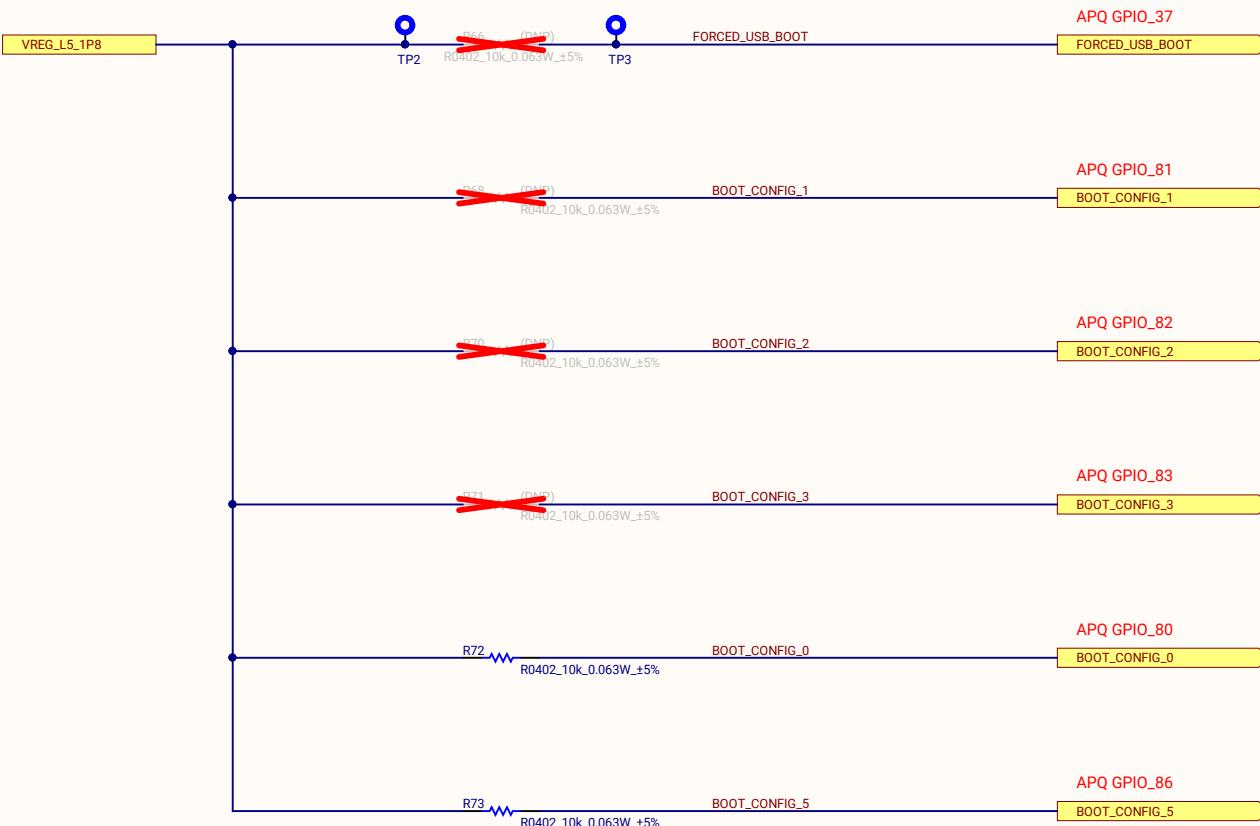


|                  |                   |             |
|------------------|-------------------|-------------|
| Title            | APQ8016 - Control |             |
| Project          | 0003158.PrjPcb    |             |
| Author           | Pablo García      |             |
| Size:            | A3                | Number: 2   |
| Date: 24/04/2018 | Time: 16:25:40    | Revision: 0 |

A



| Boot Configurations:                       |  |              |                          |
|--|--|--------------|--------------------------|
| Boot_config[3:1]                           |  | Boot Options |                          |
| 0b000                                      |  | SDC1 (eMMC)  | -> SDC2 (uSD) -> USB2.0  |
| 0b001                                      |  | SDC2 (uSD)   | -> SDC1 (eMMC) -> USB2.0 |
| 0b010                                      |  | SDC1 (eMMC)  | -> USB2.0                |
| 0b011                                      |  | USB2.0       |                          |
| Default config (0b000) is eMMC on the SDC1 |  |              |                          |

B

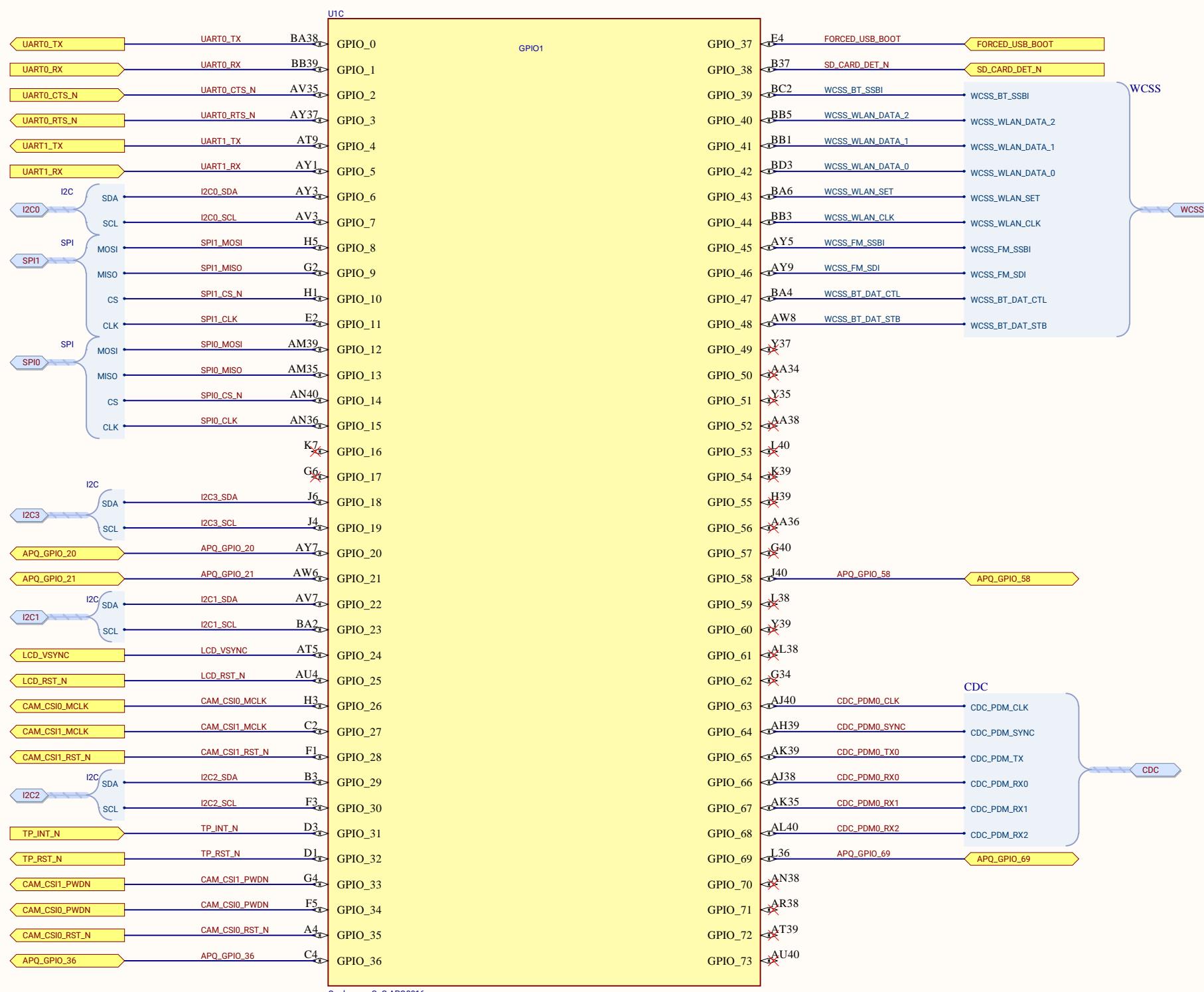
C

D

|                        |                       |                              |
|------------------------|-----------------------|------------------------------|
| Title <b>BOOT MODE</b> |                       |                              |
| Project                | <b>0003158.PpjPcb</b> |                              |
| Author                 | <b>Pablo García</b>   |                              |
| Size:                  | A4                    | Number: 3 Revision: 0        |
| Date:                  | 24/04/2018            | Time: 16:25:40 Sheet 3 of 28 |

VREG\_L5\_1P8  
VREG\_L5\_1P8

Changes from Dragon Board to BQ410:  
 GPIO12 - GPIO - SPI0\_MOSI  
 GPIO13 - GPIO - SPI0\_MISO  
 GPIO14 - I2C3\_SDA - SPI0\_CS  
 GPIO15 - I2C3\_SCL - SPI0\_CLK  
 GPIO16 - SPI0\_MOSI - NC  
 GPIO17 - SPI0\_MISO - NC  
 GPIO18 - SPI0\_CS - I2C3\_SDA  
 GPIO19 - SPI0\_CLK - I2C3\_SCL



I2C0\_SDA R76 VREG\_L5\_1P8  
R0402\_2k\_0.063W ±5%  
I2C0\_SCL R77 VREG\_L5\_1P8  
R0402\_2k\_0.063W ±5%  
I2C1\_SDA R78 VREG\_L5\_1P8  
R0402\_2k\_0.063W ±5%  
I2C1\_SCL R79 VREG\_L5\_1P8  
R0402\_2k\_0.063W ±5%

I2C2\_SDA R76 VREG\_L5\_1P8  
R0402\_2k\_0.063W ±5%  
I2C2\_SCL R77 VREG\_L5\_1P8  
R0402\_2k\_0.063W ±5%  
I2C3\_SDA R78 VREG\_L5\_1P8  
R0402\_2k\_0.063W ±5%  
I2C3\_SCL R79 VREG\_L5\_1P8  
R0402\_2k\_0.063W ±5%

|                  |                |             |
|------------------|----------------|-------------|
| Title            | GPIO 0 - 73    |             |
| Project          | 0003158.PrjPcb |             |
| Author           | Pablo García   |             |
| Size:            | A3             | Number: 4   |
| Date: 24/04/2018 | Time: 16:25:41 | Revision: 0 |



A

A



B

B

C

C

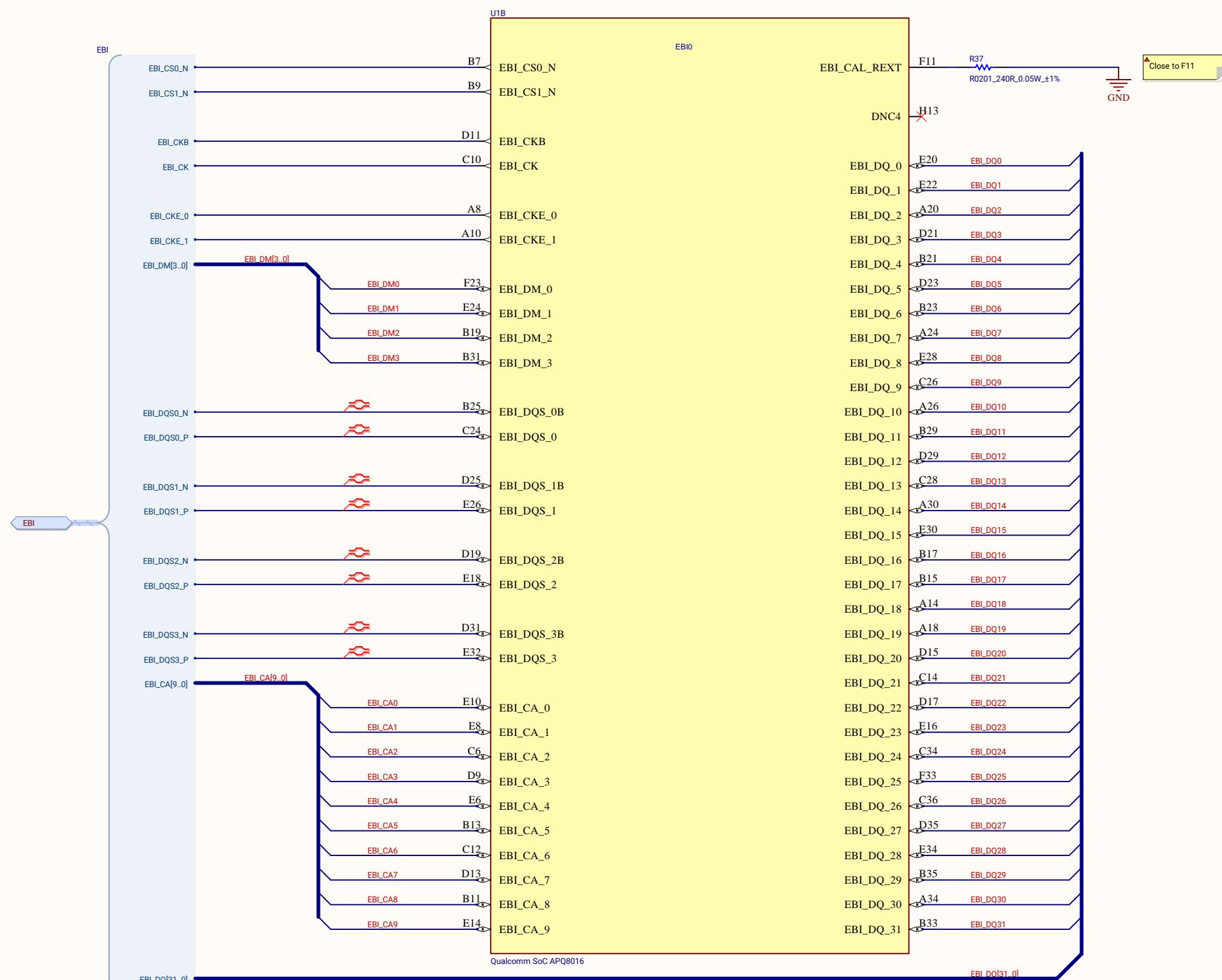
D

D



|                  |                |             |
|------------------|----------------|-------------|
| Title            | GPIO 74 - 121  |             |
| Project          | 0003158.PnjPcb |             |
| Author           | Pablo García   |             |
| Size:            | A3             | Number: 5   |
| Date: 24/04/2018 | Time: 16:25:41 | Revision: 0 |
| Sheet 5 of 28    |                |             |

A

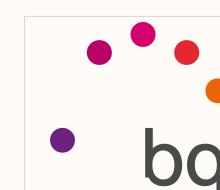
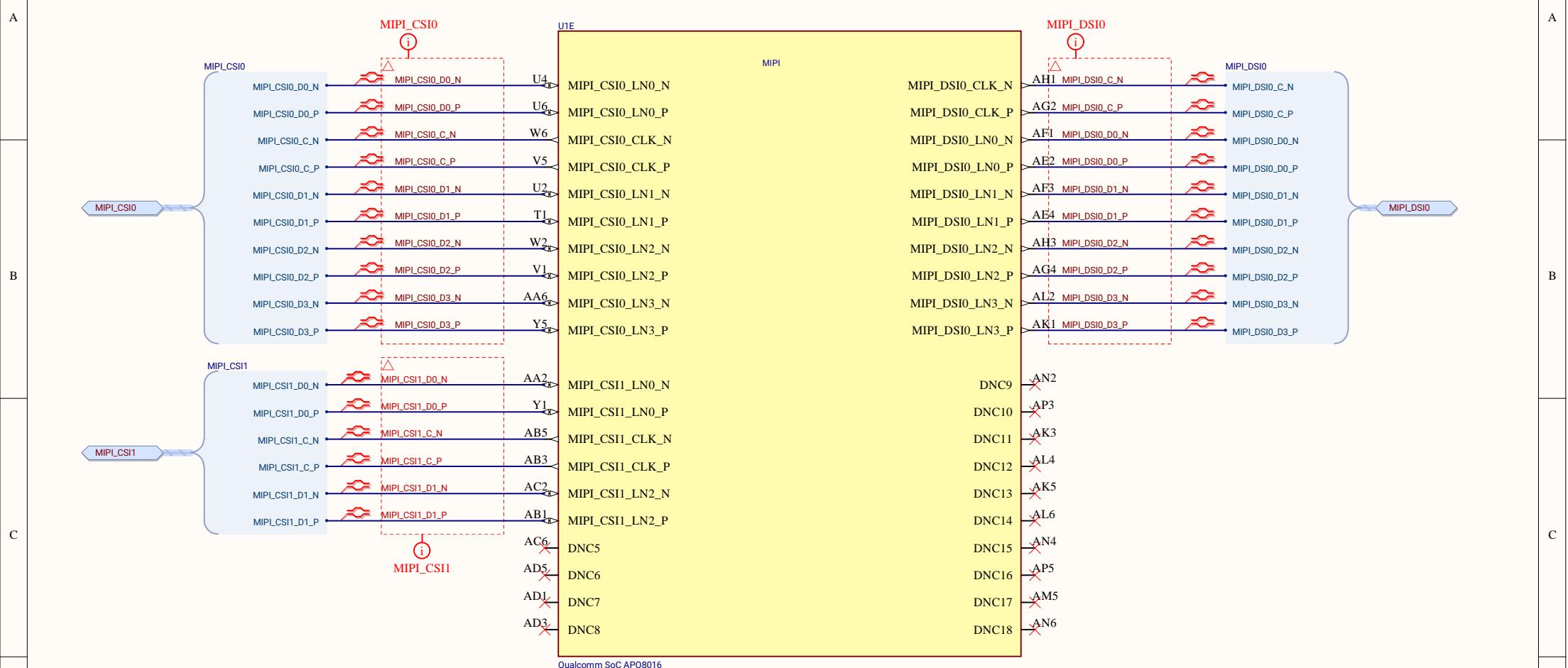


