

Document reference: PCB reference: **STEVAL-IDB002V1 - RF MOTHERBOARD**

Company: **STMicroelectronics**

Item	Quantity	Reference	Part/Value	Characteristics/Notes	PCB Footprint	Manufacturer	Manufacturer's ordering code / Orderable Part Number
1	1	AAAX1		Battery holder 2xAAA		Keystone	2469
2	1	CN1	USB_miniB	USB mini B connector	MINI USB	4UCON Tech inc.	
3	7	C1, C3, C7, C8, C9, C10, C12	C_100N_0603_X7R	Ceramic 25V Tol. 10%	SM/C_0603		
4	3	C2, C4, C15	C_1U_0603_X5R	Ceramic 10V Tol. 10%	SM/C_0603		
5	2	C5, C6	C_20P_0603_COG	Ceramic 50V Tol. 5%	SM/C_0603		
6	2	C11, C14	C_10U_0805_K_6V3	Ceramic 6V3 Tol. 10%	SM/C_0805		
7	1	C13	C_4N7_0603_X7R	Ceramic 25V Tol. 5%	SM/C_0603		
8	1	C16	C_2U2_0603_X5R	Ceramic 6V3 Tol. 10%	SM/C_0603		
9	7	C17, C18, C19, C20, C21, C22, C23	C_10N_0603_X7R	Ceramic 50V Tol. 10%	SM/C_0603		
10	2	DL1, DL6	GREEN	LED DIODE	SM/D0805_S	Kingbright	KP2012MGC
11	1	DL2	ORANGE	LED DIODE	SM/D0805_S	Kingbright	KP-2012SEC
12	1	DL3	RED	LED DIODE	SM/D0805_S	Kingbright	KP-2012SURC
13	1	DL4	BLUE	LED DIODE	SM/D0805_S	Kingbright	KP-2012MBC
14	1	DL5	YELLOW	LED DIODE	SM/D0805_S	Kingbright	KP-2012SYC
15	6	D1,D2,D3,D4,D5,D6	Z5V1	5V1 Zener diode	SOD123_S	Vishay	MMSZ5231B-VGS08
16	1	JP1	Jumper	Jumper male 100mils	BLKCON.100/VH/TM1SQ/W.100/3		
17	1	J1	NE		BLKCON.100/VH/TM2OE/W.200/18		
18	1	J2	JTAG	IDC Box HEADER	WALCON.100/VH/TM2OE/W.325/20	Tyco Electronics	2-1634688-0
19	1	J3	PROBES	Strip line male 1X12 100mils	BLKCON.100/VH/TM1SQ/W.100/12		
20	2	J4, J5	BB02-KY102-K03-A00000	SPIRIT1 CONNECTORS	CONNBB02KY	Gradconn	BB02-KY102-K03-A00000
21	1	L1	L_BEAD_0805_300HM_100M	Ferrite 300hm @ 100MHz	SM/L_0805	Würth Electronics	74279206
22	1	L2	L_2U2_1210_J_320M	RF choke	SM/L_1210	Würth Electronics	74476402
23	3	R1, R8, R11	R_ORO_0603	0 Ohm	SM/R_0603		
24	1	R2	R_10K_0603	1/8W Tol. 5%	SM/R_0603		
25	1	R3	R_ORO_0603	1/8W Tol. 5%	2SMR-0603		Solder 0 ohm between 1 and 2
26	2	R4, R12	R_1M_0603	1/8W Tol. 5%	SM/R_0603		
27	6	R5, R6, R7, R9, R10, R13	NE		SM/R_0603		
28	2	R14, R18	R_510_0603	1/8W Tol. 5%	SM/R_0603		
29	3	R15, R16, R17	R_680_0603	1/8W Tol. 5%	SM/R_0603		
30	1	R20	R_470_0603	1/8W Tol. 5%	SM/R_0603		
31	7	R21, R22, R25, R26, R27, R28, R29	R_100K_0603	1/8W Tol. 5%	SM/R_0603		
32	3	R23, R24, R30	R_100_0603	1/8W Tol. 5%	SM/R_0603		
33	2	SW1, SW2	SW PUSHBUTTON-DPST	Tactile Switch	PULS4SMD.	Tyco Electronics	4-1437565-1
34	4	TP1, TP2, TP3, TP4	GND		TESTPOINT_S	Keystone Electronics	5117 (5000)
35	1	U1	LIS3DH	Accelerometer	LGA16_3X3X1	ST	LIS3DH
36	1	U2	STLM75	Temperature sensor	SO8	ST	STLM75M2F
37	1	U3	STM32_64pin	MCU	LQFP64_10X10	ST	STM32L151RBT6
38	1	U4	USBLC6-2SC6	USB protection	SOT23-6L	ST	USBLC6-2SC6
39	1	U5	LD39050XX	Fixed LDO	LD39050	ST	LD39050PUR
40	1	U6	SKQUDBE010	Joystick	JOYSTICK_516_110	ALPS	SKQUDBE010
41	4	V1,V2,V3,V4	SCREW	Spacer M3/10mm	MTHOLE3_S		
42	1	X1	8MHz	XTAL 8 MHz	QUARTZ	FOX	FOXSLF/080-20, 8MHz, 50ppm, 20pF

