

NOTE: This schematic needs to be viewed in color.

Text in **BLUE** are not net names. They are labels to reference the v5X PAB pinout.

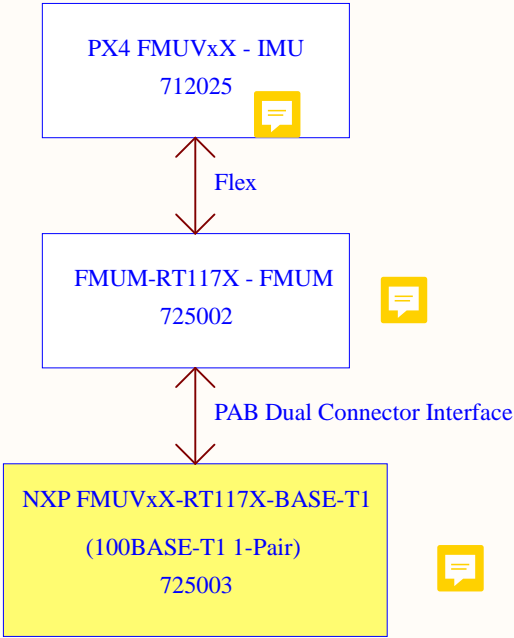
| REVISIONS |     |   |            |          |
|-----------|-----|---|------------|----------|
| Authority | Rev | Description   | Date       | Approved |
| ENGR      | 01  | Draft derived from 725001 RC03, NXPFMUVxV-BASE-T1   | 09/26/2023 | DBS      |
| ENGR      | 02  | Change R1 to 115K and R2 to 38.3K for HW REV code point 3. Add 2x safety switch signals to J4. DSM connector J2 S3B-ZR-SM4A-TF corrected pin 1 location to opposite side. | 11/28/2023 | DBS      |
|           |     |   |            |          |
|           |     |   |            |          |
|           |     |   |            |          |
|           |     |   |            |          |

