ADO_LV[1..0] 3

ADO_LV[51..4] 2,4,5

ADO_TTL[33..0] 2,4,6

ADO_TTL[40..35] 2,4,6

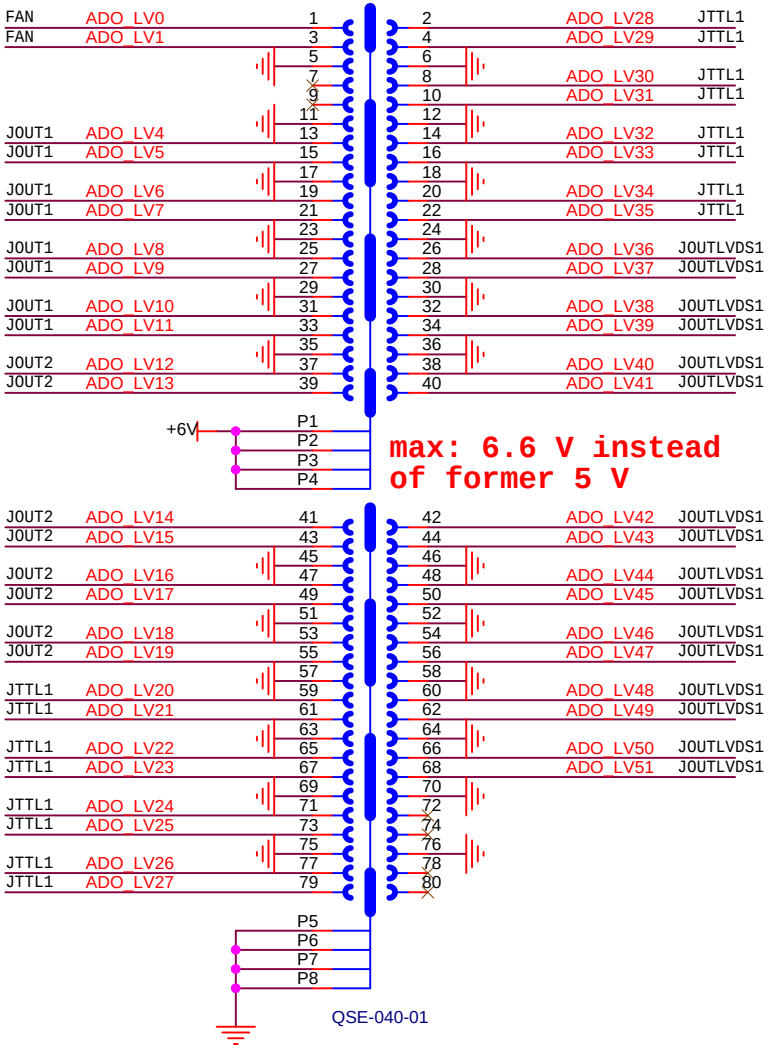
ADO_TTL[46..43] 2,4,6

FS_PE[3..0] 2,3,5,6

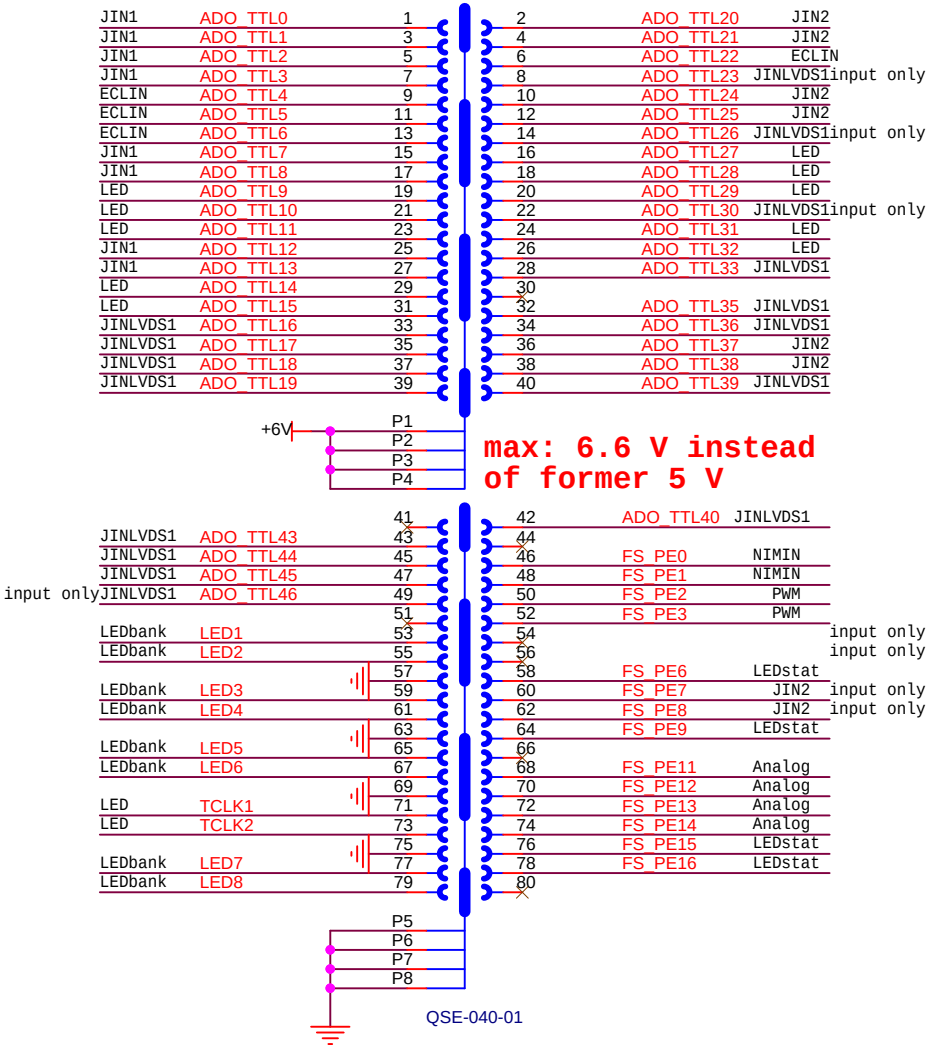
FS_PE[9..6] 2,3,5,6

FS_PE[16..11] 2,3,5,6

JADDON1



JADDON2



TCLK[2..1] 2

LED[8..1] 5

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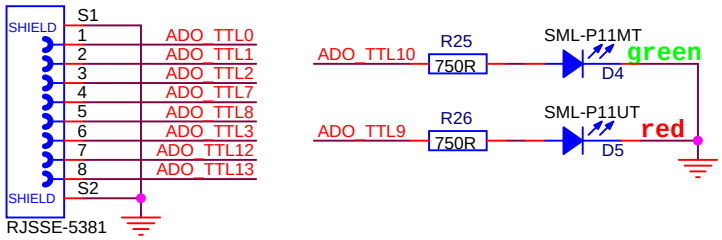
AddON-Connectors

Design: K:\GSIJOB\HADES\TRBV3\CTS_ADDON1\TRB3CTS_ADDON1.DSN

Modified: Tuesday, January 15, 2013 | Size: A4 | Page: 1 / 7

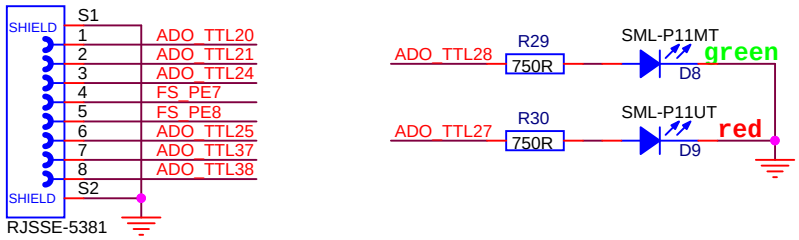
Designer: M.Traxler | Layouter: S.Voltz

JIN1



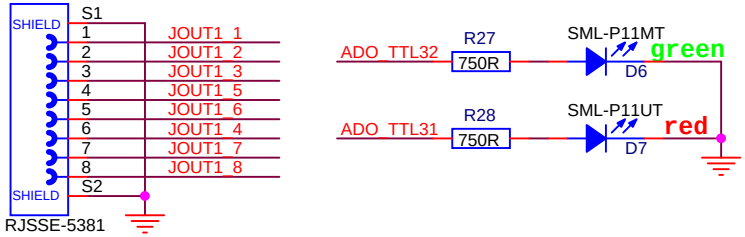
Place LEDs behind the RJ45

JIN2



Place LEDs behind the RJ45

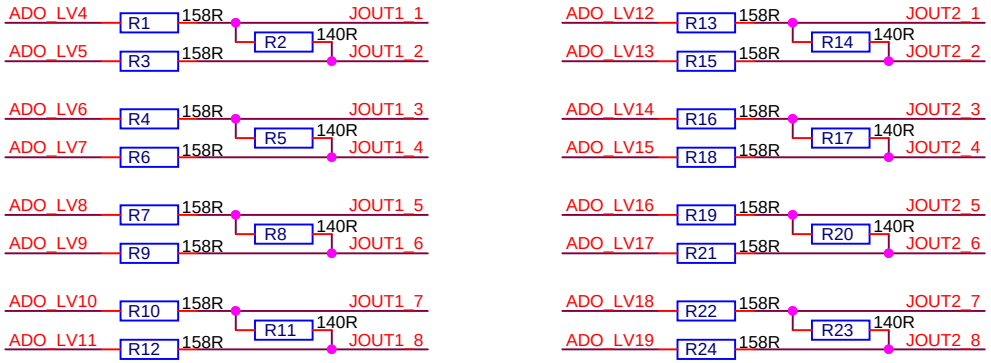
JOUT1



JOUT2


```
680R  @ 2.5V = 0.89mA - normal
330R  @ 2.5V = 1.8mA - good for RJ-45 because of light guides through connector

1800R @ 3.3V = 0.75mA - dim for LED bar
1500R @ 3.3V = 0.93mA - normal
810R @ 3.3V = 1.7mA - RJ-45
```



