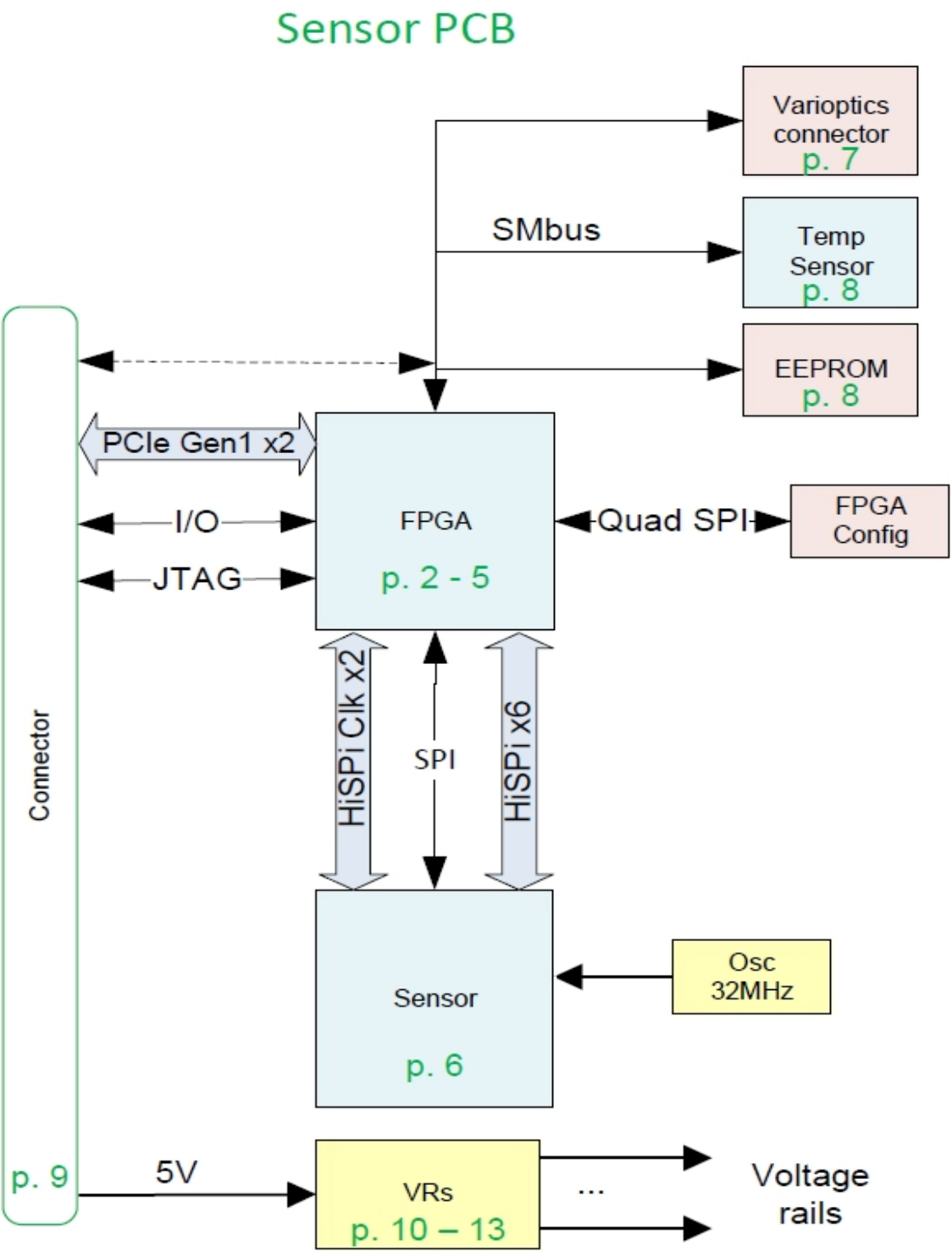


IRIS4 Sensor Board


MATROX CONFIDENTIAL

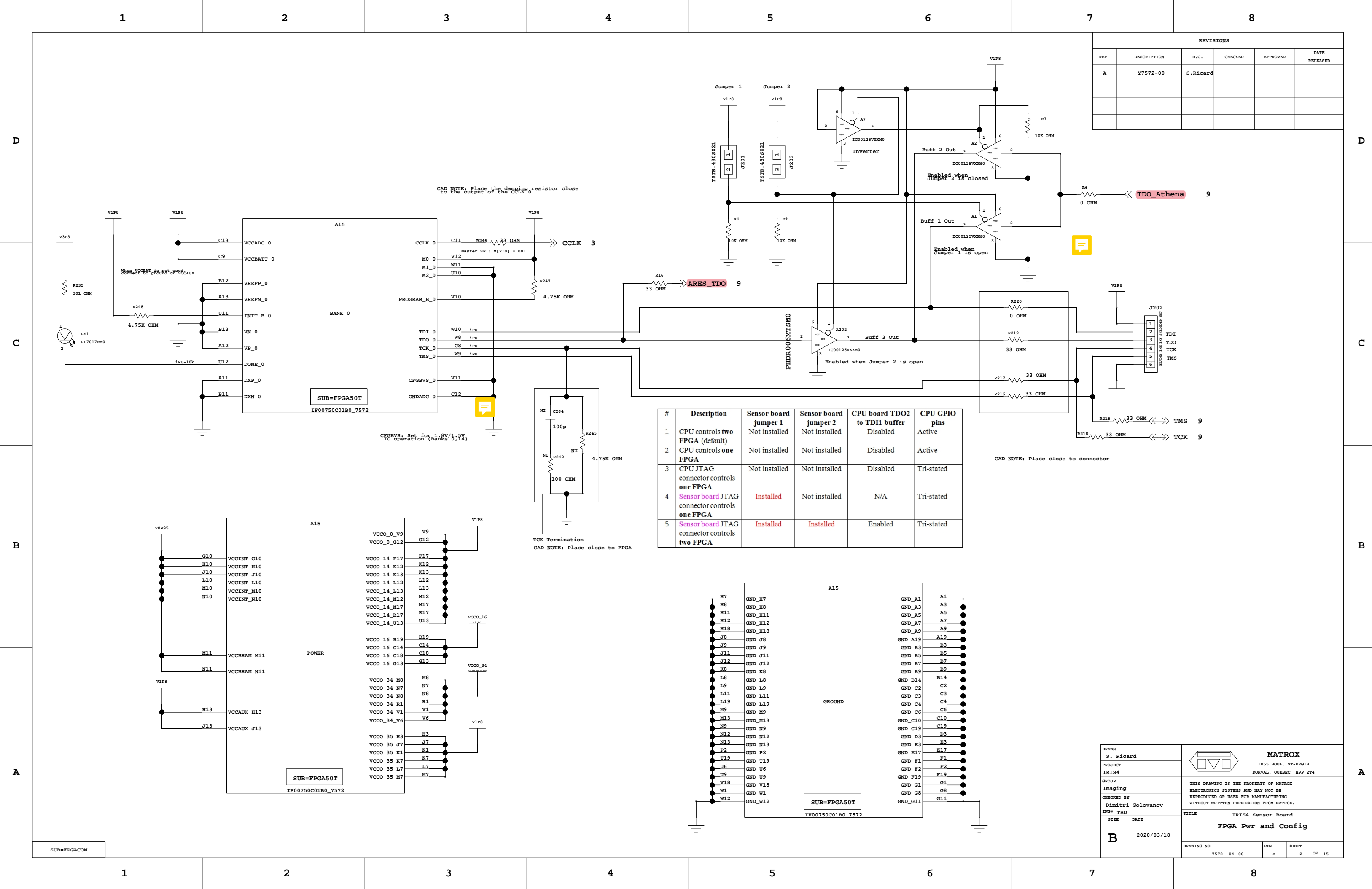
INDEX

- 1 Block Diagram
- 2 FPGA Pwr and Config
- 3 FPGA IOs and Flash
- 4 FPGA IOs XGS and PCIe
- 5 FPGA Decoupling
- 6 CMOS Sensor
- 7 Liquid lens connector
- 8 Temp sensor and EEPROM
- 9 Connector to CPU Board
- 10 Power\_1
- 11 Power\_2
- 12 Power\_3
- 13 Power\_4
- 14 Power Sequence Diagram
- 15 Power Tree



