

|          |          | Board Name & Rev No                                                                                                                                                                                                                                                                                                                                                                                                               | TMDXICE3359 - 2.1A                     |                                                          | Date of Release                    | 4/16/2013          |                        |                    |              |         |         |
|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|----------------------------------------------------------|------------------------------------|--------------------|------------------------|--------------------|--------------|---------|---------|
|          |          | Revision                                                                                                                                                                                                                                                                                                                                                                                                                          | 7                                      |                                                          |                                    |                    |                        |                    |              |         |         |
|          |          | Schematics File & Revision                                                                                                                                                                                                                                                                                                                                                                                                        | TMDXICE3359_3H0013_R<br>EV2_1A_SCH.dsn |                                                          |                                    |                    |                        |                    |              |         |         |
| Item Num | Quantity | Part Reference                                                                                                                                                                                                                                                                                                                                                                                                                    | Value                                  | DescriptiveText                                          | Mfr                                | MfrNum             | PCB Footprint          | TIntPartnum<br>ber | Vendor       | Cost100 | Cost10K |
| 1        | 1        | A1                                                                                                                                                                                                                                                                                                                                                                                                                                | OSD-9616                               | LCD Passive Matrix<br>Monochrome 96x16                   | OSD Displays                       | OSD9616P0899-10    | -                      | 4P0034             | OSD Displays | 7.38    | 5.12    |
| 2        | 83       | C1 C2 C3 C5 C9 C10 C11 C12 C15 C34 C35 C36<br>C37 C43 C46 C56 C68 C69 C98 C106 C108<br>C109 C110 C111 C112 C113 C114 C116 C119<br>C120 C123 C124 C125 C130 C131 C132 C134<br>C135 C137 C139 C142 C143 C148 C149 C150<br>C151 C152 C155 C157 C160 C163 C164 C166<br>C169 C170 C171 C172 C173 C175 C177 C181<br>C182 C187 C189 C190 C192 C193 C194 C196<br>C197 C201 C202 C203 C204 C218 C219 C229<br>C236 C240 C254 C264 C275 C277 | 0.01uF                                 | Capacitor 0.01uF 16V 10%<br>0402                         | Panasonic                          | ECJ-0YB1C103K      | SM-7351-CAP-0402       | 1C0012             | Digikey      | 0.00    | 0.015   |
| 3        | 53       | C4 C6 C7 C14 C16 C17 C18 C19 C20 C21 C22<br>C32 C41 C55 C70 C71 C72 C73 C74 C75 C77<br>C78 C79 C80 C82 C83 C85 C86 C87 C88 C91<br>C93 C96 C159 C162 C167 C185 C188 C206<br>C207 C208 C213 C214 C220 C221 C225 C227<br>C230 C231 C232 C265 C269 C272                                                                                                                                                                               | 0.1uF                                  | Capacitor 0.1uF 16V 10%<br>0402 X7R                      | Kemet                              | C0402C104K4RACT    | SM-7351-CAP-0402       | 1C0089             | Digikey      | 0.11    | 0.015   |
| 4        | 0        | C8                                                                                                                                                                                                                                                                                                                                                                                                                                | DNI                                    | DNI                                                      | DNI                                | DNI                | DNI                    | DNI                | DNI          | DNI     | DNI     |
| 5        | 0        | C13                                                                                                                                                                                                                                                                                                                                                                                                                               | DNI                                    | DNI                                                      | DNI                                | DNI                | DNI                    | DNI                | DNI          | DNI     | DNI     |
| 6        | 32       | C23 C27 C28 C29 C38 C39 C47 C54 C61 C64<br>C65 C67 C81 C84 C92 C94 C95 C101 C102<br>C104 C107 C121 C154 C178 C179 C205 C209<br>C210 C212 C215 C251 C260                                                                                                                                                                                                                                                                           | 10uF                                   | Capacitor 10uF 16V 10%<br>Ceramic 0805                   | AVX                                | 0805YD106KAT2A     | SM-7351-CAP-0805       | 1C0085             | Digikey      | 0.19    | 0.042   |
