

Table 1: STEVAL-ISC005V1 bill of materials

| Item | Q.ty | Ref. | Part/value | Description | Manufacturer | Order code |
|------|------|------------------------------------|---------------------------------------|---|------------------|--------------------------------|
| 1 | 8 | C1, C2, C3, C4, C81, C82, C83, C84 | 1 µF CAPC1608N X5R 25 V ±20% 0603 | Capacitor | Würth Elektronik | 885012106022 |
| 2 | 3 | C10, C20, C30 | 100 nF CAPC1608N X7R 50 V ±10% 0603 | Capacitor | Würth Elektronik | 885012206095 |
| 1 | 1 | C50 | 4.7 µF CAPC3216N X7R 25 V ±20% 1206 | Capacitor | Würth Elektronik | 885012208094 |
| 2 | 3 | C70, C71, C76 | 10 µF CAPC3216N X5R 25 V ±20% 1206 | Capacitor | Würth Elektronik | 885012108021 |
| 1 | 1 | C72 | 220 nF CAPC2012N X7R 50 V ±10% 0805 | Capacitor | Würth Elektronik | 885012207100 |
| 2 | 1 | C73 | 2.2 nF CAPC1608N X7R 50 V ±10% 0603 | Capacitor | Würth Elektronik | 885012206091 |
| 1 | 1 | C74 | 1 nF CAPC1608N X7R 50 V ±10% 0603 | Capacitor | Würth Elektronik | 885012206083 |
| 2 | 1 | C75 | 22 nF CAPC1608N X7R 50 V ±10% 0603 | Capacitor | Würth Elektronik | 885012206091 |
| 1 | 1 | C80 | 4.7 nF CAPC1608N X7R 50 V ±10% 0603 | Capacitor | Würth Elektronik | 885012206087 |
| 2 | 1 | D1 | 25 V TRANSIL SOT323 SOT323-3L ESDA25W | TRANSIL array for data protection | ST | ESDA25W |
| 1 | 2 | D4, D82 | BAT54JFILM SOD-323 40 V 300 mA SOD323 | Small signal Schottky diode | ST | BAT54JFILM |
| 2 | 4 | D11, D21, D31, D50 | 22 V QFN1610 ESDA25P35 | High power transient voltage suppressor | ST | ESDA25P35-1U1M |
| 1 | 1 | D71 | STPS3L60U SMB_Diode_DO-214 60 V, 3 A | Low drop power Schottky rectifier | ST | STPS3L60U |
| 2 | 1 | D72 | 6.8 QFN1610 ESDA7P120 | High power transient voltage suppressor | ST | ESDA7P120-1U1M |
| 1 | 1 | D80 | 3V3 SOD-123 500 mW | Zener diode | Diodes Inc. | BZT52C3V3-7-F |
| 2 | 1 | D81 | BAT54CWFILM SOT323-3L 40 V 300 mA | Small signal Schottky diode | ST | BAT54CWFILM |
| 1 | 1 | J1 | USB3 C , 1.6 mm | USB 3.1 TypeC receptacle | Würth Elektronik | 632723300011 |

