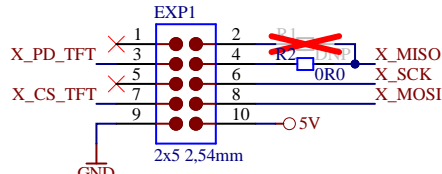


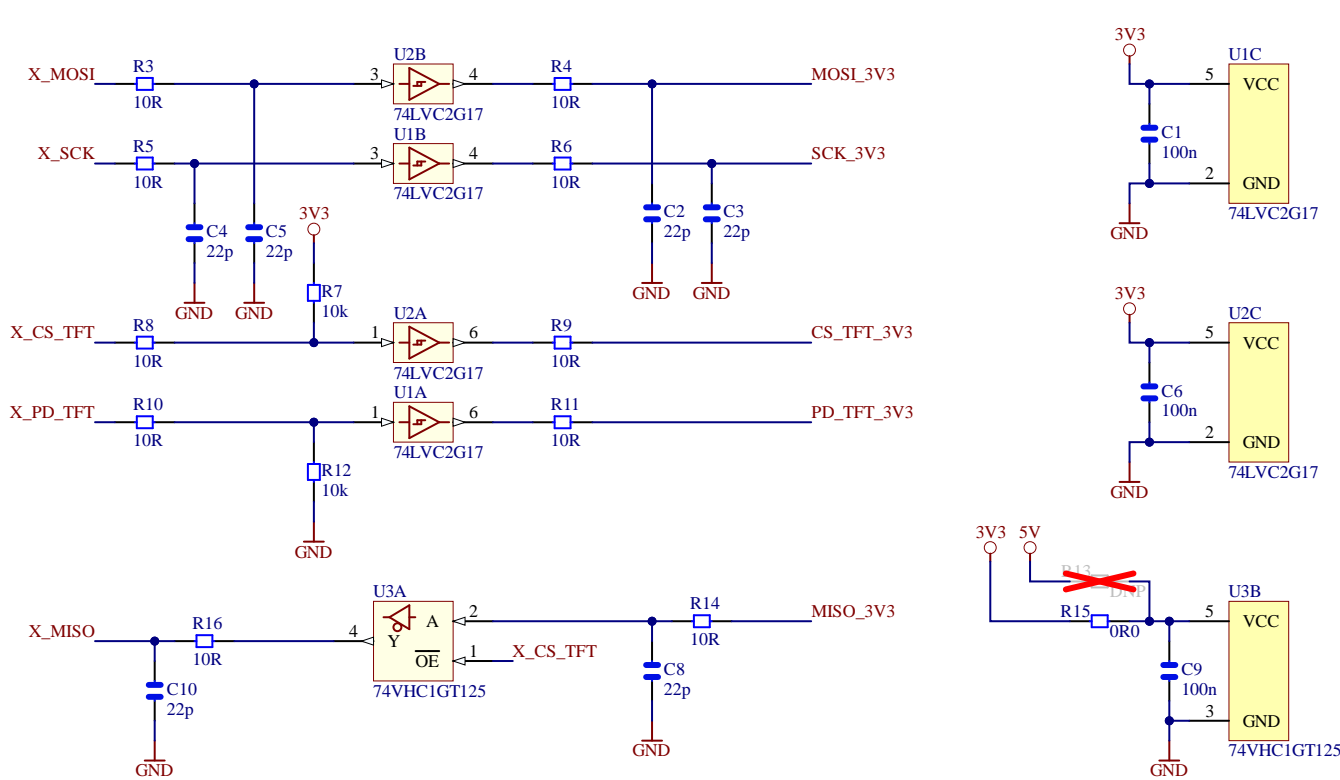
# Connector to Printer



For the stock CR-10/Ender-3 board, remove R2 and populate R1

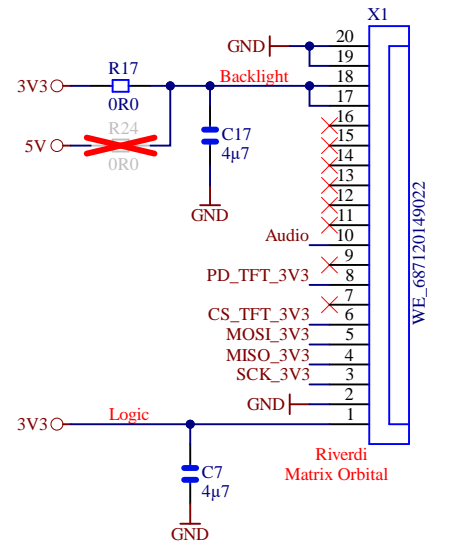
Note: many boards have the pins in the wrong order with a false numeration.  
For example the CR-10/Ender-3/SKR mini E3 boards show VCC on pin 1 and GND on pin 2 while the connector is populated rotated by 180° and therefore actually having VCC on pin 10 and GND on pin 9.  
Others like the Fysetc Cheetah use the correct numeration and while on a quick glance it appears that they use a different pinout for the EXP1 header than the stock Ender-3 board it really is the same.  
And others like the MKS Robin E3 have the connector rotated while keeping the correct numeration.

