Thermaltake Toughpower GF A3 1050W (CE-Link)

Serial Number PSTPD1050FNFAGULBSVHO1583

Lab ID TT10503365

Certification ID 263365

Test Result Report ID: 26PS3365A

Certificate Issue Date: Jul 28, 2026

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	Thermaltake
Model	Toughpower GF A3 1050W (CE-Link)
OEM/ODM	CE-Link
Serial Number	PSTPD1050FNFAGULBSVHO1583
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240

Rated Current (Arms)	8-16
Rated Frequency (Hz)	50-60
Rated Power (W)	1050
Operating Temperature (Continuous Full Load) (°C)	0 - 45
Type	ATX12V
Cable Design	Fully Modular
Warranty	10 years
Cybenetics Measurements	
Dimensions (W x H x D)	150 x 85 x 140mm
Weight	1.58 kg (3.48 lb)
Cooling	120mm Fluid Dynamic Bearing Fan (GQR1225D12H)
Semi-Passive Operation	✓ (selectable)
Cybenetics Testing Information	
Lab ID	TT10503365
Date of receipt	Jul 3, 2026
Testing Date	Jul 22, 2026
Report Issued Date	Jul 28, 2026
Engineer Name	Ioannis Kalyviotis
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors
(Non-accredited measurements)

Modular Cables				
Description	**Cable Count**	**Connector Count (Total)**	**Gauge**	**Cable Type**
ATX connector 24 pin (600mm)	1	1	18-22AWG	Tinned Copper
4+4 pin EPS12V (650mm)	2	2	16AWG	Tinned Copper
6+2 pin PCIe (500mm+150mm)	2	4	16-18AWG	Tinned Copper
6+2 pin PCIe (500mm)	1	1	16AWG	Tinned Copper
12+4 pin PCIe (600mm) (600W)	1	1	16-26AWG	Tinned Copper

Modular Cables				
SATA (500mm+150mm+150mm+150mm)	3	12	18AWG	Tinned Copper
4-pin Molex (500mm+150mm+150mm+150mm) / FFD (+155mm)	1	4 / 1	18-22AWG	Tinned Copper
AC Power Cord (1400mm) - C13 coupler	1	1	16AWG	-

Protection Features

Under Voltage Protection	✓
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	87.5	3	0.3
	Watts	100		1050	15	3.6
Total Max. Power (W)		1050				

Parts Description

General Data	
Manufacturer (OEM)	CE-Link
PCB Type	Double-Sided
Primary Side	
Transient Filter	4x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	1x Cantherm MF72-5D15 (5 Ohm @ 25°C) & Relay
Bridge Rectifier	2x HY GBU2506 (600V, 25A @ 100°C)

APFC MOSFETs	2x LonFET LSD55R140GT (550V, 15A @ 100°C, Rds(on): 0.14Ohm)
APFC Boost Diode	Maplesemi MSP10065G1 (650V, 10A @ 150°C)
Bulk Cap(s)	1x Nippon Chemi-Con (400V, 820uF, 2000h @ 105°C, KMW)
Main Switchers	4x LonFET LSD55R140GF (550V, 15A @ 100°C, Rds(on): 0.14Ohm)
APFC Controller	Champion CM6500UNX & Champion CM03AX (reducing no load consumption)
Resonant Controller	Champion CU6901T6X
Topology	Primary side: APFC, Full-Bridge & LLC Resonant Converter Secondary side: [12V] Synchronous Rectification & [Minor Rails] DC-DC converters
Secondary Side	
+12V MOSFETs	8x LonFET LSGN04R013WE (40V, 122A @ 100°C, Rds(on): 1.35mOhm)
5V & 3.3V	DC-DC Converters: 6x Vgsemi VS3610GPMT (30V, 72A @ 100°C, Rds(on): 3.2mOhm) PWM Controller(s): 1x Anpec APW7159C
Filtering Capacitors	Electrolytic: 11x 12 Kuang Gin (@ 105°C, WE) 1x Teapo (2000 ~ 3000h @ 105°C, SC) Polymer: 26x Teapo
Supervisor IC	Grenergy GR8313
Fan Model	TT-1225 GQR1225D12H (120mm, 12V, 0.35A, Fluid Dynamic Bearing Fan)
5VSB Circuit	
Rectifier	P43R1M
Standby PWM Controller	Sanken A6069H

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	✓
Conducted Emissions EN 55032 & CISPR 32	Passed

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	89.995%
Average Noise Output (>1450 Load Combinations)	41.33dBA
Average PF (>1450 Load Combinations)	0.984
Efficiency With 10W (≤500W) or 2% (>500W) Load	70.199%
Standby Power Consumption	0.0364W
Non-Accredited	
12V Ripple (Full Load)	41.56mV
5V Ripple (Full Load)	37.40mV
3.3V Ripple (Full Load)	37.28mV
5VSB Ripple (Full Load)	27.00mV
12V Load Regulation	0.70%
5V Load Regulation	0.28%
3.3V Load Regulation	0.45%
5VSB Load Regulation	2.39%
Inrush Current	31.140A

230V

Accredited	
Average Efficiency (>1450 load combinations)	92.016%
Average Noise Output (>1450 Load Combinations)	41.42dBA
Average PF (>1450 Load Combinations)	0.937
Efficiency With 10W (≤500W) or 2% (>500W) Load	72.081%
Standby Power Consumption	0.0710W

Non-Accredited		
12V Ripple (Full Load)		30.11mV
5V Ripple (Full Load)		22.77mV
3.3V Ripple (Full Load)		24.30mV
5VSB Ripple (Full Load)		17.91mV
12V Load Regulation		0.68%
5V Load Regulation		0.30%
3.3V Load Regulation		0.57%
5VSB Load Regulation		2.39%
Inrush Current		81.250A
12V Transient Response (200%)		11.34V
5V Transient Response (200%)		4.960V
3.3V Transient Response (200%)		3.196V
5VSB Transient Response (200%)		4.913V
Hold-Up Time & PWR_OK Signal		15.50ms
AC Loss to PWR_OK Hold Up Time		12.60ms
PWR_OK Inactive to DC Loss Delay		2.90ms
PSU Timings: T1 (20% / 100%)	104.0ms	105.0ms
PSU Timings: T3 (20% / 100%)	130.0ms	130.0ms
12V OCP (30.2°C / 41.8°C)	107.60A (122.97%), 11.989V	108.20A (123.66%), 11.980V
5V OCP (30.2°C / 41.8°C)	23.2A (116.00%), 5.045V	22.50A (112.50%), 5.046V
3.3V OCP (30.2°C / 41.8°C)	22.70A (113.50%), 3.333V	22.7A (113.50%), 3.337V
5VSB OCP (30.2°C / 41.8°C)	6.5A (216.67%), 4.849V	6A (200.00%), 4.861V
OPP (30.43°C / 41.85°C)	121.20%	121.20%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	15.5
AC Loss to PWR_OK Hold Up Time (ms)	12.6
PWR_OK Inactive to DC Loss Delay (ms)	2.9