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|------|------|---|--|--|------------------|---------------|
| 2 | 6 | J1-A, J1-B, J11, J21, J31, J71 | HEADER 1x2 Tr Vbus, GND, HEADER_1x2_Tr, 2.45 mm pitch | Connector; header; 2 position through hole | Würth Elektronik | 61300211121 |
| 1 | 1 | J2 | HEADER 1x4 Tr HEADER_1x4_Tr, 2.45 mm pitch | Connector; header; 4 position through hole | Würth Elektronik | 61300411121 |
| 2 | 4 | J10, J20, J30, J70 | MPT_0.5_2-2.54 VSNK, PDO2, PDO3, +5 V, 2.54 mm | 2 way PCB vertical mount screw terminal | Würth Elektronik | 691210910002 |
| 1 | 1 | J80 | USB2-microB | USB 2.0 SMT Type Micro B | Würth Elektronik | 629105136821 |
| 2 | 1 | J81 | RECEPTACLE 2x8 Tr, 2.54 mm | 16 position receptacle connector | Würth Elektronik | 61301621821 |
| 1 | 1 | L70 | 22 μ H, 2.1 A, 0.069 Ohm, 8x8x4.2mm | Inductor | Würth Elektronik | 74404084220 |
| 2 | 1 | LD60 | LED_0603_BLUE | Blue LED | Würth Elektronik | 150060BS75000 |
| 1 | 2 | LD61, LD62 | LED_0603_GREEN | Green LED | Würth Elektronik | 150060VS75000 |
| 2 | 2 | LD63, LD93 | LED_0603_YELLOW | Yellow LED | Würth Elektronik | 150060YS75000 |
| 1 | 1 | LD64 | LED_0603_ORANGE | Orange LED | Rohm | SML-E12D8WT86 |
| 2 | 1 | LD94 | LED_0603_RED | Red LED | Würth Elektronik | 150060RS75000 |
| 1 | 4 | ME-80, ME-81, ME-82, ME-83 | 20 mm | Screw M3 and spacer | Any | Any |
| 2 | 1 | R1 | 470 RESC1608N \pm 5% 0603 SMD | Resistor | Any | Any |
| 1 | 1 | R2 | 1 k RESC1608N \pm 1% 0603 SMD | Resistor | Any | Any |
| 2 | 2 | R4, R74 | 1 k RESC1608N \pm 1% 0603 SMD | Resistor | Any | Any |
| 1 | 12 | R10, R20, R30, R53, R54, R55, R61, R63, R66, R67, R69, R70 | 100 k RESC1608N \pm 5% 0603 SMD | Resistor | Any | Any |
| 2 | 3 | R11, R21, R33 | 22k RESC1608N \pm 5% 0603 SMD | Resistor | Any | Any |
| 1 | 3 | R13, R24, R34 | 100 RESC1608N \pm 5% 0603 SMD | Resistor | Any | Any |
| 2 | 8 | R31, R32, R82, R85, R86, R87, R88, R95 | 10k RESC1608N \pm 5% 0603 SMD | Resistor | Any | Any |
| 1 | 8 | R62, R65, R68, R71, R78, R83, R84, R93 | 2k2 RESC1608N \pm 5% 0603 SMD | Resistor | Any | Any |
| 2 | 1 | R72 | 100 RESC1608N \pm 1% 0603 SMD | Resistor | Any | Any |

| Item | Q.ty | Ref. | Part/value | Description | Manufacturer | Order code |
|------|------|--------------------|---|---|------------------|------------------------------|
| 1 | 1 | R73 | 5k1 RESC1608N ±1% 0603 SMD | Resistor | Any | Any |
| 2 | 1 | R75 | 698 RESC1608N ±1% 0603 SMD | Resistor | Any | Any |
| 1 | 1 | R80 | 1M RESC1608N ±5% 0603 SMD | Resistor | Any | Any |
| 2 | 1 | R81 | 4.7k RESC1608N ±5% 0603 SMD | Resistor | Any | Any |
| 1 | 1 | R94 | 4k7 RESC1608N ±5% 0603 SMD | Resistor | Any | Any |
| 2 | 1 | S80 | SW-PB switch SMD 6.1x3.7mm SW- PB switch SMD 6.1x3.7mm | Tactile switch | Würth Elektronik | 434121025816 |
| 1 | 4 | T1, T2, T3, T4 | STL6P3LLH6 PowerFLAT_3.3x3.3_ 30 V, 0.024 Ohm typ., 6 A | P-channel STripFET H6 power MOSFET | ST | STL6P3LLH6 |
| 2 | 2 | T30, T80 | 2N7002BKS SOT323 SOT323-6L, 60 V, 300 mA | Dual N- channel trench MOSFET | Nexperia | 2N7002BKS |
| 1 | 4 | T61, T62, T63, T64 | STR2N2VH5 SOT23-3, 20 V, 0.025 typ., 2.3 A | N-channel STripFET™ H5 Power MOSFET | ST | STR2N2VH5 |
| 2 | 1 | U1 | STUSB4500 QFN24 - 4X4mm - pitch 0.5mm - ExposedPAD, QFN24 | Standalone USB PD controller with SINK auto-run mode | ST | STUSB4500QTR |
| 1 | 1 | U70 | L7985A HSOP-8 4.5 V-28 Vin, 600 mV-28 Vout, 2 A out current limited, HSOP8 | Step-down switching regulator | ST | L7985A |
| 2 | 2 | U80, U81 | USBLC6-2SC6 SOT23-6L | Automotive very low capacitance ESD protection | ST | USBLC6-2SC6Y |
| 1 | 1 | U82 | STG3684AUTR QFN10L (1.8 x 1.4 mm) pitch 0.4 mm, 0.5 Ohm max., QFN10L | Low voltage dual SPDT switch with break- before- make feature | ST | STG3684AUTR |
| 2 | 1 | U83 | LDK715M33R SOT23-5L, 85 mA, 3.3 V | High input voltage LDO linear regulator | ST | LDK715M33R |

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This kit is designed to allow:

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2. Software developers to write software applications for use with the end product.

