

# INDEX

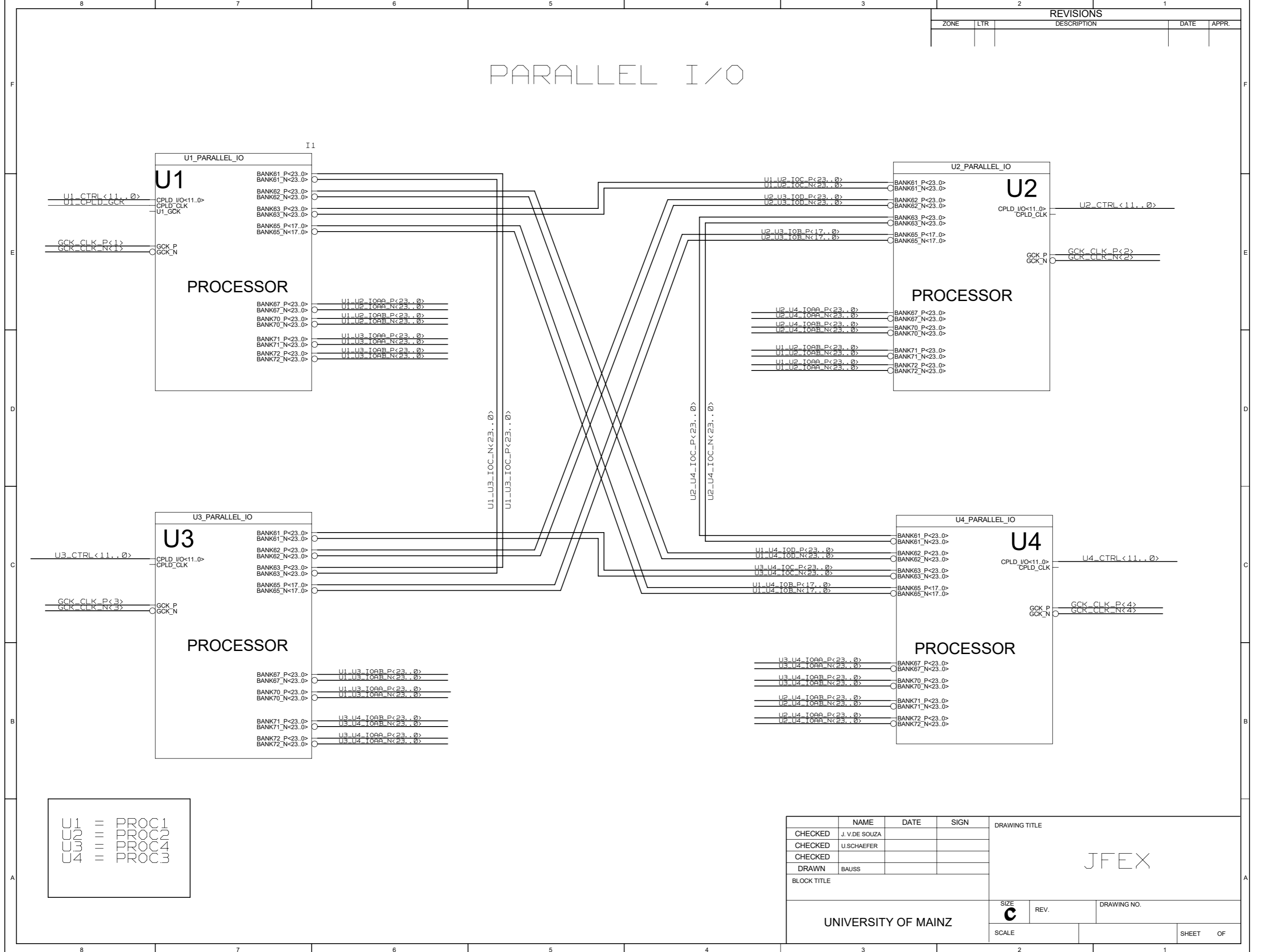
PAGE(S)	FUNCTION
2	PARALLEL I/O BLOCK
3	MGT REAL TIME PATH BLOCK
4	IPBUS, JTAG, POWER, CLOCK, CONFIG, IPMC BLOCK
5	MEZZANINE CONNECTOR
6 - 10	U1 PARALLEL I/O
11	CLOCK LVDS LVCMOS MODUL
12 - 16	U2 PARALLEL I/O
17 - 21	U3 PARALLEL I/O
22 - 26	U4 PARALLEL I/O
27 - 33	U1 MGT REALTIME HIGH SPEED OPTICAL LINKS
34	AC COUPLING HIGH SPEED LINKS
35	AVAGO RECEIVER
36	AVAGO TRANSMITTER
37 - 43	U2 MGT REALTIME HIGH SPEED OPTICAL LINKS
44 - 50	U3 MGT REALTIME HIGH SPEED OPTICAL LINKS
51 - 57	U4 MGT REALTIME HIGH SPEED OPTICAL LINKS
58	ATCA POWER IN AND POWER CONTROL
59	POWERSUPPLY PMBUS CONNECTION
60	POWERSEQUENCING CPLD, VOLTAGE MONITOR, SUPERVISOR
61	POWERSUPPLY BOARDLEVEL
62	POWERSUPPLY U1
63	POWERSUPPLY U2
64	POWERSUPPLY U3
65	POWERSUPPLY U4
66	CPLD CLOCK
67	POWERSUPPLY MIC68400 MODUL
68	POWER DECOUPLING MODUL
69	MGT1 CLOCK
70	MGT2 CLOCK
71	MGT3 CLOCK
72	MGT4 CLOCK
73	GLOBAL CLOCK
74	LHC CLOCK
75	CLOCK CML FANOUT6 AC
76	CLOCK CML FANOUT6 DC
77	CLOCK LVDS FANOUT8
78	CLOCK LVPECL AC
79 - 81	IPMC
82	CONTROL AND CONFIG CPLD
83 - 86	U1, U2, U3, U4 CONFIG
87	IPBUS CONNECTION
88	JTAG CHAIN

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

CHECKED	NAME	DATE	SIGN	DRAWING TITLE		
CHECKED	J. V. DE SOUZA					
CHECKED	U. SCHAEFER					
CHECKED						
DRAWN	BAUSS			JFEX		
BLOCK TITLE						
UNIVERSITY OF MAINZ				SIZE	REV.	DRAWING NO.
				C		
SCALE				SHEET	OF	

# PARALLEL I/O

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

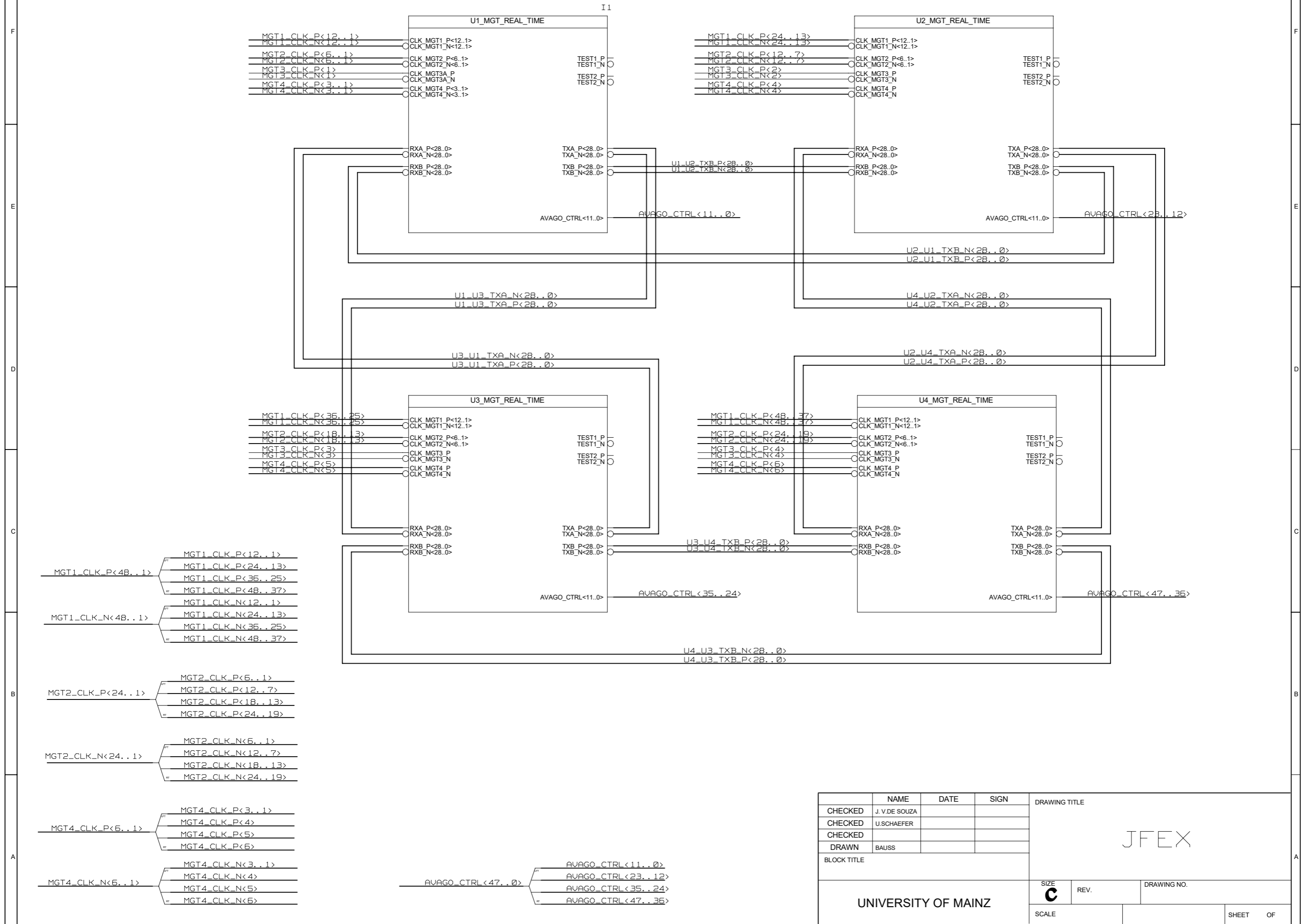


U1 = PROC1  
 U2 = PROC2  
 U3 = PROC4  
 U4 = PROC3

NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U.SCHAEFER			
CHECKED			
DRAWN BAUSS			
BLOCK TITLE			
UNIVERSITY OF MAINZ			
SIZE	REV.	DRAWING NO.	
C			
SCALE		SHEET	OF

# MGT REAL TIME

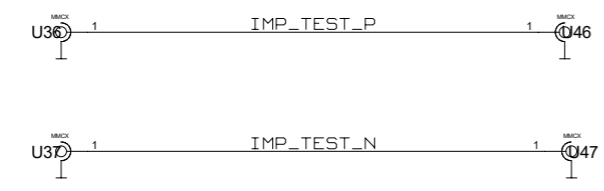
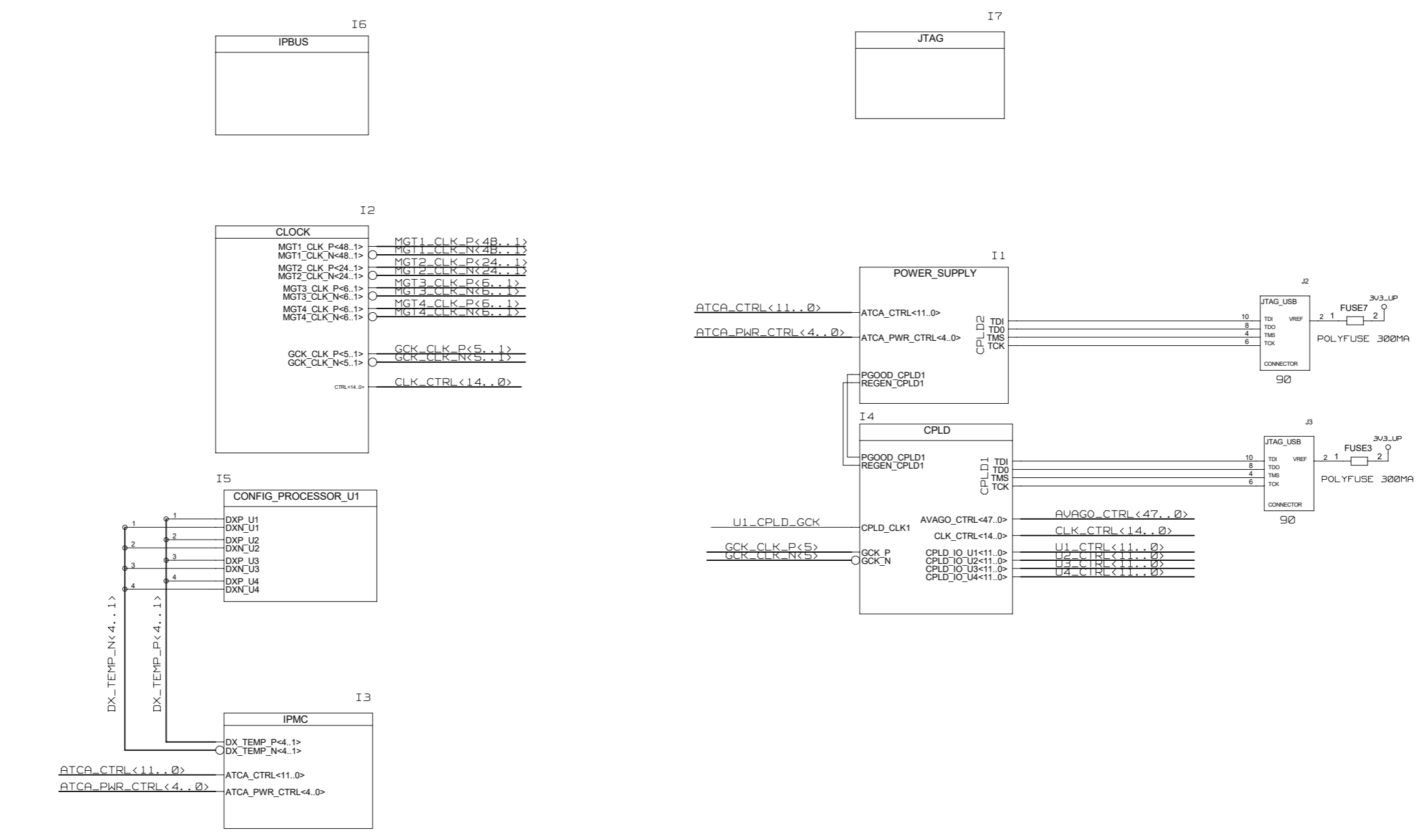
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U. SCHAEFER			
CHECKED			
DRAWN BAUSS			
BLOCK TITLE			UNIVERSITY OF MAINZ
SIZE	REV.	DRAWING NO.	
SCALE		SHEET	OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

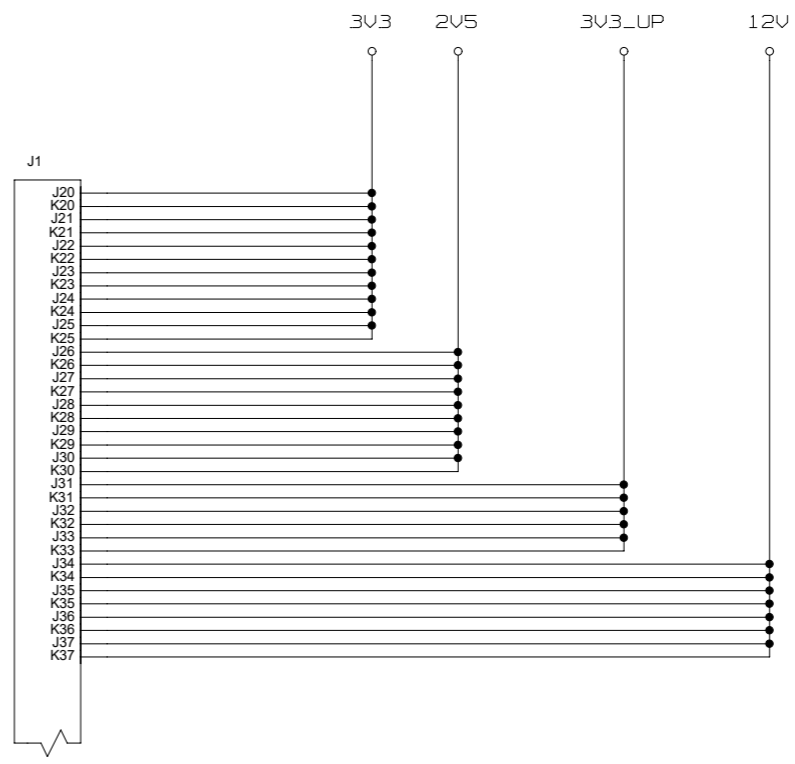
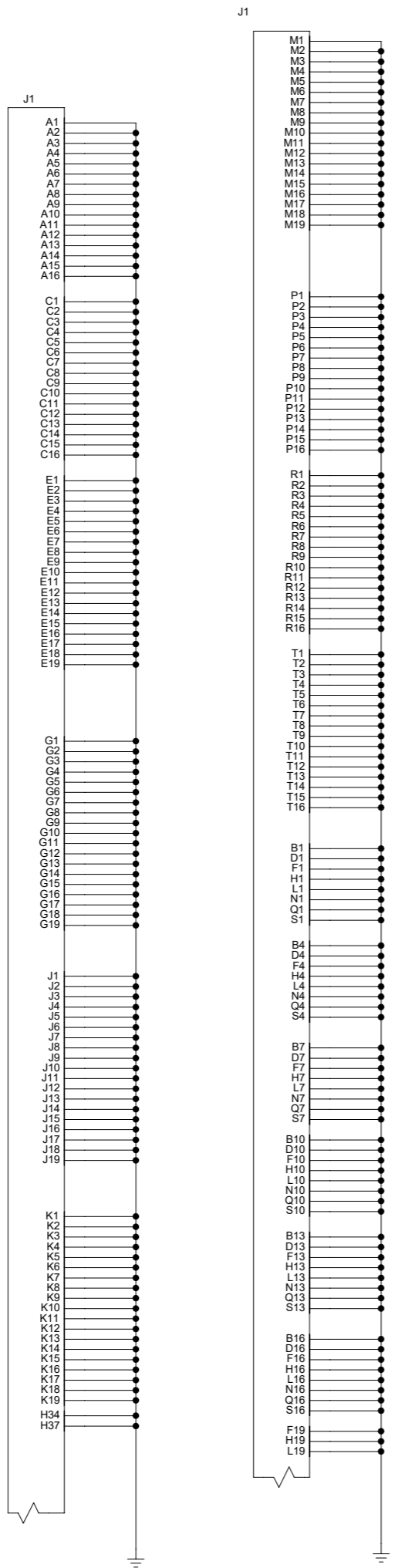
# CLOCK, CONFIG, POWER, JTAG, IPMC



NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX
CHECKED	U.SCHAEFER		
CHECKED			
DRAWN	BAUSS		
BLOCK TITLE			
UNIVERSITY OF MAINZ		SIZE <b>C</b>	DRAWING NO.
SCALE		REV.	SHEET OF

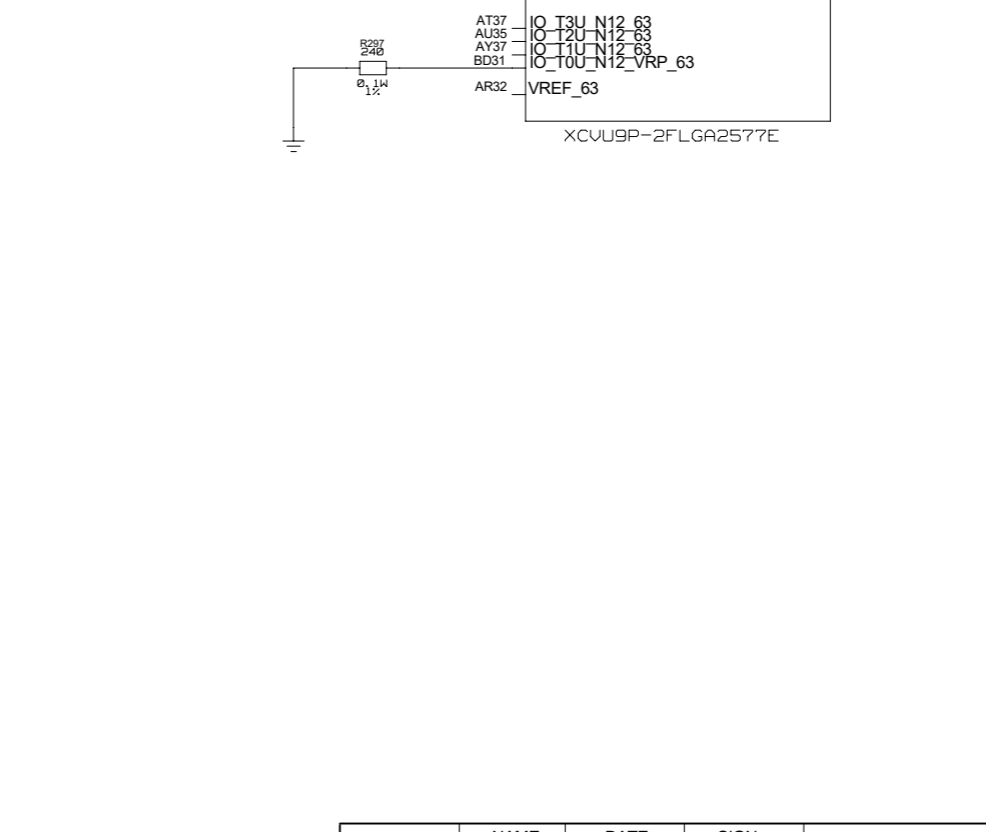
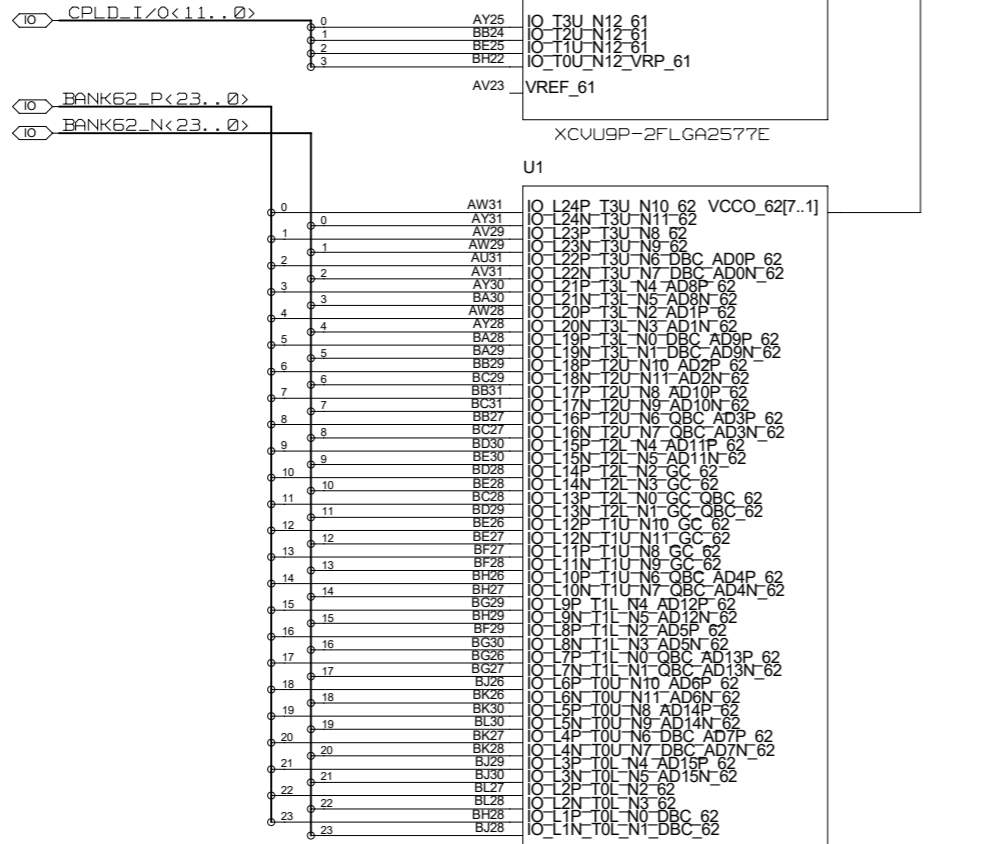
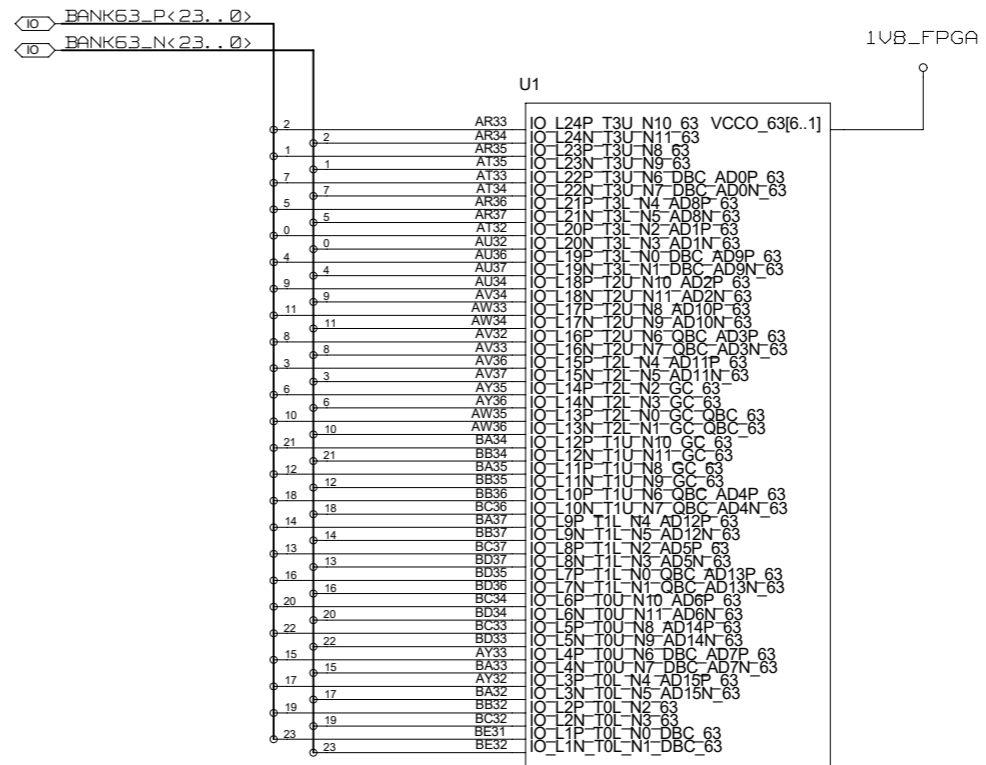
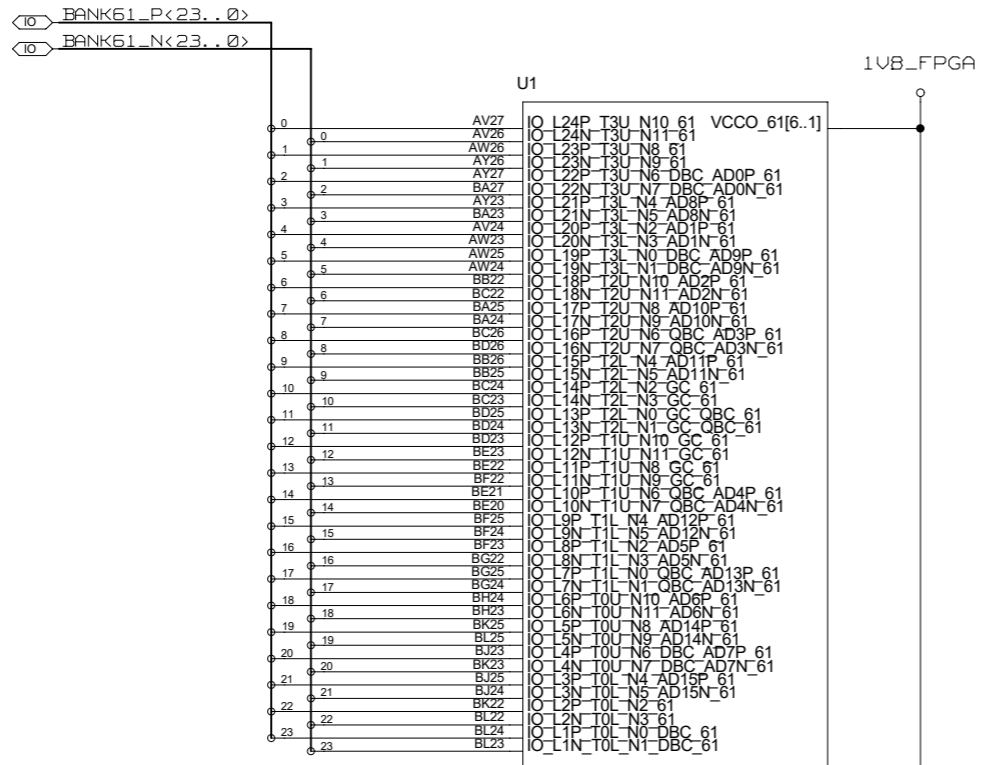
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

# MEZZANINE CONNECTOR GND AND VCC



CHECKED	NAME	DATE	SIGN	DRAWING TITLE  <h1>JFEX</h1>		
CHECKED	J. V. DE SOUZA					
CHECKED	U. SCHAEFER					
CHECKED	BAUSS					
DRAWN						
BLOCK TITLE				SIZE	REV.	DRAWING NO.
UNIVERSITY OF MAINZ				<b>C</b>		
SCALE				SHEET		OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

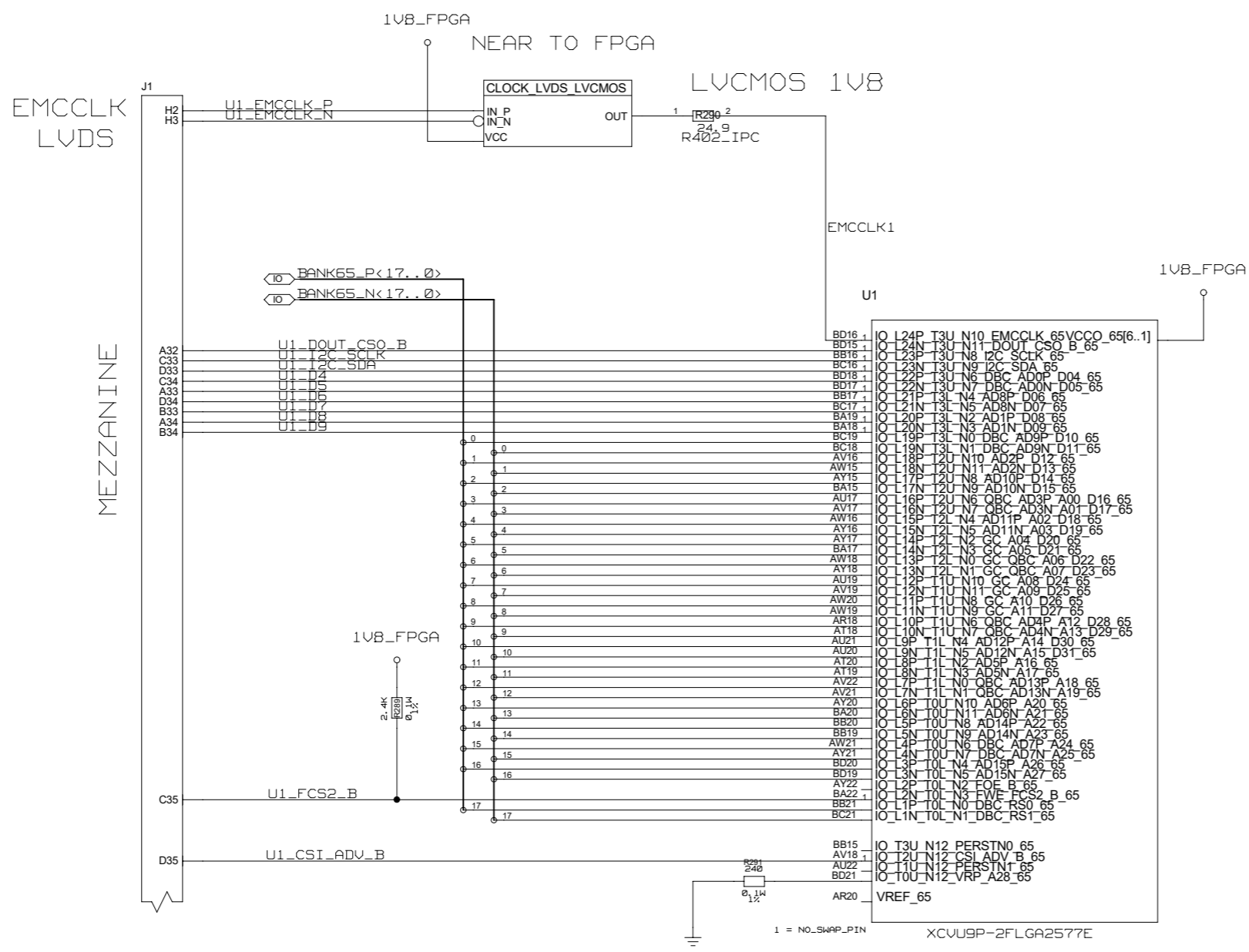


BANK  
61  
62  
63

NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J.V.DE SOUZA		
CHECKED	U.SCHAEFER		
CHECKED			
DRAWN	BAUSS	25.08.2015	
BLOCK TITLE			
U1_PARALLEL_I/O			
UNIVERSITY OF MAINZ			
SIZE	REV.	DRAWING NO.	
C			
SCALE		SHEET 1 OF 5	

JFEX

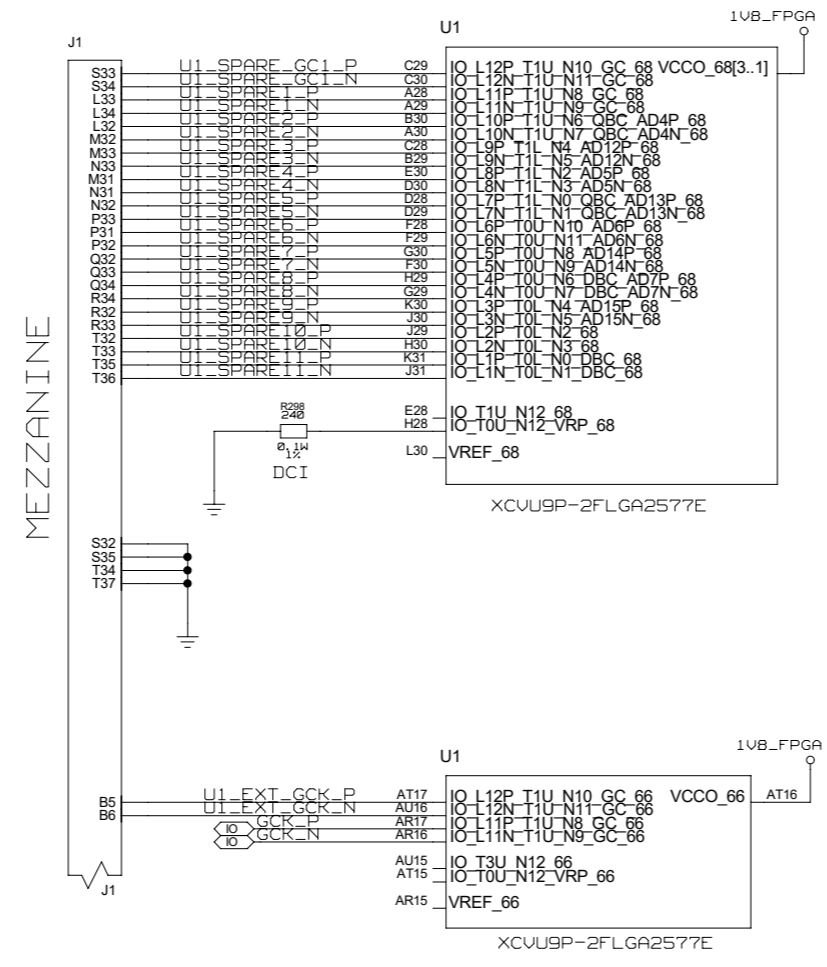
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK  
65

NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U. SCHAEFER			
CHECKED			
DRAWN BAUSS	25. 08. 2015		
BLOCK TITLE			
U1_PARALLEL_I/O			
UNIVERSITY OF MAINZ			
SIZE	REV.	DRAWING NO.	
C			
SCALE		SHEET 2 OF 5	

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

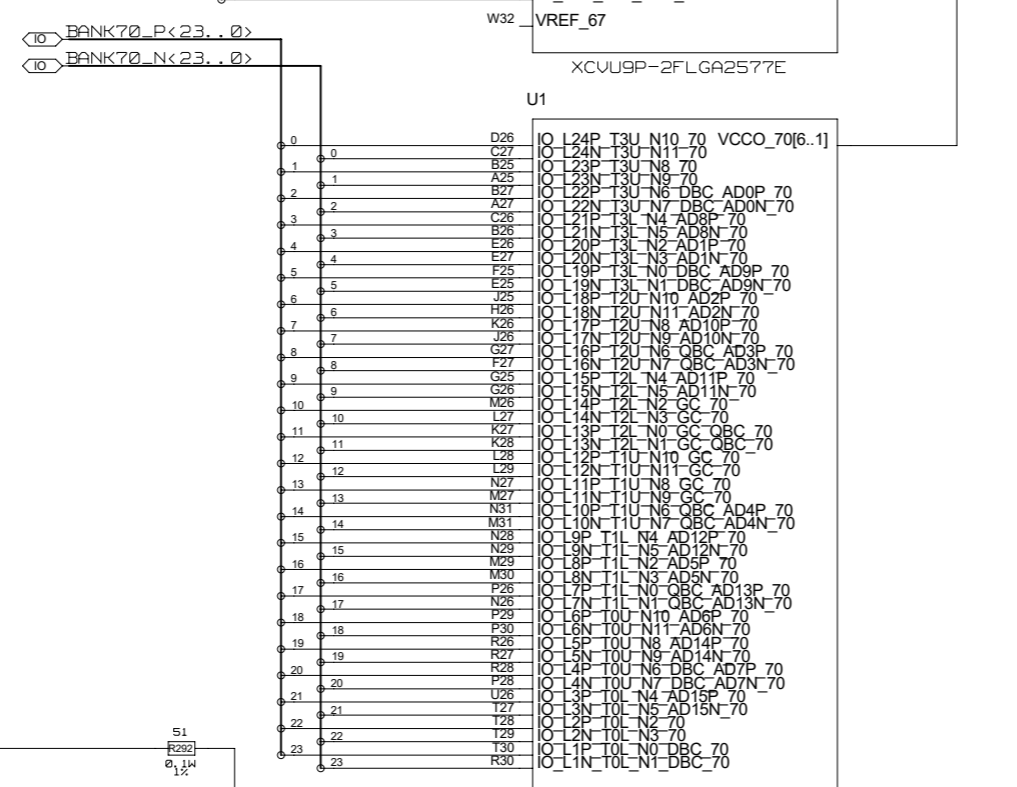
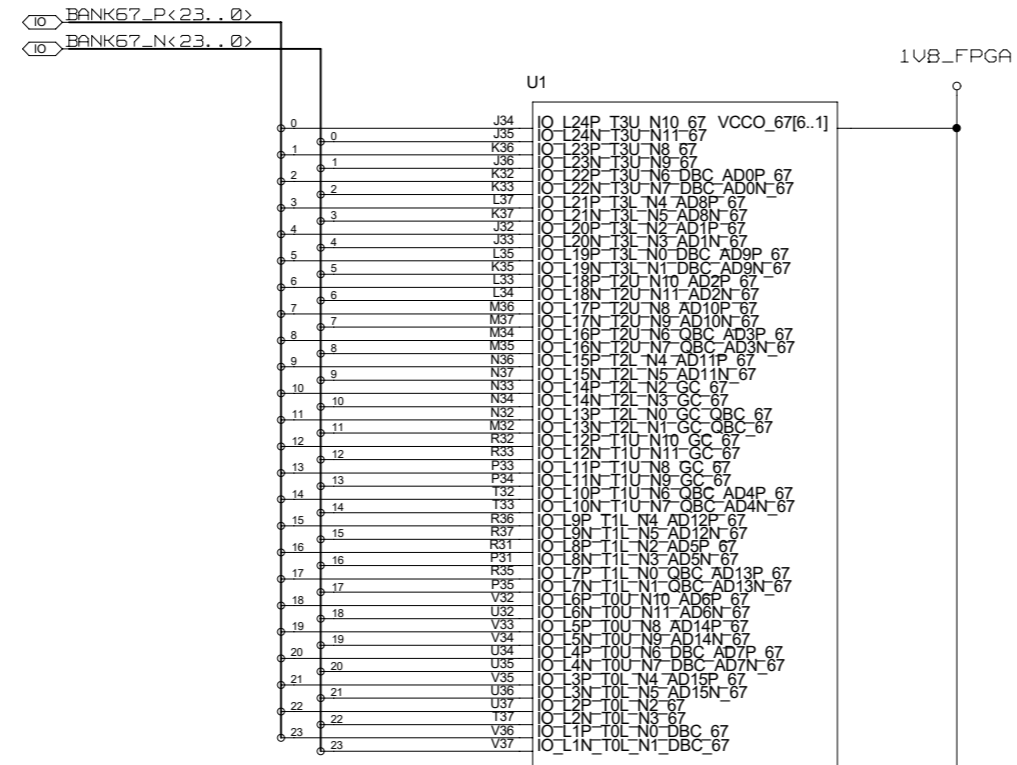


BANK
66
68

NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX
CHECKED	U. SCHAEFER		
CHECKED			
DRAWN	BAUSS	25. 08. 2015	
BLOCK TITLE			
U1_PARALLEL_I/O			
UNIVERSITY OF MAINZ			
SIZE	REV.	DRAWING NO.	
C			
SCALE		SHEET 3 OF 5	



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

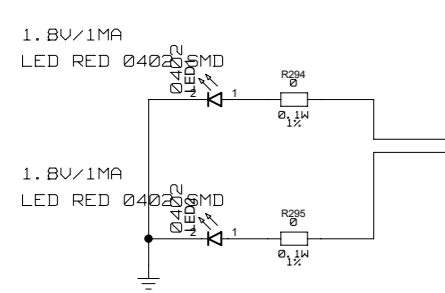
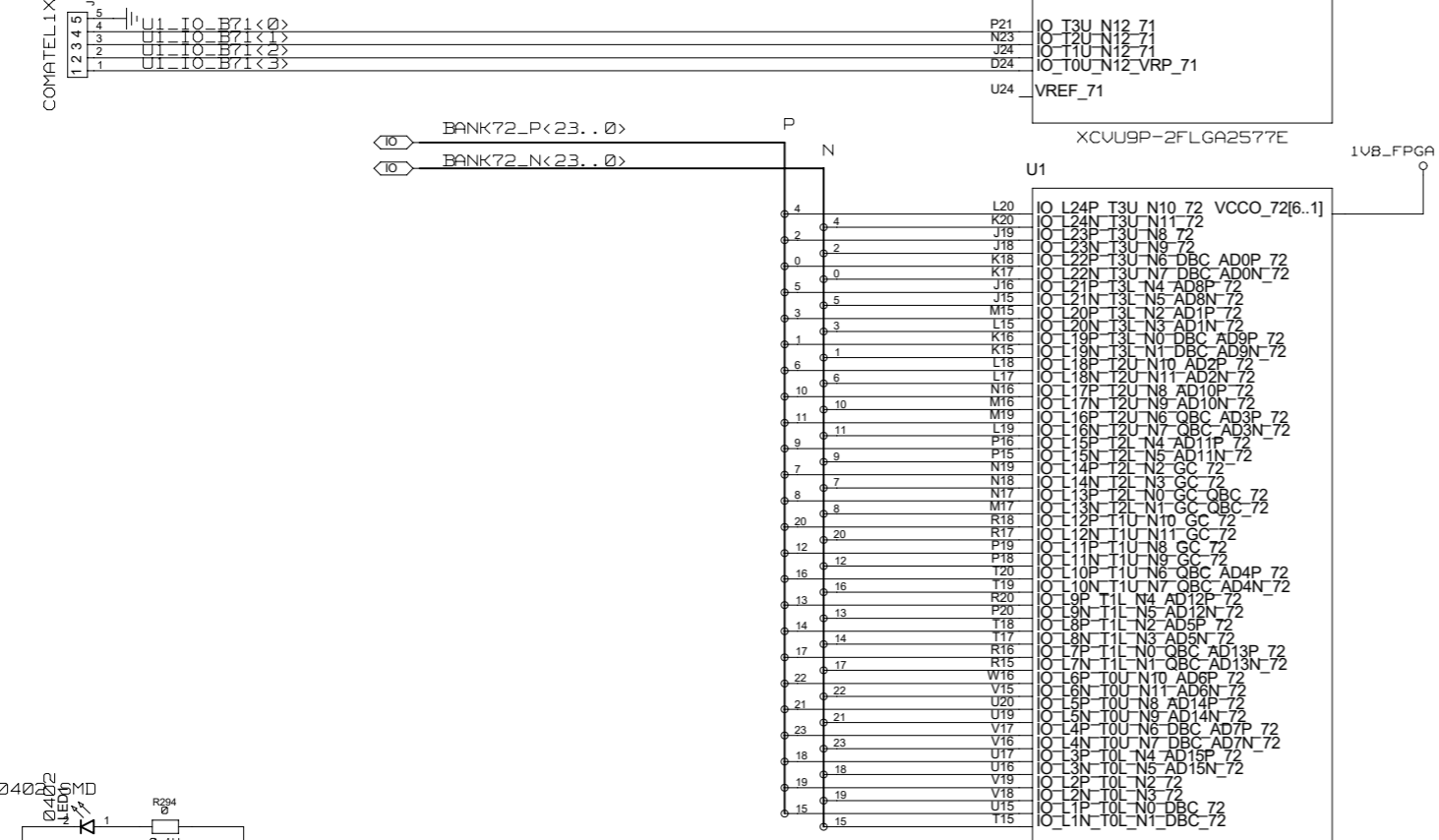
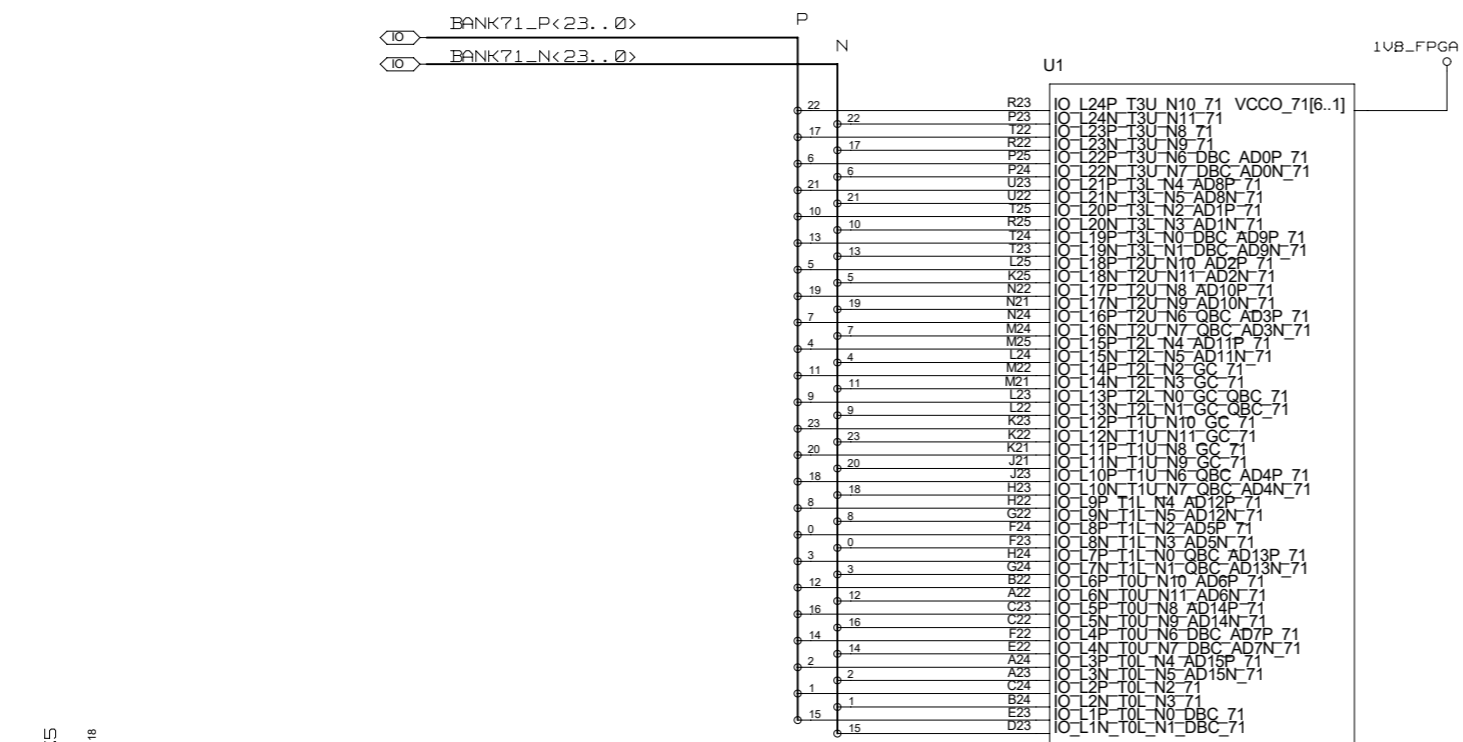


VALUE ????

