



Bill of Materials for the STR-NIS5020-GEVB Evaluation Board

Designator	Quantity	Description	Value	Voltage	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
C1 C2 C3 C6 C7 C8 C9 C10 C13 C14 C39	11	CAP CER 10UF 25V X5R 0603	10uF	25V	Murata	GRM188R61E106MA73	Yes	Yes
C4 C11	2	CAP CER 1UF 25V X7R 0603	1uF	25V	Murata	GCM188R71E105KA64	Yes	Yes
C5 C12	2	Monolithic Ceramic SMD Capacitor	10nF	50V	Murata	GRM155R71H103KA88	Yes	Yes
C15	1	Generic Multiple Pitch THT Capacitor	DNP	?V			Yes	Yes
C16 C28	2	Generic 0402-0805 SMD Capacitor	DNI	?V			Yes	Yes
C17 C20 C21 C30	4	CAP CER 1UF 10V X7S 0402	1uF	10V	Murata	GCM155C71A105KE38	Yes	Yes
C18 C24	2	Generic 0603 SMD Capacitor	10nF	100V	Murata	GCM188R72A103KA37	Yes	Yes
C19 C22	2	Generic 0402-0603 SMD Capacitor	1nF	50V	Murata	GCM155R71H102KA37	Yes	Yes
C23 C26	2	CAP CER 4.7UF 35V X7S 0805	4.7uF	35V	Murata	GCM21BC7YA475KE36	Yes	Yes
C25	1	Generic Multiple Pitch THT Capacitor	220uF	25V	Würth Electronics Inc.	870025575007	Yes	Yes
C27 C34	2	Generic 0402 SMD Capacitor	DNI	16V			Yes	Yes
C29 C31 C33 C37 C43 C48 C50 C51 C52	9	CAP CER 1UF 16V X5R 0402	1uF	16V	Murata	GRM155R61C105KA12	Yes	Yes
C32 C36 C40 C41 C42 C49	6	Generic 0402 SMD Capacitor	4.7uF	6.3V	Murata	GRM155R60J475ME47	Yes	Yes
C35 C38	2	CAP CER 0.1UF 50V X7R 0402	0.1uF	50V	Murata	GCM155R71H104ME02	Yes	Yes
C44 C47	2	Generic 0402 SMD Capacitor	12.5pF	25V	Murata	GRM1555C1E120JA01	Yes	Yes
C45 C46	2	CAP CER 7.5PF 50V C0G/NP0 0402	7.5pF	50V	Murata	GJM1555C1H7R5CB01D	Yes	Yes
D1 D4 D5 D9	4	Red LED	150060RS75000	5V	Würth Elektronik	150060RS75000	Yes	Yes
D2 D3 D8	3	Green LED	150060GS75000	5V	Würth Elektronik	150060GS75000	Yes	Yes
D6	1	Yellow LED	150060YS75000	5V	Würth Elektronik	150060YS75000	Yes	Yes
D7	1	Blue LED	150060BS75000	5V	Würth Elektronik	150060BS75000	Yes	Yes
D10	1	Auto ESD Protection Diodes	SESD7L	5.5V	ON Semiconductor	SESD7L5.0	No	Yes
D11 D12	2	Schottky Barrier Diode, 2.0 A, 20 V	NSR20F20NX	20V	ON Semiconductor	NSR20F20NX	No	Yes
FB1	1	Ferrite bead/Impedance type filter	220@100M		Murata	BLM21AG221SN1	Yes	Yes
J1 J5 J15 J16	4	PLASTIC HEXAGON NUT M3	709940300		Würth	709940300	Yes	Yes
J2 J3 J4	3	Rectangle power pad 200x300 mils	DNI				Yes	Yes
J6 J7 J10 J11 J12	5	Standard 1x2pin 100mil Pitch Header	613 002 111 21		Würth Elektronik	613 002 111 21	Yes	Yes
J8 J9 J13 J14	4	PC TEST POINT COMPACT	5016		Keystone	5016	Yes	Yes
