

**Table 1: Power board bill of materials**

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
1	1	C1	22 $\mu$ F, $\varnothing$ 5 x h11 x p2, 35 V, radial, can 2000 hrs @ 105°C	Aluminum electrolytic capacitors	Nichicon	UPW1V220MDD
2	2	C2 C15	4.7 $\mu$ F, $\varnothing$ 5 x h11 x p2, 63 V, radial, can 2000 hrs @ 105°C	Aluminum electrolytic capacitors	Nichicon	UPW1J4R7MDD
3	0	C3	7.3x2.5xp5	Capacitor	Any	Any
4	1	C4	100 nF , 7.3x2.5xp5 , 63 V,	Capacitor	Kemet	R82DC3100DQ50J
5	1	C5	2200 $\mu$ F, $\varnothing$ 18 x h40 x p7.5, 63 V, radial, can 8000 hrs @ 105°C	Aluminum electrolytic capacitor	Nichicon	UPW1J222MHD
6	1	C7	330 nF 18x10xp15 630 V	Film capacitor	Kemet	R463I333050M1K
7	4	C8 C13 C26 C27	100 nF, 0603, 50 V, X7R	Ceramic capacitors	Kemet	C0603C104M5RACTU
8	1	C9	2.2 nF, $\varnothing$ 12 x 10.16, 300 V <sub>AC</sub>	Capacitor	Vishay	AY1222M47Y5UC63L0
9	2	C10 C14	100 nF, 18x5xp15, 630 V	Film capacitors	Kemet	R463I310050M1K
10	1	C11	47 pF, 1206, 1000 V $\pm$ 5%	Ceramic capacitor	Murata	GRM31A7U3A470JW31D
11	1	C12	470 pF, 0603, 50 V $\pm$ 10%, X7R	Ceramic capacitor	Kemet	C0603C471K5RACTU
12	2	C17 C34	10 $\mu$ F, $\varnothing$ 5 x h11 x p2, 50 V, radial, can 2000 hrs @ 105°C	Aluminum electrolytic capacitor	Nichicon	UPW1V100MDD
13	1	C18	33 nF, 0603, 50 V, $\pm$ 10%, X7R	Ceramic capacitor	Kemet	C0603C333K5RACTU
14	1	C21	22 nF, 0603, 50 V, $\pm$ 10%, X7R	Ceramic capacitor	Kemet	C0603C223K5RACTU
15	2	C22 C25	1 $\mu$ F, 0805, 25 V, $\pm$ 10%, X7R	Ceramic capacitors	Kemet	C0805C105K3RACTU
16	1	C16	220 nF, 0603, 50 V, $\pm$ 10%, X7R	Ceramic capacitor	Murata	GCM188R71H224KA64J
17	1	C23	220 nF, 0805, 50 V, $\pm$ 10%, X7R	Ceramic capacitor	Samsung	CL21B224KBFNNNE

