



Bill of materials

Table 1. X-NUCLEO-60K1A1 bill of materials

Item	Q.ty	Ref.	Part / Value	Description	Manufacturer	Order code
1	1	-	Table 2. X-NUCLEO-60L1A1	B2379A Local assembly	ST	X-NUCLEO-60L1A1
2	1	-	Table 3. X-NUCLEO-60R1A1	B2379A Remote assembly	ST	X-NUCLEO-60R1A1

Table 2. X-NUCLEO-60L1A1 bill of materials

Item	Q.ty	Ref.	Part / Value	Description	Manufacturer	Order code
1	7	C1, C2, C3, C4, C6, C11, C12	1uF	Capacitor, MLCC, 1uF, 6.3V, X5R, +/- 10%, 0402, T=0.5mm	MURATA	GRM155R70J105KA12
2	1	C5	10nF	WCAP-CSGP Ceramic Capacitors 0402	WURTH ELEKTRONIK	885012205067
3	6	C7, C8, C9, C10, C15, C16	100nF	WCAP-CSGP Ceramic Capacitors 0402	WURTH ELEKTRONIK	885012205037
4	2	C13, C14	100pF	WCAP-CSGP Ceramic Capacitors 0402	WURTH ELEKTRONIK	885012005061
5	1	CN1	Socket 10x1	Socket, 10x1, 2.54mm, VR, TH, T=8.51mm/10mm	SAMTEC	SSQ-110-03-F-S
6	2	CN2, CN3	Socket 8x1	Socket, 8x1, 2.54mm, VR, TH, T=8.51mm/10mm	SAMTEC	SSQ-108-03-F-S
7	1	CN4	Socket 6x1	Socket, 6x1, 2.54mm, VR, TH, T=8.51mm/10mm	SAMTEC	SSQ-106-03-F-S
8	2	CN5, CN6	Header 4x1	Header, 4x1, 2.54mm, VR, TH, T=5.84mm/2.54mm	SAMTEC	TSW-104-07-G-S
9	1	CN7	USB_C_632723300011	Connector_USB_TypeC, 24pins, RA, TH, T=1.9mm (USB certified)	WURTH ELEKTRONIK	632723300011
10	1	HW1	B2379A PCB	PCB_B2379A		
11	1	JP1	Header 2x1	Header, 2x1, 2.54mm, VR, TH, T=5.84mm/2.54mm	SAMTEC	TSW-102-07-G-S
12	4	JP3, JP4, JP5, JP6	Header 3x1	Header, 3x1, 2.54mm, VR, TH, T=5.84mm/2.54mm	SAMTEC	TSW-103-07-F-S
13	4	JP3_1-2, JP4_1-2, JP5_1-2, JP6_1-2	SNT-100-BK-G	Shunt, 2.54mm, Black, 4.3A, 6.1mm, 5mR	SAMTEC	SNT-100-BK-G
14	2	LD1, LD2	Green	LED, Green, 2V, 20mA, 0603	EVERLIGHT	19-213SYGC/S530-E2/5T
15	1	Q1	BSR14	NPN Bipolar Transistor	ON SEMICONDUCTOR	BSR14
16	3	R1, R7, R38	1K	Resistor, 1K, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-071KL
17	1	R4	1K5	Resistor, 1K5, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-071K5L
18	7	R5, R14, R22, R26,	0R	Resistor, 0R, 0603, +/-5%, 1/10W	YAGEO	RC0603JR-070RL

