



Sharkoon Rebel P10 750

Serial Number

Lab ID SK75002587

Certification ID 252587

Test Result Report ID: 24PS2587A

Certificate Issue Date: Nov 14, 2024

Scheme: ETA-EMI PSU

115V

230V

115V

230V

Scheme: LAMBDA PSU

PASS

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	Sharkoon
Model	Rebel P10 750
OEM/ODM	Andyson
Serial Number	
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	4.5-9

Rated Frequency (Hz)	50-60
Rated Power (W)	750
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fixed cables
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120mm Sleeve Bearing Fan (S1202512L)
Semi-Passive Operation	X
Cybenetics Testing Information	
Lab ID	SK75002587
Date of receipt	Nov 29, 2024
Testing Date	Nov 11, 2024
Report Issued Date	Nov 14, 2024
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Captive Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (545mm)	1	1	18-22AWG	No
4+4 pin EPS12V (635mm)	2	2	18AWG	No
6+2 pin PCIe (550mm+150mm)	2	4	18AWG	No
SATA (465mm+120mm+120mm)	1	3	18AWG	No
SATA (460mm+120mm) / 4-pin Molex (+120mm)	1	2 / 1	18AWG	No

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	18	18	62.5	3	0.3
	Watts	100		750	15	3.6
Total Max. Power (W)		750				

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)	84.979%

Average Noise Output (>1450 Load Combinations)	35.42dBA
Average PF (>1450 Load Combinations)	0.982
Efficiency With 10W ($\leq$ 500W) or 2% (>500W) Load	64.916%
Standby Power Consumption	0.0689W
Non-Accredited	
12V Ripple (Full Load)	51.62mV
5V Ripple (Full Load)	38.24mV
3.3V Ripple (Full Load)	29.91mV
5VSB Ripple (Full Load)	38.29mV
12V Load Regulation	0.76%
5V Load Regulation	1.42%
3.3V Load Regulation	3.91%
5VSB Load Regulation	3.76%
Inrush Current	33.770A

230V

Accredited	
Average Efficiency (>1450 load combinations)	87.508%
Average Noise Output (>1450 Load Combinations)	36.03dBA
Average PF (>1450 Load Combinations)	0.951
Efficiency With 10W ($\leq$ 500W) or 2% (>500W) Load	0.001%
Standby Power Consumption	0.1730W
Non-Accredited	
12V Ripple (Full Load)	62.01mV
5V Ripple (Full Load)	33.37mV
3.3V Ripple (Full Load)	23.63mV
5VSB Ripple (Full Load)	35.64mV
12V Load Regulation	0.73%
5V Load Regulation	1.42%
3.3V Load Regulation	3.94%
5VSB Load Regulation	3.76%
Inrush Current	65.900A

12V Transient Response (150%)	11.91V	
5V Transient Response (150%)	5.000V	
3.3V Transient Response (150%)	3.216V	
5VSB Transient Response (150%)	4.950V	
Hold-Up Time & PWR_OK Signal	17.40ms	
AC Loss to PWR_OK Hold Up Time	15.70ms	
PWR_OK Inactive to DC Loss Delay	1.70ms	
PSU Timings: T1 (20% / 100%)	26.0ms	27.0ms
PSU Timings: T3 (20% / 100%)	121.0ms	120.0ms
12V OCP (30.5°C / 42.0°C)	86.60A (138.56%), 12.255V	78.40A (125.44%), 12.252V
5V OCP (30.5°C / 42.0°C)	22.2A (123.33%), 5.095V	21.1A (117.22%), 5.107V
3.3V OCP (30.5°C / 42.0°C)	22.3A (123.89%), 3.331V	20.8A (115.56%), 3.332V
5VSB OCP (30.5°C / 42.0°C)	4.8A (160.00%), 4.963V	4.6A (153.33%), 4.944V
OPP (31.40°C / 43.92°C)	142.49%	118.94%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	17.4
AC Loss to PWR_OK Hold Up Time (ms)	15.7
PWR_OK Inactive to DC Loss Delay (ms)	1.7



Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.88 V	114.83 V	113.85 V	114.92 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.98 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.419	1.417	1.340	1.421	1.490	PASS