FS_PE[3..0] 1,3,5,6
FS_PE[9..6] 1,3,5,6
FS_PE[16..11] 1,3,5,6

ADO_TTL[33..0] 1,4,6
ADO_TTL[40..35] 1,4,6
ADO_TTL[46..43] 1,4,6

ADO_LV[51..4] 1,4

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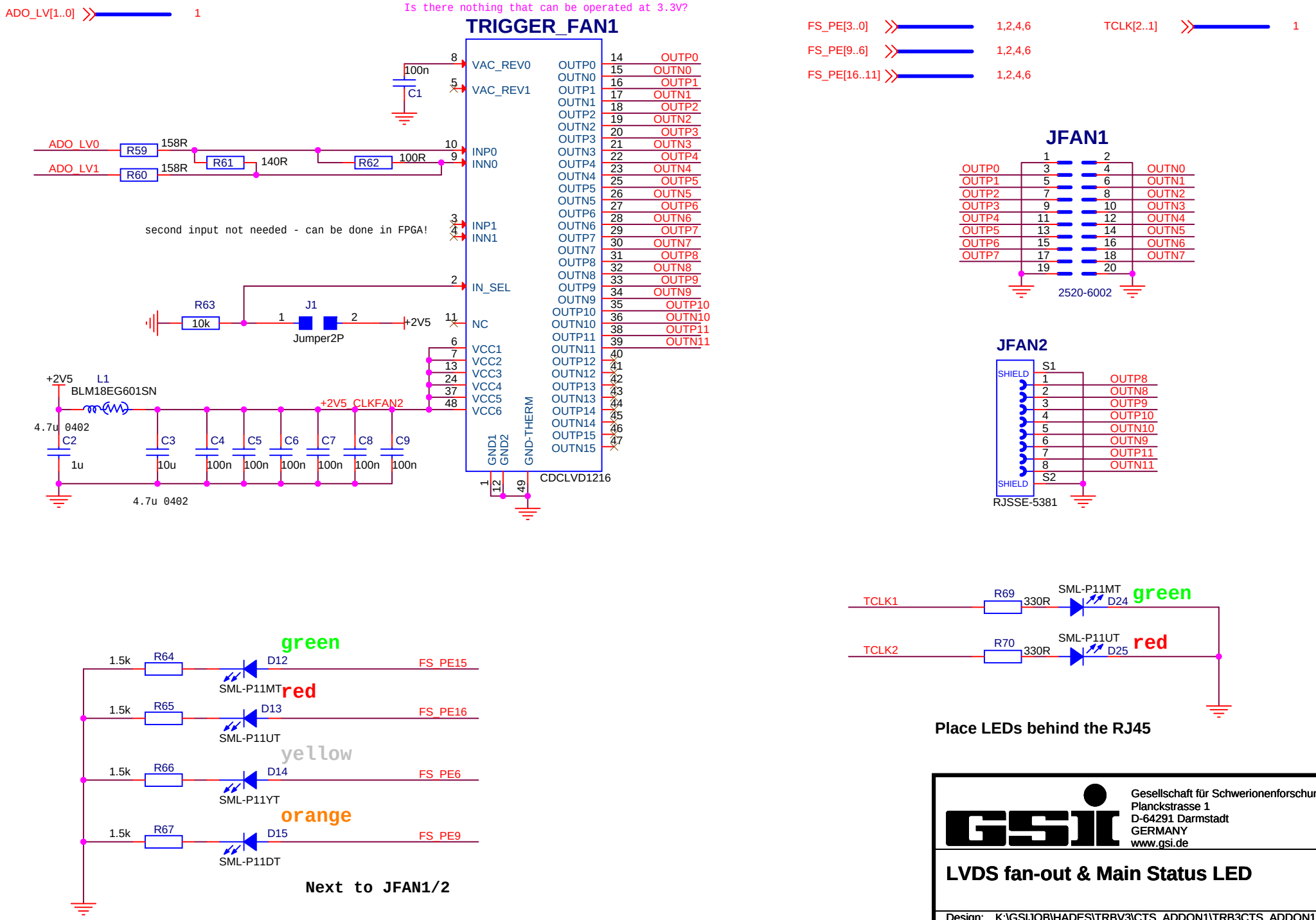
RJ45-Connectors

Design: K:\GSIJOB\HADES\TRBV3\CTS_ADDON1\TRB3CTS_ADDON1.DSN		
Modified: Tuesday, January 15, 2013	Size: A4	Page: 2 / 7
Designer: M.Traxler	Layouter: S.Voltz	


ADO_LV[1..0]
1
Is there nothing that can be operated at 3.3V?
TRIGGER_FAN1
100n
C1
ADO_LV0
R59
158R
ADO_LV1
R60
158R
R61
140R
R62
100R
second input not needed - can be done in FPGA!
R63
10k
J1
Jumper2P
+2V5
+2V5
L1
BLM18EG601SN
+2V5_CLKFAN2
4.7u 0402
C2
1u
C3
10u
C4
100n
C5
100n
C6
100n
C7
100n
C8
100n
C9
100n
4.7u 0402
VAC_REV0
VAC_REV1
INP0
INN0
INP1
INN1
IN_SEL
NC
VCC1
VCC2
VCC3
VCC4
VCC5
VCC6
GND1
GND2
GND-THERM
CDCLVD1216
OUTP0
OUTN0
OUTP1
OUTN1
OUTP2
OUTN2
OUTP3
OUTN3
OUTP4
OUTN4
OUTP5
OUTN5
OUTP6
OUTN6
OUTP7
OUTN7
OUTP8
OUTN8
OUTP9
OUTN9
OUTP10
OUTN10
OUTP11
OUTN11
FS_PE[3..0]
1,2,4,6
FS_PE[9..6]
1,2,4,6
FS_PE[16..11]
1,2,4,6
TCLK[2..1]
1
JFAN1
2520-6002
JFAN2
SHIELD
S1
S2
SHIELD
RJSSE-5381
green
1.5k
R64
D12
SML-P11MT
red
FS_PE15
1.5k
R65
D13
SML-P11UT
FS_PE16
yellow
1.5k
R66
D14
SML-P11YT
FS_PE6
orange
1.5k
R67
D15
SML-P11DT
FS_PE9
Next to JFAN1/2
TCLK1
R69
330R
SML-P11MT
D24
green
TCLK2
R70
330R
SML-P11UT
D25
red
Place LEDs behind the RJ45
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D-64291 Darmstadt
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LVDS fan-out & Main Status LED
Design: K:\GSIJOB\HADES\TRBV3\CTS_ADDON1\TRB3CTS_ADDON1.DSN
Modified: Tuesday, January 15, 2013
Size: A4
Page: 3 / 7
Designer: M.Traxler
Layouter: S.Voltz