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
18	0	C24 C30 C31	0603	Ceramic capacitors (not mounted)	Any	Any
19	2	C28 C19	10 nF, 0603, 50 V, X7R, ±20%	10nF 50V Ceramic Capacitor 0603	Kemet	C0603C103M5RACTU
20	1	C29	1 nF, 0603, 50 V, ±10%	Ceramic capacitor	Yageo	CC0603KRX7R9BB102
21	0	C32	1206	Ceramic capacitor (not mounted)	Any	Any
22	1	C33	6.8 nF, 0603, 50 V, X7R, ±10%	Ceramic capacitor	Kemet	C0603C682K5RACTU
23	1	R1	33 KOhms, 1206, 0.25 W, 1/4W, ±5%	Chip resistor	Stackpole	RMCF1206JT33K0
24	0	R2 R4	1206	Resistors (not mounted)	Any	Any
25	1	R3	0 Ohms, 1206, 0.25 W	Jumper	Stackpole	RMCF1206ZT0R00
26	0	R64	0805	Resistor (not mounted)	Any	Any
27	1	R5	1 KOhms, 1206, 0.25 W, ±5%	Resistor	Yageo	RC1206JR-071KL
28	1	R6	470 mOhms, 1210, 0.5 W	Chip resistor	Panasonic	ERJ-14BQFR47U
29	1	R8	510 mOhms, 1210, 0.5 W, ±1%	Chip resistor	Yageo	RL1210FR-070R51L
30	1	R7	51 kOhms, 1206, 0.25 W, ±1%	Chip resistor	Yageo	RC1206FR-0751KL
31	1	R9	130 kOhms, 0805, 0.125 W, ±5%	Chip resistor	Yageo	RC0805JR-07130KL
32	1	R10	270 kOhms, 0805, 0.125 W, ±1%	Chip resistor	Yageo	RC0805FR-07270KL
33	1	R11	220 Ohms, 0805, 0.125 W, ±5%	Chip resistor	Vishay	CRCW0805220RJNEA
34	1	R12	100 Ohms, 0805, 0.5 W, ±5%	Chip resistor	Panasonic	ERJ-P06J101V
35	1	R13	430 mOhms, 1206, 0.5 W, ±1%	Chip resistor	Vishay	RCWE1206R430FKEA
36	1	R14	680 mOhms, 1206, 0.5 W	Chip resistor	Yageo	RL1206FR-7W0R68L
37	1	R16	15 KOhms, 1206, 0.25 W, ±5%	Chip resistor	Stackpole	RMCF1206JT15K0

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
38	1	R17	442 kOhms, 0603, 0.1 W, ±0.5%	Chip resistor	Yageo	RT0603DRE07442KL
39	1	R20	120 kOhms, 0603, 0.063 W, ±0.5%	Chip resistor	Susumu	RR0816P-124-D
40	1	R18	20 kOhms, 0603, 0.1 W, ±5%	Chip resistor	Stackpole	RMCF0603JT20K0
41	1	R19	15 kOhms, 0603, 0.1 W, ±5%	Chip resistor	Stackpole	RMCF0603JG15K0
42	1	R22	1.5 kOhms, 0603, 0.1 W, ±5%	Chip resistor	Stackpole	RMCF0603JT1K50
43	1	R23	5.6 kOhms, 0805, 0.1 W, ±5%	Chip resistor	Stackpole	RMCF0603JT5K60
44	2	R24 R65	20 kOhms, 0603, 0.063 W, ± 0.5%	Chip resistors	Susumu	RR0816P-203-D
45	2	R21 R62	12 kOhms, 0603, 0.1 W, ±1%	Chip resistors	Stackpole	RMCF0603FT12K0
46	1	R25	620 kOhms, 0805 0.1 W, ±0.5%	Chip resistor	Stackpole	RC0603FR-07620KL
47	3	R26 R35 R38	100 kOhms, 0603, 0.1 W, ±5%	Chip resistors	Yageo	RC0603JR-07100KL
48	1	R27	8.25 kOhms, 0603, 0.2 W, ±0.1%	Chip resistor	Panasonic	ERJ-PB3B8251V
49	1	R30	1.27 kOhms, 0603, 0.2 W, ±0.1%	Chip resistor	Panasonic	ERJ-PB3B1271V
50	3	R28 R46 R34	10 kOhms, 0603, 0.1 W, ±5%	Chip resistors	Stackpole	RMCF0603JT10K0
51	1	R29	68 kOhms, 0603, 0.1 W, ±0.5%	Chip resistor	Yageo	RT0603DRE0768KL
52	1	R31	470 kOhms, 0805, 0.125 W, ±5%	Chip resistor	Stackpole	RMCF0805JT470K
53	1	R32	1 kOhms, 0805, 0.125 W, ±5%	Chip resistor	TE Connectivity	CRG0805J1K0
54	1	R33	56 kOhms, 0603, 0.1 W, ±5%	Chip resistor	Panasonic	ERJ-3GEYJ563V