| 7        | 2        | C24 C191                                                                                                                                                                                                                                                                                                                                                                                                                          | 4.7uF                                  | Capacitor 4.7uF 16V 20%<br>Tantalum Low ESR              | Nichicon                           | F951C475MRAAQ2     | sm-7351-cap-0805       | 1C0109             | Digikey      | 0.33    | 0.17    |
| 8        | 32       | C25 C26 C30 C31 C103 C105 C115 C117 C118<br>C122 C126 C127 C128 C129 C133 C136 C138<br>C140 C141 C144 C146 C147 C153 C156 C158<br>C161 C165 C168 C174 C176 C180 C183                                                                                                                                                                                                                                                              | 0.1uF, 6.3V                            | Capacitor 0.1uF 6.3V 10%<br>0201 X5R                     | Murata                             | GRM033R60J104KE19D | SMD0201                | 1C0122             | Digikey      | 0.029   | 0.0090  |
| 9        | 3        | C33 C216 C273                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.001uF                                | Capacitor 0.001uF 50V 5%<br>0402                         | AVX                                | 04025C102JAT2A     | SM-7351-CAP-0402       | 1C0093             | Digikey      | 0.015   | 0.007   |
| 10       | 2        | C40 C42                                                                                                                                                                                                                                                                                                                                                                                                                           | 22pF                                   | Capacitor 22pF 50V 10%<br>0402                           | Panasonic                          | ECJ-0EC1H220J      | SM-7351-CAP-0402       | 1C0020             | Digikey      | 0.1678  | 0.1678  |
| 11       | 9        | C44 C45 C57 C58 C59 C66 C186 C257 C263                                                                                                                                                                                                                                                                                                                                                                                            | 4.7uF                                  | Capacitor Ceramic 4.7uF<br>16V 10% 0603                  | Taiyo Yuden                        | EMK107ABJ475KA-T   | SM-7351-CAP-0603       | 1C0103             | Digikey      | 0.0198  | 0.00590 |
| 12       | 1        | C48                                                                                                                                                                                                                                                                                                                                                                                                                               | 47uF                                   | Capacitor 47uF 10V 10%<br>Tantalum 2917                  | AVX                                | TAJD476K010RNJ     | 7343                   | 1C0126             | Digikey      | 0.19    | 0.045   |
| 13       | 0        | C49                                                                                                                                                                                                                                                                                                                                                                                                                               | DNI                                    | DNI                                                      | DNI                                | DNI                | DNI                    | DNI                | DNI          | DNI     | DNI     |
| 14       | 5        | C50 C53 C244 C245 C261                                                                                                                                                                                                                                                                                                                                                                                                            | 2.2uF                                  | Capacitor 2.2uF Ceramic,<br>6.3V, X5R, 20%               | Taiyo Yuden                        | JMK105BJ225MV-F    | SM-7351-CAP-0402       | 1C0091             | Digikey      | 0.50    | 0.0516  |
| 15       | 3        | C51 C52 C237                                                                                                                                                                                                                                                                                                                                                                                                                      | 2.2uF, 10V                             | Capacitor 2.2uF 10V 20%<br>Ceramic 0402                  | Taiyo Yuden                        | LMK105BJ225MV-F    | SM-7351-CAP-0402       | 1C0123             | Digikey      | 0.xx    | 0.xx    |
| 16       | 5        | C60 C97 C217 C234 C258                                                                                                                                                                                                                                                                                                                                                                                                            | 2.2uF                                  | Capacitor 2.2uF 16V 10%<br>0805                          | Kemet                              | C0805C225K4RACTU   | SM-7351-CAP-0805       | 1C0097             | Digikey      | 0.5895  | 0.3592  |
| 17       | 2        | C62 C63                                                                                                                                                                                                                                                                                                                                                                                                                           | 2.2uF                                  | Capacitor 2.2uF 35V 20%<br>Ceramic 0805                  | TDK                                | C2012X7R1V225M     | SM-7351-CAP-0805       | 1C0118             | Digikey      | 0.19    | 0.045   |
