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MS-7995

ITX:170*170

Ver: 11

Intel -SkyLake-S 65W plamform

CPU:

LGA1151
*CPU POWER PAK *3 Phase*
*GT POWER PAK *2 Phase*

System Chipset:

SPT-H :B150 colay H110 colay H170

Onboard Chip:

HD Audio Codec: ALC887
SIO: NCT5563D
Flash ROM: SPI 128 MB or 64MB

PWM:

VCORE - RT3606
DDR - RT8231
PCH(1.0V) - RT8125E
VCCSA - RT8125E

Main Memory:

*DDR4 * 2 (Dual Channel)*

Load Switch:

VCCIO - SLG59M1457V 6A

ACPI:

5VDAUL:uP7501
5VDIMM:uP7501
3VSB:GS7133+PN MOS
3VDSW:GS7133
VCCSTPLL - GS7133

Expansion Slots:

*PCI Express (X16) Slot * 1*

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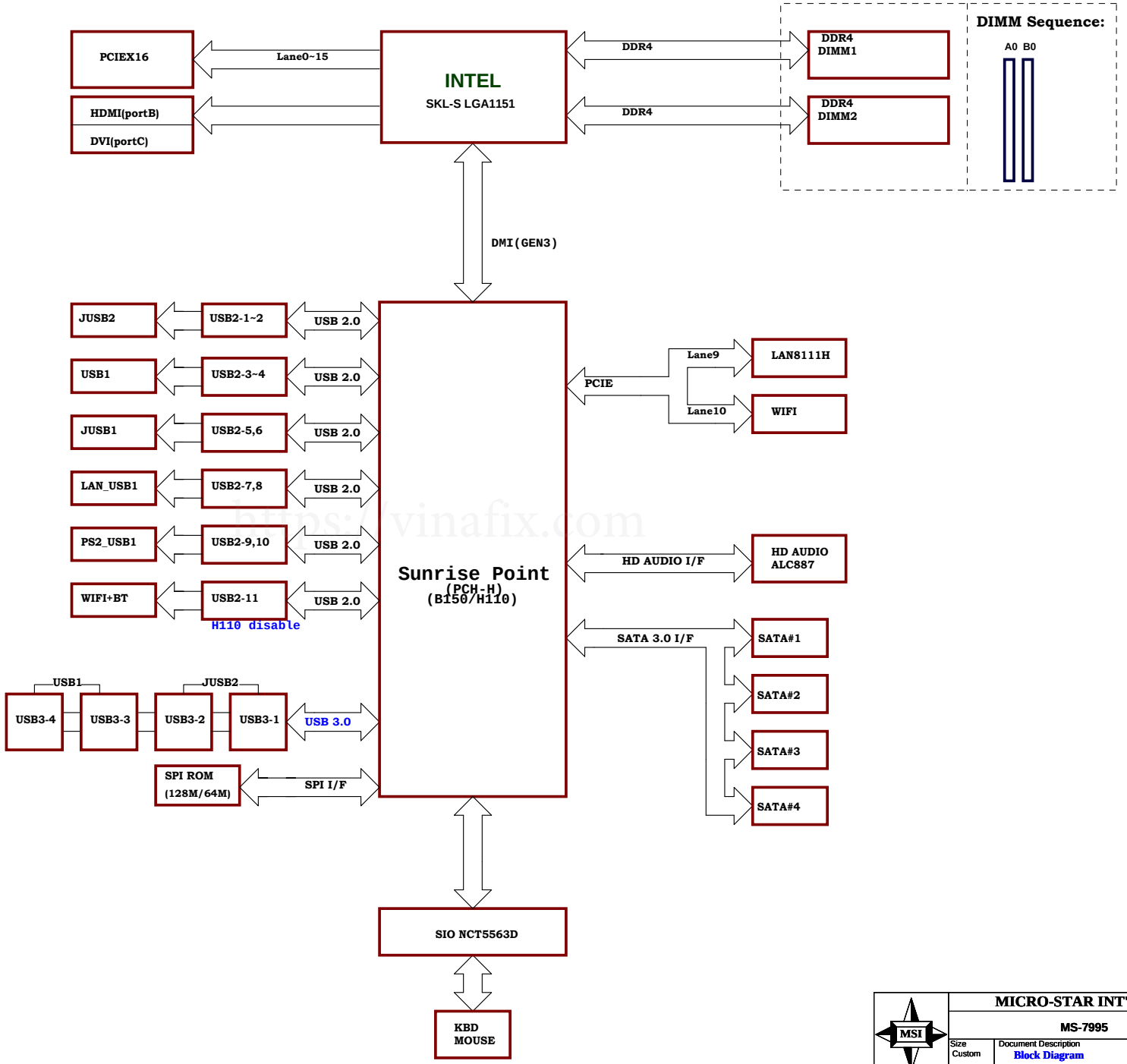
MS-7995 Block Diagram



Slot Sequence:

PCIE X16 (By CPU GEN3)