BANK  
57  
70

NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U. SCHAEFER			
CHECKED			
DRAWN BAUSS	25.08.2015		
BLOCK TITLE			
U1_PARALLEL_I/O			
UNIVERSITY OF MAINZ		SIZE <b>C</b>	DRAWING NO.
SCALE		REV.	SHEET 4 OF 5

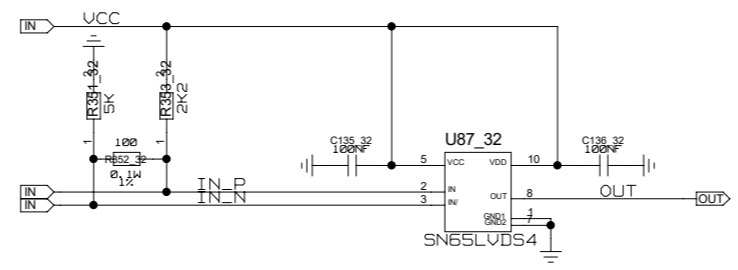
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK  
71  
72

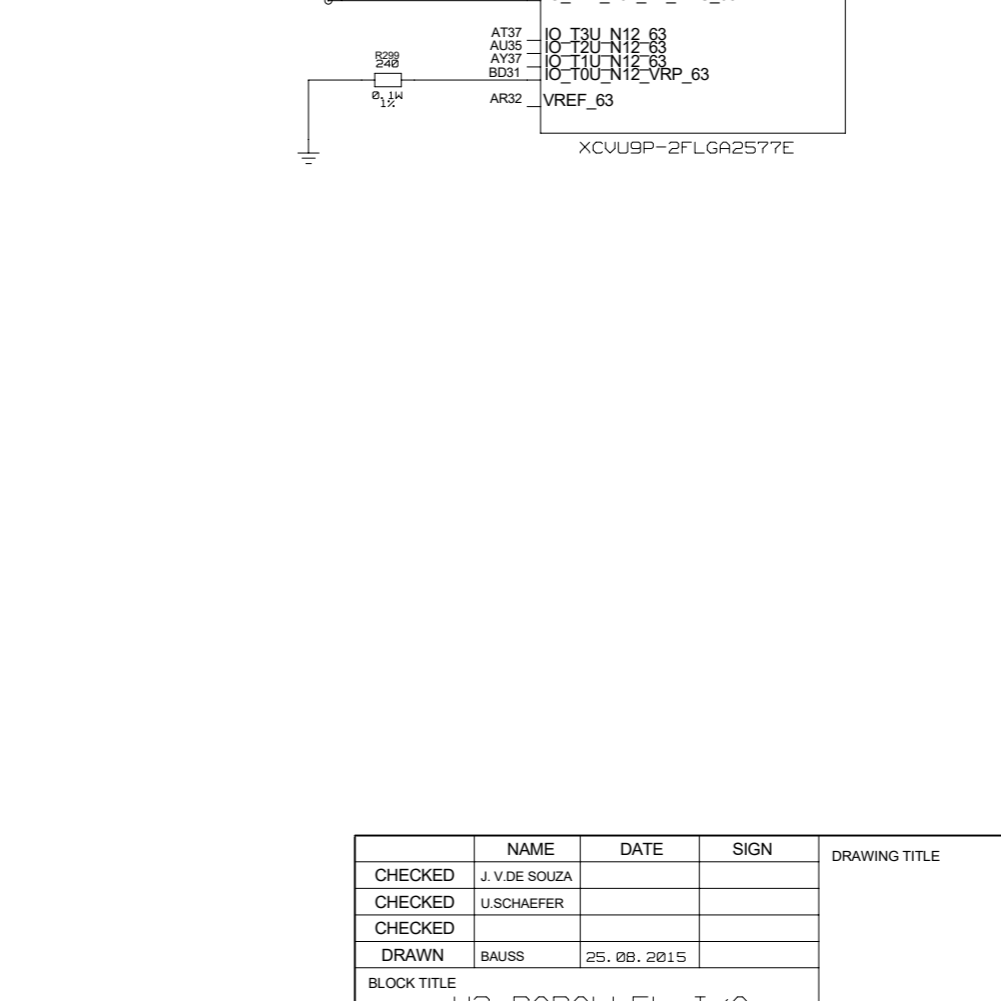
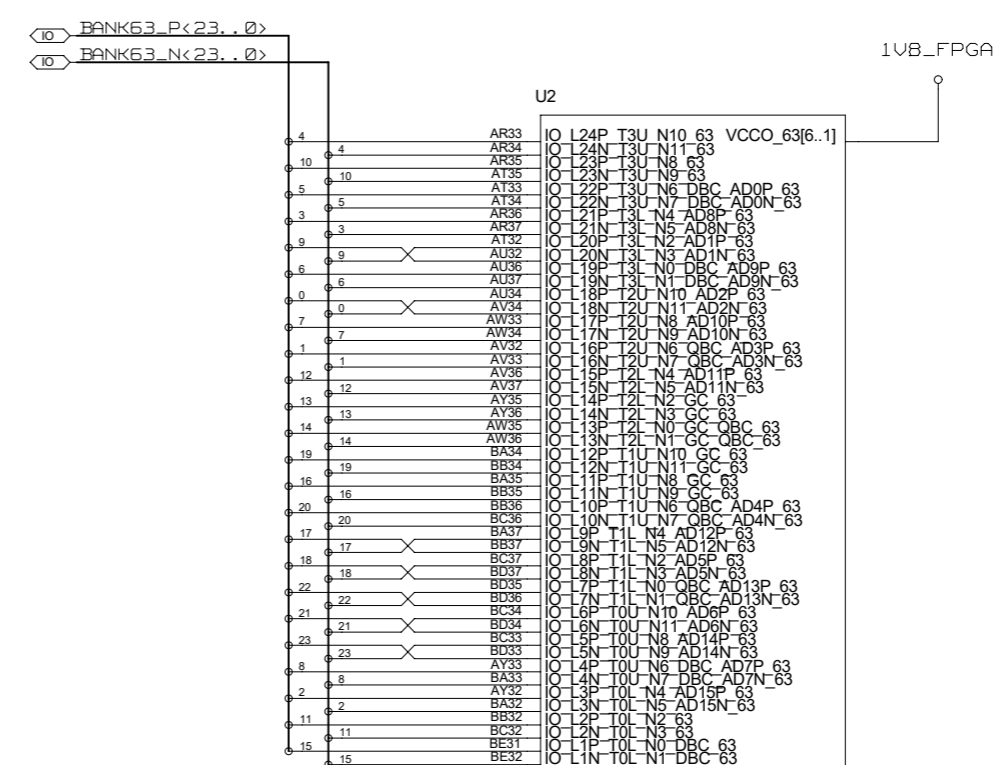
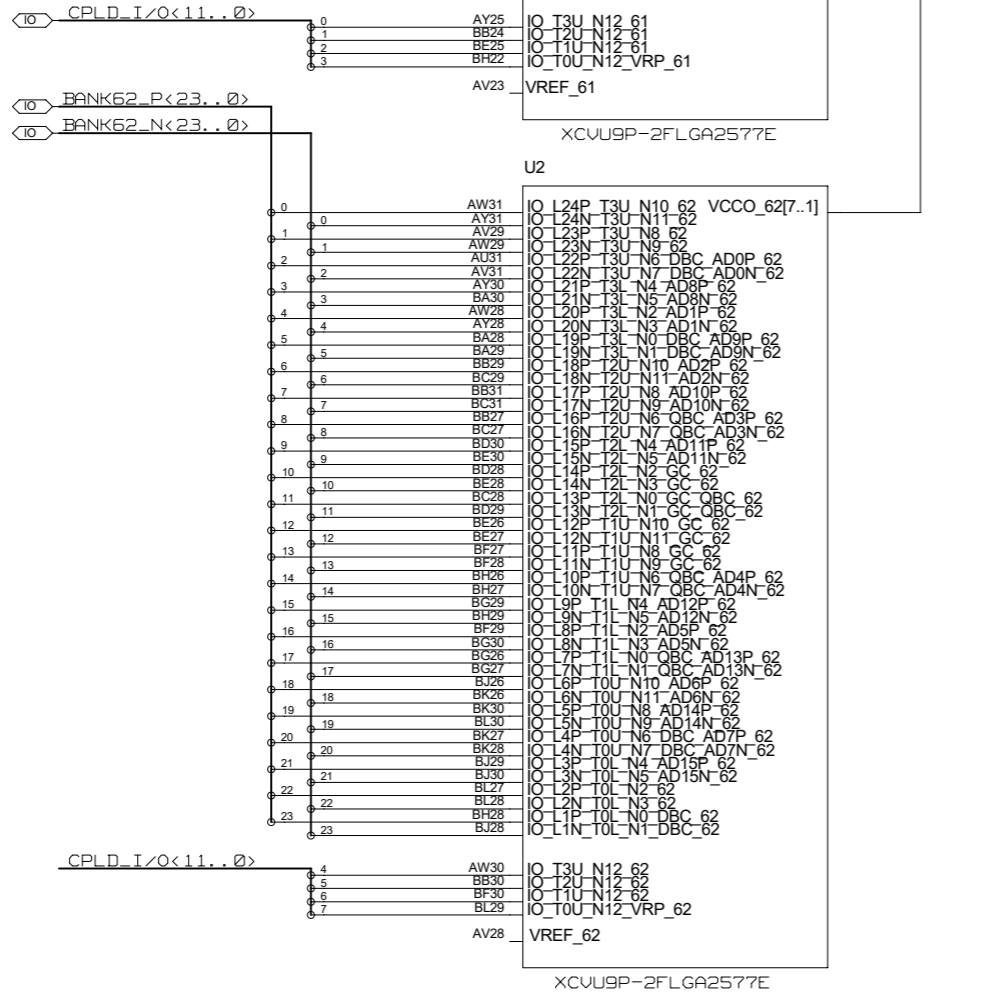
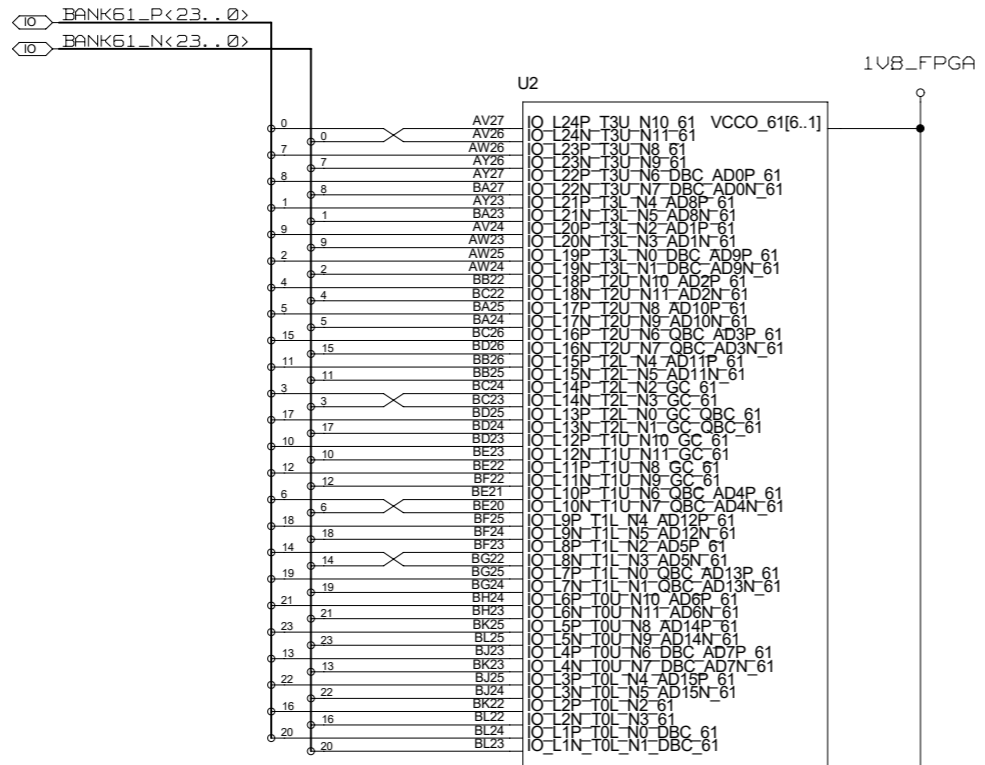
NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U. SCHAEFER			
CHECKED			
DRAWN BAUSS	25.08.2015		
BLOCK TITLE			
U1_PARALLEL_I/O			
UNIVERSITY OF MAINZ		SIZE C	DRAWING NO.
SCALE			SHEET 5 OF 5

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



CHECKED	NAME	DATE	SIGN	DRAWING TITLE		
CHECKED	J. V. DE SOUZA					
CHECKED	U. SCHAEFER					
CHECKED						
DRAWN	BAUSS			JFEX		
BLOCK TITLE						
CLOCK_LVDS_LVCMOS				SIZE	REV.	DRAWING NO.
UNIVERSITY OF MAINZ				<b>C</b>		
				SCALE		SHEET OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

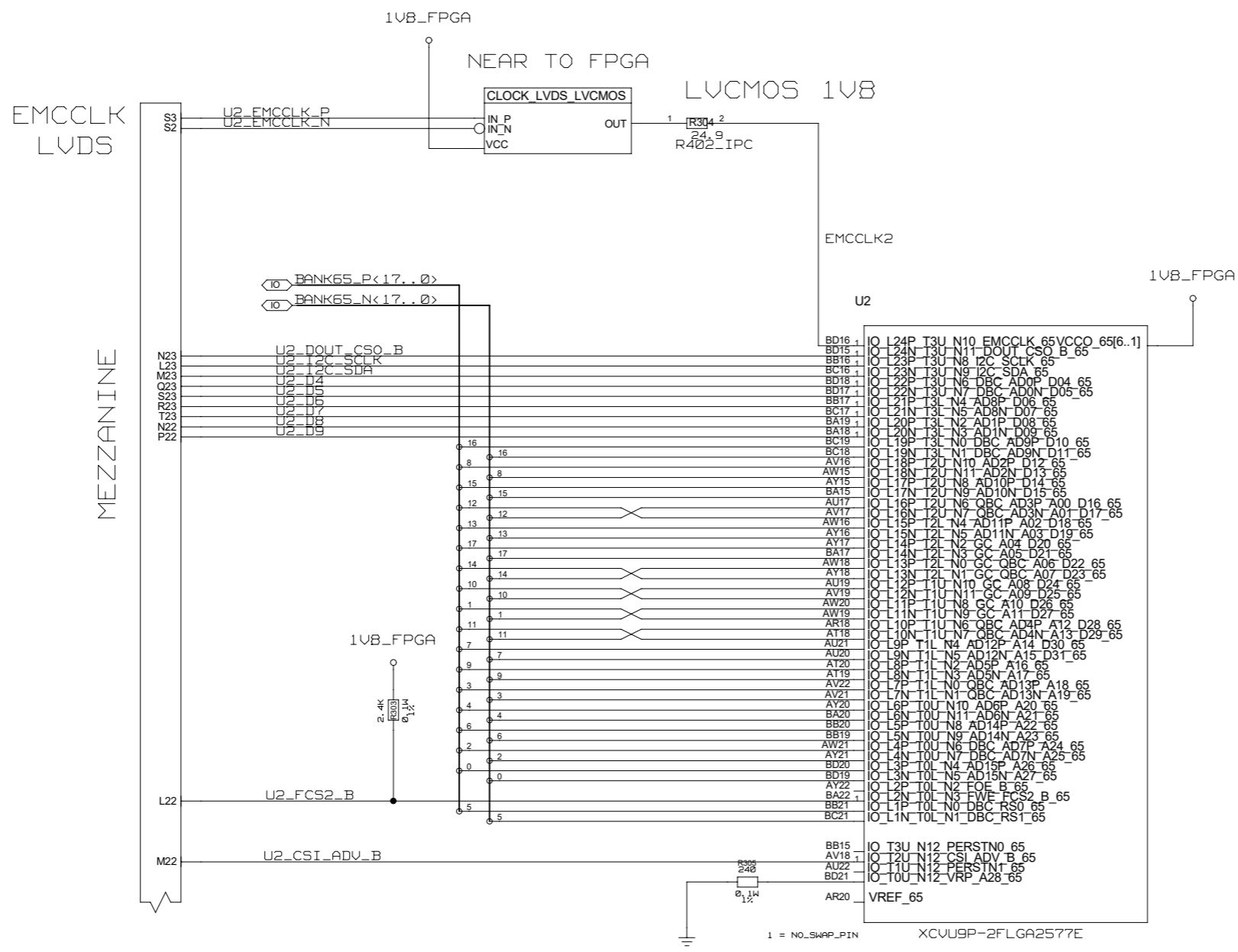


BANK  
61  
62  
63

NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		
CHECKED	U. SCHAEFER		
CHECKED			
DRAWN	BAUSS	25. 08. 2015	
BLOCK TITLE			
U2_PARALLEL_I/O			
UNIVERSITY OF MAINZ			
SIZE	REV.	DRAWING NO.	
C			
SCALE		SHEET 1 OF 5	

JFEX

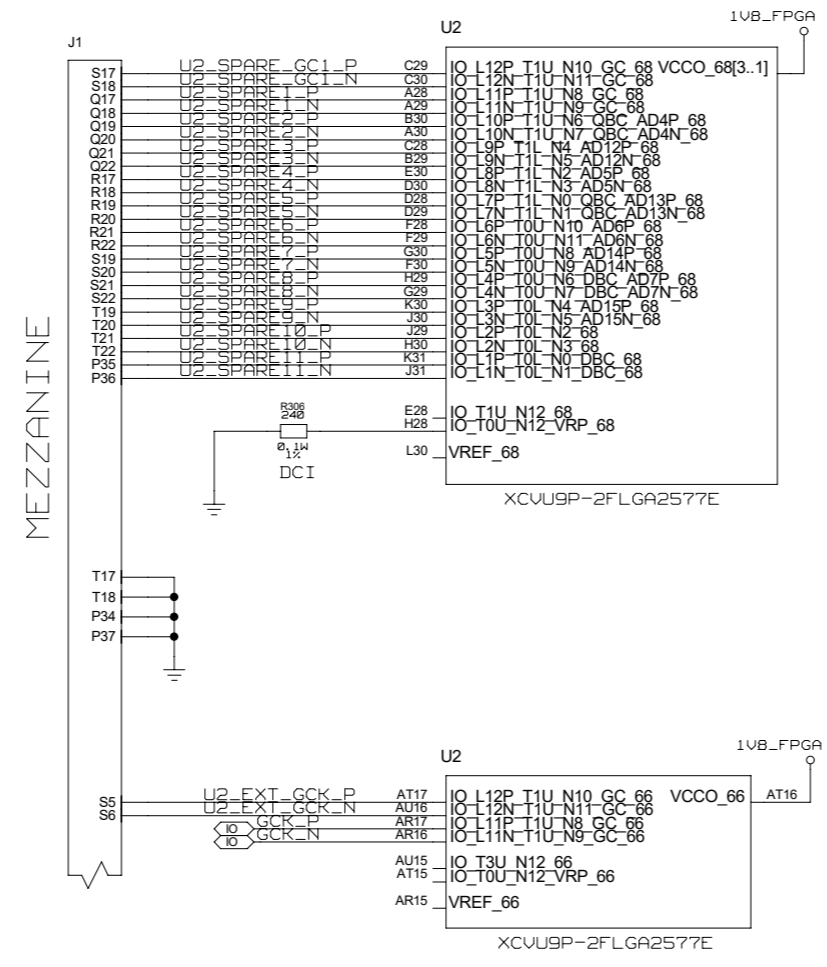
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK  
65

NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U. SCHAEFER			
CHECKED			
DRAWN BAUSS	25.08.2015		
BLOCK TITLE			
U2_PARALLEL_I/O			
UNIVERSITY OF MAINZ			
SIZE	REV.	DRAWING NO.	
C			
SCALE		SHEET 2 OF 5	

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



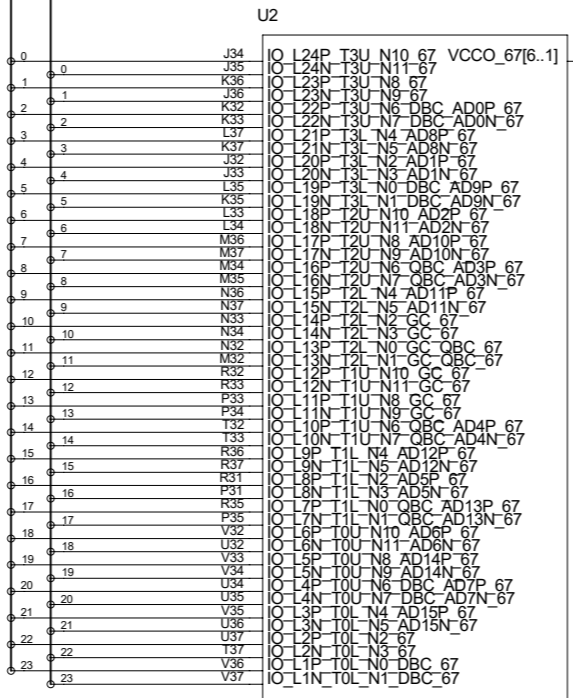
BANK
66
68

NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX
CHECKED	U. SCHAEFER		
CHECKED			
DRAWN	BAUSS	25. 08. 2015	
BLOCK TITLE			
U2_PARALLEL_I/O			
UNIVERSITY OF MAINZ			
SIZE	REV.	DRAWING NO.	
C			
SCALE		SHEET 3 OF 5	

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

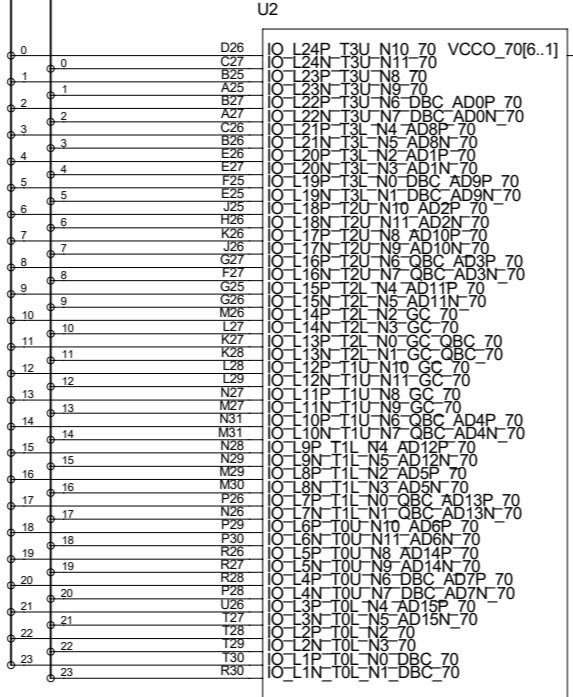
BANK67\_P<23..0>  
BANK67\_N<23..0>

1UB\_FPGA



CPLD\_I/O<11..0>

BANK70\_P<23..0>  
BANK70\_N<23..0>



MMCX  
180  
U74

51  
R307  
0.1W  
1/4

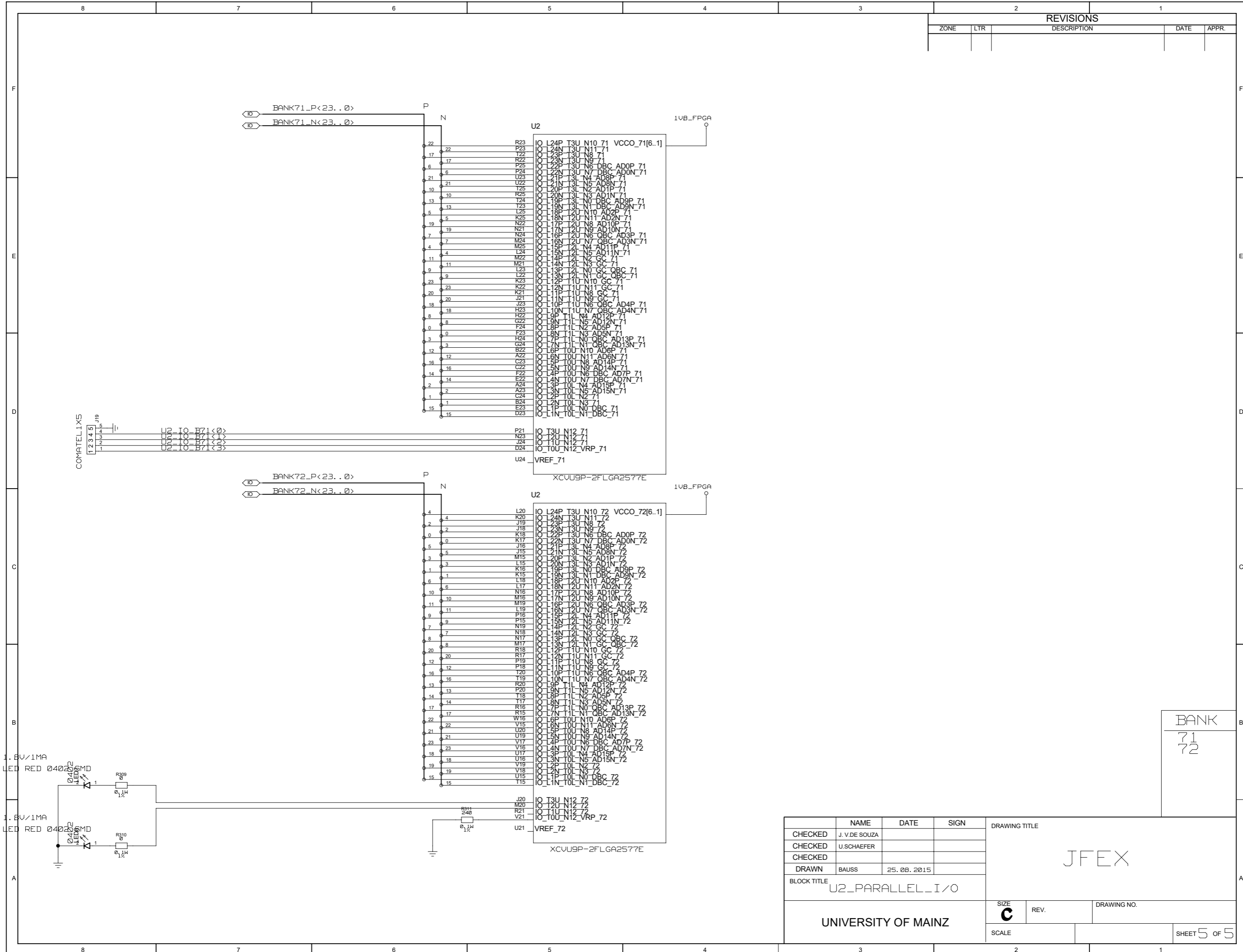
CPLD\_CLK

VALUE ????

BANK  
67  
70

NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U. SCHAEFER			
CHECKED			
DRAWN BAUSS	25.08.2015		
BLOCK TITLE			
U2_PARALLEL_I/O			
UNIVERSITY OF MAINZ		SIZE <b>C</b>	REV.
		SCALE	DRAWING NO.
			SHEET 4 OF 5

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK71\_P<23..0>  
 BANK71\_N<23..0>

BANK72\_P<23..0>  
 BANK72\_N<23..0>

U2

IO L24P	T3U	N10	71	VCCO_71[6..1]
IO L24N	T3U	N11	71	
IO L23P	T3U	N8	71	
IO L23N	T3U	N9	71	
IO L22P	T3U	N6	DBC AD0P_71	
IO L22N	T3U	N7	DBC AD0N_71	
IO L21P	T3U	N4	AD8P_71	
IO L21N	T3U	N5	AD8N_71	
IO L20P	T3U	N2	AD1P_71	
IO L20N	T3U	N3	AD1N_71	
IO L19P	T3U	N0	DBC AD9P_71	
IO L19N	T3U	N10	DBC AD9N_71	
IO L18P	T2U	N10	AD2P_71	
IO L18N	T2U	N11	AD2N_71	
IO L17P	T2U	N8	AD10P_71	
IO L17N	T2U	N9	AD10N_71	
IO L16P	T2U	N6	QBC AD3P_71	
IO L16N	T2U	N7	QBC AD3N_71	
IO L15P	T2U	N4	AD11P_71	
IO L15N	T2U	N5	AD11N_71	
IO L14N	T2U	N3	GC_71	
IO L13P	T2U	N0	GC QBC_71	
IO L13N	T2U	N1	GC QBC_71	
IO L12P	T1U	N10	GC_71	
IO L12N	T1U	N11	GC_71	
IO L11N	T1U	N9	GC_71	
IO L10P	T1U	N6	QBC AD4P_71	
IO L10N	T1U	N7	QBC AD4N_71	
IO L9P	T1U	N4	AD12P_71	
IO L9N	T1U	N5	AD12N_71	
IO L8P	T1U	N2	AD5P_71	
IO L8N	T1U	N3	AD5N_71	
IO L7P	T1U	N0	QBC AD13P_71	
IO L7N	T1U	N1	QBC AD13N_71	
IO L6P	T0U	N10	AD6P_71	
IO L6N	T0U	N11	AD6N_71	
IO L5P	T0U	N8	AD14P_71	
IO L5N	T0U	N9	AD14N_71	
IO L4P	T0U	N6	DBC AD7P_71	
IO L4N	T0U	N7	DBC AD7N_71	
IO L3P	T0U	N4	AD15P_71	
IO L3N	T0U	N5	AD15N_71	
IO L2N	T0U	N3		
IO L1P	T0U	N0	DBC_71	
IO L1N	T0U	N1	DBC_71	

U21

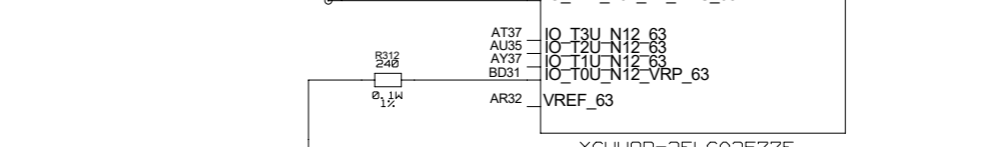
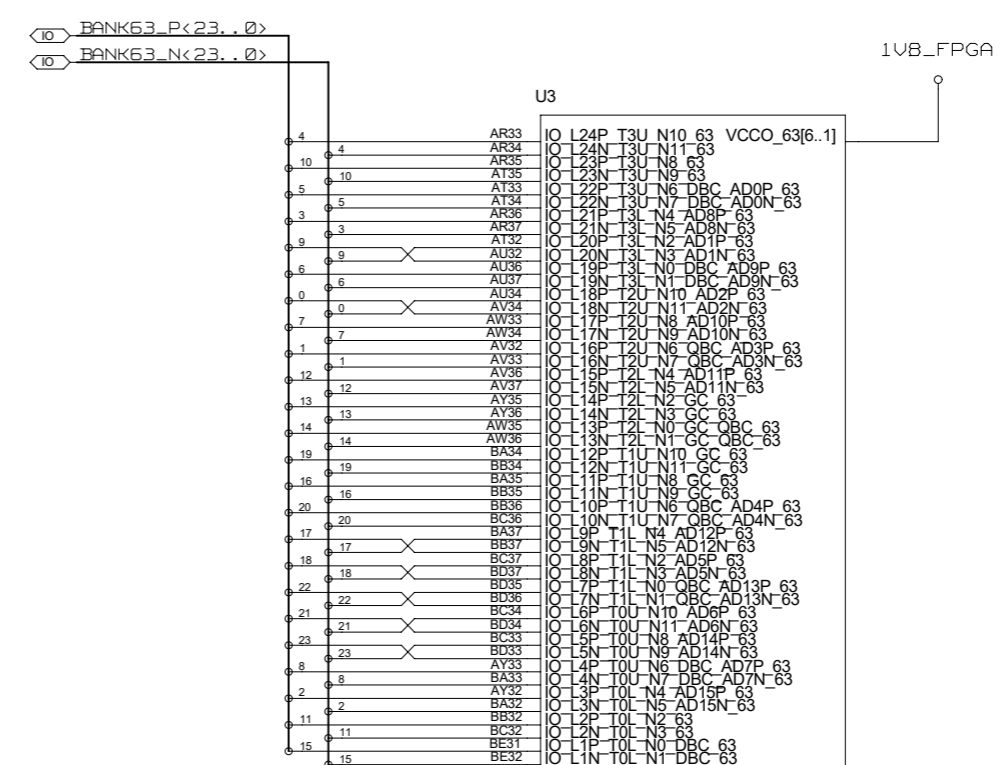
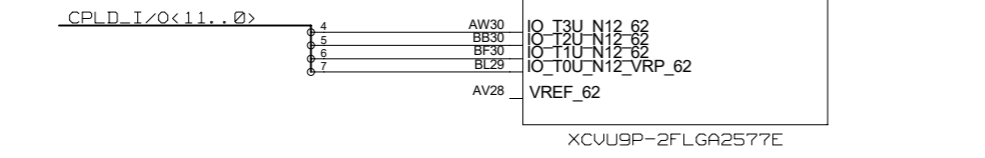
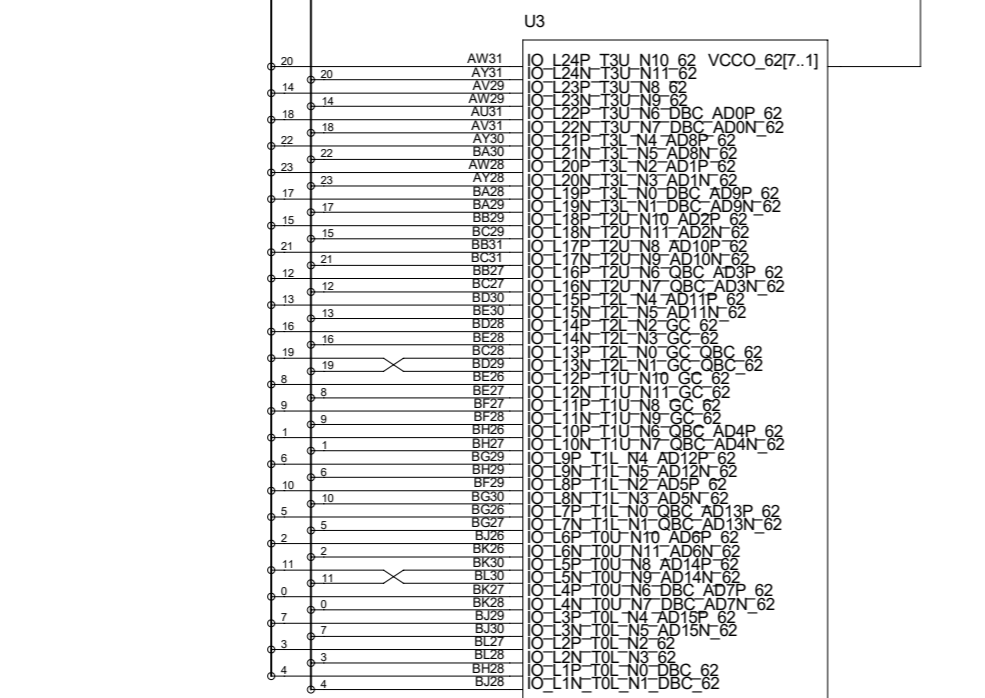
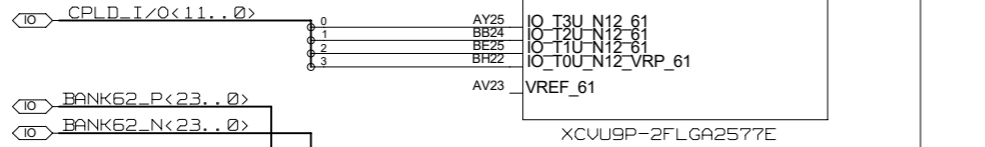
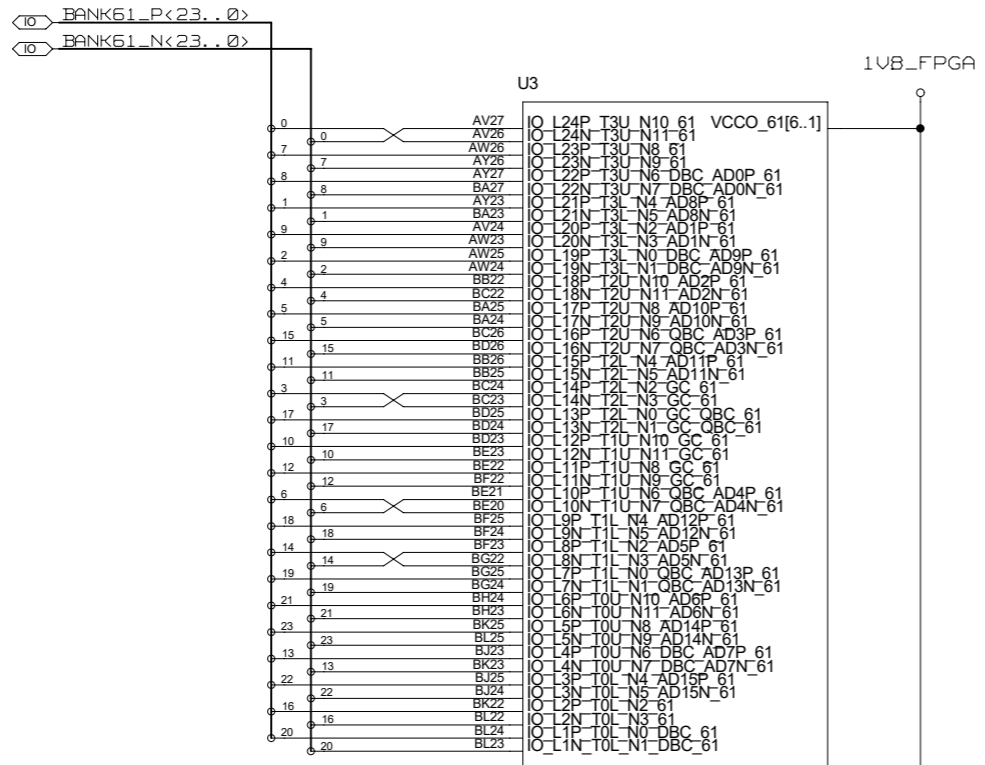
IO L24P	T3U	N10	72	VCCO_72[6..1]
IO L24N	T3U	N11	72	
IO L23P	T3U	N8	72	
IO L23N	T3U	N9	72	
IO L22P	T3U	N6	DBC AD0P_72	
IO L22N	T3U	N7	DBC AD0N_72	
IO L21P	T3U	N4	AD8P_72	
IO L21N	T3U	N5	AD8N_72	
IO L20P	T3U	N2	AD1P_72	
IO L20N	T3U	N3	AD1N_72	
IO L19P	T3U	N0	DBC AD9P_72	
IO L19N	T3U	N10	DBC AD9N_72	
IO L18P	T2U	N10	AD2P_72	
IO L18N	T2U	N11	AD2N_72	
IO L17P	T2U	N8	AD10P_72	
IO L17N	T2U	N9	AD10N_72	
IO L16P	T2U	N6	QBC AD3P_72	
IO L16N	T2U	N7	QBC AD3N_72	
IO L15P	T2U	N4	AD11P_72	
IO L15N	T2U	N5	AD11N_72	
IO L14N	T2U	N3	GC_72	
IO L13P	T2U	N0	GC QBC_72	
IO L13N	T2U	N1	GC QBC_72	
IO L12P	T1U	N10	GC_72	
IO L12N	T1U	N11	GC_72	
IO L11P	T1U	N9	GC_72	
IO L10P	T1U	N6	QBC AD4P_72	
IO L10N	T1U	N7	QBC AD4N_72	
IO L9P	T1U	N4	AD12P_72	
IO L9N	T1U	N5	AD12N_72	
IO L8P	T1U	N2	AD5P_72	
IO L8N	T1U	N3	AD5N_72	
IO L7P	T1U	N0	QBC AD13P_72	
IO L7N	T1U	N1	QBC AD13N_72	
IO L6P	T0U	N10	AD6P_72	
IO L6N	T0U	N11	AD6N_72	
IO L5P	T0U	N8	AD14P_72	
IO L5N	T0U	N9	AD14N_72	
IO L4P	T0U	N6	DBC AD7P_72	
IO L4N	T0U	N7	DBC AD7N_72	
IO L3P	T0U	N4	AD15P_72	
IO L3N	T0U	N5	AD15N_72	
IO L2P	T0U	N2		
IO L2N	T0U	N3		
IO L1P	T0U	N0	DBC_72	
IO L1N	T0U	N1	DBC_72	

BANK  
71  
72

NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U. SCHAEFER			
CHECKED			
DRAWN BAUSS	25.08.2015		BLOCK TITLE
UNIVERSITY OF MAINZ			U2_PARALLEL_I/O
SIZE C	REV.	DRAWING NO.	
SCALE			SHEET 5 OF 5



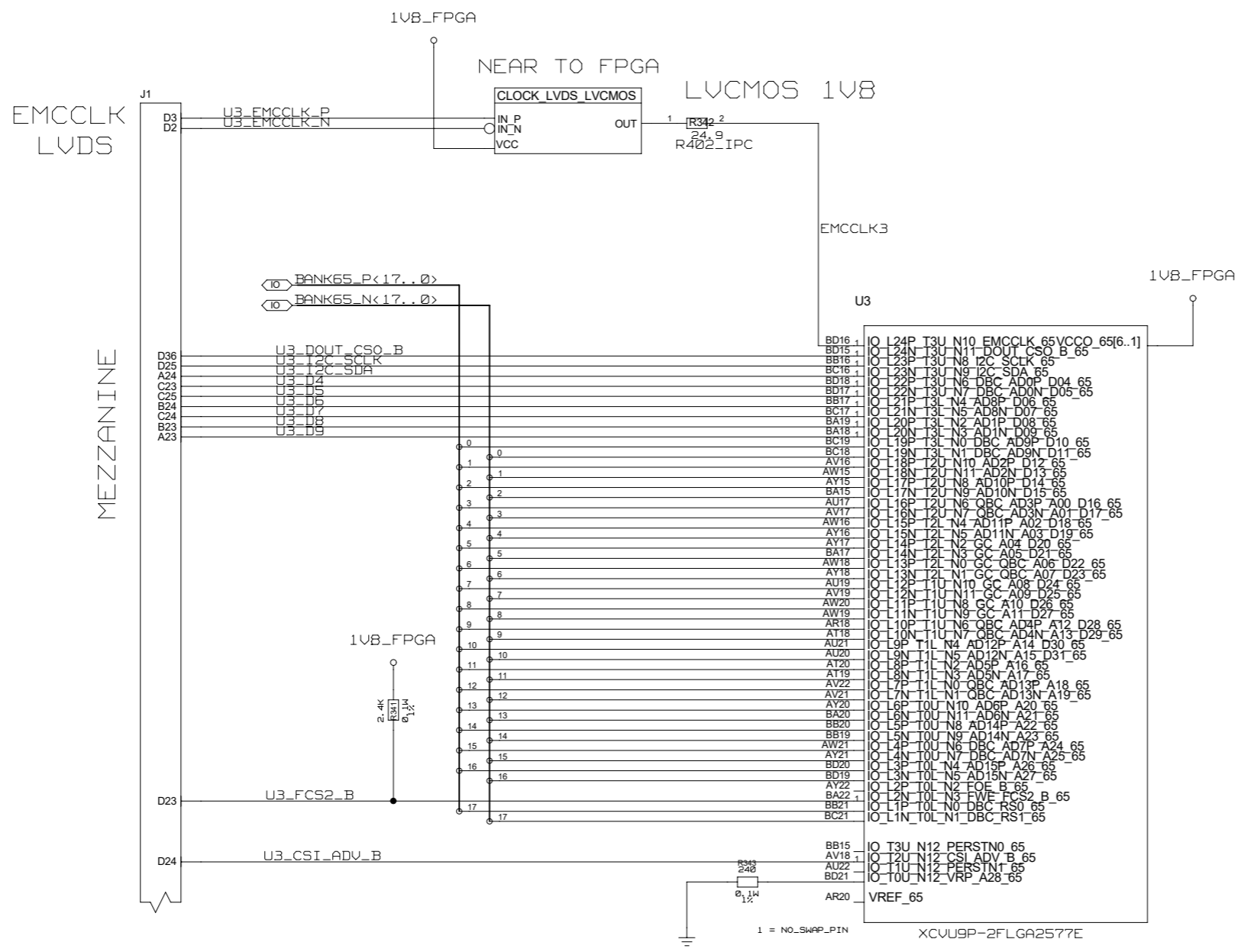
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK  
61  
62  
63

CHECKED	J. V. DE SOUZA			DRAWING TITLE  <b>JFEX</b>
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	25.08.2015		
BLOCK TITLE U3_PARALLEL_I/O				
UNIVERSITY OF MAINZ		SIZE <b>C</b>	REV.	DRAWING NO.
		SCALE		SHEET 1 OF 5

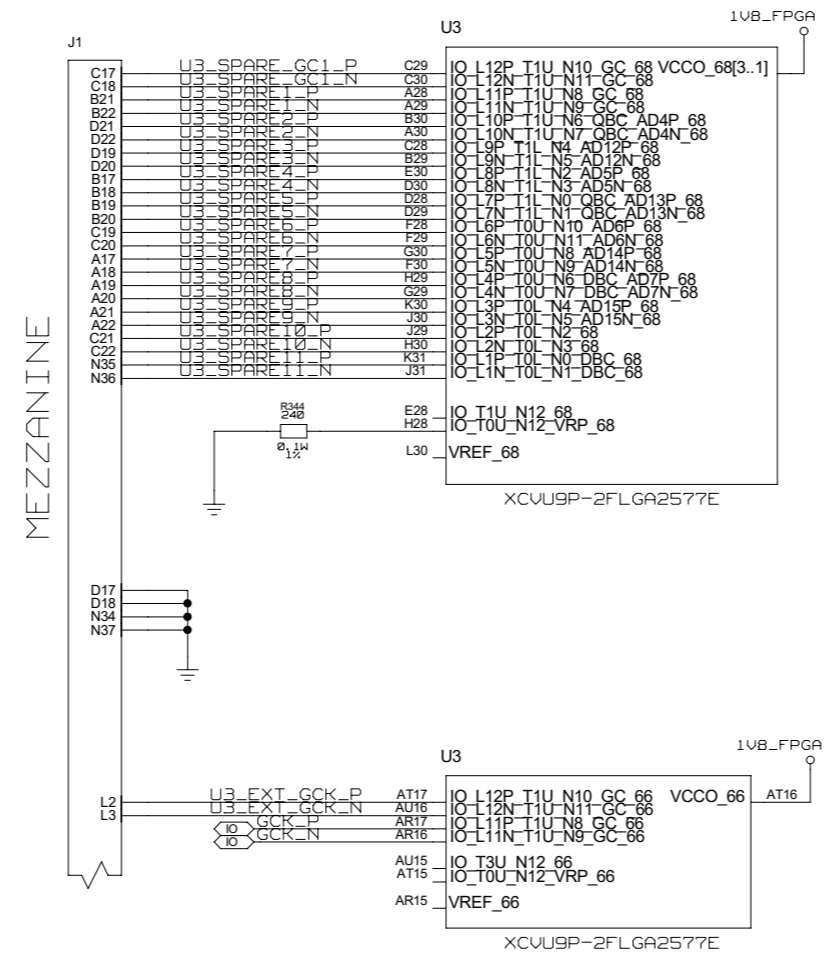
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK  
65

NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U. SCHAEFER			
CHECKED			
DRAWN BAUSS	25. 08. 2015		
BLOCK TITLE			
U3_PARALLEL_I/O			
UNIVERSITY OF MAINZ			
SIZE	REV.	DRAWING NO.	
C			
SCALE		SHEET 2 OF 5	

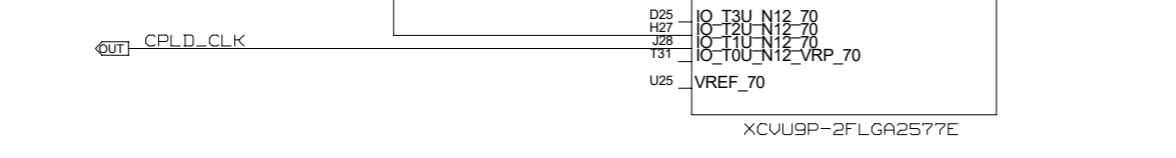
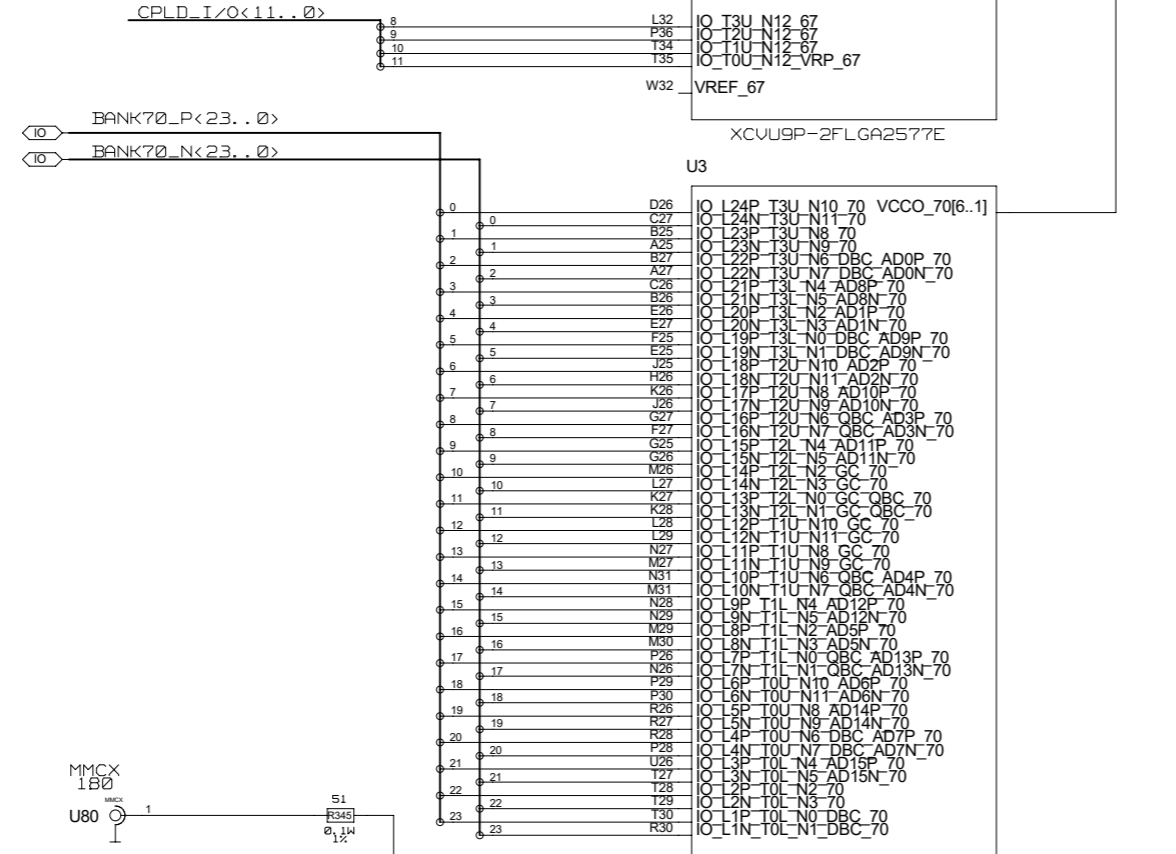
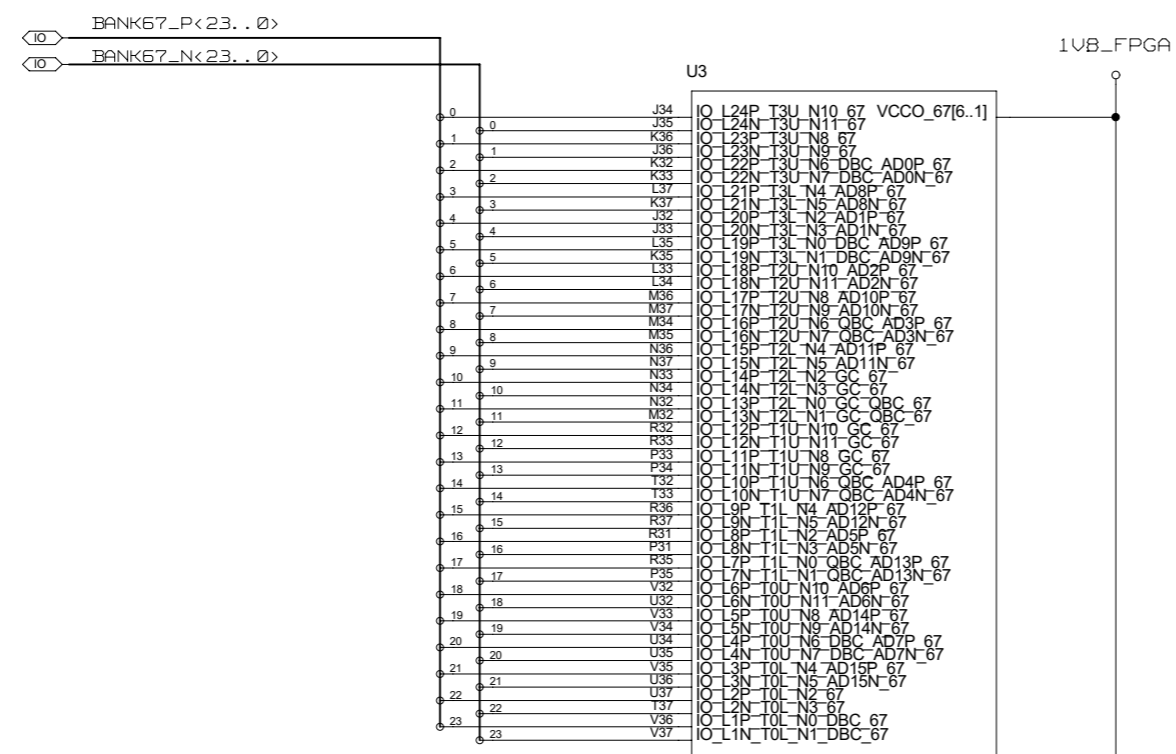
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK
66
68

NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U.SCHAEFER			
CHECKED			
DRAWN BAUSS	25. 08. 2015		
BLOCK TITLE			
U3_PARALLEL_I/O			
UNIVERSITY OF MAINZ			
SIZE C	REV.	DRAWING NO.	
SCALE		SHEET 3 OF 5	

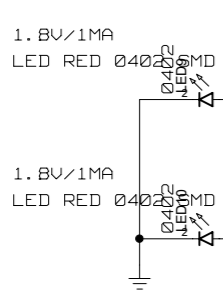
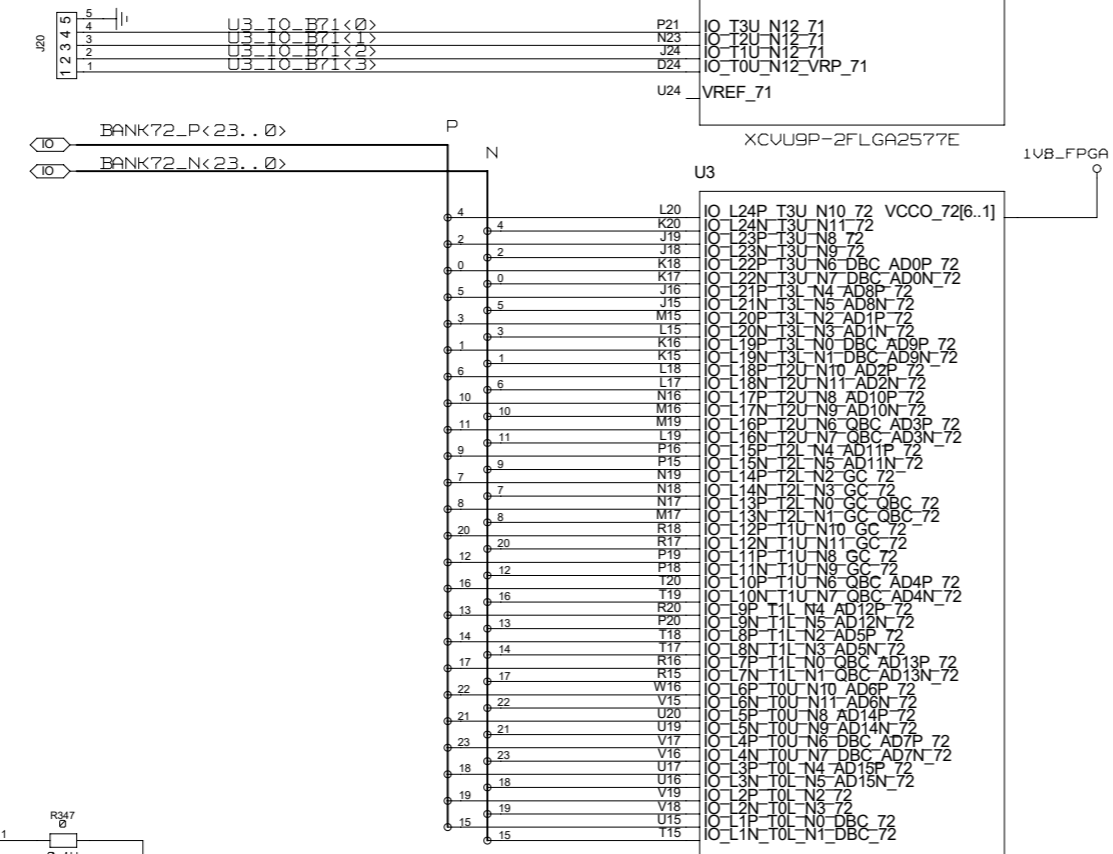
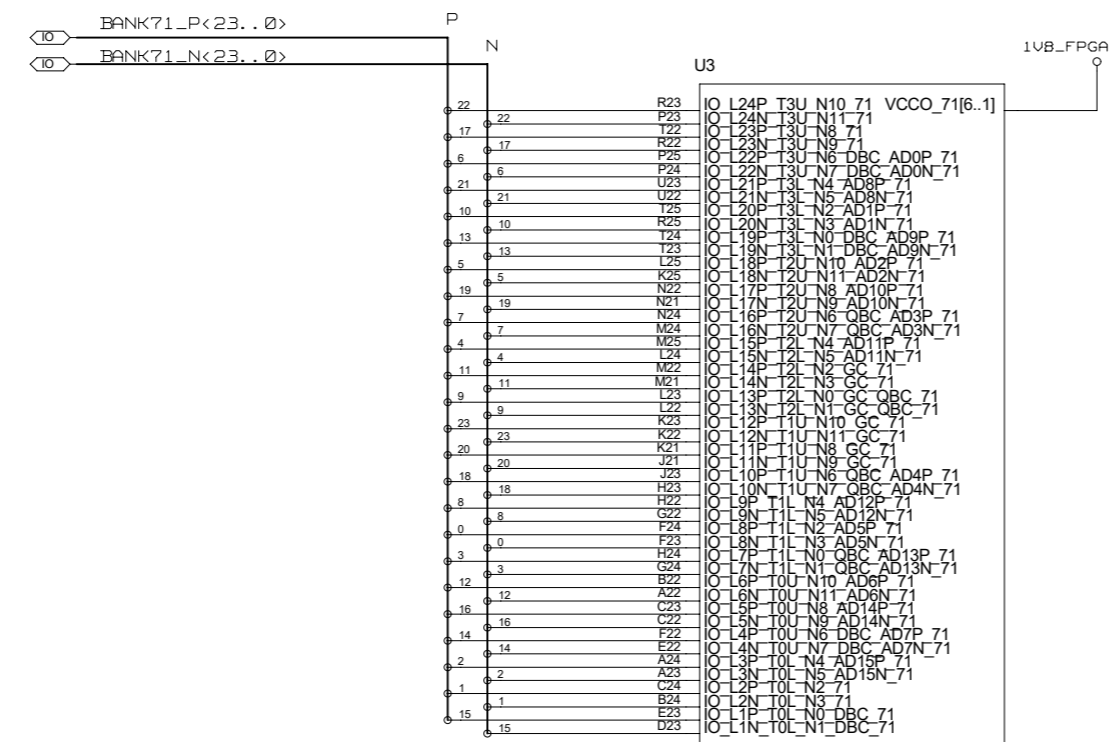
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK  
67  
70

CHECKED	J. V. DE SOUZA	DATE	SIGN	DRAWING TITLE <b>JFEX</b>
CHECKED	U.SCHAEFER			
CHECKED				
DRAWN	BAUSS	25.08.2015		
BLOCK TITLE U3_PARALLEL_I/O				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
				DRAWING NO.
				SCALE
				SHEET 4 OF 5

