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RPi CM4 + Pixhawk FMUv6U

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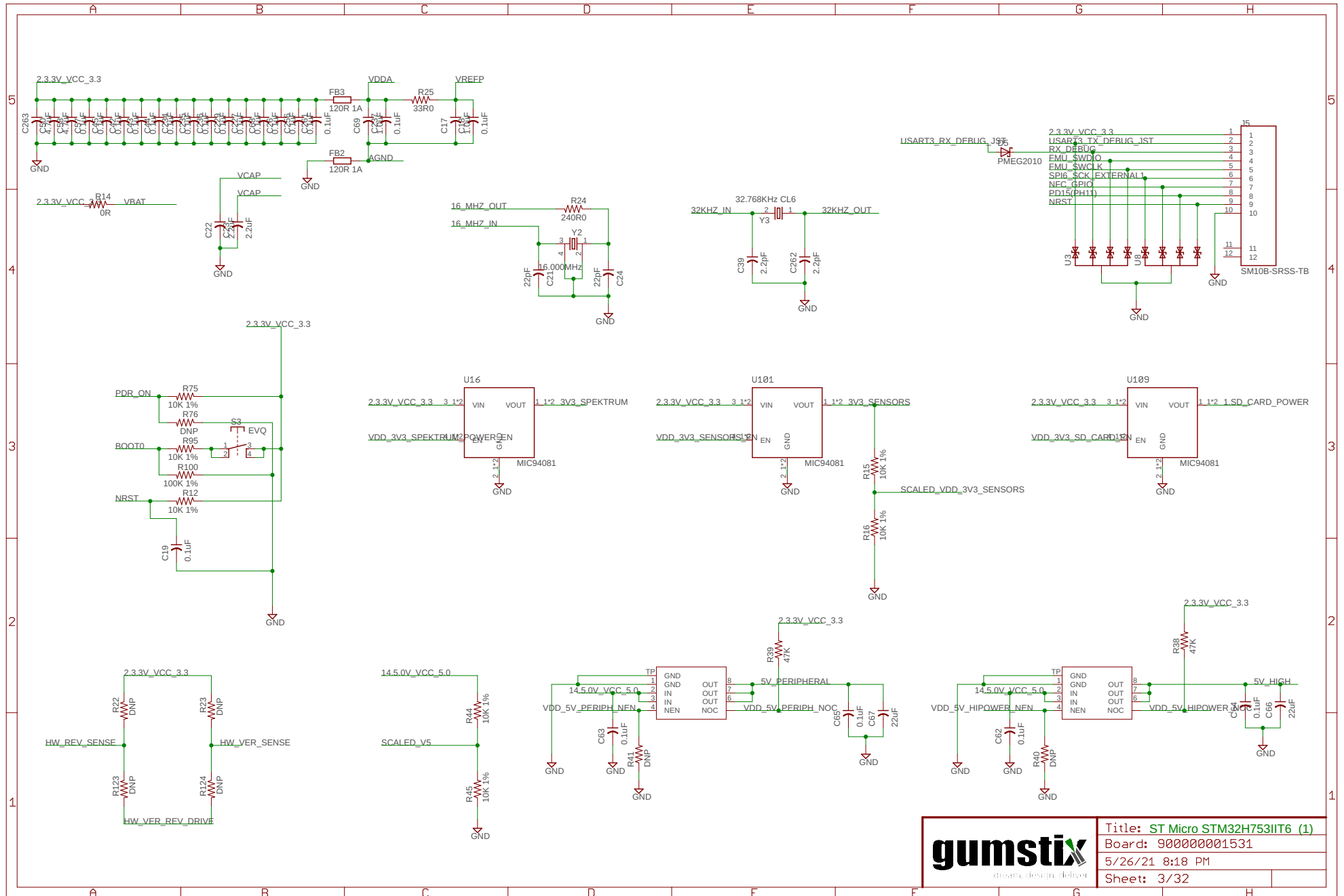
REVISION HISTORY

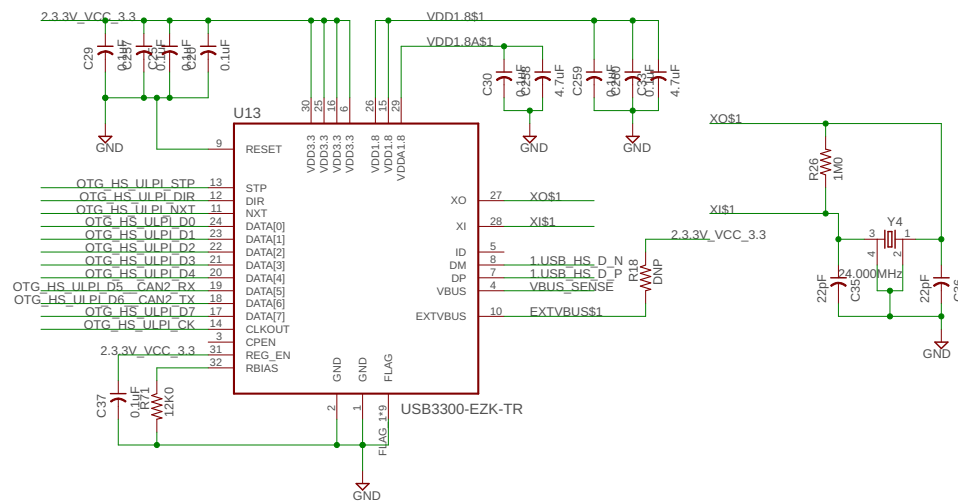
REV	DESCRIPTION	DATE	ENG
1	Initial design - https://geppetto.gumstix.com/#/design/8869/	2020-10-17	ACS
2	Fixed USB-UART power supply and debug mux. Populated the BMP388 chip. Set up BMM150 for I2C. Added orientation arrow.	2020-11-30	ACS
3	Fix USB polarity to Coral and add PCIe connections.	2021-01-12	ACS
4	Add PCIe->USB3 and interface to Coral. Change to 7-port hub to allow flashing of CM4.	2021-04-01	ACS

