Bill of Materials – XTest1 – Electronics

of boards goal: 3

Total BOM Parts Cost: **$272.25**

Description	Mfg Part #	Package	Default Supplier	Supplier On Hand	Qty per board	Total Qty Needed	Price per part at Qty	Total Price	Notes	Part References
5V 300mA LDO Regulator	MCP1802T-5002I/OT	SOT-23-5	DigiKey	6,006	1	3	$0.65000	$1.95	V_in = 6 to 10V	U1
SPDT 300kHz-3GHz RF Switch	SKY13268-344LF	SOT-666	DigiKey	8,108	1	3	$0.53000	$1.59		U2
Active Attenuator DC-4GHz 57dBm	TQP4M9072	QFN-24	Mouser	2,229	1	3	$4.18000	$12.54		U3
AVR ATMega48PA	ATMEGA48PA-AU	TQFP-32	DigiKey	1,746	1	3	$2.13000	$6.39	Alternates: ATMega88PA/164PA/324PA	U4
20dB Attenuator 100W	H100NA20X4	Flanged	RichardsonRFPD	90	2	6	$13.33000	$79.98	Only operates over DC-2.7GHz. Alternatives?	A1, A2
47nH Inductor	MLF2012D47NM	0805	DigiKey	9,963	1	3	$0.18000	$0.54	Input Power Inductor	L1
0.2pF Capacitor	UQCFVA0R2BAT2A\500	0805	DigiKey	484	4	12	$1.02000	$12.24	Parasitics Capacitors	C14, C19, C22, C23, C39
20pF Capacitor	101X15N220MV4E	0805	DigiKey	1,049	1	3	$0.63000	$1.89	Decoupling	C29
36pF Capacitor	C0805C360J5GACTU	0805	DigiKey	6,750	2	6	$0.37000	$2.22	Crystal Capacitors	C7, C8
47pF Capacitor	08052U470FAT2A	0805	DigiKey	8,816	3	9	$0.56000	$5.04	SPI Capacitors	C34, C35, C36
100pF Capacitor	101X15N101MV4E	0805	DigiKey	6,384	7	21	$0.71000	$14.91	Decoupling and DC blocking	C10, C15, C16, C24, C25, C26, C28
330pF Capacitor	VJ0805D331KXPAJ	0805	DigiKey	3,959	4	12	$1.32000	$15.84	ACGND Capacitors	C30, C31, C32, C33
1000pF Capacitor	101X15W102MV4E	0805	DigiKey	11,385	4	12	$0.56000	$6.72	DC Blocking	C17, C18, C37, C38
0.1uF Capacitor	CC0805ZRY5V9BB104	0805	DigiKey	128,628	10	30	$0.03100	$0.93	Decoupling	C2, C3, C6, C9, C11, C12, C13, C20, C21, C27
1uF Capacitor	LLL219R70J105MA01L	0508	DigiKey	11,621	2	6	$0.36000	$2.16	Power Conditioning Capacitors	C1, C4
22uF Capacitor	JWK212BJ226MD-T	0508	DigiKey	5,982	1	3	$0.92000	$2.76	Power Conditioning Capacitors	C5
15 Ohm Resistor	RP2012S-15 0-F	0805	DigiKey	9,489	1	3	$0.44000	$1.32		R19
33 Ohm Resistor	RMCF0805JT33R0	0805	DigiKey	50,832	3	9	$0.03000	$0.27	SPI Resistors	R20, R21, and R22
301 Ohm Resistor	RNCP0805FTD301R	0805	DigiKey	2,388	9	27	$0.07000	$1.89	LED Current Limiting	R1, R11, R12, R13, R14, R15, R16, R17, R18
1k Ohm Resistor	RNCP0805FTD1K00	0805	DigiKey	68,593	5	15	$0.07000	$1.05	Pull-up and Pull-down Resistors	R6, R7, R8, R9, R10
10k Ohm Resistor	RNCP0805FTD10K0	0805	DigiKey	61,202	4	12	$0.07000	$0.84	Pull-up Resistors	R2, R3, R4, R5
20MHz Crystal	9C-20.000MEEJ-T	HC-49S	DigiKey	1,151	1	3	$0.57000	$1.71	System Clock	X1
2x3 Header	0015912060	0.100" Headers	DigiKey	3,809	1	3	$0.43000	$1.29	ISP Header	P1
LED	LG R971-KN-1-0-20-R18	0805	DigiKey	98,629	8	24	$0.09000	$2.16	Displays current path and attenuation level	D1, D2, D3, D4, D5, D6, D7, D8
LED	LS R976-NR-1	0805	DigiKey	4,582	1	3	$0.09000	$0.27	Power Light	D9
BNC Connector	361V504ER	Edge Latch	DigiKey	201	5	15	$4.67000	$70.05	RF In and Out	J1, J2, J3, J4, J5
Slide Switch	GS02MSABE	SMT	DigiKey	1,160	1	3	$6.37000	$19.11	Power On/Off	SW1
Pushbutton	MJTP1106STR	6.0mm x 3.5mm	DigiKey	4,590	3	9	$0.51000	$4.59	Path and Attenuation buttons	SW2, SW3, SW4