

Document reference: VERS 1	PCB reference: STEVAL-IKR002V4 - 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_C0G	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_30OHM_100M	Ferrite 30Ohm @ 100MHz	SM/L_0805	Würth Electronics	74279206
22	1	L2	L_2U2_1210_J_320M	RF choke	SM/L_1210	Würth Elektronik	74476402
23	3	R1, R8, R11	R_OR0_0603	0 Ohm	SM/R_0603		
24	1	R2	R_10K_0603	1/8W Tol. 5%	SM/R_0603		
25	1	R3	R_OR0_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	Spacers M3/10mm	MTHOLE3_S		
42	1	X1	8MHz	XTAL 8 MHz	QUARTZ	FOX	FOXSLF/080-20, 8MHz, 50ppm, 20pF

Document reference:	PCB reference:
STEVAl-IKR002V4D - SPIRIT1 RF PCB 868 MHz	
Company: STMicroelectronics	

Item	Quantity	Reference	Part / Value	Note	Package	Manufacturer	Manufacturer's ordering code / Orderable Part Number	868 MHz
1	2	C0, C16	C_100n_0402_X7R	Decoupling cap on VREG (pin # 17)	SM/C_0402	Murata	GRM155R71C104KA88D	100nF
2	1	C1	C_TBD_0402_C0G	TX LPF first cap shunt	SM/C_0402			NE
3	1	C2	C_TBD_0402_C0G	TX LPF second cap shunt	SM/C_0402	Murata	GRM1555C1H8R2DZ01	8.2pF
4	1	C3	C_TBD_0402_C0G	TX LPF third cap shunt	SM/C_0402	Murata	GRM1555C1H5R6DZ01	5.6pF
5	1	C4	C_TBD_0402_C0G	RXP Balun shunt cap	SM/C_0402	Murata	GRM1555C1H2R2CZ01	2.2pF
6	1	C14	C_TBD_0402_C0G	Additional notch filter cap	SM/C_0402	Murata	GRM1555C1H1R2CZ01	1.2pF
7	1	C15	C_TBD_0402_C0G	PA load capacitor	SM/C_0402			NE
8	1	C5	C_TBD_0402_C0G	RXN Balun series	SM/C_0402	Murata	GRM1555C1H1R8CZ01	1.8pF
9	3	C6, C7, C8	C_TBD_0402_C0G	DC block for RX	SM/C_0402	Murata	GRM1555C1H221JA01	220pF
10	1	C9	C_12P_0402_C0G	XTAL load cap (Xout)	SM/C_0402	Murata	GRM1555C1H120JZ01	12pF
11	1	C10	C_10P_0402_C0G	XTAL load cap (Xin)	SM/C_0402	Murata	GRM1555C1H100JZ01	10pF
12	1	C20	C_1U_0603_X7R	VBAT & SMPS OUT filter cap	SM/C_0603	Murata	GRM188R60J105KA01D	1uF
13	1	C11	C_1U_0603_X7R	VBAT & SMPS OUT filter cap	SM/C_0603	Murata	GRM188R60J474KA01D	470nF
14	1	C12	C_100n_0402_X7R	SMPS OUT filter cap	SM/C_0402	Murata	GRM155R71C104KA88D	100nF
15	1	C13	C_TBD_0402_X7R	SMPS OUT filter cap	SM/C_0402	Murata	GRM1555C1H331JA01D	330pF
16	1	C19	C_TBD_0402_C0G	VBAT filtering	SM/C_0402	Murata	GRM155R71C103KA01	10nF
17	1	C21	C_100p_0402_C0G	VBAT bypass capacitors	SM/C_0402	Murata	GRM1555C1H101JZ01D	100pF
18	1	C22	C_330p_0402_C0G	Decoupling cap on VREG (pin # 17)	SM/C_0402	Murata	GRM1555C1H331JA01D	330pF

19	1	J1	RF_IN/OUT	SMA Jack Assembly, End Launch	SMA-LAT	Emerson	142-0701-881	
20	2	J6, J7	HEADER 5X2	Male Strip 2X5, 100 mils, BOTTOM MOUNT	WALCON.100/VH/T M2OE/W.325/10/ MOD			
21	1	D0	L_TBD_0402	TX PA choke	SM/L_0402	Murata	LQG15HSR10J02	100nH
22	1	L1	L_TBD_0402	TX LPF first series ind	SM/L_0402	Murata	LQG15HN3N0S02	3nH
23	1	L2	L_TBD_0402	TX LPF second series ind	SM/L_0402	Tyco Electronics	CRG0402ZR	OR0 (resistor)
24	1	L3	L_TBD_0402	TX LPF third series ind	SM/L_0402	Murata	LQG15HN4N3S02	4.3nH
25	2	L4, L5	L_TBD_0402	RXP-N Balun series ind	SM/L_0402	Murata	LQG15HN18NJ02	18nH
26	1	L6	L_TBD_0402	RX Balun compensation ind	SM/L_0402	Murata	LQG15HN22NJ02	22nH
27	1	L8	L_TBD_0402	SMPS out inductor	SM/L_0402	Coilcraft	0402CS-27N	27nH
28	1	L9	L_TBD_0402	Additional notch filter ind	SM/L_0402	Murata	LQG15HN2N7S02	2.7nH
29	1	L7	L_10U_0805	SMPS out inductor	SM/L_0805	Murata	LQM21FN100M70L	10uH
30	1	R6	R_ORO_0402	USED TO IDENTIFY BAND: mount only 1 ORO resistor according to assembly options	SM/R_0402	Tyco Electronics		NE
31	1	R7	R_ORO_0402		SM/R_0402	Tyco Electronics		NE
32	1	R8	R_ORO_0402		SM/R_0402	Tyco Electronics		NE
33	1	R9	R_ORO_0402		SM/R_0402	Tyco Electronics	CRG0402ZR	OR0
34	1	R10	R_ORO_0402		SM/R_0402	Tyco Electronics		NE
35	3	R12, R13, R14	R_ORO_0402		SM/R_0402	Tyco Electronics	CRG0402F100K	100k
36	1	U1	SPIRIT1	RF IC	QFN20_REV3	STMicroelectronics		
37	1	U2	HEADER 1X2	Male Strip 1X2, 100 mils	WALCON.100/VH/T M2OE/W.325/10/ MOD			
38	1	U3	EEPROM	Memory	SO8N	STMicroelectronics	M95640-RMN6P	
39	1	Y1	XTAL	XTAL	XTAL_32_25_REV2	NDK	NX3225GA 50MHz EXS00A- CG03244 or NX3225GA 52MHz EXS00A-CG03547	50 or 52 MHz