| 18       | 13       | C76 C195 C198 C199 C200 C223 C226 C228<br>C238 C266 C268 C270 C271                                                                                                                                                                                                                                                                                                                                                                | 1uF                                    | Capacitor 1uF 10V Ceramic<br>10% 0402                    | AVX                                | 04022D105KAT2A     | SM-7351-CAP-0402       | 1C0084             | Digikey      | 0.336   | 0.201   |
| 19       | 4        | C89 C90 C211 C222                                                                                                                                                                                                                                                                                                                                                                                                                 | 18pF, 50V                              | Capacitor NPO 18pF 50V<br>5% 0402                        | TDK                                | CGA2B2COG1H180J    | SM-7351-CAP-0402       | 1C0119             | Mouser       | 0.19    | 0.045   |
| 20       | 2        | C99 C100                                                                                                                                                                                                                                                                                                                                                                                                                          | 24pF                                   | Capacitor 24pF 50V 5%<br>0402                            | TDK                                | C1005C0G1H240J     | SM-7351-CAP-0402       | 1C0128             | Digikey      | 0.1678  | 0.0045  |
| 21       | 2        | C145 C184                                                                                                                                                                                                                                                                                                                                                                                                                         | 100pF25V10%                            | Capacitor 100pF 25V 10%<br>0402                          | Panasonic                          | ECJ-0EB1E101K      | SM-7351-CAP-0402       | 1C0010             | Digikey      | 0.152   | 0.152   |
| 22       | 1        | C224                                                                                                                                                                                                                                                                                                                                                                                                                              | 4.7uF                                  | Capacitor 4.7uF Ceramic,<br>6.3V, X5R, 20%               | Taiyo Yuden                        | JMK107BJ475KA-T    | SM-7351-CAP-0603       | 1C0092             | Digikey      | 0.50    | 0.29    |
| 23       | 4        | C233 C248 C249 C262                                                                                                                                                                                                                                                                                                                                                                                                               | 10uF                                   | Capacitor 10uF 50V 10%<br>Ceramic 1206                   | TDK                                | C3216X5R1H106K     | SM-7351-CAP-1206       | 1C0113             | Digikey      | 0.19    | 0.045   |
| 24       | 0        | C235                                                                                                                                                                                                                                                                                                                                                                                                                              | DNI                                    | DNI                                                      | DNI                                | DNI                | DNI                    | DNI                | DNI          | DNI     | DNI     |
| 25       | 9        | C239 C241 C246 C247 C250 C253 C256 C259<br>C267                                                                                                                                                                                                                                                                                                                                                                                   | 0.022uF                                | Capacitor 0.022uF 16V<br>10% Ceramic 0402                | TDK                                | C1005X7R1C223K     | SM-7351-CAP-0402       | 1C0125             | Digikey      | 0.19    | 0.045   |
| 26       | 2        | C242 C243                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.1uF                                  | Capacitor 0.1uF 50V 10%<br>0402 X7R                      | TDK                                | C1005X7R1H104K     | SM-7351-CAP-0402       | 1C0105             | Digikey      | 0.11    | 0.0255  |
| 27       | 1        | C252                                                                                                                                                                                                                                                                                                                                                                                                                              | 1uF                                    | Capacitor 1uF 50V 10%<br>Ceramic 0603                    | Taiyo Yuden                        | UMK107BJ105KA-T    | SM-7351-CAP-0603       | 1C0114             | Digikey      | 0.19    | 0.045   |
| 28       | 1        | C255                                                                                                                                                                                                                                                                                                                                                                                                                              | 10pF                                   | Capacitor 10pF 50V 1%<br>Ceramic 0402                    | AVX                                | 04025U100FAT2A     | SM-7351-CAP-0402       | 1C0115             | Digikey      | 0.19    | 0.045   |
| 29       | 2        | D1 D2                                                                                                                                                                                                                                                                                                                                                                                                                             | Red_Green_Yellow_LED                   | LED RedGreenYellow<br>Tricolor 20mA 1.9/2.1V<br>1210 smd | Bivar                              | SM1210RGY          | LED-SM1210             | 1F0012             | Digikey      | 0.081   | 0.052   |
