

Bill of Materials for the STR-NCP3232N-EVK Evaluation Board



| Item Number | Quantity | Part Reference | MFR | MFRPN | Package | Value | Voltage | Description |
|-------------|----------|--------------------------------|-----------------------|--------------------|---------------------------|--------------------|---------|---|
| 1 | 8 | C1 C12 C15 C16 C18 C22 C35 C39 | Murata | GRM188R60J476ME15 | 0603 | DNP | 6.3V | CAP CER 47UF 6.3V X5R 0603 |
| 2 | 12 | C2 C3 C4 C5 C6 C27 C28 C29 C30 | Murata | GRM188R | 0603 | 10uF | 35V | CAP CER 10UF 35V X5R 0603 |
| 3 | 10 | C7 C8 C9 C10 C11 C13 C14 C36 | Murata | GRM188R | 0603 | 47uF | 6.3V | CAP CER 47UF 6.3V X5R 0603 |
| 4 | 1 | C17 | Würth Elektronik | 88501220 | 0402 | 2.2nF | 50V | Generic 0402 SMD Capacitor |
| 5 | 2 | C19 C50 | TDK | CGA2B2X | 0402 | 22nF | 6.3V | Generic 0402 SMD Capacitor |
| 6 | 1 | C20 | Würth Elektronik | 88501220 | 0402 | 680pF | 50V | Generic 0402 SMD Capacitor |
| 7 | 1 | C21 | Würth Elektronik | 88501200 | 0402 | 10pF | 50V | Generic 0402 SMD Capacitor |
| 8 | 6 | C23 C26 C59 C62 C64 C66 | Murata | GRM155R | 0402 | 1uF | 16V | CAP CER 1UF 16V X5R 0402 |
| 9 | 2 | C24 C65 | Murata | GRM188R | 0603 | 10uF | 25V | CAP CER 10UF 25V X5R 0603 |
| 10 | 3 | C25 C63 C67 | Murata | GCM155R | 0402 | 0.1uF | 50V | CAP CER 0.1UF 50V X7R 0402 |
| 11 | 1 | C34 | DNP | DNP | Radial 3.5-5mm | DNP | 35V | Generic Multiple Pitch THT Capacitor |
| 12 | 1 | C40 | DNP | DNP | 0603 | DNP | 50V | Generic 0603 SMD Capacitor |
| 13 | 5 | C41 C43 C45 C48 C49 | Murata | GCM155C71A105KE38 | 0402 | 1uF | 10V | CAP CER 1UF 10V X7S 0402 |
| 14 | 2 | C42 C47 | Murata | GRM155R | 0402 | 10nF | 50V | Monolithic Ceramic SMD Capacitor |
| 15 | 1 | C44 | DNP | DNP | Radial 2.5- | DNP | 6.3V | Generic Multiple Pitch THT Capacitor |
| 16 | 1 | C46 | Taiyo Yuden | TMK105B | 0402 | 0.22uF | 25V | Generic 0402 SMD Capacitor |
| 17 | 6 | C51 C54 C56 C58 C60 C61 | Murata | GRM155R60J475ME47 | 0402 | 4.7uF | 6.3V | Generic 0402 SMD Capacitor |
| 18 | 2 | C52 C53 | Murata | GRM1555 | 0402 | 12.5pF | 25V | Generic 0402 SMD Capacitor |
| 19 | 2 | C55 C57 | Murata | GJM1555 | 0402 | 7.5pF | 50V | CAP CER 7.5PF 50V C0G/NP0 0402 |
| 20 | 1 | D7 | Würth Elektronik | 150060RS75000 | 0603 | 150060RS75000 | 5V | Red LED |
| 21 | 1 | D8 | Würth Elektronik | 150060GS | 0603 | 150060GS75000 | 5V | Green LED |