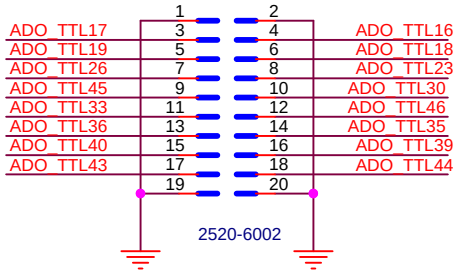
ADO_TTL[33..0] 1,2,6

ADO_TTL[40..35] 1,2,6

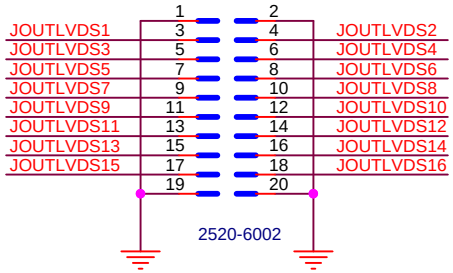
ADO_TTL[46..43] 1,2,6

ADO_LV[51..4] 1,2,5

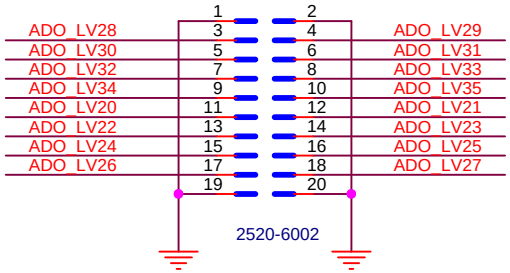
JINLVDS1

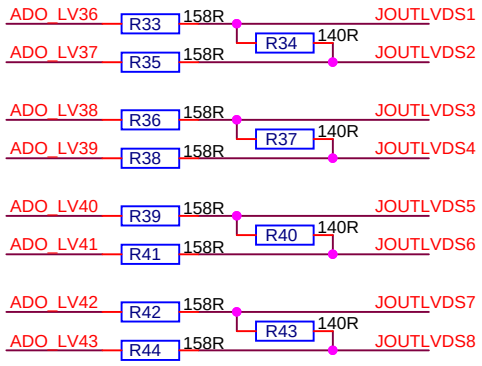


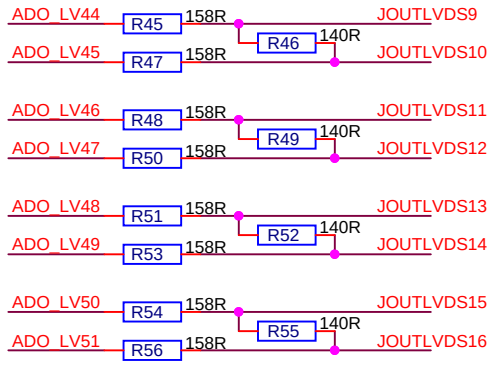
JOUTLVDS1



JTTL1







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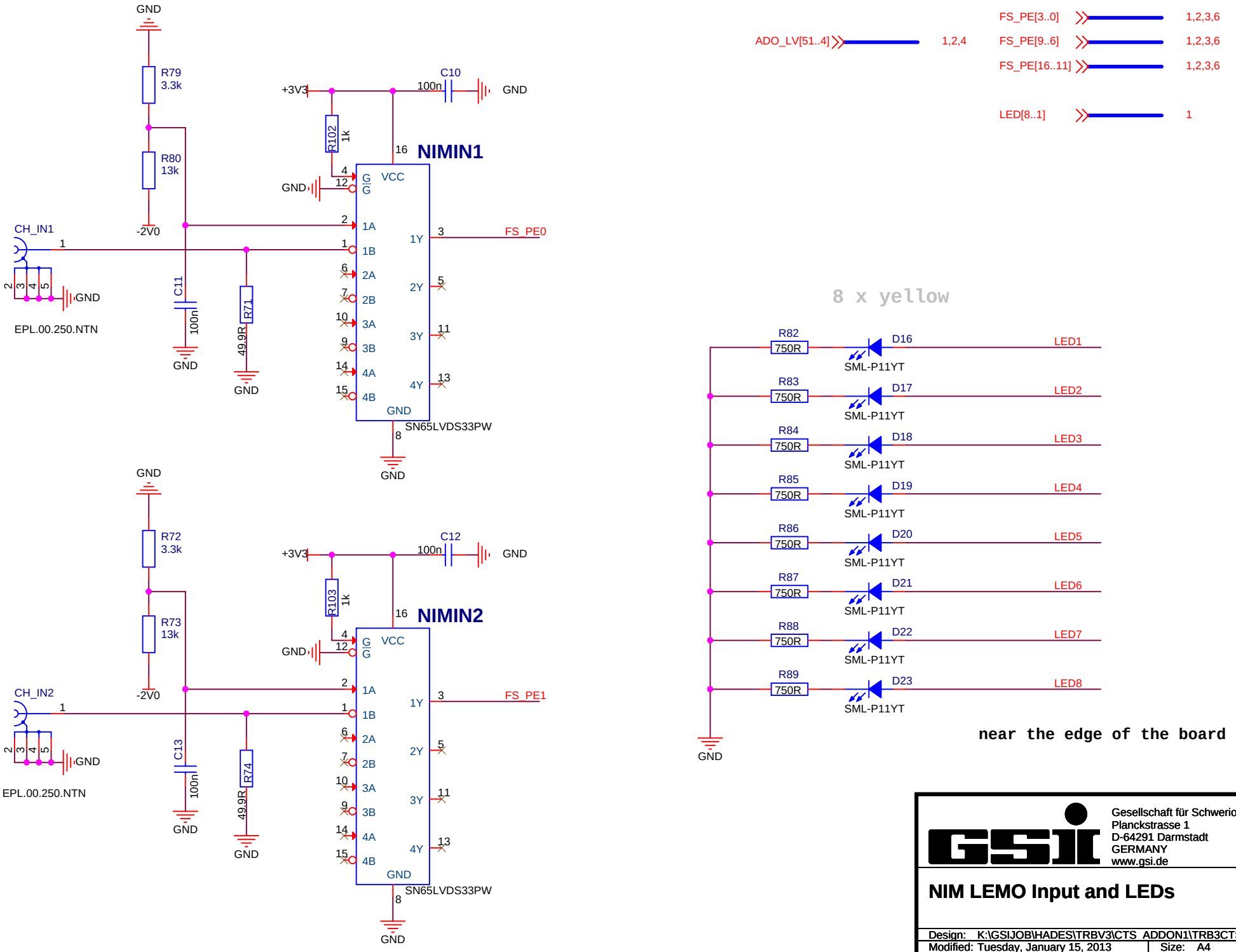
Pinheader I/O

Design: K:\GSIJOB\HADES\TRBV3\CTS_ADDON1\TRB3CTS_ADDON1.DSN

Modified: Tuesday, January 15, 2013 | Size: A4 | Page: 4 / 7

Designer: M.Traxler | Layouter: S.Voltz



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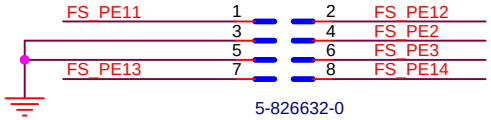
NIM LEMO Input and LEDs

Design: K:\GSIJOB\HADES\TRBV3\CTS_ADDON1\TRB3CTS_ADDON1.DSN	
Modified: Tuesday, January 15, 2013	Size: A4 Page: 5 / 7
Designer: M.Traxler	Layouter: S.Voltz

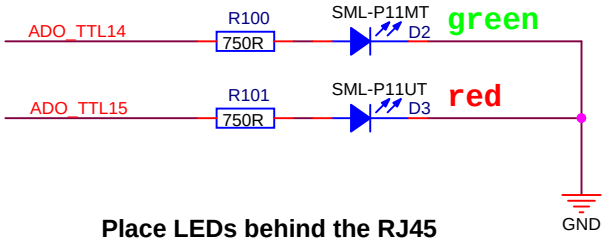
ADO_TTL[33..0] 1,2,4
ADO_TTL[40..35] 1,2,4
ADO_TTL[46..43] 1,2,4

FS_PE[3..0] 1,2,3,5
FS_PE[9..6] 1,2,3,5
FS_PE[16..11] 1,2,3,5

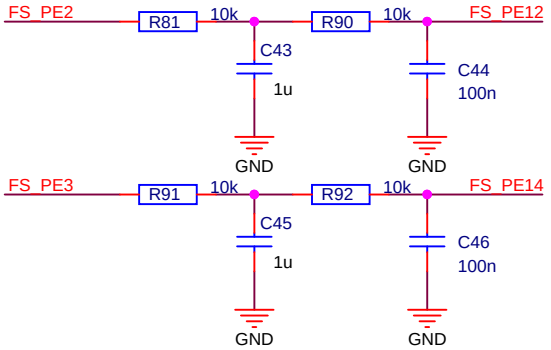
JPWM1



filtered and unfiltered PWM for possible external use,
GND next to signals for simple pluggin of two pin connectors



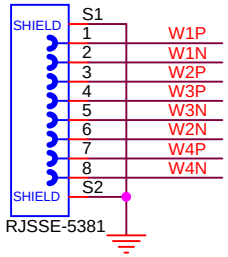
Place LEDs behind the RJ45

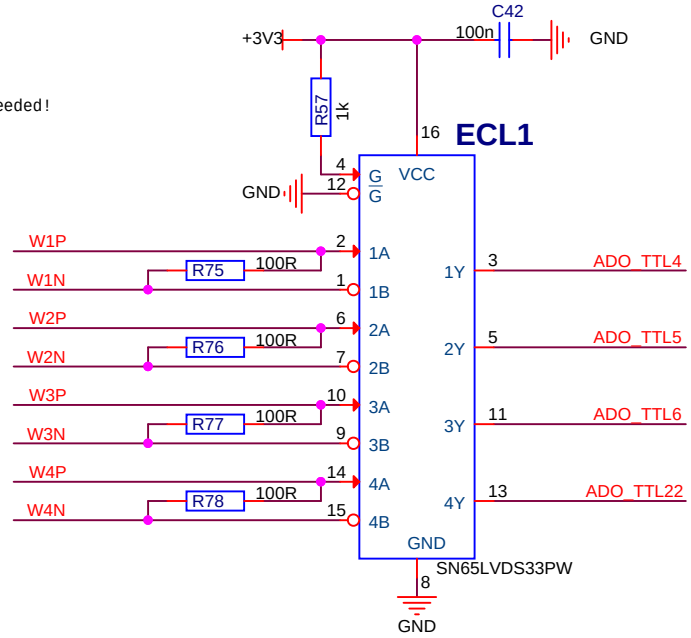


Check values

JECLIN1

No ECL output, too much overhead needed!





