

Bill of materials
Table 1. STDES-NBIOTLIGHT bill of materials

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
1	3	C1, C2, C3	1uF, 16V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 1uF, 16VDC	Würth Elektronik	885012206052
2	3	C4, C7, C14	10uF, 25V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X5R, 10uF, 25VDC	Würth Elektronik	885012106031
3	9	C5, C6, C9, C10, C11, C12, C13, C15, C20	100nF, 16V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 100nF, 16VDC	Würth Elektronik	885012206046
4	2	C8, C27	4.7uF, 10V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X5R, 4.7uF, 10VDC	Würth Elektronik	885012106012
5	1	C16	100pF, 10V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 100pF, 10V	Würth Elektronik	885012206003
6	1	C17	22uF, 6.3V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0805, X5R, 22uF, 6.3V	Würth Elektronik	885012107005
7	1	C18	10uF, 25V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 1206, X5R, 10uF, 25V	Würth Elektronik	885012108021
8	1	C19	1uF, 25V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0805, X7R, 1uF, 25V	Würth Elektronik	885012207078
9	4	C21, C22, C23, C24	15pF	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, NP0, 15pF, 16VDC	Würth Elektronik	885012006018
10	1	C25	100pF, 16V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, NP0, 100pF, 16VDC	Würth Elektronik	885012006023
11	1	C26	NM	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 1uF, 16VDC (not mounted)	Würth Elektronik	885012206052
12	1	CN2	66100411622	WR-WTB Male Vertical Shrouded Header, pitch 2.54mm, 4pins	Würth Elektronik	66100411622
13	1	D1	10V	DIODE ZENER 10V	Nexperia	BZV55-C22,115
14	4	D2, D3, D4, D5	LED 0603	LED RED CLEAR 0603 SMD		
15	2	D6, D7	NM	LED RED CLEAR 0603 SMD (not mounted)		
16	1	FB1	140Ω	WE-CBF SMT EMI Suppression Ferrite Bead, size 0603, 140Ω, 1.25A	Würth Elektronik	742792621

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
17	1	J1	CONUFL001-SMD-T	U.FL (UMCC) Connector Jack, Male Pin 50Ohm Surface Mount Solder	TE Connectivity	CONUFL001-SMD-T
18	1	J2	20021111-00012T4LF	Connector	Amphenol Communications Solutions	20021111-00012T4LF
19	1	J4	GND_Sec			
20	1	J5	RXB			
21	1	J6	12V			
22	1	J7	693043020611	WR-CRD Nano SIM Card Connector, Push & Pull	Würth Elektronik	693043020611
23	1	L1	74477410		Würth Elektronik	74477410
24	2	P1, P3	61300511121	THT Vertical Pin Header WR-PHD, Pitch 2.54 mm, Single Row, 5 pins	Würth Elektronik	61300511121
25	1	P2	NM	Male Header, Pitch 1.27 mm, 2 x 5 Position, Height 6.25 mm (not mounted)	Samtec	
26	1	Q1	2N7002	N-Channel Enhancement Mode Field Effect Transistor, 60V/115mA	ONSEMI	2N7002
27	2	Q2, Q3	2N7002	N-Channel Enhancement Mode Field Effect Transistor, 60V/115mA	ONSEMI	2N7002
28	1	R1	15K ± 2%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose	Vishay	CRCW060315K0FKEC
29	1	R2	100R ± 5%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose	Yageo	AC0603FR-7W100RL
30	4	R4, R5, R34, R35	100K ± 5%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose	Yageo	AC0603FR-7W100KL
31	8	R6, R11, R12, R17, R18, R19, R23, R37	1K ± 5%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose	Yageo	AC0603FR-7W1KL
32	12	R7, R8, R20, R21, R22, R27, R28, R29, R33, R36, R40, R41	0R ± 5%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose	Yageo	RC0603FR-100RL
33	2	R9, R14	10K ± 1%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose	Yageo	AC0603FR-7W10KL
34	1	R10	2K2 ± 5%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose	ROHM	SDR03EZPF2201
35	1	R13	0R ± 1%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose	Yageo	RC0603FR-100RL

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
36	2	R15, R16	NM \pm 1%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose (not mounted)	Yageo	RC_L Series
37	7	R24, R26, R38, R39, R42, R43, R44	NM \pm 5%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose (not mounted)	Yageo	RC_L Series
38	1	R25	NM	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose (not mounted)	Yageo	RC_L Series
39	3	R30, R31, R32	22R \pm 5%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose	Vishay	CRCW060322R0FKEAHP
40	1	R45	33K \pm 1%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose	Yageo	AF0603FR-0733KL
41	1	R46	12K \pm 1%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose	Yageo	RC0603FR-7W12KL
42	1	R47	25K5 \pm 1%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose	Yageo	RC0603FR1325K5L
43	1	R48	11K8 \pm 1%	SMD Chip Resistor, 200 mW, 75V, 0603 [1608 Metric], Thick Film, General Purpose	Panasonic	ERJ-PA3F1182V
44	1	SW1	430182043816	WS-TASV SMD Tact Switch 6X6 mm	Wuerth Elektronik	430182043816
45	4	TP6, TP7, TP8, TP9				
46	1	U1	TSB622IDT, SO8	Low-Power Dual Operational Amplifier	ST	TSB622IDT
47	1	U2	STISO620, SO8	Dual channel digital isolator	ST	STISO620
48	1	U3	ST87M01-1100, SMD	Ultra-compact, low-power narrowband (NB-IoT) industrial module series with GNSS capability	ST	ST87M01-1100
49	1	U4	STM32G071GBU6TR, UFQFPN28-4x4mm	No Description Available	ST	STM32G071GBU6TR
50	1	U5	EMIF03-SIM02M8, MICROQFN_1P7X1P5	No Description Available	ST	EMIF03-SIM02M8
51	1	U6	LIS2DTW12TR, LGA	No Description Available	ST	LIS2DUX12TR
52	1	U7	ST1S40IDR, SO-8	3 A DC step-down switching regulator	ST	ST1S40IDR
53	1	U8	STISO621TR, SO-8	Dual channel digital isolator	ST	STISO621TR
54	1	U9	LDL112PVR, DFN6(3x3)	500 mA Low Quiescent Current Low Noise Voltage Regulator, Adjustable from 0.8V, 6-Pin VDFDPN, Tape and Reel	ST	LDL112PVR

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