Vampire Power

Tables

115V

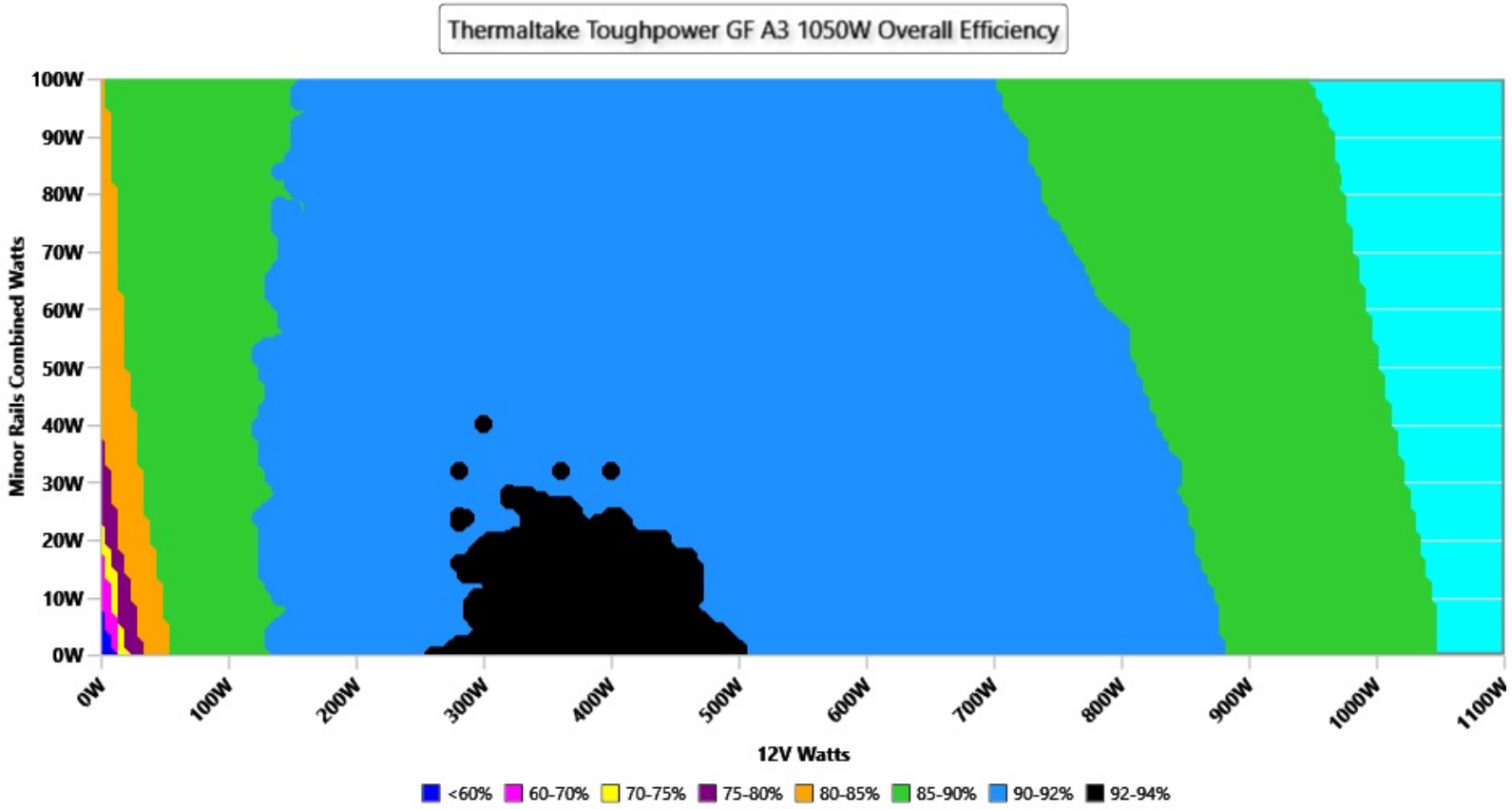
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.98 V	114.95 V	113.85 V	114.99 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.416	1.490	PASS
Mains Voltage THD:	0.13 %	0.10 %	N/A	0.17 %	2.00 %	PASS
Real Power:	0.036 W	-0.006 W	N/A	0.073 W	N/A	N/A
Apparent Power:	7.972 W	7.945 W	N/A	7.998 W	N/A	N/A
Power Factor:	0.007	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	229.95 V	227.70 V	230.00 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:	0.071 W	0.033 W	N/A	0.128 W	N/A	N/A
Apparent Power:	25.782 W	25.743 W	N/A	25.820 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

