

# PSM275H of AIS-Q574 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> Comment: _____			
<b>Test Result Summary</b>				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date

**02/23/2011**

Approval

**Jansin Lee**

Test Engineer

**Sean Hsu**

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**1. Project**

PSM275H AC-DC Power for AIS-Q574

**2. Power Manufacturer**

CHANNEL WELL TECHNOLOGY

**3. Team Member**

PM : Steven Yu ; ISD H/W : TB Fan

**4. Test Equipment**

- 4.1. PCB : IMBI-Q57 0.01 (BIOS 02/16/2011)
- 4.2. CPU : Intel I7 860 2.8GHz
- 4.3. Memory : DSL DDR3-1066 2GB
- 4.4. SATA HDD : Seagate · M/N : ST31060811AS · 160GB
- 4.5. VGA Card: ASUS · M/N : EAX1600PRO 256M
- 4.6. Power Supply : CWT Model : PSM275H O/P : 275W
- 4.7. LCD Monitor : CHIMEI · Model : A170E2-T08
- 4.8. USB Mouse : Logitech · Model : M-BT85
- 4.9. USB Keyboard : Logitech · Model : Y-BL49

**5. AC Adapter Spec**

AC Input : 90VAC~264VAC / 47Hz~63Hz

MODEL	Voltage	+3.3V	+5V	+12V1	+12V2	-12V	+5Vsb
PSM275H	Max load	17.0A	17.0A	17.0A	17.0A	0.8A	2.5A
	①Peak load	/	/	/	/	/	/
	①Combined power	95W		250W		/	/
PSM250H	Max load	16.0A	16.0A	16.0A	16.0A	0.8A	2.5A
	①Peak load	/	/	/	/	/	/
	①Combined power	90W		225W		/	/
PSM220H	Max load	15.0A	15.0A	15.0A	15.0A	0.8A	2.5A
	①Peak load	/	/	/	/	/	/
	①Combined power	85W		195W		/	/

## 6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:115VAC	3.5A	2.99A	PASS
6.2. MAX Inrush Current	I/P:115VAC	A	7.66A	-
	I/P:230VAC	A	7.81A	-
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	-	-
	Switching Time: 0.5 Sec MIN Load / Full Load	@115VAC □ON □ OFF	-	-
	Switching Time: 0.5 Sec MIN Load / Full Load	@230VAC □ON □ OFF	-	-
	Switching Time: 0.5 Sec MIN Load / Full Load	@264VAC □ON □ OFF	-	-
6.5. Efficiency	I/P:115VAC FULL LOAD	@80%Min	80.022%	PASS
	I/P:230VAC FULL LOAD	@80%Min	82.570%	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<±1%(3.3V)	0.061%	PASS
		<±1%(5V)	0%	PASS
		<±1%(12V)	0.042%	PASS
		<±1%(-12V)	0.125%	PASS
		<±1%(5VSB)	0.04%	PASS
6.7. Load Regulation	I/P:115VAC O/P:MINLOAD~FULL LOAD	<±5%(3.3V)	2.33/-0.545%	PASS
		<±5%(5V)	1/-3.25%	PASS
		<±5%(12V)	-1.292/-0.292%	PASS
		<±10%(-12V)	0.683/1.958%	PASS
		<±5%(5VSB)	2.2/-0.26%	PASS
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 4.8(MAX)	-	-
		V2 : 7(MAX)	-	-
		V3 : 15.6(MAX)	-	-
6.9. Over-Circuit Protection	O/P: 3.3V	A(MAX)	-	-
	O/P: 5V	A(MAX)	-	-
	O/P: 12V	A(MAX)	-	-
6.10. Over-Load Protection	I/P:115VAC O/P:MIN LOAD	110~150%	147%	PASS
	I/P:230VAC O/P:MIN LOAD	110~150%	145%	PASS
6.11. Short Circuit Protect	I/P:115VAC O/P:MIN LOAD	5V&GND Short	-	PASS
	I/P:230VAC O/P:MIN LOAD	5V&GND Short	-	PASS

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<b>6.12. Ripple &amp; Noise</b>	I/P:115VAC O/P:FULL LOAD	≤mv(3.3V)	75.1mv	-
		≤mv(5V)	59.4mv	-
		≤mv(12V)	93.8mv	-
		≤mv(-12V)	175mv	-
		≤mv(5VSB)	56.3mv	-
	I/P:230VAC O/P:FULL LOAD	≤mv(3.3V)	78.1mv	-
		≤mv(5V)	62.2mv	-
		≤mv(12V)	92.1mv	-
		≤mv(-12V)	173mv	-
		≤mv(5VSB)	58.5mv	-
<b>6.13. Setup Time</b>	I/P:115VAC O/P:FULL LOAD	2S(MAX)(5V)	484ms	PASS
	I/P:230VAC O/P:FULL LOAD	2S(MAX) (5V)	236.5ms	PASS
<b>6.14. Hold up Time</b>	I/P:115VAC O/P:FULL LOAD	16mS(MIN) (5V)	19.8ms	PASS
	I/P:230VAC O/P:FULL LOAD	16mS(MIN) (5V)	18.6ms	PASS
<b>6.15. Rise Time</b>	I/P:115VAC O/P:FULL LOAD	20mS(MAX) (5V)	7.8ms	PASS
	I/P:230VAC O/P:FULL LOAD	20mS(MAX) (5V)	8ms	PASS
<b>6.16. 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>6.17. 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>6.18. Remote ON/OFF</b>	Simulate TTL signal to test this function		-	
<b>6.19. Power Good Signal</b>	Shall go high level with a delay of100~500ms		305ms	PASS
<b>6.20. Power On In Low Temperature</b>	I/P:115VAC ( 0℃ ) After 2HR Power On		-	
<b>6.21. Power On In High Temperature</b>	I/P:115VAC ( 45℃ )After 2HR Power On		-	
<b>6.22. Room Burn-in test</b>	I/P:115VAC O/P: FULL LOAD TA:25℃ BURN-IN DURATION : 2 hour		-	
<b>6.23. On/Off Cycling</b>	Times / on: 20 sec / off: 10 sec		-	
<b>6.24. Power Consumption Test</b>	No Run Prime95	I/P: 100 VAC 0.71A 67.9 W	O/P: 3.3V/1.71A 5V/3.11A 12V/3.43A -12V/0.05A 5VSB/0.05A	PASS
	Run Prime95	I/P: 100 VAC 1.57A 155.4 W	O/P: 3.3V/1.76A 5V/3.98A 12V/9.66A -12V/0.05A 5VSB/0.05A	PASS