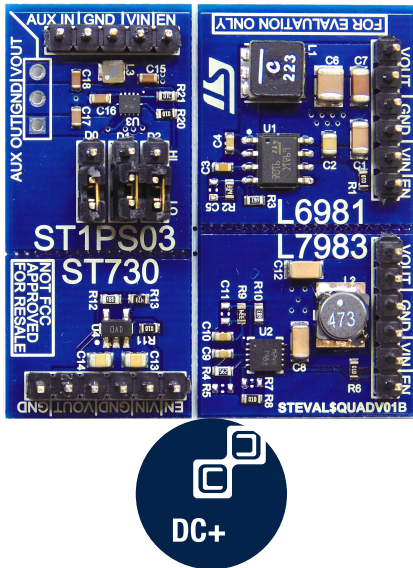


Power management evaluation board based on the stepdown regulators L6981, L7983, ST1PS03, and the ST730 LDO



Features

- L6981
 - 3.5 V to 38 V operating input voltage
 - Output voltage from 0.85 V to VIN
 - 1.5 A DC output current
 - Internal compensation network
 - 2 µA shutdown current
 - Internal soft-start
 - Enable function
 - Overvoltage protection
 - Thermal protection
- L7983
 - 3.5 V to 60 V operating input voltage
 - Output voltage from 0.85 V to VIN
 - 300 mA DC output current
 - Internal compensation network
 - 2.3 µA shutdown current
 - Internal soft-start
 - Enable function
 - Overvoltage protection
- ST1PS03
 - 1.8 V to 5.5 V operating input voltage
 - Output voltage selectable from 1.6 V to 3.3 V
 - 400 mA DC output current
 - 500 nA (typ.) quiescent current
 - Load switch controlled by AUX input
 - Enable function
- ST730
 - 2.5 V to 28 V input voltage range
 - Output voltage from 1.2 V to VIN
 - 300 mA DC output current
 - 5 µA (typ) no-load quiescent current
 - Current limit and SOA protection
 - Enable function

Product summary

Power management evaluation board based on the stepdown regulators L7983, L6981, ST1PS03, and the ST730 LDO	STEVAL-QUADV01
38 V, 1.5 A synchronous step-down converter with low quiescent current	L6981CDR
60 V 300 mA synchronous step-down switching regulator with 10 µA quiescent current	L7983PUR
400 mA nano-quiescent synchronous step-down converter with digital voltage selection, Power Good and independent Load Switch	ST1PS03AQTR
300 mA, 28 V low-dropout voltage regulator, with 5 µA quiescent current	ST730MR

Description

The STEVAL-QUADV01 evaluation board is based on the L6981 (capable of delivering up to 1.5 A DC), the L7983 (capable of delivering up to 300 mA DC), the ST1PS03 (capable of delivering up to 400 mA DC) synchronous monolithic step-down regulators, and the ST730 (capable of delivering up to 300 mA DC) LDO regulator.

The combination of input voltage and output current ranges, and other embedded features makes the evaluation tool suitable for a broad range of applications.

Product summary

Applications	DC-DC Converters, Linear Voltage Regulators
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Schematic diagrams

Figure 1. STEVAL-QUADV01 circuit schematic (1 of 4)

