

Report NO: 13P0A0015_I

FSP084-DMAA1

of

AEC-6646B

Power Electronics Test Report

| | | | | |
|---|---|-------|-------|-------------|
| Summary | <input checked="" type="checkbox"/> Pass | | | |
| | <input type="checkbox"/> Fail | | | |
| <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

10/07/2013

Approval

Tom Lin

Test Engineer

Sean Hsu

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1. Project

FSP084-DMAA1 AC-DC Adapter for AEC-6646B
CPU : INTEL Core I3-3220 3.3GHz

2. Power Manufacturer

FSP

3. Team Member

PM : Jackie Huang ; RD : Howard Kuo

4. Test Equipment

- 4.1. CPU Board : EMB-H61A REV.A1.0 BIOS Rev : R1.0 (6646BM10)(08/05/2013)
- 4.2. HDD : TOSHIBA MK5076GSX 500GB
- 4.3. Memory : TRANSCEND DDR3-1333 4GB*2
- 4.4. LCD Monitor : CHIMEI , Model : A170E2-T08
- 4.5. Power Supply : FSP , Model : FSP084-DMAA1 , O/P : 12V/7A , 84Watt
- 4.6. USB Keyboard : Logitech , Model : Y-BL49
- 4.7. USB Mouse : Logitech , Model : M-BT85

5. AC Adapter Spec

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

DC Output : 12Vdc Min Load : 0A Full Load : 7A / 84W

6. Test Item

| Test Item | Test Condition / Specification | | Sanction | |
|--------------------------------|---|-------------------|----------|--------|
| | | | Measured | Result |
| 6.1. AC Input Current | I/P:115VAC | 1.3A | 0.995A | PASS |
| 6.2. MAX Inrush Current | I/P:115VAC | A | 4.72A | - |
| | I/P:230VAC | A | 6.50A | - |
| 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 O/P:5A | @83%Min | 86.26% | PASS |
| | I/P:115VAC O/P:5A | @83%Min | 87.43% | PASS |
| | I/P:230VAC O/P:5A | @83%Min | 87.18% | PASS |
| | I/P:264VAC O/P:5A | @83%Min | 86.72% | PASS |
| 6.6. Line Regulation | I/P:90VAC~264VAC | <% | 0.043% | - |
| 6.7. Load Regulation | I/P:115VAC O/P:MIN~FULL LOAD | <% | 1.96% | - |
| | I/P:230VAC O/P:MIN~FULL LOAD | <% | 2.042% | - |
| 6.8. Over-Voltage Protection | I/P:230VAC O/P:MIN LOAD | V1 : 17 (MAX) | - | - |
| 6.9. Over-Circuit Protection | O/P: 12V | 9.4A(MAX) | 8.6A | PASS |
| 6.10. Over-Load Protection | I/P:90VAC O/P:MIN LOAD | 135% | 123% | PASS |
| | I/P:115VAC O/P:MIN LOAD | 135% | 122% | PASS |
| | I/P:230VAC O/P:MIN LOAD | 135% | 124% | PASS |
| | I/P:264VAC O/P:MIN LOAD | 135% | 125% | PASS |
| 6.11. Short Circuit Protect | I/P:115VAC O/P:MIN LOAD | 12V&GND Short | - | PASS |
| | I/P:230VAC O/P:MIN LOAD | 12V&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 | $\leq 150\text{mv}$ | 118.9mv | PASS |
| | I/P:230VAC O/P:FULL LOAD | $\leq 150\text{mv}$ | 97.8mv | PASS |
| 6.15. Setup Time | I/P:115VAC O/P:FULL LOAD | 3S(MAX) | 752ms | PASS |
| | I/P:230VAC O/P:FULL LOAD | mS(MAX) | 526ms | PASS |
| 6.16. Hold up Time | I/P:115VAC O/P:FULL LOAD | 20mS(MIN) | 34.6ms | PASS |
| | I/P:230VAC O/P:FULL LOAD | mS(MIN) | 88.5ms | PASS |
| 6.17. Rise Time | I/P:115VAC O/P:FULL LOAD | mS(MAX) | 4.88ms | PASS |
| | I/P:230VAC O/P:FULL LOAD | mS(MAX) | 5.87ms | PASS |
| 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. System Power Consumption Test | No Run Prime95 | I/P:100VAC 0.36A 17.3W | O/P: 12V/1.4A 16.8W | PASS |
| | Run Prime95 | I/P:100VAC 0.90A 46.3W | O/P: 12V/3.68A 44.16W | PASS |