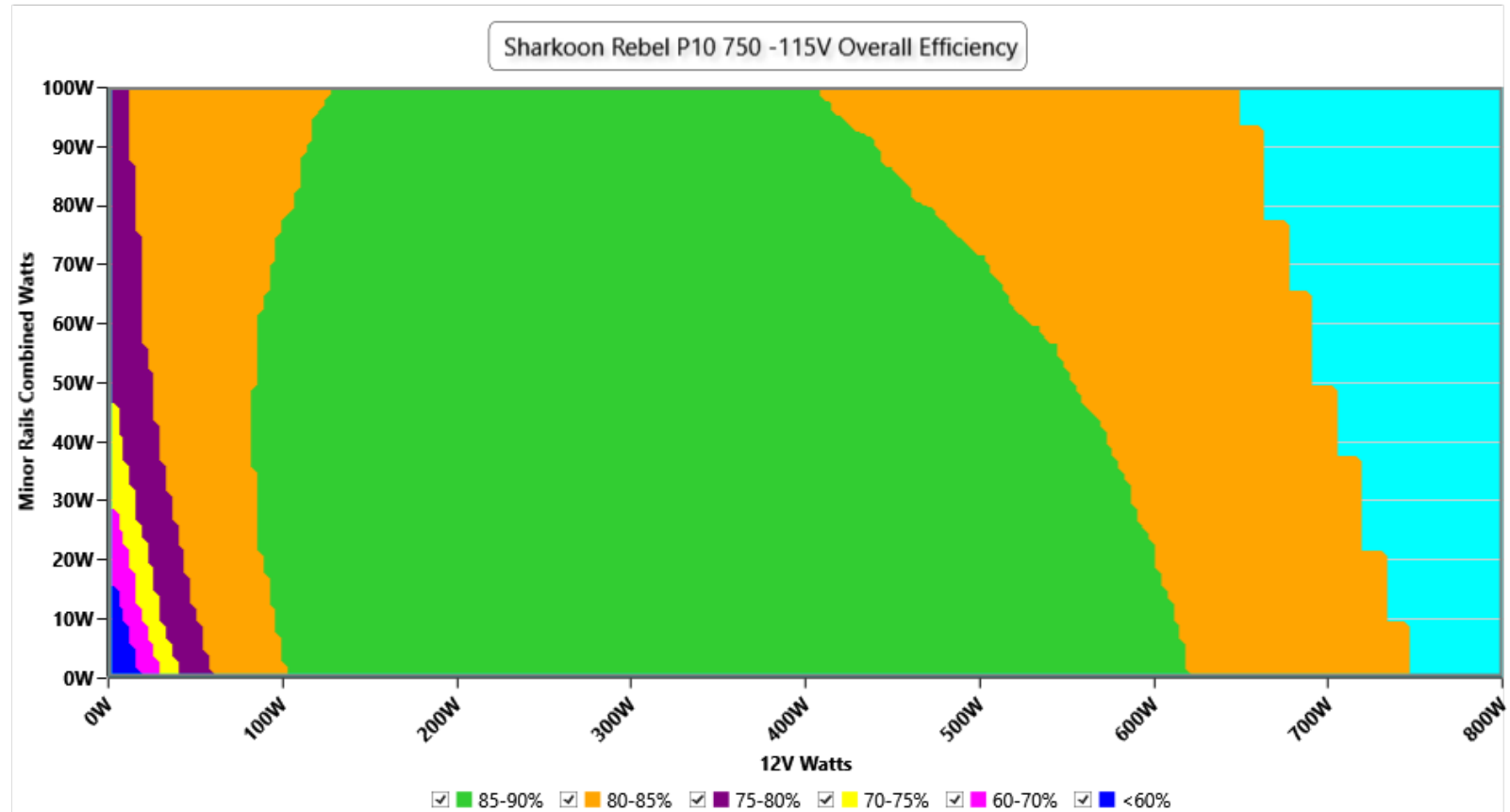
Mains Voltage THD:	0.15 %	0.08 %	N/A	0.29 %	2.00 %	PASS
Real Power:	0.069 W	0.020 W	N/A	0.100 W	N/A	N/A
Apparent Power:	7.746 W	7.731 W	N/A	7.767 W	N/A	N/A
Power Factor:	0.011	N/A	N/A	N/A	N/A	N/A

230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	229.99 V	229.91 V	227.70 V	230.05 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:	0.14 %	0.10 %	N/A	0.19 %	2.00 %	PASS
Real Power:	0.173 W	0.139 W	N/A	0.221 W	N/A	N/A
Apparent Power:	26.517 W	26.478 W	N/A	26.563 W	N/A	N/A
Power Factor:	0.006	N/A	N/A	N/A	N/A	N/A

