

Features

- Input range: 8 V up to 52 V (up to 45 W)
- STMicroelectronic's ARM™ Cortex-M3 core-based STM32F103CBT6 microcontroller
- DMOS fully integrated three-phase motor driver L6230PD in PowerSO package
- Four-layer board
- Sensorless and hall sensors/encoder
- Current sensing mode: single-shunt resistor
- Compatible with new version of the STM32F103CBT6 FOC firmware library: PMSM FOC SDK
- Debug connector USB interface for real-time data exchange
- RoHS compliant

Description

The STEVAL-IFN003V1 is an evaluation board based on STMicroelectronic's ARM™ Cortex-M3 core-based STM32F103CBT6 microcontroller and the DMOS fully integrated three-phase motor driver L6230PD implementing a field-oriented control of the PMSM motor.

It is designed as an evaluation environment for motor control applications in the range of 8 V to 52 V of DC bus voltage and up to 45 W, exploiting the computational power of the STM32F103CBT6. This microcontroller features internal 20 kB SRAM and 128 kB Flash, SWD debugging. The L6230PD DMOS driver features 2.8 A output peak current, non-dissipative overcurrent detection/protection, cross-conduction protection, uncommitted comparator, thermal shutdown and undervoltage lockout.

The STEVAL-IFN003V1 is provided with a USB interface specific to real-time data exchange.

With dedicated hardware evaluation features, the STEVAL-IFN003V1 board is designed to help developers to evaluate the device and to develop their own applications. The STEVAL-IFN003V1 can be used together with the STM32F103CBT6 PMSM FOC SDK and constitutes a complete motor control evaluation and development platform.