| 30       | 10       | D3 D6 D7 D8 D9 D10 D12 D14 D15 D16                                                                                                                                                                                                                                                                                                                                                                                                | Green LED                              | LED Green SMD 20mA 2V<br>0805                            | Dialight                           | 598-8170-107F      | sm_led_0805            | 1F0008             | Digikey      | 0.081   | 0.0370  |
| 31       | 2        | D4 D5                                                                                                                                                                                                                                                                                                                                                                                                                             | LED Yellow                             | LED Yellow SMD 20mA 2V                                   | LiteOn                             | LTST-5220KSKT      | LEDLTST-5220           | 1F0000             | Newark       | 0.24    | 0.24    |
| 32       | 3        | D11 D13 D20                                                                                                                                                                                                                                                                                                                                                                                                                       | MBR0520LT1                             | Diode 500mA 20V 0.3V<br>Forward Drop                     | On Semiconductor                   | MBR0520LT1         | mbr0520L               | 1E0007             | Newark       | 0.44    | 0.1892  |
| 33       | 1        | D17                                                                                                                                                                                                                                                                                                                                                                                                                               | B340A-13-F                             | Diode Power Rectifier 3A<br>40V Schottky                 | Diodes Inc                         | B340A-13-F         | DO157LS_116X220S<br>MA | 1E0024             | Digikey      | 0.17    | 0.095   |
| 34       | 1        | D18                                                                                                                                                                                                                                                                                                                                                                                                                               | MBR5140T                               | Diode 1A 40V 600mV<br>Forward Drop                       | On Semiconductor                   | MBR5140T3G         | mbrs140t               | 1E0017             | Digikey      | 0.23    | 0.431   |
| 35       | 1        | D19                                                                                                                                                                                                                                                                                                                                                                                                                               | SMCJ26CA                               | Voltage Suppressor 26.0V                                 | LittleFuse                         | SMCJ26CA           | SMCJ36CA               | 1E0021             | Digikey      | 0.41    | 0.26    |
| 36       | 1        | F1                                                                                                                                                                                                                                                                                                                                                                                                                                | Fuse 4A                                | Fuse Block with 4A Fuse                                  | Littelfuse                         | 0154004.ORT        | smdfuseblk             | 1P0004             | Digikey      | 1.41    | 2.0925  |
| 37       | 7        | FB2 FB3 FB9 FB10 FB11 FB12 FB13                                                                                                                                                                                                                                                                                                                                                                                                   | 1500HM800mA                            | Ferrite Bead 150 Ohm<br>800mA                            | Laird-Signal Integrity<br>Products | U0805H151R-10      | sm-7351-ind-0805       | 1I0010             | Digikey      | 0.068   | 0.045   |
| 38       | 2        | J1 J2                                                                                                                                                                                                                                                                                                                                                                                                                             | RJ-45 10_100Mb                         | Connector RJ-45 Jack<br>w/mag_orgL 10_100Mb<br>AMDIIX    | Link                               | LPJ16183A107NL     | CNRJ45-1X1WLED         | 2J0023             | Link         | 3.00    | 1.69    |
| 39       | 1        | J3                                                                                                                                                                                                                                                                                                                                                                                                                                | Header 9x2 Female                      | Header 9x2 0.1in pitch<br>female throughhole             | FCI                                | 66953-009LF        | HDR2X9VER_335M         | 2H0069             | Digikey      | 0.xx    | 0.xx    |
