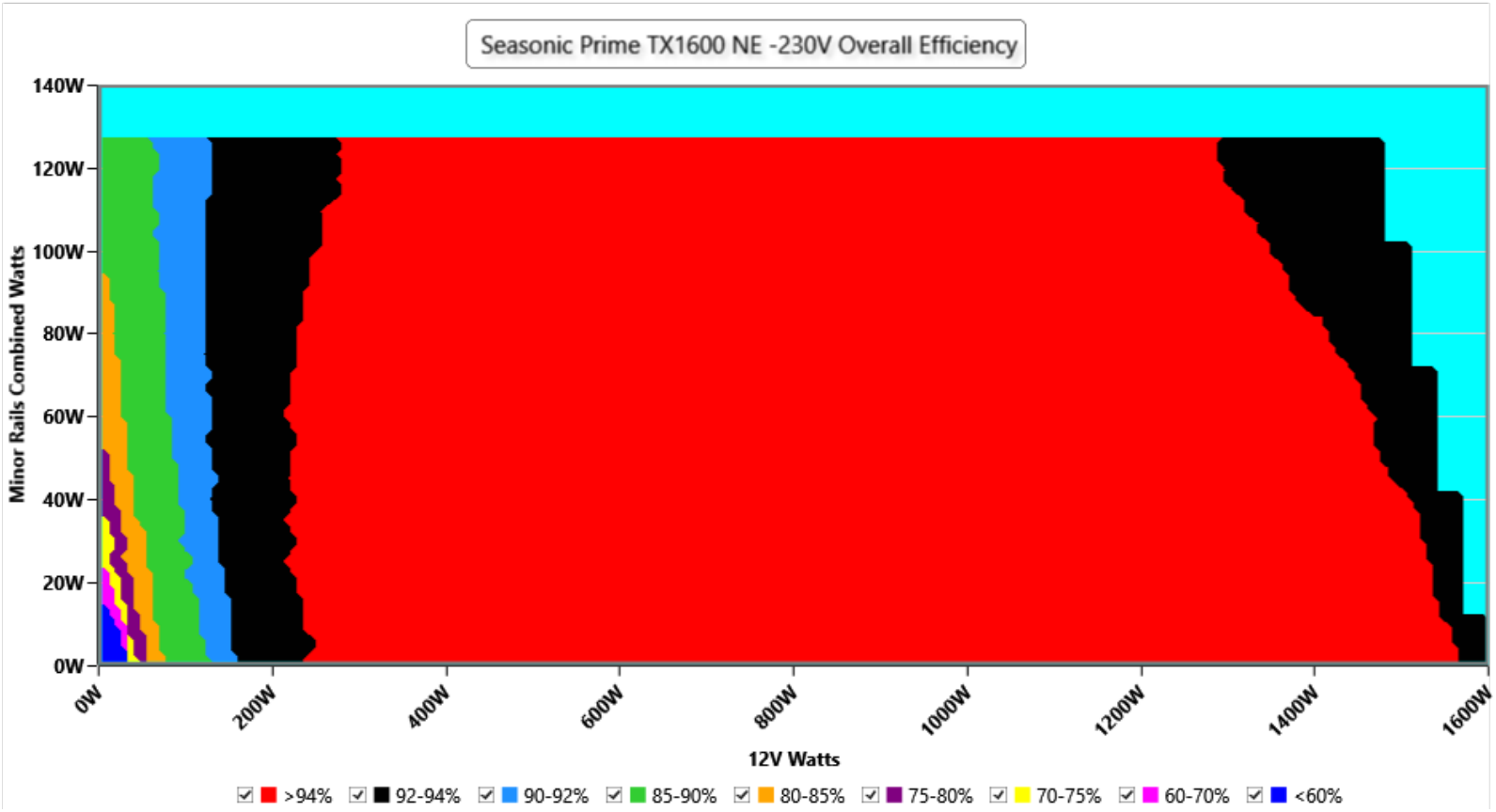
115V



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

230V

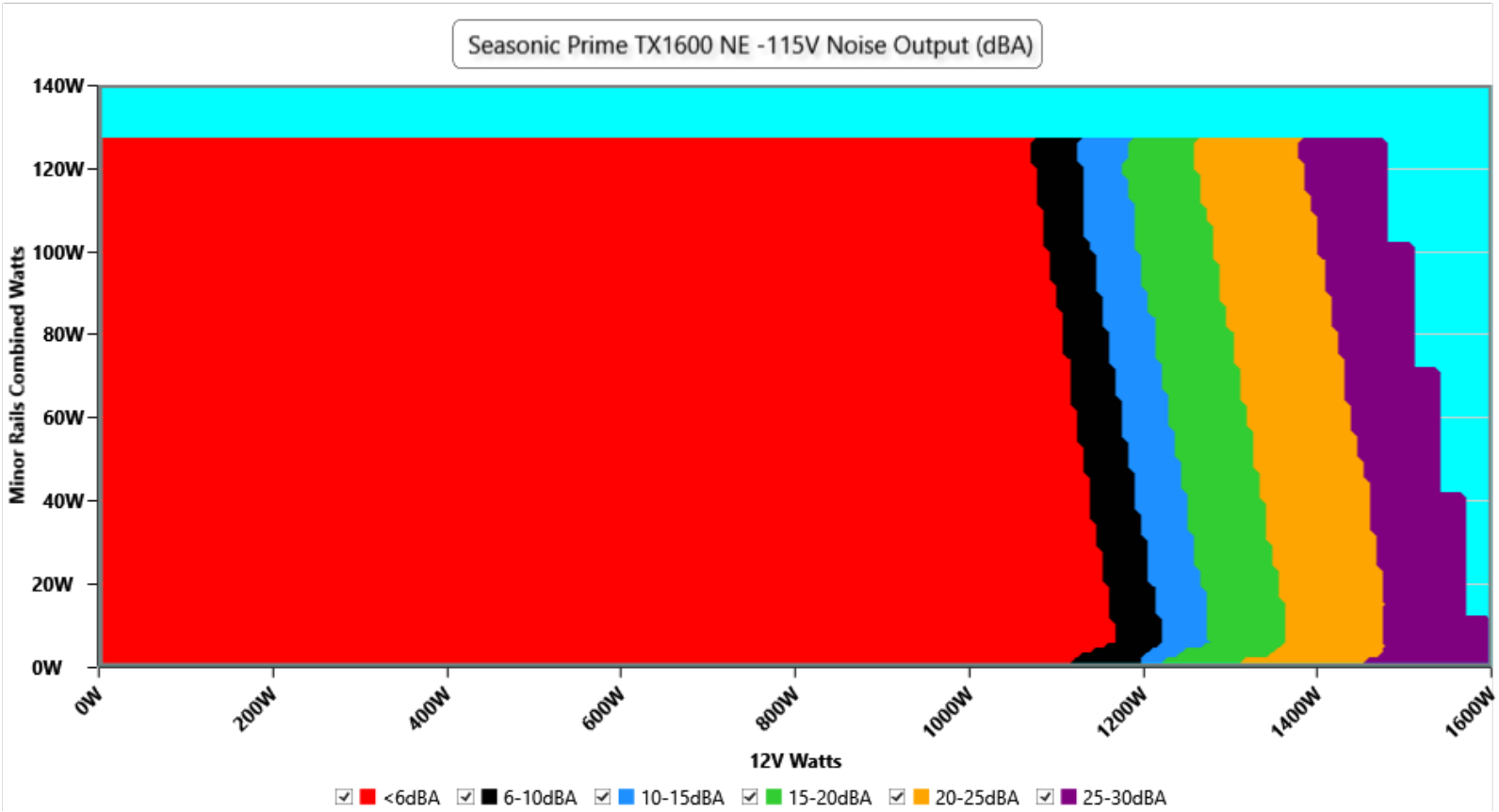


INFO

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

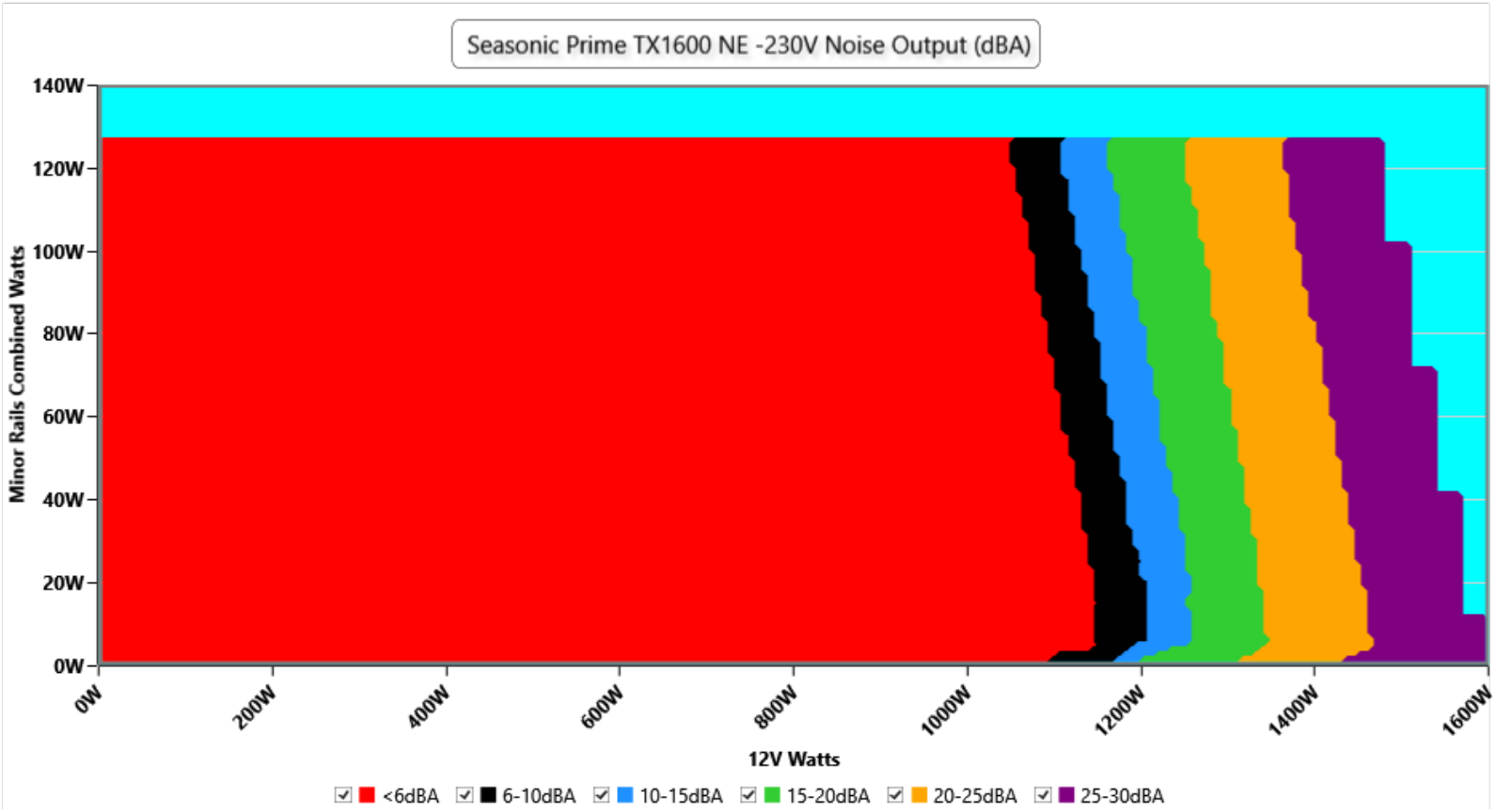
115V



INFO

The PSU`s noise in its entire operational range and under 30-32 °C 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

230V



INFO

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

Noise under high ambient temperature (indicative)

115V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 33.6 °C	0 RPM · <6.0 dB(A) · 50.7 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 34.0 °C	0 RPM · <6.0 dB(A) · 50.1 °C	fan off in both
50%	507 RPM · <6.0 dB(A) · 30.7 °C	523 RPM · <6.0 dB(A) · 42.3 °C	<6.0 in both
100%	1404 RPM · 26.5 dB(A) · 31.0 °C	1438 RPM · 27.1 dB(A) · 45.5 °C	**+0.6 dB(A)**

230V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 32.5 °C	0 RPM · <6.0 dB(A) · 46.9 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 30.5 °C	0 RPM · <6.0 dB(A) · 48.0 °C	fan off in both
50%	508 RPM · <6.0 dB(A) · 30.3 °C	523 RPM · <6.0 dB(A) · 42.3 °C	<6.0 in both
100%	1405 RPM · 26.5 dB(A) · 30.5 °C	1438 RPM · 27.1 dB(A) · 45.7 °C	**+0.6 dB(A)**

