Corsair RM650e (ATX v3.1)

Serial Number A9UNF442000242

Lab ID CR65002628

Certification ID 252628

Test Result Report ID: 24PS2628A

Certificate Issue Date: Nov 4, 2024

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	RM650e (ATX v3.1)
OEM/ODM	HEC
Serial Number	A9UNF442000242
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	5-10

Rated Frequency (Hz)	47-63
Rated Power (W)	650
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120mm Rifle Bearing Fan (HA1225H12SF-Z)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	CR65002628
Date of receipt	Oct 22, 2024
Testing Date	Nov 2, 2024
Report Issued Date	Nov 4, 2024
DUT Notes	This unit ships with 18AWG 12+4pin PCIe cable.
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 24 pin (610mm)	1	1	18-20AWG	No
4+4 pin EPS12V (740mm+100mm)	1	2	16-18AWG	No
2x 6+2 pin PCIe (650mm)	1	2	16-18AWG	No
6+2 pin PCIe (640mm)	1	1	18AWG	No
12+2 pin PCIe (640mm) (300W)	1	1	18-24AWG	No
SATA (450mm+100mm) / 4-pin Molex (+100mm+100mm)	1	2 / 2	18AWG	No

SATA (450mm+100mm+100mm+100mm)	1	4	18AWG	No
AC Power Cord (1415mm)	1	1	18AWG	-

Protection Features(Manufacturer)

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	20	20	54.2	3	0
	Watts	110		650	15	0
Total Max. Power (W)		650				

Parts Description

General Data	-
Manufacturer (OEM)	HEC
PCB Type	Single-Sided
Primary Side	-
Transient Filter	4x Y caps, 3x X caps, 2x CM chokes, 1x MOV, 1x Power IntegrationsCAP200DG (Discharge IC)
Inrush Protection	NTC Thermistor SCK-037 (3 Ohm) & Relay
Bridge Rectifier(s)	2x GBU8K (800V, 10A @ 100°C)
APFC MOSFETs	2x Infineon IPAW60R180P7 (650V, 11A @ 100°C, Rds(on): 0.180Ohm)
APFC Boost Diode	1x Hestia H2S060H006 (650V, 6A @ 152°C)

Bulk Cap(s)	1x Teapo (400V, 390uF, 2,000h @ 105°C, LG)
Main Switchers	2x Infineon IPAW60R180P7 (650V, 11A @ 100°C, Rds(on): 0.180Ohm)
APFC Controller	Champion CM6500UNX & CM03AX
Resonant Controller	Champion CM6901T6X
Topology	Primary side: APFC, Half-Bridge & LLC Resonant converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	-
+12V MOSFETs	no info
5V & 3.3V	DC-DC Converters: 2x Potens Semiconductor PDC39F2BX (30V, 76A @ 100°C, Rds(on): 2.95mOhm) PWM Controller(s): 1x ANPECAPW7159C
Filtering Capacitors	Electrolytic: 6x Teapo (1-3,000h @ 105°C, SC), 2x Nippon Chemi-con (2-5,000h @ 105°C, KZE) 1x Rubycon (4-10,000h @ 105°C, YXF) Polymer: 10x Teapo, 12x
Supervisor IC	Weltrend WT7527RT (OCP, OVP, UVP, SCP, PG)
Fan Controller	Nuvoton M031FB0AE
Fan Model	Hong Hua HA1225H12F-Z (120mm, 12V, 0.58A, Rifle Bearing Fan)
5VSB Circuit	-
Rectifier	1x PS1060L SBR (60V, 10A)
Standby PWM Controller	Excelliance MOS EM8569D

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)	89.070%
Average Noise Output (>1450 Load Combinations)	12.58dBA
Average PF (>1450 Load Combinations)	0.989
Efficiency With 10W (≤500W) or 2% (>500W) Load	62.614%
Standby Power Consumption	0.0515W
Non-Accredited	
12V Ripple (Full Load)	38.30mV
5V Ripple (Full Load)	15.25mV
3.3V Ripple (Full Load)	17.46mV
5VSB Ripple (Full Load)	19.58mV
12V Load Regulation	0.69%
5V Load Regulation	0.54%
3.3V Load Regulation	0.86%
5VSB Load Regulation	2.19%
Inrush Current	55.820A

230V

Accredited	
Average Efficiency (>1450 load combinations)	91.226%
Average Noise Output (>1450 Load Combinations)	12.63dBA
Average PF (>1450 Load Combinations)	0.962
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.1035W
Non-Accredited	
12V Ripple (Full Load)	37.25mV
5V Ripple (Full Load)	15.74mV
3.3V Ripple (Full Load)	18.17mV

5VSB Ripple (Full Load)		18.82mV
12V Load Regulation		0.66%
5V Load Regulation		0.54%
3.3V Load Regulation		0.80%
5VSB Load Regulation		2.15%
Inrush Current		103.250A
12V Transient Response (200%)		11.55V
5V Transient Response (200%)		4.891V
3.3V Transient Response (200%)		3.174V
5VSB Transient Response (200%)		4.869V
Hold-Up Time & PWR_OK Signal		19.40ms
AC Loss to PWR_OK Hold Up Time		16.80ms
PWR_OK Inactive to DC Loss Delay		2.60ms
PSU Timings: T1 (20% / 100%)	49.0ms	50.0ms
PSU Timings: T3 (20% / 100%)	126.0ms	121.0ms
12V OCP (27.8°C / 44.0°C)	67.60A (124.72%), 12.034V	67.40A (124.35%), 12.046V
5V OCP (27.8°C / 44.0°C)	29.9A (149.50%), 4.974V	28.7A (143.50%), 4.976V
3.3V OCP (27.8°C / 44.0°C)	27.7A (138.50%), 3.262V	26.2A (131.00%), 3.268V
5VSB OCP (27.8°C / 44.0°C)	4A (133.33%), 4.888V	4A (133.33%), 4.89V
OPP (28.46°C / 41.48°C)	122.26%	122.26%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	19.4
AC Loss to PWR_OK Hold Up Time (ms)	16.8
PWR_OK Inactive to DC Loss Delay (ms)	2.6