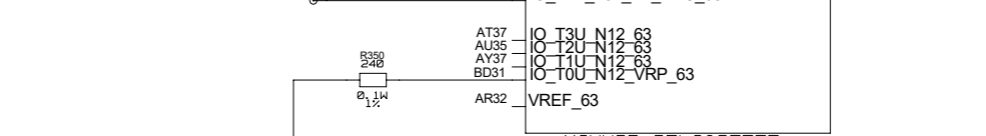
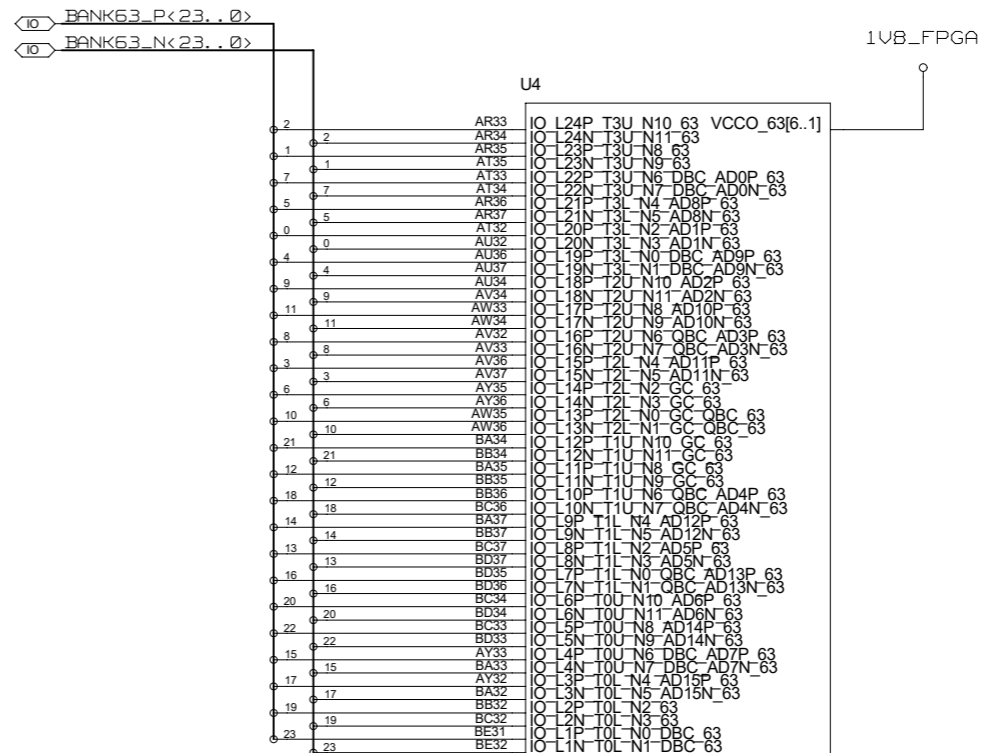
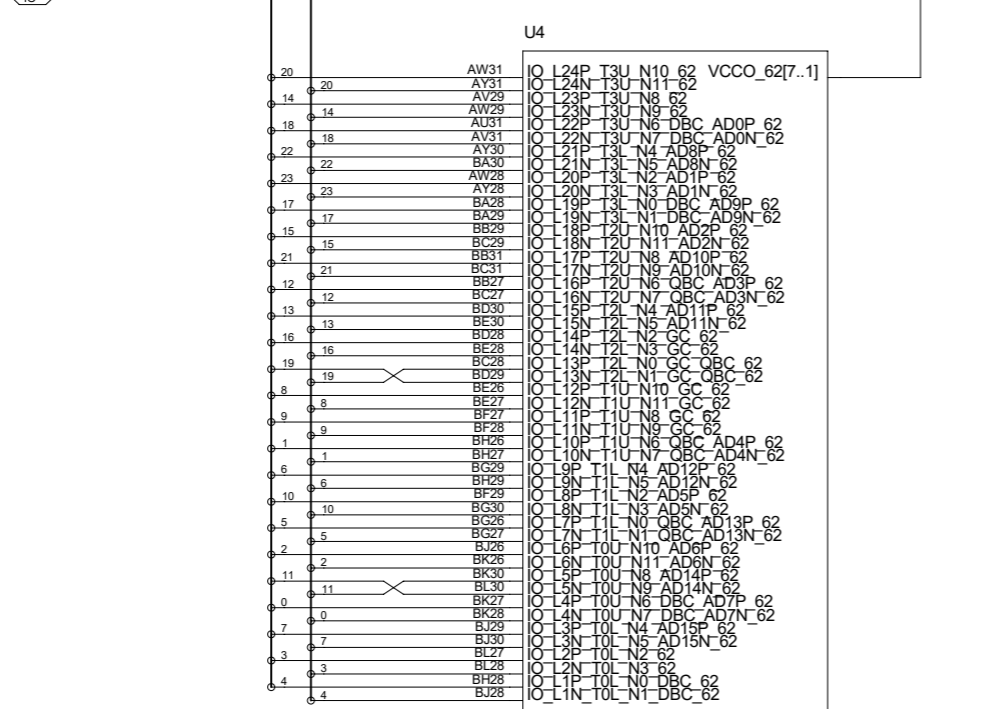
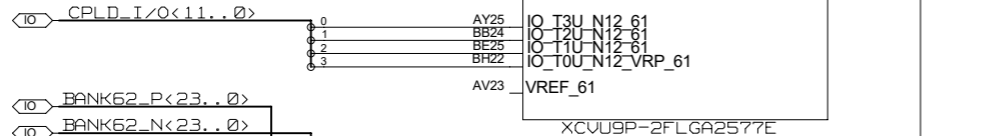
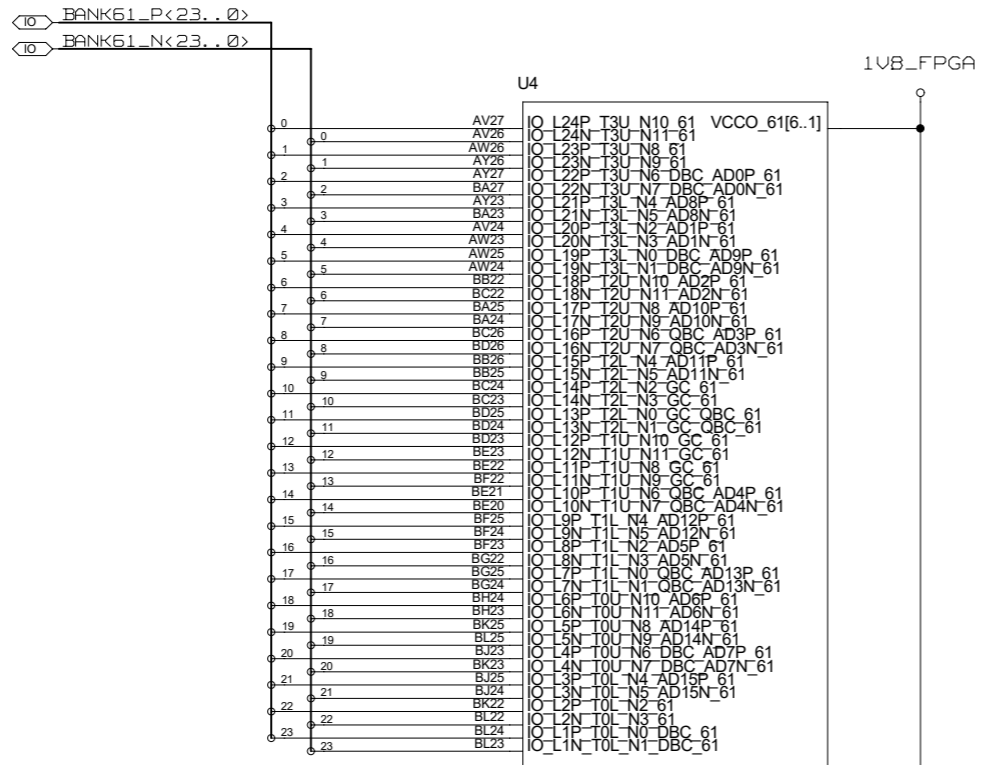
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK  
71  
72

CHECKED	NAME	DATE	SIGN	DRAWING TITLE <b>JFEX</b>
CHECKED	J. V. DE SOUZA			
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	25.08.2015		
BLOCK TITLE U3_PARALLEL_I/O				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
				DRAWING NO.
				SHEET 5 OF 5

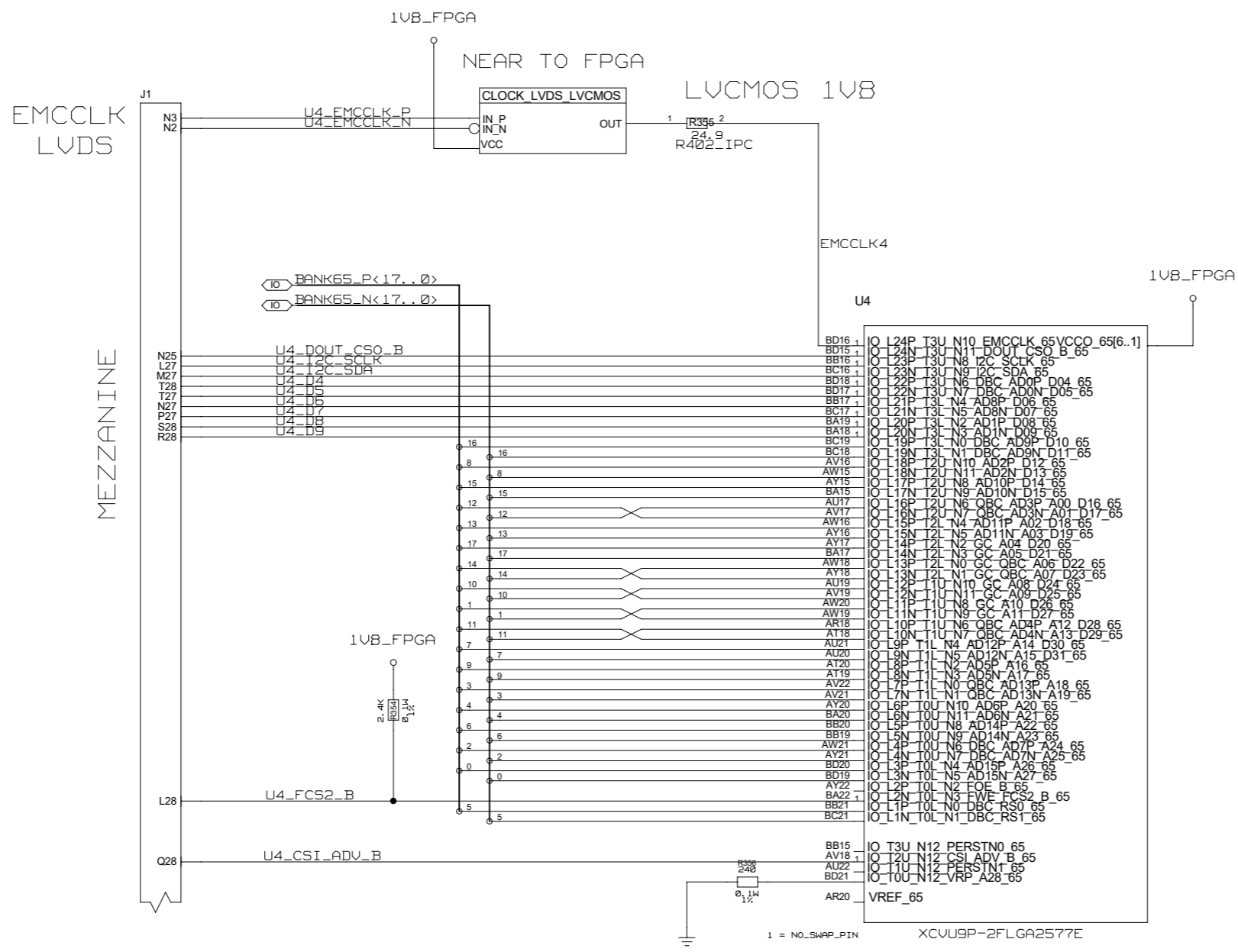
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK  
61  
62  
63

NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX
CHECKED	U. SCHAEFER		
CHECKED			
DRAWN	BAUSS	25.08.2015	
BLOCK TITLE			
U4_PARALLEL_I/O			
UNIVERSITY OF MAINZ		SIZE <b>C</b>	REV.
SCALE		DRAWING NO.	
SHEET 1 OF 5			

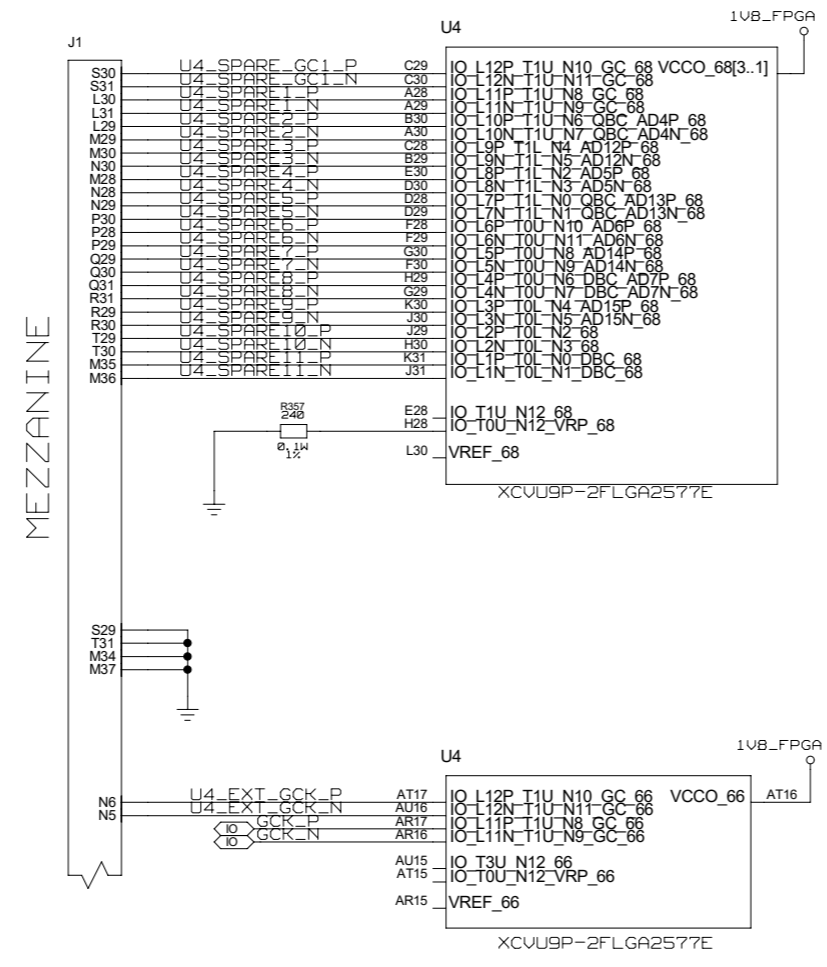
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK  
65

NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX
CHECKED	U. SCHAEFER		
CHECKED			
DRAWN	BAUSS	25.08.2015	
BLOCK TITLE			
U4_PARALLEL_I/O			
UNIVERSITY OF MAINZ			SIZE C
			REV.
			DRAWING NO.
SCALE			SHEET 2 OF 5

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



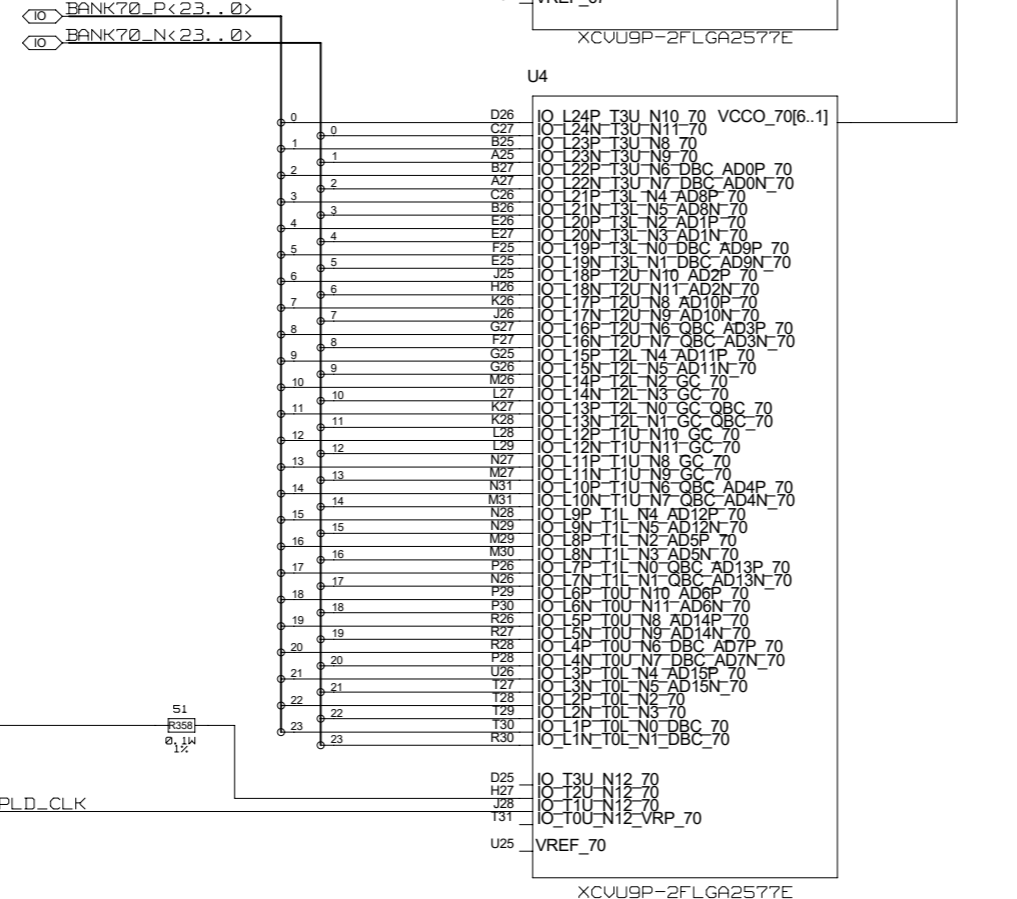
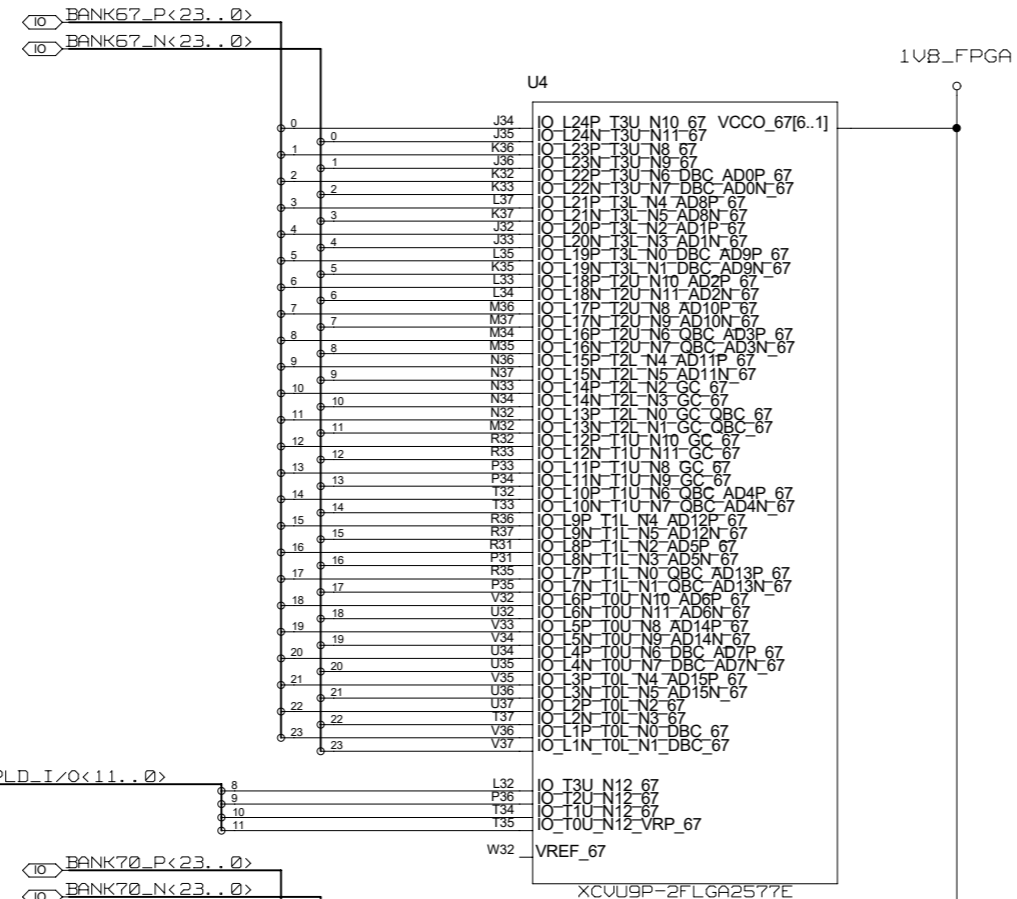
MEZZANINE

BANK
66
68

CHECKED	NAME	DATE	SIGN	DRAWING TITLE <b>JFEX</b>
CHECKED	J. V. DE SOUZA			
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	25. 08. 2015		
BLOCK TITLE U4_PARALLEL_I/O				
UNIVERSITY OF MAINZ				SIZE <b>C</b>
				REV.
				DRAWING NO.
				SCALE
				SHEET 3 OF 5



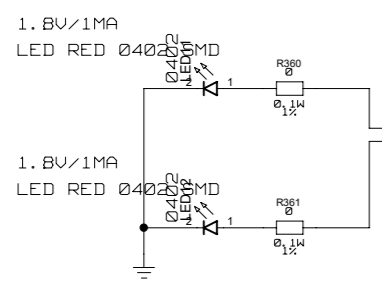
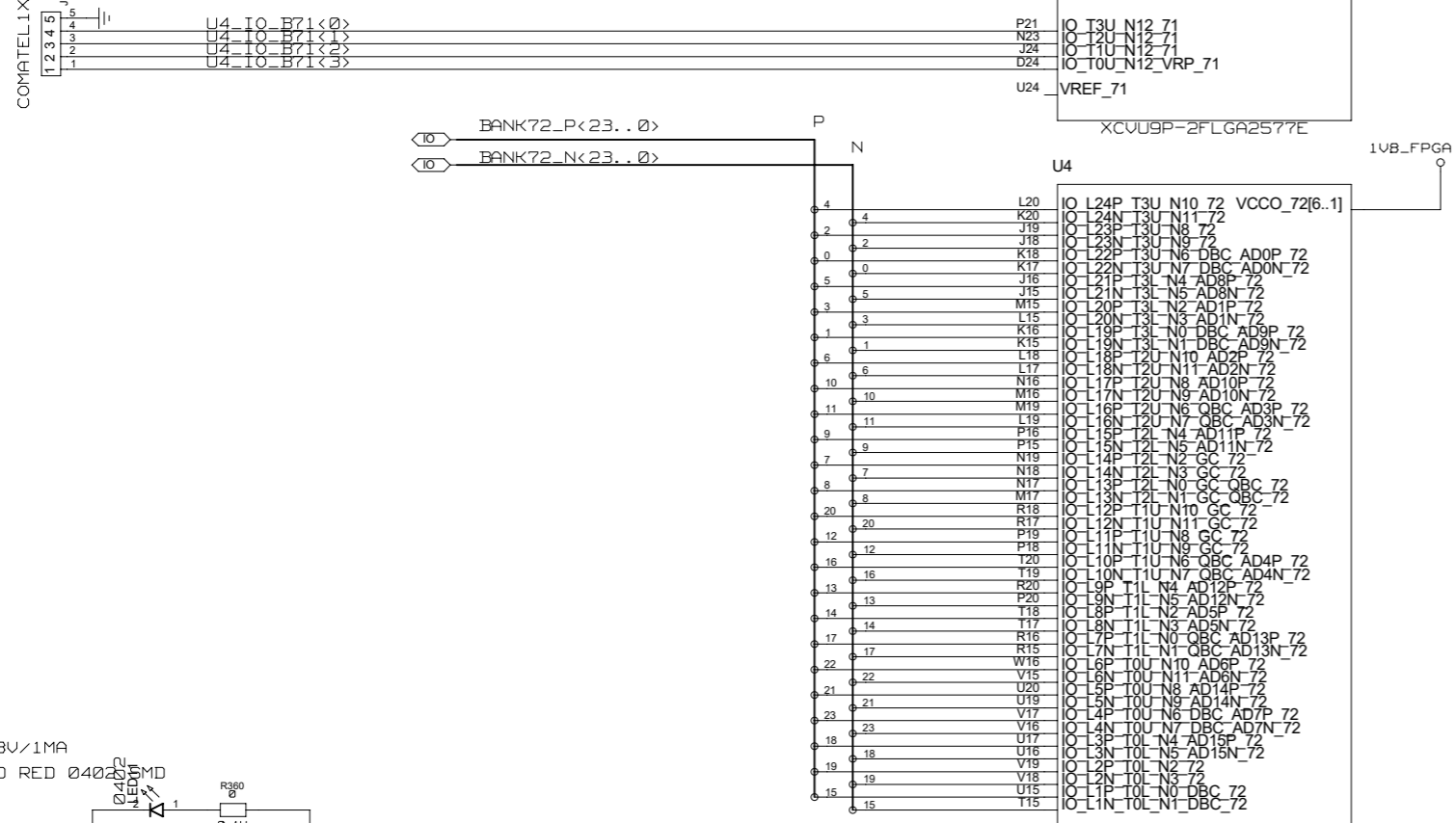
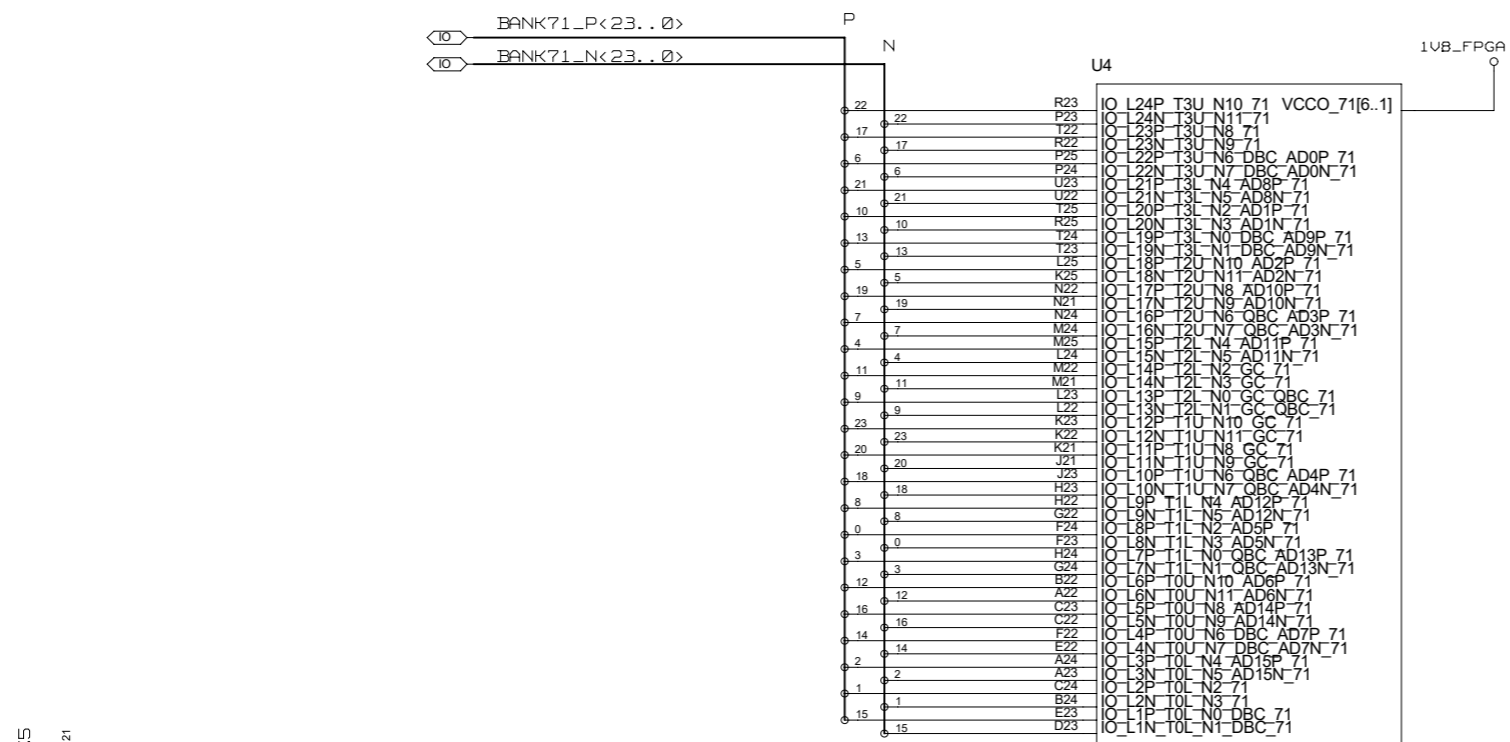
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK  
67  
70

NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U.SCHAEFER			
CHECKED			
DRAWN BAUSS	25.08.2015		
BLOCK TITLE			
U4_PARALLEL_I/O			
UNIVERSITY OF MAINZ		SIZE <b>C</b>	REV.
SCALE		DRAWING NO.	
		SHEET 4 OF 5	

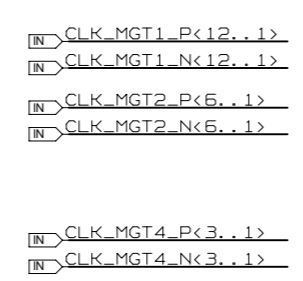
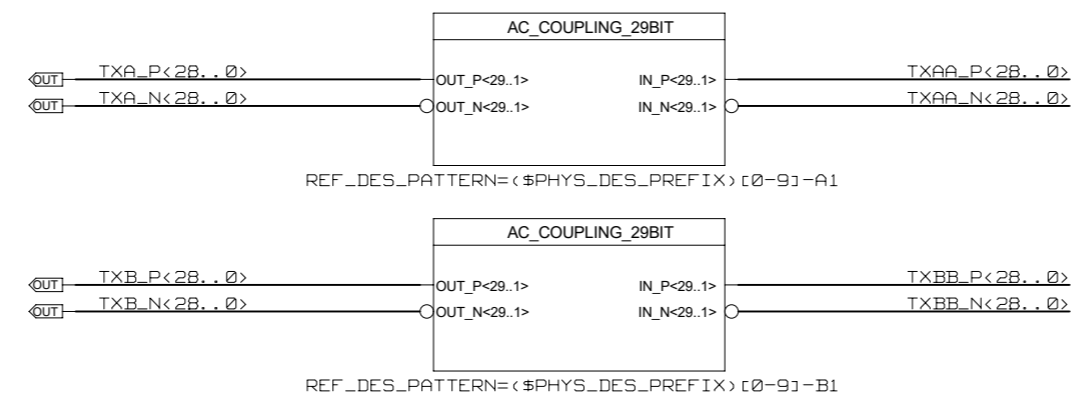
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK  
71  
72

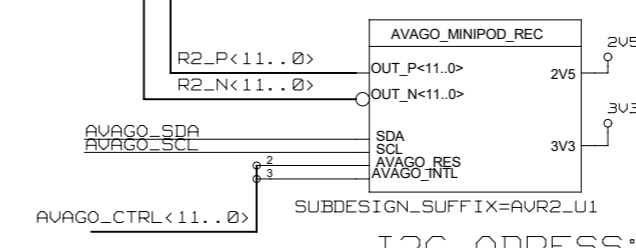
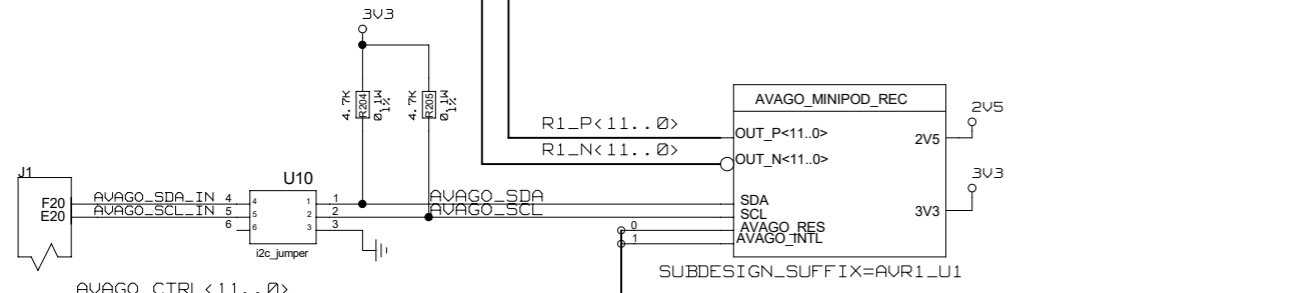
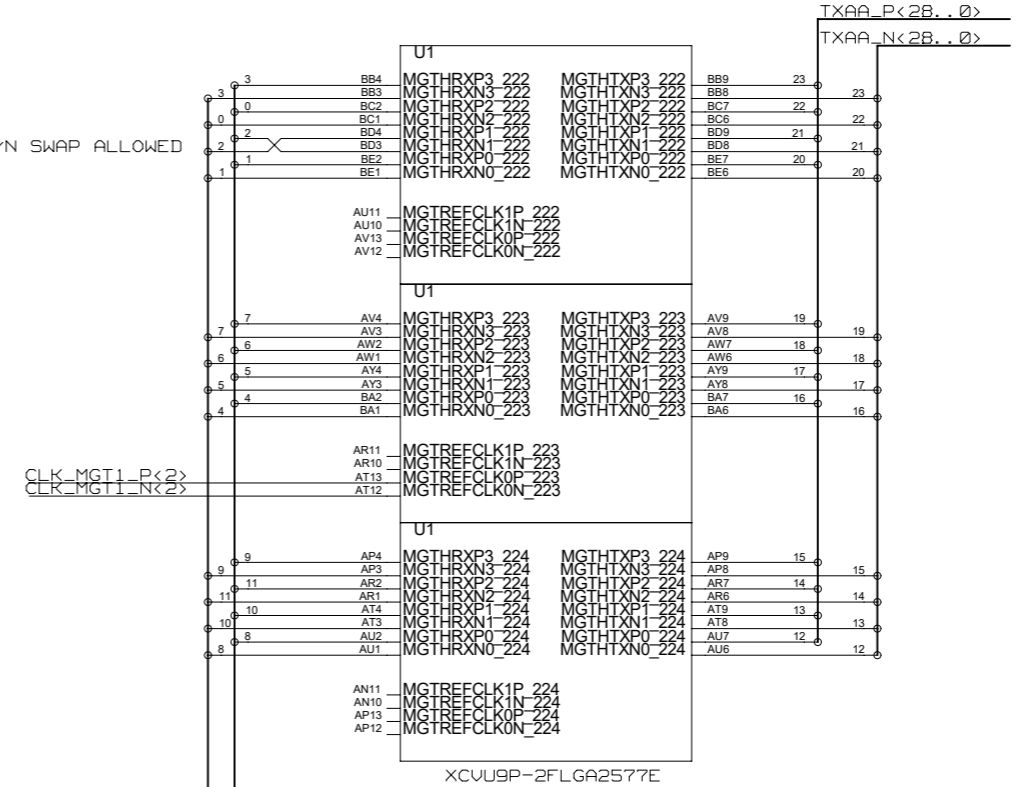
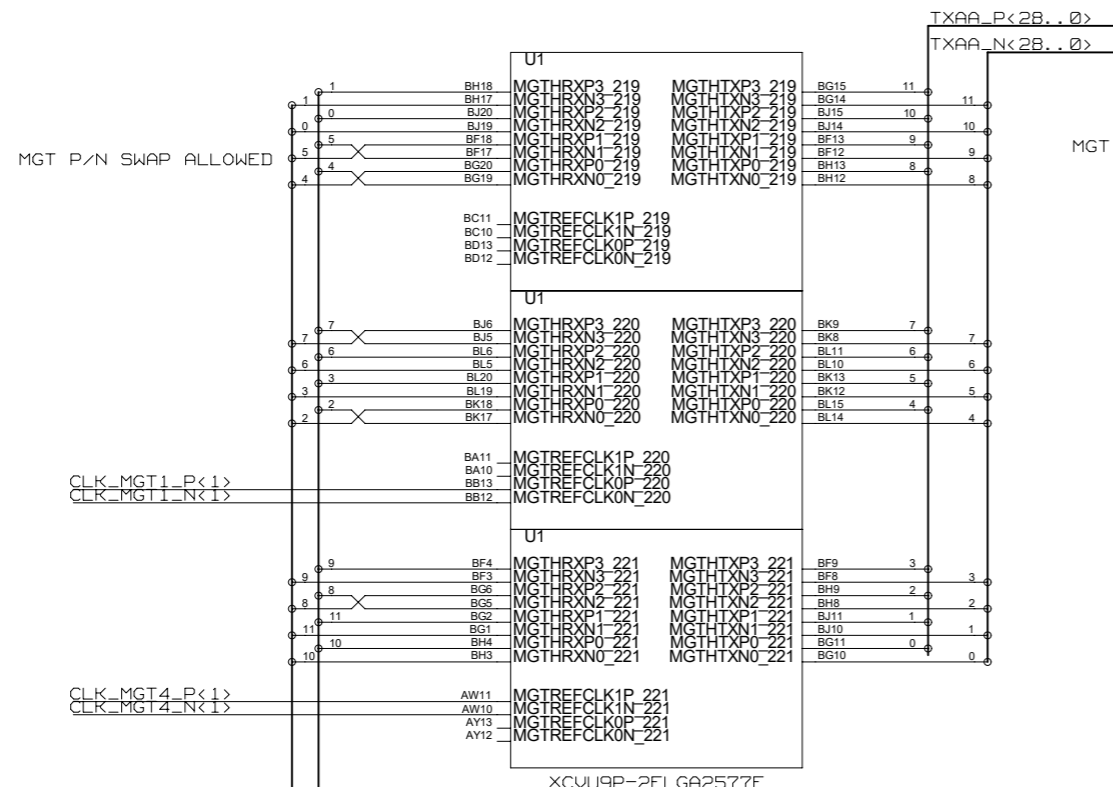
NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U.SCHAEFER			
CHECKED			
DRAWN BAUSS	25.08.2015		
BLOCK TITLE U4_PARALLEL_I/O			
UNIVERSITY OF MAINZ		SIZE <b>C</b>	DRAWING NO.
SCALE		REV.	SHEET 5 OF 5

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



CHECKED	J. V. DE SOUZA			DRAWING TITLE <b>JFEX</b> I/O + AC COUPLING
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE U1_MGT_REAL_TIME				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
SCALE				DRAWING NO.
				SHEET 1 OF 7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



AVAGO\_CTRL<11..0>  
 AVAGO\_CTRL 0, 2, 4, 6, 8, 10 = AVAGO\_RES\_XX  
 AVAGO\_CTRL 1, 3, 5, 7, 9, 11 = AVAGO\_INTL\_XX

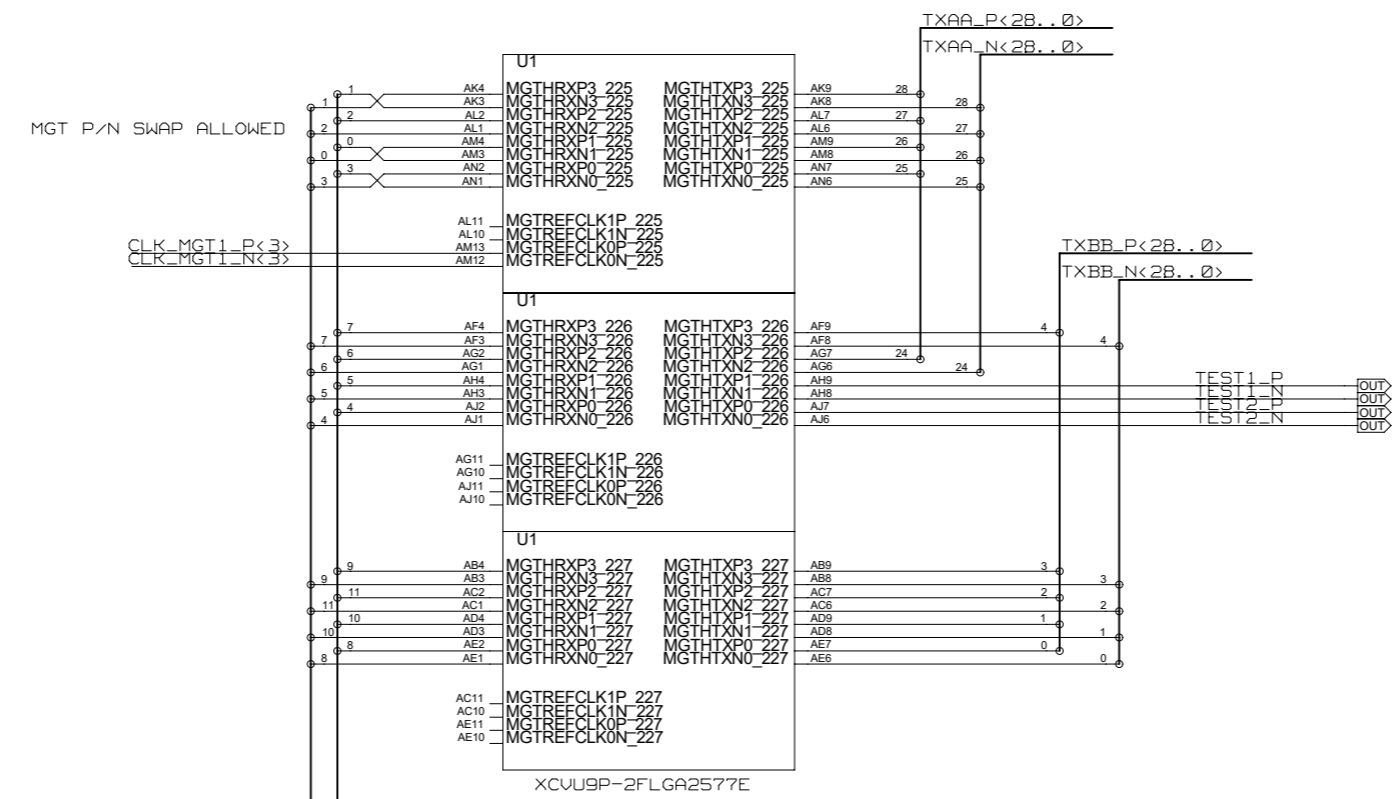
I2C ADDRESS:  
 R3=XXX R4=XXX  
 R5=XXX R6=XXX  
 R7=XXX R8=XXX

I2C ADDRESS:  
 R3=XXX R4=XXX  
 R5=XXX R6=XXX  
 R7=XXX R8=XXX

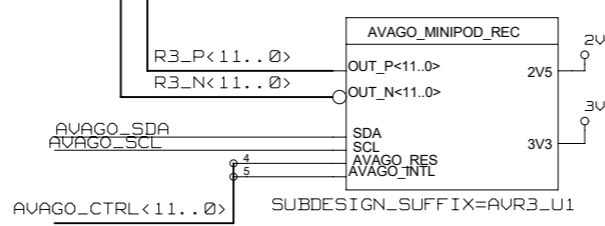
BANK
210
209
208
207
206
205
204
203
202
201
200

NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX AVAGO + TXA
CHECKED	U.SCHAEFER		
CHECKED			
DRAWN	BAUSS	07.08.2015	
BLOCK TITLE			
U1_MGT_REAL_TIME			
UNIVERSITY OF MAINZ			
SIZE	REV.	DRAWING NO.	
C			
SCALE		SHEET 2 OF 7	

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



CLK\_MGT1\_P<3>  
CLK\_MGT1\_N<3>

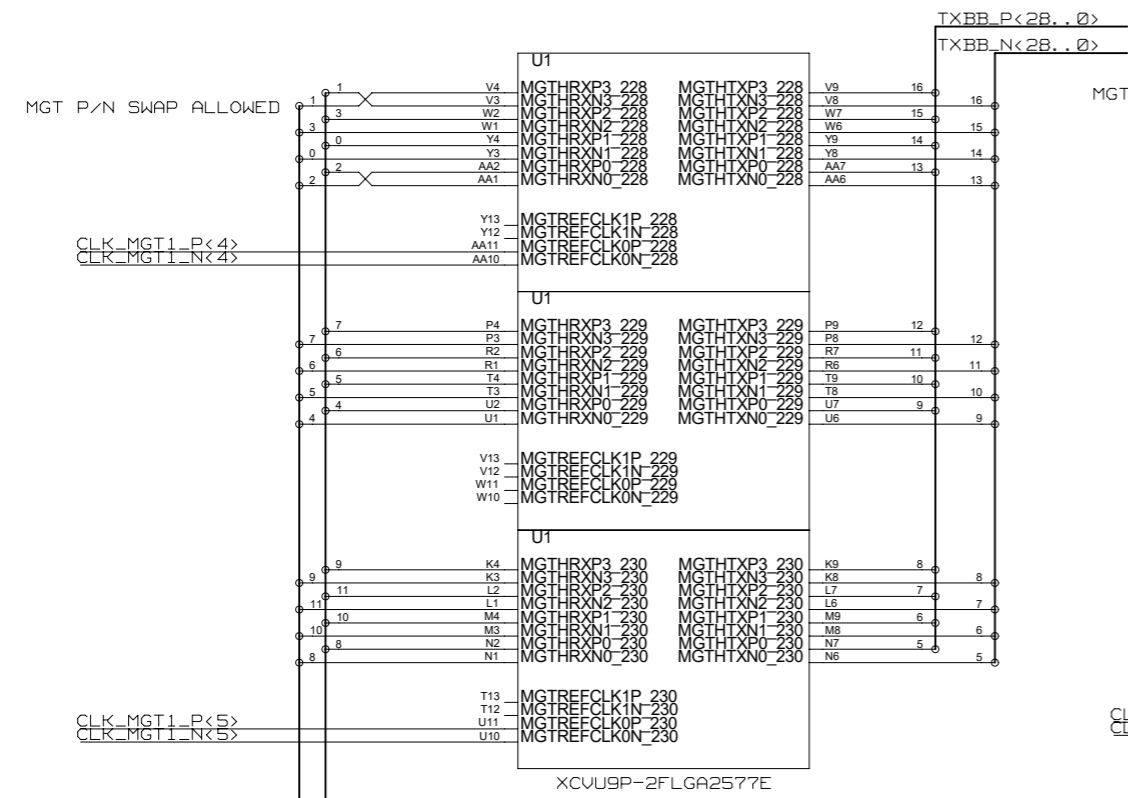


I2C ADDRESS:  
R3=XXX R4=XXX  
R5=XXX R6=XXX  
R7=XXX R8=XXX

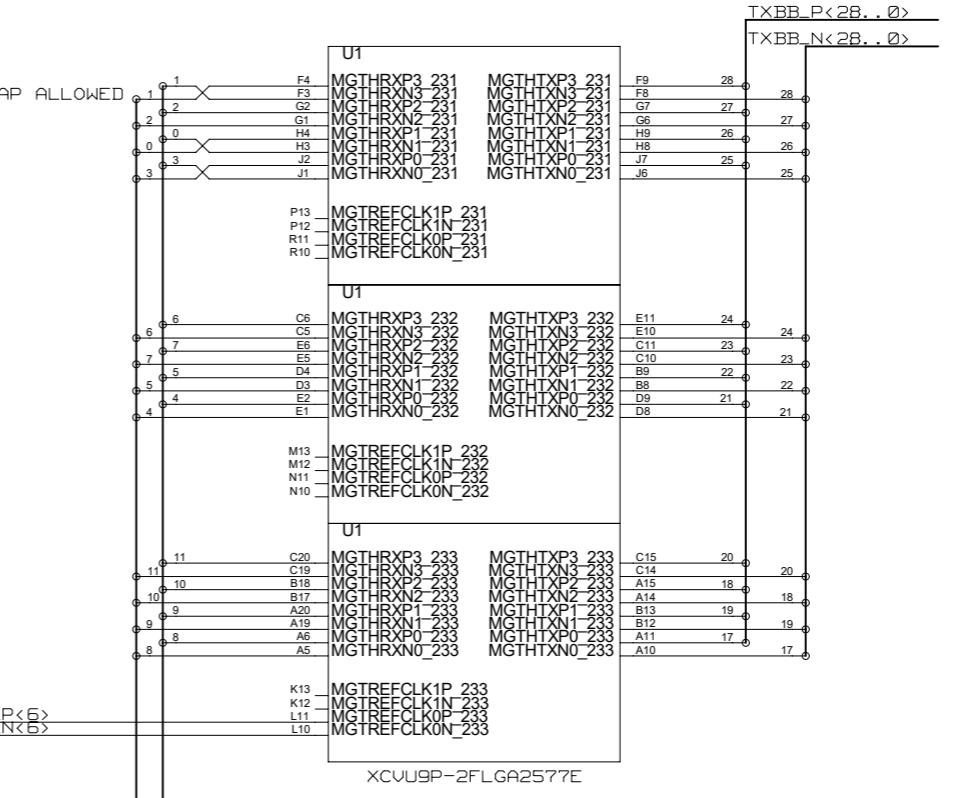
BANK  
225  
226  
227

CHECKED	NAME	DATE	SIGN	DRAWING TITLE <b>JFEX AVAGO + TXA + TXB</b>
CHECKED	J.V.DE SOUZA			
CHECKED	U.SCHAEFER			
CHECKED	BAUSS	07.08.2015		
DRAWN				BLOCK TITLE <b>U1_MGT_REAL_TIME</b>
UNIVERSITY OF MAINZ				
SIZE	REV.	DRAWING NO.		
SCALE		SHEET 3 OF 7		

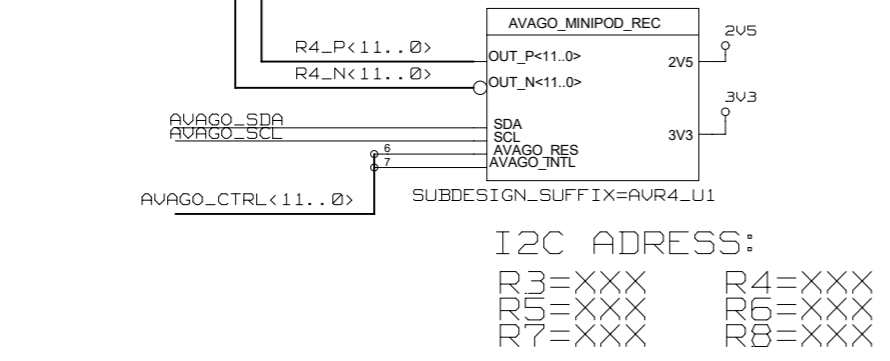
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



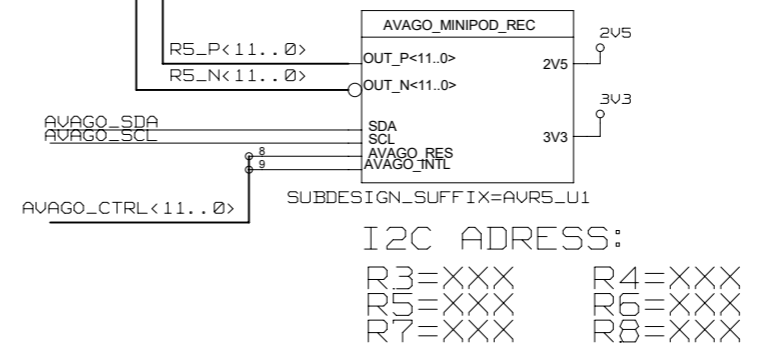
MGT P/N SWAP ALLOWED



MGT P/N SWAP ALLOWED



I2C ADDRESS:  
R3=XXX R4=XXX  
R5=XXX R6=XXX  
R7=XXX R8=XXX

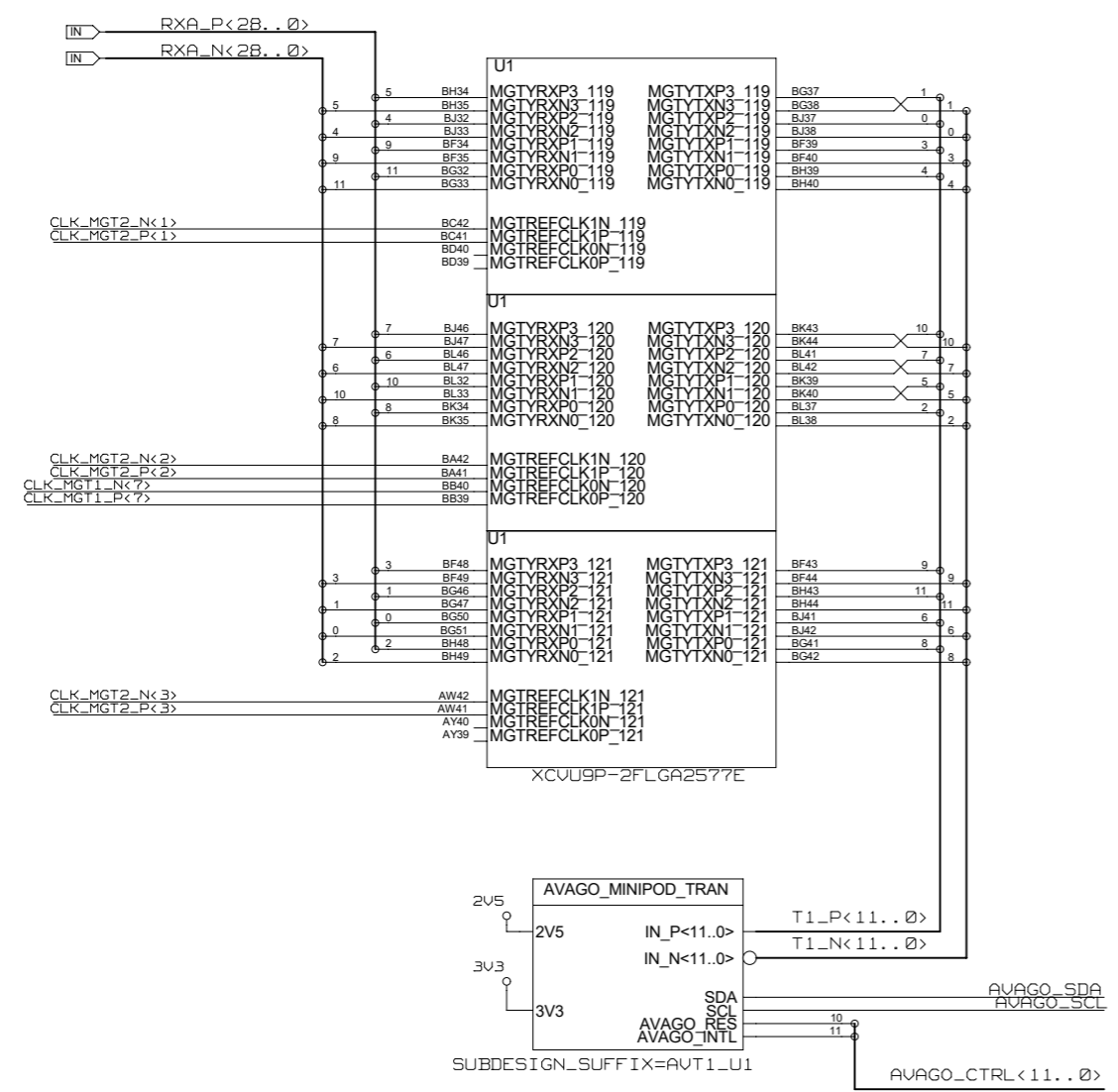


I2C ADDRESS:  
R3=XXX R4=XXX  
R5=XXX R6=XXX  
R7=XXX R8=XXX

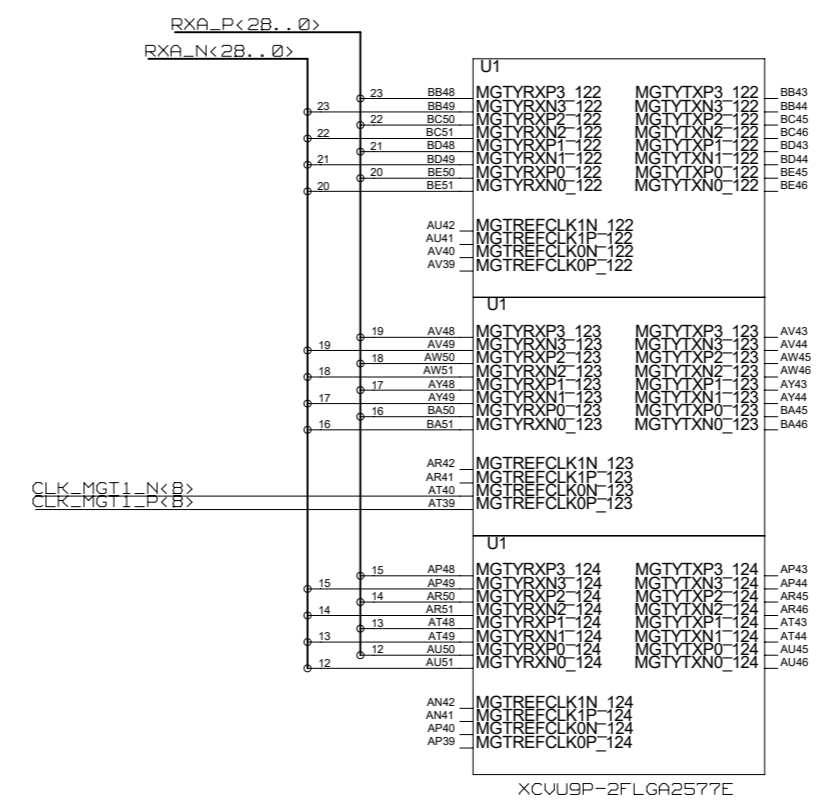
BANK  
R3  
R4  
R5  
R6  
R7  
R8

NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX AVAGO + TXB
CHECKED	U.SCHAEFER		
CHECKED			
DRAWN	BAUSS	07.08.2015	
BLOCK TITLE			
U1_MGT_REAL_TIME			
UNIVERSITY OF MAINZ			
SIZE	REV.	DRAWING NO.	
C			
SCALE			SHEET 4 OF 7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