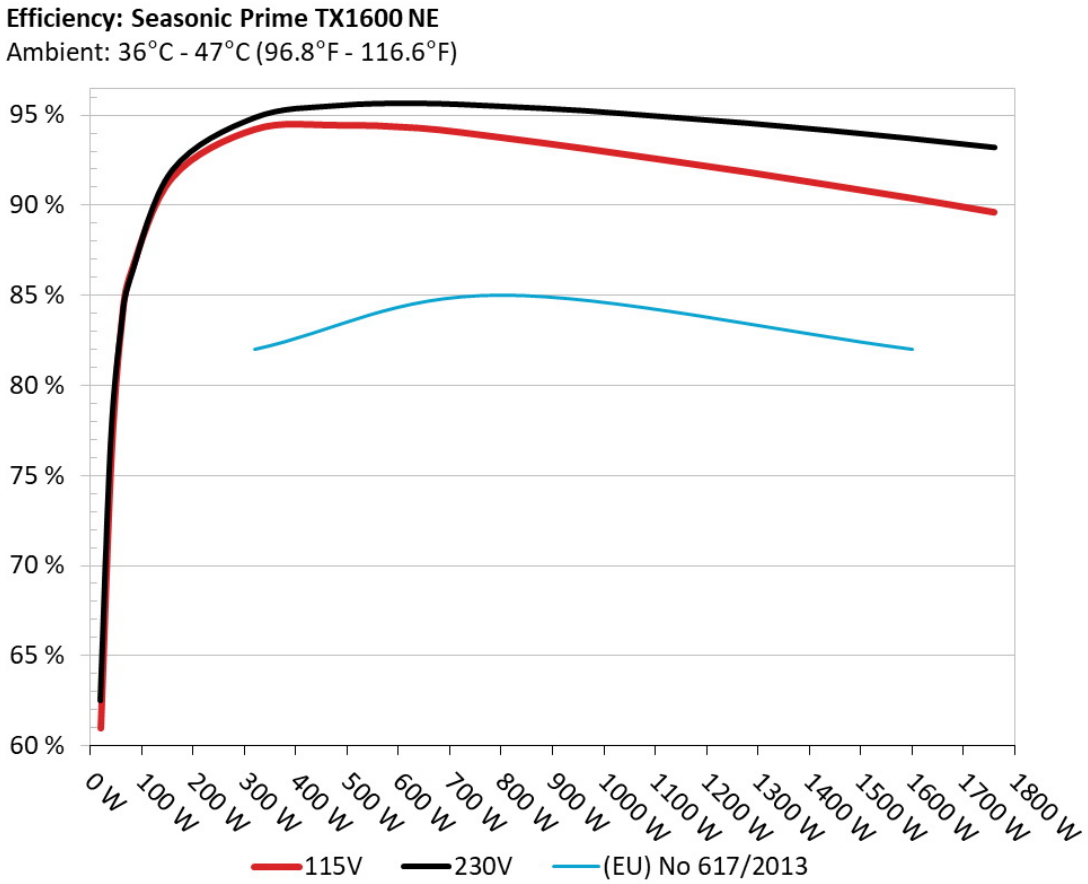
INFO

Fan speed, noise and the measured intake temperature at 10, 20, 50 and 100 % load, from the two load regulation tests: at normal ambient (about 30-32 °C) and at high ambient (about 40-47 °C). These are stabilized readings at fixed loads, not averages over the certification sweep, so they are indicative of how the fan behaves when it is hot. "<6.0" is the floor of our sound meter: the fan is stopped or too quiet to measure (the fan speed column says which); with the fan stopped, the intake sensor can read higher than the chamber air.

Informational. Not part of the ETA or LAMBDA rating.