J17 J18 J24 J26	4	PLASTIC SPACER STUD METRIC THREAD M3 15MM F-M	971150365		Würth	971150365	Yes	Yes
J19 J20	2	Red Insulated 4mm socket for banana plugs	571-0500		Deltron	571-0500	Yes	Yes
J21 J23	2	Black Insulated 4mm socket for banana plugs	571-0100		Deltron	571-0100	Yes	Yes
J22	1	Standard Arm Cortex Debug Connector	FTSH-105-01-F-DV-K		Samtec	FTSH-105-01-F-DV-K	Yes	Yes
J25	1	Mini USB1/2 Type-B Connector	65100516121		Würth Elektronik	65100516121	Yes	Yes
JP1 JP2	2	Surface Mount High Current Jumper Chip Resistor	DNI		Stackpole Electronics	HCJ0603ZT0R00	Yes	Yes
JP3	1	Surface Mount High Current Jumper Chip Resistor	DNI		Stackpole Electronics	HCJ0402ZT0R00	Yes	Yes
Q1 Q2 Q3 Q5 Q10 Q12 Q13 Q16	8	Small Signal MOSFET 60V 115mA 7.5 Ohm Single N-Channel SOT-23	2N7002L	60V	ON Semiconductor	2N7002L	No	Yes
Q4 Q6 Q11 Q14 Q15 Q17	6	MOSFET P-CH 60V 1.8A CPH3	CPH3351	60V	ON Semiconductor	CPH3351-TL-W	No	Yes
Q7 Q8 Q9	3	Automotive Small Signal MOSFET 60V 340mA 2.5 Ohm Single N-Channel SOT- 323	2V7002W	60V	ON Semiconductor	2V7002W	No	Yes
Q18	1	N-Channel, 30V, 22A, 5mOhm	FDMS0312AS	30V	ON Semiconductor	FDMS0312AS	No	Yes
Q19 Q20 Q21	3	Small Signal MOSFET 60V 340mA 2.5 Ohm Single N-Channel SOT-323	2N7002W	60V	ON Semiconductor	2N7002W	No	Yes
R1 R2	2	RES SMD 24.9 OHM 1% 1/16W 0402	24.9		Vishay Dale	CRCW040224R9FKED	Yes	Yes
R3 R17	2	Generic 2512 SMD Resistor	3mOhm		Stackpole Electronics Inc.	CSNL2512FT3L00	Yes	Yes
R4 R5 R8 R11 R13 R15 R19 R20 R29 R33 R34 R35 R36 R39 R41 R42 R43 R44 R45 R47 R53 R54 R59 R71	24	RES SMD 10K OHM 1% 1/16W 0402	10K		Vishay	CRCW040210K0FK	Yes	Yes
R6 R37	2	RES SMD 121 OHM 1% 1/16W 0402	121		Vishay	CRCW0402121RFK	Yes	Yes
R7 R38	2	RES SMD 60.4 OHM 1% 1/16W 0402	60.4		Vishay	CRCW040260R4FK	Yes	Yes
R9 R10 R22 R23	4	RES SMD 4.75 OHM 1% 1/10W 0603	4.75		Vishay	CRCW06034R75FK	Yes	Yes

R12 R21	2	RES SMD 21.5K OHM 1% 1/16W 0402	21.5K		Vishay	CRCW040221K5FK	Yes	Yes
R14 R24 R26 R28 R49 R50	6	RES SMD 1K OHM 1% 1/16W 0402	1K		Vishay	CRCW04021K00FK	Yes	Yes
R16 R25 R63	3	RES SMD 8.87K OHM 1% 1/16W 0402	8.87K		Vishay	CRCW04028K87FK	Yes	Yes
R18 R32 R51	3	RES SMD 5.11K OHM 1% 1/10W 0603	5.11K		Vishay	CRCW06035K11FK	Yes	Yes
R27 R48	2	RES SMD 1.47K OHM 1% 1/16W 0402	1.47K		Vishay	CRCW04021K47FK	Yes	Yes
R30 R40	2	RES SMD 1M OHM 1% 1/16W 0402	1M		Vishay	CRCW04021M00FK	Yes	Yes
R31	1	Generic 2512 SMD Resistor	100mOhm		Bourns Inc.	CRA2512-FZ-R100ELF	Yes	Yes
