



Bill of Materials for the STR-PWRNCV8163-R0-GEVK Evaluation Board

| Designator | Quantity | Description | Value | Tolerance | Footprint | Manufacturer | Manufacturer Part Number | Substitution Allowed | Lead Free |
|--|----------|--|----------|-----------|-----------------------------|---------------------------|------------------------------|----------------------|-----------|
| Vin Vout | 2 | 10A; 4mm; TH; Red; 571-0500-01 ; DELTRON | Red | | | DELTRON | 571-0500-01 | Yes | Yes |
| Utmp | 1 | Industry Standard Digital Temperature Sensor with 2 wire Interface; SO-8; ON Semiconductor | | | SO-8 | ON Semiconductor | NCT375DR2G | No | Yes |
| Us | 1 | NCV8664C; 5V/150mA, 2.0% Very Low Iq, Low Dropout Linear Regulator; DPAK-3; ON Semiconductor | | | DPAK-3 | ON Semiconductor | NCV8664CDT50RKG | No | Yes |
| Ulin Ulout | 2 | Current-Shunt Monitors, Voltage Output, Bidirectional Zero- Drift, Low- or High-Side Current Sensing; SO-8; ON Semiconductor | | | SC-88/SC70-6/SOT-363 | ON Semiconductor | NCS213RSQT2G | No | Yes |
| Uee | 1 | EEPROM Serial 512-Kb I2C; SO-8; ON Semiconductor | | | SO-8 | ON Semiconductor | CAT24C512WI-GT3 | No | Yes |
| U3 | 1 | PCB Footprint for 2 x 2 inch PCB Module | | | | | | Yes | Yes |
| U2 | 1 | PCB Footprint for 1 x 1 inch PCB Module | | | | | | Yes | Yes |
| U1 | 1 | PCB Footprint for 0.5 x 0.5 inch PCB Module | | | | | | Yes | Yes |
| RtrG | 1 | General Purpose Chip Resistors, 220 Ohm, +/- 1%, -55 to 155 degC, 0603 (1608 Metric), RoHS, Tape and Reel | | | 603 | Yageo | RC0603FR-07220RL | Yes | Yes |
| Rpus | 1 | RES SMD 0 OHM JUMPER 0603; Yageo | 0R | | 2512 | Yageo | RC2512JK-070RL | Yes | Yes |
| Rpds | 1 | 51; 1/10W; 1%; 0603; Yageo | 51 | | 603 | Yageo | RC0603FR-0751RL | Yes | Yes |
| Rpdl1 Rpd1t2 | 2 | Chip Resistor, 50 Ohm, +/- 1%, 0.1 W, -55 to 155 degC, 0603 (1608 Metric), RoHS, Tape and Reel | 50 | | 603 | Vishay Dale | CRCW060350R0FKEA | Yes | Yes |
| Rpd0 Rpd1 Rpd2 Rpd3 RpdEN RpdPG Rscl Rsda Rtmp | 9 | 10k; 1/10W; 1%; 0603; Yageo | 10k | | 603 | Yageo | RC0603FR-0710KL | Yes | Yes |
| Rload1 Rload2 Rload3 | 3 | 3R3 1W 5% 2512 (6432 Metric) SMD | 3.30 Ohm | | 2512 | Vishay Dale | CRCW25123R30JNEG | Yes | Yes |
| Riu Rou | 2 | 18 kOhms ± 0.1% 0.1W, 1 / 10W chip resistance 0603 (1608 metric) thin film | 18k | | 603 | Yageo | RT0603BRD0718KL | Yes | Yes |
| Rin Rout | 2 | RES SMD 0.007 OHM 2W 2512; Yageo | 0.007R | | 2512 | Yageo | PE2512FKE7W0R007L | Yes | Yes |
| Rim Rip Ron Rop | 4 | 4.7; 1/10W; 1%; 0603; Yageo | 4R7 | | 603 | Yageo | RC0603FR-074R7L | Yes | Yes |
| Ril Rol | 2 | RES SMD 2K OHM 0.1% 1 / 10W 0603 | 2k | | 603 | Yageo | RT0603BRD072KL | Yes | Yes |
| Rgsp | 1 | RES SMD 10K OHM 1% 1/4W 1206 | | | 1206 | Samsung Electro-Mechanics | RC3216F103CS | Yes | Yes |
| ReuG | 1 | Chip Resistor, 1.2 KOhm, +/- 5%, 0.1 W, -55 to 155 degC, 0603 (1608 Metric), RoHS, Tape and Reel | | | 603 | Yageo | RC0603JR-071K2L | Yes | Yes |
| Ren2 | 1 | Chip Resistor, 10 KOhm, +/- 1%, 01 W, -55 to 155 degC, 0603 (1608 Metric), RoHS, Tape and Reel | | | 603 | Yageo | RC0603FR-0710KL | Yes | Yes |
| Ren1 | 1 | Chip Resistor, 4.7 KOhm, +/- 1%, 0.1 W, -55 to 155 degC, 0603 (1608 Metric), RoHS, Tape and Reel | | | 603 | Yageo | RC0603FR-074K7L | Yes | Yes |
| RdG | 1 | Chip Resistor, 100 KOhm, +/- 1%, 0.1 W, -55 to 155 degC, 0603 (1608 Metric), RoHS, Tape and Reel | | | 603 | Yageo | RC0603FR-07100KL | Yes | Yes |
| QL | 1 | Single N-Channel Logic Level Power MOSFET, 30 V, 230 A, 1.15 mΩ | | | DFN-5-488AA | On Semiconductor | NTMFS4C302NT1G | No | Yes |
| Qenpmos Qrp | 2 | P-Channel Power MOSFET, -40 V, -70 A, 10.4 mOhm, Single, 3-Pin ATPAK, Pb-Free, Tape and Reel | | | DPAK (Single Gauge) / ATPAK | On Semiconductor | ATP108-TL-H | No | Yes |
| Qen | 1 | Amplifier Transistor, NPN Silicon, 3-Pin TO-92, Bulk Box | | | | On Semiconductor | BC546BTF | No | Yes |
| LOAD TRANSIENT SYNC | 2 | SMB JACK STR; 50 OHM; TH; 1-1337482-0 | | | SMB | TE Connectivity | 1-1337482-0 | Yes | Yes |
| JStrata | 1 | THT Angled Socket Header WR-PHD, Pitch 2.54 mm, Dual Row, 16 pins | | | | WUERTH ELECTRONIC | Wuerth_613016243121 | Yes | Yes |
| Jin Jout | 2 | Large Screw Terminal, TERM BLK 2P SIDE ENT 5.08MM PCB | | | | On Shore Technology Inc. | OSTTC022162 | Yes | Yes |
| J8 J9 J10 J11 J12 J13 J14 J15 J16 J17 | 10 | TestPoint; 1.6mm; TH; Keystone 5010 | 5010 | | | Keystone Electronics | 5010 | Yes | Yes |
| J4 J5 J6 J7 | 4 | TestPoint; 2.37mm; TH; CAMBION 160-1026-02-01-00 TERMINAL | | | | CAMBION | 160-1026-02-01-00, [NoValue] | Yes | Yes |
| GND_in GND_out | 2 | 10A; 4mm; TH; Black; 571-0100-01 ; DELTRON | Black | | | DELTRON | 571-0100-01 | Yes | Yes |
| EN EN/IO2 IO0 IO1 IO2 IO3 PG PG/IO3 Vaux | 9 | Board-To-Board Connector; Header; 36; 22-28-4360 | 3 POS | | | Würth electronics | Wuerth_61300311121 | Yes | Yes |
| Dz | 1 | 36V, 3 W Zener Voltage Regulator, 2-Pin SMB, Pb-Free, Tape and Reel | | | SMB-2-403A-03_H | On Semiconductor | SZ1SMB5938BT3G | No | Yes |
| DpzL | 1 | Zener Voltage Regulator, 225 mW, 3-Pin SOT-23, Pb-Free, Tape and Reel | | | SOT-23-3-318-08 | | | Yes | Yes |
| Dpz | 1 | Zener Voltage Regulator, 500 mW, 2-Pin SOD-123, Pb- Free, Tape and Reel | | | SOD-123-2-425-04 | On Semiconductor | | No | Yes |
| Dii Div Doi Dov | 4 | MMSZ52xxxT1G; 3.0V/0.5W; SOD-123; ON Semiconductor | | | SOD-123 | ON Semiconductor | MMSZ5225BT1G | No | Yes |
| Csi Cso | 2 | 0.1uF; 50V; X7R; 10%; 0603; GRM188R70J474KA01D; Murata | 0.1u | | 603 | Murata | GCJ188R71H104KA12D | Yes | Yes |

