Super Flower SF-1600F14SP

S2512199008

Lab ID SF16003132

Certification ID 263132

Test Result Report ID: 26PS3132A

Certificate Issue Date: Feb 24, 2026

230V

Scheme: ETA-EMI PSU



230V



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	Super Flower
Model	SF-1600F14SP
OEM/ODM	Super Flower
Serial Number	S2512199008
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	200-240
□□□□ (Arms)	10
□□□□ (Hz)	50-60

□□□□ (W)	1600
Operating Temperature (Continuous Full Load) (°C)	0 - 50
□□	ATX12V
□□□□	Fully Modular
Warranty	No Info
Cybenetics Measurements	
Dimensions (W x H x D)	150 x 85 x 150mm
Weight	1.75 kg (3.86 lb)
□□	140mm Double Ball Bearing Fan (ZFB142512D)
□□□□□	✓ (selectable)
Cybenetics Testing Information	
Lab ID	SF16003132
Date of receipt	Jan 2, 2026
Testing Date	Feb 11, 2026
Report Issued Date	Feb 24, 2026
□□□□□	The specified cable is for 200-240VAC only, because this PSU uses a C13/C14 combo instead of C19/C20. It doesn't get an ATX v3.x compliance badge because the 3.3V rail voltage drops too low during the transient tests (with additional capacitance).
Engineer Name	Ioannis Kalyviotis
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□□ (Non-accredited measurements)

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□□	□□□□	□□□□□□	**Gauge**	**Cable Type**
ATX □□ 20+4 pin (600mm)	1	1	16-20AWG	Tinned Copper
4+4 pin EPS 12V □□ (700mm)	2	2	16-18AWG	Tinned Copper
6+2pin PCIe□□ (700mm)	4	4	16AWG	Tinned Copper
12+4 pin PCIe (700mm) (600W)	2	2	16-26AWG	Tinned Copper
SATA□□ (500mm+130mm+130mm+130mm)	3	12	18AWG	Tinned Copper

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4-pin Molex (500mm+150mm+150mm+150mm)	1	4	18AWG	Tinned Copper
AC Power Cord (1385mm) - C13 coupler	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	✗

□□□□

□		3.3V	5V	12V	5VSB	-12V
□□□□	□□	20	20	133.3	3	0.5
	□	100		1599.6	15	6
□□□□□ (W)		1600				

Parts Description

General Data	
Manufacturer (OEM)	Super Flower
PCB Type	Double-Sided
Primary Side	
Transient Filter	7x Y caps, 3x X caps, 2x CM chokes, 1x MOV
Inrush Protection	NTC Thermistor SCK254R7 (4.7 Ohm @ 25°C) & Relay
Bridge Rectifier	2x GBU2506 (600V, 25A @ 100°C)
APFC MOSFETs	4x Infineon IPW60R120P7 (650V, 16A @ 100°C, Rds(on): 0.120Ohm)
APFC Boost Diode	2x CREE C3D10060 (600V, 10A @ 150°C)
Bulk Cap(s)	2x Rubycon (420V, 580uF, 2000h @ 105°C, MXZ)
Main Switchers	4x Infineon IPW60R070CFD7 (650V, 20A @ 100°C, Rds(on): 0.13Ohm)

APFC Controller	ON Semiconductor NCP1654 & Sync Power SPN5003 (reducing no load consumption)
Resonant Controller	N/A
IC Driver	N/A
Topology	Primary side: APFC, Full-Bridge & LLC Resonant Converter Secondary side: [12V] Synchronous Rectification & [Minor Rails] DC-DC converters
Secondary Side	
+12V MOSFETs	8x Infineon ISC019N04NM5 (40V, 120A @ 100°C, Rds(on): 1.9mOhm)
5V & 3.3V	DC-DC Converters: 4x Infineon BSC0902NS (30V, 67A @ 100°C, Rds(on): 2.6mOhm) PWM Controller(s): Anpec APW7159C
Filtering Capacitors	Electrolytic: 2x Nippon Chemi-Con (16V, 4700uF @ 105°C, W) 1x Nippon Chemi-Con (50V, 10uF @ 105°C, KY) 1x Rubycon (@ 105°C, YXG) 5x Rubycon (@ 105°C, ZLH) CapXon (16V, 330uF @ 105°C) Polymer: 22x Nippon Chemi-con, 6x FPCAP
Supervisor IC	Weltrend WT7518 (OVP, UVP, OCP, PG)
Fan Controller / Micro Controller	ON Semiconductor LM324ADG
Fan Model	ZIC ZFB142512D (140mm, 12V, 0.65A, Double Ball Bearing Fan)
5VSB Circuit	
Rectifier	PFC Device Corp. PFR20L60CT (60V, 10mOhm)
Standby PWM Controller	Chipown PN8733