B

C

D

|                  |                        |               |
|------------------|------------------------|---------------|
| Title            | QC_APQ8016_EBI0_LPDDR3 |               |
| Project          | 0003158.PpjPcb         |               |
| Author           | Pablo García           |               |
| Size:            | A3                     | Number: 6     |
| Date: 24/04/2018 | Time: 16:25:41         | Revision: 0   |
|                  |                        | Sheet 6 of 28 |



|                               |                   |                       |
|-------------------------------|-------------------|-----------------------|
| Title <b>MIPI</b>             |                   |                       |
| Project <b>0003158.PrjPcb</b> |                   |                       |
| Author <b>Pablo García</b>    |                   |                       |
| Size: <b>A4</b>               |                   |                       |
| Number:                       | <b>7</b>          | Revision: <b>0</b>    |
| Date:                         | <b>24/04/2018</b> | Time: <b>16:25:41</b> |
| Sheet <b>7</b> of <b>28</b>   |                   |                       |

A

A

B

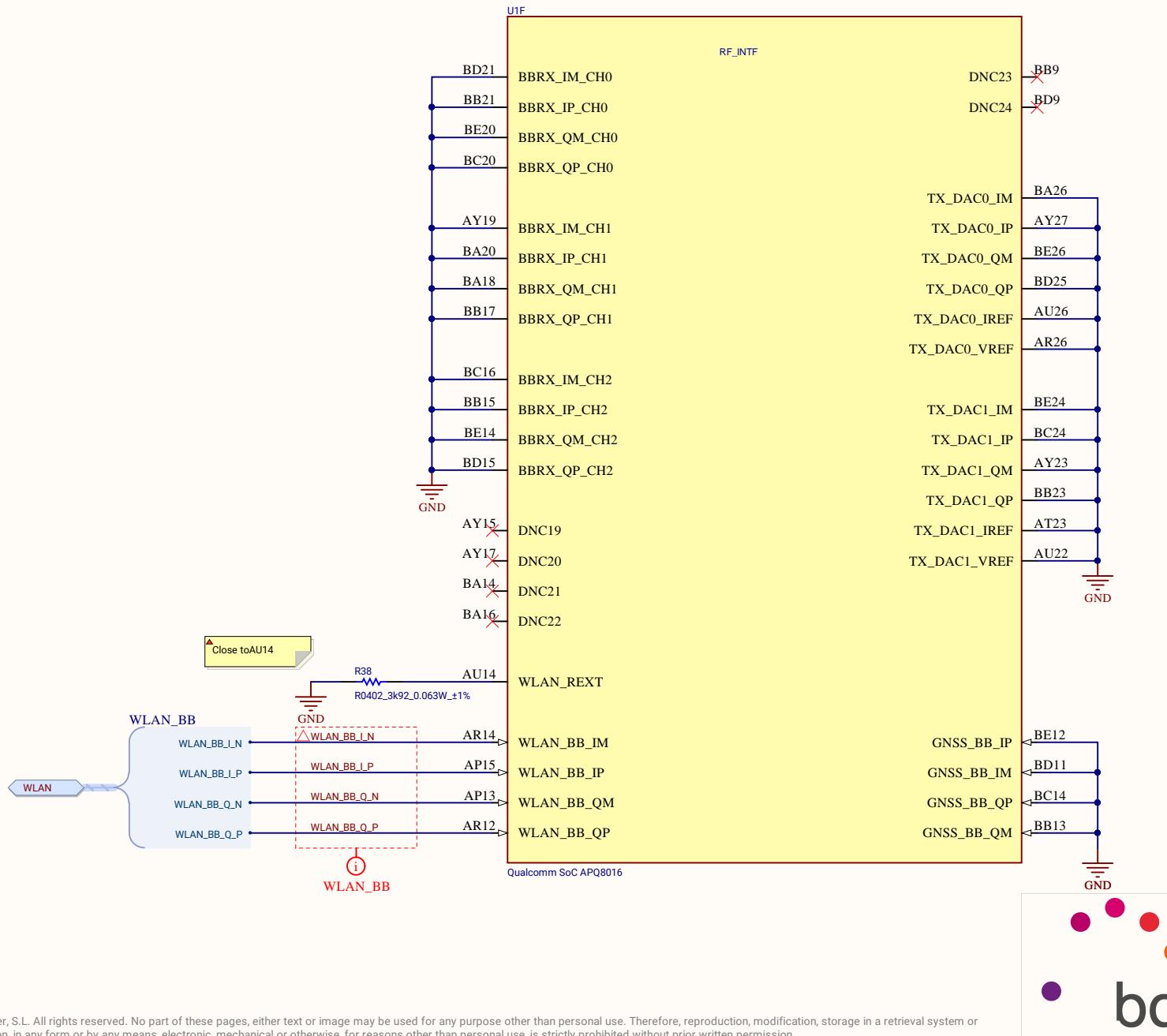
B

C

C

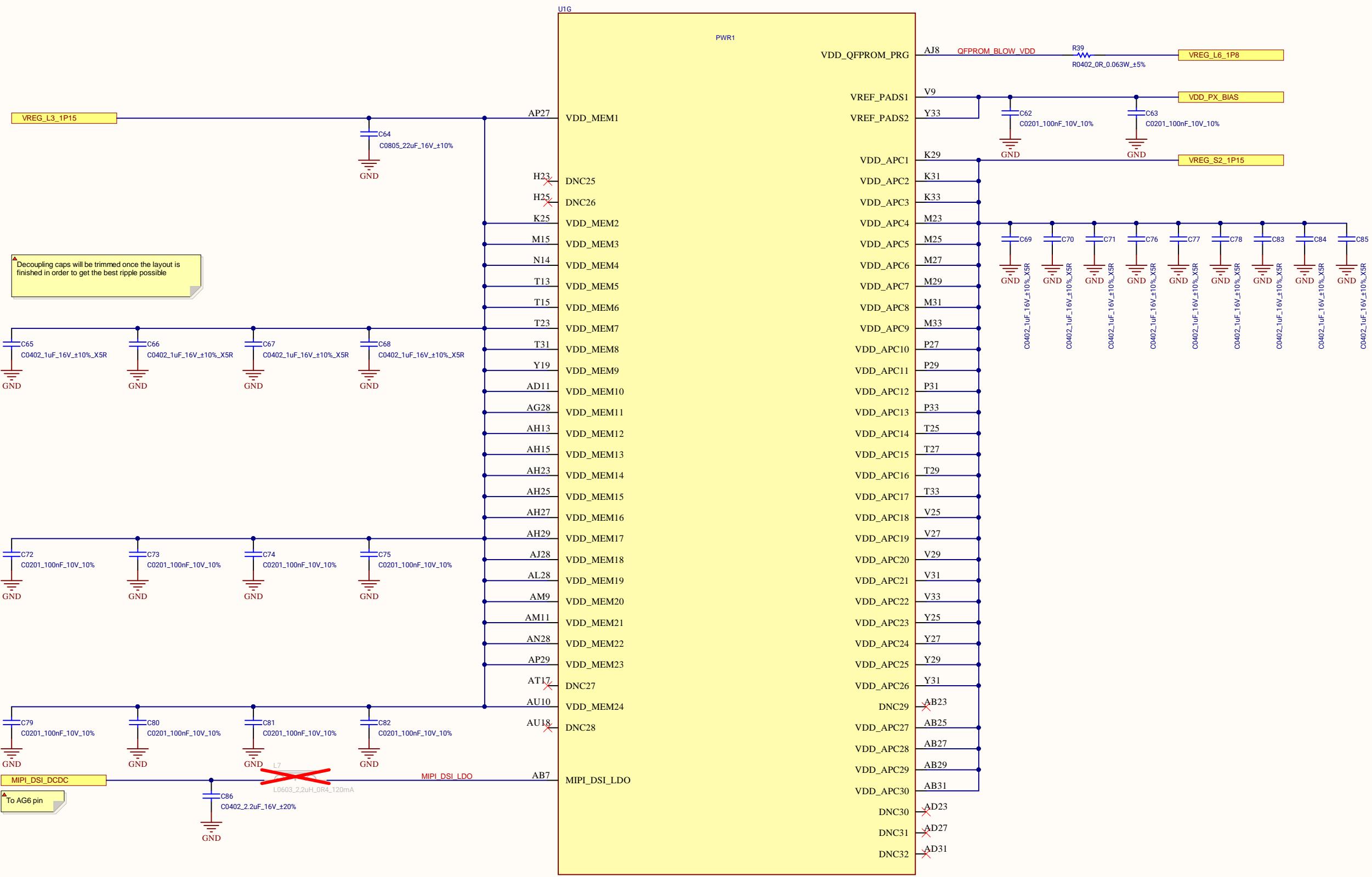
D

D



|                                |                |               |
|--------------------------------|----------------|---------------|
| Title APQ8016 - RF             |                |               |
| Project 0003158.PrjPcb         |                |               |
| Author Pablo García            |                |               |
| Size: A4 Number: 8 Revision: 0 |                |               |
| Date: 24/04/2018               | Time: 16:25:41 | Sheet 8 of 28 |

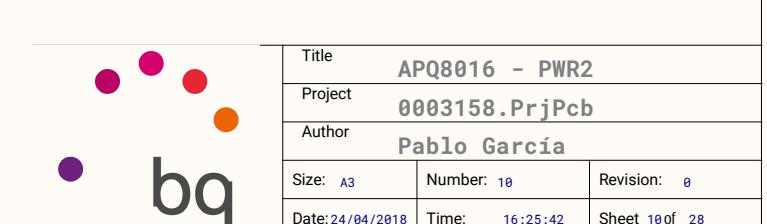
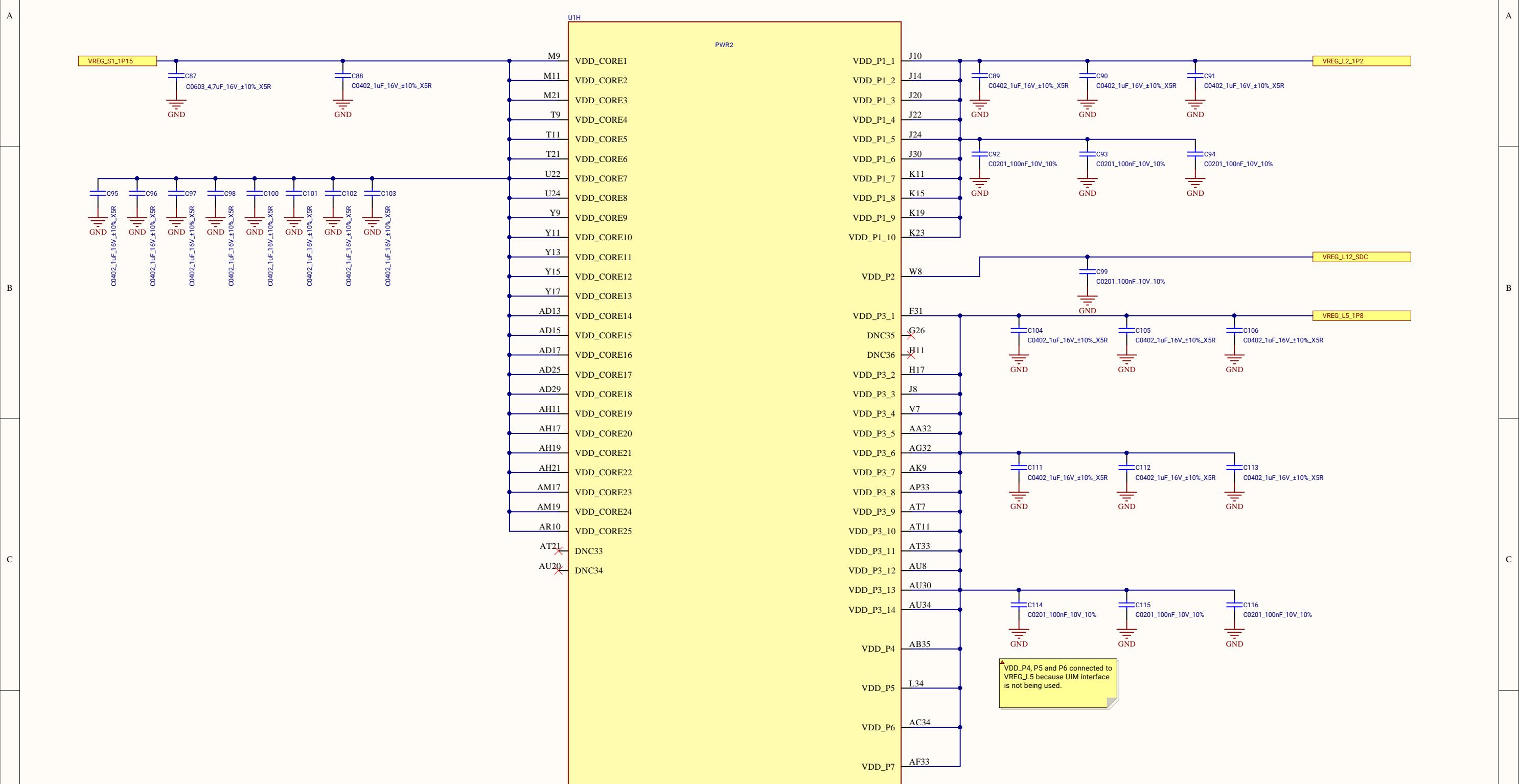
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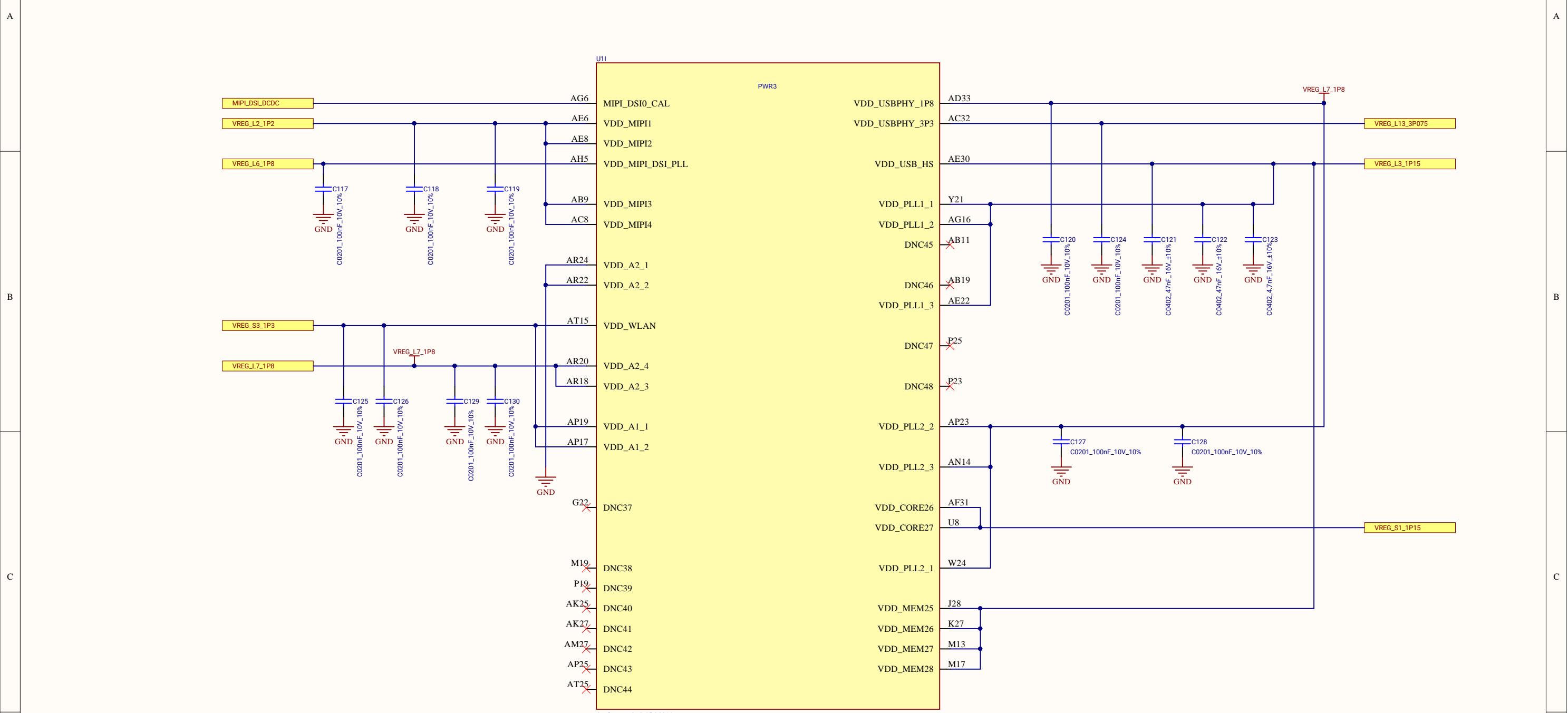


B

C

D





|                  |                |             |
|------------------|----------------|-------------|
| Title            | APQ8016 - PWR3 |             |
| Project          | 0003158.PrjPcb |             |
| Author           | Pablo García   |             |
| Size:            | A3             | Number: 11  |
| Date: 24/04/2018 | Time: 16:25:42 | Revision: 0 |
| Sheet 11 of 28   |                |             |