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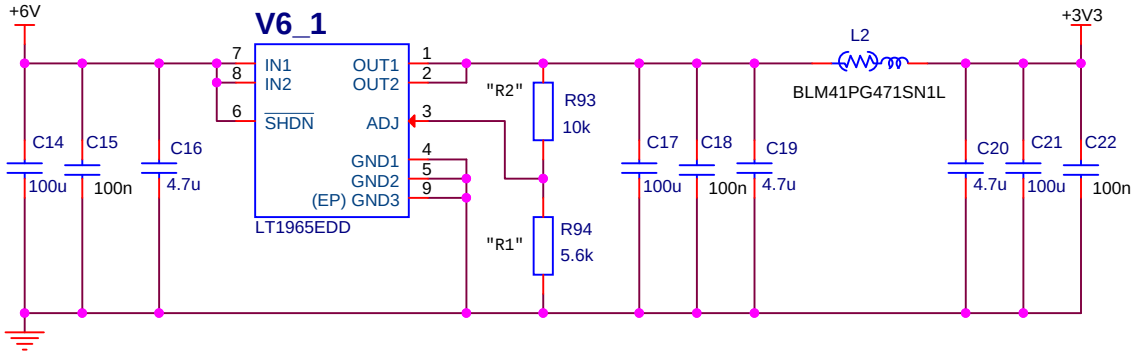
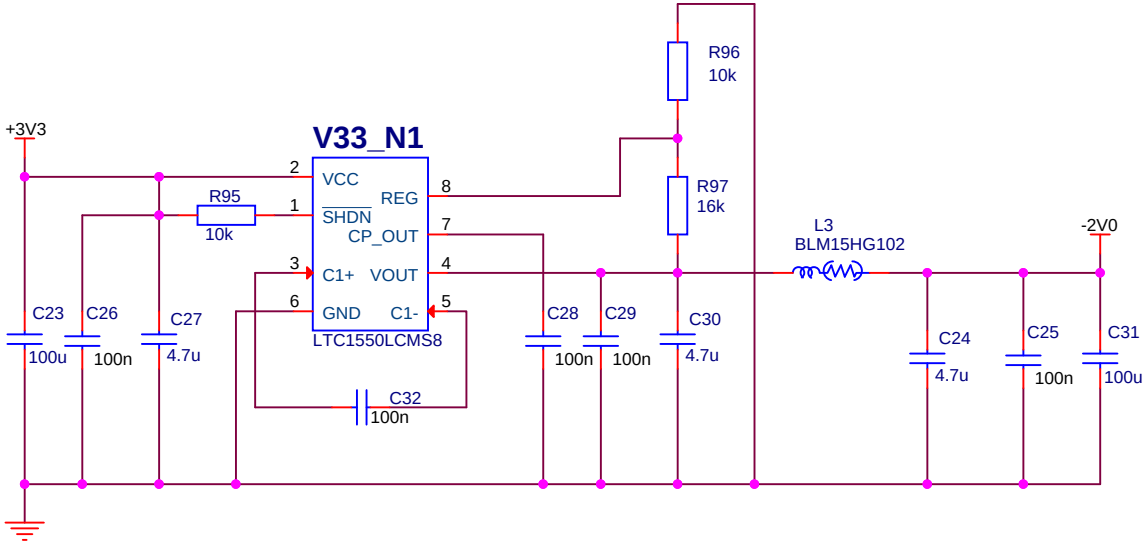
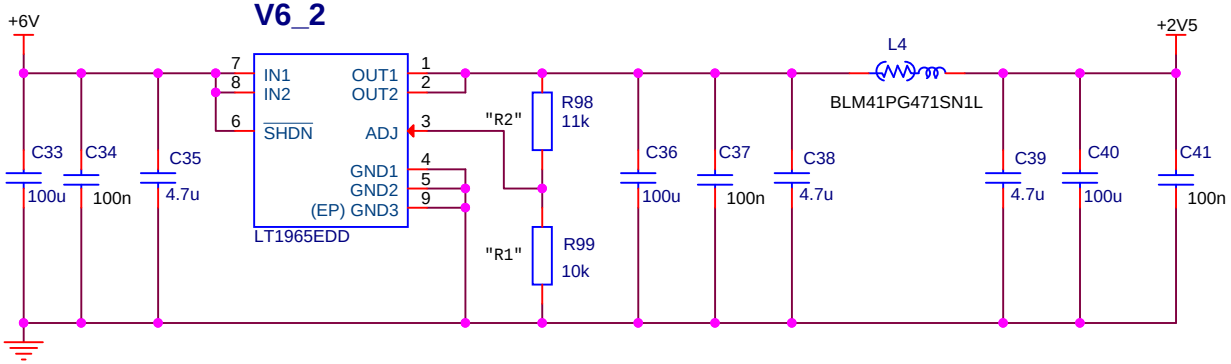
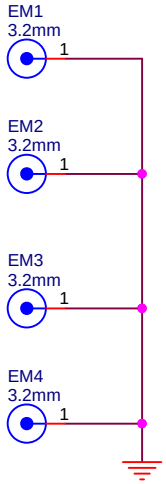
ECL inputs & Discrimator/PWM Channels

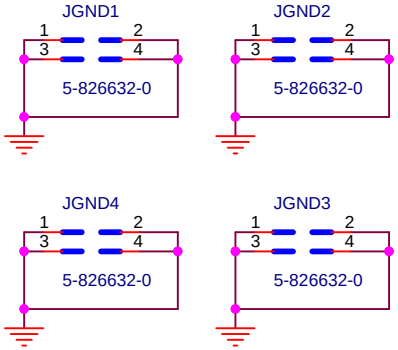
Design: K:\GSIJOB\HADES\TRBV3\CTS_ADDON1\TRB3CTS_ADDON1.DSN		
Modified: Tuesday, January 15, 2013	Size: A4	Page: 6 / 7
Designer: M.Traxler	Layouter: S.Voltz	

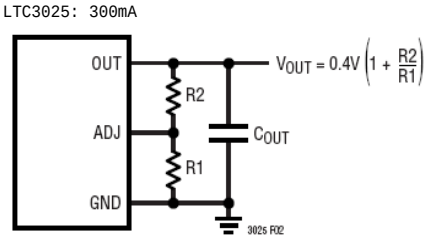












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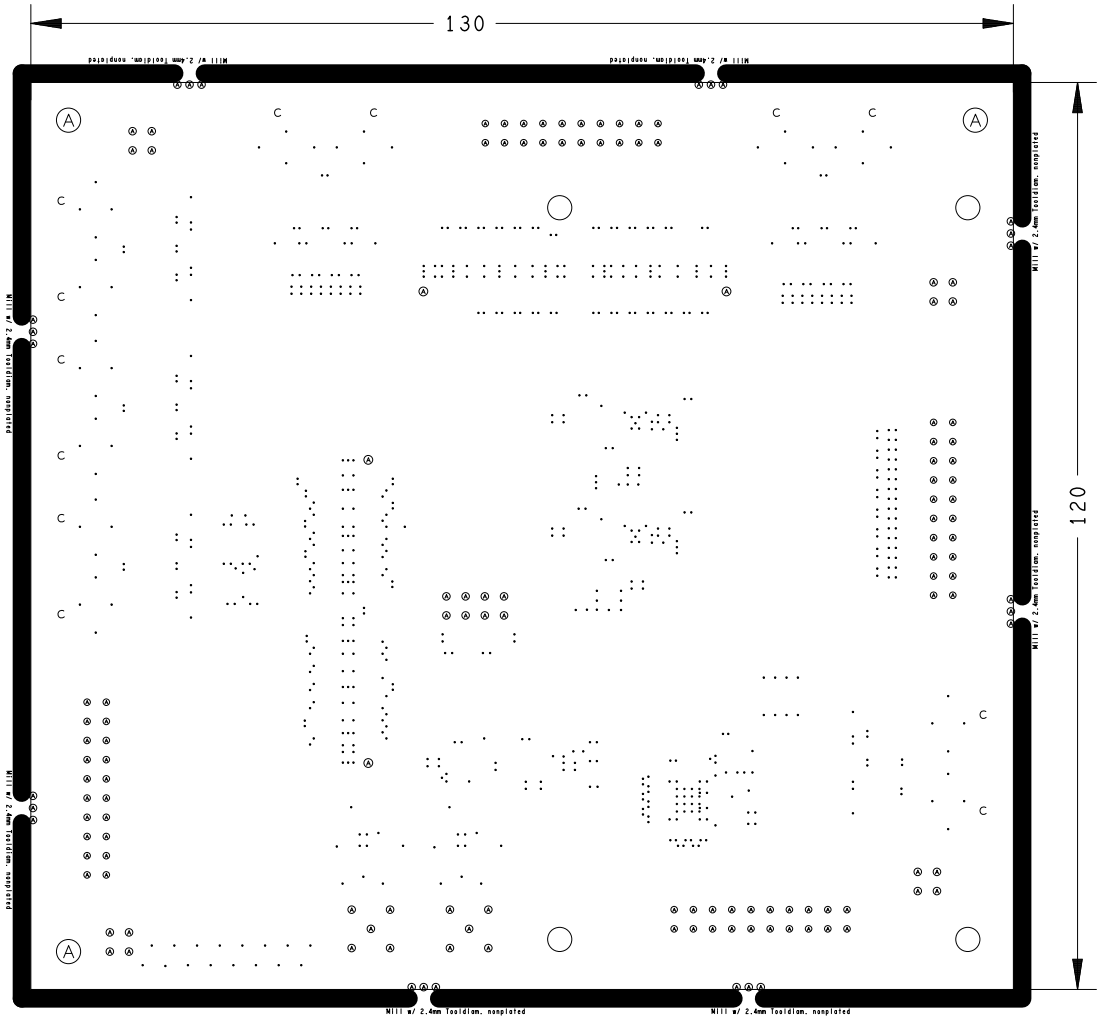
Power

Design: K:\GSIJOB\HADES\TRBV3\CTS_ADDON1\TRB3CTS_ADDON1.DSN	
Modified: Tuesday, January 15, 2013	Size: A4 Page: 7 / 7
Designer: M.Traxler	Layouter: S.Voltz