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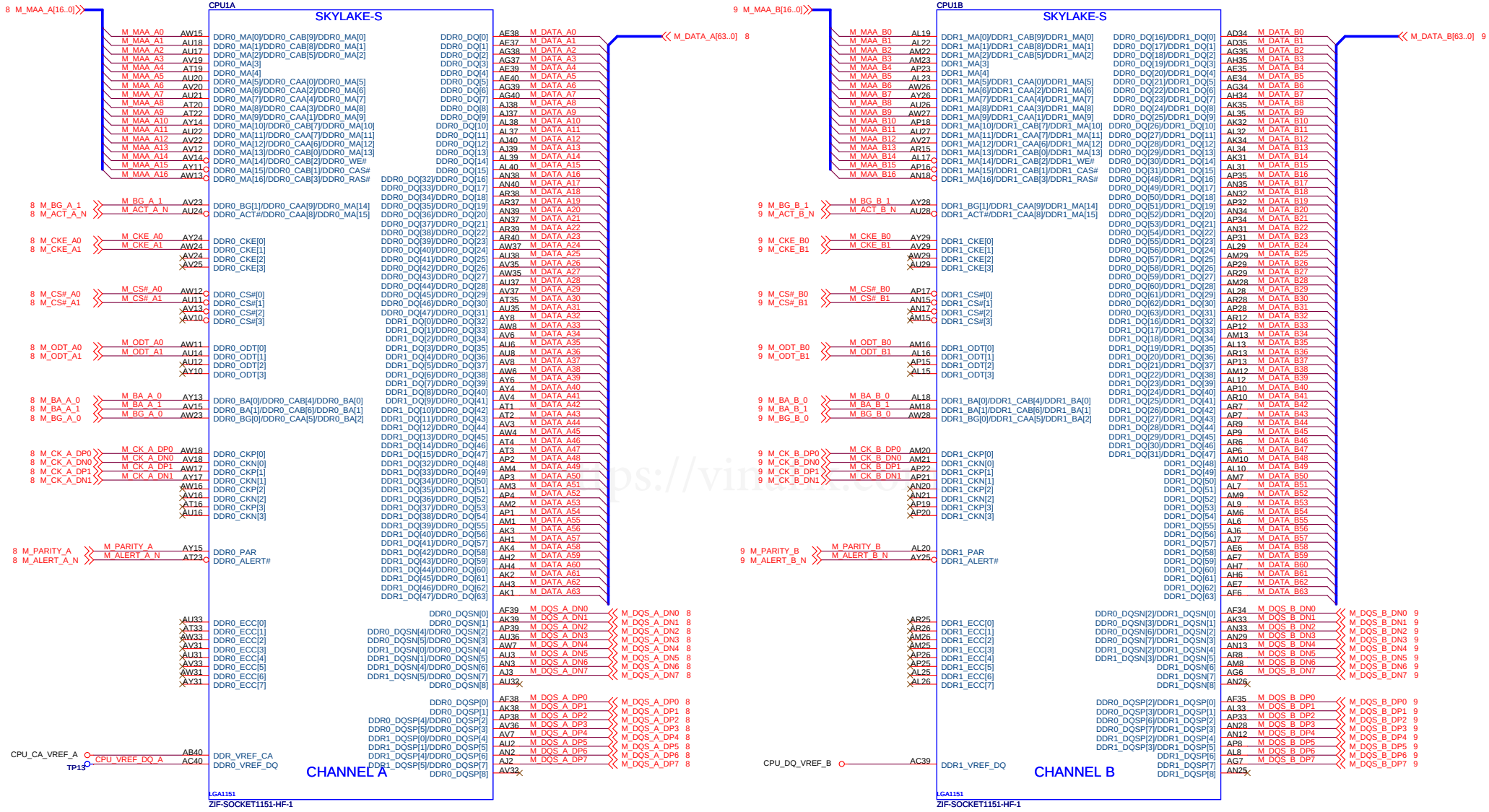
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M_MAA_A0 AW15
M_MAA_A1 AU18
M_MAA_A2 AU17
M_MAA_A3 AV19
M_MAA_A4 AT19
M_MAA_A5 AU20
M_MAA_A6 AV20
M_MAA_A7 AU21
M_MAA_A8 AT20
M_MAA_A9 AT22
M_MAA_A10 AY14
M_MAA_A11 AU22
M_MAA_A12 AV22
M_MAA_A13 AV12
M_MAA_A14 AV14
M_MAA_A15 AY11
M_MAA_A16 AW13
DDR0_MA[0]/DDR0_CAB[9]/DDR0_MA[0]
DDR0_MA[1]/DDR0_CAB[8]/DDR0_MA[1]
DDR0_MA[2]/DDR0_CAB[5]/DDR0_MA[2]
DDR0_MA[3]
DDR0_MA[4]
DDR0_MA[5]/DDR0_CAA[0]/DDR0_MA[5]
DDR0_MA[6]/DDR0_CAA[2]/DDR0_MA[6]
DDR0_MA[7]/DDR0_CAA[4]/DDR0_MA[7]
DDR0_MA[8]/DDR0_CAA[3]/DDR0_MA[8]
DDR0_MA[9]/DDR0_CAA[1]/DDR0_MA[9]
DDR0_MA[10]/DDR0_CAB[7]/DDR0_MA[10]
DDR0_MA[11]/DDR0_CAA[7]/DDR0_MA[11]
DDR0_MA[12]/DDR0_CAA[6]/DDR0_MA[12]
DDR0_MA[13]/DDR0_CAB[0]/DDR0_MA[13]
DDR0_MA[14]/DDR0_CAB[2]/DDR0_WE#
DDR0_MA[15]/DDR0_CAB[1]/DDR0_CAS#
DDR0_MA[16]/DDR0_CAB[3]/DDR0_RAS#
8 M_BG_A_1
8 M_ACT_A_N
M_BG_A_1 AV23
M_ACT_A_N AU24
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DDR0_ACT#/DDR0_CAA[8]/DDR0_MA[15]
8 M_CKE_A0
8 M_CKE_A1
M_CKE_A0 AY24
M_CKE_A1 AW24
AV24
AV25
DDR0_CKE[0]
DDR0_CKE[1]
DDR0_CKE[2]
DDR0_CKE[3]
8 M_CS#_A0
8 M_CS#_A1
M_CS#_A0 AW12
M_CS#_A1 AU11
AV13
AV10
DDR0_CS#[0]
DDR0_CS#[1]
DDR0_CS#[2]
DDR0_CS#[3]
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8 M_ODT_A1
M_ODT_A0 AW11
M_ODT_A1 AU14
AU12
AY10
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DDR0_ODT[1]
DDR0_ODT[2]
DDR0_ODT[3]
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8 M_BA_A_1
8 M_BG_A_0
M_BA_A_0 AY13
M_BA_A_1 AV15
M_BG_A_0 AW23
DDR0_BA[0]/DDR0_CAB[4]/DDR0_BA[0]
DDR0_BA[1]/DDR0_CAB[6]/DDR0_BA[1]
DDR0_BG[0]/DDR0_CAA[5]/DDR0_BA[2]
8 M_CK_A_DP0
8 M_CK_A_DN0
8 M_CK_A_DP1
8 M_CK_A_DN1
M_CK_A_DP0 AW18
M_CK_A_DN0 AV18
M_CK_A_DP1 AW17
M_CK_A_DN1 AY17
AW16
AV16
AT16
AU16
DDR0_CKP[0]
DDR0_CKN[0]
DDR0_CKP[1]
DDR0_CKN[1]
DDR0_CKP[2]
DDR0_CKN[2]
DDR0_CKP[3]
DDR0_CKN[3]
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8 M_ALERT_A_N
M_PARITY_A AY15
M_ALERT_A_N AT23
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DDR0_ALERT#
AU33
AT33
AW33
AV31
AU31
AV33
AW31
AY31
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DDR0_ECC[2]
DDR0_ECC[3]
DDR0_ECC[4]
DDR0_ECC[5]
DDR0_ECC[6]
DDR0_ECC[7]
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AB40
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DDR0_VREF_DQ
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DDR0_DQ[5] AE40
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DDR0_DQ[7] AG40
DDR0_DQ[8] AJ38
DDR0_DQ[9] AJ37
DDR0_DQ[10] AL38
DDR0_DQ[11] AL37
DDR0_DQ[12] AJ40
DDR0_DQ[13] AJ39
DDR0_DQ[14] AL39
DDR0_DQ[15] AL40
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DDR0_DQ[41]/DDR0_DQ[25] AU38
DDR0_DQ[42]/DDR0_DQ[26] AV35
DDR0_DQ[43]/DDR0_DQ[27] AW35
DDR0_DQ[44]/DDR0_DQ[28] AU37