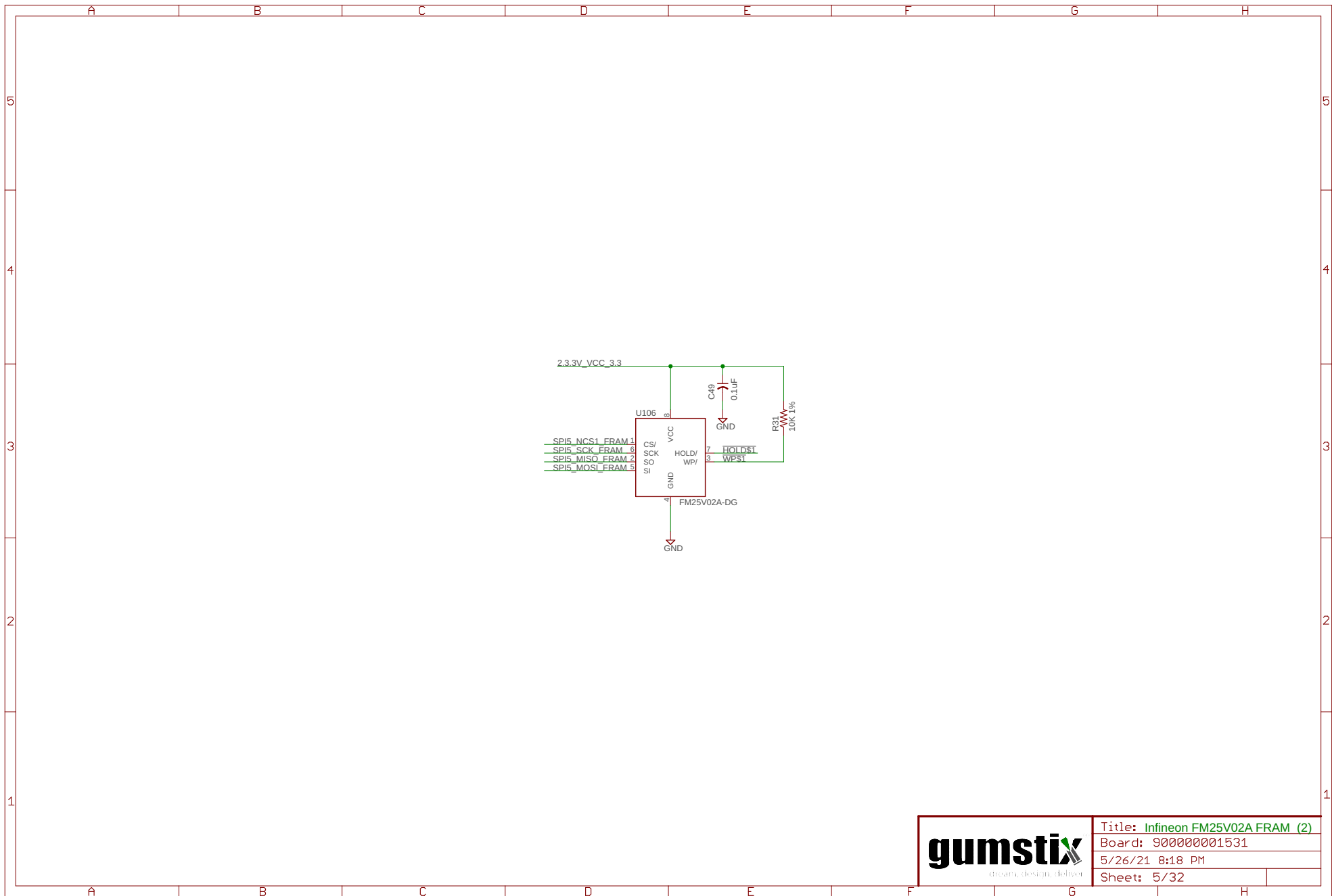
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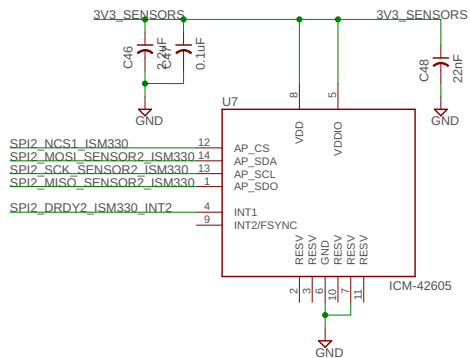
Title: RPi CM4 + Pixhawk FMUv6
Board: 900000001531
5/26/21 8:18 PM
Sheet: 1/32

	A	B	C	D	E	F	G	H
5	<p>U100A0</p> <p>PA0 40 SCALED_V5</p> <p>PA1 41 FMU_CAP2</p> <p>PA2 42 HEATER</p> <p>PA3 47 OTG_HS_ULPI_D0</p> <p>PA4 50 ADC3_3V3</p> <p>PA5 51 OTG_HS_ULPI_CK</p> <p>PA6 52 SPI6_MISO_EXTERNAL1</p> <p>PA7 53 SPI1_MOSI_SENSOR1_ICM20602</p>		<p>U100D0</p> <p>PD0 142 CAN1_RX</p> <p>PD1 143 CAN1_TX</p> <p>PD2 144 UART5_RX_TELEM2</p> <p>PD3 145 USART2_CTS_TELEM3</p> <p>PD4 146 USART2_RTS_TELEM3</p> <p>PD5 147 USART2_TX_TELEM3</p> <p>PD6 150 USART2_RX_TELEM3</p> <p>PD7 151 SDMMC2_CMD</p>	<p>U100C0</p> <p>PG0 66 HW_VER_REV_DRIVE</p> <p>PG1 67 NPOWER_IN_A</p> <p>PG2 106 NPOWER_IN_B</p> <p>PG3 107 NPOWER_IN_C</p> <p>PG4 108 VDD_5V_PERIPH_NEN</p> <p>PG5 109 I2C2_DRDY1_BMP388</p> <p>PG6 110 PG6</p> <p>PG7 111 SPI5_NCS1_FRAM</p>		<p>U100VDD</p> <p>VDD 15*14 2.3.3V_VCC_3.3</p> <p>VSS 14*12 GND</p> <p>PDR_ON 171 PDR_ON</p>		5
4	<p>U100A1</p> <p>PA8 119 I2C3_SCL_BASE_MS5611_BARBED_EXTERNAL1</p> <p>PA9 120 VBUS_SENSE</p> <p>PA10 121 SPI2_DRDY2_ISM330_INT2</p> <p>PA11 122 USB_D_N</p> <p>PA12 123 USB_D_P</p> <p>PA13 124 FMU_SWDIO</p> <p>PA14 137 FMU_SWCLK</p> <p>PA15 138 SPI6_NCS2_EXTERNAL1</p>		<p>U100D1</p> <p>PD8 96 USART3_TX_DEBUG</p> <p>PD9 97 USART3_RX_DEBUG</p> <p>PD10 98 FMU_NSAFETY_SWITCH_LED_OUT</p> <p>PD11 99 SPI6_DRDY1_EXTERNAL1</p> <p>PD12 100 SPI6_DRDY2_EXTERNAL1</p> <p>PD13 101 FMU_CH5</p> <p>PD14 104 FMU_CH6</p> <p>PD15 105 PD15(PH11)</p>	<p>U100C1</p> <p>PG8 112 PG8</p> <p>PG9 152 SPI1_MISO_SENSOR1_ICM20602</p> <p>PG10 153 VDD_5V_HIPOWER_NEN</p> <p>PG11 154 SPI1_SCK_SENSOR1_ICM20602</p> <p>PG12 155 VDD_3V3_SENSORS_EN</p> <p>PG13 156 SPI6_SCK_EXTERNAL1</p> <p>PG14 157 SPI6_MOSI_EXTERNAL1</p> <p>PG15 160 PG15</p>		<p>U100VREF</p> <p>VBAT 6 VBAT</p> <p>VCAP 81*2 VCAP</p> <p>VDDA 39 VDDA</p> <p>VSSA 37 AGND</p> <p>VREF+ 38 VREFP</p> <p>VDD33USB 114 2.3.3V_VCC_3.3</p>		4
3	<p>U100B0</p> <p>PB0 56 OTG_HS_ULPI_D1</p> <p>PB1 57 OTG_HS_ULPI_D2</p> <p>PB2 58 SPI3_MOSI_SENSOR3_BMI088</p> <p>PB3 161 SDMMC2_D2</p> <p>PB4 162 SDMMC2_D3</p> <p>PB5 163 OTG_HS_ULPI_D7</p> <p>PB6 164 USART1_TX_GPS1</p> <p>PB7 165 USART1_RX_GPS1</p>		<p>U100E0</p> <p>PE0 169 UART8_RX_GPS2</p> <p>PE1 170 UART8_TX_GPS2</p> <p>PE2 1 TRACECLK</p> <p>PE3 2 NLED_RED</p> <p>PE4 3 NLED_GREEN</p> <p>PE5 4 NLED_BLUE</p> <p>PE6 5 NARMEED</p> <p>PE7 68 MUX_CTRL2</p>	<p>U100G0</p> <p>PH0 29 16_MHZ_IN</p> <p>PH1 30 16_MHZ_OUT</p> <p>PH2 43 VDD_3V3_SPEKTRUM_POWER_EN</p> <p>PH3 44 HW_VER_SENSE</p> <p>PH4 45 HW_REV_SENSE</p> <p>PH5 46 SPI2_NCS1_ISM330</p> <p>PH6 83 FMU_CH7</p> <p>PH7 84 SPI5_MISO_FRAM</p>		<p>U100BOOT</p> <p>NRST 31 NRST</p> <p>BOOT0 166 BOOT0</p> <p>STM32H753II</p>		3