NOTES, unless otherwise specified



- All Resistors 1%, 1/16 W
- All Capacitors are in micro Farads, +/- 10%, 50V

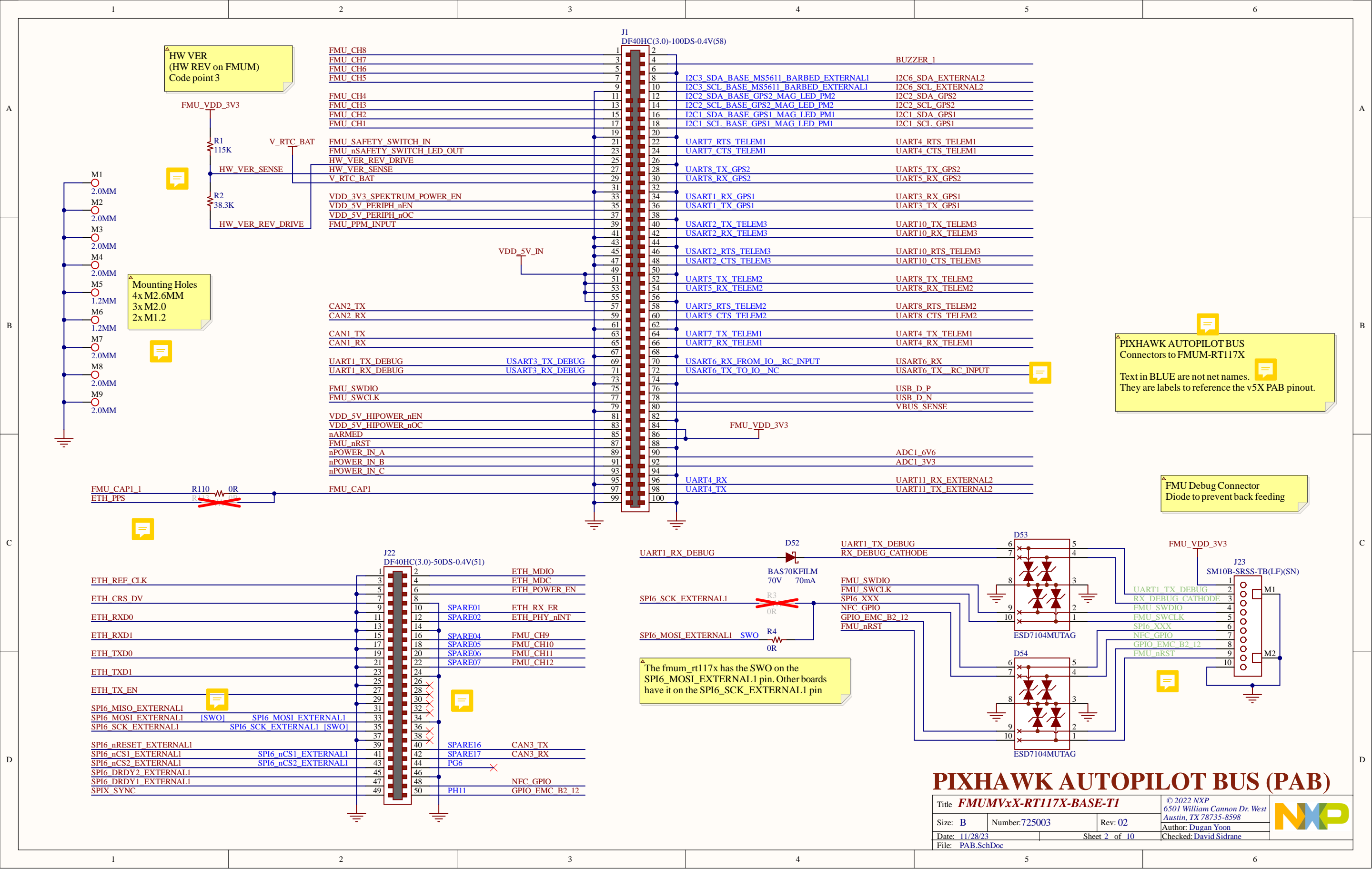
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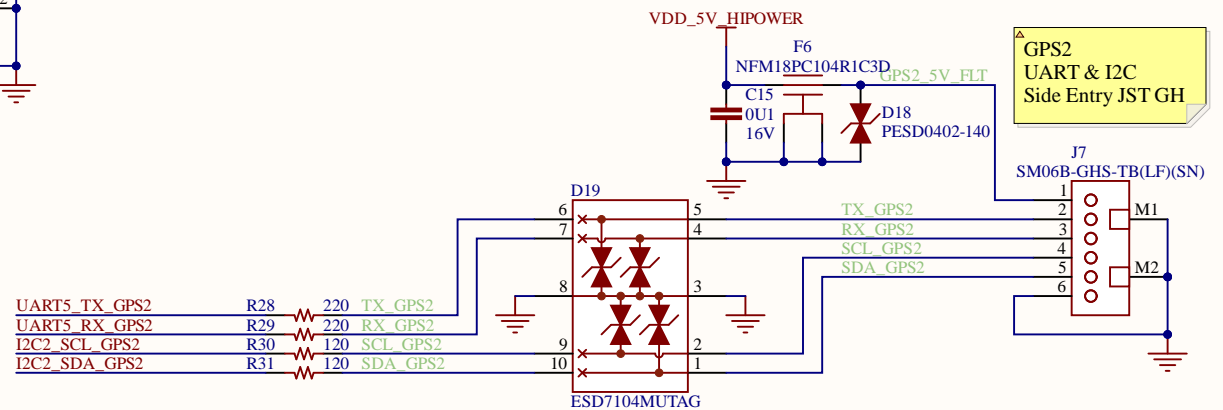
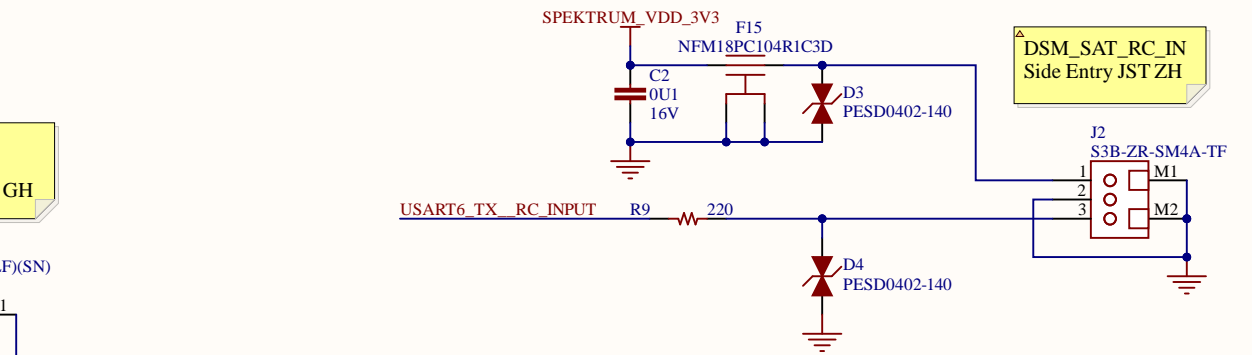
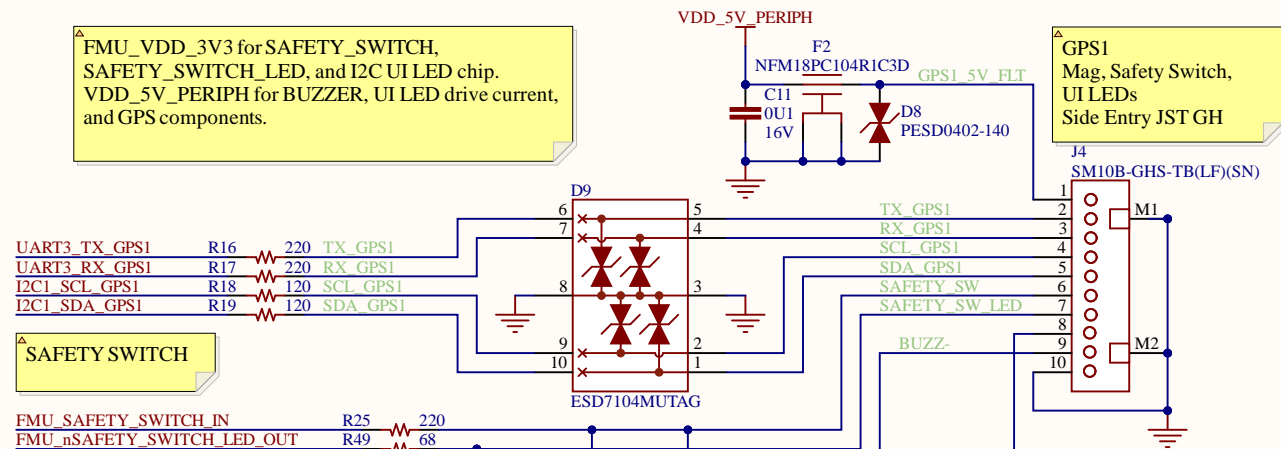
