

# Hermes-Lite 2.0build7 BOM

Standard Build - June 19, 2018

| Reference   | Spec   | Part No.                            | Supplier                 | SKU                            | Price | Qty | Total |
|---|--|-------------------------------------|--------------------------|--------------------------------|-------|-----|-------|
| B1,B2,B3,B4,B5,B6,<br>B7,B8,B9,B10,B11,<br>B12,B13,B14,B15,B16,<br>B17,B18,B19,B20,B21,<br>B22,B23,B24,B25,B26,<br>B27,B28,B29,B30,B31,<br>B32,B33,B34,B35,B36,<br>B37,B38,B39,B40,B41,<br>B42,B43,B44,B45,B46,<br>B47,B48,B49,B50,B51,<br>B52,B53,B54,B56,B57,<br>B59,B60,B61,B62,B63,<br>B64,B66,B68,B70,B72,<br>B73,B74,B75,B77,B78,<br>B80,B81,B83,B84,B85,<br>B86,B87,B88,B89,B90,<br>B91,B92,B94,B97,B98,<br>B99,B100,B101,B102,<br>B103,B105,B106,B108,<br>B109,B111,B113,B114,<br>B115,B116,B118,B119,<br>B120,B122 | 0.1uF 0603 $\geq$ X5R $\geq$ 25V $\leq$ 20%  | <a href="#">C1608X7R1E104K080AA</a> | <a href="#">Digi-Key</a> | <a href="#">445-1316-1-ND</a>  | 0.03  | 104 | 3.37  |
| C1,C2,C3,C4,C6,C7,<br>C8,C9,C12,C25,C35,<br>C38,C39,C40,C41,C44,<br>C45,C62,C64,C66,C70   | 10uF 0603 $\geq$ X5R $\geq$ 6.3V $\leq$ 20%  | <a href="#">GRM188R60J106ME47D</a>  | <a href="#">Digi-Key</a> | <a href="#">490-3896-1-ND</a>  | 0.32  | 21  | 6.78  |
| C5,C16,C22  | 100uF 1206 $\geq$ X5R $\geq$ 6.3V $\leq$ 20% | <a href="#">GRM31CR60J107ME39K</a>  | <a href="#">Digi-Key</a> | <a href="#">490-7217-1-ND</a>  | 1.23  | 3   | 3.69  |
| C13,C19,C27,C90,C91   | 4.7nF 0603 $\geq$ X5R $\geq$ 25V $\leq$ 20%  | <a href="#">CL10B472KB8NNNC</a>     | <a href="#">Digi-Key</a> | <a href="#">1276-1098-1-ND</a> | 0.10  | 5   | 0.50  |
| C14,C15,C20,C21,C28,<br>C29,C30,C31,C32,C92   | 22uF 0805 $\geq$ X5R $\geq$ 16V $\leq$ 20%   | <a href="#">CL21A226MOCLRNC</a>     | <a href="#">Digi-Key</a> | <a href="#">1276-6780-1-ND</a> | 0.23  | 10  | 2.27  |
| C17,C23,C33,C43,C48,<br>C86,C88   | 10uF 1206 $\geq$ X5R $\geq$ 25V $\leq$ 20%   | <a href="#">TMK316AB7106KL-T</a>    | <a href="#">Digi-Key</a> | <a href="#">587-3486-1-ND</a>  | 0.38  | 7   | 2.66  |
| C18,C24,C34   | 4.7uF 0805 $\geq$ X5R $\geq$ 25V $\leq$ 20%  | <a href="#">GRM21BR61E475KA12L</a>  | <a href="#">Digi-Key</a> | <a href="#">490-3335-1-ND</a>  | 0.19  | 3   | 0.57  |
| C26,C60,C61,C63,C65,<br>C67,C68,C69,C71,C72   | 1uF 0603 $\geq$ X5R $\geq$ 6.3V $\leq$ 20%   | <a href="#">CL10B105KP8NNNC</a>     | <a href="#">Digi-Key</a> | <a href="#">1276-1946-1-ND</a> | 0.05  | 10  | 0.47  |