# Level-Shifter 5V or 3,3V I/O from printer-controller to 3,3V I/O for the display



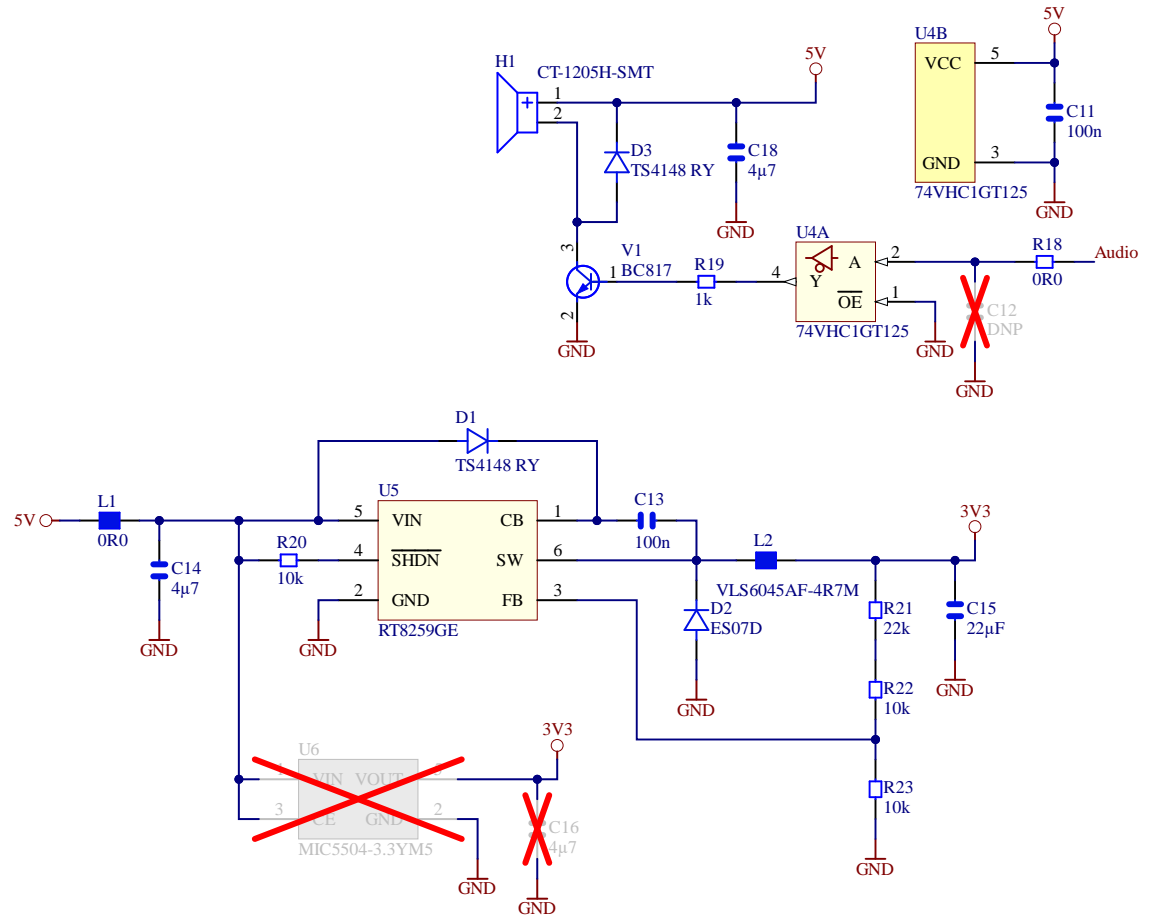
# Display-Connector

-> for use with FCC cable with connections on opposite sides not mirrored



Note:  
Matrix Orbital EVE2 displays can not be used with a 5V backlight supply.  
Matrix Orbital EVE3 displays use 3.3V by default for the backlight supply.  
Matrix Orbital EVE3 displays can be converted to use 5V for the backlight supply.  
Riverdi displays can use 3.3V or 5V for the backlight supply directly.  
  
If the backlight is supplied with 5V, U6 can be used instead of U5.  
If the backlight is supplied with 3.3V, using U5 instead of U6 is required at 4.3" or above.

