

Bill of Materials for the NCL31010REFGEVB Evaluation Board



Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer PartNumber	Substitution Allowed	Lead Free
C1, C45	2	Ceramic Capacitor (X7R), 50V	1n	±10%	0603 (1608M)	Kemet	C0603C102K5RAC7411	Yes	Yes
C2	1	Ceramic Capacitor (X5R), 6.3V	22μ	±10%	1206 (3216M)	Kemet	C1206C226K9PACTU	No	Yes
C5	1	Ceramic Capacitor (X5R), 6.3V	47μ	±20%	1210 (3225M)	Kemet	C1210C476M9PAC	No	Yes
C6, C7, C8, C9, C32	5	Ceramic Capacitor (X7R), 100V	4.7n	±10%	0603 (1608M)	TDK	C1608X7R2A472K080AA	Yes	Yes
C10	1	Aluminum Capacitor, 80V, 2.63Arms	56μ	±20%	TH_5 10x12	Kemet	A759MS566M1KAAE045	No	Yes
C12, C15, C16, C22	4	Ceramic Capacitor (X7R), 100V	1μ	±10%	1210 (3225M)	Kemet	C1210C105K1RACTU	No	Yes
C13, C14, C20, C21, C34	5	Ceramic Capacitor (X7R), 100V	100n	±10%	0805 (2012M)	TDK	C2012X7R2A104K125AA	No	Yes
C19, C23, C38, C44, C49	5	Ceramic Capacitor (X7R), 25V	100n	±10%	0603 (1608M)	Kemet	C0603C104K3RACTU	Yes	Yes
C24, C41	2	Ceramic Capacitor (C0G/NP0), 100V	1n	±10%	0603 (1608M)	Kemet	C0603C102K1GEC7867	Yes	Yes
C25, C36, C42, C52, C54, C55	6	Ceramic Capacitor (X7R), 100V	470p	±10%	0603 (1608M)	Würth Elektronik	885012206106	Yes	Yes
C26, C37	2	Ceramic Capacitor (X5R), 25V	1μ	±10%	0603 (1608M)	Kemet	C0603C105K3PACTU	Yes	Yes
C27, C28, C29, C30	4	Ceramic Capacitor (X7R), 100V	470n	±10%	0805 (2012M)	AVX	08051C474K4Z2A	No	Yes
C33	1	Ceramic Capacitor (C0G/NP0), 100V	68p	±5%	0603 (1608M)	Würth Elektronik	885012006078	Yes	Yes
C35	1	Ceramic Capacitor (X7R), 100V	100n	±10%	0603 (1608M)	Murata	GRM188R72A104KA35D	No	Yes
C39	1	Ceramic Capacitor (X7R), 10V	2.2μ	±10%	0603 (1608M)	Kemet	C0603C225K8RACTU	No	Yes
C40, C46	2	Ceramic Capacitor (X7R), 25V	10n	±10%	0603 (1608M)	Kemet	C0603C103K3RACTU	Yes	Yes
C43	1	Ceramic Capacitor (C0G/NP0), 25V	1n	±1%	0603 (1608M)	Kemet	C0603C102F3GACTU	Yes	Yes
C50, C51	2	Ceramic Capacitor (C0G/NP0), 100V	33p	±5%	0603 (1608M)	Walsin	0603N330J101CT	Yes	Yes
D1	1	Transient Voltage Suppressor			UDFN-2 (1610M)	onsemi	NSPM0051MUT5G NSPM0061MUT5G	No	Yes
D9, D14	2	Dual Common Anode Zeners	27	±5%	SOT23-3	onsemi	MMBZ27VALT1G	No	Yes

D10, D11	2	Low Leakage Switching Diode, 250V			SOD323	onsemi	BAS21AHT1G	No	Yes
D12	1	Transient Voltage Suppressor			SMB	Littelfuse	SZ1SMB58AT3G	Yes	Yes
J1	1	8P8C Modular Jack, Vertical Entry			TH_1.27/-8	Würth Elektronik	615008138021	No	Yes
J2	1	8P8C Modular Jack, Tab Down, Shielded			TH_1.27/-8 S	Würth Elektronik	61500814221	No	Yes
J4	1	Push-in Terminal Block, 3.5mm pitch, 2p			TH_6.1\	Wago	250-202	No	Yes
J5	1	Vertical Pin Header, Single Row, 2 pins			TH_2.54	Würth Elektronik	61300211121	Yes	Yes
J6	1	Push-in Terminal Block, 2.5mm pitch, 2p			TH_5.6\	WAGO	250-402	No	Yes
						IMO	20.3301M/2-E		
J7	1	Vertical Pin Header, Dual Row, 4 pins			TH_2.54D-4	Würth Elektronik	61300421121	Yes	Yes
JP3, JP13, JP14	3	Jumper	0E		0603 (1608M)	Yageo	RC0603JR-070RL	Yes	Yes
L1	1	Power Bead	0.33μ		2220 (5651M)	Würth Elektronik	74279224101	No	Yes
L2	1	Power Bead	15n		0603 (1608M)	Würth Elektronik	7427922808	No	Yes
L3	1	Shielded Power Inductor	390μ	±20%	7.3x4.5	Würth Elektronik	744777239	No	Yes
L4	1	Shielded Power Inductor	100μ	±20%	10x5.0	Würth Elektronik	7447714101	No	Yes
L5, L9, L12, L13	4	Ferrite Bead			0805 (2012M)	Würth Elektronik	742792021	No	Yes
L6	1	Shielded Power Inductor	68μ	±20%	12x6.2	Coilcraft	MSS1260-683MLD	No	Yes
							MSS1260T-683MLD		
L7	1	Power Inductor	0.47μ	±20%	0806 (2016M)	Würth Elektronik	74479876147C	No	Yes
L8, L11	2	Power Bead			1206 (3216M)	Würth Elektronik	74279221111	No	Yes
L10	1	Common Mode Choke Coils	1.6μ		5x2.5	Murata	DLW5BTM501TQ2L	No	Yes
L14, L15	2	Ferrite Bead			0805 (2012M)	Murata	BLM21BD601SN1D	No	Yes
						Fair-Rite	2508056017Y0		
LED1, LED3	2	LED, Red			0603 (1608M)	Kingbright	KPT-1608EC	No	Yes
LED2	1	LED, Green			0603 (1608M)	Kingbright	KP-1608CGCK	No	Yes
LED4	1	LED, Yellow			0603 (1608M)	Kingbright	KPT-1608YC	No	Yes
P1	1	Vertical Pin Header, Single Row, 4 pins			TH_2.54-4	Würth Elektronik	61300411121	Yes	Yes
P5	1	Vertical Pin Header, Single Row, 6 pins			TH_2.54-6	Würth Elektronik	61300611121	Yes	Yes
Q3	1	Dual N-Channel MOSFET, 100V/350mΩ			SOT23-6	onsemi	FDC8602	No	Yes
Q4, Q5, Q8, Q9	4	NPN & PNP Transistors			SOT363-6	onsemi	BC846BPDW1T1	No	Yes
						Nexperia	BC846BPN,115		
Q6	1	N-Channel MOSFET, 80V/55mΩ			WDFN-8 (3333M)	onsemi	NVTFS6H888NTAG	No	Yes
Q7	1	N-Channel MOSFET, 80V/36.5mΩ			WDFN-6 (2020M)	onsemi	FDMA037N08LC	No	Yes
Q10	1	N Channel MOSFET, 100V/56mΩ			WDFN-8 (3333M)	onsemi	FDMC8622	No	Yes