| 40       | 1        | J4                                                                                                                                                                                                                                                                                                                                                                                                                                | Header 15x2 Female                     | Header 15x2 0.1in pitch<br>female throughhole            | FCI                                | 66953-015LF        | HDR2X15-344M           | 2H0067             | Digikey      | 0.xx    | 0.xx    |
| 41       | 2        | J5 J8                                                                                                                                                                                                                                                                                                                                                                                                                             | TMS-103-01                             | Header 1.27mm pitch 3pin                                 | Samtec                             | TMS-103-01-G-S     | SIP3_50LS              | 2H0066             | Samtec       | 0.xx    | 0.xx    |

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|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------|-----------------------|--------------------|-------------------------|--------|-----------|---------|---------|
| 42 | 3  | J6 J7 J10                                                                                                                                       | TMS-102-01                    | Header 1.27mm pitch 2pin                         | Samtec                | TMS-102-01-G-S     | SIP2_50LS               | 2H0065 | Samtec    | 0.xx    | 0.xx    |
| 43 | 1  | J9                                                                                                                                              | Conn_ DB9F                    | Connector DB9 Female RA SMD                      | Norcomp               | 190-009-263R001    | NorComp_db9F_SM D       | 2C0086 | Digikey   | 1.74    | 1.16    |
| 44 | 1  | J11                                                                                                                                             | Power Jack RAPC722X           | Jack Power Right Angle 2conductor 2.1mm center   | Switchcraft           | RAPC722X           | CNRAPC722               | 2J0021 | Digikey   | 0.90    | 0.68    |
| 45 | 0  | J12                                                                                                                                             | DNI                           | DNI                                              | DNI                   | DNI                | DNI                     | DNI    | DNI       | DNI     | DNI     |
| 46 | 1  | J13                                                                                                                                             | USB_MicroAB                   | Connector Micro USB AB RA                        | Hirose                | ZX62-AB-5PA(11)    | ZX62-AB-5PA             | 2C0088 | Digikey   | 0.67    | 0.57    |
| 47 | 1  | J14                                                                                                                                             | Header 20x2 Female            | Header 20x2 0.1in pitch female throughhole       | FCI                   | 66953-020LF        | HDR2X20-335M            | 2H0068 | Digikey   | 0.xx    | 0.xx    |
| 48 | 0  | J15                                                                                                                                             | DNI                           | DNI                                              | DNI                   | DNI                | DNI                     | DNI    | DNI       | DNI     | DNI     |
| 49 | 1  | J16                                                                                                                                             | SCHA5B0200                    | Connector compact low-profile Push Type Micro SD | ALPS                  | SCHA5B0200         | SD-MICRO-SCHA5B0300     | 2C0102 | Mouser    | x.00    | x.00    |
| 50 | 1  | J17                                                                                                                                             | 10051922-1410ELF              | Connector 0.5mm pitch, 14 Pin, FPC               | FCI                   | 10051922-1410ELF   | CON14_P5MM_3P75 X9P5SMD | 2C0109 | Digikey   | 0.xx    | 0.xx    |
| 51 | 2  | J18 J19                                                                                                                                         | HEADER 3                      | Single Line Header 3pin Tin 0.1in pitch          | Sullins               | PEC035AAN          | header_3x1              | 2H0001 | Digikey   | 0.263   | 0.263   |
| 52 | 1  | L1                                                                                                                                              | DA2304-AL                     | Power Transformer 45uH RS-485                    | Coilcraft             | DA2304-ALB         | DA2304                  | 1L0037 | Coilcraft | 1.25    | 0.38    |
| 53 | 1  | L2                                                                                                                                              | 2.2uH                         | Inductor 2.2uH smt 1A 20%                        | TDK                   | VL3010AT-2R2M1R0   | IND108SMD_110X10 2      | 1L0044 | Digikey   | 1.11    | 0.3501  |
| 54 | 1  | L3                                                                                                                                              | 68uH                          | Inductor 68uH smt 1A 20%                         | TDK                   | VL10040T-680M1R4   | IND_354SMD_400SQ        | 1L0045 | Digikey   | 1.11    | 0.3501  |
| 55 | 3  | L4 L5 L7                                                                                                                                        | 2.2uH                         | Inductor 2.2uH smt 2.6A, 58 milliohm             | TDK                   | VL35020T-2R2N2R6-3 | VL35020T                | 1L0025 | Digikey   | 1.11    | 0.3501  |
| 56 | 1  | L6                                                                                                                                              | ACM2012                       | Common Mode Filter for USB/HDMI                  | TDK                   | ACM2012H-900-2P    | ACM2012H                | 1M0003 | Arrow     | 1.11    | 0.33    |
| 57 | 1  | PCB1                                                                                                                                            | AM335x ICE V2.0Board Bare PCB | AM335x ICE V2.0 EVM PCB Bare                     | TI                    | 3H0013             | DNP                     | 3H0013 | TI        | 0.00    | 0.00    |
| 58 | 4  | Q1 Q2 Q3 Q4                                                                                                                                     | DMC564040R                    | Dual Transistor NPN 50V 100mA                    | Panasonic             | DMC564040R         | SMINI6-F3-B             | 1Q0023 | Digikey   | 0.18    | 0.030   |
