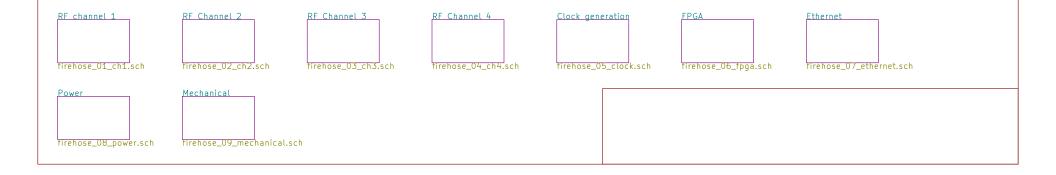
GNSS Firehose

Wideband front end for GPS, GLONASS, Galileo, BeiDou

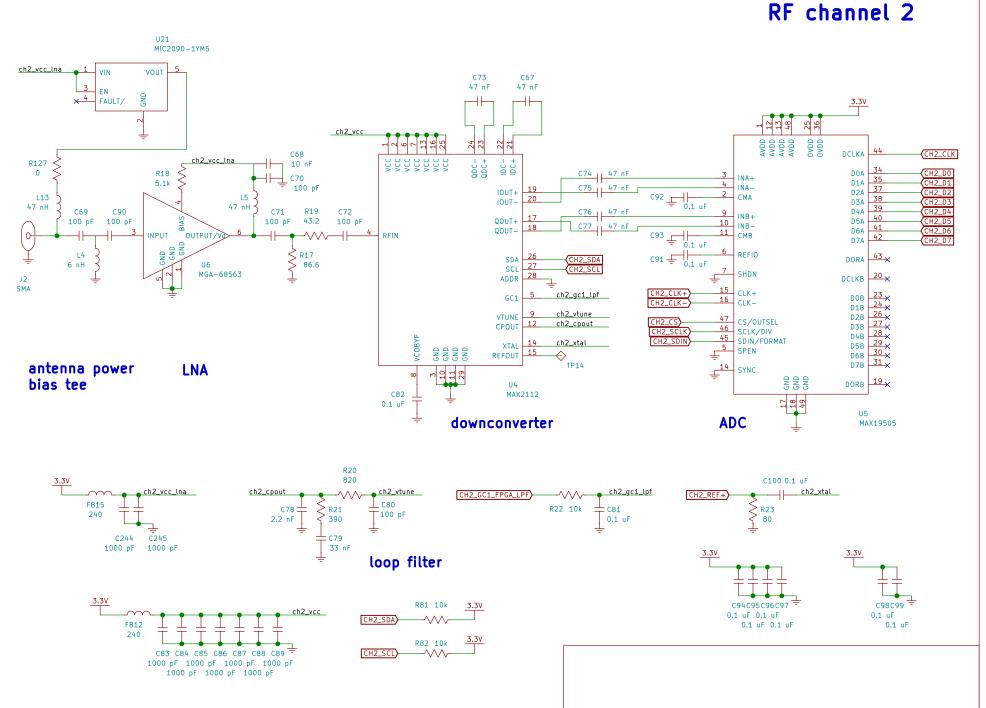
placeholder for block-diagram graphics



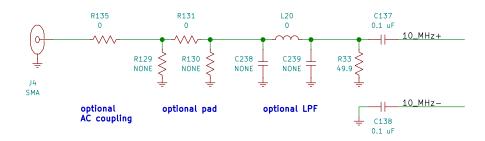
RF channel 1 U20 MIC2090-1YM5 <u>ch1_vcc_lna</u> VOUT C10 C1 47 nF 47 nF × 4 FAULT/ 3.30 ch1_vcc DCLKA C5 CH1_CLK ch1_vcc_lna R126 10 nF C11 47 nF DOA R2 С7 INA+ 5.1k D1A CH1_D1 100 pF INA-IOUT+ D2A C29 ____ CMA L12 L3 D3A 38 IOUT-47 nH C6 C8 R3 С9 C13 47 nF D4A CH1_D4 C27 INB+ CH1_D5 CH1_D6 100 pF 100 pF 100 pF 43.2 100 pF QOUT+ 10 INB-D5A C14 47 nF 11 CMB QOUT-D6A INPUT OUTPUT/ RFIN D7A R1 REFIO L2 DORA 43 × C28 🖵 SDA 6 nH 86.6 U3 SCL ADDR 28 DCLKB 20 × MGA-68563 SHDN J1 SMA 15 CLK+ D08 24 × 26 × 27 × 28 × 29 × 29 × 30 × 31 × ch1_gc1_lpf GC1 16 CLK-CH1_CLKch1_vtune VTUNE 47 CS/OUTSEL CH1_CS) ch1_cpout CPOUT 46 SCLK/DIV CH1_SCLK) 45 SDIN/FORMAT CH1_SDIN 5 SPEN GND GND GND GND REFOUT 14 SYNC antenna power LNA bias tee DORB 19 X U1 MAX2112 C19 0.1 uF U2 downconverter **ADC** MAX19505 R4 820 C37 0.1 uF ch1_vcc_lna ch1_xtal ch1_cpout ch1_vtune ch1_gc1_lpf CH1_GC1_FPGA_LPF) CH1_REF+ ₹ R7 80 FB14 ₹ R5 C17 C15 🛨 R6 10k C18 〒100 pF 240 2.2 nF 0.1 uF C242 C243 C16 1000 pF 1000 pF 33 nF 3.3٧ 3.3٧ loop filter R79 10k C35C36 C31C32C33C34 0.1 uF 0.1 uF 0.1 uF CH1_SDA) FB11 0.1 uF 0.1 uF 0.1 uF 240 R80 10k C20 C21 C22 C23 C24 C25 C26 **-**^//

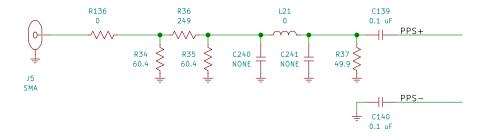
1000 pF 1000 pF 1000 pF 1000 pF 1000 pF 1000 pF 1000 pF