REVISIONS					
REV	DESCRIPTION	D.O.	CHECKED	APPROVED	DATE RELEASED
A	Y7572-00	S.Ricard			

DRAWN S. Ricard		 <b>MATROX</b> 1055 BOUL. ST-REGIS DORVAL, QUEBEC H9P 2T4	
PROJECT IRIS4			
GROUP Imaging		THIS DRAWING IS THE PROPERTY OF MATROX ELECTRONICS SYSTEMS AND MAY NOT BE REPRODUCED OR USED FOR MANUFACTURING WITHOUT WRITTEN PERMISSION FROM MATROX.	
CHECKED BY Dimitri Golovanov		TITLE IRIS4 Sensor Board Block Diagram	
INGH T&D			
SIZE <b>B</b>	DATE 2020/03/18		
DRAWING NO 7572 -04- 00		REV A	SHEET 1 OF 15



D

C

B

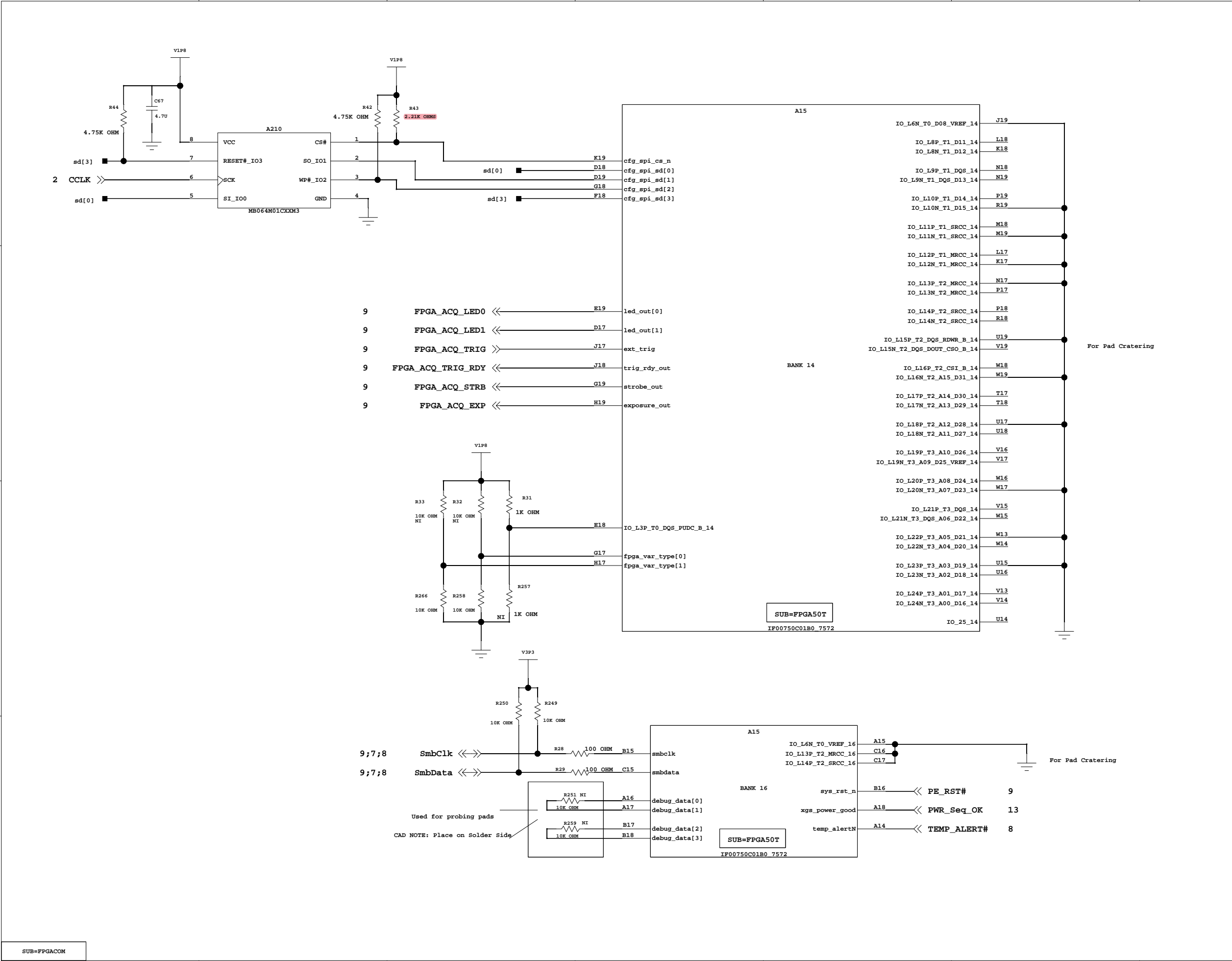
A

D


C

B

A



REVISIONS					
REV	DESCRIPTION	D.O.	CHECKED	APPROVED	DATE RELEASED
A	Y7572-00	S.Ricard			

DRAWN S. Ricard				MATROX	
PROJECT IRIS4				1055 BOUL. ST-REGIS DORVAL, QUEBEC H9P 2T4	
GROUP Imaging		THIS DRAWING IS THE PROPERTY OF MATROX ELECTRONICS SYSTEMS AND MAY NOT BE REPRODUCED OR USED FOR MANUFACTURING WITHOUT WRITTEN PERMISSION FROM MATROX.		TITLE IRIS4 Sensor Board FPGA IOs and Flash	
CHECKED BY Dimitri Golovanov ING# TBD					
SIZE B	DATE 2020/03/18	DRAWING NO 7572 -04-00		REV A	SHEET 3 OF 15