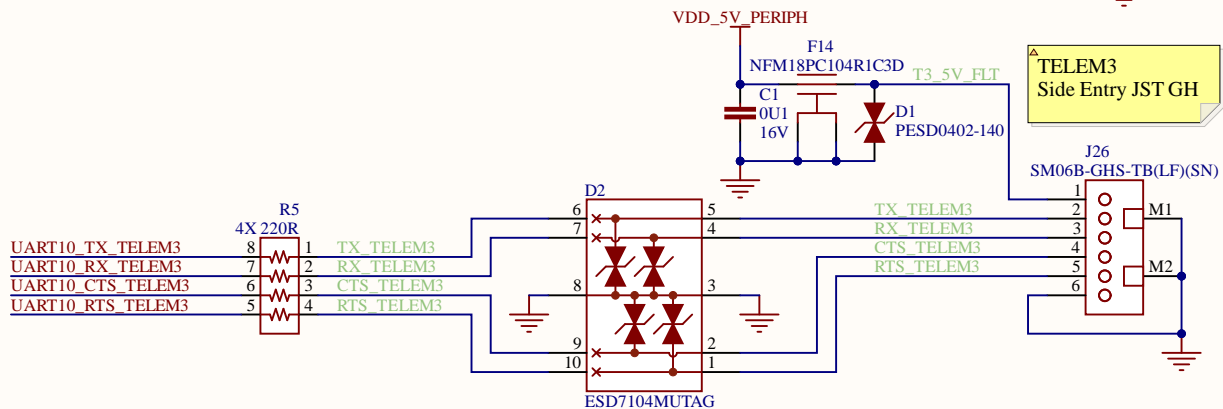
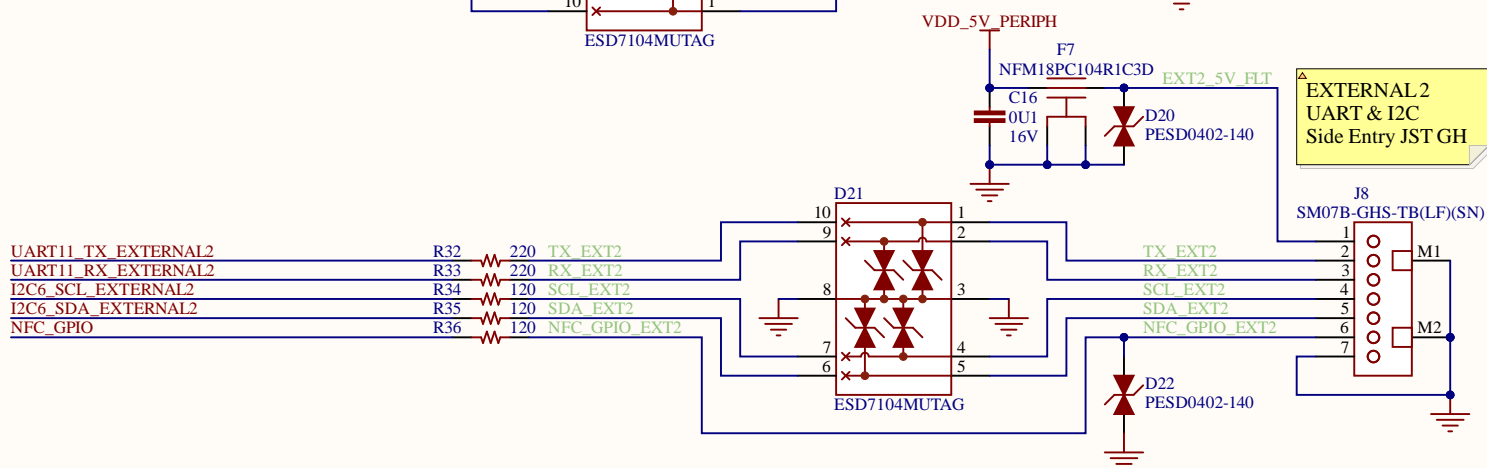
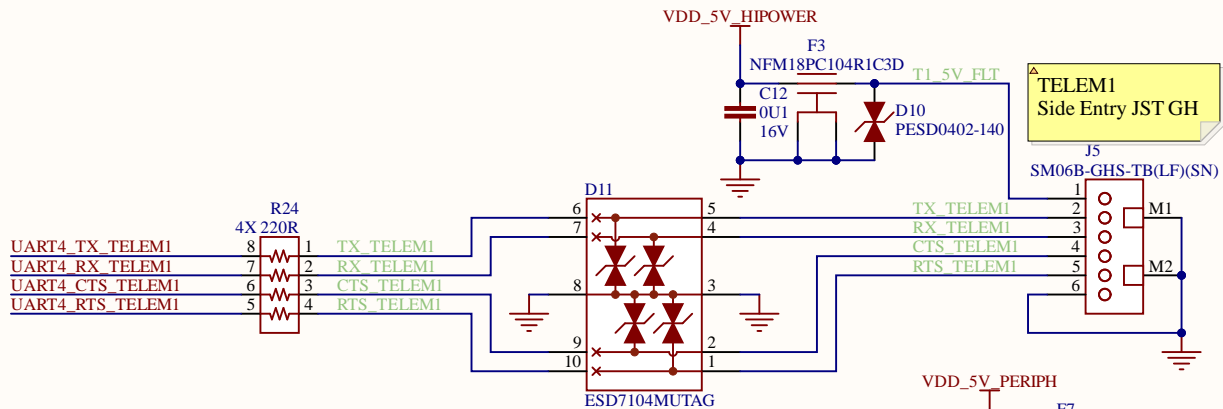
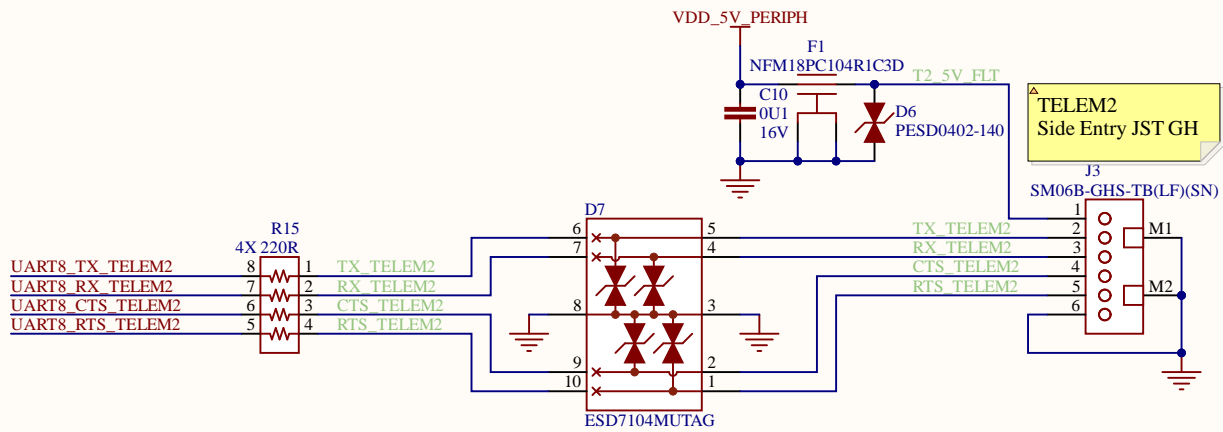
| PAGE | DESCRIPTION                 |
|------|-----------------------------|
| 1    | COVER SHEET                 |
| 2    | PIXHAWK AUTOPILOT BUS (PAB) |
| 3    | UART, I2C                   |
| 4    | CAN, SPI                    |
| 5    | RC, CAP                     |
| 6    | POWER INPUT                 |
| 7    | POWER                       |
| 8    | SERVO                       |
| 9    | ETHERNET                    |
| 10   | SENSORS                     |




