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|  |  | **Bill of Materials** |  |  |  |  |
| **PCB DESIGNS** | **PowerMeter\_Jiale/Gustaf** |  |  |  |  |  |
| **Qty** | **Reference** | **Part Description** | **Manufacturer** | **Manufacturer**  **Part Number** | **PCB Footprint** | **DNIe** |
| 1 | !PCB1 | Printed Circuit Board | Any | PowerMeter\_Jiale/Gustaf |  |  |
| 13 | C1, C3, C4, C8, C11, C12, C17, C19, C20,  C52, C57, C64, C70 | CAP, CERM, 0.1uF, 25V, +/-5%, X7R, 0603 | AVX | 06033C104JAT2A | 603 |  |
| 3 | C2, C9, C18 | CAP, CERM, 330 pF, 50 V, +/- 10%,  C0G/NP0, 0805 | AVX | 08055A331KAT2A | 805 |  |
| 3 | C55, C61, C68 | CAP CER 0.012UF 100V X7R 0805 | AVX Corporation | 08051C123KAT2A | 805 |  |
| 12 | C21, C24, C35, C36, C40, C48, C154, C156, C158, C161, C162, C164 | 100pF ±5% 100V Ceramic Capacitor C0G, NP0 1206 (3216 Metric) | Yageo | CC1206JRNPO0BN101 | 1206 |  |
| 30 | C170, C173, C175, C176, C178, C181, C182, C184, C186, C187, C190, C193, C195, C196, C198, C201, C202, C204, C206, C207, C210, C213, C215, C216, C218, C221, C222, C224, C226, C227 | CAP CER 0.1UF 50V X7R 1206 | AVX Corporation | 12065C104KAT2A | 1206 |  |
| 24 | C171, C172, C174, C177, C179, C180, C183, C185, C191, C192, C194, C197, C199, C200, C203, C205, C211, C212, C214, C217, C219, C220, C223, C225 | CAP CER 1UF 50V X7R 1206 | AVX Corporation | 12065C105KAT2A | 1206 |  |
| 12 | C22, C29, C34, C37, C39, C41, C155, C157, C159, C160, C163, C165, | 110pF ±5% 100V Ceramic Capacitor C0G, NP0 1206 (3216 Metric) | KEMET | C1206C111J1GAC7800 | 1206 |  |
| 28 | C5, C13, C23, C49, C71, C75, C78, C80, C83, C85, C106, C109, C113, C114, C118, C120, C122, C125, C129, C130, C134, C136, C138, C141, C145, C146, C150, C152 | CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603 | Kemet | C0603C104K5RACTU | 603 |  |
| 28 | C6, C14, C25, C50, C73, C77, C79, C81, C82, C86, C108, C112, C115, C116, C117, C121, C123, C128, C131, C132, C133, C137, C139, C144, C147, C148,  C149, C153 | CAP, CERM, 10uF, 35V, +/-20%, X7R, 1210 | Taiyo Yuden | GMK325AB7106MM-T | 1210 |  |
| 4 | C7, C15, C26, C51 | CAP CER 1000PF 1KV 10% RADIAL | Vishay BC Components | S102K29Y5PN63J5R |  |  |
| 2 | C16, C28 | CAP, AL, 22uF, 25V, +/-20%, 0.76  ohm, SMD | Nichicon | UUD1E220MCL1GS | 5x5.8 |  |
| 12 | C31, C33, C38, C42, C43, C44, C45, C54, C56, C60, C62, C67 | CAP, CERM, 1 µF, 16 V, +/- 10%,  X7R, 0603 | MuRata | GRM188R71C105KA12D | 603 |  |
| 1 | C53 | CAP, CERM, 4.7uF, 10V, +/-10%,  X5R, 0603 | AVX | 0603ZD475KAT2A | 603 |  |
| 8 | C72, C84, C110, C119, C126,  C135, C142, C151 | CAP, CERM, 4.7uF, 50V, +/-10%,  X5R, 0805 | TDK | C2012X5R1H475K125AB | 805 |  |
