



SilverStone HELA 1200R Platinum

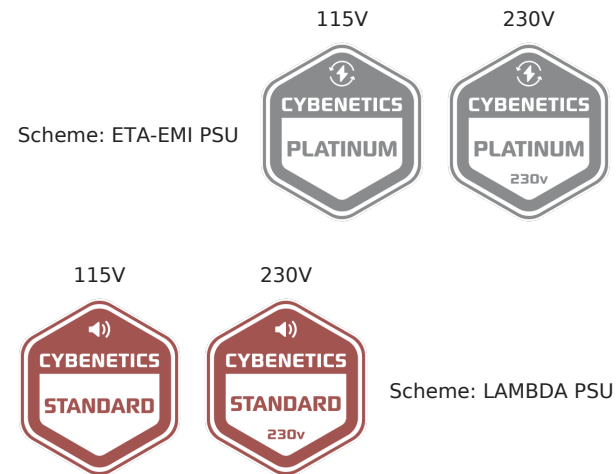


Lab ID SL12002061

Certification ID 252061

Test Result Report ID: 22PS2061A

Certificate Issue Date: Sep 13, 2022



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	SilverStone
Model	HELA 1200R Platinum
OEM/ODM	CWT (CSZ Platform)
Serial Number	
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	15
□□□□ (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 Fluid Dynamic Bearing Fan (HA13525H12SF-Z)
□□□□	✓ (selectable)
Cybenetics Testing Information	
Lab ID	SL12002061
Date of receipt	Aug 30, 2022
Testing Date	Sep 12, 2022
Report Issued Date	Sep 13, 2022
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□ **(Non-accredited measurements)**

□□□□				
□□	□□□□	□□□□□	Gauge	In Cable Capacitors
ATX □□ 20+4 pin (600mm)	1	1	16AWG	□
4+4 pin EPS 12V □□ (750mm)	2	2	16AWG	□
6+2pin PCIe□□ (600mm+150mm)	3	6	16-18AWG	□
12+4 pin PCIe (590mm) (600W)	1	1	16-24AWG	□
SATA□□ (590mm+150mm+150mm+150mm)	3	12	18AWG	□
4-pin Molex (600mm+150mm+150mm)	1	3	18AWG	□



□		3.3V	5V	12V	5VSB	-12V
□□□□	□□	22	22	100	3	0.3
	□	120		1200	15	3.6
□□□□ (W)		1200				

Parts Description

General Data	-
Manufacturer (OEM)	CWT
Platform	CSZ
PCB Type	Double Sided
Primary Side	-
Transient Filter	4x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	1x NTC Thermistor SCK-207R0 (7 Ohm) & Relay
Bridge Rectifier(s)	2x Vishay LVB2560 (600V, 25A @ 105°C)
APFC MOSFETs	3x Infineon IPA60R099P6 (600V, 24A @ 100°C, Rds(on): 0.099Ohm) & 1x Sync Power SPN5003 (for reducing the no load consumption)
APFC Boost Diode	1x On Semiconductor FFSP1665A (650V, 16A @ 135°C)
Bulk Cap(s)	1x Nippon Chemi-Con (420V, 820uF, 2,000h @ 105°C, KHE)
Main Switchers	2x Infineon IPA60R099P6 (600V, 24A @ 100°C, Rds(on): 0.099Ohm)
APFC Controller	Champion CM6500UNX
Resonant Controller	Champion CU6901VAC
Topology	Primary side: APFC, Half-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	-
+12V MOSFETs	8x Infineon BSC014N06NS (60V, 152A @ 100°C, Rds(on): 1.45mOhm)
5V & 3.3V	DC-DC Converters: 2x UBIQ QN3107M6N (30V, 70A @ 100°C, Rds(on): 2.6mOhm) & 2x UBIQ QM3054M6 (30V, 61A @ 100°C, Rds(on): 4.8mOhm) PWM Controller(s): uPI-Semi uP3861P
Filtering Capacitors	Electrolytic: 2x Nippon Chemi-Con (105°C, W), 1x Nichicon (2-5,000h @ 105°C, HD), 3x Nichicon (4-10,000h @ 105°C, HE), 1x Nichicon (5-6,000h @ 105°C, HV), 1x Nippon Chemi-Con (4-10,000h @ 105°C, KYA) Polymer: 21x FPCAP, 7x NIC

Supervisor IC	Weltrend WT7502R
Fan Controller	Microchip PIC16F1503
Fan Model	Hong Hua HA13525H12SF-Z (135mm, 12V, 0.5A, Fluid Dynamic Bearing Fan)
5VSB Circuit	-
Rectifier	1x PS1045L SBR (45V, 10A)
Standby PWM Controller	On-Bright OB2365T

Test Results

Temperature & Compliance Info

□□□□ (°C /°F)	28-32 / 82.4-89.6
□□ ErP Lot3/6□□	✓
□□ (EU) No 617/2013□□	✓
ALPM (Alternative Low Power Mode) compatible	✓

Performance Summary

115V

Accredited	
□□□□ (>1450 load combinations)	89.036%
Average Noise Output (>1450 Load Combinations)	40.02dBA
PF□□□ (>1450 Load Combinations)	0.987
Efficiency With 10W (≤500W) or 2% (>500W) Load	75.624%
□□□□□	0.0149W
Non-Accredited	
12V Ripple (Full Load)	19.17mV
5V Ripple (Full Load)	9.77mV
3.3V Ripple (Full Load)	11.89mV
5VSB Ripple (Full Load)	9.88mV
12V Load Regulation	0.86%