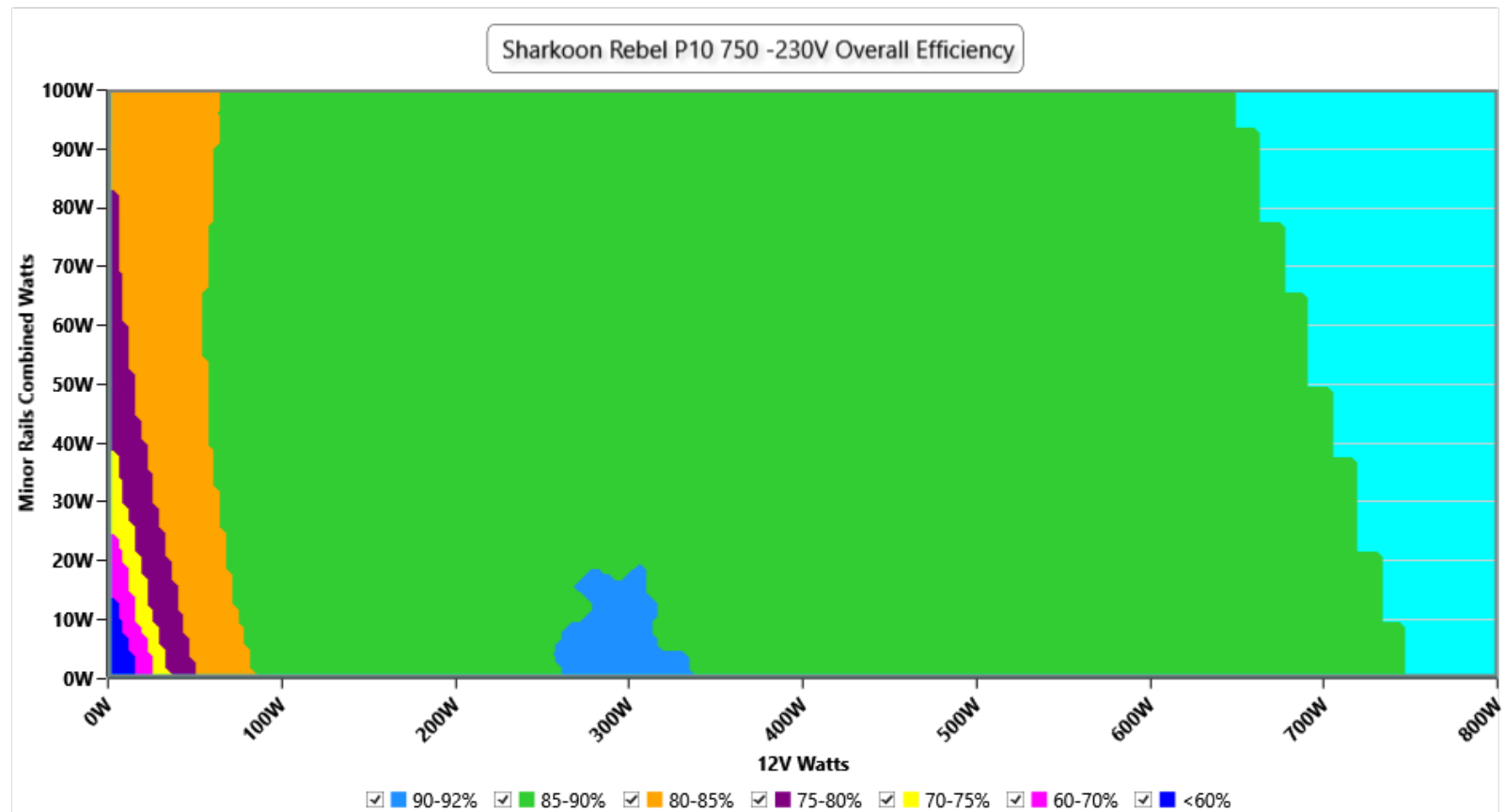
Efficiency Graph

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