| 8 | C74, C76, C107, C111, C124,  C127, C140, C143 | CAP, CERM, 0.01uF, 100V, +/-5%,  X7R, 0603 | AVX | 06031C103J4Z4A | 603 |  |
| 8 | D1, D2, D3, D4, D5, D6, D9,  D11 | LED SmartLED Green 570NM | OSRAM | LG L29K-G2J1-24-Z | 603 |  |
| 12 | D15, D16, D17, D18, D19, D20, D35, D36, D41, D42,  D47, D48 | Diode, P-N, 70V, 0.2A, SOT-323 | Diodes Inc | DESD1P0RFW-7 | SOT-323 |  |

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| **Qty** | **Reference** | **Part Description** | **Manufacturer** | **Manufacturer**  **Part Number** | **PCB Footprint** | **DNIe** |
| 8 | D21, D23, D32, D33, D37,  D39, D43, D45 | Diode, Schottky, 20V, 0.5A, SOD-  123 | Fairchild  Semiconductor | MBR0520L | SOD-123 |  |
| 8 | D22, D24, D31, D34, D38,  D40, D44, D46 | Diode, Zener, 6.2V, 1W,  PowerDI123 | Diodes Inc. | DFLZ6V2-7 | PowerDI123 |  |
| 6 | FB1, FB2, FB3, FB4, FB5, FB6 | FERRITE BEAD 300 OHM 0603 1LN | TDK Corporation | MMZ1608B301CTAH0 | 603 |  |
| 8 | FB13, FB14, FB17, FB18, FB19, FB20,  FB21, FB22 | FERRITE CHIP 1000 OHM 300MA 0603 | TDK Corporation | MMZ1608B102C | 603 |  |
| 15 | FB9, FB11, FB12, R67, R68, R69, R70, R79, R80, R81, R82, R90, R91, R92, R93 | RES SMD 634K OHM 1% 1/4W 1206 | Panasonic Electronic Components | ERJ-8ENF6343V | 1206 |  |
| 2 | J8, J9 | 6 Position Wire to Board Terminal Block Horizontal with Board 0.138" (3.50mm) Through Hole | On Shore Technology Inc. | ED555/6DS | 6x1 Header |  |
| 1 | J30 | 3 Position Wire to Board Terminal Block Horizontal with Board 0.200" (5.08mm) Through Hole | On Shore Technology Inc. | ED120/3DS | 3x1 Header |  |
| 12 | J10, J11, J18, J19, J20, J21, J22, J23, J24, J25, J26, J27 | Header, 2.54 mm, 2x1, Gold, TH | Wurth Elektronik eiSos | 61300211121 | Header, 2.54mm, 2x1, TH |  |
| 3 | J14, J15, J16 | TERMINAL BLOCK 5.08MM VERT  2POS, TH | On-Shore Technology | ED120/2DS | TERM\_BLK, 2pos,  5.08mm |  |
| 3 | R1, R9, R22 | 16 mOhms ±5% 2W Chip Resistor 2512 (6432 Metric) Current Sense Thick Film | TE Connectivity Passive Product | RLP73V3AR016JTE | 2512 |  |
| 6 | R2, R4, R11, R14, R24, R26, | RES, 12.0, 1%, 0.1 W, 0603 | Yageo America | RC0603FR-0712RL | 603 |  |
| 6 | R63, R65, R74, R77, R86,  R89 | RES SMD 33 OHM 1% 1/10W 0603 | Yageo | RC0603FR-0733RL | 603 |  |
| 12 | R3, R5, R12, R15, R23, R25, R64, R66, R75, R78, R87,  R88 | RES, 10.0 ohm, 1%, 0.1W, 0603 | Vishay-Dale | CRCW060310R0FKEA | 603 |  |
| 6 | R29, R34, R38, R46, R116, R120 | RES SMD 3.01K OHM 1% 3/4W 1206 | Vishay Dale | CRCW12063K01FKEAHP | 1206 |  |
| 6 | R30, R35, R42, R48, R117, R121 | RES 16.5 KOHMS 0.1% 0.4W 1206 | TE Connectivity Passive Product | RQ73C2B16K5BTD | 1206 |  |