D

C

B

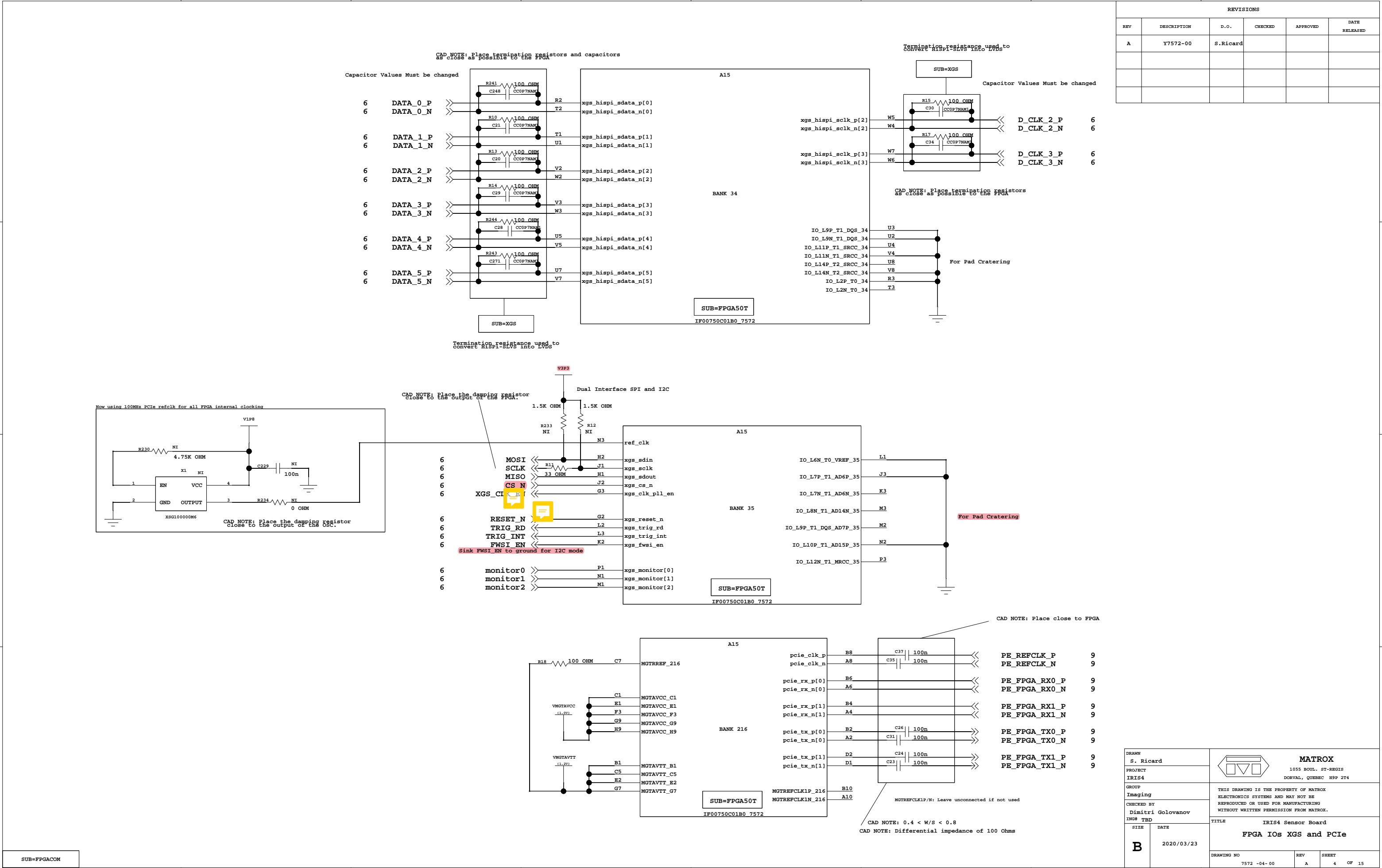
A

D

C

B

A



D

C

B

A

D

C

B

A

1

2

3

4

5

6

7

8

1

2

3

4

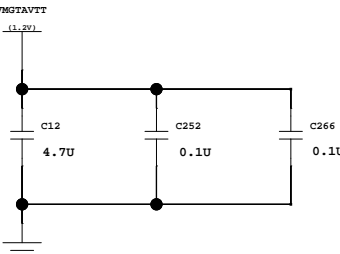
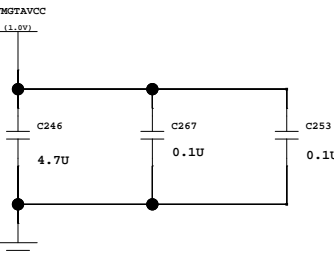
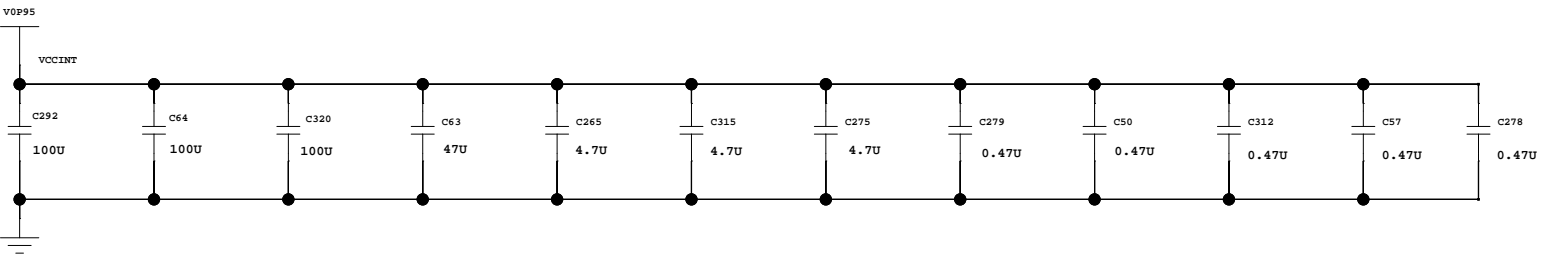
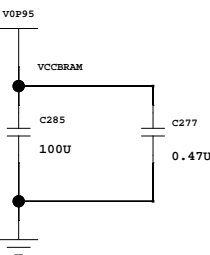
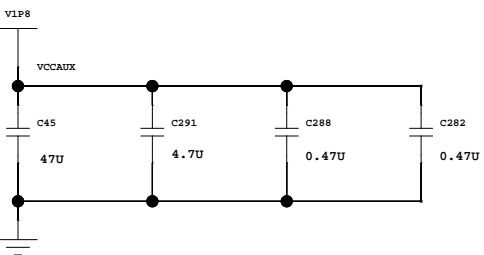
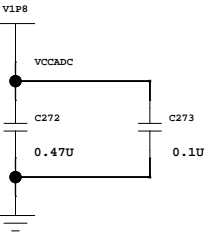
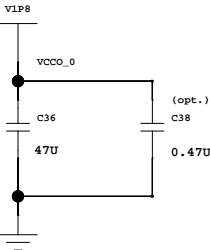
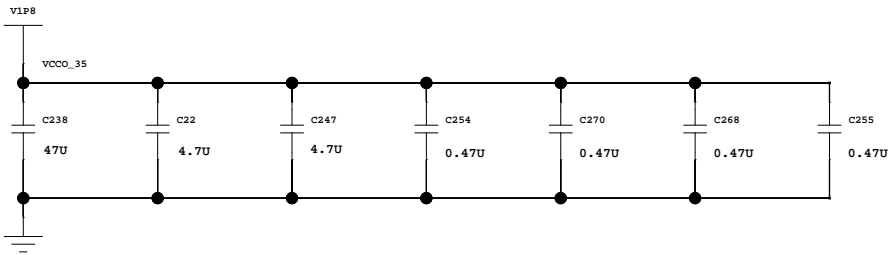
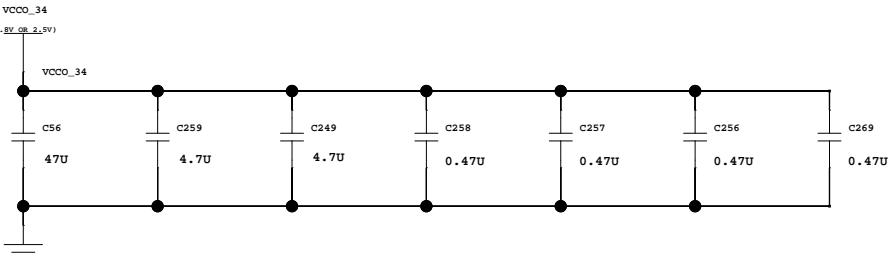
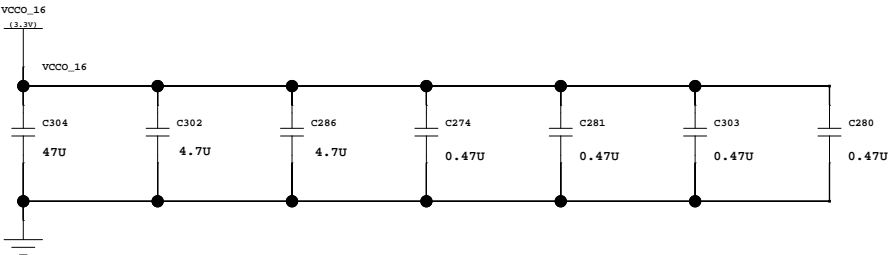
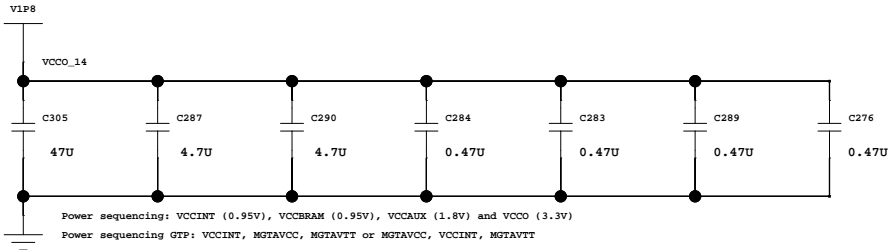
5