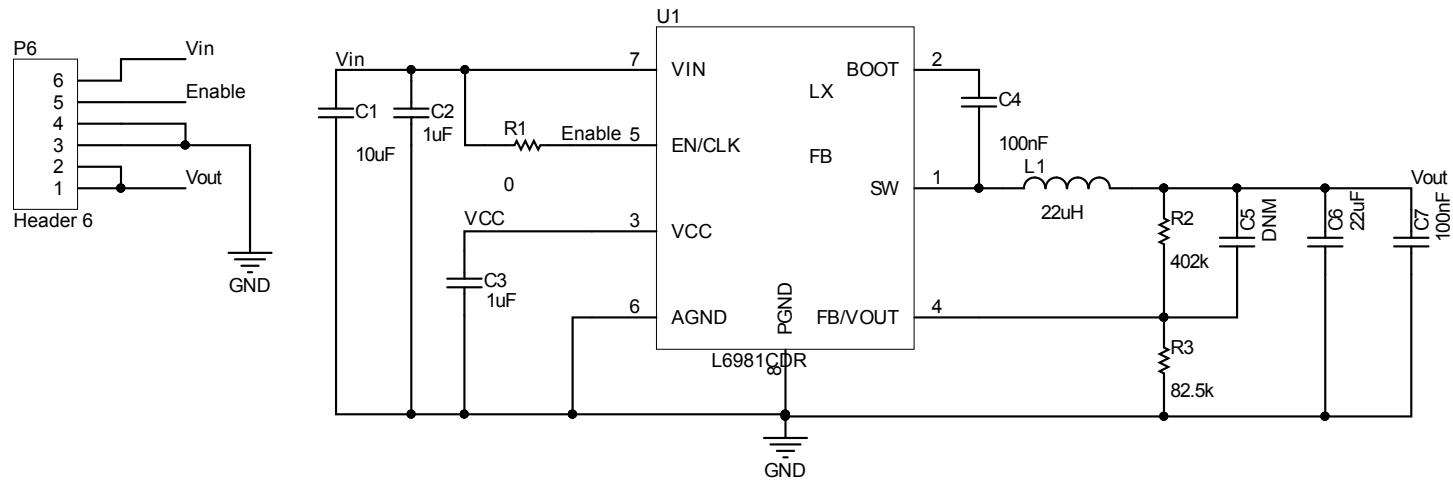


Figure 2. STEVAL-QUADV01 circuit schematic (2 of 4)

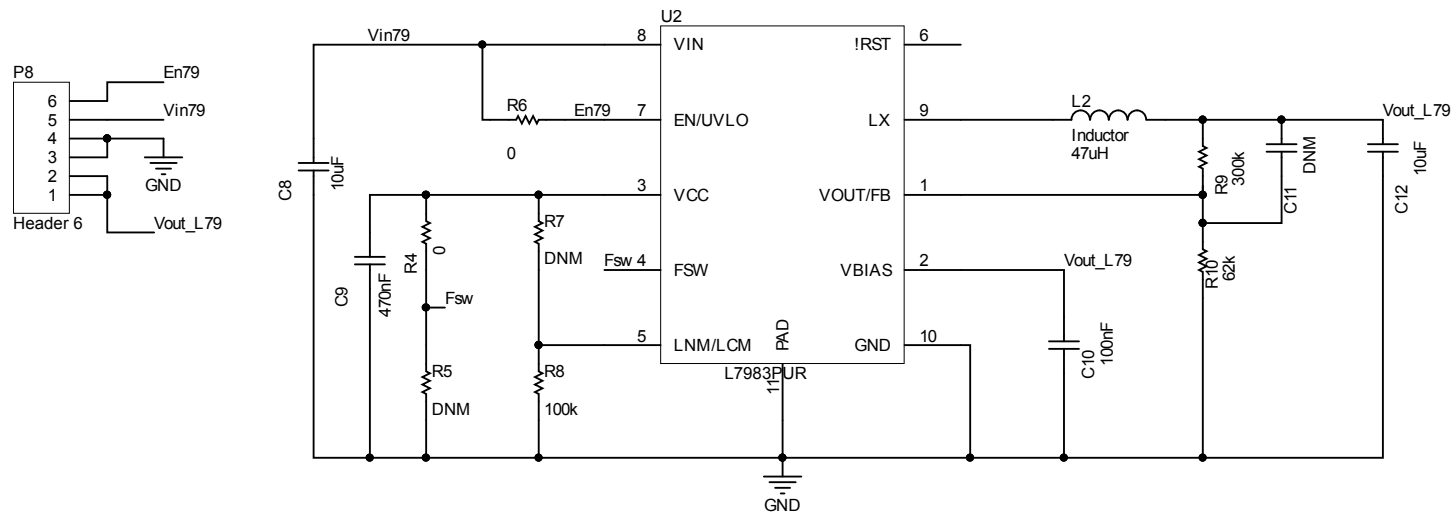


Figure 3. STEVAL-QUADV01 circuit schematic (3 of 4)

