

eCall Demo Board

| Designator   | Quantity | Description   | Manufacturer                     | PartNumber               | Alternate Manufacturer | Alternate PartNumber |
|--|----------|---|----------------------------------|--------------------------|------------------------|----------------------|
| IPC8   | 1        | Printed Circuit Board   | Any                              | SAT0011                  |                        |                      |
| BH1  | 1        | Battery Holder, Plastic, 16550, TH  | Keystone                         | 1043                     |                        |                      |
| C1, C18, C23   | 3        | CAP, CER, 1uF, 16V, +10%, X7R, 0603   | TDK                              | C160X7R1C105K            |                        |                      |
| C2, C5, C6, C7, C8, C9, C44, C63, C70, C71                                     | 10       | CAP, CER, 0.1uF, 10V, +10%, X7R, 0402   | MuRata                           | GRM155R71A104KA01D       |                        |                      |
| C3, C4, C32, C40, C62  | 5        | CAP CER 2200PF 50V 10% X7R 0402   | Taiyo Yuden                      | UMK105B722K1-F           |                        |                      |
| C10, C12, C15, C16, C21, C64, C65  | 7        | CAP CER 100UF 50V 10% X7R 2220  | TDK Corporation                  | C5750X7R1H106K           |                        |                      |
| C11  | 1        | CAP ALUM 220UF 50V 20% RADIAL   | United Chem-Con                  | EGXL50E1L1221M120S       |                        |                      |
| C13, C14   | 2        | CAP ALUM 470UF 50V 20% RADIAL   | Nichicon                         | UBT1H471MH01TQ           |                        |                      |
| C17  | 1        | CAP, CER, 22uF, 10V, +10%, X7R, 1206  | MuRata                           | GRM31CR1A226K1E15L       |                        |                      |
| C19  | 1        | CAP, CER, 6800pF, 50V, +/-10%, X7R, 0603  | MuRata                           | GRM158R1H682K401D        |                        |                      |
| C20, C26, C31  | 3        | CAP, CER, 1000pF, 50V, +5%, X7R, 0603   | Kemet                            | C0603C102J5RACU          |                        |                      |
| C22  | 1        | CAP CER 47UF 10V 10% X7R 1210   | Murata Electronics North America | GRM32ER71A476KE15L       |                        |                      |
| C24, C46, C56, C60   | 4        | CAP, CER, 2.2uF, 16V, +10%, X7R, 0805   | Taiyo Yuden                      | EMK212B7225KG-T          |                        |                      |
| C28, C29, C43, C45, C47, C48, C69  | 7        | CAP, CER, 0.1uF, 50V, +10%, X7R, 0603   | TDK                              | C160X7R1H104K            |                        |                      |
| C27  | 1        | CAP, CER, 4.7uF, 16V, +/-10%, X7R, 0805   | MuRata                           | GRM21BR71C475KA73L       |                        |                      |
| C29, C30, C33, C53, C57  | 5        | CAP CER 0.22UF 50V 10% X7R 0603   | TDK Corporation                  | GA3E3X7R1H224K           |                        |                      |
| C34  | 1        | CAP, CER, 30pF, 50V, +/-5%, C0G/NPO, 0603   | MuRata                           | GRM1885C1H300JA01D       |                        |                      |
| C35  | 1        | CAP, CER, 88pF, 50V, +/-5%, C0G/NPO, 0603   | TDK                              | C1608COG1H88J            |                        |                      |
| C36  | 1        | CAP CER 680pF 50V +/-5% C0G/NPO 0603  | TDK                              | C1608COG1H68J1           |                        |                      |
| C37, C38, C39, C41, C42, C52, C59  | 7        | CAP, CER, 0.01uF, 50V, +10%, X7R, 0603  | TDK                              | C160X7R1H103K            |                        |                      |
| C49, C81   | 2        | CAP, CER, 1uF, 50V, +/-10%, X7R, 0805   | MuRata                           | GRM21BR71H105KA12L       |                        |                      |
| C50  | 1        | CAP ALUM 330UF 50V 20% RADIAL   | Nichicon                         | UBT1H331M401TQ           |                        |                      |
| C51, C58   | 2        | CAP CER 0.68UF 50V 10% X7R 0805   | TDK Corporation                  | C2012C7R1H68K425AB       |                        |                      |