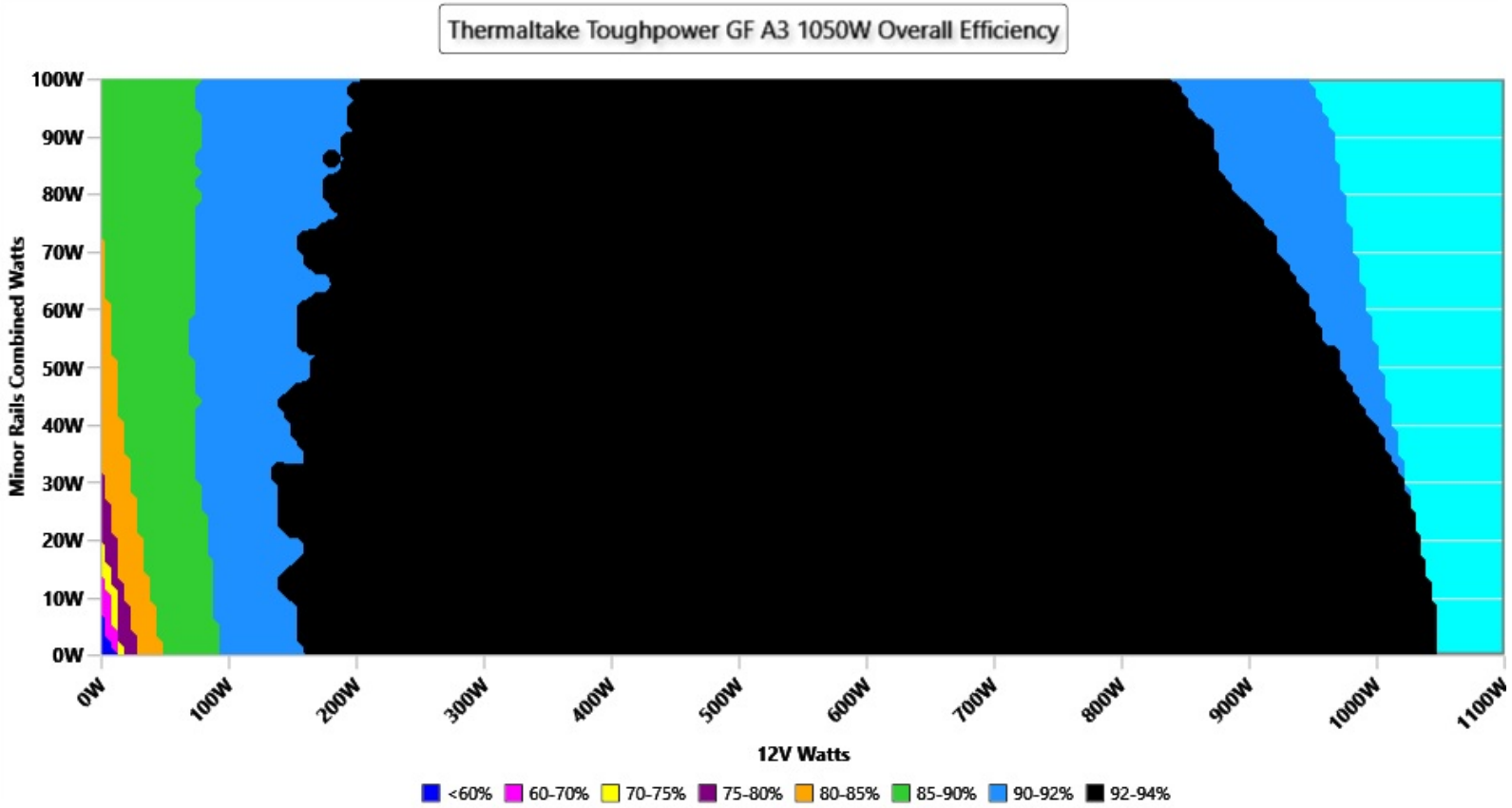
115V



INFO

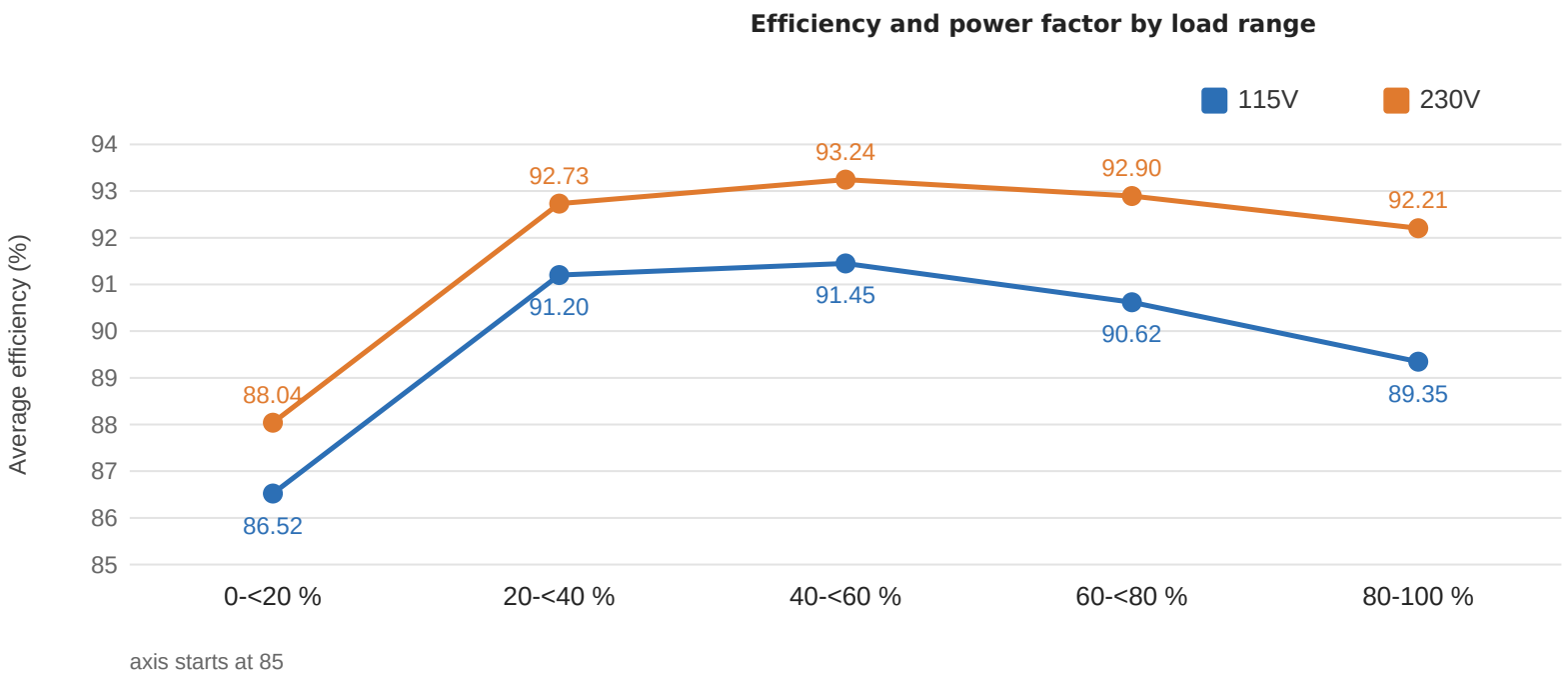
This graph depicts the PSU`s efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

230V

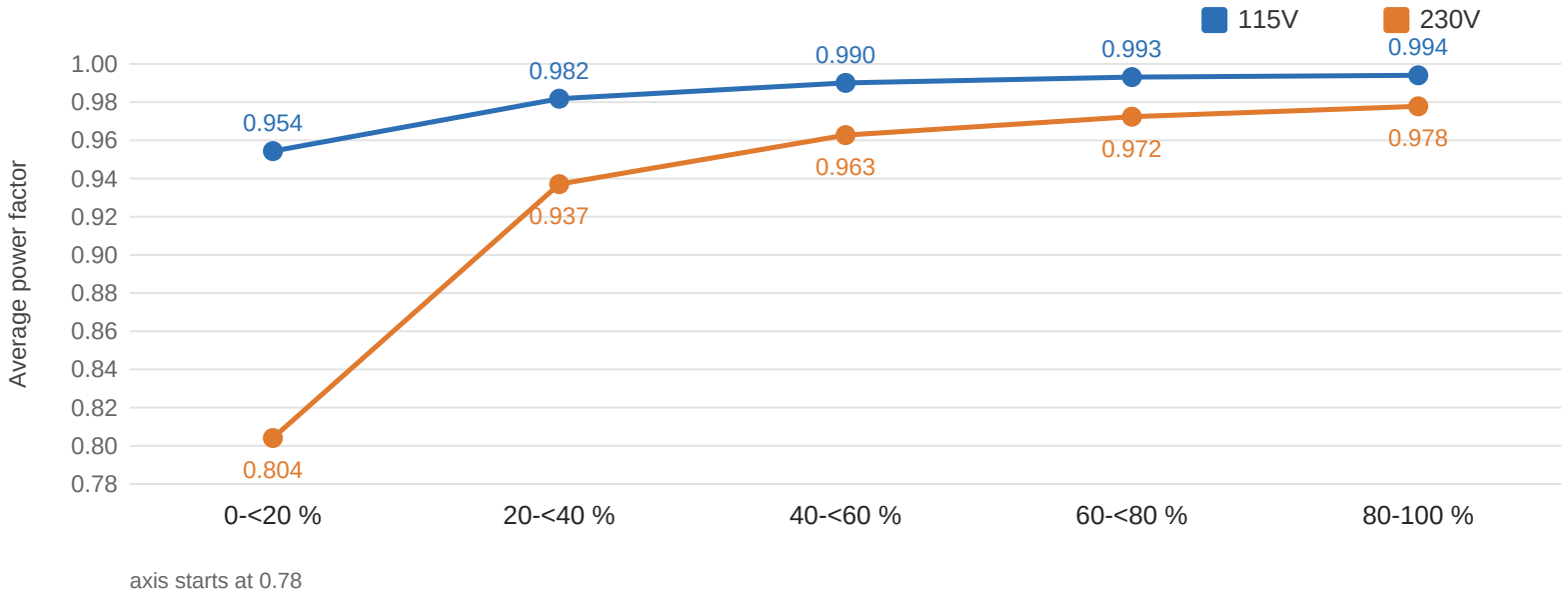


INFO

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



axis starts at 85



axis starts at 0.78

Load range	Points	Efficiency 115V	Efficiency 230V	PF 115V	PF 230V
0-<20 %	247 / 247	86.52%	88.04%	0.954	0.804
20-<40 %	327 / 327	91.20%	92.73%	0.982	0.937
40-<60 %	325 / 324	91.45%	93.24%	0.990	0.963
60-<80 %	326 / 327	90.62%	92.90%	0.993	0.972
80-100 %	330 / 330	89.35%	92.21%	0.994	0.978
70-100 % (High-Load)	494 / 491	89.67%	92.38%	0.994	0.977
All (published average)	1555 / 1555	89.99%	92.02%	0.984	0.937