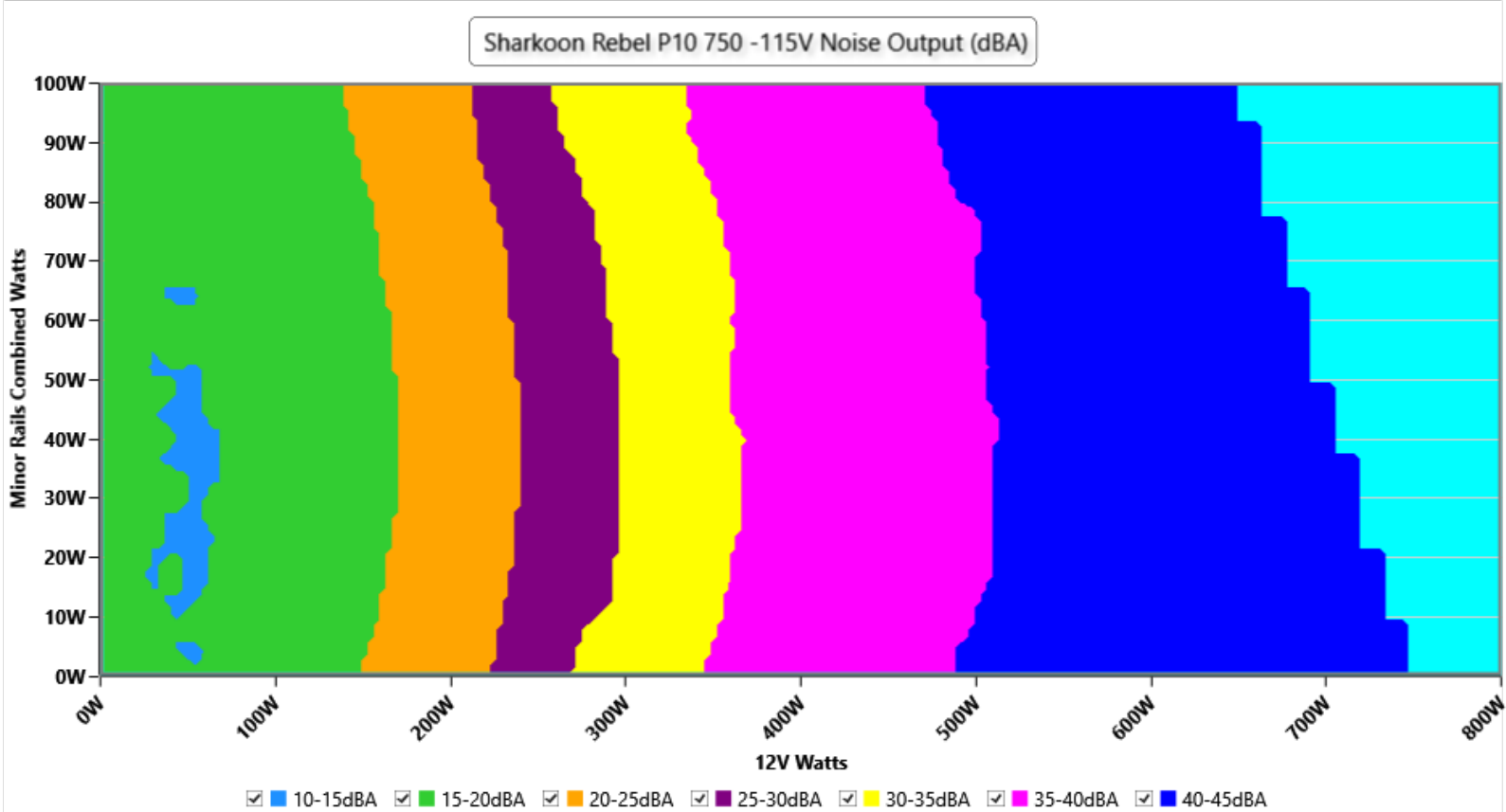


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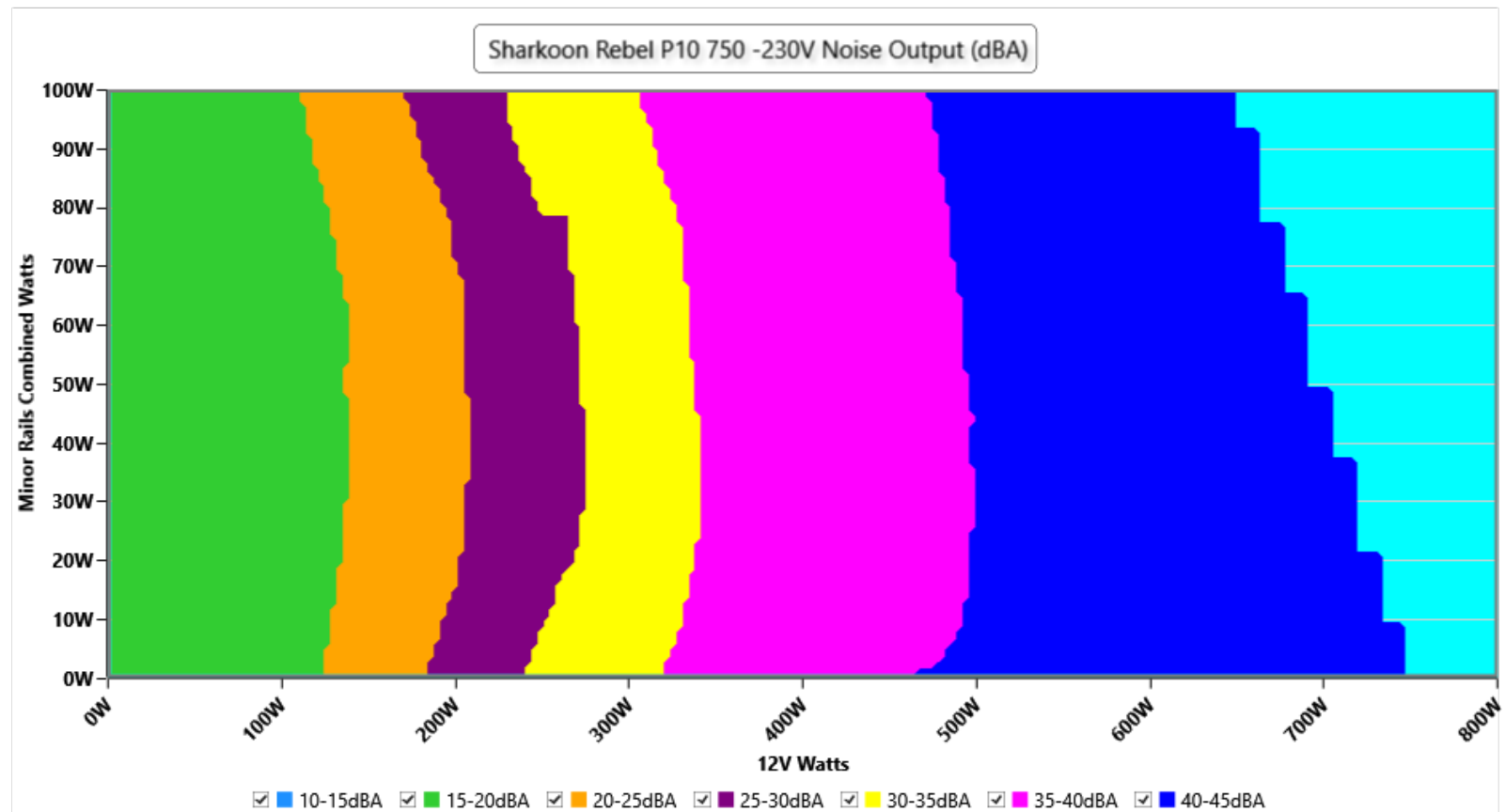
Noise Graph