5V Load Regulation	0.66%
3.3V Load Regulation	0.71%
5VSB Load Regulation	1.21%
Inrush Current	24.080A

230V

Accredited		
THD (%) (>1450 load combinations)	91.017%	
Average Noise Output (>1450 Load Combinations)	40.02dBA	
PF (%) (>1450 Load Combinations)	0.966	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
THD (%)	0.0698W	
Non-Accredited		
12V Ripple (Full Load)	19.70mV	
5V Ripple (Full Load)	9.45mV	
3.3V Ripple (Full Load)	11.82mV	
5VSB Ripple (Full Load)	9.55mV	
12V Load Regulation	0.85%	
5V Load Regulation	0.64%	
3.3V Load Regulation	0.67%	
5VSB Load Regulation	1.19%	
Inrush Current	47.720A	
12V Transient Response (150%)	11.29V	
5V Transient Response (150%)	4.847V	
3.3V Transient Response (150%)	3.147V	
5VSB Transient Response (150%)	4.904V	
THD (%) & PG (%)	15.70ms	
AC Loss to PWR_OK Hold Up Time	13.10ms	
PWR_OK Inactive to DC Loss Delay	2.60ms	
PSU Timings: T1 (20% / 100%)	60.0ms	61.0ms
PSU Timings: T3 (20% / 100%)	132.0ms	129.0ms
OPP (26.24°C / 42.15°C)	118.25%	118.25%

& PG

Hold-Up Time (ms)	15.7
AC Loss to PWR_OK Hold Up Time (ms)	13.1
PWR_OK Inactive to DC Loss Delay (ms)	2.6



Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.17 V	115.13 V	113.85 V	115.21 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.94 Hz	59.40 Hz	60.03 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.10 %	N/A	0.17 %	2.00 %	PASS
Real Power:	0.015 W	0.011 W	N/A	0.019 W	N/A	N/A
Apparent Power:	10.377 W	10.262 W	N/A	10.488 W	N/A	N/A
Power Factor:	0.001	N/A	N/A	N/A	N/A	N/A

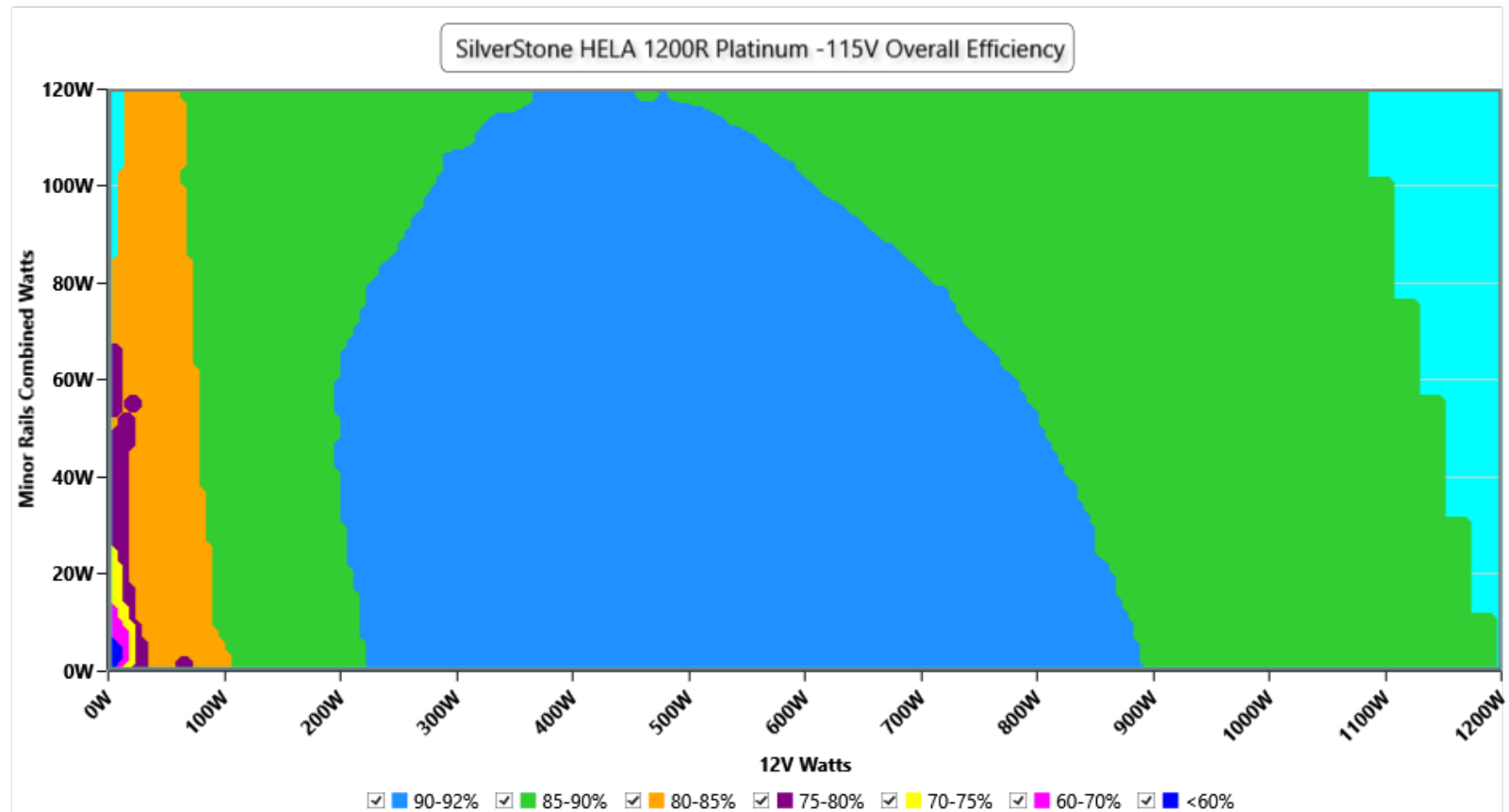
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	230.35 V	230.22 V	227.70 V	230.39 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:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.12 %	0.10 %	N/A	0.23 %	2.00 %	PASS
Real Power:	0.070 W	0.060 W	N/A	0.090 W	N/A	N/A
Apparent Power:	35.004 W	34.718 W	N/A	35.280 W	N/A	N/A

