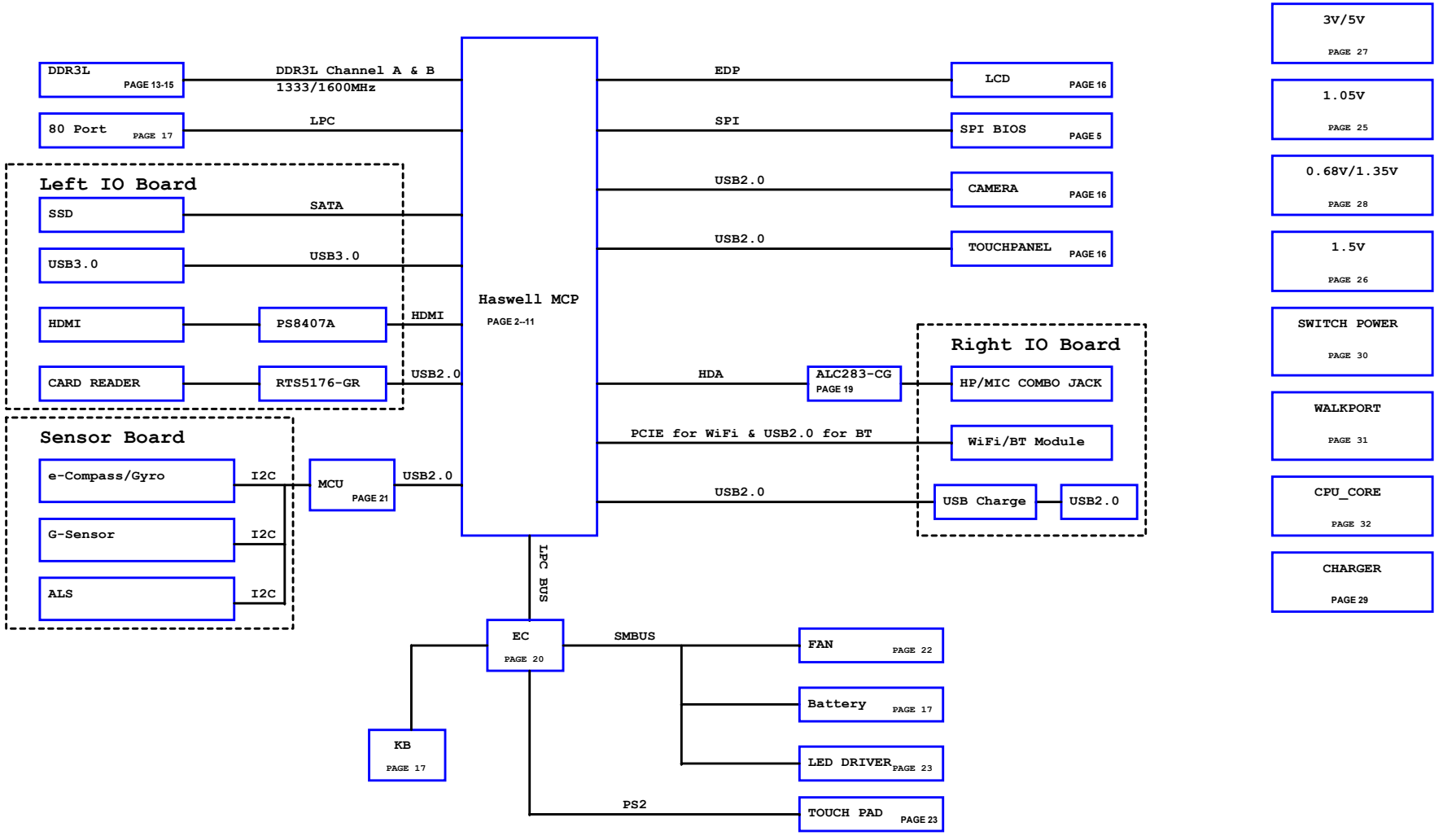
Kona SVT-NCS Schematic Block Diagram



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Title: Block Diagram

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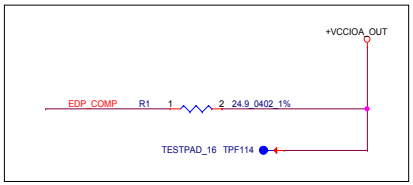
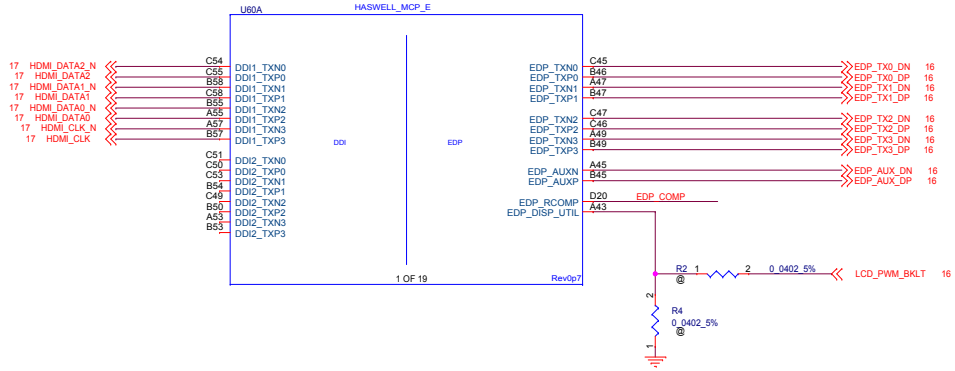
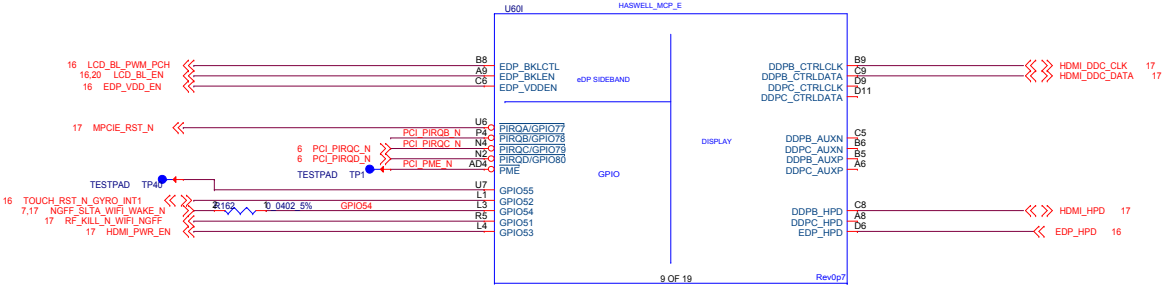
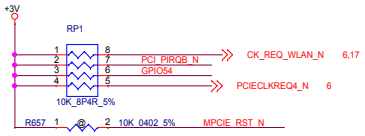
Haswell MCP (DDI,EDP)









lenovo联想	LENOVO.CRDN	
Title: Haswell MCP (DDI,EDP)		
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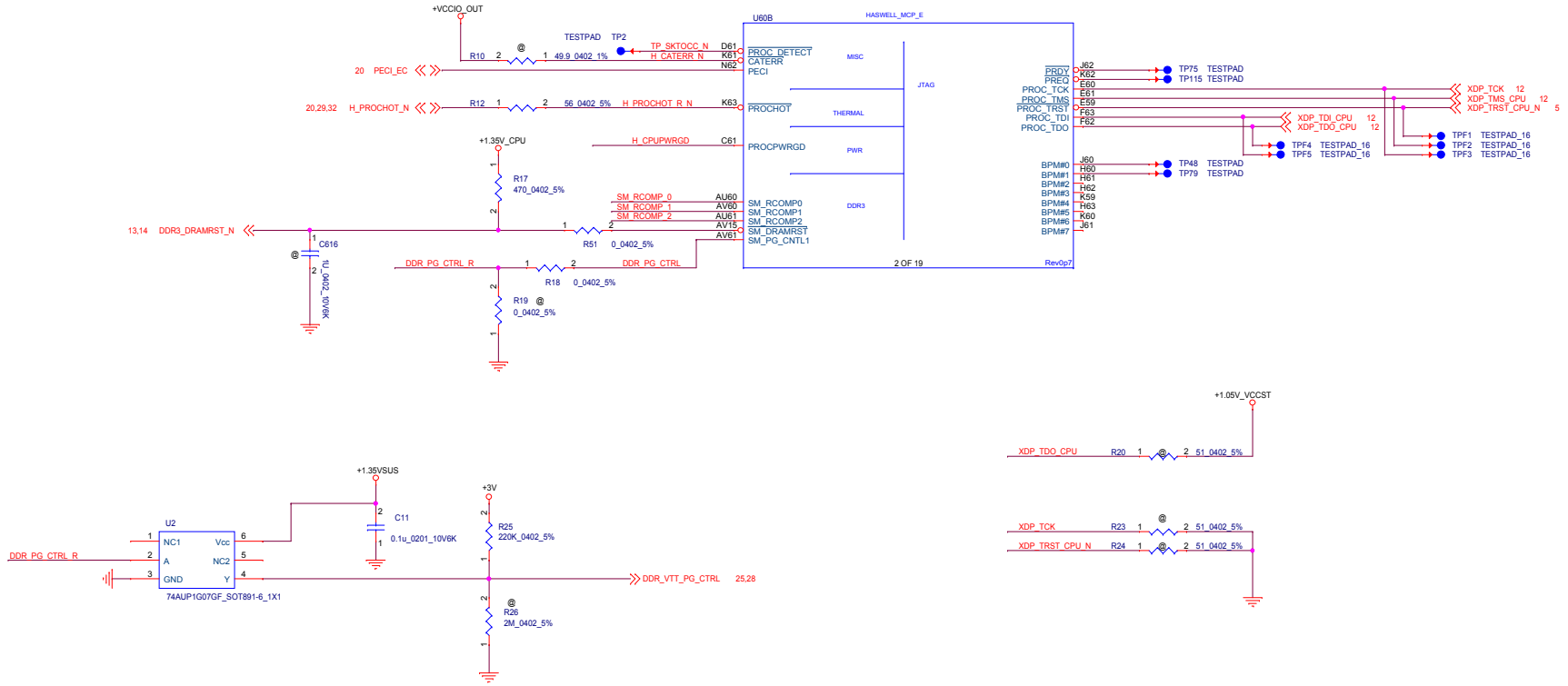
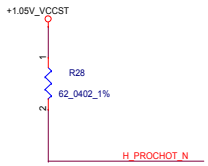
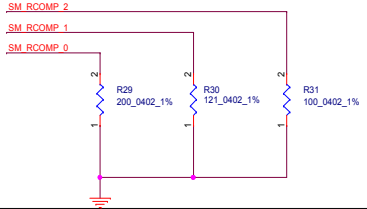
Haswell MCP (MISC,THERMAL,JATG)

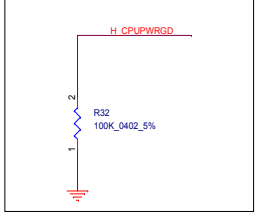


Processor Pull-ups



DDR3 Compensation Signal





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Title: Haswell MCP (MISC,THERMAL,JATG)

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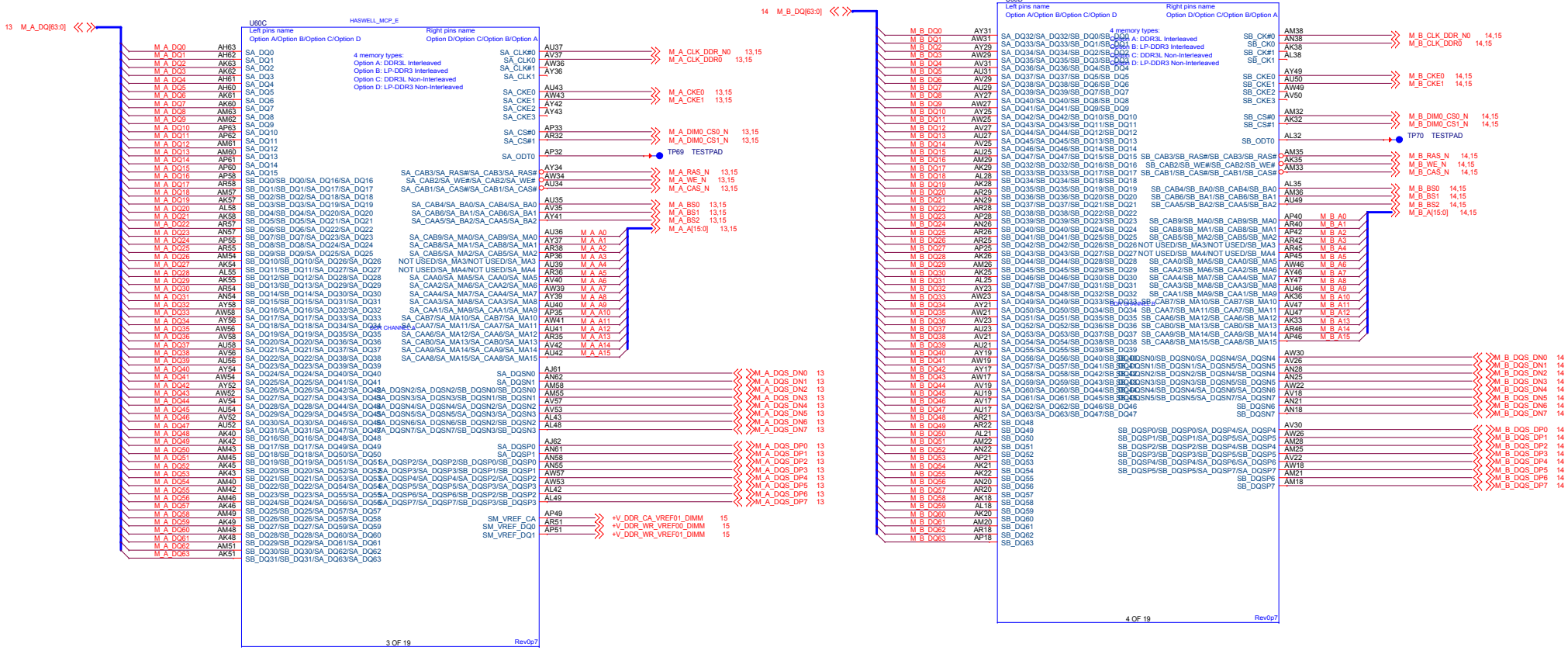
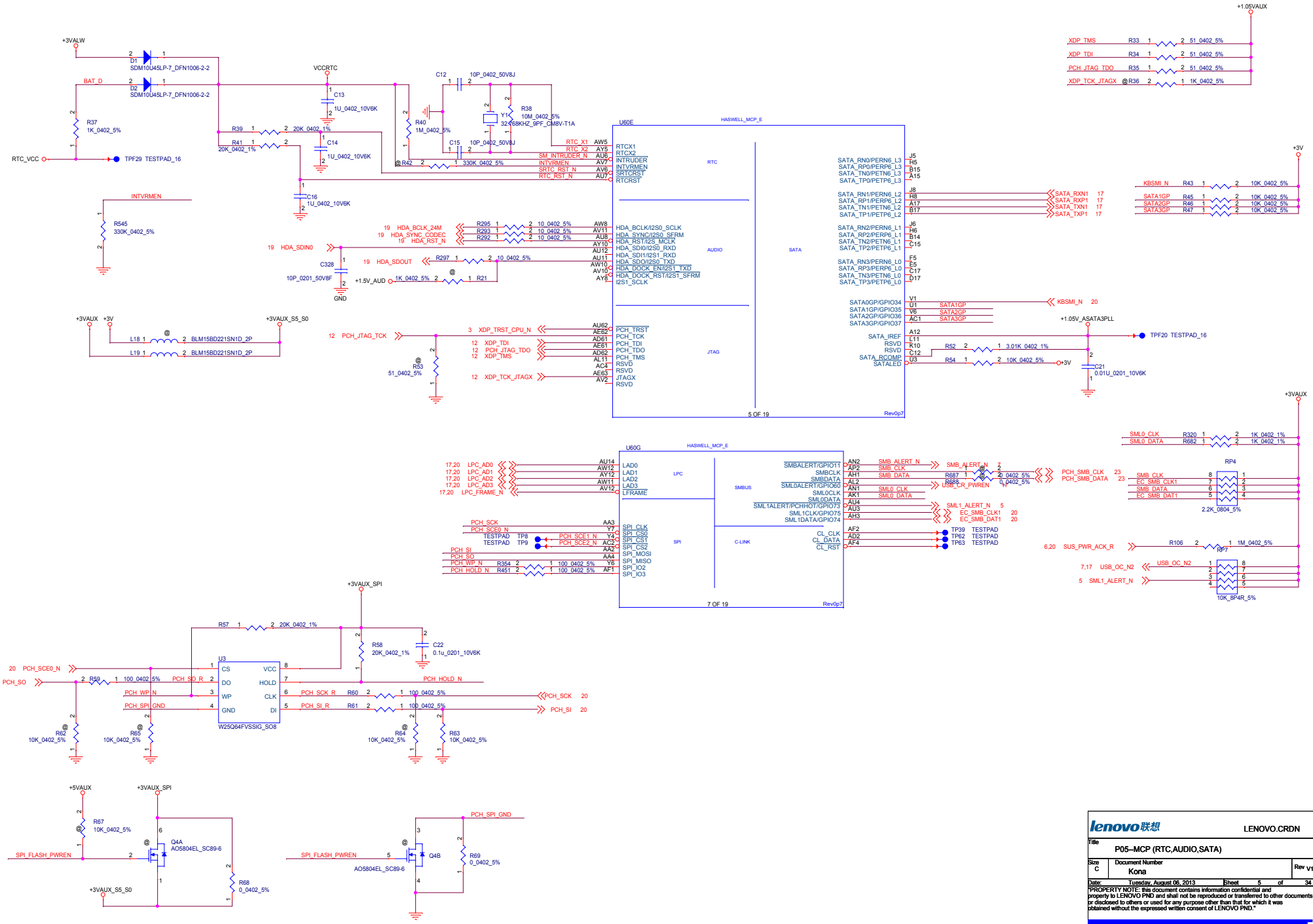
Haswell MCP(LPDDR3)