Vampire Power

Tables

115V

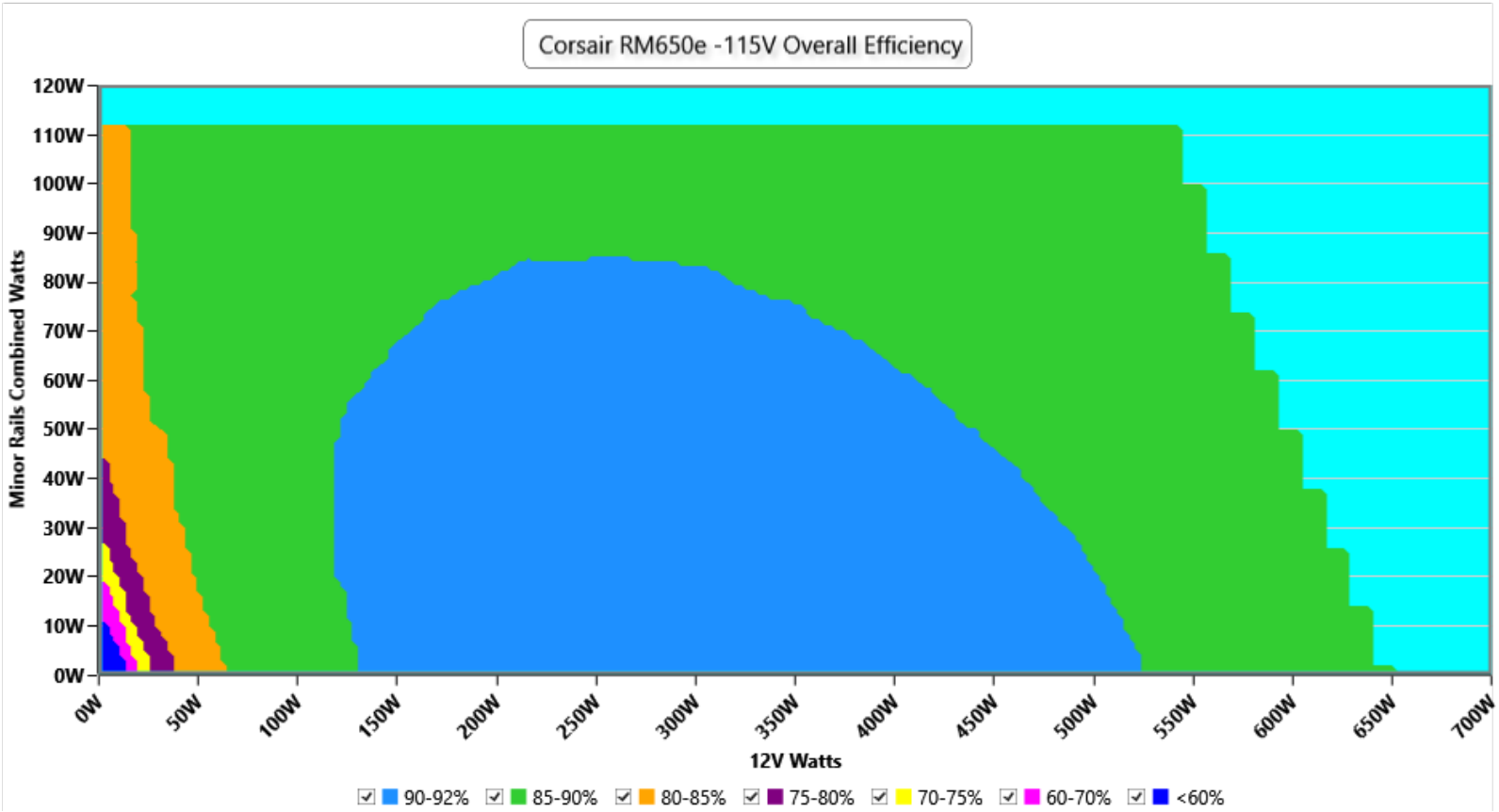
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.07 V	115.03 V	113.85 V	115.11 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.09 %	N/A	0.17 %	2.00 %	PASS
Real Power:	0.051 W	-0.007 W	N/A	0.088 W	N/A	N/A
Apparent Power:	8.373 W	8.322 W	N/A	8.421 W	N/A	N/A
Power Factor:	0.005	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	1.416	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.17 %	0.15 %	N/A	0.25 %	2.00 %	PASS
Real Power:	0.104 W	0.059 W	N/A	0.172 W	N/A	N/A
Apparent Power:	28.766 W	28.586 W	N/A	28.981 W	N/A	N/A
Power Factor:	0.003	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