| Reference  | Spec  | Part No.           | Supplier | SKU                  | Price | Qty | Total |
|--|---|--------------------|----------|----------------------|-------|-----|-------|
| C36,C37  | 15pF 0603NP0 $\geq$ 6.3V $\leq$ 5%                            | CC0603JRNPO9BN150  | Digi-Key | 311-1060-1-ND        | 0.10  | 2   | 0.20  |
| C46,C89,C144,C145,<br>C146,C147  | 1uF 0805 $\geq$ X5R $\geq$ 25V $\leq$ 20%                     | CL21A105KACLNNC    | Digi-Key | 1276-2395-1-ND       | 0.18  | 6   | 1.08  |
| C49  | 75pF 0805NP0 $\geq$ 50V $\leq$ 5%                             | C0805C750J1GACTU   | Mouser   | 80-C0805C750J1G      | 0.27  | 1   | 0.27  |
| C50  | 150pF 0805NP0 $\geq$ 50V $\leq$ 5%                            | CC0805JRNPO0BN151  | Digi-Key | 311-1839-1-ND        | 0.15  | 1   | 0.15  |
| C51  | 160pF 0805NP0 $\geq$ 50V $\leq$ 5%                            | GRM2165C2A161JA01D | Mouser   | 81-GRM2165C2A161JA1D | 0.19  | 1   | 0.19  |
| C52,C57,C81  | 100pF 0805NP0 $\geq$ 50V $\leq$ 5%                            | C0805C101J1GACTU   | Mouser   | 80-C0805C101J1G      | 0.11  | 3   | 0.33  |
| C53  | 10pF 0805NP0 $\geq$ 50V $\leq$ 5%                             | CC0805JRNPO9BN100  | Digi-Key | 311-1099-1-ND        | 0.10  | 1   | 0.10  |
| C56  | 180pF 0805NP0 $\geq$ 50V $\leq$ 5%                            | CC0805JRNPO0BN181  | Mouser   | 603-CC805JRNPO0BN181 | 0.16  | 1   | 0.16  |
| C84  | 270pF 0805NP0 $\geq$ 50V $\leq$ 5%                            | CC0805JRNPO0BN271  | Mouser   | 603-CC805JRNPO0BN271 | 0.18  | 1   | 0.18  |
| C87  | 8.2pF 0805NP0 $\geq$ 25V $\leq$ 5%                            | CL21C8R2DBANNNC    | Digi-Key | 1276-2697-1-ND       | 0.10  | 1   | 0.10  |
| CN1  | 2x5 M 0.1in   | 67997-410HLF       | Digi-Key | 609-3243-ND          | 0.27  | 1   | 0.27  |
| CN2  | Power   | PJ-102AH           | Mouser   | 490-PJ-102AH         | 0.75  | 1   | 0.75  |
