

**Bill of materials**
**Table 1. BOM**

| Item | Q.ty | Ref.                  | Part/value   | Description                                | Manufacturer | Order code                      |
|------|------|-----------------------|--|--|--------------|---------------------------------|
| 1    | 4    | BT1, BT2,<br>BT3, BT4 | B3U-3100P  | Switch button                              | Omron        | B3U-3100P                       |
| 2    | 1    | S2                    | STG3692QTR,<br>VFQFPN 16<br>2.6x1.8x0.5              | Switch digital                             | ST           | STG3692QTR                      |
| 3    | 1    | U2                    | LIS2DU12   | LIS2DU12TR, LGA<br>2X2X0.74MAX 12<br>LEADS | ST           | LIS2DU12TR                      |
| 4    | 1    | U3                    | STBC08PMR,<br>VFDFPN 6 3x3                           | LiPo charger                               | ST           | STBC08PMR                       |
| 5    | 1    | U4                    | LIS2MDLTR,<br>LGA2X2X0.7 12<br>LEADS                 | LIS2MDL                                    | ST           | LIS2MDLTR                       |
| 6    | 1    | U6                    | STTS22HTR, UDFN<br>2X2X.55 6L<br>PITCH0.65           | STTS22H                                    | ST           | STTS22HTR                       |
| 7    | 1    | U9                    | LSM6DSV16XTR,<br>VFLGA2.5X3X.86 14L<br>P.5 L.475X.25 | LSM6DSV16x                                 | ST           | LSM6DSV16XTR                    |
| 8    | 1    | U10                   | LPS22DF  | LPS22DF                                    | ST           | LPS22DF                         |
| 9    | 1    | U11                   | MP23DB01HP,<br>RHLGA<br>3.5X2.65X0.98 mm 4L          | MP23DB01HP                                 | ST           | MP23DB01HPTR                    |
| 10   | 1    | U13                   | LDFMPVR, DFN6 2x2                                    | LDFM LDO adj                               | ST           | LDFMPVR                         |
| 11   | 1    | U14                   | ST1PS01EJR, CSP P<br>0.4 mm                          | Step down                                  | ST           | ST1PS01EJR                      |
| 12   | 1    | U16                   | ST6G3244MEBJR  | SD card driver                             | ST           | ST6G3244MEBJR                   |
| 13   | 1    | U17                   | ST25DV04KC-IE8C3<br>(1), UDFFPN 8 2x3x0.6            | ST25DV04KC <sup>(1)</sup> NFC              | ST           | ST25DV04KC-IE8C3 <sup>(1)</sup> |
| 14   | 1    | U18                   | LD39115J18R, CSP P<br>0.4 mm                         | LDO 1v8                                    | ST           | LD39115J18R                     |
| 15   | 1    | U19                   | BLUENRG 355AC,<br>VFQFPN 32 5x5x1.0<br>mm            | BlueNRG-LP                                 | ST           | BLUENRG 355AC                   |
| 16   | 1    | U20                   | STWLC68JRH,<br>STWLC68                               | Wireless charger                           | ST           | STWLC68JRH                      |
| 17   | 1    | U1                    | STM32U585AI6Q,<br>UFBGA 169 7x7x0.6 P<br>0.5 mm      | STM32U585AI6Q<br>(169_SMPS)                | ST           | STM32U585AI6Q                   |
| 18   | 1    | U8                    | STC3115AIJT, CSP P<br>0.4 mm                         | GAS gauge                                  | ST           | STC3115AIJT                     |
| 19   | 1    | FLEX Qvar             | FLEX Qvar  | FLEX Qvar                                  | ST           | QV EL V2.1                      |
| 20   | 1    | MT                    | 0.4 pF   | Capacitor                                  | MURATA       | GRM0334C1HR40WA01               |
| 21   | 1    | U12                   | TCPP01-M12,<br>QFN-12L                               | TCPP01-M12                                 | ST           | TCPP01-M12                      |