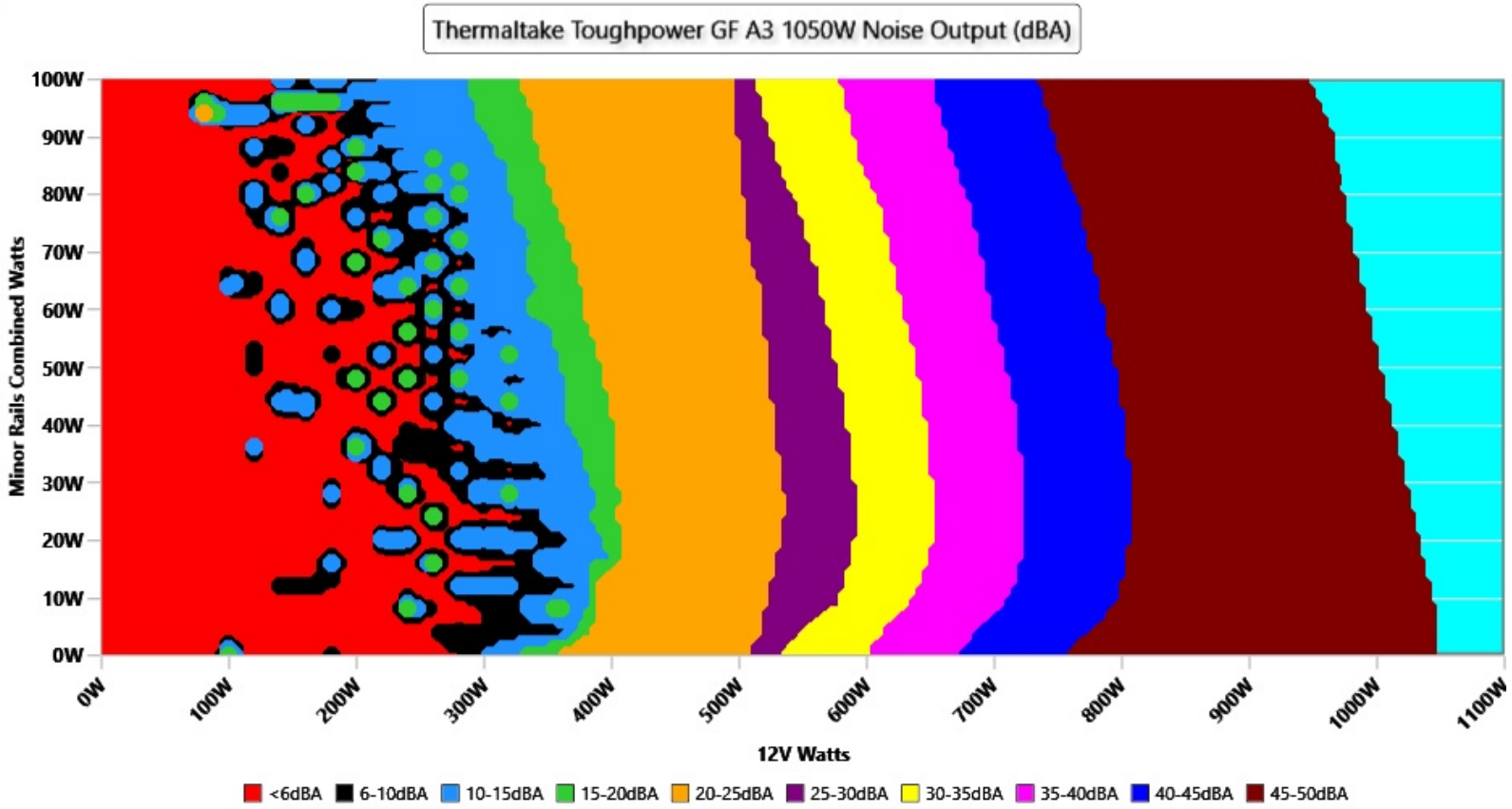
INFO

The average efficiency and power factor in five ranges of load. Calculated from the 1555 (115V) and 1555 (230V) load combinations of the certification sweep, the same data that ETA and LAMBDA use (test 0 excluded). Load is the total DC output as a share of the rated 1050 W. These are plain averages of the valid readings, as for the ETA rating, so the ranges combined give back the published averages.

Informational. Not part of the ETA or LAMBDA rating.