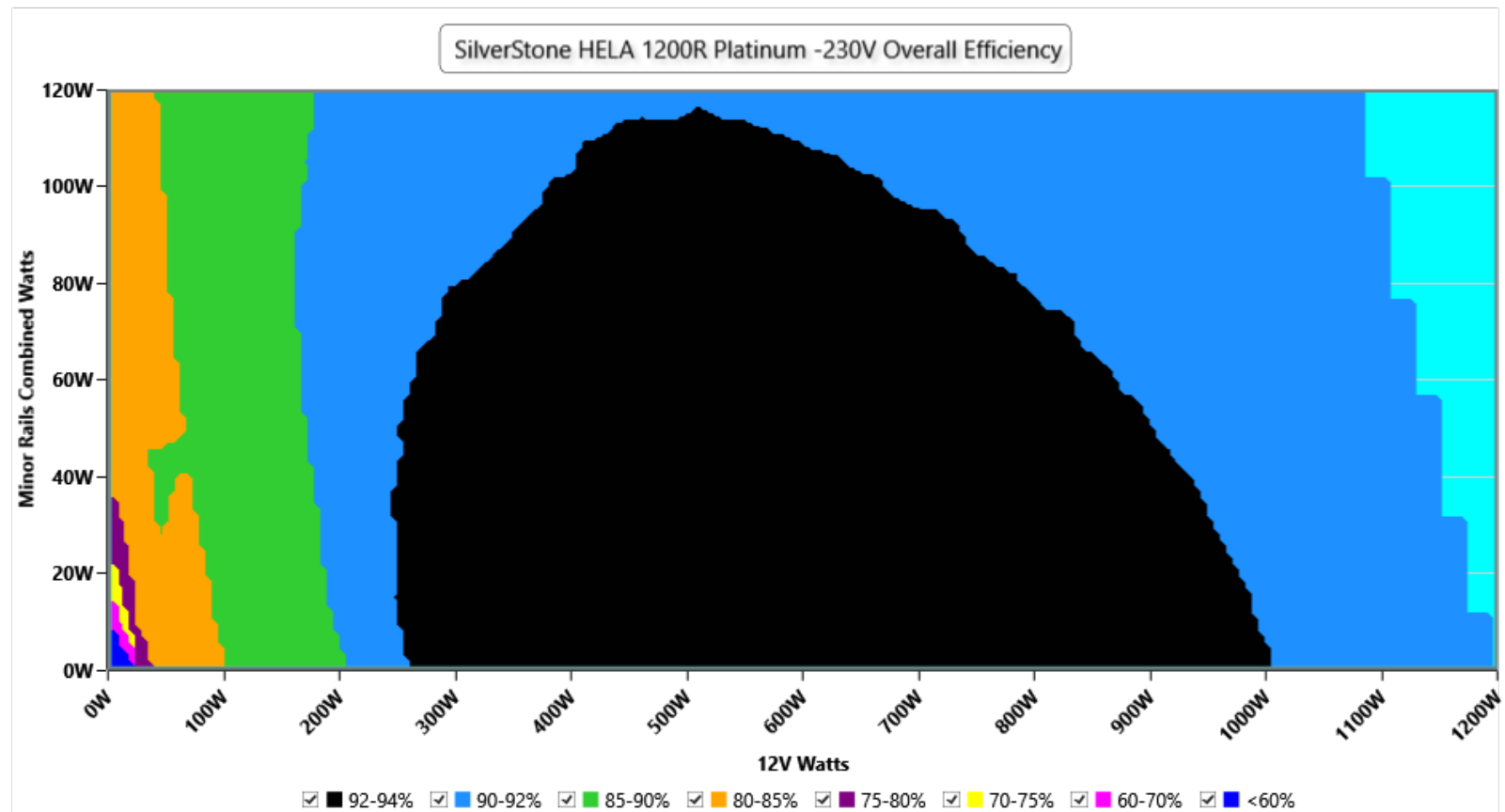
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A
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115V