Item	Q.ty	Ref.	Part / Value	Description	Manufacturer	Order code
		R27, R33, R61				
19	1	R6	1K8	Resistor, 1K8, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-071K8L
20	2	R13, R15	5K1	Resistor, 5K1, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-075K1L
21	2	R16, R21	220R	Resistor, 220R, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-07220RL
22	7	R18, R19, R23, R24, R25, R29, R30	0R	Resistor, 0R, 0402, +/-5%, 1/16W	YAGEO	RC0402JR-070RL
23	1	R34	10K	Resistor, 10K, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-0710KL
24	1	U1	LD39050PU33R	LDO, 500mA, Low quiescent current and low noise voltage regulator	ST	LD39050PU33R
25	1	U2	LD3985M18R	LDO, Ultra low drop and low noise BiCMOS voltage regulators	ST	LD3985M18R
26	1	U3	ST2378ETTR	Translator, 8-bit, dual supply 1.71 V to 5.5 V, I/O VCC +/-15 kV ESD protection	ST	ST2378ETTR
27	1	U4	ST60A3H1C1CCEPY3	Transceiver, 60GHz, V-band contactless connectivity, with eUSB2, UART, GPIO, or I2C tunneling, VDDIO 1V8	ST	ST60A3H1C1CCEPY3
28	1	U5	PTN3222GMJ	1-port PTN3222 implements Repeater mode (eUSB2 to USB2 redriver)	NXP	PTN3222GMJ
29	1	U6	ECMF02-2AMX6	Diode, ESD protection, 1V5, 100nA, 6V, QFN-6	ST	ECMF02-2AMX6
30	0	C17, C21, C39	47uF	Capacitor, MLCC, 47uF, 10V, X5R, +/-20%, 0805, T=1.25mm	MURATA	GRM21BR61A476ME15K
31	0	C18, C20, C22, C24, C28, C29, C30, C31, C32, C33, C34, C35, C38, C40, C42, C43	100nF	Capacitor, MLCC, 100nF, 16V, X7R, +/-10%, 0402, T=0.5mm	YAGEO	CC0402KRX7R7BB104
32	0	C19, C23, C41	220uF	Capacitor, MLCC, 220uF, 6V3, X5R, +/-20%, 1206, T=1.6mm	MURATA	GRM31CR60J227ME11
33	0	C25, C26	6.8pF	Capacitor, MLCC, 6.8pF, 50V, NPO, +/-0.25pF, 0402, T=0.5mm	YAGEO	CC0402CRNPO9BN6R8
34	0	C27, C36, C37	4.7uF	Capacitor, MLCC, 4.7uF, 6V3, X5R, +/-20%, 0402, T=0.5mm	MURATA	GRM155R60J475ME47
35	0	CN8, CN9, CN10	USB_A_67643-3911	USB_TypeA, RA, TH, T= 7.73mm (USB certified)	MOLEX	67643-3911
36	0	D1	BAT60JFILM	Diode, Schottky, 0V53, 1A, 10V, SOD323	ST	BAT60JFILM
37	0	JP1_1-2, JP2_1-2	SNT-100-BK-G	Shunt, 2.54mm, Black, 4.3A, 6.1mm, 5mR	SAMTEC	SNT-100-BK-G
38	0	JP2	Header 2x1	Header, 2x1, 2.54mm, VR, TH, T=5.84mm/2.54mm	SAMTEC	TSW-102-07-G-S

Item	Q.ty	Ref.	Part / Value	Description	Manufacturer	Order code
39	0	L1, L2, L3	26R @ 100Mhz	Ferrite bead, 26R @ 100Mhz, +/-25%, 6000mA, 0R007, 0603, T=0.75mm	MURATA	BLM18KG260TN1
40	0	R2, R8, R28, R62	0R	Resistor, 0R, 0603, +/-5%, 1/10W	YAGEO	RC0603JR-070RL
41	0	R3, R35, R36, R37, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R53, R60	10K	Resistor, 10K, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-0710KL
42	0	R9, R10, R11, R12, R17, R20, R58, R59	4K7	Resistor, 4K7, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-074K7L
43	0	R31, R32, R52, R55, R56, R57	0R	Resistor, 0R, 0402, +/-5%, 1/16W	YAGEO	RC0402JR-070RL
44	0	R54	1K6	Resistor, 1K6, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-071K6L
45	0	U7, U11, U14	STMPS2161STR	Switch, Enhanced single channel power switches, SOT23-5L	ST	STMPS2161STR
46	0	U8, U12, U15	ESDA7P120-1U1M	Diode, ESD TVS, 5V5, 1.5uA, 6V8, QFN1610	ST	ESDA7P120-1U1M
47	0	U9, U13	ECMF02-2AMX6	Diode, ESD protection, 1V5, 100nA, 6V, QFN-6	ST	ECMF02-2AMX6
48	0	U10	UPD720115K8-711	IC, USB 2.0, 4 ports, Hi-Speed hub controller, -40° To +85°	RENESAS ELECTRONICS	UPD720115K8-711
49	0	U16	TS3USB30EDGSR	USB Switch, ESD-Protected, High-Speed USB 2.0, 480Mbit/s, 1:2 Multiplexer/Demultiplexer switch with single enable	TEXAS INSTRUMENTS	TS3USB30EDGSR
50	0	X1	24MHz	Crystal, 24MHz, 6pF, +/-20ppm, 80R, 2x1.6mm	NDK	NX2016SA-24MHZ-EXS00A-CS10820