2	<p>U100B1</p> <p>PB8 167 I2C1_SCL_BASE_GPS1_MAG_LED_PM1</p> <p>PB9 168 I2C1_SDA_BASE_GPS1_MAG_LED_PM1</p> <p>PB10 79 OTG_HS_ULPI_D3</p> <p>PB11 80 OTG_HS_ULPI_D4</p> <p>PB12 92 OTG_HS_ULPI_D5_CAN2_RX</p> <p>PB13 93 OTG_HS_ULPI_D6_CAN2_TX</p> <p>PB14 94 SDMMC2_D0</p> <p>PB15 95 SDMMC2_D1</p>		<p>U100E1</p> <p>PE8 69 UART7_TX_TELEM1</p> <p>PE9 70 SPIX_SYNC</p> <p>PE10 73 UART7_CTS_TELEM1</p> <p>PE11 74 FMU_CAP1</p> <p>PE12 75 SPI4_SCK_SENSOR4_BMM150</p> <p>PE13 76 SPI4_MISO_SENSOR4_BMM150</p> <p>PE14 77 SPI4_MOSI_SENSOR4_BMM150</p> <p>PE15 78 VDD_5V_PERIPH_NOC</p>	<p>U100G1</p> <p>PH8 85 I2C3_SDA_BASE_MS5611_BARBED_EXTERNAL1</p> <p>PH9 86 FMU_CH8</p> <p>PH10 87 FMU_CH4</p> <p>PH11 88 FMU_CH3</p> <p>PH12 89 FMU_CH2</p> <p>PH13 128 UART4_TX</p> <p>PH14 129 UART4_RX</p> <p>PH15 130 SPI4_NCS1_BMM150</p>				2
1	<p>U100C0</p> <p>PC0 32 OTG_HS_ULPI_STP</p> <p>PC1 33 SDMMC2_CLK</p> <p>PC2 34 ADC3_6V6</p> <p>PC3 35 OTG_HS_ULPI_NXT</p> <p>PC4 54 SCALED_VDD_3V3_SENSORS</p> <p>PC5 55 MUX_CTRL1</p> <p>PC6 115 USART6_TX_TO_IO_NC</p> <p>PC7 116 USART6_RX_FROM_IO_RC_INPUT</p>		<p>U100E0</p> <p>PF0 16 I2C2_SDA_BASE_GPS2_MAG_LED_PM2</p> <p>PF1 17 I2C2_SCL_BASE_GPS2_MAG_LED_PM2</p> <p>PF2 18 SPI2_DRDY1_ICM20602</p> <p>PF3 19 SPI4_DRDY1_BMM150_DRDY</p> <p>PF4 20 PF4</p> <p>PF5 21 FMU_SAFETY_SWITCH_IN</p> <p>PF6 24 UART7_RX_TELEM1</p> <p>PF7 25 SPI5_SCK_FRAM</p>	<p>U100G0</p> <p>PI0 131 FMU_CH1</p> <p>PI1 132 SPI2_SCK_SENSOR2_ISM330</p> <p>PI2 133 SPI2_MISO_SENSOR2_ISM330</p> <p>PI3 134 SPI2_MOSI_SENSOR2_ISM330</p> <p>PI4 173 SPI3_NCS1_BMI088_ACCEL</p> <p>PI5 174 FMU_PPM_INPUT</p> <p>PI6 175 SPI3_DRDY1_BMI088_INT1_ACCEL</p> <p>PI7 176 SPI3_DRDY2_BMI088_INT3_GYRO</p>				2
	<p>U100C1</p> <p>PC8 117 UART5_RTS_TELEM2</p> <p>PC9 118 UART5_CTS_TELEM2</p> <p>PC10 139 SPI3_SCK_SENSOR3_BMI088</p> <p>PC11 140 SPI3_MISO_SENSOR3_BMI088</p> <p>PC12 141 UART5_TX_TELEM2</p> <p>PC13 8 VDD_3V3_SD_CARD_EN</p> <p>PC14 9 32KHZ_IN</p> <p>PC15 10 32KHZ_OUT</p>		<p>U100E1</p> <p>PF8 26 UART7_RTS_TELEM1</p> <p>PF9 27 BUZZER_1</p> <p>PF10 28 SPI6_NRESET_EXTERNAL1</p> <p>PF11 59 SPI5_MOSI_FRAM</p> <p>PF12 60 NEC_GPIO</p> <p>PF13 63 VDD_5V_HIPOWER_NOC</p> <p>PF14 64 I2C4_SCL_FMU</p> <p>PF15 65 I2C4_SDA_FMU</p>	<p>U100G1</p> <p>PI8 7 SPI3_NCS2_BMI088_GYRO</p> <p>PI9 11 SPI1_NCS1_ICM20602</p> <p>PI10 12 SPI6_NCS1_EXTERNAL1</p> <p>PI11 13 OTG_HS_ULPI_DIR</p>				1
	A	B	C	D	E	F	G	H