| CN3  | Eth MagJack   | L829-1J1T-43       | Mouser   | 530-L829-1J1T-43     | 5.72  | 1   | 5.72  |
| CN4  | CW Jack   | SJ1-3525N          | Mouser   | 490-SJ1-3525N        | 0.76  | 1   | 0.76  |
| D1   | TVS Diode   | CDSOD323-T05LC     | Mouser   | 652-CDSOD323-T05LC   | 0.82  | 1   | 0.82  |
| D2,D3,D4,D5  | LED RA  | LTST-S220KFKT      | Mouser   | 859-LTST-S220KFKT    | 0.23  | 4   | 0.92  |
| D8   | TVS Diode   | SM05.TCT           | Mouser   | 947-SM05.TCT         | 0.62  | 1   | 0.62  |
| D12  | TVS Diode   | SMBJ18CA           | Mouser   | 512-SMBJ18CA         | 0.40  | 1   | 0.40  |
| F1   | FUSE PTC 3.0A 24V   | MF-LSMF300/24X-2   | Mouser   | 652-MF-LSMF300/24X-2 | 0.80  | 1   | 0.80  |
| FB1,FB2,FB3,FB4,FB5,<br>FB6,FB7,FB8,FB9,FB10,<br>FB11,FB12,FB13,FB14,<br>FB15,FB16,FB17,FB18,<br>FB19,FB20,FB21,FB22,<br>FB23,FB24,FB25,FB26,<br>FB28,FB30 | FB 0603 $\geq$ 600R@100MHz<br>$\leq$ 200mOhm@DC 1A $\leq$ 25% | MPZ1608S601ATA00   | Digi-Key | 445-2205-1-ND        | 0.07  | 28  | 2.00  |
| J1,J2,J5,J9,J10,J11,<br>J13,J15,J17,J18,J19,<br>J21,J22,J23,J24,J25,<br>J26,J27,J28,J29,J30,<br>J31,J32,L33,L34  | 00hm 0603 $\leq$ 5% $\geq$ 1/10W                              | CR0603-J/-000ELF   | Mouser   | 652-CR0603-J/-000ELF | 0.01  | 25  | 0.20  |
| L1,L3  | 3.3uH $\geq$ 2.4A   | SRN5020-3R3M       | Mouser   | 652-SRN5020-3R3M     | 0.36  | 2   | 0.72  |
| L2   | 2.2uH $\geq$ 2.4A   | SRN5020-2R2Y       | Mouser   | 652-SRN5020-2R2Y     | 0.36  | 1   | 0.36  |
| L4,L7  | 240nH   | LQW2BASR24J00L     | Digi-Key | 490-5670-1-ND        | 0.24  | 2   | 0.48  |
| L5,L6,L8,L9  | 270nH   | LQW2BASR27J00L     | Digi-Key | 490-5671-1-ND        | 0.24  | 4   | 0.96  |
| L10,L11  | 330nH   | LQW2BASR33J00L     | Digi-Key | 490-5672-1-ND        | 0.24  | 2   | 0.48  |
| Q1   | MOSFET P-CH 30V   | DMP3099L-7         | Mouser   | 621-DMP3099L-7       | 0.34  | 1   | 0.34  |