Indicative Performance

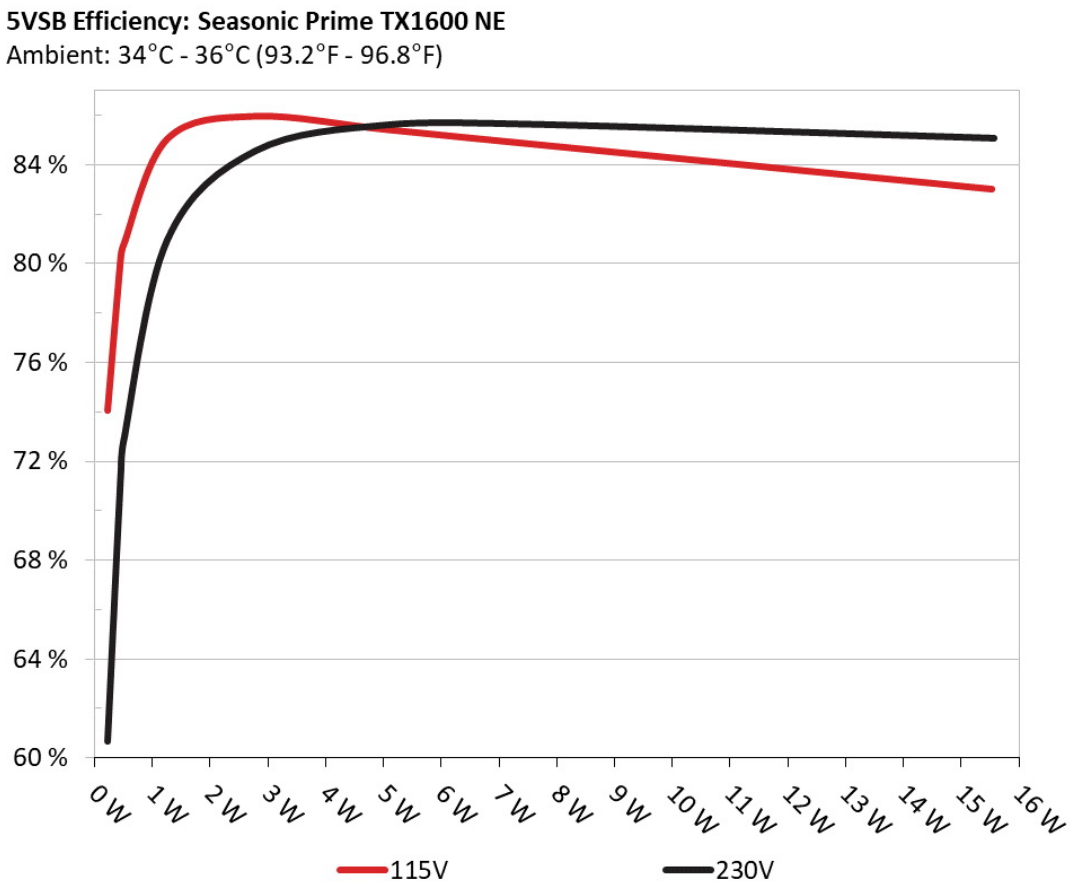
Efficiency under high ambient temperature



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



INFO

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

5VSB Efficiency (ERP LOT 3/6 & CEC)

115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.227W	74.071%	0.031
	5.043V	0.307W		115.17V
2	**0.09A**	0.454W	80.246%	0.056
	5.043V	0.566W		115.17V
3	**0.55A**	2.784W	85.982%	0.26
	5.06V	3.238W		115.17V
4	**1A**	5.088W	85.434%	0.372
	5.087V	5.956W		115.17V
5	**1.5A**	7.68W	84.83%	0.438
	5.118V	9.053W		115.17V
6	**3A**	15.54W	83.032%	0.527
	5.18V	18.716W		115.16V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.227W	60.677%	0.011
	5.047V	0.374W		230.4V
2	**0.09A**	0.454W	71.504%	0.019
	5.044V	0.635W		230.4V
3	**0.55A**	2.784W	84.576%	0.095
	5.06V	3.292W		230.4V
4	**1A**	5.09W	85.635%	0.162
	5.088V	5.944W		230.4V
5	**1.5A**	7.678W	85.648%	0.225
	5.117V	8.965W		230.4V
6	**3.001A**	15.569W	85.088%	0.347
	5.189V	18.298W		230.4V

Protection Features

OCP (Normal @ 29.7°C)	12V: 177.20A (132.90%), 12.012V 5V: 34.6A (138.40%), 4.984V 3.3V: 36.7A (146.80%), 3.293V 5VSB: 5A (166.67%), 5.225V
OCP (Hot) @ 44.2°C)	12V: 176.20A (132.15%), 12.003V 5V: 34.5A (138.00%), 4.977V 3.3V: 36.8A (147.20%), 3.293V 5VSB: 4.6A (153.33%), 5.224V
OPP (Normal @ 31.1°C)	2146.67W (134.17%)
OPP (Hot @ 44.9°C)	2107.23W (131.70%)
OTP	✓ (115°C @ Heat Sink)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB to Earth: ✓ -12V to Earth: ✓
PWR_OK	Proper Operation
NLO	✓
Fan Failure Protection	✓
SIP	Surge: MOV Inrush: NTC & Bypass Relay