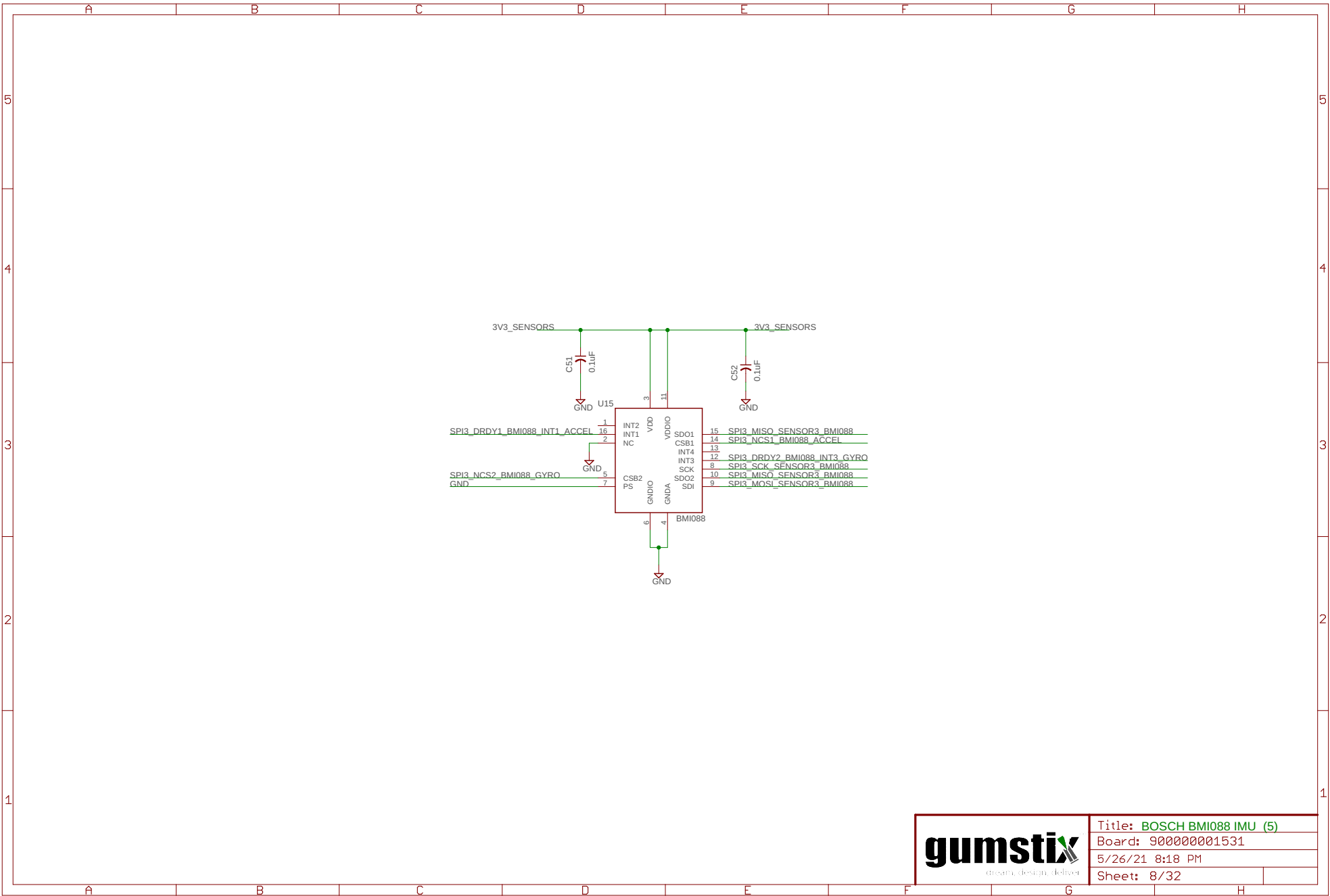


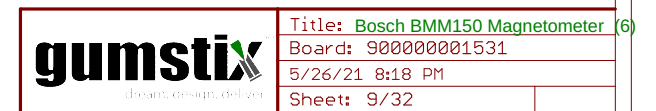


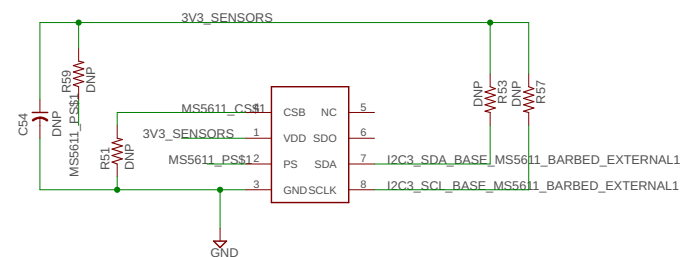


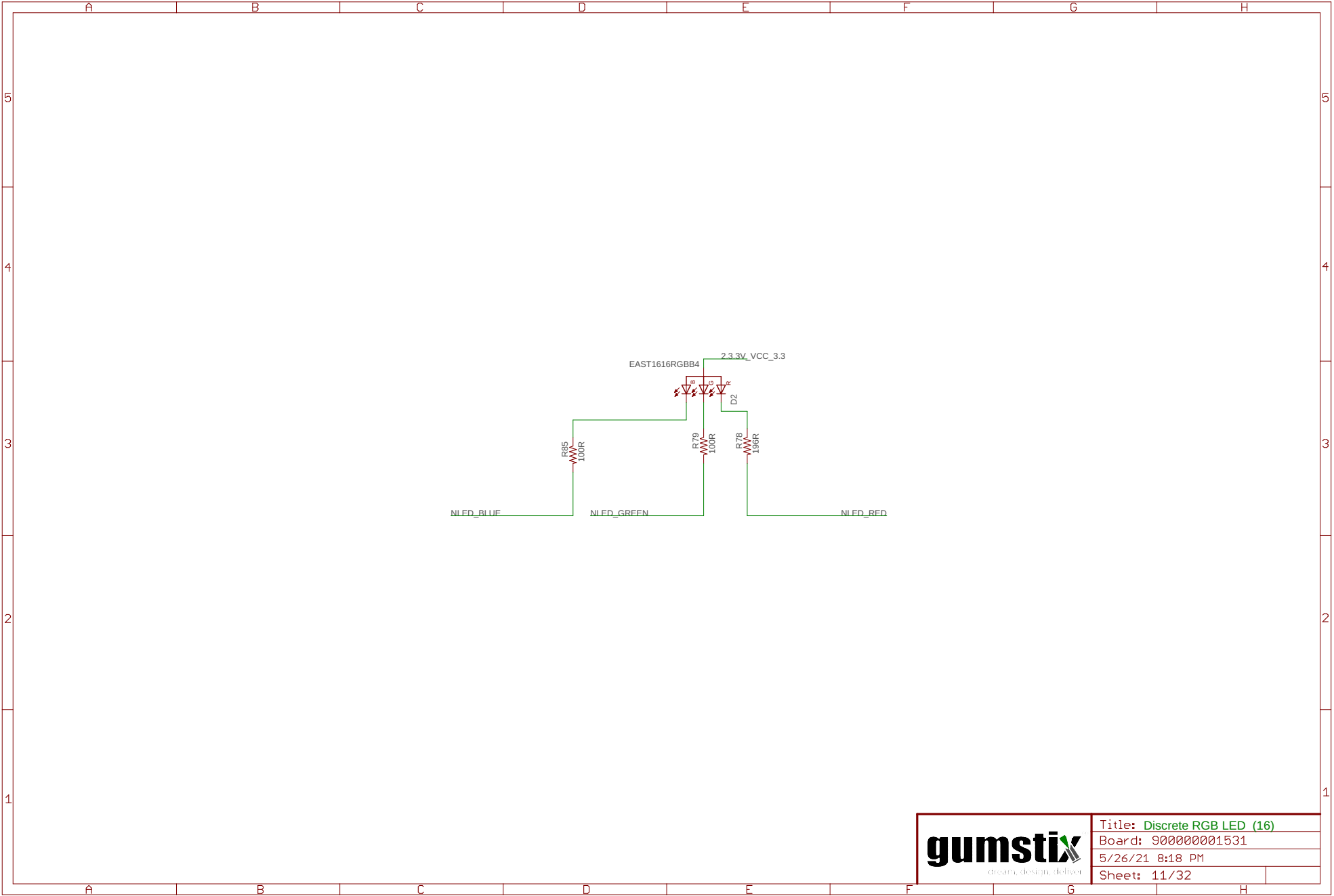


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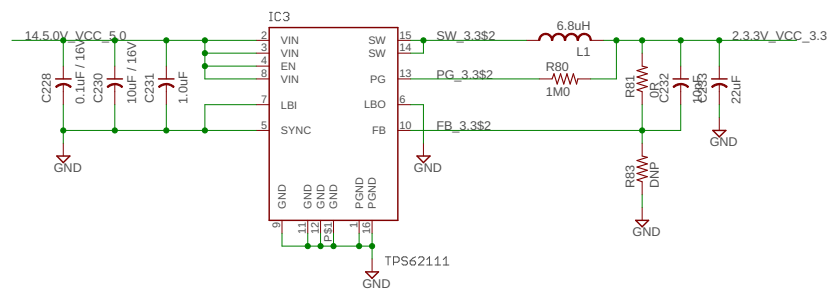