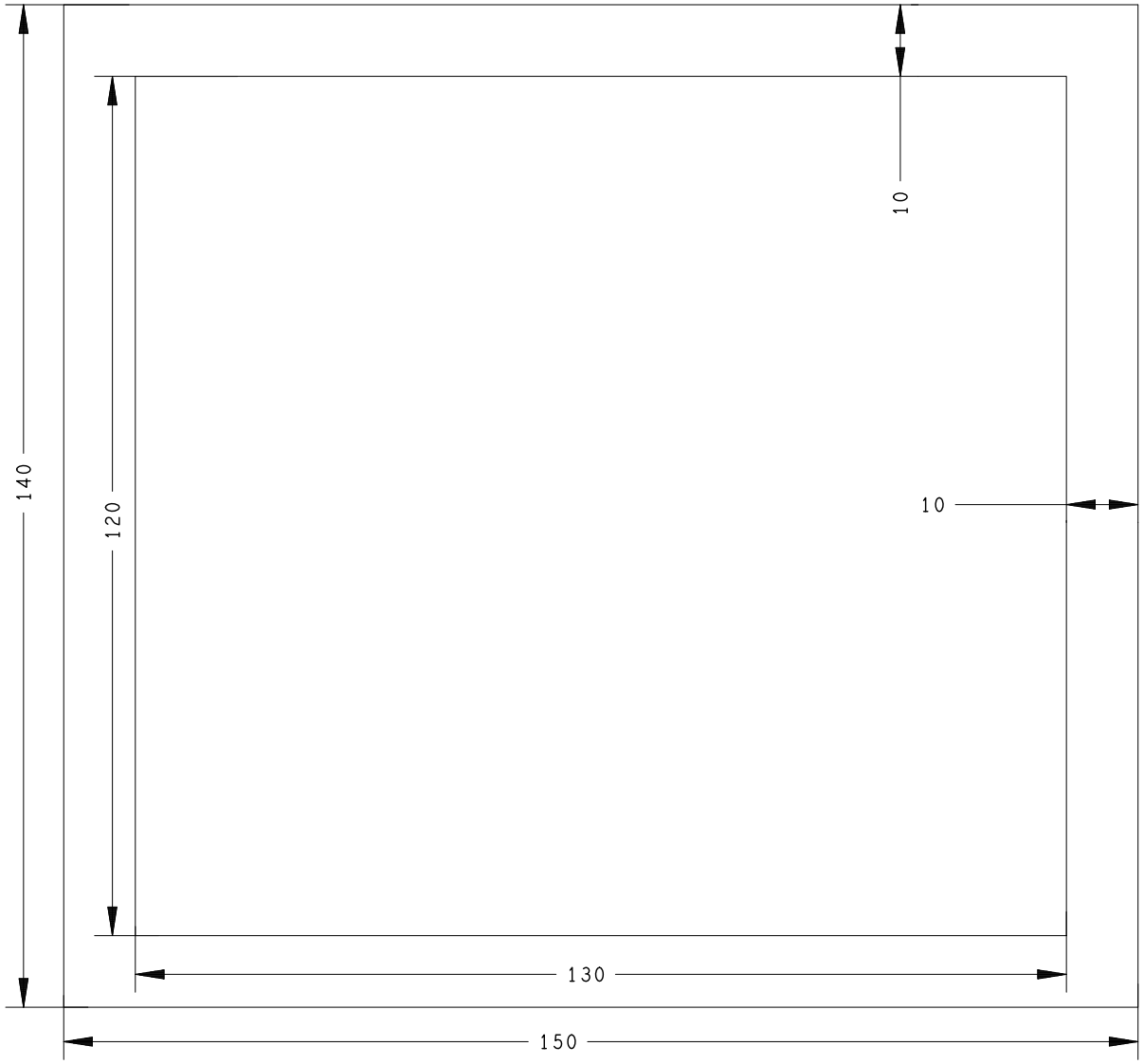
DRILL CHART: TOP to BOTTOM			
ALL UNITS ARE IN MILLIMETERS			
FIGURE	SIZE	PLATED	QTY
·	0.2	PLATED	16
·	0.2	PLATED	694
◦	0.4	PLATED	1
⊙	0.9	PLATED	80
⊙	1.0	PLATED	34
◯	3.2	PLATED	4
⊙	1.0	NON-PLATED	24
Ⓐ	1.2	NON-PLATED	4
⊙	2.4	NON-PLATED	16
C	2.7	NON-PLATED	12
Ⓐ	3.2	NON-PLATED	3
		TOTAL HOLES:	888