| 59 | 13 | R1 R2 R3 R4 R5 R6 R89 R93 R94 R98 R128 R130 R131                                                                                                | 330                           | Resistor 330ohm 1/16W 5% 0402                    | Stackpole Electronics | RMCF0402JT330R     | SM-7351-RES-0402        | 1R0194 | Digikey   | 0.007   | 0.02465 |
| 60 | 25 | R7 R8 R15 R16 R18 R19 R61 R90 R92 R95 R97 R110 R112 R113 R114 R124 R129 R135 R145 R174 R196 R205 R207 R243 R244                                 | 2.2K                          | Resistor 2.2Kohm 1/16W 5% 0402                   | VishayDale            | CRCW04022K0JNED    | sm-7351-res-0402        | 1R0169 | Digikey   | 0.051   | 0.004   |
| 61 | 2  | R9 R10                                                                                                                                          | 4.87K                         | Resistor 4.87Kohm 1/10W 1% 0402                  | Panasonic             | ERJ-2RKF4871X      | SM-7351-RES-0402        | -      | Digikey   | -       | -       |
| 62 | 13 | R11 R37 R44 R45 R50 R54 R55 R63 R178 R184 R188 R191 R195                                                                                        | 10K, 1%                       | Resistor 10Kohm 1/10W 1% 0402                    | Panasonic-ECG         | ERJ-2RKF1002X      | SM-7351-RES-0402        | 1R0254 | Digikey   | 0.011   | 0.00291 |
| 63 | 9  | R12 R13 R42 R154 R179 R180 R181 R182 R186                                                                                                       | 33                            | Resistor 33ohm 1/16W 5% 0402                     | Panasonic             | ERJ-2GEJ330X       | SM-7351-RES-0402        | 1R0008 | Digikey   | 0.02595 | 0.0020  |
| 64 | 9  | R14 R24 R25 R39 R70 R71 R137 R277 R278                                                                                                          | 4.7K                          | Resistor 4.7Kohm 1/16W 5% 0402                   | Stackpole Electronics | RMCF0402JT4K70     | SM-7351-RES-0402        | 1R0183 | Digikey   | 0.007   | 0.02465 |
| 65 | 0  | R17 R22 R23 R26 R35 R36 R126 R138 R139 R222 R223 R224                                                                                           | DNI                           | DNI                                              | DNI                   | DNI                | DNI                     | DNI    | DNI       | DNI     | DNI     |
| 66 | 0  | R20                                                                                                                                             | DNI                           | DNI                                              | DNI                   | DNI                | DNI                     | DNI    | DNI       | DNI     | DNI     |
| 67 | 20 | R21 R65 R67 R75 R101 R111 R125 R187 R197 R199 R200 R206 R210 R211 R231 R233 R234 R235 R236 R237                                                 | 10K                           | Resistor 10Kohm 1/16W 5% 0402                    | Rohm                  | MCR01MZPJ103       | SM-7351-RES-0402        | 1R0168 | Digikey   | 0.03    | 0.0017  |
| 68 | 0  | R27 R28 R29 R30 R31 R32 R33 R34 R134 R148                                                                                                       | DNI                           | DNI                                              | DNI                   | DNI                | DNI                     | DNI    | DNI       | DNI     | DNI     |
| 69 | 14 | R38 R152 R153 R157 R158 R161 R162 R163 R165 R166 R167 R168 R171 R176                                                                            | 100K                          | Resistor 100Kohm 1/16W 1% 0402                   | Stackpole Electronics | RMCF0402FT100K     | SM-7351-RES-0402        | 1R0181 | Digikey   | 0.0105  | 0.0020  |
| 70 | 17 | R40 R41 R59 R87 R88 R99 R100 R102 R103 R104 R106 R107 R108 R109 R115 R127 R177 R43 R46 R47 R48 R49 R51 R52 R53 R56 R57 R159 R160 R164 R169 R170 | 1K                            | Resistor 1Kohm 1/16W 5% 0402                     | Panasonic             | ERJ-2GEJ102X       | SM-7351-RES-0402        | 1R0027 | Digikey   | 0.02595 | 0.02595 |
| 71 | 0  | R159 R160 R164 R169 R170                                                                                                                        | DNI                           | DNI                                              | DNI                   | DNI                | DNI                     | DNI    | DNI       | DNI     | DNI     |
| 72 | 1  | R58                                                                                                                                             | 22                            | Resistor 22 ohm 1/16W 1% 0402                    | ROHM                  | MCR01MZPF22R0      | SM-7351-RES-0402        | 1R0175 | Digikey   | 0.069   | 0.00529 |
| 73 | 27 | R60 R64 R69 R72 R91 R96 R105 R142 R146 R147 R149 R150 R156 R175 R190 R192 R194 R198 R201 R202 R203 R204 R209 R225 R228 R229 R230                | 0                             | Resistor Zero ohm Jumper 0402                    | Panasonic             | ERJ-2GE0R00X       | SM-7351-RES-0402        | 1R0098 | Digikey   | 0.08    | 0.0020  |
| 74 | 0  | R62                                                                                                                                             | DNI                           | DNI                                              | DNI                   | DNI                | DNI                     | DNI    | DNI       | DNI     | DNI     |
| 75 | 1  | R66                                                                                                                                             | 3.24K                         | Resistor 3.24Kohm 1/10W 1% 0402                  | Panasonic             | ERJ-2RKF3241X      | SM-7351-RES-0402        | 1R0266 | Digikey   | 0.007   | 0.02465 |
| 76 | 8  | R68 R74 R79 R80 R81 R83 R84 R226                                                                                                                | 1.2K, MELF                    | Resistor 1.2Kohm 1/3W 1% MELF0102                | Vishay                | MMU01020C1201F8300 | smd_melf0102            | 1R0265 | Digikey   | 0.007   | 0.02465 |
| 77 | 17 | R73 R76 R77 R78 R85 R86 R213 R214 R215 R216 R217 R239 R240 R241 R242 R279 R280                                                                  | 0                             | Resistor Zero ohm Jumper 0603                    | Panasonic             | ERJ-3GEY0R00V      | SM-7351-RES-0603        | 1R0096 | Digikey   | 0.08    | 0.058   |
| 78 | 1  | R82                                                                                                                                             | 25K                           | Resistor 25Kohm 1/10W 0.1% 0603                  | Vishay                | PNM0603E2502BST5   | SM-7351-RES-0603        | 1R0223 | Digikey   | 0.007   | 0.02465 |
