

## Camera flash with SuperCap based on the STCF04

Data brief

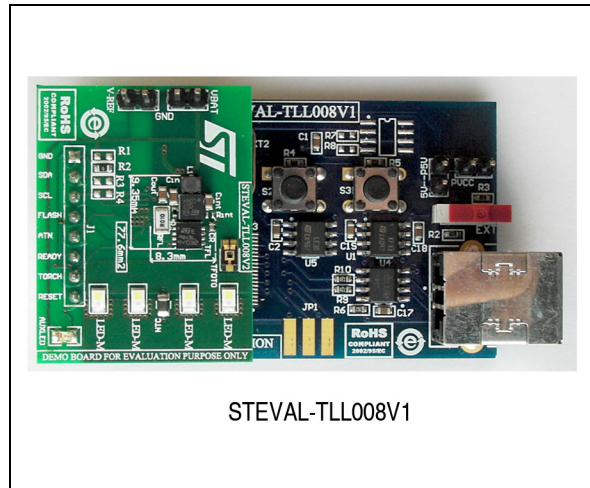
### Features

- Different operation modes:
  - Shutdown mode, mainly used to decrease the power consumption of the device
  - Monitoring mode, used to monitor the SuperCap voltage
  - IDLE mode, which allows the accessing of all the internal registers
  - NTC feature, which can be used in all modes. The NTC is activated automatically in flash and Torch mode regardless of the value of the NTC\_ON bit. NTC must be activated manually in all the other modes
  - Torch mode, intended to be used for low light intensities. The LED current in Torch mode can be adjusted in a range from 15 mA up to 300 mA
  - Flash mode, intended to be used for high light intensities. The LED current in Flash mode can be adjusted up to 10 A with the input voltage ranging from 2.7 V up to 5.5 V
- Status register and ATN pin
- Ready pin
- Light sensor (optional)
- RoHS compliant

### Description

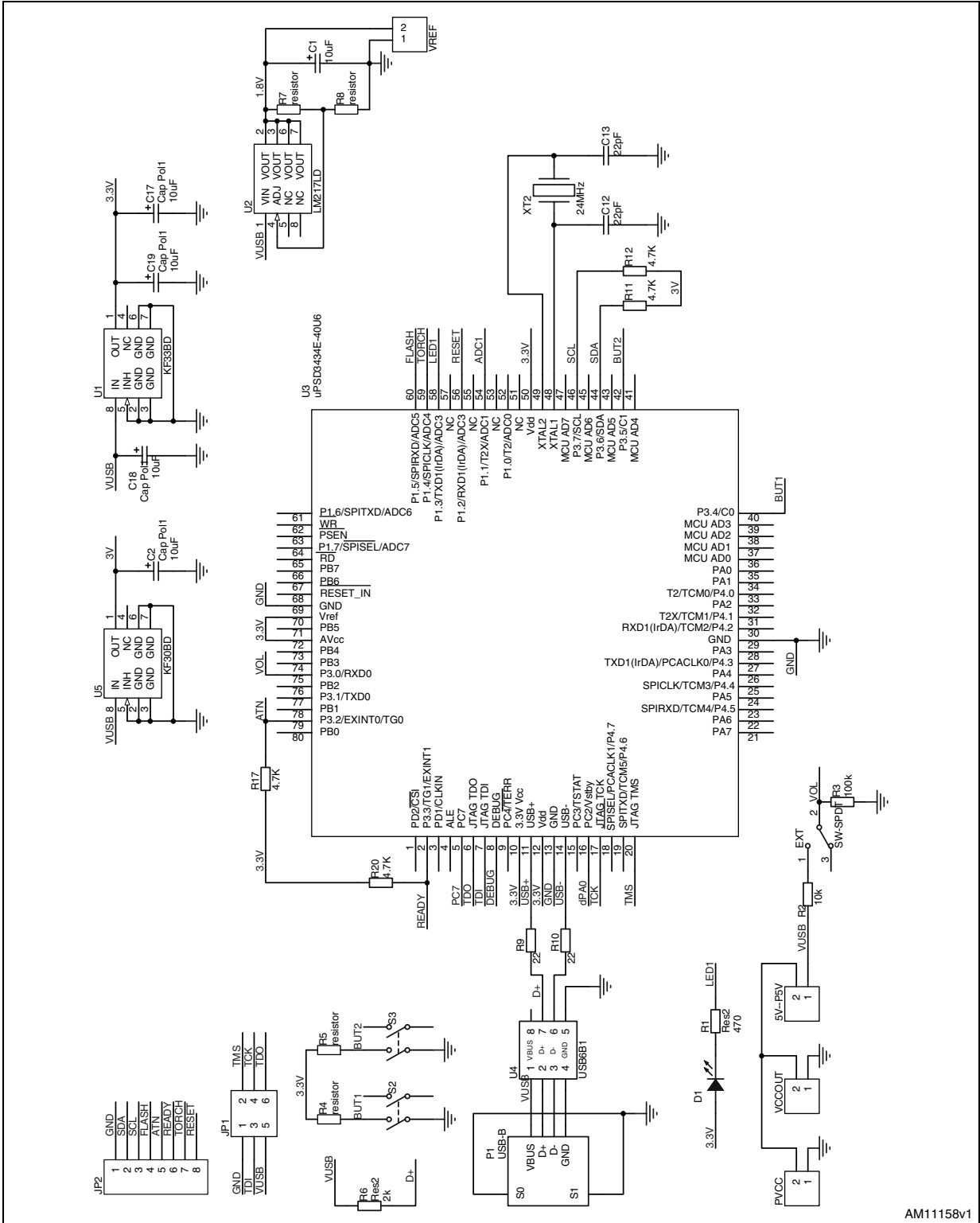
The STEVAL-TLL008V1 demonstration board is a flash LED driver using the STCF04 device, which is a buck-boost converter with an I<sup>2</sup>C interface dedicated to charging a SuperCap.

All LEDs with a forward voltage range from 2.5 V to 5 V are compatible with the STCF04. The forward voltage spread of any selected LED must, however, be within this range (2.5 V to 5 V). It is possible to set the level of the LED current in Flash mode and Torch mode by setting the dimming registers. The maximum level of the LED current in Flash mode can be set by changing the external flash resistor.



# 1 Schematic

Figure 1. STEVAL-TLL008V1 schematic



## 2 Revision history

**Table 1. Document revision history**

Date	Revision	Changes
02-Feb-2012	1	Initial release.

**Please Read Carefully:**

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

**UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.**

**UNLESS EXPRESSLY APPROVED IN WRITING BY TWO AUTHORIZED ST REPRESENTATIVES, ST PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE. ST PRODUCTS WHICH ARE NOT SPECIFIED AS "AUTOMOTIVE GRADE" MAY ONLY BE USED IN AUTOMOTIVE APPLICATIONS AT USER'S OWN RISK.**

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2012 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

[www.st.com](http://www.st.com)