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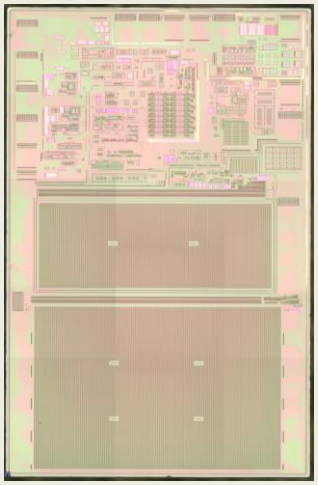
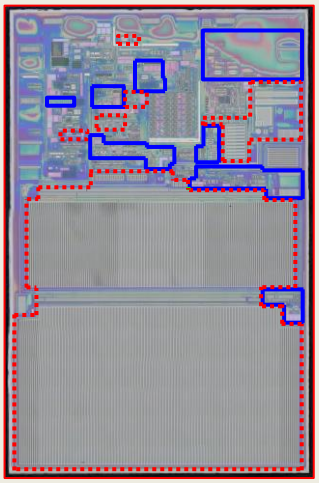
LT8640 DC-DC CONVERTER IC
DETAILED SCHEMATIC ANALYSIS REPORT (Linear Technology)

January, 2017. The purpose of this report is to identify all circuit elements of the LT8640 Silent Switcher® architecture that made it possible to achieve an impressive 26dB reduction of EMI/RFI emission relative to its previous generation, the LT8610. This report is a comparative analysis between these two products.



LT8610 Poly-Si layer



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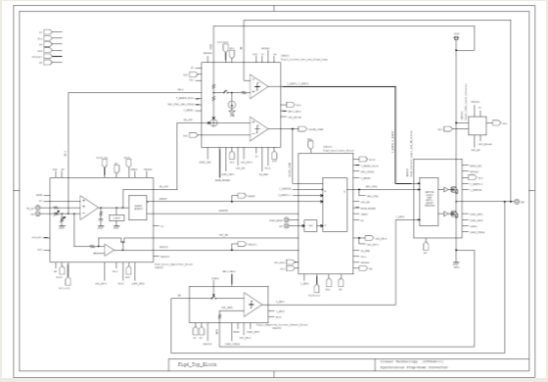

LT8640 top-level schematic (area of interest)

Significant differences from LT8610

Slight differences from LT8610

The circuit layout of both products was examined, compared, and all circuit function blocks showing differences in the layout pattern, were identified. Then, these blocks were further analyzed, and the circuit schematic of each function block of interest were extracted and compared to the schematic of the LT8610. The circuit schematics of all analyzed blocks are available in hierarchical pdf, and vendor-neutral EDIF file format.

This report is particularly useful for circuit designers of low EMI/RFI DC-DC converters as it offers insights into advanced RF interference reduction practices. System designers interested in product development compliant with CISPR25 Class5 or similar EMC standards, can also greatly benefit from studying this report.

Note:
The listed report price may not be accurate as it decreases over time.
Please contact us for current report pricing info@ltecusa.com

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The LT8640 spread spectrum Silent Switcher® architecture includes a number of improvements aimed at EMI/RFI reduction: an added oscillator block serves as modulator to implement spread spectrum feature. Additional modifications include a current detection block, pre-driver, power train, and an external bypass/GND arrangement. All these details were included and summarized in a 135-page report. The details of the new power train configuration and associated bypass scheme, aimed at reducing EMI/RFI emissions , are further examined in the Appendix.

Note: The full circuit analysis details of the LM8610 are available in a separate report.

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