Jobname	Date	Designer	Layouter
TRB3CTS_AddOn1	01.2013	J.Michel/M.Traxler	S.Voltz

Layer Nickname

Drd

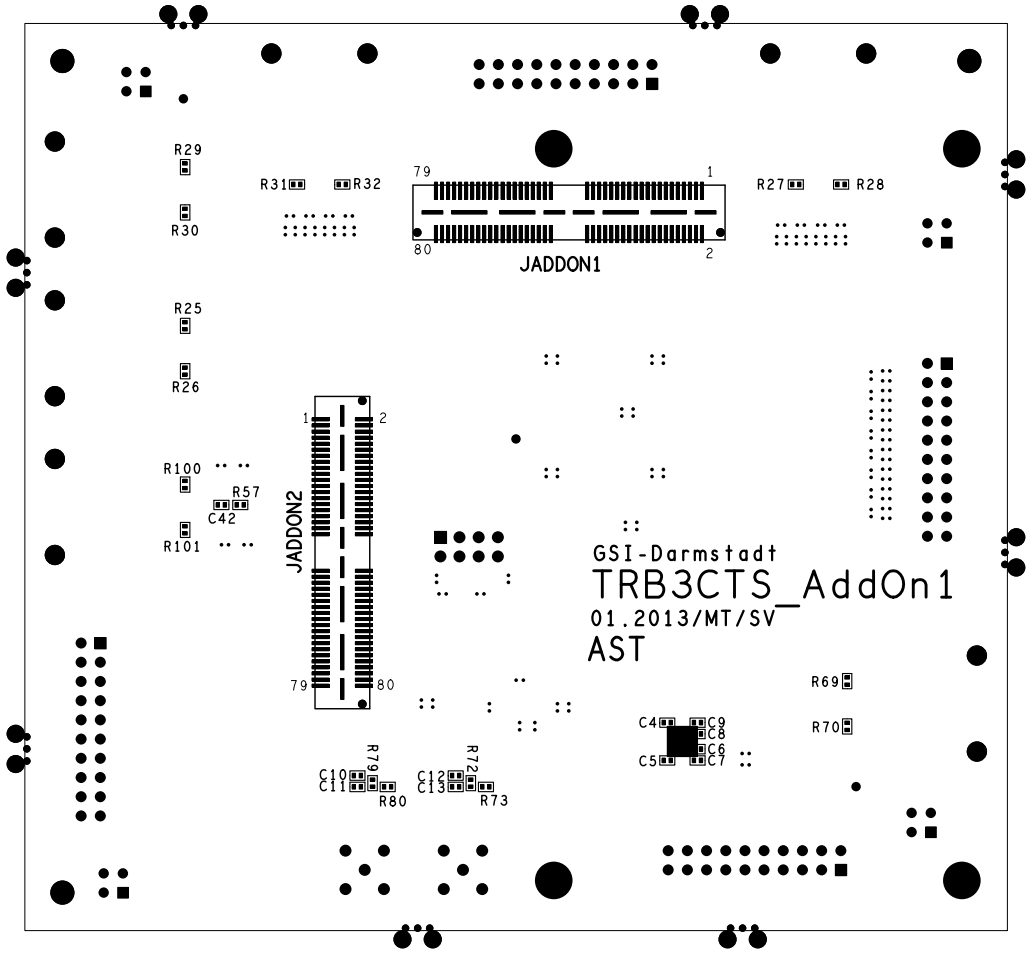
Bestueckungsrand umlaufend 10mm



Jobname	Date	Designer	Layouter
TRB3CTS_AddOn1	01.2013	J.Michel/M.Traxler	S.Voltz

Layer Nickname

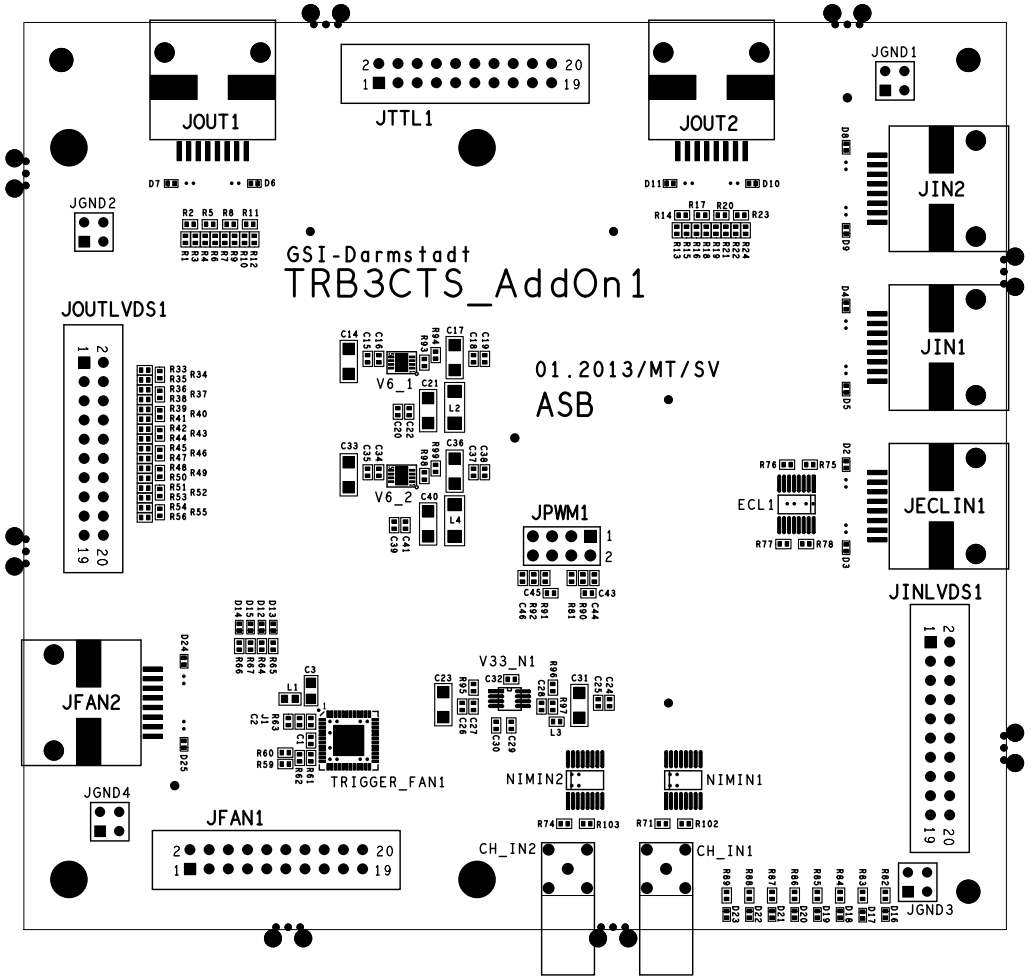
Fab



Jobname	Date	Designer	Layouter
TRB3CTS_AddOn1	01.2013	J.Michel/M.Traxler	S.Voltz

Layer Nickname

Ast

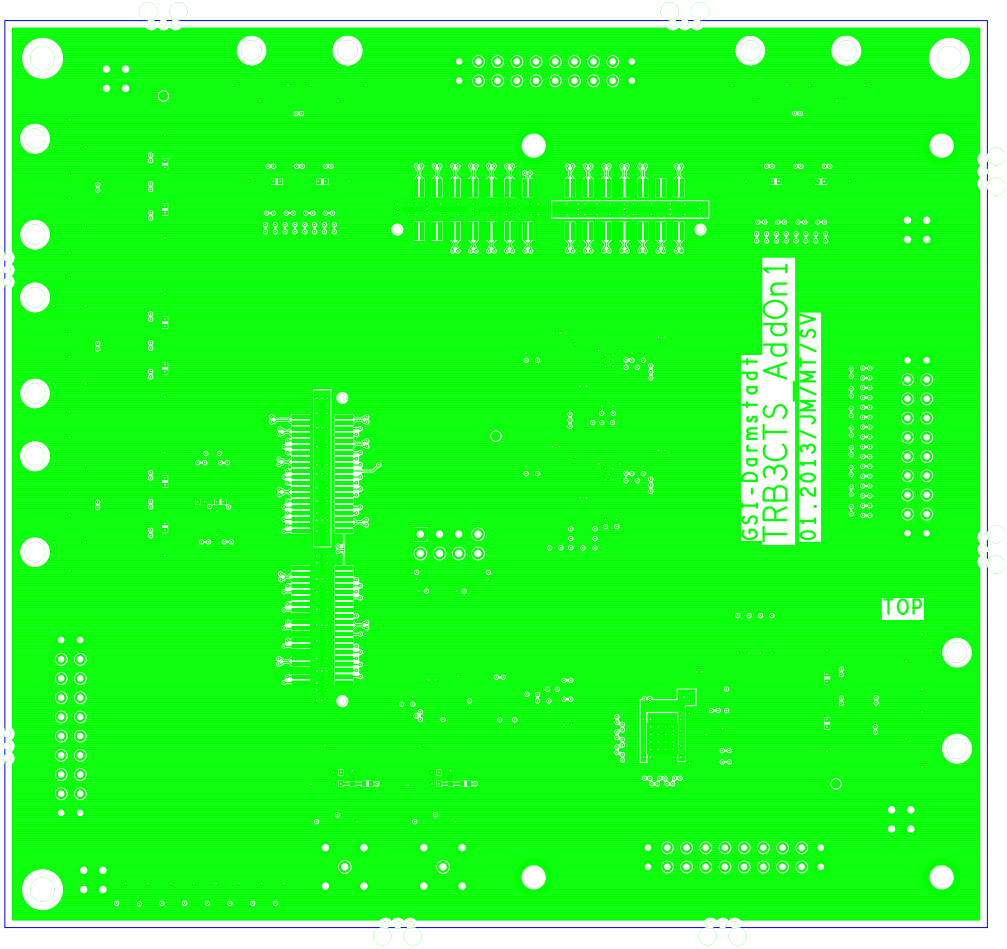


Jobname TRB3CTS_AddOn1 | Date 01.2013 | Designer J.Michel\M.Traxler | Layouter S.Voltz