A

B

C

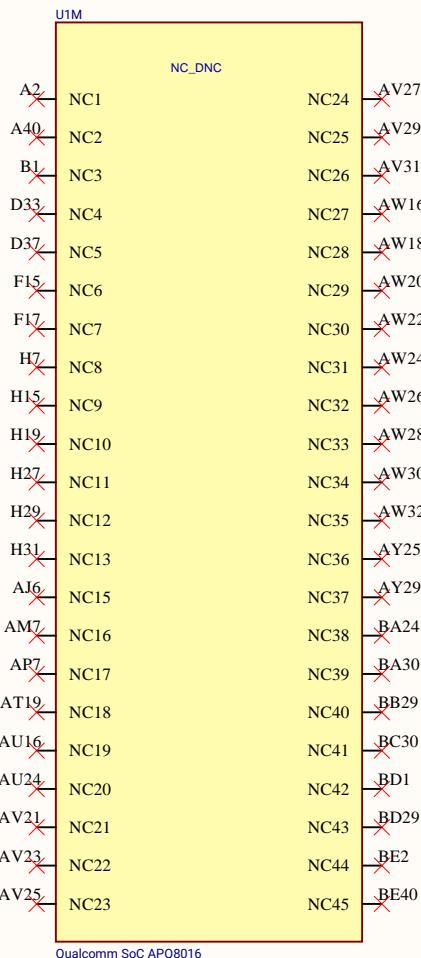
D

A

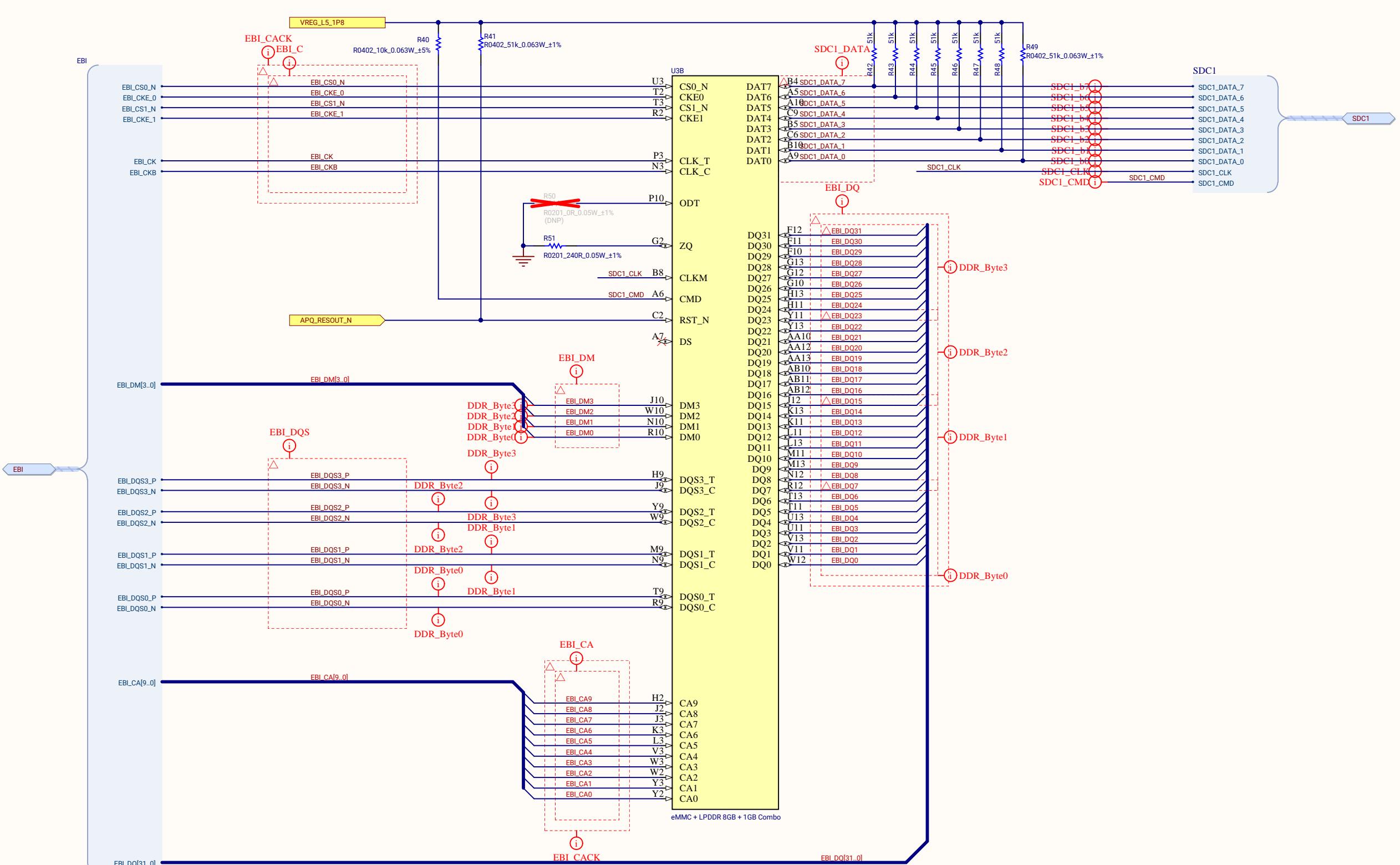
B

C

D



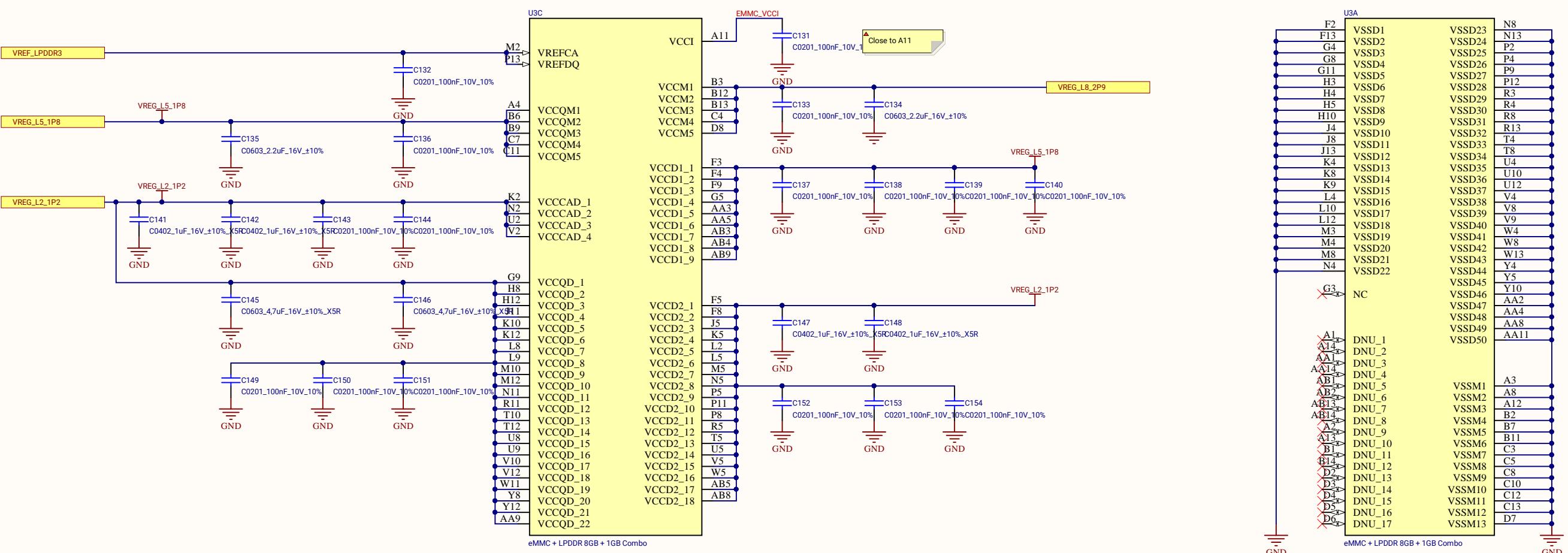
|                                 |                |                |
|---------------------------------|----------------|----------------|
| Title APQ8016 - NC              |                |                |
| Project 0003158.PrjPcb          |                |                |
| Author Pablo García             |                |                |
| Size: A4 Number: 13 Revision: 0 |                |                |
| Date: 24/04/2018                | Time: 16:25:42 | Sheet 13 of 28 |



|                  |                     |                |
|------------------|---------------------|----------------|
| Title            | LPDDR3_eMMC SIGNALS |                |
| Project          | 0003158.PnjPcb      |                |
| Author           | Pablo García        |                |
| Size:            | A3                  | Number: 14     |
| Revision:        | 0                   |                |
| Date: 24/04/2018 | Time: 16:25:43      | Sheet 14 of 28 |

A

A



B

B

C

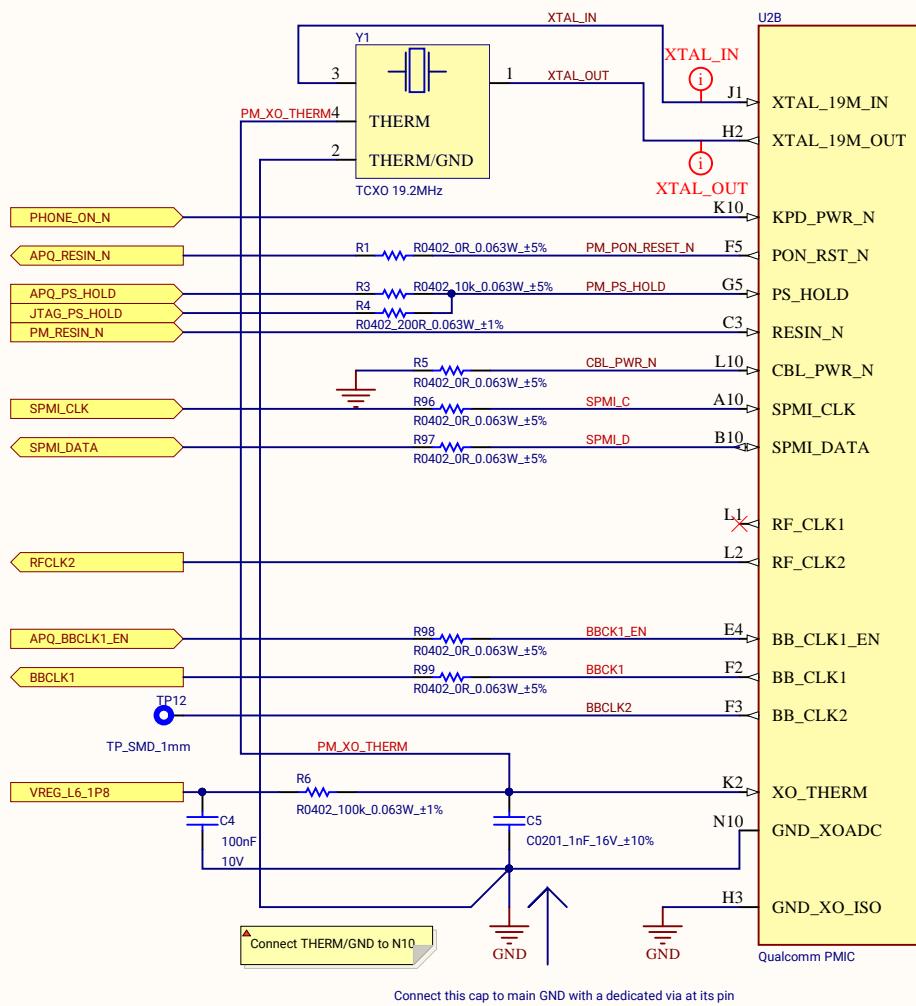
C

D

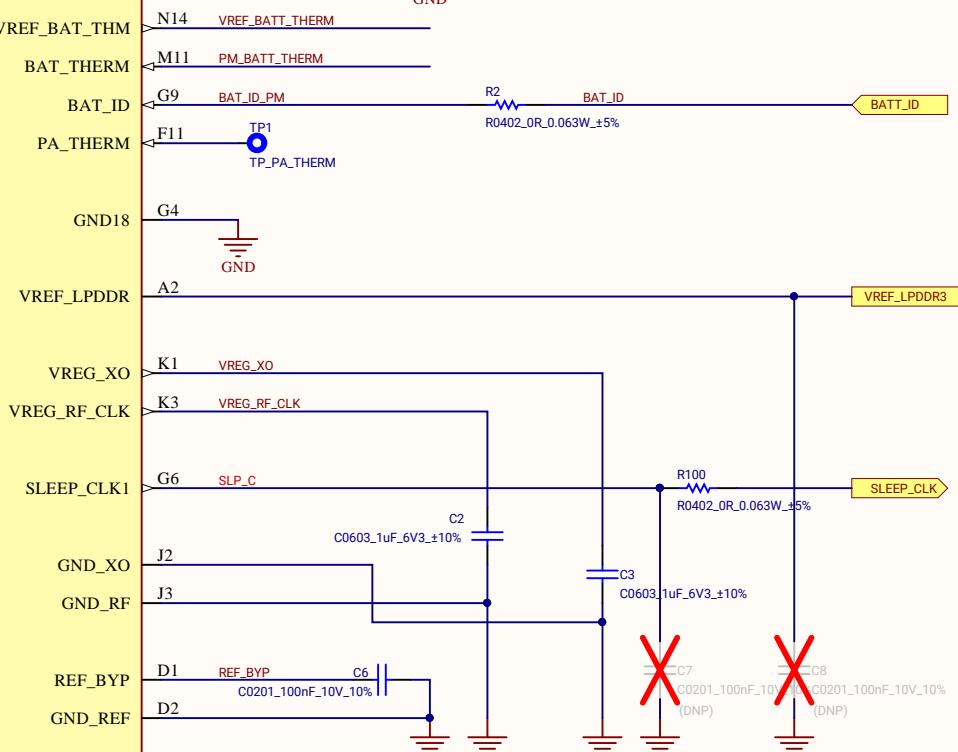
D

|  |           |                 |
|--|-----------|-----------------|
|  | Title     | LPDDR3+eMMC PWR |
|  | Project   | 0003158.PrjPcb  |
|  | Author    | Pablo García    |
|  | Size:     | A3              |
|  | Number:   | 15              |
|  | Revision: | 0               |
|  | Date:     | 24/04/2018      |
|  | Time:     | 16:25:43        |
|  | Sheet     | 15 of 28        |

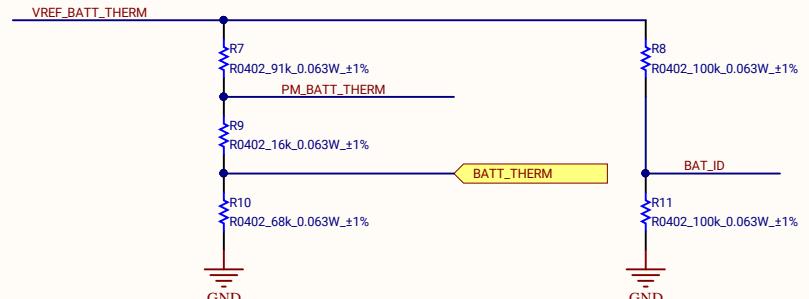
A



B



C

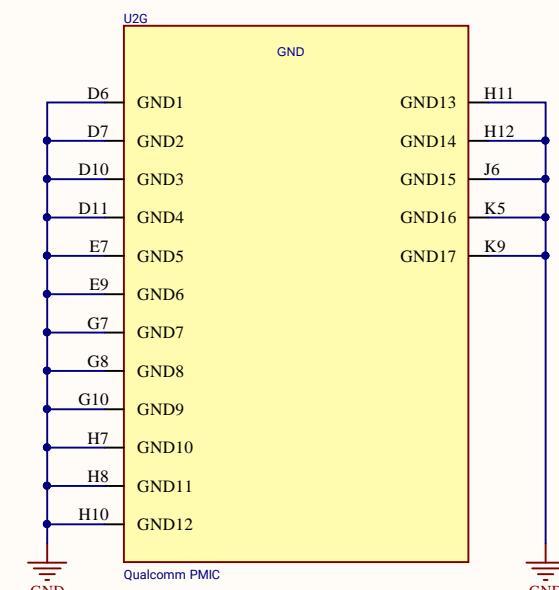
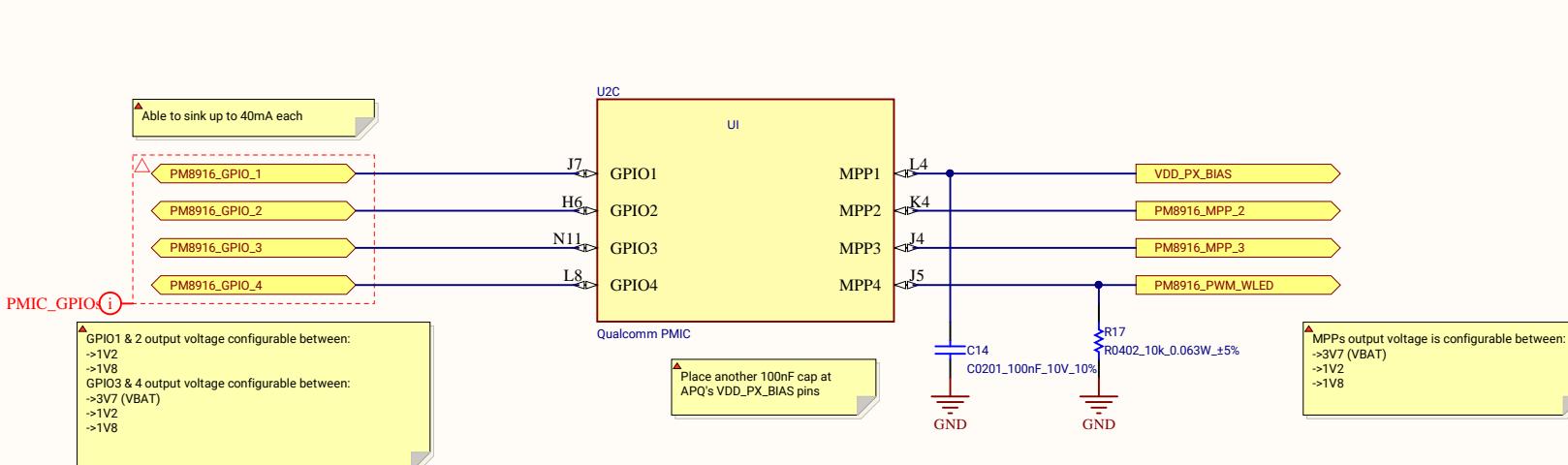
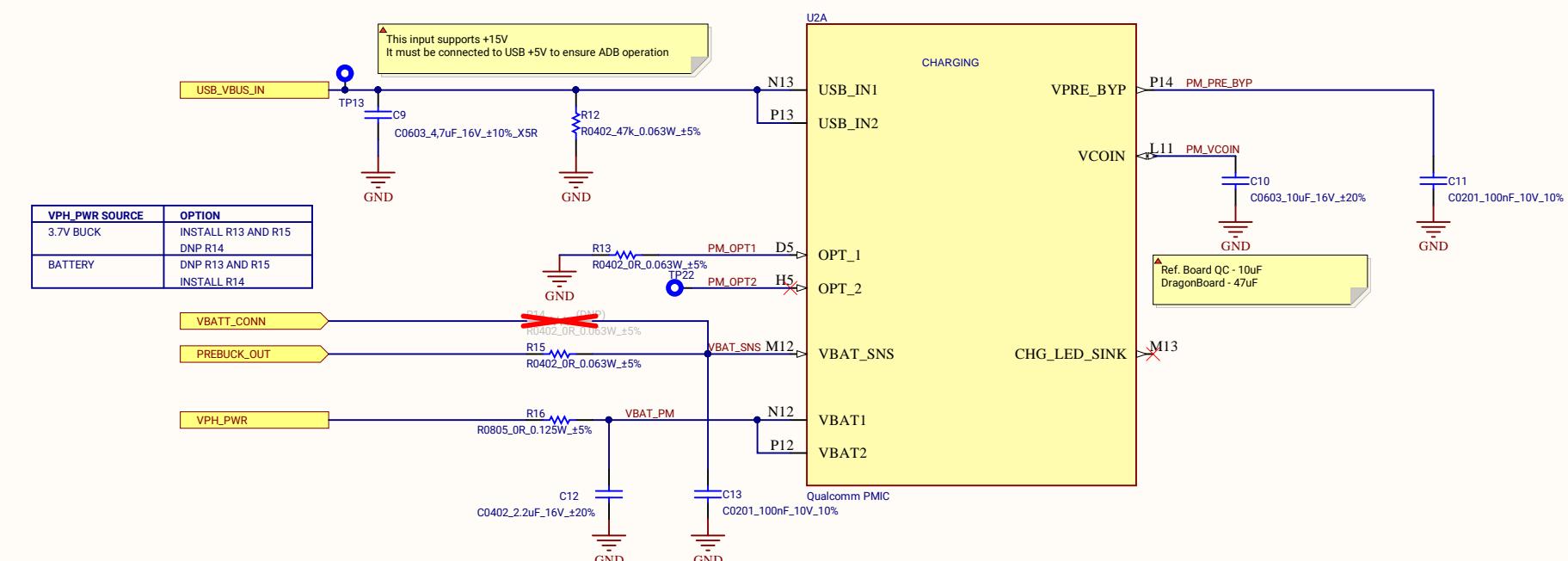


