

Table 1: STEVAL-POE002V1 bill of materials

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
1	8	C1, C2, C3, C4, C14, C82, C83, C84	10 nF CAP-0603	Capacitor	KEMET	C0603C103K1RACTU
2	2	C5, C10	2.2 nF CAP-1812	Capacitor	TDK	C4532X7R3D222K130KA
3	5	C6, C7, C8, C9, C20	CAP-1812	Capacitor	N.M.	N.M.
4	2	C11, C12	1 nF CAP-0603	Capacitor	TDK	C1608X7R2A102K080AA
5	3	C13, C17, C19	100 nF CAP-0805	Capacitor	MURATA	GCM21BR72A104KA37L
6	1	C15	33 μ F-EL-CAP-SMD-CASE-G	Electrolytic capacitor	N.M.	N.M.
7	5	C16, C24, C31, C32, C33	4.7 μ F	Capacitor	TDK	C3225X7S2A475K200AB
8	1	C18	470 pF CAP-0603	Capacitor	TDK	C1608C0G1H471F080AA
9	5	C21, C22, C34, C35, C54	2200pF CAP-1812	Capacitor	TDK	C4532X7R3D222K130KA
10	6	C23, C39, C46, C51, C62, C64	1 nF CAP-0805	Capacitor	MURATA	GRM2195C2A102JA01D
11	2	C25, C76	100 pF CAP-0805	Capacitor	WALSIN	0805N101J500CT
12	7	C26, C27, C28, C30, C65, C85, C86	CAP-0805	Capacitor	N.M.	N.M.
13	1	C29	33 μ F EL-CAP-SMD-CASE-G	Electrolytic capacitor	PANASONIC	EEE-FK2A330P
14	6	C36, C37, C38, C40, C41, C42	100 μ F CAP-1210	Capacitor	YAGEO	CC1210MKX5R7BB107
15	1	C43	330 μ F CASE-F_EL	Elcap	N.M.	N.M.
16	4	C44, C48, C49, C50	100 nF CAP-0603	Capacitor	KEMET	C0603C104M5RACTU
17	4	C45, C56, C78, C81	CAP-0603	Capacitor	N.M.	N.M.
18	2	C47, C55	2.2 μ F CAP-0603	Capacitor	MURATA	GRM188R61E225KA12D
19	2	C52, C59	100 pF CAP-0603	Capacitor	TDK	C1608NP01H101J080AA
20	1	C53	33 nF CAP-0603	Capacitor	KEMET	C0603C333K5RACTU
21	1	C57	22 nF CAP-0603	Capacitor	MURATA	GCM188R72A223KA37D
22	1	C58	150 nF CAP-0603	Capacitor	MURATA	GRM188R71E154KA01D
23	1	C60	47 nF CAP-0603	Capacitor	TDK	C1608X7R1H473K080AA
24	1	C74	CAP-1206	Capacitor	N.M.	N.M.
25	1	C75	1 μ F CAP-0805	Capacitor	MURATA	GRM21BR71H105KA12L
26	1	D3	BAV70 SOT23	Diode	ONSEMI	BAV70LT3G
27	1	D4	T2 LED-TLGE1100B	LED diode	KINGBRIGHT	AA3528CGSK
28	1	D5	T1 LED-TLGE1100B	LED diode	KINGBRIGHT	AA3528CGSK

