

Bill of materials

Table 1. STEVAL-CCA058V1 bill of materials

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
1	1	Table 2. STEVAL-CCA058A1	-	Main board	ST	Not available for separate sale
2	1	Table 3. STEVAL-CCA058B1	-	Op-amp adapter board	ST	Not available for separate sale

Table 2. Main board bill of materials

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
1	2	C01, C02	100 pF, SMD 0805, 100 V, ±5%, C0G / NP0, WCAP-CSGP series, 55-125°C	Ceramic capacitors	Würth Elektronik	885012007057
2	2	C03, C04	10 µF, SMD, 1210, 50 V, ±10%, X7R, C series, 55-125°C	Ceramic capacitors	TDK	C3225X7R1H106K250AC
3	3	J02, J12, J28	Straight, 500 V, 65-165°C	Coaxial connectors	RS PRO	R13-022-01-002611000
4	16	J03, J05, J06, J07, J08, J09, J13, J14, J15, J16, J21, J22, J23, J24, J25, J34	SIP 1X2 male, SIP 1X2, step 2.54 mm, 250 V, 3 A, WR-PHD series, -40-125°C	Connector headers	Würth Elektronik	61300211121
5	16	Ju03, Ju05, Ju06, Ju07, Ju08, Ju09, Ju13, Ju14, Ju15, Ju16, Ju21, Ju22, Ju23, Ju24, Ju25, Ju34	Black, step 2.54 mm, 250 V, 3 A, WR-PHD series, -40-125°C	Jumpers	Würth Elektronik	60900213421
6	5	M-02, M-04, M-06, M-08, M-09	6 mm, hole M3, WA-SCRW series, -30-85°C	Screws	Würth Elektronik	97790603111
7	1	DUT	AOP single, DIP8, 5 A, -65-150°C	DIP8 socket	Winslow	W30508TTRC
8	11	U01, U02, U03, U04, U05, U11, U12, U13, U14, U21, U22	DIP6, 150 V, 1 A, -55-125°C, 110 series	DIP6 sockets	PRECI-DIP	110-87-306-41-001101
9	1	J31	Red, vertical, 4 mm, 60 V, 16 A, -25-85°C, BUG 10 series	Test jack	Hirschmann test and instrument	930175101
10	1	J32	Black, vertical, 4 mm, 60 V, 16 A, -25-85°C, BUG 10 series	Test jack	Hirschmann test and instrument	930175100
11	1	J33	Blue, vertical, 4 mm, 60 V, 16 A,	Test jack	Hirschmann test and instrument	930175102

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
			-25-85°C, BUG 10 series			
12	2	J01, J11	Yellow, vertical, 4 mm, 60 V, 16 A, -25-85°C, BUG 10 series	Test jack	Hirschmann test and instrument	930175103
13	3	J04, J26, J27	Green, vertical, 4 mm, 60 V, 16 A, -25-85°C, BUG 10 series	Test jack	Hirschmann test and instrument	930175104
14	1	PT31	Red, 1.6 mm hole	Test point	Keystone	5010
15	1	PT33	Blue, 1.6 mm hole	Test point	Keystone	5127
16	6	PT01, PT03, PT11, PT13, PT21, PT23	White, 1.6 mm hole	Test points	Keystone	5012
17	6	PT02, PT04, PT12, PT22, PT24, PT32	Black, 1.6 mm hole	Test points	Keystone	5011
18	5	M-01, M-03, M-05, M-07, M-10	20 mm, M3 hole, WA-SPAIL series, -30-110°C	Threaded spacers	Würth Elektronik	970200365

Table 3. Op-amp adapter board bill of materials

Item	Quantity	Reference	Value	Description	Manufacturer	Part Number
1	12	C1-1, C1-2, C1-3, C1-4, C1-5, C1-6, C1-7, C1-8, C1-9, C1-10, C1-11, C1-12	100 pF, SMT - 0805, 100 V, -55-125°C, WCAP-CSGP series, C0G/NP0	Ceramic capacitors	Würth Elektronik	885012007057
2	1	IC1-1	UA741CDT, SO-8	Wide application range high-performance monolithic operational amplifier	ST	UA741CDT
3	1	IC1-2	TS921IDT, SO-8	Rail-to-rail high output current op-amps	ST	TS921IDT
4	1	IC1-3	TSX3702IST, MiniSO-8	Micropower (5 µA) 16 V dual CMOS comparator with push-pull output	ST	TSX3702IST
5	1	IC1-4	TSV631ILT, SOT23-5L	Rail-to-rail input/output 5 V CMOS op-amp	ST	TSV631ILT
6	1	IC1-5	TSZ121ILT, SOT23-5L	Very high accuracy (5 µV) zero drift 5 V CMOS op-amp	ST	TSZ121ILT
7	1	IC1-6	TSX393IST, MiniSO-8	Micropower (5 µA) 16 V CMOS dual comparator	ST	TSX393IST
8	1	IC1-7	TSU101ILT, SOT23-5L	Nano power (580 nA) rail-to-rail I/O 5 V CMOS op-amp	ST	TSU101ILT

Item	Quantity	Reference	Value	Description	Manufacturer	Part Number
9	1	IC1-8	TS881ILT, SOT23-5L	Rail-to-rail 0.9 V nanopower push-pull single comparator	ST	TS881ILT
10	1	IC1-9	TSC210ICT, SOT323-6L	Low/high side bidirectional, zero-drift, current sense amplifiers	ST	TSC210ICT
11	1	IC1-10	TSV991ILT, SOT23-5L	Wide-bandwidth (20 MHz) rail-to-rail input/output 5 V CMOS op-amp	ST	TSV991ILT
12	1	IC1-11	TSV791ILT, SOT23-5L	High bandwidth (50 MHz) low offset (200 μ V) rail-to-rail 5 V op-amp	ST	TSV791ILT
13	1	IC1-12	TSV7721ILT, SOT23-5L	High bandwidth (22 MHz) low offset (200 μ V) low-rail 5 V op-amp	ST	TSV7721ILT
14	24	J1-1, J1-2, J1-3, J1-4, J1-5, J1-6, J1-7, J1-8, J1-9, J1-10, J1-11, J1-12, J2-1, J2-2, J2-3, J2-4, J2-5, J2-6, J2-7, J2-8, J2-9, J2-10, J2-11, J2-12	SIL 1X4 male, SIP 1X3 step 2.54 mm, TS series, -55-105°C	Connector headers	Samtec	TS-104-T-A

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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".

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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.

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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.

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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 it 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.

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