| 79 | 9  | R116 R117 R118 R119 R120 R121 R122 R123 R185                                                                                                    | 49.9                          | Resistor 49.9ohm 1/16W 1% 0402                   | Panasonic             | ERA-2AEB49R9X      | SM-7351-RES-0402        | 1R0171 | Digikey   | 0.064   | 0.064   |
| 80 | 9  | R132 R133 R136 R140 R143 R151 R155 R173 R208                                                                                                    | 150                           | Resistor 150ohm 1/16W 5% 0402                    | Stackpole Electronics | RMCF0402JT150R     | SM-7351-RES-0402        | 1R0179 | Digikey   | 0.011   | 0.00132 |
| 81 | 0  | R141                                                                                                                                            | DNI                           | DNI                                              | DNI                   | DNI                | DNI                     | DNI    | DNI       | DNI     | DNI     |
| 82 | 0  | R144                                                                                                                                            | DNI                           | DNI                                              | DNI                   | DNI                | DNI                     | DNI    | DNI       | DNI     | DNI     |
| 83 | 0  | R172                                                                                                                                            | DNI                           | DNI                                              | DNI                   | DNI                | DNI                     | DNI    | DNI       | DNI     | DNI     |
| 84 | 1  | R183                                                                                                                                            | 240, 1%                       | Resistor 240 OHM 1/10W 1% 0402 SMD               | Panasonic-ECG         | ERJ-2RKF2400X      | SM-7351-RES-0402        | 1R0249 | Digikey   | 0.02    | 0.00132 |
| 85 | 1  | R189                                                                                                                                            | 4.75K, 1%                     | Resistor 4.75KOHM 1/10W 1% 0402 SMD              | Panasonic-ECG         | ERJ-2RKF4751X      | SM-7351-RES-0402        | 1R0250 | Digikey   | 0.02    | 0.00132 |
| 86 | 1  | R193                                                                                                                                            | 12.1K, 1%                     | Resistor 12.1K OHM 1/16W 1% 0402 SMD             | Yageo                 | RC0402FR-0712K1L   | SM-7351-RES-0402        | 1R0247 | Digikey   | 0.02    | 0.00132 |
| 87 | 2  | R212 R219                                                                                                                                       | 0.05ohm1% Sense               | Resistor 0.05ohm 0.5W Sense 1% 1206              | Ohmite                | LVK12R050FER       | SM_RES_LVK12            | 1R0189 | Digikey   | 0.47    | 0.19    |
| 88 | 0  | R218                                                                                                                                            | DNI                           | DNI                                              | DNI                   | DNI                | DNI                     | DNI    | DNI       | DNI     | DNI     |
| 89 | 1  | R220                                                                                                                                            | 1.62M                         | Resistor 1.62Mohm 1/16W 1% 0402                  | Vishay/Dale           | CRCW04021M62FKED   | SM-7351-RES-0402        | 1R0210 | Digikey   | 0.011   | 0.00291 |
| 90 | 1  | R221                                                                                                                                            | 180K                          | Resistor 180Kohm 1/16W 1% 0402                   | Stackpole Electronics | RMCF0402JT180K     | SM-7351-RES-0402        | 1R0209 | Digikey   | 0.011   | 0.00291 |

|     |   |                     |  |                   |  |                                                         |                      |                     |                       |        |         |        |         |
|-----|---|---------------------|--|-------------------|--|---------------------------------------------------------|----------------------|---------------------|-----------------------|--------|---------|--------|---------|
| 91  | 1 | R227                |  | 49.9              |  | MELF Resistor 49.9ohm<br>1/3W 1% MELF0102               | Vishay               | MMU01020C4999FB300  | smd_melf0102          | 1R0243 | Digikey | 0.0105 | 0.00275 |
| 92  | 1 | R232                |  | 392K              |  | Resistor 392Kohm 1/10W<br>1% 0402                       | Panasonic            | ERJ-2RKF3923X       | SM-7351-RES-0402      | 1R0267 | Digikey | 0.007  | 0.02465 |
| 93  | 1 | R238                |  | 120               |  | Resistor 120ohm 1/16W<br>1% 0402                        | Vishay_Dale          | CRCW0402120RFKED    | SM-7351-RES-0402      | 1R0244 | Digikey | 0.007  | 0.02465 |
| 94  | 3 | RP1 RP2 RP3         |  | 33x8              |  | Resistor 33ohmx8 1/16W<br>5% Array SMD                  | Panasonic            | EXB-2HV330JV        | EXB-2HV330JV          | 1R0196 | Digikey | 0.007  | 0.02465 |
| 95  | 1 | S1                  |  | SwitchTactile3Pos |  | Tactile switch 3 position<br>smd                        | Omron                | B3U-1100P           | SW3_4X2P5             | 2W0022 | Digikey | 2.95   | 2.496   |
| 96  | 1 | SW1                 |  | Rotary Switch     |  | Rotary Switch, Screw<br>Driver Actuated                 | Nikkai               | ND3FR10P            | SW-ND3FR10            | 2W0021 | Digikey | 2.95   | 2.496   |
| 97  | 4 | TP17 TP18 TP19 TP20 |  | TP                |  |                                                         | Keystone Electronics | 5002                | TH_TP_5002            | 2H0026 | Digikey | 0.163  | 0.079   |
| 98  | 1 | U1                  |  | M29W160EB         |  | Flash Memory 16Mbit<br>(2Mx8/1Mx16) 70ns                | Micron               | M29W160EB70ZA6E     | TFBGA48               | 1A0328 | Avnet   | 0.xx   | 0.xx    |
| 99  | 1 | U13                 |  | SN74AUP2G08       |  | Low Power Dual AND Gate                                 | Ti                   | SN74AUP2G08DCU      | U_8_DCU               | 1A0249 | Digikey | 0.11   | 0.1710  |
| 100 | 1 | U14                 |  | AM335X_15x15      |  |                                                         | Ti                   | AM3359ZCZ           | am33xx_15x15          | 1A0242 | Arrow   | 10.00  | 10.00   |
| 101 | 2 | U2 U3               |  | TLK110            |  | Industrial Ethernet 10/100<br>Mb/s PHY Transceiver      | Ti                   | TLK110PT            | HTQFP_48pin           | 1A0291 | Digikey | 5.01   | 2.31    |
| 102 | 1 | U4                  |  | SN74CB3Q3306APWR  |  | Dual FET Bus Switch                                     | Ti                   | SN74CB3Q3306APWR    | PW8                   | 1A0331 | Avnet   | 0.xx   | 0.xx    |
