

Software package for STDES-6KWHVDCDC

Applications & demonstrations	6 kW: High voltage DCDC converter	Digitally controlled	Testing firmware mode	Comprehensive protections
Middleware	Middleware description			
Hardware Abstraction	Hardware Abstraction Layer API	Board Support Package		
Hardware	STM32G474RET6	SiC diodes, MOSFET, gate drivers Power MOSFETs, Op. amplifier		
	STDES-6KWHVDCDC			

Features

- STSW-6KWHVDCDC firmware implementation based on the STM32G474RET6 32-bit MCU
- Source code freely available with developer-friendly license terms

Description

The STSW-6KWHVDCDC software package has been designed to support the STDES-6KWHVDCDC reference design, which is a 6 kW high voltage DC-DC converter.

The firmware has been developed to enable the user to test the reference design under various conditions.

You can configure the output configuration as full wave or center tapped. This enables a wide output range with high efficiency.

To perform the open loop test, change the switching frequency using the user interface switches. This allows the user to test various operating points of the converter without the battery.

To perform the closed loop test, all required peripherals have been initialized/ configured. The reference design is ready to be integrated in the application layer by user. This enables the user to predefine set points for voltage and currents to operate in CV or CC mode.

Evaluate and optimize different power devices and application efficiency by altering the dead-time.

Product summary	
Software for STDES-6KWHVDC DC	STSW-6KWHVDCDC
6kW high voltage DC-DC converter	STDES-6KWHVDCDC
Mainstream Arm Cortex-M4 MCU 170 MHz with 512 Kbytes of Flash memory, Math Accelerator, HR Timer, High Analog level integration	STM32G474RET6
Applications	EV Charging

Revision history

Table 1. Document revision history

Date	Revision	Changes
19-Dec-2022	1	Initial release.

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