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DDR0_DQSN[5] AU3
DDR0_DQSN[6] AN3
DDR0_DQSN[7] AJ3
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M_DQS_A_DN6 8
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DDR0_DQSP[6] AN2
DDR0_DQSP[7] AJ2
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SKYLAKE-S
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M_MAA_B9 AW27
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M_MAA_B12 AV27
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M_MAA_B16 AN18
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DDR1_MA[4]
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DDR1_MA[16]/DDR1_CAB[3]/DDR1_RAS#
9 M_BG_B_1
9 M_ACT_B_N
M_BG_B_1 AY28
M_ACT_B_N AU28
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9 M_CKE_B0
9 M_CKE_B1
M_CKE_B0 AY29
M_CKE_B1 AV29
AW29
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9 M_CS#_B1
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M_CS#_B1 AN15
AN17
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AP25
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AL26
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DDR0_DQ[55]/DDR1_DQ[23] AP31
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DDR0_DQ[61]/DDR1_DQ[29] AL28
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DDR1_DQ[17]/DDR1_DQ[33] AP12
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DDR1_DQ[19]/DDR1_DQ[35] AL13
DDR1_DQ[20]/DDR1_DQ[36] AR13
DDR1_DQ[21]/DDR1_DQ[37] AP13
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DDR1_DQ[23]/DDR1_DQ[39] AL12
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DDR1_DQ[30]/DDR1_DQ[46] AR6
DDR1_DQ[31]/DDR1_DQ[47] AP6
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DDR1_DQ[49] AL10
DDR1_DQ[50] AM7
DDR1_DQ[51] AL7
DDR1_DQ[52] AM9
DDR1_DQ[53] AL9
DDR1_DQ[54] AM6
DDR1_DQ[55] AL6
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DDR1_DQSN[6] AM8
DDR1_DQSN[7] AG6
DDR1_DQSN[8] AN26
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M_DQS_B_DN1 9
M_DQS_B_DN2 9
M_DQS_B_DN3 9
M_DQS_B_DN4 9
M_DQS_B_DN5 9
M_DQS_B_DN6 9
M_DQS_B_DN7 9
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DDR0_DQSP[3]/DDR1_DQSP[1] AL33
DDR0_DQSP[6]/DDR1_DQSP[2] AP33
DDR0_DQSP[7]/DDR1_DQSP[3] AN28
DDR1_DQSP[2]/DDR1_DQSP[4] AN12
DDR1_DQSP[3]/DDR1_DQSP[5] AP8
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DDR1_DQSP[7] AG7
DDR1_DQSP[8] AN25
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M_DQS_B_DP2 9
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M_DQS_B_DP7 9
CHANNEL B
LGA1151
ZIF-SOCKET1151-HF-1
MICRO-STAR INT'L CO.,LTD
MS-7995
Size Custom
Document Description CPU-Memory
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Date: Monday, November 09, 2015
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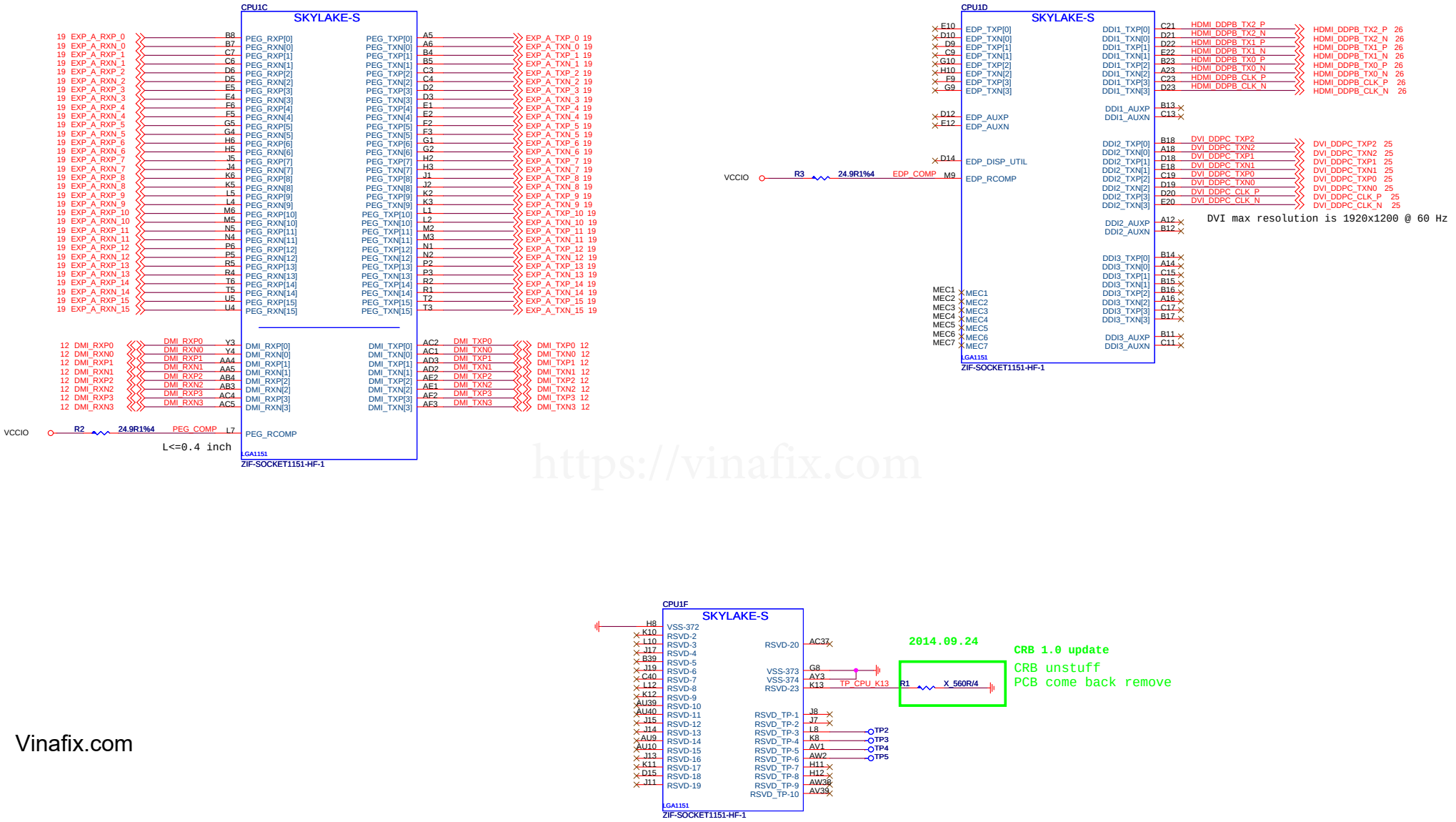