Haswell MCP (RTC,AUDIO,JTAG,SATA,LPC,SPI,SMBUS)



lenovo 联想		LENOVO.CRDN	
Title	P05--MCP (RTC,AUDIO,SATA)		
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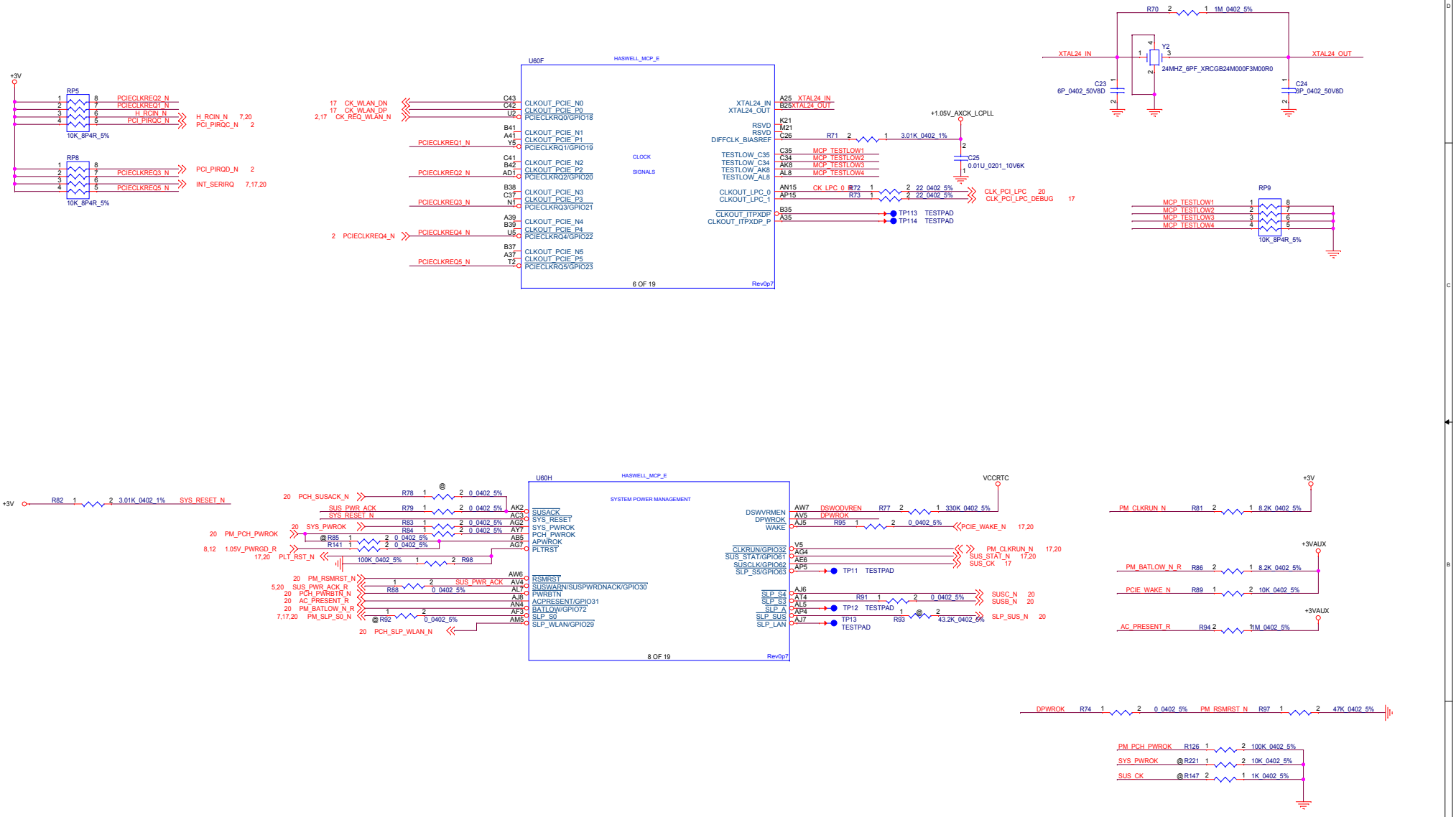
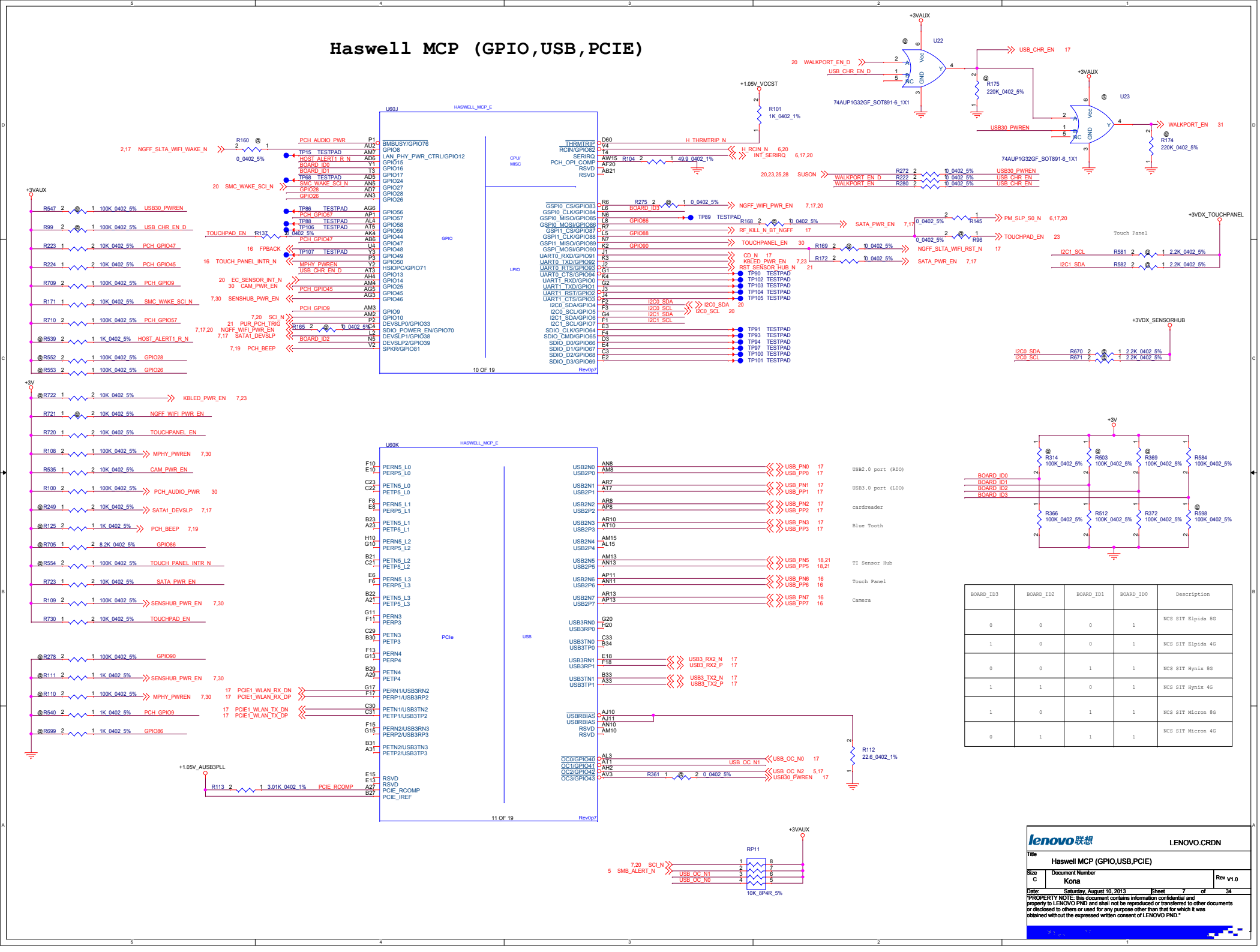
Haswell MCP (Clock,PM)



Haswell MCP (GPIO,USB,PCIE)



BOARD_ID3	BOARD_ID2	BOARD_ID1	BOARD_ID0	Description
0	0	0	1	NCS SIT Elpida 8G
1	0	0	1	NCS SIT Elpida 4G
0	0	1	1	NCS SIT Hynix 8G
1	1	0	1	NCS SIT Hynix 4G
1	0	1	1	NCS SIT Micron 8G
0	1	1	1	NCS SIT Micron 4G

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Title: Haswell MCP (GPIO,USB,PCIE)

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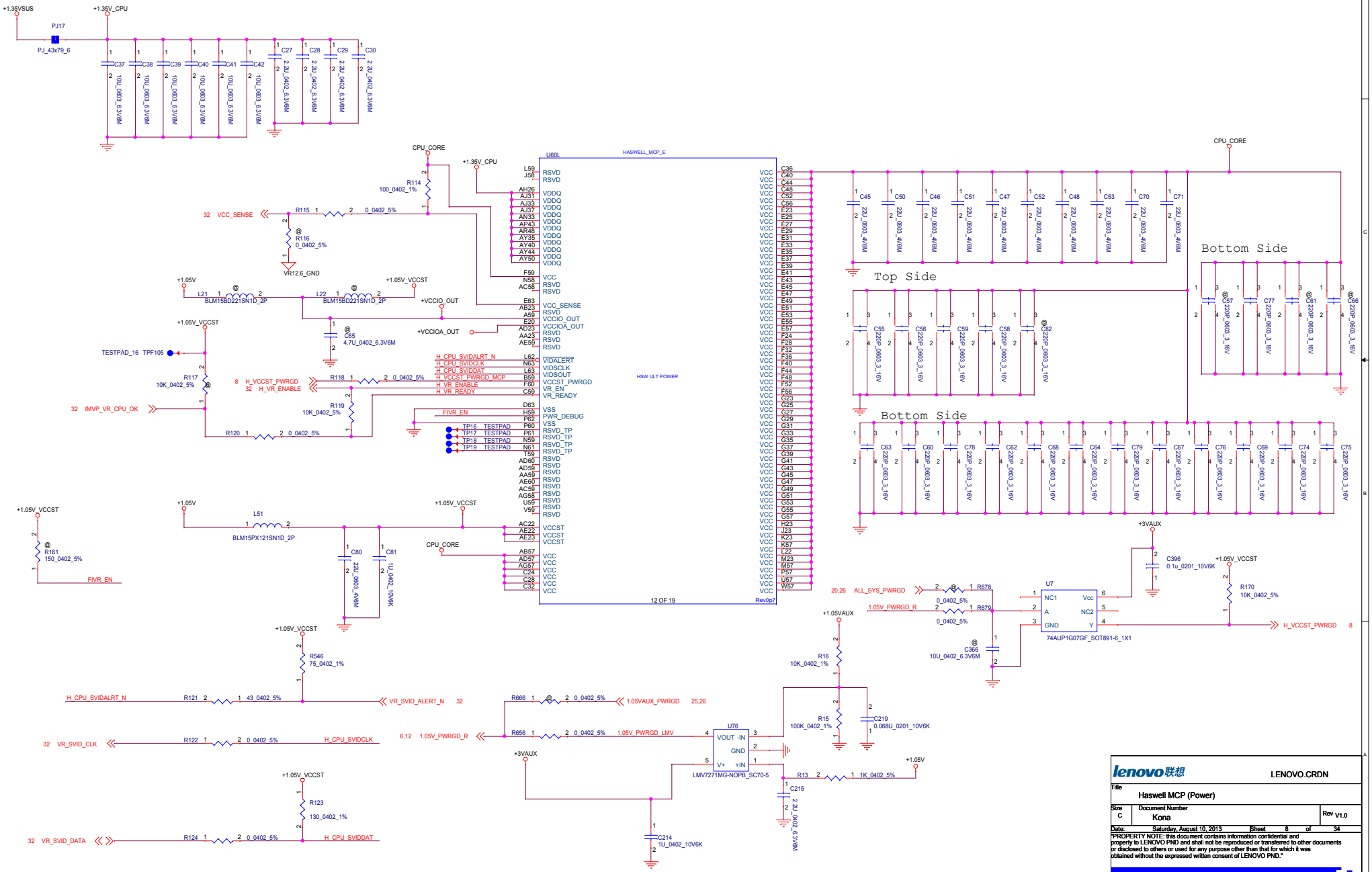
Haswell MCP (Power)