REVISIONS

|                                     |               |         |   |   |   |
|-------------------------------------|---------------|---------|---|---|---|
| Title <b>FMUMVxX-RT117X-BASE-T1</b> |               |         |  | © 2022 NXP<br>6501 William Cannon Dr. West<br>Austin, TX 78735-8598 |  |
| Size: <b>B</b>                      | Number:725003 | Rev: 02 |   | Author: Dugan Yoon  |   |
| Date: 11/28/23                      | Sheet 1 of 10 |         | Checked: David Sidrane  |   |   |
| File: cover.SchDoc                  |               |         |   |   |   |

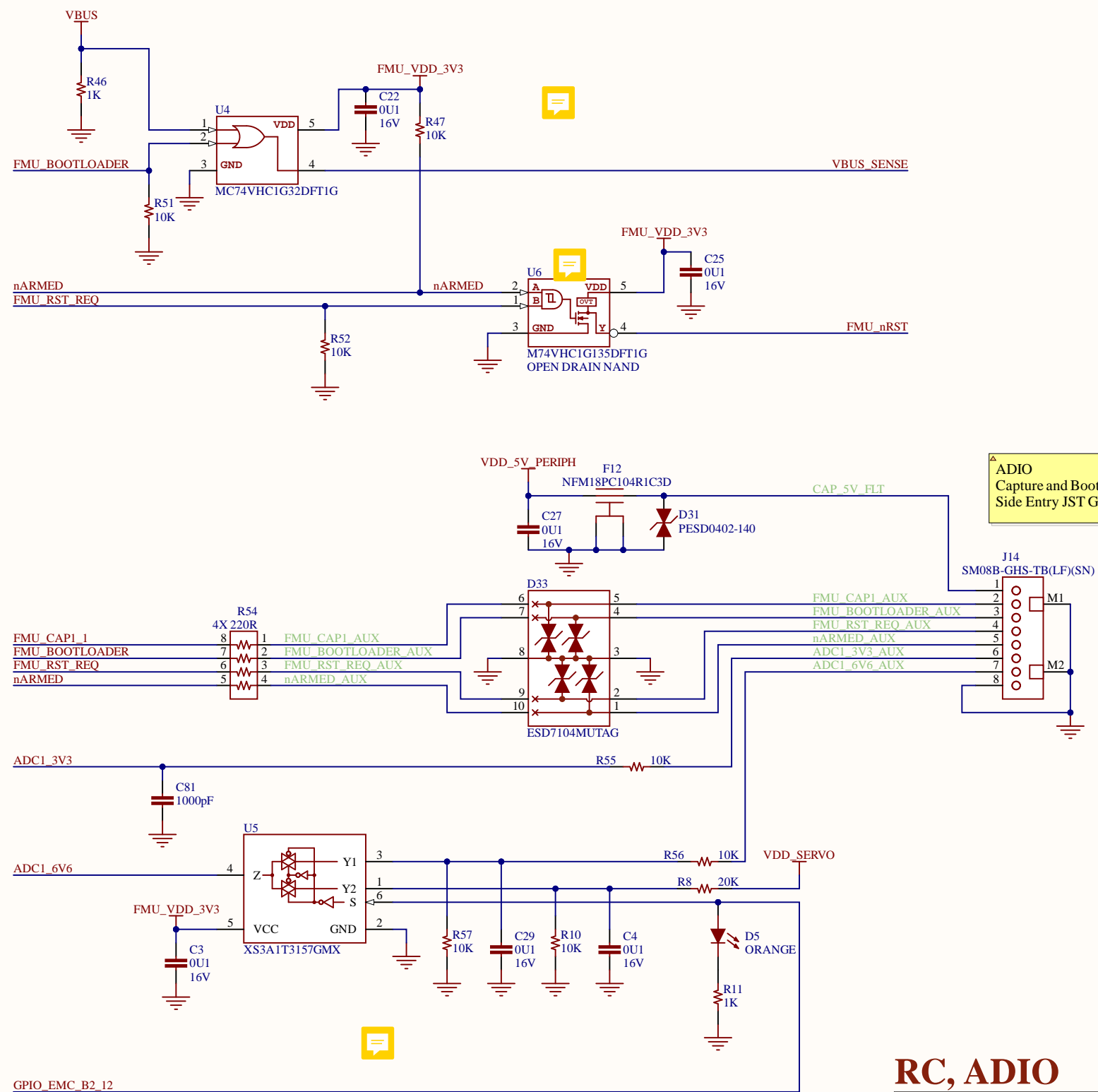




## UART AND I2C


|  |                |               |   |  |   |
|--|----------------|---------------|---|--|---|
| Title <b><i>FMUMVxX-RT117X-BASE-T1</i></b> |                |               | © 2022 NXP<br>6501 William Cannon Dr. West<br>Austin, TX 78735-8598 |  |  |
| Size: <b>B</b>                             | Number: 725003 | Rev: 02       | Author: Dugan Yoon  |  |   |
| Date: 11/28/23                             |                | Sheet 3 of 10 | Checked: David Sidrane  |  |   |
| File: uart_i2c.SchDoc                      |                |               |   |  |   |





ADIO  
Capture and Bootloader Request  
Side Entry JST GH

## RC, ADIO

|                                     |                |         |   |  |   |
|-------------------------------------|----------------|---------|---|--|---|
| Title <b>FMUMVxX-RT117X-BASE-TI</b> |                |         | © 2022 NXP<br>6501 William Cannon Dr. West<br>Austin, TX 78735-8598 |  |  |
| Size: <b>B</b>                      | Number: 725003 | Rev: 02 | Author: Dugan Yoon  |  |   |
| Date: 11/28/23                      | Sheet 5 of 10  |         | Checked: David Sidrane  |  |   |
| File: rc_cap.SchDoc                 |                |         |   |  |   |

