



Bill of materials

Table 1. X-STM32MP-IGTW1 bill of materials

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
1	17	C1, C2, C3, C4, C5, C7, C9, C11, C12, C18, C19, C20, C22, C23, C25, C31, C35	100nF	CAP CER 0.1UF 50V X7R 0603	Würth Elektronik	885012206095
2	1	C6	10uF/16V	CAP TANT 10UF 10% 16V 1206	KEMET	T491A106K016AT
3	2	C8, C10	47pF	CAP CER 47pF 50V X7R 0603	KEMET	C0603C104K5RACTU
4	5	C13, C14, C15, C16, C17	100nF/10V	CAP CER 0.1UF 50V X7R 0603	Würth Elektronik	885012206020
5	1	C21	100pF	100 pF ±10% 100V Ceramic Capacitor X7R 0603 (1608 Metric)	Würth Elektronik	885012206102
6	1	C24	10uF	CAP CER 10UF 35V X5R 0603	Murata Electronics	GRM188R6YA106MA73D
7	8	C26, C29, C32, C33, C36, C38, C39, C40	1uF	1 µF ±10% 16V Ceramic Capacitor X7R 0603 (1608 Metric)	Würth Elektronik	885012206052
8	2	C27, C28	150uF	CAP TANT 150UF 10% 10V 2312	KEMET	T494C157K010AT
9	1	C30	330uF 35V	Aluminium Electrolytic Capacitors - SMD 35VDC 330uF 20% SMD AEC	Panasonic	EEEFK1V331GP
10	1	C34	22uF	CAP CER 22UF 35V X7R 0603	Würth Elektronik	885012106032
11	1	C37	220uF	CAP CER 220uF	Panasonic	ECE-A1AKS221I
12	1	CN2	Header 20x2	Double Row_Vertical_.10 0" _Extended Tail Connector	Samtec	SSQ-120-03-T-D
13	1	CN3	691210910002	TERM BLOCK 4P HORIZON 2.54MM PCB	Würth Elektronik	691210910002
14	1	D1	ESDCAN24-2BLY, SOT23-3L	TVS Diode Array Bi-Directional ESDCAN24-2BLY Dual 40V, 230W, SOT23-3L 3-Pin	ST	ESDCAN24-2BLY
15	1	D2	ESD-TRANSIL, QFN-2L	Unidirectional high power transient voltage suppressor 6V3	ST	ESDA25P35-1U1M

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16	1	D3	SMF22AT1G	200 W Transient Voltage Suppressor SOD-123 Flat Lead Package	Onsemi	SMF22AT1G
17	1	F1	0603L003_36YR	Polymeric PTC Resettable Fuse 36V 30 mA 1h Surface Mount 0603 (1608 Metric), Concave	LITTELFUSE	0603L003/36YR
18	1	FB1	1K	500 Ω at 100MHz 1 Ferrite Bead 0805 (2012 Metric) 500mA 300m Ω	Abracon	ACML-0805-501-T
19	4	HW1, HW2, HW3, HW4	Shunt Black 2.54mm	SHUNT 2.54mm BLACK	SAMTEC	SNT-100-BK-G
20	2	J1, J7	SHUNT 2.54mm	CONN HEADER VERT 3POS 2.54MM	Samtec Inc.	TSW-103-07-F-S
21	4	J2, J3, J4, J5	Mounting hole_3.2mm drill	Hex Standoff Threaded M3x0.5 Nylon 0.472" (12.00mm) Natural	Essentra	36M30MF012
22	2	J6, J10	691311500003	Würth Elektronik 311 Series 5.08mm Pitch Straight Pluggable Terminal Block, PCB Header, Through Hole, 3 Way	Würth Elektronik	691311500003
23	1	J8	691210910004	WR-TBL Series 2109 Horizontal Entry, THT, pitch 2.54mm, 04p	Würth Elektronik	691210910004
24	1	J9	S6B-XH-A(LF)(SN)	6 Pins, 1 Row 2.54mm Pitch, right angle Connector, male	JST	S6B-XH-A(LF)(SN)
25	1	J11	SQT-110-01-F-D-RA	Rugged PCB Sockets, 2.00mm pitch	Samtec	SQT-110-01-F-D-RA
26	1	J12	S8411-45R	Connector	Harwin	S8411-45R
27	1	L1	12uH	12 μ H - Ultra-Low Loss Shielded Power Inductor – 78.5mOhm – 2.1A – 4.0x4.0x3.1mm	Coilcraft	XGL4030-123MEC
28	1	L2	5.6uH	5.6 μ H - Ultra-Low Loss Shielded Power Inductor – 31.5mOhm – 3.1A – 4.0x4.0x3.1mm	Coilcraft	XGL4030-562MEC