| 22 | 1 | D9 | Würth Elektronik | 150060BS75000 | 0603 | 150060BS75000 | 5V | Blue LED |
| 23 | 1 | D10 | Würth Elektronik | 150060YS | 0603 | 150060YS75000 | 5V | Yellow LED |
| 24 | 2 | D11 D12 | ON Semiconductor | NSR20F20NX | DSN2 0603 | NSR20F20NX | 20V | Schottky Barrier Diode, 2.0 A, 20 V |
| 25 | 1 | D13 | ON Semiconductor | SESD7L5 | SOT-723 | SESD7L | 5.5V | Auto ESD Protection Diodes |
| 26 | 1 | FB1 | Murata | BLM21AG221SN1 | 0805 | 220@100M | | Ferrite bead/Impedance type filter |
| 27 | 1 | J1 | Würth Elektronik | 613 004 111 21 | 1x4pin 100mil | 613 004 111 21 | | Standard 1x4pin 100mil Pitch Header |
| 28 | 5 | J2 J5 J6 J7 J8 | Würth Elektronik | 613 002 111 21 | 1x2pin 100mil | 613 002 111 21 | | Standard 1x2pin 100mil Pitch Header |
| 29 | 4 | J3 J4 J14 J15 | Würth | 709940300 | M3 Nut | 709940300 | | PLASTIC HEXAGON NUT M3 |
| 30 | 1 | J9 | Samtec | IPBS-104-01-T-D-GP | 2x4pin 165mil | IPBS-104-01-T-D-GP | | DLT 8 pin connector |
| 31 | 2 | J10 J11 | Deltron | 571-0500 | Red Banana Rec | 571-0500 | | Red Insulated 4mm socket for banana plugs |
| 32 | 2 | J12 J13 | Deltron | 571-0100 | Black Banana Rec | 571-0100 | | Black Insulated 4mm socket for banana plugs |
| 33 | 4 | J16 J17 J20 J21 | Würth | 971100365 | M3 10MM | DNP | | PLASTIC SPACER STUD METRIC THREAD M3 10MM |
| 34 | 1 | J18 | Samtec | FTSH-105-01-F-DV-K | 2x5pin 50mil Cortex Debug | FTSH-105-01-F-DV-K | | Standard Arm Cortex Debug Connector |
| 35 | 1 | J19 | Würth Elektronik | 65100516121 | Mini USB1/2 B | 65100516121 | | Mini USB1/2 Type-B Connector |
| 36 | 2 | JP1 JP2 | Stackpole Electronics | HCJ0603ZTOR00 | 0603 | DNP | | Surface Mount High Current Jumper Chip Resistor |
| 37 | 1 | JP3 | Stackpole Electronics | HCJ0402ZTOR00 | 0402 | DNI | | Surface Mount High Current Jumper Chip Resistor |
| 40 | 1 | L1 | Würth Elektronik | 7443340030 | 10x10mm | 0.33uH | | Generic 10x10mm Inductor |
| 39 | 1 | NT1 | DNP | DNP | 5mil | NET TIE | | Net Tie/Isolation Small |
| 40 | 5 | Q1 Q2 Q3 Q4 Q5 | ON Semiconductor | 2V7002W | SOT-323 | 2V7002W | 60V | Automotive Small Signal MOSFET 60V 340mA 2.5 Ohm Single N-Channel SOT-323 |

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|----|---|--------------------------------|------------------|-------------------|---------|---------|-----|--|