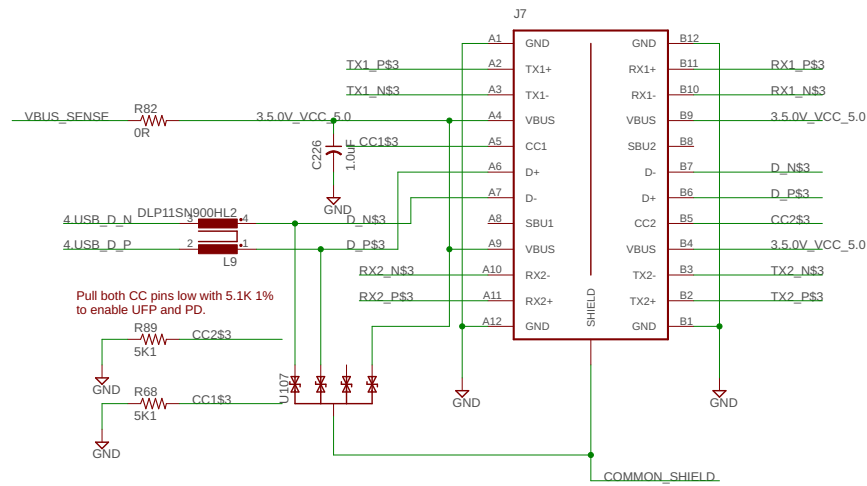




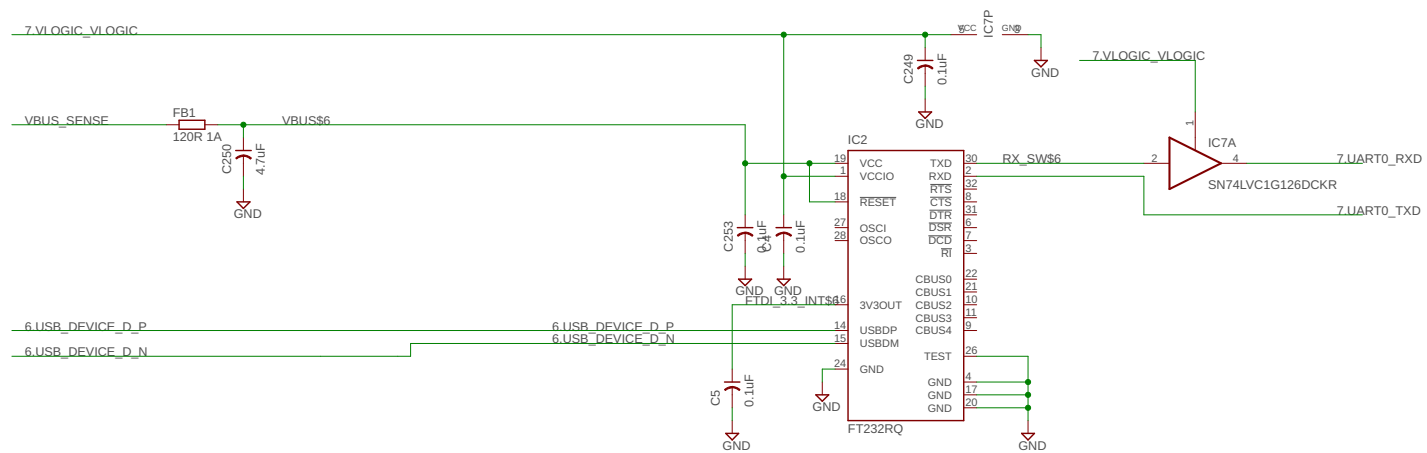


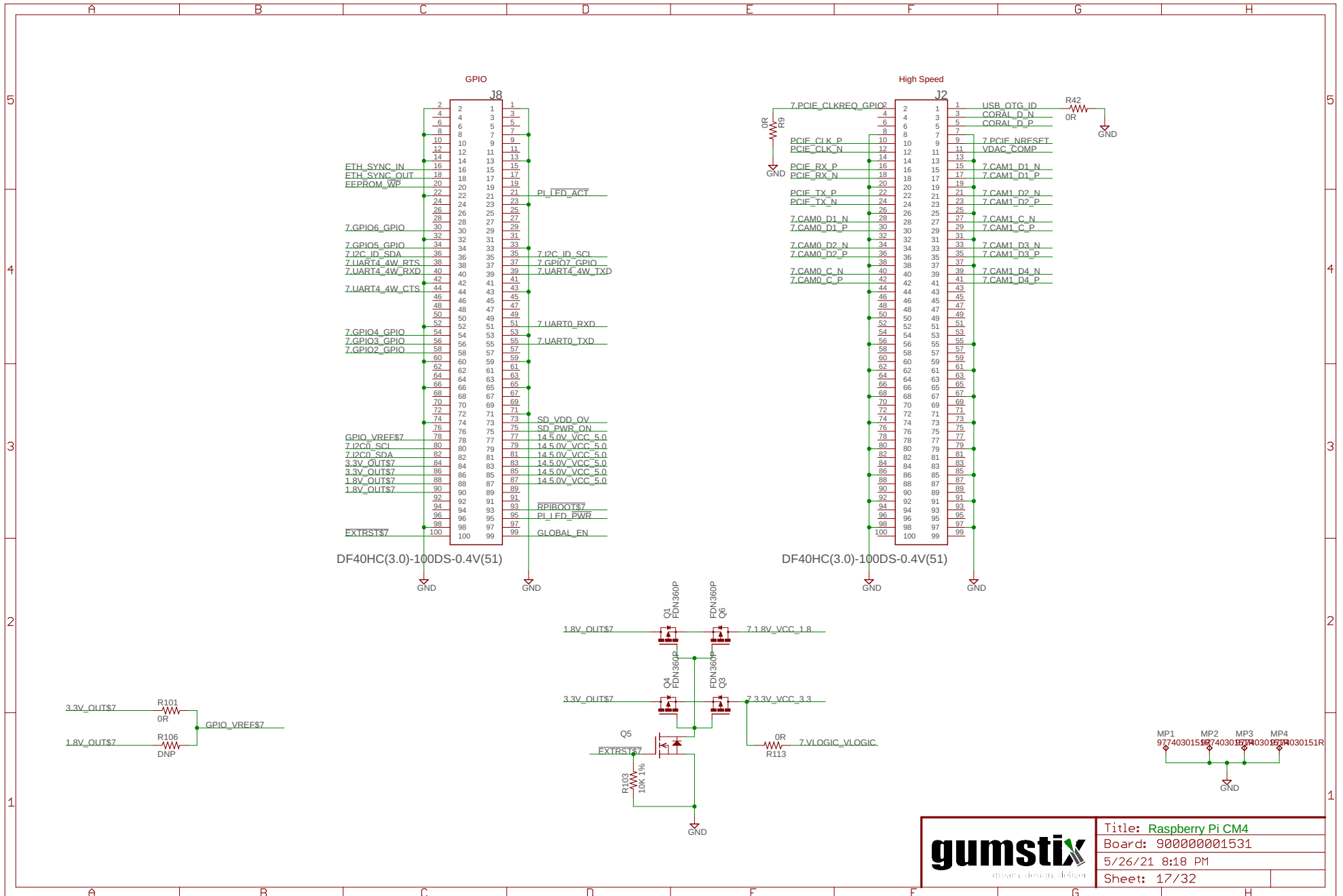
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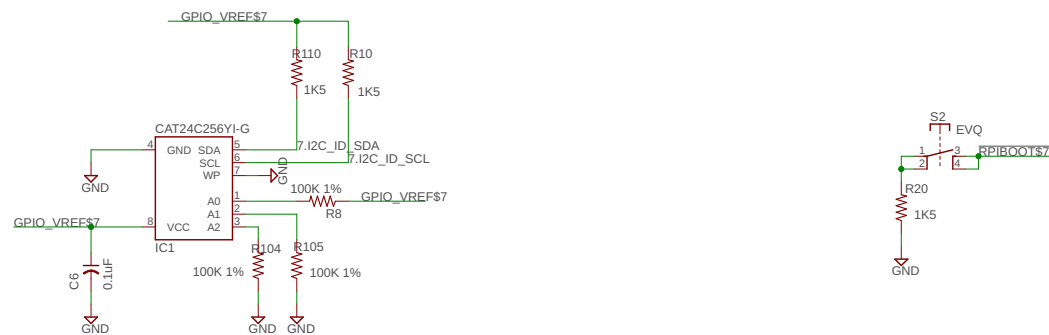