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MS-7995		
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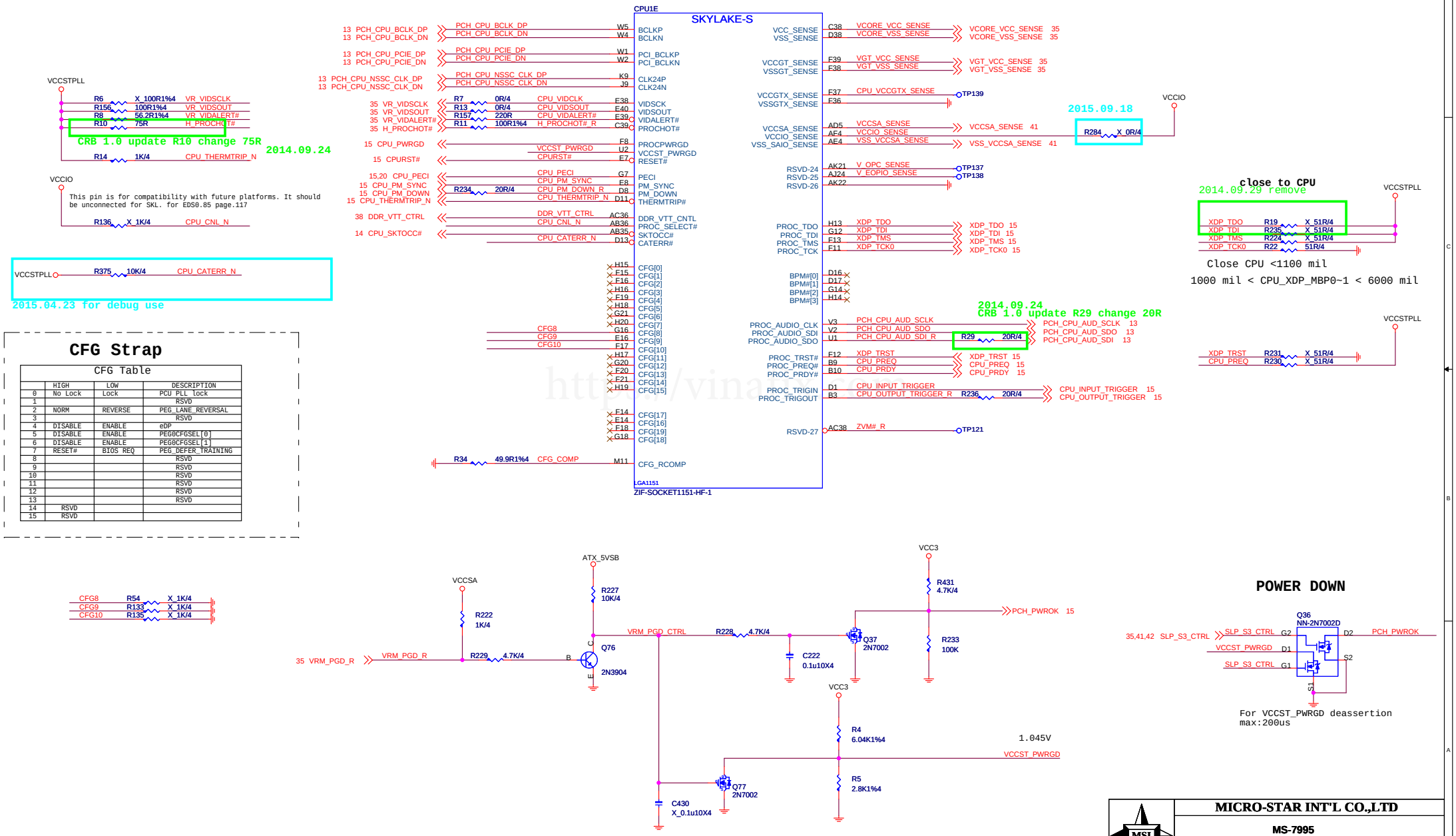
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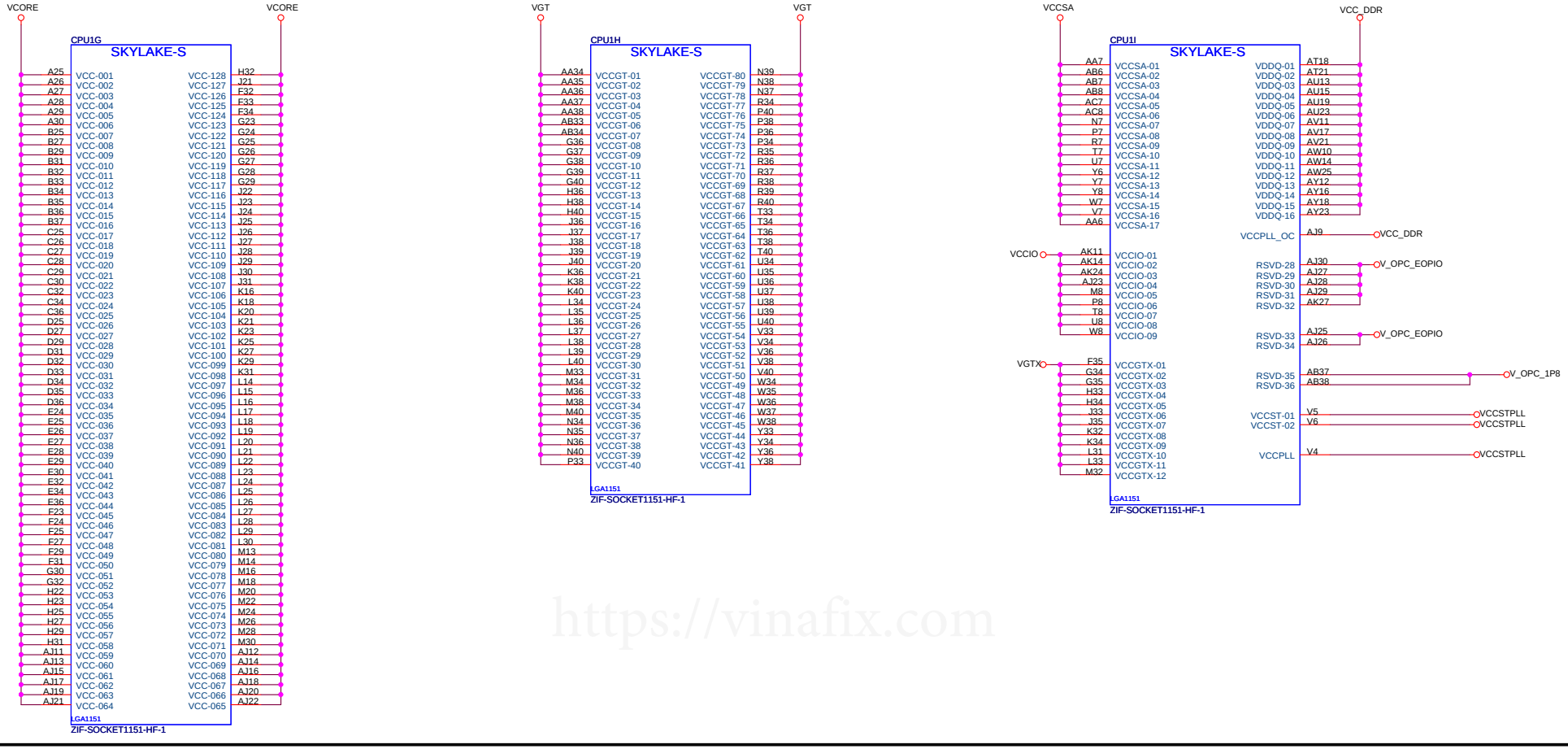
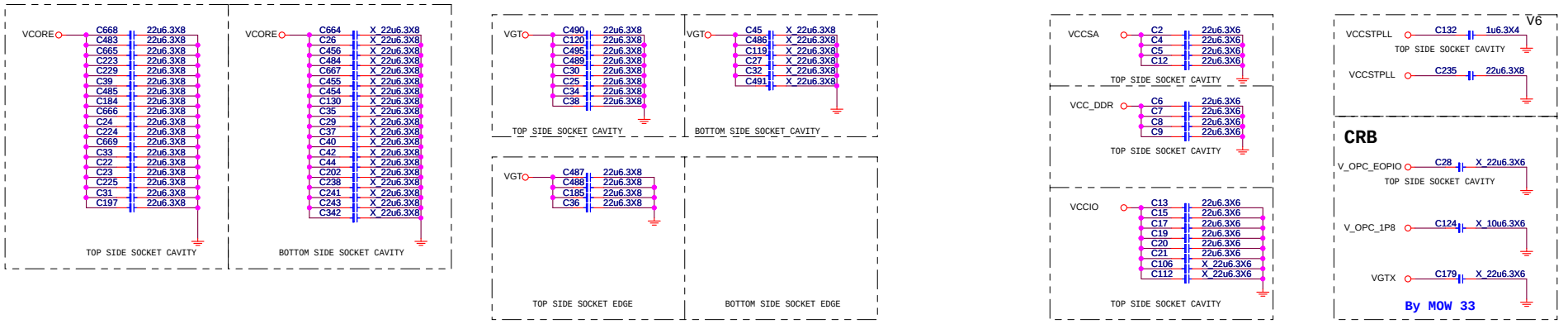
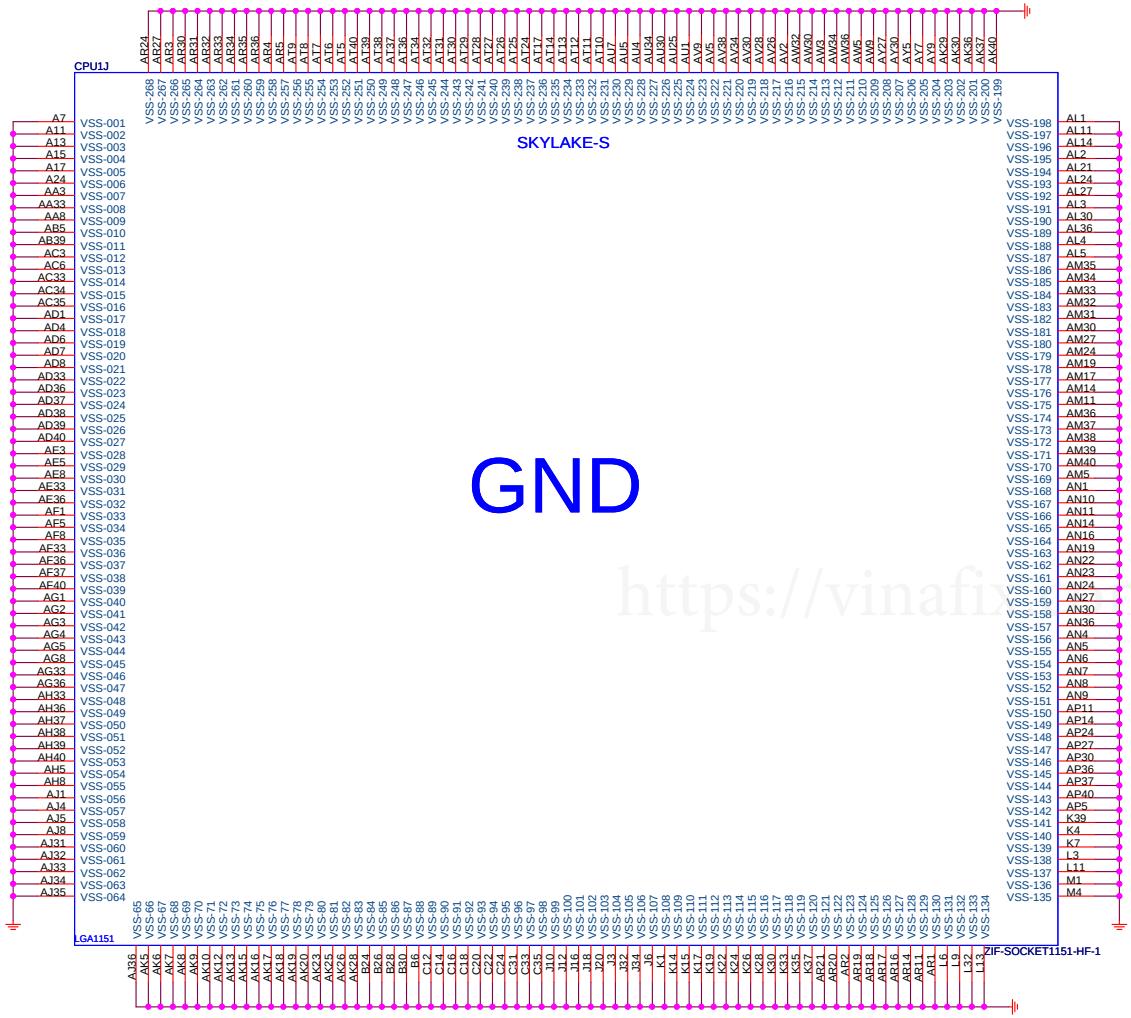
VCCSTPLL
VCCIO
R6 X_100R1%4 VR_VIDSCLK
R156 100R1%4 VR_VIDSOUT
R8 56.2R1%4 VR_VIDALERT#
R10 75R H_PROCHOT#
CRB 1.0 update R10 change 75R
2014.09.24
R14 1K/4 CPU_THERMTRIP_N
This pin is for compatibility with future platforms. It should be unconnected for SKL. for EDS0.85 page.117
R136 X_1K/4 CPU_CNL_N
R375 10K/4 CPU_CATERR_N
2015.04.23 for debug use
PCH_CPU_BCLK_DP
PCH_CPU_BCLK_DN
PCH_CPU_PCIE_DP
PCH_CPU_PCIE_DN
PCH_CPU_NSSC_CLK_DP
PCH_CPU_NSSC_CLK_DN
VR_VIDSCLK
VR_VIDSOUT
VR_VIDALERT#
H_PROCHOT#
CPU_PWRGD
CPURST#
CPU_PECI
CPU_PM_SYNC
CPU_PM_DOWN_R
CPU_THERMTRIP_N
DDR_VTT_CTRL
CPU_CNL_N
SKTOCC#
CPU_CATERR_N
R234 20R/4
CFG[0]
CFG[1]
CFG[2]
CFG[3]
CFG[4]
CFG[5]
CFG[6]
CFG[7]
CFG[8]
CFG[9]
CFG[10]
CFG[11]
CFG[12]
CFG[13]
CFG[14]
CFG[15]
CFG[16]
CFG[17]
CFG[18]
CFG[19]
R34 49.9R1%4 CFG_COMP
VCC_SENSE
VSS_SENSE
VCCGT_SENSE
VSSGT_SENSE
VCCGTX_SENSE
VSSGTX_SENSE
VCCSA_SENSE
VCCIO_SENSE
VSS_SAIO_SENSE
RSVD-24
RSVD-25
RSVD-26
RSVD-27
VCORE_VCC_SENSE
VCORE_VSS_SENSE
VGT_VCC_SENSE
VGT_VSS_SENSE
CPU_VCCGTX_SENSE
V_OPC_SENSE