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
29	3	LD1, LD3, LD4	LED_green	LED Green, 0603 SMD, Fw Voltage = 2.8V - 3.6V	VISHAY	VLMTG1300-GS08
30	1	LD2	LED_red	LED Red, 0603 SMD, 2V Forward Voltage	VISHAY	VLMS1300-GS08
31	2	LD5, LD6	LED_blue	LED Blue, 0603 SMD, 3.3 V Forward Voltage	VISHAY	VLMB1300-GS08
32	5	R1, R2, R44, R55, R56	1K	1 kΩ ±1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric), 1K ±1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric)	Würth Elektronik	560112116014
33	2	R3, R4	3.9K	RES 3.9K Ω 1% 1/10W 0603	Würth Elektronik	560112116021
34	3	R5, R6, R7	22K/NM	RES 22K Ω 1% 1/10W 0603	Walsin	WR06X2202FTL
35	30	R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R39, R60	0R	RES 0 Ω JUMPER 1/10W 0603	Würth Elektronik	560112116001
36	6	R36, R48, R49, R50, R51, R52	300R	RES 300 Ω 1% 1/10W 0603	Würth Elektronik	560112116082
37	2	R37, R43	120R	RES 120 Ω 1% 1/10W 0603	Würth Elektronik	560112116119
38	4	R38, R41, R53, R54	4.7K	RES 4.7K Ω 1% 1/10W 0603	Würth Elektronik	560112116006
39	1	R40	3.3K	3.3 kΩ ±1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric)	Würth Elektronik	560112116047
40	2	R42, R45	10K	RES 10K Ω 1% 1/10W 0603	Würth Elektronik	560112116005
41	2	R46, R47	2.2K	RES 2.2K Ω 1% 1/10W 0603	Würth Elektronik	560112116098
42	2	R57, R58	100R	RES 100 Ω 1% 1/10W 0603	Walsin	WR06X1000FTL
43	1	R59	1K/NM	1K ±1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric)	Walsin	WR06X1001FTL
44	3	SB1, SB2, SB3	0/NM	RES 0 Ω Jumper 1/10W 0603	Rohm Semiconductor	SFR03EZPJ000
45	3	SW1, SW2, SW3	SW-PUSH-CMS_KMR2_BLA CK	Microminiature Tact Switch for SMT - KMR 2	C&K	KMR231GLFS

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
				Series - 1.9 mm height		
46	4	TP1, TP2, TP3, TP4	TP	TEST POINT PC MINI .040"D RED	Keystone Electronics	5000
47	1	TP5	TP-SMD-S2761-46R	PC TEST POINT NATURAL	HARWIN	S2761-46R
48	1	U1	M24C32-RMN6TP, SO8	IC EEPROM 32KBIT I2C 1MHZ 8SOIC	ST	M24C32-RMN6TP
49	1	U2	XR31235ED	CAN Interface IC 3.3V CAN Bus XCVR Autobaud LB Mode	MaxLinear, Inc.	XR31235ED
50	1	U3	STSAFA110S8SP L02, SO-8	Authentication, state-of-the-art security for peripherals and IoT devices	ST	STSAFE-A110S8SPL02
51	1	U4	ST3232CTR, TSSOP-16L	ST3232CTR, Line Transceiver, EIA/TIA-232, RS-232, V.24, V.28 2-TX 2-RX 2-TRX, 3.3, 5V, 16-Pin TSSOP	ST	ST3232CTR
52	1	U5	ST4E1240DT, SO-8	High-speed 3.3 V / 5 V RS485 transceiver with ± 12 kV IEC 61000-4-2 contact ESD protection	ST	ST4E1240DT
53	1	U6	M41T83RQA6F, VFQFPN 16 4x4x1.0	Serial I2C bus real-time clock (RTC) with battery switchover	ST	M41T83RQA6F
54	1	U7	L6983N50QTR, QFPN 3X3X0.80 16L PITCH 0.50	Switching Voltage Regulators power management	ST	L6983N50QTR
55	1	U8	L6983N33QTR, QFPN 3X3X0.80 16L PITCH 0.50	Switching Voltage Regulators power management	ST	L6983N33QTR
56	1	XTAL1	MC-146_32.7680 KA-A5_PURE_SN	Crystal or Oscillator	Epson Timing	MC-146 32.7680KA-A5: PURE SN
57	4	Nut	-	M3x0.5 Hex Nut 0.217" (5.50mm) Nylon	Würth Elektronik	709940300
58	4	Spacer	-	Hex Standoff Threaded M3x0.5 Nylon 0.472" (12.00mm) Natural	Essentra	36M30MF012
59	1	HW1	Shunt Black 2.54mm	Shunt 2.54mm Black	Würth Elektronik	60900213421
60	1	HW2	Shunt Black 2.54mm	shunt 2.54mm black	Würth Elektronik	60900213421

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
61	1	HW3	Shunt Black 2.54mm	shunt 2.54mm black	Würth Elektronik	60900213421
62	1	HW4	Shunt Black 2.54mm	Shunt 2.54mm Black	Würth Elektronik	60900213421
63	2	Terminal Block plug	5.08mm Pitch_TH	3 Position Terminal Block Plug, Female Sockets 0.200" (5.08mm) 90° Free Hanging (In- Line)	Würth Elektronik	691352510003

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