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| 22   | 2    | R57, R58           | 500R                      | Resistor                                       | VISHAY               | PLT0603Z5000AST5               |
| 23   | 1    | C44                | 47 nF                     | Capacitor                                      | MURATA               | GRM155R71H473KE14D             |
| 24   | 1    | C26                | 47 uF                     | GRM188R60G476ME15D                             | MURATA               | GRM188R60G476ME15D             |
| 25   | 2    | C52, C53           | 47 nF                     | Capacitor                                      | MURATA               | GRM155R71H473KE14D             |
| 26   | 2    | D2, D3             | SMAJ16A-E3/61             | Protection diode                               | Vishay Semiconductor | SMAJ16A-E3/61                  |
| 27   | 1    | FT1                | 2 pF                      | Capacitor                                      | MURATA               | GRM0335C1H2R0BA01D             |
| 28   | 1    | T8                 | STL6N3LLH6, PowerFLAT 2x2 | MOSFET-P+D_(G-3,S-(4+Ex2), D-(1256+Ex1))_w_box | ST                   | <a href="#">STL6N3LLH6</a>     |
| 29   | 3    | D1, D4, D12        | ZLLS400QTA                | Schottky diode                                 | ON SEMICONDUCTOR     | ZLLS400QTA                     |
| 30   | 1    | FT2                | 2.6 pF                    | Capacitor                                      | MURATA               | GJM0335C1H2R6BB01D             |
| 31   | 2    | JP2, JP3           | FTSH-107-01-L-D           | Prog connector, MHDR2X7                        | Samtec               | FTSH-107-01-L-D                |
| 32   | 1    | J_USB_C1           | 632723100011              | USB Type-C®                                    | Würth Elektronik     | 632723100011                   |
| 33   | 1    | JP4                | MC-SVT1-S07-G             | SPI connector 1x7                              | Multicomp            | MC-SVT1-S07-G                  |
| 34   | 1    | JP6                | MC-SVT1-S04-G             | WC connector                                   | Multicomp            | MC-SVT1-S04-G                  |
| 35   | 1    | Q1                 | STR2P3LLH6, SOT-23        | P-MOS  | ST                   | <a href="#">STR2P3LLH6</a>     |
| 36   | 1    | D19                | ESDA25P35-1U1M, QFN-2L    | ESDA25P35-1U1M                                 | ST                   | <a href="#">ESDA25P35-1U1M</a> |
| 37   | 1    | R33                | 30R                       | Resistor                                       | Multicomp            | MCWR04X30R0FTL                 |
| 38   | 1    | L6                 | R0                        | Inductor                                       | Multicomp            | MCWR04X000 PTL                 |
| 39   | 1    | C50                | 4.7 n                     | Capacitor                                      | MURATA               | GCM155R71H472KA37D             |
| 40   | 2    | C32, C33           | 4.7 pF                    | Capacitor                                      | Multicomp            | MC0402N4R7C500CT               |
| 41   | 2    | C30, C31           | 3.3 pF                    | Capacitor                                      | Multicomp            | MC0402N3R3C500CT               |
| 42   | 1    | C99                | 10 uF                     | Capacitor                                      | MURATA               | GRM155R60G106ME44              |
| 43   | 1    | SPK1               | PKMCS0909E4000-R1         | Speaker Piezo                                  | MURATA               | 2529461                        |
| 44   | 3    | C58, C59, C60      | 10 u                      | Capacitor                                      | TDK                  | C1608X5R1E106M080AC            |
| 45   | 1    | ANT1               | ANT016008LCS2442 MA1      | Chip antenna                                   | TDK                  | ANT016008LCS2442MA1            |
| 46   | 1    | X2                 | ABS06-107-32.768KH Z-T    | Crystal 32.768 kHz                             | ABRACON              | ABS06-107-32.768KHZ-T          |
| 47   | 4    | C43, C46, C47, C51 | 100 nF                    | Cap  | TDK                  | CGA3E2X7R1H104K080A A          |
| 48   | 1    | L2                 | 10 uH                     | Inductor                                       | TDK                  | VLS252012HBX-100M-1            |
| 49   | 2    | L1, L7             | 2.2 uH                    | Inductor                                       | TDK                  | VLS252010HBX-2R2M-1            |
| 50   | 2    | R20, R62           | 4k7                       | Resistor                                       | Multicomp            | MCWR06X4701FTL                 |
| 51   | 1    | R40                | 75k                       | Resistor                                       | Multicomp            | MCWR04X7502FTL                 |
| 52   | 1    | R11                | 5K1                       | Resistor                                       | Multicomp            | MCWR04X5101FTL                 |
| 53   | 1    | R10                | 270 K                     | Resistor                                       | Multicomp            | MCWR04X2703FTL                 |