Supplementary Tests (For Reference)

Typical Load Tests

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%	**11.516A**	**1.977A**	**1.985A**	**0.983A**	160.025	91.575%	0	<6.0	50.67°C	0.979
	12.020V	5.059V	3.324V	5.089V	174.753				40.02°C	115.12V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20%	**24.055A**	**2.968A**	**2.982A**	**1.18A**	320.001	94.218%	0	<6.0	50.11°C	0.986
	12.018V	5.056V	3.32V	5.088V	339.63				40.93°C	115.08V
30%	**36.894A**	**3.464A**	**3.483A**	**1.375A**	479.382	94.449%	0	<6.0	49.5°C	0.987
	12.016V	5.053V	3.316V	5.092V	507.56				41.08°C	115.04V
40%	**49.822A**	**3.961A**	**3.985A**	**1.574A**	639.801	94.293%	0	<6.0	49.69°C	0.99
	12.015V	5.051V	3.313V	5.085V	678.521				41.97°C	115V
50%	**62.356A**	**4.954A**	**4.988A**	**1.77A**	799.562	93.766%	523	<6.0	42.32°C	0.993
	12.012V	5.048V	3.309V	5.087V	852.729				49.97°C	114.97V
60%	**74.959A**	**5.948A**	**5.993A**	**1.967A**	960.071	93.16%	523	<6.0	42.79°C	0.995
	12.010V	5.045V	3.305V	5.085V	1030.583				51.84°C	114.95V
70%	**87.501A**	**6.944A**	**7.001A**	**2.165A**	1119.885	92.511%	619	<6.0	43.27°C	0.995
	12.009V	5.042V	3.3V	5.082V	1210.547				53.92°C	114.91V
80%	**100.124A**	**7.939A**	**8.01A**	**2.266A**	1280.011	91.846%	939	13.5	43.6°C	0.996
	12.006V	5.039V	3.296V	5.076V	1393.647				55.31°C	114.88V
90%	**113.077A**	**8.44A**	**8.506A**	**2.367A**	1439.87	91.128%	1217	22.3	44.45°C	0.996
	12.004V	5.037V	3.292V	5.071V	1580.048				56.45°C	114.85V
100%	**125.836A**	**8.942A**	**9.034A**	**2.952A**	1599.932	90.401%	1438	27.1	45.45°C	0.996
	12.001V	5.034V	3.288V	5.082V	1769.817				57.91°C	114.8V
110%	**138.519A**	**9.94A**	**10.142A**	**2.958A**	1760.546	89.621%	2178	38.3	46.7°C	0.997
	12.000V	5.031V	3.283V	5.073V	1964.449				58.41°C	114.76V
CL1	**0.118A**	**14.931A**	**14.96A**	**0A**	126.328	86.393%	520	<6.0	40.59°C	0.975
	12.003V	5.044V	3.315V	5.035V	146.213				55.86°C	115.15V
CL2	**0.117A**	**24.819A**	**0A**	**0A**	126.408	84.877%	514	<6.0	40.15°C	0.975
	12.008V	5.037V	3.33V	5.04V	148.937				55.58°C	115.14V
CL3	**0.117A**	**0A**	**24.931A**	**0A**	83.897	78.643%	517	<6.0	40.1°C	0.967
	11.996V	5.057V	3.309V	5.037V	106.685				53.8°C	115.15V
CL4	**133.287A**	**0A**	**0A**	**0A**	1600.16	90.844%	1436	27.1	45.76°C	0.996
