Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
TP1, TP2	2		Test Point, Miniature, Red, TH	Red Miniature Testpoint	5000	Keystone Electronics		
L4	1	4.5nH	4.5 nH Unshielded Wirewound Inductor 1.85 A 48mOhm Max 0402 (1005 Metric)	0402	0402DC-4N5XJRW	Coilcraft	0402DC-4N5XGRW	
L3	1	15nH	15 nH Unshielded Wirewound Inductor 1.2 A 115mOhm Max 0402 (1005 Metric)	0402	0402DC-15NXJRW	Coilcraft		
Y2, Y4	2		48 MHz ±10ppm Crystal 7pF 50 Ohms 4-SMD, No Lead	SMD4	ABM12W-48.0000MHZ-7-D1X-T3	Abracon		
FL2	1		978MHz Frequency 5G, Artificial Intelligence, Augmented Reality, Autonomous Vehicles, Internet of Things (IoT), Smart Home Devices RF SAW Filter (Surface Acoustic Wave) 3.5dB 5MHz Bandwidth 6-SMD, No Lead	SMD6	AFII-TC-0015	Abracon		
U2, U5	2		SimpleLink High-Performance Sub-1 GHz Wireless MCU	VQFN48	CC1312R74T0RGZ	Texas Instruments		
C18	1	2.7pF	Multi-Layer Ceramic Capacitor 2.7pF C0G ±0.25pF 0402 Paper T/R	0402	GJM1555C1H2R7CB01D	Murata		
C15	1		Multi-Layer Ceramic Capacitor 5.2pF C0G ±0.05pF 0402 Paper T/R	0402	GJM1555C1H5R2WB01D	Murata		
U4	1		RF Attenuators 15dB 0 Hz ~ 2 GHz 50 Ohms SC-74A, SOT-753	SOT25	MAADSS0008TR-3000	MACOM		
FL1	1		1.09GHz Frequency General Purpose RF SAW Filter (Surface Acoustic Wave) 2.4dB 30MHz Bandwidth 6-SMD, No Lead	SMD6	SF2321D	Akoustis- RFMi		
U1	1		Single Output Low Noise LDO, 400 mA, Fixed 3.3 V Output, 1.7 to 5.5 V Input, with Reverse Current Protection, 5-pin SOT-23 (DBV), -40 to 85 degC, Green (RoHS & no Sb/Br)	DBV0005A	TPS73633DBVT	Texas Instruments	TPS73633DBVR	Texas Instruments
U3	1		TRF3302VBL	WQFN-FCRLF6	TRF3302VBL	Texas Instruments		
J1, J3	2		U.FL (UMCC) Connector Receptacle, Male Pin 50Ohm Surface Mount Solder	CONN_2MM60_2MM60	U.FL-R-SMT-1(80)	Hirose Electric Co Ltd		
TP3, TP4, TP5, TP6, TP7, TP9, TP10	7		Test Point, Miniature, Black, TH	Black Miniature Testpoint	5001	Keystone Electronics		
FB1	1		Ferrite Bead, 0201, 120Ω @ 100MHz, 25%, 0.23Ω, 450mA	0201	BLM03AX121SN1D	Murata		
C1, C23, C42	3	1uF	CAP, CERM, 1 µF, 10 V,+/- 20%, X5R, 0402	0402	CC0402MRX5R6BB105	Yageo America		
R1, R5, R9	3		RES, 10 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402	CRCW040210K0JNED	Vishay-Dale		
R2, R8, R12	3	180	RES, 180, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402	CRCW0402180RJNED	Vishay-Dale		
R4, R11	2	0	0 Ohms Jumper Chip Resistor 0402 (1005 Metric) Automotive AEC-Q200 Thick Film	0402	ERJ-2GE0R00X	Panasonic		
R10, R13	2	100k	RES, 100 k, 1%, 0.1 W, 0402	0402	ERJ-2RKF1003X	Panasonic		
Y1, Y3	2		Crystal, 32.768 KHz, 20 ppm, 7 pF, SMD	SMD, 2-Leads, Body 3.2x1.5mm	FC-135 32.7680KA-AG0	Epson		
C32, C33	2	0.1uF	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X5R, 0402	0402	GRM155R61E104KA87D	MuRata		
C2, C3, C5, C6, C7, C10, C11, C19, C24, C29, C30, C34, C35, C43	14	0.1uF	CAP, CERM, 0.1 uF, 6.3 V, +/- 10%, X7R, 0402	0402	GRM155R70J104KA01D	MuRata		
C4, C12, C31, C36	4	22uF	CAP, CERM, 22 uF, 6.3 V, +/- 20%, X5R, 0603	0603	GRM188R60J226MEA0J	MuRata		
C14, C16, C21	3	39pF	CAP, CERM, 39 pF, 25 V, +/- 5%, C0G/NP0, 0402	0402	GRM1555C1E390JA01D	MuRata		
C13, C17, C37, C38	4	3.6pF	CAP, CERM, 3.6 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402	GRM1555C1H3R6CA01D	MuRata		
C20, C22, C41	3	100pF	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402	GRM1555C1H101JA01D	MuRata		
C27, C46	2	12pF	CAP, CERM, 12 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402	GRM1555C1H120JA01D	MuRata		
C28, C47	2	15pF	CAP, CERM, 15 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402	GRM1555C1H150JA01D	MuRata		
D1, D2, D3	3	Green	LED, Green, SMD	1.3x0.8mm	LP L296-J2L2-25	OSRAM		
L2, L6, L8, L10	4	7.5nH	Inductor, Multilayer, Air Core, 7.5 nH, 0.3 A, 0.24 ohm, SMD	0402 polarized	LQG15HS7N5J02D	MuRata		
L5, L9	2	27nH	Inductor, Multilayer, Air Core, 27 nH, 0.3 A, 0.46 ohm, SMD	0402 polarized	LQG15HS27NJ02D	MuRata		
L1, L7	2	6.8uH	Inductor, Multilayer, Ferrite, 6.8 uH, 0.11 A, 0.25 ohm, SMD	0805	MLZ2012N6R8LT000	TDK		

Notes:

Unless otherwise noted in the Alternate PartNumber and/or Alternate Manufacturer columns, all parts may be substituted with equivalents.

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