Layer Nicknames

Asb

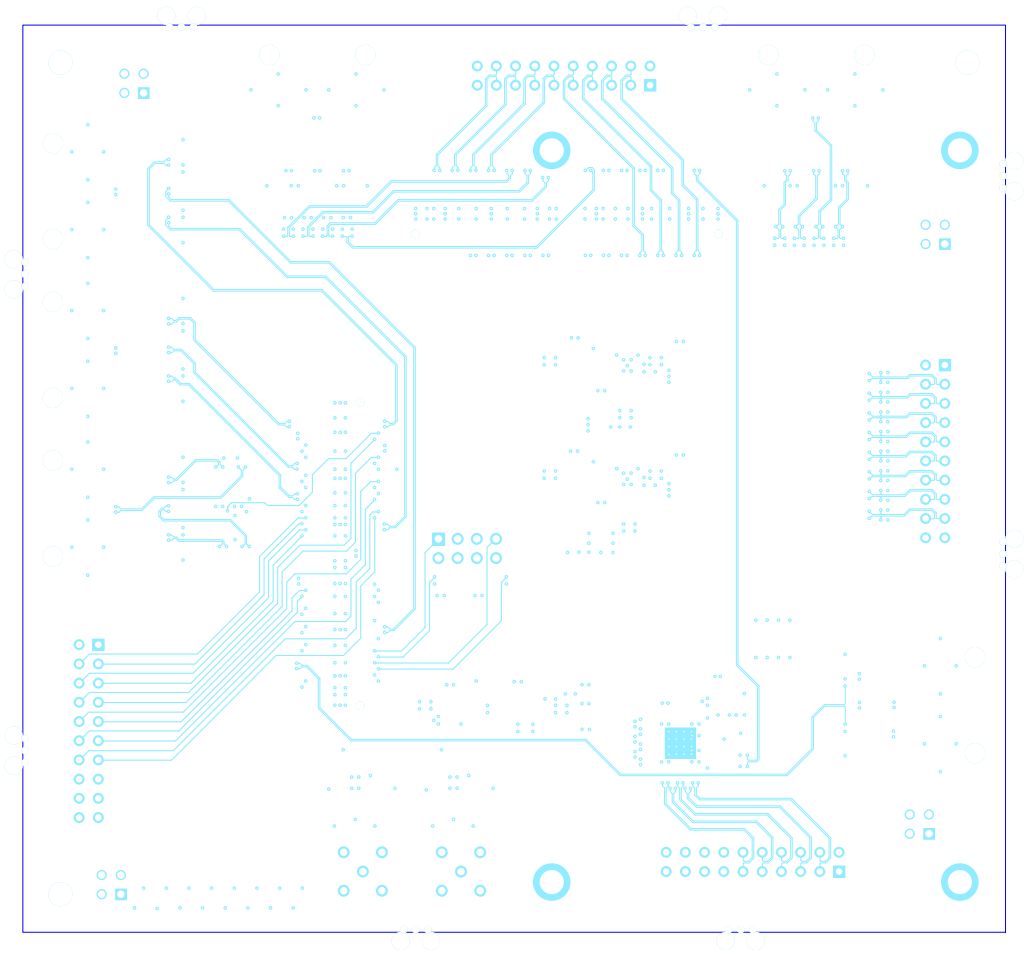
TOP- GND-Plane



Jobname	Date	Designer	Layouter
TRB3CTS_AddOn1	01.2013	J.Michel/M.Traxler	S.Voltz

Layer Nickname: Top

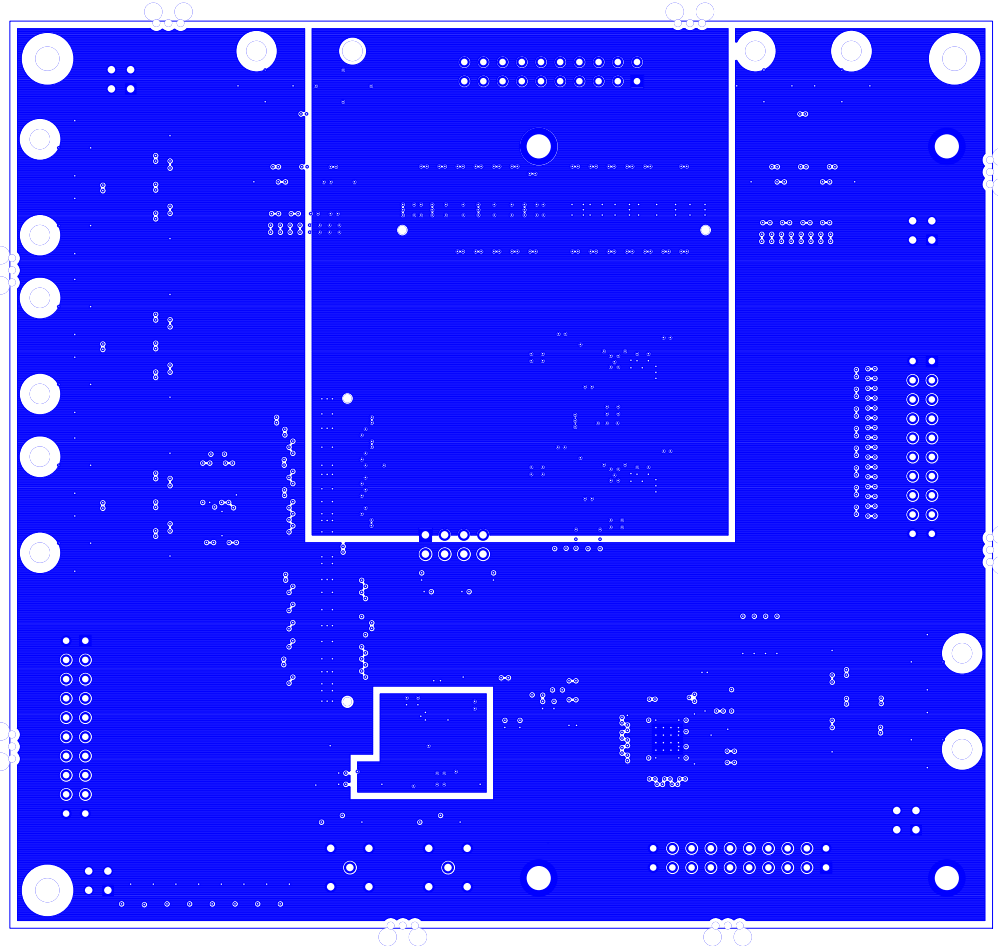
IN1- Diff



Jobname	Date	Designer	Layouter
TRB3CTS_AddOn1	01.2013	J.Michel/M.Traxler	S.Voltz

Layer Nickname I01

IN2- Planes: +6V, -2V, GND

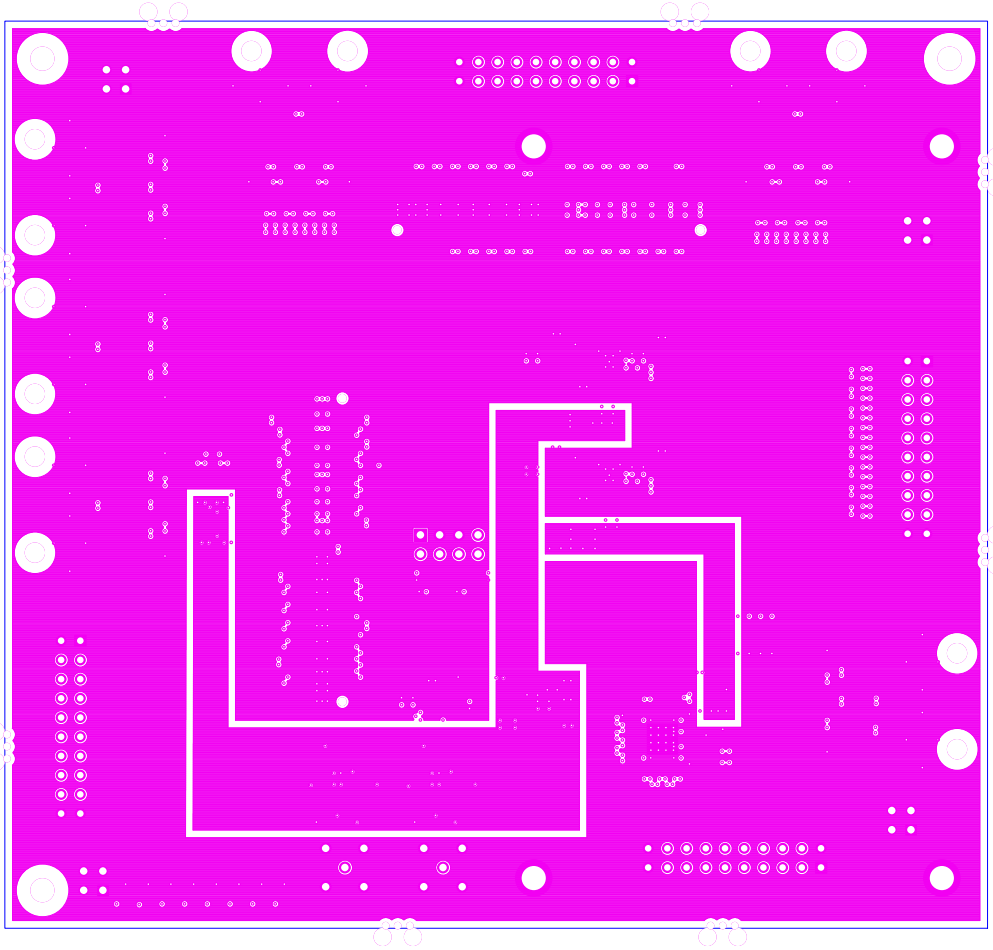


Jobname	Date	Designer	Layouter
TRB3CTS_AddOn1	01.2013	J.Michel/M.Traxler	S.Voltz

Layer Nickname

I02

IN3- Planes: 3.3V, 2.5V, GND

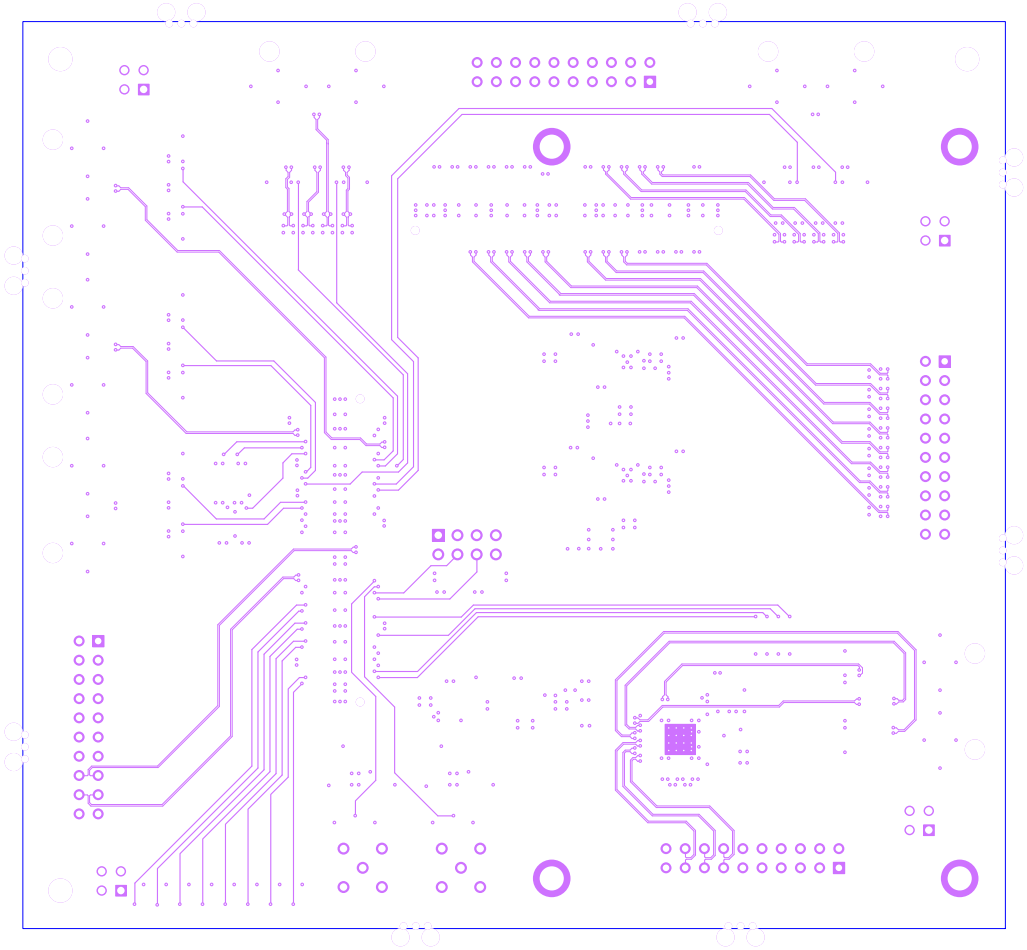


Jobname	Date	Designer	Layouter
TRB3CTS_AddOn1	01.2013	J.Michel/M.Traxler	S.Voltz

Layer Nickname

I03

IN4- Diff

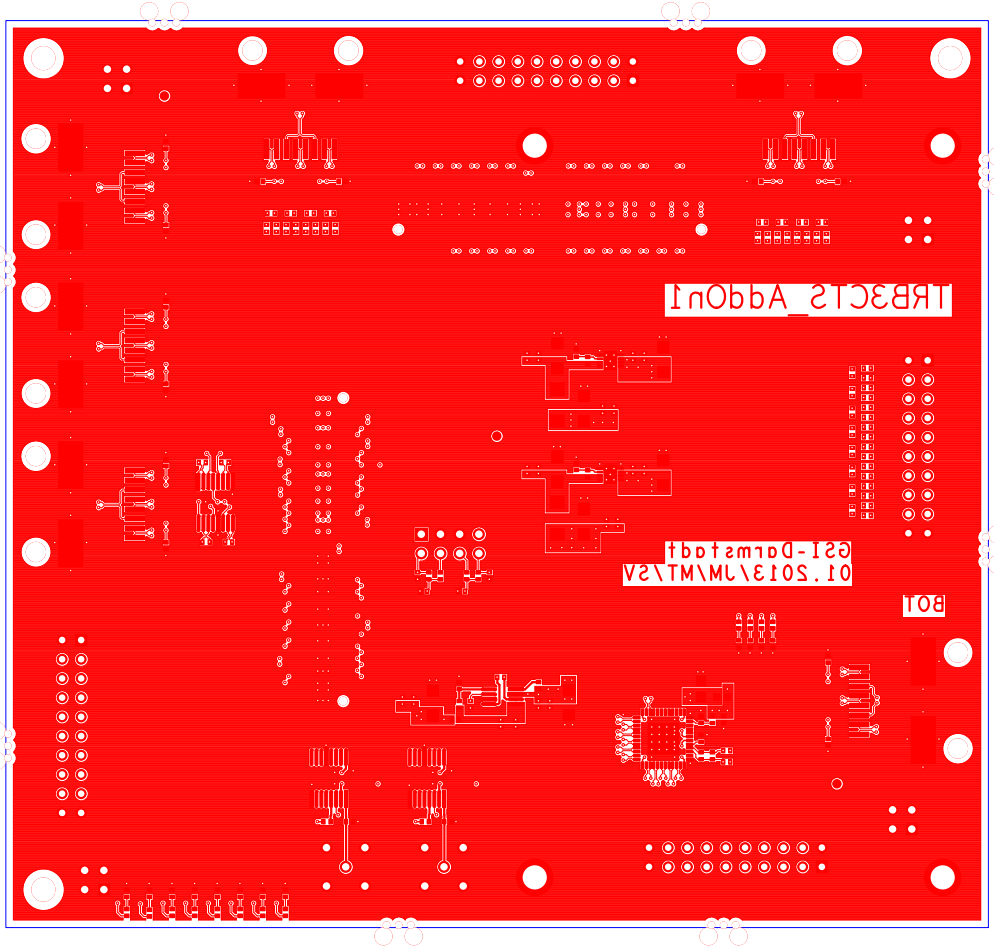


