

LE-0316B160080 of TKS-G20-9455
Power Electronics Test Report

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Approved By

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1. Project

LE0316B160080 AC-DC Adapter for TKS-G20-9455

2. Power Manufacturer

LINE ELECTRONICS INC.

3. Team Member

PM : Roger Lai ; ECD ME : Kimo Lin

4. Test Equipment

4.1. CPU Board : GENE-9455 Rev. A1.0 (BIOS: 1.0 for DVI)

4.2. CPU : Intel Atom N270 1.6GHz

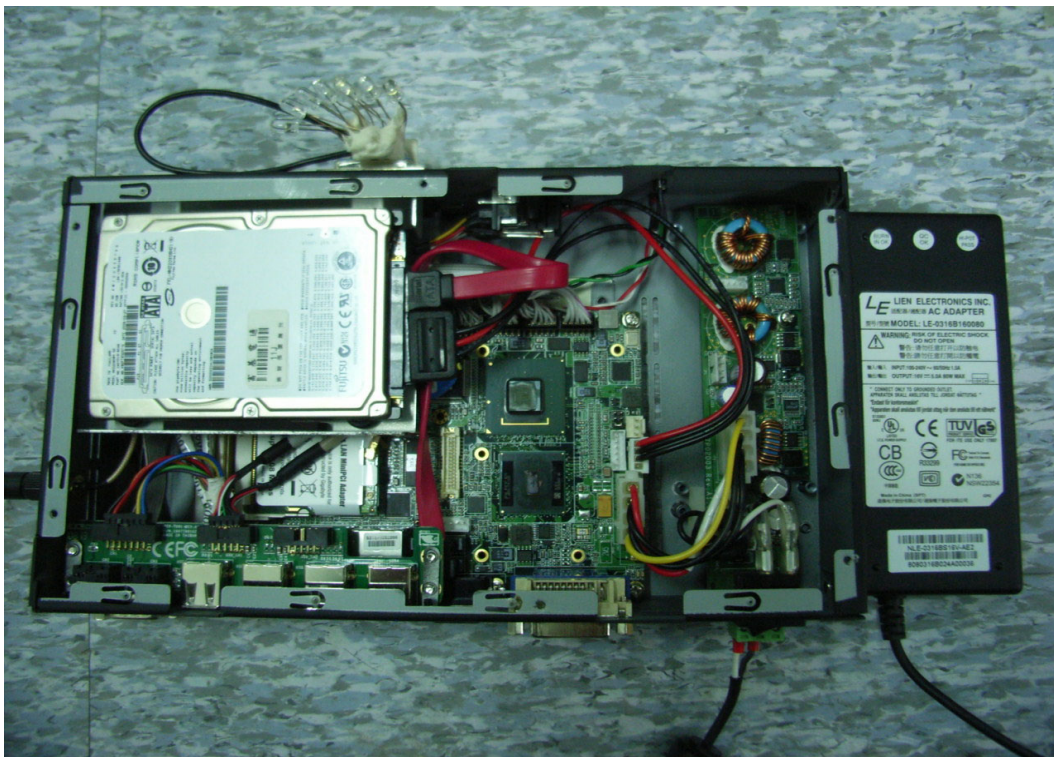
4.3. Memory : DSL 1GB DDR2 667MHZ / ELPIDA E5108AG-6E-E

4.4. Hard Disk : Fujitsu MHZ2080BH/80G

4.5. AC/DC Adapter : LINE · M/N : LE0316B160080 80Watt O/P : 16V/5A

5. Photos of Product

Fig.5.1. —EUT&AC Adapter



6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:90VAC	1.5A	1.06A	PASS
6.2. MAX Inrush Current	I/P:115VAC	100A	26.2A	PASS
	I/P:230VAC	100A	26.9A	PASS
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:90VAC FULL LOAD	82@%Min	82.202%	PASS
	I/P:115VAC FULL LOAD	82@%Min	82.994%	PASS
	I/P:230VAC FULL LOAD	82@%Min	82.401%	PASS
	I/P:264VAC FULL LOAD	82@%Min	82.842%	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<±1%	0.03%	PASS
6.7. Load Regulation	I/P:115VAC O/P:MINLOAD~FULL LOAD	<±5%	3.437	-
	I/P:230VAC O/P:MINLOAD~FULL LOAD	<±5%	3.406	-
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 25V(MAX)	-	-
6.9. Over-Circuit Protection	O/P: 16V	7.5A(MAX)	6A	PASS
6.10. Over-Load Protection	I/P:90VAC	150%(MAX)	121	PASS
	I/P:115VAC	150%(MAX)	120	PASS
	I/P:230VAC	150%(MAX)	121	PASS
	I/P:264VA	150%(MAX)	121	PASS
6.11. Short Circuit Protect	I/P:115VAC O/P:MIN LOAD	16V&GND Short	-	PASS
	I/P:230VAC O/P:MIN LOAD	16V&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
6.13. Line Voltage Sag	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
6.14. Ripple & Noise	I/P:115VAC O/P:FULL LOAD	≤ 320mv	117.2	PASS
	I/P:230VAC O/P:FULL LOAD	≤ 320mv	87.5	PASS
6.15. Setup Time	I/P:115VAC O/P:FULL LOAD	3S(MAX)	1.482S	PASS
	I/P:230VAC O/P:FULL LOAD	3S(MAX)	1.592S	PASS
6.16. Hold up Time	I/P:115VAC O/P:FULL LOAD	20mS(MIN)	29.85	PASS
	I/P:230VAC O/P:FULL LOAD	20mS(MIN)	97.6	PASS
6.17. Rise Time	I/P:115VAC O/P:FULL LOAD	20mS (MAX)	58	FAIL
	I/P:230VAC O/P:FULL LOAD	20mS(MAX)	58.7	FAIL
6.18. 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
6.19. 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

6.20. 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. Power On In Low Temperature	I/P: 115VAC (0°C) After 2HR Power On			-
6.23. Power On In High Temperature	I/P: 115VAC (40°C) After 2HR Power On			-
6.24. Room Burn-in test	I/P: 115VAC O/P: FULL LOAD TA: 25°C BURN-IN DURATION : 2 hour			-
6.25. On/Off Cycling	Times / on: 20 sec / off: 10 sec			-
6.26. System Power Consumption Test (DC-DC Power Board)	No Run Prime95	I/P: 8.5VDC 1.47A 12.495W		PASS
	Run Prime95	I/P: 8.5VDC 1.85A 15.725W		PASS
	No Run Prime95	I/P: 19VDC 0.7A 13.3W		PASS
	Run Prime95	I/P: 19VDC 0.86A 16.34W		PASS
6.27. Power Consumption Test (AC ADAPTER)	No Run Prime95	I/P: 100VAC 0.3A 15.8W	O/P: 16V/0.85A	PASS
	Run Prime95	I/P: 100VAC 0.36A 19.1W	O/P: 16V/1.06A	PASS

7. Test Result and Observation

Test Item 6.17. RISE TIME IS OVER SPEC