6

7

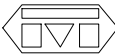
8

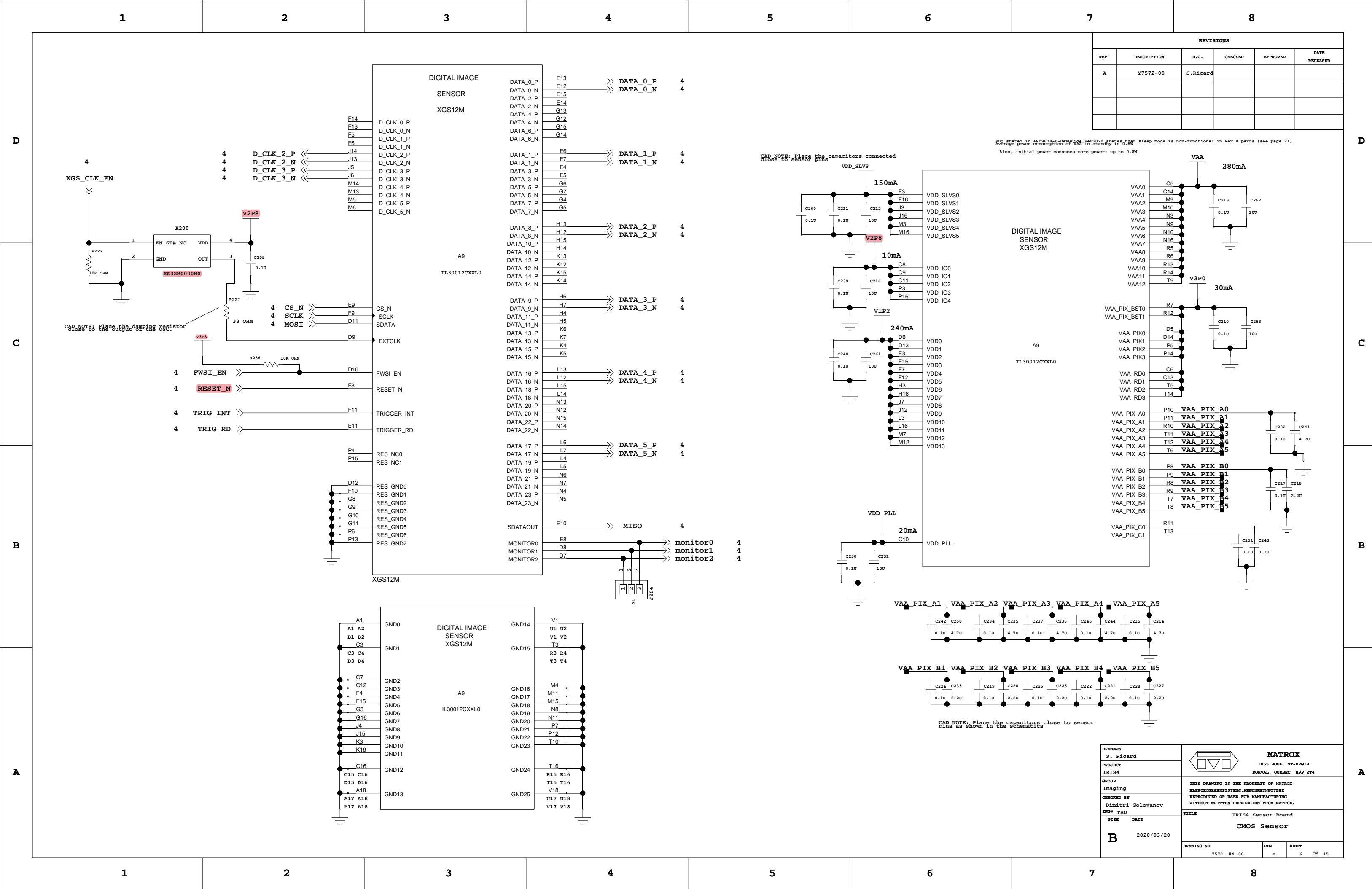
CAD NOTE: Place all the capacitors close to FPGA pins



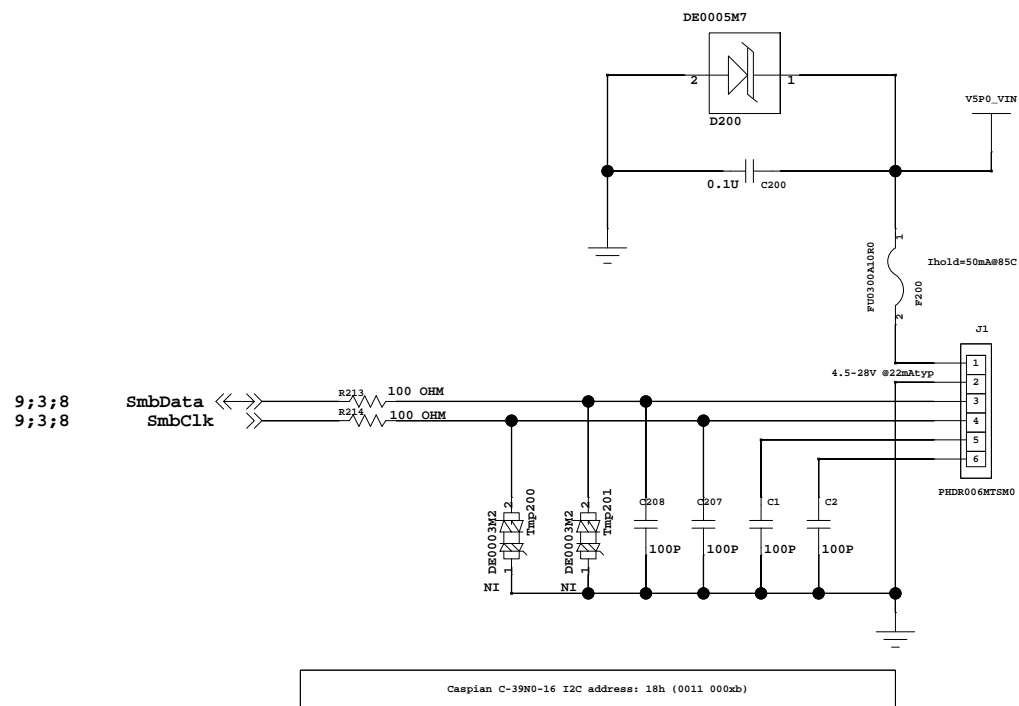
Artix-7 GTP decoupling guide (ug482 table 5-7)

REVISIONS					
REV	DESCRIPTION	D.O.	CHECKED	APPROVED	DATE RELEASED
A	Y7572-00	S.Ricard			

DRAWN S. Ricard		 <b>MATROX</b> 1055 BOUL. ST-REGIS DORVAL, QUEBEC H9P 2T4	
PROJECT IRIS4			
GROUP Imaging		THIS DRAWING IS THE PROPERTY OF MATROX ELECTRONICS SYSTEMS AND MAY NOT BE REPRODUCED OR USED FOR MANUFACTURING WITHOUT WRITTEN PERMISSION FROM MATROX.	
CHECKED BY Dimitri Golovanov			
INCH# TBD			
TITLE IRIS4 Sensor Board FPGA Decoupling			
SIZE B	DATE 2020/03/18		
DRAWING NO 7572 -04- 00		REV A	SHEET 5 OF 15



REVISIONS					
REV	DESCRIPTION	D.O.	CHECKED	APPROVED	DATE RELEASED
A	Y7572-00	S.Ricard			




EN 61000-4-2 (ESD):

We must add note in the manual stating that the IP CAP needs to be installed when connecting device to this connector.

Otherwise, we may need to add protection to withstand discharges done to the cable.

