

Anex

Corsair TX650M

Lab ID#: 81
Receipt Date: -
Test Date: -

Report:

Report Date: Jan 4, 2018

DUT INFORMATION	
Brand	Corsair
Manufacturer (OEM)	Great Wall
Series	TXM
Model Number	TX650M
Serial Number	17084856000040800296
DUT Notes	CP-9020132 - Retested on 9/28/17

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	47-63
Rated Power (W)	650
Type	ATX12V
Cooling	120mm Rifle Bearing Fan (NR120L)
Semi-Passive Operation	x
Cable Design	Semi Modular

POWER SPECIFICATIONS						
Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	51	3	0.8
	Watts	130		612	15	9.6
Total Max. Power (W)		650				

CABLES AND CONNECTORS			
Native Cables			
Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (600mm)	1	1	16-20AWG
4+4 pin EPS12V (650mm)	1	1	18AWG
Modular Cables			
6+2 pin PCIe (600mm+150mm)	2	4	18AWG
SATA (500mm+90mm+90mm)	2	6	18AWG
4 pin Molex (450mm+100mm+100mm+100mm)	1	4	18AWG
FDD Adapter (+100mm)	1	1	20AWG

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RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	87.794
Efficiency With 10W (≤500W) or 2% (>500W) Load -115V	0.000
Average Efficiency 5VSB	79.340
Standby Power Consumption (W) -115V	0.0679859
Standby Power Consumption (W) -230V	0.0896315
Average PF	0.989
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	35.64
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	Standard+

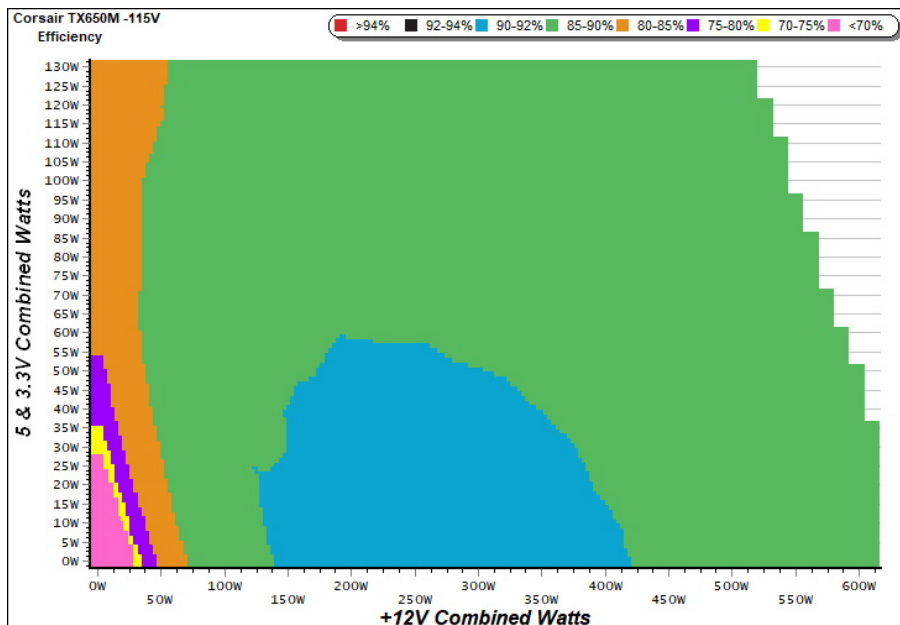
TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5 Digit	
Sound Analyzer	Bruel & Kjaer 2250-L G4	
Microphone	Bruel & Kjaer Type 4189	
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2	