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 230V

Accredited		
□□□□ (>1450 load combinations)		92.428%
Average Noise Output (>1450 Load Combinations)		42.61dBA
PF□□□ (>1450 Load Combinations)		0.962
Efficiency With 10W (≤500W) or 2% (>500W) Load		77.103%
□□□□□□		0.0998W
Non-Accredited		
12V Ripple (Full Load)		26.94mV
5V Ripple (Full Load)		22.66mV
3.3V Ripple (Full Load)		18.63mV
5VSB Ripple (Full Load)		11.24mV
12V Load Regulation		0.42%
5V Load Regulation		0.08%
3.3V Load Regulation		0.92%
5VSB Load Regulation		2.12%
Inrush Current		69.340A
12V Transient Response (200%)		11.21V
5V Transient Response (200%)		4.905V
3.3V Transient Response (200%)		3.076V
5VSB Transient Response (200%)		5.009V
□□□□ & PG□□		22.70ms
AC Loss to PWR_OK Hold Up Time		19.10ms
PWR_OK Inactive to DC Loss Delay		3.60ms
PSU Timings: T1 (20% / 100%)	95.0ms	94.0ms
PSU Timings: T3 (20% / 100%)	120.0ms	123.0ms
12V OCP (31.2°C / 44.4°C)	182.00A (136.53%), 12.018V	156.40A (117.33%), 12.014V
5V OCP (31.2°C / 44.4°C)	29.6A (148.00%), 5.032V	28.3A (141.50%), 5.036V
3.3V OCP (31.2°C / 44.4°C)	34.8A (174.00%), 3.302V	34.9A (174.50%), 3.297V
5VSB OCP (31.2°C / 44.4°C)	5.3A (176.67%), 5.013V	5.3A (176.67%), 5.013V
OPP (30.15°C / 43.11°C)	136.43%	118.31%

□□□□ & PG□□

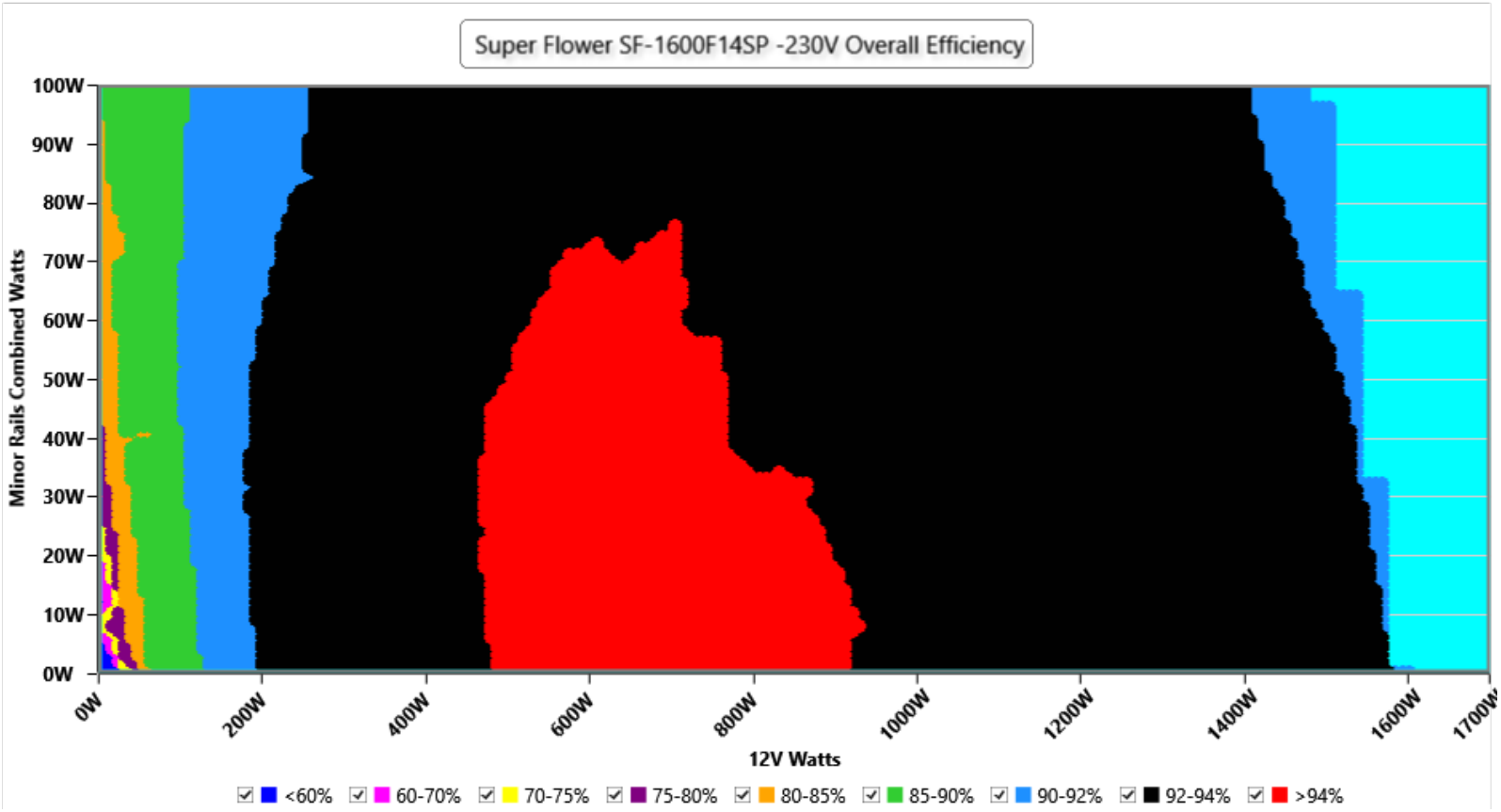
Hold-Up Time (ms)	22.7
AC Loss to PWR_OK Hold Up Time (ms)	19.1
PWR_OK Inactive to DC Loss Delay (ms)	3.6