Install PHDR006FTXX0 (cable-side connector housing) to isolate PCB-mount header pin from outside

Caspian C-39N0-16 I2C address: 18h (0011 000xb)

DRAWN <b>S. Ricard</b>		 <div style="text-align: center;"> <b>MATROX</b>          1055 BOUL. ST-REGIS          DORVAL, QUEBEC H9P 2T4       </div>	
PROJECT <b>IRIS4</b>			
GROUP <b>Imaging</b>		THIS DRAWING IS THE PROPERTY OF MATROX ELECTRONICS SYSTEMS AND MAY NOT BE REPRODUCED OR USED FOR MANUFACTURING WITHOUT WRITTEN PERMISSION FROM MATROX.	
CHECKED BY <b>Dimitri Golovanov</b>			
INGH <b>TBD</b>			
SIZE <div style="font-size: 2em; font-weight: bold; text-align: center;">B</div>	DATE 2020/03/18	TITLE <div style="text-align: center;"> <b>IRIS4 Sensor Board</b>  <b>Liquid lens connector</b> </div>	
DRAWING NO 7572 -04-00		REV A	SHEET 7 OF 15

D

C

B

A

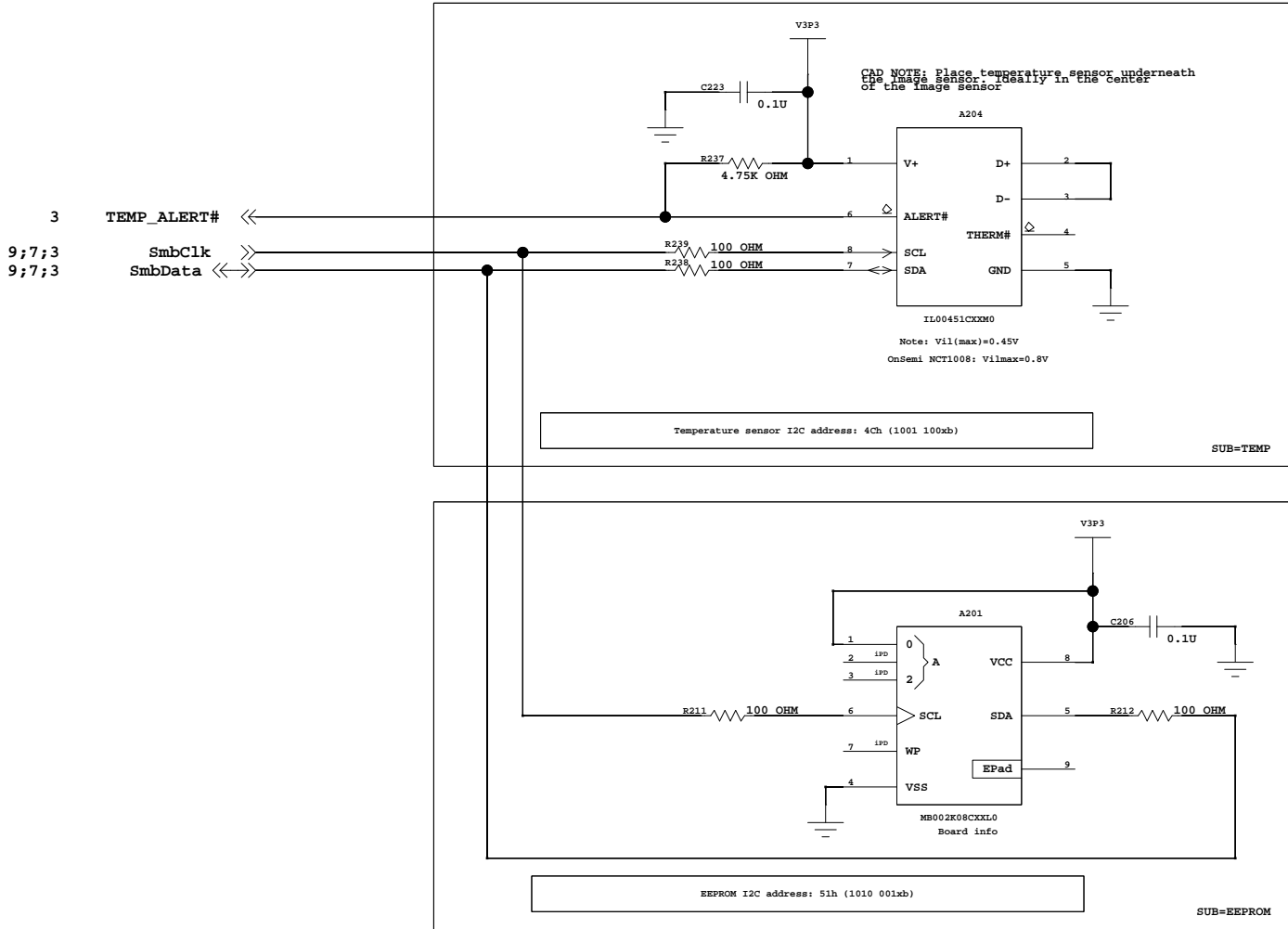
D


C

B

A

REVISIONS					
REV	DESCRIPTION	D.O.	CHECKED	APPROVED	DATE RELEASED
A	Y7572-00	S.Ricard			



DRAWN S. Ricard		 <b>MATROX</b> 1055 BOUL. ST-REGIS DORVAL, QUEBEC H9P 2T4	
PROJECT IRIS4			
GROUP Imaging		THIS DRAWING IS THE PROPERTY OF MATROX ELECTRONICS SYSTEMS AND MAY NOT BE REPRODUCED OR USED FOR MANUFACTURING WITHOUT WRITTEN PERMISSION FROM MATROX.	
CHECKED BY Dimitri Golovanov		TITLE IRIS4 Sensor Board	
INCH# TBD		Temp sensor and EEPROM	
SIZE B	DATE 2020/03/18		
DRAWING NO 7572 -04- 00		REV A	SHEET 8 OF 15



D

C

B

A

D

C

B

A

1

2

3

4

5

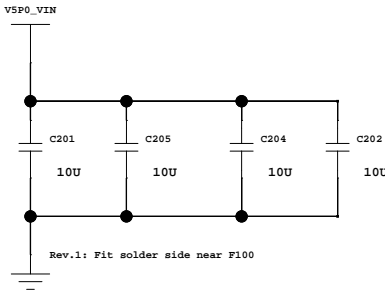
6

7

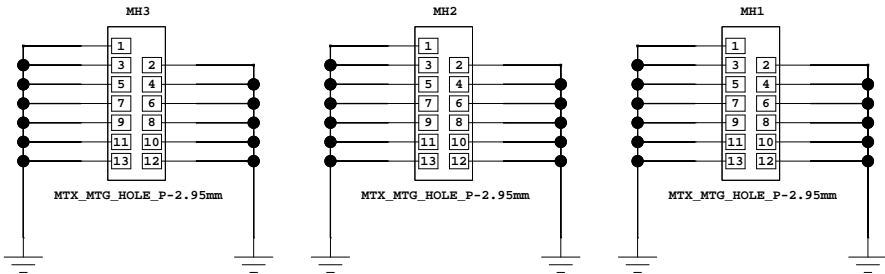
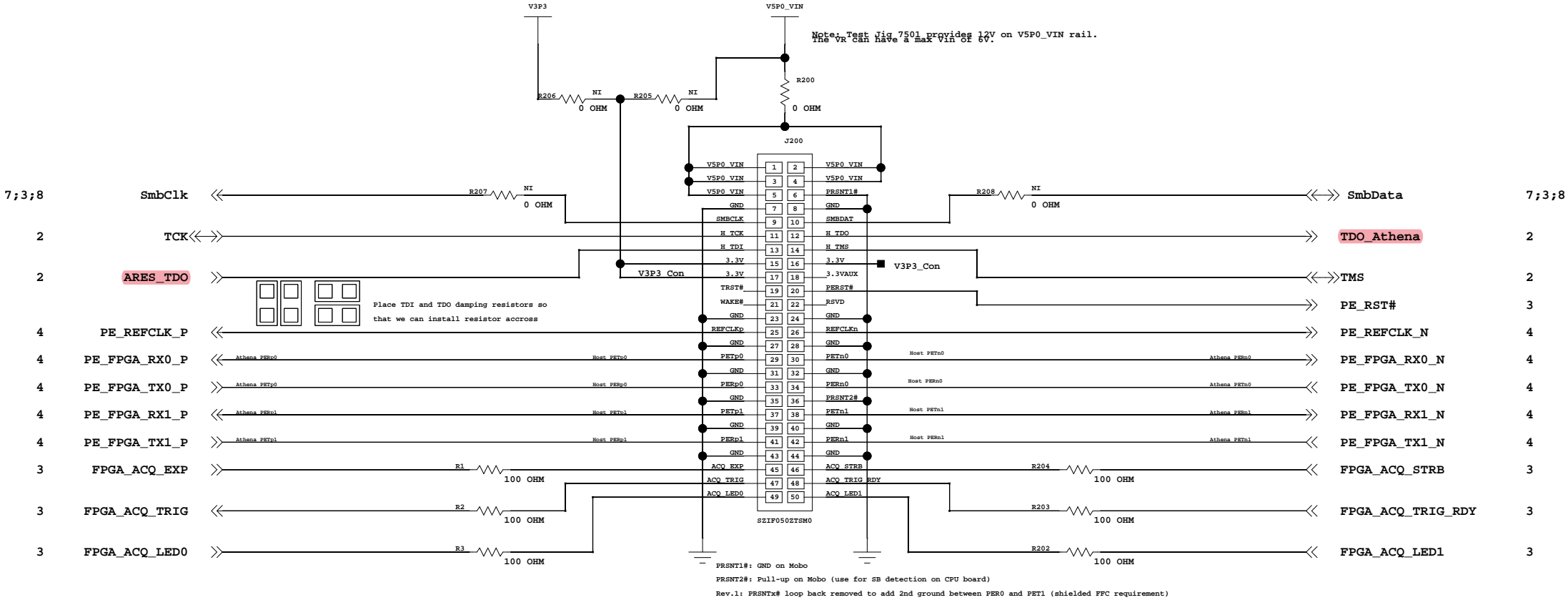
8