|                                    |  |   |   |   |  |   |   |  |   |  |                                   |
|------------------------------------|--|---|---|---|--|---|---|--|---|--|-----------------------------------|
|                                    | Rumba32  | ARMED   | Cheetah   | GLCD  | EXP1   | GLCD  | Cheetah   | ARMED  | Rumba32   |  |                                   |
|                                    | PE8<br>PE9<br>PE12 (SPI4_SCK)<br>PE14 (SPI4_MOSI)<br>GND | PC9<br>PE8<br>PB12 (SPI2_SS)<br>PB14 (SPI2_MISO)<br>GND | PC9<br>PC11<br>PC10<br>PB12 (SPI2_SS)<br>GND          | Beeper<br>LCDE<br>LCD4<br>LCD6<br>GND                       | <div>1 2<br/>3 4<br/>5 6<br/>7 8<br/>9 10</div>          | BTN_ENC<br>LCD_RS<br>LCD5<br>LCD7<br>5V         | PC12<br>PB14 (SPI2_MISO)<br>PB13 (SPI2_SCK)<br>PB15 (SPI2_MOSI)<br>5V | PC3<br>PE9<br>PB13 (SPI2_SCK)<br>PB15 (SPI2_MOSI)<br>5V                    | PE7<br>PE10<br>PE13 (SPI4_MISO)<br>PE15<br>5V         |  |                                   |
| REMRAM                             | Bigtreetech SKR V1.3 V1.4                                | Bigtreetech SKR E3 DIP                                  | Bigtreetech SKR mini E3                               | Crealty CR-10/Ender-3                                       | Reprap GLCD  | EXP1  | Reprap GLCD   | Crealty CR-10/Ender-3  | Bigtreetech SKR mini E3 SKR E3 DIP                    | Bigtreetech SKR V1.3 V1.4                              | REMRAM                            |
| PC6<br>PD14<br>PD13<br>PD11<br>GND | P1.30<br>P1.18<br>P1.20 (SCK0)<br>P1.22<br>GND           | PA15<br>TX1<br>PA9<br>PB8<br>GND                        | PB5 (SPI3.MOSI)<br>PA9<br>PA10<br>PB8<br>GND          | PA4<br>PD3 (USART1_MOSI)<br>PD2 (USART1_MISO)<br>PA3<br>GND | Beeper<br>LCDE<br>LCD4<br>LCD6<br>GND                    | <div>1 2<br/>3 4<br/>5 6<br/>7 8<br/>9 10</div> | BTN_ENC<br>LCD_RS<br>LCD5<br>LCD7<br>5V                               | PC0<br>RESET<br>PA1<br>PC1<br>5V   | PB6<br>RESET<br>PB9<br>PB7<br>5V                      | P0.28<br>P1.19<br>P1.21 (SSEL0)<br>P1.23 (MISO0)<br>5V | PC7<br>PD15<br>PD12<br>PD10<br>5V |