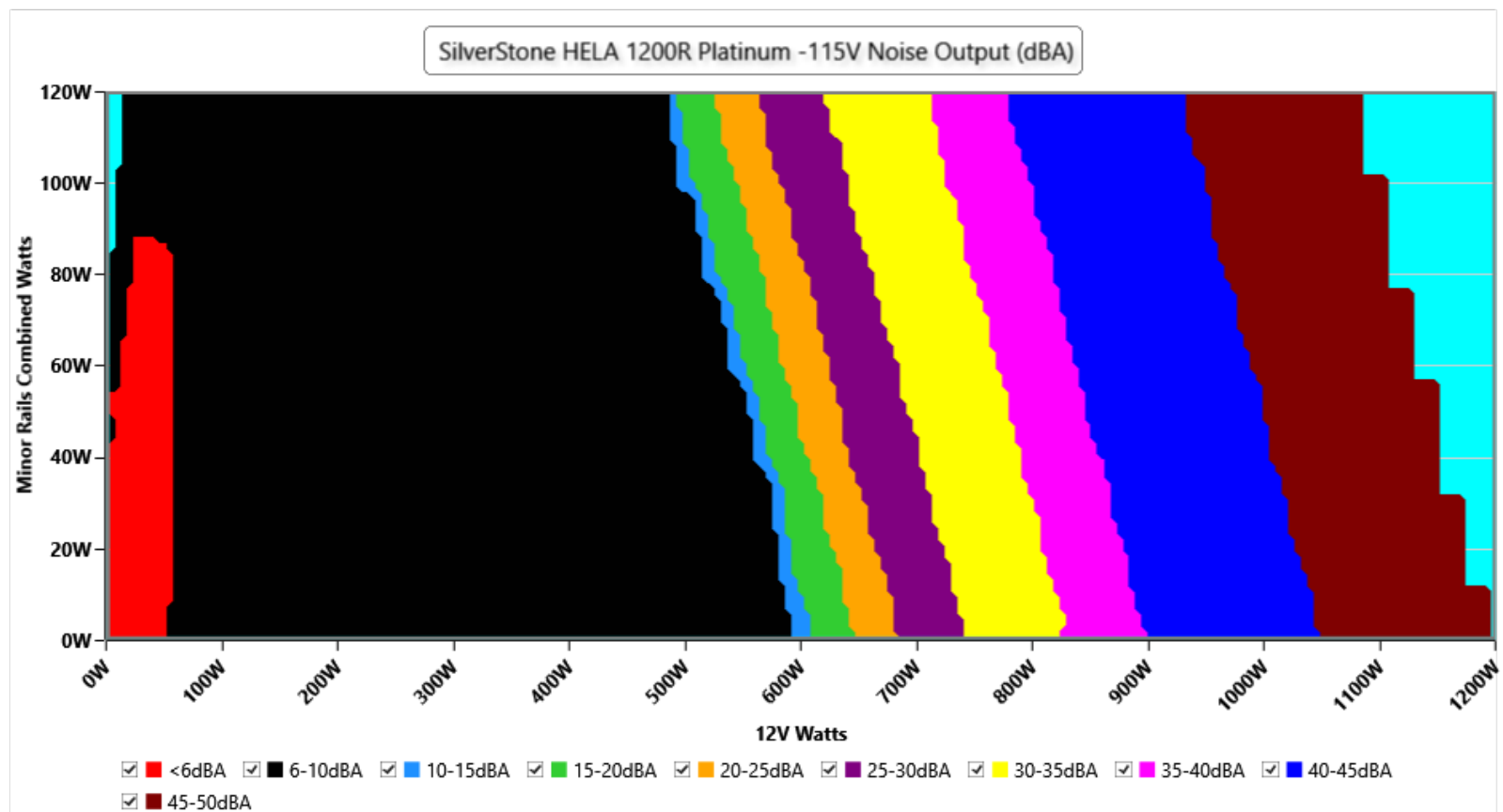
This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations



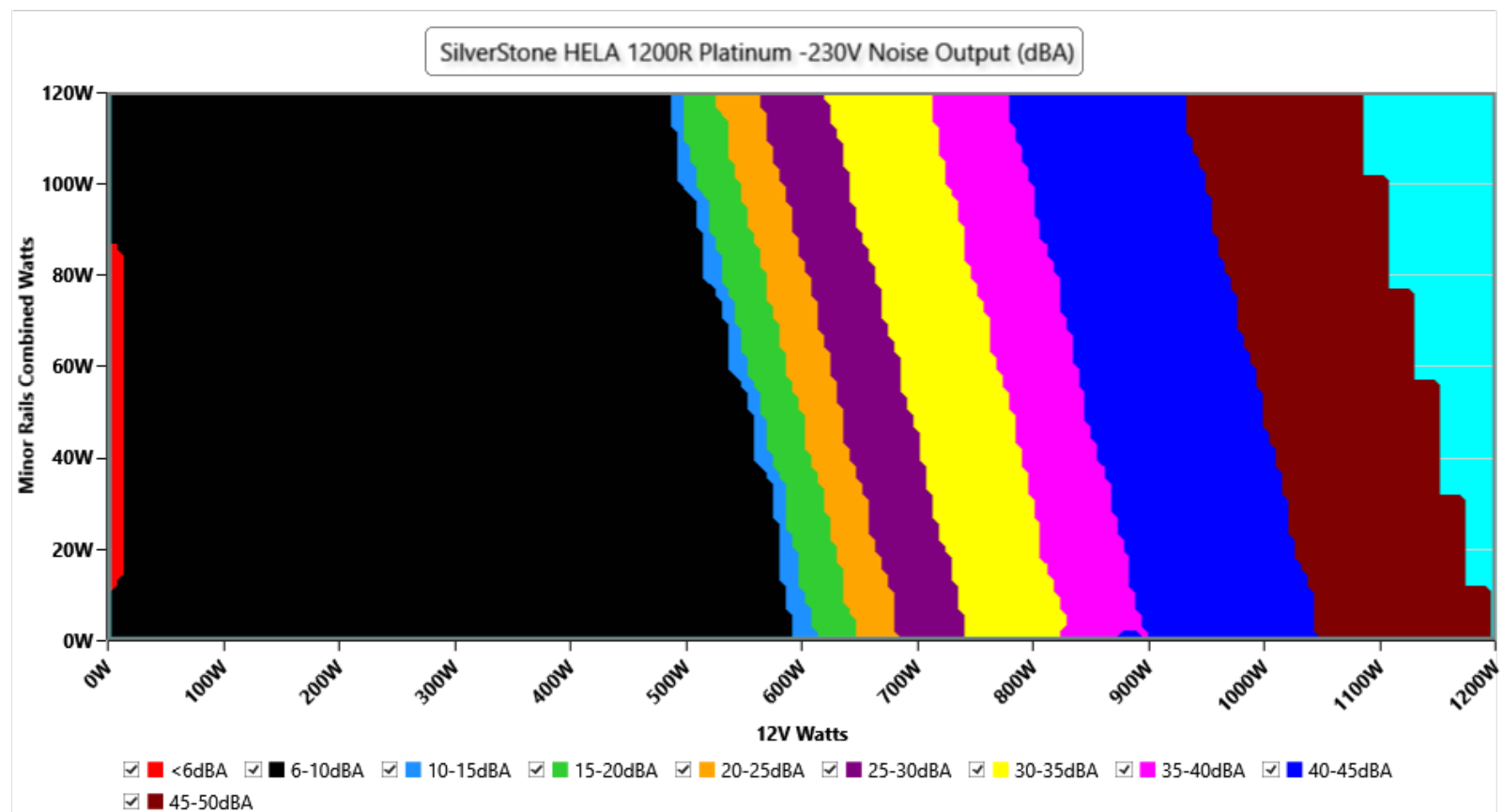
This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations



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



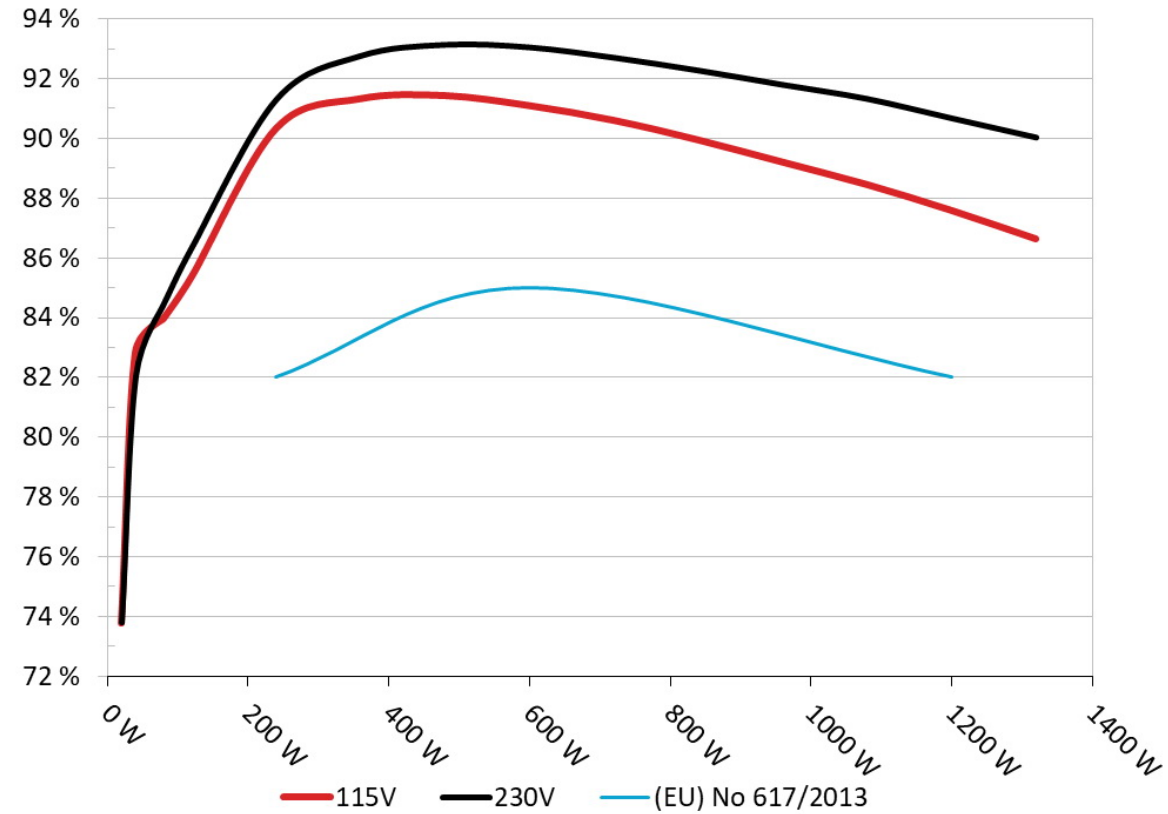
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance



Efficiency: SilverStone HELA 1200R Platinum

Ambient: 37°C - 47°C (98.6°F - 116.6°F)