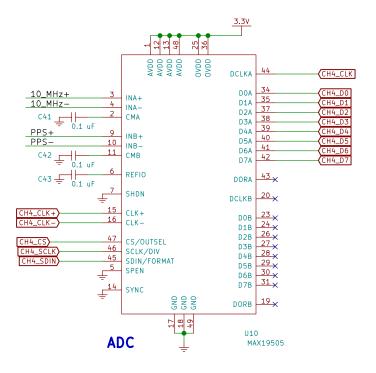
RF channel 2

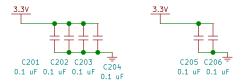


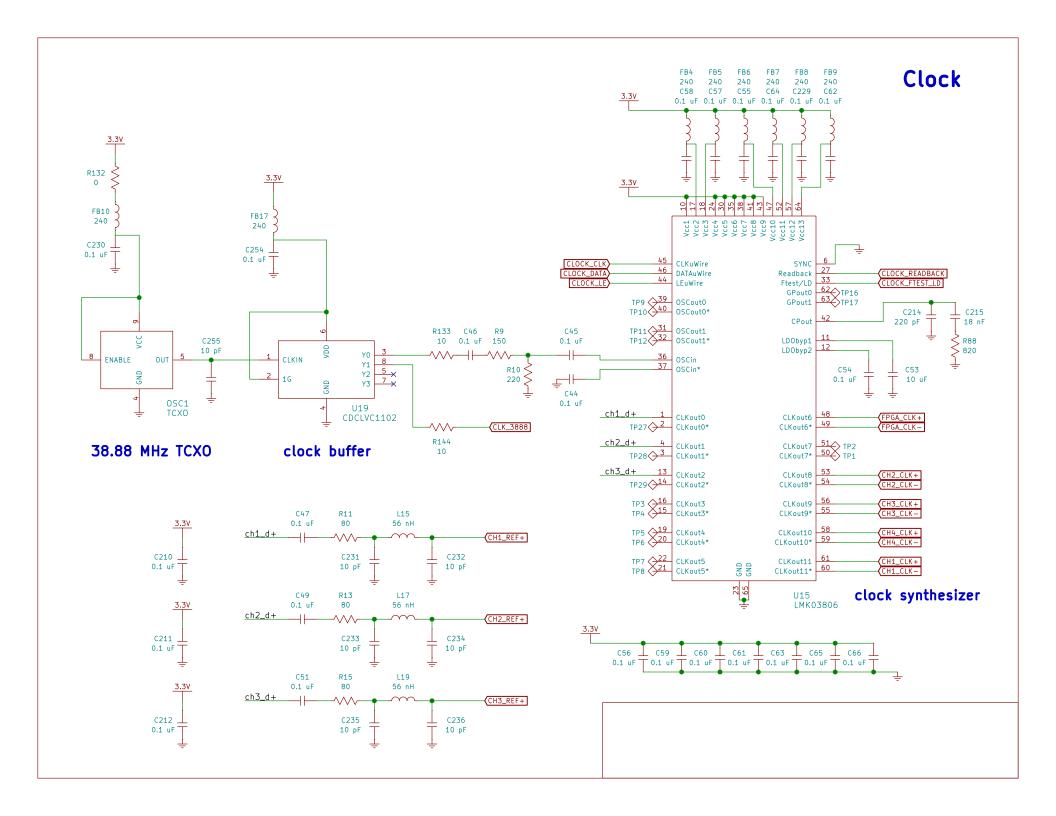
RF channel 3 U22 MIC2090-1YM5 ch3_vcc_lna VOUT C108 C102 47 nF 47 nF ΕN × 4 FAULT/ 3.3٧ _ch3_vcc C103 DCLKA CH3_CLK ch3_vcc_lna R128 10 nF C109 47 nF DOA R26 C105 INA+ 5.1k D1A CH3_D1 C110 100 pF 47 nF INA-C127___ IOUT+ D2A CMA L14 L7 D3A 38 IOUT-47 nH C104 C106 R27 C107 C111 47 nF D4A CH3_D4 C125 INB+ CH3_D5 CH3_D6 100 pF 100 pF 100 pF 43.2 100 pF QOUT+ 10 INB-D5A C112 47 nF QOUT-11 CMB D6A INPUT OUTPUT/ RFIN D7A REFIO L6 R25 DORA 43 × C126-SDA 6 nH 86.6 U9 SCL ADDR 28 DCLKB 20 × MGA-68563 SHDN J3 SMA 15 CLK+ D08 24 × 26 × 27 × 28 × 29 × 29 × 30 × 31 × ch3_gc1_lpf GC1 16 CLK-CH3_CLKch3_vtune VTUNE 47 CS/OUTSEL ch3_cpout CPOUT 46 SCLK/DIV CH3_SCLK 45 SDIN/FORMAT VCOBYP CH3_SDIN SDIN/ SPEN GND GND GND GND REFOUT 14 SYNC antenna power LNA GND bias tee DORB 19 X U7 C117 MAX2112 0.1 uF U8 downconverter **ADC** MAX19505 R28 820 C135 0.1 uF ch3_vcc_lna ch3_gc1_lpf ch3_xtal ch3_cpout CH3_GC1_FPGA_LPF CH3_REF+ FB16 C115 ₹ R29 ₹ R31 80 R30 10k C116 C113 240 100 pF 2.2 nF 0.1 uF C246 C247 C114 1000 pF 1000 pF 33 nF 3.3٧ 3.3٧ loop filter R83 10k C129 C130 C131 C133 C134 C132 0.1 uF 0.1 uF 0.1 uF 0.1 uF 0.1 uF FB13 240 R84 10k C118C119C120C121C122C123C124 1000 pF 1000 pF 1000 pF 1000 pF 1000 pF 1000 pF 1000 pF