|                                    |  |   | MKS Robin E3 Robin Lite3                              | Ultimachine Archim2.2b                                      | Fysetc S6  | EXP1  | Fysetc S6   | Ultimachine Archim2.2b   |   | MKS Robin E3 Robin Lite3                               |                                   |
|                                    |  |   | PC1<br>PA4 (SPI1_SS)<br>PA6 (SPI1_MISO)<br>PC4<br>GND | PA14<br>PA15<br>PA0<br>PA1<br>GND                           | PC9<br>PC11 (SPI3.MISO)<br>PC10 (SPI3_SCK)<br>PD0<br>GND | <div>10 9<br/>8 7<br/>6 5<br/>4 3<br/>2 1</div> | PA8<br>PA12 (SPI3_MOSI)<br>PD1<br>5V                                  | PA13 (USART1_MOSI)<br>PA12 (USART1_MISO)<br>PA16 (USART1_SCK)<br>PC2<br>5V | PC3<br>PA5 (SPI1_SCK)<br>PA7 (SPI1_MOSI)<br>PC5<br>5V |  |                                   |
|                                    | MKS SBASE V1.3   | Bigtreetech SKR PRO                                     | Einsy Rambo   | Fysetc F6   | EXP1   | Fysetc F6                                       | Einsy Rambo   | Bigtreetech SKR PRO  | MKS SBASE V1.3  |  |                                   |
|                                    | P1.31 (SCK)<br>P0.18 (MOSI)<br>P0.15 (SCK)<br>NC<br>GND  | PG4<br>PD11<br>PG2<br>PG6<br>GND                        | PH2 (UART2_SCK)<br>PF7<br>PF5<br>PH7<br>GND           | PC0<br>PH0 (UART2_MISO)<br>PA1<br>PA5<br>GND                | <div>10 9<br/>8 7<br/>6 5<br/>4 3<br/>2 1</div>          | PC2<br>PH1 (UART2_MOSI)<br>PA3<br>PA7<br>5V     | PH6<br>PD5 (UART1_SCK)<br>PG4<br>PG3<br>5V                            | PA8<br>PD10<br>PG3<br>PG7<br>5V  | P1.30<br>P0.16 (SSEL)<br>NC<br>NC<br>5V               |  |                                   |



Project: EVE Display-Adapter  
Version, Revision: Matrix Orbital / Riverdi , 05  
Date: 2020-06  
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05019-01-05