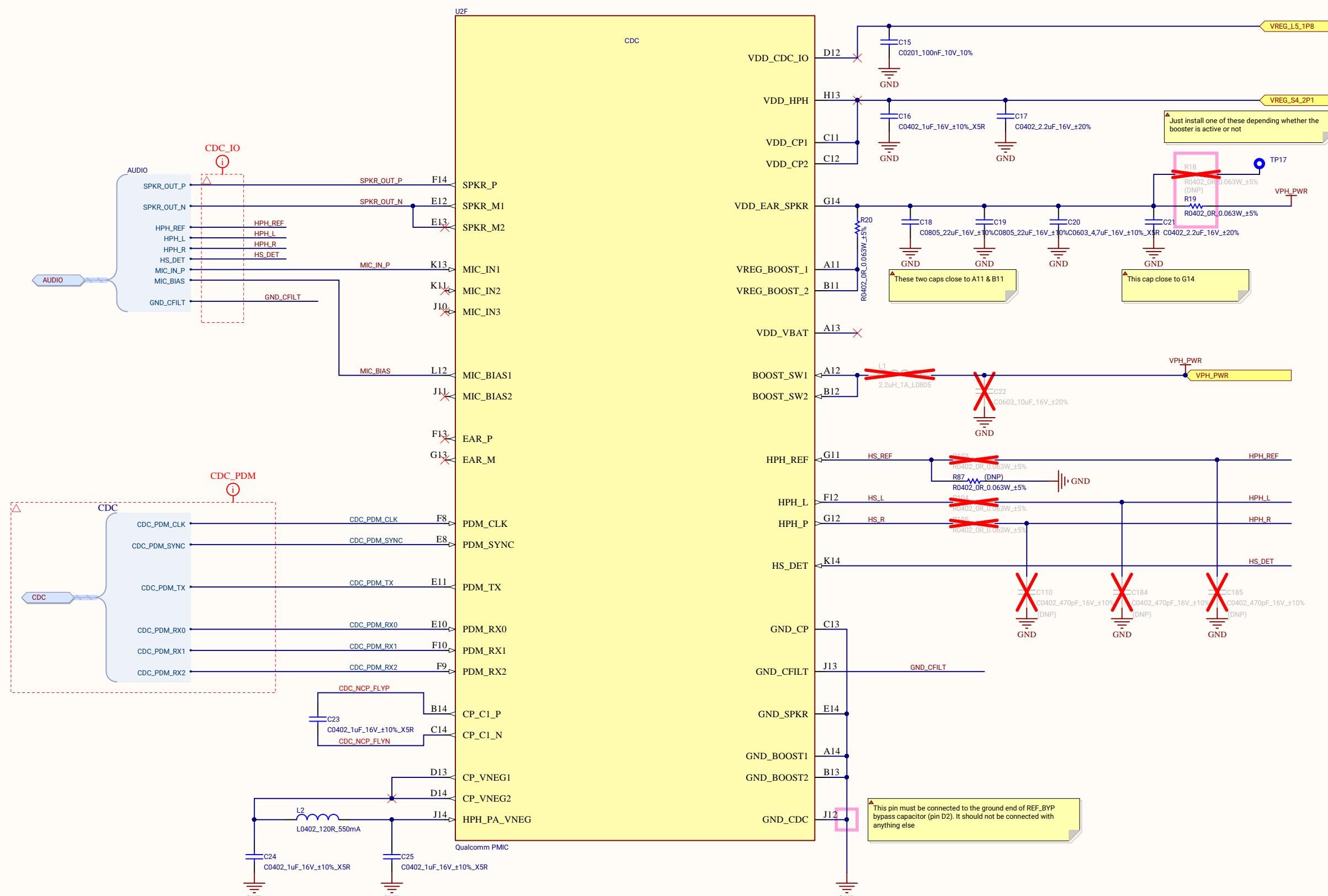
| VPH_PWR SOURCE | OPTION          |
|----------------|-----------------|
| 3.7V BUCK      | INSTALL R10,R11 |
| BATTERY        | DNP R10,R11     |

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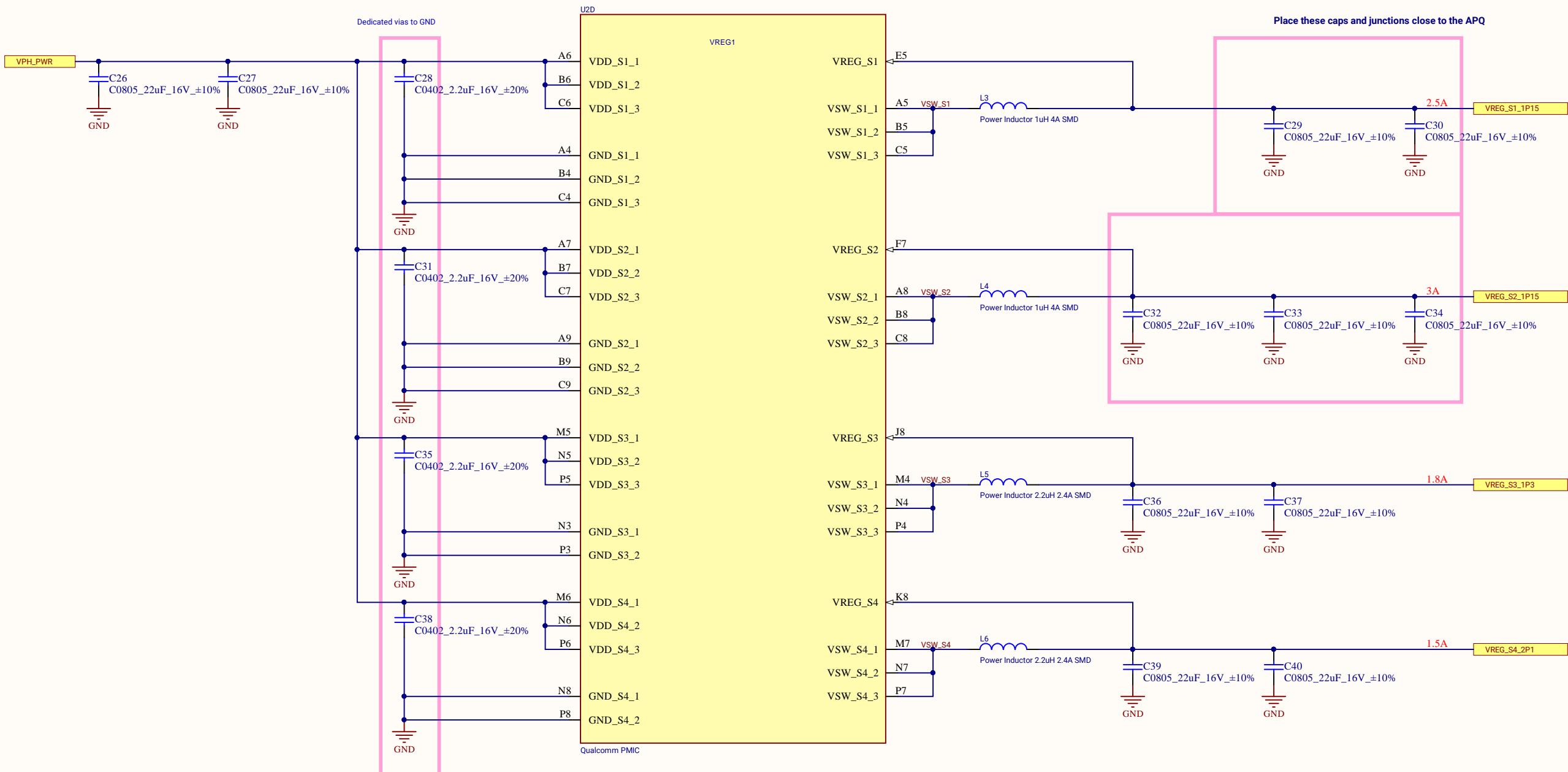
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|---------------------------------|----------------|----------------|
| Title PM8916 Control            |                |                |
| Project 0003158.PnjPcb          |                |                |
| Author Pablo García             |                |                |
| Size: A4 Number: 16 Revision: 0 |                |                |
| Date: 24/04/2018                | Time: 16:25:43 | Sheet 16 of 28 |





A

A



B

B

C

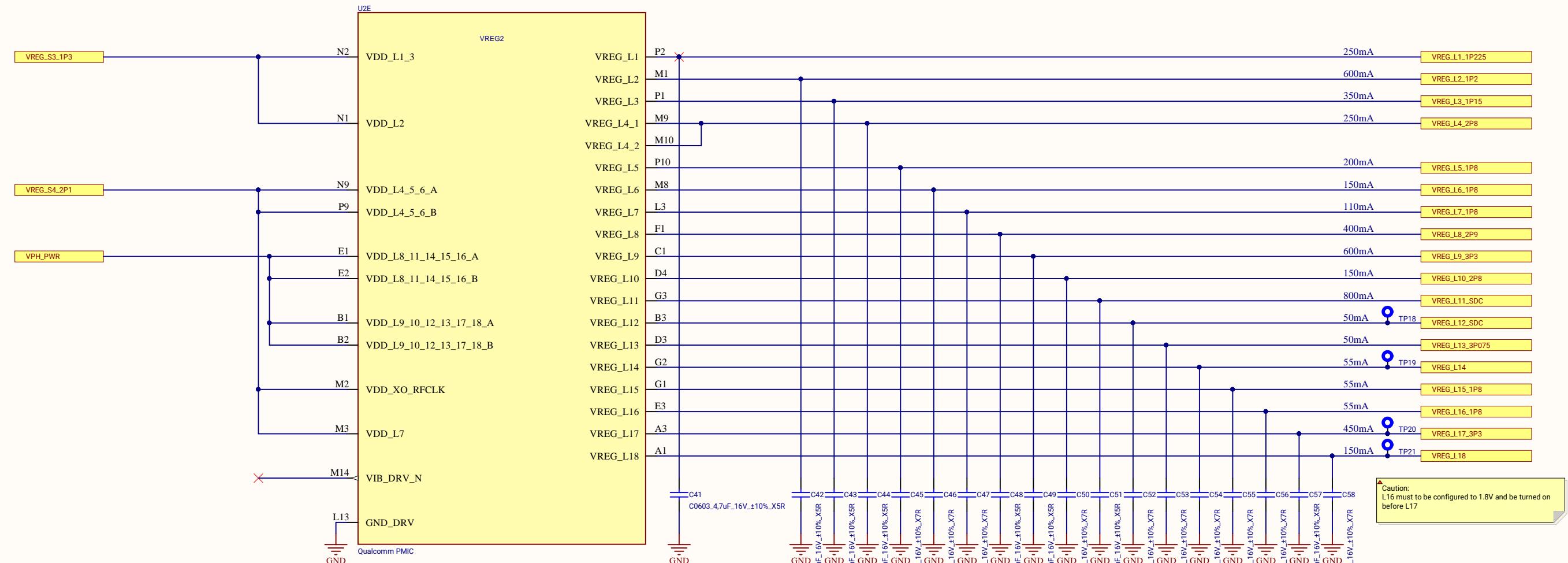
C

D

D



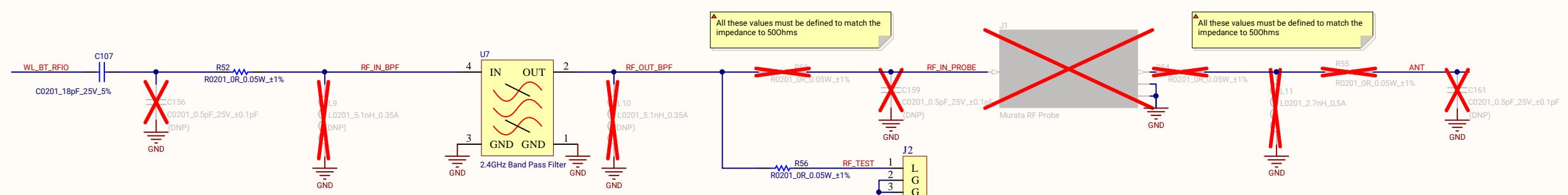
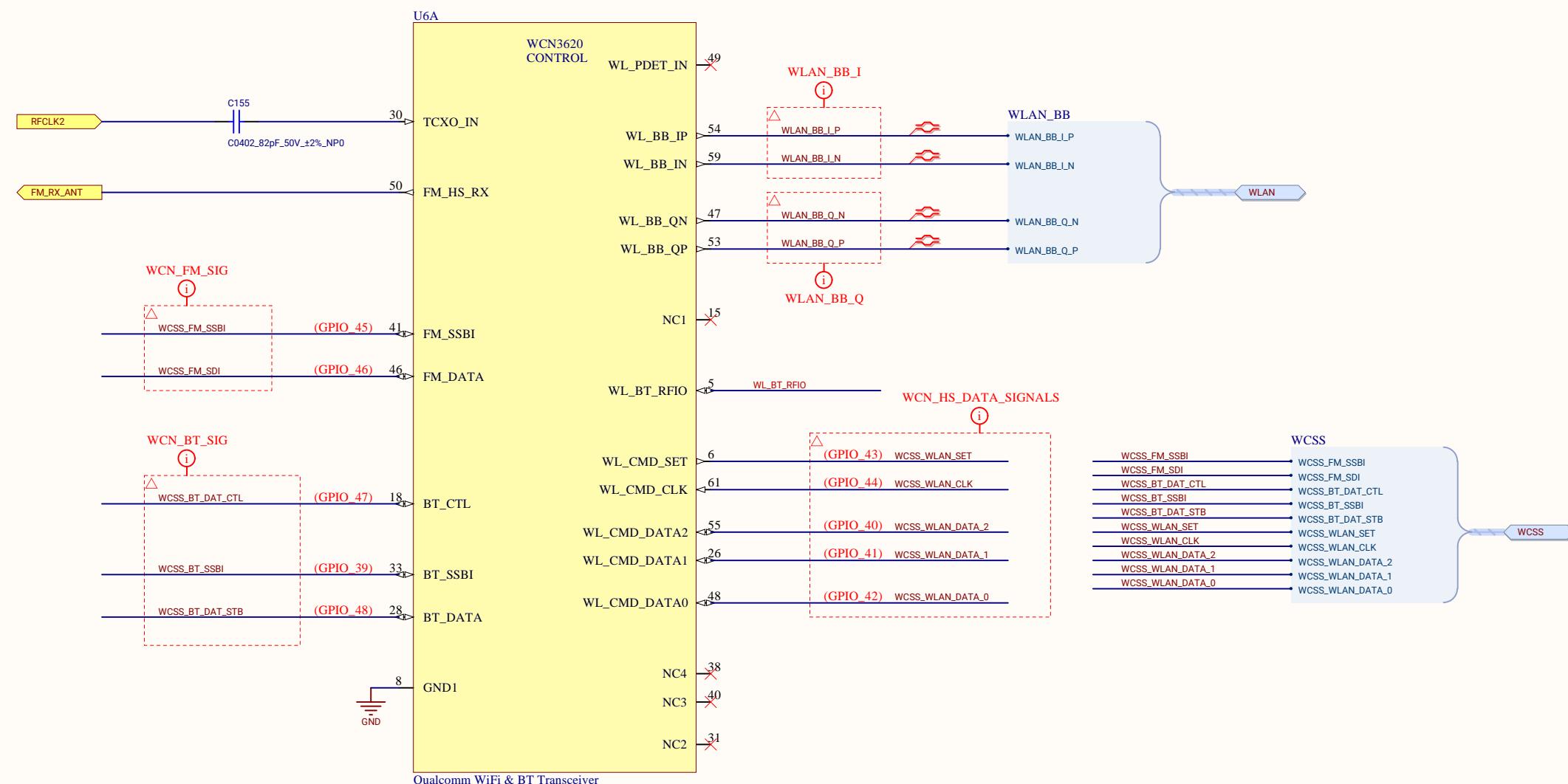
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|---------------------------------|----------------|----------------|
| Title PM8916 SMPS               |                |                |
| Project 0003158.PrjPcb          |                |                |
| Author Juan Jose Vicente        |                |                |
| Size: A3 Number: 19 Revision: 0 |                |                |
| Date: 24/04/2018                | Time: 16:25:44 | Sheet 19 of 28 |