V_EOPIO_SENSE
ZVM# R
TP139
TP137
TP138
TP121
2015.09.18
R284 X_0R/4
XDP_TDO
XDP_TDI
XDP_TMS
XDP_TCK0
XDP_TRST
CPU_PREQ
CPU_PRDY
CPU_INPUT_TRIGGER
CPU_OUTPUT_TRIGGER
R236 20R/4
close to CPU
2014.09.29 remove
R19 X_51R/4
R235 X_51R/4
R224 X_51R/4
R22 51R/4
Close CPU <1100 mil
1000 mil < CPU_XDP_MBP0~1 < 6000 mil
2014.09.24
CRB 1.0 update R29 change 20R
PROC_AUDIO_CLK
PROC_AUDIO_SDI
PROC_AUDIO_SDO
PCH_CPU_AUD_SCLK
PCH_CPU_AUD_SDO
PCH_CPU_AUD_SDI
R29 20R/4
PROC_TRST#
PROC_PREQ#
PROC_PRDY#
PROC_TRIGIN
PROC_TRIGOUT
R231 X_51R/4
R230 X_51R/4
CFG Strap
CFG Table
HIGH LOW DESCRIPTION
0 No Lock Lock PCU PLL lock
1 RSVD
2 NORM REVERSE PEG_LANE_REVERSAL
3 RSVD
4 DISABLE ENABLE eDP
5 DISABLE ENABLE PEG0CFGSEL[0]
6 DISABLE ENABLE PEG0CFGSEL[1]
7 RESET# BIOS REQ PEG_DEFER_TRAINING
8 RSVD
9 RSVD
10 RSVD
11 RSVD
12 RSVD
13 RSVD
14 RSVD
15 RSVD
CFG8 R54 X_1K/4
CFG9 R133 X_1K/4
CFG10 R135 X_1K/4
ATX_5VSB
VCCSA
VCC3
R222 1K/4
R227 10K/4
R228 4.7K/4
R229 4.7K/4
R431 4.7K/4
R233 100K
VRM_PGD_CTRL
VRM_PGD_R
35 VRM_PGD_R
Q76 2N3904
Q37 2N7002
C222 0.1u10X4
PCH_PWROK 15
R4 6.04K1%4
R5 2.8K1%4
1.045V
VCCST_PWRGD
Q77 2N7002
C430 X_0.1u10X4
POWER DOWN
Q36 NN-2N7002D
35,41,42 SLP_S3_CTRL
VCCST_PWRGD
For VCCST_PWRGD deassertion
max:200us
MICRO-STAR INT'L CO.,LTD
MS-7995
Size Custom
Document Description
CPU-Control/MISC/CFG/Audio
Rev 11
Date: Monday, November 09, 2015
Sheet 5 of 50