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



INFO

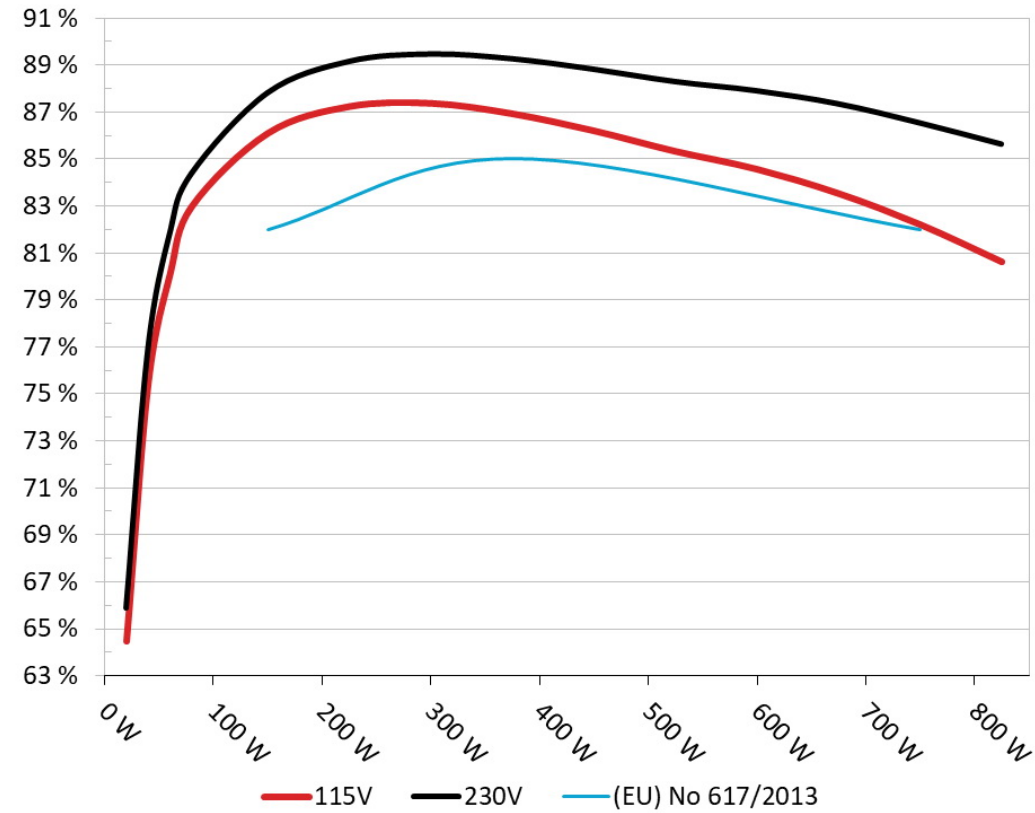
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Sharkoon Rebel P10 750

Ambient: 36°C - 47°C (96.8°F - 116.6°F)