| C64, C65   | 2        | CAP, CER, 470nF, 50V, +10%, X7R, 0603   | TDK                              | C160X7R1H471K            |                        |                      |
| D1   | 1        | LED GREEN 0.2MM 13MCD 0402 SMD  | Rohm Semiconductor               | SML-P12PT186             |                        |                      |
| D2   | 1        | LED ORANGE 0.2MM 100MCD 0402 SMD  | Rohm Semiconductor               | SML-P12OT186             |                        |                      |
| D3   | 1        | LED YELLOW 0.2MM 130MCD 0402 SMD  | Rohm Semiconductor               | SML-P12YT186             |                        |                      |
| D4   | 1        | LED RED 0.2MM 60MCD 0402 SMD  | Rohm Semiconductor               | SML-P12VT186             |                        |                      |
| D5, D6   | 2        | Schottky Diodes & Rectifiers 20 Amp 45 Volt 900 Amp IFSM  | Vishey Semiconductors            | VS-20V104FN              |                        |                      |
| D6, D7   | 2        | DIODE ZENER 500mW 15V   | Micro Commercial Co              | MMSZ5245B-TP             |                        |                      |
| D8   | 1        | Diode, Schottky, 15V, 1A, DC-2148A  | Microsemi                        | LSM115JE-3TR13           |                        |                      |
| FID1, FID2, FID3, FID4, FID5, FID6   | 6        | Fiducial mark. There is nothing to buy or mount.  | NA                               | NA                       |                        |                      |
| H1, H2, H3, H4   | 4        | MACHINE SCREW PAN SLOTTED M3  | Keystone Electronics             | 29311                    |                        |                      |
| H5, H6, H7, H8   | 4        | STANDOFF HEX M3 THR BRASS 9MM   | Harwin Inc                       | R30-1010902              |                        |                      |
| H9, H10  | 2        | CONN TERM FEMALE 20-24AWG TIN   | Molex Inc                        | 0430300001               |                        |                      |
| J1   | 1        | Header, TH, 100 mil, 7x2, Gold plated, Shrouded   | Sullins Connector Solutions      | SBH11-PBPC-D07-ST-BK     |                        |                      |
| J2   | 1        | Connector, D-Sub, Male, R/A, 15pin, TH  | FCI                              | 10080926-P154XLF         |                        |                      |
| J5   | 1        | CONN RECEPT 19POS 3MM VERT DUAL   | Molex Inc                        | 0430250809               |                        |                      |
| J4, J5   | 2        | TERMINAL BLOCK 3.5MM 2POS PCB   | On Shore Technology Inc          | ED555/2DS                |                        |                      |
| J6   | 1        | Power Jack, mini, 2.5mm OD, R/A, TH   | Switchcraft                      | RAPCT12X                 |                        |                      |
| L1   | 1        | INDUCTOR POWER 2.7UH 17A SMD  | Bourns Inc.                      | SRP1250-2R7M             |                        |                      |
| L2   | 1        | Inductor, Shielded Drum Core, Ferrite, 47uH, 1A, 0.13 ohm, SMD  | Coilcraft                        | MS573411-473MLB          |                        |                      |
| L3   | 1        | Inductor, Shielded, Composite, 6.8uH, 6A, 0.03 ohm, SMD   | Coilcraft                        | XAL5050-682MB            |                        |                      |
| L4   | 1        | Coupled Inductor  | Sagami                           | 7G08B-100M-R             |                        |                      |
| M1, M3   | 2        | Automotive N-Channel 60 V (D-S) 175DEG C MOSFET   | VISHAY SILICONIX                 | SO2360EES-T1-GE3         |                        |                      |
| O1, O7   | 2        | Automotive P-Channel 60 V (D-S) 175 °C MOSFET   | Vishey/Siliconix                 | SQJ461EP-T1-GE3          |                        |                      |
| O2, O4, O5, O6   | 4        | MOSFET, N-CH, 60V, 50A, SON 5x6mm   | Texas Instruments                | CS018534Q5A              | None                   |                      |
| O3   | 1        | MOSFET, N-CH, 60V, 172A, SON 5x6mm  | Texas Instruments                | CS018532Q6B              | None                   |                      |