| | | | | | | | | | |
|------------------|---|---|-------|--|------------------|------------------|--------------------|-----|-----|
| Cout2 | 1 | 4.7uF; 10V; X7R; 10%; 0805; GCM21BR71C475KA73L; Murata | 4.7u | | 805 | Murata | GCM21BR71C475KA73L | Yes | Yes |
| Cout1 | 1 | 22uF; 10V; X7R; 10%; 1206; GCM31CR71A226KE02L; Murata | 22u | | 1206 | Murata | GCM31CR71A226KE02L | Yes | Yes |
| Cout | 1 | 100uF; 63 V; 20%; EEUFR1J101B; Panasonic | 100u | | Rad_5 | Panasonic | EEU-FR1J101B | Yes | Yes |
| CL | 1 | Current Loop Wire for Oscilloscope Current Probe | 0.005 | | 2.5 sqmm Cu Wire | N/A | | Yes | Yes |
| Cin2 Csmem Cstmp | 3 | 1uF; 50V; X7R; 10%; 0805; GCM21BR71H105KA03L; Murata | 1u | | 805 | Murata | GCM21BR71H105KA03L | Yes | Yes |
| Cin1 | 1 | 10uF; 25V; X7R; 10%; 1206; GRT31CR71E106KE13; Murata | 10u | | 1206 | Murata | GRM32EE70G107ME19L | Yes | Yes |
| Cin | 1 | 100uF; 63 V; 20%; EEUFR1J101B; Panasonic | 100u | | Rad_5 | Panasonic | EEUFR1J101B | Yes | Yes |
| Cfl | 1 | 0.1uF; 50V; X7R; 10%; 0603; GRM188R70J474KA01D; Murata | 0.1u | | 603 | Murata | GCJ188R71H104KA12D | Yes | Yes |
| Cfi Cfo | 2 | 10nF; 50V; X7R; 10%; 0603; GCJ188R71H103KA01D; Murata | 10n | | 603 | Murata | GCJ188R71H103KA01D | Yes | Yes |
| Cen Cgsp | 2 | Chip Capacitor, 10 nF, +/- 10%, 50 V, -55 to 125 degC, 0603 (1608 Metric), RoHS, Tape and Reel | | | 603 | Yageo | CC0603KRX7R9BB103 | Yes | Yes |
| Cin Cout | 2 | 1µF ±10% 25V Ceramic Capacitor X7R 0603 (1608 Metric) | | | 0603_CAP_MAX | Murata | GCJ188R71E105KA01D | Yes | Yes |
| U1 | 1 | NCV861x Family of Low Dropout Regulators | | | TSOP-5 | ON Semiconductor | NCV8163ASN120T1G | No | Yes |