R46 R52	2	RES SMD 2K OHM 1% 1/16W 0402	2K		Vishay	CRCW04022K00FK	Yes	Yes
R55	1	RES SMD 34K OHM 1% 1/16W 0402	34K		Vishay	CRCW040234K0FK	Yes	Yes
R56	1	RES SMD 1.07K OHM 1% 1/16W 0402	1.07K		Vishay	CRCW04021K07FK	Yes	Yes
R57	1	RES SMD 100 OHM 1% 1/10W 0603	100		Vishay	CRCW0603100RFFK	Yes	Yes
R58	1	RES SMD 665 OHM 1% 1/16W 0402	665		Vishay	CRCW0402665RFFK	Yes	Yes
R60	1	RES SMD 9.76K OHM 1% 1/16W 0402	9.76K		Vishay	CRCW04029K76FK	Yes	Yes
R61 R62	2	Generic 0603 SMD Resistor	DNP				Yes	Yes
R64 R69	2	RES SMD 100 OHM 1% 1/16W 0402	100		Vishay	CRCW0402100RFFK	Yes	Yes
R65	1	RES SMD 5.11K OHM 1% 1/16W 0402	5.11K		Vishay	CRCW04025K11FK	Yes	Yes
R66	1	RES SMD 2.32K OHM 1% 1/16W 0402	2.32K		Vishay	CRCW04022K32FK	Yes	Yes
R67 R68	2	RES SMD 10K OHM 1% 1/10W 0603	10K		Vishay	CRCW060310K0FK	Yes	Yes
R70 R72	2	RES SMD 1K OHM 1% 1/10W 0603	1K		Vishay	CRCW06031K00FK	Yes	Yes
SW1	1	SWITCH TACTILE SPST-NO 0.05A 12V	434153017835	12V	Wurth Elektronik	434153017835	Yes	Yes
TP1 TP2 TP3 TP4 TP5 TP6	6	Passive Probe Tip Old	DNI				Yes	Yes
TP7 TP8 TP13 TP15 TP16 TP17 TP18	7	Passive Probe Tip Tektronix P5050 (Tan) Tip	DNI				Yes	Yes
TP9 TP10 TP11 TP12 TP14	5	Surface Mount 1mm Circle Test Point	DNI				Yes	Yes
U1 U3	2	12V E-Fuse, 14mOhm, 6.6A	NIS5020		ON Semiconductor	NIS5020MT1TXG	No	Yes
U2 U4	2	Digital Temperature Sensor with 2-wire Interface	NCT375		ON Semiconductor	NCT375MNR2G	No	Yes
U5 U7	2	Low Quiescent Current, Programmable Delay Time, Supervisory Circuit	NCP308MTADJTBG		ON Semiconductor	NCP308MTADJTBG	No	Yes
U6 U8	2	Current-Shunt Monitor, Voltage Output, Bi-Directional Zero-Drift, Gain = 50V/V	NCS213R		ON Semiconductor	NCS213RSQT2G	No	Yes
U10	1	Single Channel 10A High Speed Low- side Fet Driver	NCP81074A		ON Semiconductor	NCP81074ADR2G	No	Yes
U11	1	0.9V Supply, Rail to Rail I/O, Single Op- Amp	NCS2001SQ2		ON Semiconductor	NCS2001SQ2	No	Yes
U12	1	EFM32 Giant Gecko 32-bit Microcontroller	EFM32GG380F1024		Silicon Labs	EFM32GG380F1024-QFP100		Yes
U13	1	USB to BASIC UART IC	FT230X		FTDI	FT230XQ-R		Yes
U14	1	3.3V Voltage Regulator, LDO, Ultra Low Noise, Ultra Low Iq, 500 mA	NCP705		ON Semiconductor	NCP705MT33TCG	No	Yes
U9	1	Operational Amplifier, Low Voltage, Dual	LM393		ON Semiconductor	LM393D	No	Yes
Y1	1	Crystals 32.768 kHz 12.5 pF +/-20 PPM -40/+85C	32.768 kHz		Micro Crystal	MS3V-T1R-32.768kHz-12.5pF-20PPM-TA-QC-Au	Yes	Yes
Y2	1	CRYSTAL 48.0000MHZ 8PF SMD	48MHz		NDK	NX5032GA-48.00000MHZ-LN-CD-1	Yes	Yes