MTG1

X1

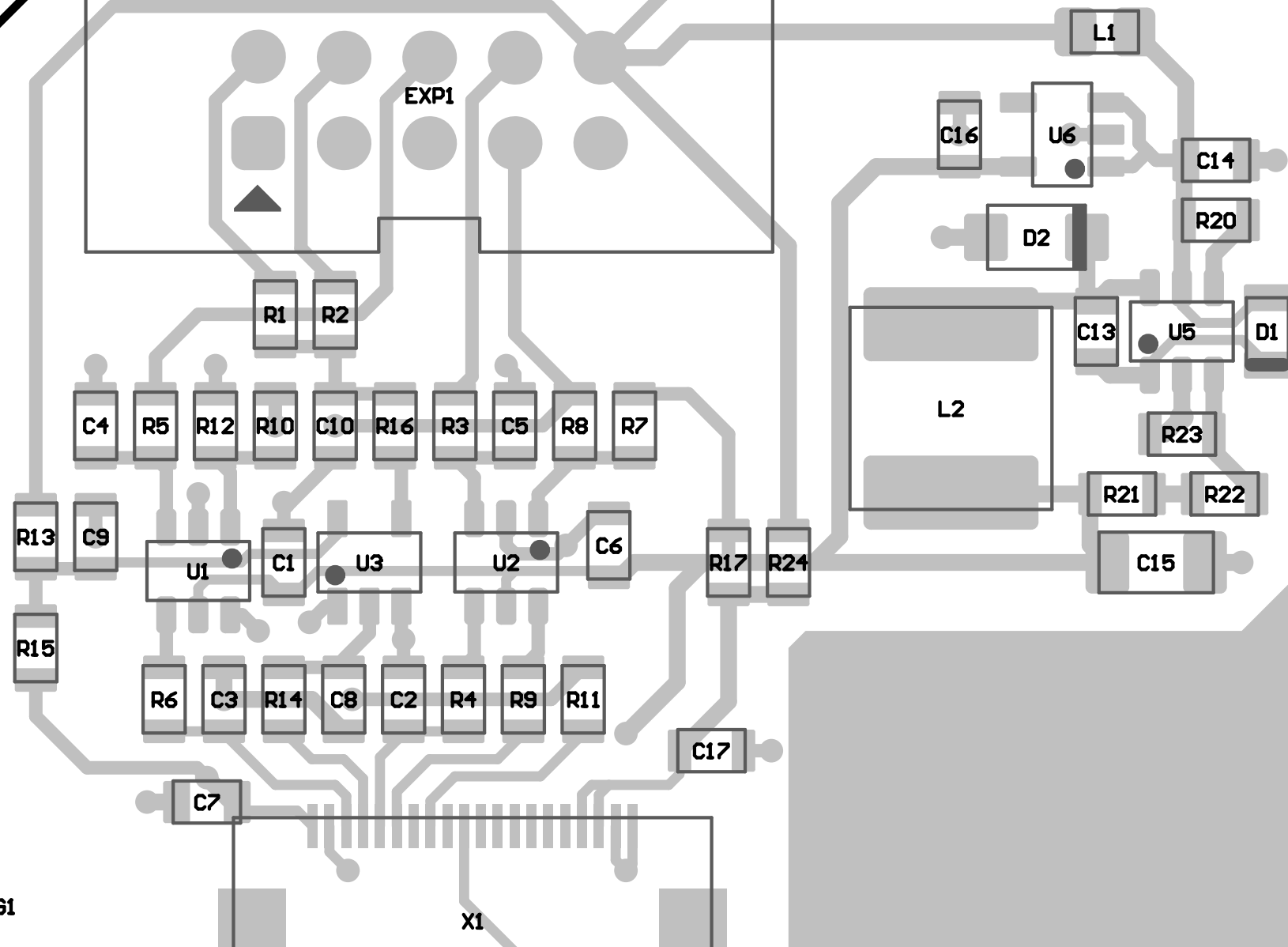
MTG2

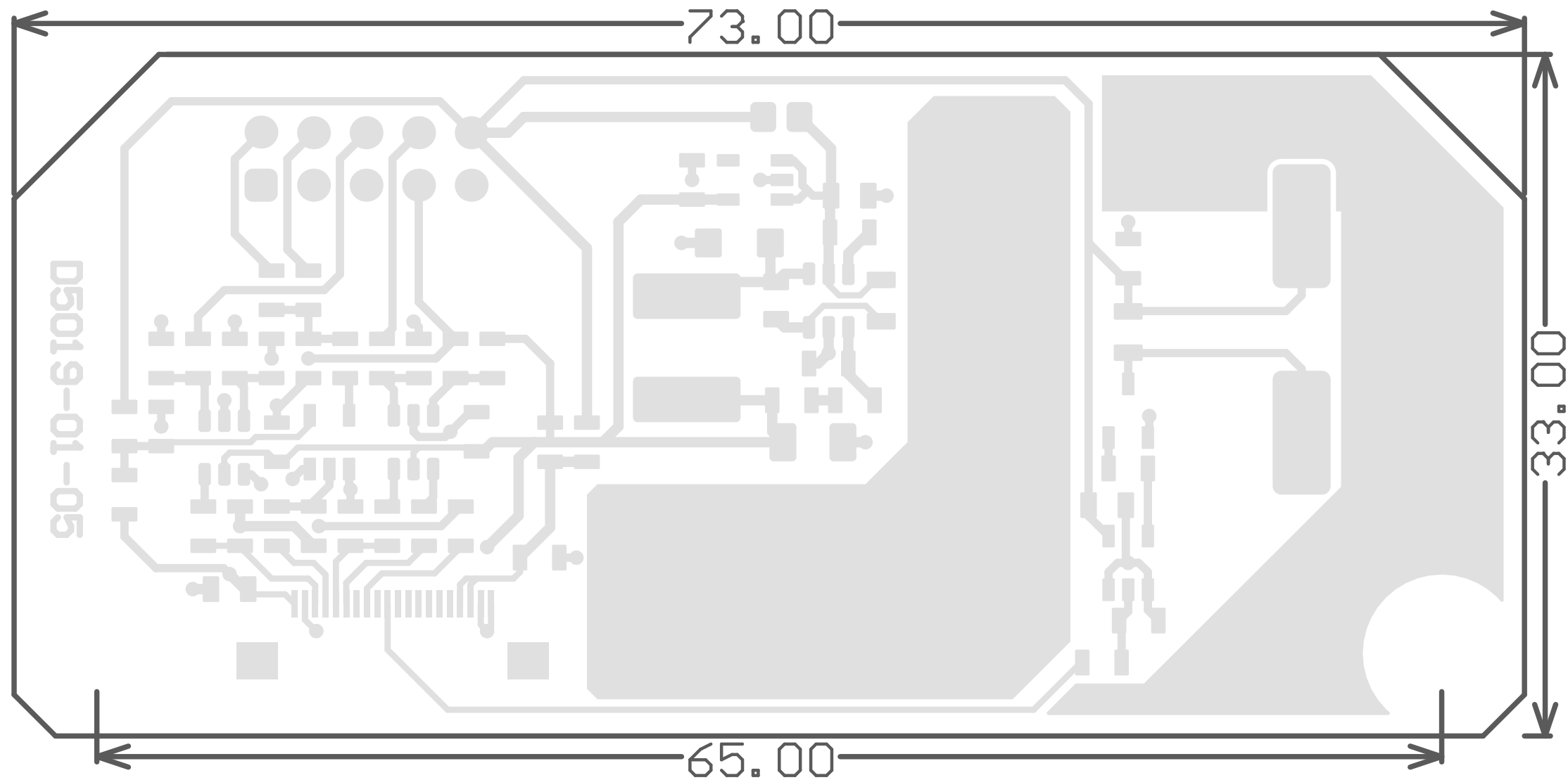
EXP1

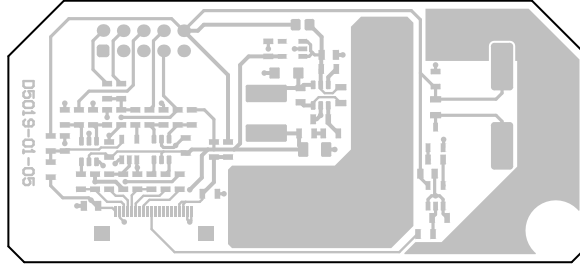
L2

L1

H1







D5019-01-05

MTG1

MTG2

