



U1B M2S050-FG484 VDDIO C10 UART_1_RX MSIO42NB1/MMUART_1_RXD/GPIO_26_B VDDIO I2C_0_SDA C11 DDRIO84NB0/MDDR_DQS0_N MSIO48PB1/I2C_0_SDA/GPI0_30_B 12C_0_SCL C12 VSS MSIO48NB1/I2C_0_SCL/GPI0_31_B C13 DDRIO78NBO/MDDR_DQS1_N VREF0 VRFF0 VDDIO C14 VDDIO G14 DDRIO62NB0/MDDR_WE_N C15 DDRIO61NBO/MDDR_CS_N G13 DDRIO77NBO/MDDR_DM_RDQS1 DDRIO57PB0/MDDR_BA2 DDRIO77PBO/MDDR_TMATCH_0_IN VREF0 C17 DDRIO55PBO/MDDR_ADDR3 G11 VREF0 C18 DDRIO55NBO/MDDR_ADDR4 G10 VRFF0 C19 DDRIO53NBO/MDDR_ADDR7 G9 CCC_NW1_PLL_VDDA DDRIO53PB0/MDDR_ODT G8 CCC_NW1_PLL_VSSA C21 VSS vss^ MSIO107NB8 UART_0_RX MSIO47PB1/MMUART_0_RXD/GPIO_28_B G6 MSI098NB8 D1 MSIO104PB8 G5 MSI098PB8 D2 MSIO104NB8 VDD18 G4 VDD18 D3 MSIO100PB8 G3 MSIO111NB8 D4 MSIO100NB8 G2 MSIO110PB8 D5 MSIO96NB8 G1 MSIO114NB8 D6 DDRIO74NB0 F22 VDDI1 VDDI1 D7 MDDR_IMP_CALIB F21 MSIO43PB1/MMUART_0_RTS/GPIO_17_B F20 DDRIO89NBO/MDDR_DM_RDQS_ECC MSIO43NB1/MMUART_0_DTR/GPIO_18_B DDRIO88PBO MSIO44PB1/MMUART_0_CTS/GPIO_19_B DDRIO82PB0/MDDR_DQ5 MSIO44NB1/MMUART_0_DSR/GPI0_20_B D11 DDRIO82NBO/MDDR_DQ6 DDRIO52NB0/MDDR_ADDR9 VSS DDRIO79PB0/CCC_NEO_CLKI2/MDDR_DQ10 F16 VSS D13 DDRIO79NBO/MDDR_DQ11 F15 DDRIG60NB0/MDDR_CAS_N DDRIO75PB0/CCC_NE1_CLKI3/MDDR_DQ14 DDRIO62PB0/MDDR_RAS_N D15 VSS VDDIO F13 VDDIO DDRIO56PB0/MDDR_ADDR1 F12 DDRIO81NB0/MDDR_TMATCH_0_OUT D17 VDDIO VSS VDDIO VSS DDRIO49PB0/MDDR_ADDR14 F10 DDRIO85PB0/MDDR_DQ2 VDDIO vsś D19 V55 F9 VDDIO F8 DDRIO50NB0/MDDR_ADDR13 DDRI092NB0/CCC_NW0_CLKI2 UART_0_TX VDDIO MSI46NB1/MMUART_0_TXD/GPI0_27_B F7 VDDIO D22 FLASH_GOLDEN_N F6 M51099NB8 E1 MSIO105PB8 F5 MSI099PB8 E2 MSI0105NB8 F4 MSI0106NB8 VSS E3 V55 F3 MSIO106PB8 E4 MSIO102PB8 F2 MSI0110NB8 VDD18 E5 MSIO102NB8 F1 VDD18 E6 V55 E22 MSIO45PB1/MMUART_0_RI/GPI0_21_B E7 DDRIO92PB0/MDDR_TMATCH_ECC_OUT MSIO45NB1/MMUART_0_DCD/GPI0_22_B VDDI1 DDRIO89PBO/MDDR_TMATCH_ECC_IN E20 VDDI1 E9 VSS E19 DDRIO50PB0/MDDR_ADDR12 DDRIO85NB0/MDDR_DQ3 E18 DDRIO49NBO/MDDR_ADDR15 VDDIO E11 VDDIO DDRIO52PB0/MDDR_ADDR8 DDRIO81PB0/MDDR_DQ7 DDRIO56NB0/MDDR_ADDR2 E13 DDRIO75NBO/MDDR_DQ15 E15 DDRIO60PB0/MDDR_RESET_N E14 V55 UART_0_TX UART_0_TX LIART O RX UART O RX Author: Gabriel Mariano Marcelino <qabriel.mm8@gmail.com> VSS V55 UART_1_RX SpaceLab UART_1_RX VREFO VREFO Sheet: /SoC B/ I2C_0_SDA 12C_0_SDA File: soc b.kicad sch VDDIO I2C_0_SCL 12C_0_SCL Title: GNSS Transmitter Payload - SoC B VDD11 VDDI1 Date: 2024-04-28 Size: A4 VDD18 Rev: v0.1 VDD18 KiCad E.D.A. kicad 7.0.11-2.fc38 ld: 3/10