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
55	1	Q2A	MOSFET Power DPAK 800V 8A	N-channel 800 V, 0.55 $\Omega$ typ., 8 A MDmesh K5 Power MOSFET in DPAK package	ST	<a href="#">STD10LN80K5</a>
56	1	R36	430 kOhms, 0603, 0.1 W, $\pm 0.5\%$	Chip resistor	Yageo	RT0603DRD07430KL
57	1	R39	68 kOhms, 0603, 0.063 W, $\pm 0.5\%$	Chip resistor	Susumu	RR0816P-683-D
58	3	R40 R37 R42	470 kOhms, 0603, 0.1 W, $\pm 5\%$	Chip resistors	Yageo	RC0603JR-07470KL
59	1	R43	330 Ohms, 0603, 0.1 W, $\pm 5\%$	Chip resistor	Bourns	CR0603-JW-331ELF
60	1	R44	330 kOhm, 0603, 0.1 W, $\pm 5\%$	Chip resistor	Stackpole	RMCF0603JT330K
61	2	R57 R59	0 Ohms, 0603, 0.1 W	Chip resistors	Yageo	RC0603JR-070RL
62	1	R58	47 kOhms, 0603, 0.1 W $\pm 5\%$	Chip resistor	Panasonic	ERJ-3GEYJ473V
63	0	R61	0603	Resistor (not mounted)	Any	Any
64	1	R63	100 kOhms, 0805, 0.125 W, $\pm 5\%$	Chip resistor	Yageo	RC0805JR-07100KL
65	1	R66	4.3 kOhms, 0603, 0.1 W, $\pm 5\%$	Chip resistor	Yageo	RC0603JR-074K3L
66	0	R67	0603	Resistor (not mounted)	Any	Any
67	6	D1 D9 D11 D12 D13 D14	SOD323	General purpose diodes	Vishay	1N4148WS-E3-08
68	1	D4	SMB 330 V 482 V	TVS diode	Micro Commercial Co.	SMBJP6KE350AL-TP
69	S	D5	D2PACK 300 V 8 A	Ultra-fast diode	ST	<a href="#">STTH803G-TR</a>
70	1	D6	SMA 800 V 1 A	Ultra-fast diode	ST	<a href="#">STTH108A</a>
71	1	D10	SMA 100 V 1 A	Power Schottky rectifier	ST	<a href="#">STPS1H100A</a>
72	2	D7 D2	SOD123 200 V 0.25 A	General purpose diodes	Vishay	BAV21W-HE3-08
73	1	D3	SOD323 18 V 0.2 W	Zener diode	Vishay	BZX384C18-HE3-08

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
74	1	D15	SOD323 6.8 V 0.3 W	Zener diode	On Semiconductors	MM3Z6V8T1G
75	1	D8	SMC 100 V 3 A	Diode	Vishay	RS3B-E3/57T
76	1	BR1	4-SIP, KBP 800 V 2 A	Bridge rectifier	Vishay	VS-2KBP08
77	1	Q1	NPN 60 V 1 A/1.25 W SOT-89 BCX55	Transistor	Nexperia	BCX55-16TF
78	1	Q2	TO220FP 800 V 8 A	Power MOSFET (not mounted)	ST	<a href="#">STF10LN80K5</a>
79	4	Q3 Q5 Q10 Q11	NPN 80 V 0.5 A SOT23 MMBTA06	Transistor	On Semiconductors	MMBTA06LT3G
80	1	Q4	SOT23 60 V 0.115 A	N-Channel power MOSFET	Infineon	2N7002H6327XTSA2
81	2	Q6 Q7	NPN SOT23 45 V 0.5 A	Transistor	Taiwan Semiconductor	BC817-25 RF
82	1	U2	Op-Amp SOT23 36 V	Adjustable micro-power shunt voltage reference	ST	<a href="#">TL431ACL3T</a>
83	1	U3	4-SMD, Gull Wing 5kV	Optoisolator	Vishay	TCLT1007
84	1	U4	Op-Amp SO8	Low consumption voltage and current controller for battery chargers and adapters	ST	<a href="#">TSM1012IDT</a>
85	1	U7	HVLED001B SSOP10	High power factor flyback controller with constant voltage primary sensing and ultra- low standby consumption	ST	<a href="#">HVLED001BTR</a>
86	1	U8	LDO DPACK	Very low drop voltage regulator with inhibit	ST	<a href="#">LF33ABDT-TR</a>
87	1	U9	SOT23-5	Micro-power, 16 V CMOS Op-Amp, single, GBP 900kHz	ST	<a href="#">TSX561ILT</a>
88	2	RV1 RV2	470 V 1.2 KA Ø 9xp5	Varistor	TDK EPCOS	B72207S0301K101