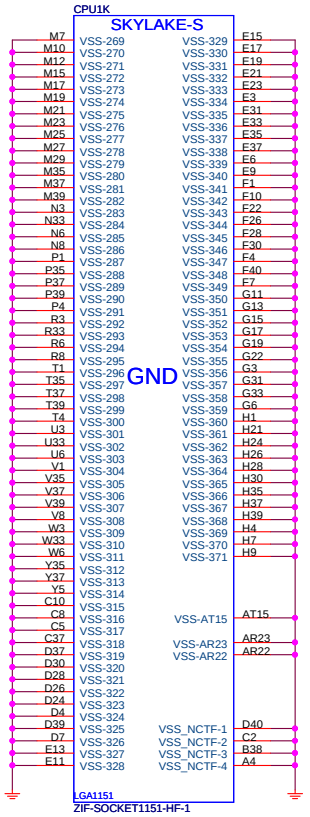


CAP

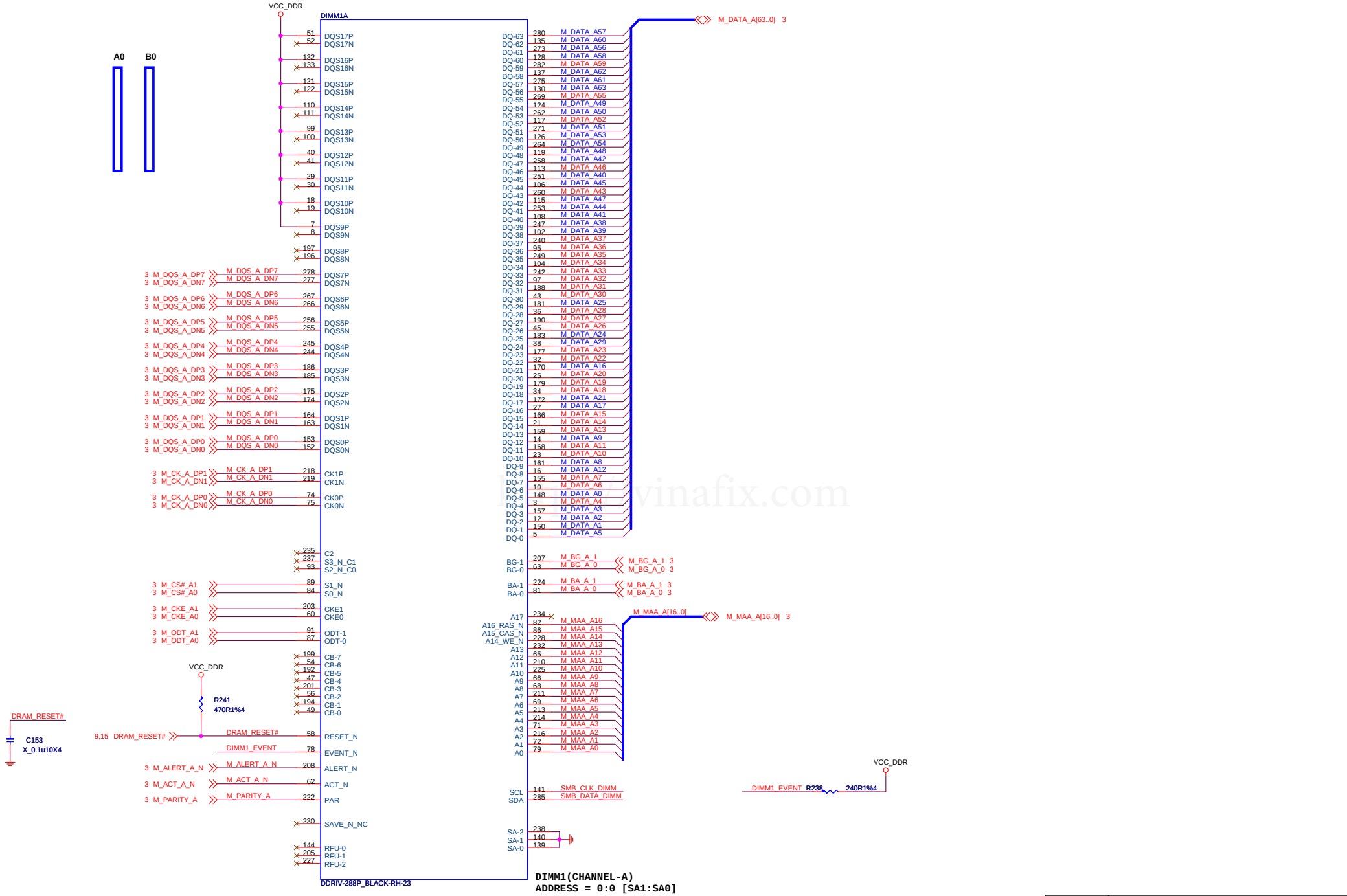


MICRO-STAR INT'L CO.,LTD		
MS-7995		
Size: Custom	Document Description: CPU-Power	Rev: 11
Date: Monday, November 09, 2015	Sheet 6 of 50	