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
29	1	D6	T0 LED-TLGE1100B	LED diode	KINGBRIGHT	AA3528CGSK
30	2	D7, D8	SMA	TVS diode	N.M.	N.M.
31	4	D9, D10, D12, D13	BAS70 SOD-323	Diode	ST	BAS70JFILM
32	1	D11	BZX84C10-SOT23-D	Zener diode	N.M.	N.M.
33	7	D14, D20, D37, D43, D45, D46, D47	BAT46J SOD-323	Diode	ST	BAT46JFILM
34	1	D15	VOU T SMD_0805	LED diode	KINGBRIGHT	APT2012SGC
35	1	D35	1N4148WS-SOD-323	Diode	N.M.	N.M.
36	1	D36	SOD-323	Diode	N.M.	N.M.
37	1	D38	BAS70-SOD-323	Diode	N.M.	N.M.
38	1	D39	FAUX LED-TLGE1100B	LED diode	KINGBRIGHT	AA3528CGSK
39	1	D40	STBY LED-TLGE1100B	LED diode	KINGBRIGHT	AA3528CGSK
40	2	D41, D42	STTH302S SMC	Diode	ST	STTH302S
41	1	D44	RAUX LED-TLGE1100B	LED diode	KINGBRIGHT	AA3528CGSK
42	1	J1	DATA & POWER INPUT RJ45-8PIN	Connector	STEWART	SS-7188S-A-NF
43	1	J2	DATA OUTPUT RJ45-8PIN	Connector	STEWART	SS-7188S-A-NF
44	2	J4, J6	BANANA-JACK BOC_10A	Connector	KEYSTONE	575-4
45	1	J9	AUX Front P-JACK-RAPC722	Power jack	SWITCHCRAFT	RAPC722X
46	1	J10	AUX Rear P-JACK-RAPC722	Power jack	SWITCHCRAFT	RAPC722X
47	1	L1	XAL5050-562 XAL5050-562	Inductor	COILCRAFT	XAL5050-562MEB
48	2	L2, L3	0 R 0805	Inductor	YAGEO	RC0805JR-070RL
49	1	L4	120 nH DO3316H	Inductor	COILCRAFT	DO3316H-121MLD
50	4	L5, L6, L7, L8	220 R 0805	Resistor	TDK	MPZ2012S221ATD25
51	1	P1	Sleep/Wkup push-7914-bourns	Push button	BOURNS	7914J-1-000E
52	1	P2	SHDN push-7914-bourns	Push button	BOURNS	7914J-1-000E
53	1	Q1	STL110NS3LLH7 POWERFLAT_5X6_S	Power MOSFET	ST	STL110NS3LLH7
54	1	Q2	MMBT3906LT1 SOT23_BEC_T	Power MOSFET	ON SEMI	MMBT3906LT1G
55	1	Q3	MMBT3904LT1- SOT23_BEC_T	Power MOSFET	N.M.	N.M.
56	1	Q4	FDMS86252 POWERFLAT_5X6_S	Power MOSFET	FAIRCHILD	FDMS86252

