

Report NO: 13E0A0001\_I

# FSP084-DMAA1 of TKS-G21-QM77B 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  
01/02/2013

Approval  
Tom Lin

Test Engineer  
Sean Hsu

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**1. Project**

FSP084-DMAA1 AC-DC Adapter for TKS-G21-QM77B  
CPU : INTEL Core I7-3555LE 2.5GHz

**2. Power Manufacturer**

FSP

**3. Team Member**

PM : Ben Hsu ; EE : Vic Lin

**4. Test Equipment**

4.1. CPU Board : GENE-QM77 REV.B1.0

4.2. HDD : TOSHIBA SATA2 2.5" 160GB-MK1676GSX

4.3. Memory : Transcend DDR3 1333 4GB

4.4. AC/DC Adapter : FSP M/N : FSP084-DMAA1 DC Output:12V/7A

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

4.6. Power Supply : FSP , Model : FSP084-DMAA1 , O/P : 12V/7A , 84Watt

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

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

**5. AC Adapter Spec**

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

DC Output : 12Vdc Min Load : 0A Full Load : 7A / 84W

## 6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:115VAC	1.3A	0.97A	Passed
6.2. MAX Inrush Current	I/P:115VAC	A	4.66A	-
	I/P:230VAC	A	6.39A	-
6.3. Input Frequency & Voltage	I/P:90VAC/47HZ	■ON □ OFF	-	Passed
	I/P:90VAC/63HZ	■ON □ OFF	-	Passed
	I/P:264VAC/47HZ	■ON □ OFF	-	Passed
	I/P:264VAC/63HZ	■ON □ OFF	-	Passed
6.4. Switching Test	Switching Time: 0.5 Sec MIN Load / Full Load	@90VAC ■ON □ OFF	-	Passed
	Switching Time: 0.5 Sec MIN Load / Full Load	@115VAC ■ON □ OFF	-	Passed
	Switching Time: 0.5 Sec MIN Load / Full Load	@230VAC ■ON □ OFF	-	Passed
	Switching Time: 0.5 Sec MIN Load / Full Load	@264VAC ■ON □ OFF	-	Passed
6.5. Efficiency	I/P:90VAC O/P:5A	@83%Min	86.22%	Passed
	I/P:115VAC O/P:5A	@83%Min	87.43%	Passed
	I/P:230VAC O/P:5A	@83%Min	87.19%	Passed
	I/P:264VAC O/P:5A	@83%Min	86.74%	Passed
6.6. Line Regulation	I/P:90VAC~264VAC	<%	0.042%	-
6.7. Load Regulation	I/P:115VAC O/P:MIN~FULL LOAD	<%	1.99%	-
	I/P:230VAC O/P:MIN~FULL LOAD	<%	2.045%	-
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 17 (MAX)	-	-
6.9. Over-Circuit Protection	O/P: 12V	9.4A(MAX)	8.6A	Passed
6.10. Over-Load Protection	I/P:90VAC O/P:MIN LOAD	135%	121%	Passed
	I/P:115VAC O/P:MIN LOAD	135%	122%	Passed
	I/P:230VAC O/P:MIN LOAD	135%	125%	Passed
	I/P:264VAC O/P:MIN LOAD	135%	126%	Passed
6.11. Short Circuit Protect	I/P:115VAC O/P:MIN LOAD	12V&GND Short	-	Passed
	I/P:230VAC O/P:MIN LOAD	12V&GND Short	-	Passed

6.12. Line Voltage Surge	O/P: FULL LOAD	Surge voltage from 132VAC to 147VAC (0.5sec), back to 132VAC	-	Passed
	O/P: FULL LOAD	Surge voltage from 264VAC to 293VAC (0.5sec), back to 264VAC	-	Passed
6.13. Line Voltage Sag	O/P: FULL LOAD	Sag voltage from 108VAC to 80VAC (0.5sec), back to 108VAC	-	Passed
	O/P: FULL LOAD	Sag voltage from 198VAC to 161VAC (0.5sec), back to 198VAC	-	Passed
6.14. Ripple & Noise	I/P:115VAC O/P:FULL LOAD	$\leq 150\text{mv}$	118.9mv	Passed
	I/P:230VAC O/P:FULL LOAD	$\leq 150\text{mv}$	96.8mv	Passed
6.15. Setup Time	I/P:115VAC O/P:FULL LOAD	3S(MAX)	740ms	Passed
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	518ms	Passed
6.16. Hold up Time	I/P:115VAC O/P:FULL LOAD	20mS(MIN)	35.6ms	Passed
	I/P:230VAC O/P:FULL LOAD	mS(MIN)	87.5ms	Passed
6.17. Rise Time	I/P:115VAC O/P:FULL LOAD	mS(MAX)	4.86ms	Passed
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	5.86ms	Passed
6.18. Turn on Overshoot	Turn on overshoot shall not exceed 10% over nominal voltages@ 20 % LOAD		-	Passed
	Turn on overshoot shall not exceed 10% over nominal voltages@ 20 % LOAD		-	Passed
6.19. Turn off Undershoot	Turn off undershoot shall not exceed 10% over nominal voltages		-	Passed
	Turn off undershoot shall not exceed 10% over nominal voltages		-	Passed
6.20. Remote ON/OFF	Simulate TTL signal to test this function		-	-
6.21. Power Good Signal	Shall go high level with a delay of 100~500ms		-	-
6.22. System Power Consumption Test	No Run Prime95	I/P:100VAC 0.33A 14.0W	O/P: 12V/0.9A 10.8W	Passed
	Run Prime95	I/P:100VAC 0.69A 37.2W	O/P: 12V/2.8A 33.6W	Passed