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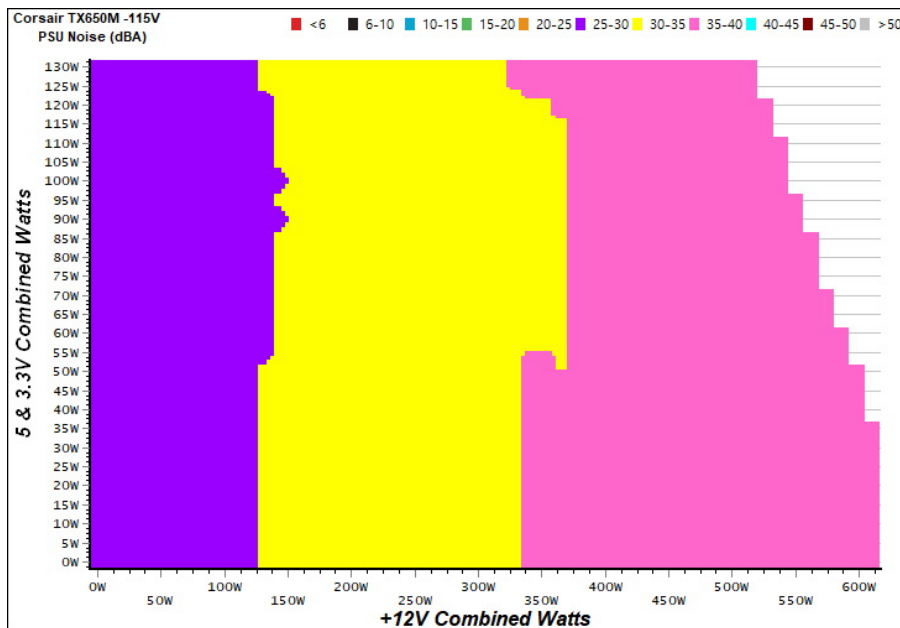
EFFICIENCY GRAPH



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

NOISE GRAPH



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

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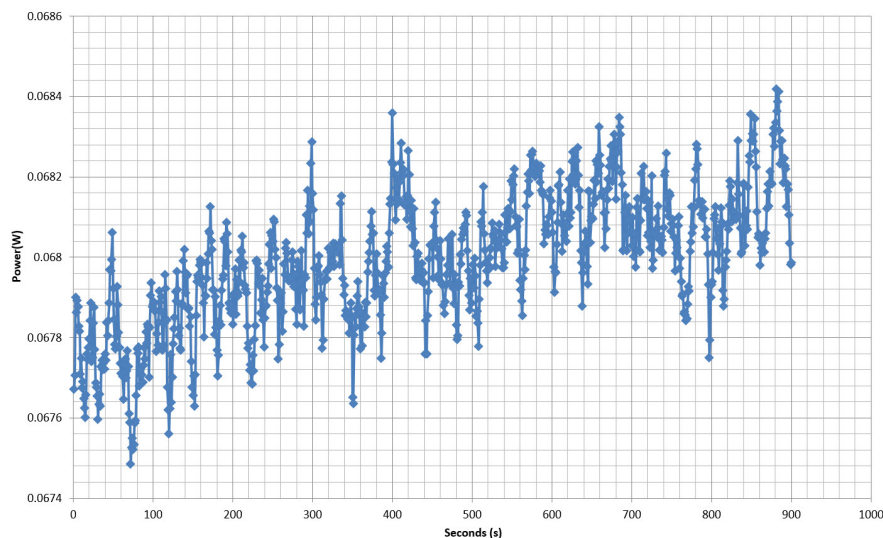
Corsair TX650M

5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.212	65.635%	0.029
	5.086V	0.323		115.08V
2	0.087A	0.443	74.329%	0.054
	5.084V	0.596		115.07V
3	0.532A	2.699	80.280%	0.244
	5.074V	3.362		115.07V
4	3.001A	15.052	77.917%	0.476
	5.015V	19.318		115.07V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.212	61.988%	0.009
	5.085V	0.342		230.12V
2	0.087A	0.443	71.222%	0.017
	5.084V	0.622		230.23V
3	0.532A	2.698	79.167%	0.089
	5.074V	3.408		230.24V
4	3.002A	15.052	78.864%	0.322
	5.015V	19.086		230.22V