Table 3. X-NUCLEO-60R1A1 bill of materials

Item	Q.ty	Ref.	Part / Value	Description	Manufacturer	Order code
1	7	C1, C2, C3, C4, C6, C11, C12	1uF	Capacitor, MLCC, 1uF, 6.3V, X5R, +/- 10%, 0402, T=0.5mm	MURATA	GRM155R70J105KA12
2	1	C5	10nF	WCAP-CSGP Ceramic Capacitors 0402	WURTH ELEKTRONIK	885012205067
3	22	C7, C8, C9, C10, C15, C16, C18, C20, C22, C24, C28, C29, C30, C31, C32, C33, C34, C35, C38, C40, C42, C43	100nF	WCAP-CSGP Ceramic Capacitors 0402	WURTH ELEKTRONIK	885012205037

Item	Q.ty	Ref.	Part / Value	Description	Manufacturer	Order code
4	2	C13, C14	100pF	WCAP-CSGP Ceramic Capacitors 0402	WURTH ELEKTRONIK	885012005061
5	3	C17, C21, C39	47uF	Capacitor, MLCC, 47uF, 10V, X5R, +/-20%, 0805, T=1.25mm	MURATA	GRM21BR61A476ME15K
6	3	C19, C23, C41	220uF	Capacitor, MLCC, 220uF, 6V3, X5R, +/-20%, 1206, T=1.6mm	MURATA	GRM31CR60J227ME11
7	2	C25, C26	6.8pF	WCAP-CSRF High Frequency MLCC	WURTH ELEKTRONIK	885392005074
8	3	C27, C36, C37	4.7uF	WCAP-CSGP Ceramic Capacitors 0402	WURTH ELEKTRONIK	885012105008
9	1	CN1	Socket 10x1	Socket, 10x1, 2.54mm, VR, TH, T=8.51mm/10mm	SAMTEC	SSQ-110-03-F-S
10	2	CN2, CN3	Socket 8x1	Socket, 8x1, 2.54mm, VR, TH, T=8.51mm/10mm	SAMTEC	SSQ-108-03-F-S
11	1	CN4	Socket 6x1	Socket, 6x1, 2.54mm, VR, TH, T=8.51mm/10mm	SAMTEC	SSQ-106-03-F-S
12	2	CN5, CN6	Header 4x1	Header, 4x1, 2.54mm, VR, TH, T=5.84mm/2.54mm	SAMTEC	TSW-104-07-G-S
13	1	CN7	USB_C_632723300011	Connector_USB_TypeC, 24pins, RA, TH, T=1.9mm (USB certified)	WURTH ELEKTRONIK	632723300011
14	3	CN8, CN9, CN10	USB_A_67643-3911	USB_TypeA, RA, TH, T= 7.73mm (USB certified)	MOLEX	67643-3911
15	1	D1	BAT60JFILM	Diode, Schottky, 0V53, 1A, 10V, SOD323	ST	BAT60JFILM
16	1	HW1	B2379A PCB	PCB_B2379A		
17	2	JP1, JP2	Header 2x1	Header, 2x1, 2.54mm, VR, TH, T=5.84mm/2.54mm	SAMTEC	TSW-102-07-G-S
18	6	JP1_1-2, JP2_1-2, JP3_1-2, JP4_1-2, JP5_1-2, JP6_1-2	SNT-100-BK-G	Shunt, 2.54mm, Black, 4.3A, 6.1mm, 5mR	SAMTEC	SNT-100-BK-G
19	4	JP3, JP4, JP5, JP6	Header 3x1	Header, 3x1, 2.54mm, VR, TH, T=5.84mm/2.54mm	SAMTEC	TSW-103-07-F-S
20	3	L1, L2, L3	26R @ 100Mhz	WE-MPSB EMI Multilayer Power Suppression Bead	WURTH ELEKTRONIK	74279228260
21	2	LD1, LD2	Green	LED, Green, 2V, 20mA, 0603	EVERLIGHT	19-213SYGC/S530-E2/5T
22	1	Q1	BSR14	NPN Bipolar Transistor	ON SEMICONDUCTOR	BSR14
23	3	R1, R7, R38	1K	Resistor, 1K, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-071KL
24	16	R3, R34, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R53, R60	10K	Resistor, 10K, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-0710KL
25	1	R4	1K5	Resistor, 1K5, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-071K5L