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
57	8	R1, R2, R3, R4, R5, R6, R7, R8	75R RES-0603	Resistor	MULTICOMP	MC0063W0603175R
58	1	R9	0 R RES-2010	Resistor	YAGEO	RC2010JK-070RL
59	3	R21, R62, R110	RES-0805	Resistor	N.M.	N.M.
60	1	R14	26.1 K RES-0603	Resistor	PANASONIC	ERJ3EKF2612V
61	3	R18, R19, R20	3.9 K RES-0603	Resistor	PANASONIC	ERJ-3EKF3901V
62	1	R22	150 R RES-0805	Resistor	VISHAY	CRCW0805150RFKEA
63	1	R23	36R5 RES-0805	Resistor	YAGEO	RC0805FR-0736R5L
64	9	R24, R26, R37, R49, R76, R106, R107, R109, R113	0 R RES-0805	Resistor	YAGEO	RC0805JR-070RL
65	1	R25	100 R RES-1206	Resistor	YAGEO	RC1206FR-07100RL
66	1	R27	RES-2010	Resistor	PANASONIC	ERJ-12ZYJ305U
67	1	R28	150 R RES-0603	Resistor	TE-Connectivity	CRG0603F150R
68	3	R29, R32, R36	10 R RES-0805	Resistor	YAGEO	RC0805FR-0710RL
69	1	R30	RES-0805	Resistor	N.M.	N.M.
70	3	R31, R101, R105	RES-0603	Resistor	N.M.	N.M.
71	4	R33, R35, R40, R56	10 K RES-0603	Resistor	YAGEO	RC0603FR-0710KL
72	1	R34	20 R RES-0805	Resistor	YAGEO	RC0805FR-0720RL
73	1	R38	22 R RES-0805	Resistor	YAGEO	RC0805FR-0722RL
74	1	R41	2K2 RES-0603	Resistor	YAGEO	RC0603FR-072K2L
75	1	R42	6K8 RES-0603	Resistor	YAGEO	RC0603FR-076K8L
76	1	R43	130 K RES-0603	Resistor	YAGEO	RC0603FR-07130KL
77	2	R44, R108	0.1 R RES-1206	Resistor	YAGEO	RL1206FR-7W0R1L
78	1	R45	91 K RES-0603	Resistor	YAGEO	RC0603FR-0791KL
79	1	R46	82 K RES-0603	Resistor	YAGEO	RC0603FR-0782KL
80	1	R47	1K5 RES-0603	Resistor	YAGEO	RC0603FR-071K5L
81	1	R48	10 R RES-0603	Resistor	YAGEO	RC0603FR-0710RL
82	1	R50	330 R RES-0603	Resistor	YAGEO	RC0603FR-07330RL
83	1	R51	680 R RES-0603	Resistor	YAGEO	RC0603FR-07680RL
84	1	R52	20 K RES-0603	Resistor	VISHAY	CRCW060320K0FKEA
85	1	R53	3.3 K RES-0603	Resistor	YAGEO	RC0603FR-073K3L
86	1	R54	15 K RES-0603	Resistor	MULTICOMP	MC0063W0603115K
87	2	R55, R103	12 K RES-0603	Resistor	MULTICOMP	MC0063W0603112K
88	7	R57, R58, R59, R60, R67, R77, R118	0 R-RES-0805	Resistor	N.M.	N.M.

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
89	1	R61	3.3 K RES-0805	Resistor	YAGEO	RC0805FR-073K3L
90	4	R69, R115, R116, R119	100 K RES-0805	Resistor	YAGEO	RC0805FR-07100KL
91	3	R10, R75, R123	1 K RES-0805	Resistor	YAGEO	RC0805FR-071KL
92	1	R102	100 R RES-0603	Resistor	YAGEO	RC0603FR-07100RL
93	1	R104	39 K RES-0603	Resistor	YAGEO	RC0603FR-0739KL
94	3	R111, R121, R122	47 K RES-0805	Resistor	YAGEO	RC0805FR-0747KL
95	1	R112	330 R RES-0805	Resistor	YAGEO	RC0805FR-07330RL
96	3	R114, R117, R120	3k9 RES-0805	Resistor	YAGEO	RC0805FR-073K9L
97	2	RV1, RV2	B88069X9231T203-NM 1812	Varistor	N.M.	N.M.
98	1	T1	ETH1-460 ETH1-460	Data trafo	COILCRAFT	ETH1-460LD
99	1	T2	WURTH_WE-SL5	Common choke	N.M.	N.M.
100	1	T3	CoilCraft NA6083-BL FA2709-AL	Power trafo	COILCRAFT	NA6083-BL
101	1	T4	COILCRAFT DA2319-AL DA2318-AL	Inductor	COILCRAFT	DA2319-AL
102	2	T5, T6	744272102 WURTH_WE-SL5	Common choke	WURTH	744272102
103	2	T7, T8	RN102	Common choke	N.M.	N.M.
104	2	TP9, TP10	MILLMAX_2501	Turret	MILL-MAX	2501-2-00-80-00-00-07-0
105	1	U1	QFN56-8X8X1-49PIN	Controller	ST	PM8805
106	1	U2	16QFN_3X3X0.75_0.4	Controller	ST	PM8804
107	2	U3, U15	FOD817AS FOD617	Optocoupler	FAIRCHILD	FOD817AS
108	2	U4, U13	TS431AILT SOT-23-5LEAD	Voltage Reference	ST	TS431AILT
109	6	U5, U6, U7, U8, U10, U11	SMC-BIDIR	Diode TVS	N.M.	N.M.
110	5	U9, U16, U17, U18, U19	SM15T68CA SMC-BIDIR	Diode TVS	ST	SM15T68CA
111	1	U12	TS2431-SOT23	Voltage Reference	N.M.	N.M.
112	1	U14	SRK1000 SOT-23-6LEAD	Controller	N.M.	N.M.
113	2	U20, U21	SMC-BIDIR	Diode TVS	N.M.	N.M.

