



# STw4410

## 2 Step down DC/DC converter/4 LDO/MMC interface power management

Data Brief

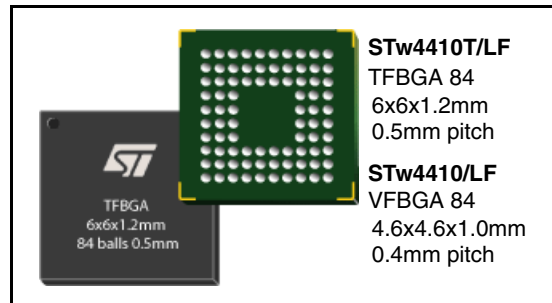
### Features

- 2 Step-down converters
  - V<sub>sd1</sub>: 1 to 1.5 V with 15 steps at 650 mA, and 1.2, 1.3, 1.4 & 1.5 V by ball programming
  - V<sub>sd2</sub>: 1.8 V at 600 mA for general purpose usage
- 4 Low-drop output regulators for different uses
  - V<sub>dig</sub>: 1.0, 1.2, 1.5 - 250 mA, supplied by V<sub>sd2</sub>
  - V<sub>ana1</sub>: 1.5, 1.8, 2.5, 2.8 V - 150 mA
  - V<sub>ana2</sub>: 1.5, 1.8, 2.5, 2.8 V - 150 mA
  - V<sub>ana3</sub>: 1.5, 1.8, 2.5, 2.8 V - 150 mA
- Mass memory cards (SD/MMC/SDIO)
  - V<sub>mmc</sub>: 1.8, 2.5, 2.85, 3 V - 150mA
  - Level shifters
- Miscellaneous
  - 32 kHz control for processor
  - Processor supply monitoring
  - Processor reset control
  - Serial I<sup>2</sup>C interface
  - Thermal shutdown, thermal interruption warning for processor
  - Clock squarer for master clock

### Description

STw4410 is a power management device with advanced features. The two Switched Mode Power Supplies (SMPS) and the four Low Drop Output regulators (LDO) had been designed to use the better external components, to have the better efficiency and the better noise rejection to the load and line transient perturbation.

This product suits well all mobile applications thanks to its very low consumption in sleep mode.



The high level of the dynamic performances allows to use the product to supply all processors used mobile phone or in multimedia platform, furthermore, the output voltage programming of V<sub>sd1</sub> SMPS converter allows to use this power management unit with all actual processors.

The second SMPS has been designed with a fixed voltage of 1.8V that can be used to supply a wide range of external devices as memory devices for instance.

The four LDO's can supply all the peripheral devices that can be used on a multimedia platform like audio or TV out devices for example. V<sub>dig</sub> is a high current capability LDO and it is supplied by the V<sub>sd2</sub> SMPS to reduce the power dissipation.

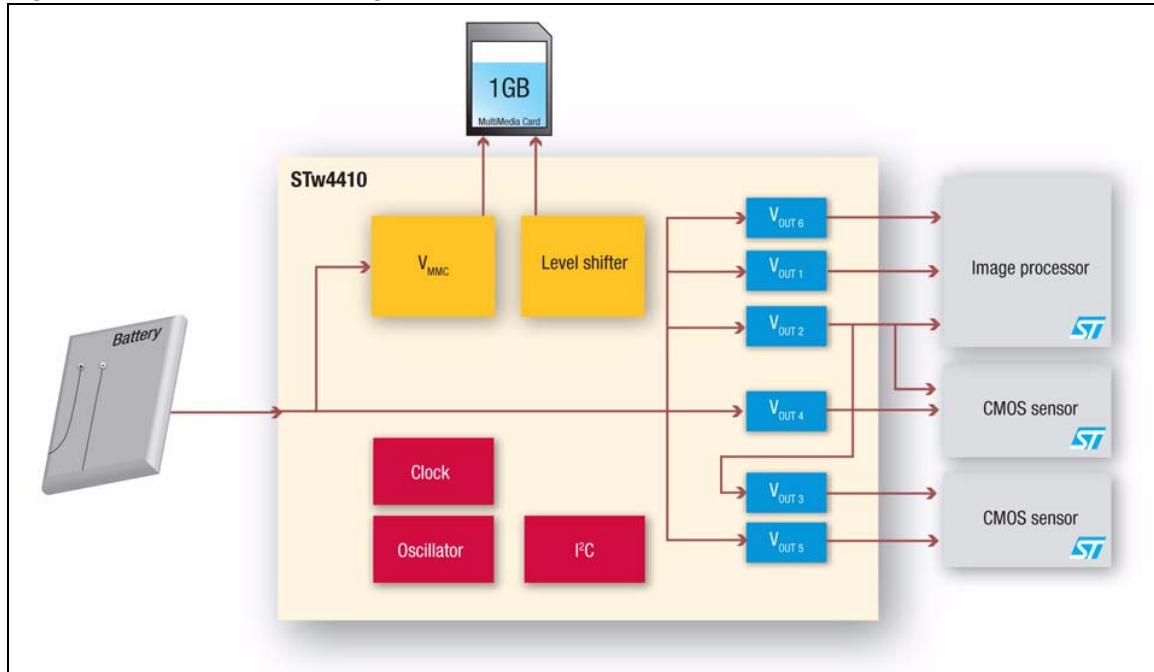
This product has also embedded MMC level shifters and the associated LDO to be used to address the MMC card.

Soft-start procedure had been embedded in the device managing the internal clock and the start of the different voltage of the DC/DC regulators. OTG programming could be done to change the power supply start timing to let customer the flexibility needed in their applications. STw4410 has got an internal clock that can be used to switch the SMPS without any external clock.

The STw4410 typical applications are imaging processor, application processor supply solutions, mobile phones, personal digital assistants (PDA).

## Block diagram

Figure 1. STw4410 block diagram



## Ordering information

Table 1. Order codes

Part number <sup>(1)</sup>	Package
STw4410T/LF	TFBGA84
STw4410/LF	VFBGA84

1. Specific programming of OTP parameters are possible, for OTP customization, contact your ST local sale representative

## Revision history

Table 2. Document revision history

Date	Revision	Changes
22-Dec-2006	1	Initial release.

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