**TEST**

**PRODUCT**

**QUALIFICATION**

**REPORT**

**TITLE:**

LTC3615 QFN Test Platform Migration from

LTX TS88 to Eagle ETS88

**PCN NUMBER**: PCN 21\_0187

**REVISION:**

A

**DATE:**

08/11/2021

**SUMMARY**

The LTC®3615/LTC3615-1 are dual 3A synchronous stepdownregulatorsusing a currentmode, constant-frequency architecture. The DC supply current is only 130µA (Burst Mode operation at no-load) while maintaining the output voltages, dropping to zero current in shutdown. The 2.25V to 5.5V input supply range makes the parts ideally suited for single Li-Ion applications. 100% duty cycle capability provides low dropout operation, which extends operating time in battery-operated systems. The operating frequency is externally programmable up to 4MHz, allowing the use of small surface mount inductors. 0°, 90°, or 180° (LTC3615) or 140°/180° (LTC3615-1) of phase shift between the two channels can be selected to minimize input current ripple and output voltage ripple in a dual 3A or single 6A output configuration. Programmable slew rate limiting reduces EMI, and external synchronization can be applied up to 4MHz. The internal synchronous switches increase efficiency and eliminate the need for external catch diodes, saving external components and board space

To augment test manufacturing during increase in test volumes, the LTC3615 - QFN is planned to be

transferred to another test platform, from LTX TS88 to Eagle ETS-88.

There is no change to the form, fit, function, quality, or reliability of the transferred parts.

This report documents the successful completion of the platform migration/ product test transfer requirements for the release of LTC3615 - QFN from LTX TS88 to ETS-88.

Test product qualification was performed according to Analog Device’s Specification

(TST00094/TST00095 – Test Platform Migration Specification)

**TEST AND PRODUCT INFORMATION**

Device: LTC3615 - QFN

Package: 24-LEAD (4mm × 4mm) PLASTIC QFN.

Part Name: LTC3615EUF/ LTC3615IUF/ LTC3615EUF-1/ LTC3615IUF-1

Catalog Part Name

LTC3615EUF#PBF; LTC3615EUF-1#PBF; LTC3615IUF#PBF; LTC3615IUF-1#PBF

Tester Platform1: ETS-88

Handler1: RASCO1000\_CP4\_AHC

Tester Platform2: LTX TS88

Handler2: RASCO1000\_CP4\_AHC

**TEST DESCRIPTION AND RESULTS (Test Platform Migration Criteria)**

Table 1. Provides a description of the qualification tests conducted and corresponding test results for LTC3615. All the units have undergone electrical tests on both the Linear Technology TS88\_EXP and Eagle Test Systems ETS88 test platforms. Any device that did not meet the electrical qualification requirements, without further analysis and data to prove passing the qualification would be considered failed.

 Table 1: Test Product Bulk Correlation Result

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Generic | Package | Testing Site | LTX TS\_88Test Lot Size | Eagle ETS88Test Lot Size |

|  |
| --- |
| % Mean Shift Criteria<StDv\_Dual |

 |

|  |
| --- |
| Std. Dev. Ratio Criteria=< 1.5 |

 |
| LTC3615 | QFN 4x4 | ADGT | 100 | 100 | Passed | Passed |

Table 2. Shows result of the qualification lot run for the LTC3615. The qualification lot has undergone electrical test on both Linear Technology TS88\_EXP and Eagle Test Systems ETS88 test platforms. Any deviation on the lot qualification run criteria without further analysis and data to prove a passing qualification would be considered a failed qualification lot run.

 Table 2: Test Product Lot Qualification Result

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Generic | Package | Lot number | Lot size |

|  |
| --- |
| Good units passed on both test platforms? |

 | Reject units failed on the same test parameter for both test platforms? |
| LTC3615 | QFN 4x4 | SE56265.2 | 120 | Yes | Yes |
| LTC3615 | QFN 4x4 | SF83075.2 | 150 | Yes | Yes |

**CONCLUSION**

The correlation exercise has been successfully completed. The Eagle ETS-88 has been

proven to be at par with the LTX TS88 test platform. It is therefore suitable for release to production

awaiting customer approval.

**APPROVALS**

Product line Manager: LTC Product Line Manager

Test Development Manager: ADPhils LTC Test Development Manager

Test Product Manager: ADPhils LTC Product Engg Manager

Quality Manager: ADPhils. QA Manager

**REFERENCE**

Technical Review Board: TRB # [63524](http://wwmbe.analog.com/apps/mcm/projects/07bc5404-236b-705f-01f2-39f95d7459c5)

**ADDITIONAL INFORMATION**

Homepage: <https://www.analog.com/>