VAMPIRE POWER -115V

Power - - 28/03/2017 - 10:53



INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

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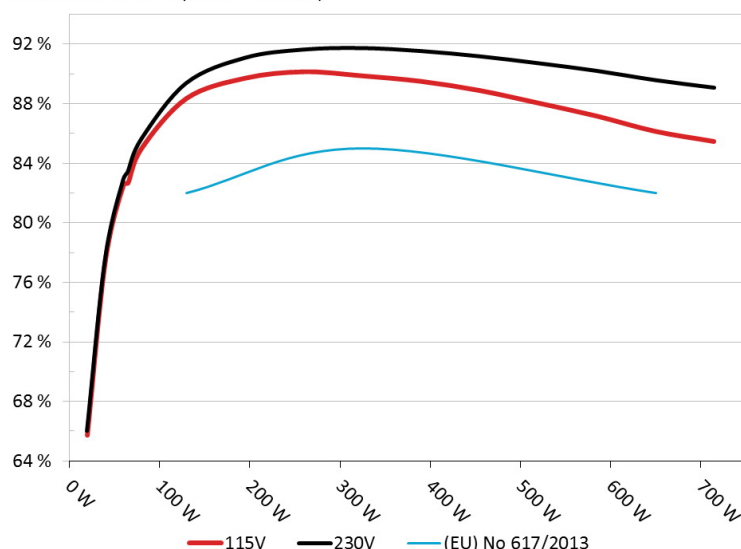
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair TX650M

Ambient: 37°C - 46°C (98.6°F - 114.8°F)



