

MPD-810H of GCS-1500I Power Electronics Test Report

Summary	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail Note : There are <u>0</u> defect(s) not list in the report, please check it in the DTS Website. <input type="checkbox"/> Pass with Deviation Comment: _____			
Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date

01/13/2011

Approval

Jansin Lee

Test Engineer

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1. Project

MPD-810H DC-DC Power Supply for GCS-1500I BIOS REV0.1 (12/21/2010)

2. Power Manufacturer

MAGIC POWER

3. Team Member

PM : CY Juan ; ISD H/W : Eason Chen ; ISD ME : Peter Pan

4. Test Equipment

4.1. CPU Board : IMBI-QM57 A1.0

4.2. CPU : INTEL I7 M620 2.67GHz

4.3. Memory : Kingston DDR3-1066 4GB

4.4. HDD : Fujitsu , MHY2080BH 80GB

4.5. DC-DC Power Supply : Magic Power , Model : MPD-810H , O/P : ATX Power , 85Watt

4.6. AC Adapter : FSP , Model : FSP120-AAB , O/P : 19V/6.31A , 120Watt

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. DC-DC Power Supply Spec

2.0 INPUT SPECIFICATIONS

2.1 Input Voltage

The range of input voltage is from 10 to 30VDC, nominal input voltage is 12 and 24VDC.

2.2 Input current

The maximum input current is 18A at 10VDC input.

2.3 Inrush current

The inrush current is less than 30A at 10VDC input.

DC Output : ATX OUTPUT

3.1 Load range

Output voltage	Min. load	Rated load	Max. load	Voltage accuracy
+5V	0.5A	8A	10A	4.95V to 5.15V
+12V	0A	1.5A	4A	11.25V to 12.75V
-12V	0A	0.5A	1A	-11.75V to -13.1V
+3.3V	0A	5A	8A	3.0V to 3.50V
+5Vsb	0A	0.75A		4.80V to 5.20V

6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. DC Input Current	I/P:10VDC	18A	11.38A	PASS
6.2. MAX Inrush Current	I/P:10VDC	30A	12.56A	PASS
	I/P:30VDC	A	8.44A	PASS
6.3. Input Frequency & Voltage	I/P:10VDC	■ON □ OFF	-	PASS
	I/P:30VDC	■ON □ OFF	-	PASS
6.4. Switching Test	Switching Time: 0.5 Sec MIN Load / Full Load	@115VAC □ON □ OFF	-	-
	Switching Time: 0.5 Sec MIN Load / Full Load	@115VAC □ON □ OFF	-	-
	Switching Time: 0.5 Sec MIN Load / Full Load	@115VAC □ON □ OFF	-	-
	Switching Time: 0.5 Sec MIN Load / Full Load	@115VAC □ON □ OFF	-	-
6.5. Efficiency	I/P:10VDC FULL LOAD	@70%Min	73.902%	PASS
	I/P:12VDC FULL LOAD	@70%Min	75.978%	PASS
6.6. Line Regulation	I/P:10VDC~30VDC	<±10%(3.3V)	1.818%	PASS
		<±10%(5V)	0%	PASS
		<±10%(12V)	-1.608%	PASS
		<±10%(-12V)	-2.442%	PASS
		<±10%(5VSB)	0.06%	PASS
6.7. Load Regulation	I/P:10VDC O/P:MINLOAD~FULL LOAD	<±5%(3.3V)	2.878/-4.696%	PASS
		<±2%(5V)	1.6/-0.6%	PASS
		<±5%(12V)	0.917/3.167%	PASS
		<±5%(-12V)	0.625/4.833%	PASS
		<±5%(5VSB)	1.7/0.15%	PASS
6.7. Over-Voltage Protection	I/P:12VDC O/P:MIN LOAD	-	-	-
6.8. Over-Circuit Protection	O/P: 3.3V	A(MAX)	-	-
	O/P: 5V	A(MAX)	-	-
	O/P: 12V	A(MAX)	-	-
	O/P: -12V	A(MAX)	-	-
	O/P: 5VSB	A(MAX)	-	-
6.9. Over-Load Protection	I/P:10VDC	110~150%	116%	PASS
	I/P:12VDC	110~150%	117%	PASS
	I/P:30VDC	110~150%	120%	PASS
6.10. Short Circuit Protect	I/P:12VDC O/P:MIN LOAD	3.3V&GND Short		PASS
	I/P:12VDC O/P:MIN LOAD	5V&GND Short		PASS
	I/P:12VDC O/P:MIN LOAD	12V&GND Short		PASS
	I/P:12VDC O/P:MIN LOAD	-12V&GND Short		PASS
	I/P:12VDC O/P:MIN LOAD	5VSB&GND Short		PASS
6.11. Ripple & Noise	I/P:12VDC O/P:FULL LOAD	≤ 100mv(3.3V)	70.0mv	PASS
		≤ 100mv(5V)	68.7mv	PASS
		≤ 120mv(12V)	85.2mv	PASS
		≤ 200mv(-12V)	88.6mv	PASS
		≤ 120mv(5VSB)	58.7mv	PASS

6.12. Setup Time	I/P:12VDC O/P:FULL LOAD	(MAX)	-	-
6.13. Hold up Time	I/P:12VDC O/P:FULL LOAD	(MIN)	-	-
6.14. Rise Time	I/P:12VDC O/P:FULL LOAD	-	-	-
6.15. Turn on Overshoot	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
6.16. Turn off Undershoot	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
6.17. Remote ON/OFF	Simulate TTL signal to test this function			-
6.18. Power Good Signal	Shall go high level with a delay of 100~500ms		282mS	PASS
6.19. Power On In Low Temperature	I/P:12VDC (0°C) After 2HR Power On			PASS
6.20. Power On In High Temperature	I/P:12VDC (45 °C)After 2HR Power On			PASS
6.21. Room Burn-in test	I/P:12VDC O/P: FULL LOAD TA:25 °C BURN-IN DURATION : 2 hour			PASS
6.22. On/Off Cycling	Times / on: 20 sec / off: 10 sec			-
6.23. Power Consumption Test (DC-DC POWER SUPPLY)	No Run Prime95	I/P: 10VDC 3.42A 34.2W	O/P: 3.3V/0.96A 5V/1.72A 12V/0.90A -12V/0.18A 5VSB/0.2A	PASS
	Run Prime95	I/P: 10VDC 1.88A 48.8 W	O/P: 3.3V/0.96A 5V/2.03A 12V/2.02A -12V/0.3A 5VSB/0.2A	PASS
	No Run Prime95	I/P: 30VDC 1.15A 34.5 W	O/P: 3.3V/0.97A 5V/1.81A 12V/0.94A -12V/0.02A 5VSB/0.05A	PASS
	Run Prime95	I/P: 30VDC 1.64A 49.2W	O/P: 3.3V/1.02A 5V/2.03A 12V/2.0A -12V/0.2A 5VSB/0.2A	PASS
6.24. Power Consumption Test (AC-DC ADAPTER)	No Run Prime95	I/P:100VAC 0.35A 35.2W	O/P:19V/1.83A 34.77W	PASS
	Run Prime95	I/P:100VAC 0.57A 55.7W	O/P: 19V/2.69A 51.11W	PASS