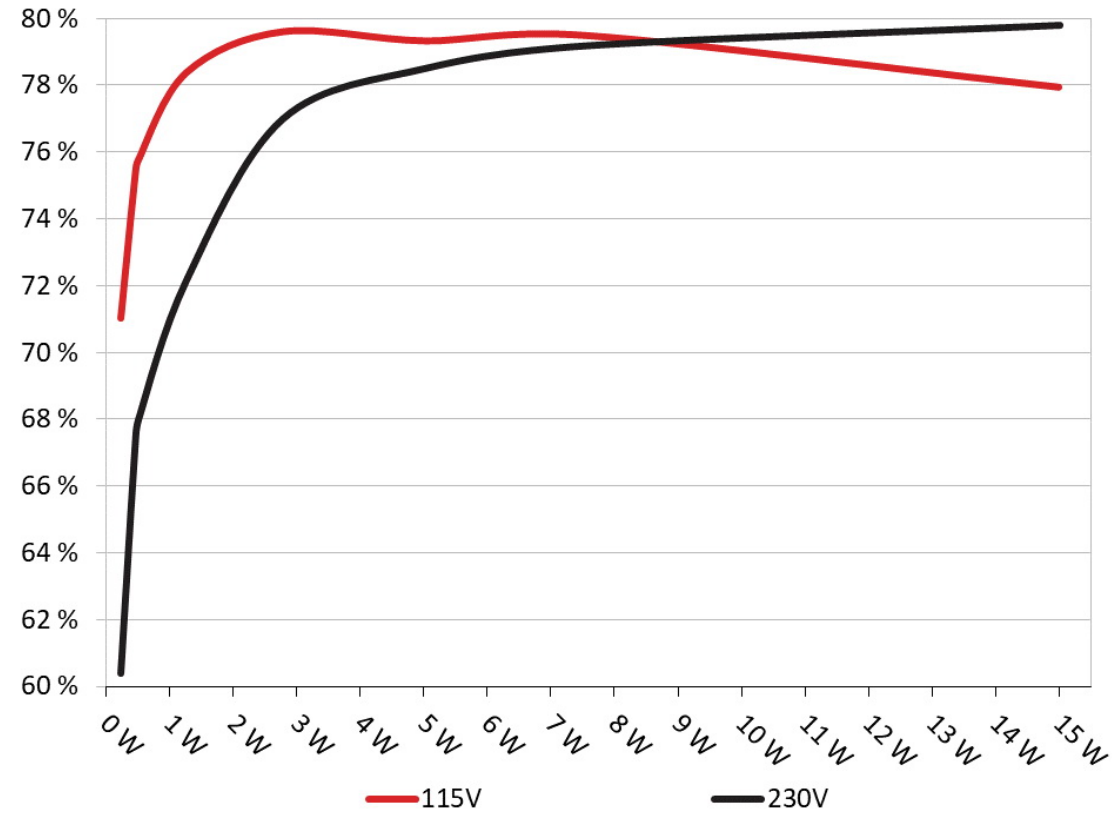


The PSU's efficiency under high ambient temperatures with 115V and 230V input. For this graph the results of the 10-110% load regulation table are used

5Vsb

5VSB Efficiency: SilverStone HELA 1200R Platinum

Ambient: 34°C - 36°C (93.2°F - 96.8°F)



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	0.228W	71.031%	0.032
	5.06V	0.321W		115.18V
2	0.09A	0.455W	75.335%	0.059
	5.058V	0.604W		115.17V
3	0.55A	2.775W	79.605%	0.268
	5.047V	3.486W		115.17V
4	1A	5.038W	79.329%	0.371
	5.039V	6.351W		115.16V
5	1.5A	7.543W	79.496%	0.427
	5.029V	9.489W		115.17V
6	2.999A	14.998W	77.946%	0.501
	5.001V	19.242W		115.17V

230V

#	5VSB	DC/AC ()		PF/AC
1	0.045A	0.228W	60.399%	0.011
	5.061V	0.378W		230.35V
2	0.09A	0.455W	67.269%	0.02
	5.058V	0.677W		230.35V
3	0.55A	2.775W	76.976%	0.103
	5.047V	3.605W		230.35V
4	1A	5.039W	78.499%	0.17
	5.039V	6.419W		230.35V
5	1.5A	7.545W	79.169%	0.231
	5.031V	9.531W		230.35V
6	2.999A	15.003W	79.783%	0.339
	5.002V	18.805W		230.35V

Supplementary Tests (For Reference)

