

Document reference:

PCB reference: **SPIRIT1 RF PCB 169 MHz + SKYWORKS RANGE EXTENDER**Company: **STMicroelectronics**

Item	Quantity	Reference	Part / Value	Note	Package	Manufacturer	Manufacturer's ordering code / Orderable Part Number	169 MHz + FEM
1	1	C0	C_100n_0402_X7R	Decoupling cap on VREG (pin # 17)	SM/C_0402	Murata	GRM155R71C104KA88D	100nF
2	2	C1	C_27p_0402_C0G	TX LPF first cap shunt, antenna matching	SM/C_0402	Murata	GRM1555C1H270JZ01	27pF
3	1	C2	C_39p_0402_C0G	TX LPF second cap shunt	SM/C_0402	Murata	GRM1555C1H390JZ01	39pF
4	1	C3	C_4.3p_0402_C0G	TX LPF third cap shunt	SM/C_0402	Murata	GRM1555C1H4R3DZ01	4.3pF
5	1	C4	C_10p_0402_C0G	RXN Balun capacitor	SM/C_0402	Murata	GRM1555C1H100JZ01	10pF
6	1	C14	C_5.6p_0402_C0G	Additional notch filter cap	SM/C_0402	Murata	GRM1555C1H5R6JA01	5.6pF
7	1	C15	C_TBD_0402_C0G	PA load capacitor	SM/C_0402	Murata	GRM1555C1H6R2DZ01	NE
8	1	C5	C_12p_0402_C0G	RXN Balun series	SM/C_0402	Murata	GRM1555C1H120DZ01	12pF
9	3	C6, C8, C9	C_220p_0402_C0G	DC block for RX	SM/C_0402	Murata	GRM1555C1H221JA01	220pF
10	1	C7	C_56p_0402_C0G	TX filter cap	SM/C_0403	Murata	GRM1555C1H560JZ01	56pF
11	1	C11	C_470n_0603_X7R	SMPS OUT filter cap	SM/C_0603	Murata	GRM188R71A474KA61	470nF
12	1	C20	C_1u_0603_X7R	VBAT & SMPS OUT filter cap	SM/C_0603	Murata	GRM188R60J105KA01D	1uF
13	2	C10, C12	C_100n_0402_X7R	SMPS OUT filter cap	SM/C_0402	Murata	GRM155R71C104KA88D	100nF
14	1	C13	C_560p_0402_X7R	SMPS OUT filter cap	SM/C_0402	Murata	GRM1555C1H561JA01D	560pF
15	2	C17, C30	C_22p_0402_C0G	PA input matching, antenna matching	SM/C_0402	Murata	GRM1555C1H220JZ01	22pF
16	1	C18	C_4.7u_0603_X5R	Decoupling cap on PA supply	SM/C_0603	Murata	GRM188R60J475KE19	4.7uF

17	2	C19, C34	C_10n_0402_X7R	VBAT and TCXO filtering	SM/C_0402	Murata	GRM155R71C103KA01	10nF
18	1	C21	C_100p_0402_C0G	VBAT bypass capacitors	SM/C_0402	Murata	GRM1555C1H101JZ01D	100pF
19	1	C22	C_330p_0402_C0G	Decoupling cap on VREG (pin # 17)	SM/C_0402	Murata	GRM1555C1H331JA01D	330pF
20	3	C23, C25,	C_1n_0402_X7R	VBAT filtering	SM/C_0402	Murata	GRM155R71H102KA01	1nF
21	2	C24, C26	C_1u_0402_X5R	Decoupling cap on PA supply	SM/C_0402	Murata	GRM155R61A105KE15D	1uF
22	1	C27	C_56p_0402_C0G	PA output matching	SM/C_0402	Murata	GRM1555C1H560JZ01	56pF
23	1	C28	C_2.2n_0402_X7R	PA output matching	SM/C_0402	Murata	GRM155R71H222KA01	2.2nF
24	1	C29	C_33p_0402_C0G	PA output matching	SM/C_0402	Murata	GRM1555C1H330JZ01	33pF
25	11	C31	C_18p_0402_C0G	TX LPF first cap shunt, antenna matching	SM/C_0402	Murata	GRM1555C1H180JZ01	18pF
26	1	J1	RF_IN/OUT	SMA Jack Assembly, End Launch	SMA-LAT	Emerson	142-0701-881	
27	2	J6, J7	HEADER 5X2	Male Strip 2X5, 100 mils, BOTTOM MOUNT	WALCON.100/VH/TM2O E/W.325/10/MOD			
28	1	L0	L_200n_0402	TX PA choke	SM/L_0402	Coilcraft	0402-471XJR	470nH
29	1	L1	L_27n_0402	TX LPF first series ind	SM/L_0402	Murata	LQG15HN27NJ02	27nH
30	1	L2	L_33n_0402	TX LPF second series ind	SM/L_0402	Murata	LQG15HN33NJ02	33nH
31	1	L3	L_2.7n_0402	Additional notch filter ind	SM/L_0402	Murata	LQG15HN2N7J02	2.7nH
32	1	L4	L_82n_0402	RXP Balun series ind	SM/L_0402	Murata	LQG15HN82NJ02	82nH
33	1	L5	L_68n_0402	RXN Balun shunt ind	SM/L_0402	Murata	LQG15HN68NJ02	68nH
34	1	L8	0R0	SMPS out inductor	SM/L_0402	Tyco Electronics	CRG0402ZR	0R0
35	1	L9	L_56n_0402	Additional notch filter ind	SM/L_0402	Murata	LQG15HN56NJ02	56nH
36	1	L7	L_10u_0805	SMPS out inductor	SM/L_0805	Murata	LQM21FN100M70L	10uH
37	1	L10	L_10n_0402	VBAT filtering	SM/L_0402	Murata	LQG15HN10NJ02	10nH

38	1	L11	L_27n_0402	Power amplifier input matching	SM/L_0402	Murata	LQG15HN27NJ02	27nH
39	1	L12	L_10n_0603	VBAT filtering	SM/L_0603	Coilcraft	0603CS-10NXJL	10nH
40	1	L13	L_15n_0402	VBAT filtering	SM/L_0402	Murata	LQG15HN15NJ02	15nH
41	1	L14	L_6.8n_0603	Power amplifier output matching	SM/L_0603	Coilcraft	0603CS-6N8XJL	6.8nH
42	1	L15	L_3.3n_0402	Power amplifier output matching	SM/L_0402	Murata	LQG15HN3N3S02	3.3nH
43	1	L16	L_27n_0603	Power amplifier output matching	SM/L_0603	Coilcraft	0603CS-27NXJL	27nH
44	1	L17	L_47n_0603	Antenna matching	SM/L_0603	Coilcraft	0603CS-47NXJL	47nH
45	1	L18	L_4.7n_0402	Antenna matching	SM/L_0402	Murata	LQG15HN4N7S02	4.7nH
46	3	R1, R2, R3	R_100k_0402	By pass resistor	SM/R_0402	Tyco Electronics	CRG0402F100K	100k
47	1	U1	SPIRIT1	RF IC	QFN20_REV3	STMicroelectronics		
48	1	U2	TCXO	TCXO	TCXO_49.96MHz	NDK	NT2016SB-END4860A	49.96 MHz
49	1	U3	Power Amplifier			Skyworks	SKY66100-11	
50	1	U4	EEPROM	Memory	SO8N	STMicroelectronics	M95640-RMN6	
51	1	U7	TMM	4 pins connector	TMM	Samtec	TMM-102-01-G-D-SM	