

# PSM275H of AIS-Q572 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	Approval	Test Engineer
05/02/2011	Jansin Lee	Sean Hsu

## Table of Contents

1. Project.....	3
2. Power Manufacturer .....	3
3. Team Member .....	3
4. Test Equipment.....	3
5. AC Adapter Spec.....	3
6. Test Item .....	4
6.1. AC Input Current.....	4
6.2. MAX Inrush Current .....	4
6.3. Input Frequency & Voltage .....	4
6.4. Switching Test .....	4
6.5. Efficiency.....	4
6.6. Line Regulation.....	4
6.7. Load Regulation .....	4
6.8. Over-Voltage Protection .....	4
6.9. Over-Circuit Protection .....	4
6.10. Over-Load Protection .....	4
6.11. Short Circuit Protect.....	4
6.12. Ripple & Noise .....	5
6.13. Setup Time .....	5
6.14. Hold up Time.....	5
6.15. Rise Time.....	5
6.16. Turn on Overshoot .....	5
6.17. Turn off Undershoot.....	5
6.18. Remote ON/OFF .....	5
6.19. Power Good Signal.....	5
6.20. Power On In Low Temperature .....	5
6.21. Power On In High Temperature .....	5
6.22. Room Burn-in test .....	5
6.23. On/Off Cycling .....	5
6.24. Power Consumption Test.....	5

## 1. Project

PSM275H AC-DC Power for AIS-Q572

## 2. Power Manufacturer

CHANNEL WELL TECHNOLOGY

## 3. Team Member

PM : Curtis Lai ; ISD ME : TB Fan

## 4. Test Equipment

- 4.1. PCB : IMBI-Q57 BIOS 0.03 (12/30/2010)
- 4.2. CPU : Intel I7 860 2.8GHz
- 4.3. Memory : Transcend DDR3-1066 2GB\*2
- 4.4. SATA HDD : Seagate , M/N : ST3120827AS , 120GB
- 4.5. VGA Card: ASUS , M/N : ENGT220 1GB
- 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
<b>6.1. AC Input Current</b>	I/P:115VAC	3.5A	3.05A	PASS
<b>6.2. MAX Inrush Current</b>	I/P:115VAC	A	7.80A	-
	I/P:230VAC	A	8.05A	-
<b>6.3. Input Frequency &amp; Voltage</b>	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
<b>6.4. Switching Test</b>	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	-	-
<b>6.5. Efficiency</b>	I/P:115VAC FULL LOAD	@80%Min	80.122%	PASS
	I/P:230VAC FULL LOAD	@80%Min	82.550%	PASS
<b>6.6. Line Regulation</b>	I/P:90VAC~264VAC	<±1%(3.3V)	0.065%	PASS
		<±1%(5V)	0.5%	PASS
		<±1%(12V)	0.045%	PASS
		<±1%(-12V)	0.15%	PASS
		<±1%(5VSB)	0.05%	PASS
<b>6.7. Load Regulation</b>	I/P:115VAC O/P:MINLOAD~FULL LOAD	<±5%(3.3V)	2.53/-0.56%	PASS
		<±5%(5V)	1.5/-3.28%	PASS
		<±5%(12V)	-1.290/-0.3%	PASS
		<±10%(-12V)	0.68/1.96%	PASS
		<±5%(5VSB)	2.2/-0.26%	PASS
<b>6.8. Over-Voltage Protection</b>	I/P:230VAC O/P:MIN LOAD	V1 : 4.8(MAX)	-	-
		V2 : 7(MAX)	-	-
		V3 : 15.6(MAX)	-	-
<b>6.9. Over-Circuit Protection</b>	O/P: 3.3V	A(MAX)	-	-
	O/P: 5V	A(MAX)	-	-
	O/P: 12V	A(MAX)	-	-
<b>6.10. Over-Load Protection</b>	I/P:115VAC O/P:MIN LOAD	110~150%	145%	PASS
	I/P:230VAC O/P:MIN LOAD	110~150%	142%	PASS
<b>6.11. Short Circuit Protect</b>	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	$\leq$ mv(3.3V)	78.1mv	-
		$\leq$ mv(5V)	60.5mv	-
		$\leq$ mv(12V)	92.8mv	-
		$\leq$ mv(-12V)	178mv	-
		$\leq$ mv(5VSB)	58.5mv	-
	I/P:230VAC O/P:FULL LOAD	$\leq$ mv(3.3V)	79.5mv	-
		$\leq$ mv(5V)	64.2mv	-
		$\leq$ mv(12V)	95.1mv	-
		$\leq$ mv(-12V)	175mv	-
		$\leq$ mv(5VSB)	59.5mv	-
<b>6.13. Setup Time</b>	I/P:115VAC O/P:FULL LOAD	2S(MAX)(5V)	485ms	PASS
	I/P:230VAC O/P:FULL LOAD	2S(MAX) (5V)	238.5ms	PASS
<b>6.14. Hold up Time</b>	I/P:115VAC O/P:FULL LOAD	16mS(MIN) (5V)	19.5ms	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)	9.5ms	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°C ) After 2HR Power On			-
<b>6.21. Power On In High Temperature</b>	I/P:115VAC ( 45 °C )After 2HR Power On			-
<b>6.22. Room Burn-in test</b>	I/P:115VAC O/P: FULL LOAD TA:25 °C 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 0.55 58.5W	O/P: 3.3V/1.05A 5V/2.42A 12V/3.15A -12V/0.05A 5VSB/0.05A	PASS
	Run Prime95	I/P: 100 VAC 1.47A 145.4 W	O/P: 3.3V/1.1A 5V/3.48A 12V/10.02A -12V/0.05A 5VSB/0.05A	PASS