Noise Graph

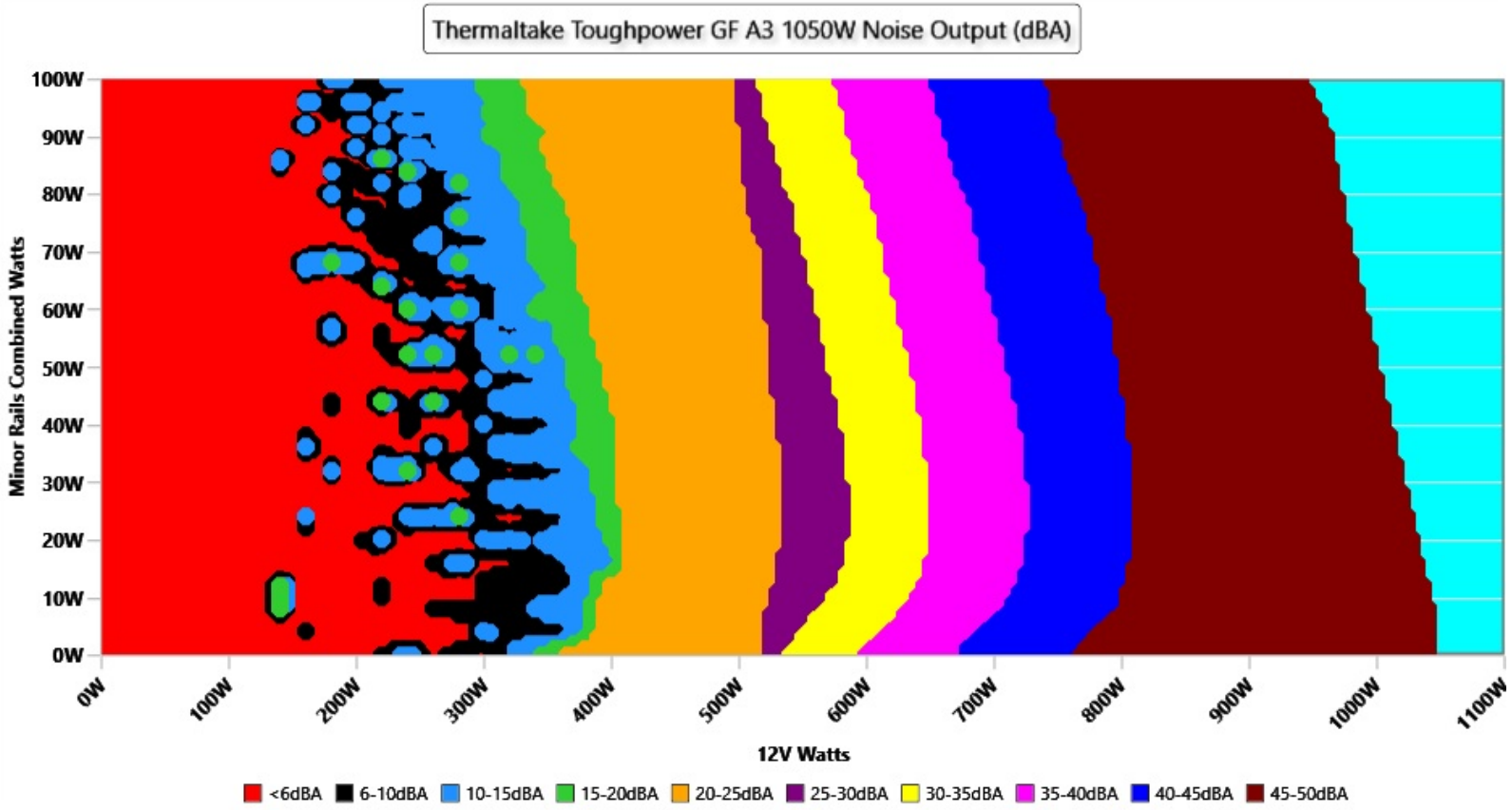
115V



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

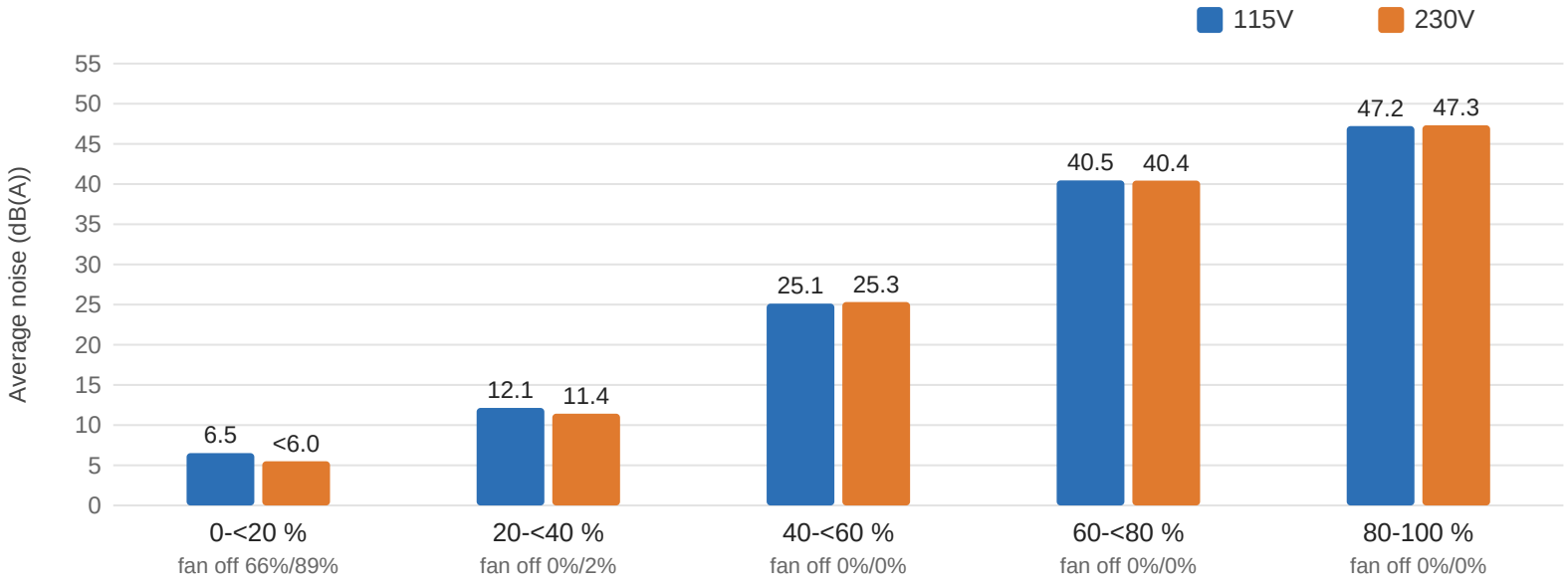
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Noise by load range

High-Load Index (70-100 % load)

Noise **46.2 dB(A)** at 115V and **46.3 dB(A)** at 230V · loudest point 47.6 dB(A)

Efficiency 89.67% / 92.38% · power factor 0.994 / 0.977 (115V / 230V)



Load range	Noise 115V avg (loudest)	Noise 230V avg (loudest)	Fan off 115V / 230V
0-<20 %	6.5 (20.3)	<6.0 (15.8)	66% / 89%
20-<40 %	12.1 (22.0)	11.4 (22.0)	0% / 2%
40-<60 %	25.1 (36.9)	25.3 (36.9)	0% / 0%
60-<80 %	40.5 (46.8)	40.4 (47.6)	0% / 0%
80-100 %	47.2 (47.6)	47.3 (47.6)	0% / 0%
70-100 % (High-Load)	46.2 (47.6)	46.3 (47.6)	0% / 0%
All (published average)	41.3 (47.6)	41.4 (47.6)	11% / 15%

INFO

The average noise in five ranges of load, the share of points with the fan stopped (semi-passive operation), and the High-Load Index: the same figures for all points at 70 % of the rated output and above. Calculated from the 1555 (115V) and 1555 (230V) load combinations of the certification sweep, the same data that ETA and LAMBDA use (test 0 excluded). Load is the total DC output as a share of the rated 1050 W. Noise is averaged on the energy scale, as for LAMBDA, so the ranges combined give back the published average noise. Each load combination is held for about five seconds; the stabilized readings at fixed loads are under "Noise under high ambient temperature". Below 6 dB(A), the floor of our sound meter, the table and the chart show <6.0. In the averages a stopped fan counts as 5 dB(A),

as in the published average.

Informational. Not part of the ETA or LAMBDA rating.

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) · 32.3 °C	562 RPM · 9.1 dB(A) · 40.5 °C	fan starts (<6.0 → 9.1)
20%	0 RPM · <6.0 dB(A) · 31.0 °C	795 RPM · 18.4 dB(A) · 40.5 °C	fan starts (<6.0 → 18.4)
50%	939 RPM · 23.3 dB(A) · 30.6 °C	1487 RPM · 36.6 dB(A) · 42.5 °C	**+13.3 dB(A)**
100%	2253 RPM · 44.3 dB(A) · 30.8 °C	2261 RPM · 44.4 dB(A) · 45.4 °C	**+0.1 dB(A)**

230V

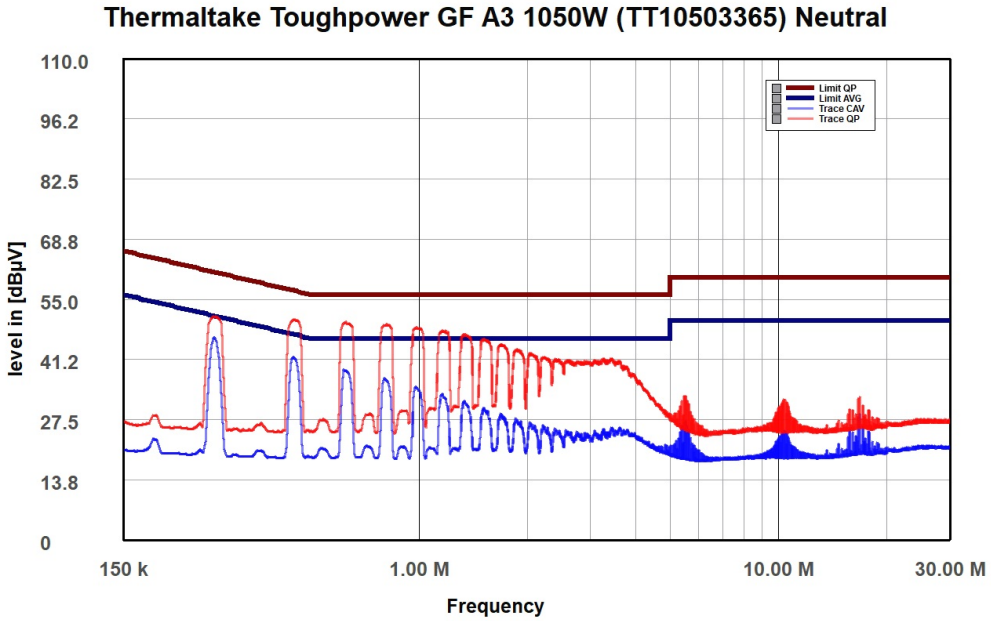
Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 35.3 °C	472 RPM · <6.0 dB(A) · 40.4 °C	<6.0 in both
20%	129 RPM · <6.0 dB(A) · 30.3 °C	568 RPM · 9.5 dB(A) · 41.0 °C	<6.0 → 9.5 dB(A)
50%	916 RPM · 22.5 dB(A) · 30.5 °C	1451 RPM · 35.8 dB(A) · 42.2 °C	**+13.3 dB(A)**
100%	2252 RPM · 44.3 dB(A) · 30.9 °C	2269 RPM · 44.5 dB(A) · 45.9 °C	**+0.2 dB(A)**

INFO

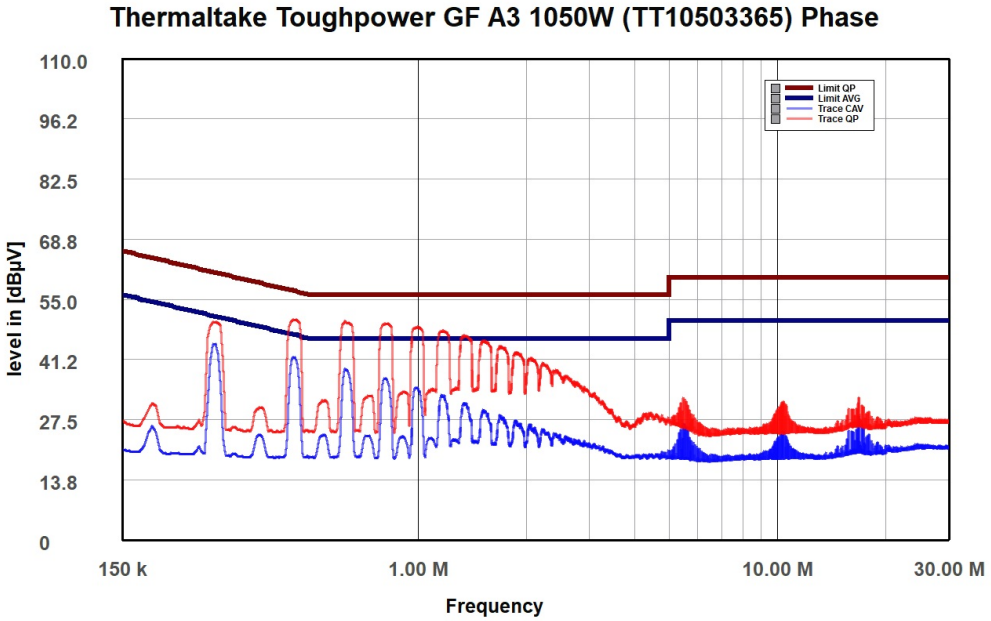
Fan speed, noise and the measured intake temperature at 10, 20, 50 and 100 % load, from the two load regulation tests: at normal ambient (about 30-32 °C) and at high ambient (about 40-47 °C). These are stabilized readings at fixed loads, not averages over the certification sweep, so they are indicative 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.