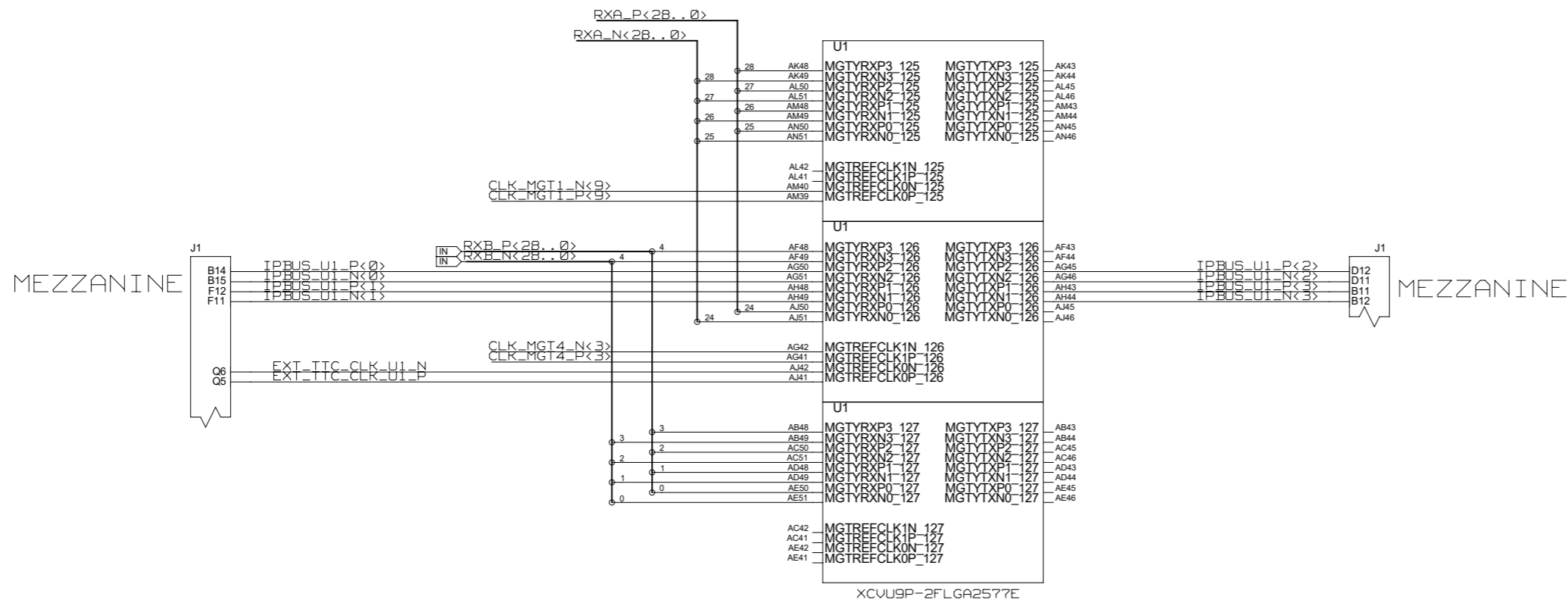
I2C ADDRESS:  
R3=XXX R4=XXX  
R5=XXX R6=XXX  
R7=XXX R8=XXX



BANK
110
120
130
140
150
160
170
180
190
200
210
220
230
240

CHECKED	J. V. DE SOUZA			DRAWING TITLE  <b>JFEX AVAGO + RXA</b>
CHECKED	U.SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE <b>U1_MGT_REAL_TIME</b>				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
				DRAWING NO.
				SCALE
				SHEET 5 OF 7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

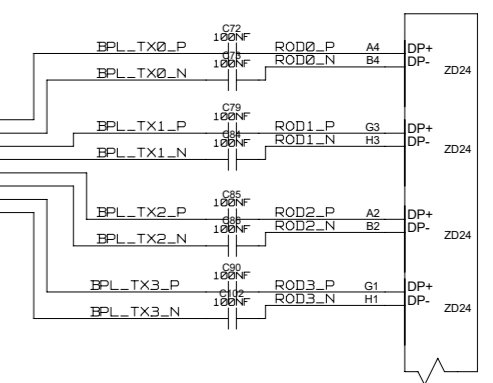
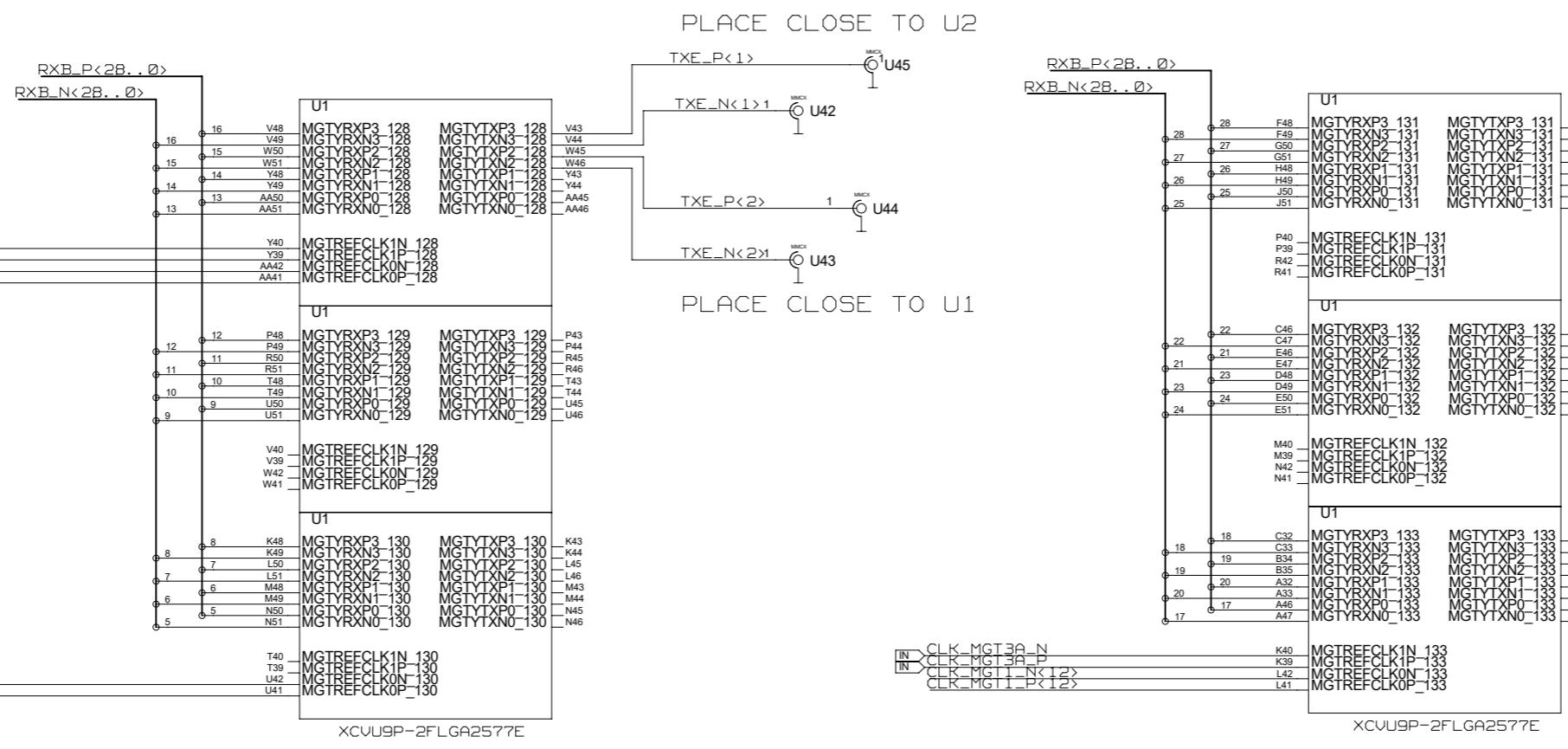


BANK
125
126
127

CHECKED	J. V. DE SOUZA			DRAWING TITLE <b>JFEX</b> RXA + RXB TXD + IPBUS
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE U1_MGT_REAL_TIME				
UNIVERSITY OF MAINZ				SIZE <b>C</b>
				REV.
				DRAWING NO.
				SCALE
				SHEET 6 OF 7



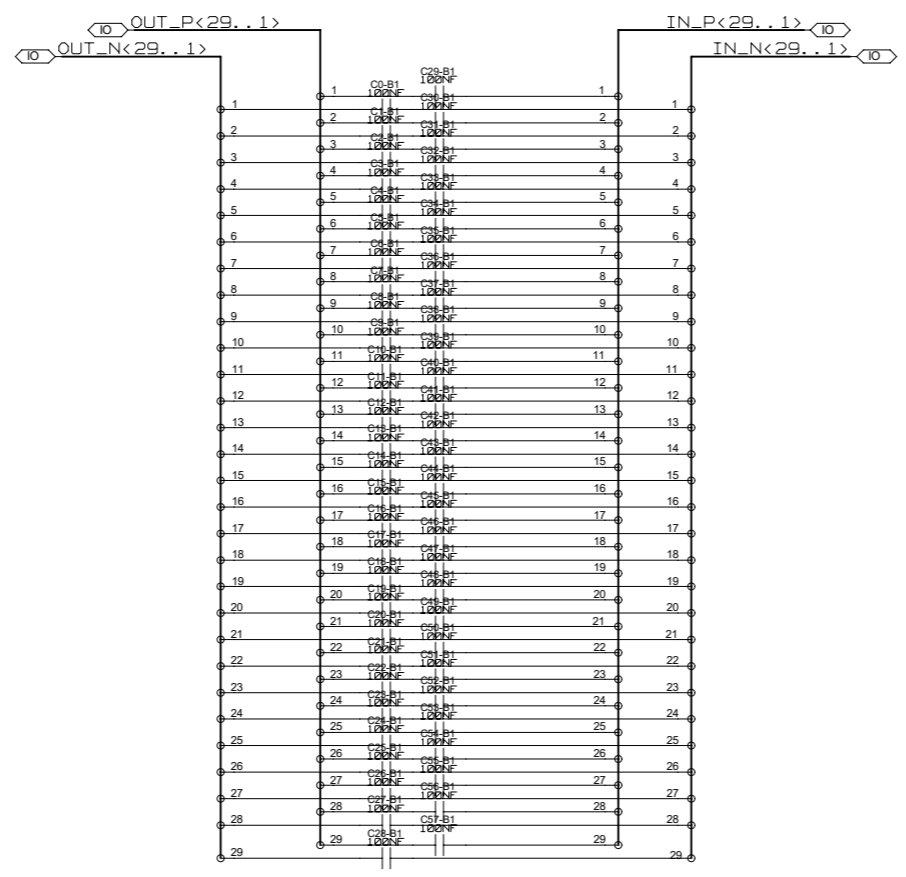
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK
120
1200
12000
120000
1200000
12000000
120000000
1200000000
12000000000
120000000000

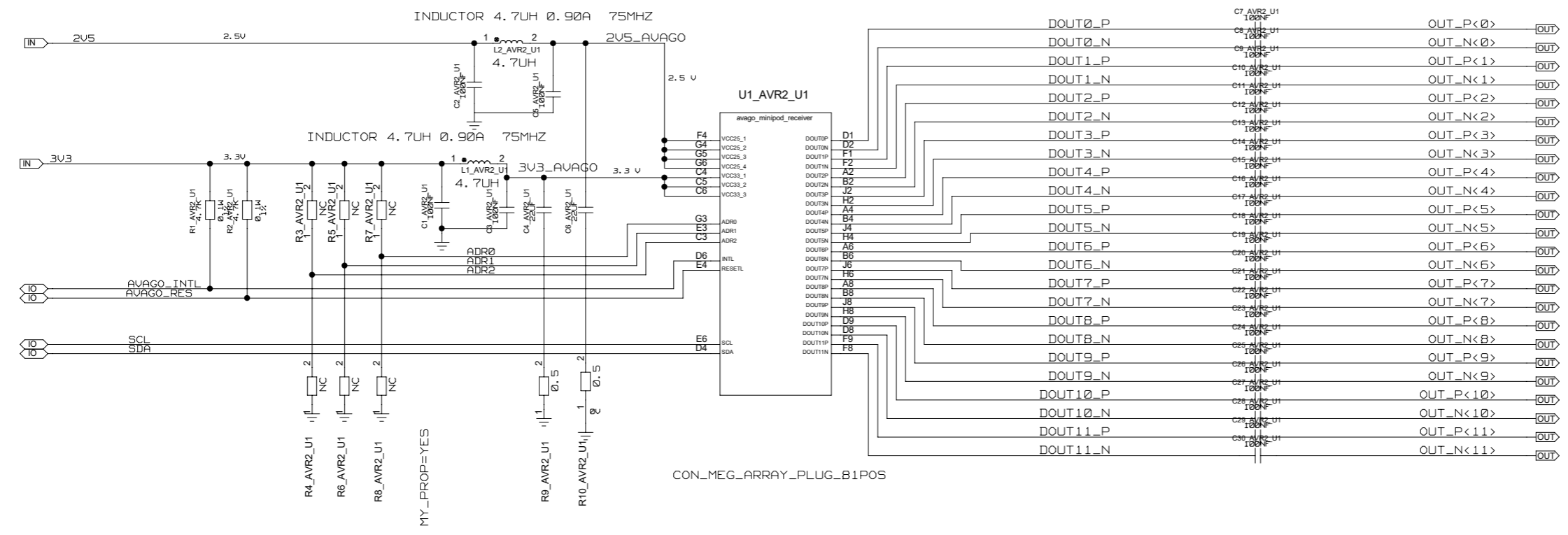
CHECKED	NAME	DATE	SIGN	DRAWING TITLE  <b>JFEX RXB + TXC</b>
CHECKED	J. V. DE SOUZA			
CHECKED	U. SCHAEFER			
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE <b>U1_MGT_REAL_TIME</b>				DRAWING NO.
UNIVERSITY OF MAINZ				
SIZE	REV.	DRAWING NO.		
SCALE	SHEET 7 OF 7			

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



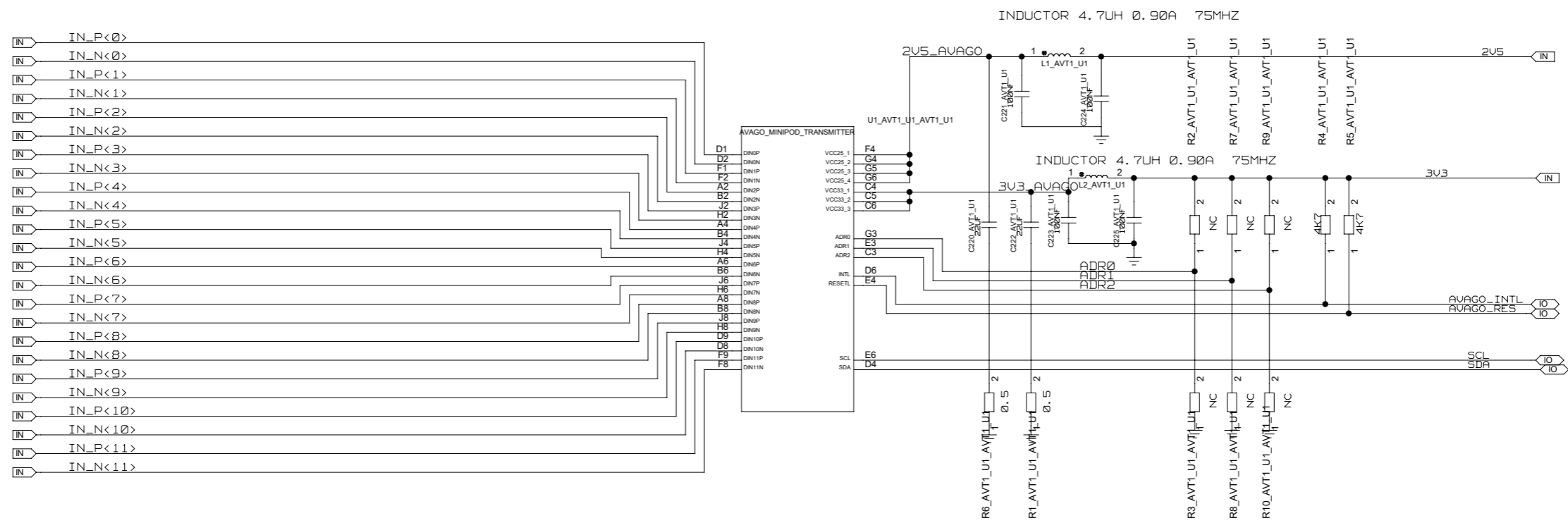
CHECKED	NAME	DATE	SIGN	DRAWING TITLE	
CHECKED	J. V. DE SOUZA			AC COUPLING 29BIT	
CHECKED	U. SCHAEFER				
CHECKED	BAUSS				
DRAWN	BAUSS			BLOCK TITLE	
UNIVERSITY OF MAINZ				SIZE	DRAWING NO.
				<b>C</b>	REV.
SCALE					SHEET OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



	NAME	DATE	SIGN	DRAWING TITLE	
CHECKED	J. V. DE SOUZA			AVAGO RECEIVER	
CHECKED	U. SCHAEFER				
CHECKED					
DRAWN	BAUSS				
BLOCK TITLE				SIZE	DRAWING NO.
UNIVERSITY OF MAINZ				<b>C</b>	REV.
SCALE					SHEET OF

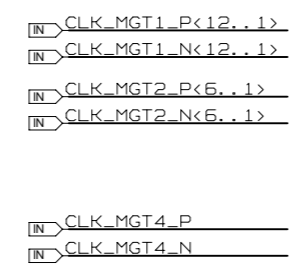
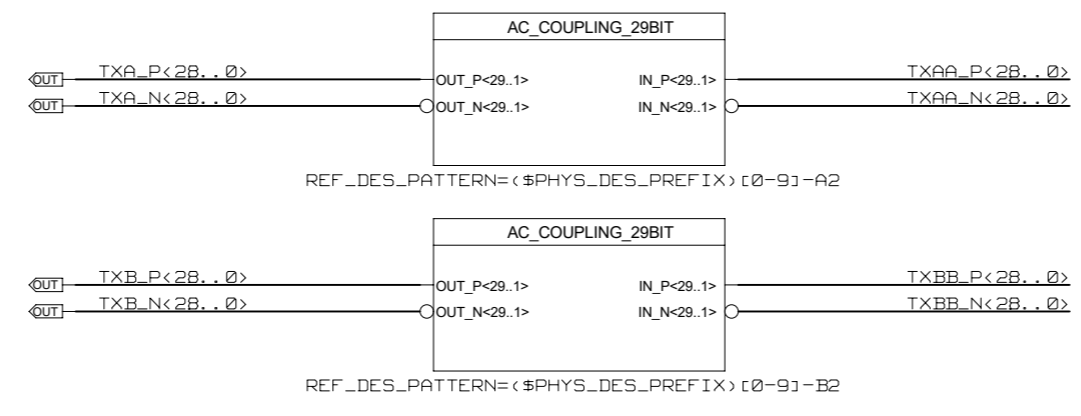
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



NAME	DATE	SIGN	DRAWING TITLE	
CHECKED	J. V. DE SOUZA		AVAGO TRANSMITTER	
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS		BLOCK TITLE	
UNIVERSITY OF MAINZ			SIZE <b>C</b>	REV.
SCALE			DRAWING NO.	
SHEET			OF	

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

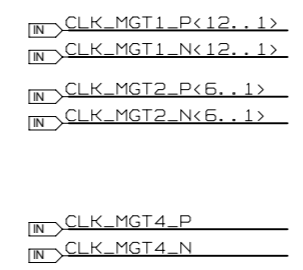
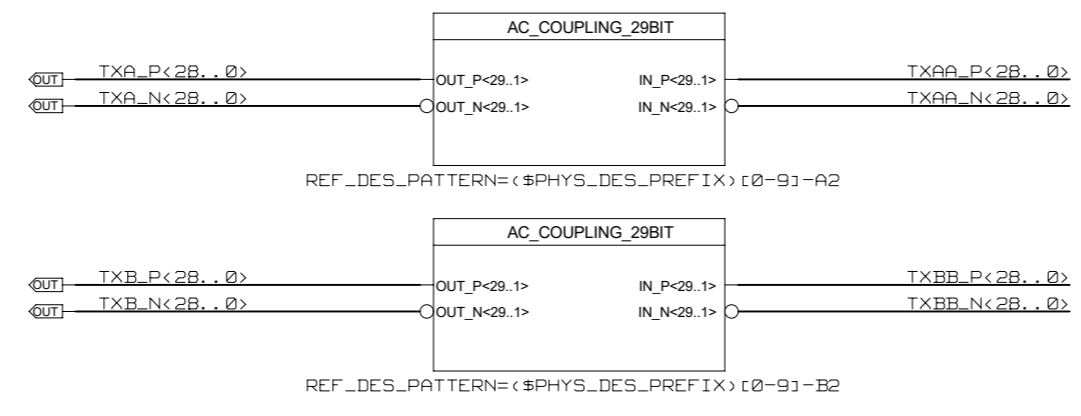
### AC COUPLING



CHECKED	J. V. DE SOUZA			DRAWING TITLE <b>JFEX</b> I/O + AC COUPLING
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE U2_MGT_REAL_TIME				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
SCALE				DRAWING NO.
				SHEET 1 OF 7

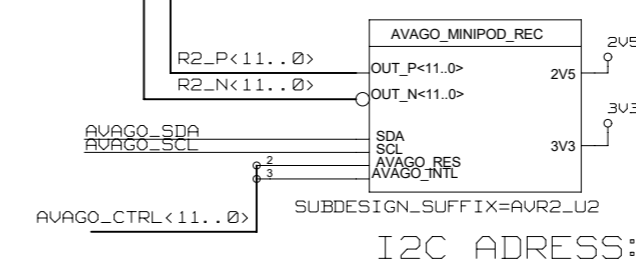
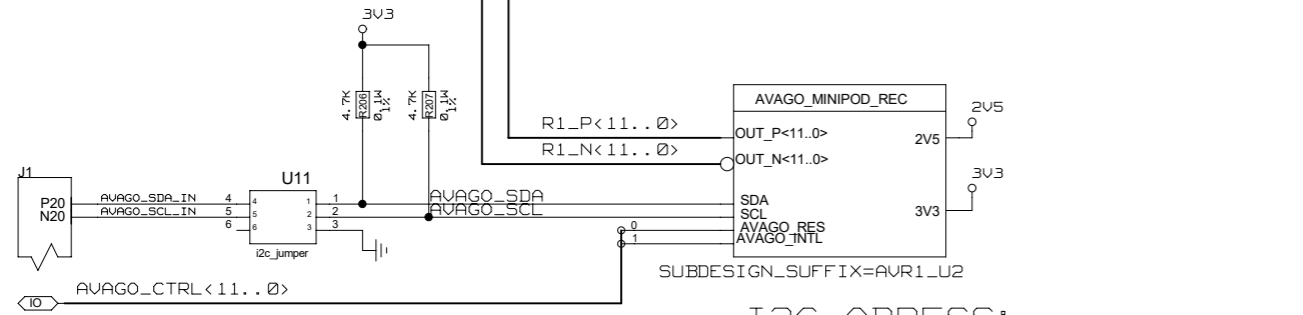
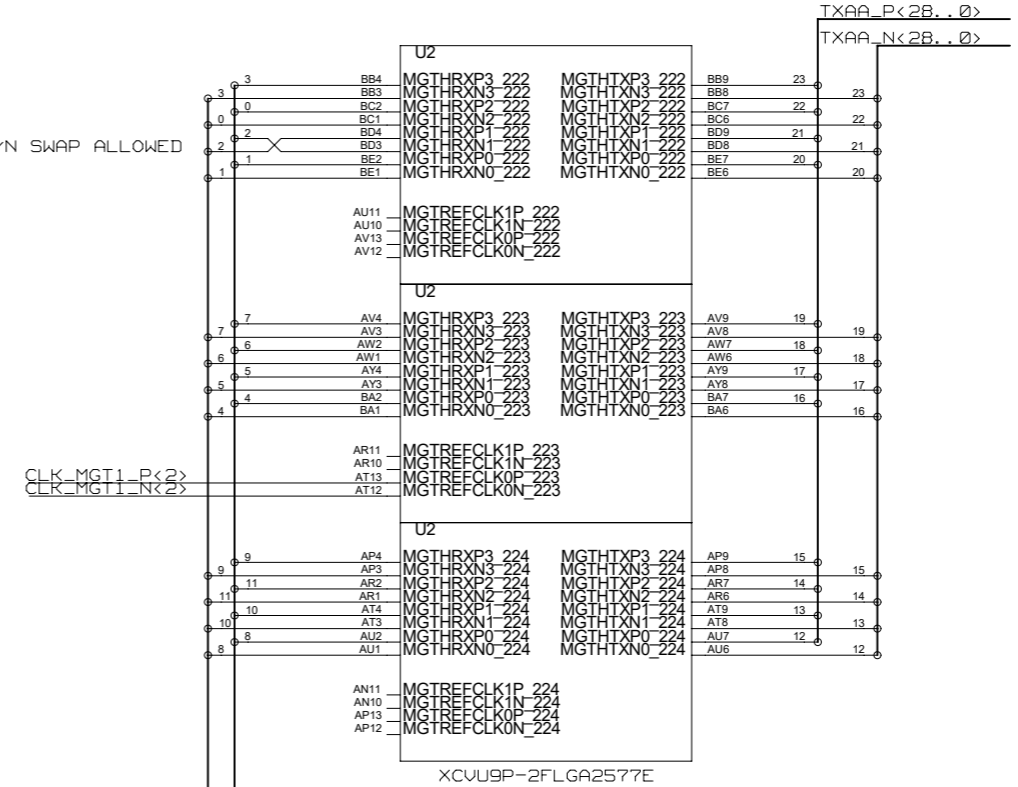
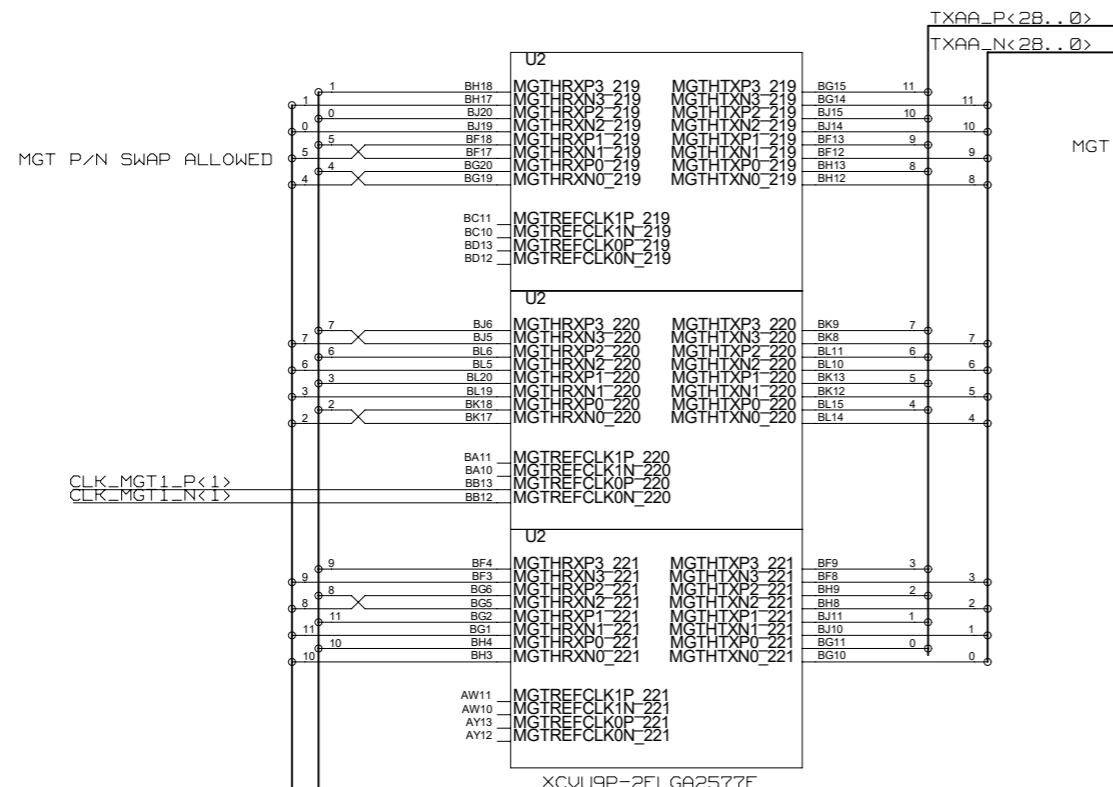
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

### AC COUPLING



CHECKED	J. V. DE SOUZA			DRAWING TITLE <b>JFEX</b> I/O + AC COUPLING
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE U2_MGT_REAL_TIME				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
SCALE				DRAWING NO.
				SHEET 1 OF 7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



AVAGO\_CTRL<11..0>  
 AVAGO\_CTRL 0, 2, 4, 6, 8, 10 = AVAGO\_RES\_XX  
 AVAGO\_CTRL 1, 3, 5, 7, 9, 11 = AVAGO\_INTL\_XX

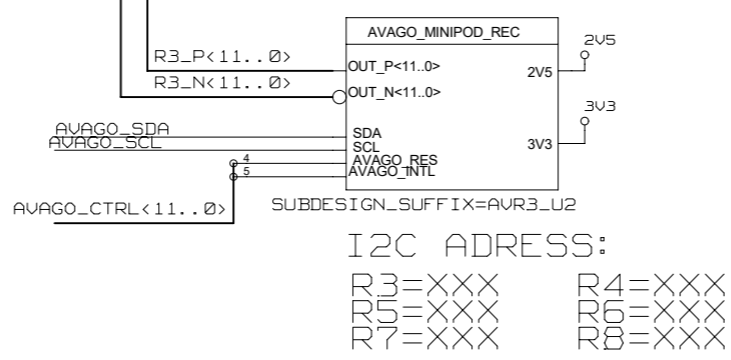
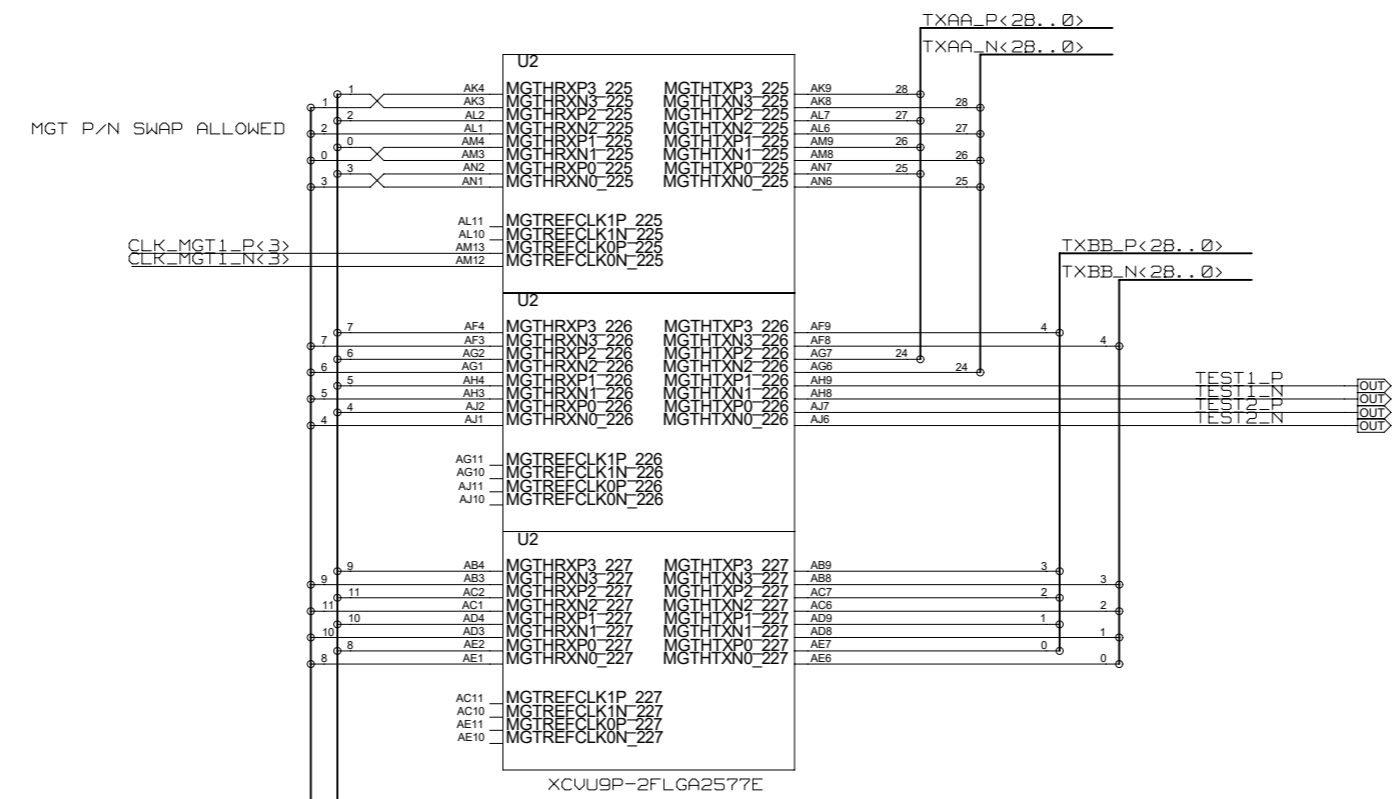
I2C ADDRESS:  
 R3=XXX R4=XXX  
 R5=XXX R6=XXX  
 R7=XXX R8=XXX

I2C ADDRESS:  
 R3=XXX R4=XXX  
 R5=XXX R6=XXX  
 R7=XXX R8=XXX

BANK
210
209
208
207
206
205
204
203
202
201
200

NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX AVAGO + TXA
CHECKED	U. SCHAEFER		
CHECKED			
DRAWN	BAUSS	07.08.2015	
BLOCK TITLE			
U2_MGT_REAL_TIME			
UNIVERSITY OF MAINZ		SIZE <b>C</b>	DRAWING NO.
SCALE		REV.	SHEET 2 OF 7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

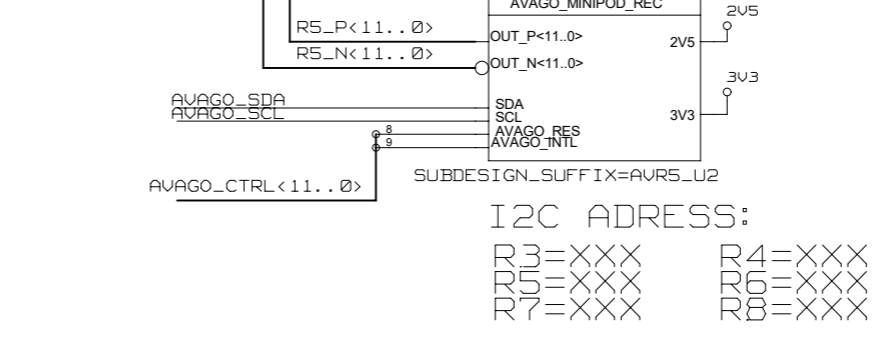
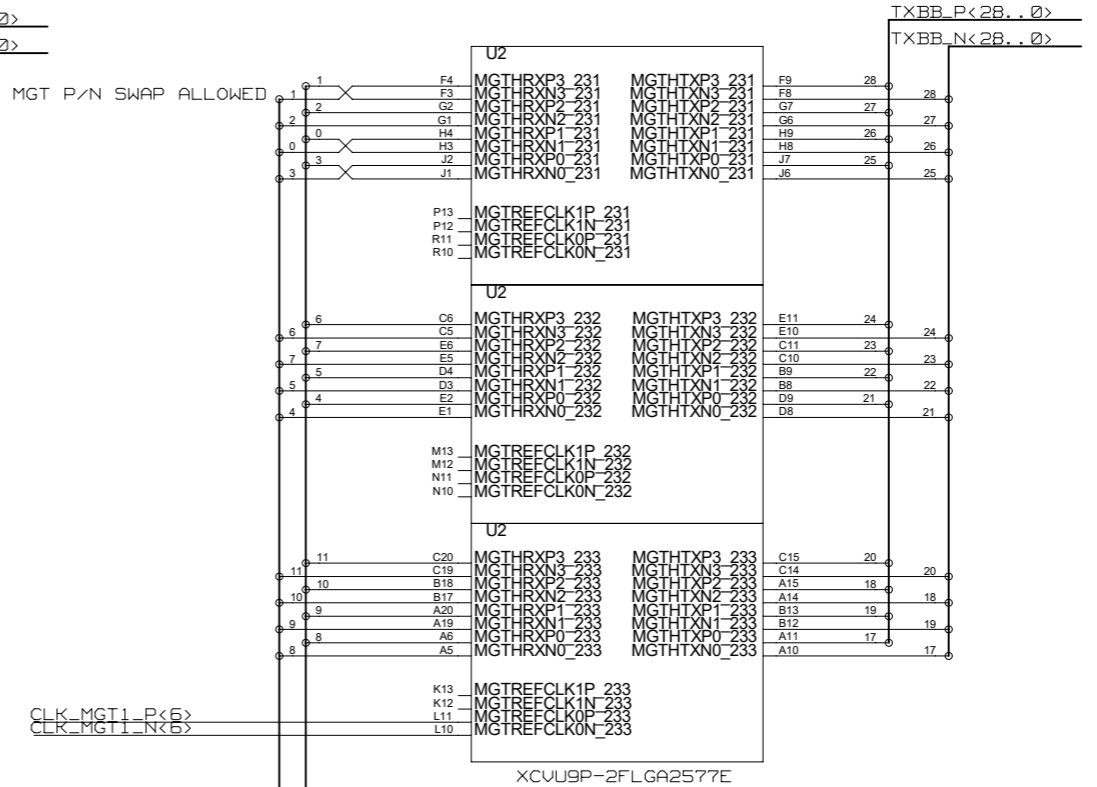
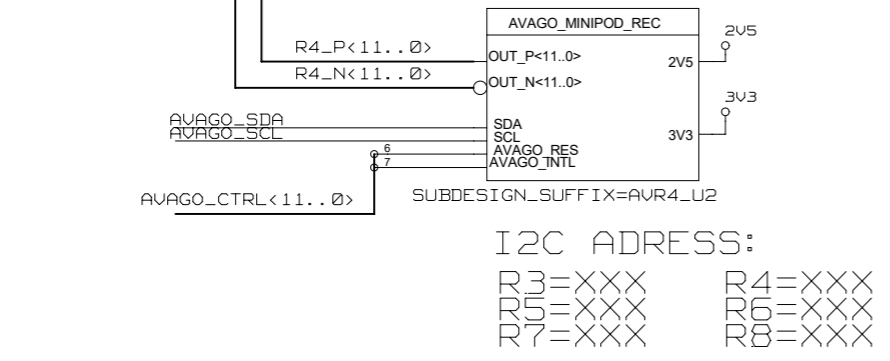
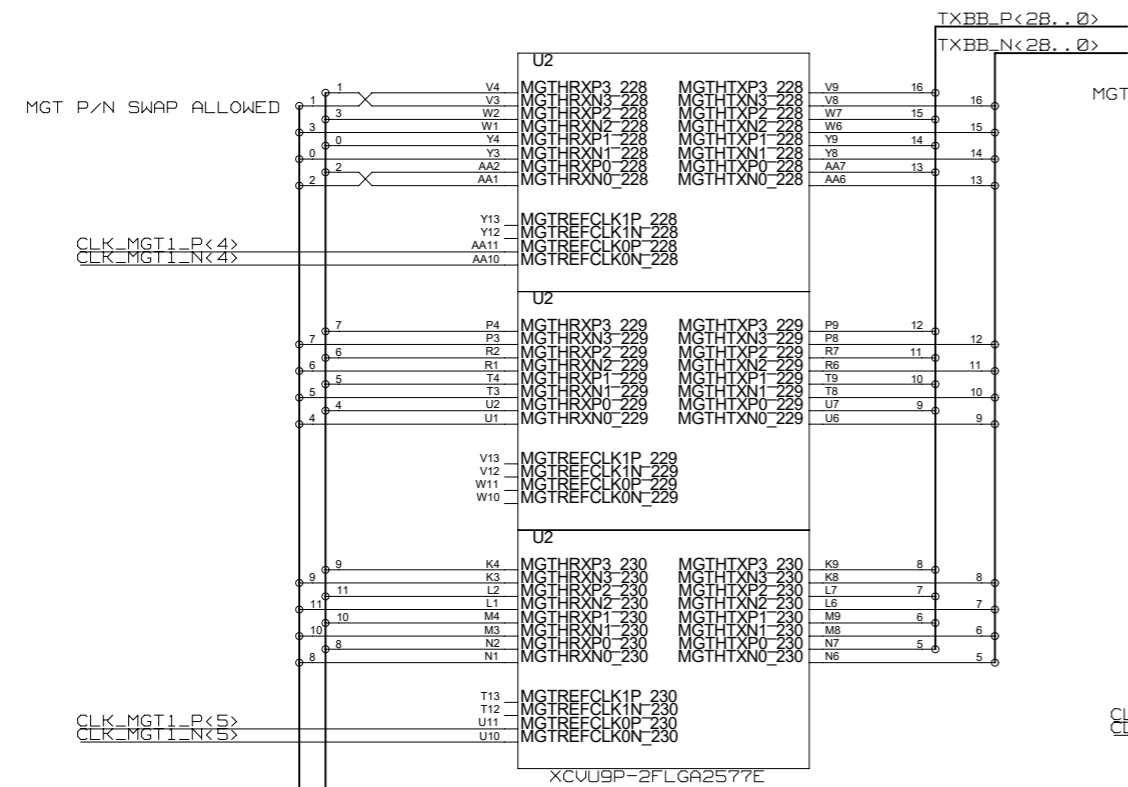


BANK
225
226
227

CHECKED	NAME	DATE	SIGN	DRAWING TITLE <b>JFEX AVAGO + TXA + TXB</b>
CHECKED	J.V.DE SOUZA			
CHECKED	U.SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		BLOCK TITLE <b>U2_MGT_REAL_TIME</b>
UNIVERSITY OF MAINZ				
	SIZE	REV.	DRAWING NO.	
	<b>C</b>			
	SCALE			SHEET 3 OF 7



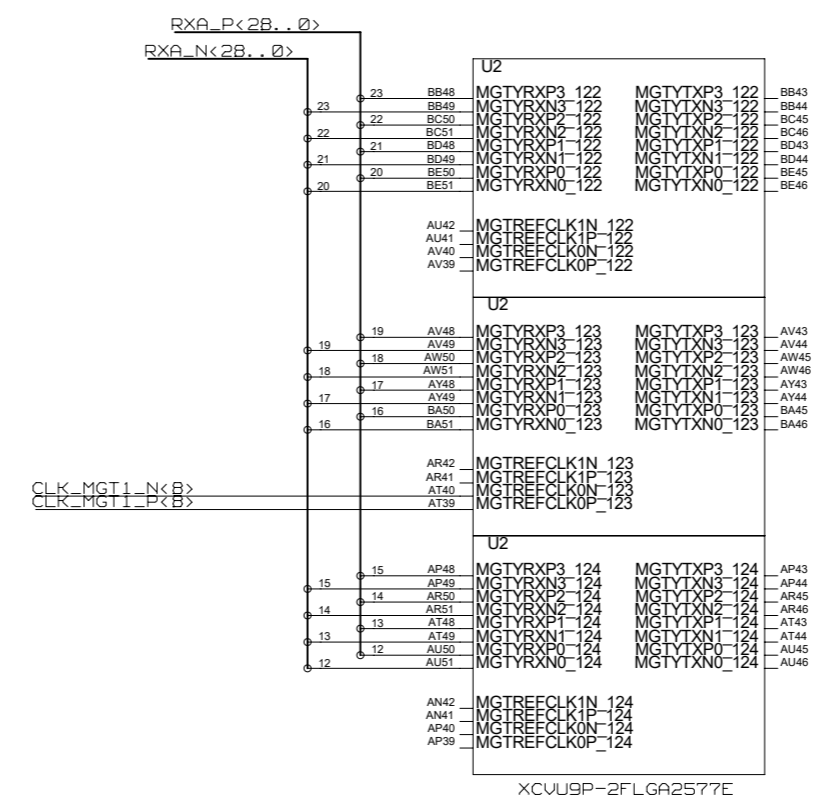
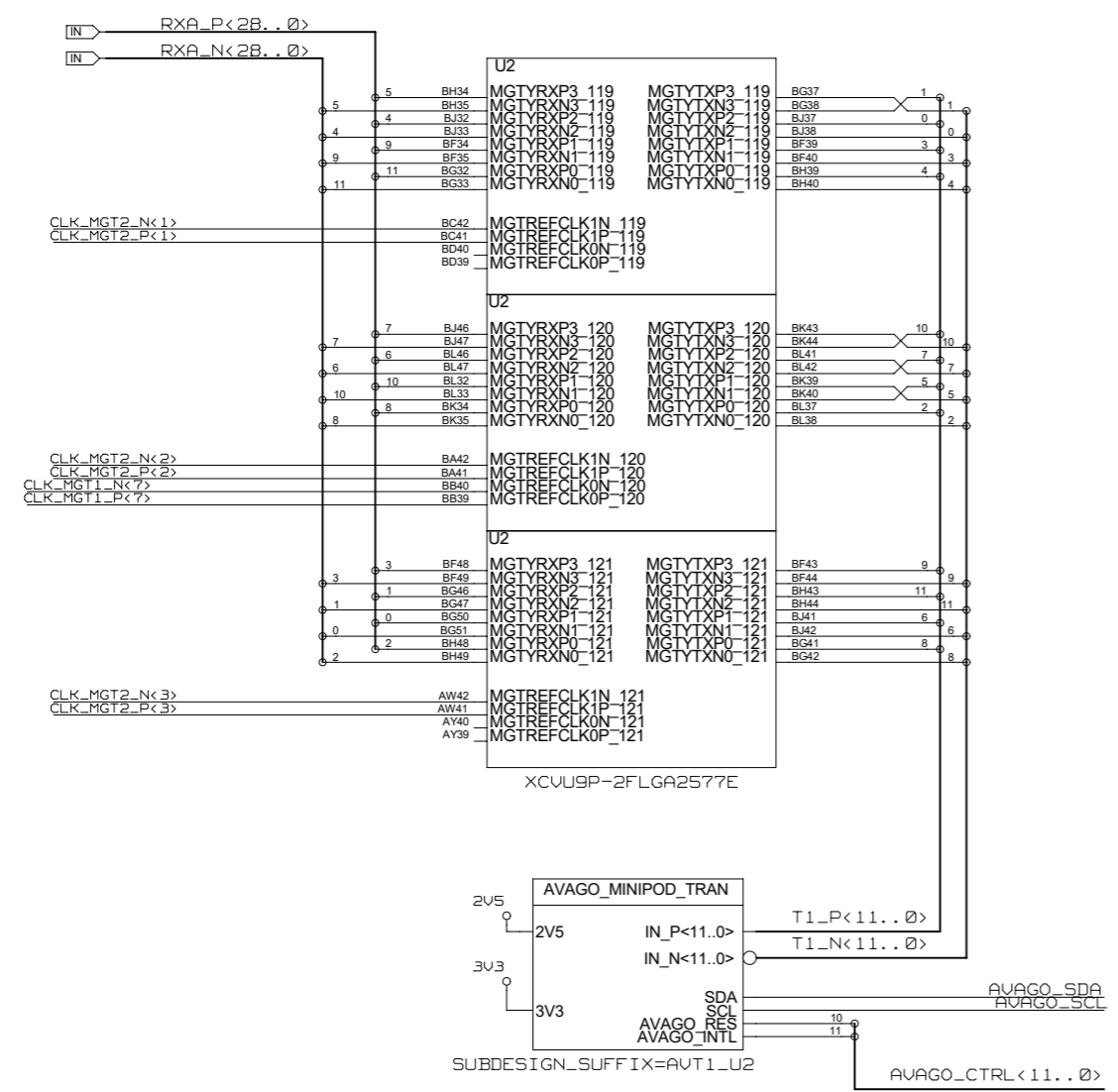
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK  
R3  
R4  
R5  
R6  
R7  
R8

	NAME	DATE	SIGN	DRAWING TITLE <b>JFEX AVAGO + TXB</b>
CHECKED	J.V. DE SOUZA			
CHECKED	U.SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		BLOCK TITLE U2_MGT_REAL_TIME
	UNIVERSITY OF MAINZ			SIZE <b>C</b>
				REV.
				DRAWING NO.
				SCALE
				SHEET 4 OF 7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

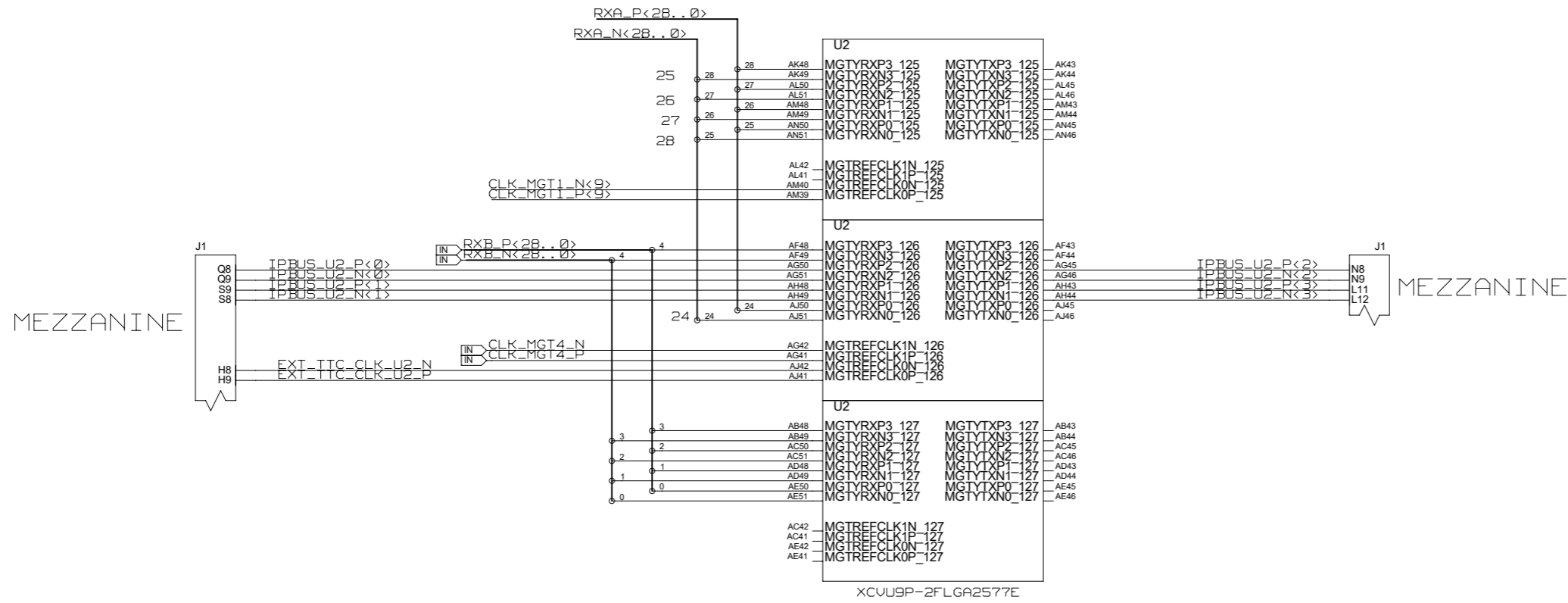


I2C ADDRESS:  
R3=XXX R4=XXX  
R5=XXX R6=XXX  
R7=XXX R8=XXX

BANK
110
120
130
140
150
160
170
180
190

	NAME	DATE	SIGN	DRAWING TITLE <b>JFEX AVAGO + RXA</b>
CHECKED	J.V. DE SOUZA			
CHECKED	U.SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE U2_MGT_REAL_TIME				
UNIVERSITY OF MAINZ				
	SIZE <b>C</b>	REV.	DRAWING NO.	
	SCALE			SHEET 5 OF 7