| 41 | 3 | Q6 Q7 Q8 | ON Semiconductor | 2N7002W | SOT-323 | 2N7002W | 60V | Small Signal MOSFET 60V 340mA 2.5 Ohm Single N-Channel SOT-323 |
| 42 | 1 | R1 | Vishay | CRCW040210R0FK | 0402 | 10 | | RES SMD 10 OHM 1% 1/16W 0402 |
| 43 | 1 | R2 | Vishay | CRCW0402133RFK | 0402 | 133 | | RES SMD 133 OHM 1% 1/16W 0402 |
| 44 | 1 | R3 | Vishay | CRCW0402000Z0 | 0402 | 0 | | RES SMD 0 OHM 1% 1/16W 0402 |
| 45 | 1 | R4 | Vishay | CRCW040215K0FK | 0402 | 15K | | RES SMD 15K OHM 1% 1/16W 0402 |
| 46 | 8 | R5 R12 R17 R46 R47 R53 R57 R58 | Vishay | CRCW040210K0FK | 0402 | 10K | | RES SMD 10K OHM 1% 1/16W 0402 |
| 47 | 4 | R6 R16 R27 R34 | Vishay | CRCW04021K00FK | 0402 | 1K | | RES SMD 1K OHM 1% 1/16W 0402 |
| 48 | 1 | R7 | Vishay | CRCW04027K87FK | 0402 | 7.87K | | RES SMD 7.87K OHM 1% 1/16W 0402 |
| 49 | 2 | R8 R13 | Vishay | CRCW04021R00FK | 0402 | 1 | | RES SMD 1 OHM 1% 1/16W 0402 |
| 50 | 1 | R9 | DNP | DNP | 0402 | DNP | | Generic 0402 SMD Resistor |
| 51 | 1 | R10 | Vishay | CRCW040249K9FK | 0402 | 49.9K | | RES SMD 49.9K OHM 1% 1/16W 0402 |
| 52 | 1 | R11 | Vishay | CRCW04026K98FK | 0402 | 6.98K | | RES SMD 6.98K OHM 1% 1/16W 0402 |
| 55 | 2 | R14 R33 | Vishay | WSLF25122L000FE A | 2512 | 2m | | Generic 2512 SMD Resistor |
| 54 | 1 | R15 | Vishay | CRCW08051R00FK | 0805 | DNP | | RES SMD 1 OHM 1% 1/8W 0805 |
| 55 | 1 | R18 | Vishay | CRCW04024K12FK | 0402 | 4.12K | | RES SMD 4.12K OHM 1% 1/16W 0402 |
| 56 | 2 | R19 R35 | Vishay | CRCW040234K0FK | 0402 | 34K | | RES SMD 34K OHM 1% 1/16W 0402 |
| 57 | 2 | R20 R32 | Vishay | CRCW0402000Z0 | 0402 | DNP | | RES SMD 0 OHM 1% 1/16W 0402 |
| 58 | 1 | R21 | Vishay | CRCW04023K32FK | 0402 | 3.32K | | RES SMD 3.32K OHM 1% 1/16W 0402 |
| 59 | 4 | R22 R24 R28 R29 | Vishay | CRCW04024R99FK | 0402 | 4.99 | | RES SMD 4.99 OHM 1% 1/16W 0402 |
| 60 | 5 | R23 R25 R26 R31 R37 | Vishay | CRCW04024K99FK | 0402 | 4.99K | | RES SMD 4.99K OHM 1% 1/16W 0402 |
| 61 | 1 | R30 | Vishay | CRCW040253K6FK | 0402 | 53.6K | | RES SMD 53.6K OHM 1% 1/16W 0402 |
| 62 | 5 | R36 R38 R41 R43 R44 | Vishay | CRCW0402100KFK | 0402 | 100K | | RES SMD 100K OHM 1% 1/16W 0402 |
| 63 | 1 | R39 | Vishay | CRCW040216K5FK | 0402 | 16.5K | | RES SMD 16.5K OHM 1% 1/16W 0402 |
| 64 | 1 | R40 | Vishay | CRCW040254K9FK | 0402 | 54.9K | | RES SMD 54.9K OHM 1% 1/16W 0402 |
| 65 | 1 | R42 | Vishay | CRCW04024K02FK | 0402 | 4.02K | | RES SMD 4.02K OHM 1% 1/16W 0402 |