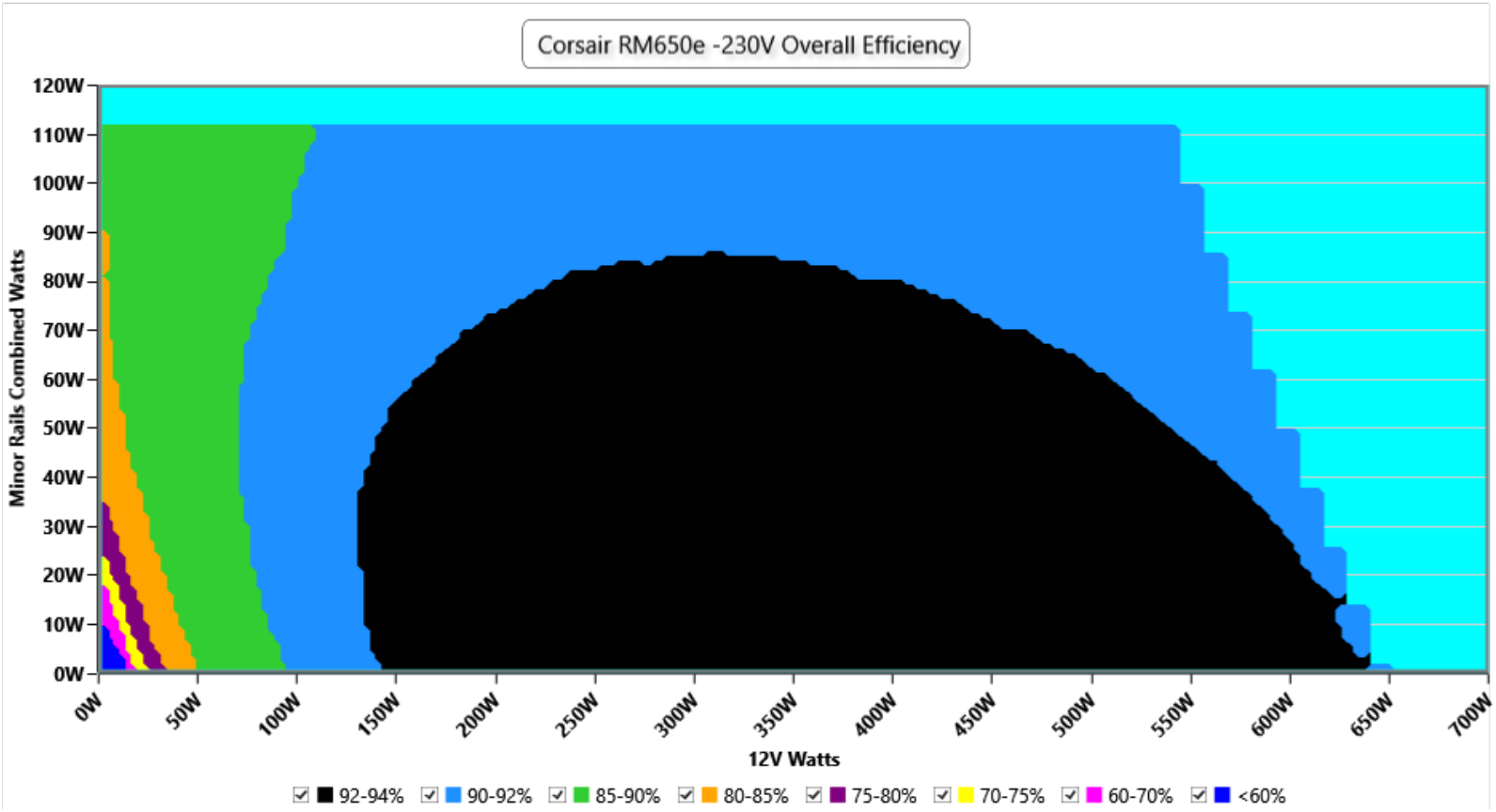
115V



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

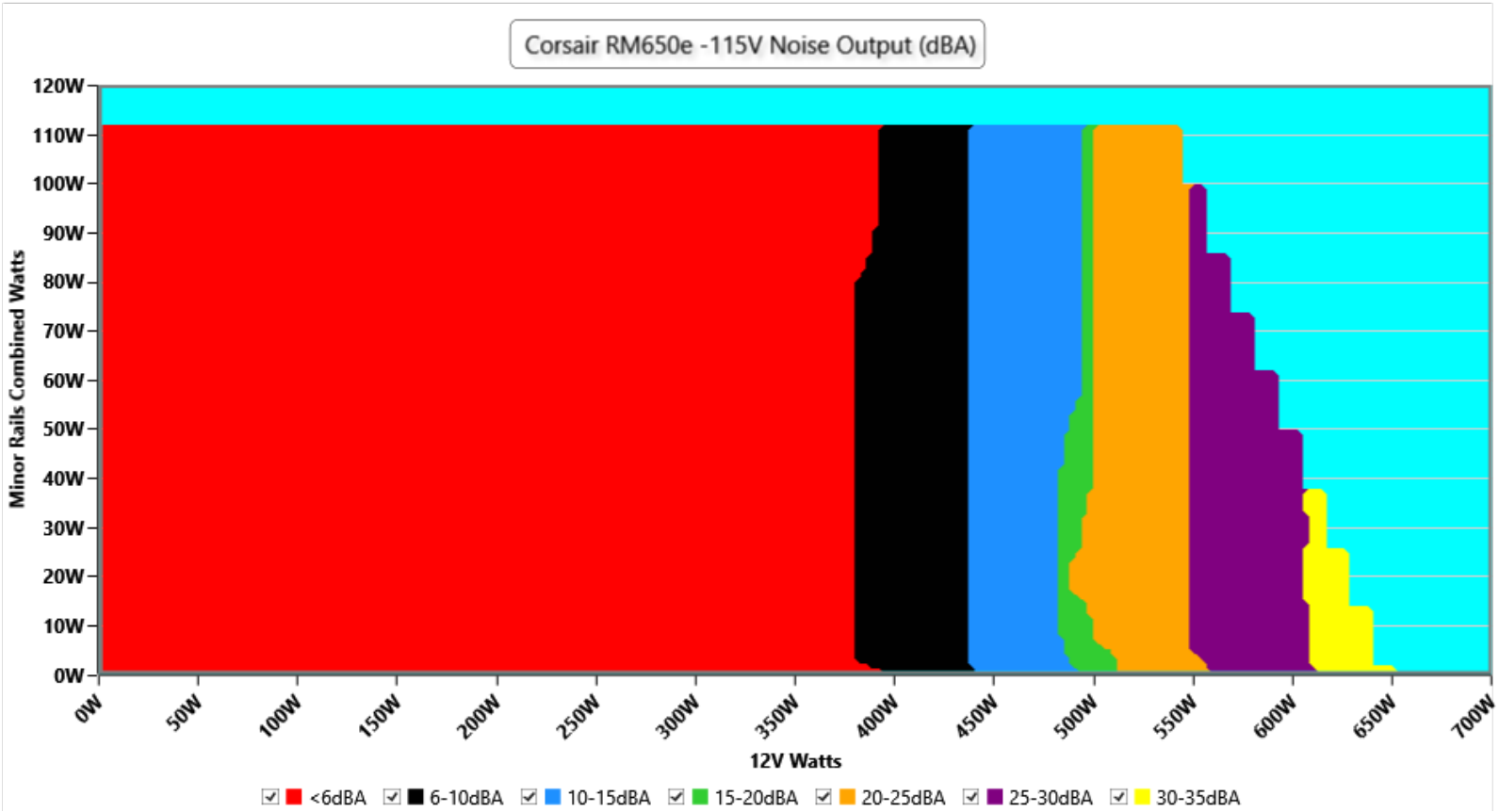


INFO

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Noise Graph

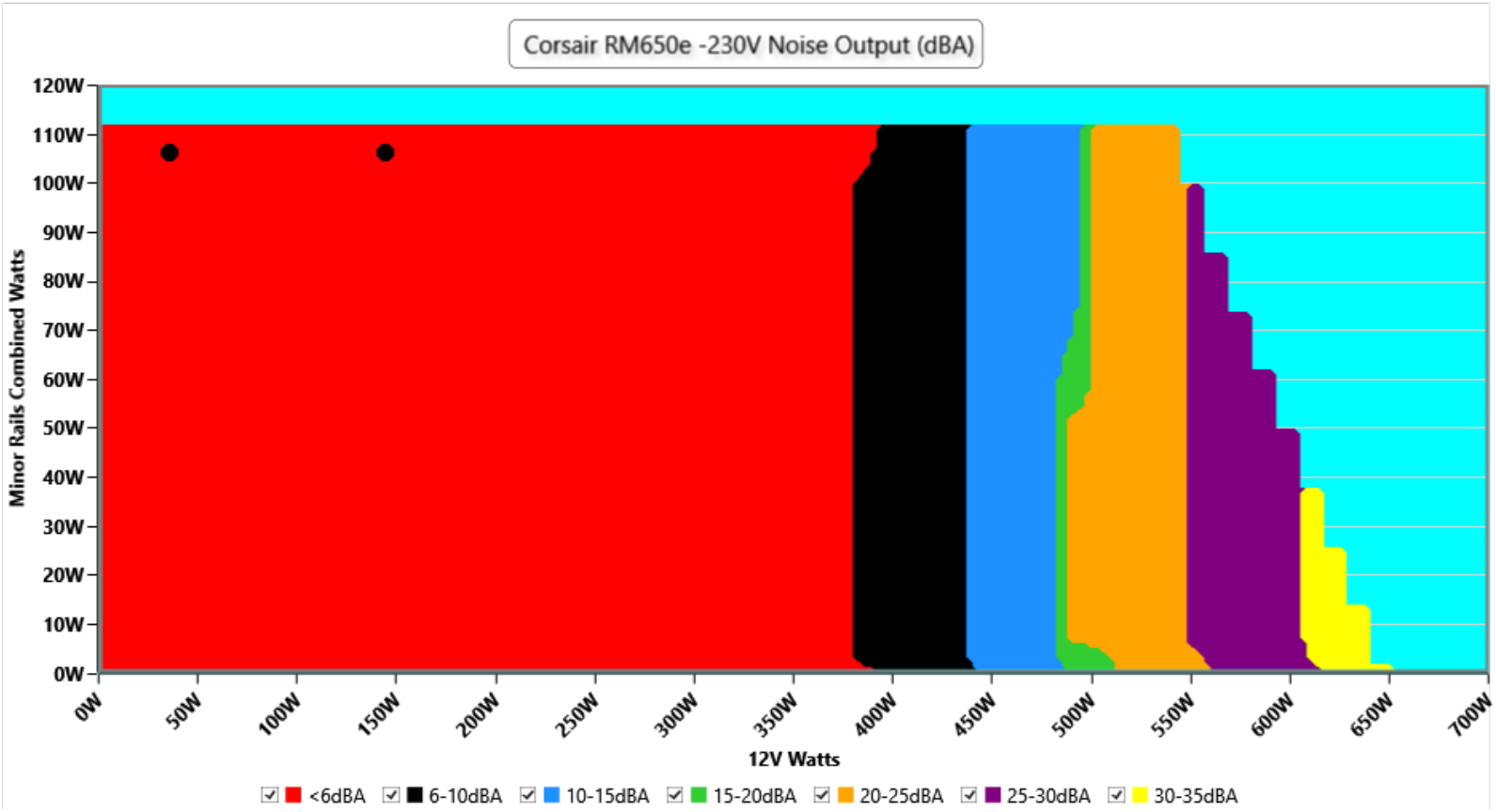
115V



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) · 39.0 °C	0 RPM · <6.0 dB(A) · 46.8 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 