

# FSP040-DGAA1 of TKS-P20-CV01-ASG Power Electronics Test Report

Summary	<input checked="" type="checkbox"/> <b>Pass</b> <input type="checkbox"/> <b>Fail</b> <input type="checkbox"/> <b>Pass with Deviation</b> <b>Comment:</b> _____			
<b>Test Result Summary</b>				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date <hr style="width: 80%; margin: 0 auto;"/> <b>07/18/2013</b>	Approval <hr style="width: 80%; margin: 0 auto;"/> <b>Tom Lin</b>	Test Engineer <hr style="width: 80%; margin: 0 auto;"/> <b>Sean Hsu</b>
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**1. Project**

FSP040-DGAA1AC-DC Power for TKS-P20-CV1-ASG

**2. Power Manufacturer**

FSP GROUP INC.

**3. Team Member**

PM : Ben Hsu ; H/W : Vic Lin

**4. Test Equipments**

4.1. CPU Board : PICO-CV01 A1.0 BIOS R1.4 (PICVAM14)(11/14/2012)

4.2. Memory : Hynix , 2GB , M/N : H5YQ2G83CFQ

4.3. mSATA : Memoright , 16GB , M/N : MSM-500

4.4. AC Adapter : FSP040-DGAA1 O/P: 12V/3.33A

4.5. LCD Monitor : CHIMEI , Model : A170E2-T08

4.6. USB Mouse : Logitech , Model : M-BT85

4.7. USB Keyboard : Logitech , Model : Y-BL49

**5. AC Adapter Spec**

AC Input : 100VAC~240VAC / 47Hz~63Hz

DC Output : 12Vdc Min Load : 0A Full Load : 3.33A / 40W

## 6. Test Item

Test Item	Test Condition / Specification		Measured	Result
6.1. AC Input Current	I/P:90VAC	1.3A	0.84A	PASS
6.2. MAX Inrush Current	I/P:115VAC	A	9.66A	-
	I/P:230VAC	A	9.85A	-
6.3. Input Frequency & Voltage	I/P:90VAC/47HZ	■ON □ OFF	-	PASS
	I/P:90VAC/63HZ	■ON □ OFF	-	PASS
	I/P:264VAC/47HZ	■ON □ OFF	-	PASS
	I/P:264VAC/63HZ	■ON □ OFF	-	PASS
6.4. Switching Test	Switching Time: 0.5 Sec MIN Load / Full Load	@90VAC ■ON □ OFF	-	PASS
	Switching Time: 0.5 Sec MIN Load / Full Load	@115VAC ■ON □ OFF	-	PASS
	Switching Time: 0.5 Sec MIN Load / Full Load	@230VAC ■ON □ OFF	-	PASS
	Switching Time: 0.5 Sec MIN Load / Full Load	@264VAC ■ON □ OFF	-	PASS
6.5. Efficiency	I/P:115VAC FULL LOAD	@82%Min	83.620%	PASS
	I/P:230VAC FULL LOAD	@82%Min	84.450%	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<±%	0.025%	-
6.7. Load Regulation	I/P:115VAC O/P:MINLOAD~FULL LOAD	<±%	2.20%	-
	I/P:230VAC O/P:MINLOAD~FULL LOAD	<±%	2.25%	-
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 22V(MAX)	-	-
6.9. Over-Circuit Protection	O/P: 12V	5.5A(MAX)	4.35A	PASS
6.10. Over-Load Protection	I/P:90VAC O/P:MIN LOAD	165%	129.5%	PASS
	I/P:115VAC O/P:MIN LOAD	165%	129.8%	PASS
	I/P:230VAC O/P:MIN LOAD	165%	128.5%	PASS
	I/P:264VAC O/P:MIN LOAD	165%	130.5%	PASS
6.11. Short Circuit Protect	I/P:115VAC O/P:MIN LOAD	12V&GND Short	-	PASS
	I/P:230VAC O/P:MIN LOAD	12V&GND Short	-	PASS
6.12. Line Voltage Surge	O/P: FULL LOAD	Surge voltage from 132VAC to 147VAC (0.5sec), back to 132VAC	-	PASS
	O/P: FULL LOAD	Surge voltage from 264VAC to 293VAC (0.5sec), back to 264VAC	-	PASS

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<b>6.13. Line Voltage Sag</b>	O/P: FULL LOAD	Sag voltage from 108VAC to 80VAC (0.5sec), back to 108VAC	-	PASS
	O/P: FULL LOAD	Sag voltage from 198VAC to 161VAC (0.5sec), back to 198VAC	-	PASS
<b>6.14. Ripple &amp; Noise</b>	I/P:115VAC O/P:FULL LOAD	$\leq 120\text{mv}$	118.5 mv	PASS
	I/P:230VAC O/P:FULL LOAD	$\leq 120\text{mv}$	116mv	PASS
<b>6.15. Setup Time</b>	I/P:115VAC O/P:FULL LOAD	4S(MAX)	1.328S	PASS
	I/P:230VAC O/P:FULL LOAD	S(MAX)	86.3mS	-
<b>6.16. Hold up Time</b>	I/P:115VAC O/P:FULL LOAD	5mS(MIN)	12.6mS	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MIN)	86.3mS	-
<b>6.17. Rise Time</b>	I/P:115VAC O/P:FULL LOAD	mS(MAX)	8.8mS	-
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	6.8mS	-
<b>6.18. Turn on Overshoot</b>	Turn on overshoot shall not exceed 10% over nominal voltages@ 20 % LOAD		-	PASS
	Turn on overshoot shall not exceed 10% over nominal voltages@ 20 % LOAD		-	PASS
<b>6.19. Turn off Undershoot</b>	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
<b>6.20. Remote ON/OFF</b>	Simulate TTL signal to test this function		-	-
<b>6.21. Power Good Signal</b>	Shall go high level with a delay of 100~500ms		-	-
<b>6.22. Power On In Low Temperature</b>	I/P:115VAC ( 0 °C ) After 2HR Power On		-	-
<b>6.23. Power On In High Temperature</b>	I/P:115VAC ( 50 °C )After 2HR Power On		-	-
<b>6.24. Room Burn-in test</b>	I/P:115VAC O/P: FULL LOAD TA:25 °C BURN-IN DURATION : 2 hour		-	PASS
<b>6.25. On/Off Cycling</b>	Times / on: 20 sec / off: 10 sec		-	-
<b>6.26. Power Consumption Test With DC Power</b>	No Run Prime95	I/P:7VDC 1.05A 7.35W	-	PASS
	Run Prime95	I/P:7VDC 1.36A 9.52W	-	PASS
	No Run Prime95	I/P:30VDC 0.246A 7.38W	-	PASS
	Run Prime95	I/P:30VDC 0.32A 9.6W	-	PASS
<b>6.27. Adapter Power Consumption Test</b>	No Run Prime95	I/P:100VAC 0.24A 10.2W	O/P: 12V/0.65A 7.8W	PASS
	Run Prime95	I/P:100VAC 0.28.A 12.4W	O/P: 12V0.81A 9.72W	PASS