10-110%

115V

	12V	5V	3.3V	5VSB	DC/AC ()		(RPM)	(dB[A])	(/)	PF/AC
10%	8.104A	1.995A	2.015A	1A	119.976	85.383%	0	<6.0	45.31°C	0.98
	12.138V	5.012V	3.274V	5.001V	140.514				40.92°C	115.13V
20%	17.216A	2.994A	3.025A	1.2A	239.915	90.344%	0	<6.0	46.18°C	0.988
	12.141V	5.011V	3.273V	4.998V	265.555				41.41°C	115.09V
30%	26.661A	3.493A	3.531A	1.402A	359.081	91.34%	0	<6.0	47.05°C	0.983
	12.116V	5.009V	3.271V	4.994V	393.128				41.79°C	115.07V
40%	36.205A	3.994A	4.037A	1.603A	479.481	91.449%	409	7.7	42.1°C	0.986
	12.106V	5.008V	3.27V	4.99V	524.319				47.85°C	115.03V
50%	45.381A	4.993A	5.047A	1.804A	599.203	91.114%	467	8.9	43.1°C	0.989
	12.091V	5.007V	3.269V	4.989V	657.648				49.27°C	114.99V
60%	54.641A	5.993A	6.059A	2A	719.686	90.621%	852	27.3	43.35°C	0.99
	12.077V	5.006V	3.268V	4.986V	794.179				49.92°C	114.95V
70%	63.872A	6.994A	7.072A	2.207A	839.475	89.966%	1147	36.1	43.46°C	0.992
	12.061V	5.005V	3.266V	4.983V	933.105				50.59°C	114.9V
80%	73.180A	7.998A	8.084A	2.308A	959.452	89.222%	1392	41.6	44.01°C	0.993
	12.047V	5.003V	3.264V	4.981V	1075.342				52.14°C	114.86V
90%	82.775A	8.498A	8.578A	2.41A	1079.238	88.472%	1814	49.0	44.3°C	0.994
	12.042V	5V	3.263V	4.978V	1219.857				53.4°C	114.81V
100%	92.184A	9.004A	9.105A	3.019A	1199.29	87.607%	2154	52.9	45.09°C	0.994
	12.037V	4.997V	3.261V	4.967V	1368.936				55.11°C	114.76V
110%	101.479A	10.01A	10.215A	3.02A	1319.916	86.651%	2156	52.9	46.64°C	0.995
	12.038V	4.994V	3.258V	4.966V	1523.263				57.57°C	114.71V
CL1	0.115A	14.407A	14.581A	0A	121.281	80.373%	441	8.2	42.6°C	0.985
	12.168V	5.011V	3.271V	5.036V	150.9				48.97°C	115.12V

CL2	0.113A	21.919A	0A	0A	111.384	78.904%	411	7.7	43.88°C	0.983
	12.172V	5.019V	3.271V	5.056V	141.167				51.32°C	115.13V
CL3	0.121A	0A	22.188A	0A	74.048	76.308%	409	7.7	44.76°C	0.974
	12.099V	5.012V	3.271V	5.012V	97.041				53.01°C	115.14V
CL4	99.685A	0A	0A	0A	1199.917	88.171%	1840	49.6	45.65°C	0.994
	12.037V	5.011V	3.268V	5.011V	1360.917				55.59°C	114.76V

The results above are not used in the certification process

230V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□ (RPM)	□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	8.104A	1.995A	2.015A	1A	119.975	86.38%	0	<6.0	45.31°C	0.911
	12.140V	5.013V	3.274V	5.002V	138.888				40.73°C	230.31V
20%	17.218A	2.993A	3.025A	1.2A	239.911	91.321%	0	<6.0	46.04°C	0.958
	12.139V	5.011V	3.273V	4.998V	262.709				41.08°C	230.3V
30%	26.663A	3.493A	3.53A	1.401A	359.057	92.775%	0	<6.0	46.32°C	0.969
	12.114V	5.01V	3.271V	4.995V	387.021				41.12°C	230.28V
40%	36.215A	3.993A	4.037A	1.603A	479.443	93.15%	407	7.6	41.95°C	0.976
	12.101V	5.008V	3.27V	4.991V	514.701				47.51°C	230.27V
50%	45.407A	4.992A	5.047A	1.804A	599.17	93.064%	475	9.1	42.31°C	0.978
	12.083V	5.008V	3.269V	4.989V	643.83				48.26°C	230.25V
60%	54.699A	5.993A	6.059A	2A	719.682	92.717%	854	27.3	42.73°C	0.979
	12.064V	5.006V	3.268V	4.986V	776.206				49.35°C	230.24V
70%	63.896A	6.993A	7.071A	2.206A	839.408	92.289%	1142	36.0	43.08°C	0.981
	12.055V	5.005V	3.267V	4.984V	909.544				50.12°C	230.22V
80%	73.193A	7.996A	8.082A	2.307A	959.387	91.812%	1389	41.5	43.25°C	0.983
	12.044V	5.004V	3.265V	4.982V	1044.944				51.32°C	230.21V
90%	82.789A	8.495A	8.577A	2.409A	1079.186	91.342%	1625	46.2	44.83°C	0.985
	12.039V	5.001V	3.263V	4.979V	1181.484				54.05°C	230.19V
100%	92.172A	9A	9.103A	3.018A	1199.23	90.692%	2152	52.8	45.02°C	0.985
	12.038V	4.999V	3.261V	4.969V	1322.294				55.05°C	230.17V

110%	101.464A	10.007A	10.214A	3.019A	1319.846	90.047%	2154	52.9	46.62°C	0.986
	12.039V	4.996V	3.259V	4.967V	1465.729				57.49°C	230.15V
CL1	0.113A	14.405A	14.581A	0A	121.271	81.73%	441	8.2	42.68°C	0.917
	12.167V	5.012V	3.271V	5.036V	148.381				48.21°C	230.32V
CL2	0.113A	21.912A	0A	0A	111.38	79.764%	412	7.7	43.35°C	0.911
	12.169V	5.02V	3.271V	5.057V	139.64				50.58°C	230.32V
CL3	0.121A	0A	22.186A	0A	74.046	76.573%	409	7.7	44°C	0.861
	12.096V	5.009V	3.272V	5.009V	96.707				52.05°C	230.33V
CL4	99.627A	0A	0A	0A	1199.857	91.216%	2024	51.2	45.75°C	0.985
	12.043V	5.011V	3.268V	5.011V	1315.414				55.68°C	230.17V