| 103 | 1 | U5                  |  | SN74LVC1G08       |  | Single logic AND Gate                                   | Ti                   | SN74LVC1G08DCK      | sm-so-sc70-5          | 1A0257 | Digikey | 0.31   | 0.0786  |
| 104 | 1 | U6                  |  | CAT24C256W        |  | EEPROM 256Kb 12C SOIC8                                  | On Semiconductor     | CAT24C256WI-G       | soic8_208             | 1A0225 | Digikey | 1.21   | 0.36    |
| 105 | 2 | U7 U8               |  | SN74LVC1G32DCK    |  | Single 2input positive OR<br>gate                       | Ti                   | SN74LVC1G32DCK      | SC70-5-43M            | 1A0334 | Avnet   | 0.xx   | 0.xx    |
| 106 | 2 | U9 U11              |  | SN74CBTLV3257RGY  |  | 4bit 1-4 FET Mux/Demux                                  | Ti                   | SN74CBTLV3257RGY    | QFN4X3P5-16-39M       | 1A0332 | Avnet   | 0.xx   | 0.xx    |
| 107 | 1 | U10                 |  | SN74LVC1G06DCK    |  | Single inverter<br>buffer/driver w/open drain<br>output | Ti                   | SN74LVC1G06DCK      | DCK5                  | 1A0333 | Avnet   | 0.xx   | 0.xx    |
| 108 | 1 | U12                 |  | CDC913            |  | Programmable 1-PLL VCO<br>Clock Synthesizer             | Ti                   | CDC913PWR           | TSSOP5X4-14-47M       | 1A0326 | Digikey | 0.xx   | 0.xx    |
| 109 | 1 | U15                 |  | MT41J128M16JT-125 |  | DDR3 SDRAM 2Gb<br>(128Mx16) 1.5V                        | Micron               | MT41J128M16JT-125   | BGA14X10-96           | 1A0317 | Arrow   | x.00   | 3.12    |
| 110 | 1 | U16                 |  | ISO1050           |  | Isolated CAN Transceiver                                | Ti                   | ISO1050DUB          | so8_w_dub             | 1A0214 | Digikey | 3.41   | 2.57    |
| 111 | 1 | U17                 |  | W25Q64            |  | Flash Memory SPI 64Mb                                   | Winbond              | W25Q64CVSSIG        | SOIC8_265             | 1A0223 | Digikey | 0.97   | 2.50    |
| 112 | 1 | U18                 |  | FT232HL           |  | USBHS Dual UART/FIFO                                    | FTDI                 | FT232HL-REEL        | LQFP64_10X10          | 1A0294 | Digikey | 3.7    | 3.10    |
| 113 | 1 | U19                 |  | LM94022           |  | Multi-Gain Analog<br>Temperature Sensor                 | Ti                   | LM94022QBIMG/NOPB   | SC70-5                | 1A0327 | Digikey | 0.xx   | 0.xx    |
| 114 | 1 | U20                 |  | SN74LVC1G07       |  | Driver Open Drain output                                | Ti                   | SN74LVC1G07DCK      | DCK5                  | 1A0269 | Digikey | 1.11   | 0.04    |
| 115 | 1 | U21                 |  | TPS5420D          |  | Step down power switch<br>converter,2A                  | Ti                   | TPS5420D            | SOIC-8                | -      | Digikey | 0.xx   | 0.xx    |
| 116 | 1 | U22                 |  | TPS65910A3        |  | Integrated Power<br>Management Unit for<br>DDR3         | Ti                   | TPS65910A3A1RSL     | U_48_RSL              | 1A0303 | Digikey | 1.99   | 1.11    |
| 117 | 1 | U23                 |  | TPD4S012          |  | ESD 4channel USB<br>Interface                           | Ti                   | TPD4S012DRY         | U_6_DRY               | 1A0233 | Digikey | 0.76   | 0.12    |
| 118 | 1 | U24                 |  | TPD6E001          |  | ESD Protection Array<br>6Chan +-15kV                    | Ti                   | TPD6E001RSE         | U_10_RSE              | 1A0248 | Digikey | 0.42   | 0.11    |
| 119 | 1 | U25                 |  | PCA9536DGK        |  | I2C to IO Expander 4 bit                                | Ti                   | PCA9536DGK          | MSOP3X3-8-43M         | 1A0329 | Avnet   | 0.xx   | 0.xx    |
| 120 | 1 | U26                 |  | SN74ALVCH16374DGV |  | 16-Bit Edge-Triggered D-<br>TYPE Flip-Flop              | Ti                   | SN74ALVCH16374DGV   | TVSOP-48              | 1A0330 | Avnet   | 0.xx   | 0.xx    |
| 121 | 1 | U27                 |  | TPS76650          |  | Low Dropout Voltage<br>Regulator 250mA Low Q<br>Current | Ti                   | TPS76650D           | soic_8                | 1A0284 | Digikey | 1.70   | 0.58    |
| 122 | 1 | U28                 |  | ISO1176T          |  | Isolated Profibus RS-485<br>Transceiver                 | Ti                   | ISO1176TDW          | u_16_dw               | 1A0239 | Digikey | 1.76   | 6.7525  |
| 123 | 1 | U29                 |  | TPS51200          |  | DDR Termination<br>Regulator SinkSource                 | Ti                   | TPS51200DRC         | drcps0_10pin          | 1A0297 | Digikey | 1.11   | 0.39    |
| 124 | 1 | U30                 |  | TPS71718          |  | Low Dropout 1.8V 150mA<br>Linear Regulator              | Ti                   | TPS71718DCK         | smdsc70-5             | 1A0262 | Digikey | 1.21   | 0.7560  |
| 125 | 1 | U31                 |  | TPIC2810          |  | 8bit LED Driver with I2C<br>Interface                   | Ti                   | TPIC2810D           | u_16_d                | 1A0282 | Digikey | 1.70   | 1.04    |
| 126 | 1 | U32                 |  | TPS78633          |  | Linear Power Regulator<br>3.3V 1.5A                     | Ti                   | TPS78633DCQ         | sot223_6pin           | 1A0094 | Arrow   | 1.25   | 1.01    |
| 127 | 1 | U33                 |  | 93LC56B           |  | 2K Microwire-Compatible<br>Serial EEPROM                | Microchip            | 93LC56B-I/OT        | SOT23-6               | 1A0298 | Digikey | 0.22   | 0.15    |
| 128 | 1 | U34                 |  | TPS61041          |  | DC to DC Boost Converter<br>1.8V to 6.0V Input Range    | Ti                   | TPS61041DBV         | DBV5                  | 1A0343 | Digikey | 0.81   | 0.51    |
| 129 | 1 | U35                 |  | SN65HVS882        |  | Industrial 8digit Input<br>Serializer                   | Ti                   | SN65HVS882PWP       | u_28_pwp              | 1A0234 | Digikey | 2.22   | 3.00    |
| 130 | 2 | U37 U38             |  | SN74LV244A        |  | Octal Line Buffer                                       | Abracon              | SN74LV244APWRG3     | TSSOP4X6-20           | 1A0368 | Digikey | 0.31   | 0.09    |
| 131 | 1 | Y1                  |  | 25MHz             |  | Crystal 25MHz                                           | Abracon              | ABM3-25.000MHz-B2-T | SM_OSC_ABM3           | 1Y0030 | Digikey | 0.90   | 0.42    |
| 132 | 1 | Y2                  |  | 12MHz,+/-50ppm    |  | CRYSTAL 12.000 MHZ 20PF<br>SMD                          | ECS Inc              | ECS-120-20-30B-TR   | XTAL4_3P2X5SMD        |        | Digikey |        |         |
| 133 | 1 | Y3                  |  | 24MHz             |  | Crystal 24MHz 30ppm load<br>cap 18pF                    | Citizen              | CS325-24.000MAJB-UT | XTAL4_3P2X2P5_SM<br>D | 1Y0039 | Digikey | 0.56   | 0.50    |
| 134 | 1 | Y4                  |  | 32.768KHz MC-306  |  | Crystal 32.768KHz                                       | Epson                | MC-30632.7680K-A    | MC-306                | 1Y0029 | Digikey | 0.41   | 0.338   |