| Function | Circuit type | Default voltage (V) with P code = 0 <sup>1</sup> | Default voltage (V) with P code = 11 | Programmable range (V) | Specified range (V) | Rated current <sup>2</sup> (mA) | Default on | Expected use   |
|----------|--------------|--|--------------------------------------|------------------------|---------------------|---------------------------------|------------|--|
| S1       | SMPS         | 1.15   | 1.225                                | 0.375-1.562            | 0.5-1.35            | 2500                            | Y          | APQ8016E/APQ8009 camera SS, graphics core, etc.                                    |
| S2       | SMPS         | 1.15   | 1.225                                | 0.375-1.562            | 0.9-1.35            | 3000                            | Y          | APQ8016E/APQ8009 application processor cores                                       |
| S3       | SMPS         | 1.35   | 1.35                                 | 0.375-1.562            | 1.25-1.35           | 1800                            | Y          | Analog blocks of WAN, WLAN, source for GR1 (LDOs L1 and L3) and GR2 (LDO L2) rails |
| S4       | SMPS         | 2.1  | 2.05                                 | 1.55-2.325             | 1.85-2.15           | 1500                            | Y          | Codec analog and source for GR3 (LDOs L4, L5 & L6) and GR7 (LDO L7) rails          |
| L1       | NMOS LDO     | 1.2875   | 1.0                                  | 0.375-1.525            | 1.0-1.2875          | 250                             | N          | Low voltage rail   |
| L2       | NMOS LDO     | 1.2  | 1.2                                  | 0.375-1.525            | 1.2                 | 600                             | Y          | Memory (EBI/LPDDR2/LPDDR3/eMMC) and MIPI analog rails                              |
| L3       | NMOS LDO     | 1.15   | 1.225                                | 0.375-1.525            | 0.65-1.35           | 350                             | Y          | Host IC  |
| L4       | PMOS LDO     | 2.05   | 1.8                                  | 1.75-3.337             | 1.8-2.1             | 250                             | N          | GPS eLNA   |
| L5       | PMOS LDO     | 1.8  | 1.8                                  | 1.75-3.337             | 1.8                 | 200                             | Y          | Codec and memory 1.8 V rails, WLAN IO  |

| Function | Circuit type | Default voltage (V) with P code = 0 <sup>1</sup> | Default voltage (V) with P code = 11 | Programmable range (V) | Specified range (V) | Rated current <sup>2</sup> (mA) | Default on | Expected use  |
|----------|--------------|--|--------------------------------------|------------------------|---------------------|---------------------------------|------------|---|
| L6       | PMOS LDO     | 1.8  | 1.8                                  | 1.75-3.337             | 1.8                 | 150                             | Y          | Camera, display and transducer 1.8 V rails and HK ADC |
| L7       | PMOS LDO     | 1.8  | 1.8                                  | 1.75-3.337             | 1.8-1.9             | 110                             | Y          | Host, BB_CLK driver                                   |
| L8       | PMOS LDO     | 2.9  | 2.9                                  | 1.75-3.337             | 2.9                 | 400                             | Y          | eMMC/NAND core  |
| L9       | PMOS LDO     | 3.3  | 3.3                                  | 1.75-3.337             | 3.3                 | 600                             | N          | Connectivity IC (WCN3620/WCN3660)                     |
| L10      | PMOS LDO     | 2.8  | 2.8                                  | 1.75-3.337             | 2.8                 | 150                             | N          | Camera (Front and Rear) analog rails                  |
| L11      | PMOS LDO     | 2.95   | 2.95                                 | 1.75-3.337             | 2.95                | 8001                            | Y          | SD/MMC card   |
| L12      | PMOS LDO     | 2.95   | 2.95                                 | 1.75-3.337             | 1.8/2.95            | 50                              | Y          | APQ8016E/APQ8009 memory rail for SD                   |
| L13      | PMOS LDO     | 3.075  | 3.075                                | 1.75-3.337             | 3.075               | 50                              | Y          | Codec and USB 3 V analog rails                        |
| L14      | PMOS LDO     | 1.8  | 1.8                                  | 1.75-3.337             | 1.8/3.3             | 55                              | N          | UIM 1   |
| L15      | PMOS LDO     | 1.8  | 1.8                                  | 1.75-3.337             | 1.8/3.3             | 55                              | N          | UIM 2   |
| L16      | PMOS LDO     | 1.8  | 1.8                                  | 1.75-3.337             | 1.8/3.3             | 55                              | N          | UIM 3   |
| L17      | PMOS LDO     | 2.85   | 2.85                                 | 1.75-3.337             | 2.85                | 450                             | N          | LCD, transducers and camera 2.85 V rails              |
| L18      | PMOS LDO     | 2.7  | 2.7                                  | 1.75-3.337             | 2.7                 | 150                             | N          | Qualcomm® RF360                                       |

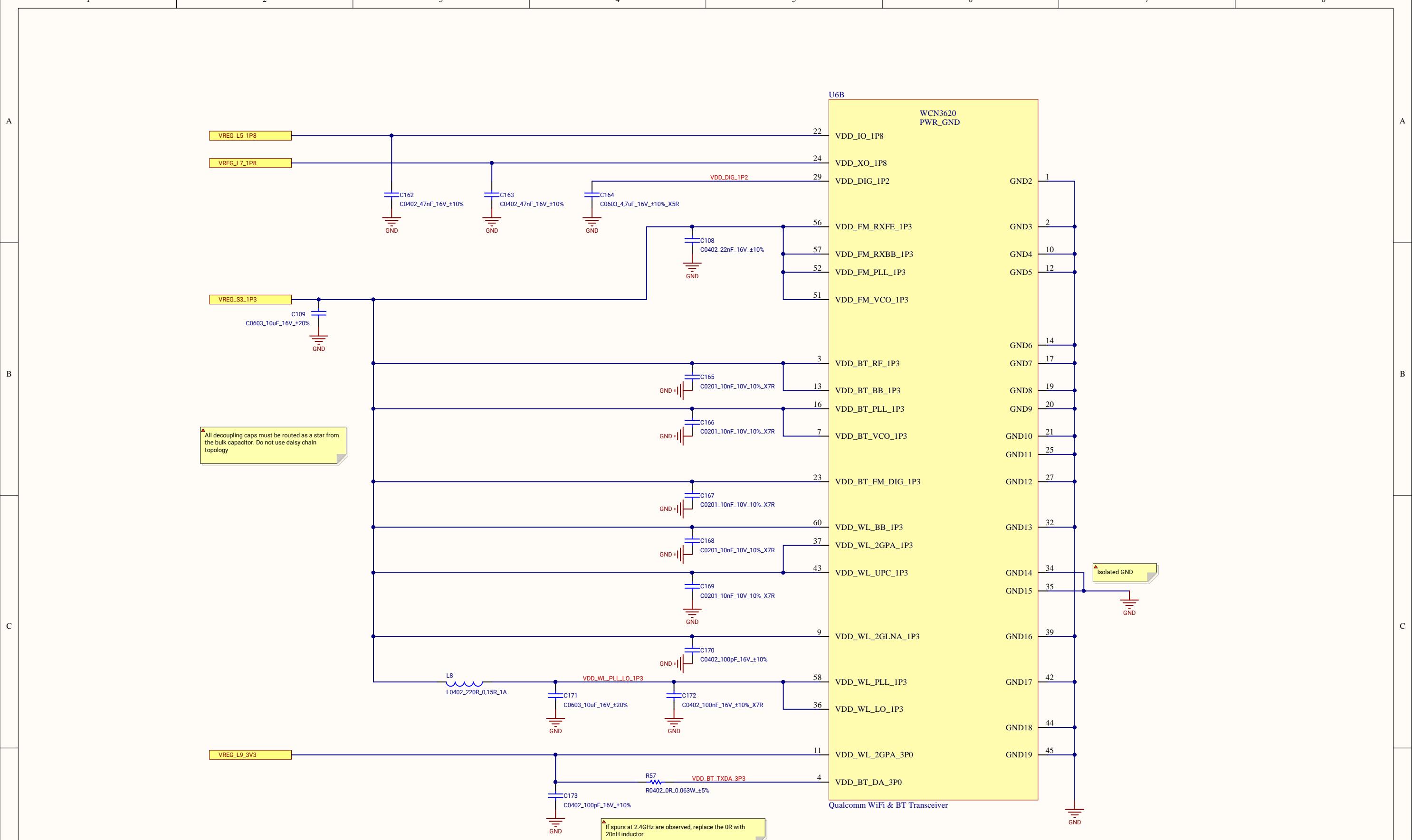
| Function    | Circuit type  | Default voltage (V) with P code = 0 <sup>1</sup> | Default voltage (V) with P code = 11 | Programmable range (V) | Specified range (V) | Rated current <sup>2</sup> (mA) | Default on | Expected use            |
|-------------|---------------|--|--------------------------------------|------------------------|---------------------|---------------------------------|------------|-------------------------|
| VREF_LPD_DR | —             | 0.6125   | 0.6125                               | —                      | —                   | —                               | Y          | LPDDR reference         |
| MPP1        | —             | 1.250  | 1.250                                | —                      | —                   | —                               | Y          | APQ pad bias            |
| VREG_XO     | Low noise LDO | 1.8  | 1.8                                  | 1.38-2.22              | 1.8                 | 5                               | —          | XO oscillator circuits  |
| VREG_RFC_LK | Low noise LDO | 1.8  | 1.8                                  | 1.38-2.22              | 1.8                 | 5                               | —          | Low noise clock buffers |



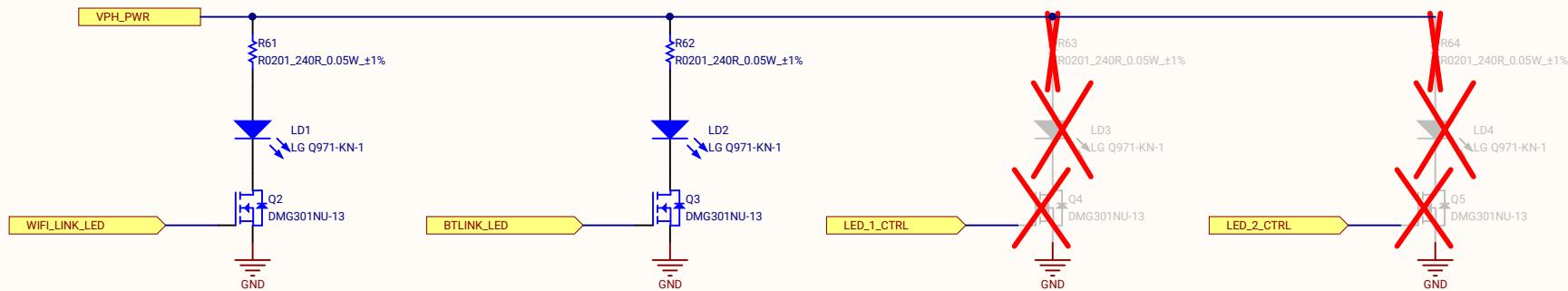
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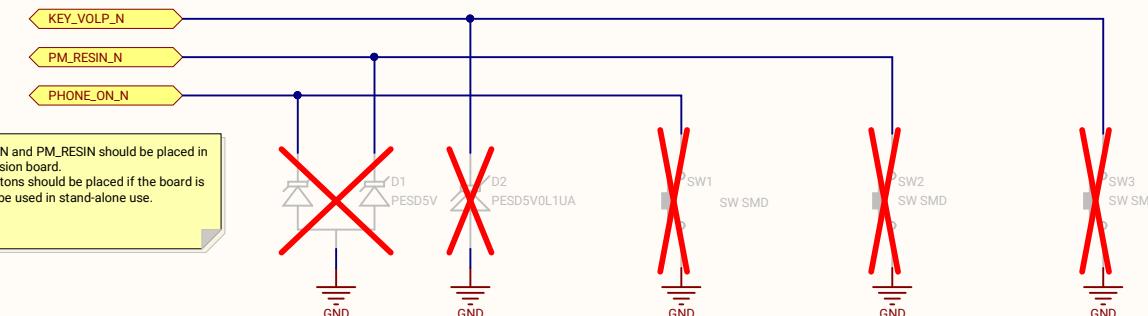
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|------------------|--------------------|----------------|
| Title            | WCN3620 RF CONTROL |                |
| Project          | 0003158.PrjPcb     |                |
| Author           | Pablo García       |                |
| Size: A3         | Number: 21         | Revision: 1495 |
| Date: 24/04/2018 | Time: 16:25:44     | Sheet 21 of 28 |



A



B



C

D

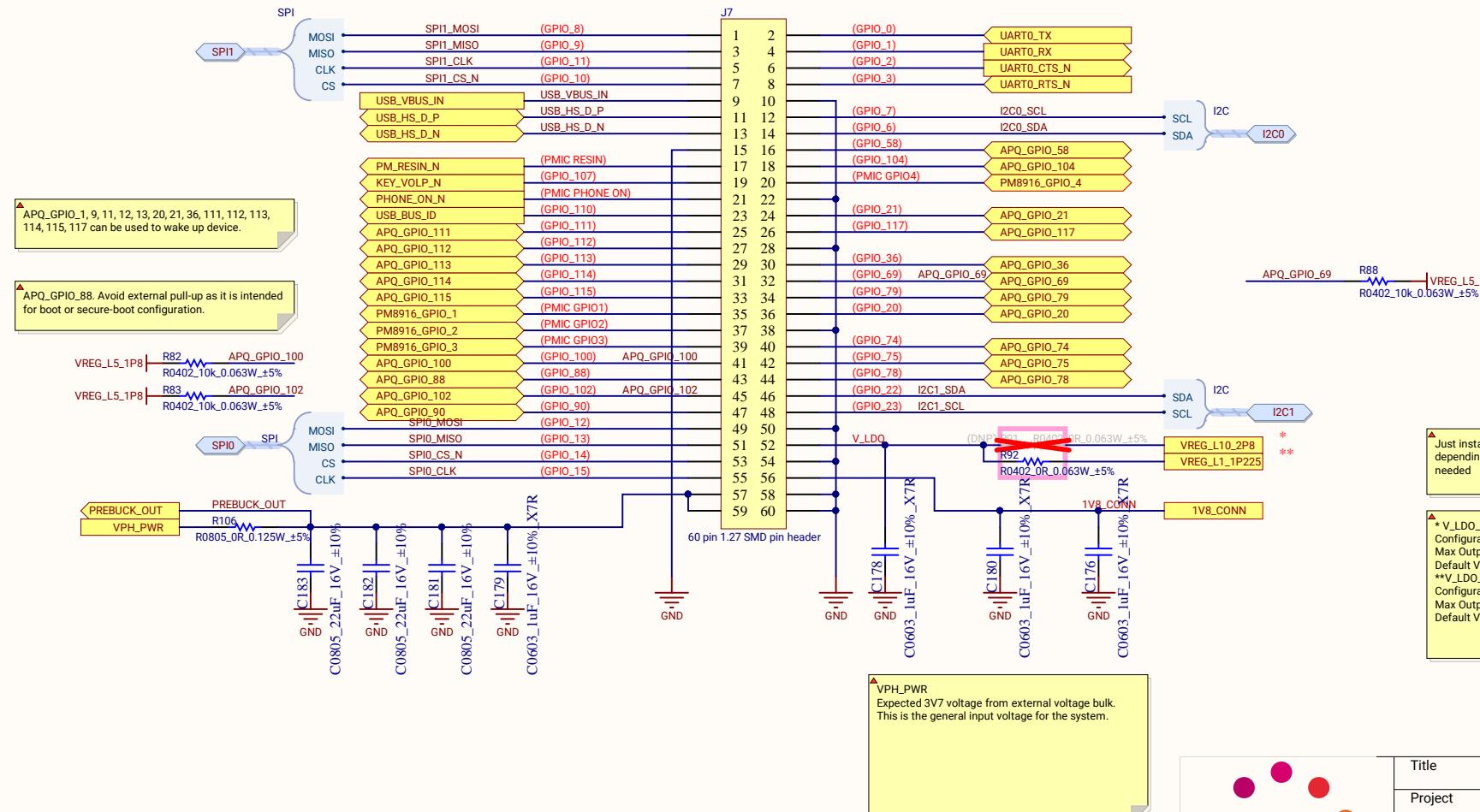
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|-----------------|------------|----------------|
| Title           |            |                |
| SWITCHES & LEDs |            |                |
| Project         |            |                |
| 0003158.PnjPcb  |            |                |
| Author          |            |                |
| Pablo García    |            |                |
| Size:           | A4         | Number:        |
|                 | 23         | Revision:      |
| Date:           | 24/04/2018 | Time:          |
|                 | 16:25:45   | Sheet 23 of 28 |



A

1

#### **LS EXPANSION CONNECTOR**



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|         |                               |         |          |           |          |
|---------|-------------------------------|---------|----------|-----------|----------|
| Title   | Low Speed Expansion Connector |         |          |           |          |
| Project | 0003158.PrjPcb                |         |          |           |          |
| Author  | Pablo García                  |         |          |           |          |
| Size:   | A4                            | Number: | 25       | Revision: | 0        |
| Date:   | 24/04/2018                    | Time:   | 16:25:45 | Sheet     | 25 of 28 |