lenovo联想	LENOVO.CRDN	
Title: Haswell MCP (Power)		
Size: C	Document Number: Kona	Rev: V1.0
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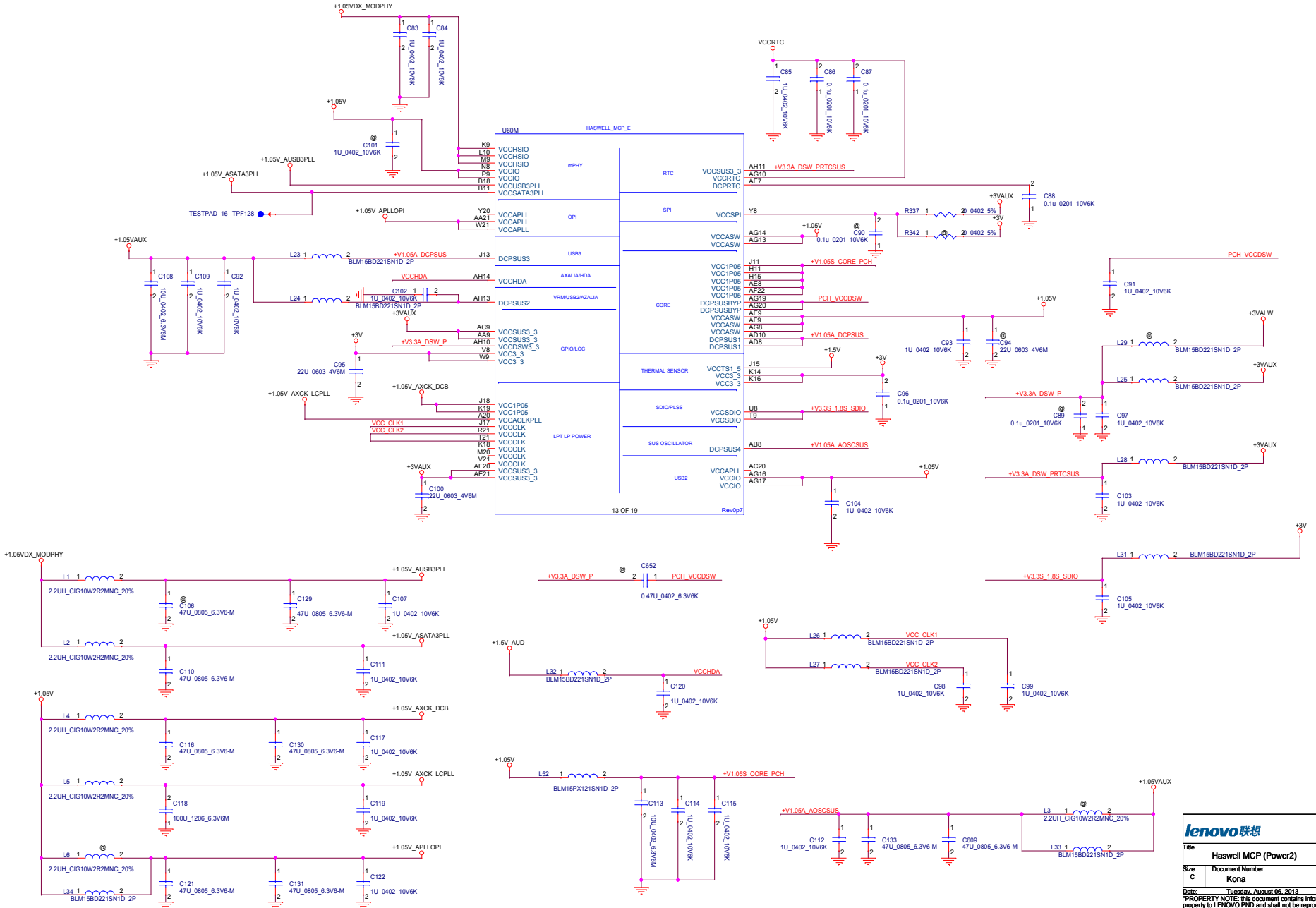
Haswell MCP (Power2)



Title	Haswell MCP (Power2)
Size	C
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Haswell MCP (VSS)

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Title: Haswell MCP (VSS)			
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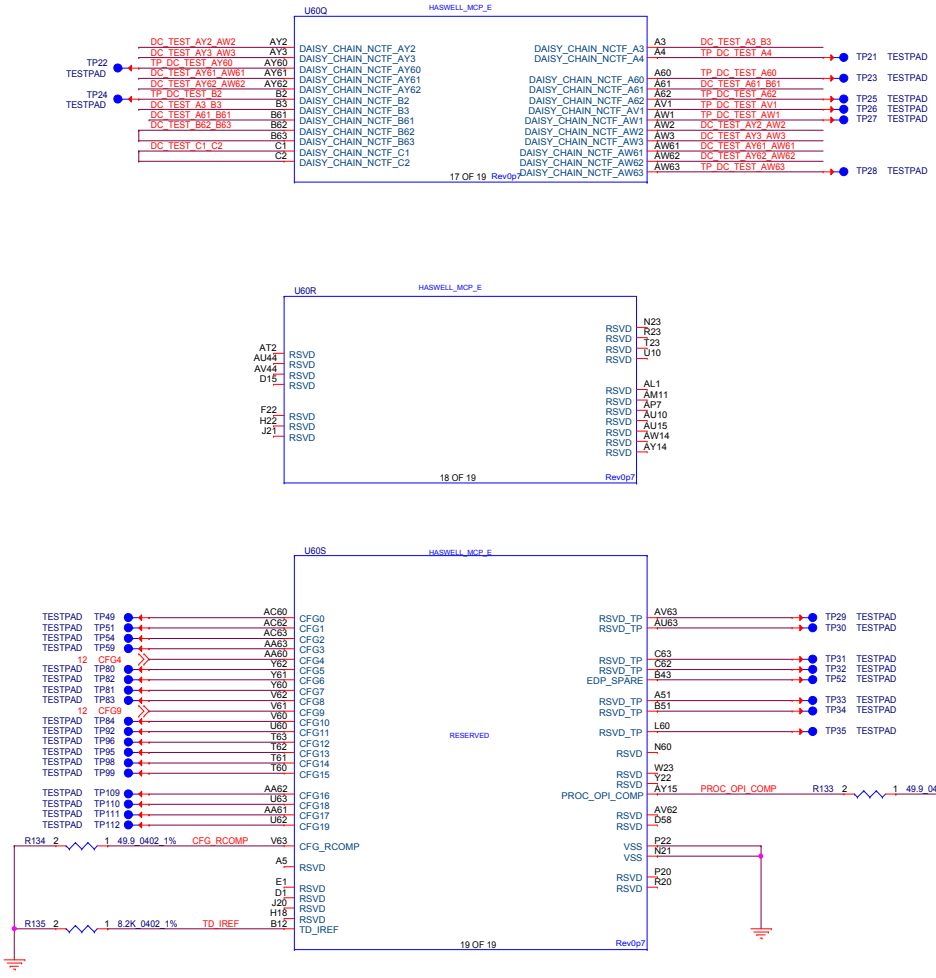
Haswell MCP (OTHER)



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Title: Haswell MCP (OTHER)

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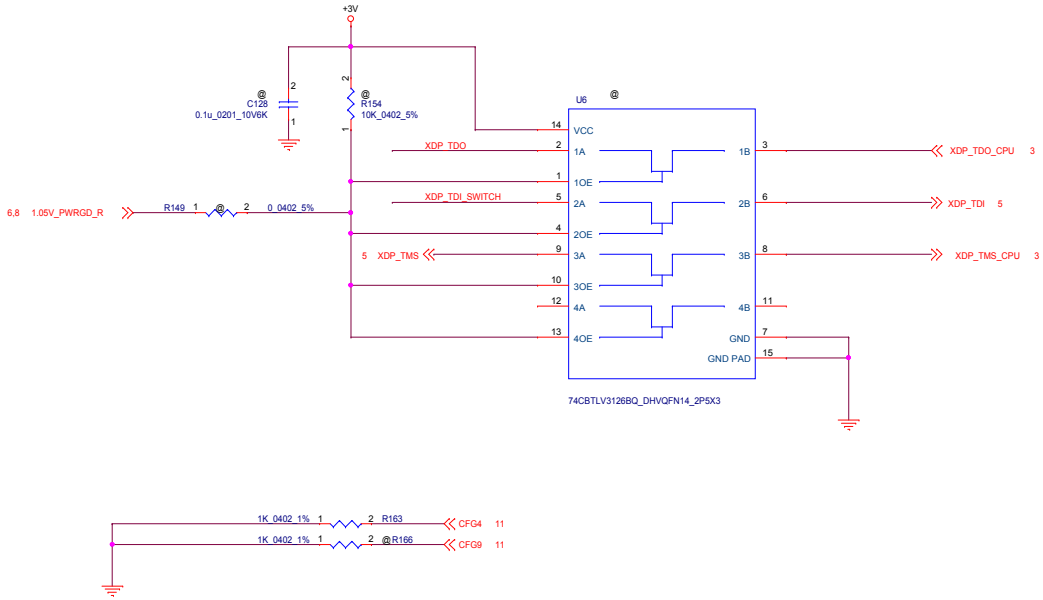

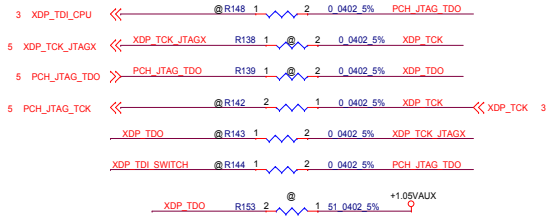

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Title: XDP CONN

Size	Document Number	Rev
C	Kona	V1.0

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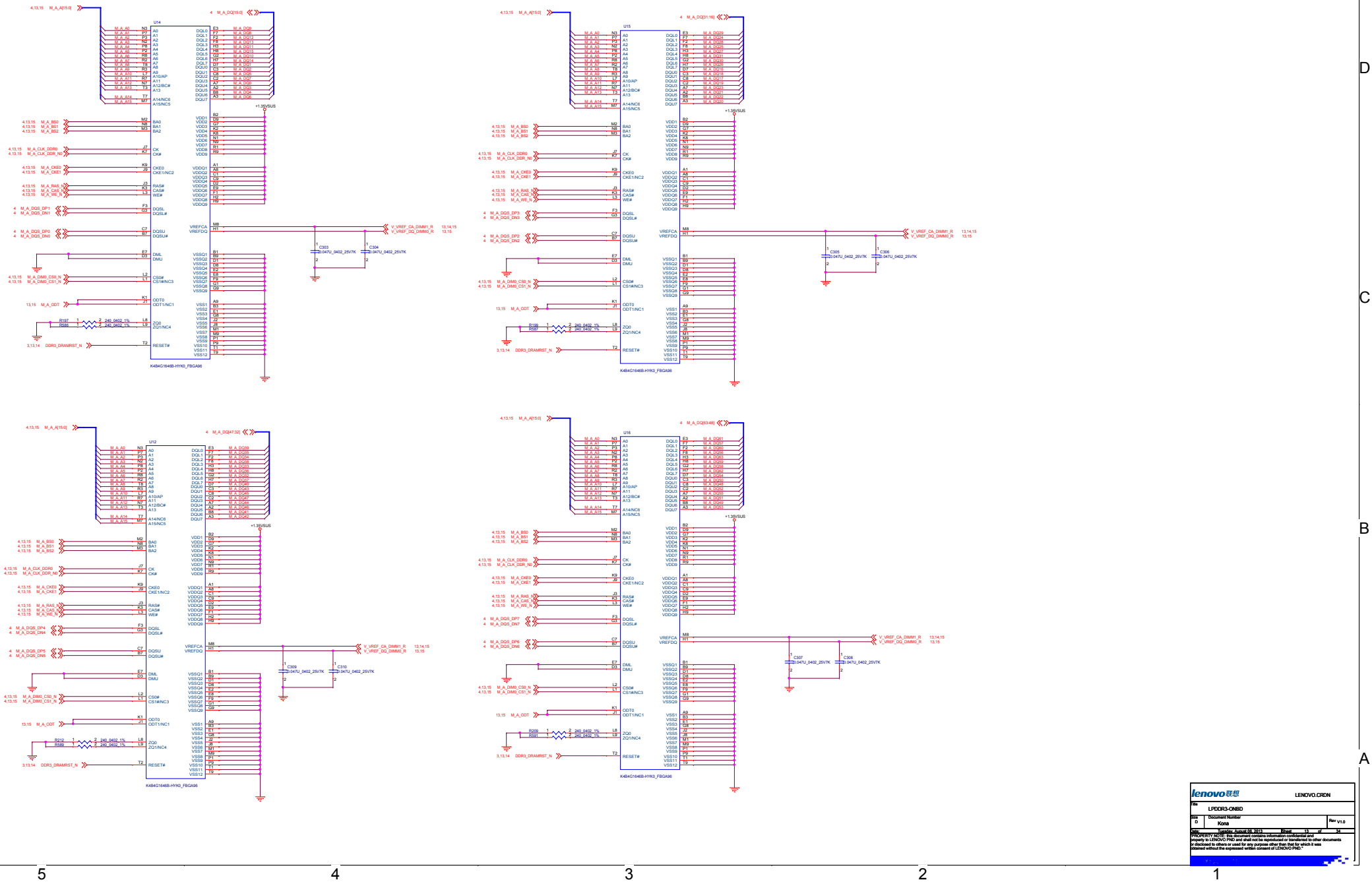
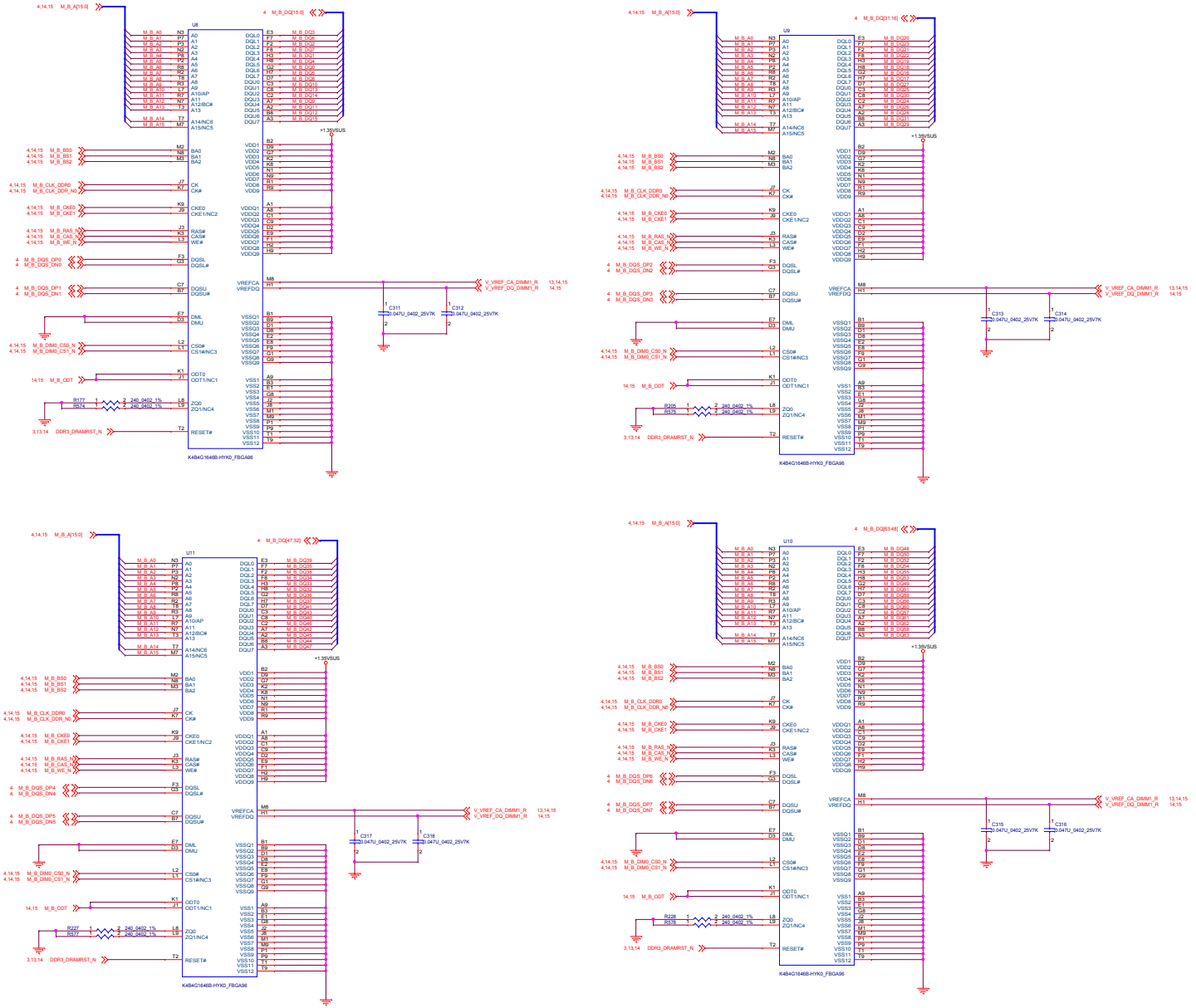
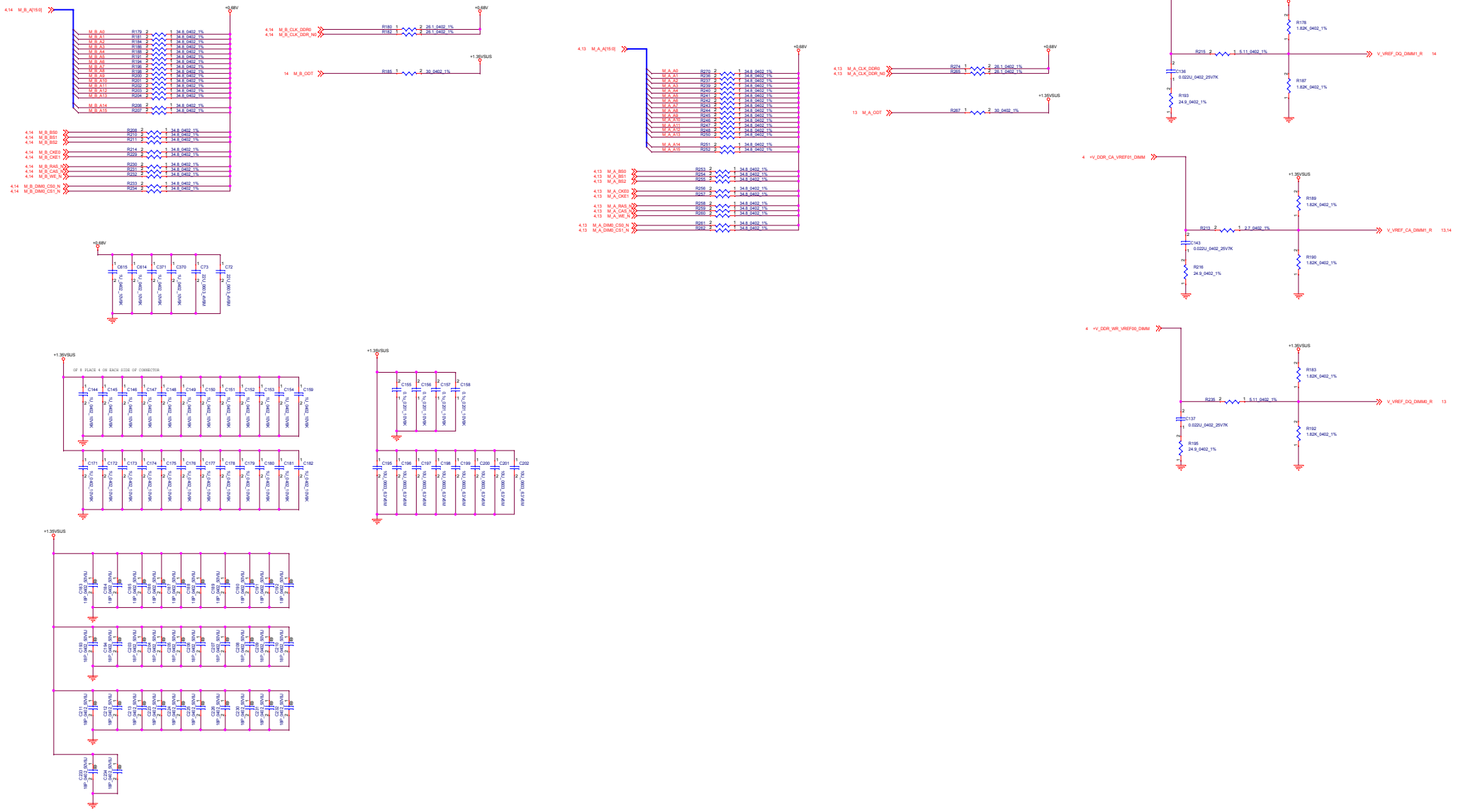