□□□□

Tables 230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	230.10 V	230.07 V	227.70 V	230.11 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	50.00 Hz	49.50 Hz	50.00 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.415	1.415	1.340	1.416	1.490	PASS
Mains Voltage THD:	0.14 %	0.13 %	N/A	0.16 %	2.00 %	PASS
Real Power:	0.100 W	0.063 W	N/A	0.181 W	N/A	N/A
Apparent Power:	36.121 W	36.089 W	N/A	36.154 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

230V

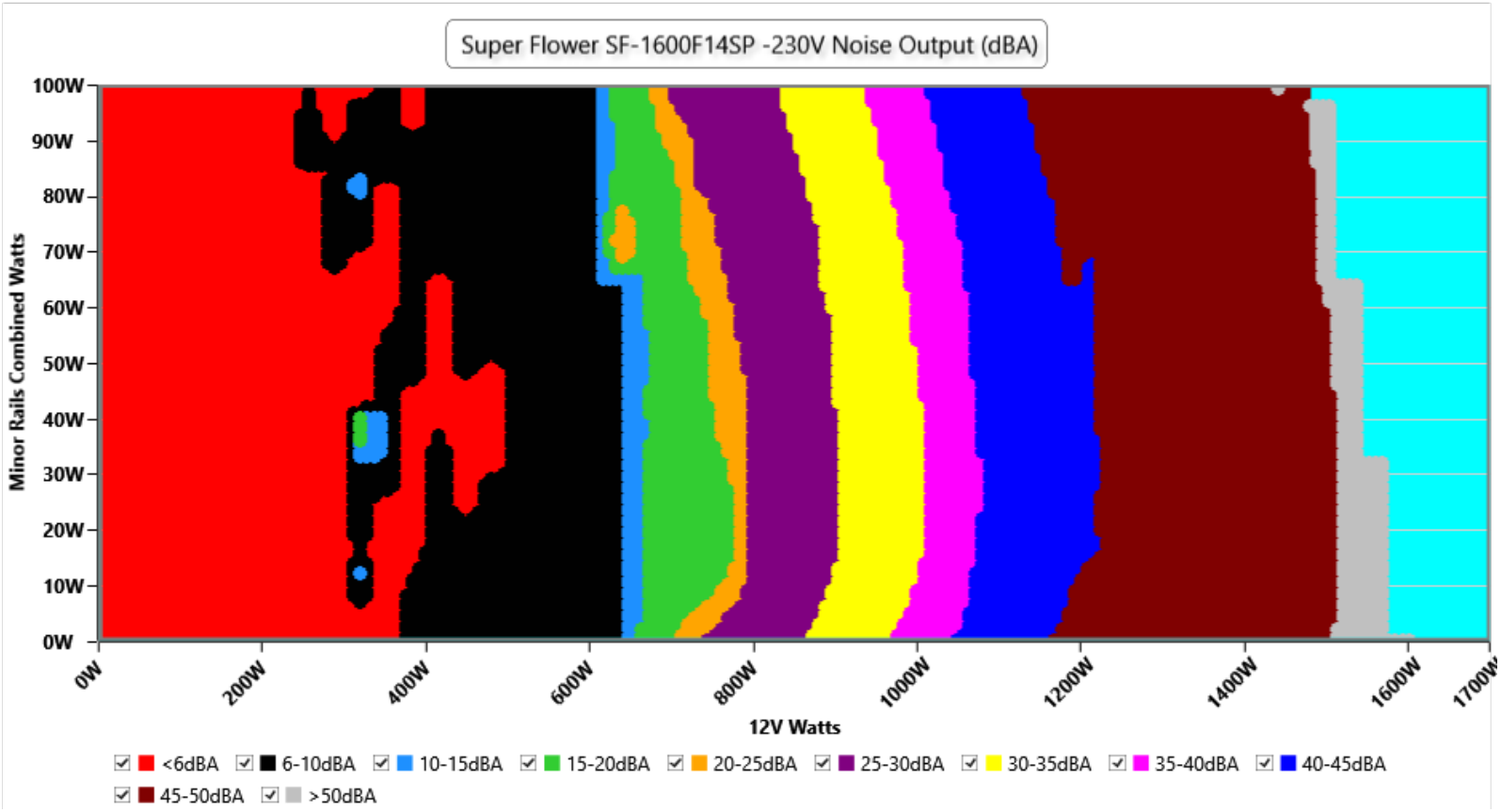


□□

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



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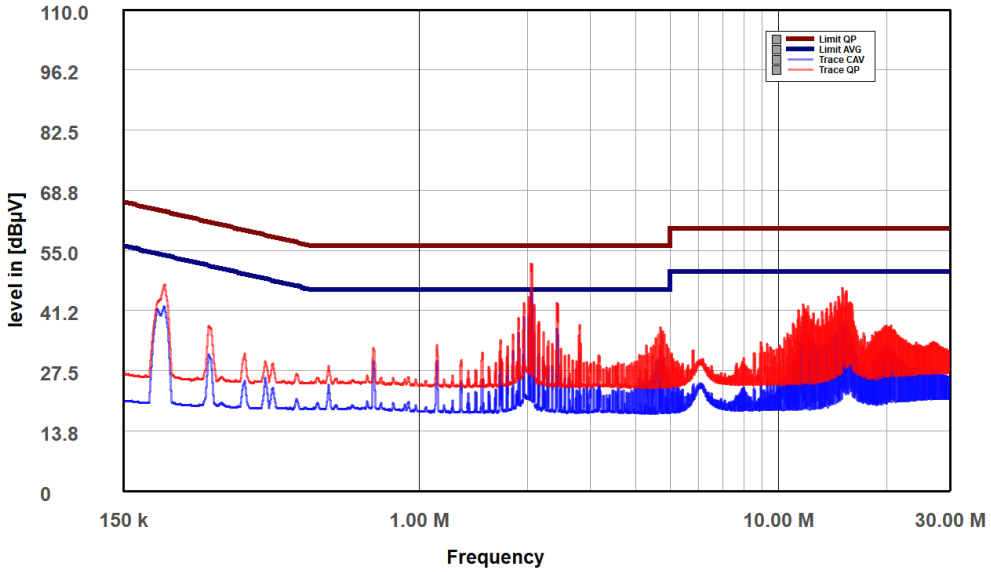
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

