

Report NO: 14R0A0001\_I

# LTE24E-S2-2 of RTC-900R Power Electronics Test Report

Summary	<input checked="" type="checkbox"/> <b>Passed</b> <input type="checkbox"/> <b>Failed</b> <input type="checkbox"/> <b>Passed 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	Approval	Test Engineer
<b>04/24/2014</b>	<b>Tom Lin</b>	<b>Sean Hsu</b>

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**1. Project**

LTE-24E-S2-2 AC-DC Adapter for RTC-900R

**2. Power Manufacturer**

LI TONE ELECTRONICS CO.,LTD

**3. Team Member**

PM : Tony Huang ; EE : Nathan Hsiu

**4. Test Equipment**

4.1. CPU Board : AAEON , RTC-900R , Rev.A0.3

4.2. CPU : NVIDIA® Tegra™ 2 1.0GHz Dual-core processor

4.3. Memory : Built-in 1GB (14S69M5200 667MHz 1.8V)

4.4. Storage Disk Drive : Built-in 16GB eMMC flash

4.5. AC Adapter : LTE , Model : LTE24E-S2-2 , O/P : 12V/2A , 24Wat

**5. AC Adapter Spec**

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

DC Output : 12Vdc Min Load : 0A ; Max Load : 2A / 24W

## 6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:115VAC	0.45A	0.41A	Passed
6.2. MAX Inrush Current	I/P:115VAC	A	-	N/A
	I/P:230VAC	A	-	N/A
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 FULL LOAD	@80%Min	80556%	Passed
	I/P:115VAC FULL LOAD	@80%Min	82.485%	Passed
	I/P:230VAC FULL LOAD	@80%Min	84.41%	Passed
	I/P:264VAC FULL LOAD	@80%Min	83.22%	Passed
6.6. Line Regulation	I/P:90VAC~264VAC	<±1%	-0.2%	Passed
6.7. Load Regulation	I/P:115VAC O/P:MINLOAD~FULL LOAD	<±4%	2.31%	Passed
	I/P:230VAC O/P:MINLOAD~FULL LOAD	<±4%	2.475%	Passed
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 15.6V (MAX)	-	N/A
6.9. Over-Circuit Protection	O/P: 12V	A(MAX)	3.5A	Passed
6.10. Over-Load Protection	I/P:90VAC O/P:MIN LOAD	120~200%	168.5%	Passed
	I/P:115VAC O/P:MIN LOAD	120~200%	170.6%	Passed
	I/P:230VAC O/P:MIN LOAD	120~200%	171.6%	Passed
	I/P:264VAC O/P:MIN LOAD	120~200%	168.7%	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 198VDC	-	Passed
6.14. Ripple & Noise	I/P:115VAC O/P:FULL LOAD	$\leq 120\text{mv}$	94mv	Passed
	I/P:230VAC O/P:FULL LOAD	$\leq 120\text{mv}$	95mv	Passed
6.15. Setup Time	I/P:115VAC O/P:FULL LOAD	3S(MAX)	920ms	Passed
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	370.5ms	Passed
6.16. Hold up Time	I/P:115VAC O/P:FULL LOAD	10mS(MIN)	16.9ms	Passed
	I/P:230VAC O/P:FULL LOAD	8mS(MIN)	76.5ms	Passed
6.17. Rise Time	I/P:115VAC O/P:FULL LOAD	mS(MAX)	8.102ms	N/A
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	7.841ms	N/A
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@ 20 % LOAD		-	Passed
	Turn off undershoot shall not exceed 10% over nominal voltages@ 20 % LOAD		-	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 of100~500ms		-	-
6.22. Power On In Low Temperature	I/P:115VAC ( °C) After 2HR Power On		-	-
6.23. Power On In High Temperature	I/P:115VAC ( °C)After 2HR Power On		-	-
6.24. Power Consumption Test with AC Adapter	Off Mode (Battery capacity:3%)	I/P:100VAC 0.29A 15.6W	O/P: 12V/1.22A 14.64W	Passed
	No Run StabilityTest v2.5 (Battery capacity:3%)	I/P:100VAC 0.36A 20.8W	O/P: 12V/1.67A 20.4W	Passed
	Run StabilityTest v2.5(Battery capacity:3%)	I/P:100VAC 0.4A 23.5W	O/P: 12V/1.92A 23.04W	Passed