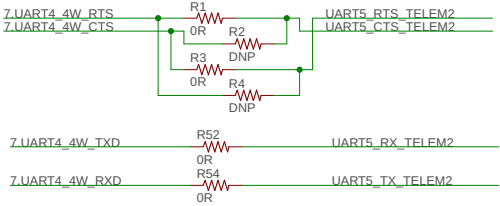




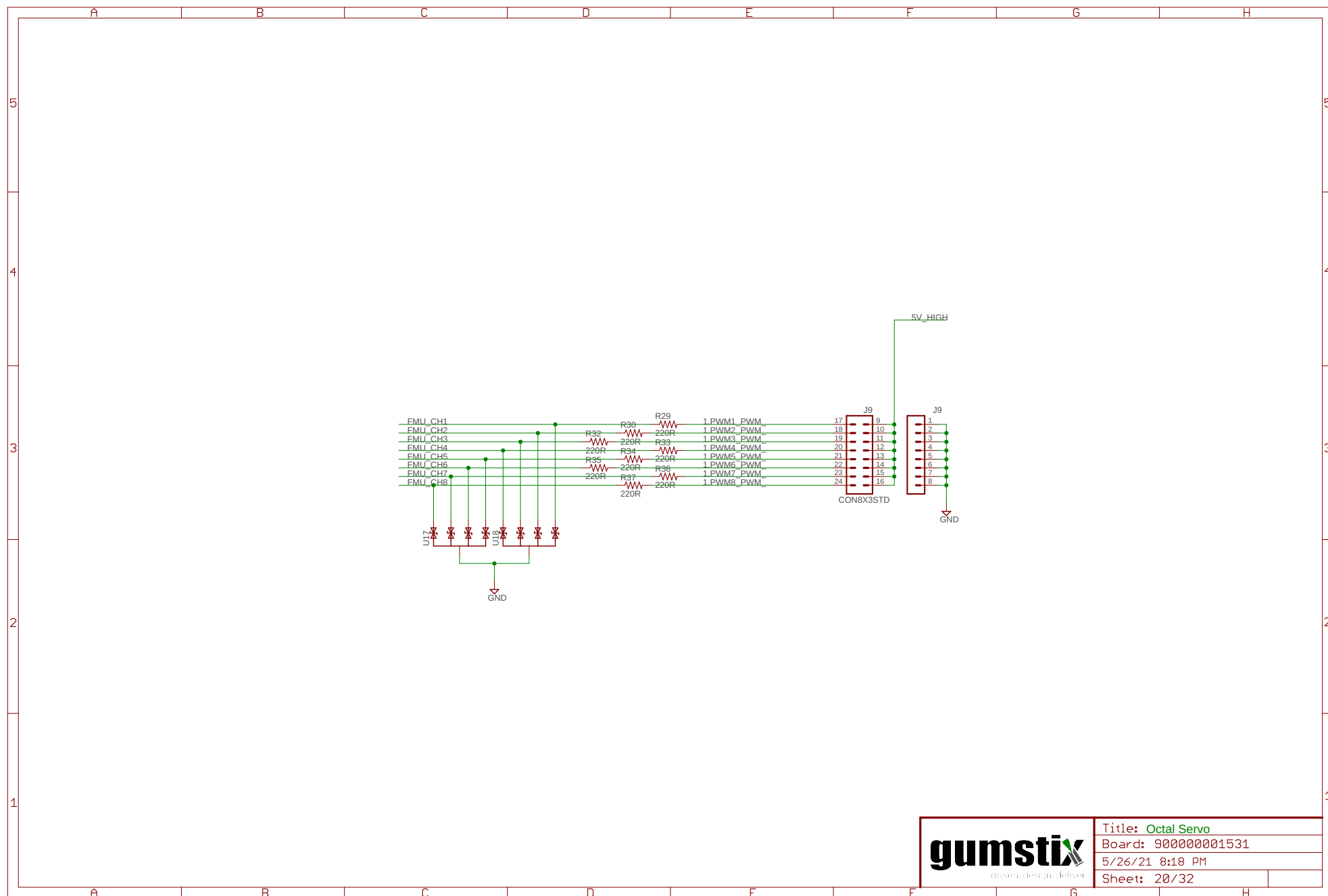


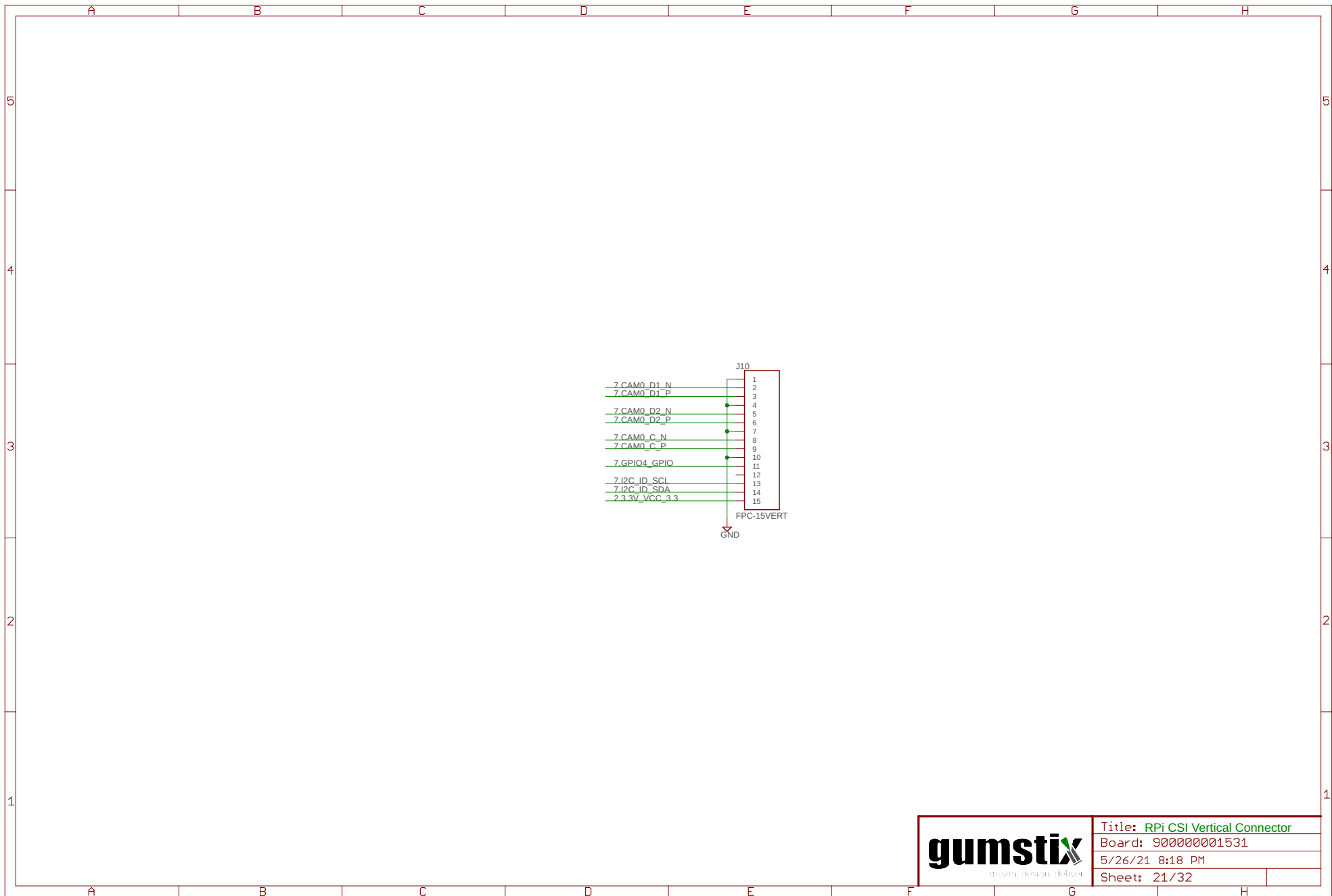


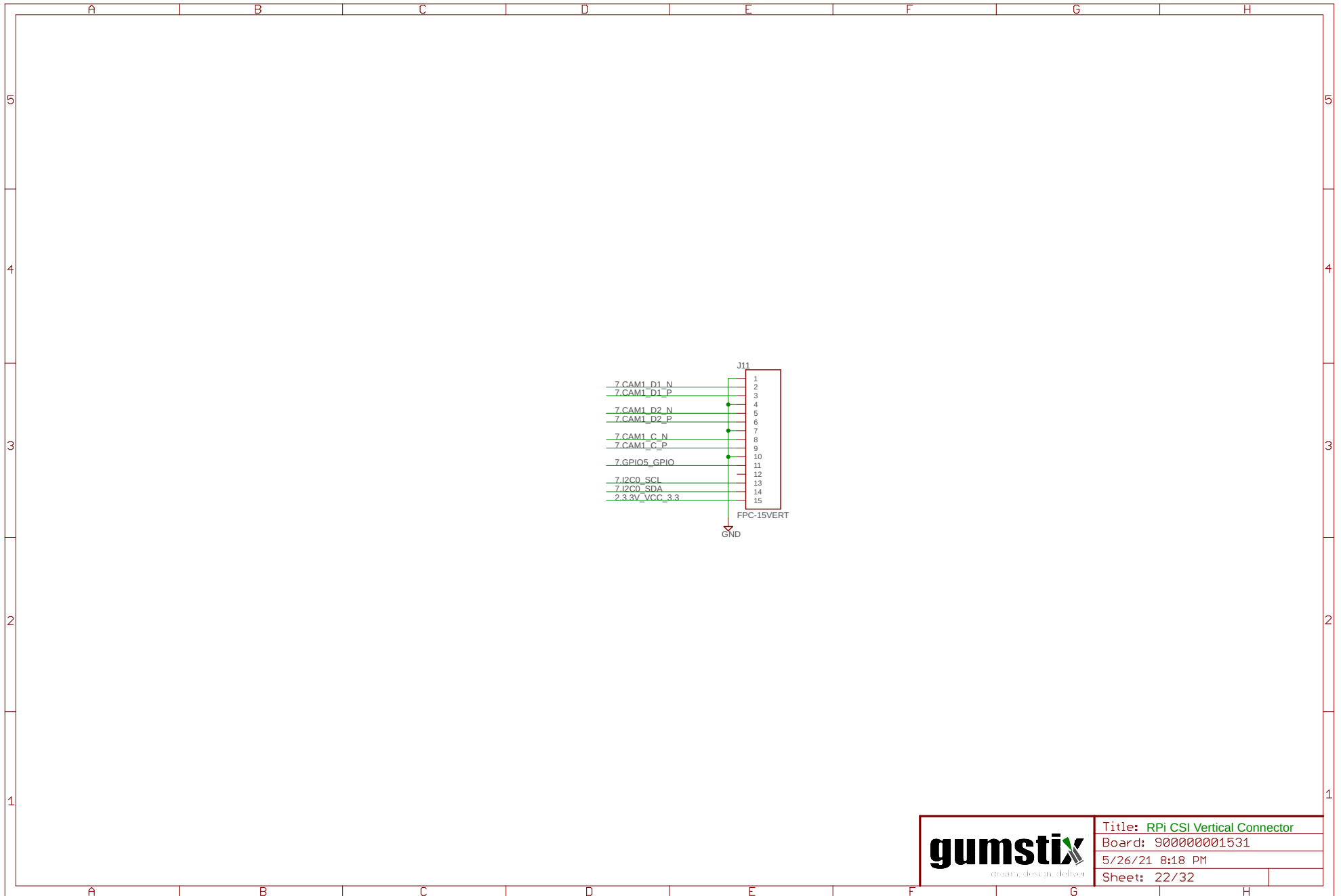