POWER1  
Power Module 1  
Top Entry Klik-Mate

POWER2  
Power Module 2  
Top Entry Klik-Mate


USB OTG  
Full Speed  
USB-C

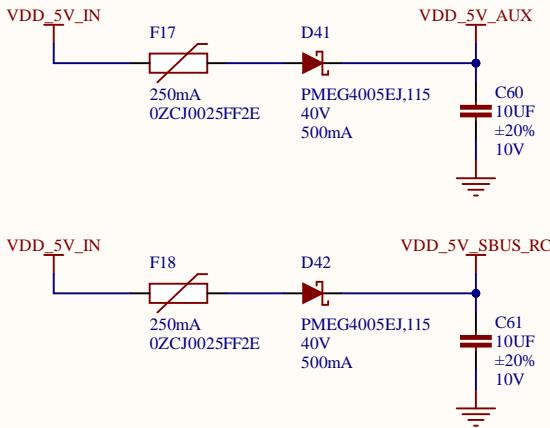
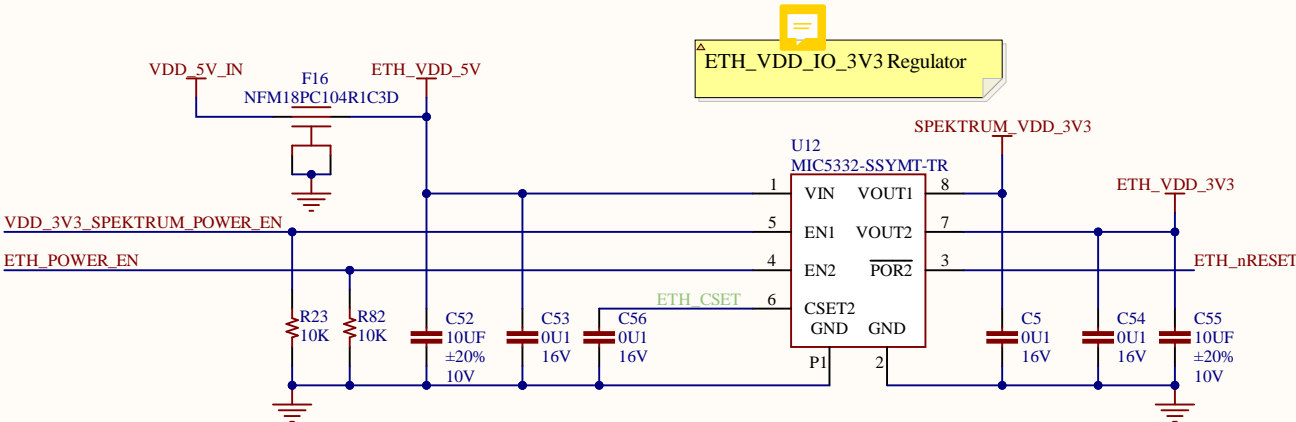
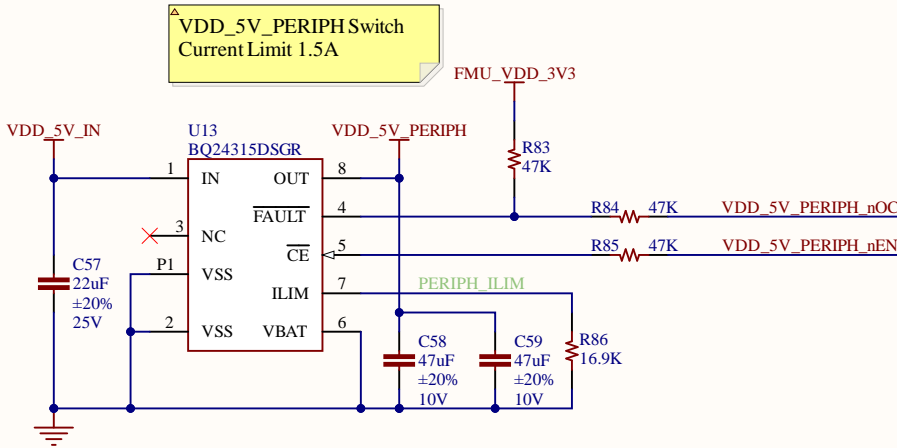
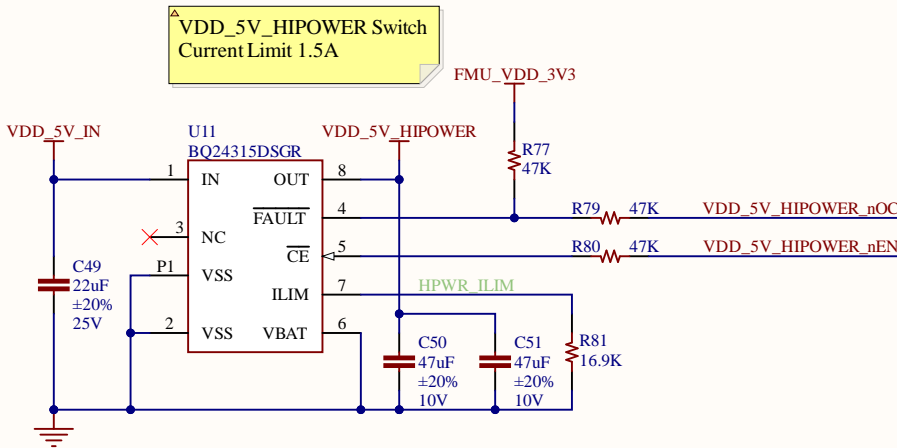
ESD/EMI LPF  
Place close to connector

HY-TC-DSSS735  
USB-C

USB OTG  
Side Entry JST GH


## POWER INPUT

|  |                |         |   |  |   |
|--|----------------|---------|---|--|---|
| Title <b><i>FMUMVxX-RT117X-BASE-T1</i></b> |                |         | © 2022 NXP<br>6501 William Cannon Dr. West<br>Austin, TX 78735-8598 |  |  |
| Size: <b>B</b>                             | Number: 725003 | Rev: 02 | Author: Dugan Yoon  |  |   |
| Date: 11/28/23                             | Sheet 6 of 10  |         | Checked: David Sidrane  |  |   |
| File: power_input.SchDoc                   |                |         |   |  |   |