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	1.230A	0.497A	0.502A	0.199A	19.987	73.774%	0	<6.0	39.72°C	0.89
	12.060V	5.03V	3.284V	5.027V	27.094				36.62°C	115.16V
40W	2.708A	0.696A	0.704A	0.299A	39.989	82.847%	0	<6.0	40.03°C	0.934
	12.069V	5.027V	3.282V	5.023V	48.268				36.73°C	115.15V
60W	4.188A	0.896A	0.906A	0.399A	59.988	83.976%	0	<6.0	40.78°C	0.969
	12.064V	5.019V	3.278V	5.014V	71.432				37.02°C	115.15V
80W	5.660A	1.097A	1.108A	0.499A	79.929	85.622%	0	<6.0	41.28°C	0.974
	12.067V	5.015V	3.276V	5.009V	93.344				37.3°C	115.14V

The results above are not used in the certification process

230V

□□	12V	5V	3.3V	5VSB	DC/AC (□□)	□□	□□□□ (RPM)	□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
20W	1.230A	0.497A	0.503A	0.199A	20	73.814%	0	<6.0	40.51°C	0.497
	12.068V	5.031V	3.283V	5.028V	27.095				37.38°C	230.32V
40W	2.707A	0.696A	0.704A	0.299A	39.996	82.06%	0	<6.0	41.26°C	0.692
	12.074V	5.027V	3.282V	5.023V	48.74				37.8°C	230.32V
60W	4.186A	0.896A	0.906A	0.399A	59.992	84.485%	0	<6.0	42.44°C	0.794
	12.069V	5.02V	3.278V	5.015V	71.011				38.72°C	230.32V
80W	5.659A	1.096A	1.108A	0.499A	79.94	86.478%	0	<6.0	43.09°C	0.852
	12.072V	5.016V	3.276V	5.01V	92.442				39.06°C	230.31V

The results above are not used in the certification process



115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	37.57mV	6.00mV	11.48mV	14.12mV	Pass
20% Load	6.28mV	4.98mV	6.12mV	8.55mV	Pass
30% Load	12.53mV	5.59mV	6.67mV	9.11mV	Pass
40% Load	11.32mV	6.35mV	7.18mV	8.35mV	Pass
50% Load	44.91mV	8.39mV	14.66mV	16.24mV	Pass
60% Load	41.54mV	8.18mV	11.88mV	14.11mV	Pass
70% Load	40.96mV	13.77mV	16.99mV	15.38mV	Pass
80% Load	12.30mV	7.42mV	12.23mV	8.55mV	Pass
90% Load	13.47mV	8.74mV	10.72mV	9.56mV	Pass
100% Load	19.17mV	9.77mV	11.89mV	9.88mV	Pass
110% Load	20.56mV	9.93mV	12.12mV	10.31mV	Pass
Crossload1	8.20mV	7.81mV	11.54mV	9.46mV	Pass
Crossload2	47.39mV	10.06mV	13.25mV	18.67mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	71.69mV	7.83mV	18.20mV	17.61mV	Pass
Crossload4	18.12mV	7.10mV	9.10mV	9.57mV	Pass

The results above are not used in the certification process

230V

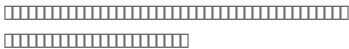
Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	6.18mV	4.78mV	6.37mV	7.74mV	Pass
20% Load	6.43mV	5.23mV	6.27mV	7.94mV	Pass
30% Load	13.80mV	5.74mV	7.54mV	7.84mV	Pass
40% Load	12.43mV	6.81mV	7.48mV	8.25mV	Pass
50% Load	10.81mV	6.51mV	7.38mV	7.64mV	Pass
60% Load	34.88mV	8.48mV	12.54mV	15.13mV	Pass
70% Load	11.39mV	12.50mV	16.99mV	12.85mV	Pass
80% Load	11.49mV	7.47mV	12.29mV	8.91mV	Pass
90% Load	13.42mV	8.74mV	10.72mV	9.16mV	Pass
100% Load	19.70mV	9.45mV	11.82mV	9.55mV	Pass
110% Load	21.22mV	10.76mV	12.62mV	9.43mV	Pass
Crossload1	8.22mV	8.38mV	11.17mV	9.07mV	Pass
Crossload2	37.97mV	10.77mV	11.22mV	14.93mV	Pass
Crossload3	41.26mV	6.05mV	14.81mV	9.41mV	Pass
Crossload4	19.18mV	7.31mV	9.21mV	10.60mV	Pass

The results above are not used in the certification process

SilverStone HELA 1200R Platinum



Top side



Cybenetics

CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

Product Number : SST-HA1200R-PM
MODEL (型號) (型号) : SST-AX1200MCPT-A
1200W Active PFC SWITCH POWER SUPPLY

AC INPUT	100-240V~ / 15.0A / 50-60Hz (不适用中国)				
(交流輸入) (交流輸入)	200-240V~ / 7.5A / 50-60Hz (适用中国, Only for China)				
DC OUTPUT	+3.3V	+5V	+12V	-12V	+5VSB
(直流輸出) (直流輸出)	22A	22A	100A	0.3A	3A
MAX. POWER	120W	1200W	3.6W	15W	
(最大總功率) (最大总功率)	1200W				

製造商: 銀欣科技股份有限公司
制造商: 银欣科技股份有限公司
Made In China 中國製造 中国制造

Manufacturer: SilverStone Technology
Address: 12F No. 168 Jiankang Rd.,
New Taipei City 23585 Taiwan

Power specifications label



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