REVISIONS

REV	DESCRIPTION	D.O.	CHECKED	APPROVED	DATE RELEASED
A	Y7572-00	S.Ricard			

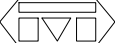


CAD NOTE: Resistors R184, R185, 186, R187, R188, R231, R232, R233, R235, R236, R237 should be placed close to ZIF connector



Pin	Device	Signal	Device	Signal
1	Device	Signal	Device	Signal
2	Device	Signal	Device	Signal
3	Device	Signal	Device	Signal
4	Device	Signal	Device	Signal
5	Device	Signal	Device	Signal
6	Device	Signal	Device	Signal
7	Device	Signal	Device	Signal
8	Device	Signal	Device	Signal
9	Device	Signal	Device	Signal
10	Device	Signal	Device	Signal
11	Device	Signal	Device	Signal
12	Device	Signal	Device	Signal
13	Device	Signal	Device	Signal
14	Device	Signal	Device	Signal
15	Device	Signal	Device	Signal
16	Device	Signal	Device	Signal
17	Device	Signal	Device	Signal
18	Device	Signal	Device	Signal
19	Device	Signal	Device	Signal
20	Device	Signal	Device	Signal
21	Device	Signal	Device	Signal
22	Device	Signal	Device	Signal
23	Device	Signal	Device	Signal
24	Device	Signal	Device	Signal
25	Device	Signal	Device	Signal
26	Device	Signal	Device	Signal
27	Device	Signal	Device	Signal
28	Device	Signal	Device	Signal
29	Device	Signal	Device	Signal
30	Device	Signal	Device	Signal
31	Device	Signal	Device	Signal
32	Device	Signal	Device	Signal
33	Device	Signal	Device	Signal
34	Device	Signal	Device	Signal
35	Device	Signal	Device	Signal
36	Device	Signal	Device	Signal
37	Device	Signal	Device	Signal
38	Device	Signal	Device	Signal
39	Device	Signal	Device	Signal
40	Device	Signal	Device	Signal
41	Device	Signal	Device	Signal
42	Device	Signal	Device	Signal
43	Device	Signal	Device	Signal
44	Device	Signal	Device	Signal
45	Device	Signal	Device	Signal
46	Device	Signal	Device	Signal
47	Device	Signal	Device	Signal
48	Device	Signal	Device	Signal
49	Device	Signal	Device	Signal
50	Device	Signal	Device	Signal

SUB=ZIF50CON

DRAWN S. Ricard		 <b>MATROX</b> 1055 BOUL. ST-REGIS DORVAL, QUEBEC H9P 2T4	
PROJECT IRIS4			
GROUP Imaging		THIS DRAWING IS THE PROPERTY OF MATROX ELECTRONICS SYSTEMS AND MAY NOT BE REPRODUCED OR USED FOR MANUFACTURING WITHOUT WRITTEN PERMISSION FROM MATROX.	
CHECKED BY Dimitri Golovanov		TITLE IRIS4 Sensor Board Connector to CPU Board	
INGM TBD			
SIZE B	DATE 2020/03/23		
DRAWING NO 7572 -04- 00		REV A	SHEET 9 OF 15



D

C

B

A

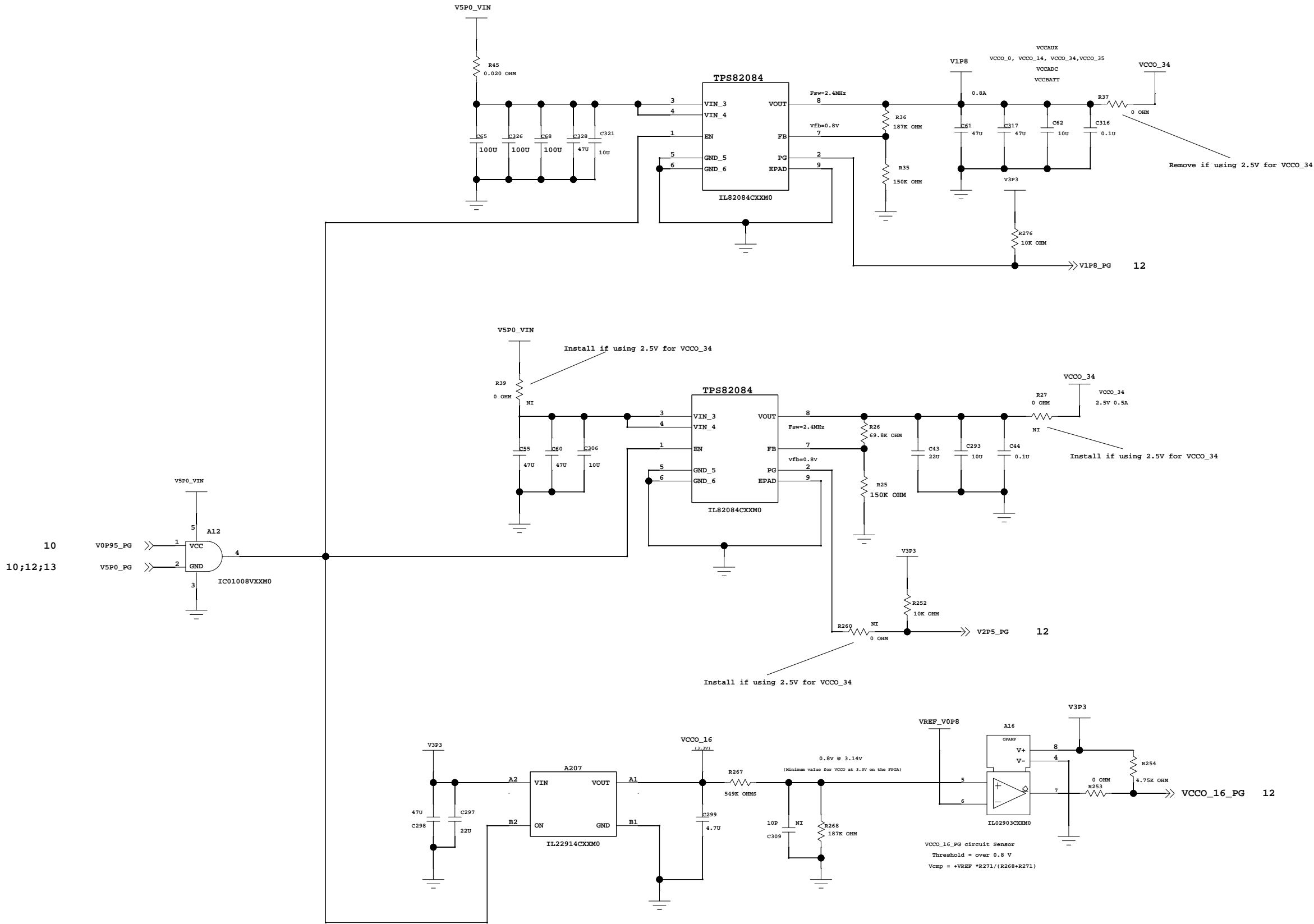
D

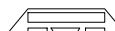
C

B

A

REVISIONS					
REV	DESCRIPTION	D.O.	CHECKED	APPROVED	DATE RELEASED
A	Y7572-00	S.Ricard			



DRAWN S. Ricard		 <b>MATROX</b> 1055 BOUL. ST-REGIS DORVAL, QUEBEC H9P 2T4	
PROJECT IRIS4			
GROUP Imaging		THIS DRAWING IS THE PROPERTY OF MATROX ELECTRONICS SYSTEMS AND MAY NOT BE REPRODUCED OR USED FOR MANUFACTURING WITHOUT WRITTEN PERMISSION FROM MATROX.	
CHECKED BY Dimitri Golovanov		TITLE IRIS4 Sensor Board	
INCH# TBD		Power_2	
SIZE <b>B</b>	DATE 2020/03/20		
DRAWING NO 7572 -04- 00		REV A	SHEET 11 OF 15