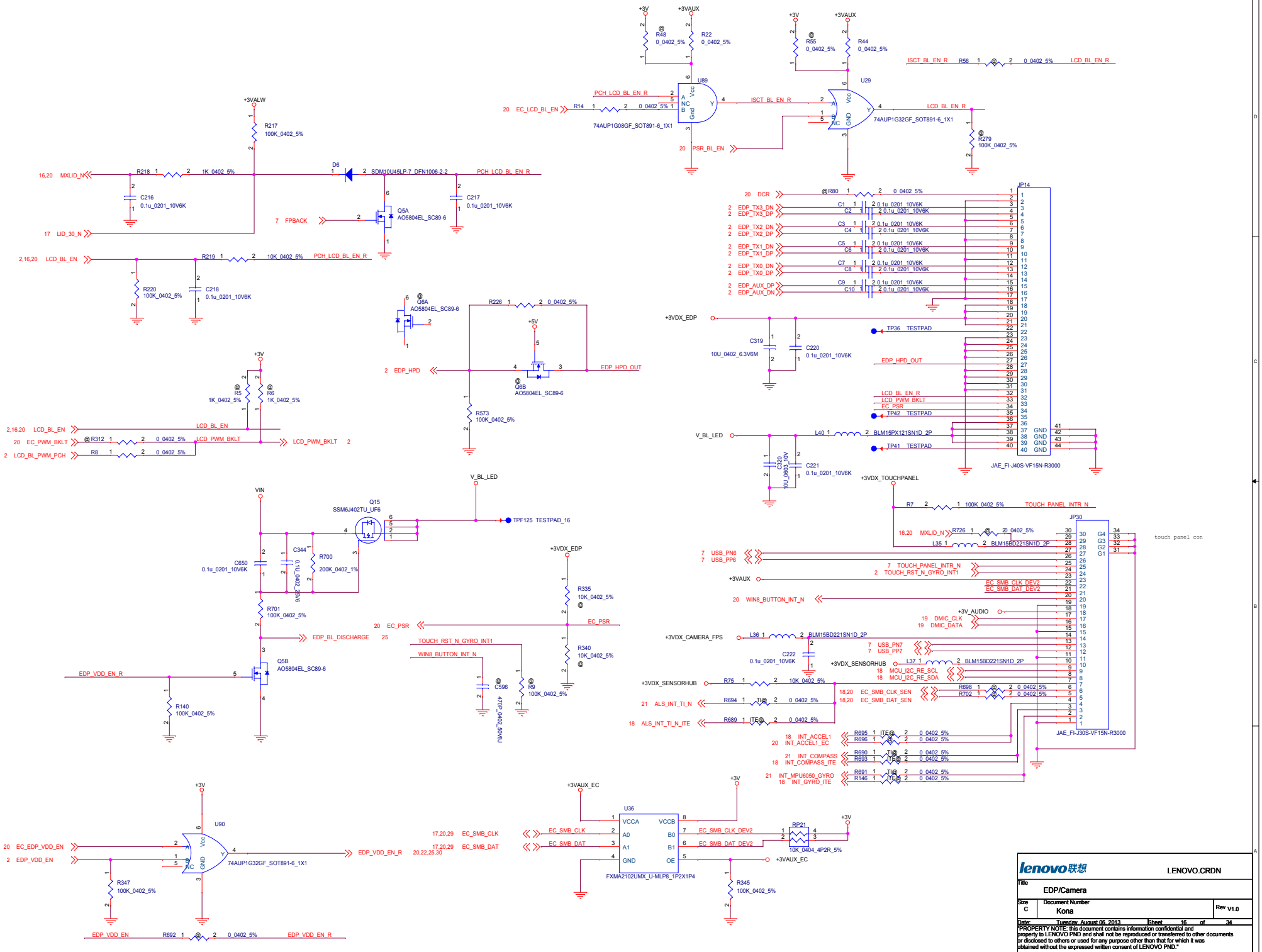
lenovo联想		LENOVO.CRDN	
Title	LPDDR3-ONBD		
Size D	Document Number Kona		Rev V1.0
Date: Tuesday, August 04, 2015		Sheet 15 of 34	



lenovo 联想		LENOVO.CRDN	
Title	LPDDR3-ONBD		
Size: D	Document Number: Kona		Rev: V1.0
Date: Tuesday, August 06, 2013	Sheet 14 of 34		



lenovo 联想		LENOVO.CRDN	
Title	LPDDR3-TERMINATION		
Size: D	Document Number: Kona		Rev: V1.0
Date: Tuesday, August 06, 2013	Sheet 15 of 34		



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Title: EDP/Camera

Size: C | Document Number: Kona | Rev: V1.0

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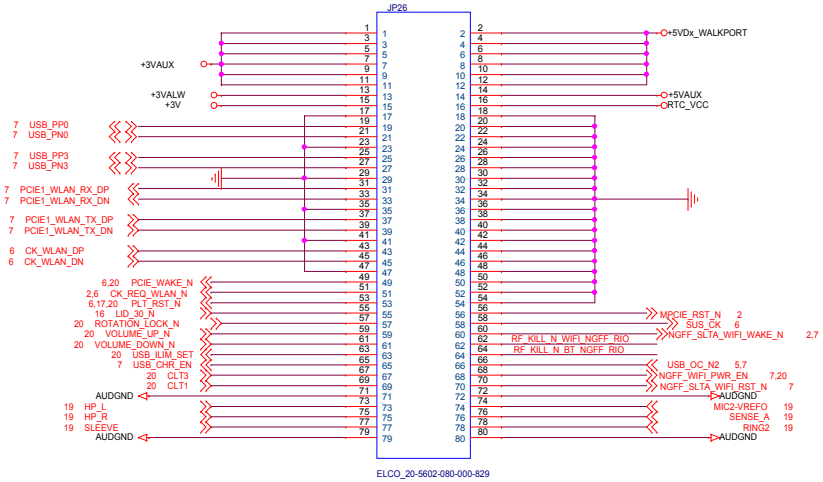
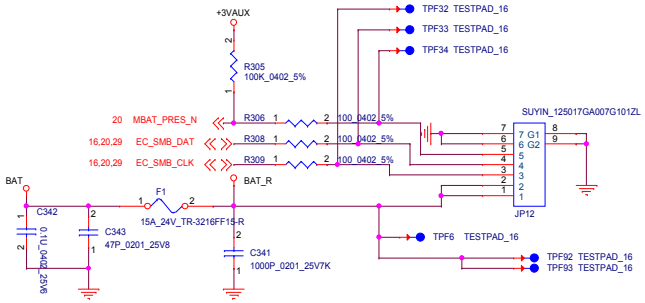
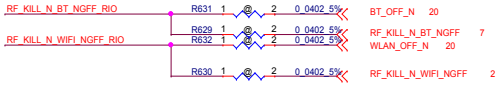
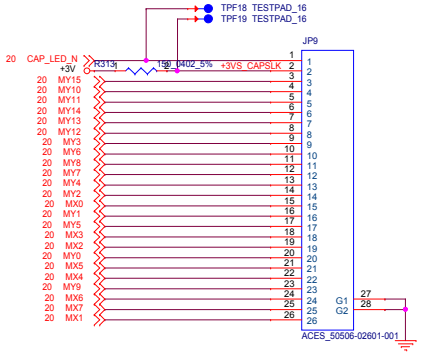
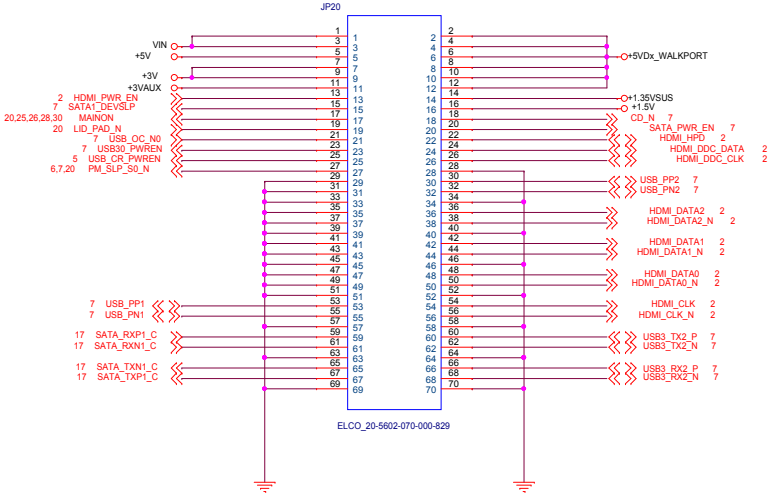
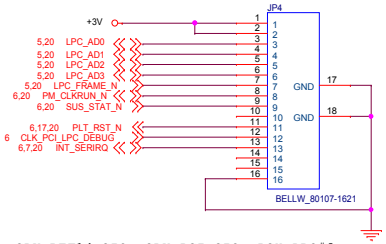




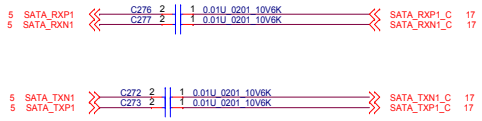








删除了，CLK_REF14_SIO：CLK_PCI_SIO：PCH_DRQ#0



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Title: Connector (BTB,Bat,LPC,KB)

