



Bill of Materials for the STR-NCV8164A-TSOP5-GEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
C1 C4 C19 C29 C31 C36 C41 C44 C45 C48 C49 C52 C54 C57	14	CAP CER 1UF 10V X7S 0402	1uF		0402	Murata	GCM155C71A105KE38	Yes	Yes
C2 C6 C13 C14 C23 C27	6	CAP CER 2.2UF 50V X5R 0603	2.2uF		0603	Murata	GRT188R61H225KE13	Yes	Yes
C3 C5 C11 C12 C22 C24	0	DNI	DNI		DNI			Yes	Yes
C7 C30 C35	3	CAP CER 1000PF 50V X7R 0402	1nF		0402	Murata	GCM155R71H102KA37D	Yes	Yes
C8 C9 C15 C17	4	CAP CER 10UF 25V X5R 0603	10uF		0603	Murata	GRT188R61E106ME13	Yes	Yes
C10 C16 C18 C20 C21 C25 C26 C28	8	CAP CER 1UF 25V X7R 0603	1uF		0603	Murata	GCM188R71E105KA64	Yes	Yes
C32 C60	2	CAP CER 1uF 25V X6S 0402	1uF		0402	Murata	GRM155C81E105KE11	Yes	Yes
C33 C34 C40 C64 C75	5	CAP CER 0.1UF 50V X7R 0402	0.1uF		0402	Murata	GCM155R71H104ME02	Yes	Yes
C37 C38 C39 C42 C43	5	CAP CER 10000PF 50V X7R 0402	10nF		0402	Murata	GRM155R71H103KA88	Yes	Yes
C46 C47 C51 C53	4	CAP CER 10000PF 16V X7R 0402	10nF		0402	Murata	GRM155R71C103KA01D	Yes	Yes
C50	1	CAP CER 220PF 50V C0G/NP0 0402	220pF		0402	Murata	GCM1555C1H221JA16	Yes	Yes
C55 C56	2	CAP CER 10000PF 100V X7R 0603	10nF		0603	Murata	GCM188R72A103KA37D	Yes	Yes
C58 C62 C67 C70 C71 C77	6	CAP CER 4.7UF 6.3V X5R 0402	4.7uF		0402	Murata	GRM155R60J475ME47D	Yes	Yes
C59 C61 C65 C66	4	CAP CER 10UF 25V X5R 0603	10uF		0603	Murata	GRM188R61E106MA73	Yes	Yes
C63 C72 C76 C78	4	CAP CER 1UF 16V X5R 0402	1uF		0402	Murata	GRM155R61C105KA12	Yes	Yes
C68 C69	2	CAP CER 12PF 50V C0G/NP0 0402	12pF		0402	Murata	GJM1555C1H120JB01D	Yes	Yes
C73 C74	2	CAP CER 7.5PF 50V C0G/NP0 0402	7.5pF		0402	Murata	GJM1555C1H7R5CB01D	Yes	Yes
D1 D5	2	Green LED	150060GS75000		0603	Würth Elektronik	150060GS75000	Yes	Yes
D2 D4	2	Blue LED	150060BS75000		0603	Würth Elektronik	150060BS75000	Yes	Yes
D3	1	Yellow LED	150060YS75000		0603	Würth Elektronik	150060YS75000	Yes	Yes
D6	1	Red LED	150060RS75000		0603	Würth Elektronik	150060RS75000	Yes	Yes
D7	1	ESD Protection Diodes	ESD7L		SOT-723	ON Semiconductor	ESD7L5.0	No	Yes
D8 D9	2	Schottky Barrier Diode, 2.0 A, 20 V	NSR20F20NX		DSN2 0603	ON Semiconductor	NSR20F20NX	No	Yes
FB1	1	Ferrite bead 220 Ohm 0805 1LN	220@100M		0805	Würth Elektronik	782853221	Yes	Yes
J1 J2 J3	3	Rectangle power pad 200x300 mils	DNI		200x300mil			Yes	Yes
J4	1	Standard 1x3pin 100mil Pitch Header (I2C Specific)	613 003 111 21		1x3pin 100mil	Würth Elektronik	613 003 111 21	Yes	Yes
J5 J6 J17 J18	4	PLASTIC HEXAGON NUT M3	709940300		M3 Nut	Würth	709940300	Yes	Yes