D

C

B

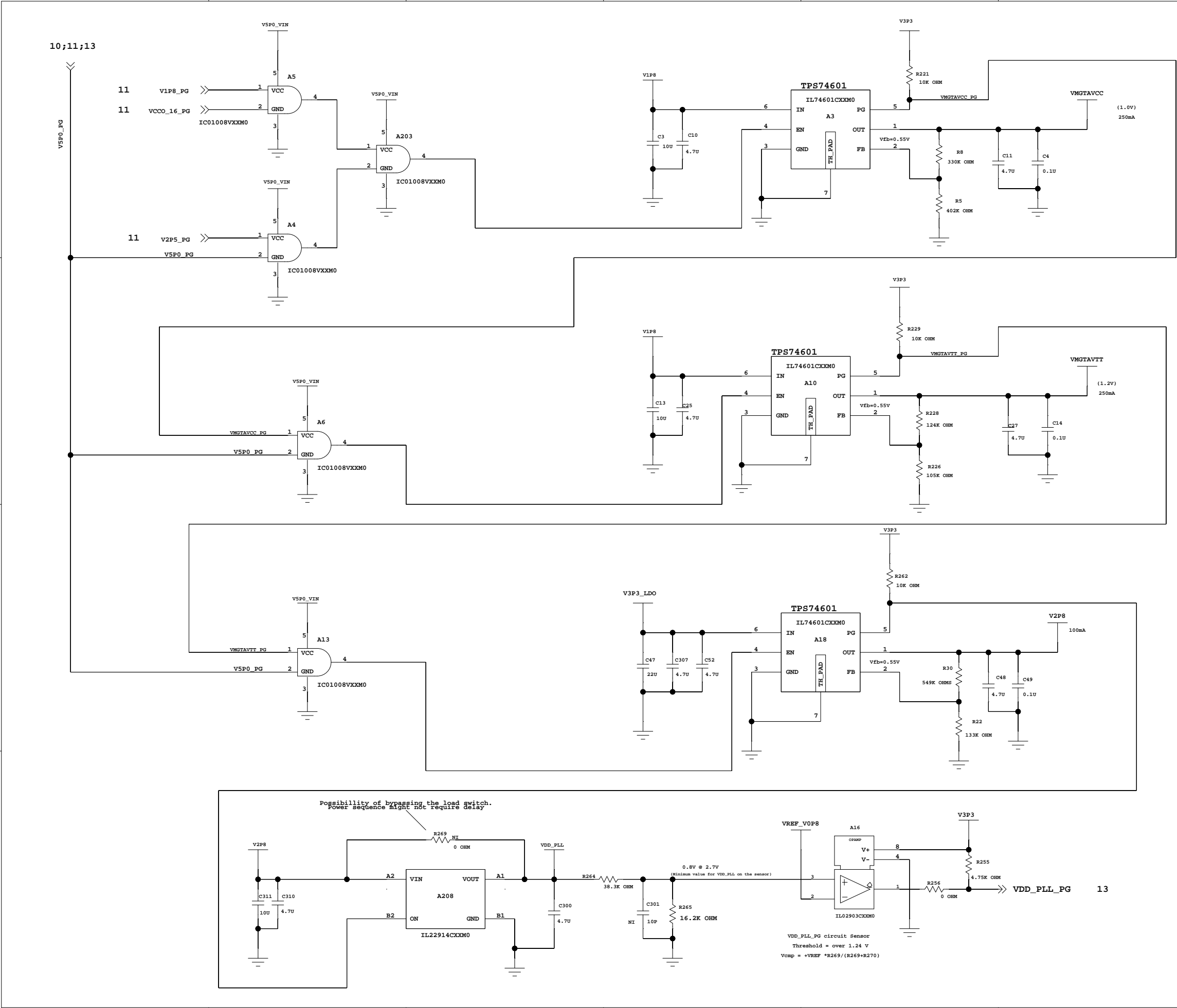
A

D


C

B

A



REVISIONS					
REV	DESCRIPTION	D.O.	CHECKED	APPROVED	DATE RELEASED
A	Y7572-00	S.Ricard			

DRAWN S. Ricard		 <b>MATROX</b> 1055 BOUL. ST-REGIS DORVAL, QUEBEC H9P 2T4		
PROJECT IRIS4				
GROUP Imaging		THIS DRAWING IS THE PROPERTY OF MATROX ELECTRONICS SYSTEMS AND MAY NOT BE REPRODUCED OR USED FOR MANUFACTURING WITHOUT WRITTEN PERMISSION FROM MATROX.		
CHECKED BY Dimitri Golovanov		TITLE IRIS4 Sensor Board		
INCH TBD		Power_3		
SIZE B	DATE 2020/03/18	DRAWING NO 7572 -04- 00	REV A	SHEET 12 OF 15