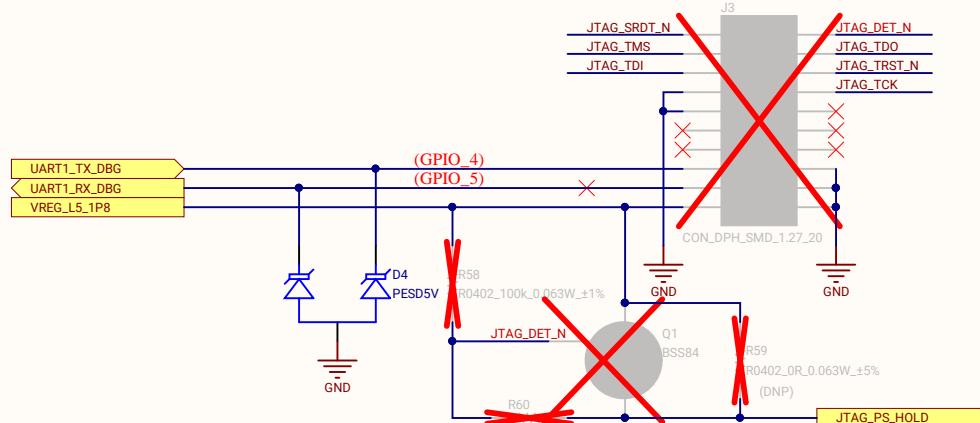
2

3

4

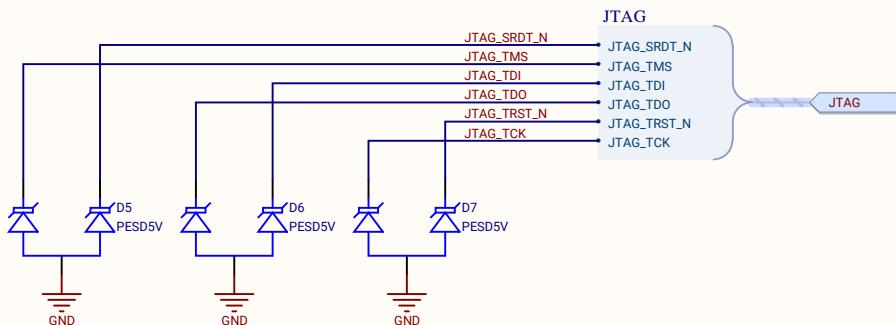
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A



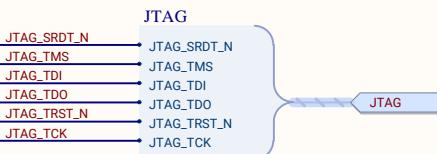
B

B



C

C



D

D

A

A

VREG\_L5\_1P8  
VREG\_L5\_1P8

### HS EXPANSION CONNECTOR

MIPI\_DSI0

MIPLDSI0\_C\_P  
MIPLDSI0\_C\_N  
MIPLDSI0\_D0\_P  
MIPLDSI0\_D0\_N  
MIPLDSI0\_D1\_P  
MIPLDSI0\_D1\_N  
MIPLDSI0\_D2\_P  
MIPLDSI0\_D2\_N  
MIPLDSI0\_D3\_P  
MIPLDSI0\_D3\_N

MIPLCSI0

MIPLCSI0\_C\_P  
MIPLCSI0\_C\_N  
MIPLCSI0\_D0\_P  
MIPLCSI0\_D0\_N  
MIPLCSI0\_D1\_P  
MIPLCSI0\_D1\_N  
MIPLCSI0\_D2\_P  
MIPLCSI0\_D2\_N  
MIPLCSI0\_D3\_P  
MIPLCSI0\_D3\_N

I2C

I2C3  
SCL  
SDA  
TP\_RST\_N  
(GPIO\_19)  
I2C3\_SDA  
(GPIO\_18)

I2C

I2C2\_SCL  
I2C2\_SDA  
CAM\_CSI0\_RST\_N  
(GPIO\_35)  
(GPIO\_26)  
CAM\_CSI0\_MCLK  
(GPIO\_34)  
CAM\_CSI0\_PWDN

VREG\_L5\_1P8  
R85  
TP\_RST\_N  
R0402\_10k\_0.063W\_±5%

VREG\_L5\_1P8  
R86  
TP\_INT\_N  
R0402\_10k\_0.063W\_±5%

J6  
2x30 socket SMD 0.5mm

GND

GND

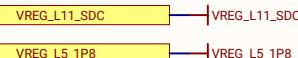
GND

1V8\_CONN  
VREG\_L4\_2P8  
1V8\_CONN  
C177  
C0603\_1uF\_16V\_±10%\_X7R

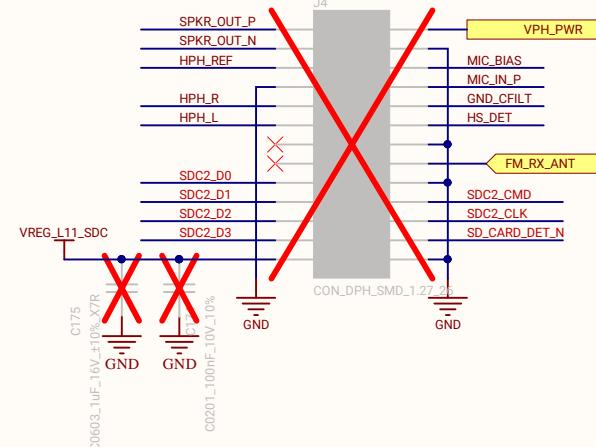
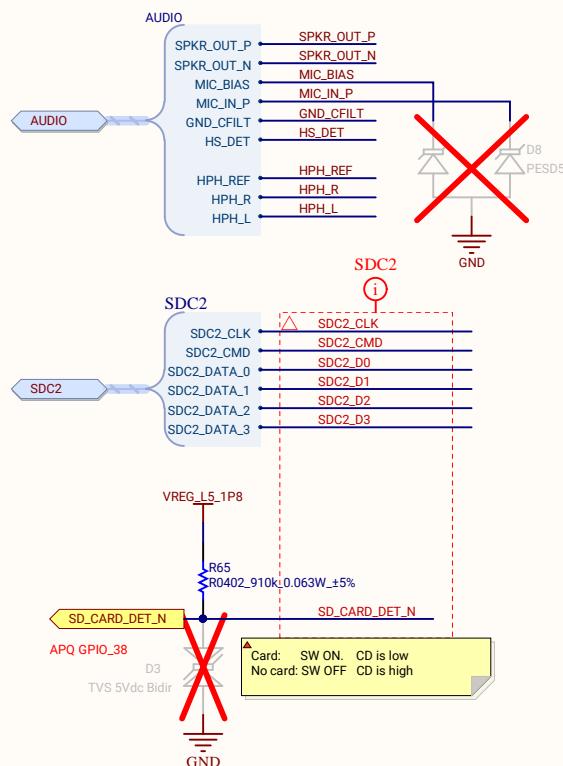


|                      |              |                |
|----------------------|--------------|----------------|
| Title                |              |                |
| Connector High Speed |              |                |
| Project              |              |                |
| 0003158.PnjPcb       |              |                |
| Author               | Pablo García | Revision:      |
| Size:                | A4           | Number: 27     |
| Date:                | 24/04/2018   | Time: 16:25:45 |
| Sheet 27 of 28       |              |                |

A



B

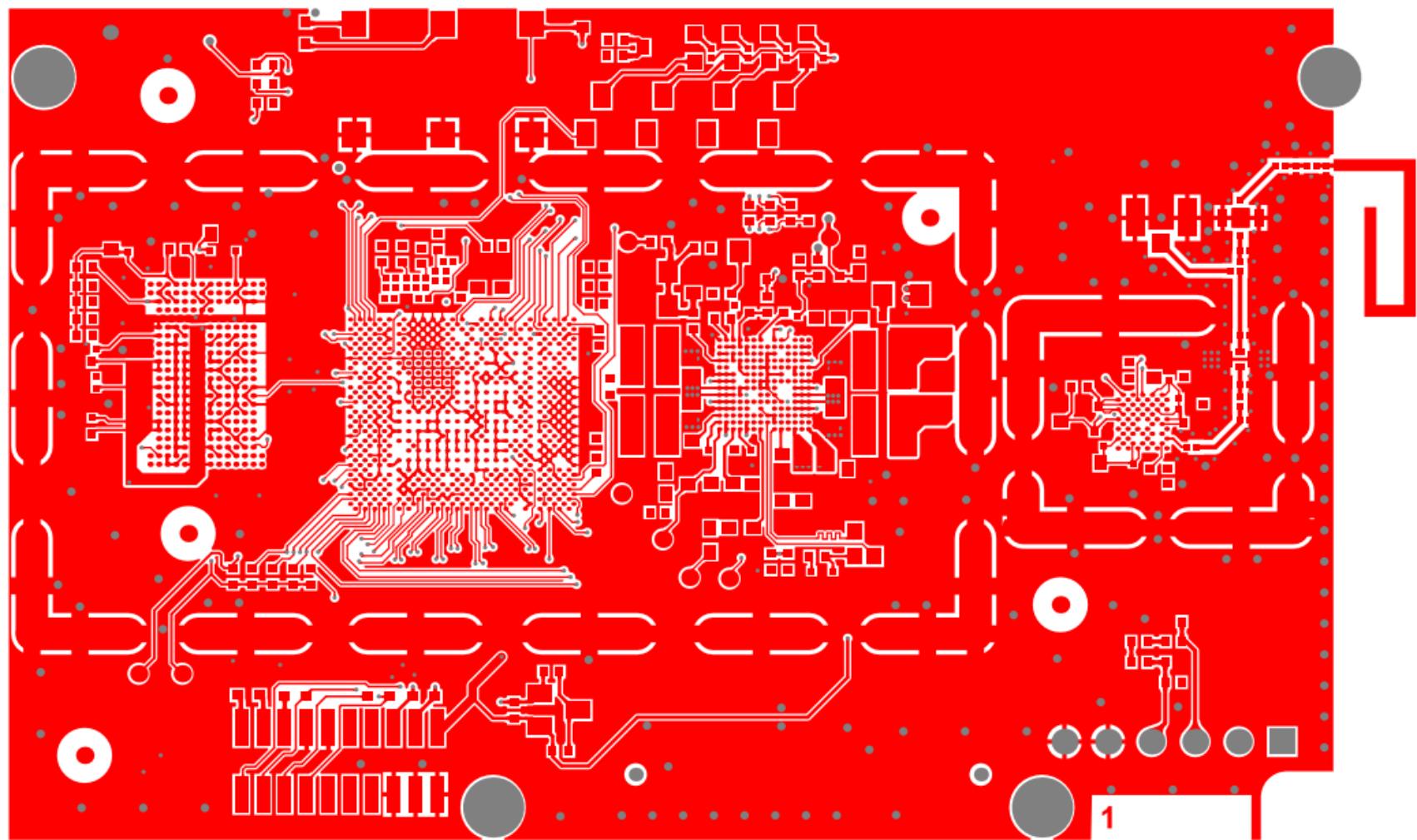


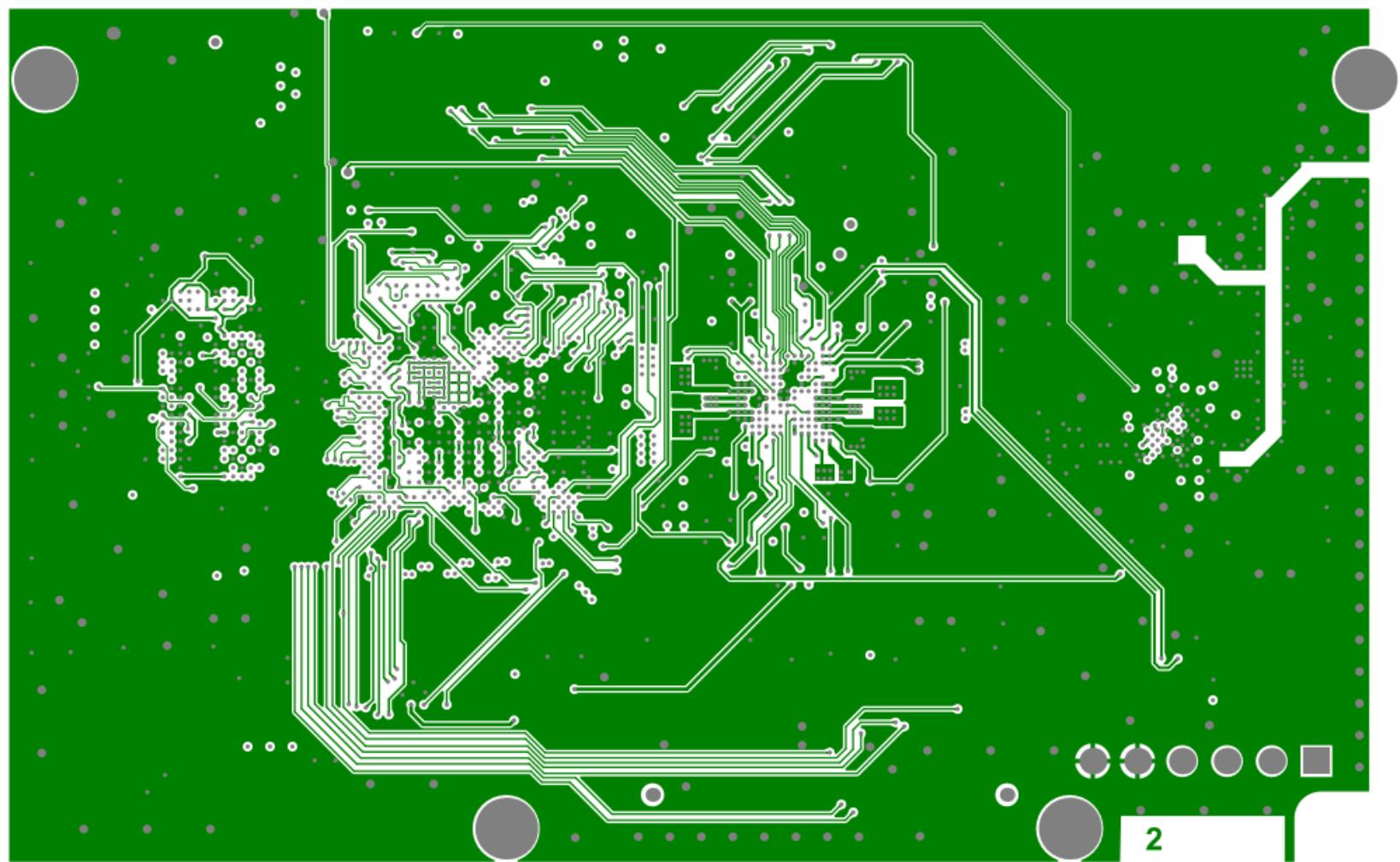
▲ VREG\_L11\_SDC must not be directly used to power SD cards.  
LDO must be added on expansion boards powered by VREG\_L11\_SDC.  
LDO specs:  
- 2.95V/3.0V  
- Short-circuit protection  
- 800mA supply rating.  
- Start up time: 100us  
(80-NK808-14)