Jobname	Date	Designer	Layouter
TRB3CTS_AddOn1	01.2013	J.Michel/M.Traxler	S.Voltz

Layer Nickname

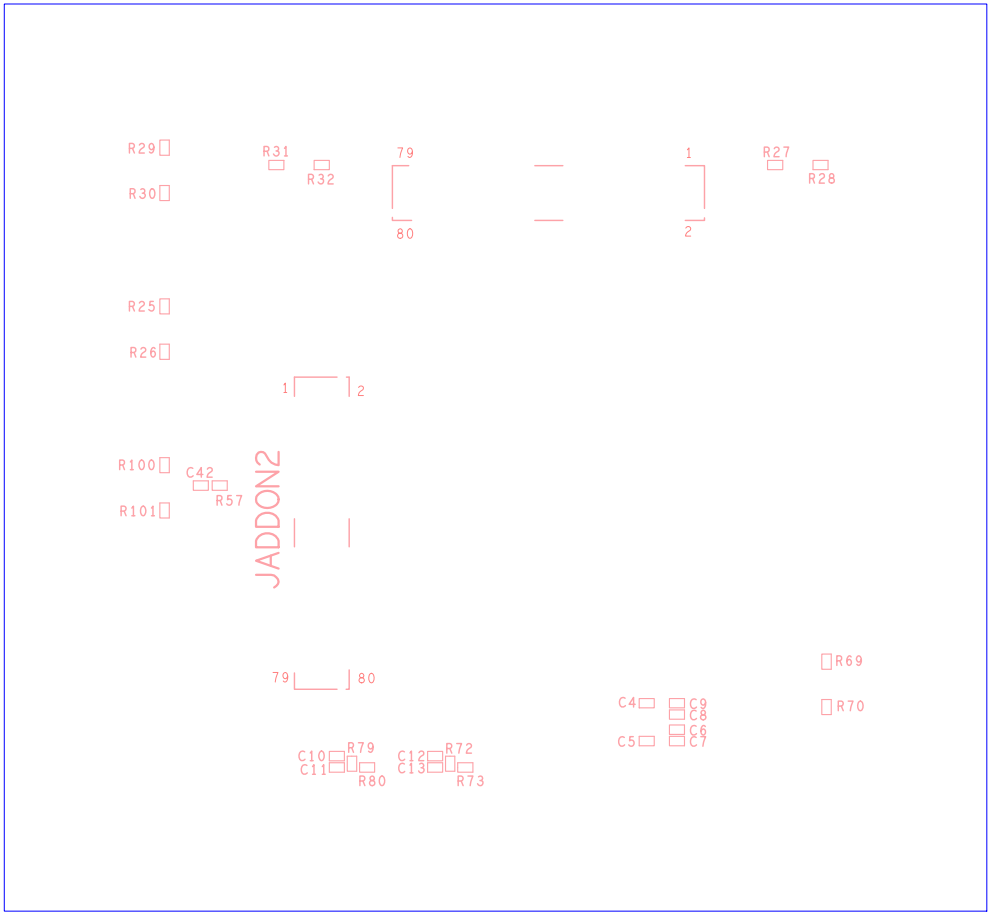
I04

BOT- GND-Plane



Jobname	Date	Designer	Layouter
TRB3CTS_AddOn1	01.2013	J.Michel/M.Traxler	S.Voltz

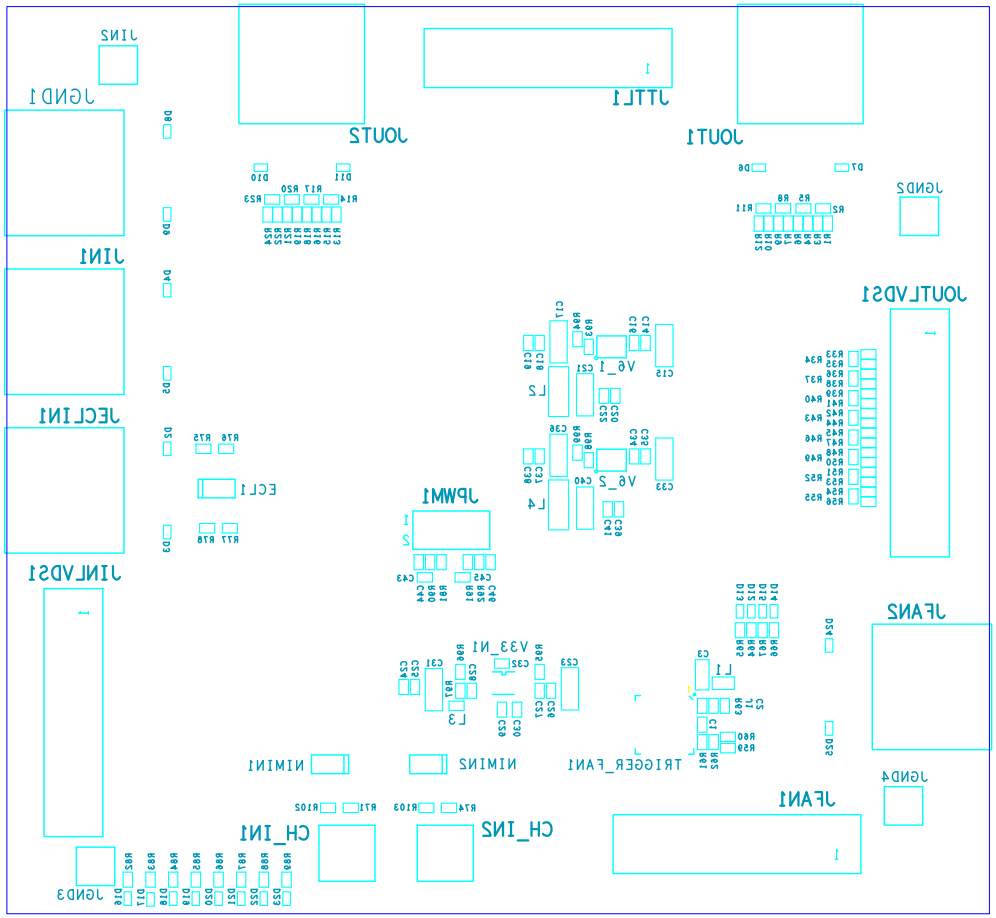
Layer Nickname: Bot



Jobname	Date	Designer	Layouter
TRB3CTS_AddOn1	01.2013	J.Michel/M.Traxler	S.Voltz

Layer Nickname

Sst



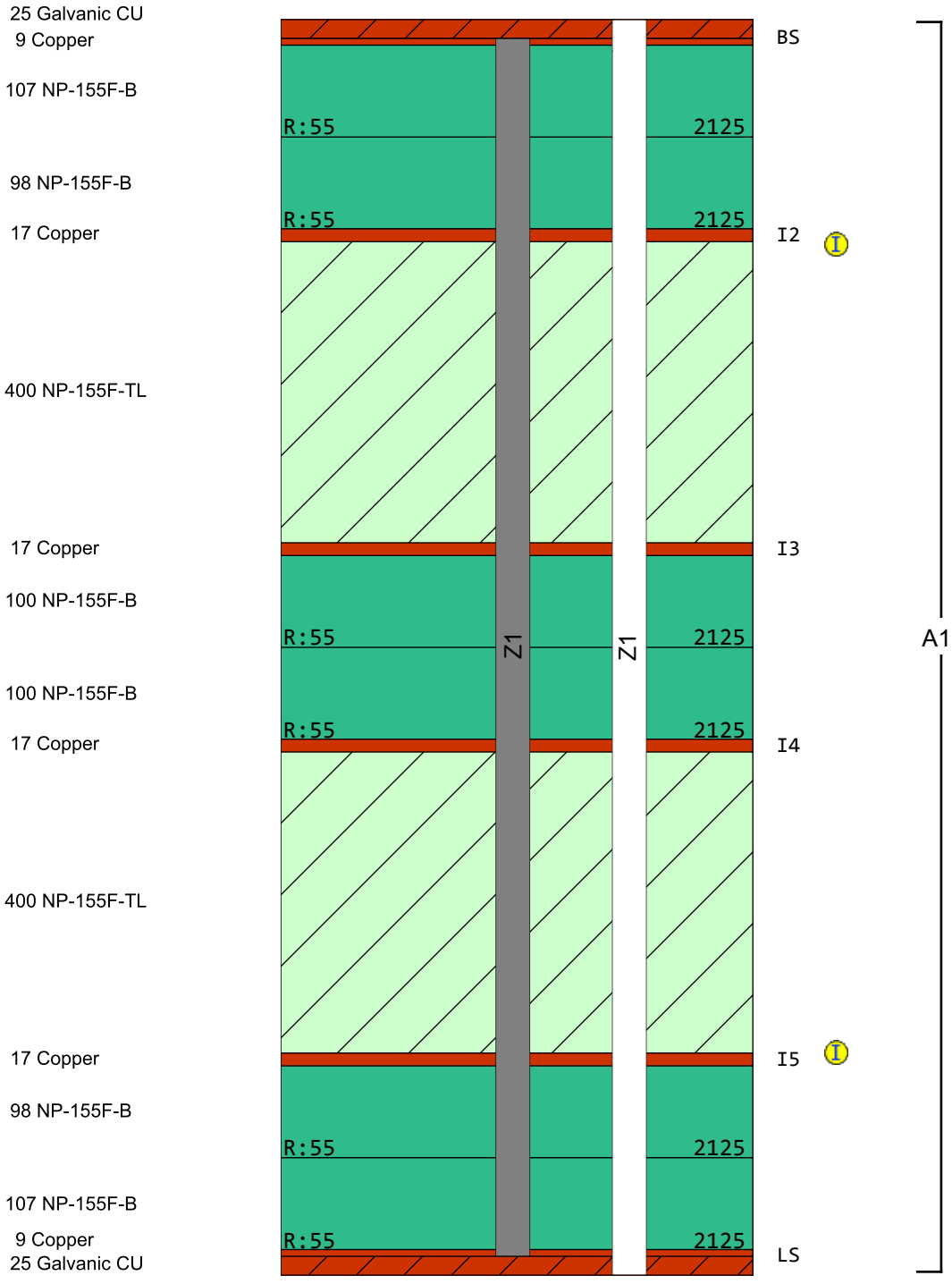
Jobname	Date	Designer	Layouter
TRB3CTS_AddOn1	01.2013	J.Michel/M.Traxler	S.Voltz

Layer Nickname

Ssb

Stack up 13107-0-0 (6M15NPI40K17)

Material (µm)	Stack up	File	Assembly

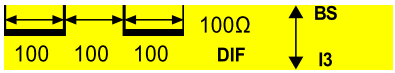


Pressed thickness 1.50 mm

Date created 14.01.2013
by rkor

Impedanzen 13107-0-0

i2



i5