Conducted Emissions EN 55032 & CISPR 32



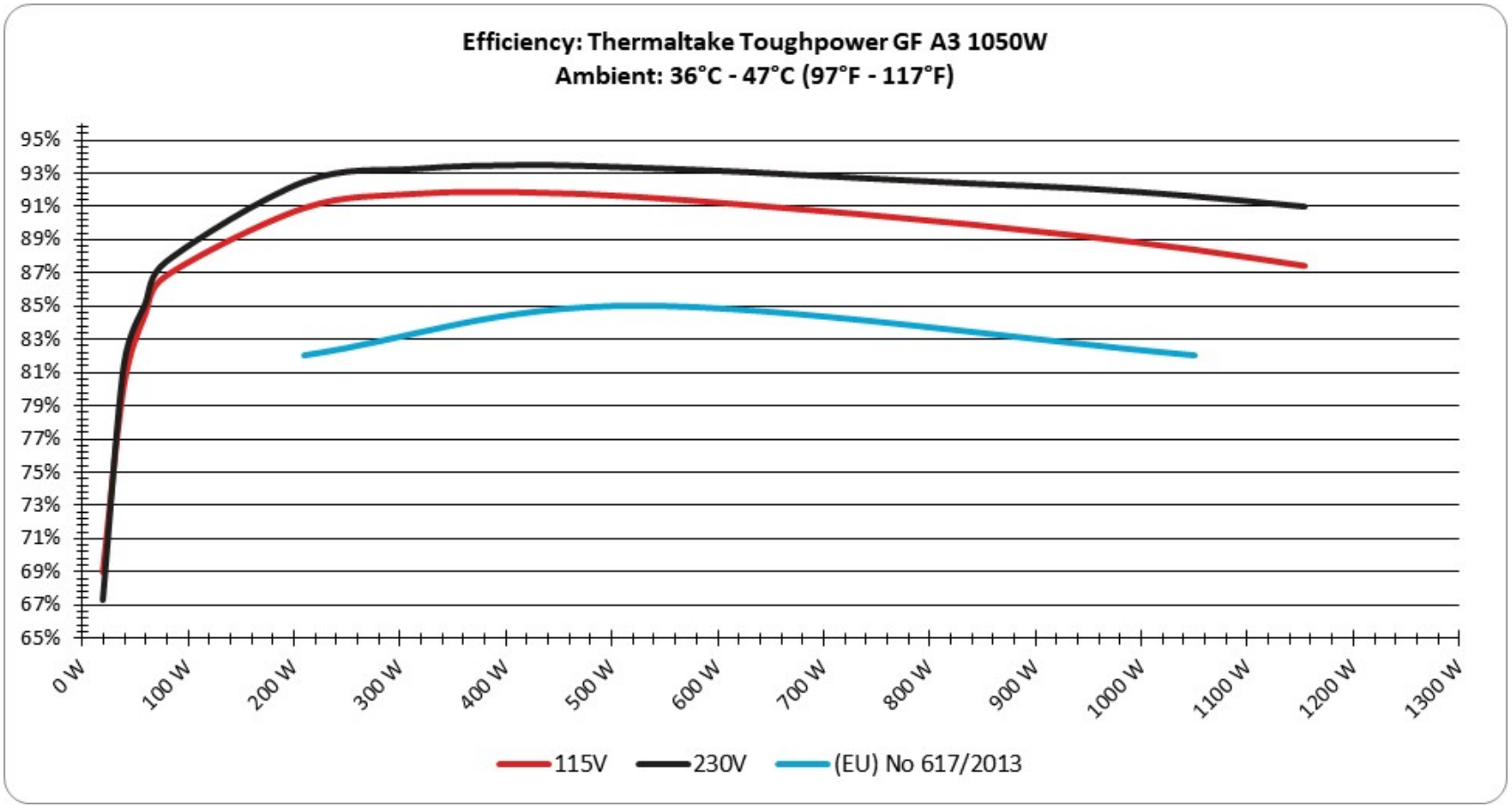
NEUTRAL



PHASE

Indicative Performance

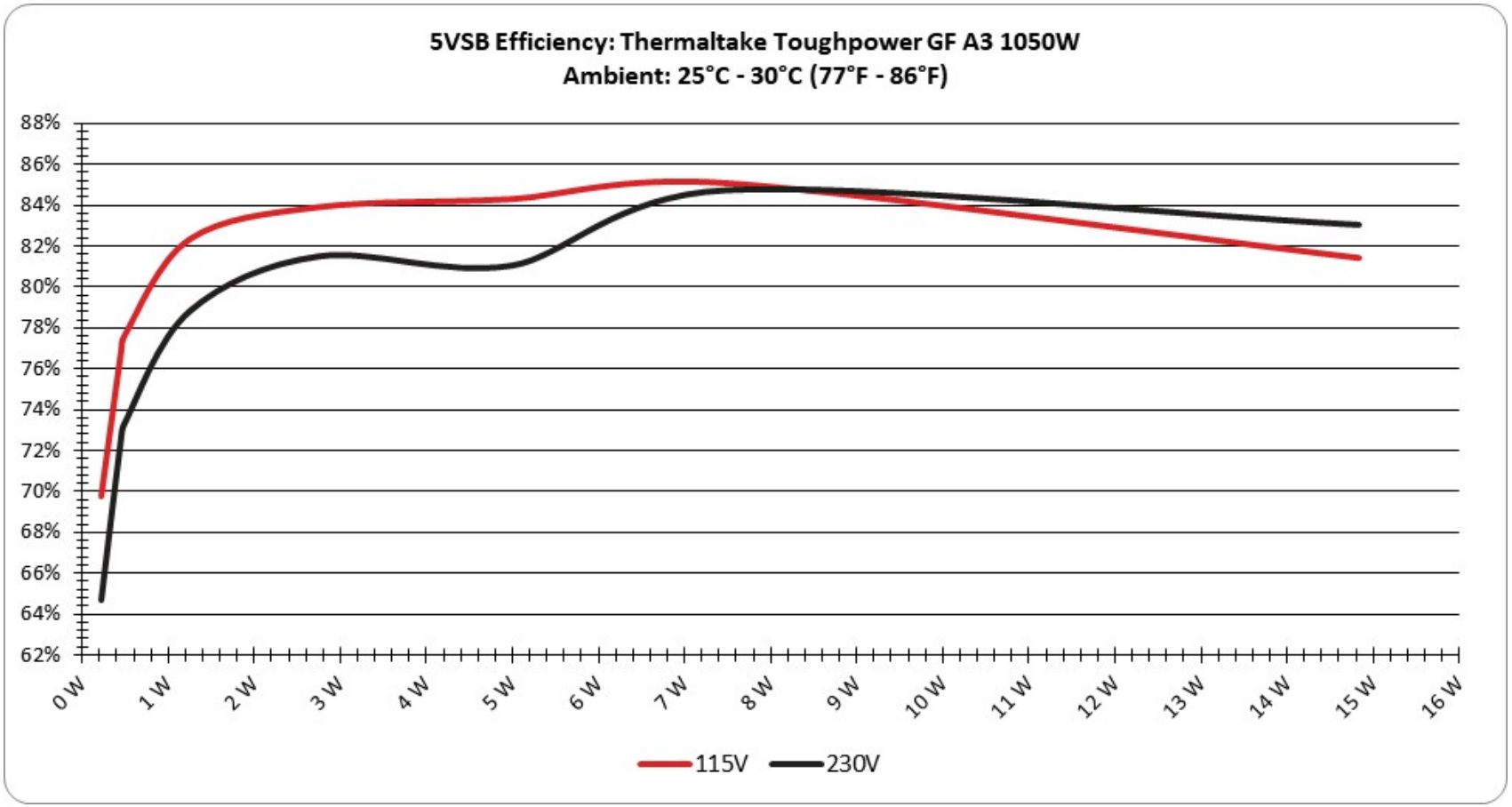
Efficiency under high ambient temperature