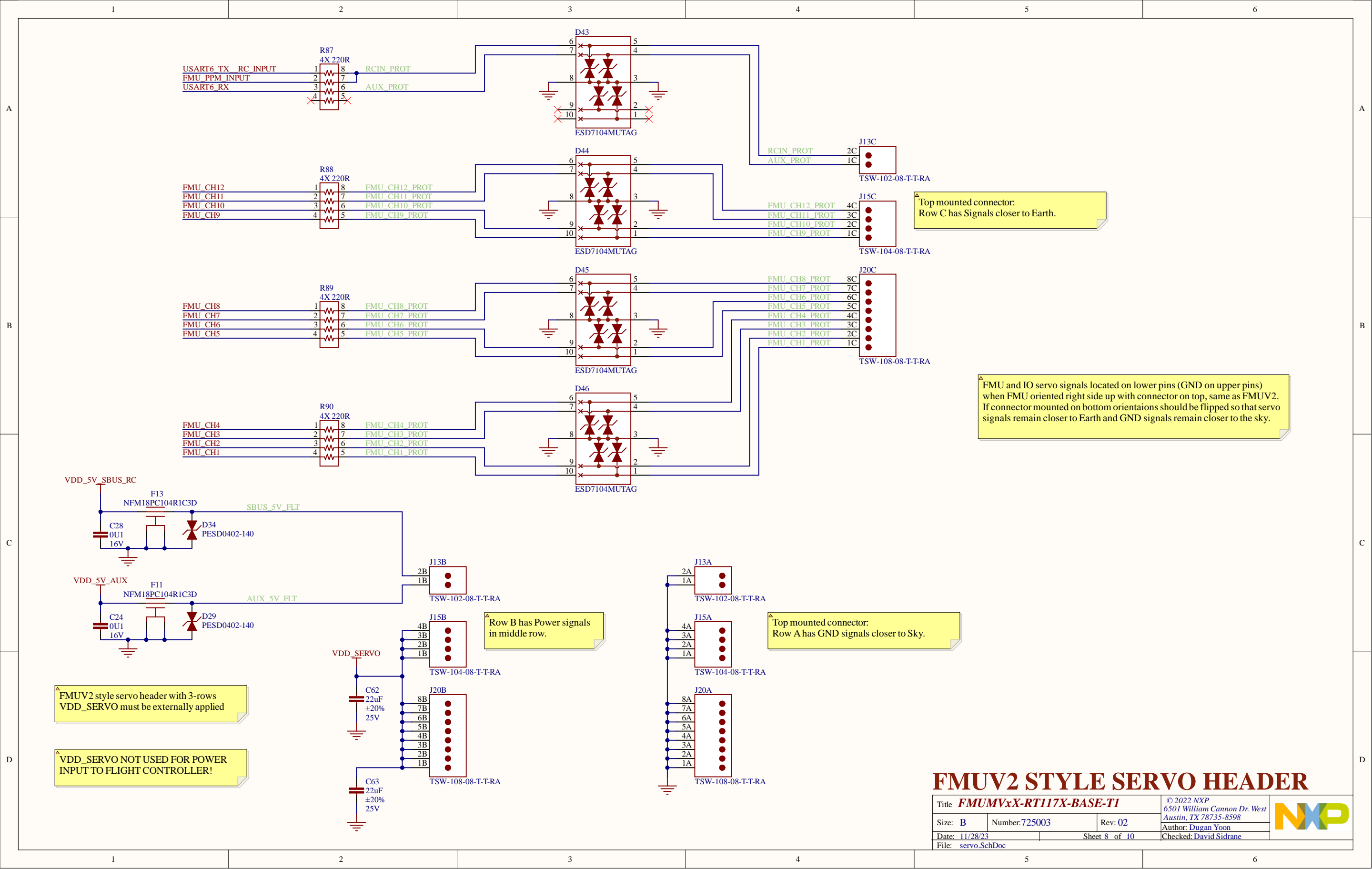


**SENSOR 5V Power**  
250 mA PTC Resettable Fuse  
Diode to prevent back feeding  
EMI filter per port

## POWER

|  |                |               |   |                        |   |
|--|----------------|---------------|---|------------------------|---|
| Title <b><i>FMUMVxX-RT117X-BASE-T1</i></b> |                |               | © 2022 NXP<br>6501 William Cannon Dr. West<br>Austin, TX 78735-8598 |                        |  |
| Size: <b>B</b>                             | Number: 725003 | Rev: 02       | Author: Dugan Yoon  |                        |   |
| Date: 11/28/23                             |                | Sheet 7 of 10 |   | Checked: David Sidrane |   |
| File: power.SchDoc                         |                |               |   |                        |   |