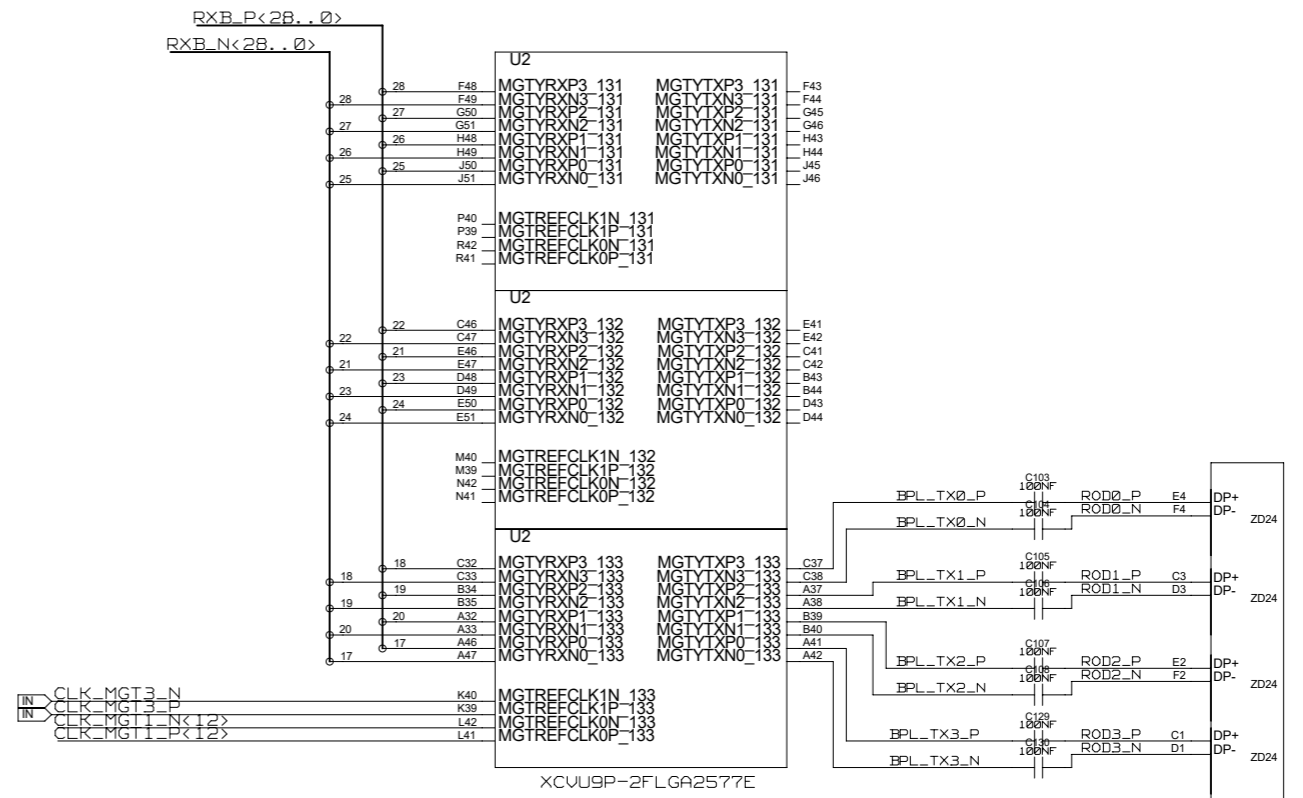
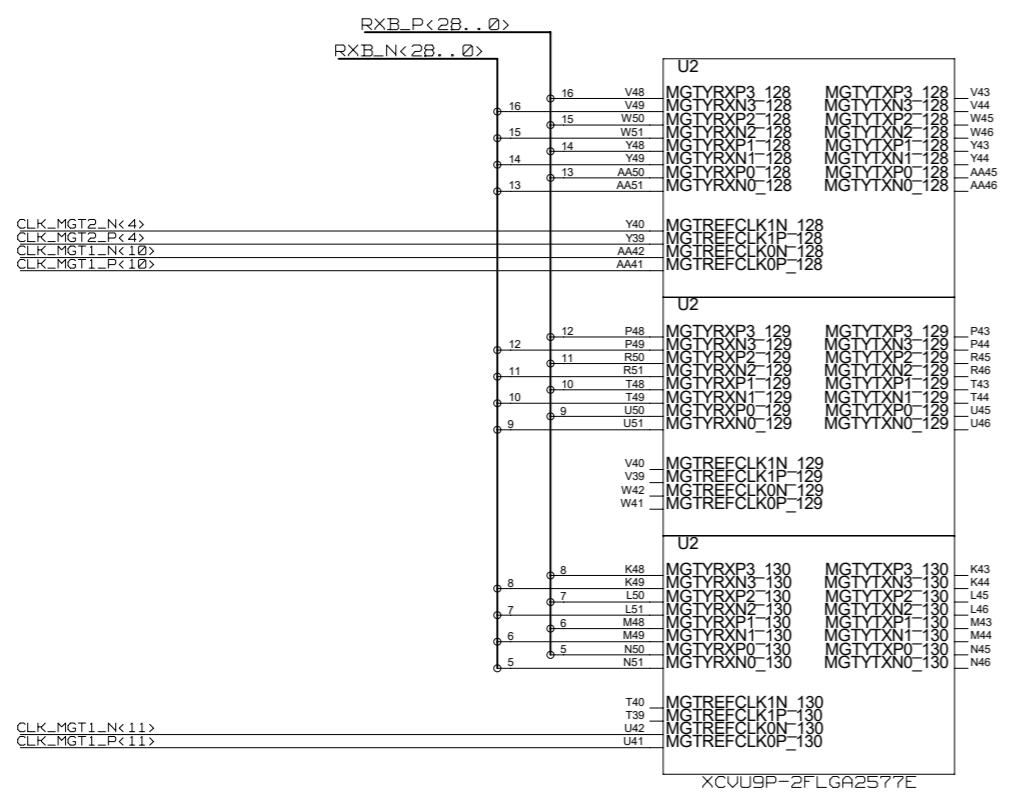
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK
125
126
127

CHECKED	NAME	DATE	SIGN	DRAWING TITLE <b>JFEX</b> RXA + RXB TXD + IPBUS
CHECKED	J. V. DE SOUZA			
CHECKED	U. SCHAEFER			
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE U2_MGT_REAL_TIME				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
SCALE				DRAWING NO.
SHEET 6 OF 7				

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

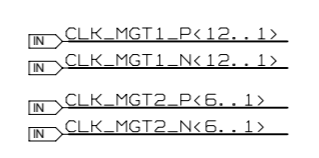
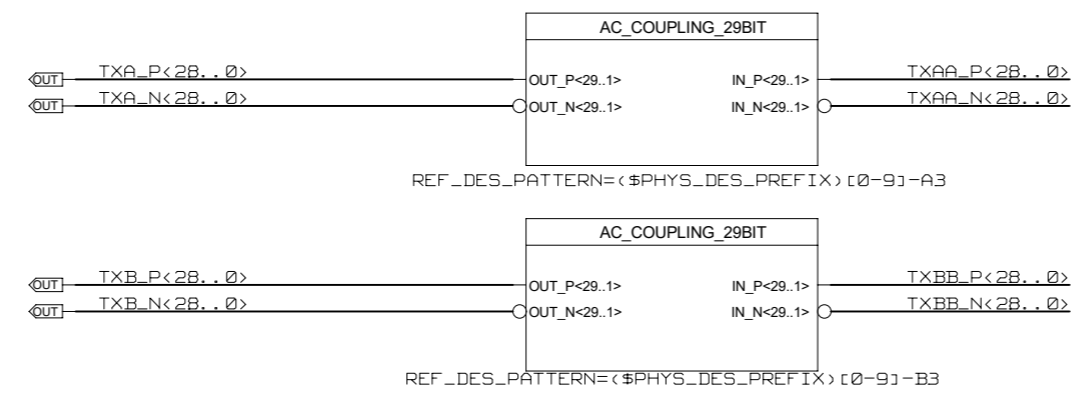


BANK
128
129
130
131
132
133
134
135
136
137
138

CHECKED	NAME	DATE	SIGN	DRAWING TITLE <b>JFEX RXB + TXC</b>
CHECKED	J. V. DE SOUZA			
CHECKED	U. SCHAEFER			
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE U2_MGT_REAL_TIME				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
SCALE				DRAWING NO.
SHEET 7 OF 7				

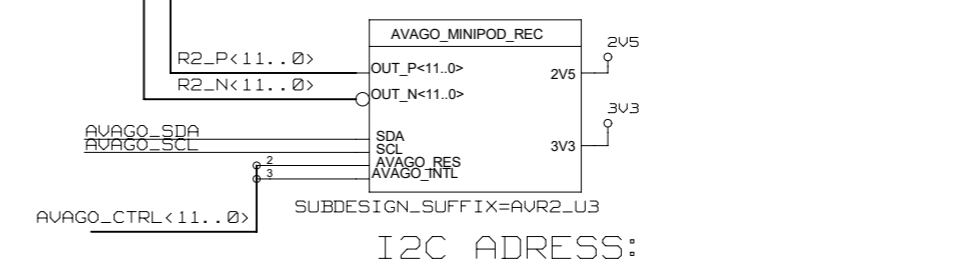
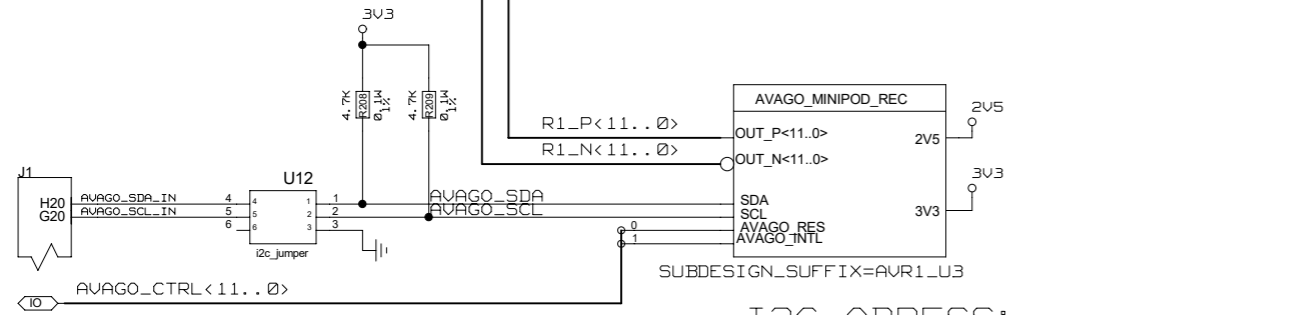
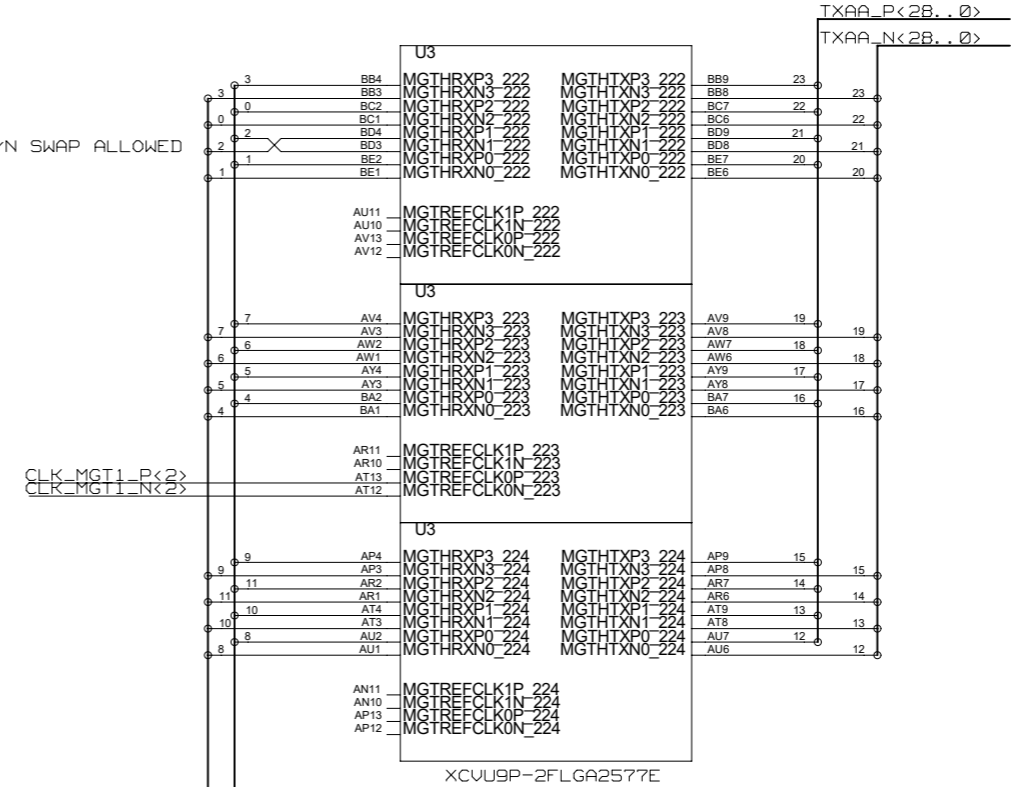
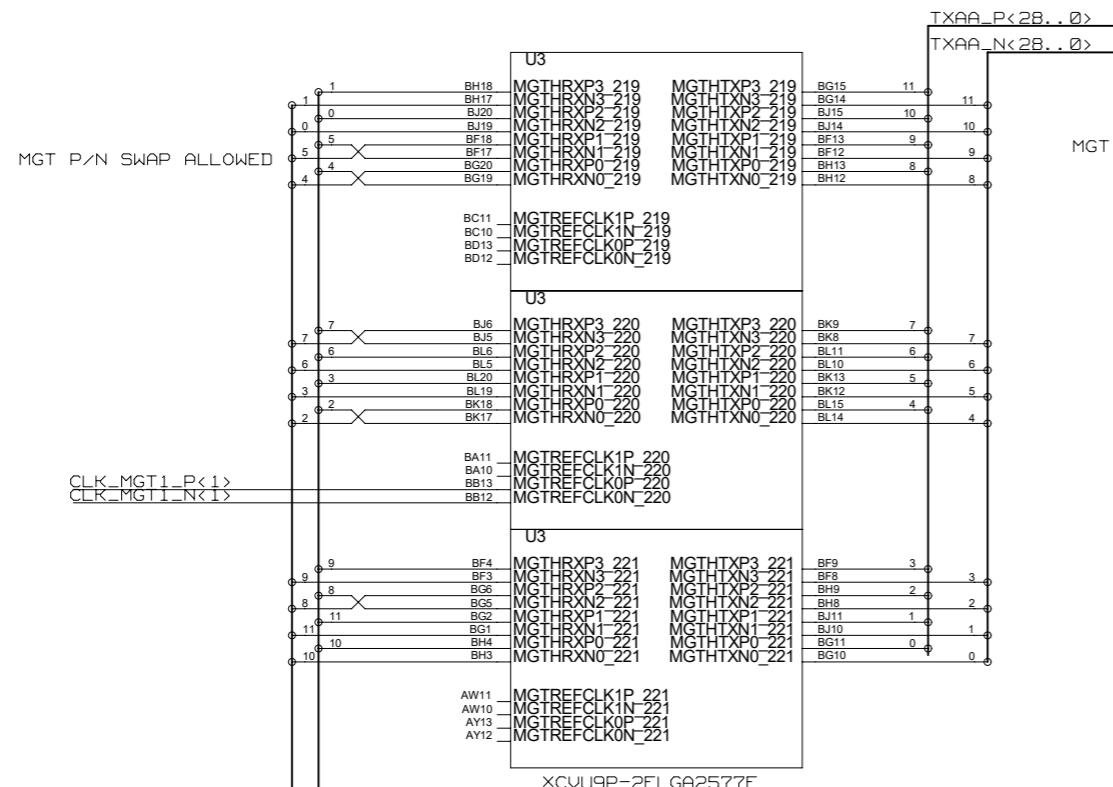
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

### AC COUPLING



CHECKED	J. V. DE SOUZA			DRAWING TITLE <b>JFEX</b> I/O + <b>AC COUPLING</b>
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE <b>U3_MGT_REAL_TIME</b>				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
SCALE				DRAWING NO.
SHEET 1 OF 7				

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



AVAGO\_CTRL<11..0>  
 AVAGO\_CTRL 0, 2, 4, 6, 8, 10 = AVAGO\_RES\_XX  
 AVAGO\_CTRL 1, 3, 5, 7, 9, 11 = AVAGO\_INTL\_XX

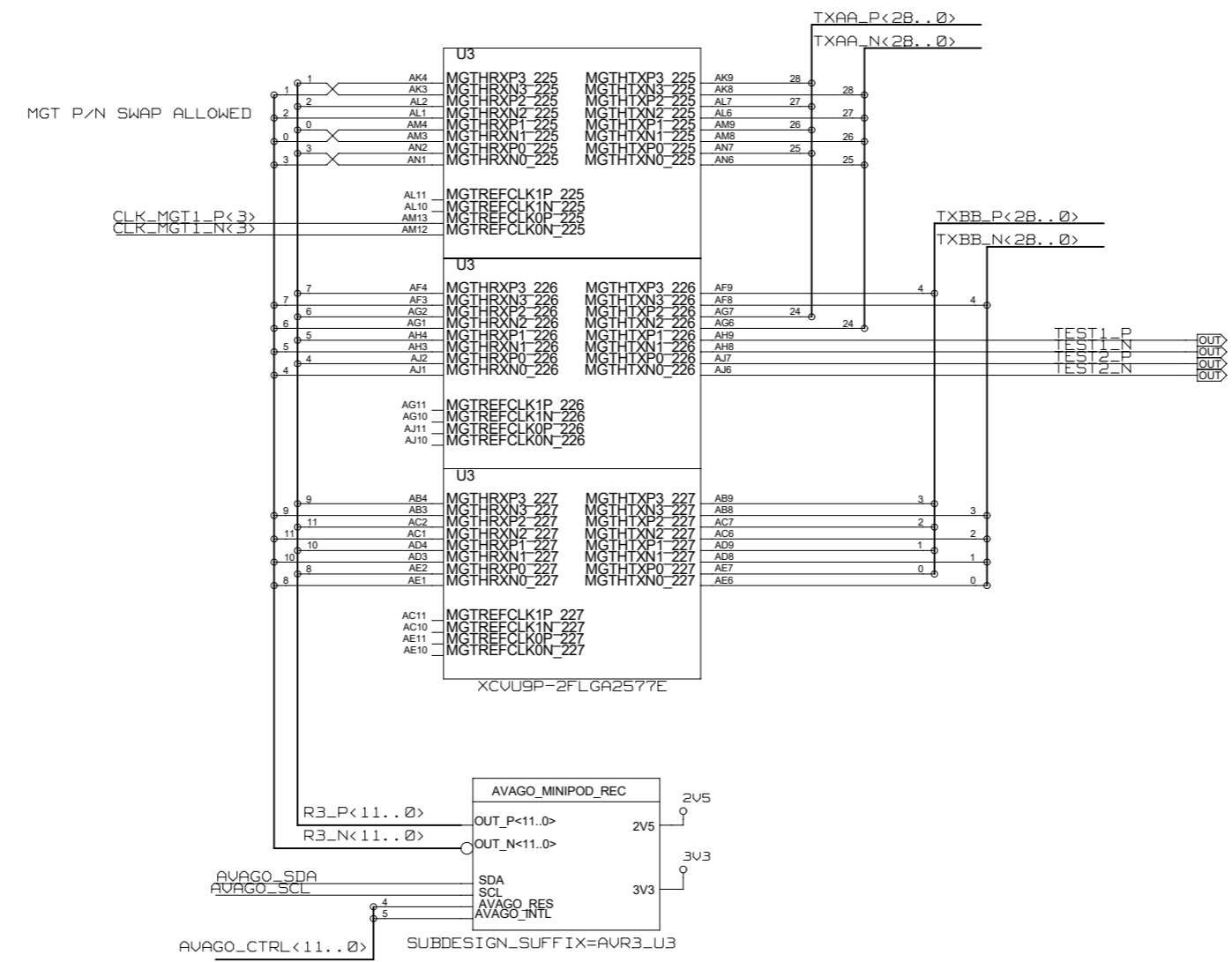
I2C ADDRESS:  
 R3=XXX R4=XXX  
 R5=XXX R6=XXX  
 R7=XXX R8=XXX

I2C ADDRESS:  
 R3=XXX R4=XXX  
 R5=XXX R6=XXX  
 R7=XXX R8=XXX

BANK
210
209
208
207
206
205
204
203
202
201
200

NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX AVAGO + TXA
CHECKED	U.SCHAEFER		
CHECKED			
DRAWN	BAUSS	07.08.2015	
BLOCK TITLE			SIZE
U3_MGT_REAL_TIME			REV.
UNIVERSITY OF MAINZ			DRAWING NO.
SCALE			SHEET 2 OF 7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



I2C ADDRESS:

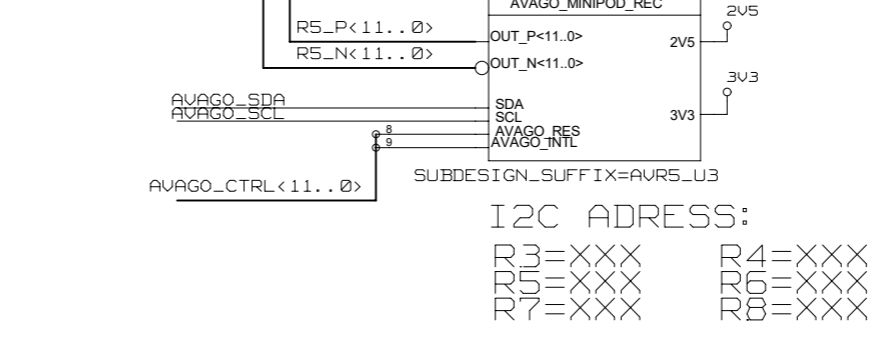
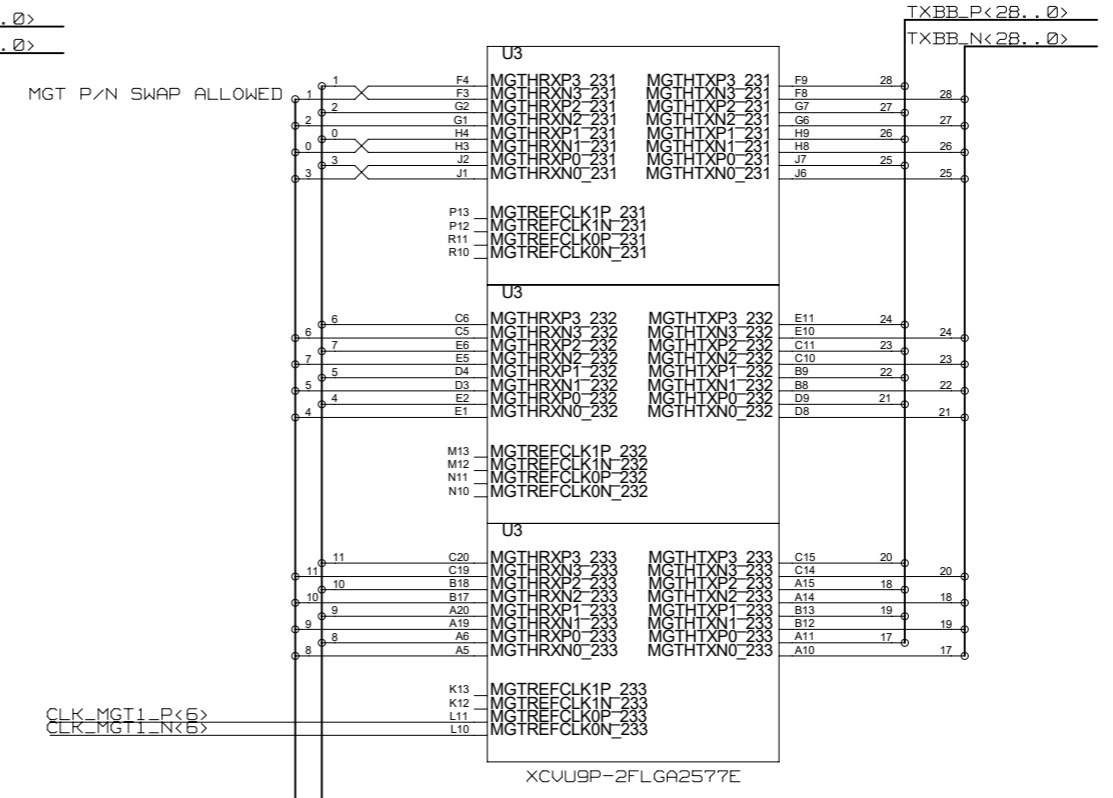
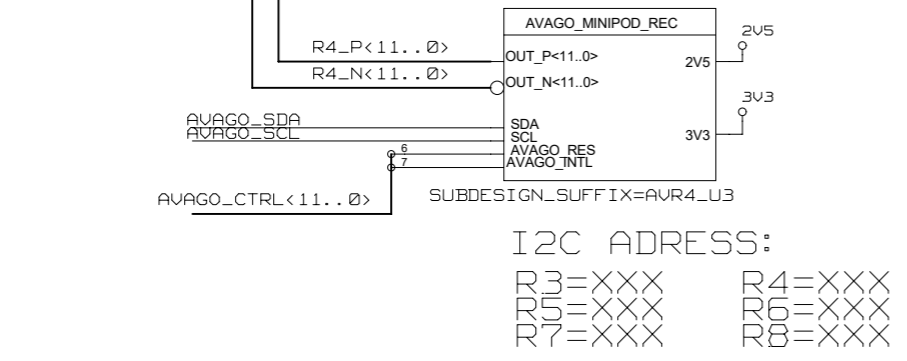
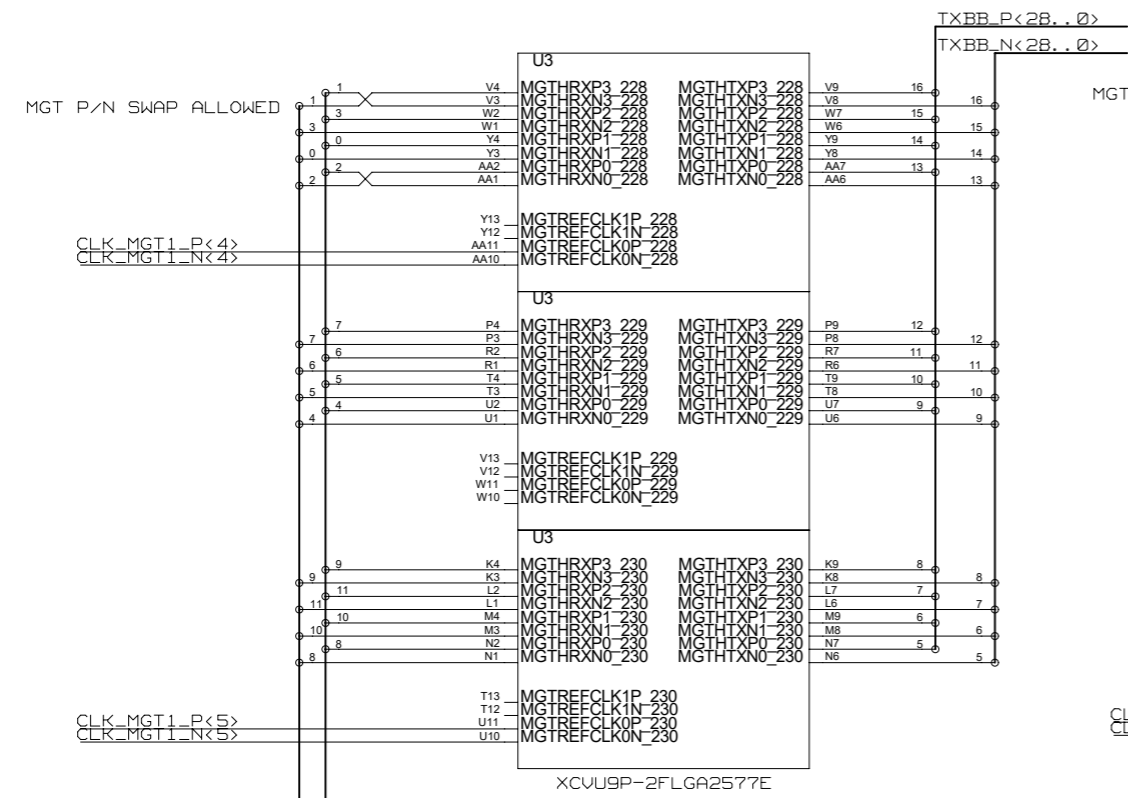
R3=XXX    R4=XXX  
R5=XXX    R6=XXX  
R7=XXX    R8=XXX

BANK

225  
226  
227

CHECKED	NAME	DATE	SIGN	DRAWING TITLE <b>JFEX AVAGO + TXA + TXB</b>
CHECKED	J.V.DE SOUZA			
CHECKED	U.SCHAEFER			
CHECKED	BAUSS	07.08.2015		
BLOCK TITLE U3_MGT_REAL_TIME				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
SCALE				DRAWING NO.
SHEET 3 OF 7				

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

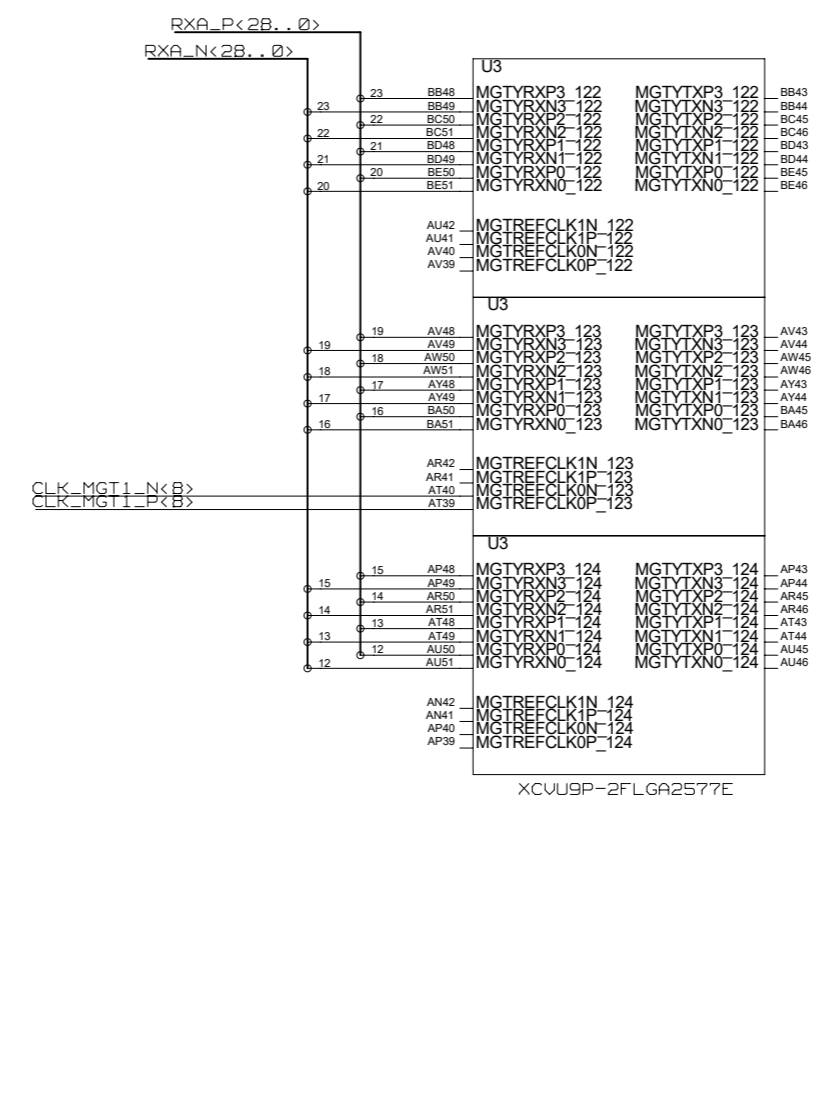
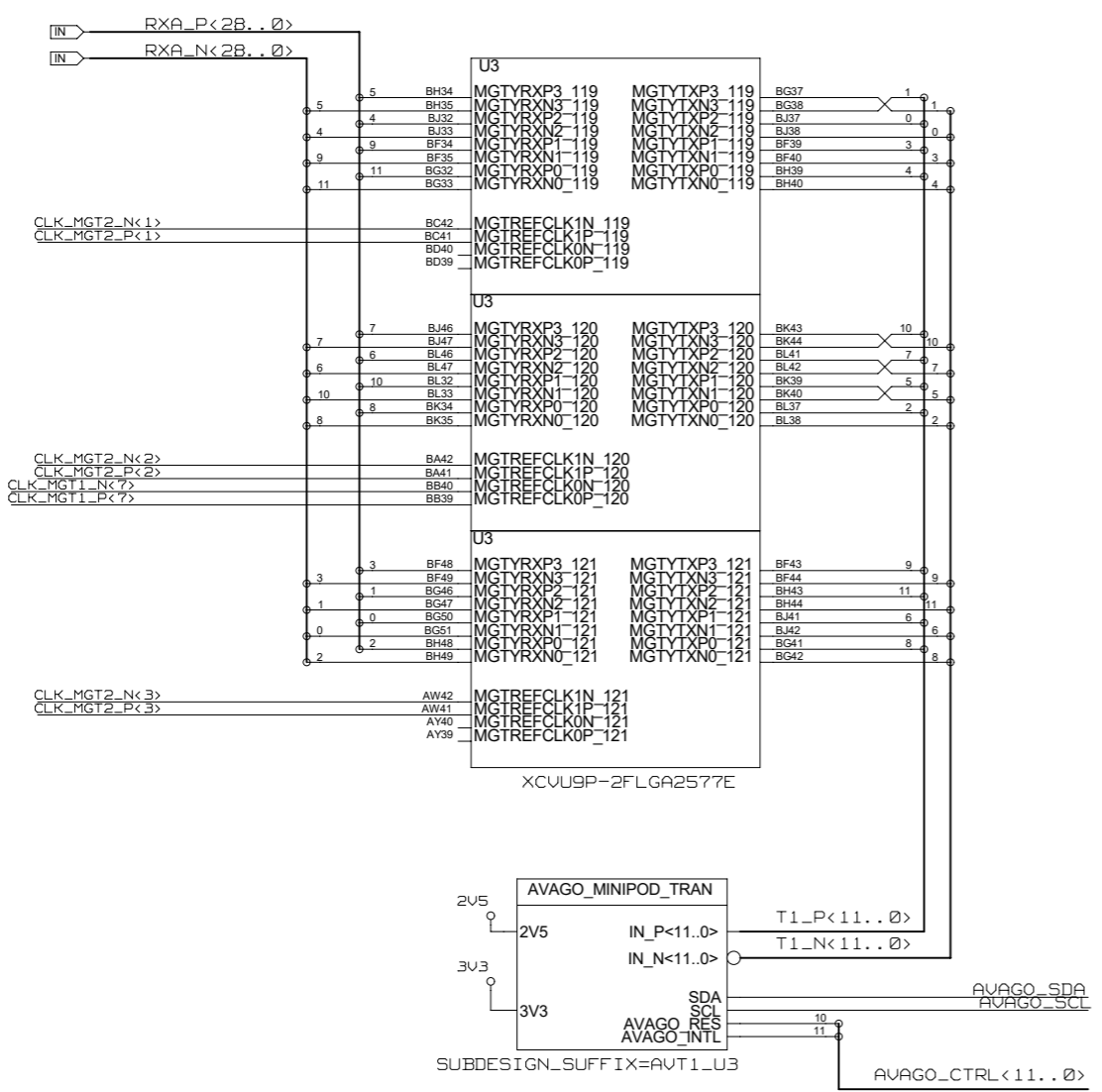


BANK  
 22  
 21  
 20  
 19  
 18  
 17  
 16  
 15  
 14  
 13  
 12  
 11  
 10  
 9  
 8  
 7  
 6  
 5  
 4  
 3  
 2  
 1

	NAME	DATE	SIGN	DRAWING TITLE  <b>JFEX AVAGO + TXB</b>
CHECKED	J.V. DE SOUZA			
CHECKED	U.SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE U3_MGT_REAL_TIME				
UNIVERSITY OF MAINZ				
	SIZE <b>C</b>	REV.	DRAWING NO.	
	SCALE			SHEET 4 OF 7



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



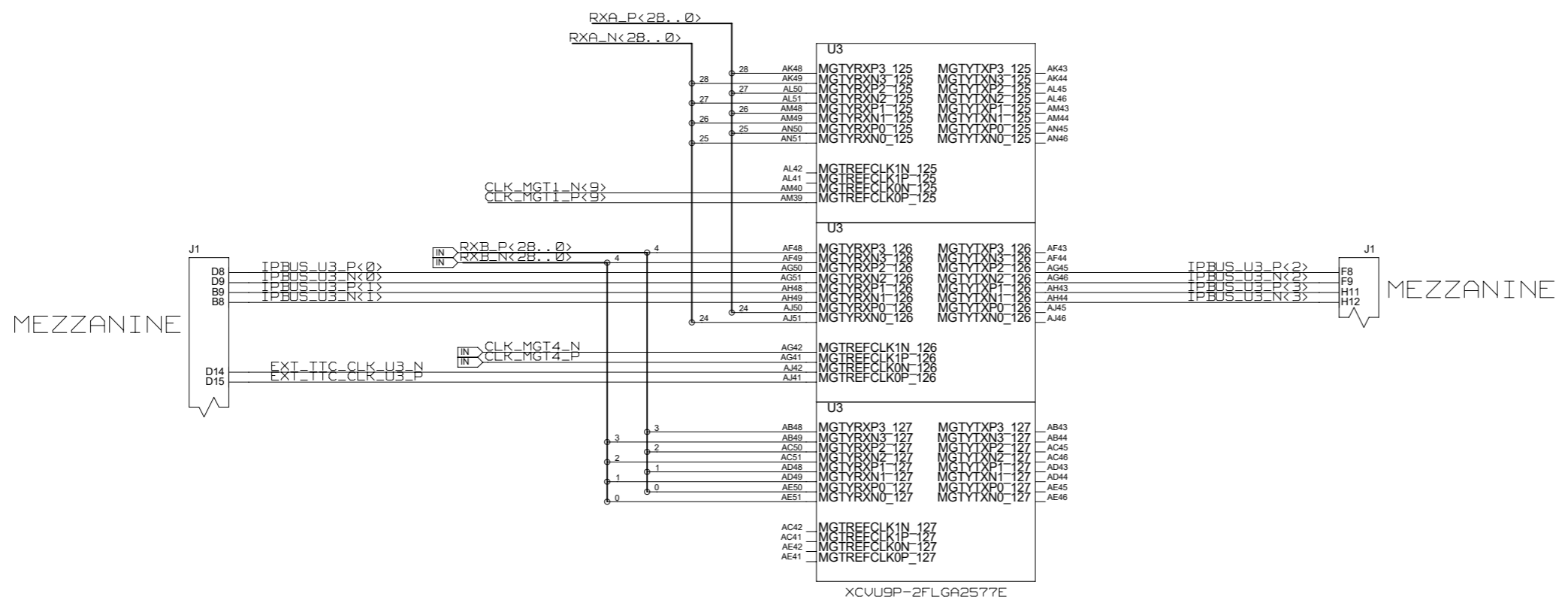
I2C ADDRESS:

R3=XXX	R4=XXX
R5=XXX	R6=XXX
R7=XXX	R8=XXX

BANK
110
120
130
140
150
160
170
180
190
200

NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J.V. DE SOUZA		JFEX AVAGO + RXA
CHECKED	U.SCHAEFER		
CHECKED			
DRAWN	BAUSS	07.08.2015	
BLOCK TITLE			
U3_MGT_REAL_TIME			
UNIVERSITY OF MAINZ			
SIZE	REV.	DRAWING NO.	
C			
SCALE			SHEET 5 OF 7

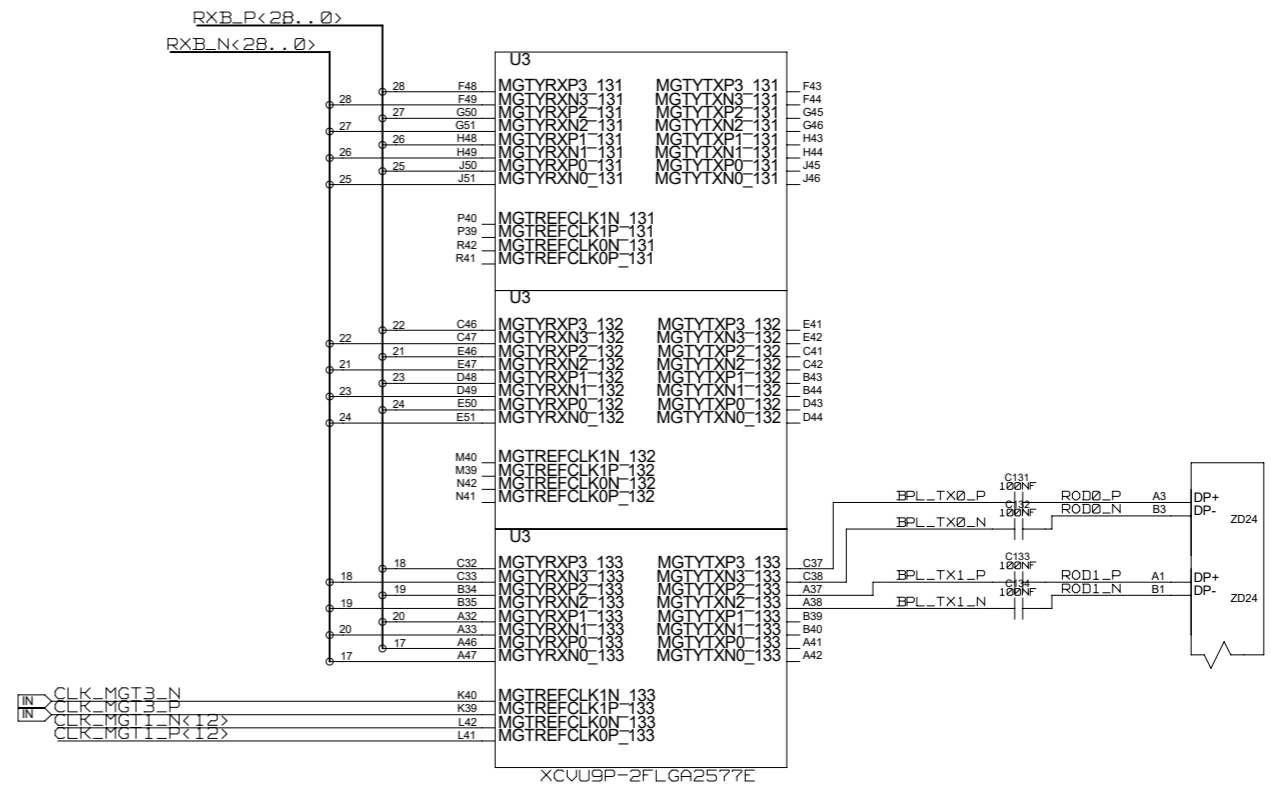
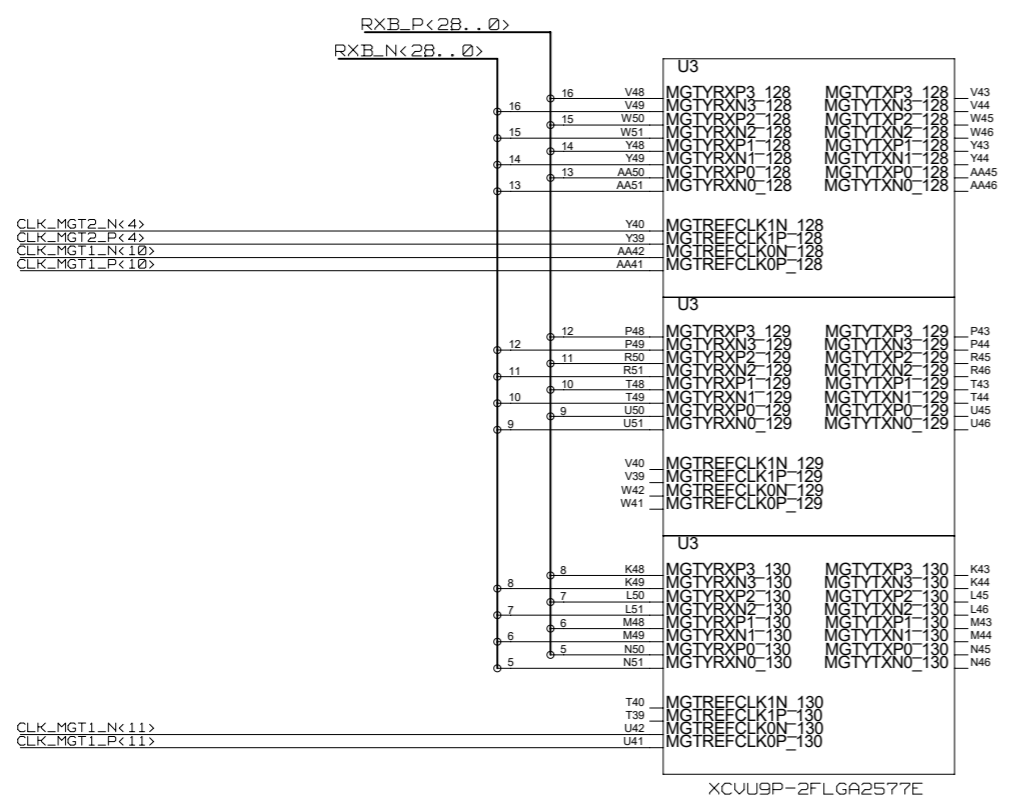
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK
125
126
127

	NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA			JFEX RXA + RXB TXD + IPBUS
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE				
U3_MGT_REAL_TIME				
UNIVERSITY OF MAINZ				
	SIZE	REV.	DRAWING NO.	
	C			
	SCALE			SHEET 6 OF 7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

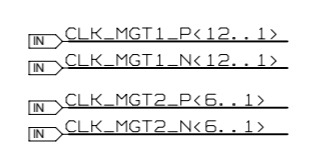
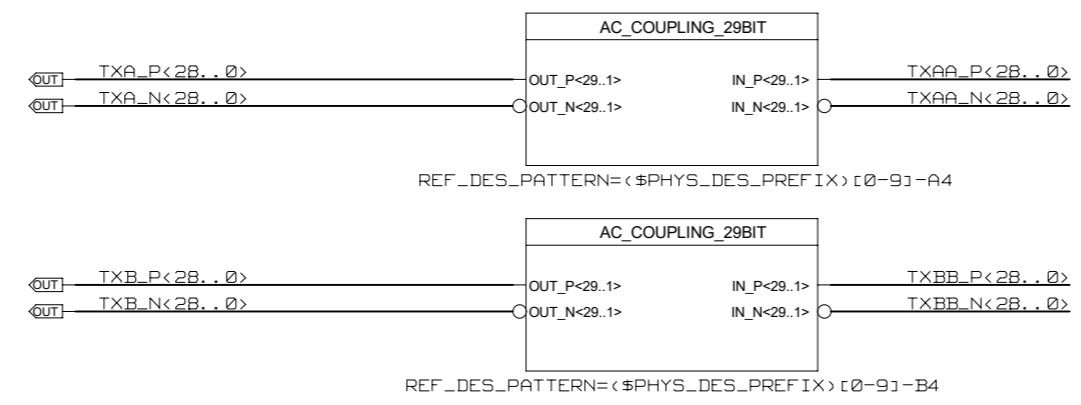


BANK
128
129
130
131
132
133
134
135
136
137
138

CHECKED	J. V. DE SOUZA			DRAWING TITLE <b>JFEX</b> <b>RXB + TXC</b>
CHECKED	U.SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE U3_MGT_REAL_TIME				
UNIVERSITY OF MAINZ		SIZE <b>C</b>	REV.	DRAWING NO.
SCALE				SHEET 7 OF 7

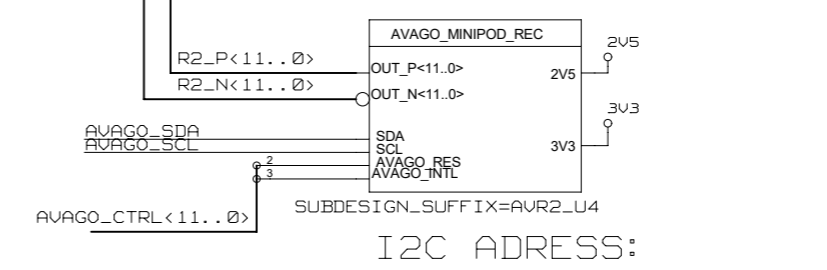
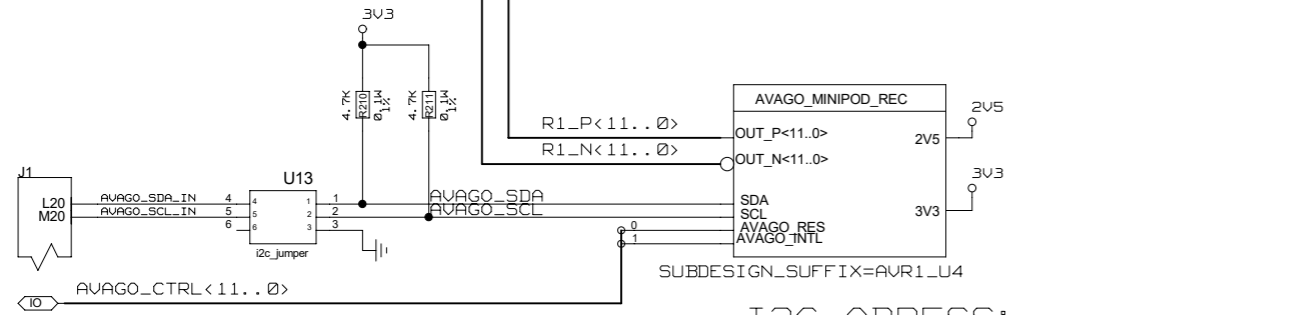
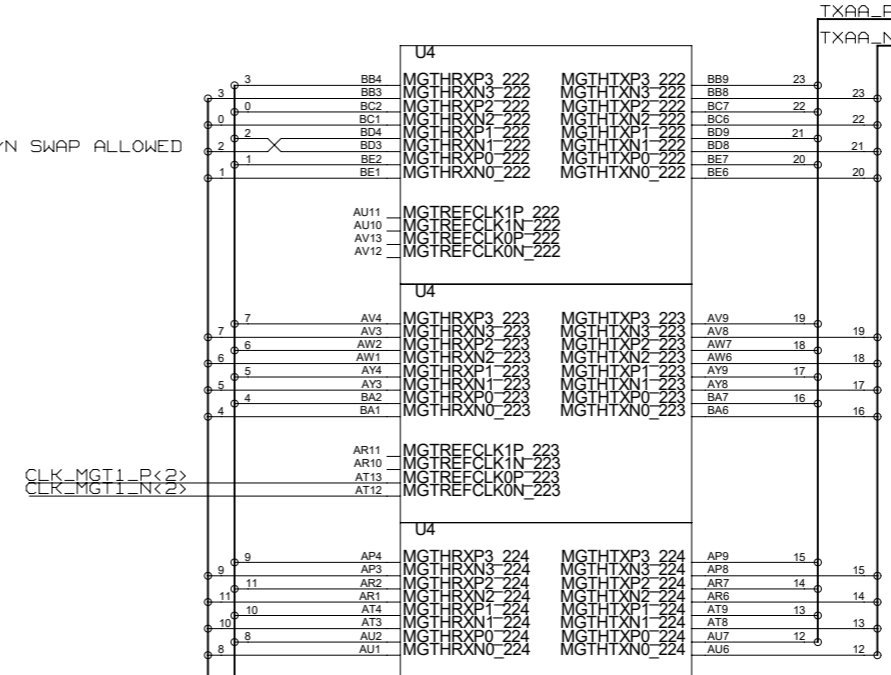
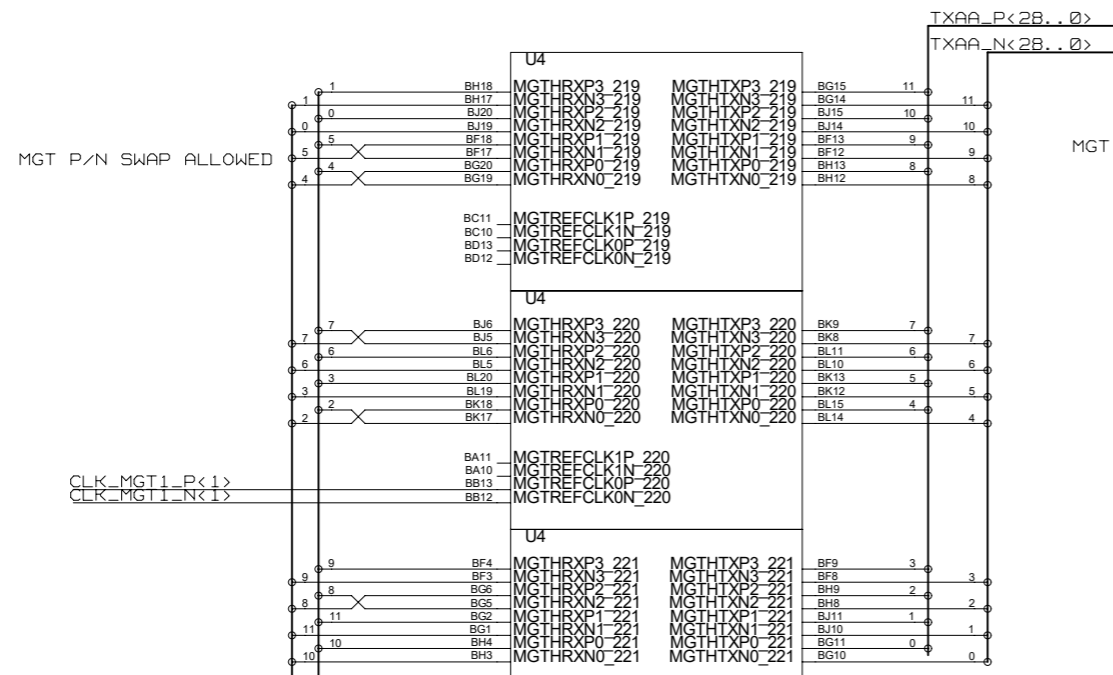
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

### AC COUPLING



CHECKED	J. V. DE SOUZA			DRAWING TITLE <b>JFEX</b> I/O + <b>AC COUPLING</b>
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE <b>U4_MGT_REAL_TIME</b>				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
SCALE				DRAWING NO.
SHEET 1 OF 7				

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



AVAGO\_CTRL<11..0>  
 AVAGO\_CTRL 0, 2, 4, 6, 8, 10 = AVAGO\_RES\_XX  
 AVAGO\_CTRL 1, 3, 5, 7, 9, 11 = AVAGO\_INTL\_XX

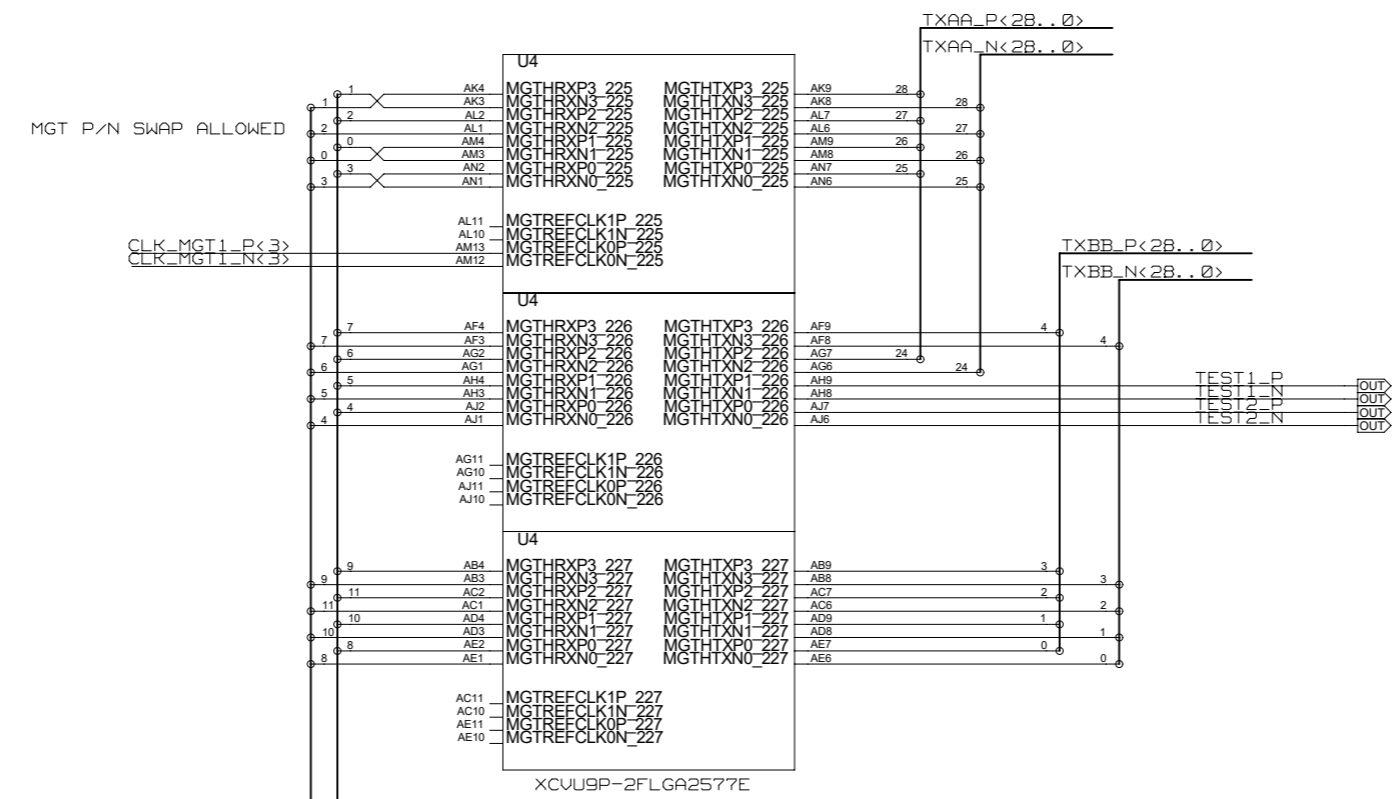
I2C ADDRESS:  
 R3=XXX R4=XXX  
 R5=XXX R6=XXX  
 R7=XXX R8=XXX

