



Bill of materials

Table 1. X-NUCLEO-PM33A1 bill of materials

Item	Quantity	Reference	Part / value	Description	Manufacturer	Part number
1	1	U4	STPM33TR, QFN32L 5x5x1	ASSP for metering applications with up to four independent 24-bit 2nd order sigma-delta ADCs, 4 MHz OSF and 2 embedded PGLNA	STMicroelectronics	STPM33TR
2	2	U6,U8	STISO620, SO8N	Dual-channel digital isolator	STMicroelectronics	STISO620
3	3	U5,U7,U9	STISO621, SO8N	Dual-channel digital isolator	STMicroelectronics	STISO621
4	1	U10	M24M01- DFMN6TP, 8- SOIC	IC EEPROM 1MBIT I2C 1MHZ 8SOIC	STMicroelectronics	M24M01-DFMN6TP
5	2	CN7,CN10	Header 19x2 2.54 mm pitch	Header 19x2 2.54 mm pitch (not mounted)	Würth Elektronik	61303821121
6	1	CN5	CON10 550 VAC 2.54 mm pitch	10 Pass-through Male on bottom and Female on top	4UCON	SSQ-110-03-F-S
7	1	CN8	CON6 550 VAC 2.54 mm pitch	6 Pass-through: Female on bottom and Male on top	4UCON	SSQ-106-03-F-S
8	2	CN6,CN9	CON8 550 VAC 2.54 mm pitch	8 Pass-through Male on bottom and Female on top	4UCON	SSQ-108-03-F-S
9	11	C8,C11,C14, C15,C16,C18 ,C19,C22,C23, C26,C31	150pF,50V	150 pF $\pm 5\%$ 50V Ceramic Capacitor C0G, NP0 0603 (1608 Metric)	Würth Elektronik	885012006058
10	7	C9,C13,C20, C25,C27,C30 ,C37	100nF,16V	0.1 μ F $\pm 10\%$ 16V Ceramic Capacitor X7R 0805 (2012 Metric)	Würth Elektronik	885012207045
11	1	C10	4.7uF,25V	4.7 μ F $\pm 10\%$ 25V Ceramic Capacitor X6S 0603 (1608 Metric)	Murata Electronics	GRM188C81E475KE11D
12	3	C7,C28,C32	10nF,25V	10000 pF $\pm 10\%$ 25V Ceramic Capacitor X5R 0603 (1608 Metric)	Würth Elektronik	885012206065
13	1	C12	100uF,10V	100 μ F $\pm 20\%$ 10V Ceramic Capacitor JB 1206 (3216 Metric)	TDK Corporation	C3216JB1A107M160AC
14	2	C17,C24	15pF	15 pF $\pm 5\%$ 10V Ceramic Capacitor C0G, NP0 0402 (1005 Metric)	Würth Elektronik	885012005008
15	1	C21	1uF,25V	1 μ F $\pm 10\%$ 25V Ceramic Capacitor X5R 0603 (1608 Metric)	Würth Elektronik	885012206076
16	1	C29	22nF,25V	0.022 μ F $\pm 10\%$ 25V Ceramic Capacitor X7R 0603 (1608 Metric)	Würth Elektronik	885012206067
17	10	C1,C2,C3,C4, C5,C6,C33,C34, C35,C36	47nF,16V	0.047 μ F $\pm 10\%$ 16V Ceramic Capacitor X7R 0603 (1608 Metric)	Würth Elektronik	885012206044
18	1	D1	LED 20 mA SMD-0603	Three LED (Red 520nm LED Indication - Discrete 3.2V 0603 (1608 Metric))	Würth Elektronik	150060RS75000