U1C M2S050-FG484 G19 MSIO42PB1/GB14/VCCC_SE1_CLKI/MMUART_1_CLK/GPIO_25_B MSIOD124PB7 VSS G20 M4 VSS G21 М3 MSIOD126PB7 MSIO40NB1/MMUART_1_DCD/GPIO_16_B M2 MSIO40PB1/CCC_NE1_CLKI1/MMUART_1_RI/GPIO_15_B MSIOD126NB7 H1 M1 MSI0114PB8/GB6/CCC_NW1_CLKI1 MSIOD128NB7 H2 L22 VSS VSS VSS Н3 L21 MSIO111PB8 MSIO17PB3/SPI_1_SDO/GPIO_12_A Н4 MSI017NB3/SPI_1_SS0/GPI0_13_A MSIO109PB8 __H5 MSIO109NB8 MSIO18PB3/SPI_1_SS4/GPIO_17_A Н6 MSI018NB3/SPI_1_SS5/GPI0_18_A L18 MSIO108PB8 <u>H</u>7 L17 VDD13 MSIO107PB8 VDDI3 SPI_0_SS_1 CCC_NWO_PLL_VDDA MSI022PB3/SPI_0_SS1/GPI0_8_A VPP Н9 L15 VSS VPP VDD VSS H10 L14 VSS-ממע VDD L13 VSS H11 VDD VSS VDDIO L12 VSS H12 VDDIO VSS-VDD L11 VSS H13 VDD VSS VDDI0 VSS H14 L10 VDDIO VSS H15 L9 VDD CCC_NEO_PLL_VDDA VDD-H16 L8 MSS_MDDR_PLL_VDDA MSIOD119NB7 H17 MSIOD120NB7 L7 MSS_MDDR_PLL_VSSA H18 L6 VDD17 VDD11 VDDI7 UART_1_TX H19 MSIO41NB1/MMUART_1_TXD/GPIO_24_B MSIOD123NB7 H20 L4 MSIO41PB1/GB10/VCCC_SEO_CLKI MSIOD123PB7 MSIO38NB1/MMUART_1_DTR/GPIO_12_B MSIOD122NB7 L2 MSI038PB1/MMUART_1_RTS/GPI0_11_B MSIOD122PB7 VSS L1 MSID116PB8/CCC_NW1_CLKIO VSS-K22 MSIO116NB8 MSIO20PB3/GB9/VCCC_SE0_CLKI/GPIO_25_A J3 MSI019PB3/SPI_1_SS6/GPI0_23_A K21 MSIO115PB8/GB2/CCC_NW0_CLKI1 J4 MSI019NB3/SPI_1_SS7/GPI0_24_A K20 MSIO115NB8 J5 K19 VSS V55 V55 ___J6 MSI024PB3/SPI_1_SS2/GPI0_15_A K18 MSIO108NB8 VDD18 J7 K17 MSI023PB3/SPI_0_SS3/GPI0_10_A VDD18 J8 CCC_NWO_PLL_VSSA MSI023NB3/SPI_1_SS1/GPI0_14_A VDD J9 MSIO22NB3/SPI_0_SS2/GPIO_9_A K15 VDD VSS J10 K14 VDD VSS vnn VDD J11 K13 VSS VDD V55 VSS VDD J12 K12 VDD-VDD J13 K11 VSS VDD VSS VSS VDD J14 K10 VDD J15 K9 CCC_NEO_PLL_VSSA V55 J16 CCC_NE1_PLL_VSSA MSIOD119PB7/GB1/CCC_SW0_CLKI1 __J<u>1</u>7 K7 CCC_NE1_PLL_VDDA MSIO117NB8 K6 MSI024NB3/SPI_1_SS3/GPI0_16_A MSI0117PB8/CCC_NW0_CLKI0 MSIO39NB1/MMUART_1_DSR/GPIO_14_B MSIOD118NB7 J20 K4 MSI039PB1/CCC_NE0_CLKI1/MMUART_1_CTS/GPI0_13_B MSIOD118PB7/GB5/CCC_SW1_CLKI1 VDDI1 J21 K3 VDD17 VDDI1 VDD17 J22 K2 MSIO20NB3/GB13/VCCC_SE1_CLKI/GPIO_26_A MSIOD121NB7 MSIOD121PB7/CCC_SW0_CLKI0 K1 VSS V55 SPI_0_SS_1 SPI_0_SS_1 VDD VDD UART_1_TX_ UART_1_TX VPP Author: Gabriel Mariano Marcelino <qabriel.mm8@gmail.com> VDDIO VDDIO SpaceLab VDD11 VDD11 Sheet: /SoC C/ VDD13 File: soc_c.kicad_sch VDD13 Title: GNSS Transmitter Payload - SoC C VDD17 VDD17 Date: 2024-04-28 Size: A4 VDD18 Rev: v0.1 VDD18 KiCad E.D.A. kicad 7.0.11-2.fc38 ld: 4/10