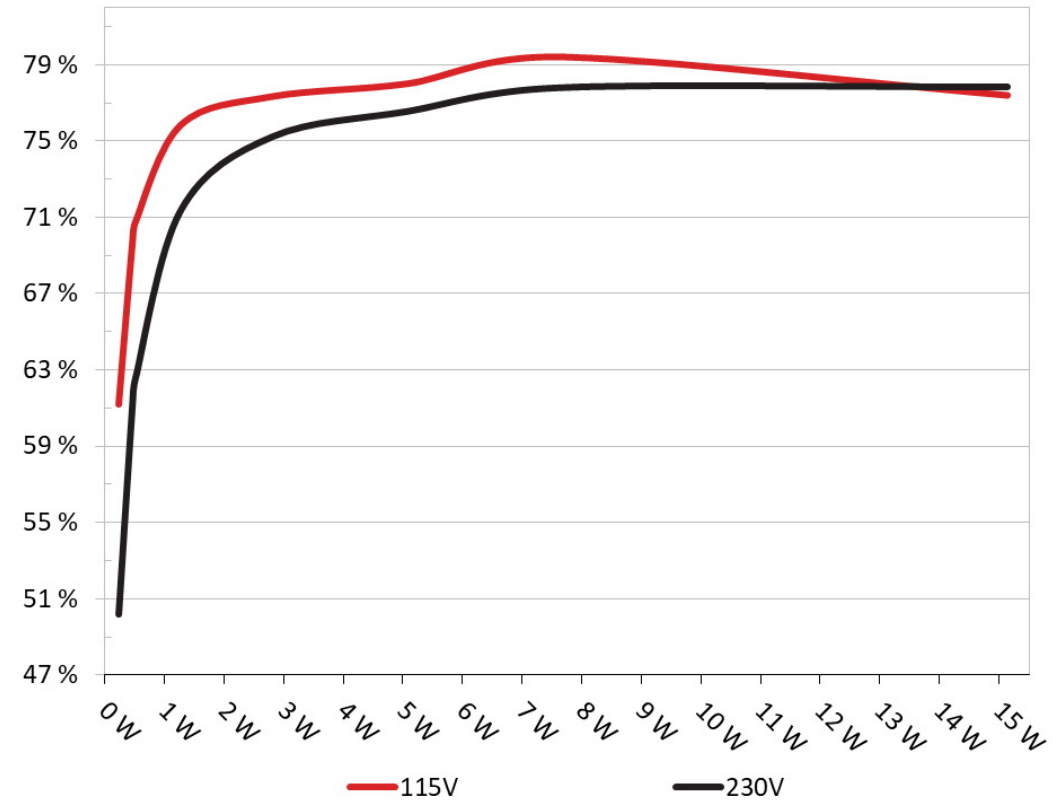
INFO

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: Sharkoon Rebel P10 750

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

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

115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.23W	61.22%	0.048
	5.117V	0.376W		114.88V
2	0.09A	0.46W	69.712%	0.083
	5.115V	0.66W		114.88V
3	0.55A	2.808W	77.331%	0.305
	5.105V	3.631W		114.87V
4	1A	5.095W	78.01%	0.369
	5.094V	6.531W		114.87V
5	1.5A	7.625W	79.405%	0.412
	5.083V	9.603W		114.87V
6	3.001A	15.144W	77.395%	0.47
	5.047V	19.567W		114.86V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.23W	50.161%	0.017
	5.117V	0.459W		229.95V
2	0.09A	0.461W	61.203%	0.028
	5.115V	0.754W		229.94V
3	0.55A	2.808W	75.214%	0.13
	5.105V	3.734W		229.94V
4	1A	5.095W	76.554%	0.206
	5.094V	6.656W		229.94V
5	1.5A	7.625W	77.786%	0.242
	5.082V	9.803W		229.95V
6	3.001A	15.143W	77.829%	0.34
	5.047V	19.457W		229.94V

Protection Features

OCP (Normal @ 30.5°C)	12V: 86.60A (138.56%), 12.255V 5V: 22.2A (123.33%), 5.095V 3.3V: 22.3A (123.89%), 3.331V 5VSB: 4.8A (160.00%), 4.963V
OCP (Hot @ 42.0°C)	12V: 78.40A (125.44%), 12.252V 5V: 21.1A (117.22%), 5.107V 3.3V: 20.8A (115.56%), 3.332V 5VSB: 4.6A (153.33%), 4.944V
OPP (Normal @ 31.4°C)	1068.71W (142.49%)
OPP (Hot @ 43.9°C)	892.09W (118.94%)
OTP	✓ (126°C @ Secondary Side)
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%	4.328A	1.951A	1.962A	0.984A	75.001	81.571%	1055	25	40.35°C	0.945
	12.336V	5.127V	3.364V	5.083V	91.949				41.54°C	114.85V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20%	9.656A	2.931A	2.954A	1.184A	149.932	86.086%	1251	30.8	40.87°C	0.974
	12.328V	5.118V	3.351V	5.067V	174.17				42.45°C	114.83V
30%	15.330A	3.424A	3.457A	1.386A	224.933	87.224%	1424	34.3	41.15°C	0.98
	12.320V	5.111V	3.341V	5.052V	257.88				43.08°C	114.8V
40%	21.021A	3.92A	3.965A	1.589A	300.024	87.361%	1596	37	41.93°C	0.985
	12.312V	5.103V	3.33V	5.036V	343.428				44.18°C	114.78V
50%	26.330A	4.907A	4.976A	1.793A	374.462	86.918%	1762	39.4	42.18°C	0.988
	12.304V	5.096V	3.316V	5.019V	430.812				45.11°C	114.75V
60%	31.687A	5.898A	5.995A	1.999A	449.376	86.195%	1928	41.8	42.81°C	0.989
	12.294V	5.088V	3.303V	5.002V	521.358				46.59°C	114.72V
70%	37.052A	6.892A	7.024A	2.207A	524.294	85.323%	2038	43	43.44°C	0.99
	12.285V	5.08V	3.289V	4.985V	614.484				47.84°C	114.69V
80%	42.494A	7.886A	8.06A	2.314A	599.485	84.56%	2082	43.5	43.8°C	0.992
	12.274V	5.072V	3.275V	4.969V	708.95				49.25°C	114.66V
90%	48.276A	8.391A	8.581A	2.422A	674.527	83.526%	2104	43.6	44.43°C	0.994
	12.263V	5.065V	3.263V	4.954V	807.565				51.38°C	114.63V
100%	53.875A	8.896A	9.139A	3.046A	749.745	82.204%	2108	43.6	45.86°C	0.994
	12.251V	5.058V	3.25V	4.926V	912.063				54.3°C	114.6V
110%	59.353A	9.901A	10.297A	3.055A	824.772	80.617%	2112	43.6	46.07°C	0.996
	12.240V	5.05V	3.233V	4.91V	1023.075				56.41°C	114.56V
CL1	0.114A	11.772A	11.984A	0A	101.294	77.447%	1699	39	41.22°C	0.963
	12.322V	5.114V	3.312V	5.083V	130.794				44.77°C	114.84V
CL2	0.112A	17.58A	0A	0.001A	91.394	76.918%	1444	34.5	40.34°C	0.957
	12.333V	5.119V	3.345V	5.095V	118.819				42.99°C	114.84V
CL3	0.112A	0A	17.9A	0A	60.782	70.782%	1354	32.5	41.79°C	0.94
	12.331V	5.112V	3.318V	5.091V	85.873				44.17°C	114.86V
CL4	61.112A	0A	0A	0.001A	749.549	83.515%	2117	43.8	46.64°C	0.994
	12.265V	5.074V	3.299V	5.022V	897.51				53.47°C	114.6V