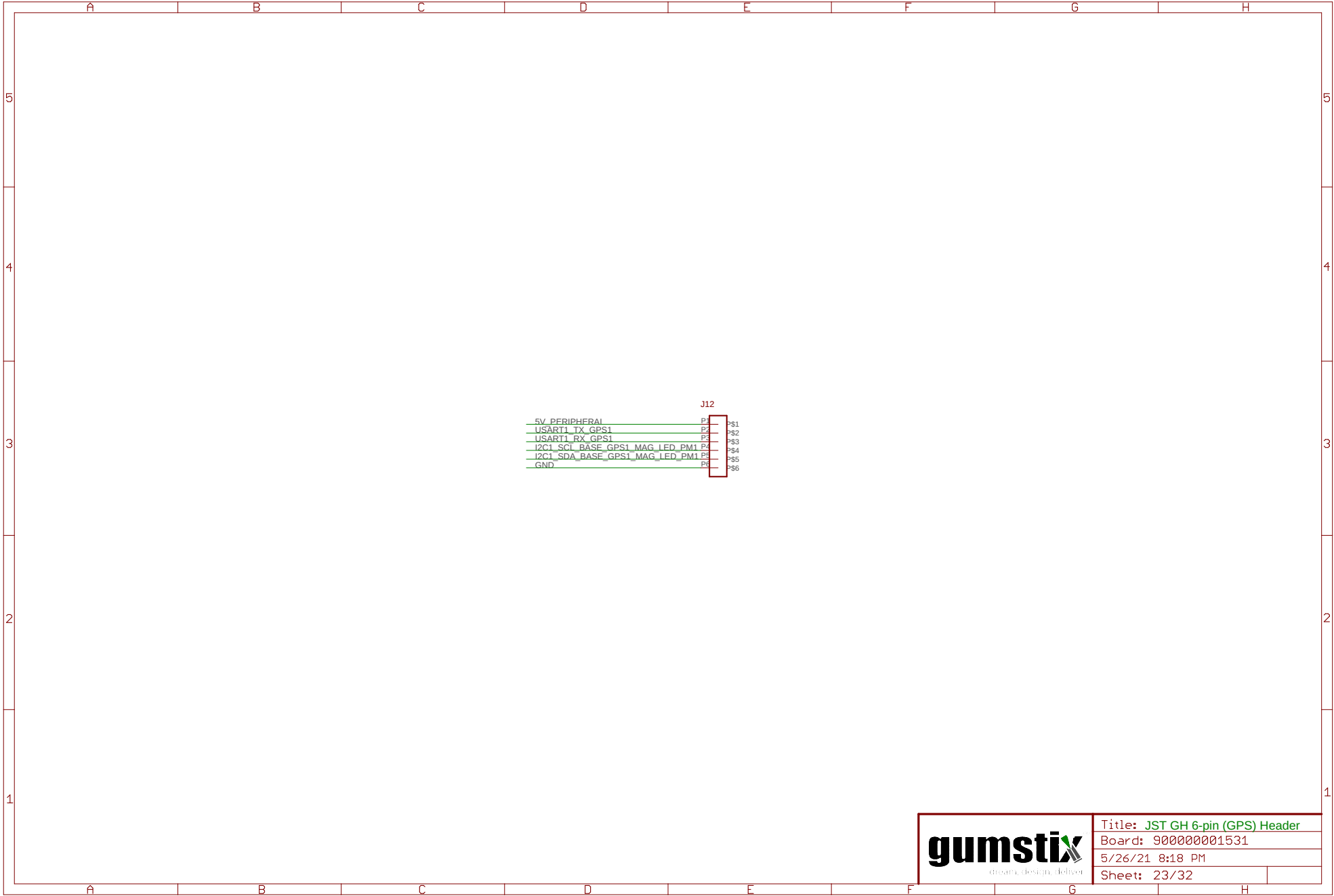


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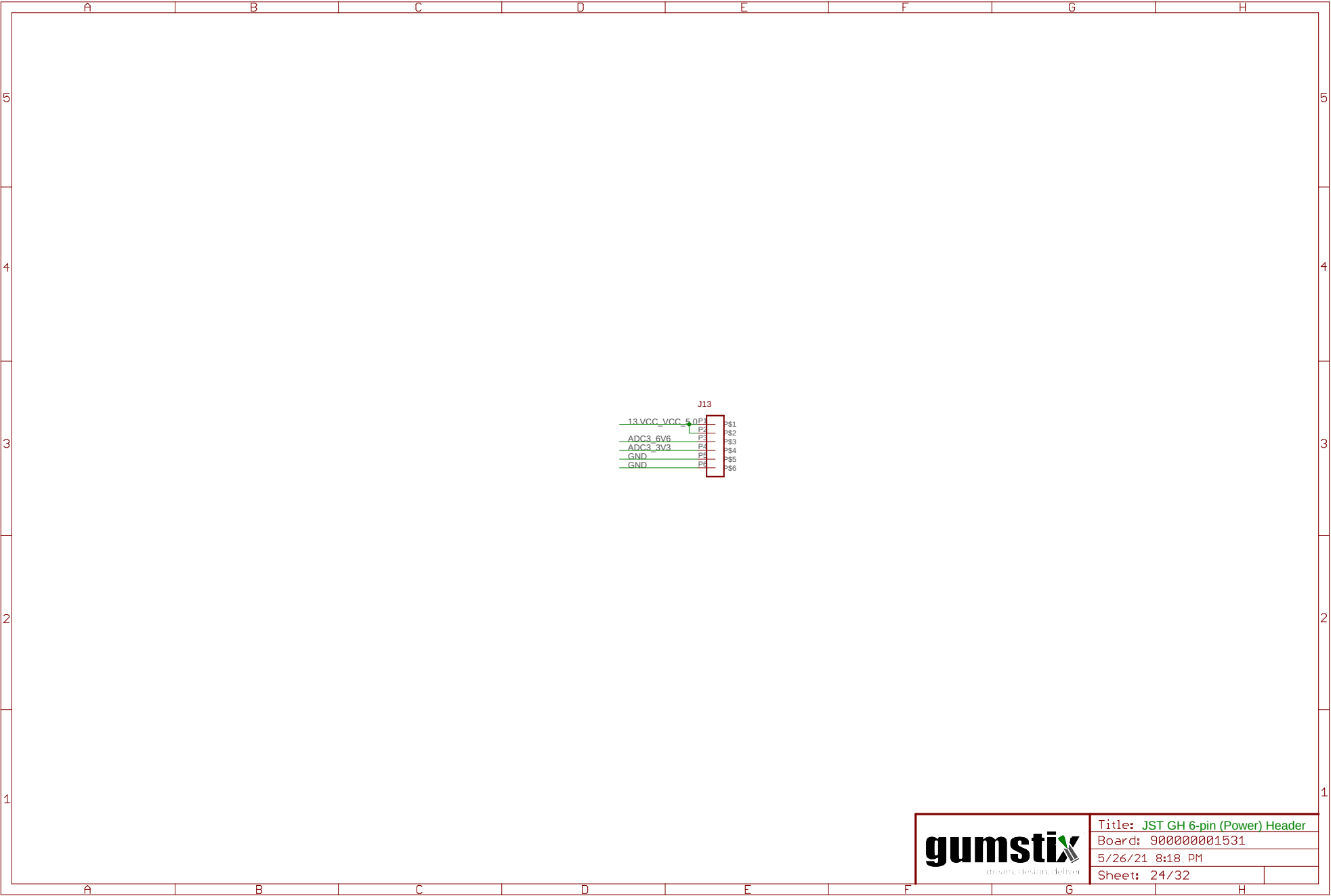