U1D M2S050-FG484 М6 VDD15 MSIOD124NB7 VDD15 М7 T13 MSIOD120PB7/CCC_SW1_CLKIO DDRIO166NB5 VREF5 М8 T12 MSIOD131NB7 VREF5 VSS М9 VSS VRFF5 VDD_ VDD M10 T10 VDD VDD VSS M11 Т9 ٧SS VDD VPP VDD M12 T8 VDD VPP VSS T7 M13 CCC_SW1_PLL_VSSA VSS VDD M14 T6 VDD VSS VPPNVM M15 T5 VPPNVM CCC_SWO_PLL_VDDA M16 MSI014PB3/SPI_0_SS4/GPI0_19_A T4 MSIOD135PB7 T3 MSI014NB3/SPI_0_SS5/GPI0_20_A MSIOD135NB7 T2 VSS MSI015PB3/SPI_0_SS6/GPI0_21_A VSS M19 T1 MSIO15NB3/SPI_0_SS7/GPI0_22_A MSIOD145NB6 VDDI3 R22 VDD13 MSI011NB3/CCC_NE1_CLKI0/I2C_1_SCL/GPI0_1_A R21 M21 MSIO16PB3/SPI_1_CLK SC_SPI_SDI R20 MSIO16NB3/SPI_1_SDI/GPIO_11_A SC_SPI_CLK VDD13 N1 MSIOD128PB7 R19 VDD13 VDD17 N2 R18 VDD17 MSIO1NB3 N3 MSIOD127PB7 MSIO1PB3 N4 MSIOD127NB7 R16 MSIO7PB3 N5 R15 MSIOD125PB7 DEVRST_N N6 MSIOD125NB7 R14 VS5 VSS VSS N7 VDD R13 VSS VDD N8 MSIOD131PB7 R12 VSS VSS VDD R11 VDD N9 VDD VDD VSS VSS N10 R10 ٧SS VSS VDD N11 R9 VSS VDD VSS VSS N12 R8 VDD VSS VDD VDD N13 R7 VDD CCC_SW1_PLL_VDDA VSS R6 V55 CCC_SW0_PLL_VSSA VSSNVM R5 VSS N15 VSSNVM V55 CAN_RX R4 N16 MSI08PB3/CAN_RX/GPI0_3_A MSIOD134NB7 R3 MSIO8NB3/CAN_TX_EN_N/GPIO_4_A MSIOD134PB7 VSS N18 MSIOD133PB7 V55 SPI_0_CLK MSIO12PB3/SPI_0_CLK MSIOD133NB7 SPI_0_SDI N20 P22 MSI012NB3/SPI_0_SDI/GPI0_5_A MSIO11PB3/CCC_NEO_CLKIO/I2C_1_SDA/GPIO_O_A SPI_0_SDO P21 VSS MSI013PB3/SPI_0_SD0/GPI0_6_A VSS SPI_0_SS_0 P20 MSI013NB3/SPI_0_SS0/GPI0_7_A SC_SPI_SS P1 MSIOD130PB7 P19 SC_SPI_SDO P18 MSIOD130NB7 MSI06NB3 Р3 P17 MSIOD129NB7 MSI06PB3 Р4 P16 CAN_TX MSIOD129PB7 MSIO7NB3/CAN_TX/GPIO_2_A VDD17 P5 P15 VPP VDD17 VPP VDD P6 P14 MSIOD132PB7 VDD P13 VSS MSIOD132NB7 V55 VDD P8 P12 VDD VDD VDD VSS VSS P9 P11 VSS V55 P10 VDD VDD CAN_RX VSS CAN_RX V55 VDD CAN_TX VDD CAN_TX SPI_0_CLK VPPNVM SPI_O_SDI VPPNVM SPI_0_SDI Author: Gabriel Mariano Marcelino <qabriel.mm8@gmail.com> SPI_0_5D0 VSSNVM VSSNVM SPI_0_SDO SpaceLab VREF5 SPI_0_SS_0_ VREF5 SPI 0 SS 0 Sheet: /SoC D/ VDD13 File: soc_d.kicad_sch VDD13 Title: GNSS Transmitter Payload - SoC D VDD15 VDD15 Date: 2024-04-28 Size: A4 Rev: v0.1 VDD17 VDD17 KiCad E.D.A. kicad 7.0.11-2.fc38 ld: 5/10