I2C ADDRESS:  
 R3=XXX R4=XXX  
 R5=XXX R6=XXX  
 R7=XXX R8=XXX

BANK
210
209
208
207
206
205
204
203
202
201
200

NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX AVAGO + TXA
CHECKED	U.SCHAEFER		
CHECKED			
DRAWN	BAUSS	07.08.2015	
BLOCK TITLE			UNIVERSITY OF MAINZ
SIZE	REV.	DRAWING NO.	
SCALE		SHEET 2 OF 7	

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



AVAGO\_MINIPOD\_REC

OUT\_P<11..0> 2V5

OUT\_N<11..0> 2V5

SDA 3V3

SCL 3V3

AVAGO\_RES

AVAGO\_INTL

AVAGO\_CTRL<11..0>

SUBDESIGN\_SUFFIX=AVR3\_U4

I2C ADDRESS:

R3=XXX R4=XXX

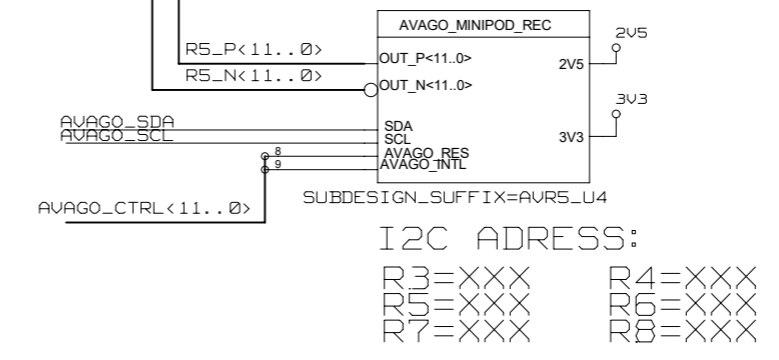
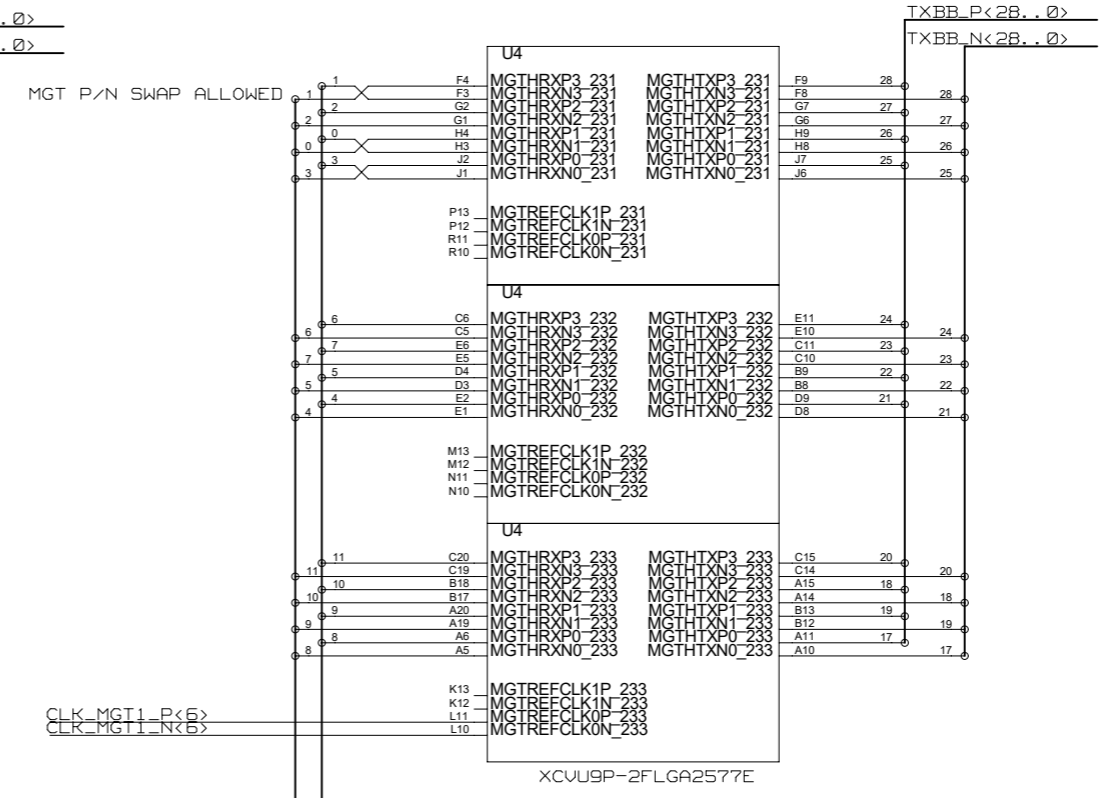
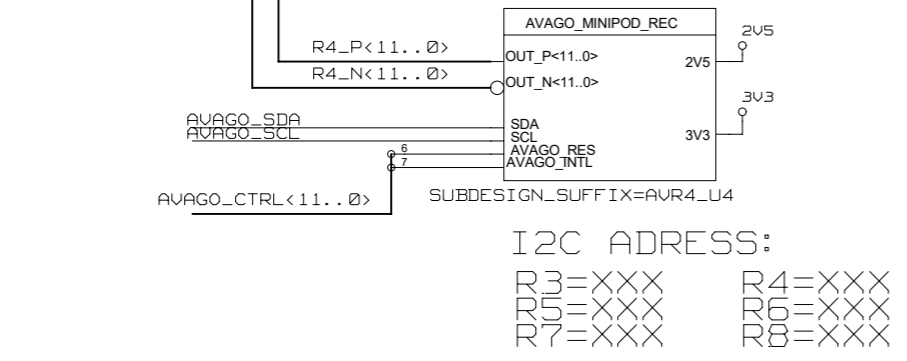
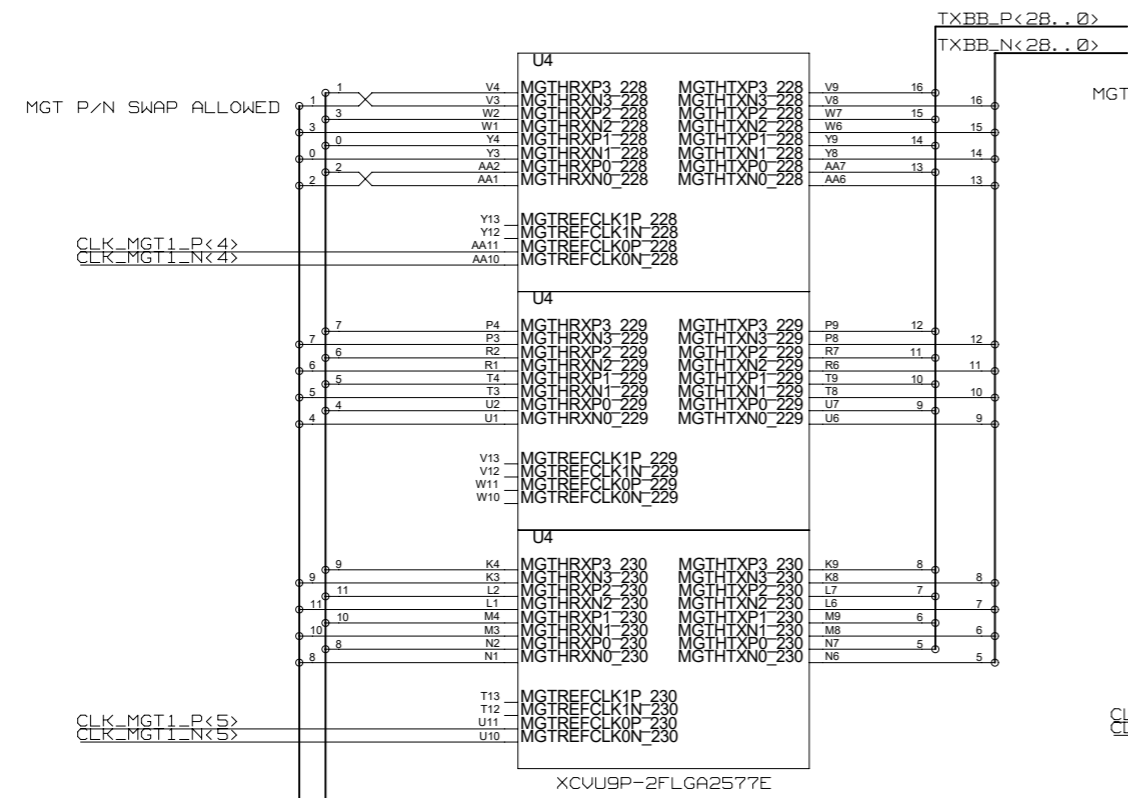
R5=XXX R6=XXX

R7=XXX R8=XXX

BANK
225
226
227

CHECKED	NAME	DATE	SIGN	DRAWING TITLE <b>JFEX AVAGO + TXA + TXB</b>
CHECKED	J. V. DE SOUZA			
CHECKED	U. SCHAEFER			
CHECKED	BAUSS	07.08.2015		
BLOCK TITLE U4_MGT_REAL_TIME				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
SCALE				DRAWING NO.
SHEET 3 OF 7				

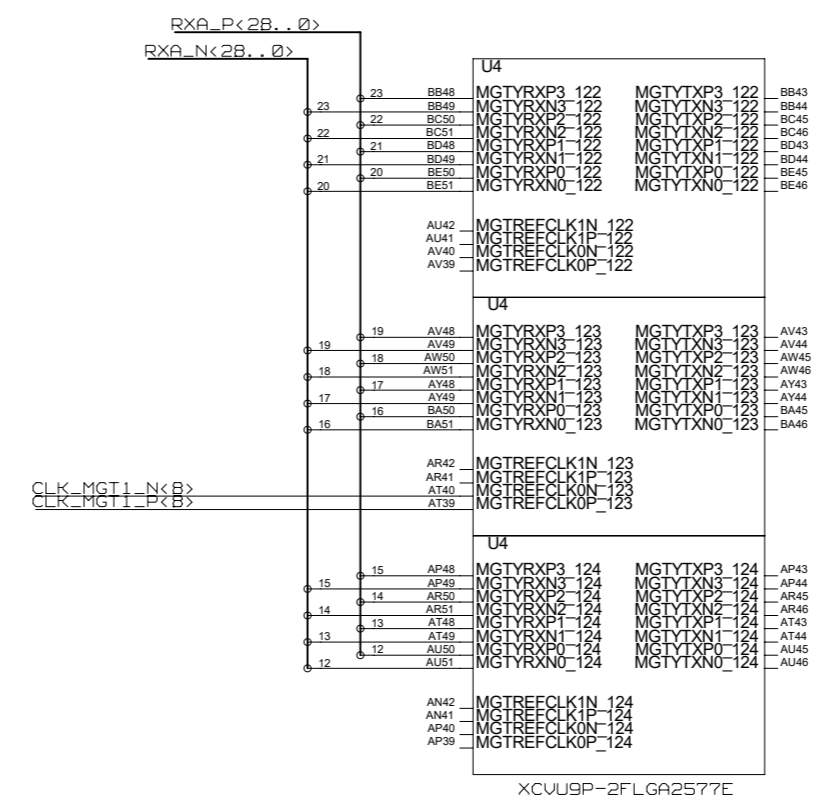
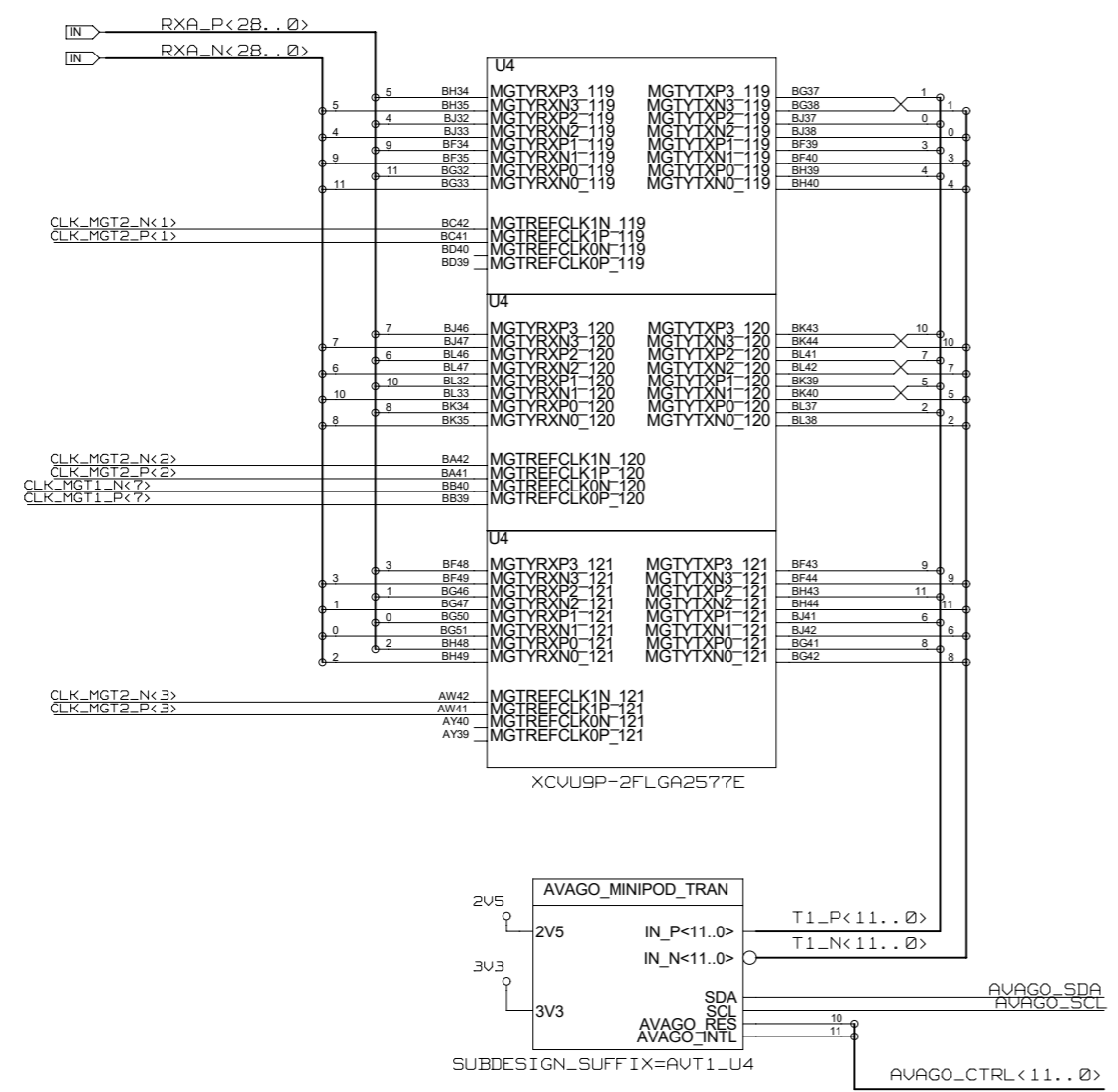
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK  
R3  
R4  
R5  
R6  
R7  
R8

NAME	DATE	SIGN	DRAWING TITLE <b>JFEX AVAGO + TXB</b>
CHECKED J.V. DE SOUZA			
CHECKED U.SCHAEFER			
CHECKED			
DRAWN BAUSS	07.08.2015		
BLOCK TITLE U4_MGT_REAL_TIME			
UNIVERSITY OF MAINZ			
SIZE <b>C</b>	REV.	DRAWING NO.	
SCALE			SHEET 4 OF 7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



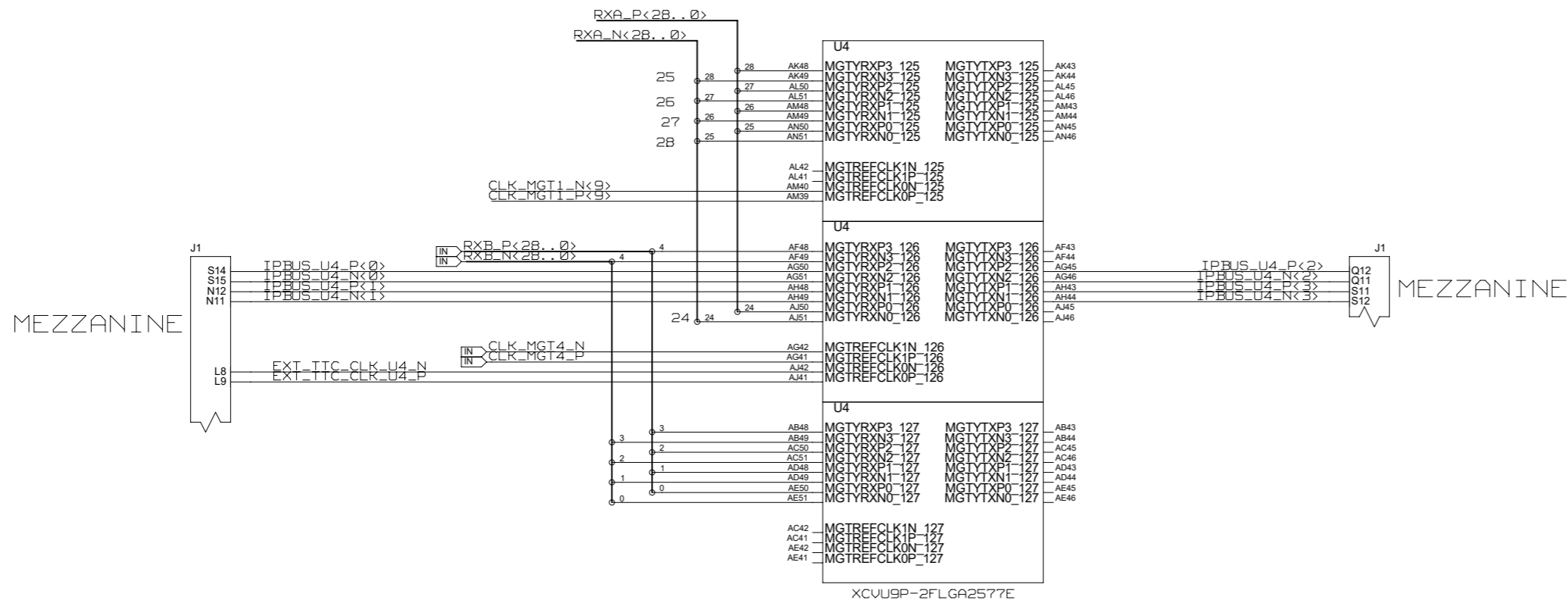
I2C ADDRESS:  
R3=XXX R4=XXX  
R5=XXX R6=XXX  
R7=XXX R8=XXX

BANK
110
120
130
140
150
160
170
180
190

CHECKED	J. V. DE SOUZA			DRAWING TITLE <b>JFEX AVAGO + RXA</b>
CHECKED	U.SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE U4_MGT_REAL_TIME				
UNIVERSITY OF MAINZ				SIZE <b>C</b>
				REV.
				DRAWING NO.
				SCALE
				SHEET 5 OF 7



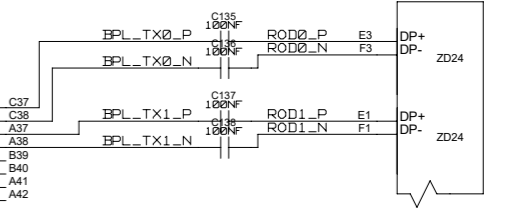
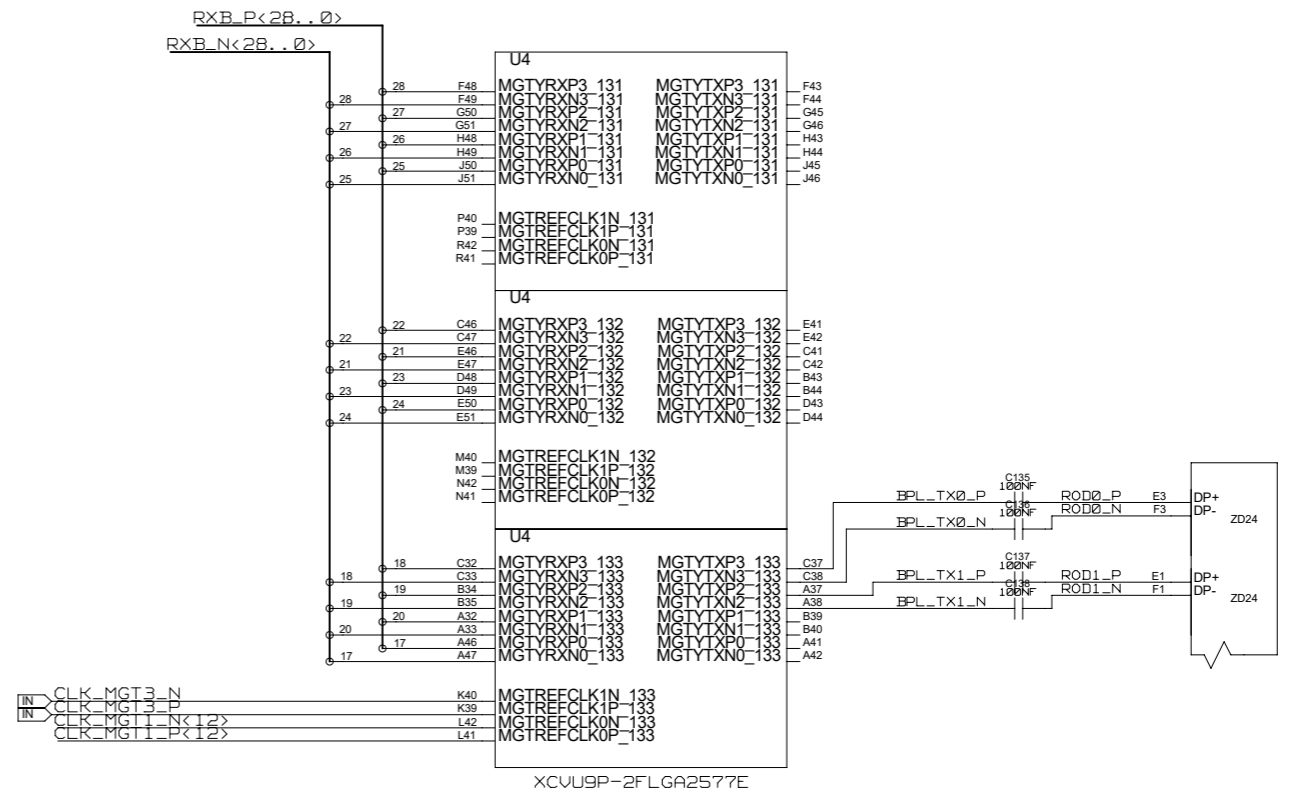
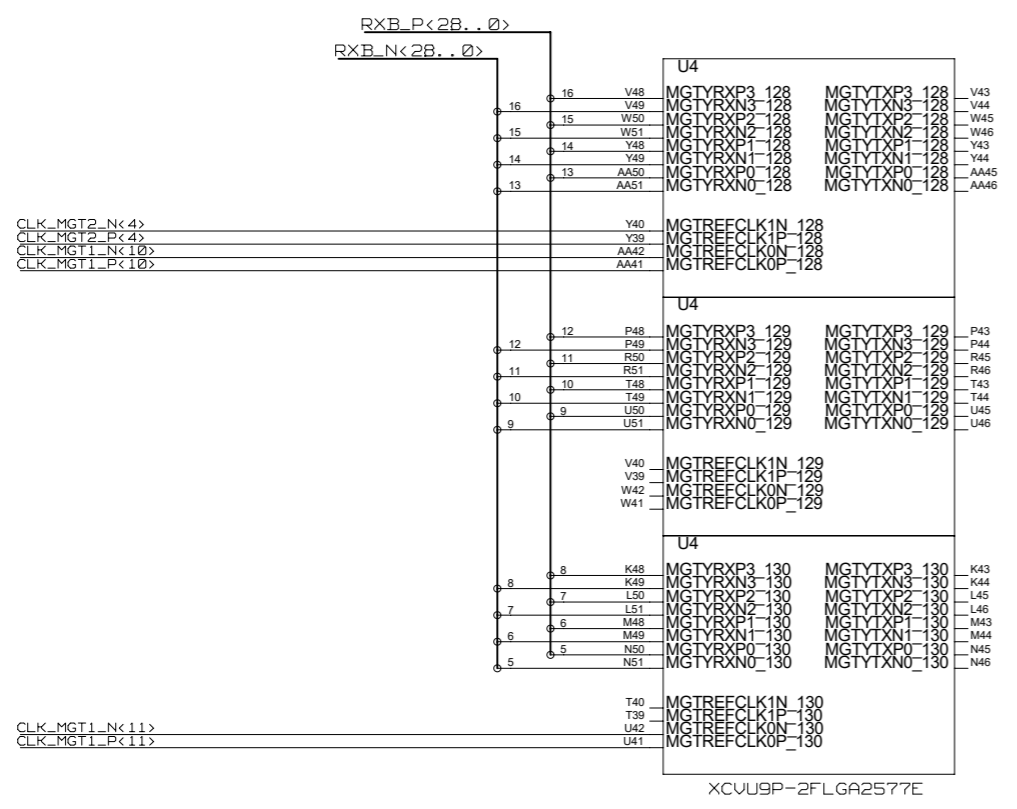
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



BANK
125
126
127

CHECKED	J. V. DE SOUZA			DRAWING TITLE <b>JFEX</b> RXA + RXB TXD + IPBUS
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE U4_MGT_REAL_TIME				
UNIVERSITY OF MAINZ				SIZE <b>C</b>
				REV.
				DRAWING NO.
				SCALE
				SHEET 6 OF 7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

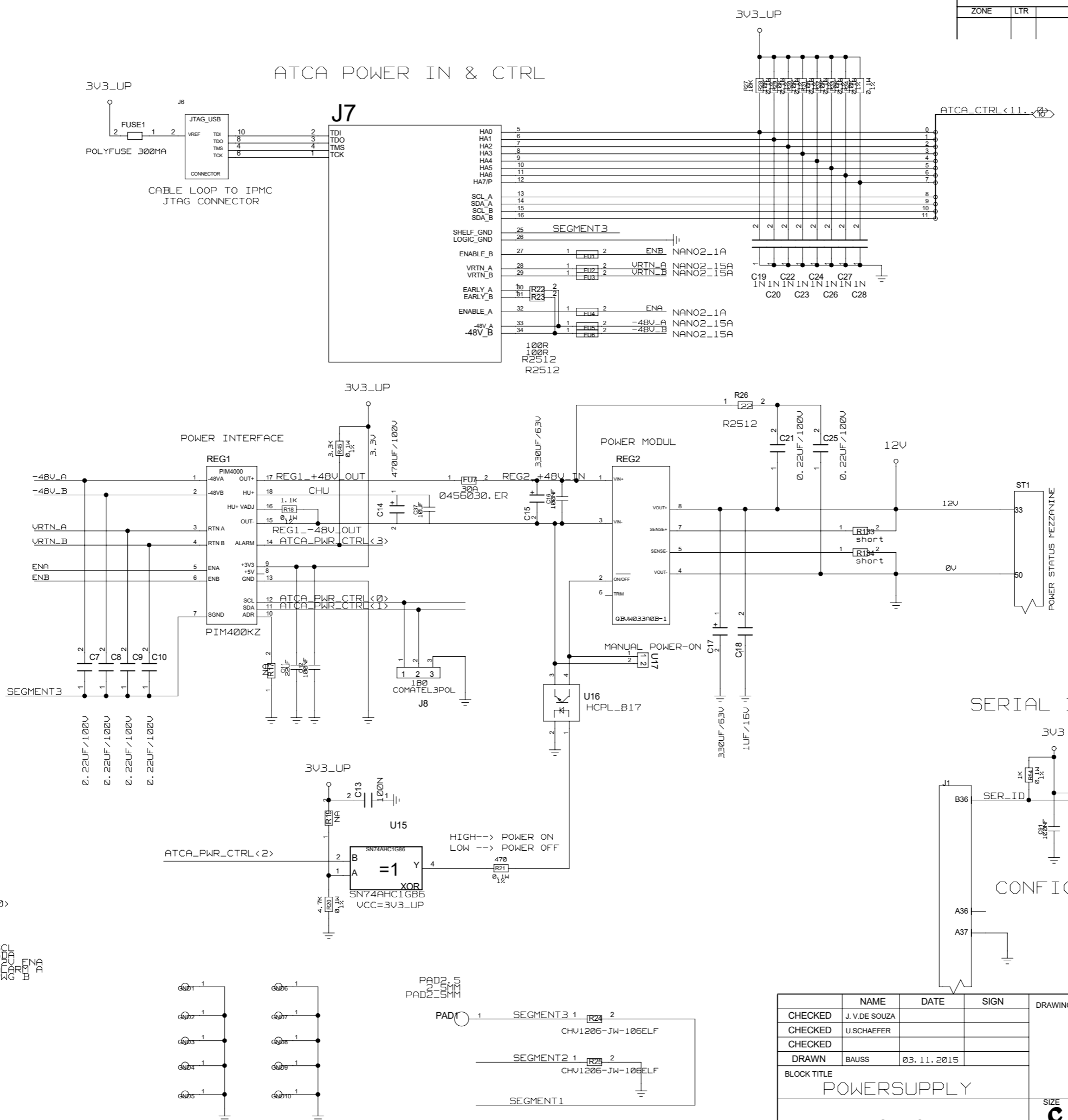


BANK
128
129
130
131
132
133

CHECKED	NAME	DATE	SIGN	DRAWING TITLE <b>JFEX</b> <b>RXB + TXC</b>
CHECKED	J. V. DE SOUZA			
CHECKED	U. SCHAEFER			
DRAWN	BAUSS	07.08.2015		
BLOCK TITLE U4_MGT_REAL_TIME				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
SCALE				DRAWING NO.
SHEET 7 OF 7				

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

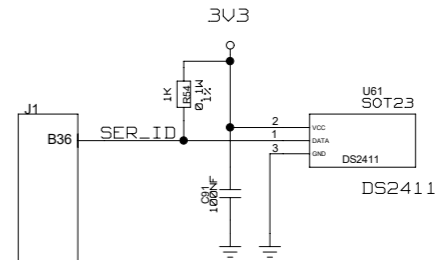
### ATCA POWER IN & CTRL



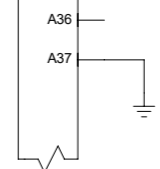
ATCA\_PWR\_CTRL<4..0>

A1 SCL  
 A2 SDA  
 A3 TMS  
 A4 TCK  
 A5 TDI  
 A6 TDO  
 A7 TMS  
 A8 TCK  
 A9 TDI  
 A10 TDO  
 A11 TMS  
 A12 TCK  
 A13 SCL\_A  
 A14 SDA\_A  
 A15 SCL\_B  
 A16 SDA\_B  
 A17 HA0  
 A18 HA1  
 A19 HA2  
 A20 HA3  
 A21 HA4  
 A22 HA5  
 A23 HA6  
 A24 HA7/P  
 A25 SHELF\_GND  
 A26 LOGIC\_GND  
 A27 ENABLE\_B  
 A28 VRTN\_A  
 A29 VRTN\_B  
 A30 EARLY\_A  
 A31 EARLY\_B  
 A32 ENABLE\_A  
 A33 -48V\_A  
 A34 -48V\_B

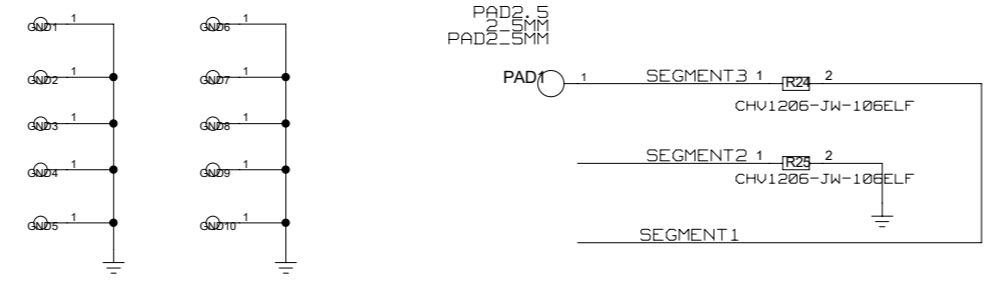
### SERIAL BOARD NUMBER



### CONFIGURATION SELECT

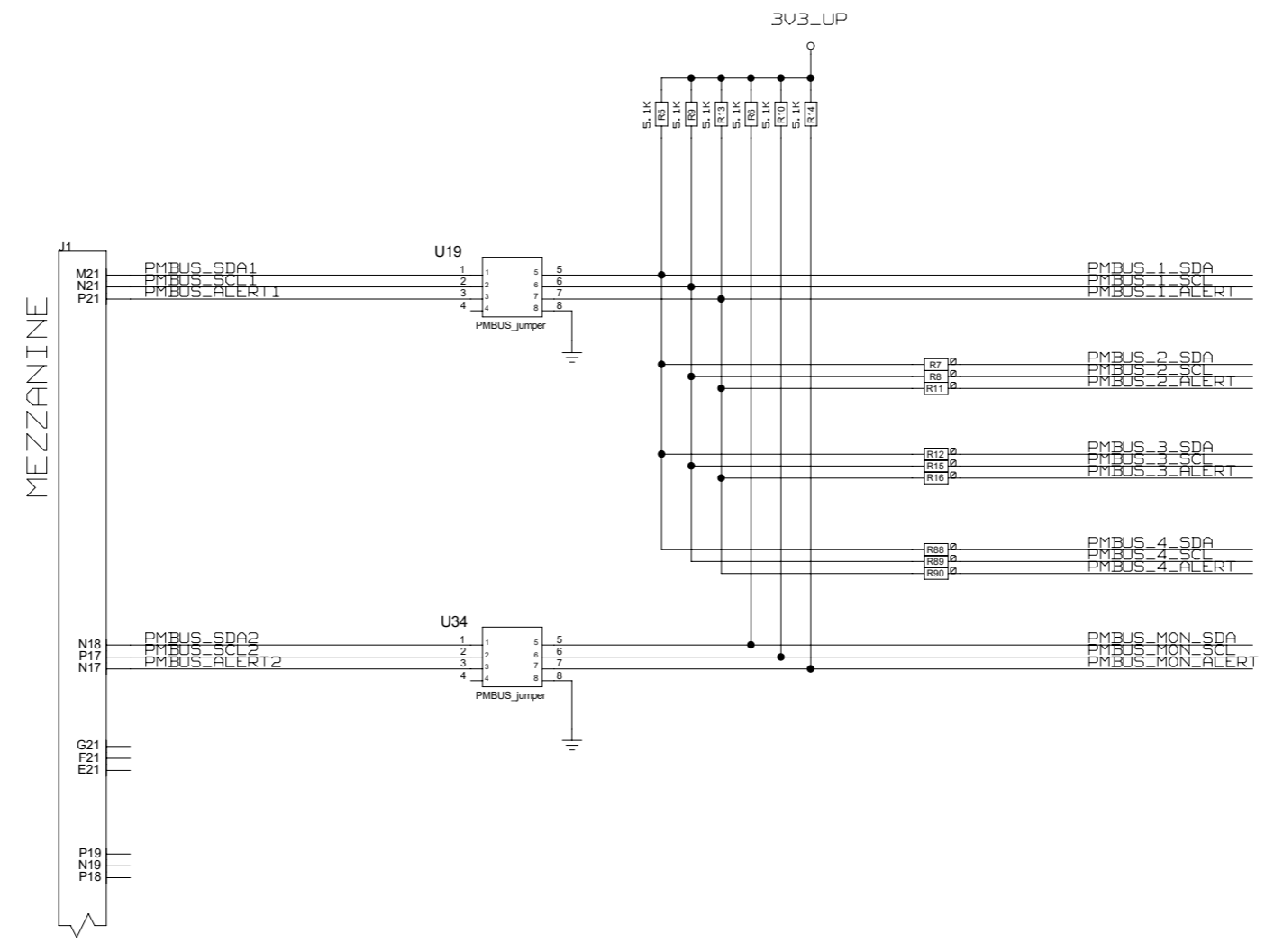


NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J.V.DE SOUZA		JFEX
CHECKED	U.SCHAEFER		
CHECKED			
CHECKED			
DRAWN	BAUSS	03.11.2015	
BLOCK TITLE			
POWERSUPPLY			
UNIVERSITY OF MAINZ		SIZE <b>C</b>	DRAWING NO.
SCALE		REV.	SHEET OF



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

# PMBUS CONNECTORS

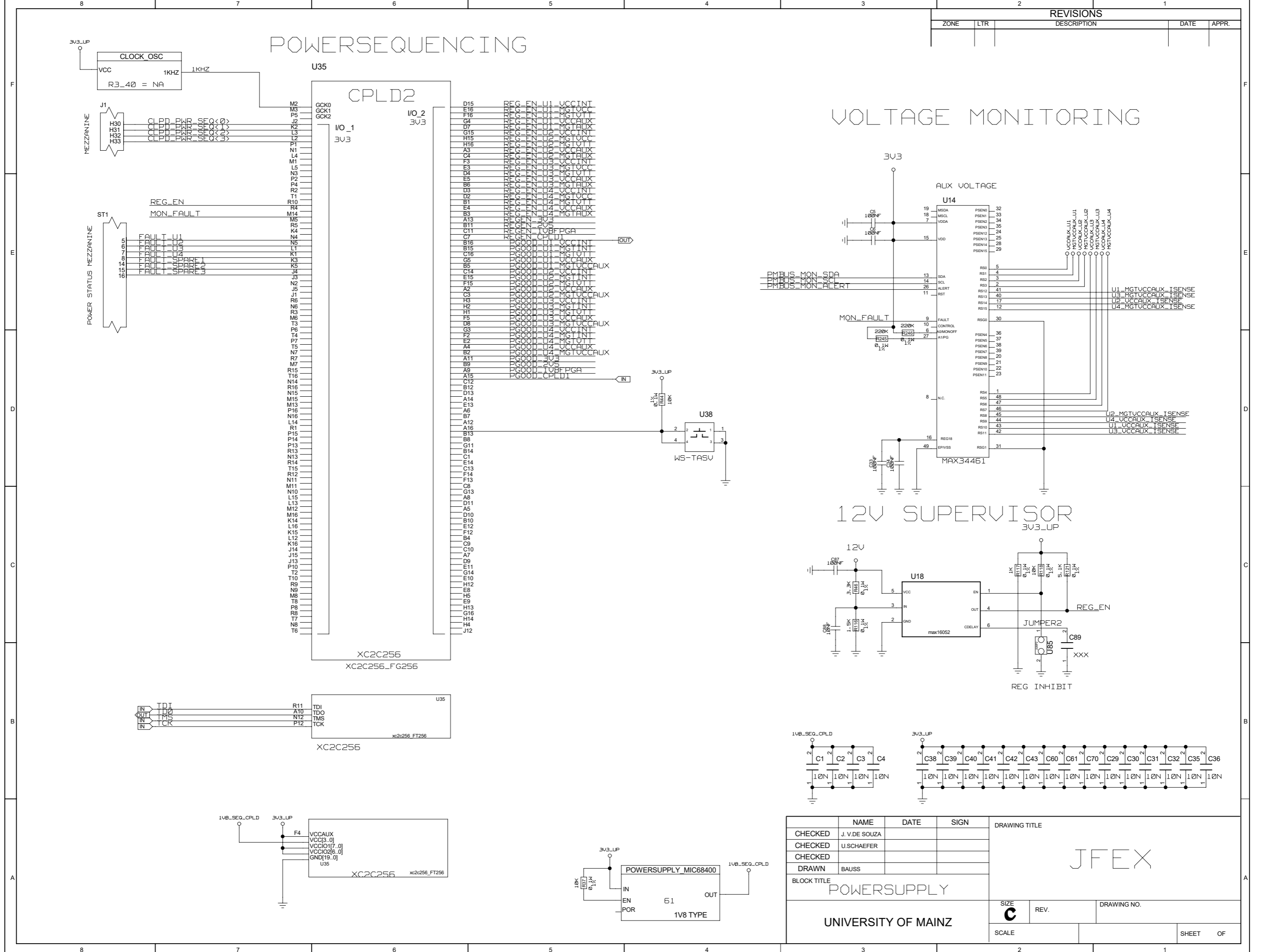


CHECKED	J. V. DE SOUZA			DRAWING TITLE  <b>JFEX</b>
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS			
BLOCK TITLE <b>POWERSUPPLY</b>				SIZE <b>C</b>
<b>UNIVERSITY OF MAINZ</b>				REV.
				DRAWING NO.
SCALE				SHEET OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

# POWERSEQUENCING

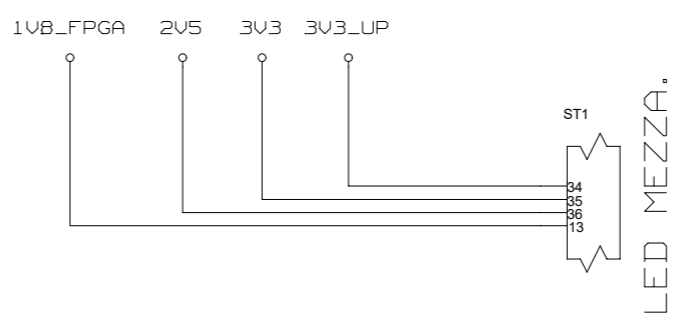
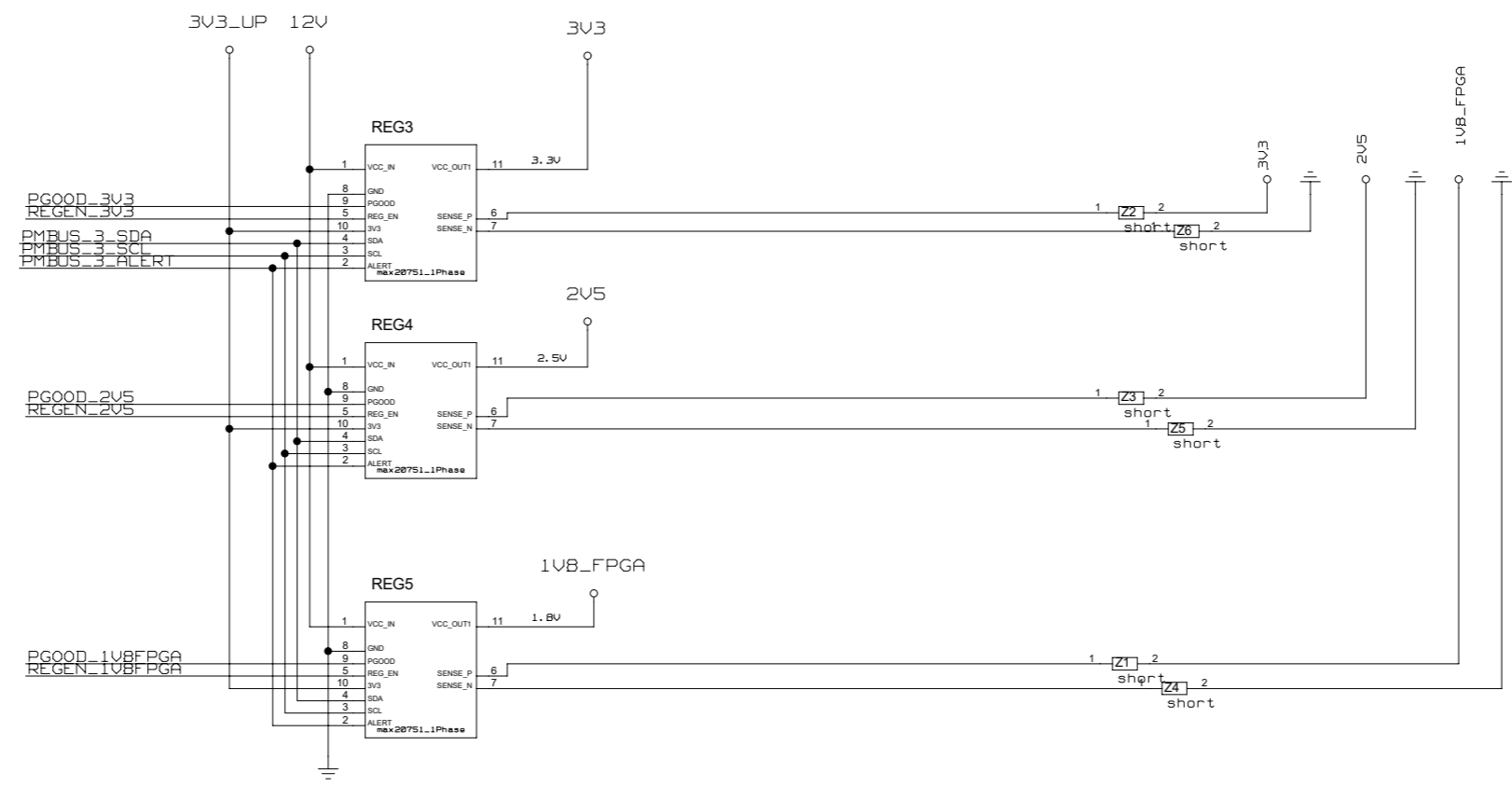
# VOLTAGE MONITORING



NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX
CHECKED	U.SCHAEFER		
CHECKED			
CHECKED			
DRAWN	BAUSS		
BLOCK TITLE			
POWERSUPPLY			
UNIVERSITY OF MAINZ		SIZE	DRAWING NO.
		SCALE	SHEET OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

# BOARDLEVEL 1V8, 2V5, 3V3

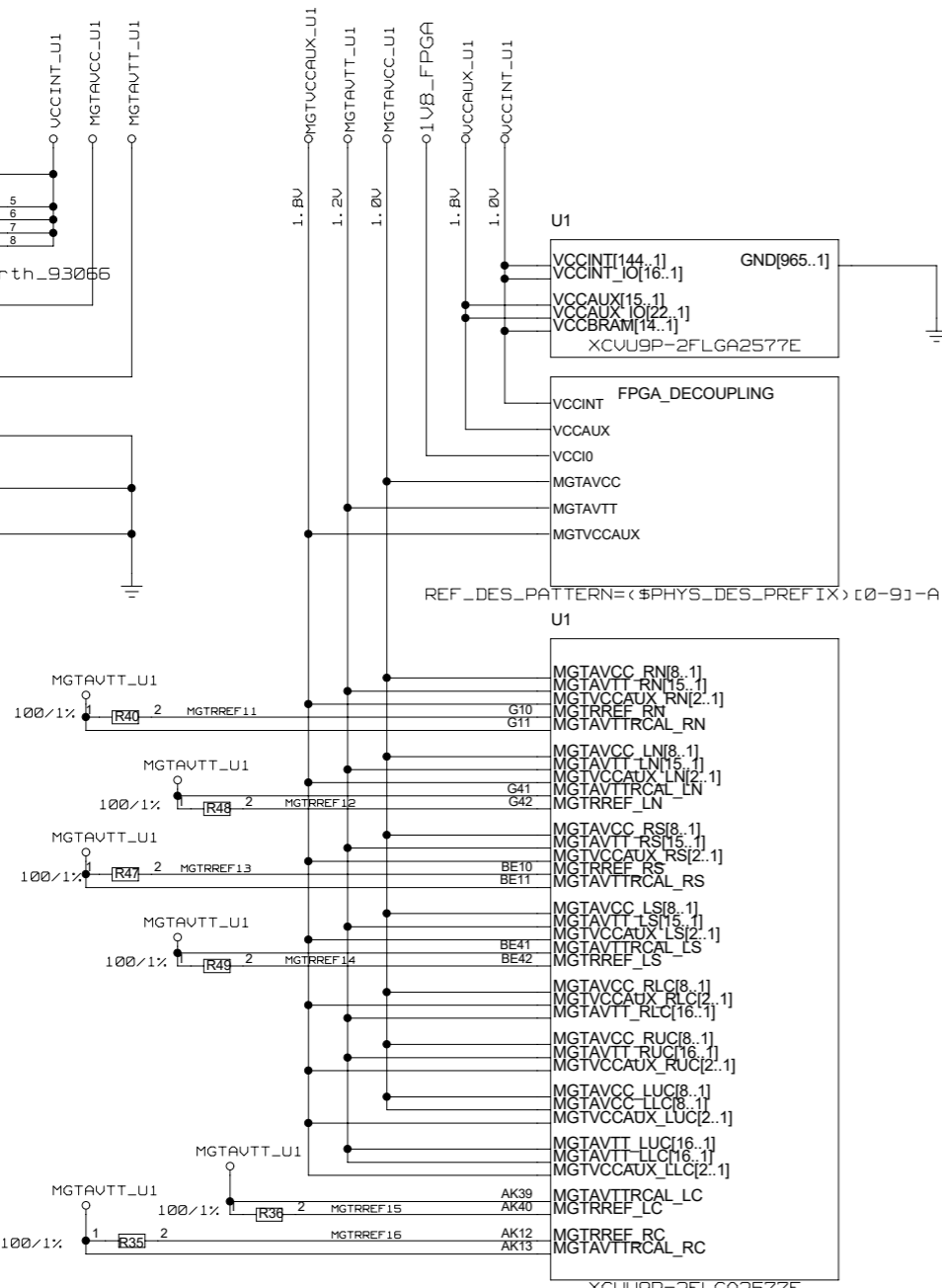
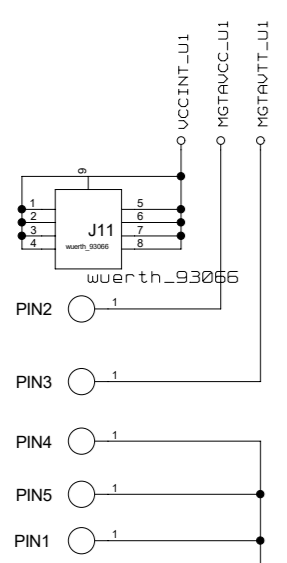


CHECKED	NAME	DATE	SIGN	DRAWING TITLE	
CHECKED	J. V. DE SOUZA			JFEX	
CHECKED	U. SCHAEFER				
CHECKED	BAUSS				
DRAWN	BAUSS			BLOCK TITLE	
				POWERSUPPLY	
UNIVERSITY OF MAINZ				SIZE	REV.
				C	
				SCALE	DRAWING NO.
					SHEET OF

# POWERSUPPLIES U1 + DECOUPLING U1

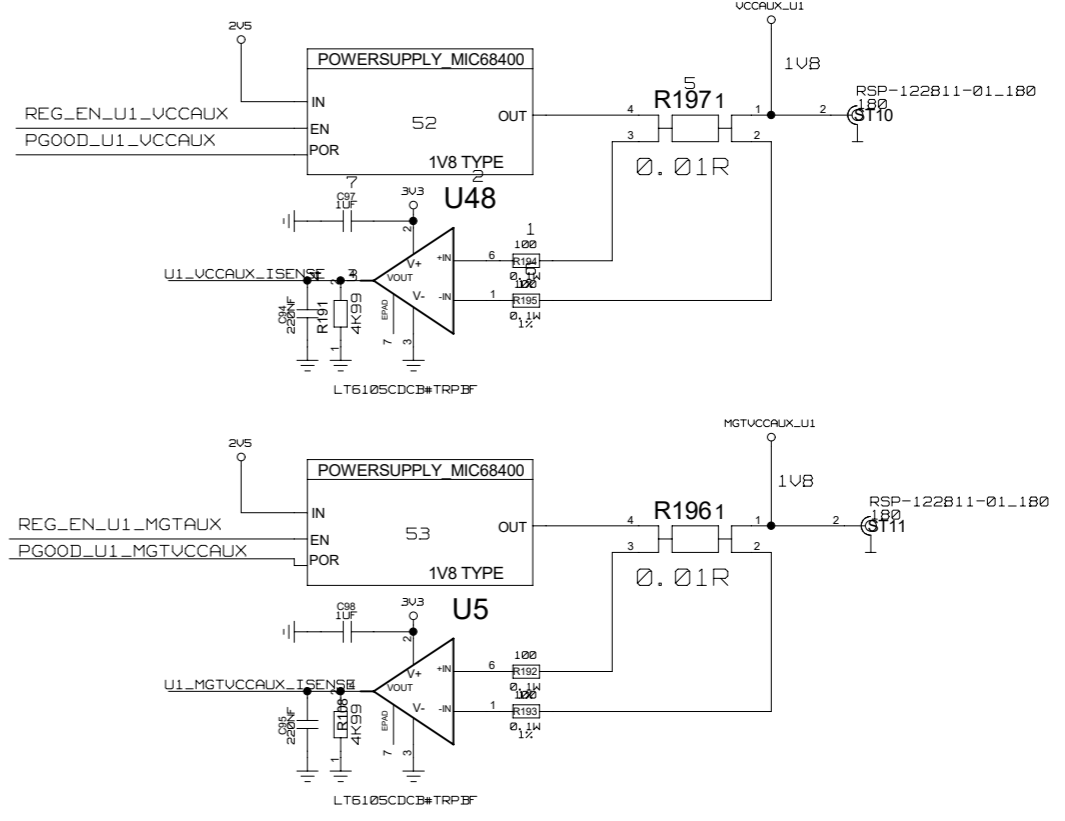
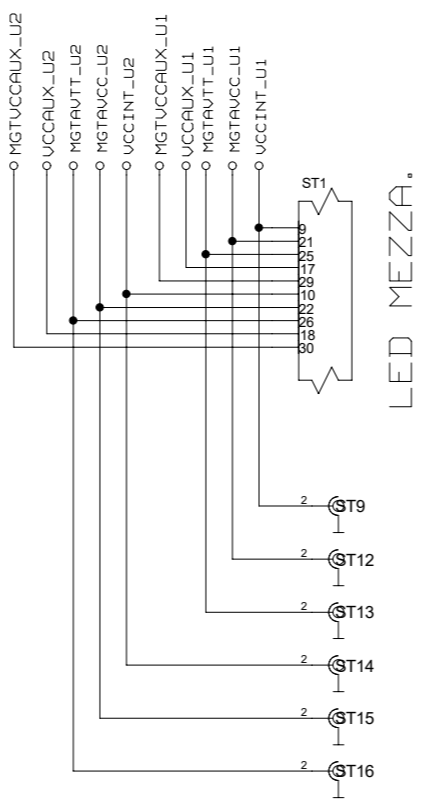
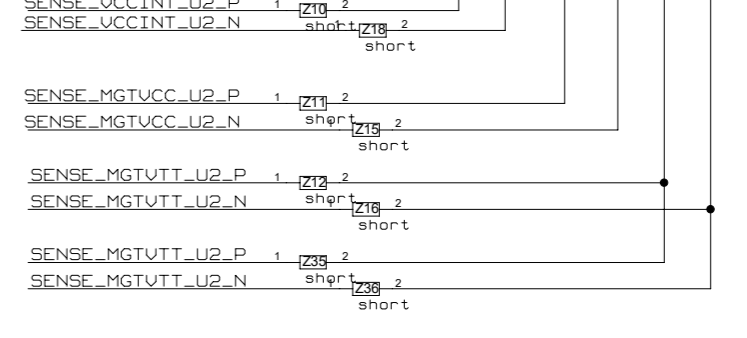
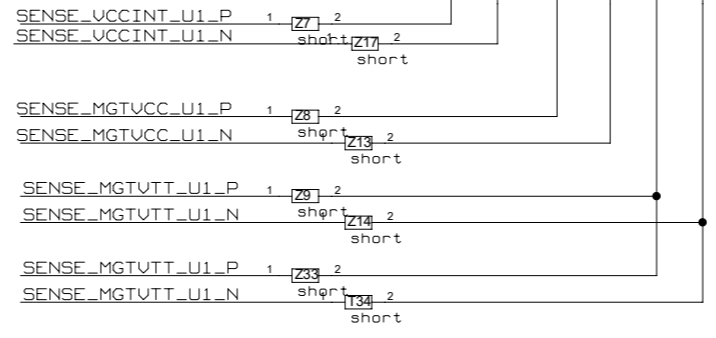
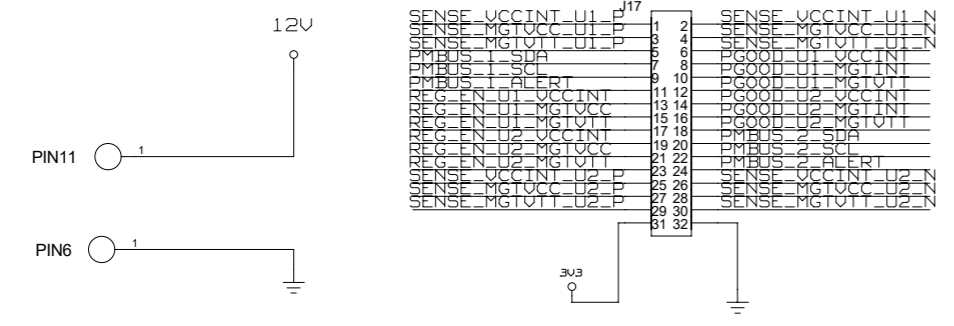
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