D

C

B

A

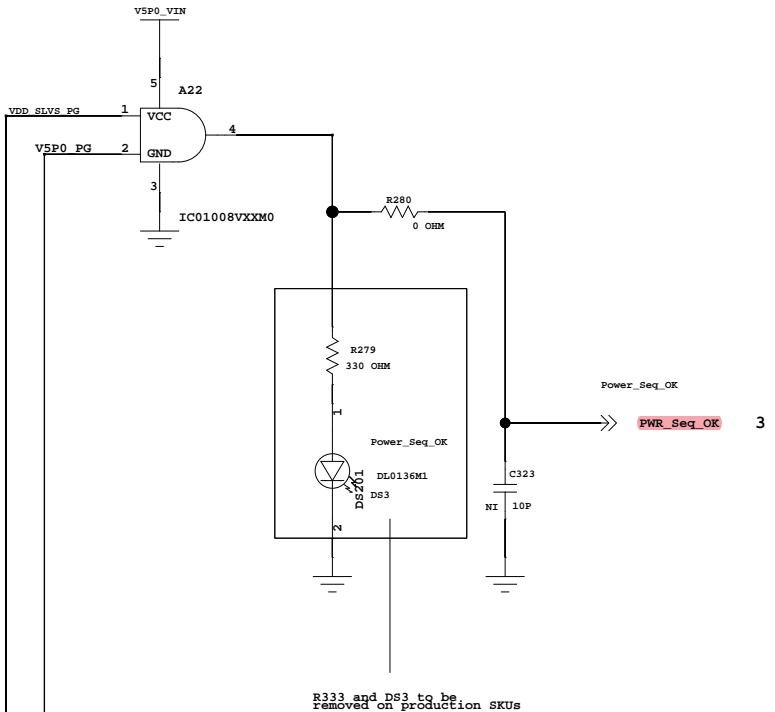
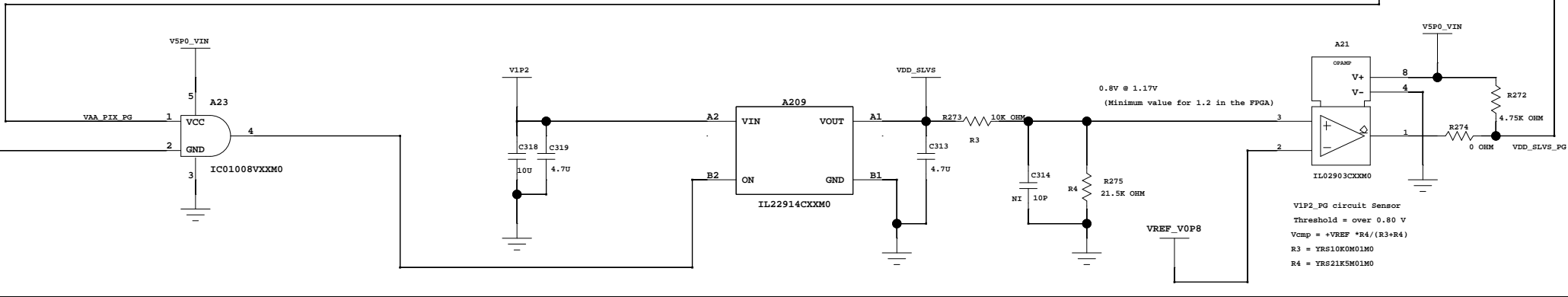
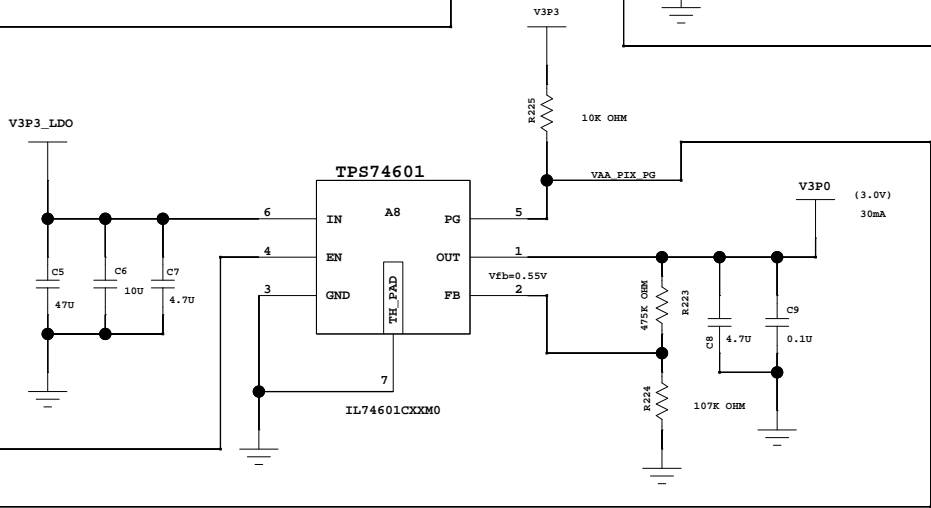
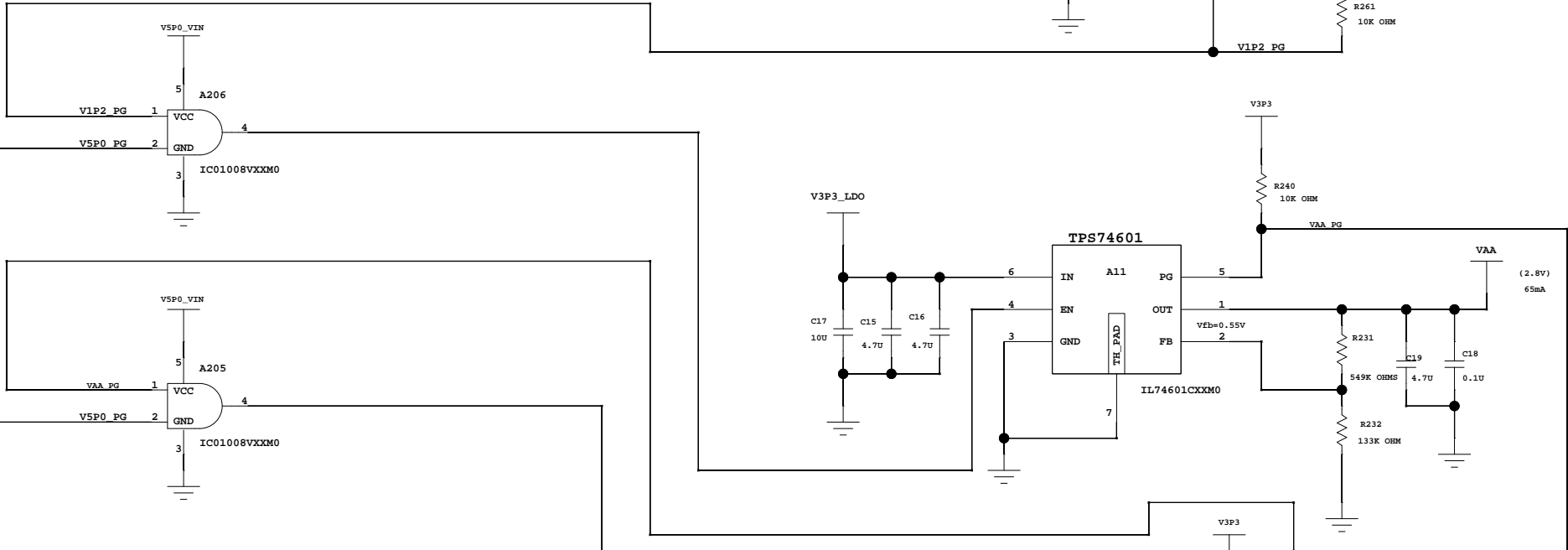
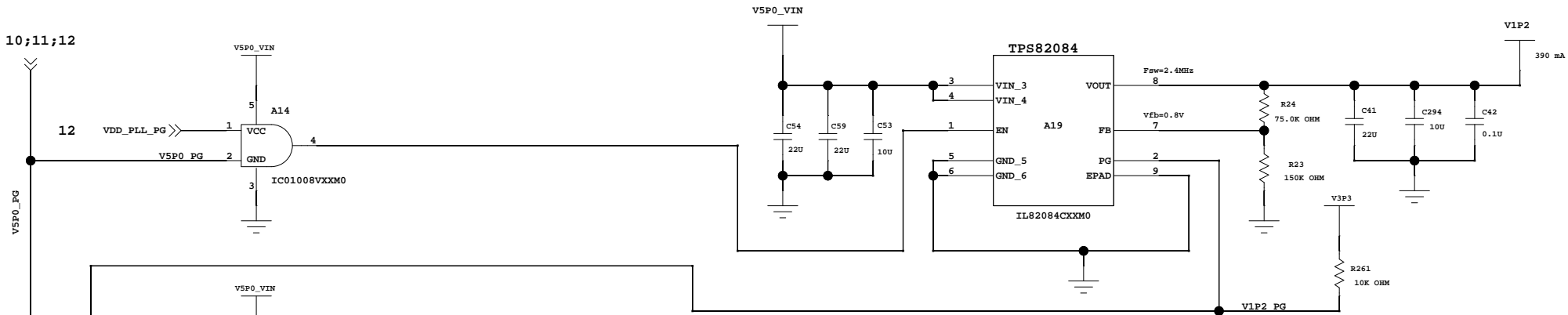
D


C

B

A

REVISIONS					
REV	DESCRIPTION	D.O.	CHECKED	APPROVED	DATE RELEASED
A	Y7572-00	S.Ricard			



DRAWN S. Ricard		 <b>MATROX</b> 1055 BOUL. ST-REGIS DORVAL, QUEBEC H9P 2T4	
PROJECT IRIS4			
GROUP <b>Imaging</b>		THIS DRAWING IS THE PROPERTY OF MATROX ELECTRONICS SYSTEMS AND MAY NOT BE REPRODUCED OR USED FOR MANUFACTURING WITHOUT WRITTEN PERMISSION FROM MATROX.	
CHECKED BY Dimitri Golovanov		TITLE IRIS4 Sensor Board	
INCH# TBD		Power_4	
SIZE <b>B</b>	DATE 2020/03/23	DRAWING NO 7572 -04- 00	REV A
		SHEET 13	OF 15