This kit is not a finished product and when assembled may not be resold or otherwise marketed unless all required FCC equipment authorizations are first obtained. Operation is subject to the condition that this product not cause harmful interference to licensed radio stations and that this product accept harmful interference. Unless the assembled kit is designed to operate under part 15, part 18 or part 95 of 47 CFR, Chapter I ("FCC Rules"), the operator of the kit must operate under the authority of an FCC license holder or must secure an experimental authorization under part 5 of this chapter.

For Evaluation Boards annotated as FEDERAL COMMUNICATIONS COMMISSION (FCC) Part 15 Compliant

- **FCC Interference Statement for Class A Evaluation Boards:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction

manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

- **FCC Interference Statement for Class B Evaluation Boards:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

WARRANTY

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INDEMNIFICATION

You shall, at Your expense, defend ST and its Affiliates against a claim or action brought by a third party for infringement or misappropriation of any patent, copyright, trade secret or other intellectual property right of a third party to the extent resulting from (1) Your combination of the Evaluation Board with any other component, system, software, or firmware, (2) Your modification of the Evaluation Board, or (3) Your use of the Evaluation Board in a manner not permitted under this Agreement. You shall indemnify ST and its Affiliates against and pay any resulting costs and damages finally awarded against ST or its Affiliates or agreed to in any settlement, provided that You have sole control of the defense and settlement of the claim or action, and ST cooperates in the defense and furnishes all related evidence under its control at Your expense. ST will be entitled to participate in the defense of such claim or action and to employ counsel at its own expense.

"Affiliates" means any corporation or other entity directly or indirectly controlled by, controlling or under common control with the entity in question, for so long as such ownership exists. "Control" means the direct or indirect beneficial ownership of more than fifty (50%) percent of the stock or other equity interests entitled to vote for the election of directors or an equivalent governing body. Any such corporation or other legal entity shall be deemed to be an Affiliate of such Party only as long as such Control exists.

TERMINATION

ST may terminate this Agreement without notice if You breach this Agreement. Upon termination, You shall immediately destroy or return all copies of the software, firmware, and documentation of the Evaluation Board to ST and certify in writing to ST that You have done so.

APPLICABLE LAW AND JURISDICTION

This Agreement shall be governed, construed and enforced in accordance with the laws of Switzerland, without regard to its conflict of laws rules. The UN Convention on Contracts for the International Sale of Goods shall not apply to this Agreement. In case of dispute and in the absence of an amicable settlement, the only competent jurisdiction shall be the Courts of Geneva, Switzerland. Any breach of this Agreement by You may result in irreparable damage to ST for which ST will not have an adequate remedy at law. Accordingly, in addition to any other remedies and damages available, You acknowledge and agree that ST may immediately seek enforcement of this Agreement in any jurisdiction by means of specific performance or injunction, without any requirement to post a bond or other security.

SEVERABILITY

If any provision of this agreement is or becomes, at any time or for any reason, unenforceable or invalid, no other provision of this agreement shall be affected thereby, and the remaining provisions of this agreement shall continue with the same force and effect as if such unenforceable or invalid provisions had not been inserted in this Agreement. In addition, any unenforceable or invalid provision shall be deemed replaced by a provision that is valid and enforceable and that comes closest to expressing the intention of the unenforceable or invalid provision.

WAIVER

The waiver by either party of any breach of any provision of this Agreement shall not operate or be construed as a waiver of any other or a subsequent breach of the same or a different provision.

RELATIONSHIP OF THE PARTIES

Nothing in this Agreement shall create, or be deemed to create, any joint venture, partnership, principal-agent, employer-employee or other relationship between the Parties, except that of independent contractors. Neither Party has the authority or power to bind, to contract in the name of, or to create a liability for the other in any way or for any purpose.

SURVIVAL

Any provision of this Agreement which imposes an obligation after termination of this Agreement shall survive the termination of this Agreement.

SECTION HEADINGS

Section headings are inserted for convenience only and shall not be used to interpret this Agreement.

RECYCLING

The Evaluation Board is not to be disposed as an urban waste. At the end of its life cycle, differentiated waste collection must be followed, as stated in the directive 2002/96/EC. In all the countries belonging to the European Union (EU Dir. 2002/96/EC) and those following differentiated recycling, the Evaluation Board is subject to differentiated recycling at the end of its life cycle, therefore: It is forbidden to dispose the Evaluation Board as an undifferentiated waste or with other domestic wastes. Consult the local authorities for more information on the proper disposal channels. It is mandatory to sort the Evaluation Board and deliver it to the appropriate collection centers, or, when possible, return the Evaluation Board to the seller. An incorrect Evaluation Board disposal may cause damage to the environment and is punishable by the law.