## POWERCONNECTORS



TRACE LENGTH FROM RESISTOR PINS  
TO PIN SAME LENGTH  
UG578 SHEET 324

## POWERPANEL



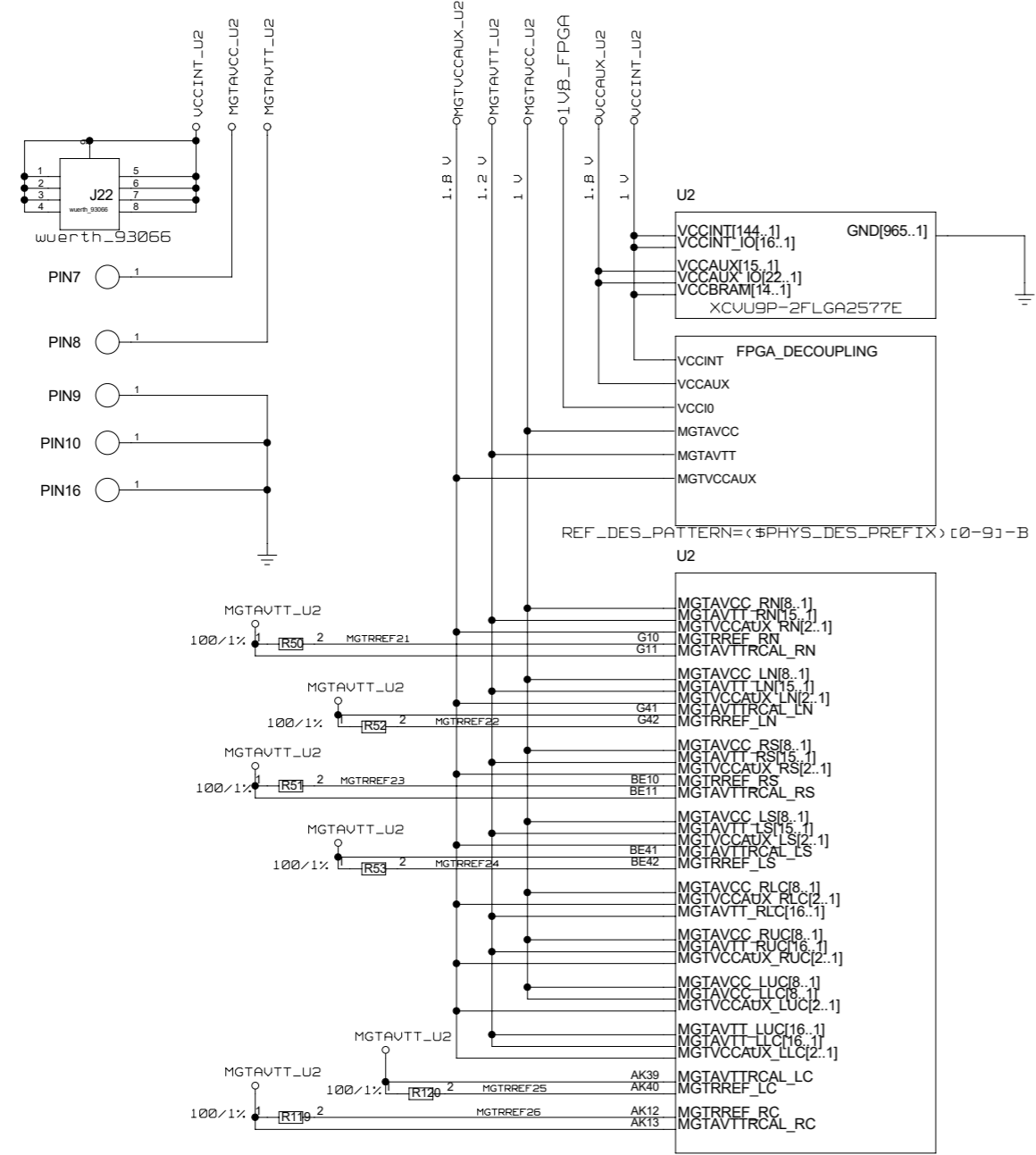
NAME	DATE	SIGN	DRAWING TITLE	
CHECKED	J. V. DE SOUZA		POWERSUPPLY	
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS			
BLOCK TITLE			UNIVERSITY OF MAINZ	
SIZE	REV.	DRAWING NO.		
SCALE				SHEET OF

JFEX

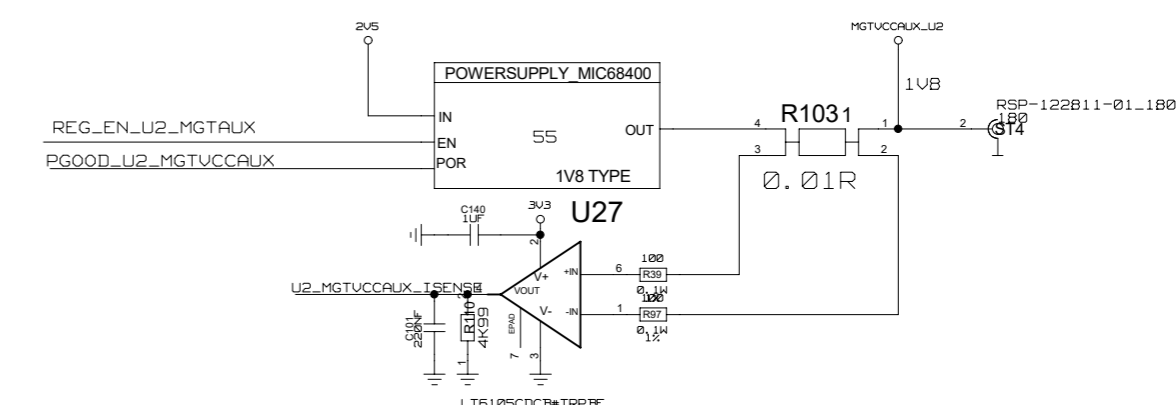
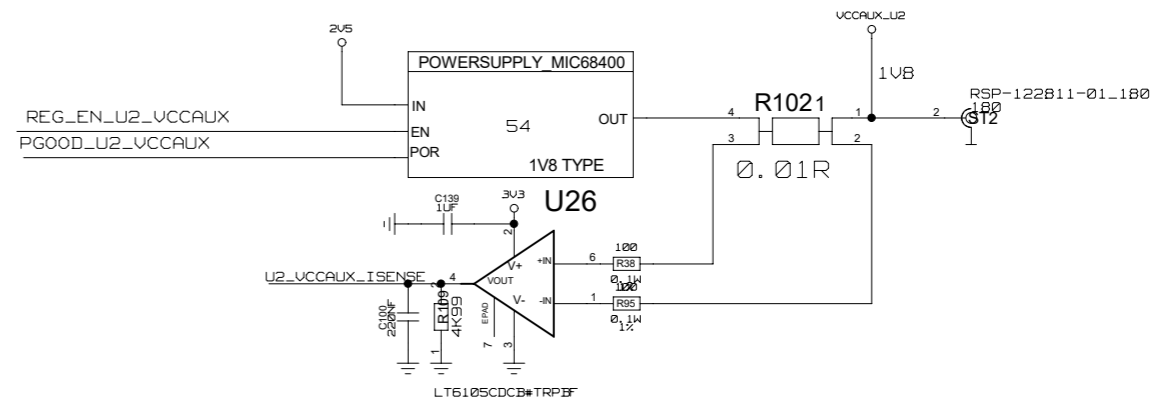
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

# POWERSUPPLIES U2 + DECOUPLING U2

## POWERCONNECTORS



TRACE LENGTH FROM RESISTOR PINS  
TO PIN SAME LENGTH  
UG57B SHEET 324



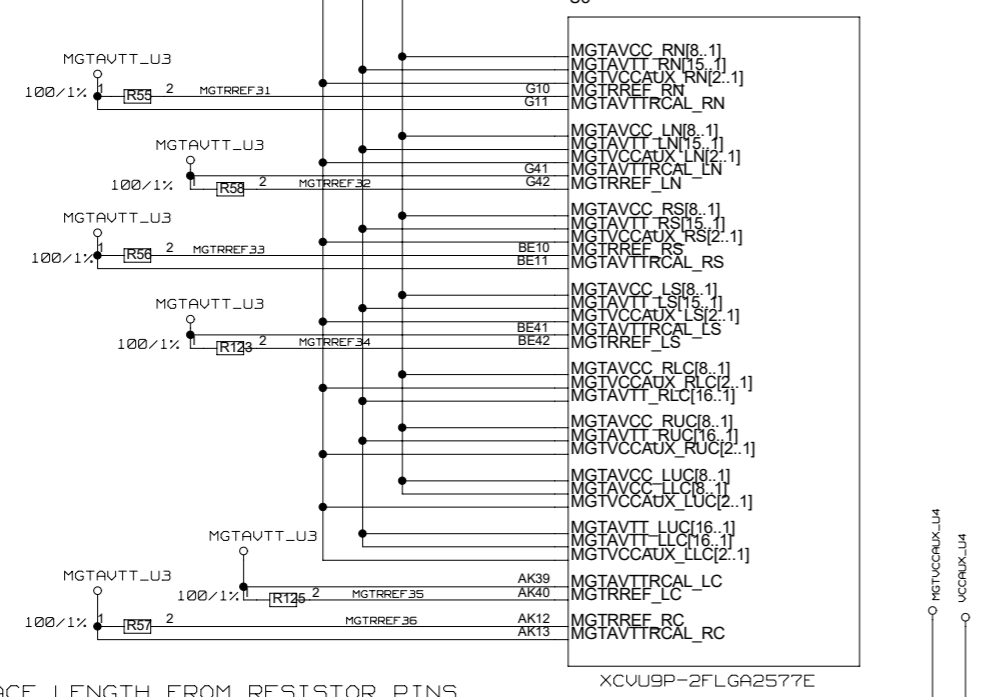
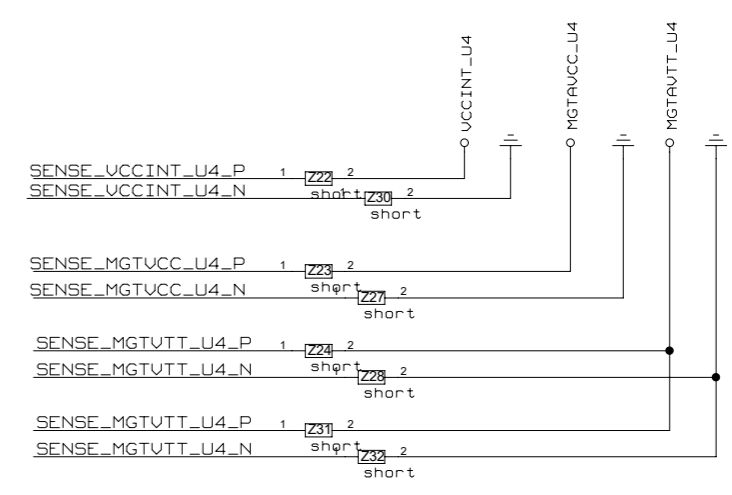
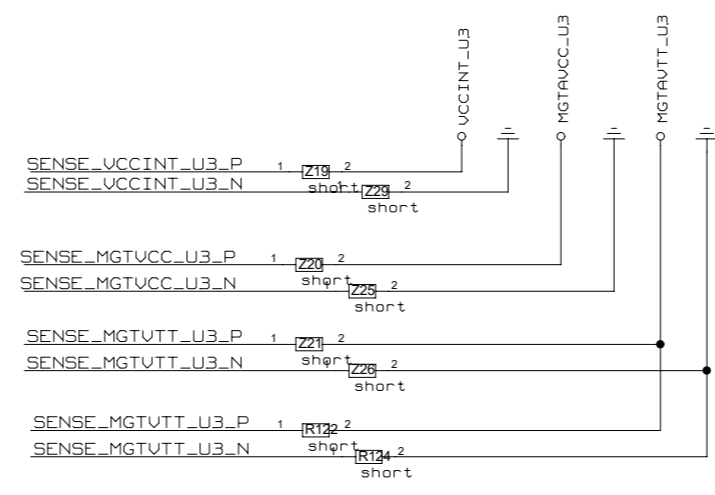
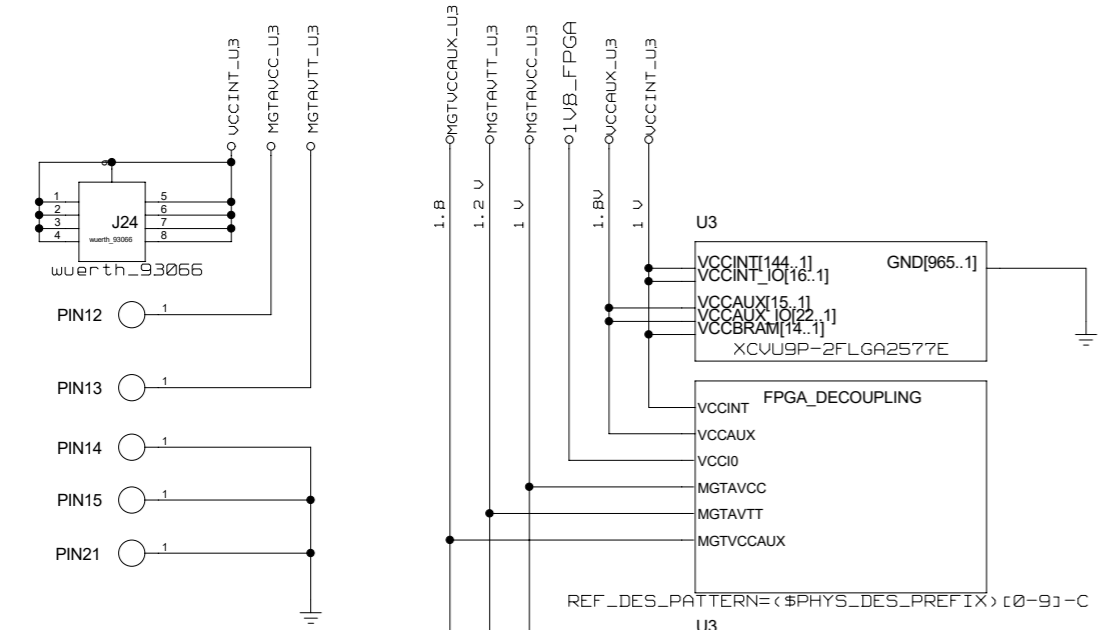
NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U. SCHAEFER			
CHECKED			
DRAWN BAUSS			
BLOCK TITLE			
POWERSUPPLY			
UNIVERSITY OF MAINZ			
SIZE	REV.	DRAWING NO.	
C			
SCALE		SHEET OF	



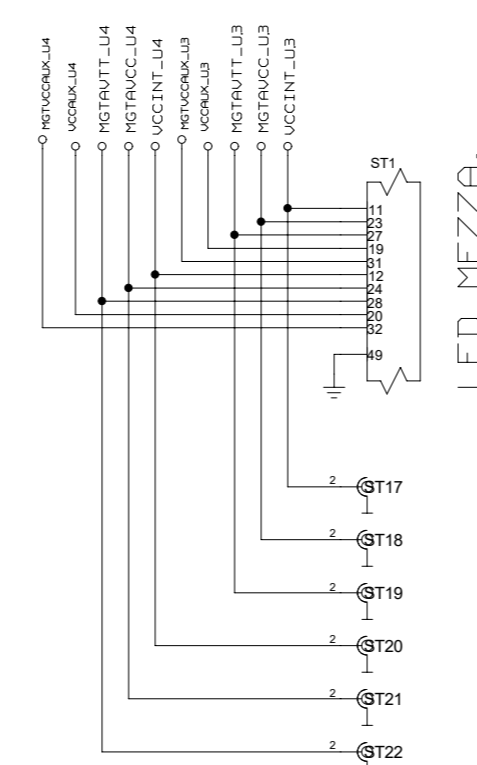
# POWERSUPPLIES U3 + DECOUPLING U3

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

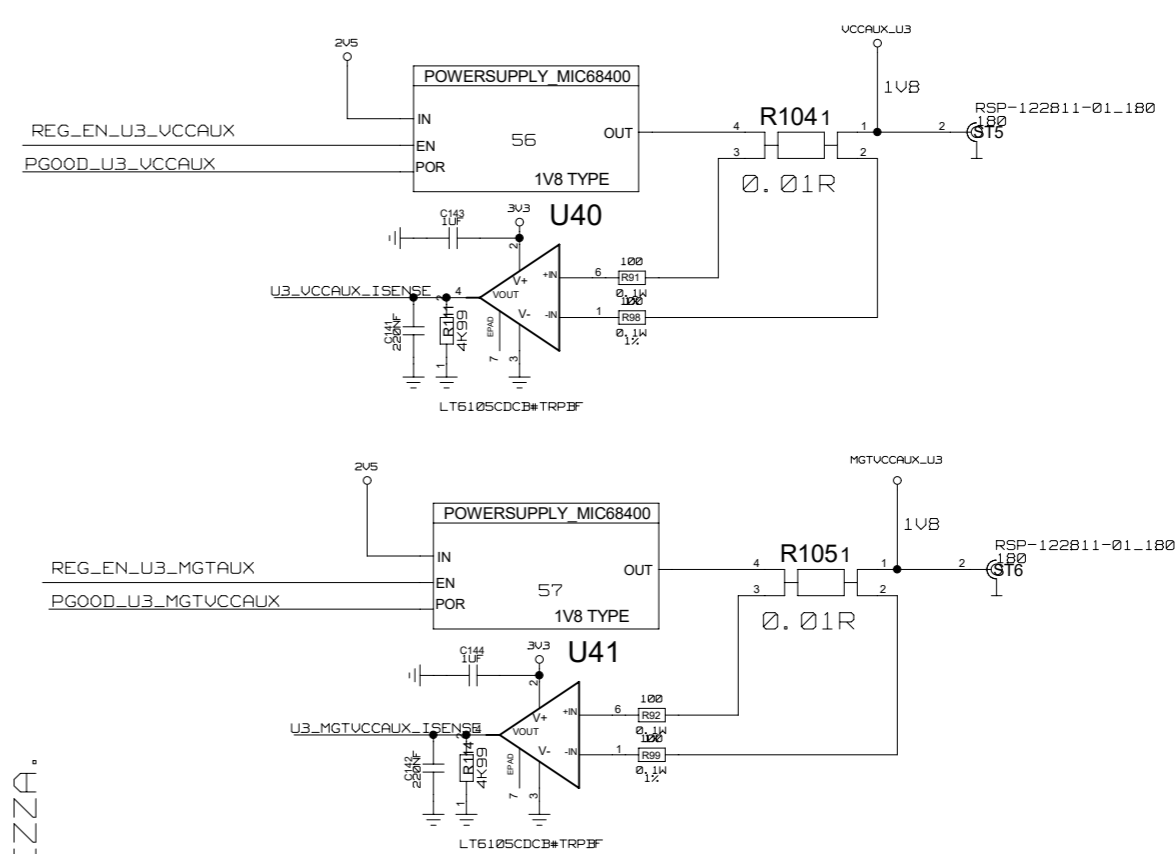
## POWERCONNECTORS



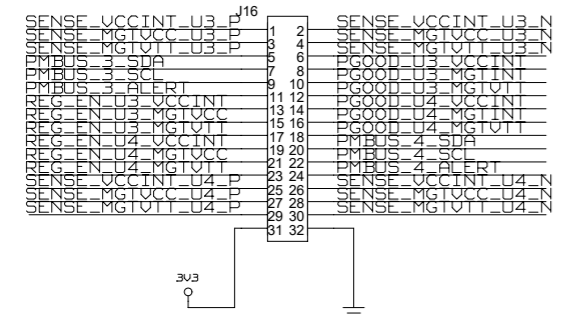
TRACE LENGTH FROM RESISTOR PINS  
TO PIN SAME LENGTH  
UG578 SHEET 324



LED MEZZA



## POWERPANEL

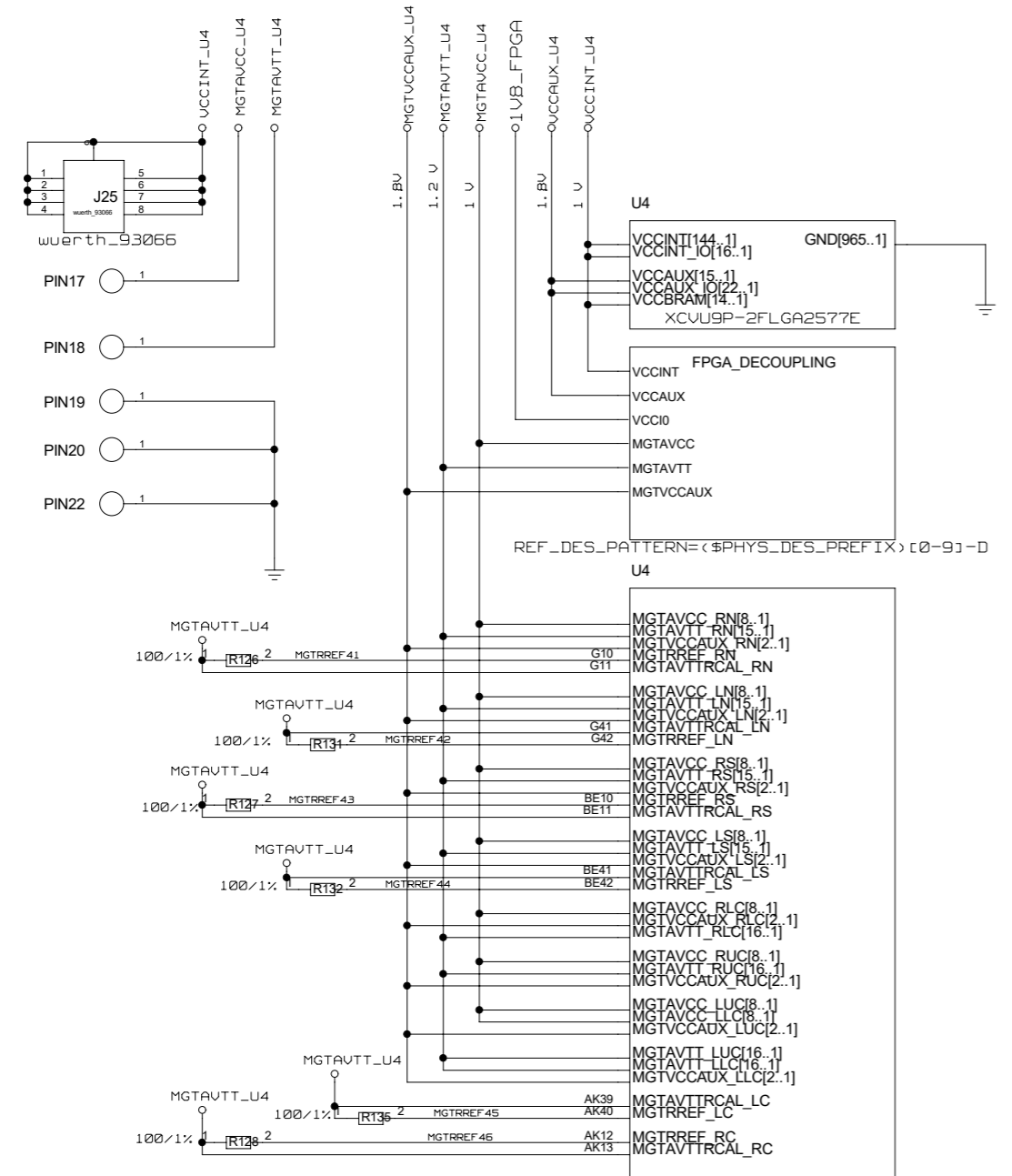


NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX
CHECKED	U. SCHAEFER		
CHECKED			
DRAWN	BAUSS		
BLOCK TITLE			POWER SUPPLY
UNIVERSITY OF MAINZ		SIZE	DRAWING NO.
		SCALE	SHEET OF

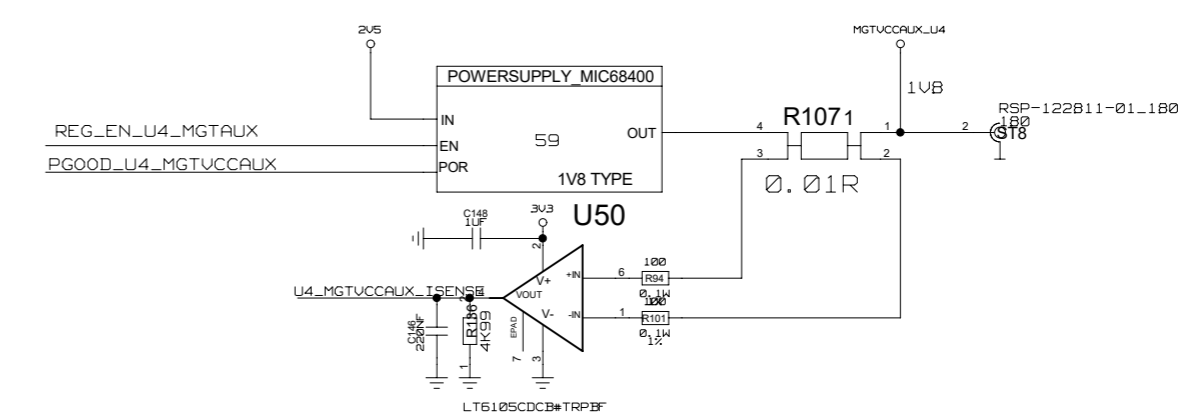
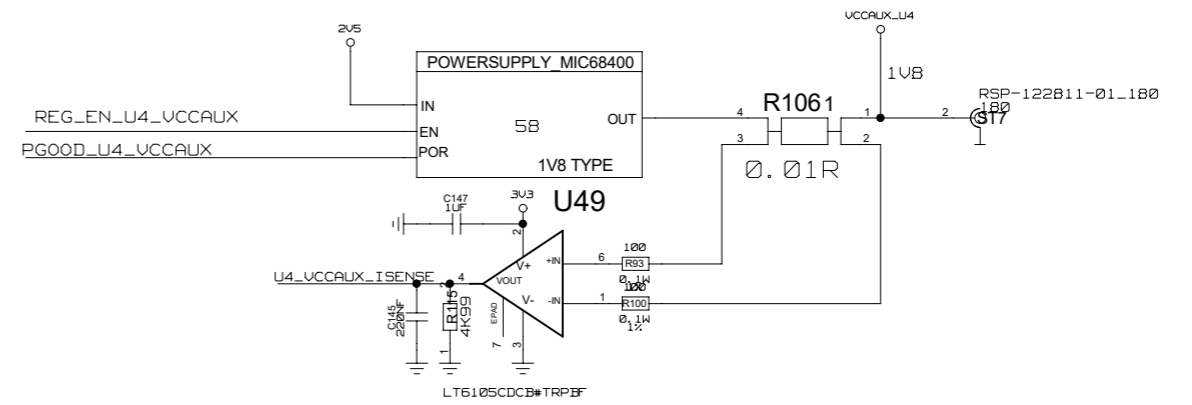
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

# POWERSUPPLIES U4 + DECOUPLING U4

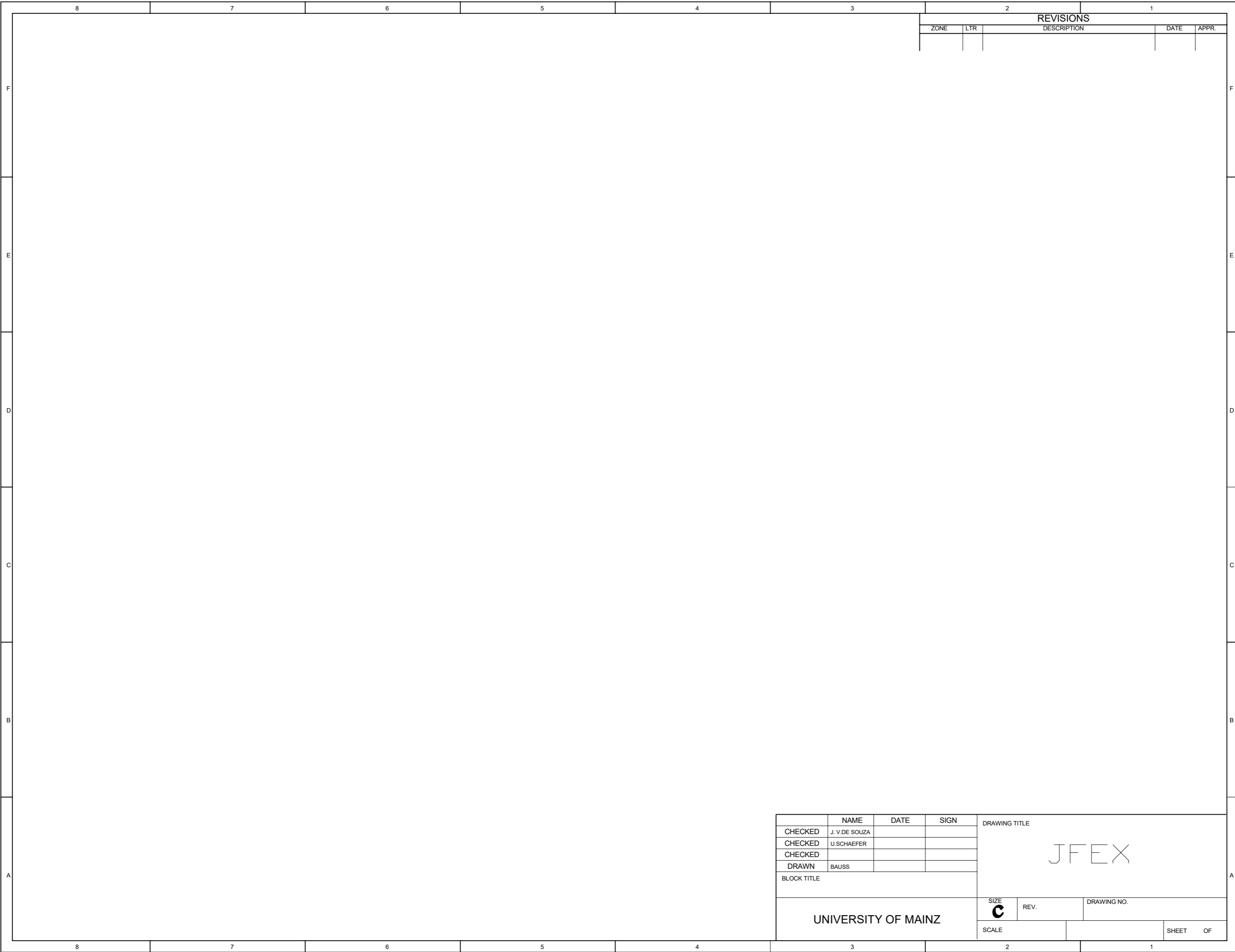
## POWERCONNECTORS



TRACE LENGTH FROM RESISTOR PINS  
TO PIN SAME LENGTH  
UG578 SHEET 324



NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U. SCHAEFER			
CHECKED			
DRAWN BAUSS			
BLOCK TITLE	POWERSUPPLY		
UNIVERSITY OF MAINZ			SIZE C
SCALE			REV.
SHEET OF			DRAWING NO.

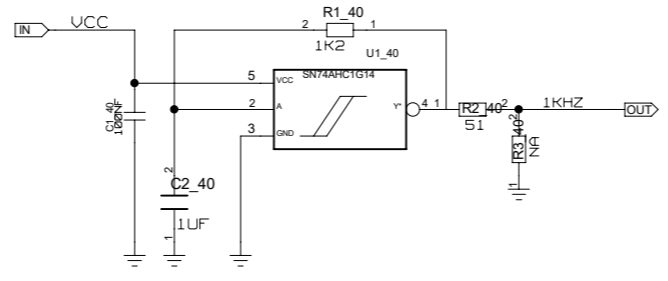


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

	NAME	DATE	SIGN	DRAWING TITLE	
CHECKED	J. V. DE SOUZA			JFEX	
CHECKED	U. SCHAEFER				
CHECKED					
DRAWN	BAUSS			BLOCK TITLE	
UNIVERSITY OF MAINZ				SIZE <b>C</b>	DRAWING NO.
				SCALE	SHEET OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

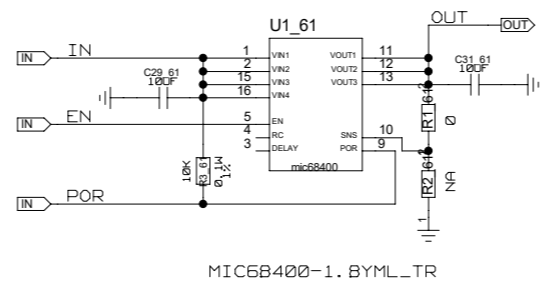
# CPLD CLOCK



CHECKED	NAME	DATE	SIGN	DRAWING TITLE	
CHECKED	J. V. DE SOUZA			JFEX	
CHECKED	U. SCHAEFER				
CHECKED					
DRAWN	BAUSS			DRAWING NO.	
BLOCK TITLE				SIZE	REV.
UNIVERSITY OF MAINZ				C	
SCALE					SHEET OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

# POWERSUPPLY\_MIC68400

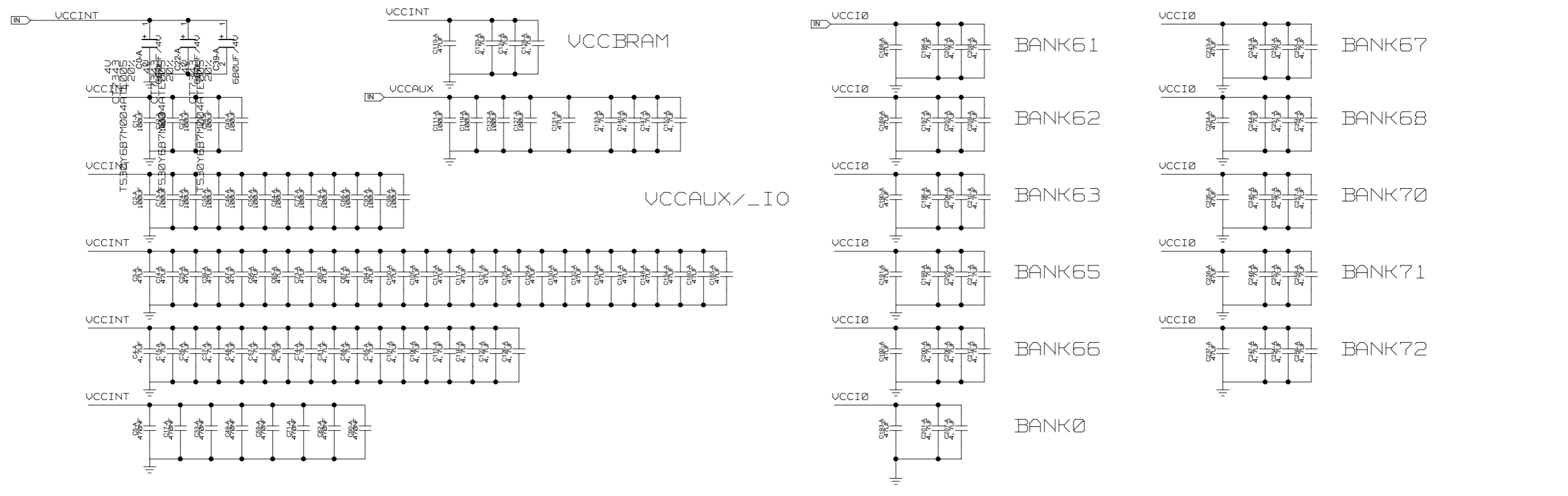


MIC68400-1. BYML\_TR

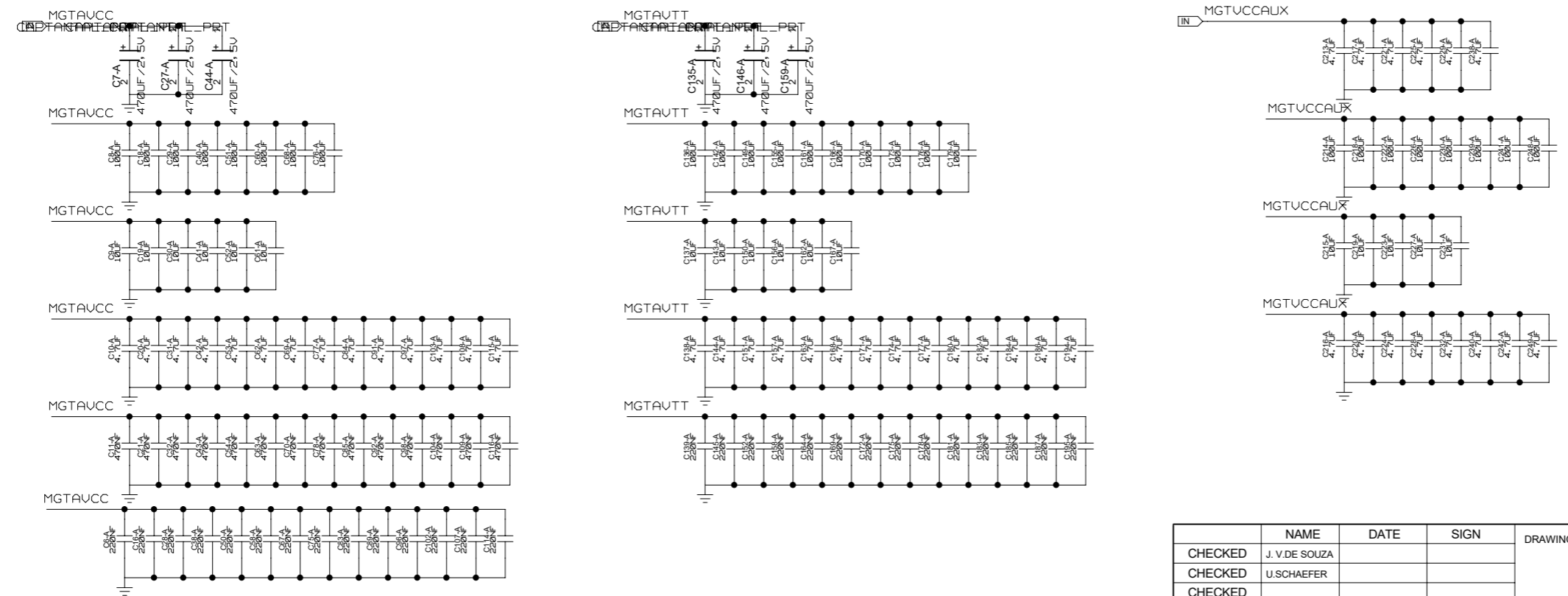
	NAME	DATE	SIGN	DRAWING TITLE	
CHECKED	J. V. DE SOUZA				
CHECKED	U. SCHAEFER				
CHECKED					
DRAWN	BAUSS				
BLOCK TITLE				DRAWING NO.	
POWERSUPPLY_MIC68400				SIZE	REV.
UNIVERSITY OF MAINZ				C	
SCALE				SHEET OF	

# DECOUPLING FPGA

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



# MGT DECOUPLING



	NAME	DATE	SIGN	DRAWING TITLE	
CHECKED	J. V. DE SOUZA			JFEX	
CHECKED	U. SCHAEFER				
CHECKED					
DRAWN	BAUSS				
BLOCK TITLE				SIZE	DRAWING NO.
UNIVERSITY OF MAINZ				<b>C</b>	REV.
				SCALE	SHEET OF

8

7

6

5

4

3

2

1

REVISIONS

ZONE	LTR	DESCRIPTION	DATE	APPR.

F

F

E

E

D

D

C

C

B

B

A

A

8

7

6

5

4

3

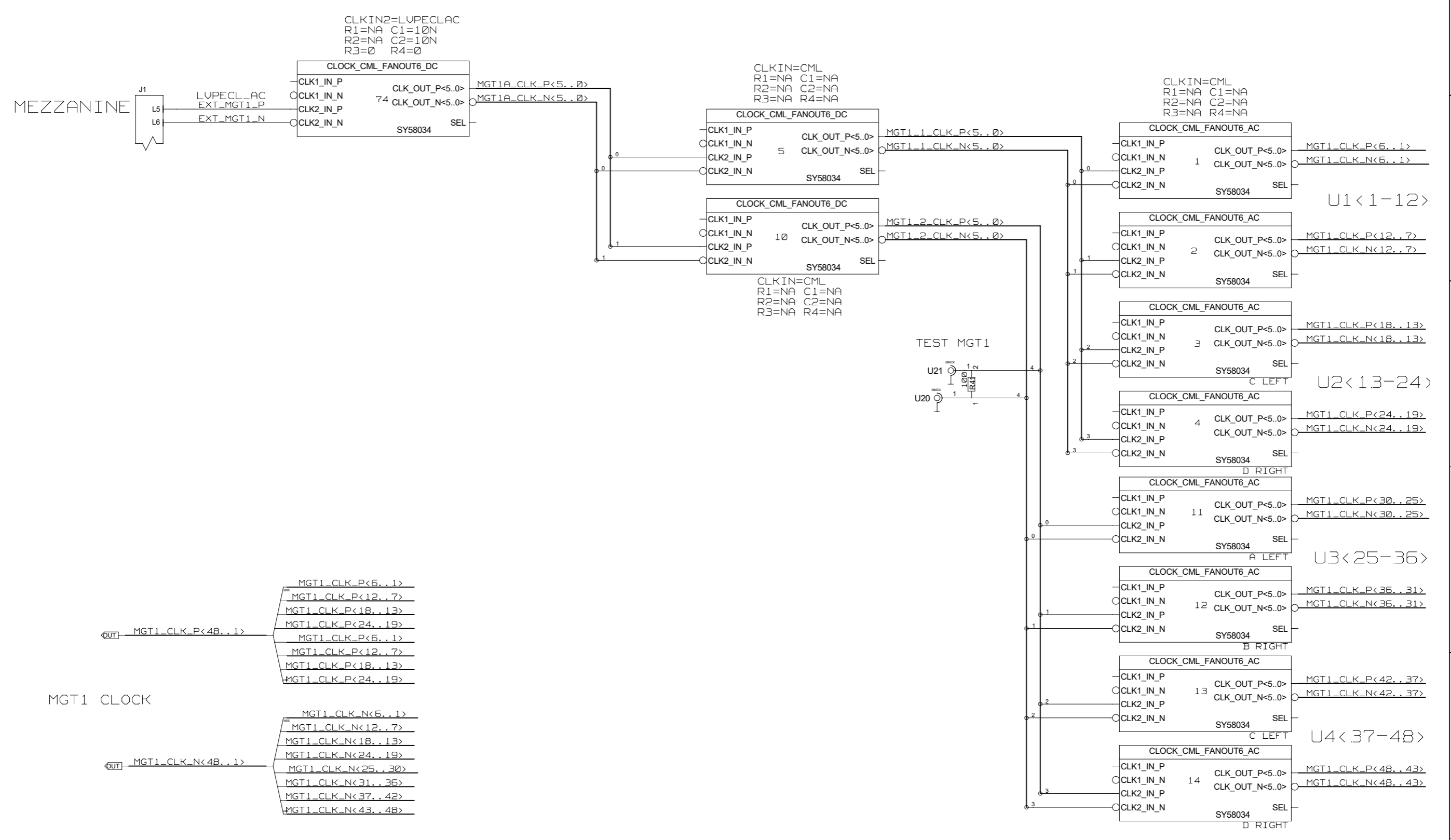
2

1

	NAME	DATE	SIGN	DRAWING TITLE		
CHECKED	J. V. DE SOUZA					
CHECKED	U. SCHAEFER					
CHECKED						
DRAWN	BAUSS					
BLOCK TITLE						
UNIVERSITY OF MAINZ				SIZE <b>C</b>	REV.	DRAWING NO.
				SCALE		SHEET OF

# MGT1 CLOCK

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



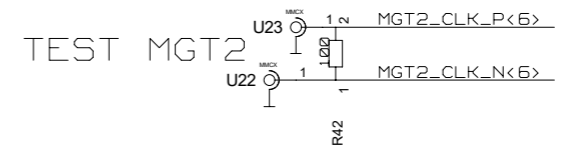
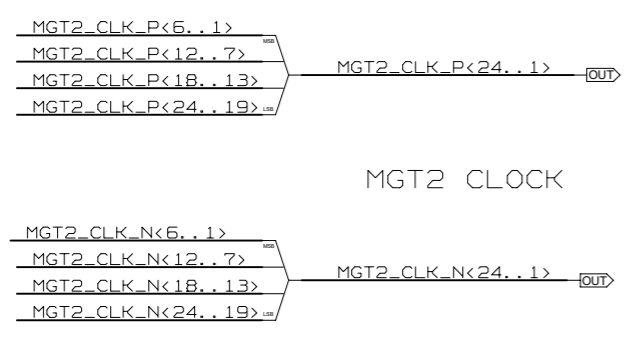
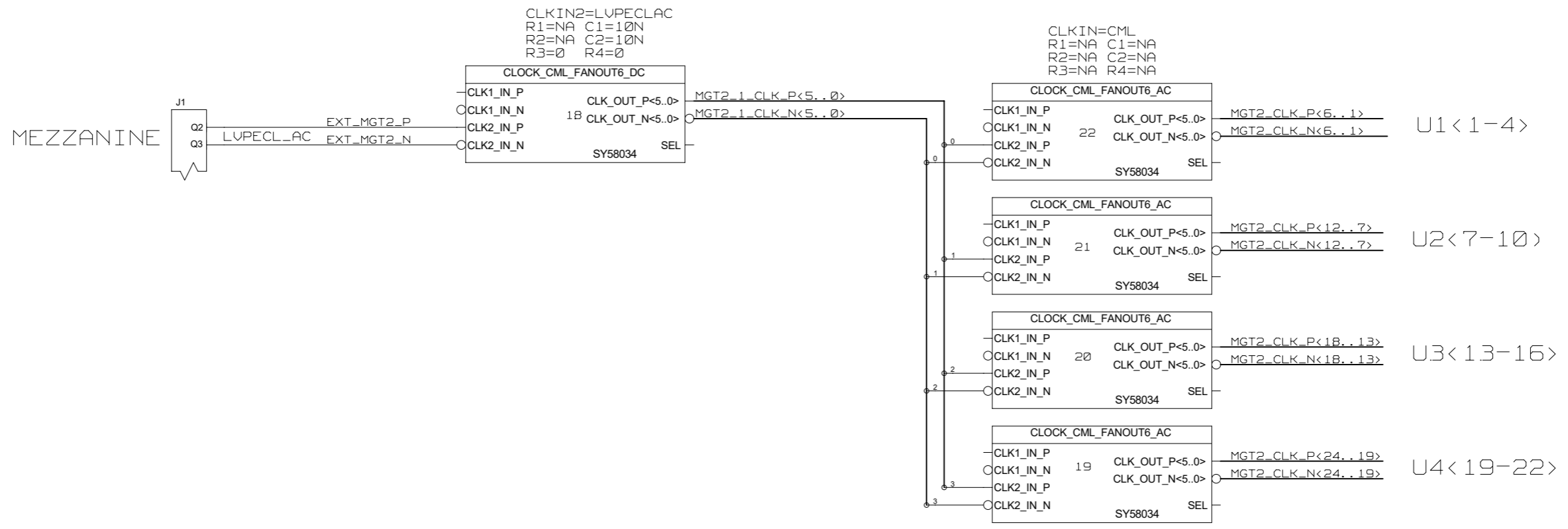
UPDATE PICK & PLACE DATA FOR FANOUT

	NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J.V. DE SOUZA			<h2>JFEX</h2> <h3>MGT1 CLOCK</h3>
CHECKED	U.SCHAEFER			
CHECKED				
DRAWN	BAUSS	08.05.2017		
BLOCK TITLE				
CLOCK				
UNIVERSITY OF MAINZ		SIZE	REV.	DRAWING NO.
SCALE				
				SHEET 1 OF 5



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

# MGT2 CLOCK

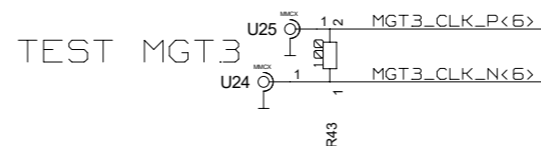
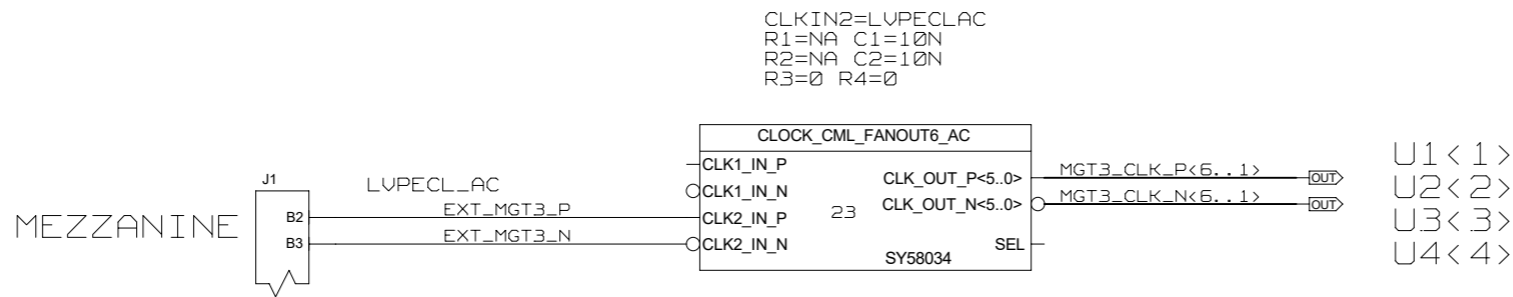


UPDATE PICK & PLACE DATA FOR FANOUT

CHECKED	J.V. DE SOUZA			DRAWING TITLE
CHECKED	U.SCHAEFER			
CHECKED				
DRAWN	BAUSS	08.06.2017		
BLOCK TITLE				<b>JFEX</b> <b>MGT2 CLOCK</b>
CLOCK				
UNIVERSITY OF MAINZ				
SIZE	REV.	DRAWING NO.		
C				
SCALE			SHEET 2 OF 5	

# MGT.3 CLOCK (ROD REFCLK)

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

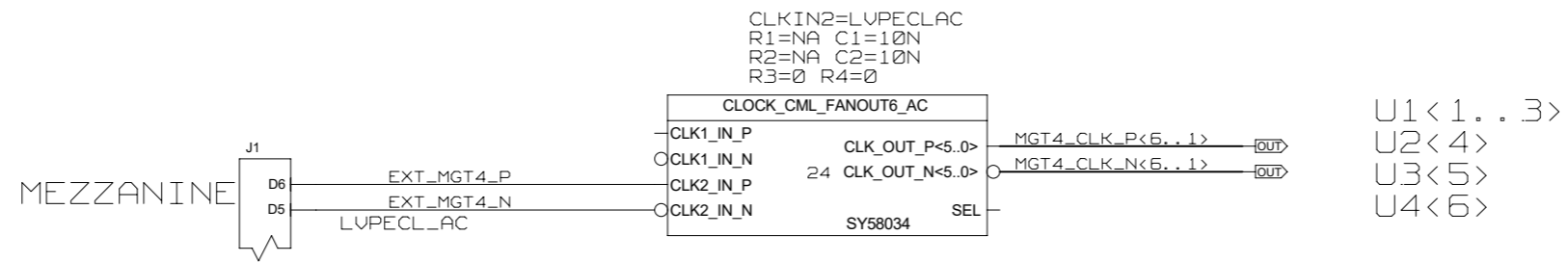


UPDATE PICK & PLACE DATA FOR FANOUT

NAME	DATE	SIGN	DRAWING TITLE	
CHECKED	J.V.DE SOUZA		JFEX MGT.3 CLOCK (ROD REFCLK)	
CHECKED	U.SCHAEFER			
CHECKED				
DRAWN	BAUSS	08.06.2017	BLOCK TITLE	
UNIVERSITY OF MAINZ			SIZE	DRAWING NO.
SCALE			REV.	SHEET 3 OF 5