1 Schematic diagram

Figure 1: Schematic diagram 1/2

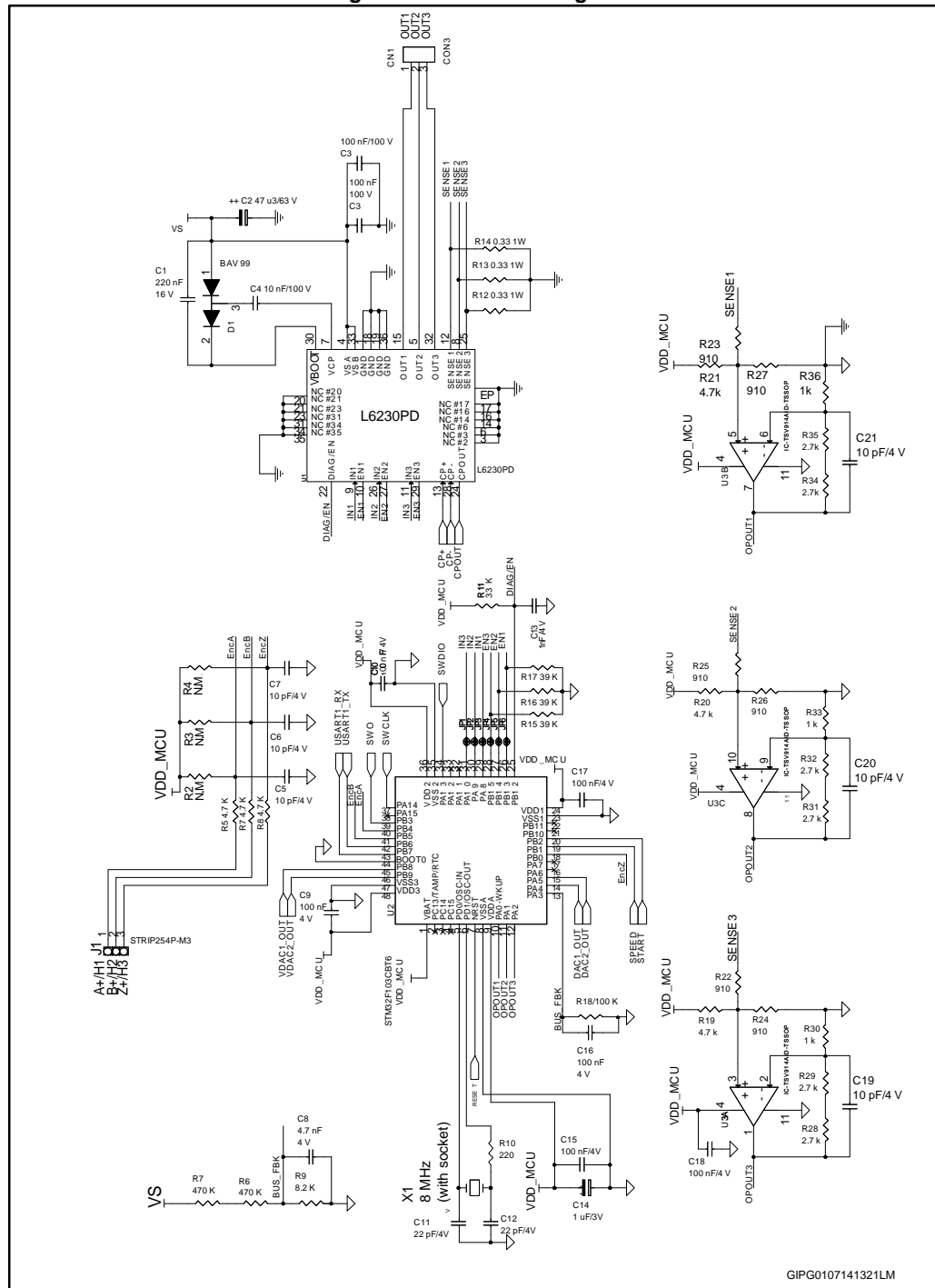
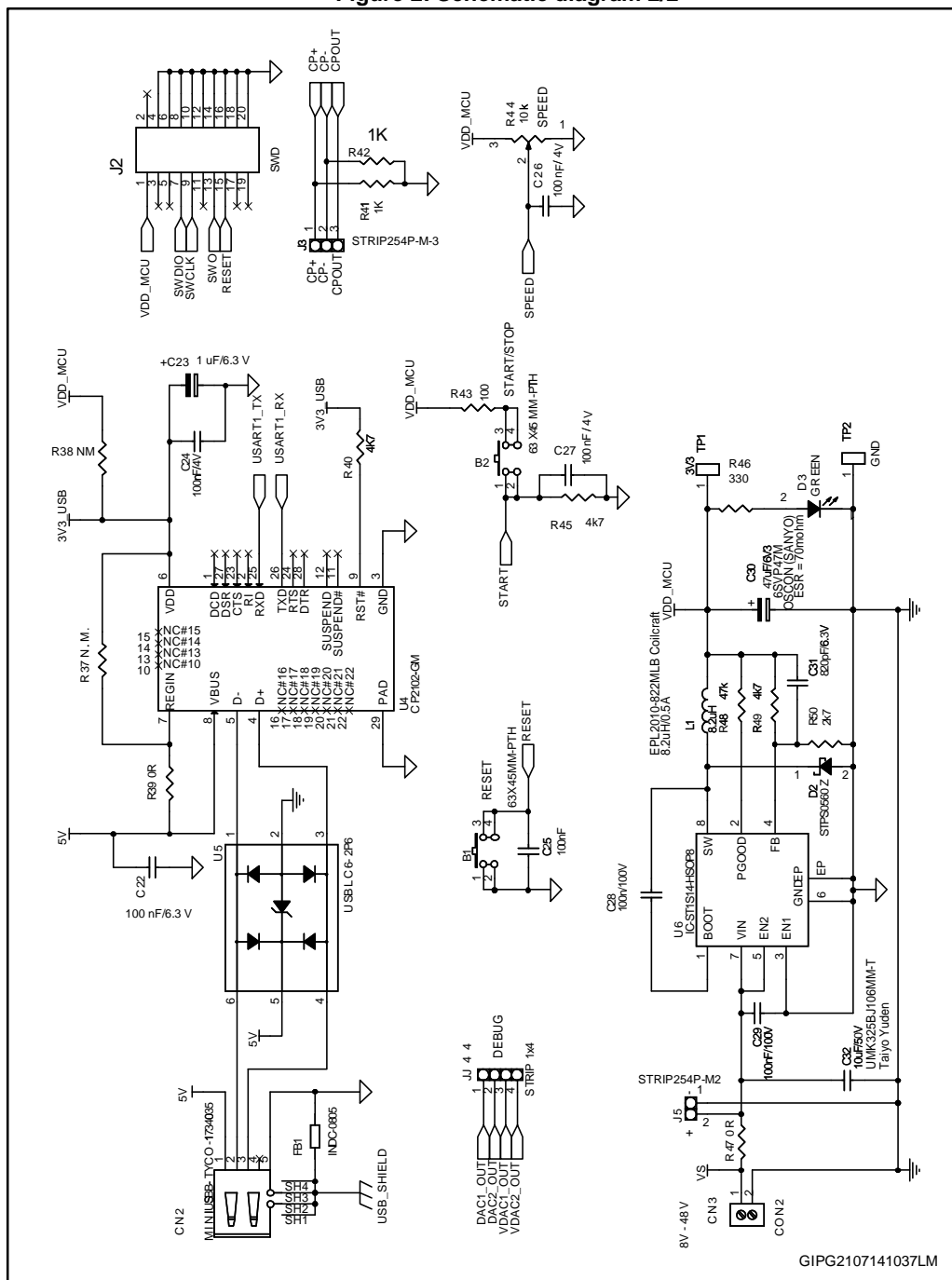


Figure 2: Schematic diagram 2/2



2 Revision history

Table 1: Document revision history

| Date | Rev. | Changes |
|-------------|------|---|
| 20-Oct-2011 | 1 | Initial release |
| 21-Jul-2014 | 2 | Changed the title. Updated Features and <i>"Description"</i> . |
| 10-Dec-2014 | 3 | Updated Features and <i>"Description"</i> . |

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