| 66 | 1 | R45 | Vishay | CRCW04027K50FK | 0402 | 7.5K | | RES SMD 7.5K OHM 1% 1/16W 0402 |
| 67 | 1 | R48 | Vishay | CRCW04025K11FK | 0402 | 5.11K | | RES SMD 5.11K OHM 1% 1/16W 0402 |
| 68 | 1 | R49 | Vishay | CRCW04028K87FK | 0402 | 8.87K | | RES SMD 8.87K OHM 1% 1/16W 0402 |
| 69 | 1 | R50 | Vishay | CRCW04029K76FK | 0402 | 9.76K | | RES SMD 9.76K OHM 1% 1/16W 0402 |

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| 70 | 1 | R51 | Vishay | CRCW040 2665RFK | 0402 | 665 | | RES SMD 665 OHM 1% 1/16W 0402 |
| 71 | 2 | R52 R56 | Vishay | CRCW040 2100RFK | 0402 | 100 | | RES SMD 100 OHM 1% 1/16W 0402 |
| 72 | 1 | R54 | Vishay | CRCW060 3100RFK | 0603 | 100 | | RES SMD 100 OHM 1% 1/10W 0603 |
| 73 | 1 | R55 | Vishay | CRCW040 22K32FK | 0402 | 2.32K | | RES SMD 2.32K OHM 1% 1/16W 0402 |
| 74 | 1 | RT1 | muRata | NCP15XH 103F03RC | 0402 | 10k | | NTC Thermistor, 10k 1%, 3900K 1%, 0402 |
| 75 | 1 | SW1 | Würth Elektronik | 43415301 7835 | MOM1 SMD | 434153017835 | 12V | SWITCH TACTILE SPST-NO 0.05A 12V |
| 76 | 16 | TP1 TP2 TP3 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP13 TP14 TP16 TP18 TP20 TP22 | DNP | DNP | 0.75mm | DNI | | Passive Probe Tip Tektronix P5050 (Tan) Tip |
| 77 | 2 | TP4 TP12 | DNP | DNP | 63mil | DNI | | 63mil Hole 100mil Pad |
| 78 | 5 | TP15 TP17 TP19 TP21 TP23 | DNP | DNP | 1mm Circle | DNI | | Surface Mount 1mm Circle Test Point |
| 79 | 1 | U1 | ON Semiconductor | NCP3232 NMNTXG | QFN40 6x6 | NCP3232 | | High Current Synchronous Buck Converter |
| 80 | 1 | U2 | ON Semiconductor | NCT375M NR2G | DFN8 2x2mm | NCT375 | | Digital Temperature Sensor with 2-wire Interface |
| 81 | 2 | U3 U4 | ON Semiconductor | NCS214R SQT2G | SC-70-6 | NCS214R | | Current-Shunt Monitor, Voltage Output, Bi-Directional Zero-Drift, Gain = 100V/V |
| 82 | 1 | U5 | Silicon Labs | EFM32GG 380F1024- QFP100 | QFP100 14x14 | EFM32GG380F1024 | | EFM32 Giant Gecko 32-bit Microcontroller |
| 83 | 1 | U6 | ON Semiconductor | NCP705M T33TCG | WDFN6 | NCP705 | | 3.3V Voltage Regulator, LDO, Ultra Low Noise, Ultra Low Iq, 500 mA |
| 84 | 1 | U7 | FTDI | FT230XQ- R | QFN16 4x4 | FT230X | | USB to BASIC UART IC |
| 85 | 1 | Y1 | Micro Crystal | MS3V- T1R- 32.768kHz 12.5pF- 20PPM- TA-QC-Au | 2 pin w/ shell | 32.768 kHz | | Crystals 32.768 kHz 12.5 pF +/-20 PPM -40/+85C |
| 86 | 1 | Y2 | NDK | NX5032G A- 48.000000 MHZ-LN- CD-1 | 5x3.2mm | 48MHz | | CRYSTAL 48.0000MHZ 8PF SMD |