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| 54   | 1    | S4  | TDA01H0SB1R         | TDA01H0SB1R                     | C&K COMPONENTS   | TDA01H0SB1R           |
| 55   | 1    | J4  | DM3AT-SF-PEJM5      | SD card holder                  | HIROSE           | DM3AT-SF-PEJM5        |
| 56   | 1    | L8  | 12 uH               | Inductor wireless CH            | Wurth            | 760308103202 WE       |
| 57   | 5    | R47, R60, R66, R76, R85   | 0R                  | Resistor                        | Multicomp        | MC0603SAF0000T5E      |
| 58   | 7    | C21, C22, C48, C63, C64, C65, C95   | 1 uF                | Capacitor                       | TDK              | C1005X5R1E105K050BC   |
| 59   | 4    | C20, C38, C76, C80  | 4.7 uF              | Capacitor                       | TDK              | C1005X5R1A475M050BC   |
| 60   | 2    | D11, D20  | BAT54KFILM, SOD-523 | BAT54KFILM                      | ST               | BAT54KFILM            |
| 61   | 29   | C2, C3, C5, C7, C9, C10, C12, C14, C18, C23, C34, C39, C40, C41, C42, C61, C62, C66, C67, C69, C72, C74, C75, C77, C79, C81, C100, C102, C103 | 100 nF              | Capacitor                       | Multicomp        | MC0402B104K250CT      |
| 62   | 1    | Q3  | NTA4151PT1G         | NTA4151PT1G                     | On Semiconductor | NTA4151PT1G           |
| 63   | 7    | T1, T2, T3, T4, T5, T6, T7  | NTA4153NT1G         | MOSFET-N+D_(G1,S2,D3), MOSFET-N | ON Semi          | NTA4153NT1G           |
| 64   | 1    | COIL  | 78171-0002          | Connector 2pol                  | MOLEX            | 78171-0002            |
| 65   | 1    | BATT  | Battery Conn. 3 p   | JUMPER2                         | MOLEX            | 78171-0003            |
| 66   | 1    | R93   | 2k4                 | Resistor                        | PANASONIC        | ERJ-2RKF2401X         |
| 67   | 1    | R83   | 0.05R               | 0.05                            | Panasonic        | ERJ8CWFR050V          |
| 68   | 1    | D10   | KPT-1608QBC-D       | LED_BLUE                        | Kingbright       | KPT-1608QBC-D         |
| 69   | 1    | C36   | 33 nF               | Capacitor                       | TDK              | CGA2B3X7R1H333K050B B |
| 70   | 4    | R30, R81, R82, R90  | 1 k                 | Resistor                        | Multicomp        | MC00625W040211K       |
| 71   | 2    | D7, D9  | KPT-1608YC          | LED_ORANGE, 588nm               | Kingbright       | KPT-1608YC            |
| 72   | 2    | D5, D8  | KPT-1608SGC         | LED_GREEN                       | Kingbright       | KPT-1608SGC           |
| 73   | 1    | D6  | KPT-1608EC          | LED_RED                         | Kingbright       | KPT-1608EC            |
| 74   | 1    | R9  | 750 K               | Resistor                        | Multicomp        | MCMR04X7503FTL        |
| 75   | 13   | R15, R16, R17, R18, R19, R23, R24, R25, R29, R32,   | 4k7                 | Resistor                        | Multicomp        | MCMR04X4701FTL        |