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**	0.226W	69.746%	0.041
	5.02V	0.324W		115.11V
2	**0.09A**	0.452W	76.702%	0.074
	5.019V	0.589W		115.1V
3	**0.55A**	2.754W	83.912%	0.296
	5.008V	3.282W		115.1V
4	**1A**	4.996W	84.306%	0.386
	4.996V	5.926W		115.09V
5	**1.5A**	7.476W	85.086%	0.429
	4.984V	8.787W		115.09V
6	**3A**	14.832W	81.423%	0.49
	4.944V	18.216W		115.08V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.226W	64.698%	0.014
	5.021V	0.349W		230.26V
2	**0.09A**	0.452W	72.43%	0.024
	5.02V	0.624W		230.27V
3	**0.55A**	2.754W	81.474%	0.124
	5.008V	3.38W		230.29V
4	**1A**	4.997W	81.023%	0.202
	4.997V	6.167W		230.3V
5	**1.5A**	7.477W	84.701%	0.256
	4.984V	8.827W		230.3V
6	**3A**	14.84W	83.01%	0.351
	4.947V	17.877W		230.3V

Protection Features

OCP (Normal @ 30.2°C)	12V: 107.6A (122.97%), 11.989V 5V: 23.2A (116%), 5.045V 3.3V: 22.7A (113.5%), 3.333V 5VSB: 6.5A (216.67%), 4.849V
OCP (Hot @ 41.8°C)	12V: 108.2A (123.66%), 11.98V 5V: 22.5A (112.5%), 5.046V 3.3V: 22.7A (113.5%), 3.337V 5VSB: 6A (200%), 4.861V
OPP (Normal @ 30.4°C)	1272.57W (121.2%)
OPP (Hot @ 41.9°C)	1272.6W (121.2%)
OTP	✓ (188°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 (Typical 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)

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%	**6.907A**	**1.978A**	**1.972A**	**0.997A**	104.958	88.114%	562	9.1	40.45°C	0.963
	12.069V	5.056V	3.347V	5.016V	119.116				41.97°C	115.07V
20%	**14.845A**	**2.968A**	**2.96A**	**1.198A**	209.957	90.894%	795	18.4	40.53°C	0.978
	12.061V	5.054V	3.345V	5.008V	230.991				42.91°C	115.04V
30%	**23.138A**	**3.464A**	**3.455A**	**1.4A**	314.964	91.754%	919	22.7	41.46°C	0.982
	12.054V	5.053V	3.343V	4.999V	343.27				43.47°C	115V
40%	**31.406A**	**3.959A**	**3.95A**	**1.603A**	419.524	91.838%	937	23.2	41.79°C	0.987
	12.046V	5.053V	3.342V	4.99V	456.811				44.57°C	114.97V
50%	**39.400A**	**4.95A**	**4.94A**	**1.806A**	524.816	91.566%	1487	36.6	42.47°C	0.99
	12.038V	5.051V	3.34V	4.982V	573.155				44.95°C	114.94V
60%	**47.340A**	**5.942A**	**5.931A**	**2A**	629.277	91.077%	2022	44.2	42.89°C	0.992
	12.030V	5.05V	3.339V	4.976V	690.932				45.12°C	114.91V
70%	**55.360A**	**6.934A**	**6.922A**	**2.214A**	734.661	90.531%	2248	44.3	43.3°C	0.993
	12.022V	5.049V	3.338V	4.968V	811.505				45.77°C	114.87V
80%	**63.394A**	**7.924A**	**7.911A**	**2.316A**	839.462	89.909%	2254	44.3	43.82°C	0.994
	12.013V	5.048V	3.336V	4.966V	933.682				46.99°C	114.84V
90%	**71.840A**	**8.42A**	**8.393A**	**2.418A**	944.847	89.202%	2256	44.3	44.81°C	0.994
	12.004V	5.047V	3.336V	4.961V	1059.227				48.66°C	114.81V
100%	**80.032A**	**8.917A**	**8.906A**	**3.04A**	1049.652	88.399%	2261	44.4	45.37°C	0.994
	11.995V	5.046V	3.334V	4.934V	1187.405				50.11°C	114.79V
110%	**88.118A**	**9.909A**	**9.987A**	**3.038A**	1154.271	87.426%	2264	44.5	47.05°C	0.995
	11.983V	5.045V	3.334V	4.936V	1320.287				52.91°C	114.73V
CL1	**0.115A**	**11.923A**	**11.859A**	**0A**	101.28	83.583%	954	23.7	40.72°C	0.964
	12.058V	5.049V	3.347V	5.103V	121.173				43.79°C	115.08V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL2	**0.115A**	**19.819A**	**0A**	**0A**	101.381	82.682%	929	23.0	41.16°C	0.964
	12.063V	5.046V	3.351V	5.14V	122.615				43.69°C	115.08V
CL3	**0.114A**	**0A**	**19.701A**	**0A**	67.375	77.02%	919	22.7	40.85°C	0.942
	12.060V	5.06V	3.35V	5.057V	87.478				43.31°C	115.08V
CL4	**87.400A**	**0A**	**0A**	**0A**	1049.47	88.857%	2276	44.7	45.87°C	0.994
	12.007V	5.057V	3.337V	5.044V	1181.072				49.44°C	114.77V

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%	**6.904A**	**1.978A**	**1.971A**	**0.997A**	104.933	89.479%	472	<6.0	40.35°C	0.799
	12.070V	5.056V	3.347V	5.016V	117.271				42.48°C	230.32V
20%	**14.841A**	**2.968A**	**2.96A**	**1.198A**	209.921	92.492%	568	9.5	40.97°C	0.906
	12.062V	5.054V	3.345V	5.008V	226.961				43.66°C	230.31V
30%	**23.133A**	**3.464A**	**3.455A**	**1.4A**	314.926	93.272%	916	22.5	41.38°C	0.939
	12.056V	5.053V	3.343V	4.999V	337.641				46.07°C	230.29V
40%	**31.398A**	**3.959A**	**3.949A**	**1.603A**	419.451	93.5%	936	23.2	41.69°C	0.955
	12.047V	5.053V	3.342V	4.99V	448.608				48.44°C	230.28V
50%	**39.394A**	**4.95A**	**4.94A**	**1.806A**	524.765	93.337%	1451	35.8	42.18°C	0.963
	12.039V	5.051V	3.34V	4.983V	562.225				47.98°C	230.27V
60%	**47.337A**	**5.943A**	**5.932A**	**2A**	629.252	93.07%	1894	42.4	42.51°C	0.969
	12.031V	5.049V	3.338V	4.976V	676.103				46.88°C	230.25V
70%	**55.360A**	**6.935A**	**6.925A**	**2.214A**	734.672	92.717%	2237	44.3	43.17°C	0.973
	12.023V	5.048V	3.336V	4.968V	792.379				45.61°C	230.22V
80%	**63.389A**	**7.926A**	**7.916A**	**2.316A**	839.482	92.389%	2245	44.3	43.86°C	0.976
	12.014V	5.047V	3.334V	4.965V	908.637				46.5°C	230.2V
90%	**71.830A**	**8.422A**	**8.399A**	**2.419A**	944.856	92.093%	2249	44.3	44.08°C	0.978
	12.006V	5.046V	3.333V	4.961V	1025.984				47.61°C	230.17V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	**80.025A**	**8.918A**	**8.908A**	**3.04A**	1049.646	91.616%	2269	44.5	45.9°C	0.98
	11.995V	5.046V	3.334V	4.935V	1145.706				53.28°C	230.16V
110%	**88.123A**	**9.909A**	**9.986A**	**3.038A**	1154.279	90.995%	2270	44.5	46.15°C	0.982
	11.983V	5.046V	3.334V	4.938V	1268.512				58.12°C	230.15V
CL1	**0.115A**	**11.923A**	**11.858A**	**0A**	101.284	84.883%	969	24.1	40.39°C	0.803
	12.058V	5.049V	3.347V	5.105V	119.322				46.4°C	230.32V
CL2	**0.115A**	**19.819A**	**0A**	**0A**	101.382	83.994%	926	22.8	40.25°C	0.805
	12.063V	5.045V	3.351V	5.144V	120.702				44.72°C	230.31V
CL3	**0.115A**	**0A**	**19.699A**	**0A**	67.377	78.42%	371	<6.0	40.32°C	0.725
	12.060V	5.061V	3.35V	5.058V	85.919				43.58°C	230.32V
CL4	**87.391A**	**0A**	**0A**	**0A**	1049.479	92.045%	2268	44.5	45.63°C	0.98
	12.009V	5.056V	3.336V	5.043V	1140.184				48.64°C	230.16V