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PCB reference:

**STEVAL-IDB002V1 - BlueNRG RF PCB vers 1, 2 layers board, +8 dBm output power**

Company:

**STMicroelectronics**

Item	Quantity	Reference	Part	Note	Package	Manufacturer	Manufacturer's ordering code / Orderable Part Number	+8 dBm
1	4	C1, C17, C20, C22	1u_0402_X5R	VBAT & SMPS OUT filter cap	SM/C_0402	Murata	GRM155R61A105KE15	1uF
2	6	C2, C16, C18, C19, C21, C23	100n_0402_X7R	VBAT filtering	SM/C_0402	Murata	GRM155R71C104KA88	100nF
3	2	C3, C15	100p_0402_C0G	VBAT filtering	SM/C_0402	Murata	GRM1555C1H101JZ01	100pF
4	1	C4	150n_0402_X5R	VREG filtering	SM/C_0402	Murata	GRM155R61A154KE19	150nF
5	2	C5, C6	22p_0402_C0G	32 kHz XTAL load cap	SM/C_0402	Murata	GRM1555C1H220JZ01	22pF
6	3	C8, C9, C11	TBD_0402_C0G	TX/RX balun cap	SM/C_0402	Murata	GRM1555C1H1R3CZ01	1.3pF
7	2	C7, C10	TBD_0402_C0G	TX/RX balun cap and by-pass cap	SM/C_0402	Murata	GRM1555C1H560JA01	56pF
8	1	C12	TBD_0402_C0G	TX/RX balun cap and filtering cap	SM/C_0402	Murata	GRM1555C1H1R5CZ01	1.5pF
9	2	C13, C14	TBD_0402_C0G	16 MHz XTAL load cap	SM/C_0402	Murata	GRM1555C1H150JZ01	15pF
10	1	D1	Soldered between pins 1 and 2	SMPS out inductor	SM/L_0805	Murata	LQM21FN100M70L	10uH
11	1	JP1	HEADER 1X3	Male Strip 1X3, 100 mils	WALCON.100/VH/TM2OE/W.325/10/MOD			
12	1	J1	THR 1.27 mm 2x5 pins	JTAG connector		SAMTEC	FTSH-105-01-F-D-K	
13	1	J2	RF_IN/OUT	SMA Jack Assembly, End Launch	SMA-LAT	Emerson	142-0701-881	
14	2	J3, J4	HEADER 5X2	Male Strip 2X5, 100 mils, BOTTOM MOUNT	WALCON.100/VH/TM2OE/W.325/10/MOD			
15	2	L1, L2	TBD_0402	TX/RX balun ind	SM/L_0402	Murata	LQP15MN1N3W02	1.3nH
16	1	L3	TBD_0402	TX/RX balun ind	SM/L_0402	Murata	LQP15MN2N0W02	2nH
17	1	Q1	XTAL	XTAL	NX3215SA	NDK	NX3215SA-32.768kHz-EXS00A-MU00003	32.768 kHz
18	1	Q2	XTAL	XTAL	XTAL_32_25_REV2	NDK	NX3225SA-32.000MHz-EXS00A-CS03878	32 MHz
19	5	R1, R3, R4, R5, R6		Connect to Vdd, pull-down	SM/R_0402	Tyco Electronics		NE
20	1	R2	10k_0402	Connect to ground	SM/R_0402	Tyco Electronics		10k
21	3	R7, R8, R9	100k_0402	Pull-up and pull-down	SM/R_0402	Tyco Electronics		100k

22	1	U1	BlueNRG-N	RF IC	QFN32	STMicroelectronics		
23	1	U2	HEADER 1X2	Male Strip 1X2, 100 mils	WALCON.100/VH/T M2OE/W.325/10/M OD			
24	1	U3	EEPROM	Memory	SO8N	STMicroelectronics	M95640-RMN6P	
25	3	SOSCOUT, AUXADP, AUXADN	Test point	Test point	TP			NE