39.5 °C	0 RPM · <6.0 dB(A) · 49.4 °C	fan off in both
50%	400 RPM · <6.0 dB(A) · 30.1 °C	406 RPM · <6.0 dB(A) · 42.3 °C	fan off in both
100%	1044 RPM · 25.8 dB(A) · 30.1 °C	1187 RPM · 30.1 dB(A) · 45.5 °C	**+4.3 dB(A)**

230V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 32.3 °C	0 RPM · <6.0 dB(A) · 44.7 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 31.0 °C	0 RPM · <6.0 dB(A) · 46.0 °C	fan off in both
50%	396 RPM · <6.0 dB(A) · 30.5 °C	406 RPM · <6.0 dB(A) · 42.5 °C	fan off in both
100%	1038 RPM · 25.6 dB(A) · 30.6 °C	1144 RPM · 28.9 dB(A) · 45.6 °C	**+3.3 dB(A)**

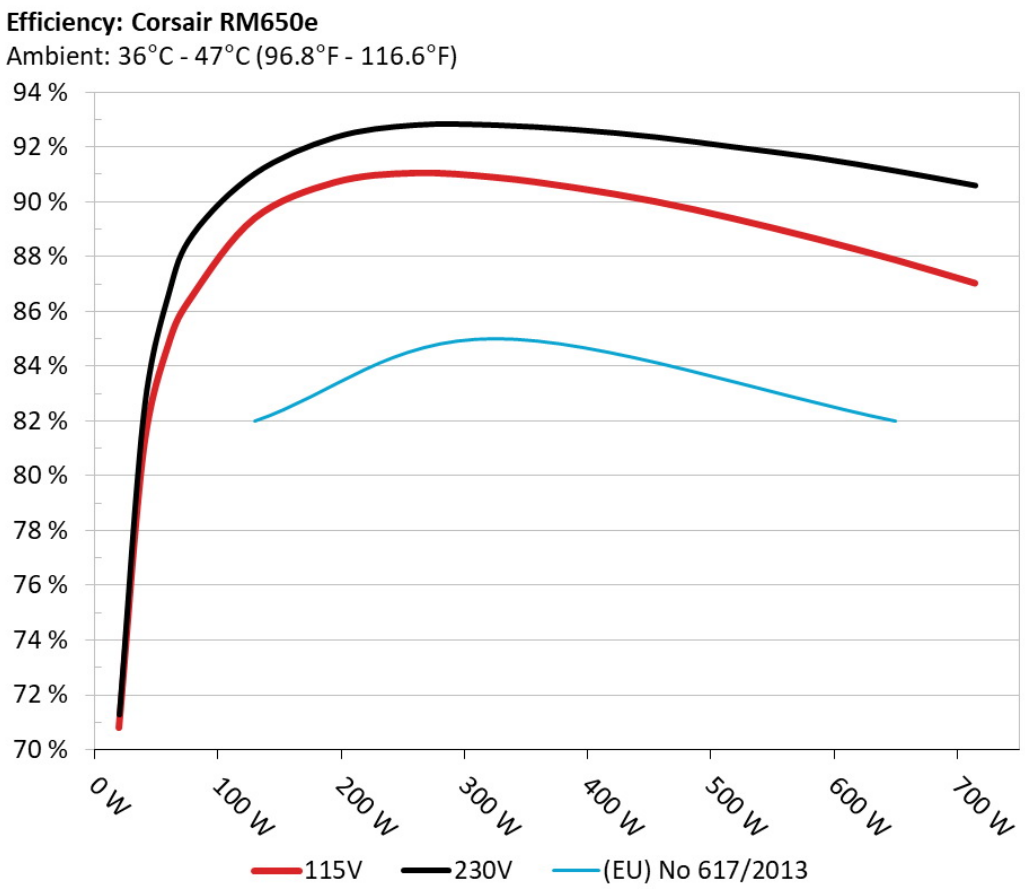
INFO

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, with the fan stopped; 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

