

Ordering information for constructing a low noise amplifier for observing the 1420 MHz signal

- An LNA can be constructed according to the circuit diagram using small, surface-mount circuit elements and a pre-fabricated printed circuit board.
- The pre-fabricated printed circuit board designed for this LNA can be purchased from Oshpark at https://oshpark.com/shared_projects/qHhrAlnI
- Most of the circuit parts can be ordered from Digikey at digikey.com, as listed in the table below.
- The amplifier chips, U1 – U5, can be obtained from Mini-Circuits. They will probably ship these free if you request “samples.”
- The items are grouped by the part type on this page.
- The items are listed by their circuit diagram label on the next page.

LNA Circuit Parts Ordering Information

Circuit Diagram Part	Description	Digikey Part #	Quantity
C1, C5, C6	27 pF	712-1334-2-ND	3
C2, C3, C7, C8, C9, C10, C11, C12, C13, C14	330 pF	478-1181-2-ND	10
C4	4700 pF	399-14206-2-ND	1
C15	6.8 pF	712-1364-2-ND	1
R1	33 k Ω	311-33.0KHRTR-ND	1
R2	27 Ω	P26.1HTR-ND	1
R3, R8	50 Ω	RR08Q49.9DTR-ND	2
R4, R13	43 Ω	311-43.0HRTR-ND	2
R5	4.7 k Ω	541-4.70KHTR-ND	1
R6	17.4 Ω	541-17.4HTR-ND	1
R7, R14	5.8 Ω	311-5.76HRTR-ND	2
R9, R10	287 Ω	541-287HTR-ND	2
R11, R12, R15, R16	870 Ω	311-866HRTR-ND	4
R14	5.8 Ω	311-5.76HRTR-ND	1
L1, L3, L4, L5, L6	100 nH	490-5664-2-ND	5
L2	10 nH	490-5648-2-ND	1
IC1	LM2940 voltage regulator	LM2937IMPX-5.0/NOPBTR-ND	1
X1A	CONN SMA JACK STR 50 OHM PCB	A97594-ND	1
X1B	CONN SMA JACK R/A 50 OHM PCB	A97593-ND	1
Other Manufacturers			
Circuit Diagram Part	Description	Manufacturer	Part No.
U1, U3	GALI 39+	Mini-Circuits	GALI 39+
U2	SAV-541	Mini-Circuits	SAV-541
U4, U5	BFCN-1445	Mini-Circuits	BFCN-1445

LNA Circuit Parts Ordering Information

Digikey Parts			
Circuit Diagram Part	Description	Digikey Part #	Modification
C1	27 pF	712-1334-2-ND	
C2	330 pF	478-1181-2-ND	
C3	330 pF	478-1181-2-ND	
C4	4700 pF	399-14206-2-ND	
C5	27 pF	712-1334-2-ND	
C6	27 pF	712-1334-2-ND	
C7	330 pF	478-1181-2-ND	
C8	330 pF	478-1181-2-ND	
C9	330 pF	478-1181-2-ND	
C10	330 pF	478-1181-2-ND	
C11	330 pF	478-1181-2-ND	
C12	330 pF	478-1181-2-ND	
C13	330 pF	478-1181-2-ND	
C14	330 pF	478-1181-2-ND	
C15	27 pF	712-1364-2-ND	Actual: 6.8 pF
R1	33 k Ω	311-33.0KHRTR-ND	
R2	27 Ω	P26.1HTR-ND	
R3	50 Ω	RR08Q49.9DTR-ND	
R4	43 Ω	311-43.0HRTR-ND	
R5	4.7 k Ω	541-4.70KHTR-ND	
R6	5.8 Ω	541-17.4HTR-ND	Actual: 17.4 Ω
R7	5.8 Ω	311-5.76HRTR-ND	
R8	50 Ω	541-4023-2-ND	
R9	870 Ω	541-287HTR-ND	Actual: 287 Ω
R10	870 Ω	541-287HTR-ND	Actual: 287 Ω
R11	870 Ω	311-866HRTR-ND	
R12	870 Ω	311-866HRTR-ND	
R13	43 Ω	311-43.0HRTR-ND	
R14	5.8 Ω	311-5.76HRTR-ND	
R15	870 Ω	311-866HRTR-ND	
R16	870 Ω	311-866HRTR-ND	
L1	100 nH	490-5664-2-ND	
L2	10 nH	490-5648-2-ND	
L3	100 nH	490-5664-2-ND	
L4	100 nH	490-5664-2-ND	
L5	100 nH	490-5664-2-ND	
L6	100 nH	490-5664-2-ND	
IC1	LM2940 voltage regulator	LM2937IMPX-5.0/NOPBTR-ND	
X1A	CONN SMA JACK STR 50 OHM PCB	A97594-ND	
X1B	CONN SMA JACK R/A 50 OHM PCB	A97593-ND	

Other Manufacturers			
Circuit Diagram Part	Description	Manufacturer	Part No.
U1	GALI 39+	Mini-Circuits	GALI 39+
U2	SAV-541	Mini-Circuits	SAV-541
U3	GALI 39+	Mini-Circuits	GALI 39+
U4	BFCN-1445	Mini-Circuits	BFCN-1445
U5	BFCN-1445	Mini-Circuits	BFCN-1445