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
89	1	L1	47 MH 450 MA 2LN TH 21.5x21.1x13.5	Line filter	TDK EPCOS	B82731T2451A020
90	1	F1	250 V/1 A Ø 8.5xp5 250 V 1 A	Fuse	Littelfuse	38211000000
91	1	T1	31.4x38.2x25.6	High frequency transformer	Itacoil	TSLER2834001
92	2	J1 J2	2 pin - 5.08 mm	Connectors	Wurth Elektronik	691311500102
93	0	J12	4 pin - 3.5 mm	Header (not mounted)	Any	Any
94	1	J14	TH 2.54mm	4-pole socket connector	Fischer	BL5.36Z
95	4		L 9.5xØ 4.4	Board support resting mount	Essentra Components	PST-6-01
96	11	TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP10 TP11 TP12	TH Ø 1	Red test points	KEYSTONE	5000
97	2	TP9 TP13	TH Ø 1	Black test points	KEYSTONE	5001

**Table 2: Connectivity board bill of materials**

Item	Q.ty	Ref.	Value	Description	Manufacturer	Part Number
1	1	C1	10 nF, 0805 (2012 Metric), 50 V, X7R	Ceramic capacitor	Yageo	CC0805KRX7R9BB103
2	1	C2	0805 (2012 Metric), SMD	Ceramic capacitor (not mounted)	Any	Any
3	1	C3	2.2µF ±10% 50 V (2012 Metric), X7R, 0805	Ceramic capacitor	Yageo	CC0805KKX7R9BB225
4	1	C4	100 nF, 0805 (2012 Metric), ±10% 50 V, X7R 0805	Ceramic capacitor	Yageo	CC0805KRX7R9BB104
5	1	D1	Radial TH, 2.1 V, 569 nm	Green LED	Lite ON	LTL-4232N
6	1	D2	SC-90, SOD-323F, 75 V, 150 mA,	General purpose diode	Fairchild/ON Semiconductor	1N4148WS
7	1	J1	10 p, 12.65 mm x 5.10 mm	Connector header	CNC Tech	3220-10-0100-00
8	1	J2	con4-strip-male, TH, through- hole, right angle, 4-position 0.100" (2.54mm)	Connector header	Wurtz	61300411021

Item	Q.ty	Ref.	Value	Description	Manufacturer	Part Number
9	1	R1	47K, 0805 (2012 Metric), 0.125 W, ±1% 1/8 W 0805, SMD	Chip resistor	Yageo	RC0805FR-0747KL
10	4	R2 R3 R5 R7	10K, 0805 (2012 Metric), 0.125 W, ±1% 1/8 W 0805, SMD	Chip resistors	Yageo	RC0805FR-0710KL
11	1	R4	0805 (2012 Metric), 0.125 W, ±1% 1/8 W 0805, SMD	Chip resistor (not mounted)	Any	Any
12	1	R6	470E, 0805 (2012 Metric), 0.125 W, ±1% 1/8 W 0805, SMD	Chip resistor	TE Connectivity	CRGCQ0805F470R
13	1	S1	SMT, 3.00 mm x 2.60 mm	Tactile switch	Würth Elektronik	435171014816
14	1	U1	20-SMD module, 2.4 GHz ~ 2.4835 GHz	Very low power application processor module for Bluetooth® low energy v5.2	ST	<a href="#">BLUENRG-M2SP</a>

**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.