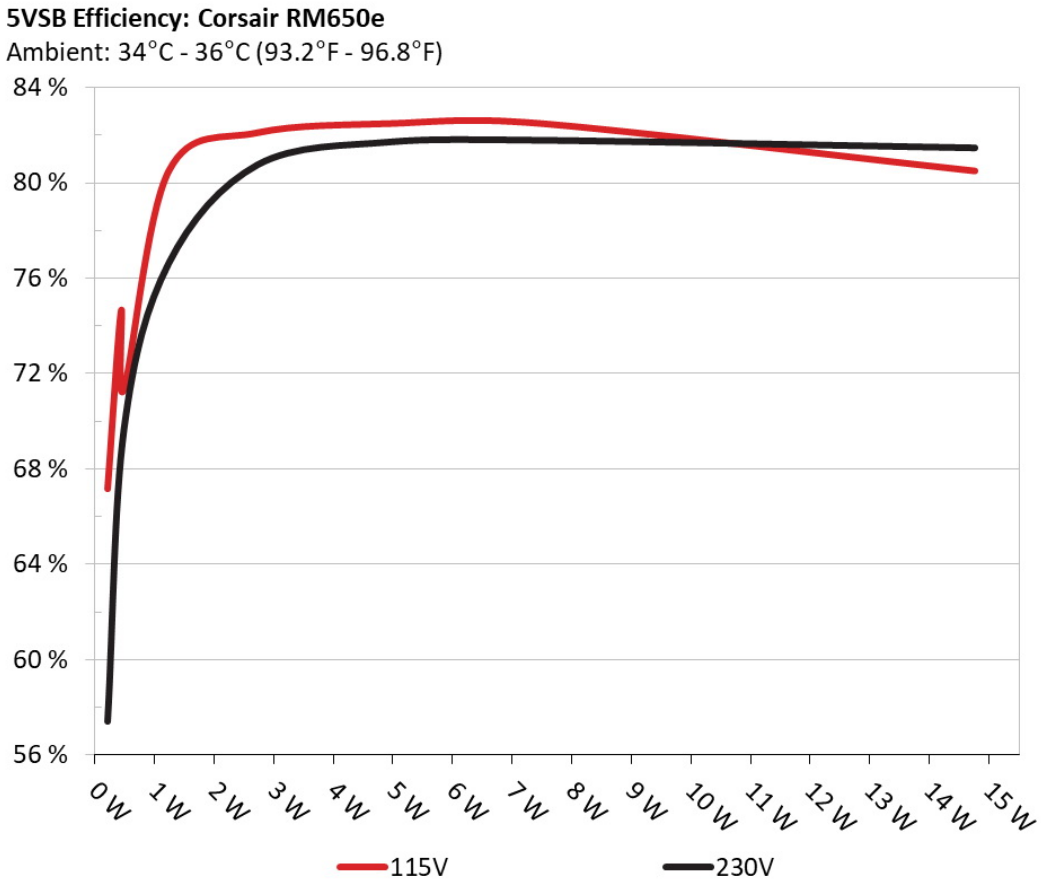
Efficiency under high ambient temperature



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**	0.225W	67.174%	0.038
	4.997V	0.335W		114.86V
2	**0.09A**	0.45W	74.603%	0.068
	4.996V	0.603W		114.85V
3	**0.55A**	2.742W	82.098%	0.272
	4.986V	3.34W		114.85V
4	**1A**	4.975W	82.478%	0.341
	4.975V	6.032W		114.84V
5	**1.5A**	7.446W	82.487%	0.39
	4.963V	9.027W		114.84V
6	**3A**	14.756W	80.492%	0.454
	4.918V	18.333W		114.84V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.225W	57.406%	0.013
	4.999V	0.393W		229.84V
2	**0.09A**	0.45W	69.838%	0.022
	4.997V	0.641W		229.84V
3	**0.55A**	2.742W	80.745%	0.108
	4.985V	3.397W		229.83V
4	**1A**	4.974W	81.7%	0.177
	4.974V	6.087W		229.83V
5	**1.5A**	7.442W	81.769%	0.215
	4.96V	9.1W		229.83V
6	**3.001A**	14.761W	81.45%	0.316
	4.92V	18.124W		229.83V