R1, R3	2	Resistor	33K	±1%	0603 (1608M)	Yageo	RC0603FR-0733KL	Yes	Yes
R2	1	Resistor	39K	±1%	0603 (1608M)	Yageo	RC0603FR-0739KL	Yes	Yes
R4, R39, R40, R41, R42	5	Resistor	75E	±1%	0603 (1608M)	Yageo	RC0603FR-0775RL	Yes	Yes
R6	1	Resistor	1K82	±1%	0603 (1608M)	Yageo	RC0603FR-071K82L	Yes	Yes
R12	1	Resistor	1K18	±1%	0603 (1608M)	Yageo	RC0603FR-071K18L	Yes	Yes
R13, R14	2	Resistor	2.2E	±1%	0603 (1608M)	Yageo	RC0603FR-072R2L	Yes	Yes
R25, R58, R64, R70	4	Resistor	10E	±1%	0603 (1608M)	Yageo	RC0603FR-0710RL	Yes	Yes
R35	1	Resistor	1K	±1%	0603 (1608M)	Yageo	RC0603FR-071KL	Yes	Yes
R43	1	Resistor, 200mW	750m	±1%	0603 (1608M)	Vishay	RCWE0603R750FKEA	No	Yes
R44	1	Resistor, 333mW	200m	±1%	0805 (2012M)	Susumu	RL1220S-R20-F	No	Yes
R47, R71	2	Resistor	162K	±1%	0603 (1608M)	Yageo	RC0603FR-07162KL	Yes	Yes
R54	1	Resistor, 125mW	56E	±1%	0805 (2012M)	Panasonic	ERJ6ENF56R0V	No	Yes
R55, R66	2	Resistor	100E	±1%	0603 (1608M)	Yageo	RC0603FR-07100RL	Yes	Yes
R56	1	Resistor	26K1	±1%	0603 (1608M)	Yageo	RC0603FR-0726K1L	Yes	Yes
R57	1	Resistor, 250mW	232E	±1%	1206 (3216M)	Panasonic	ERJ8ENF2320V	No	Yes
R59	1	Resistor, 125mW	909E	±1%	0805 (2012M)	Panasonic	ERJ6ENF9090V	Yes	Yes
R60	1	Resistor	0E		0402 (1005M)	Yageo	RC0402JR-070RL	Yes	Yes
R61	1	Resistor, 2W	220m	±1%	2512 (6332M)	Vishay	RCWE2512R220FKEA	No	Yes
R62	1	Resistor, 250mW	1E	±1%	1206 (3216M)	Vishay	CRCW12061R00FKEA	Yes	Yes
R63	1	Resistor, 1W	3K09	±1%	2512 (6432M)	Panasonic	ERJ1TNF3091U	No	Yes
R65, R68	2	Resistor, 250mW	4K87	±1%	1206 (3216M)	Panasonic	ERJ8ENF4871V	Yes	Yes
R67	1	Resistor	10K	±1%	0603 (1608M)	Yageo	RC0603FR-0710KL	Yes	Yes
R69	1	Resistor	160E	±1%	0603 (1608M)	Yageo	RC0603FR-07160RL	Yes	Yes
R72	1	Resistor, 3W	100m	±1%	2512 (6432M)	Bourns	CRA2512-FZ-R100ELF	No	Yes
R78	1	Resistor	360E	±1%	0603 (1608M)	Yageo	RC0603FR-07360RL	Yes	Yes
T1	1	PoE 1000Base-T Transformer				Würth Elektronik	7490220123	No	Yes
						Coilcraft	WA8704-AL		
U2	1	Complete PoE Connected LED Driver Power Solution			QFN-48 (7070M)	onsemi	NCL31010MNITWG	No	Yes
U3, U4	2	GreenBridge2 Bridge Rectifiers			WDFN-12 (4550M)	onsemi	FDMQ8205A	No	Yes
							FDMQ8205		