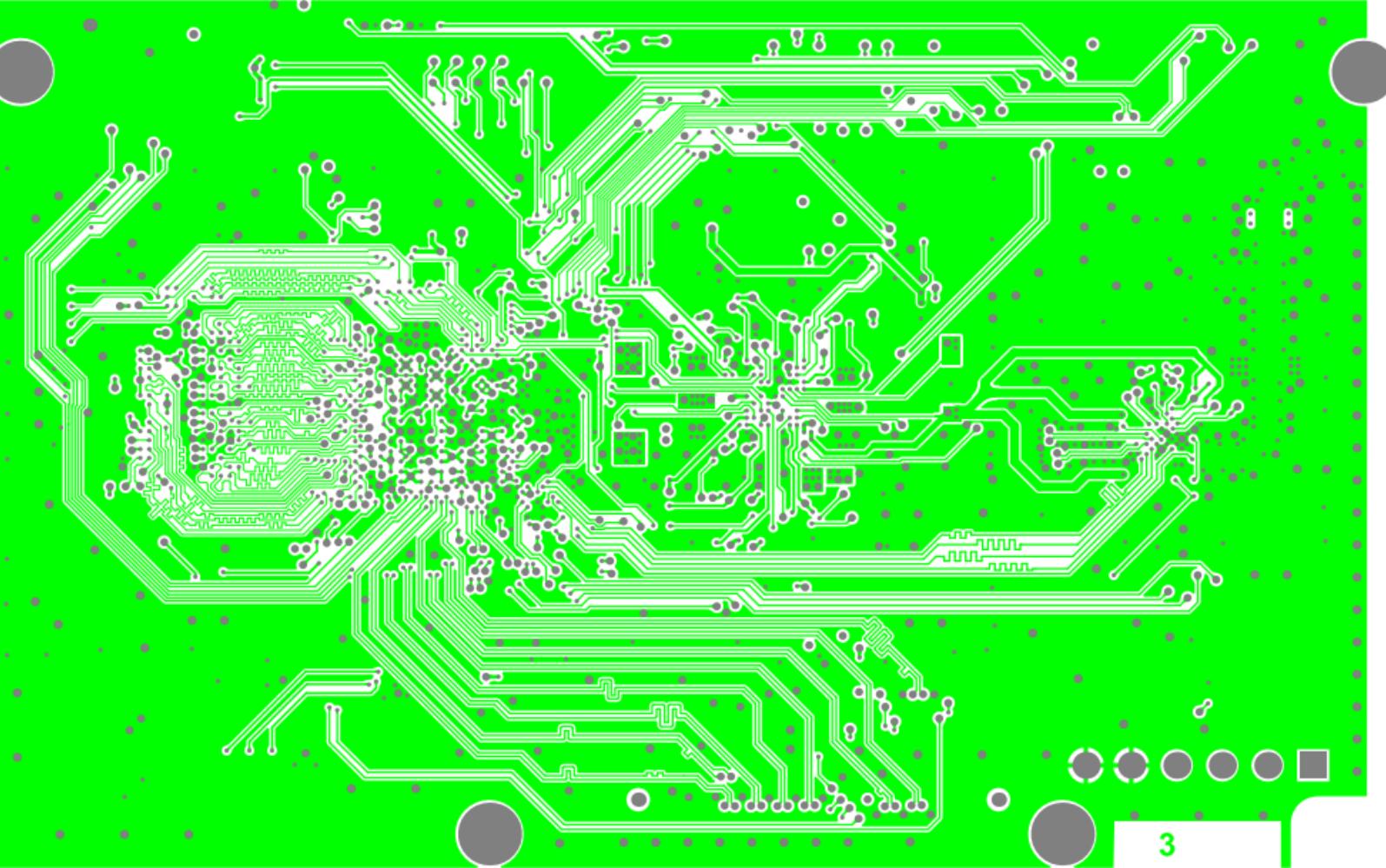
D

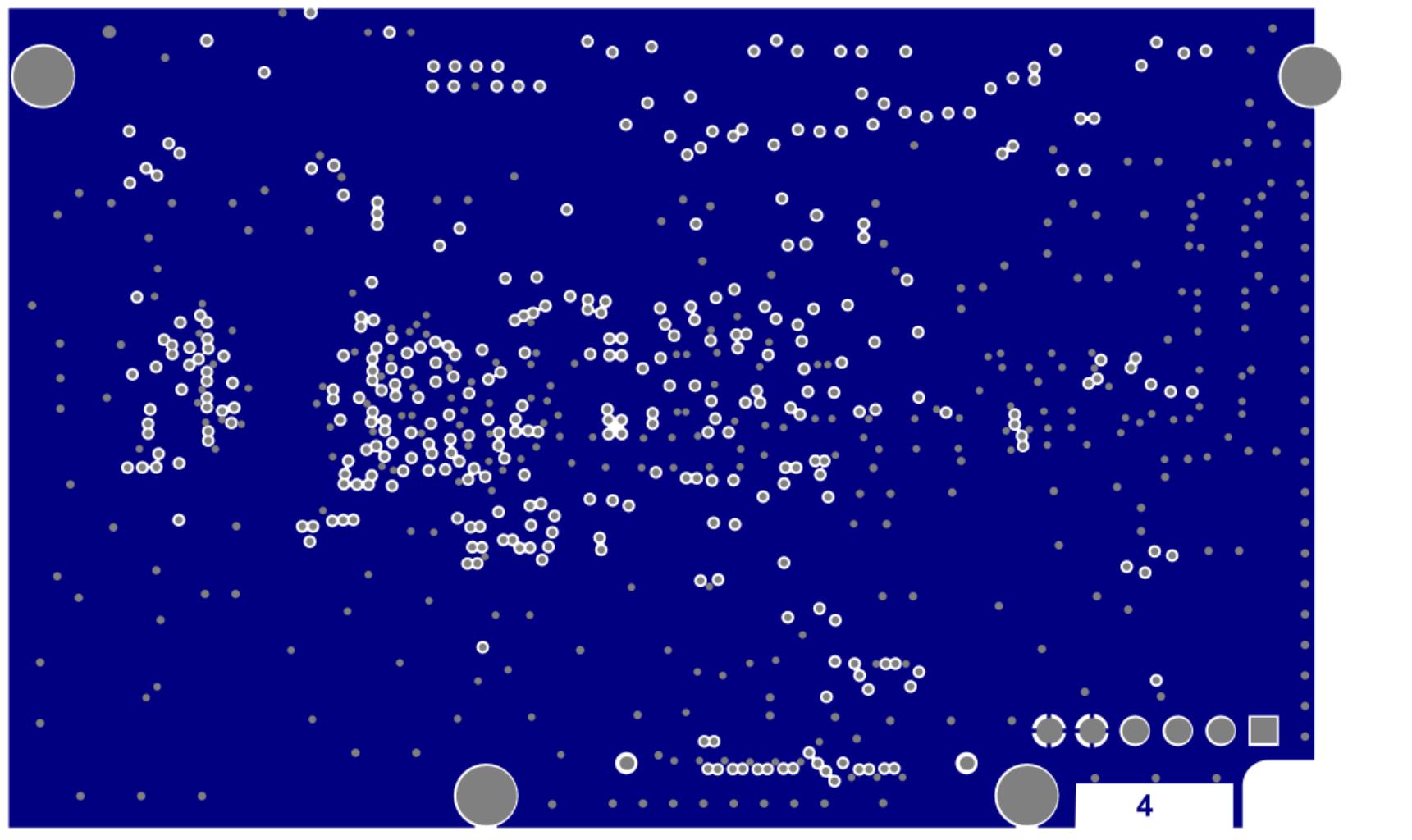


|  |                       |                       |
|--|-----------------------|-----------------------|
| Title <b>Audio &amp; SD connector</b>                |                       |                       |
| Project <b>0003158.PnjPcb</b>                        |                       |                       |
| Author <b>Pablo García</b>                           |                       |                       |
| Size: <b>A4</b> Number: <b>28</b> Revision: <b>0</b> |                       |                       |
| Date: <b>24/04/2018</b>                              | Time: <b>16:25:45</b> | Sheet <b>28 of 28</b> |