J7 J8 J9 J10 J11 J12 J13 J14 J15 J16	10	Standard 1x2pin 100mil Pitch Header	613 002 111 21		1x2pin 100mil	Würth Elektronik	613 002 111 21	Yes	Yes
J19 J20 J27 J28	4	PLASTIC SPACER STUD METRIC THREAD M3 15MM F-M	971150365		M3 15MM Standoff	Würth	971150365	Yes	Yes
J21 J22	2	Red Insulated 4mm socket for banana plugs	571-0500		Red Banana Rec	Deltron	571-0500	Yes	Yes
J23 J24	2	Black Insulated 4mm socket for banana plugs	571-0100		Black Banana Rec	Deltron	571-0100	Yes	Yes
J25	1	Standard Arm Cortex Debug Connector	FTSH-105-01-F-DV-K		2x5pin 50mil Cortex Debug	Samtec	FTSH-105-01-F-DV-K	Yes	Yes
J26	1	Mini USB1/2 Type-B Connector	65100516121		Mini USB1/2 B	Würth Elektronik	65100516121	Yes	Yes
JP1 JP2 JP3 JP4 JP5 JP6	0	DNI	DNI		DNI	DNI	DNI	Yes	Yes
JP7	1	Surface Mount High Current Jumper Chip Resistor	6.5A		0402	Stackpole Electronics	HCJ0402ZT0R00	Yes	Yes
L1	1	1uH Shielded Multilayer Inductor 2.3A 63mOhm	1.0uH		2.5mmx2mm	Murata	LQM2HPN1R0MJHL	Yes	Yes
Q1 Q2 Q7 Q8 Q9	5	Small Signal MOSFET 60V 340mA 2.5 Ohm Single N-Channel SOT-323	2N7002W		SOT-323	ON Semiconductor	2N7002W	No	Yes
Q3 Q4	2	P-Channel Digital FET -25V, -0.46A, 1.1Ohm	FDV304P		SOT-23-3	ON Semiconductor	FDV304P	No	Yes
Q5 Q6	2	Single N-Channel, 60V, 27.5mOhm, 21A	NVMFS5C680NL		SO8-FL DFN-5	ON Semiconductor	NVMFS5C680NLT1G	No	Yes

Q10	1	Single N-Channel, PowerTrench SyncFET 30V, 22A, 5.0mOhm	FDMS0312AS		SO8-FL DFN-5	ON Semiconductor	FDMS0312AS	No	Yes
R1 R15 R16 R17 R18 R19 R21 R22 R23 R33 R38 R39 R40 R49 R52 R60 R64 R65 R70 R75 R79 R80 R85 R89	24	RES SMD 10K OHM 1% 1/16W 0402	10K		0402	Vishay Dale	CRCW040210K0FKED	Yes	Yes
R2	1	RES SMD 17.8K OHM 1% 1/16W 0402	17.8K		0402	Vishay Dale	CRCW040217K8FKED	Yes	Yes
R3	1	RES SMD 14K OHM 1% 1/16W 0402	14K		0402	Vishay Dale	CRCW040214K0FKED	Yes	Yes
R4 R6 R9	3	RES SMD 11K OHM 1% 1/10W 0603	11K		0603	Vishay Dale	CRCW060311K0FKEA	Yes	Yes
R5 R7 R10	3	RES SMD 22.1K OHM 1% 1/10W 0603	22.1K		0603	Vishay Dale	CRCW060322K1FKEA	Yes	Yes
R8 R11	2	RES SMD 47m OHM 1% 1W 1206	47m		1206	Panasonic	ERJ-8CWF047	Yes	Yes
R12	1	RES SMD 1.37K OHM 1% 1/10W 0402	1.37K		0402	Panasonic	ERJ-2RKF1371	Yes	Yes
R13 R14	2	RES SMD 220 OHM 5% 0.4W 0805	220		0805	Rohm Semiconductor	ESR10EZPJ221	Yes	Yes
R20 R26 R28 R62	4	RES SMD 100K OHM 1% 1/16W 0402	100K		0402	Vishay Dale	CRCW0402100KFKED	Yes	Yes
R24	1	RES SMD 2.32K OHM 1% 1/16W 0402	2.32K		0402	Vishay Dale	CRCW04022K32FKED	Yes	Yes
R25	1	RES SMD 100 OHM 1% 1/10W 0603	100		0603	Vishay Dale	CRCW0603100RFKEA	Yes	Yes
R27 R32 R81 R84	4	RES SMD 100 OHM 1% 1/16W 0402	100		0402	Vishay Dale	CRCW0402100RFKEA	Yes	Yes