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|      |      | R37, R38, R41                                  |                                    |                    |                  |                                   |
| 76   | 3    | R2, R5, R7                                     | 220 K                              | Resistor           | Multicomp        | MCMR04X2203FTL                    |
| 77   | 2    | R3, R79  | 1 M                                | Resistor           | Multicomp        | MCMR04X1004FTL                    |
| 78   | 1    | S1   | SSAJ120100                         | Power switch       | ALPS             | SSAJ120100                        |
| 79   | 3    | C29, C37, C57                                  | 22 n                               | Capacitor          | MURATA           | GRM155R71H223KA12D                |
| 80   | 1    | L3   | 470 uH                             | SDR0805-4R7ML      | Bourns           | SDR0805-4R7ML                     |
| 81   | 10   | C1, C4, C8, C11, C13, C15, C54, C55, C56, C101 | 10 uF                              | Capacitor          | Multicomp        | MC0603X106M6R3CT                  |
| 82   | 2    | C96, C98                                       | 110 pF                             | Capacitor          | Multicomp        | MC0402N111J500CT                  |
| 83   | 1    | ANT2   | U.FL-R-SMT-1(10)                   | Ext. antenna       | HIROSE           | U.FL-R-SMT-1(10)                  |
| 84   | 2    | C6, C73  | 220 nF                             | Capacitor          | KEMET, Multicomp | C0603X224K4RACTU                  |
| 85   | 7    | R39, R67, R68, R69, R70, R73, R80              | 150 k                              | Resistor           | Multicomp        | MC00625W04021150K                 |
| 86   | 8    | R45, R46, R52, R53, R54, R55, R92, R95         | 10 k                               | Resistor           | Multicomp        | MC00625W0402110K                  |
| 87   | 2    | R1, R78  | 1K5                                | Resistor           | Multicomp        | MC00625W040211K5                  |
| 88   | 7    | R13, R21, R22, R31, R34, R35, R36              | 100R                               | Resistor           | Multicomp        | MC00625W04021100R                 |
| 89   | 2    | R26, R27                                       | 22R                                | Resistor           | Multicomp        | MC00625W0402122R                  |
| 90   | 8    | R8, R44, R63, R86, R88, R100, R101, R104       | 0R                                 | Resistor           | Multicomp        | MC00625W040210R                   |
| 91   | 1    | U5   | USBLC6-2P6, SOT666                 | USB ESD protection | ST               | <a href="#">USBLC6-2P6</a>        |
| 92   | 1    | JP1  | FH33J-4S-0.5SH(10)                 | FLEX connector 4p  | Hirose           | FH33J-4S-0.5SH(10)                |
| 93   | 1    | X4   | NX2016SA-26MHZ-EXS00A-CS06025-4    | Crystal, 32 MHz    | NDK              | NX2016SA-32MHZ-EXS00A-CS06654     |
| 94   | 1    | X3   | NX2012SA-32.768KH Z-EXS00A-MU00389 | Crystal 32.768 kHz | NDK America      | NX2012SA-32.768KHZ-EXS00A-MU00389 |
| 95   | 1    | X1   | NX2520SA-16MHZ-STD-CSW-5           | Crystal 16 MHz     | NDK              | NX2520SA-16MHZ-STD-CSW-5          |
| 96   | 1    | J1   | BL1-036-G-700-01                   | ADAPTER_DIL24      | ETEC             | BL1-036-G-700-01                  |
| 97   | 1    | Plug 2P  | Plug 2P                            | Connector plug 2P  | MOLEX            | 36920-0201                        |
| 98   | 1    | L4   | 2.4 nH                             | Inductor           | MURATA           | LQG15HS2N4B02D                    |
| 99   | 1    | R12  | NCU18XH103E60RB                    | NTC                | MURATA           | NCU18XH103E60RB                   |
| 100  | 4    | C35, C45, C70, C71                             | 2.2 u                              | Capacitor          | MURATA           | GRM155R61E225KE11D                |
| 101  | 1    | C49  | 1.8 n                              | Capacitor          | MURATA           | GRM155R71H182JA01D                |

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| 102  | 1    | L5               | 3.3 nH                    | Inductor      | MURATA       | LQP15MN3N3W02D     |
| 103  | 2    | C89, C94         | 0.8 p                     | Capacitor     | MURATA       | GRM1555C1HR80BA01J |
| 104  | 2    | C78, C82         | 3 pF                      | Capacitor     | MURATA       | GRM1555C1H3R0BA01D |
| 105  | 1    | C86              | 20 pF                     | Capacitor     | MURATA       | GRM1555C1H200GA01  |
| 106  | 1    | C87              | 0.5 pF                    | Capacitor     | MURATA       | GRM1555C1HR50CA01D |
| 107  | 1    | C90              | 1.5 pF                    | Capacitor     | MURATA       | GRM1555C1H1R5CA01D |
| 108  | 3    | C24, C25,<br>C27 | 10 uF                     | Capacitor     | MURATA       | GRM188R60J106ME47D |
| 109  | 2    | C83, C84         | 22 pF                     | Capacitor     | MURATA       | GRM1555C1H220JZ01D |
| 110  | 2    | D14, D15         | ESDALCL5-1BM2,<br>SOD-882 | ESDALCL5-1BM2 | ST           | ESDAXLC6-1BT2      |

1. U17 has been replaced from revision A to revision B: ST25DV04K-IER8C3 to ST25DV04KC-IE8C3

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