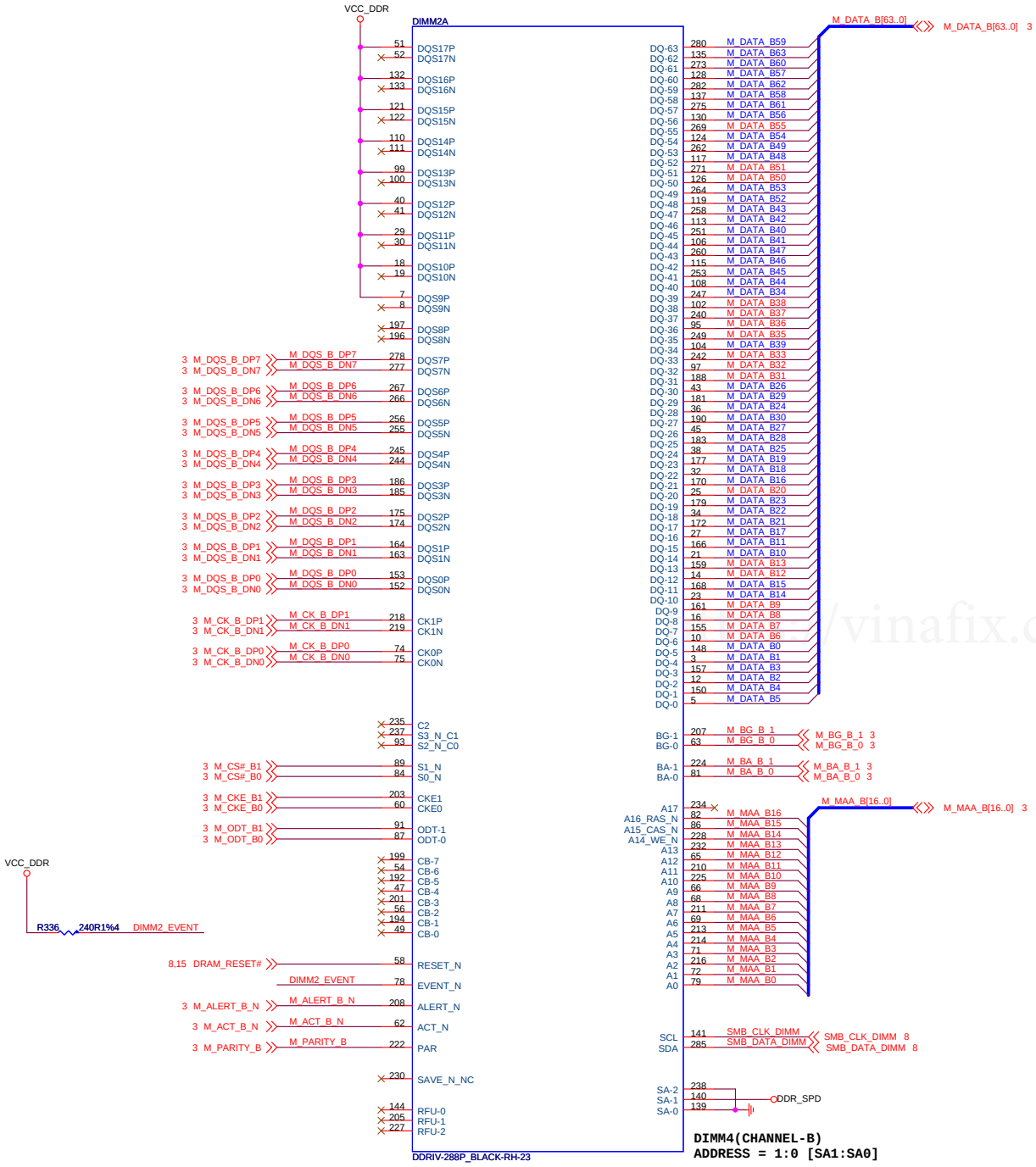




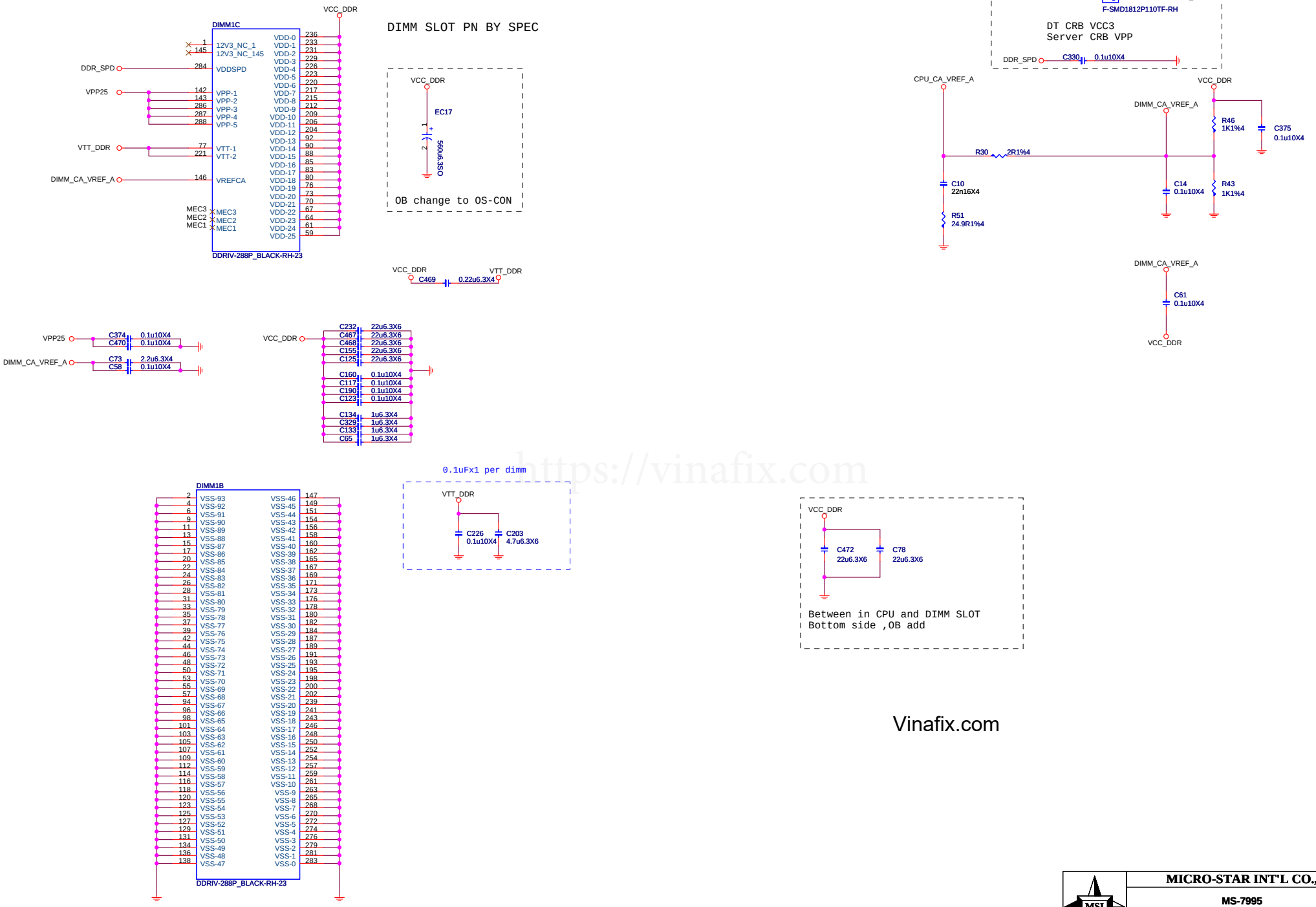
MICRO-STAR INT'L CO.,LTD		
MS-7995		
Size: Custom	Document Description: CPU-GND	Rev: 11
Date: Monday, November 09, 2015	Sheet 7 of 50	



MICRO-STAR INT'L CO.,LTD	
MS-7995	
Size: Custom	Document Description: DDR4 DIMM 1
Rev: 11	
Date: Monday, November 09, 2015	Sheet 8 of 50



MICRO-STAR INT'L CO.,LTD	
MS-7995	
Size: Custom	Document Description: DDR4 DIMM 2
Rev: 11	
Date: Monday, November 09, 2015	Sheet 9 of 50



