



全漢企業股份有限公司
FSP TECHNOLOGY INC.

表單版本：2

QUALIFICATION TEST REPORT

Customer: Cisco

Model name: FSP085-A54C1401

Tested by: Brian Chien

Report Rev: 01

Stage: B-TEST

Checked by: Brian Lin

Spec. Rev: 00

Date: 2019/06/20

Approved by: Jason Wei

Item	Sub-Item	Results	Page	Comments
Input Characteristics	Efficiency	Pass	1	
	Power saving	Pass	5	
	Input current	Pass	6	
	Inrush current	Pass	7	
	Turn on time	Pass	12	
	Hold up time	Pass	20	
Output Characteristics	Output voltage regulation	Pass	28	
	Ripple & Noise	Pass	30	
	Dynamic load	Pass	32	
	Overshoot (turn on)	Pass	40	
	Overshoot (turn off)	Pass	63	
	Rise time	Pass	86	
	Brownout	Pass	94	
Protections	Short circuit	Pass	96	
	Over power	Pass	98	
	Over voltage	Pass	99	
	Over temperature	Pass	106	
Safety	Leakage current	Pass	109	
	Hi-pot	Pass	110	
	Insulation resistance	Ref.	111	

Environment/Reliability	Thermal	Pass	112	
	Power de-rating	Pass	116	
	Acoustic emissions	Pass	125	
	Burn in	Pass	127	IEC60068-2-2
	ON/OFF cycling	Pass	128	
	Low temperature storage	Pass	129	IEC60068-2-1
	High temperature storage	Pass	130	IEC60068-2-2
	Temperature & Humidity cycling	Pass	131	IEC60068-2-14
	Cold start	Pass	133	IEC60068-2-1
E.M.C.	Lightning surge	Pass	134	EN61000-4-5
	ESD	Pass	142	EN61000-4-2
	EFT	Pass	144	EN61000-4-4
	EMI	Pass	146	EN55032
	AC Voltage DIPS and Short interruptions	Pass	171	EN61000-4-11
	Harmonic current	Pass	174	EN61000-3-2

表單編號:A000W-00502

Efficiency

1. Specification:

DOE(Level VI):

(1)115Vac / 0A load $\leq 0.21W$

(2)115Vac / 25%,50%,75%,100% load $\geq 88\%$

(Average Active Mode Efficiency ,Warm up 30 minutes later , DC Cable ≤ 1800 mm,20AWG)

Erp(Tier 2):

(1)230Vac / 0A load $\leq 0.15W$

(2)230Vac / 25%,50%,75%,100% load $\geq 89\%$

(Average Active Mode Efficiency ,Warm up 30 minutes later , DC Cable ≤ 1800 mm,20AWG)

Coc V5(Tier 2):

(1)230Vac / 0A load $\leq 0.15W$

(2)230Vac / 25%,50%,75%,100% load $\geq 89\%$

(3)230Vac / 10% load $\geq 79\%$

(Average Active Mode Efficiency ,Warm up 30 minutes later , DC Cable ≤ 1800 mm,20AWG)

Efficiency: (Warm up 10minutes later)

100Vac @ 1.58A load, Efficiency $\geq 89\%$

240Vac @ 1.58A load, Efficiency $\geq 90\%$

2. Test condition:

Input: 100Vac/60Hz; 115Vac/60Hz; 230Vac/50Hz; 240Vac/50Hz

Ambient Temperature: 25°C

Load	+54V
No load	0A
10%	0.158A
25%	0.395A
50%	0.79A
75%	1.185A
Full	1.58A

3. Test record:

Sample No.1

Load	Vin (Vac)	Iinrms (A)	Pin (W)	Pout (W)	PF	Eff (%)	Spec (%)	Result
Full	100.32	0.93960	93.488	83.987	0.99170	89.837	≥ 89	PASS
	240.26	0.41380	93.007	83.788	0.93530	90.088	≥ 90	PASS

	115V/60Hz					
	No load	Active power values				
Load	0%	10%	25%	50%	75%	100%
Iout (A)	--	0.15	0.39	0.78	1.18	1.57
Vout (V)		54.16	54.08	53.96	53.82	53.68
Pout (W)		8.12	21.09	41.99	63.67	84.44
Fin (Hz)	60	60	60	60	60	60
Iin (A)	0.0144	0.1826	0.2192	0.4116	0.6117	0.8089
Vin (V)	115.37	115.33	115.27	115.17	115.07	114.98
Pin (W)	0.103	8.52	23.51	45.89	69.16	91.96
THDv (%)	0.14	0.11	0.04	0.06	0.17	0.06
PF (W/VA)	0.06	0.40	0.93	0.97	0.98	0.99
Power Consumed (W)	0.103	0.40	2.42	3.90	5.48	7.52
Efficiency	--	0.9529	0.8972	0.9150	0.9207	0.9182
Average Efficiency	--	--	0.9128			