	12.005V	5.048V	3.299V	4.975V	1761.452				55.68°C	114.79V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	**11.518A**	**1.977A**	**1.986A**	**0.983A**	160.031	91.94%	0	<6.0	46.85°C	0.89
	12.019V	5.059V	3.324V	5.088V	174.058				40.12°C	230.37V
20%	**24.059A**	**2.968A**	**2.982A**	**1.18A**	320.011	94.846%	0	<6.0	48.04°C	0.941
	12.016V	5.056V	3.32V	5.085V	337.398				40.65°C	230.36V
30%	**36.901A**	**3.464A**	**3.483A**	**1.375A**	479.423	95.516%	0	<6.0	48.19°C	0.956
	12.015V	5.053V	3.316V	5.091V	501.928				41.1°C	230.33V
40%	**49.829A**	**3.961A**	**3.985A**	**1.574A**	639.834	95.646%	0	<6.0	49.65°C	0.963
	12.014V	5.051V	3.312V	5.084V	668.956				41.86°C	230.31V
50%	**62.370A**	**4.954A**	**4.988A**	**1.77A**	799.633	95.48%	523	<6.0	42.25°C	0.969
	12.011V	5.048V	3.308V	5.087V	837.494				46.63°C	230.3V
60%	**74.979A**	**5.949A**	**5.994A**	**1.967A**	960.175	95.241%	523	<6.0	42.89°C	0.974
	12.009V	5.045V	3.304V	5.085V	1008.168				47.6°C	230.29V
70%	**87.518A**	**6.944A**	**7.002A**	**2.165A**	1119.921	94.897%	665	<6.0	43.1°C	0.97
	12.007V	5.043V	3.3V	5.082V	1180.144				48.54°C	230.28V
80%	**100.129A**	**7.938A**	**8.01A**	**2.266A**	1279.968	94.546%	960	14.4	43.88°C	0.975
	12.005V	5.04V	3.296V	5.077V	1353.797				49.46°C	230.26V
90%	**113.071A**	**8.438A**	**8.506A**	**2.366A**	1439.764	94.139%	1246	22.8	44.6°C	0.979
	12.003V	5.038V	3.292V	5.073V	1529.411				50.43°C	230.24V
100%	**125.824A**	**8.939A**	**9.033A**	**2.95A**	1599.805	93.69%	1438	27.1	45.68°C	0.982
	12.002V	5.035V	3.288V	5.086V	1707.545				51.79°C	230.22V
110%	**138.516A**	**9.938A**	**10.141A**	**2.956A**	1760.468	93.2%	2096	37.3	46.59°C	0.984
	11.999V	5.032V	3.283V	5.076V	1888.905				52.9°C	230.2V
CL1	**0.118A**	**14.929A**	**14.96A**	**0A**	126.324	86.347%	519	<6.0	40.92°C	0.858
	12.001V	5.044V	3.316V	5.035V	146.293				50.5°C	230.39V
CL2	**0.117A**	**24.817A**	**0A**	**0A**	126.409	84.83%	512	<6.0	40.53°C	0.861
	12.006V	5.037V	3.33V	5.04V	149.009				49.59°C	230.39V
CL3	**0.117A**	**0A**	**24.93A**	**0A**	83.899	78.758%	518	<6.0	40.6°C	0.812
	11.996V	5.058V	3.309V	5.037V	106.53				48.84°C	230.4V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL4	**133.299A**	**0A**	**0A**	**0A**	1600.205	94.007%	1437	27.1	45.33°C	0.982
	12.005V	5.049V	3.299V	4.975V	1702.214				50.79°C	230.22V