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%	4.330A	1.951A	1.962A	0.984A	75.007	82.935%	1091	25.9	40.07°C	0.844
	12.335V	5.127V	3.363V	5.083V	90.441				41.49°C	229.94V
20%	9.656A	2.931A	2.955A	1.184A	149.948	87.811%	1263	31.3	40.73°C	0.92
	12.328V	5.118V	3.35V	5.067V	170.764				42.12°C	229.92V
30%	15.331A	3.425A	3.459A	1.386A	224.951	89.15%	1443	34.5	41.06°C	0.948
	12.321V	5.11V	3.34V	5.051V	252.328				42.89°C	229.91V
40%	21.020A	3.92A	3.966A	1.589A	300.044	89.463%	1626	37.4	41.89°C	0.962
	12.314V	5.103V	3.329V	5.036V	335.383				44.1°C	229.9V
50%	26.328A	4.908A	4.977A	1.793A	374.519	89.264%	1784	39.8	42.48°C	0.968
	12.306V	5.095V	3.315V	5.02V	419.567				45.03°C	229.88V
60%	31.682A	5.899A	5.998A	1.999A	449.435	88.819%	1954	42.2	42.86°C	0.973
	12.298V	5.087V	3.301V	5.002V	506.008				47.04°C	229.87V
70%	37.045A	6.893A	7.027A	2.207A	524.353	88.295%	2046	43.1	43.41°C	0.976
	12.289V	5.079V	3.288V	4.985V	593.861				47.34°C	229.86V
80%	42.484A	7.887A	8.065A	2.314A	599.551	87.901%	2087	43.6	43.6°C	0.979
	12.279V	5.071V	3.273V	4.969V	682.139				49.02°C	229.85V
90%	48.260A	8.393A	8.585A	2.422A	674.571	87.345%	2106	43.6	44.52°C	0.982
	12.268V	5.064V	3.261V	4.954V	772.305				49.89°C	229.83V
100%	53.851A	8.899A	9.143A	3.046A	749.778	86.53%	2113	43.6	45.66°C	0.984
	12.257V	5.057V	3.248V	4.926V	866.487				52.03°C	229.82V
110%	59.314A	9.905A	10.299A	3.054A	824.785	85.63%	2116	43.7	46.83°C	0.985
	12.248V	5.048V	3.233V	4.912V	963.187				53.65°C	229.81V
CL1	0.114A	11.775A	11.986A	0A	101.297	79.261%	1671	38.4	40.36°C	0.895
	12.324V	5.112V	3.312V	5.083V	127.805				43.82°C	229.94V
CL2	0.112A	17.582A	0A	0.001A	91.396	78.527%	1451	34.7	40.51°C	0.882
	12.333V	5.119V	3.345V	5.094V	116.388				43.06°C	229.93V
CL3	0.112A	0A	17.907A	0A	60.785	72.152%	1322	32.1	40.81°C	0.833
	12.330V	5.112V	3.317V	5.091V	84.247				42.67°C	229.94V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL4	61.083A	0A	0A	0.001A	749.585	87.58%	2119	43.8	46.95°C	0.984
	12.271V	5.072V	3.298V	5.022V	855.882				52.01°C	229.82V