| O8   | 1        | P-Channel 20-V (D-S) MOSFET   | Vishey/Siliconix                 | S07137DP-T1-GE3          |                        |                      |
| R1   | 1        | RES, 220 ohm, 5%, 0.063W, 0402  | Vishey-Dale                      | CRCW0402220R_NED         |                        |                      |
| R3, R6, R7, R8, R9, R10, R12, R13, R14, R15, R49, R50, R77                     | 13       | RES, 0 ohm, 5%, 0.1W, 0603  | Panasonic                        | ERJ-3GEY0R00V            |                        |                      |
| R4, R5, R51, R68   | 4        | RES, 47k ohm, 5%, 0.063W, 0402  | Vishey-Dale                      | CRCW040247K0_NED         |                        |                      |
| R11, R22, R34, R40, R46, R47, R52, R55, R56, R57, R66, R67, R69, R71, R75, R78 | 16       | RES, 100k ohm, 5%, 0.1W, 0603   | Vishey-Dale                      | CRCW0603100K_NEA         |                        |                      |
| R16, R17   | 2        | RES, 487 ohm, 1%, 0.063W, 0402  | Vishey-Dale                      | CRCW0402487RFKED         |                        |                      |
| R18  | 1        | RES, 432 ohm, 1%, 0.063W, 0402  | Vishey-Dale                      | CRCW0402432RFKED         |                        |                      |
| R19  | 1        | RES, 2.10Mega ohm, 1%, 0.1W, 0603   | Vishey-Dale                      | CRCW060321M0FKEA         |                        |                      |
| R20  | 1        | RES, 0.1 ohm, 1%, 2W, 2512  | Stackpole Electronics Inc        | CSRN2512FK100            |                        |                      |
| R21, R61, R65  | 3        | RES 1.50K OHM 1/10W 1% 0603 SMD   | Yageo                            | RC0603FR-071K5L          |                        |                      |
| R23, R32, R38  | 3        | RES, 49.9 ohm, 1%, 0.1W, 0603   | Vishey-Dale                      | CRCW0603499RFKEA         |                        |                      |
| R24, R33   | 2        | RES, 10.0 ohm, 1%, 0.1W, 0603   | Yageo America                    | RC0603FR-0710RL          |                        |                      |
| R25  | 1        | RES, 21.0 ohm 5% 1/4W 0603 SMD  | VISHAY                           | W39SR0100F5A             |                        |                      |
| R26, R72   | 2        | RES, 1.18Mega ohm, 1%, 0.1W, 0603   | Vishey-Dale                      | CRCW0603118MFKEA         |                        |                      |
| R29  | 1        | RES, 287k ohm, 1%, 0.1W, 0603   | Yageo America                    | RC0603FR-07287KL         |                        |                      |
| R29, R37   | 2        | RES, 83.8k ohm, 1%, 0.1W, 0603  | Yageo America                    | RC0603FR-0783K6L         |                        |                      |
| R30  | 1        | RES, 432k ohm, 1%, 0.1W, 0603   | Yageo America                    | RC0603FR-07432KL         |                        |                      |
| R31  | 1        | RES, 0.015 ohm, 1%, 2W, 2512  | Stackpole Electronics Inc        | CSRN2512FK15L0           |                        |                      |
| R35  | 1        | RES, 191k ohm, 1%, 0.1W, 0603   | Vishey-Dale                      | CRCW0603191KFKEA         |                        |                      |
| R36, R43   | 2        | RES, 12.0k ohm, 1%, 0.1W, 0603  | Yageo America                    | RC0603FR-0712KL          |                        |                      |
| R42  | 1        | RES, 27.4k ohm, 1%, 0.1W, 0603  | Yageo America                    | RC0603FR-0727K4L         |                        |                      |
| R44  | 1        | RES, 2.10k ohm, 1%, 0.1W, 0603  | Yageo America                    | RC0603FR-0721KL          |                        |                      |
| R48  | 1        | RES, 200k ohm, 5%, 0.1W, 0603   | Vishey-Dale                      | CRCW0603200K_NEA         |                        |                      |
| R53  | 1        | RES, 510k ohm, 5%, 0.1W, 0603   | Vishey-Dale                      | CRCW0603510K_NEA         |                        |                      |
| R54, R63   | 2        | RES, 20k ohm, 5%, 0.1W, 0603  | Vishey-Dale                      | CRCW060320K0_NEA         |                        |                      |