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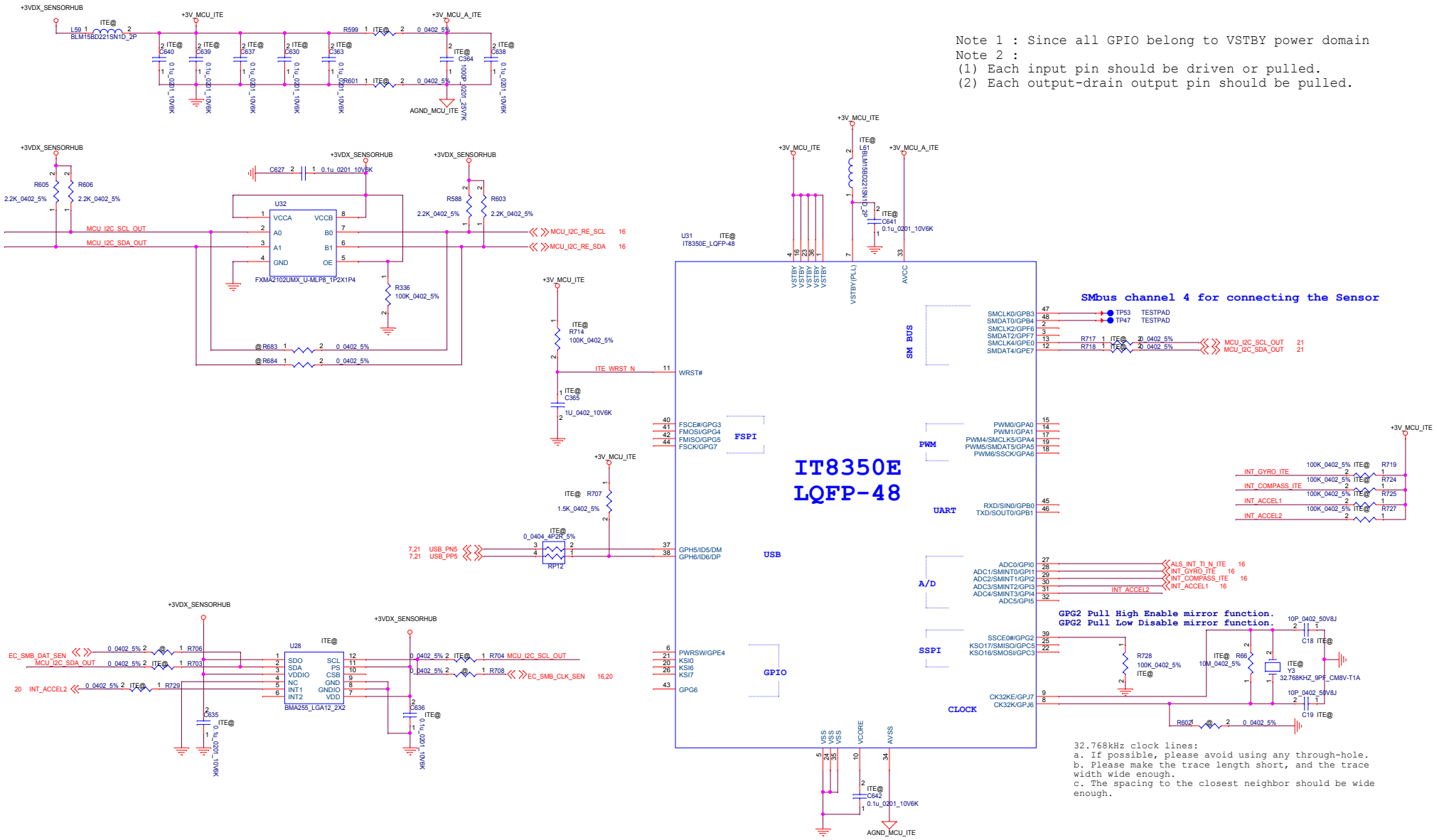
Note 1 : Since all GPIO belong to VSTBY power domain
Note 2 :
(1) Each input pin should be driven or pulled.
(2) Each output-drain output pin should be pulled.
IT8350E
LQFP-48
SMbus channel 4 for connecting the Sensor
GPG2 Pull High Enable mirror function.
GPG2 Pull Low Disable mirror function.
32.768kHz clock lines:
a. If possible, please avoid using any through-hole.
b. Please make the trace length short, and the trace width wide enough.
c. The spacing to the closest neighbor should be wide enough.
SM BUS
FSPI
PWM
UART
USB
A/D
SSPI
GPIO
CLOCK
MCU_I2C_SCL_OUT
MCU_I2C_SDA_OUT
ITE_WRST_N
USB_PN5
USB_PP5
INT_ACCEL2
INT_GYRO_ITE
INT_COMPASS_ITE
INT_ACCEL1
EC_SMB_DAT_SEN
EC_SMB_CLK_SEN
32.768KHZ_9PF_CM8V-T1A
FXMA2102UMX_U-MLP8_1P2X1P4
BMA255_LGA12_2X2
AGND_MCU_ITE
LENOVO.CRDN
SENSOR(ITE)
Kona
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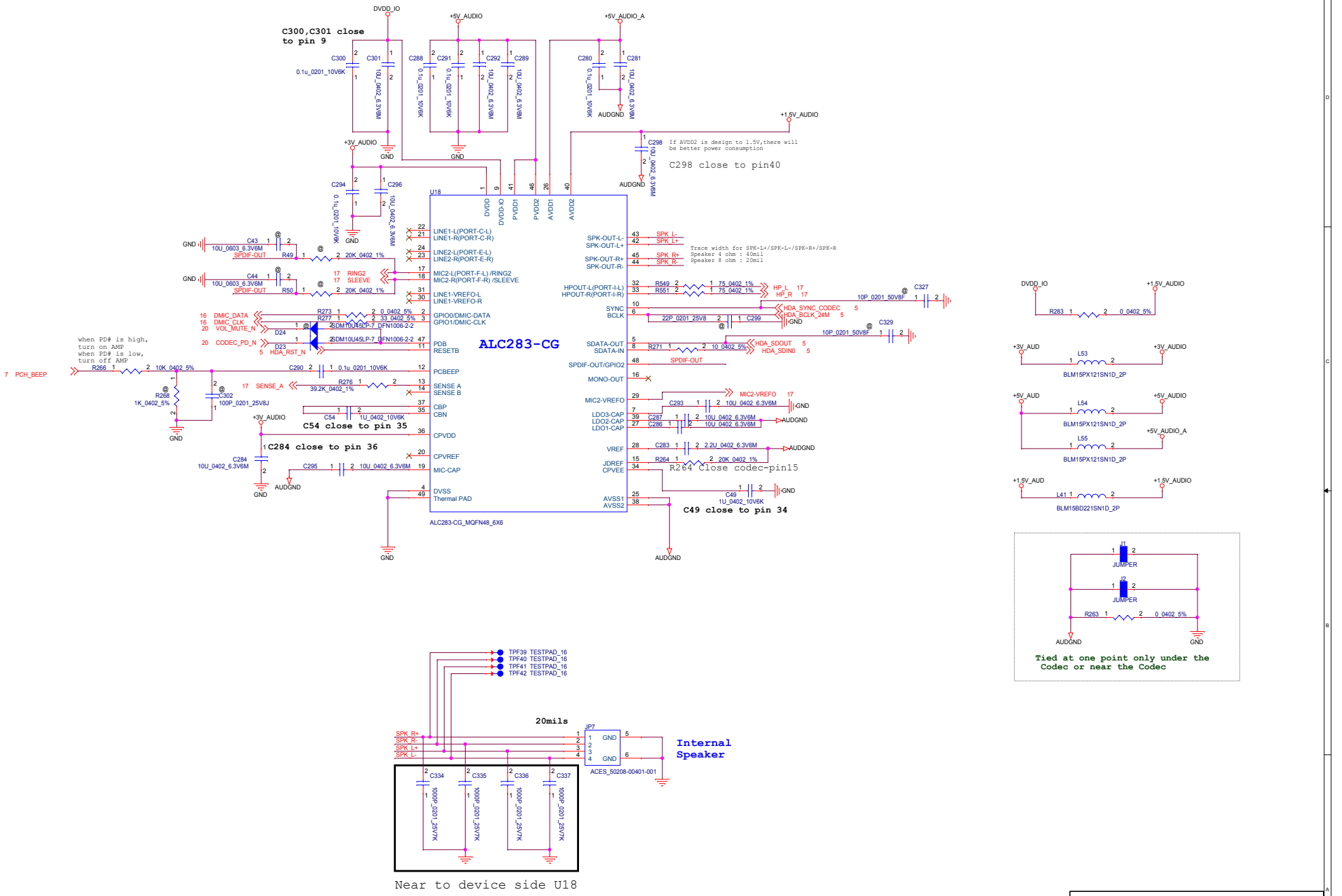
34



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Title	AUDIO CODEC		
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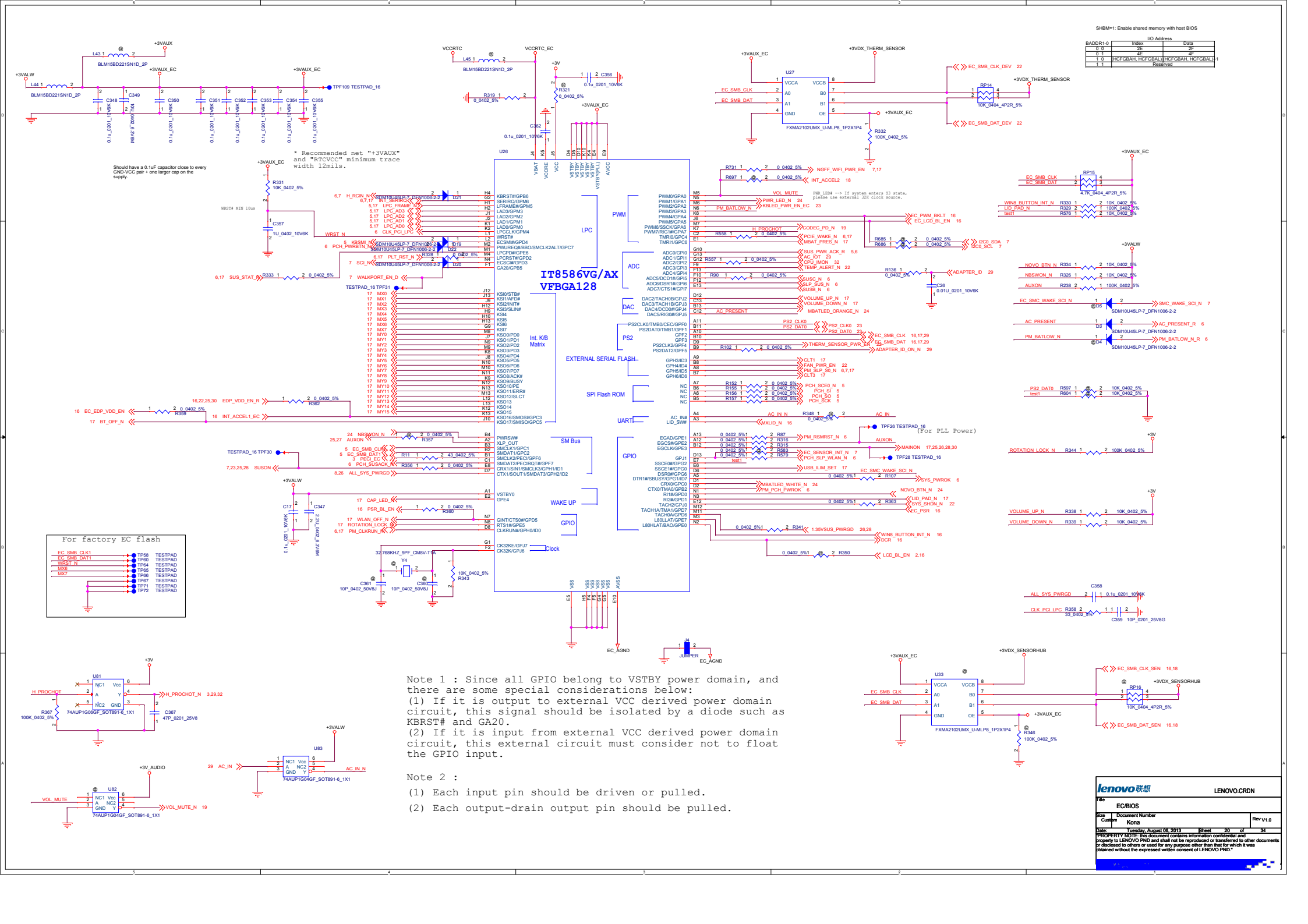
IT8586VG/AX
VFBGA128
PWM
LPC
ADC
DAC
PS2
EXTERNAL SERIAL FLASH
SPI Flash ROM
UART
GPIO
SM Bus
WAKE UP
Int. K/B Matrix
Clock
For factory EC flash
* Recommended net "+3VAUX" and "RTCVCC" minimum trace width 12mils.
Should have a 0.1uF capacitor close to every GND-VCC pair + one larger cap on the supply.
SHBM=1: Enable shared memory with host BIOS
I/O Address
BADDR1-0 | Index | Data
0 0 | 2E | 2F
0 1 | 4E | 4F
1 0 | (HCFGBAH, HCFGBAL)+1 | (HCFGBAH, HCFGBAL)+1
1 1 | Reserved
Note 1 : Since all GPIO belong to VSTBY power domain, and there are some special considerations below:
(1) If it is output to external VCC derived power domain circuit, this signal should be isolated by a diode such as KBRST# and GA20.
(2) If it is input from external VCC derived power domain circuit, this external circuit must consider not to float the GPIO input.
Note 2 :
(1) Each input pin should be driven or pulled.
(2) Each output-drain output pin should be pulled.
lenovo联想
LENOVO.CRDN
Title
EC/BIOS
Size: Custom
Document Number: Kona
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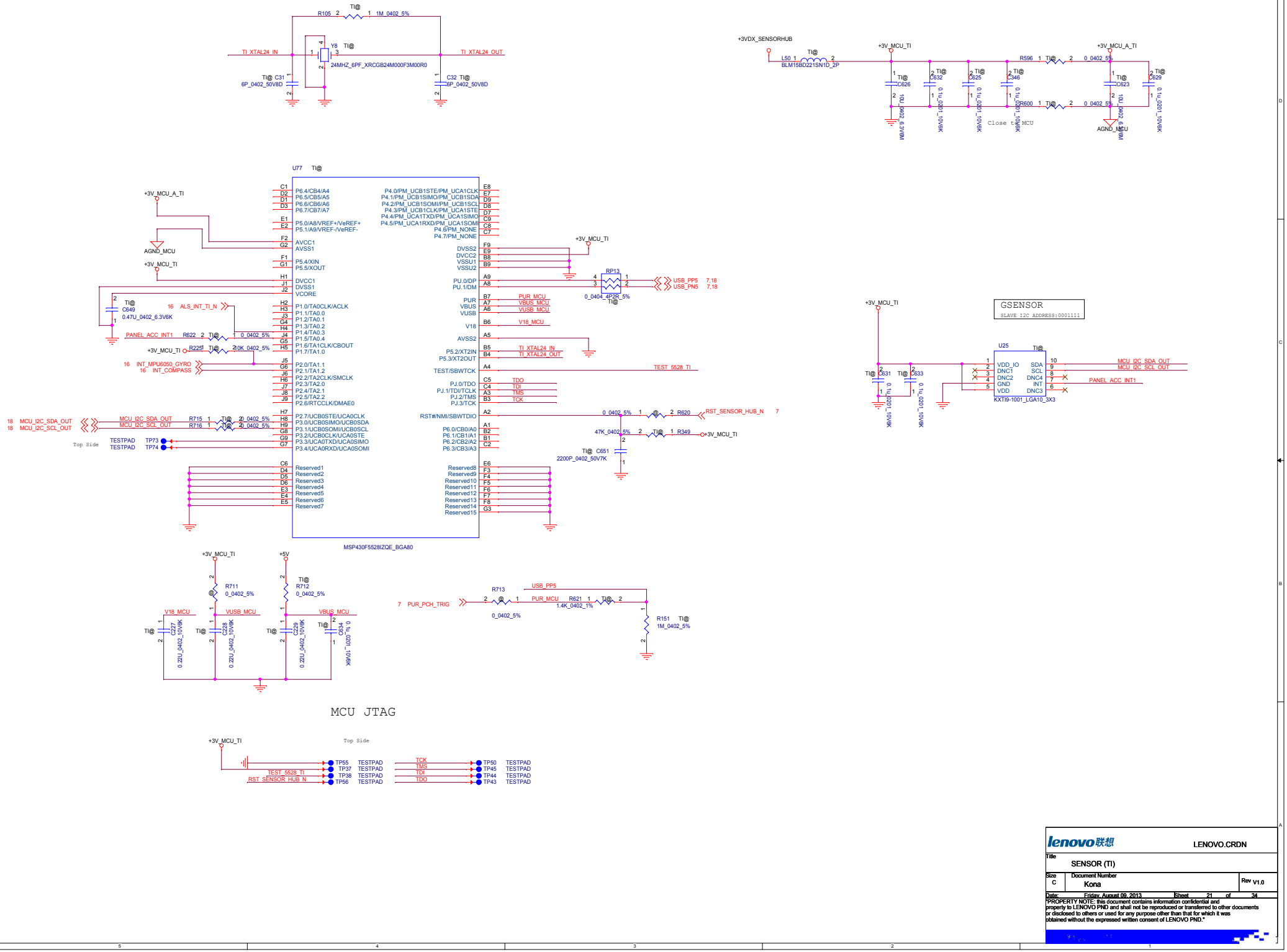

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Title: SENSOR (TI)