Item	Quantity	Reference	Part / value	Description	Manufacturer	Part number
19	1	D2	LED 20 mA SMD-0603	Three LED (Green 520nm LED Indication - Discrete 3.2V 0603 (1608 Metric))	Würth Elektronik	150060GS75000
20	1	D3	LED 20 mA SMD-0603	Three LED (Orange 520nm LED Indication - Discrete 3.2V 0603 (1608 Metric))	Vishay Semiconductors	TLMO1100-GS15
21	1	JP1	VH/T M2OE/ W.325/10/ MOD	JUMPER (2 (1 x 2) Position Shunt Connector Black Closed Top 0.100" (2.54mm) Tin)	Würth Elektronik	60900213421
22	4	J3,J4,J5,J6	2.54 mm through hole	Connector (CON1) (not mounted)	Harwin	M22-2510146
23	5	J1,J2,J7,J8,J 9	2 Pin x 2.54 mm	Connector (CON2)	Würth Elektronik	61300211121
24	1	J10	3pinx2.54mm	Connector (CON3)	Würth Elektronik	61300311121
25	1	J11	4pinx2.54mm	Connector (CON4)	Würth Elektronik	61300411121
26	3	J12,J13,J14	3pinx2.54mm	Connector (CON3)	Amphenol FCI	94611-203HLF
27	1	L4	1500E	FERRITE BEAD 1.5 KOHM 0603 1LN	TDK Corporation	MMZ1608Y152BTA00
28	4	L1,L5,L7,L9	0 Ohm	0 Ohms Jumper Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thick Film (0 Ohm Resistor to be mounted)	Stackpole Electronics Inc	RMCF0603ZT0R00
29	4	L2,L6,L8,L10	0 Ohm	0 Ohms Jumper Chip Resistor 0805 (2012 Metric) Moisture Resistant Thick Film (0 Ohm Resistor to be mounted)	Yageo	RC0805JR-070RL
30	1	L3	INDUCTOR IRON/SM	CONN HEADER VERT 2POS 2.54MM	Würth Elektronik	61300211121
31	6	R24,R25,R28 ,R29,R30,R3 1	10K	10 kOhms ±1% 0.125W, 1/8W Chip Resistor 0603 (1608 Metric) Anti- Sulfur Thin Film	Würth Elektronik	560112116005
32	2	R32,R42	100E	RES 100 OHM 1% 1/8W 0805	Würth Elektronik	560112120020
33	3	R26,R27,R47	0E	0 Ohms Jumper 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Moisture Resistant Thick Film	Würth Elektronik	560112116001
34	1	R34	1ME	1 mOhms ±5% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Thick Film	Würth Elektronik	560112116076
35	4	R35,R40,R44 ,R46	1K	1 kOhms ±1% 0.125W, 1/8W Chip Resistor 0603 (1608 Metric) Anti- Sulfur Thin Film	Würth Elektronik	560112116014
36	1	R36	7.5E	7.5 Ohms ±1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Moisture Resistant Thick Film	Yageo	RC0603FR-077R5L
37	3	R37,R38,R39	27K	27 kOhms ±5% 0.25W, 1/4W Chip Resistor 1206 (3216 Metric) Moisture Resistant Thick Film	Yageo	RC1206JR-0727KL
38	1	R41	470 Ohm	470 Ohms ±1% 0.25W, 1/4W Chip Resistor 1206 (3216 Metric) Automotive AEC-Q200, Moisture Resistant Thick Film	TE Connectivity Passive Product	CRGCQ1206F470R
39	1	R43	22K	22 kOhms ±1% 0.125W, 1/8W Chip Resistor 0805 (2012 Metric)	TE Connectivity Passive Product	CRGCQ0805F22K

Item	Quantity	Reference	Part / value	Description	Manufacturer	Part number
				Automotive AEC-Q200, Moisture Resistant Thick Film		
40	1	R45	Shunt	Current Sense Resistors - SMD MSMA, 2512 SIZE, 3 Watt, 3 mOhm, 50 TCR NiCu Metal AEC-Q	Eaton	MSMA2512R0030FGN
41	4	R48,R49,R52,R53	4.7K	4.7 kOhms $\pm 1\%$ 0.125W, 1/8W Chip Resistor 0805 (2012 Metric) Thick Film	Walsin Technology Corporation	WR08X4701FTL
42	8	R6, R11, R13, R17, R18, R20, R21, R22	0	0 Ohms Jumper 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, Moisture Resistant Thick Film (not mounted)	Würth Elektronik	560112116001
43	12	R3, R4, R5, R7, R8, R9, R10, R12, R14, R15, R16, R19	0	0 Ohms Jumper 0.125W, 1/8W Chip Resistor 0805 (2012 Metric) Automotive AEC-Q200 Thick Film	Würth Elektronik	560112120002
44	1	R23	330	330 Ohms $\pm 1\%$ 0.1W, 1/10W Chip Resistor 0402 (1005 Metric) Anti-Sulfur, Automotive AEC-Q200 Thick Film	Würth Elektronik	560112110231
45	1	Y1	16MHZ	16 MHz ± 20 ppm Crystal 18pF 40 Ohms HC-49/US	Würth Elektronik	830058383B
46	1	R33	0	Thick Film Resistors - SMD 0 Ohms 0805 31.6A 0 Ohms Hi Curr Jumper AEC-Q200	Stackpole Electronics Inc	HCH0805ZT0R00
47	2	R50,R51	10K	Thick Film Resistors - SMD 10K Ohms 0805 0.125W 5% Std Power AEC-Q200	Würth Elektronik	560112120004
48	6		Shunt Connector	JUMPER W/TEST PNT 1X2PINS 2.54MM. Jumper to be connected as follows: 1. JP1 Pin: 1-2 2.J1 Pin 1- J2 Pin 1 3.J1 Pin 2 -J2 Pin 2 4.J13 Pin 2-3 5.J14 Pin: 2-3 6.J10 Pin: 1-2	Würth Elektronik	60900213421

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