| Reference   | Spec                             | Part No.                          | Supplier                 | SKU                                    | Price | Qty | Total |
|---|----------------------------------|-----------------------------------|--------------------------|--|-------|-----|-------|
| Q2,Q5   | Inductive Load Driver            | <a href="#">NUD3124LT1G</a>       | <a href="#">Mouser</a>   | 863-NUD3124LT1G                        | 0.45  | 2   | 0.90  |
| Q3,Q4   | RF LDMOS                         | <a href="#">AFT05MS003NT1</a>     | <a href="#">Mouser</a>   | 841-AFT05MS003NT1                      | 3.16  | 2   | 6.32  |
| Q6  | Thermal Sensor                   | <a href="#">MCP9700T-E/TT</a>     | <a href="#">Digi-Key</a> | <a href="#">MCP9700T-E/TTCT-ND</a>     | 0.26  | 1   | 0.26  |
| R1,R41,R42,R45,R50,<br>R64  | 33 0603 $\leq 1\% \geq 1/10W$    | <a href="#">CR0603-FX-33R0ELF</a> | <a href="#">Mouser</a>   | 652-CR0603FX-33R0ELF                   | 0.10  | 6   | 0.60  |
| R2,R3,R4,R5,R6,R7,<br>R14,R21,R22,R23,R24,<br>R25,R27,R28,R29,R131,<br>R132 | 10K 0603 $\leq 5\% \geq 1/10W$   | <a href="#">CR0603-FX-1002HLF</a> | <a href="#">Mouser</a>   | 652-CR0603-FX1002HLF                   | 0.02  | 17  | 0.42  |
| R10   | 2.2 0603 $\leq 5\% \geq 1/10W$   | <a href="#">RC0603FR-072R2L</a>   | <a href="#">Digi-Key</a> | <a href="#">311-2.2HRCT-ND</a>         | 0.10  | 1   | 0.10  |
| R11   | 35.7K 0603 $\leq 1\% \geq 1/10W$ | <a href="#">RC0603FR-0735K7L</a>  | <a href="#">Digi-Key</a> | <a href="#">311-35.7KHRCT-ND</a>       | 0.10  | 1   | 0.10  |
| R12,R91   | 11.5K 0603 $\leq 1\% \geq 1/10W$ | <a href="#">RC0603FR-0711K5L</a>  | <a href="#">Digi-Key</a> | <a href="#">311-11.5KHRCT-ND</a>       | 0.10  | 2   | 0.20  |
| R15   | 20K 0603 $\leq 1\% \geq 1/10W$   | <a href="#">CR0603-FX-2002ELF</a> | <a href="#">Digi-Key</a> | <a href="#">CR0603-FX-2002ELFCT-ND</a> | 0.10  | 1   | 0.10  |
| R19   | 16.2K 0603 $\leq 1\% \geq 1/10W$ | <a href="#">RC0603FR-0716K2L</a>  | <a href="#">Mouser</a>   | 603-RC0603FR-0716K2L                   | 0.10  | 1   | 0.10  |
| R20,R26,R49,R65,R75,<br>R76   | 2.2K 0603 $\leq 5\% \geq 1/10W$  | <a href="#">RC0603FR-072K2L</a>   | <a href="#">Digi-Key</a> | <a href="#">311-2.20KHRCT-ND</a>       | 0.10  | 6   | 0.60  |
| R34   | 12.1K 0603 $\leq 1\% \geq 1/10W$ | <a href="#">RC0603FR-0712K1L</a>  | <a href="#">Digi-Key</a> | <a href="#">311-12.1KHRCT-ND</a>       | 0.10  | 1   | 0.10  |
| R39   | 130 0603 $\leq 1\% \geq 1/10W$   | <a href="#">RC0603FR-07130RL</a>  | <a href="#">Digi-Key</a> | <a href="#">311-130HRCT-ND</a>         | 0.10  | 1   | 0.10  |