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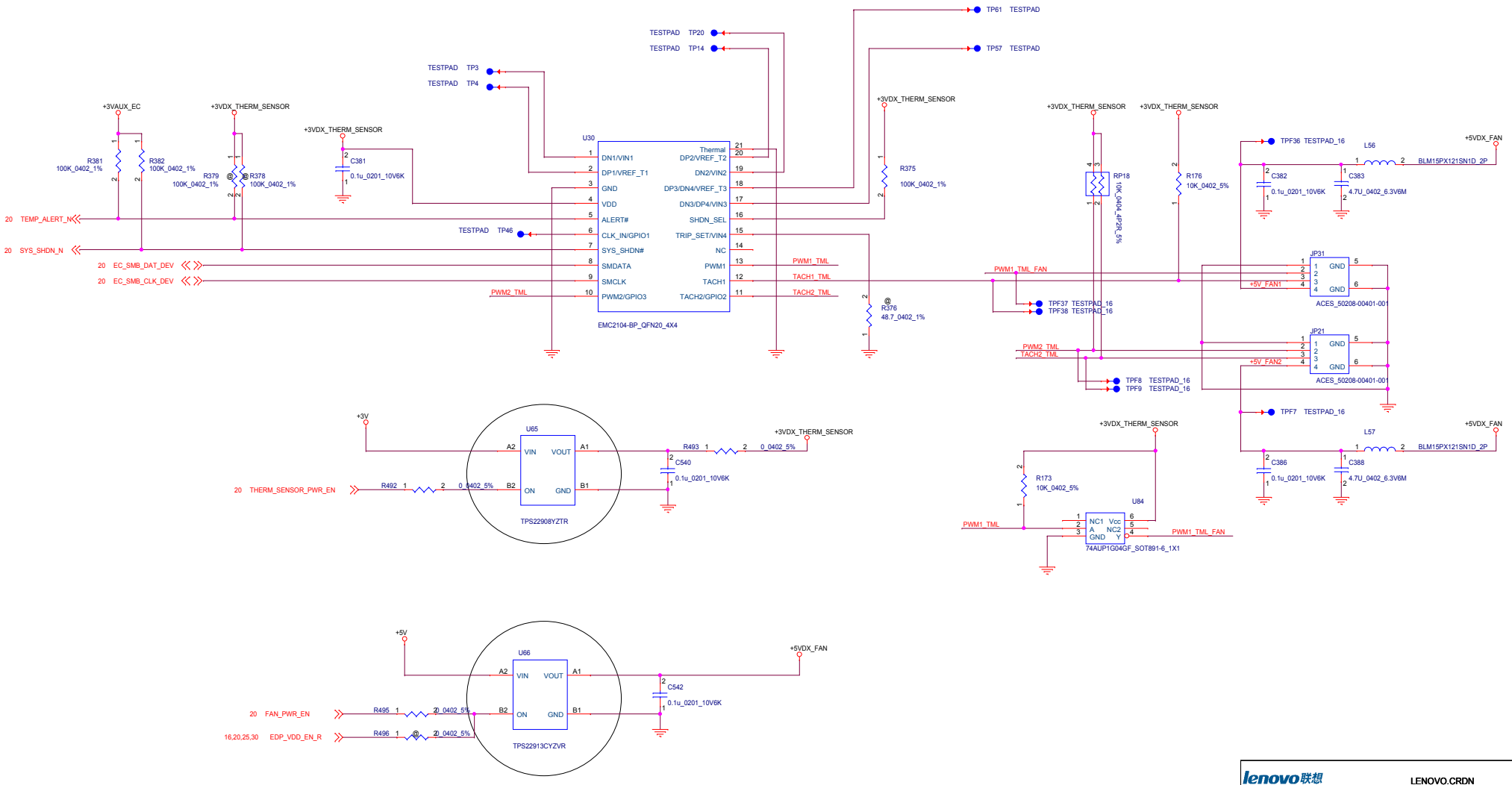

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Title: Thermal Sensor

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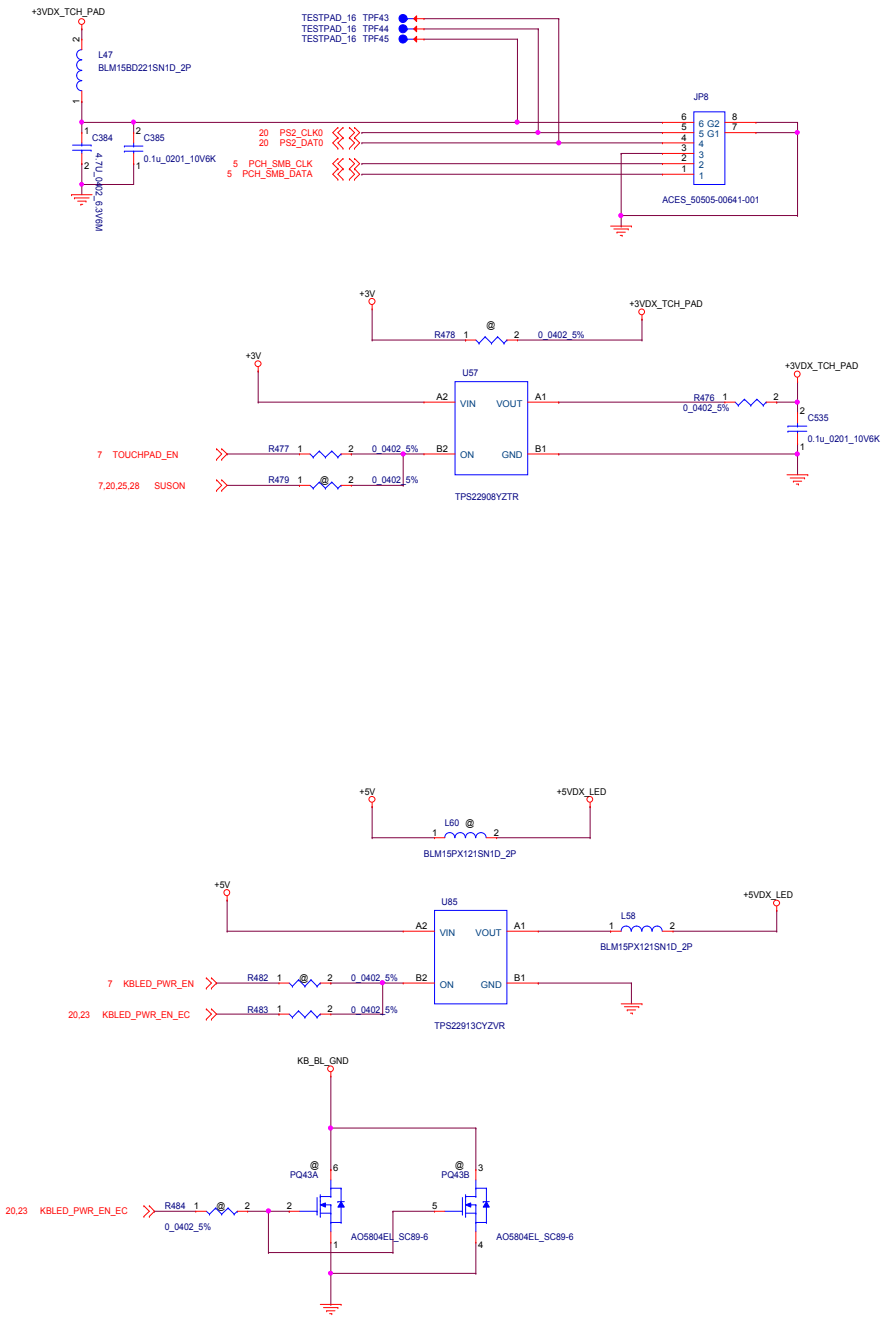

lenovo联想	LENOVO.CRDN	
Title: TP/SWITCH/Thermal		
Size: C	Document Number: Kona	Rev: V1.0
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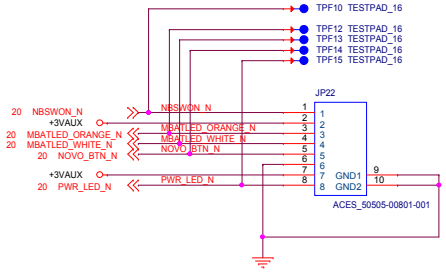

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Title: PWR/LED

Size: C | Document Number: Kona | Rev: V1.0

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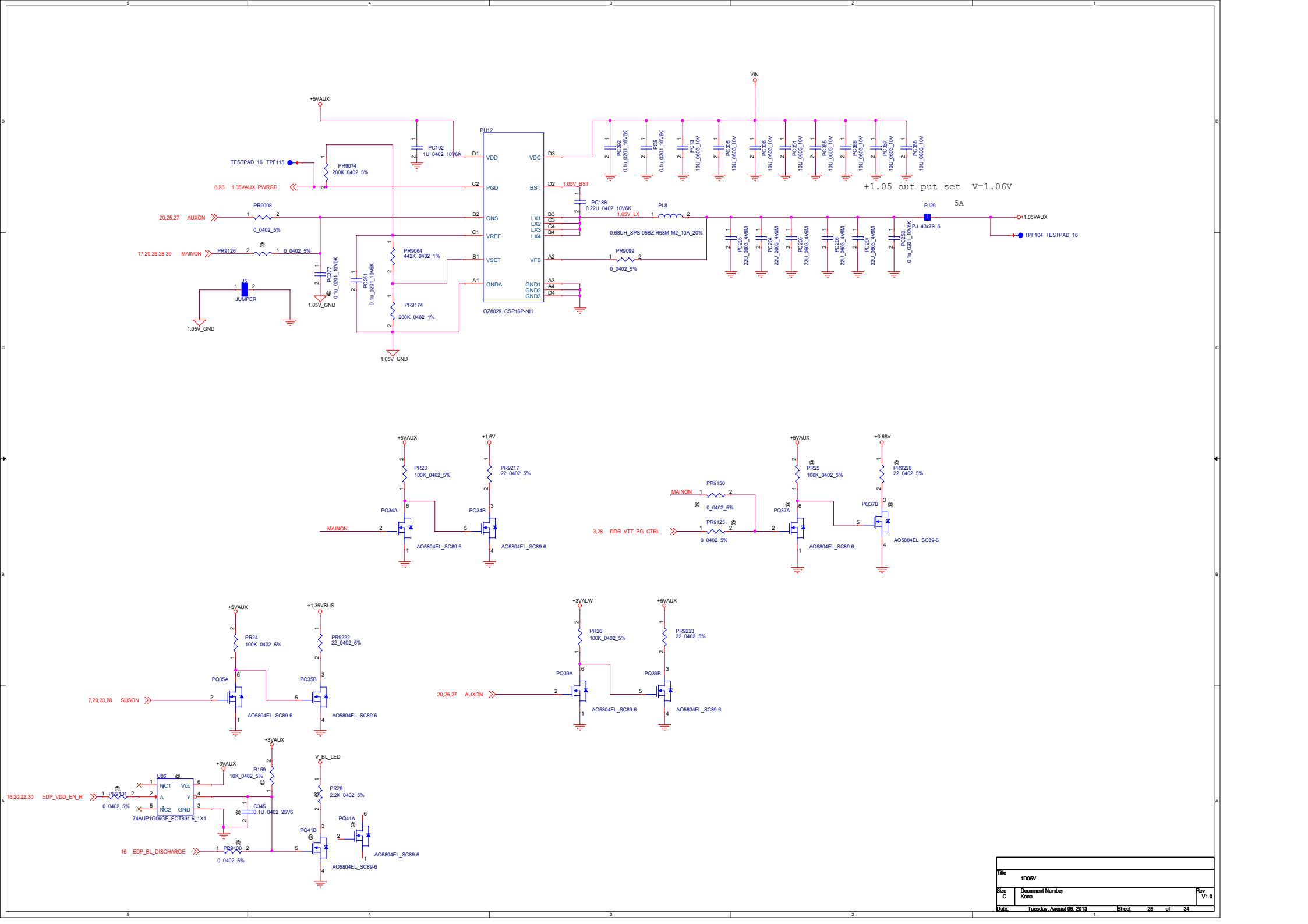
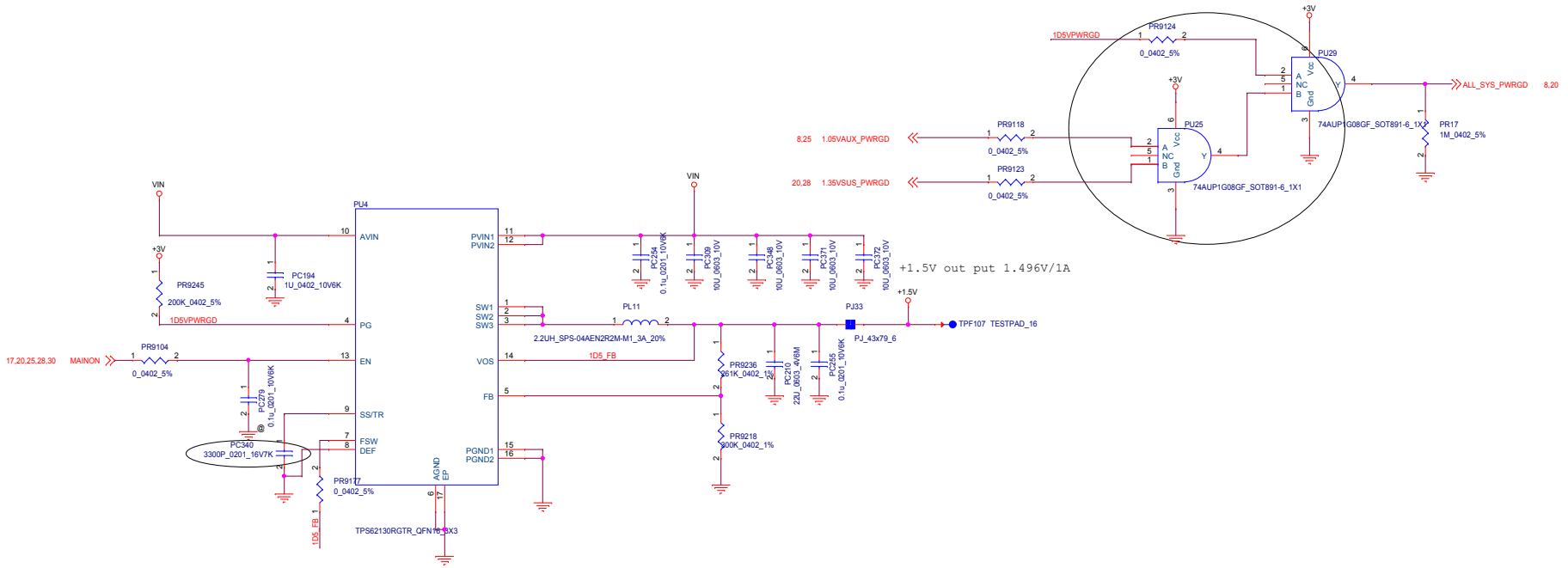


Title	1D05V	
Size C	Document Number Kona	Rev V1.0
Date: Tuesday, August 06, 2013	Sheet 25 of 34	



Title	1D8VSUS/1D5V	
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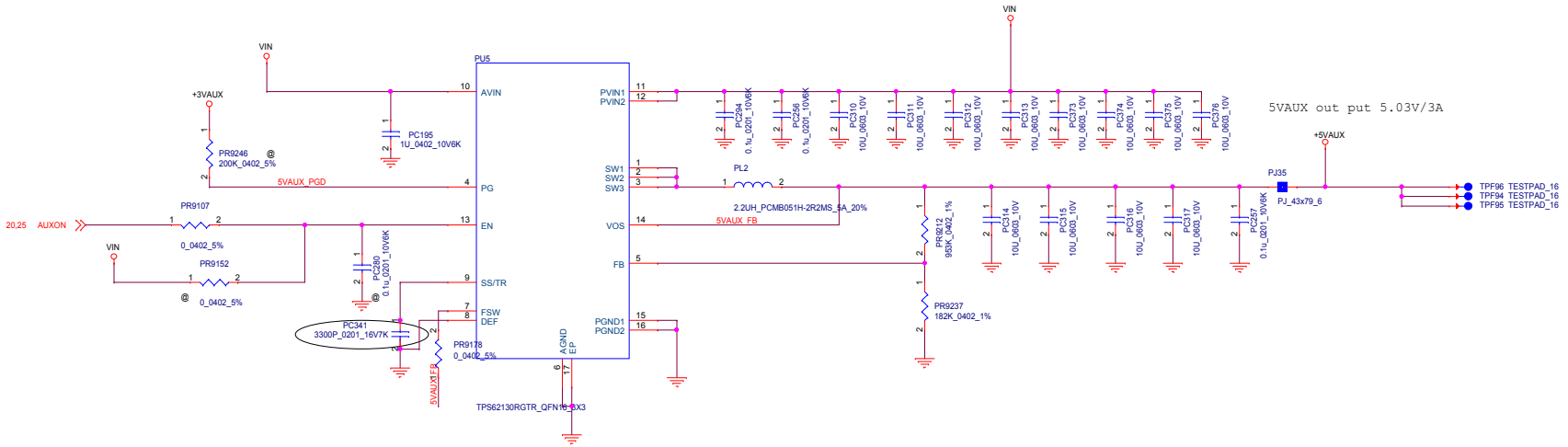