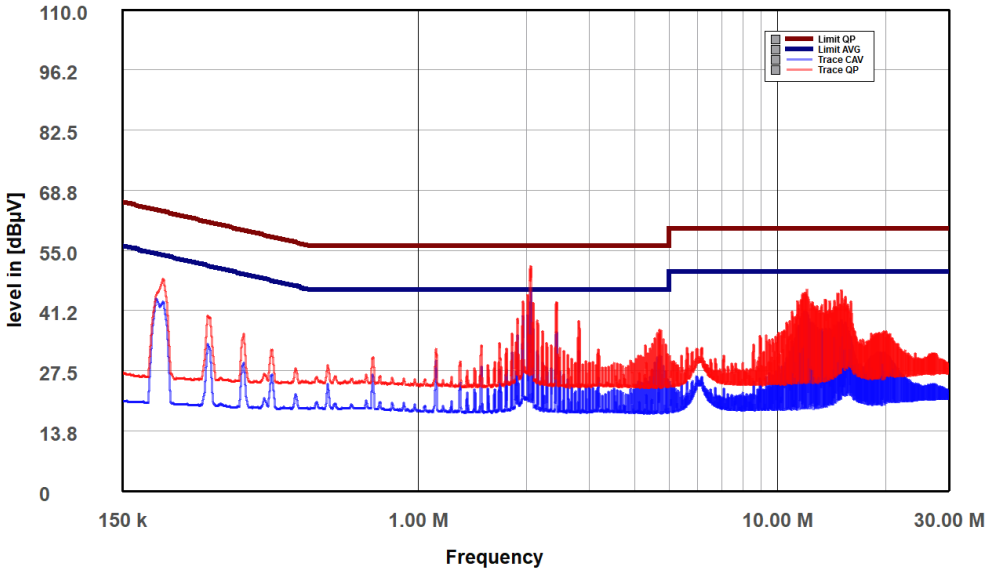
Conducted Emissions EN 55032 & CISPR 32

Super Flower SF-1500F14SP (SF16003132) (SF15003131) Neutral



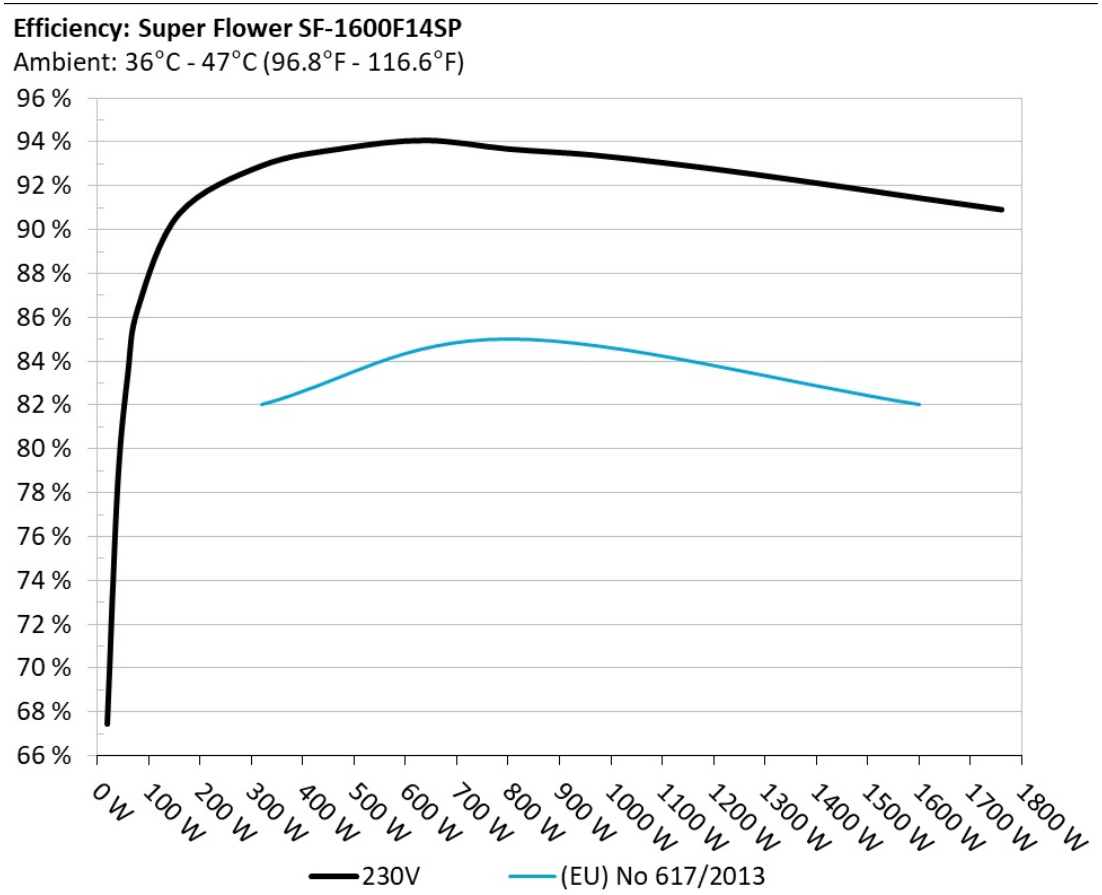
NEUTRAL

Super Flower SF-1500F14SP (SF16003132) (SF15003131) Phase



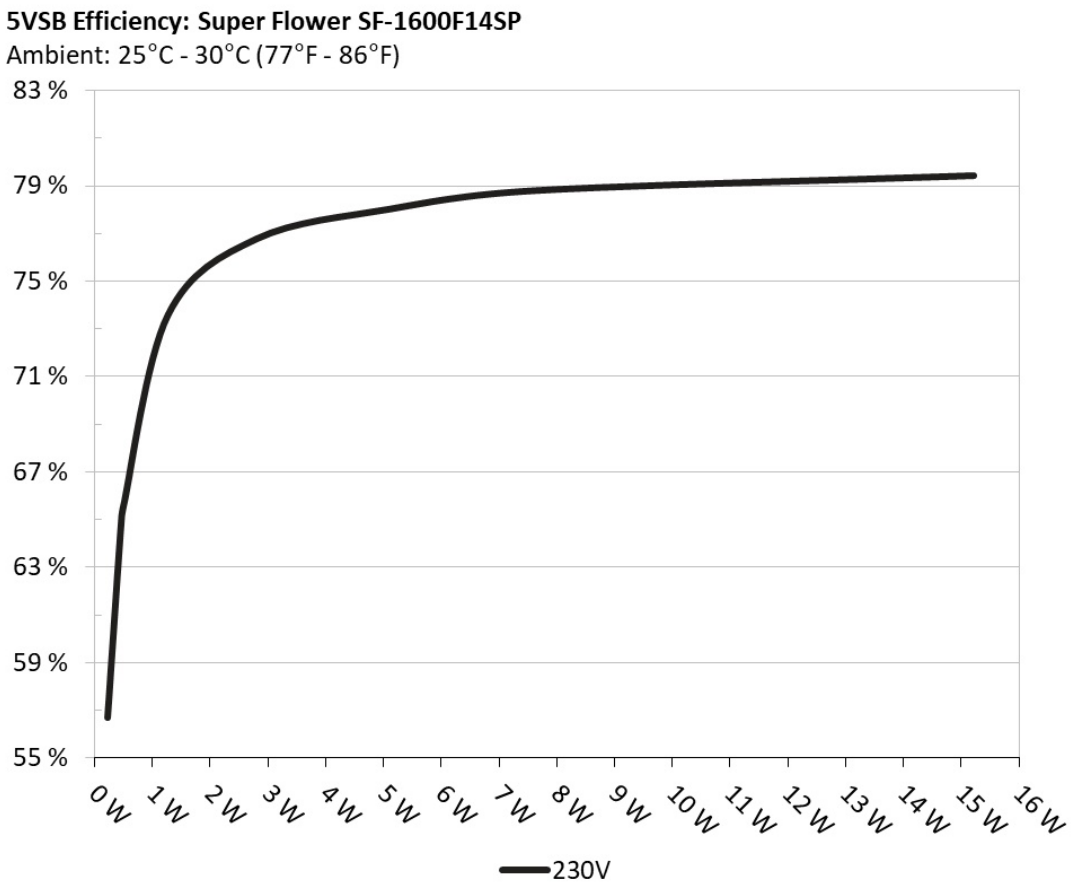
PHASE

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□□□□



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

□□□□ □□ 5Vsb □□ (ErP Lot3/6 & CEC) 230V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	**0.045A**	0.234W	56.708%	0.012
	5.123V	0.414W		230.34V

2	**0.09A**	0.462W	64.644%	0.02
	5.123V	0.717W		230.32V
3	**0.55A**	2.814W	76.778%	0.098
	5.115V	3.663W		230.29V
4	**1A**	5.109W	78.02%	0.163
	5.108V	6.55W		230.28V
5	**1.5A**	7.65W	78.801%	0.22
	5.099V	9.712W		230.28V
6	**3.001A**	15.221W	79.424%	0.324
	5.073V	19.165W		230.27V

Protection Features

OCP (Normal @ 31.2°C)	12V: 182.00A (136.53%), 12.018V 5V: 29.6A (148.00%), 5.032V 3.3V: 34.8A (174.00%), 3.302V 5VSB: 5.3A (176.67%), 5.013V
OCP (Hot @ 44.4°C)	12V: 156.40A (117.33%), 12.014V 5V: 28.3A (141.50%), 5.036V 3.3V: 34.9A (174.50%), 3.297V 5VSB: 5.3A (176.67%), 5.013V
OPP (Normal @ 30.1°C)	2182.89W (136.43%)
OPP (Hot @ 43.1°C)	1892.96W (118.31%)
OTP	✓ (175°C @ 12V Heatsink)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB to Earth: ✓ -12V to Earth: ✓
PWR_OK	Proper Operation
UVP (Full Load @ 90V)	✓
UVP (No Damage @ 80V)	✓
Conducted Emissions EN55032 & CISPR 32	✓
NLO	✓

Fan Failure Protection	✗
SIP	Surge: MOV Inrush: NTC & Bypass Relay

Supplementary Tests (For Reference)