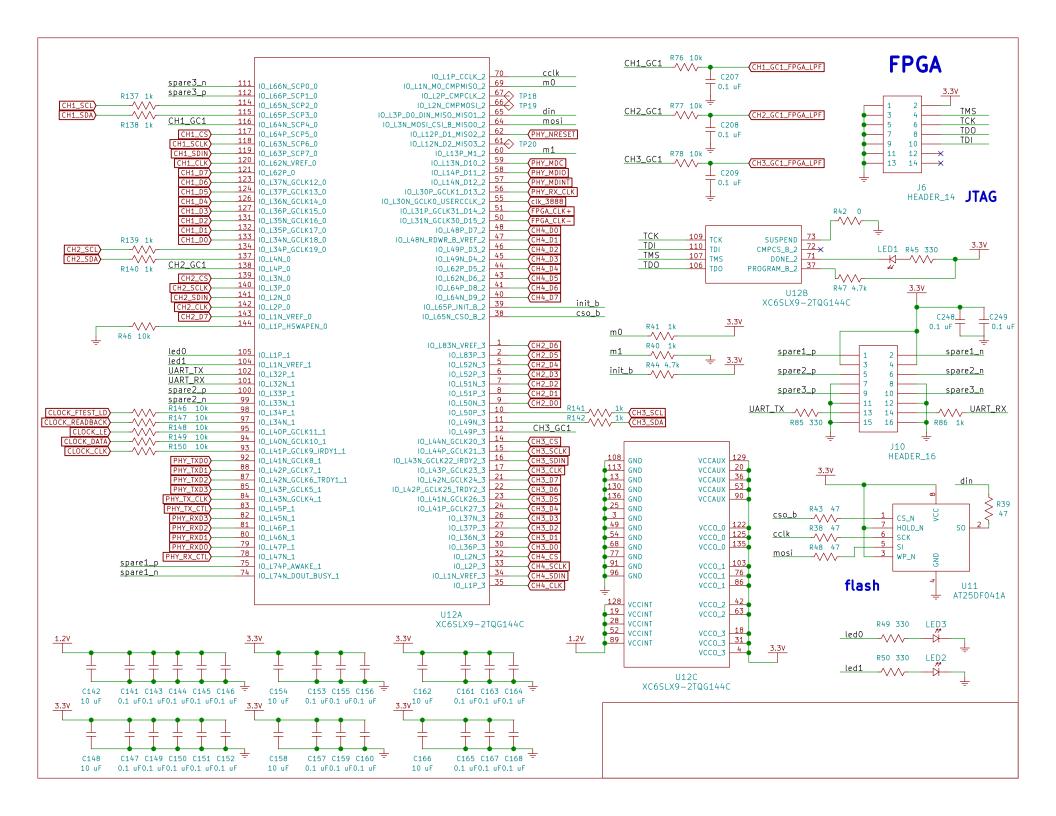


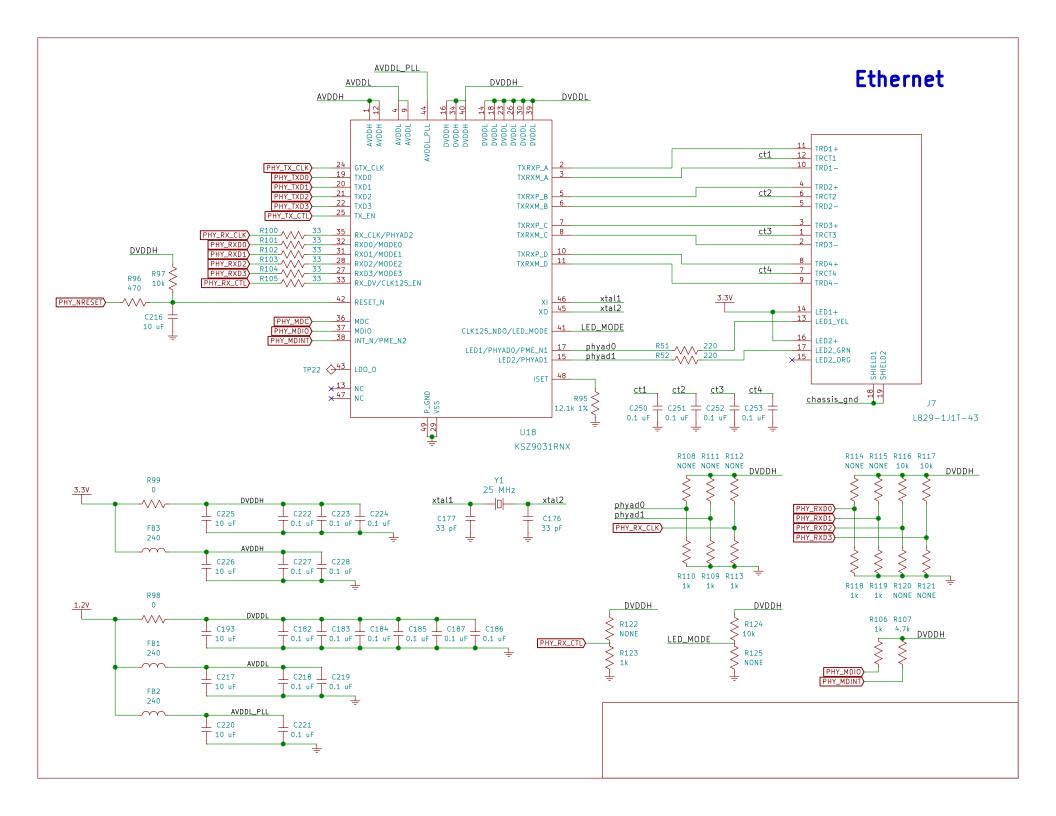




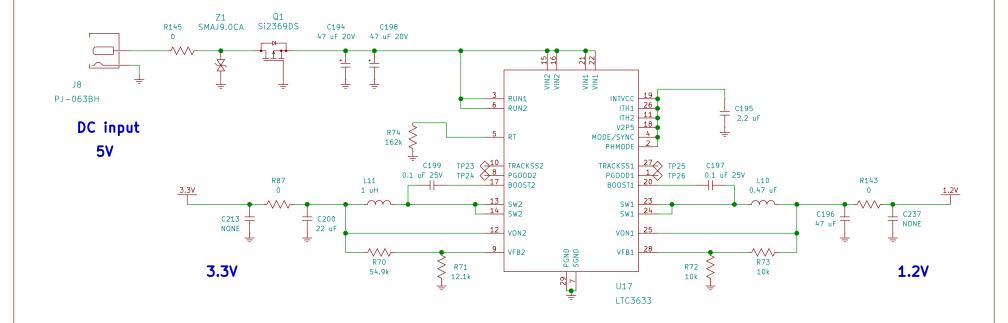






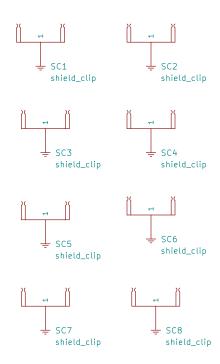


Power





Mechanical



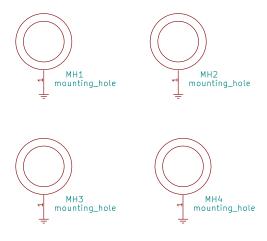
shield clips for RF channels







fiducials



mounting holes