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	1.202A	0.487A	0.489A	0.196A	20	64.481%	799	16.4	36.13°C	0.864
	12.345V	5.13V	3.377V	5.111V	31.015				36.26°C	114.87V
40W	2.648A	0.682A	0.685A	0.294A	39.999	75.502%	814	17.1	37.18°C	0.905
	12.342V	5.129V	3.374V	5.106V	52.976				38.42°C	114.86V
60W	4.096A	0.878A	0.881A	0.392A	59.998	80.102%	873	19.1	38.09°C	0.934
	12.339V	5.128V	3.371V	5.101V	74.902				39.67°C	114.86V
80W	5.537A	1.073A	1.078A	0.491A	79.94	82.969%	1013	23.8	39.69°C	0.948
	12.337V	5.127V	3.368V	5.096V	96.347				40.91°C	114.85V

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	1.202A	0.488A	0.489A	0.196A	20.002	65.883%	800	16.4	36.66°C	0.631
	12.347V	5.127V	3.376V	5.111V	30.362				37.42°C	229.94V
40W	2.648A	0.682A	0.685A	0.294A	40.002	76.89%	818	16.4	37.48°C	0.739
	12.342V	5.129V	3.374V	5.106V	52.026				38.63°C	229.94V
60W	4.096A	0.878A	0.881A	0.392A	60.002	81.818%	881	17.3	38.15°C	0.809
	12.339V	5.129V	3.371V	5.101V	73.337				39.43°C	229.94V
80W	5.538A	1.073A	1.078A	0.491A	79.948	84.37%	1022	19.3	39.47°C	0.85
	12.336V	5.127V	3.368V	5.095V	94.763				40.77°C	229.94V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	10.41mV	18.39mV	12.77mV	21.16mV	Pass
20% Load	15.98mV	20.30mV	13.86mV	22.45mV	Pass
30% Load	16.71mV	20.97mV	14.53mV	23.22mV	Pass
40% Load	15.62mV	22.41mV	15.82mV	24.98mV	Pass
50% Load	20.05mV	25.55mV	17.37mV	25.24mV	Pass
60% Load	21.19mV	26.38mV	19.96mV	26.17mV	Pass
70% Load	23.66mV	30.24mV	21.30mV	28.80mV	Pass
80% Load	27.79mV	29.57mV	23.48mV	31.07mV	Pass
90% Load	33.56mV	31.22mV	28.34mV	32.67mV	Pass
100% Load	51.62mV	38.24mV	29.91mV	38.29mV	Pass
110% Load	59.34mV	38.77mV	32.45mV	41.49mV	Pass
Crossload1	19.88mV	29.04mV	23.62mV	21.03mV	Pass
Crossload2	15.98mV	34.21mV	21.72mV	21.16mV	Pass
Crossload3	16.09mV	20.87mV	22.70mV	16.16mV	Pass
Crossload4	47.60mV	27.08mV	24.76mV	34.67mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	12.01mV	18.03mV	12.05mV	19.82mV	Pass
20% Load	12.68mV	19.01mV	12.77mV	20.34mV	Pass
30% Load	13.87mV	19.27mV	13.14mV	20.44mV	Pass
40% Load	14.74mV	20.71mV	13.96mV	20.44mV	Pass
50% Load	18.05mV	22.67mV	14.38mV	20.29mV	Pass
60% Load	17.27mV	22.51mV	15.72mV	21.16mV	Pass

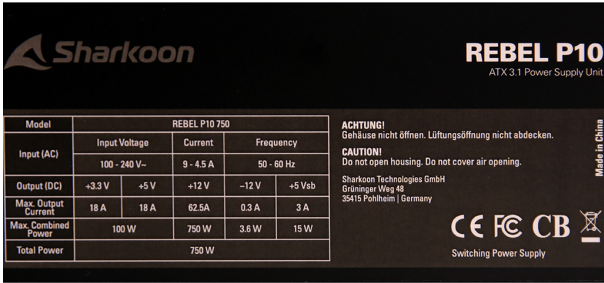
Test	12V	5V	3.3V	5VSB	Pass/Fail
70% Load	19.85mV	24.73mV	15.98mV	21.94mV	Pass
80% Load	27.22mV	26.94mV	19.13mV	25.34mV	Pass
90% Load	36.04mV	27.67mV	20.32mV	26.33mV	Pass
100% Load	62.01mV	33.37mV	23.63mV	35.64mV	Pass
110% Load	85.69mV	38.11mV	27.49mV	37.28mV	Pass
Crossload1	18.94mV	31.71mV	24.98mV	18.88mV	Pass
Crossload2	16.24mV	31.99mV	20.01mV	20.03mV	Pass
Crossload3	15.98mV	20.45mV	21.51mV	13.99mV	Pass
Crossload4	52.44mV	23.40mV	18.43mV	29.50mV	Pass

The results above are not used in the certification process

Sharkoon Rebel P10 750



Top side



Power specifications label

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