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

# MGT4 CLOCK (IPBUS REFCLK)

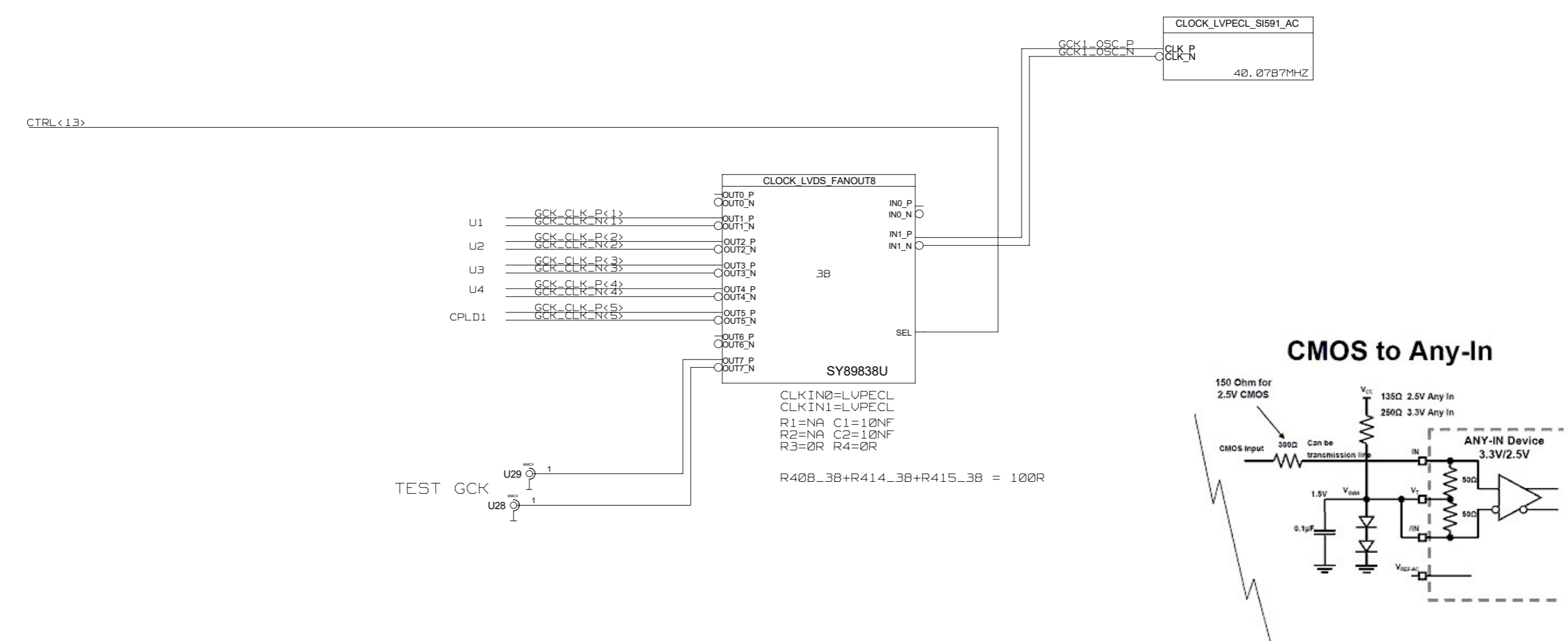


UPDATE PICK & PLACE DATA FOR FANOUT

CHECKED	J. V. DE SOUZA			DRAWING TITLE <b>JFEX</b> MGT4 CLOCK (IPBUS REFCLK)
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	08.05.2017		
BLOCK TITLE <b>CLOCK</b>				
UNIVERSITY OF MAINZ		SIZE <b>C</b>	REV.	DRAWING NO.
SCALE				SHEET 4 OF 5

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

# GLOBAL CLOCK



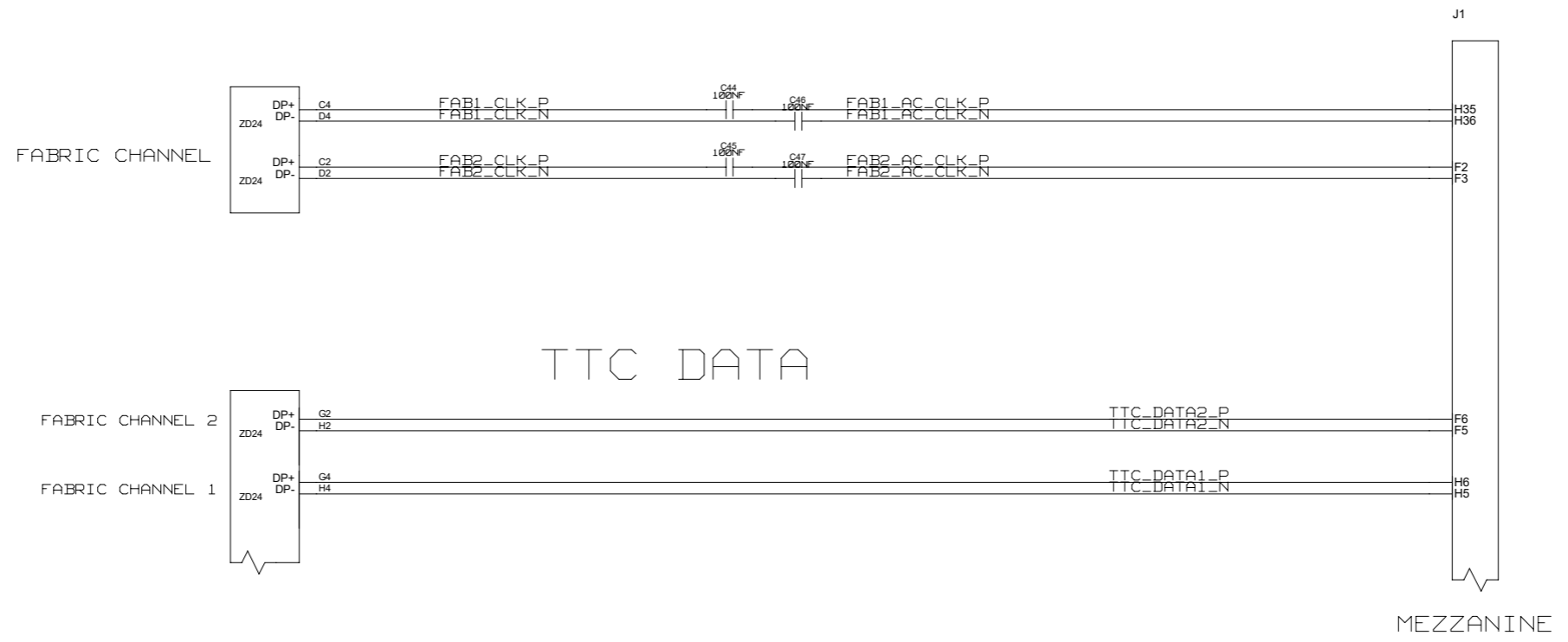
LVDS GCK\_CLK\_P<5..1>  
 GCK\_CLK\_N<5..1>

GCK1 = CLK U1  
 GCK2 = CLK U2  
 GCK3 = CLK U3  
 GCK4 = CLK U4  
 GCK5 = CLK CPLD

NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX GLOBAL CLOCK
CHECKED U.SCHAEFER			
CHECKED			
DRAWN BAUSS	17. 08. 2015		
BLOCK TITLE CLOCK			
UNIVERSITY OF MAINZ		SIZE <b>C</b>	REV.
SCALE		DRAWING NO.	
			SHEET 5 OF 5

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

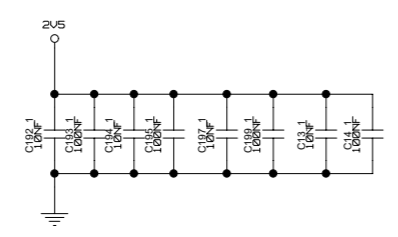
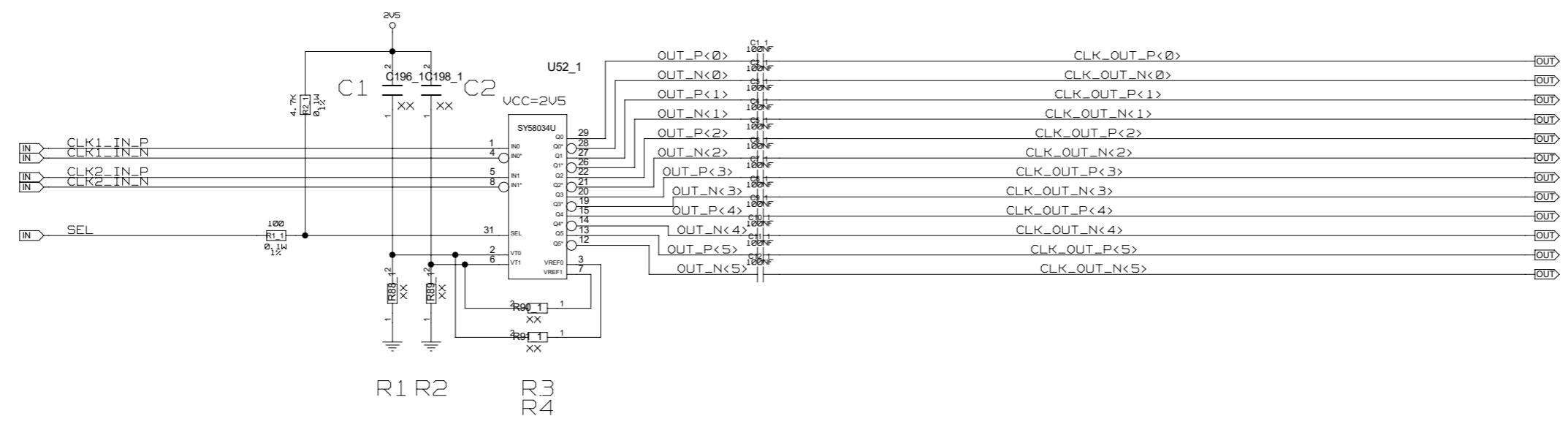
# LHC1 + LHC2 CLK



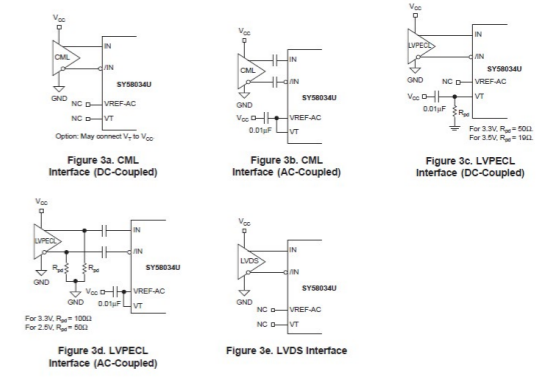
# TTC DATA

CHECKED	J. V. DE SOUZA			DRAWING TITLE  <b>JFEX</b> TTC DATA
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	06. 11. 2015		
BLOCK TITLE <b>CLOCK</b>				SIZE <b>C</b>
UNIVERSITY OF MAINZ				REV.
SCALE				DRAWING NO.
			SHEET	OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

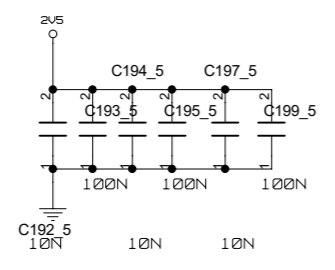
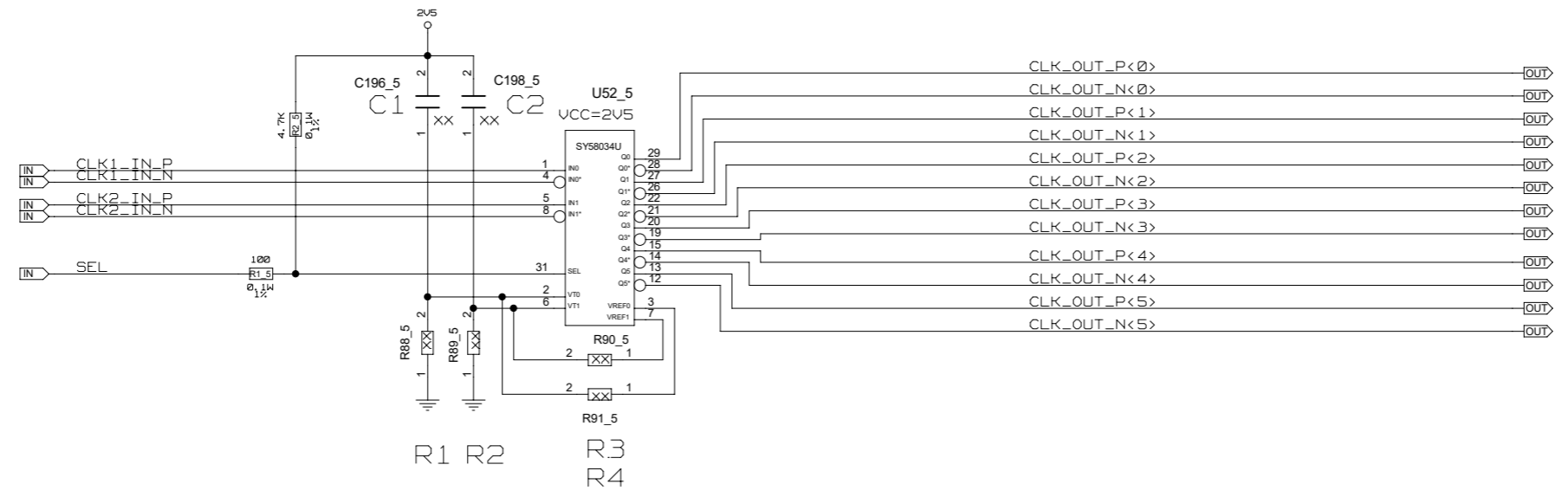


**INPUT INTERFACE APPLICATIONS**

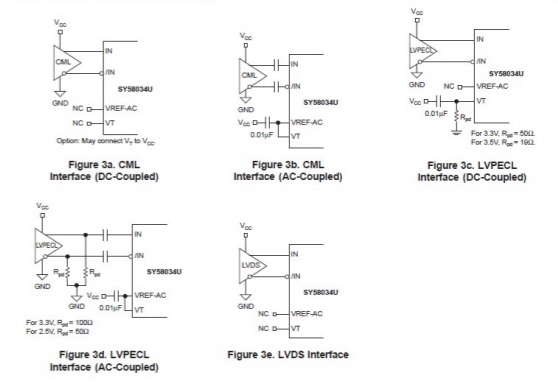


	NAME	DATE	SIGN	DRAWING TITLE  <b>CLOCK</b>
CHECKED	J. V. DE SOUZA			
CHECKED	U. SCHAEFER			
CHECKED	BAUSS			
DRAWN				BLOCK TITLE <b>CLOCK CML FANOUT6 AC</b>
UNIVERSITY OF MAINZ				
	SIZE	REV.	DRAWING NO.	
	SCALE			SHEET OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

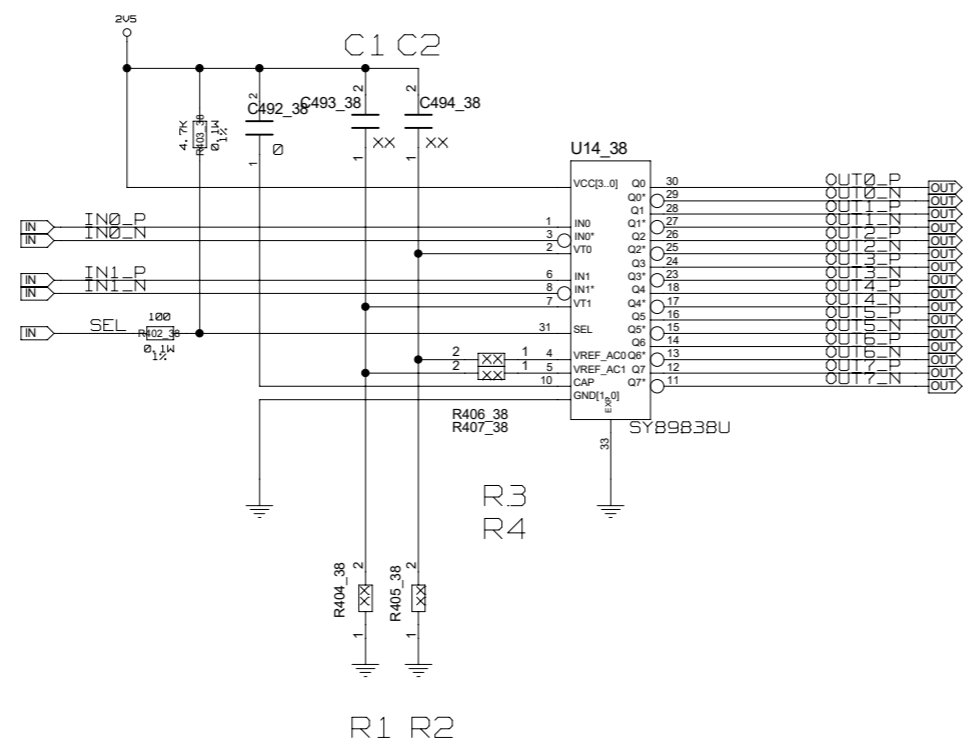


**INPUT INTERFACE APPLICATIONS**

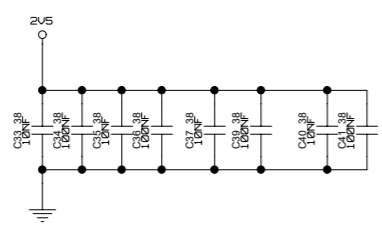


CHECKED	NAME	DATE	SIGN	DRAWING TITLE		
CHECKED	J. V. DE SOUZA			CLOCK		
CHECKED	U. SCHAEFER					
CHECKED	BAUSS					
DRAWN	BAUSS			BLOCK TITLE CLOCK_CML_FANOUT6_DC		
UNIVERSITY OF MAINZ				SIZE <b>C</b>	REV.	DRAWING NO.
SCALE						SHEET OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



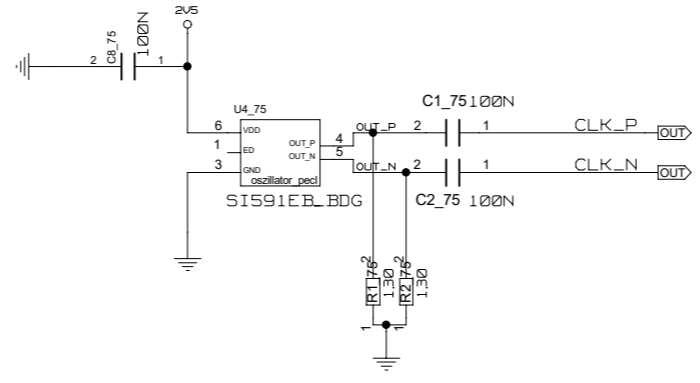
OUT0_P1	2	R408_38
OUT0_N1	2	R408_38
OUT1_P1	2	R409_38
OUT1_N1	2	R409_38
OUT2_P1	2	R410_38
OUT2_N1	2	R410_38
OUT3_P1	2	R411_38
OUT3_N1	2	R411_38
OUT4_P1	2	R412_38
OUT4_N1	2	R412_38
OUT5_P1	2	R413_38
OUT5_N1	2	R413_38
OUT6_P1	2	R414_38
OUT6_N1	2	R414_38
OUT7_P1	2	R415_38
OUT7_N1	2	R415_38



NAME	DATE	SIGN	DRAWING TITLE	
CHECKED	J. V. DE SOUZA		CLOCK	
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS			
BLOCK TITLE			DRAWING NO.	
CLOCK_LVDS_FANOUT8			SIZE	REV.
UNIVERSITY OF MAINZ			<b>C</b>	
			SCALE	SHEET OF



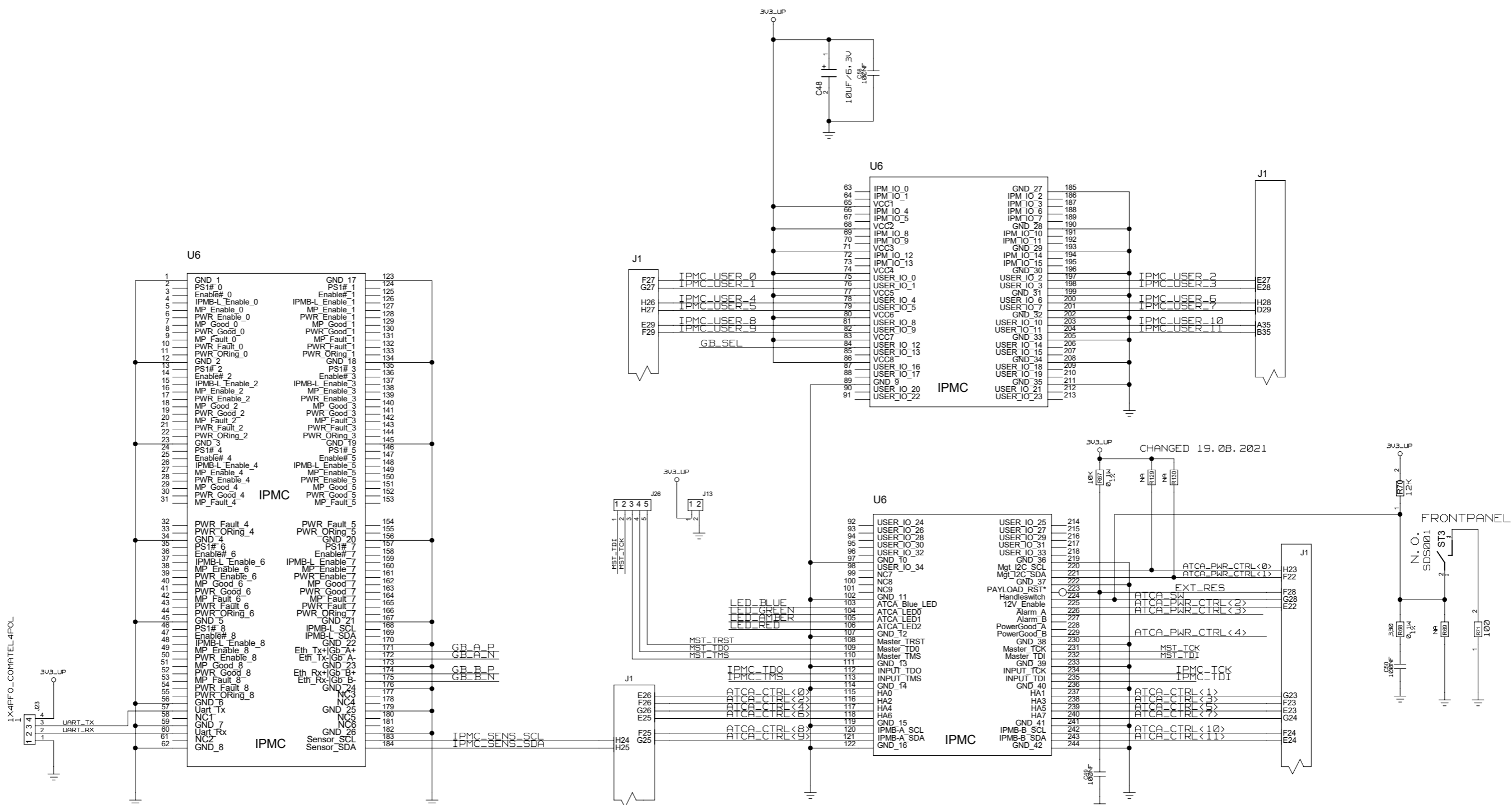
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



CHECKED	J. V. DE SOUZA			DRAWING TITLE  <b>CLOCK</b>
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS			
BLOCK TITLE <b>CLOCK_LVPECL_AC</b>				
<b>UNIVERSITY OF MAINZ</b>		SIZE <b>C</b>	REV.	DRAWING NO.
		SCALE		SHEET OF

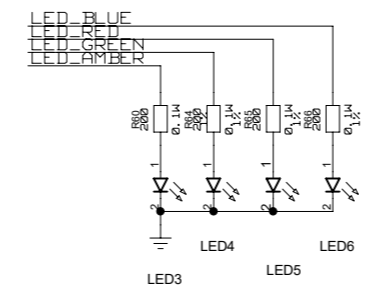
# IPMC CONNECTOR MOLEX\_87782-3003

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



ATCA\_HA<0..7> BACKPLANE + MEZZANINE  
 ATCA\_A/B\_SCL/SDA BACKPLANE + MEZZANINE

ATCA\_CTRL<11..0>  
 ATCA\_PWR\_CTRL<4..0>



NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U.SCHAEFER			
CHECKED			
DRAWN BAUSS	30.10.2015		

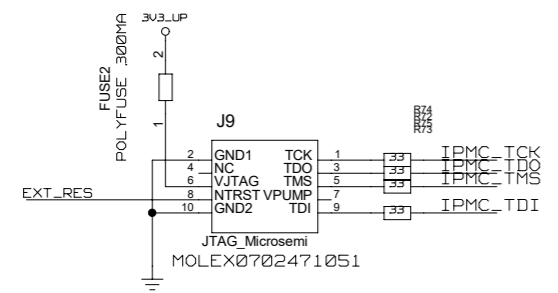
  

BLOCK TITLE		DRAWING NO.	
IPMC			
UNIVERSITY OF MAINZ		SCALE	SHEET OF

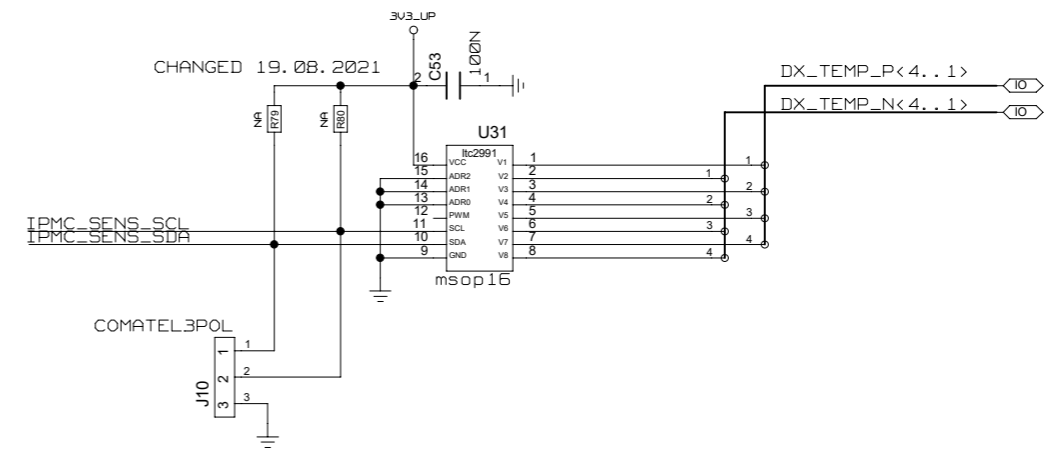
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

# IPMC CONTROL

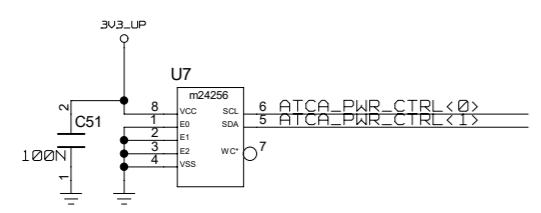
## IPMC JTAG PORT FRONT PANEL



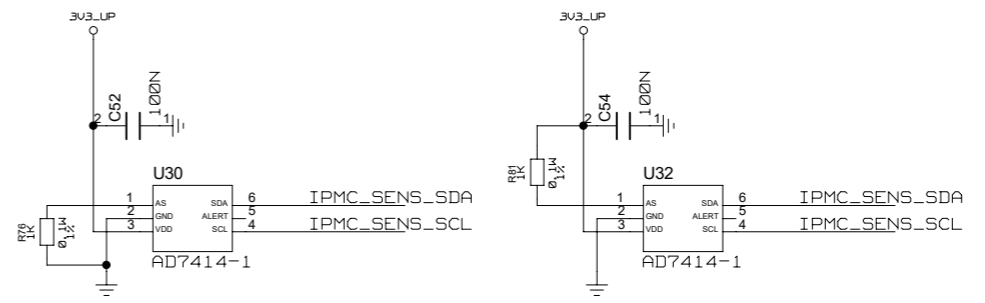
## I2C FPGA TEMPERATURE



## MEMORY



## I2C BOARDTEMP

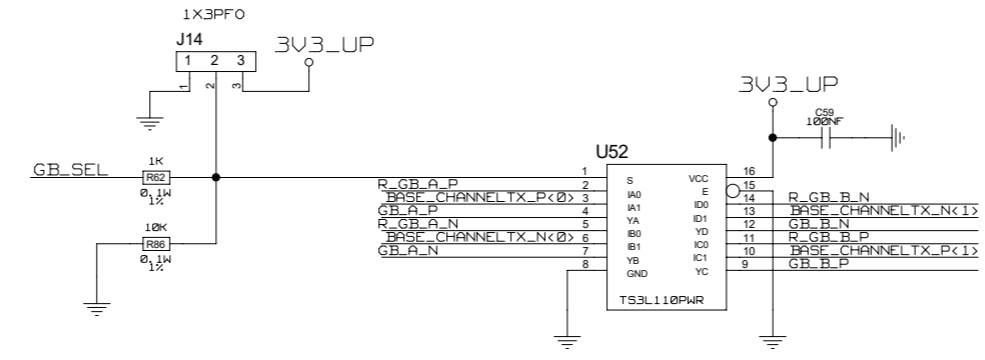


NAME	DATE	SIGN	DRAWING TITLE	
CHECKED	J. V. DE SOUZA		JFEX	
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	23.07.2015	BLOCK TITLE	
UNIVERSITY OF MAINZ			SIZE	DRAWING NO.
			SCALE	SHEET OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

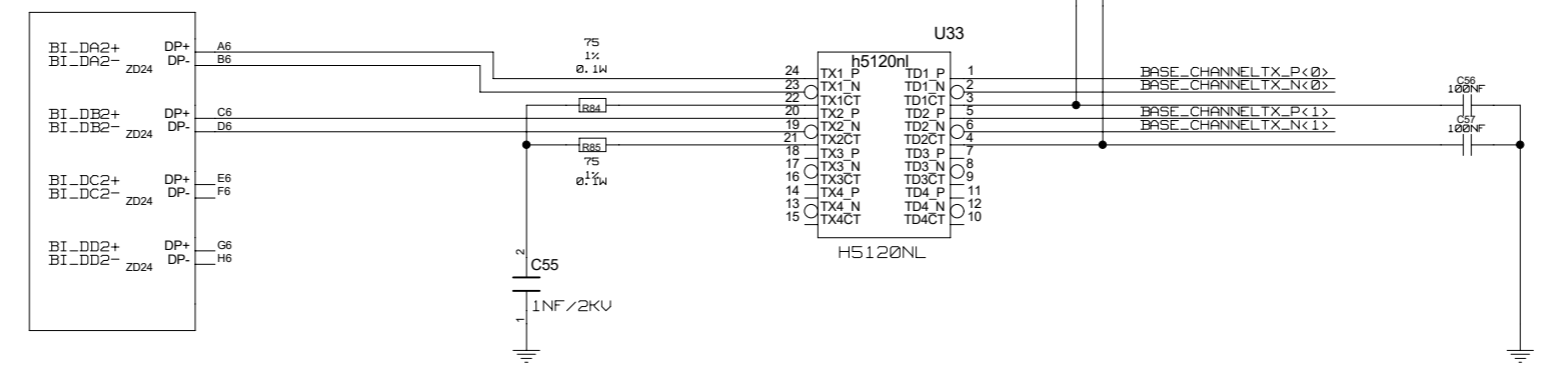
# IPMC CONTROL

## ETHERNET SWITCH

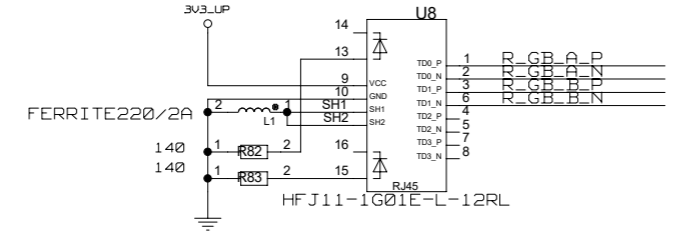


- S LOW -> YX = IX0 (RJ45 FRONT-PANEL)
- S HIGH -> YX = IX1 (BASE CHANNEL2)

## BACKPLANE BASE CHANNEL2

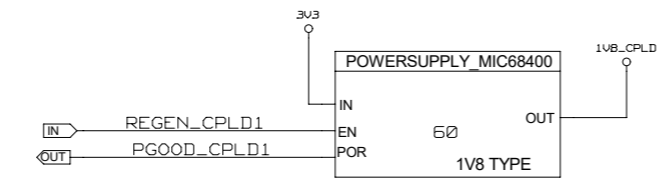
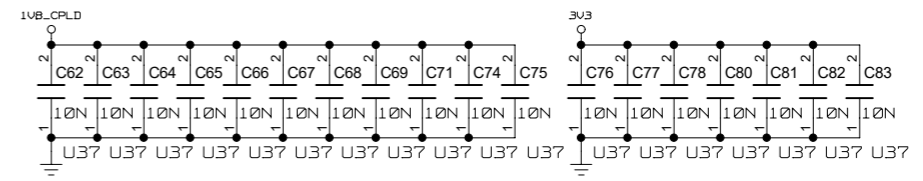
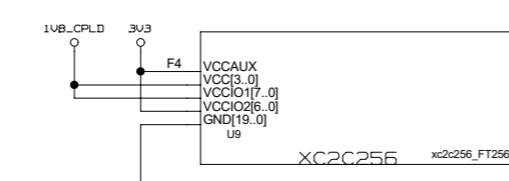
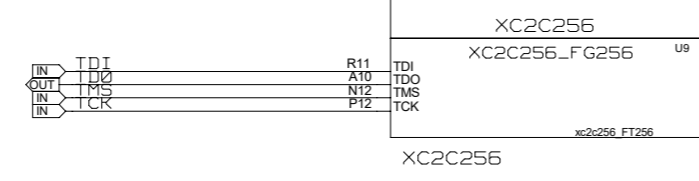
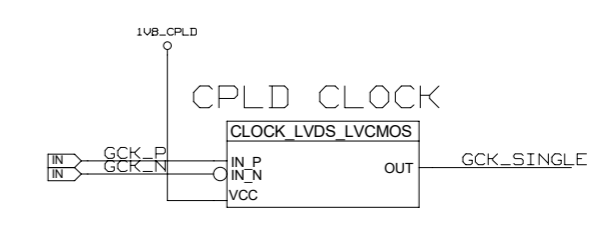
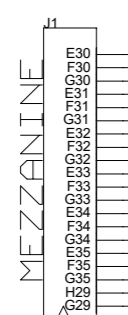
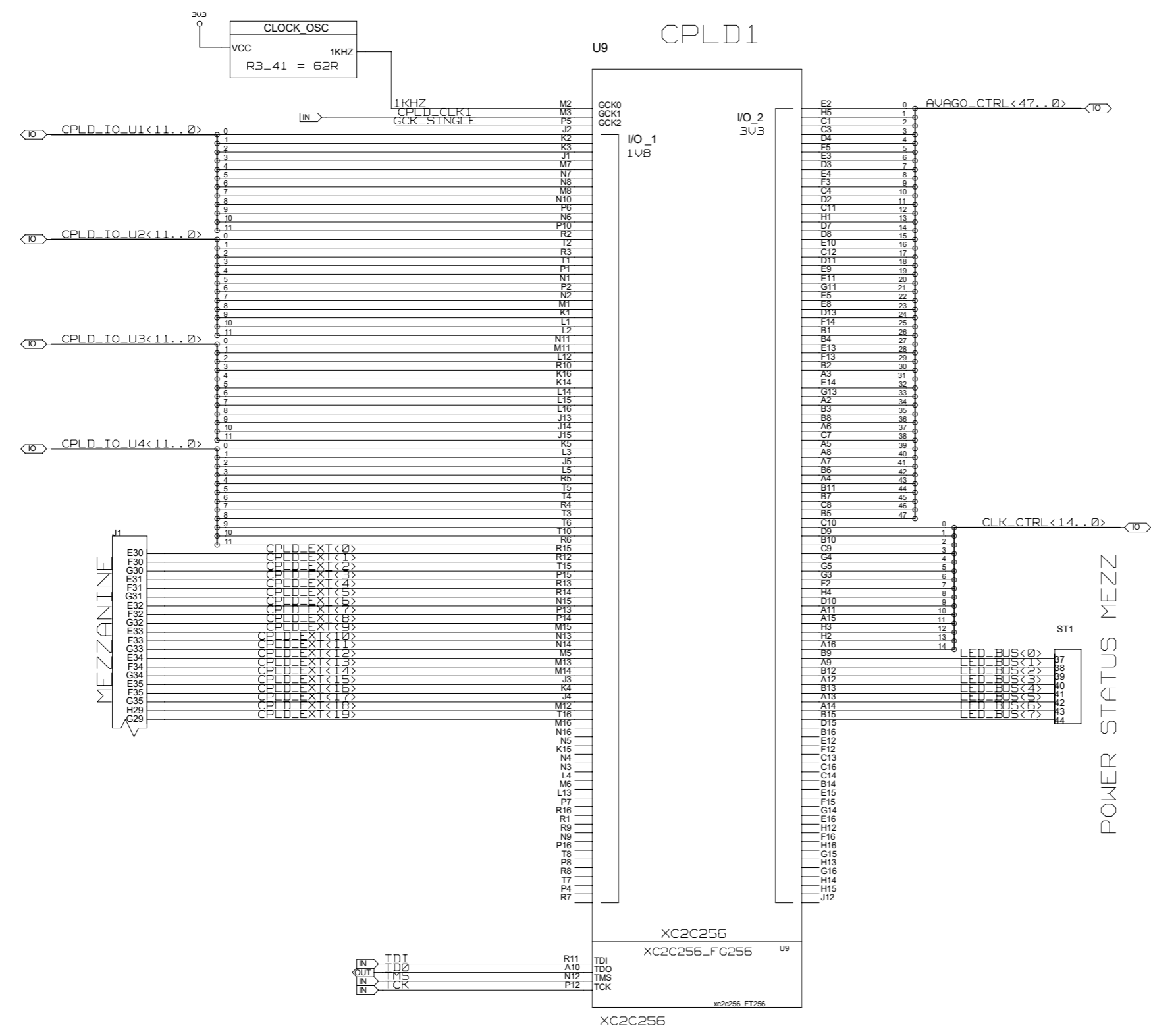


## RJ45 FRONT-PANEL



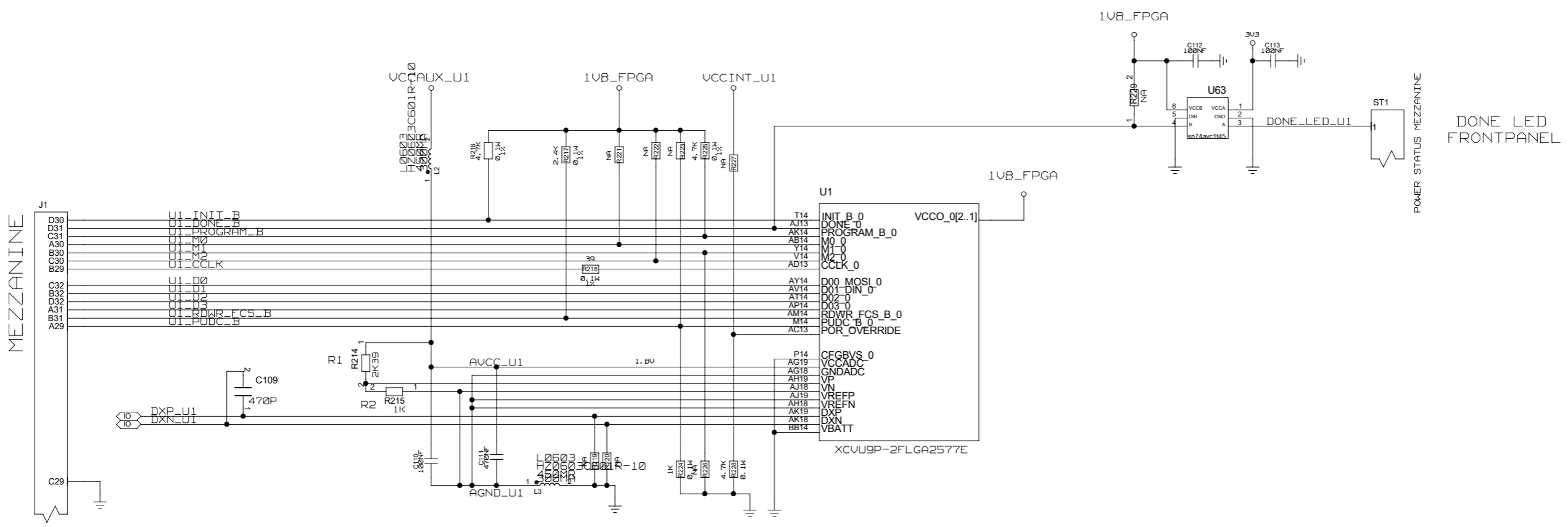
NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX
CHECKED	U. SCHAEFER		
CHECKED			
DRAWN	BAUSS		
BLOCK TITLE			
IPMC			
UNIVERSITY OF MAINZ		SIZE <b>C</b>	REV.
		SCALE	DRAWING NO.
			SHEET OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



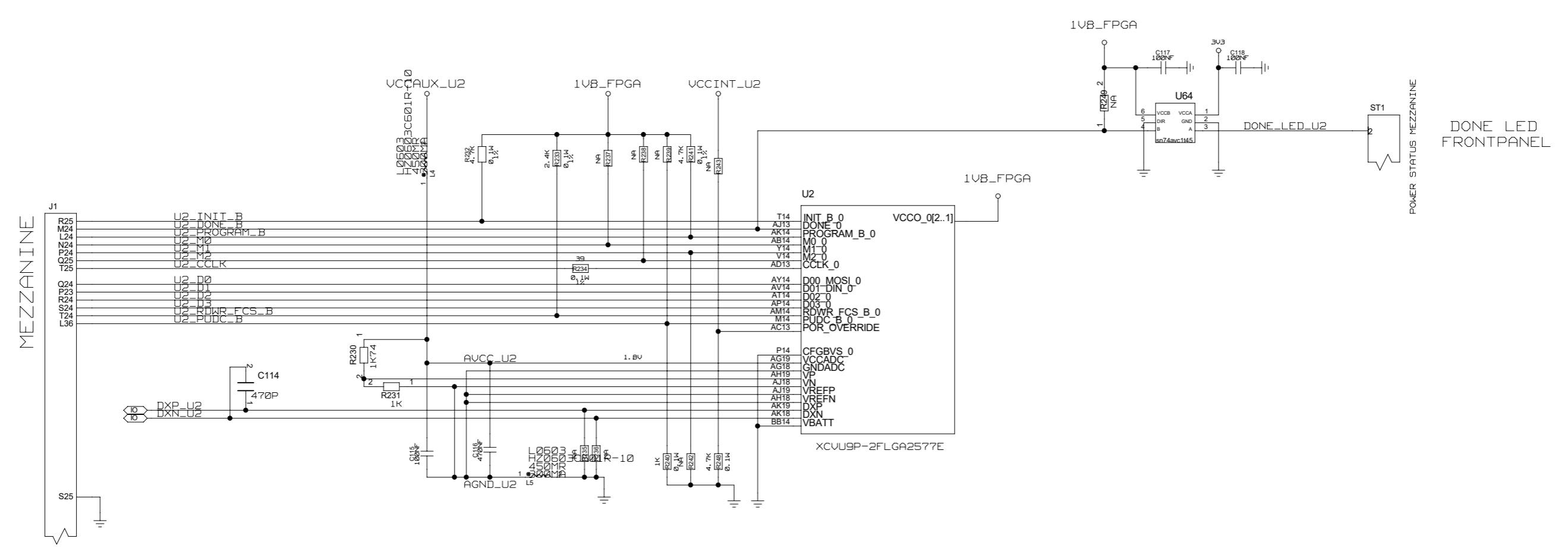
NAME	DATE	SIGN	DRAWING TITLE
CHECKED	J. V. DE SOUZA		JFEX CONTROL AND CONFIG CPLD
CHECKED	U.SCHAEFER		
CHECKED			
DRAWN	BAUSS	22.07.2015	
BLOCK TITLE			
CPLD			
UNIVERSITY OF MAINZ		SIZE <b>C</b>	DRAWING NO.
SCALE		SHEET 1 OF 1	

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



NAME	DATE	SIGN	DRAWING TITLE	
CHECKED J. V. DE SOUZA			JFEX	
CHECKED U.SCHAEFER				
CHECKED				
DRAWN BAUSS	17. 09. 2015		BLOCK TITLE CONFIGURATION PROCESSOR U1	
UNIVERSITY OF MAINZ			SIZE <b>C</b>	REV.
			SCALE	DRAWING NO.
			SHEET 1 OF 1	

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



MEZZANINE

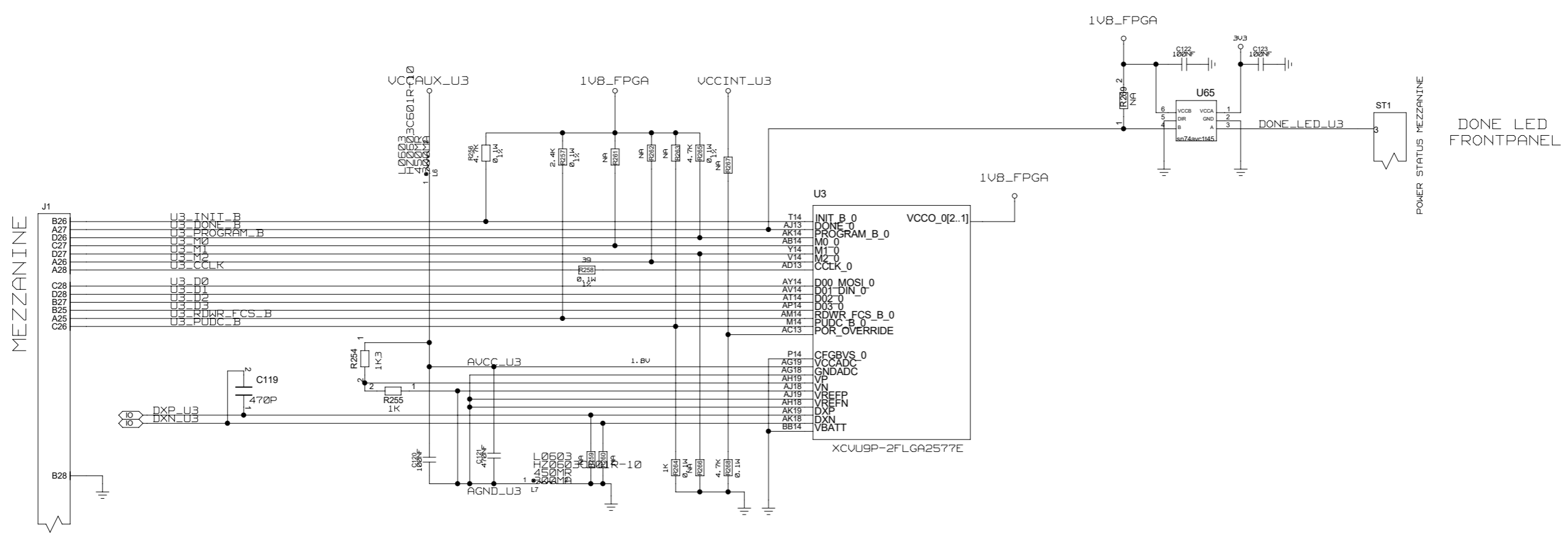
POWER STATUS MEZZANINE

DONE LED FRONT PANEL

CHECKED	NAME	DATE	SIGN	DRAWING TITLE	
CHECKED	J. V. DE SOUZA				
CHECKED	U. SCHAEFER				
CHECKED	BAUSS				
BLOCK TITLE				DRAWING NO.	
CONFIGURATION PROCESSOR U2					
UNIVERSITY OF MAINZ				SIZE	REV.
				C	
SCALE				SHEET OF	

JFEX

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



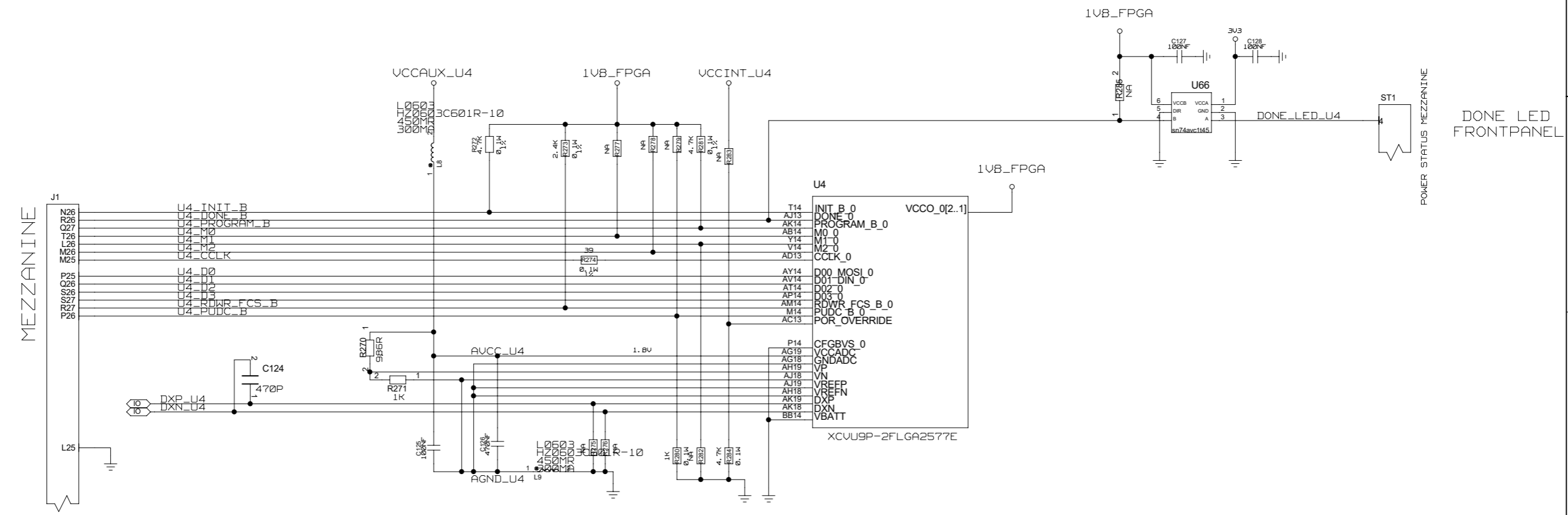
MEZZANINE

DONE\_LED FRONTPANEL

NAME	DATE	SIGN	DRAWING TITLE	
CHECKED J. V. DE SOUZA			JFEX	
CHECKED U. SCHAEFER				
CHECKED				
DRAWN BAUSS			BLOCK TITLE	
UNIVERSITY OF MAINZ			SIZE <b>C</b>	DRAWING NO.
SCALE			REV.	SHEET OF



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.



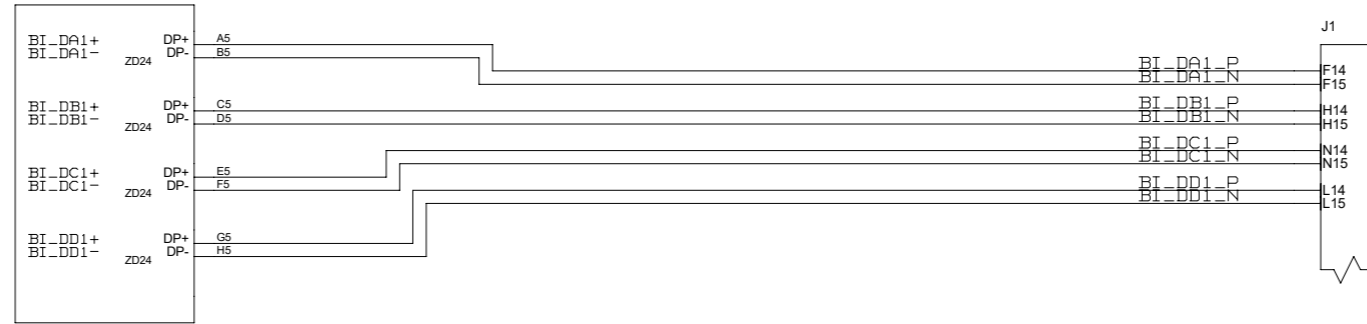
NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U. SCHAEFER			
CHECKED			
DRAWN BAUSS			
BLOCK TITLE			
CONFIGURATION PROCESSOR U4			
UNIVERSITY OF MAINZ		SIZE <b>C</b>	REV.
		SCALE	DRAWING NO.
			SHEET OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

# IPBUS

BACKPLANE BASE CHANNEL 1

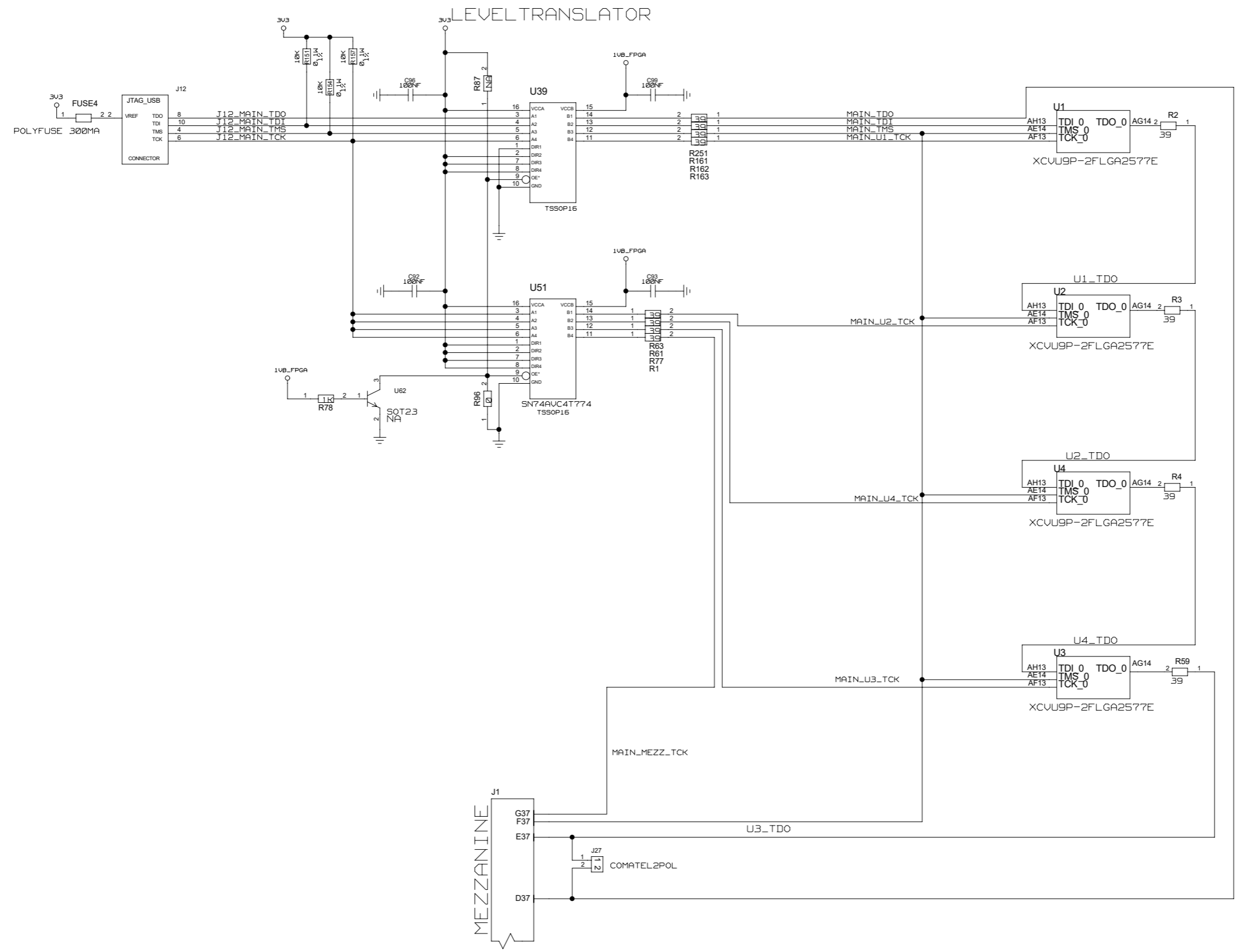
MEZZANINE



CHECKED	J. V. DE SOUZA			DRAWING TITLE
CHECKED	U. SCHAEFER			
CHECKED				
DRAWN	BAUSS	05. 11. 2015		
BLOCK TITLE				JFEX
IPBUS				
UNIVERSITY OF MAINZ			SIZE	DRAWING NO.
			<b>C</b>	
			SCALE	
				SHEET OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPR.

# JTAG CHAIN



NAME	DATE	SIGN	DRAWING TITLE
CHECKED J. V. DE SOUZA			JFEX
CHECKED U. SCHAEFER			
CHECKED			
DRAWN BAUSS	08.05.2017		
BLOCK TITLE			
UNIVERSITY OF MAINZ			
SIZE	REV.	DRAWING NO.	
SCALE			SHEET OF