**STMicroelectronics****EVALUATION BOARD LICENSE AGREEMENT**

By using this evaluation board or kit (together with all related software, firmware, components, and documentation provided by ST, "Evaluation Board"), You ("You") are agreeing to be bound by the terms and conditions of this Evaluation Board License Agreement ("Agreement"). Do not use the Evaluation Board until You have read and agreed to this Agreement. Your use of the Evaluation Board constitutes Your acceptance of this Agreement.

LICENSE

STMicroelectronics ("ST") grants You the right to use the enclosed Evaluation Board offering limited features only to evaluate and test ST products solely for Your evaluation and testing purposes in a research and development setting. The Evaluation Board shall not be, in any case, directly or indirectly assembled as a part in any production of Yours as it is solely developed to serve evaluation purposes and has no direct function and is not a finished product. If software and/or firmware is accompanied by a separate end user license agreement ("EULA"), then such software and/or firmware shall be governed by such EULA.

EVALUATION BOARD STATUS

The Evaluation Board offers limited features allowing You only to evaluate and test the ST products. The Evaluation Board is not intended for consumer or household use. You are not authorized to use the Evaluation Board in any production system, and it may not be offered for sale or lease, or sold, leased or otherwise distributed for commercial purposes. If the Evaluation Board is incorporated in an evaluation system, the evaluation system may be used by You solely for Your evaluation and testing purposes. Such evaluation system may not be offered for sale or lease or sold, leased or otherwise distributed for commercial purposes and must be accompanied by a conspicuous notice as follows: "This device is not, and may not be, offered for sale or lease, or sold or leased or otherwise distributed for commercial purposes".

OWNERSHIP AND COPYRIGHT

Title to the Evaluation Board remains with ST and/or its licensors. You may not remove any copyright or other proprietary rights notices without prior written authorization from ST. You may make one copy of the software and/or firmware of the Evaluation Board for back up or archival purposes provided that You reproduce and apply to such copy any copyright or other proprietary rights notices included on or embedded in the software and/or firmware. You agree to prevent any unauthorized copying in whole or in part of the Evaluation Board.

RESTRICTIONS AND WARNINGS

Before You handle or use the Evaluation Board, You must carefully review any related documentation provided by ST. Such documentation may contain important warnings. You shall comply with all such warnings and other instructions and employ reasonable safety precautions in using the Evaluation Board. Failure to do so may result in death, personal injury, or property damage. If You have any questions regarding the safe usage of the Evaluation Board, You should contact ST for guidance. You may not sell, assign, sublicense, lease, rent or otherwise distribute the Evaluation Board for commercial purposes, in whole or in part, or use Evaluation Board in a production system, with the exception that if You are an authorized ST distributor, You may resell the Evaluation Board in compliance with the applicable terms and conditions. Except as provided in this Agreement or as explicitly permitted in the documentation of the Evaluation Board, You may not reproduce the Evaluation Board or modify, reverse engineer, de-compile or disassemble its software and/or firmware, in whole or in part. You shall not use the Evaluation Board in any safety critical or functional safety testing, including but not limited to testing of life supporting, military or nuclear applications. ST expressly disclaims any responsibility for such usage which shall be made at Your sole risk, even if ST has been informed in writing of such usage. Unless expressly designated in writing by ST as suitable for use in testing automotive or aerospace applications, You shall not use the Evaluation Board in such testing.