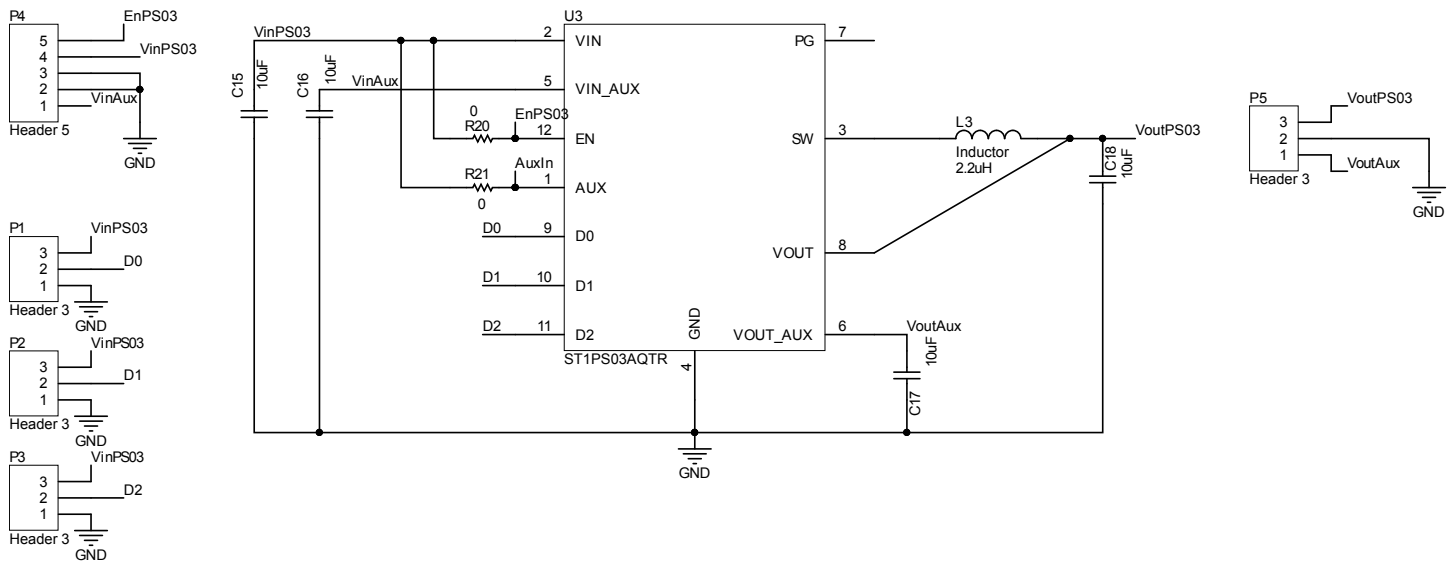
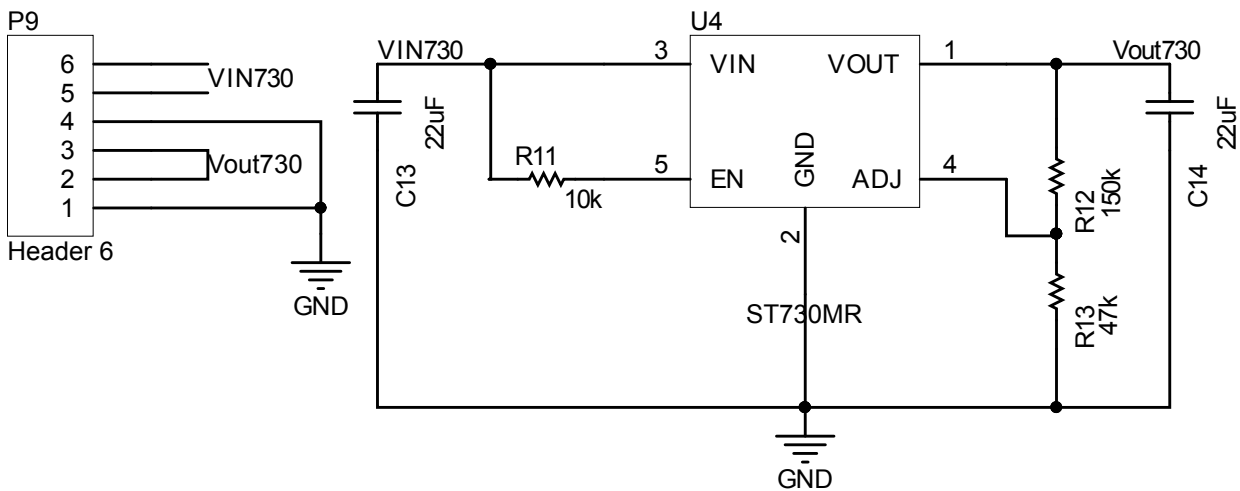


Figure 4. STEVAL-QUADV01 circuit schematic (4 of 4)



2 Board versions

Table 1. STEVAL-QUADV01 versions

PCB version	Schematic diagrams	Bill of materials
STEVAL\$QUADV01A ⁽¹⁾	STEVAL\$QUADV01A schematic diagrams	STEVAL\$QUADV01A bill of materials
STEVAL\$QUADV01B ⁽²⁾	STEVAL\$QUADV01B schematic diagrams	STEVAL\$QUADV01B bill of materials

1. This code identifies the STEVAL-QUADV01 evaluation board first version. It is printed on the board PCB.

2. This code identifies the STEVAL-QUADV01 evaluation board second version. It is printed on the board PCB.

Note:

The two versions of board STEVAL-QUADV01 handling EN pin differently:

- STEVAL\$QUADV01A need to have the EN pin connected externally to Vin in order to activate selected regulator
- STEVAL\$QUADV01B does have the pullup resistors assembled therefore no need to drive EN pin externally. Regulator will be automatically turned on.

Revision history

Table 2. Document revision history

Date	Version	Changes
17-Apr-2023	1	Initial release.
23-Jan-2024	2	Added Section 2: Board versions . Updated Section 1: Schematic diagrams .

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