| R58, R59   | 2        | RES, 10k ohm, 5%, 0.1W, 0603  | Vishey-Dale                      | CRCW060310K0_NEA         |                        |                      |
| R60, R62   | 2        | RES 5 OHM 1/3W 1% 0805 SMD  | Susumu                           | RL1220S-SR6-F            |                        |                      |
| R64  | 1        | RES, 1.00k ohm, 1%, 0.1W, 0603  | Yageo America                    | RC0603FR-071KL           |                        |                      |
| R70  | 1        | RES, 2.37Mega ohm, 1%, 0.1W, 0603   | Vishey-Dale                      | CRCW0603237MFKEA         |                        |                      |
| R73  | 1        | RES, 20.0 ohm, 1%, 0.25W, 1206  | Panasonic                        | ERJ-8ENF20R0V            |                        |                      |
| R74  | 1        | RES, 27.4k ohm, 1%, 0.1W, 0603  | Vishey-Dale                      | CRCW060327K4FKEA         |                        |                      |
| R76  | 1        | RES, 54.9k ohm, 1%, 0.1W, 0603  | Vishey-Dale                      | CRCW0603549KFKEA         |                        |                      |
| S1, S4   | 2        | Switch, Push Button, SMD  | Alps                             | SKRKAEE010               | Any                    | Equivalent           |
| S2   | 1        | SWITCH TACTILE SPST-NO 0.05A 12V  | TE Connectivity                  | 1828810-7                |                        |                      |
| S3   | 1        | SWITCH TACTILE SPST-NC 0.05A 50V  | ESWITCH                          | TL3310AF120QG            |                        |                      |
| TP1, TP2, TP4, TP5, TP7, TP8, TP15, TP16, TP17                                 | 9        | Test Point, TH, Miniature, Red  | Keystone                         | 5000                     |                        |                      |
| TP3, TP6, TP13, TP14   | 4        | Test Point, TH, Miniature, White  | Keystone                         | 5002                     |                        |                      |
| TP9, TP10, TP11, TP12  | 4        | Test Point, TH, Miniature, Black  | Keystone                         | 5001                     |                        |                      |
| U1   | 1        | IC MCU 16BIT 8K FLASH   | Texas Instruments                | MSP430F2232TRHAT         |                        |                      |
| U2   | 1        | Microphone  | PUI Audio, Inc                   | PO4-2424-C24-F           |                        |                      |
| U3   | 1        | 3-V to 5.5-V Multichannel RS-232 Line Driver / Receiver with +/-5-kV ESD Protection, -40 to 125 degC, 20-Pin TSSOP (P/W), Green (RoHS & no Sn/Bi) | Texas Instruments                | TRS3223QPRQ1             | None                   | Equivalent           |
| U4, U6   | 2        | 60-V, 5-uA IQ, 100-mA, Low-Dropout VOLTAGE REGULATOR With Enable and Power-Good, DGND008B   | Texas Instruments                | TPS7A1601QDGNRQ1         | None                   |                      |
| U5   | 1        | Automotive Catalog Low IQ, single Boost, dual synchronous Buck controller   | Texas Instruments                | TPS43330QDAPRQ1          |                        |                      |
| U9   | 1        | 10W Mono Automotive Digital Amplifier with Diagnostics, PWP0016B  | Texas Instruments                | TAS5421PWP               | None                   |                      |
| Y1   | 1        | Crystal 32.768kHz 12.5pF SMD  | NDK                              | NX321A5A-32.768K-STD-MLU |                        |                      |
| Z1   | 0        | Resistor, LFR04, 0.2W, 1250mA   | KIP Energy                       | LFR1860P                 |                        |                      |
| Z2, Z7, Z8, Z9, Z10, Z11, Z12  | 0        | RES, 0 ohm, 5%, 0.1W, 0603  | Panasonic                        | ERJ-3GEY0R00V            |                        |                      |
| TP18   | 0        | Test Point, TH, Miniature, White  | Keystone                         | 5002                     |                        |                      |

Notes:  
Substitutions made according to Alternate PartNumber must meet datasheet parameters, not just the Description specified.

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