Notice applicable to Evaluation Boards according to European Regulation

For the European Regulation of the Evaluation Board, the applicable EU directives are considered, with a particular attention to the Low Voltage Directive (LVD) 2014/35/EU, the Electromagnetic Compatibility (EMC) Directive 2014/30/EU, and the Radio Equipment Directive (RED) 2014/53/EU. If the Evaluation Board is outside the scope of the foregoing Directives, then the General Product Safety Directive (GPSD) 2001/95/EC and Council Directive 93/68/EEC, amending Directive 73/23/EEC on electrical equipment designed for use within certain voltage limits, are applicable.

The Evaluation Board meets the requirements of the Restriction of Hazardous Substances (RoHS 2 or RoHS recast) Directive 2011/65/EU, Annex II, as amended by Directive 2015/863/EU.

Notice applicable to Evaluation Boards not FCC-Approved

This kit is designed to allow:

- (1) Product developers to evaluate electronic components, circuitry, or software associated with the kit to determine whether to incorporate such items in a finished product and
- (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

ST WARRANTS THAT IT HAS THE RIGHT TO PROVIDE THE EVALUATION BOARD TO YOU. THIS WARRANTY IS PROVIDED BY ST IN LIEU OF ALL OTHER WARRANTIES, WRITTEN OR ORAL, STATUTORY, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY, NON-INFRINGEMENT, FITNESS FOR ANY PARTICULAR PURPOSE, OR UNINTERRUPTED OR ERROR-FREE OPERATION, ALL OF WHICH ARE EXPRESSLY DISCLAIMED. THE EVALUATION BOARD IS PROVIDED "AS IS".

YOU WARRANT TO ST THAT YOU WILL ENSURE THE EVALUATION BOARD IS USED ONLY BY ELECTRONICS EXPERTS WHO UNDERSTAND THE DANGERS OF HANDLING AND USING SUCH ITEMS, YOU ASSUME ALL RESPONSIBILITY AND LIABILITY FOR ANY IMPROPER OR UNSAFE HANDLING OR USE OF THE EVALUATION BOARD BY YOU, YOUR EMPLOYEES, AFFILIATES, CONTRACTORS, AND DESIGNEES.

LIMITATION OF LIABILITIES

IN NO EVENT SHALL ST BE LIABLE TO YOU, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR ANY OTHER LEGAL THEORY, FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR EXEMPLARY DAMAGES WITH RESPECT TO ANY MATTERS RELATING TO THIS AGREEMENT, REGARDLESS OF WHETHER ST HAS BEEN ADVISED OF THE POSSIBILITY OF THE SAME. IN NO EVENT SHALL ST'S LIABILITY ARISING OUT OF THIS AGREEMENT IN THE AGGREGATE EXCEED THE AMOUNT PAID BY YOU UNDER THIS AGREEMENT FOR THE PURCHASE OF THE EVALUATION BOARD, OR TEN UNITED STATES DOLLARS (\$10.00) IF NO PURCHASE PRICE WAS PAID.

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.

WASTE AND RECYCLING

The Evaluation Board is not to be disposed of as urban waste. At the end of its life cycle, differentiated waste collection must be followed. Consult the local authorities for more information on the proper disposal channels. It is mandatory to separately collect the Evaluation Board and make sure it is delivered to the appropriate waste management and recycling centers.

As of 15 August 2018, in all the countries belonging to the European Union, the Evaluation Board is subject to the WEEE Directive 2012/19/EU requirement; therefore, it is forbidden to dispose of the Evaluation Board as undifferentiated waste or with other domestic wastes. Consult the local authorities for more information on the proper recycling centers.

Disposing of the Evaluation Board incorrectly may cause damage to the environment and may be subject to fines based on specific countries' rules.