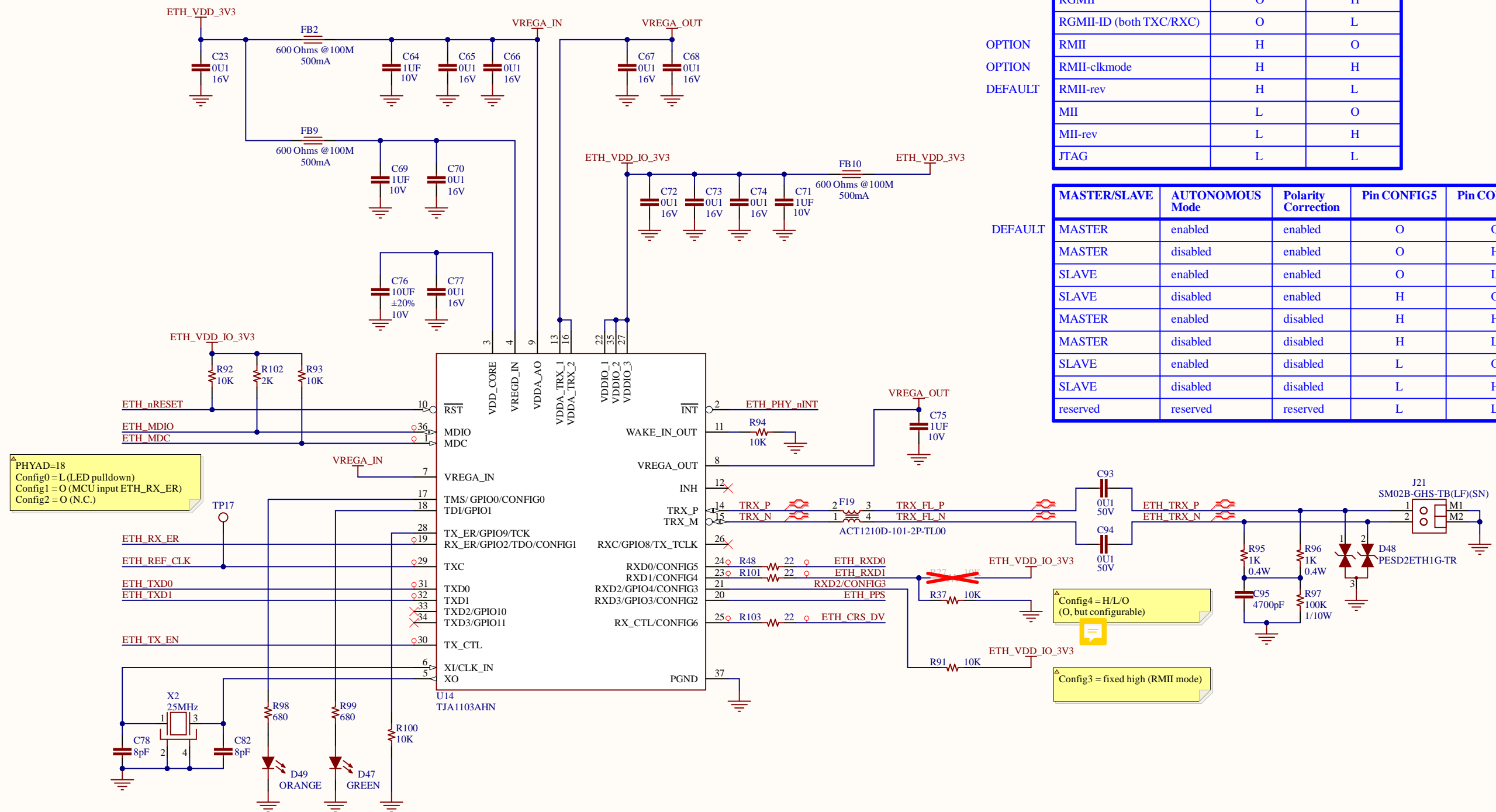




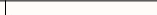
## Pin Strapping Configurations

| <b>xMII MODE</b>        | <b>Pin CONFIG3</b> | <b>Pin CONFIG4</b> |
|-------------------------|--------------------|--------------------|
| RGMII-ID (RXC)          | O                  | O                  |
| RGMII                   | O                  | H                  |
| RGMII-ID (both TXC/RXC) | O                  | L                  |
| RMII                    | H                  | O                  |
| RMII-clkmode            | H                  | H                  |
| RMII-rev                | H                  | L                  |
| MII                     | L                  | O                  |
| MII-rev                 | L                  | H                  |
| JTAG                    | L                  | L                  |

|   | MASTER/SLAVE | AUTONOMOUS Mode | Polarity Correction | Pin CONFIG5 | Pin CONFIG6 |
|---|--------------|-----------------|---------------------|-------------|-------------|
| T | MASTER       | enabled         | enabled             | O           | O           |
|   | MASTER       | disabled        | enabled             | O           | H           |
|   | SLAVE        | enabled         | enabled             | O           | L           |
|   | SLAVE        | disabled        | enabled             | H           | O           |
|   | MASTER       | enabled         | disabled            | H           | H           |
|   | MASTER       | disabled        | disabled            | H           | L           |
|   | SLAVE        | enabled         | disabled            | L           | O           |
|   | SLAVE        | disabled        | disabled            | L           | H           |
|   | reserved     | reserved        | reserved            | L           | L           |



# ETHERNET 100BASE-T1

|  |                |         |   |   |
|--|----------------|---------|---|---|
| Title <b><i>FMUMVxX-RT117X-BASE-T1</i></b> |                |         | © 2022 NXP<br>6501 William Cannon Dr. West<br>Austin, TX 78735-8598 |  |
| Size: B                                    | Number: 725003 | Rev: 02 | Author: Dugan Yoon  |   |
| Date: 11/28/23                             | Sheet 9 of 10  |         | Checked: David Sidrane  |   |
| File: ethernet.SchDoc                      |                |         |   |   |