Protection Features

OCP (Normal @ 27.8°C)	12V: 67.60A (124.72%), 12.034V 5V: 29.9A (149.50%), 4.974V 3.3V: 27.7A (138.50%), 3.262V 5VSB: 4A (133.33%), 4.888V
OCP (Hot @ 44.0°C)	12V: 67.40A (124.35%), 12.046V 5V: 28.7A (143.50%), 4.976V 3.3V: 26.2A (131.00%), 3.268V 5VSB: 4A (133.33%), 4.89V
OPP (Normal @ 28.5°C)	794.66W (122.26%)
OPP (Hot @ 41.5°C)	794.67W (122.26%)
OTP	✓ (125°C @ Secondary Side)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB 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%	**3.582A**	**2.001A**	**2.006A**	**1.006A**	65.009	84.609%	0	<6.0	46.83°C	0.971
	12.121V	4.998V	3.29V	4.969V	76.833				40.05°C	114.84V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20%	**8.177A**	**3.003A**	**3.012A**	**1.21A**	129.949	89.409%	0	<6.0	49.39°C	0.989
	12.113V	4.995V	3.287V	4.961V	145.341				40.71°C	114.81V
30%	**13.125A**	**3.505A**	**3.516A**	**1.413A**	194.954	90.72%	0	<6.0	51.15°C	0.986
	12.106V	4.993V	3.285V	4.954V	214.893				41.36°C	114.78V
40%	**18.086A**	**4.007A**	**4.021A**	**1.618A**	260.043	91.064%	0	<6.0	53.65°C	0.987
	12.099V	4.992V	3.283V	4.945V	285.558				41.77°C	114.76V
50%	**22.709A**	**5.013A**	**5.031A**	**1.823A**	325.042	90.904%	406	<6.0	42.28°C	0.99
	12.089V	4.988V	3.28V	4.937V	357.567				57.13°C	114.74V
60%	**27.290A**	**6.019A**	**6.043A**	**2A**	389.285	90.531%	501	<6.0	42.78°C	0.991
	12.078V	4.985V	3.277V	4.929V	430.002				58.74°C	114.71V
70%	**31.951A**	**7.027A**	**7.058A**	**2.236A**	454.73	90.027%	612	8.5	43.41°C	0.992
	12.068V	4.982V	3.274V	4.92V	505.104				60.09°C	114.69V
80%	**36.622A**	**8.035A**	**8.072A**	**2.341A**	519.53	89.389%	734	13.4	43.78°C	0.993
	12.059V	4.978V	3.27V	4.914V	581.206				61.91°C	114.67V
90%	**41.699A**	**8.542A**	**8.569A**	**2.446A**	584.979	88.668%	905	20.6	44.52°C	0.994
	12.050V	4.975V	3.268V	4.906V	659.739				63.51°C	114.64V
100%	**46.517A**	**9.049A**	**9.096A**	**3.071A**	649.794	87.893%	1187	30.1	45.51°C	0.994
	12.041V	4.973V	3.265V	4.886V	739.309				64.69°C	114.62V
110%	**51.216A**	**10.061A**	**10.209A**	**3.073A**	714.413	87.039%	1503	36.9	46.83°C	0.994
	12.030V	4.969V	3.261V	4.882V	820.801				64.67°C	114.59V
CL1	**0.116A**	**13.292A**	**13.353A**	**0A**	111.3	83.886%	1112	27.5	43.32°C	0.988
	12.107V	4.981V	3.272V	4.993V	132.679				55.75°C	114.81V
CL2	**0.115A**	**20.06A**	**0A**	**0A**	101.337	82.783%	1110	27.4	41.45°C	0.987
	12.109V	4.982V	3.284V	4.996V	122.411				50.09°C	114.81V
CL3	**0.114A**	**0A**	**20.161A**	**0A**	67.387	76.525%	847	18.5	41.02°C	0.975
	12.106V	4.991V	3.273V	4.996V	88.06				49.02°C	114.83V
CL4	**53.929A**	**0A**	**0A**	**0A**	649.618	88.979%	1247	31.7	44.21°C	0.994
	12.046V	4.987V	3.28V	4.97V	730.082				56.35°C	114.63V

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%	**3.582A**	**2.001A**	**2.007A**	**1.006A**	65.007	86.747%	0	<6.0	44.66°C	0.849
	12.116V	4.997V	3.289V	4.969V	74.939				40.14°C	229.83V
20%	**8.179A**	**3.003A**	**3.013A**	**1.21A**	129.95	91.037%	0	<6.0	45.97°C	0.939
	12.110V	4.995V	3.286V	4.961V	142.756				40.51°C	229.82V
30%	**13.130A**	**3.505A**	**3.517A**	**1.413A**	194.955	92.362%	0	<6.0	47.78°C	0.962
	12.102V	4.993V	3.284V	4.953V	211.076				41.28°C	229.8V
40%	**18.092A**	**4.008A**	**4.022A**	**1.618A**	260.046	92.81%	0	<6.0	48.68°C	0.971
	12.096V	4.991V	3.282V	4.945V	280.191				41.85°C	229.79V
50%	**22.715A**	**5.014A**	**5.033A**	**1.823A**	325.052	92.808%	406	<6.0	42.47°C	0.976
	12.087V	4.987V	3.279V	4.937V	350.237				49.29°C	229.78V
60%	**27.296A**	**6.02A**	**6.045A**	**2A**	389.32	92.644%	501	<6.0	42.78°C	0.979
	12.077V	4.984V	3.276V	4.929V	420.231				48.64°C	229.77V
70%	**31.959A**	**7.028A**	**7.059A**	**2.236A**	454.767	92.373%	610	8.5	43.07°C	0.981
	12.067V	4.981V	3.273V	4.92V	492.313				48.2°C	229.75V
80%	**36.629A**	**8.035A**	**8.074A**	**2.341A**	519.564	92.002%	737	13.5	43.57°C	0.983
	12.058V	4.978V	3.27V	4.914V	564.73				48.28°C	229.75V
90%	**41.704A**	**8.542A**	**8.569A**	**2.446A**	584.991	91.619%	905	20.6	44.45°C	0.984
	12.049V	4.975V	3.267V	4.907V	638.502				48.61°C	229.74V
100%	**46.523A**	**9.05A**	**9.097A**	**3.071A**	649.82	91.135%	1144	28.9	45.64°C	0.985
	12.040V	4.972V	3.265V	4.886V	713.031				48.79°C	229.73V
110%	**51.220A**	**10.062A**	**10.209A**	**3.073A**	714.443	90.603%	1588	38.7	46.02°C	0.986
	12.029V	4.969V	3.261V	4.883V	788.546				49.73°C	229.71V
CL1	**0.116A**	**13.293A**	**13.353A**	**0A**	111.303	85.483%	1115	27.6	42.73°C	0.932
	12.107V	4.98V	3.272V	4.993V	130.204				47.68°C	229.81V
CL2	**0.116A**	**20.064A**	**0A**	**0A**	101.357	84.214%	1358	33.9	42.72°C	0.924
	12.110V	4.982V	3.284V	4.996V	120.359				44.94°C	229.81V
CL3	**0.115A**	**0A**	**20.161A**	**0A**	67.387	78.67%	848	18.6	42.08°C	0.875
	12.107V	4.991V	3.273V	4.996V	85.657				44.34°C	229.82V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL4	**53.929A**	**0A**	**0A**	**0A**	649.622	92.065%	1245	31.7	45.42°C	0.985
	12.046V	4.986V	3.28V	4.971V	705.61				44.55°C	229.72V