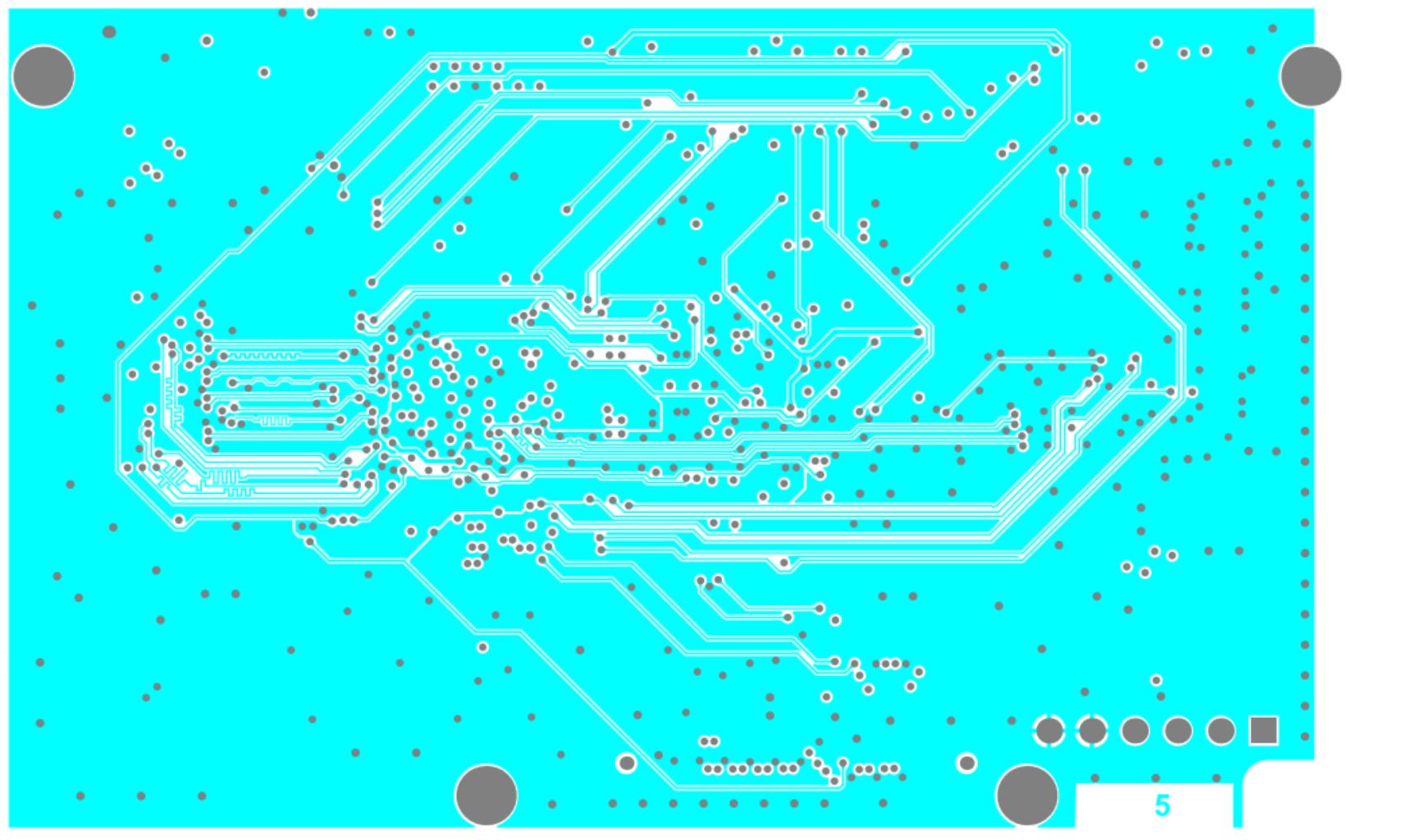








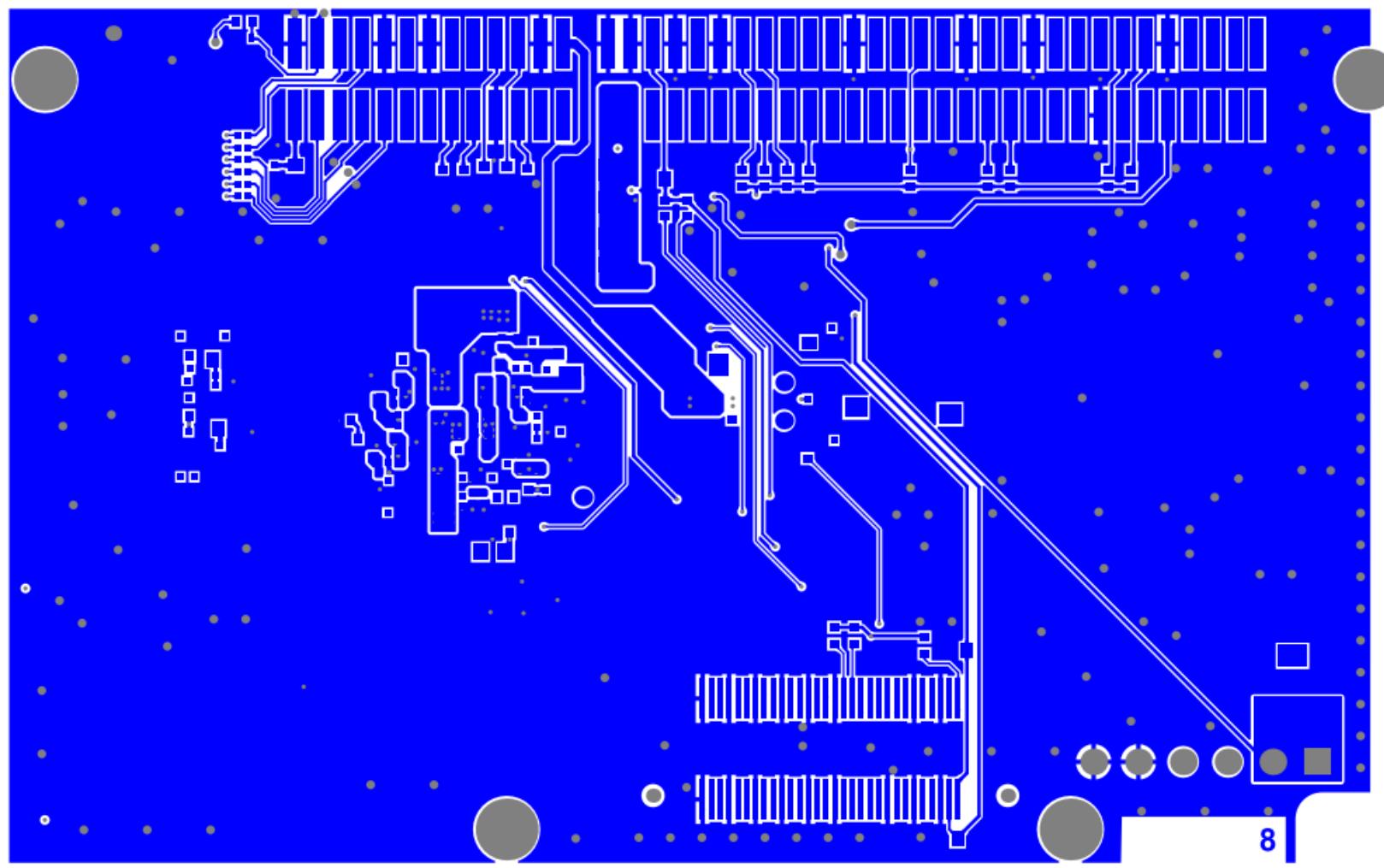
4



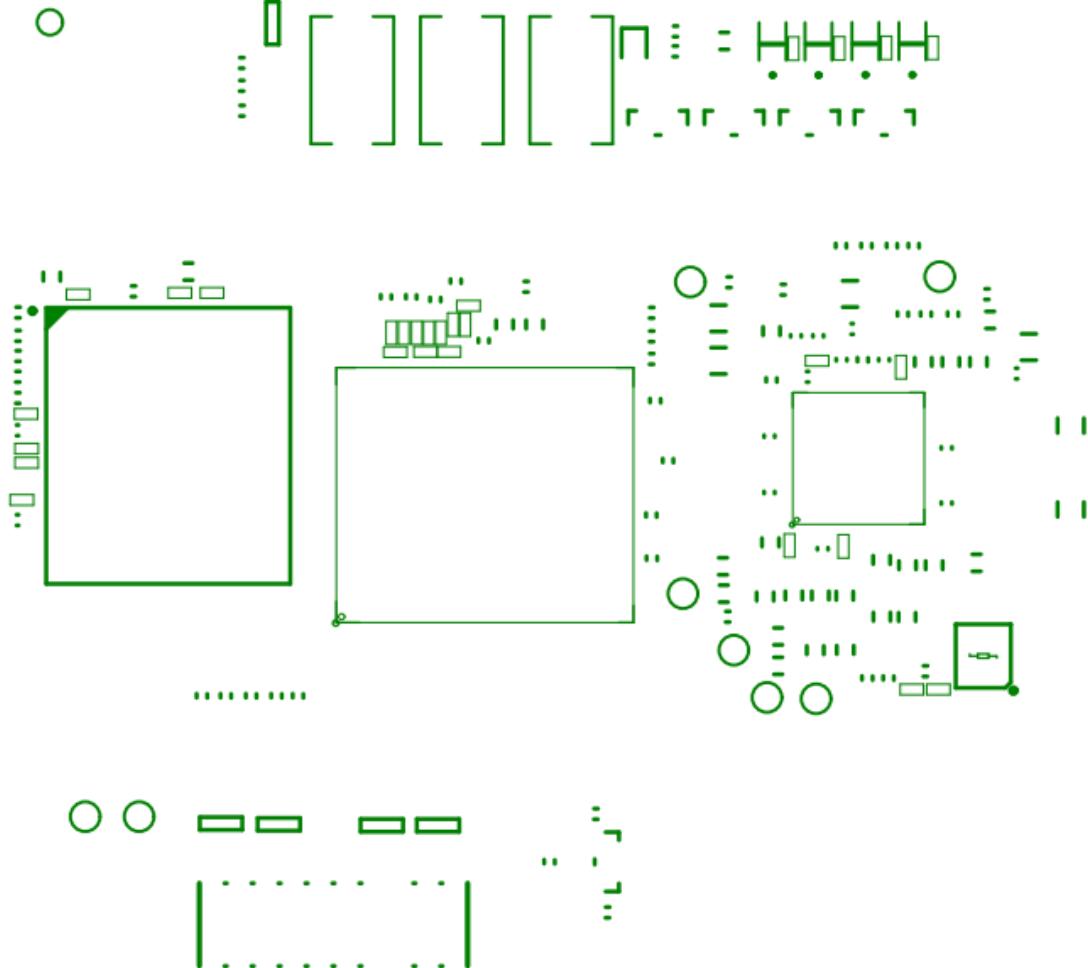
5

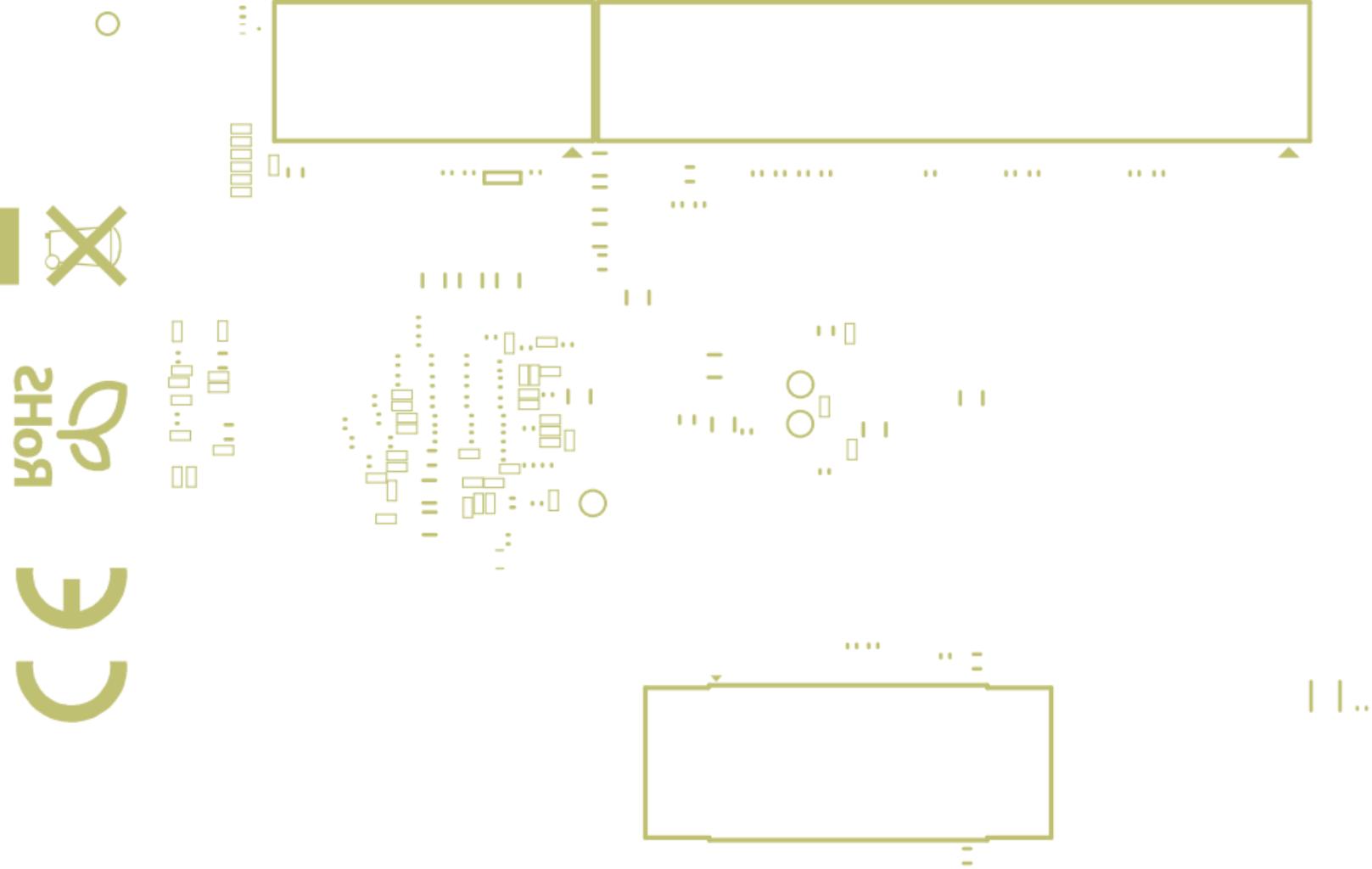


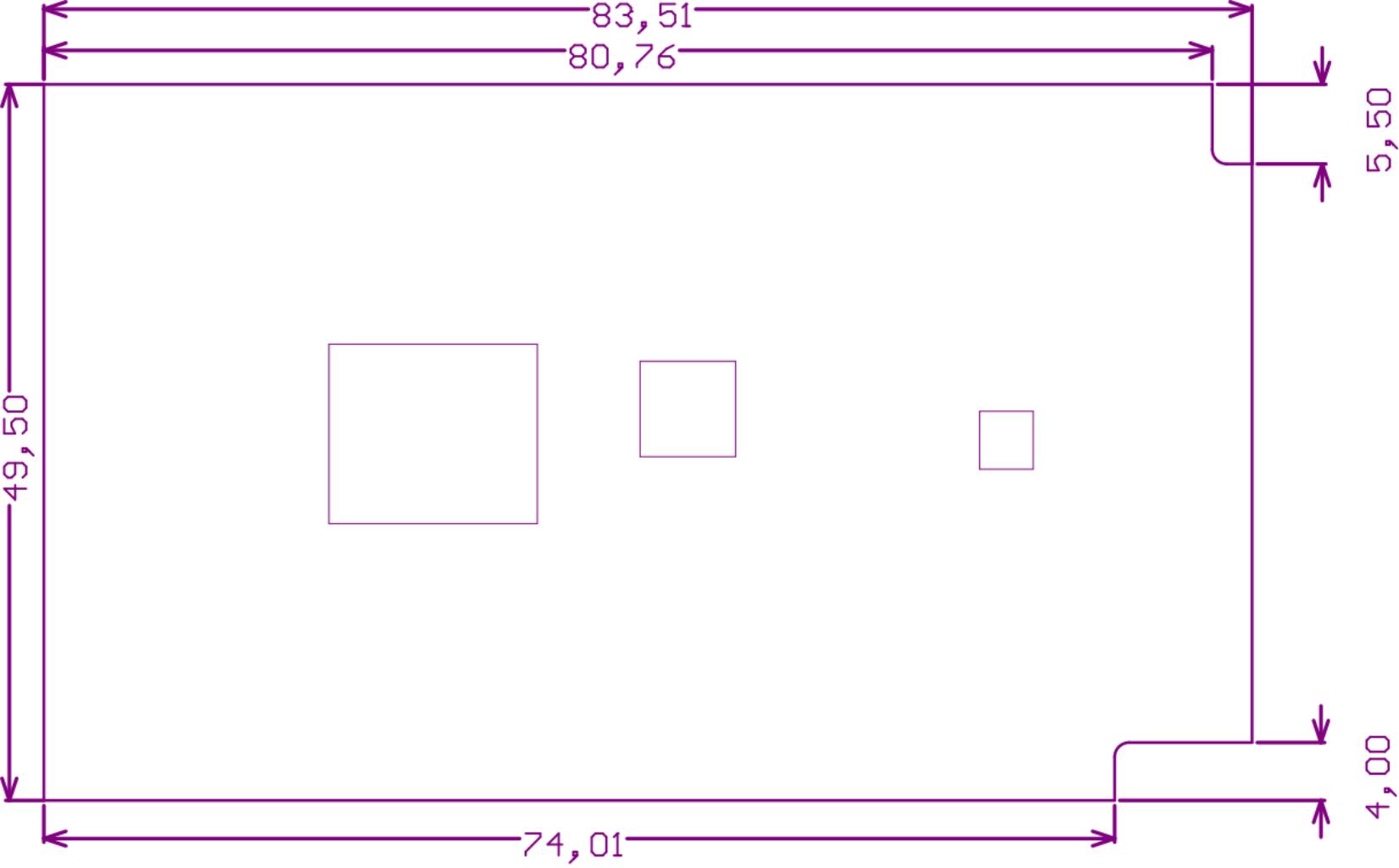




bq<sub>410</sub>







| Designator  | Description  | Quantity | Manufacturer           | OrderingCode             | Manufacturer 2          | OrderingCode 2              | Manufacturer 3 | OrderingCode 3         | Footprint | Value                        |
|---|--|----------|------------------------|--------------------------|-------------------------|-----------------------------|----------------|------------------------|-----------|------------------------------|
| C1, C16, C23, C24,<br>C25, C66, C66, C67,<br>C46, C69, C70, C71,<br>C73, C74, C75, C83,<br>C84, C85, C88, C89,<br>C90, C91, C95, C96,<br>C97, C98, C100,<br>C101, C102, C103,<br>C104, C105, C106,<br>C111, C112, C113,<br>C141, C142, C147,<br>C148<br>%_XSR   | C0402_7uF_16V_+10  | 40       | TDK                    | C0201A105K1C105K0<br>33  |                         |                             |                |                        |           | C0402 7uF ±10% 16V           |
| C2, C3<br>%_XSR   | C0403_7uF_16V_L_+10  | 2        | Kemet                  | C0403C105K9PAC           | Murata                  | GRM188R60J105KA0<br>1D      |                |                        |           | C0403 7uF ±10% 6.3V          |
| C4, G6, G11, G13,<br>C14, C15, C59, C62,<br>C43, C72, C73, C74,<br>C75, C79, C80, C81,<br>C82, C92, C93, C94,<br>C95, C96, C111,<br>C116, C117, C118,<br>C119, C120, C124,<br>C125, C126, C127,<br>C128, C129, C130,<br>C131, C132, C133,<br>C136, C137, C138,<br>C139, C140, C143,<br>C144, C145, C146,<br>C151, C152, C153<br>%_XSR | C0201_100nF_10V_30   | 51       | Kemet                  | C0201C104K9PACTU         | Murata                  | GRM033R60J104K1<br>9J       |                |                        |           | 100nF 10% 10V                |
| C5  | C0201_1nf_16V_+10  | 1        | AVX                    | C0201Y1C10KA12A          | Murata                  | GRM033R71C102KA<br>01J      |                |                        |           | 1nf ±10% 16V                 |
| C6, C20, C41, C42,<br>C43, C44, C48, C49,<br>C51, C57, C87, C145,<br>C148, C149<br>%_XSR  | C0401_4.7uF_16V_+10  | 14       | TDK                    | C1608X0R1C475K08<br>9AC  |                         |                             |                |                        |           | 4.7uF ±10% 16V               |
| C10, C109, C111<br>%_XSR  | C0403_10uF_16V_+7  | 3        | Taiyo Yuden            | EMK107BBB100MAA-T<br>DAB | C1608X0R1C109A09<br>0AB |                             |                |                        |           | 10uF ±20% 16V                |
| C12, C17, C21, C28<br>%_XSR   | C0402_2.2uF_16V_+2   | 8        | TDK                    | EMC105K81C225M05<br>9AC  | Taiyo Yuden             | EMK105AB225M4-F<br>DAB      |                |                        |           | 2.2uF ±20% 16V               |
| C13, C14, C15, C27,<br>C29, C30, C32, C33,<br>C34, C35, C37, C39,<br>C40, C44, C181,<br>C203, C204<br>%_XSR   | C0405_22uF_16V_+1  | 11       | TDK                    | C2012X5R1C226K12<br>9AC  |                         |                             |                |                        |           | 22uF ±10% 16V                |
| C45, C46, C47, C56,<br>C52, C53, C54, C55,<br>C56, C58, C176,<br>C177, C178, C179,<br>C180<br>%_XSR   | C0403_1uF_16V_+10  | 15       | TDK                    | C1608X0R1C105K08<br>9AC  | Kemet                   | C0403C105K9PACTU<br>9J      |                |                        |           | 1uF ±10% 16V                 |
| C107<br>%_XSR   | C0201_18pF_25V_5%  | 1        | Kemet                  | C0201C180L0GACTU         | Murata                  | GRM033R5K1E180B80<br>01J    |                |                        |           | 18pF 5% 25V                  |
| C108<br>%_XSR   | C0402_22pF_16V_+1  | 4        | Kemet                  | C0402C223K9PAC           | Murata                  | GRM150K71C223K4<br>01J      |                |                        |           | 22pF ±10% 16V                |
| C121, C122, C124,<br>C124, C125<br>%_XSR  | C0402_4.7nF_16V_+1   | 1        | Kemet                  | C0402C473K9PAC           |                         |                             |                |                        |           | 4.7nF ±10% 16V               |
| C123<br>%_XSR   | C0402_4.7nF_16V_+1   | 1        | Kemet                  | C0402C472K9PAC           | Murata                  | GRM150K81C1472K4A<br>04D    |                |                        |           | 4.7nF ±10% 16V               |
| C124, C125<br>%_XSR   | C0403_2.2uF_16V_+1   | 2        | Kemet                  | C0403C105K9PAC           | TDK                     | C1608X0R1C225M08<br>9AB     |                |                        |           | 2.2uF ±10% 16V               |
| C134, C135<br>%_XSR   | C0402_2.2pF_50V_+2   | 1        | Murata                 | C1608X0R1C225M08<br>9AB  |                         |                             |                |                        |           | 2.2pF ±2% 50V                |
| C135, C146, C167,<br>C168, C169<br>%_XSR  | C0401_10nF_10V_30  | 5        | Murata                 | C0401X3R71AT05KA<br>01J  | Taiyo Yuden             | LMK0387103KPF-F<br>DAB      |                |                        |           | 10nF 10% 10V                 |
| C170, C172  | C0402_100pF_16V_+  | 2        | Kemet                  | C0402C10K9PAC            | AVX                     | GRD2Y101KAT2A<br>01J        |                |                        |           | 100pF ±10% 16V               |
| C172<br>%_XSR   | C0402_100nF_16V_+  | 1        | Kemet                  | C0402C10K9PAC            | Samsung                 | CL05B100K05NNNC<br>04D      |                |                        |           | 100nF ±10% 16V               |
| D4, D5, D6, D7  | FDS Diode Array  | 4        | NXP                    | PESD9W9.2U1115           | ON Semiconductor        | DF3A&FUTIG<br>S01123_3.SCT0 |                |                        |           |                              |
| E1  | EMI Shield Frame<br>14x27 mm -<br>Thickness 0.2mm -<br>Nickel Silver | 1        | Shenzhen<br>RongjiaWei | G00847                   |                         |                             |                |                        |           | EMI Shield 55x27 -<br>Frame  |
| E2  | EMI Shield<br>14x12.2mm -<br>Thickness 0.2mm -<br>Nickel Silver      | 18Q      | G008271                |                          |                         |                             |                |                        |           | PCBComponent                 |
| E3  | EMI Shielding Cover<br>55x72x.8 - Nickel<br>Silver                   | 1        | Shenzhen<br>RongjiaWei | G008270                  |                         |                             |                |                        |           | EMI Shield Cover<br>55x72x.8 |
| I2  | RFX M1FH4U1L SMD<br>RF connector                                     | 1        | Hirose                 | UFL-R-SMT-1              | Samtec                  | RSP-1228H1-01               | Faucglass      | S01E-0227S-<br>001E-01 | UFL       |                              |
| J7  | 40 pin 1.27 SMD pin<br>header  | 1        | Samtec                 | FTH-13D-02-F-DV<br>P-FTR |                         |                             |                |                        |           | FTH-13D-XX-XXX-<br>DV        |
| L2  | Terrible Bead<br>125MHz@2100MHz                                      | 1        | Murata                 | BLM15AG1215NTD           |                         |                             |                |                        |           | U402                         |
| L3, L4  | Power Inductor 1uH<br>4A SMD   | 2        | Würth                  | 74438336010              |                         |                             |                |                        |           | WE-MPL3020<br>1uH 4A         |
| L5, L6  | Power Inductor<br>2.2uH & 4A SMD                                     | 2        | Würth Elektronik       | 74438336022              |                         |                             |                |                        |           | WE-MPL3020<br>2.2uH 2.4A     |
| L8  | 10402_220R_0.15R_J   | 1        | Taiyo Yuden            | BKP1005M221-1            |                         |                             |                |                        |           | 220R 0.15R 1A                |
| L9, LD2   | LD   | 2        | DFSRAM Opto            | LG C971-KN-1             | Avago Technologies      | H5MS-C190                   | UD0603         | Green                  |           |                              |
| C2, C3<br>transistor  | N-MOSFET   | 2        | Diodes                 | DMG301NU-13              |                         |                             |                |                        |           | S01T23-3                     |
| R1, R2, R5, R13, R15<br>R19, R22, R29, R57,<br>R60, R61, R62, R64,<br>R66, R97, R98, R99,<br>R100   | R0402_0R_0.063W_+<br>%_T%  | 18       | Panasonic              | ERJ-2GE0R0X0             | Yageo                   | RC0402FR-070RL              | Vishay         | S02Z                   | R0402     | 0R ±5% 0.063W                |
| R3, R11, R40, R72,<br>R41, R42, R43, R44,<br>R64, R65, R66, R68<br>%_T%   | R0402_10K_0.063W_+<br>%_T%   | 12       | Vishay                 | CRCW040210K0UN           | Yageo                   | RC0402FR-0710KL             | Vishay         |                        | R0402     | 10K ±5% 0.063W               |
| R4, R36   | R0402_200K_0.063W_+<br>%_T%  | 2        | Vishay                 | CRCW0402200RK            |                         |                             |                |                        | R0402     | 200R ±1% 0.063W              |
| R6, R8, R11   | R0402_10K_0.063W_+<br>%_T%   | 3        | Vishay                 | CRCW040210KK             |                         |                             |                |                        | R0402     | 10K ±1% 0.063W               |
| R7  | R0402_91K_0.063W_+<br>%_T%   | 1        | Vishay                 | CRCW040291K0F            | Panasonic               | ERJ-2BK9102X                | Vishay         |                        | R0402     | 91K ±1% 0.063W               |
| R9  | R0402_10K_0.063W_+<br>%_T%   | 1        | Vishay                 | CRCW040210KK             |                         |                             |                |                        | R0402     | 10K ±1% 0.063W               |
| R10   | R0402_48K_0.063W_+<br>%_T%   | 1        | Vishay                 | CRCW040248K0F            |                         |                             |                |                        | R0402     | 14K ±1% 0.063W               |
| R12   | R0402_47K_0.063W_+<br>%_T%   | 1        | Vishay                 | CRCW040247K0N            |                         |                             |                |                        | R0402     | 68K ±1% 0.063W               |
| R15, R106   | R0405_0R_0.125W_+<br>%_T%  | 2        | Vishay                 | CRCW0500500020           | Yageo                   | RC0505FR-070RL              | Vishay         | S0805                  | R0402     | 47K ±5% 0.063W               |
| R21, R22, R23, R24,<br>R25, R26, R27,<br>R29, R30, R31, R32,<br>R33, R34, R35, R52  | R0201_0R_0.05W_+<br>%_T%   | 17       | Panasonic              | ERJ-1GN0R00C             | Yageo                   | RC0201FR-070RL              | Vishay         | S0201                  | R0402     | 0R ±1% 0.05W                 |
| R37, R51, R61, R62  | R0402_140K_0.063W_+<br>%_T%  | 4        | Vishay                 | CRCW0302140RN            |                         |                             |                |                        | R0402     | 240R ±1% 0.05W               |
| R38   | R0402_38K_0.063W_+<br>%_T%   | 1        | Vishay                 | CRCW040238K2             | Yageo                   | RC0402FR-073K0L             | Vishay         |                        | R0402     | 38K ±1% 0.063W               |
| R41, R42, R43, R44,<br>R45, R46, R47, R48   | R0402_51K_0.063W_+<br>%_T%   | 9        | Vishay                 | CRCW040251K0F            |                         |                             |                |                        | R0402     | 51K ±1% 0.063W               |
| R65   | R0402_91K_0.063W_+<br>%_T%   | 1        | Vishay                 | CRCW040291K0N            | Panasonic               | ERJ-2GE914X                 | Vishay         |                        | R0402     | 910K ±5% 0.063W              |
| R76, R77, R78, R79  | R0402_0K_0.063W_+<br>%_T%  | 4        | Vishay                 | CRCW040200K0N            |                         |                             |                |                        | R0402     | 26 ±5% 0.063W                |
| U1  | Qualcomm SoC<br>AP58016  | 1        | Qualcomm               | AP58016-1-7605P          |                         |                             |                |                        |           | AP58016                      |
| U2  | Qualcomm PMIC<br>PM8916  | 1        | Qualcomm               | PM8916                   |                         |                             |                |                        |           | PM8916                       |
| U3  | Qualcomm QCM<br>QCM200   | 1        | Qualcomm               | QCM200                   |                         |                             |                |                        |           | QCM200                       |
| U4  | Qualcomm WiFi +<br>Bluetooth<br>802.11ac + 160MHz                    | 1        | Hynix                  | HYN74H448GCTB1UR         |                         |                             |                |                        |           | HYN74H448GCTB1UR             |
| U6  | Qualcomm WiFi &<br>BT Transceiver                                    | 1        | Qualcomm               | WCH3260-D-<br>A1WLN5P    |                         |                             |                |                        |           | WCH3260-D-A1WLN5P            |
| U7  | DE1A12450B1-<br>U200A1   | 1        | TDK                    | TDK12450B1-00B1          |                         |                             |                |                        |           | DE1A12450B1-00B1             |
| Y1  | ICX00 19.2MHz  | 1        | Keycora                | HA1                      | Keycora                 | HA9                         |                |                        |           | ICX00 19.2MHz                |