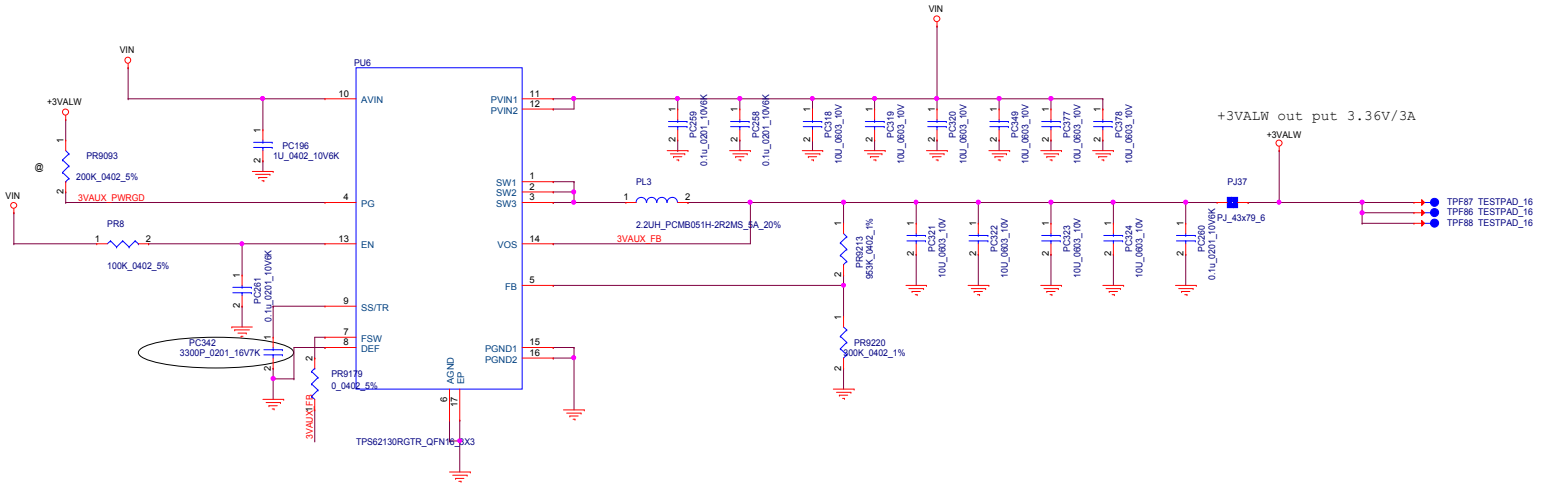

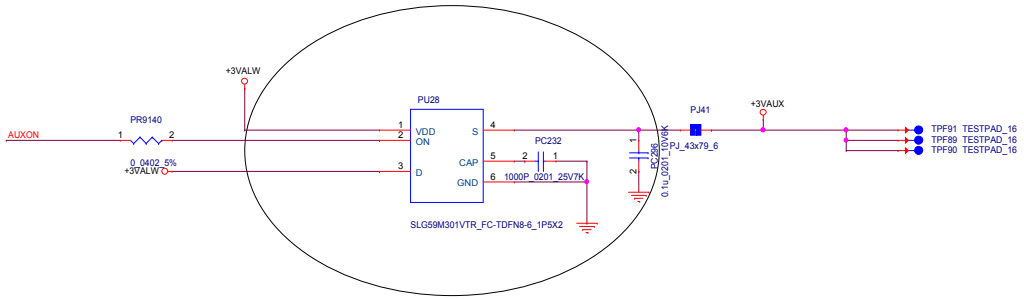

Title	5VAUX/3VAUX/3VALW	
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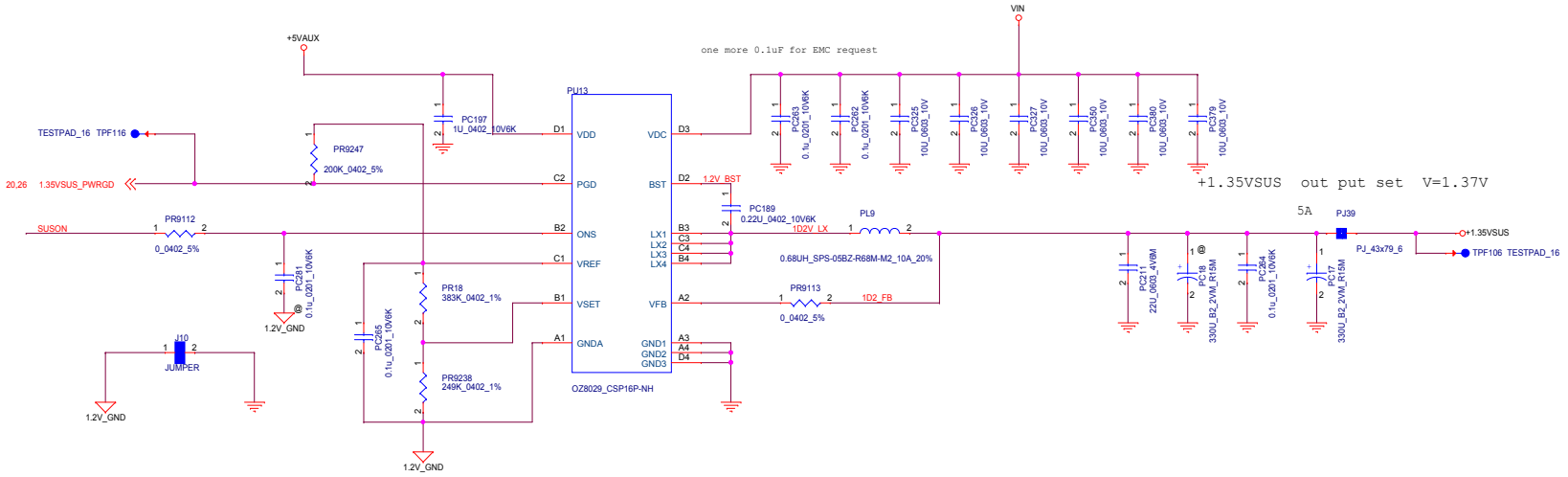

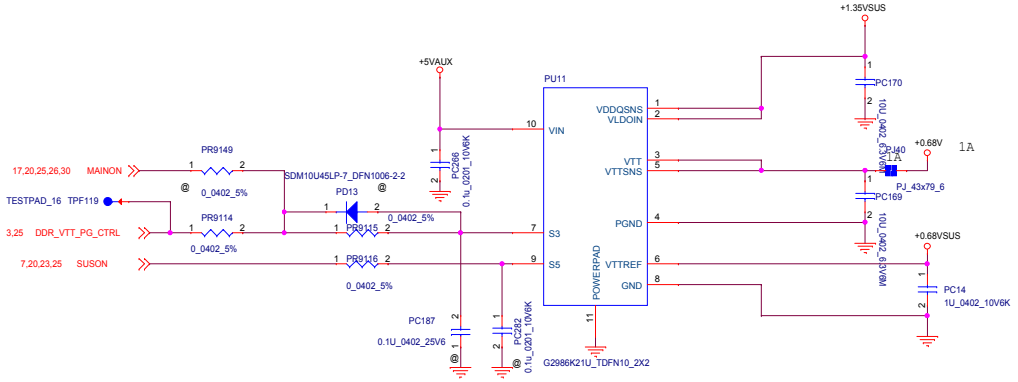

Title	DDR1D2V/0D6V	
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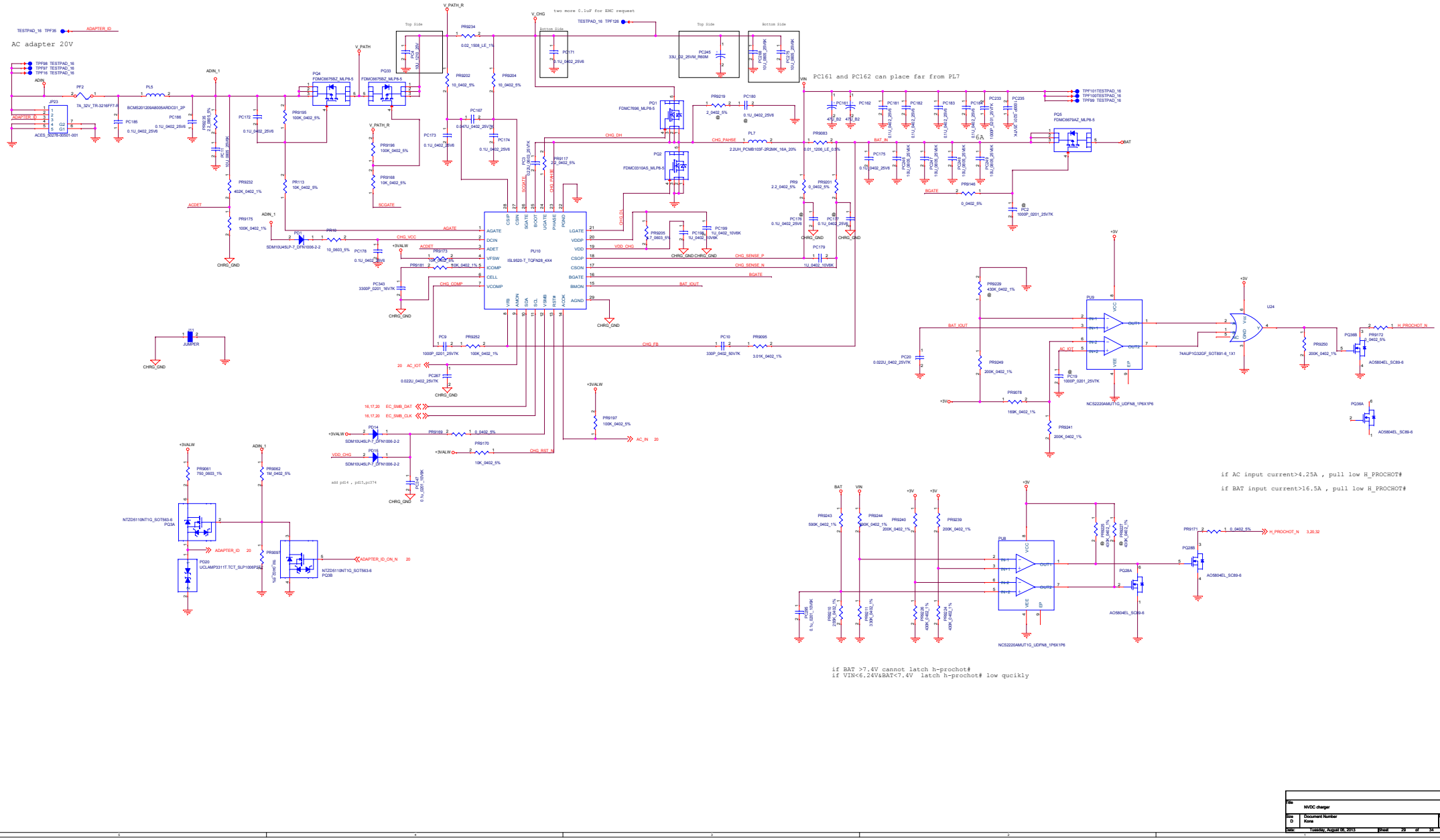
AC adapter 20V
two more 0.1uF for EMC request
PC161 and PC162 can place far from PL7
6A
if AC input current>4.25A , pull low H_PROCHOT#
if BAT input current>16.5A , pull low H_PROCHOT#
if BAT >7.4V cannot latch h-prochot#
if VIN<6.24V&BAT<7.4V latch h-prochot# low qucikly
add pd14 , pd15,pc374
PU10
ISL9520-T_TQFN28_4X4
NCS2220AMUT1G_UDFN8_1P6X1P6
74AUP1G32GF_SOT891-6_1X1
AO5804EL_SC89-6
NTZD5110NT1G_SOT563-6
UCLAMP3311T.TCT_SLP1006P2N
SDM10U45LP-7_DFN1006-2-2
FDMC8675BZ_MLP8-5
FDMC7696_MLP8-5
FDMC8310AS_MLP8-5
FDMC8679AZ_MLP8-5
BCM5201209A8005ARDC01_2P
ACES_50278-00501-001
7A_32V_TR-3216FF7-R
JUMPER
Title
NVDC charger
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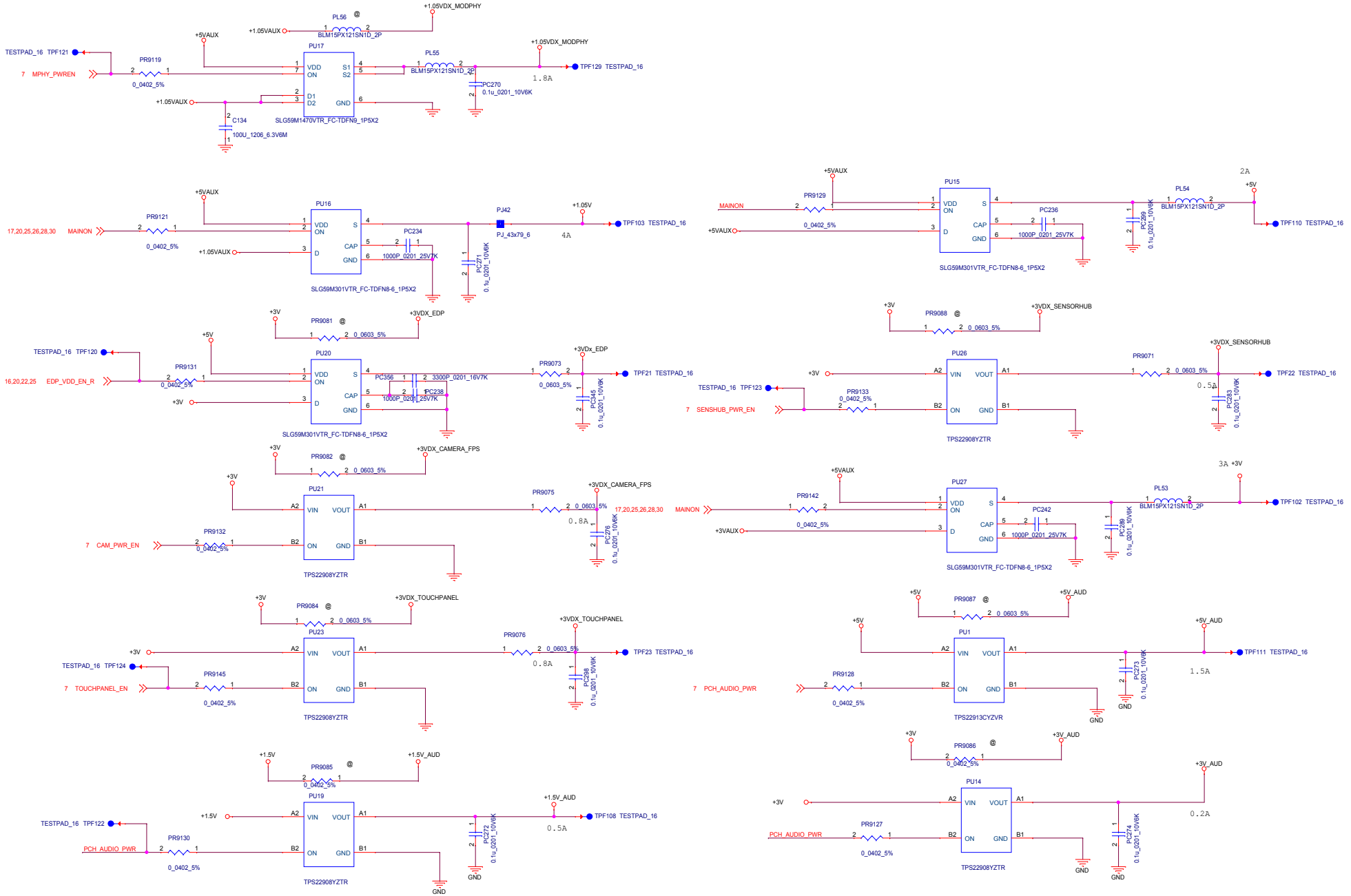