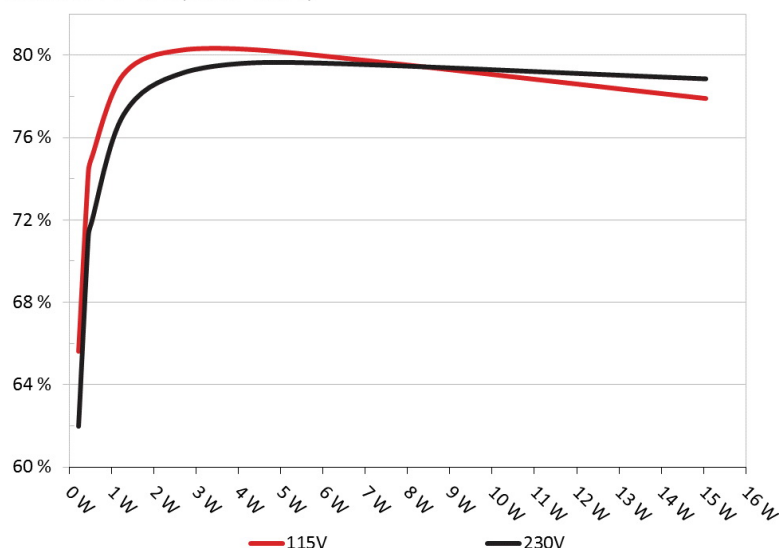
INFO

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: Corsair TX650M

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

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10-110% LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	Fan Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	3.609A	1.974A	1.977A	0.987A	64.788	82.674%	1560	34.4	37.94°C	0.967
	11.980V	5.055V	3.332V	5.052V	78.366				40.75°C	115.08V
2	8.266A	2.969A	2.974A	1.191A	129.792	88.370%	1584	34.9	38.07°C	0.983
	11.967V	5.047V	3.324V	5.040V	146.873				41.58°C	115.07V
3	13.282A	3.475A	3.494A	1.392A	194.917	89.730%	1689	36.6	39.05°C	0.988
	11.957V	5.039V	3.318V	5.030V	217.226				43.33°C	115.07V
4	18.301A	3.974A	3.980A	1.590A	259.804	90.158%	1736	37.5	39.70°C	0.991
	11.947V	5.032V	3.313V	5.019V	288.166				44.74°C	115.09V
5	22.978A	4.973A	4.987A	1.796A	324.776	89.883%	1829	39.6	40.41°C	0.992
	11.938V	5.024V	3.307V	5.005V	361.331				46.60°C	115.08V
6	27.663A	5.980A	5.999A	2.001A	389.755	89.514%	1829	39.6	41.14°C	0.993
	11.928V	5.017V	3.300V	4.993V	435.412				48.74°C	115.07V
7	32.353A	6.991A	7.011A	2.205A	454.705	88.900%	1829	39.6	42.16°C	0.993
	11.919V	5.008V	3.294V	4.982V	511.481				51.42°C	115.06V
8	37.047A	8.001A	8.026A	2.414A	519.654	88.061%	1829	39.6	43.53°C	0.993
	11.911V	5.000V	3.288V	4.968V	590.109				54.38°C	115.06V
9	42.190A	8.508A	8.556A	2.416A	584.706	87.180%	1829	39.6	44.95°C	0.994
	11.902V	4.993V	3.284V	4.960V	670.688				57.97°C	115.10V
10	47.077A	9.032A	9.061A	3.034A	649.601	86.157%	1829	39.6	46.18°C	0.993
	11.893V	4.986V	3.278V	4.937V	753.971				61.14°C	115.06V
11	52.579A	9.041A	9.073A	3.041A	714.575	85.476%	1829	39.6	45.88°C	0.991
	11.884V	4.981V	3.273V	4.932V	835.992				60.84°C	115.06V
CL1	0.102A	16.024A	16.004A	0.004A	134.332	81.565%	1829	39.6	45.28°C	0.986
	11.957V	5.004V	3.306V	5.042V	164.694				55.62°C	115.09V
CL2	50.979A	1.002A	1.002A	1.002A	620.254	87.443%	1829	39.6	45.23°C	0.993
	11.905V	5.020V	3.299V	5.003V	709.325				57.32°C	115.07V

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20-80W LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	Fan Noise (dB[A])	PF/AC Volts
1	1.220A	0.491A	0.476A	0.195A	19.681	65.724%	1505	33.6	0.879
	11.982V	5.062V	3.338V	5.075V	29.945				115.10V
2	2.462A	0.979A	0.987A	0.391A	39.737	77.483%	1512	33.7	0.940
	11.986V	5.059V	3.335V	5.070V	51.285				115.09V
3	3.709A	1.476A	1.498A	0.590A	59.879	82.567%	1524	33.8	0.964
	11.981V	5.056V	3.333V	5.062V	72.522				115.08V
4	4.943A	1.974A	1.982A	0.791A	79.771	84.994%	1551	34.3	0.970
	11.976V	5.053V	3.330V	5.055V	93.855				115.09V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	28.2 mV	5.5 mV	7.3 mV	9.2 mV	Pass
20% Load	20.9 mV	5.7 mV	8.1 mV	10.1 mV	Pass
30% Load	18.4 mV	6.5 mV	8.6 mV	11.0 mV	Pass
40% Load	15.8 mV	6.1 mV	8.4 mV	11.4 mV	Pass
50% Load	15.9 mV	6.1 mV	7.6 mV	11.3 mV	Pass
60% Load	17.9 mV	6.3 mV	7.9 mV	12.6 mV	Pass
70% Load	19.8 mV	6.9 mV	8.2 mV	15.5 mV	Pass
80% Load	23.4 mV	7.5 mV	8.1 mV	16.5 mV	Pass
90% Load	23.8 mV	7.2 mV	8.6 mV	18.7 mV	Pass
100% Load	27.5 mV	8.0 mV	11.4 mV	24.1 mV	Pass
110% Load	29.9 mV	8.9 mV	11.5 mV	27.0 mV	Pass
Crossload 1	18.6 mV	7.6 mV	9.5 mV	32.6 mV	Pass
Crossload 2	26.2 mV	8.0 mV	10.7 mV	16.7 mV	Pass

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HOLD-UP TIME & POWER OK SIGNAL (230V)

Hold-Up Time (ms)	11.8
AC Loss to PWR_OK Hold Up Time (ms)	10.5
PWR_OK Inactive to DC Loss Delay (ms)	1.3



Top side



Power specifications table

CERTIFICATIONS



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