R29 R43	2	RES SMD 1K OHM 1% 1/16W 0402	1K		0402	Vishay Dale	CRCW04021K00FKED	Yes	Yes
R30	1	RES SMD 56.2K OHM 0.1% 1/16W 0402	56.2K		0402	Panasonic	ERA-2AEB5622X	Yes	Yes
R31 R35	2	RES SMD 33.2K OHM 1% 1/16W 0402	33.2K		0402	Vishay Dale	CRCW040233K2FKED	Yes	Yes
R34 R61 R63 R72	4	RES SMD 16.5K OHM 1% 1/16W 0402	16.5K		0402	Vishay Dale	CRCW040216K5FKED	Yes	Yes
R36	1	RES SMD 23.7K OHM 0.1% 1/16W 0402	23.7K		0402	Panasonic	ERA-2AEB2372X	Yes	Yes
R37 R41	2	RES SMD 4.75K OHM 1% 1/16W 0402	4.75K		0402	Vishay Dale	CRCW04024K75FKED	Yes	Yes
R42 R55	2	RES SMD 8.25K OHM 0.1% 1/16W 0402	8.25K		0402	Panasonic	ERA-2AEB8251X	Yes	Yes
R44	1	RES SMD 220m OHM 1% 2W 2512	220m		2512	Bourns Inc.	CRM2512-FX-R220ELF	Yes	Yes
R45	1	RES SMD 11K OHM 0.1% 1/16W 0402	11K		0402	Panasonic	ERA-2AEB113X	Yes	Yes
R46 R47 R48 R50 R54	5	RES SMD 10K OHM 0.1% 1/16W 0402	10K		0402	Panasonic	ERA-2AEB103X	Yes	Yes
R51 R53	2	RES SMD 1K OHM 1% 1/10W 0603	1K		0603	Vishay Dale	CRCW06031K00FKEA	Yes	Yes
R56	1	RES SMD 10.2K OHM 0.1% 1/16W 0402	10.2K		0402	Panasonic	ERA-2AEB1022X	Yes	Yes
R57	1	RES SMD 7.5K OHM 0.1% 1/16W 0402	7.5K		0402	Panasonic	ERA-2AEB752X	Yes	Yes
R58	1	RES SMD 8.87K OHM 1% 1/16W 0402	8.87K		0402	Vishay Dale	CRCW04028K87FKED	Yes	Yes
R59	1	RES SMD 3.32K OHM 1% 1/16W 0402	3.32K		0402	Vishay Dale	CRCW04023K32FKED	Yes	Yes
R66	0	DNI	DNI		DNI	DNI	DNI	Yes	Yes
R67	1	RES SMD 16K OHM 1% 1/16W 0402	16K		0402	Vishay Dale	CRCW040216K0FKED	Yes	Yes
R68	1	RES SMD 0 OHM JUMPER 1/16W 0402	0		0402	Vishay Dale	CRCW04020000Z0ED	Yes	Yes
R69	1	RES SMD 3.09K OHM 1% 1/16W 0402	3.09K		0402	Vishay Dale	CRCW04023K09FKED	Yes	Yes
R71	1	RES SMD 21.5K OHM 1% 1/16W 0402	21.5K		0402	Vishay Dale	CRCW040221K5FKED	Yes	Yes
R73 R74 R76 R77	4	RES SMD 4.75 OHM 1% 1/10W 0603	4.75		0603	Vishay Dale	CRCW06034R75FKEA	Yes	Yes
R78	1	RES SMD 681 OHM 1% 1/16W 0402	681		0402	Vishay Dale	CRCW0402681RFKEA	Yes	Yes
R82	1	RES SMD 9.31K OHM 1% 1/16W 0402	9.31K		0402	Vishay Dale	CRCW04029K31FKED	Yes	Yes
R83	1	RES SMD 4.99K OHM 1% 1/16W 0402	4.99K		0402	Vishay Dale	CRCW04024K99FKED	Yes	Yes
R86	1	RES SMD 0 OHM JUMPER 1/10W 0603	0		0603	Vishay Dale	CRCW06030000Z0EA	Yes	Yes
R87 R88	2	RES SMD 3 OHM 1% 1W 2512	3		2512	Panasonic	ERJ-1TRQF3R0	Yes	Yes
SW1	1	SWITCH TACTILE SPST-NO 0.05A 12V	434153017835		MOM1 SMD	Würth Elektronik	434153017835	Yes	Yes
TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP12 TP13 TP14 TP16 TP19 TP20 TP21 TP22 TP23 TP24 TP25 TP26 TP27 TP28 TP29 TP30 TP31 TP32 TP33 TP34 TP35 TP38 TP39 TP40 TP41 TP42 TP43 TP44	37	Passive Probe Tip Tektronix P5050B (Black) Tip	DNI		0.9mm			Yes	Yes