| R40   | 75 0603 $\leq 5\% \geq 1/10W$    | <a href="#">CR0603-FX-75R0ELF</a> | <a href="#">Mouser</a>   | 652-CR0603FX-75R0ELF                   | 0.10  | 1   | 0.10  |
| R43,R44,R48,R53,R95,<br>R101,R106,R107,R124,<br>R125,R126,R130              | 4.7K 0603 $\leq 5\% \geq 1/10W$  | <a href="#">CR0603-FX-4701ELF</a> | <a href="#">Mouser</a>   | 652-CR0603FX-4701ELF                   | 0.02  | 12  | 0.25  |
| R46   | 1.8K 0603 $\leq 1\% \geq 1/10W$  | <a href="#">CR0603-FX-1801ELF</a> | <a href="#">Digi-Key</a> | <a href="#">CR0603-FX-1801ELFCT-ND</a> | 0.10  | 1   | 0.10  |
| R47,R66   | 9.1K 0603 $\leq 1\% \geq 1/10W$  | <a href="#">RC0603FR-079K1L</a>   | <a href="#">Digi-Key</a> | <a href="#">311-9.10KHRCT-ND</a>       | 0.10  | 2   | 0.20  |
| R51,R63   | 22 0603 $\leq 5\% \geq 1/10W$    | <a href="#">CR0603-FX-22R0ELF</a> | <a href="#">Digi-Key</a> | <a href="#">CR0603-FX-22R0ELFCT-ND</a> | 0.10  | 2   | 0.20  |
| R52,R54,R61,R62,R94,<br>R100  | 12 0805 $\leq 5\% \geq 1/8W$     | <a href="#">RC0805FR-0712RL</a>   | <a href="#">Digi-Key</a> | <a href="#">311-12.0CRCT-ND</a>        | 0.10  | 6   | 0.60  |
| R55   | 120 0603 $\leq 1\% \geq 1/10W$   | <a href="#">RC0603FR-07120RL</a>  | <a href="#">Digi-Key</a> | <a href="#">311-120HRCT-ND</a>         | 0.10  | 1   | 0.10  |
| R56,R59   | 330 0603 $\leq 1\% \geq 1/10W$   | <a href="#">CR0603-FX-3300ELF</a> | <a href="#">Mouser</a>   | 652-CR0603FX-3300ELF                   | 0.10  | 2   | 0.20  |
| R57,R58,R67,R68,R71,<br>R72,R73,R74,R109                                    | 1K 0603 $\leq 5\% \geq 1/10W$    | <a href="#">CR0603-FX-1001HLF</a> | <a href="#">Mouser</a>   | 652-CR0603-FX1001HLF                   | 0.10  | 9   | 0.90  |
| R69,R102  | 1.6K 0603 $\leq 5\% \geq 1/10W$  | <a href="#">RC0603FR-071K6L</a>   | <a href="#">Digi-Key</a> | <a href="#">311-1.60KHRCT-ND</a>       | 0.10  | 2   | 0.20  |
| R70,R127  | 27K 0603 $\leq 1\% \geq 1/10W$   | <a href="#">RC0603FR-0727KL</a>   | <a href="#">Digi-Key</a> | <a href="#">311-27.0KHRCT-ND</a>       | 0.10  | 2   | 0.20  |
| R77,R78   | 100 0603 $\leq 1\% \geq 1/10W$   | <a href="#">AC0603FR-07100RL</a>  | <a href="#">Mouser</a>   | 603-AC0603FR-07100RL                   | 0.10  | 2   | 0.20  |
| R92,R99,R108,R133,<br>R134  | 270 0603 $\leq 5\% \geq 1/10W$   | <a href="#">CR0603-FX-2700ELF</a> | <a href="#">Mouser</a>   | 652-CR0603FX-2700ELF                   | 0.12  | 5   | 0.60  |
| R123  | 0.04 1206 $\leq 1\% \geq 1/4W$   | <a href="#">RL1206FR-070R04L</a>  | <a href="#">Digi-Key</a> | <a href="#">311-.04LWCT-ND</a>         | 0.70  | 1   | 0.70  |
| T1  | 1:1 RF Transformer               | <a href="#">MABAES0060</a>        | <a href="#">Mouser</a>   | 937-MABAES0060                         | 2.35  | 1   | 2.35  |