10-110%□□□□ 230V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	**11.464A**	**1.995A**	**2.006A**	**0.981A**	160.017	90.712%	0	<6.0	50.75°C	0.891
	12.074V	5.013V	3.29V	5.096V	176.402				40.4°C	230.23V
20%	**23.957A**	**2.993A**	**3.012A**	**1.18A**	319.994	92.893%	460	10.3	40.51°C	0.945
	12.066V	5.013V	3.287V	5.086V	344.475				48.44°C	230.2V
30%	**36.743A**	**3.493A**	**3.519A**	**1.378A**	479.253	93.689%	461	10.3	41.16°C	0.969
	12.062V	5.011V	3.283V	5.079V	511.533				47.85°C	230.17V
40%	**49.647A**	**3.992A**	**4.025A**	**1.578A**	639.643	94.054%	795	24.8	41.86°C	0.979
	12.054V	5.011V	3.28V	5.07V	680.082				47.34°C	230.15V
50%	**62.157A**	**4.991A**	**5.036A**	**1.779A**	799.362	93.664%	1142	35.9	42.31°C	0.985
	12.048V	5.011V	3.277V	5.061V	853.437				46.86°C	230.12V
60%	**74.754A**	**5.99A**	**6.05A**	**1.98A**	959.838	93.395%	1442	43.2	42.57°C	0.986
	12.040V	5.01V	3.273V	5.052V	1027.723				46.69°C	230.08V
70%	**87.292A**	**6.989A**	**7.065A**	**2.182A**	1119.532	92.984%	1742	48.7	43.43°C	0.987
	12.033V	5.01V	3.27V	5.042V	1204.014				47.71°C	230.05V
80%	**99.861A**	**7.985A**	**8.08A**	**2.285A**	1279.54	92.505%	1931	49.8	43.73°C	0.989
	12.033V	5.009V	3.267V	5.034V	1383.216				47.94°C	230.03V
90%	**112.763A**	**8.484A**	**8.577A**	**2.388A**	1439.322	91.978%	2092	51.5	44.26°C	0.99
	12.033V	5.009V	3.264V	5.027V	1564.864				48.65°C	230V
100%	**125.475A**	**8.983A**	**9.106A**	**2.995A**	1599.317	91.426%	2159	51.8	45.09°C	0.991
	12.031V	5.009V	3.261V	5.01V	1749.306				49.79°C	229.97V
110%	**138.148A**	**9.98A**	**10.218A**	**2.999A**	1759.881	90.894%	2140	51.7	46.51°C	0.992
	12.027V	5.01V	3.259V	5.003V	1936.201				51.86°C	229.94V

CL1	**0.118A**	**11.995A**	**12.069A**	**0A**	101.311	80.388%	758	23.3	40.05°C	0.841
	12.078V	5.019V	3.289V	5.107V	125.724				43.7°C	230.25V
CL2	**0.116A**	**19.904A**	**0A**	**0A**	101.383	82.187%	477	11	41.18°C	0.836
	12.081V	5.023V	3.295V	5.111V	123.619				46.24°C	230.26V
CL3	**0.114A**	**0A**	**20.033A**	**0A**	67.378	76.589%	0	<6.0	40.25°C	0.78
	12.079V	5.029V	3.294V	5.107V	87.972				35.87°C	230.28V
CL4	**133.131A**	**0A**	**0A**	**0A**	1600.021	91.602%	2128	51.5	45.33°C	0.991
	12.018V	5.007V	3.263V	5.064V	1746.713				50.4°C	229.97V