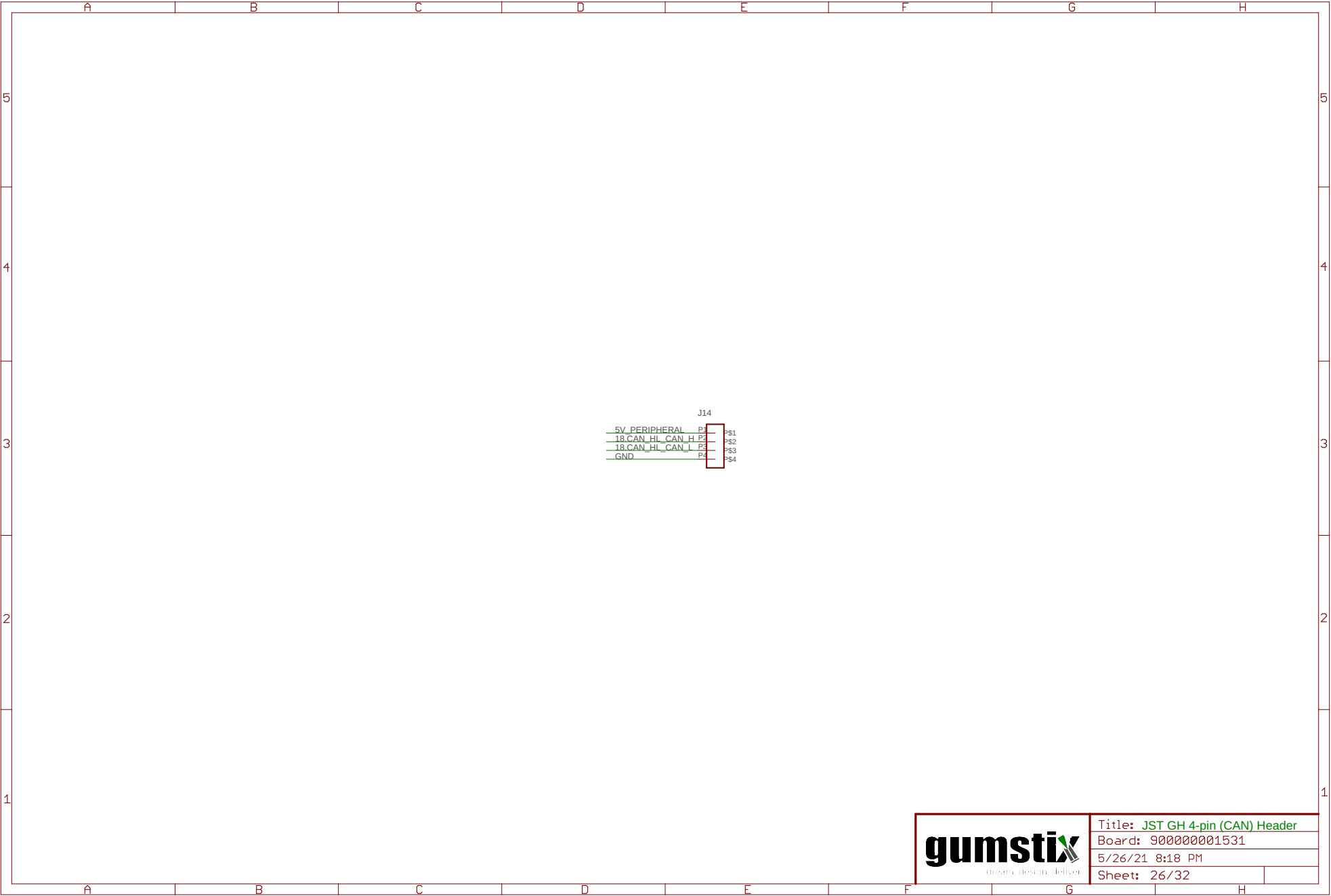


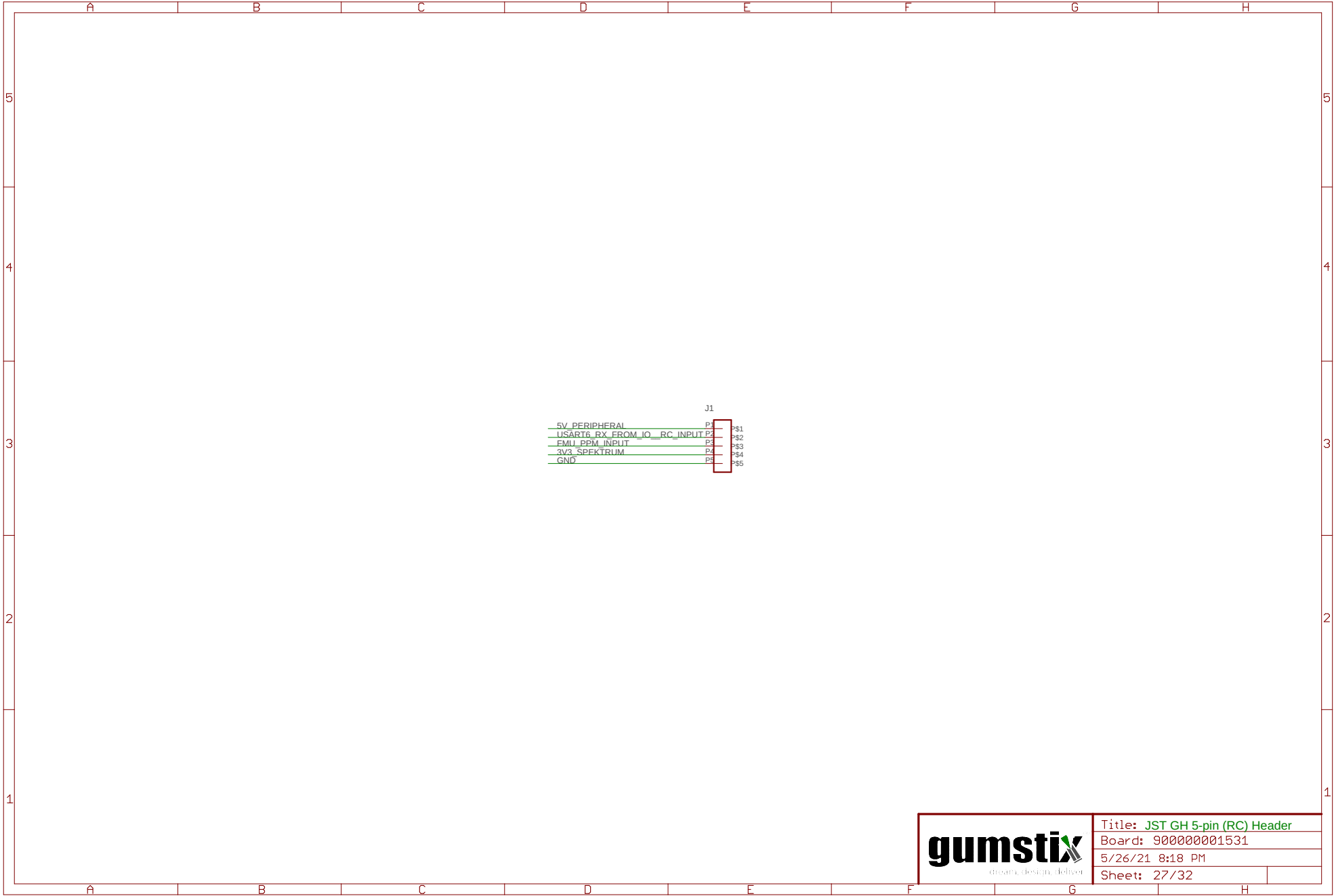
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Board: 900000001531	
5/26/21 8:18 PM	
Sheet: 23/32	





Title: TI TPS2121 Power Source Muxer	
Board: 900000001531	
5/26/21 8:18 PM	
Sheet: 25/32	





Title: JST GH 5-pin (RC) Header	
Board: 900000001531	
5/26/21 8:18 PM	
Sheet: 27/32	