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|-----------|------------------------|---|--------------------------|------------------------------------|-------|-----|-------|
| T2        | 8:1 RF Transformer     | <a href="#">MABA-010143-FLUX18</a>          | <a href="#">Mouser</a>   | 937-MABA010143FLUX18               | 3.15  | 1   | 3.15  |
| U1        | EEPROM 2Mx8bit >40MHz  | <a href="#">W25Q16JVSNIQ</a>                | <a href="#">Digi-Key</a> | <a href="#">W25Q16JVSNIQ-ND</a>    | 0.60  | 1   | 0.60  |
| U2        | FPGA                   | <a href="#">EP4CE22E22C8N</a>               | <a href="#">Digi-Key</a> | <a href="#">544-3193-ND</a>        | 35.52 | 1   | 35.52 |
| U3,U8,U16 | Switching Regulator    | <a href="#">ST1S10PHR</a>                   | <a href="#">Digi-Key</a> | <a href="#">ST1S10PHR</a>          | 1.82  | 3   | 5.46  |
| U4        | Gigabit EthPhy         | <a href="#">KSZ9031RNXCC</a>                | <a href="#">Digi-Key</a> | <a href="#">KSZ9031RNXCC-ND</a>    | 2.89  | 1   | 2.89  |
| U6        | Clock Generator        | <a href="#">5P49V5923B000NLGI</a>           | <a href="#">Digi-Key</a> | <a href="#">800-3404-ND</a>        | 2.80  | 1   | 2.80  |
| U7        | RF ADC DAC             | <a href="#">AD9866BCPZ</a>                  | <a href="#">Digi-Key</a> | <a href="#">AD9866BCPZ-ND</a>      | 38.59 | 1   | 38.59 |
| U9        | RF Preamp OpAmp        | <a href="#">OPA2677IDDA</a>                 | <a href="#">Digi-Key</a> | <a href="#">296-33472-5-ND</a>     | 5.12  | 1   | 5.12  |
| U10,U11   | RF Switch              | <a href="#">4259-63</a>                     | <a href="#">Digi-Key</a> | <a href="#">1046-1011-1-ND</a>     | 0.65  | 2   | 1.30  |
| U12       | LDO Regulator          | <a href="#">AP2204MP-ADJTRG1</a>            | <a href="#">Mouser</a>   | 621-AP2204MP-ADJTRG1               | 0.51  | 1   | 0.51  |
| U13       | Slow ADC               | <a href="#">MAX11613EUA</a>                 | <a href="#">Mouser</a>   | 700-MAX11613EUA                    | 1.75  | 1   | 1.75  |
| U14       | Current Sense AMP      | <a href="#">INA199A1DCKR</a>                | <a href="#">Mouser</a>   | 595-INA199A1DCKR                   | 0.83  | 1   | 0.83  |
| U15       | Digital Rheostat 5K    | <a href="#">MCP4662-502E/UN</a>             | <a href="#">Digi-Key</a> | <a href="#">MCP4662-502E/UN-ND</a> | 1.30  | 1   | 1.30  |
| U17       | LDO Regulator          | <a href="#">TPS73025DBVR</a>                | <a href="#">Mouser</a>   | 595-TPS73025DBVR                   | 0.69  | 1   | 0.69  |
| U19       | LDO 10V 150mA          | <a href="#">LP2985-10DBVR</a>               | <a href="#">Mouser</a>   | 595-LP2985-10DBVR                  | 0.58  | 1   | 0.58  |
| X1        | 25MHz XTAL             | <a href="#">NX3225SA-25.000M-STD-CSR-3</a>  | <a href="#">Digi-Key</a> | <a href="#">644-1267-1-ND</a>      | 1.09  | 1   | 1.09  |
| X2        | 38.4MHz Osc 3.3V≤10ppm | <a href="#">ASTXR-12-38.400MHZ-514054-T</a> | <a href="#">Digi-Key</a> | <a href="#">535-13192-1-ND</a>     | 2.18  | 1   | 2.18  |

**Total Price:** \$160.84

**Line Items:** SMT:76 TH:4 Total:80

**Parts:** SMT:365 TH:4 Total:369

**Pins:** SMT:1087 TH:36 Total:1123

**Do Not Include:** B55 B104 B107 C42 C47 C54 C55 C58 C59 C79 C80 C82 C83 C85 C148 C149 CL1 CL2 CL3 CL4 CL5 CL6 CL7 CL8 CL10 CN7 CN8 CN9 CN10 D6 D7 DB1 DB2 DB3 DB6 DB7 DB8 DB9 DB11 DB12 DB13 DB14 DB15 DB17 DB20 DB23 DB27 J3 J4 J6 J7 J8 J12 J14 J16 J20 K2 R8 R9 R13 R16 R17 R36 R38 R60 R93 R96 R97 R98 R104 R112 R115 R117 R118 R119 R128 R129 R135 RF1 RF2 RF3 RF4 RF5 RF6 RF7 T3 X3