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	**1.226A**	**0.5A**	**0.501A**	**0.2A**	20.003	70.809%	0	<6.0	38.12°C	0.893
	12.123V	5V	3.293V	4.993V	28.219				36.15°C	114.84V
40W	**2.698A**	**0.7A**	**0.702A**	**0.301A**	40.005	80.968%	0	<6.0	40.34°C	0.952
	12.121V	4.999V	3.292V	4.991V	49.408				37.74°C	114.85V
60W	**4.170A**	**0.9A**	**0.902A**	**0.401A**	60.007	84.789%	0	<6.0	42.22°C	0.969
	12.120V	4.999V	3.291V	4.986V	70.774				38.18°C	114.84V
80W	**5.638A**	**1.1A**	**1.103A**	**0.502A**	79.96	86.608%	0	<6.0	44.89°C	0.976
	12.119V	4.999V	3.291V	4.981V	92.322				39.13°C	114.84V

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	**1.226A**	**0.5A**	**0.501A**	**0.2A**	19.996	71.282%	0	<6.0	38.42°C	0.543
	12.113V	4.999V	3.291V	4.991V	28.053				36.22°C	229.86V
40W	**2.698A**	**0.7A**	**0.702A**	**0.301A**	40	82.359%	0	<6.0	39.68°C	0.737
	12.113V	4.998V	3.29V	4.989V	48.568				37.21°C	229.85V
60W	**4.172A**	**0.9A**	**0.903A**	**0.401A**	60.002	86.65%	0	<6.0	41.66°C	0.831
	12.112V	4.997V	3.29V	4.985V	69.247				38.85°C	229.84V
80W	**5.640A**	**1.101A**	**1.104A**	**0.502A**	79.949	88.842%	0	<6.0	42.48°C	0.882
	12.112V	4.997V	3.289V	4.98V	89.992				39.09°C	229.84V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	14.99mV	12.37mV	13.03mV	12.78mV	Pass
20% Load	17.54mV	12.63mV	13.95mV	13.24mV	Pass
30% Load	19.79mV	14.01mV	15.29mV	13.60mV	Pass
40% Load	21.63mV	14.68mV	16.32mV	14.98mV	Pass
50% Load	21.94mV	13.50mV	15.03mV	14.98mV	Pass
60% Load	21.94mV	14.62mV	16.72mV	15.14mV	Pass
70% Load	21.63mV	14.78mV	15.65mV	15.60mV	Pass
80% Load	23.12mV	14.52mV	17.75mV	15.80mV	Pass
90% Load	29.92mV	21.04mV	21.24mV	20.42mV	Pass
100% Load	38.30mV	15.25mV	17.46mV	19.58mV	Pass
110% Load	40.56mV	20.62mV	23.67mV	21.75mV	Pass
Crossload1	26.60mV	13.97mV	17.69mV	11.75mV	Pass
Crossload2	18.72mV	15.96mV	14.42mV	10.52mV	Pass
Crossload3	16.06mV	12.67mV	17.75mV	10.78mV	Pass
Crossload4	37.85mV	14.34mV	14.99mV	13.73mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	16.06mV	13.34mV	14.26mV	14.01mV	Pass
20% Load	14.73mV	11.44mV	12.26mV	12.01mV	Pass
30% Load	19.39mV	14.63mV	15.03mV	14.52mV	Pass
40% Load	20.56mV	14.32mV	15.13mV	14.47mV	Pass
50% Load	20.00mV	14.11mV	15.18mV	13.85mV	Pass
60% Load	20.77mV	15.45mV	15.85mV	14.21mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
70% Load	22.10mV	13.65mV	14.57mV	15.29mV	Pass
80% Load	22.71mV	15.09mV	16.88mV	15.60mV	Pass
90% Load	22.71mV	15.55mV	16.26mV	16.42mV	Pass
100% Load	37.25mV	15.74mV	18.17mV	18.82mV	Pass
110% Load	37.94mV	15.55mV	18.85mV	19.00mV	Pass
Crossload1	27.04mV	13.95mV	16.78mV	12.02mV	Pass
Crossload2	19.03mV	17.70mV	14.21mV	10.52mV	Pass
Crossload3	15.91mV	13.35mV	17.39mV	10.67mV	Pass
Crossload4	38.04mV	14.76mV	15.89mV	14.08mV	Pass

The results above are not used in the certification process

Corsair RM650e (ATX v3.1)



Top side



Power specifications label

All data and graphs included in this test report can be used by any individual on the following conditions:

› It should be mentioned that the test results are provided by Cybenetics

› The link to the original test results document should be provided in any case

Cybenetics runs voluntary certification programs for power supplies - ETA for efficiency, LAMBDA for noise and SAFE for safety and correct operation - and for cooling products, with DELTA for chassis soundproofing and PHI for fan airflow and static pressure. THETA rates cooler performance on AMD AM5 and Intel LGA1851 outside ISO 17065 and accreditation scope

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