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	**1.230A**	**0.494A**	**0.493A**	**0.198A**	19.997	69.017%	0	<6.0	41.65°C	0.748
	12.079V	5.06V	3.349V	5.052V	28.974				36.08°C	115.11V
40W	**2.706A**	**0.692A**	**0.69A**	**0.297A**	39.997	80.27%	0	<6.0	44.21°C	0.878
	12.077V	5.059V	3.349V	5.047V	49.828				37.18°C	115.1V
60W	**4.184A**	**0.89A**	**0.887A**	**0.397A**	60	84.521%	0	<6.0	44.17°C	0.922
	12.075V	5.058V	3.349V	5.042V	70.988				38.41°C	115.09V
80W	**5.659A**	**1.088A**	**1.084A**	**0.496A**	79.947	86.836%	0	<6.0	45.73°C	0.945
	12.073V	5.057V	3.348V	5.037V	92.067				39.4°C	115.09V

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	**1.230A**	**0.494A**	**0.492A**	**0.198A**	19.991	67.3%	0	<6.0	46.03°C	0.502
	12.068V	5.061V	3.352V	5.053V	29.705				36.35°C	230.31V
40W	**2.706A**	**0.692A**	**0.689A**	**0.297A**	39.992	81.51%	0	<6.0	41.51°C	0.558
	12.076V	5.06V	3.351V	5.048V	49.064				37.99°C	230.32V
60W	**4.185A**	**0.89A**	**0.886A**	**0.397A**	59.992	85.137%	0	<6.0	42.26°C	0.665
	12.074V	5.058V	3.349V	5.042V	70.466				38.58°C	230.33V
80W	**5.657A**	**1.088A**	**1.084A**	**0.496A**	79.925	87.692%	0	<6.0	42.63°C	0.741
	12.073V	5.057V	3.348V	5.037V	91.143				39.19°C	230.33V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	24.18mV	16.75mV	18.05mV	11.87mV	Pass
20% Load	26.09mV	18.29mV	18.72mV	12.34mV	Pass
30% Load	25.93mV	19.79mV	19.55mV	13.06mV	Pass
40% Load	24.95mV	19.42mV	19.39mV	13.57mV	Pass
50% Load	25.06mV	19.42mV	19.39mV	14.30mV	Pass
60% Load	25.52mV	20.50mV	19.75mV	14.92mV	Pass
70% Load	26.71mV	20.56mV	20.73mV	16.83mV	Pass
80% Load	28.15mV	23.18mV	23.22mV	17.24mV	Pass
90% Load	29.59mV	23.90mV	24.46mV	19.20mV	Pass
100% Load	41.56mV	37.40mV	37.28mV	27.00mV	Pass
110% Load	41.97mV	37.14mV	36.98mV	27.51mV	Pass
Crossload1	31.91mV	24.16mV	25.13mV	15.38mV	Pass
Crossload2	24.39mV	21.48mV	18.93mV	12.28mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	23.30mV	17.57mV	21.05mV	11.66mV	Pass
Crossload4	30.99mV	24.21mV	24.25mV	19.98mV	Pass

The results above are not used in the certification process

230V

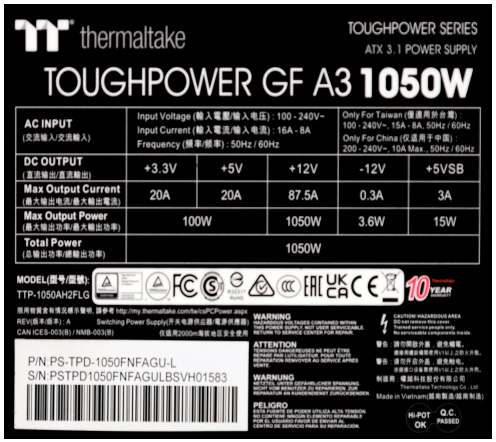
Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	23.66mV	17.51mV	17.84mV	12.54mV	Pass
20% Load	26.60mV	18.34mV	18.36mV	13.63mV	Pass
30% Load	25.99mV	19.32mV	19.65mV	14.30mV	Pass
40% Load	25.52mV	19.52mV	19.34mV	14.45mV	Pass
50% Load	25.52mV	19.68mV	19.75mV	15.69mV	Pass
60% Load	25.68mV	25.97mV	26.79mV	16.88mV	Pass
70% Load	27.17mV	21.17mV	21.10mV	16.26mV	Pass
80% Load	28.05mV	21.84mV	22.13mV	15.85mV	Pass
90% Load	28.56mV	22.51mV	22.65mV	16.93mV	Pass
100% Load	30.11mV	22.77mV	24.30mV	17.91mV	Pass
110% Load	43.46mV	35.80mV	37.13mV	26.07mV	Pass
Crossload1	33.00mV	26.48mV	28.70mV	18.07mV	Pass
Crossload2	24.38mV	21.43mV	17.79mV	12.54mV	Pass
Crossload3	22.43mV	16.85mV	20.73mV	11.77mV	Pass
Crossload4	30.52mV	21.22mV	20.06mV	16.98mV	Pass

The results above are not used in the certification process

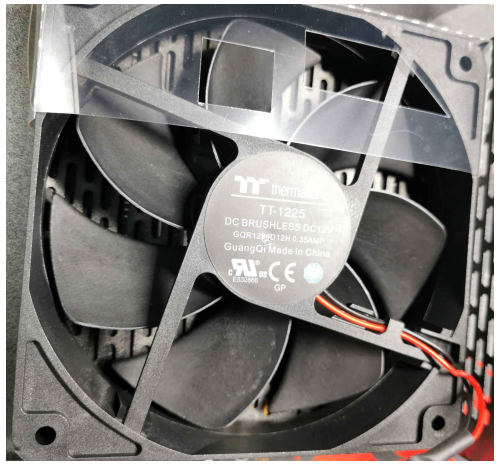
Thermaltake Toughpower GF A3 1050W (CE-Link)



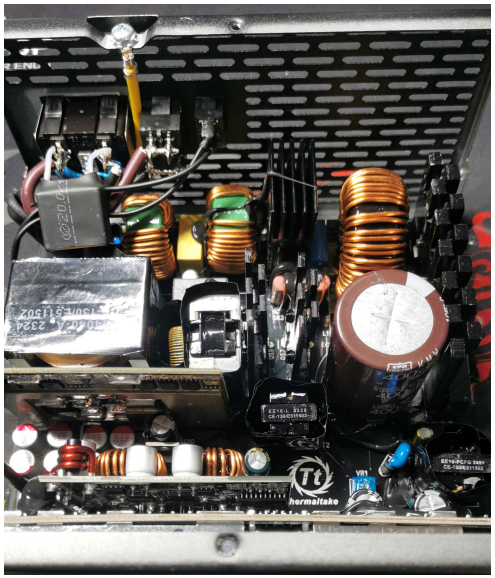
Top side



Power specifications label



Third Photo



Fourth Photo

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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