| 6 | R31, R36, R43, R49, R118, R122 | RES SMD 2.49K OHM 1% 3/4W 1206 | Vishay Dale | CRCW12062K49FKEAHP | 1206 |  |
| 6 | R32, R37, R45, R50, R119, R123 | RES SMD 7.5K OHM 1% 3/4W 1206 | Vishay Dale | CRCW12067K50FKEAHP | 1206 |  |
| 6 | R108, R112, R124, R128, R132, R136 | RES SMD 1.37K OHM 0.1% 1/4W 1206 | Panasonic Electronic Components | ERA-8ARB1371V | 1206 |  |
| 6 | R109, R113, R125, R129 R133, R137 | RES SMD 17.8K OHM 0.1% 1/4W 1206 | Panasonic Electronic Components | ERA-8ARB1782V | 1206 |  |
| 6 | R110, R114, R126, R130, R134, R138 | RES 0.5 OHM 1% 1/2W 1206 | Yageo | RL1206FR-7W0R5L | 1206 |  |
| 6 | R111, R115, R127, R131, R135, R139 | RES SMD 4.02K OHM 1% 3/4W 1206 | Vishay Dale | CRCW12064K02FKEAHP | 1206 |  |
| 8 | R6, R7, R19, R21, R33, R55,  R57, R105 | RES, 3.9k ohm, 5%, 0.1W, 0603 | Vishay-Dale | CRCW06033K90JNEA | 603 |  |
| 4 | R59, R71, R83, R98 | RES SMD 953 OHM 1% 1/8W 0805 | Vishay Dale | CRCW0805953RFKEA | 805 |  |
| 3 | R60, R72, R84 | RES SMD 953 OHM 1% 1/4W 1206 | Yageo Components | RC1206FR-07953RL | 1206 |  |
| 4 | R94, R99, R101, R103 | RES, 11.5k ohm, 1%, 0.1W, 0603 | Vishay-Dale | CRCW060311K5FKEA | 603 |  |
| 4 | R95, R100, R102, R104 | RES, 3.16 k, 1%, 0.1 W, 0603 | Yageo America | RC0603FR-073K16L | 603 |  |
| 4 | T1, T2, T3, T5 | Transformer 469uH SMD | Wurth Electronics  Midcom | 750342271 | 10.05mm L x  6.73mm W |  |
| 6 | U1, U3, U5, U11, U12, U14 | Isolation IC Current Sensing, Power Management 8-SOIC | Texas Instruments | AMC1300BDWVR | DWV0008A |  |
| 4 | U2, U4, U6, U10 | Transformer Driver for Isolated  Power Supplies, DBV0005A | Texas Instruments | SN6501DBV | DBV0005A |  |
| 3 | U25, U30, U35 | General Purpose Amplifier 4 Circuit Rail-to-Rail 14-SOIC | Texas Instruments | OPA4192ID | 14-SOIC |  |
| 12 | U26, U27, U28, U29, U31, U32, U33, U34, U36, U37, U38, U39 | Differential Amplifier 1 Circuit 8-SOIC | Texas Instruments | INA149AIDR | 8-SOIC |  |

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| **Qty** | **Reference** | **Part Description** | **Manufacturer** | **Manufacturer**  **Part Number** | **PCB Footprint** | **DNIe** |
| 4 | U15, U19, U21, U23 | -36V, -200mA, Ultralow-Noise, Negative Linear Regulator | Texas Instruments | TPS7A3001DGNR | MSOP-  PowerPAD (DGN)  | 8 |  |
| 4 | U16, U20, U22, U24 | Regulator, LDO, 5V, 0.15A, SOT23-  5 | Texas Instruments | TLV70450DBV | DBV0005A |  |
| 0 | R39, R44, R47, R52, R97,  R107 | RES, 160 k, 1%, 0.1 W, 0603 | Vishay-Dale | CRCW0603160KFKEA | 603 | DNI |
| 0 | R61, R73, R85 | RES, 2.40 k, 1%, 0.25 W, 1206 | Yageo America | RC1206FR-072K4L | 1206 | DNI |

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