Item	Q.ty	Ref.	Part / Value	Description	Manufacturer	Order code
26	4	R5, R14, R28, R62	0R	Resistor, 0R, 0603, +/-5%, 1/10W	YAGEO	RC0603JR-070RL
27	1	R6	1K8	Resistor, 1K8, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-071K8L
28	2	R13, R15	5K1	Resistor, 5K1, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-075K1L
29	2	R16, R21	220R	Resistor, 220R, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-07220RL
30	11	R18, R19, R23, R24, R25, R31, R32, R52, R55, R56, R57	0R	Resistor, 0R, 0402, +/-5%, 1/16W	YAGEO	RC0402JR-070RL
31	1	R54	1K6	Resistor, 1K6, 0402, +/-1%, 1/16W	YAGEO	RC0402FR-071K6L
32	1	U1	LD39050PU33R, DFN6 3x3	LDO, 500mA, Low quiescent current and low noise voltage regulator	ST	LD39050PU33R
33	1	U2	LD3985M18R, SOT23-5L	LDO, Ultra low drop and low noise BiCMOS voltage regulators	ST	LD3985M18R
34	1	U3	ST2378ETTR, TSSOP-20	Translator, 8-bit, dual supply 1.71 V to 5.5 V, I/O VCC +/-15 kV ESD protection	ST	ST2378ETTR
35	1	U4	ST60A3H1C1CCEPY3, VFBGA 23 AiP LP 2.9x4.1x0.8 mm	Transceiver, 60GHz, V-band contactless connectivity, with eUSB2, UART, GPIO, or I2C tunneling, VDDIO 1V8	ST	ST60A3H1C1CCEPY3
36	1	U5	PTN3222GMJ	1-port PTN3222 implements Repeater mode (eUSB2 to USB2 redriver)	NXP	PTN3222GMJ
37	3	U6, U9, U13	ECMF02-2AMX6, QFN-6L	Diode, ESD protection, 1V5, 100nA, 6V, QFN-6	ST	ECMF02-2AMX6
38	3	U7, U11, U14	STMP2161STR, SOT23-5L	Switch, Enhanced single channel power switches	ST	STMP2161STR
39	3	U8, U12, U15	ESDA7P120-1U1M	Diode, ESD TVS, 5V5, 1.5uA, 6V8, QFN1610	ST	ESDA7P120-1U1M
40	1	U10	UPD720115K8-711	IC, USB 2.0, 4 ports, Hi-Speed hub controller, -40° To +85°	RENESAS ELECTRONICS	UPD720115K8-711
41	1	U16	TS3USB30EDGSR	USB Switch, ESD-Protected, High-Speed USB 2.0, 480Mbit/s, 1:2 Multiplexer/Demultiplexer switch with single enable	TEXAS INSTRUMENTS	TS3USB30EDGSR
42	1	X1	24MHz	Crystal, 24MHz, 6pF, +/-20ppm, 80R, 2x1.6mm	NDK	NX2016SA-24MHZ-EXS00A-CS10820
43	0	R2, R8, R22, R26, R27, R33, R61	0R		YAGEO	RC0603JR-070RL
44	0	R9, R10, R11, R12, R17, R20, R58, R59	4K7	Resistor, 0R, 0603, +/-5%, 1/10W	YAGEO	RC0402FR-074K7L
45	0	R29, R30	0R	Resistor, 4K7, 0402, +/-1%, 1/16W	YAGEO	RC0402JR-070RL

Item	Q.ty	Ref.	Part / Value	Description	Manufacturer	Order code
46	0	R35, R36, R37, R39	10K	Resistor, 0R, 0402, +/-5%, 1/16W	YAGEO	RC0402FR-0710KL
				Resistor, 10K, 0402, +/-1%, 1/16W		

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