TP10 TP11 TP17 TP18	4	PC TEST POINT COMPACT	5016		Test Loop	Keystone	5016	Yes	Yes
TP15	1	63mil Hole 100mil Pad	DNI		63mil			Yes	Yes
TP36 TP37 TP46 TP50 TP51	5	Passive Probe Tip Tektronix P5050 (Tan) Tip	DNI		0.75mm			Yes	Yes
TP45 TP47 TP48 TP49 TP52	5	Surface Mount 1mm Circle Test Point	DNI		1mm Circle			Yes	Yes
U1 U5 U12 U14	4	Digital Temperature Sensor with 2-wire Interface	NCT375		DFN8 2x2mm	ON Semiconductor	NCT375MNR2G	No	Yes
U13	1	Operational Amplifier, 3 MHz, Low Power, Rail to Rail, Dual Micro8	NCS20062		Micro8	ON Semiconductor	NCS20062DMR2G	No	Yes
U2	1	Low Quiescent Current, Programmable Delay Time, Supervisory Circuit	NCP308MTADJ		WDFN6 2x2mm	ON Semiconductor	NCP308MTADJTBG	No	Yes
U3	1	300mA, Ultra-Low Noise and High PSRR Adjustable LDO Automotive A Version 5V5IN	NCV8164A-ADJ		TSOP-5	ON Semiconductor	NCV8164ASNADJT1G	No	Yes
U4	0	DNI	DNI		DNI	DNI	DNI	Yes	Yes
U6 U8 U10	3	IntelliMAX 3 A-Capable, Slew-Rate-Controlled Load Switch with True Reverse Current Blocking	FPF1048		WLCSP6	ON Semiconductor	FPF1048BUCX	No	Yes
U7	1	Synchronous Buck Converter, 3 MHz, 2 A	NCV6324C		WDFN8	ON Semiconductor	NCV6324CMTAATBG	No	Yes
U9	0	DNI	DNI		DNI	DNI	DNI	Yes	Yes
U11	1	Full-Function Load Switch with Adjustable Current Limit	FPF2193		WLCSP	ON Semiconductor	FPF2193	No	Yes
U15 U16 U18	3	0.9V Supply, Rail to Rail I/O, Single Op-Amp with Enable	NCS2002		TSSOP-6	ON Semiconductor	NCS2002SN1T1G	No	Yes
U17	1	Operational Amplifier, 50 uV Offset, 0.25 uV/C, Zero-Drift Precision, Low Power	NCS325		SOT23-5	ON Semiconductor	NCS325SN2T1G	No	Yes
U19 U20	2	Current-Shunt Monitor, Voltage Output, Bi-Directional Zero-Drift, Gain = 100V/V	NCS214R		SC-70-6	ON Semiconductor	NCS214RSQT2G	No	Yes
U21	1	100mA 5Vout Charge Pump Regulated 1Mhz DC/DC Converter	FAN5602		MLP-8 3x3	ON Semiconductor	FAN5602MP5X	No	Yes
U22	1	EFM32 Giant Gecko 32-bit Microcontroller	EFM32GG380F1024		QFP100 14x14	Silicon Labs	EFM32GG380F1024G-E-QFP100R	Yes	Yes
U23	1	Single Channel 10A High Speed Low-side Fet Driver	NCP81074A		SOIC-8	ON Semiconductor	NCP81074ADR2G	No	Yes
U24	1	USB to BASIC UART IC	FT230X		QFN16 4x4	FTDI	FT230XQ-R	Yes	Yes
U25	1	3.3V Voltage Regulator, LDO, Ultra Low Noise, Ultra Low Iq, 500 mA	NCP705		WDFN6	ON Semiconductor	NCP705MT33TCG	No	Yes
Y1	1	Crystals 32.768 kHz 12.5 pF +/-20 PPM -40/+85C	32.768 kHz		2 pin w/ shell	Micro Crystal	MS3V-T1R-32.768kHz-12.5pF-20PPM-TA-QC-Au	Yes	Yes
Y2	1	CRYSTAL 48.0000MHZ 8PF SMD	48MHZ		5x3.2mm	NDK	NX5032GA-48.000000MHZ-LN-CD-1	Yes	Yes