The results above are not used in the certification process

20-80□□□□ 230V

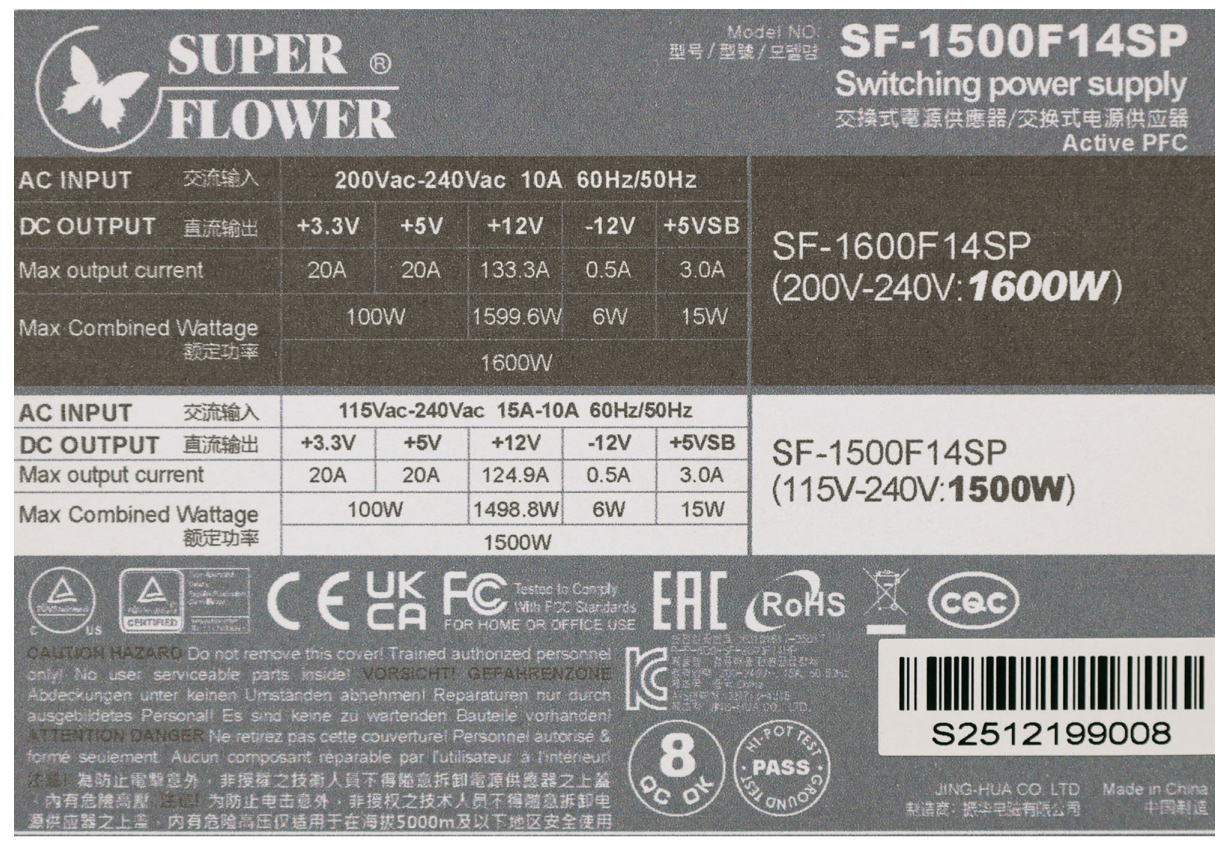
□□	**12V**	**5V**	**3.3V**	**5VSB**	**DC/AC (□)**	□□	□□□□ **(RPM)**	□□□□□□□ **(dB[A])**	□□ **(□□ /□□)**	**PF/AC □□**
20W	**1.230A**	**0.499A**	**0.501A**	**0.196A**	20.014	67.43%	0	<6.0	42.88°C	0.469
	12.082V	5.012V	3.291V	5.116V	29.679				36.27°C	230.26V
40W	**2.706A**	**0.698A**	**0.702A**	**0.293A**	40.009	78.268%	0	<6.0	44.94°C	0.659
	12.081V	5.012V	3.291V	5.113V	51.116				37.59°C	230.25V
60W	**4.184A**	**0.898A**	**0.902A**	**0.391A**	60.007	83.402%	0	<6.0	45.89°C	0.74
	12.080V	5.012V	3.291V	5.111V	71.95				38.16°C	230.25V
80W	**5.657A**	**1.097A**	**1.103A**	**0.489A**	79.958	86.426%	0	<6.0	48.51°C	0.787
	12.078V	5.013V	3.291V	5.108V	92.515				39.09°C	230.24V

The results above are not used in the certification process

□□□□ 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	11.60mV	15.20mV	11.07mV	7.28mV	Pass
20% Load	15.52mV	11.02mV	10.14mV	7.54mV	Pass
30% Load	18.87mV	13.03mV	11.07mV	7.69mV	Pass
40% Load	21.19mV	16.59mV	16.24mV	7.85mV	Pass
50% Load	22.89mV	19.94mV	20.84mV	7.64mV	Pass
60% Load	22.07mV	15.92mV	17.79mV	8.26mV	Pass





Test	12V	5V	3.3V	5VSB	Pass/Fail
70% Load	21.55mV	16.59mV	13.34mV	8.47mV	Pass
80% Load	22.63mV	18.39mV	14.94mV	8.88mV	Pass
90% Load	22.94mV	18.85mV	14.94mV	8.98mV	Pass
100% Load	26.94mV	22.66mV	18.63mV	11.24mV	Pass
110% Load	26.56mV	21.82mV	17.50mV	10.97mV	Pass
Crossload1	25.85mV	15.49mV	12.71mV	8.23mV	Pass
Crossload2	24.13mV	17.21mV	11.94mV	8.67mV	Pass
Crossload3	13.30mV	15.30mV	15.77mV	9.34mV	Pass
Crossload4	24.26mV	16.14mV	13.27mV	7.40mV	Pass

The results above are not used in the certification process

Super Flower SF-1600F14SP

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

Cybenetics 提供自愿性认证计划：电源方面有 ETA (效率)、 LAMBDA (噪声) 与 SAFE (安全与正确运行)；散热产品方面有 DELTA (机箱隔音) 与 PHI (风扇风量与静压)