Title	SWITCH POWER	
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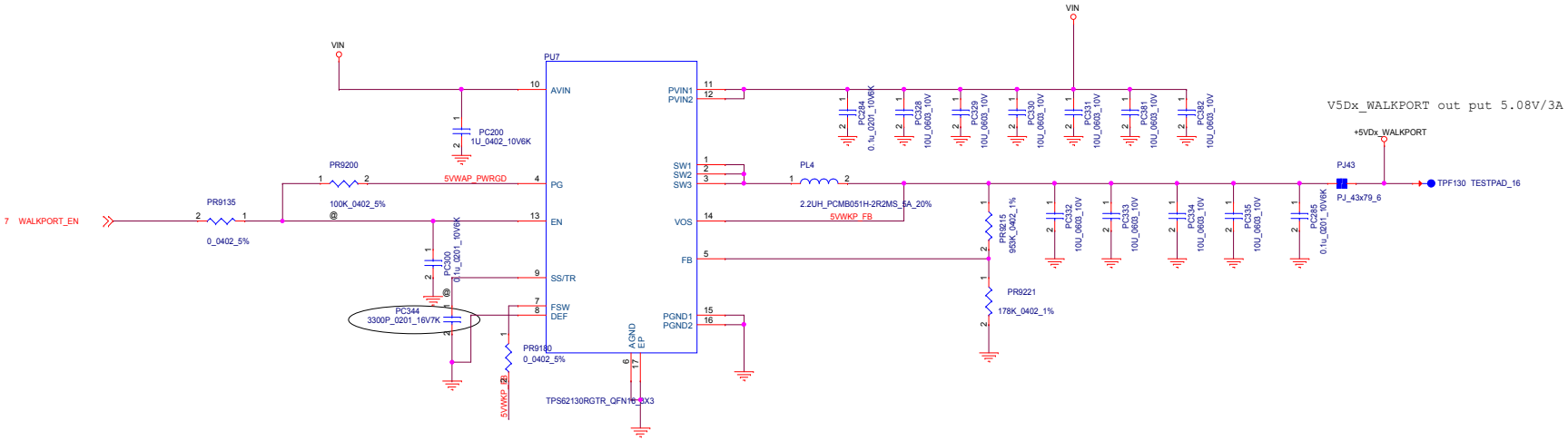

Title	V5Dx_WALKPORT/V3.3Dx_SSD	
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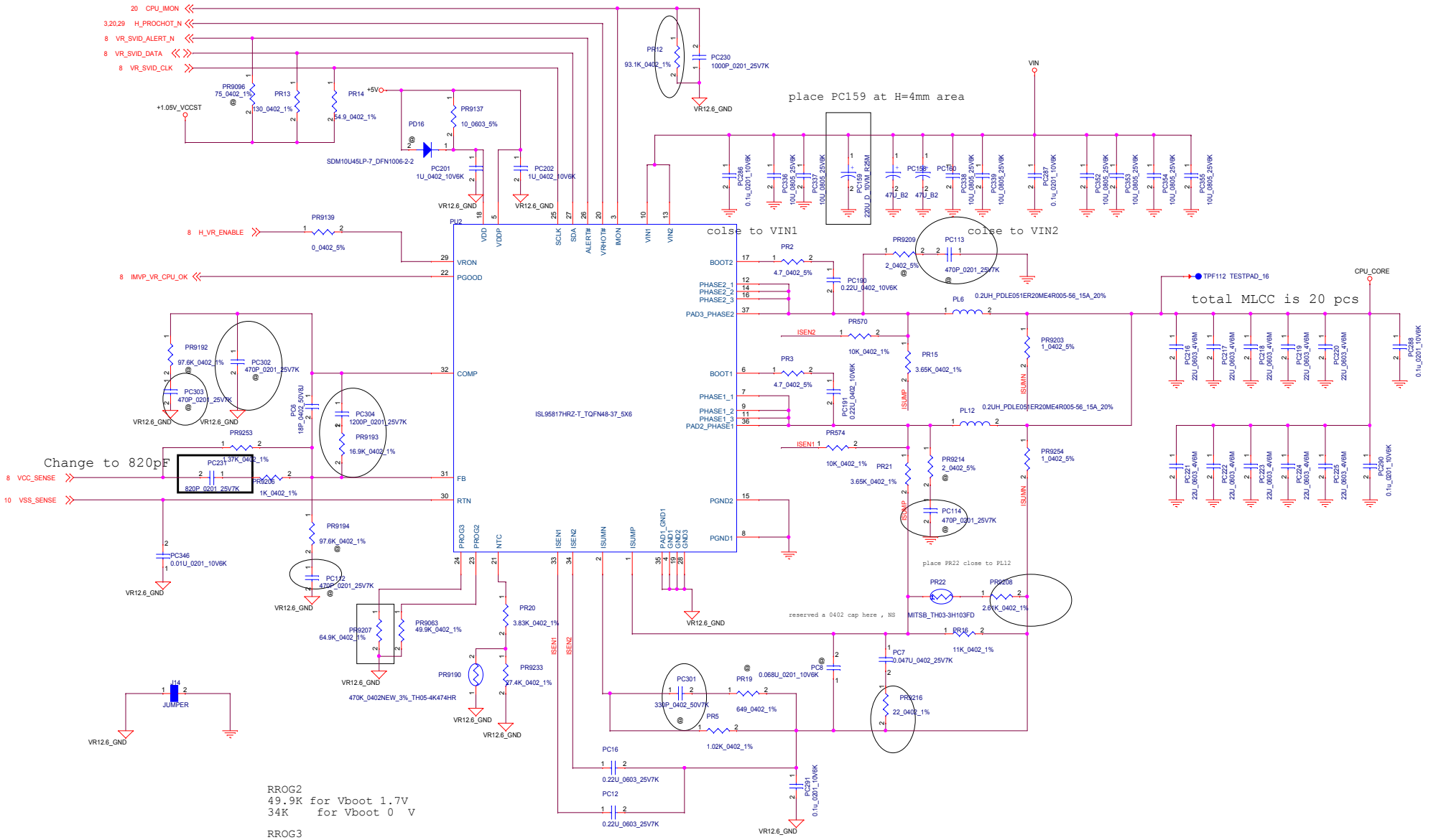

RROG2
49.9K for Vboot 1.7V
34K for Vboot 0 V

RROG3
64.9K for slew rate 53mV/us ,frquency 350/700KHz

Title	VR12.6	
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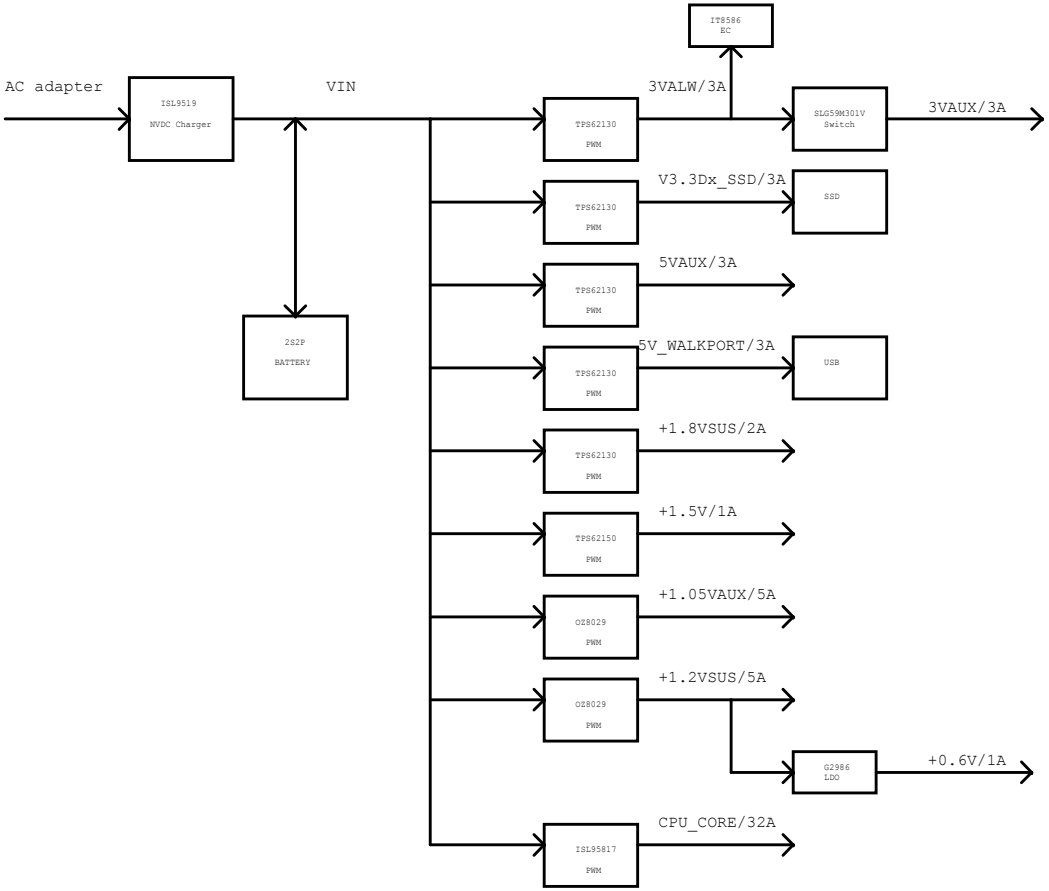

	VCCRTC	VIN	+3VALW	+3VAUX +5VAUX +1.05VAUX	+1.35VSUS +0.68VSUS	+3V/+5V +1.5V/+1.05V +V1.05_VCCST DDR3_VTT CPU_CORE
S0	V	V	V	V	V	V
S3	V	V	V	V	V	X
S4/S5(AC)	V	V	V	V	X	X
S4/S5(DC)	V	V	V	X	X	X
G3	V	X	X	X	X	X

	SUSC# (SLP_S4)	SUSB# (SLP_S3)	+VALW	+VAUX	+VSUS	+V
S0	V	V	V	V	V	V
S3	V	X	V	V	V	X
S4/S5(AC)	X	X	V	V	X	X
S4/S5(DC)	X	X	V	X	X	X
G3	X	X	X	X	X	X

Title	Power Block Diagram	
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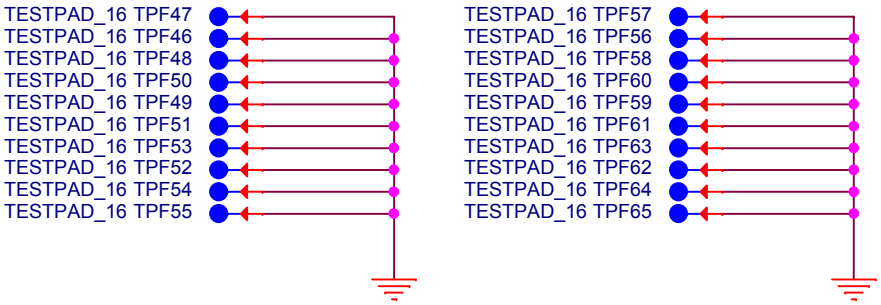
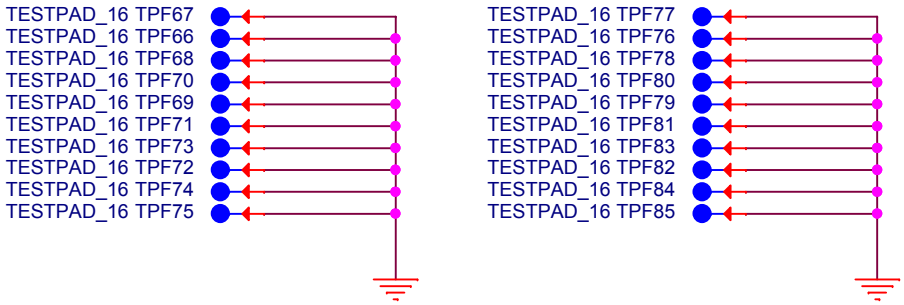
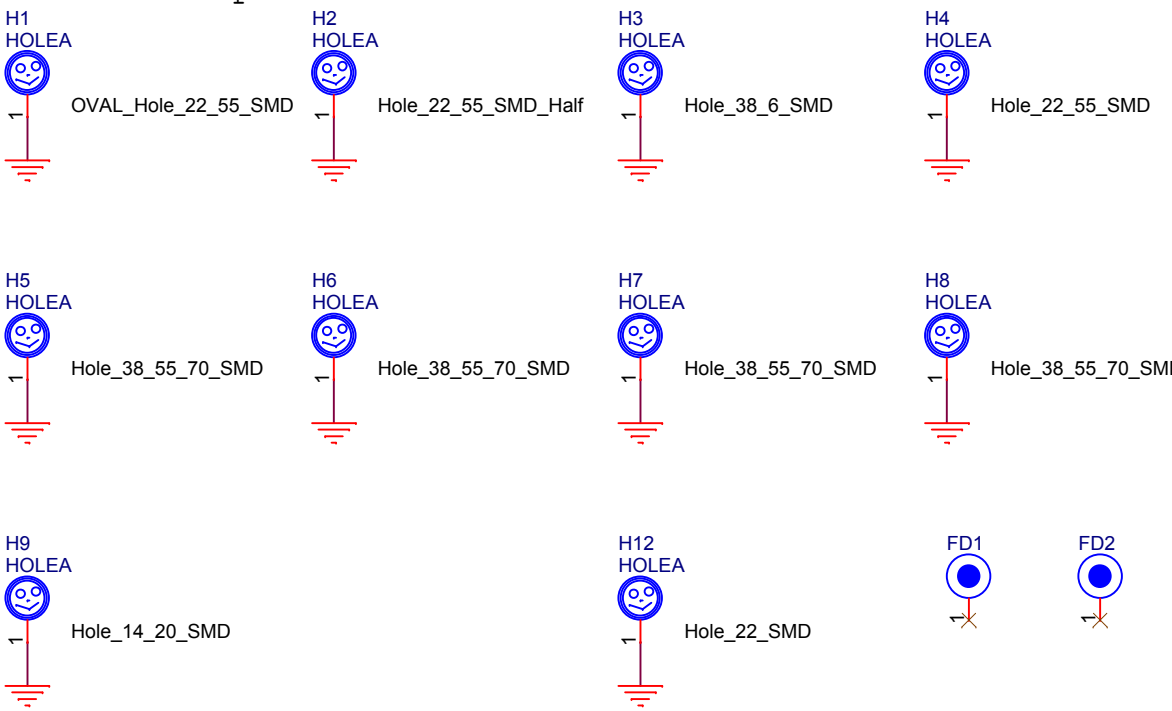


Put these 20 test point to TOP



Put these 20 test point to Bottom



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Title: Mounting Hole/EMI

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