	230V/50Hz					
	No load	Active power values				
Load	0%	10%	25%	50%	75%	100%
Iout (A)	--	0.15	0.39	0.78	1.18	1.57
Vout (V)		54.17	54.11	53.56	53.50	53.63
Pout (W)		8.13	21.10	41.67	63.30	84.37
Fin (Hz)	50	50	50	50	50	50
Iin (A)	0.0233	0.1094	0.1330	0.2314	0.3320	0.4260
Vin (V)	230.20	230.18	230.16	230.10	230.06	230.02
Pin (W)	0.134	8.72	24.16	46.69	69.76	91.84
THDv (%)	0.09	0.10	0.08	0.13	0.11	0.07
PF (W/VA)	0.02	0.35	0.79	0.88	0.91	0.94
Power Consumed (W)	0.134	0.59	3.06	5.01	6.46	7.48
Efficiency	--	0.9323	0.8735	0.8927	0.9074	0.9186
Average Efficiency	--	--	0.8980			

Sample No.2

Load	Vin (Vac)	Iinrms (A)	Pin (W)	Pout (W)	PF	Eff (%)	Spec (%)	Result
Full	100.52	0.93750	93.469	83.955	0.99160	89.821	≥ 89	PASS
	240.56	0.41300	92.916	83.696	0.93500	90.077	≥ 90	PASS

	115V/60Hz					
	No load	Active power values				
Load	0%	10%	25%	50%	75%	100%
Iout (A)	--	0.15	0.39	0.78	1.18	1.57
Vout (V)		53.79	53.72	53.58	53.46	53.30
Pout (W)		8.07	20.95	41.69	63.24	83.85
Fin (Hz)	60	60	60	60	60	60
Iin (A)	0.0141	0.1838	0.2180	0.4095	0.6069	0.8029
Vin (V)	115.26	115.24	115.20	115.14	115.07	115.01
Pin (W)	0.105	8.47	23.37	45.61	68.68	91.33
THDv (%)	0.13	0.10	0.23	0.06	0.12	0.20
PF (W/VA)	0.06	0.40	0.93	0.97	0.98	0.99
Power Consumed (W)	0.105	0.40	2.42	3.91	5.44	7.48
Efficiency	--	0.9524	0.8963	0.9142	0.9208	0.9181
Average Efficiency	--	--	0.9124			

	230V/50Hz					
	No load	Active power values				
Load	0%	10%	25%	50%	75%	100%
Iout (A)	--	0.15	0.39	0.78	1.18	1.57
Vout (V)		53.71	53.54	53.38	53.37	53.34
Pout (W)		8.16	20.88	41.54	63.14	83.81
Fin (Hz)	50	50	50	50	50	50
Iin (A)	0.0228	0.1088	0.1324	0.2302	0.3294	0.4227
Vin (V)	230.10	230.07	230.06	230.02	229.98	229.96
Pin (W)	0.134	8.62	24.07	46.44	69.48	91.31
THDv (%)	0.04	0.06	0.05	0.16	0.16	0.07
PF (W/VA)	0.03	0.34	0.79	0.88	0.92	0.94
Power Consumed (W)	0.134	0.46	3.19	4.90	6.35	7.50
Efficiency	--	0.9463	0.8675	0.8944	0.9087	0.9179
Average Efficiency	--	--	0.8971			

Sample No.3

Load	Vin (Vac)	Iinrms (A)	Pin (W)	Pout (W)	PF	Eff (%)	Spec (%)	Result
Full	100.72	0.93570	93.458	84.012	0.99160	89.893	≥ 89	PASS
	240.37	0.41320	92.879	83.671	0.93510	90.086	≥ 90	PASS

	115V/60Hz					
	No load	Active power values				
Load	0%	10%	25%	50%	75%	100%
Iout (A)	--	0.15	0.39	0.78	1.18	1.57
Vout (V)		54.09	54.04	53.97	53.88	53.80
Pout (W)		8.11	21.08	41.99	63.74	84.63
Fin (Hz)	60	60	60	60	60	60
Iin (A)	0.0143	0.1839	0.2183	0.4117	0.6112	0.8073
Vin (V)	115.27	115.23	115.20	115.13	115.07	115.00
Pin (W)	0.109	8.48	23.45	45.80	69.03	91.80
THDv (%)	0.10	0.19	0.05	0.03	0.13	0.04
PF (W/VA)	0.07	0.40	0.93	0.97	0.98	0.99
Power Consumed (W)	0.109	0.37	2.37	3.81	5.29	7.17
Efficiency	--	0.9564	0.8990	0.9169	0.9234	0.9219
Average Efficiency	--	--	0.9153			

	230V/50Hz					
	No load	Active power values				
Load	0%	10%	25%	50%	75%	100%
Iout (A)	--	0.15	0.39	0.78	1.18	1.57
Vout (V)		54.08	54.03	53.95	53.87	53.79
Pout (W)		8.11	21.07	41.98	63.73	84.62
Fin (Hz)	50	50	50	50	50	50
Iin (A)	0.0231	0.1095	0.1328	0.2317	0.3318	0.4257
Vin (V)	230.08	230.07	230.06	230.02	229.99	229.97
Pin (W)	0.141	8.67	24.15	46.70	69.79	91.82
THDv (%)	0.07	0.11	0.15	0.07	0.11	0.19
PF (W/VA)	0.03	0.34	0.79	0.88	0.91	0.94
Power Consumed (W)	0.141	0.55	3.08	4.72	6.06	7.20
Efficiency	--	0.9361	0.8724	0.8989	0.9131	0.9216
Average Efficiency	--	--	0.9015			