The results above are not used in the certification process

Light Load Tests

115V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	**1.220A**	**0.493A**	**0.495A**	**0.198A**	20.005	60.995%	0	<6.0	41.88°C	0.867
	12.171V	5.068V	3.332V	5.055V	32.796				36.55°C	115.17V
40W	**2.716A**	**0.691A**	**0.694A**	**0.297A**	40.003	75.725%	0	<6.0	41.8°C	0.931
	12.038V	5.065V	3.33V	5.057V	52.828				37.27°C	115.16V
60W	**4.206A**	**0.889A**	**0.893A**	**0.395A**	60.002	83.34%	0	<6.0	44.28°C	0.948
	12.012V	5.063V	3.328V	5.062V	71.996				38.58°C	115.15V
80W	**5.688A**	**1.087A**	**1.091A**	**0.494A**	79.964	86.364%	0	<6.0	46.48°C	0.963
	12.011V	5.061V	3.327V	5.067V	92.587				39.12°C	115.14V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	**1.220A**	**0.493A**	**0.495A**	**0.198A**	20.008	62.517%	0	<6.0	40.41°C	0.525
	12.172V	5.069V	3.331V	5.058V	32.071				36.62°C	230.4V
40W	**2.716A**	**0.691A**	**0.694A**	**0.297A**	40.005	76.824%	0	<6.0	40.61°C	0.649
	12.039V	5.065V	3.329V	5.058V	52.071				37.24°C	230.4V
60W	**4.208A**	**0.889A**	**0.893A**	**0.395A**	60.003	83.134%	0	<6.0	43.08°C	0.751
	12.010V	5.063V	3.327V	5.063V	72.181				38.08°C	230.39V
80W	**5.690A**	**1.087A**	**1.091A**	**0.494A**	79.969	86.086%	0	<6.0	45.08°C	0.798
	12.010V	5.061V	3.327V	5.067V	92.902				39.31°C	230.39V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	11.4 mV	6.2 mV	4.5 mV	27.0 mV	Pass
20% Load	9.0 mV	6.3 mV	4.4 mV	28.9 mV	Pass
30% Load	8.7 mV	5.7 mV	4.3 mV	27.2 mV	Pass
40% Load	9.3 mV	6.2 mV	4.2 mV	19.9 mV	Pass
50% Load	9.7 mV	6.1 mV	4.8 mV	17.4 mV	Pass
60% Load	9.2 mV	6.9 mV	5.1 mV	19.6 mV	Pass
70% Load	9.4 mV	7.6 mV	5.8 mV	20.3 mV	Pass
80% Load	9.6 mV	7.6 mV	9.7 mV	23.2 mV	Pass
90% Load	10.4 mV	7.5 mV	10.5 mV	23.1 mV	Pass
100% Load	16.8 mV	7.9 mV	10.6 mV	33.0 mV	Pass
110% Load	15.9 mV	7.5 mV	11.0 mV	27.2 mV	Pass
Crossload 1	17.7 mV	6.8 mV	11.6 mV	7.6 mV	Pass
Crossload 2	12.8 mV	7.9 mV	6.5 mV	6.7 mV	Pass
Crossload 3	7.2 mV	8.1 mV	15.3 mV	7.0 mV	Pass
Crossload 4	16.4 mV	7.7 mV	5.7 mV	9.6 mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	15.1 mV	6.7 mV	4.6 mV	27.9 mV	Pass
20% Load	11.1 mV	6.3 mV	4.3 mV	27.4 mV	Pass
30% Load	9.6 mV	6.1 mV	4.3 mV	27.3 mV	Pass
40% Load	9.9 mV	6.1 mV	4.2 mV	18.7 mV	Pass
50% Load	9.8 mV	6.2 mV	4.4 mV	24.2 mV	Pass
60% Load	9.6 mV	7.5 mV	5.2 mV	20.2 mV	Pass

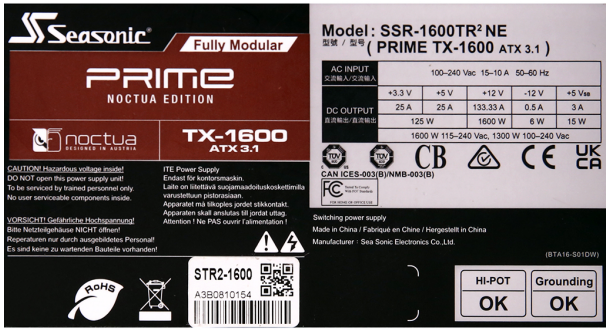
Test	12V	5V	3.3V	5VSB	Pass/Fail
70% Load	10.3 mV	7.5 mV	5.9 mV	20.7 mV	Pass
80% Load	9.7 mV	7.7 mV	10.1 mV	24.9 mV	Pass
90% Load	10.4 mV	8.1 mV	10.5 mV	24.8 mV	Pass
100% Load	17.1 mV	8.2 mV	10.9 mV	32.7 mV	Pass
110% Load	18.1 mV	8.2 mV	11.1 mV	26.0 mV	Pass
Crossload 1	20.8 mV	6.8 mV	11.2 mV	7.6 mV	Pass
Crossload 2	17.1 mV	8.6 mV	6.4 mV	6.9 mV	Pass
Crossload 3	9.7 mV	9.0 mV	15.4 mV	7.4 mV	Pass
Crossload 4	16.8 mV	7.5 mV	5.9 mV	9.9 mV	Pass

The results above are not used in the certification process

Seasonic Prime Noctua Edition TX-1600



Top side



Power specifications label