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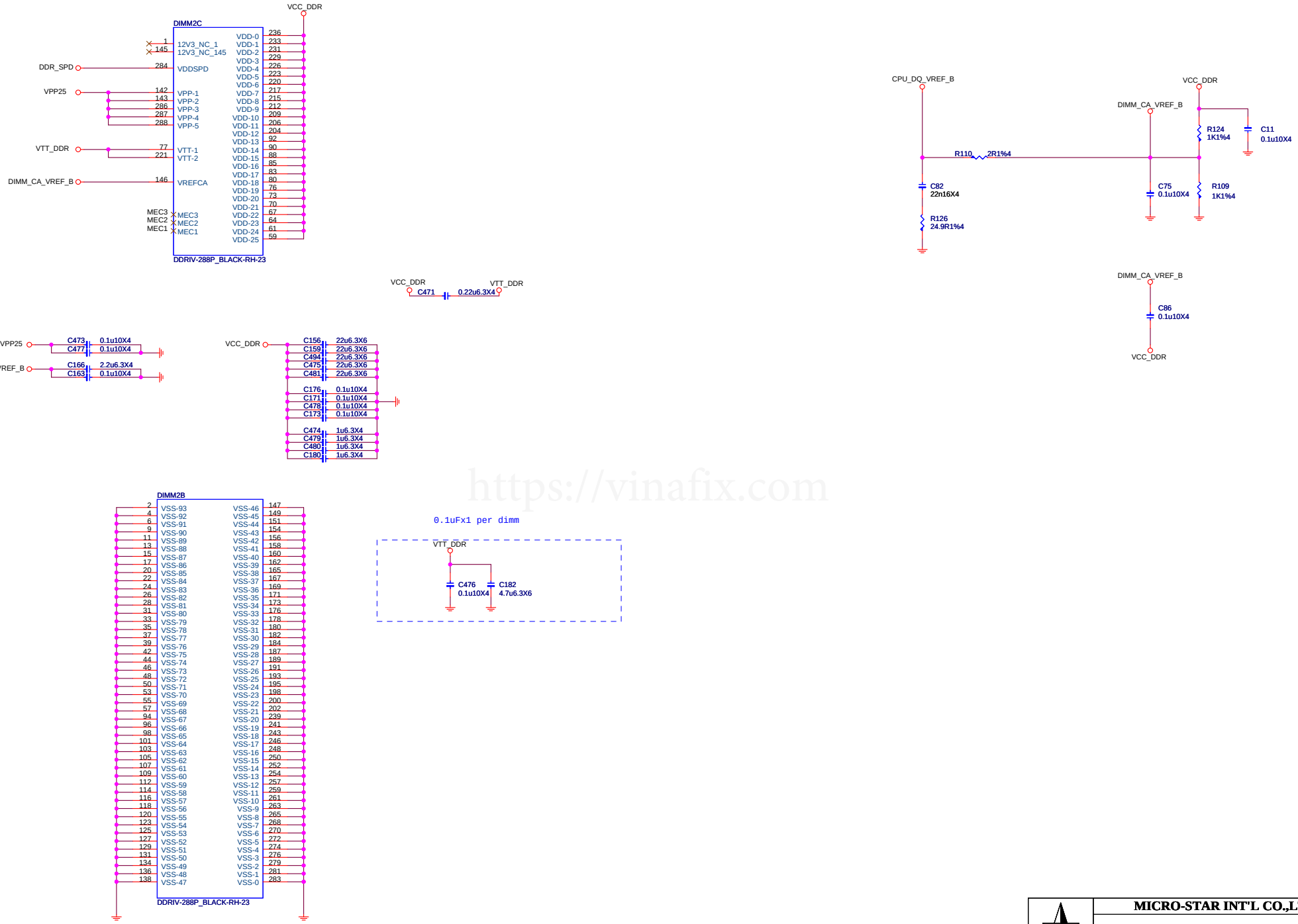
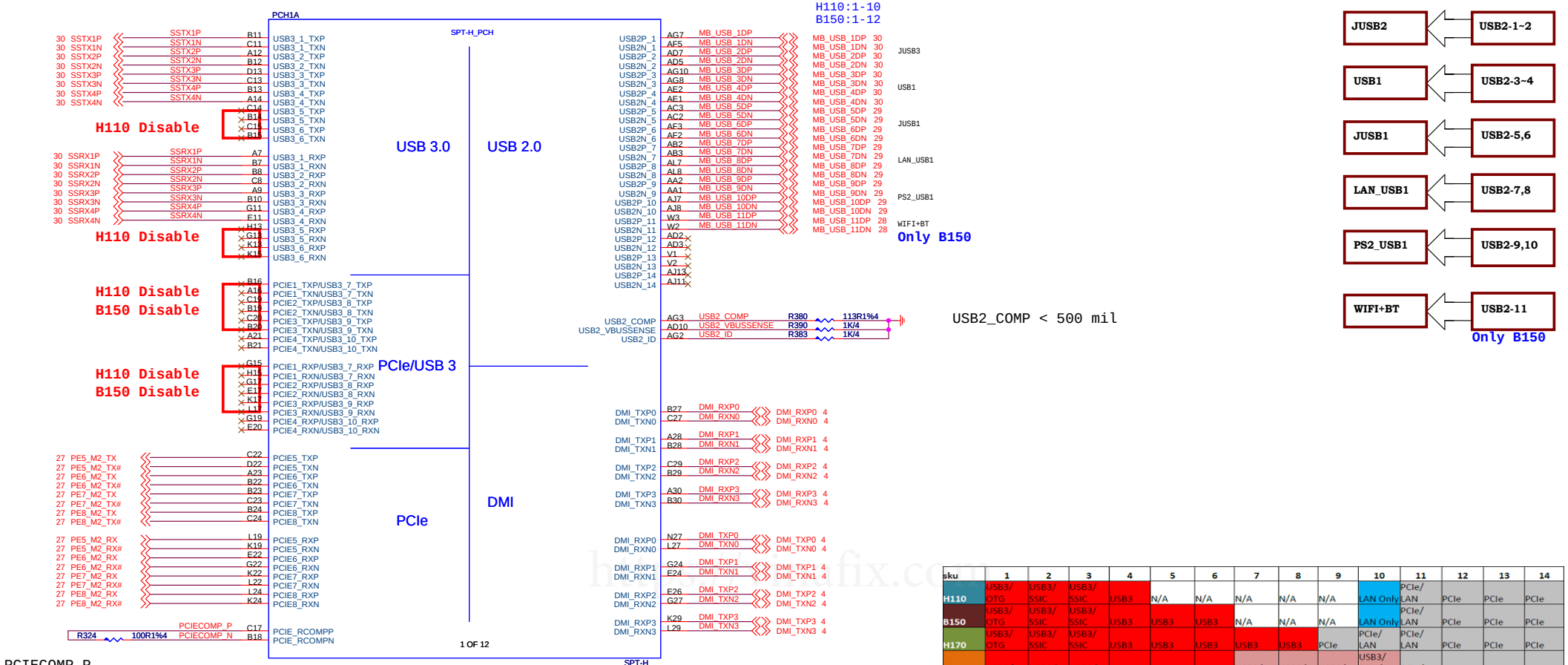
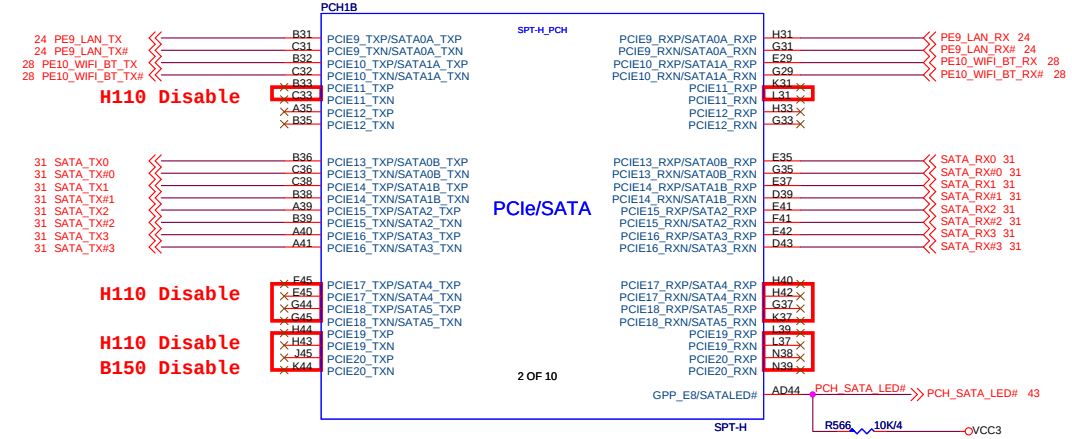
MS-7995	
Size: Custom	Document Description: DDR4-POWER/GND-1
Rev: 11	
Date: Monday, November 09, 2015	Sheet 10 of 50



MICRO-STAR INT'L CO.,LTD	
MS-7995	
Size: Custom	Document Description: DDR4-POWER/GND-2
Rev: 11	
Date: Monday, November 09, 2015	Sheet 11 of 50





sku	1	2	3	4	5	6	7	8	9	10	11	12	13	14
H110	USB3/ OTG	USB3/ SSIC	USB3/ SSIC	USB3	N/A	N/A	N/A	N/A	N/A	LAN Only	PCIe/ LAN	PCIe	PCIe	PCIe
B150	USB3/ OTG	USB3/ SSIC	USB3/ SSIC	USB3	USB3	USB3	N/A	N/A	N/A	LAN Only	PCIe/ LAN	PCIe	PCIe	PCIe
H170	USB3/ OTG	USB3/ SSIC	USB3/ SSIC	USB3	USB3	USB3	USB3	USB3	PCIe	PCIe/ LAN	PCIe/ LAN	PCIe	PCIe	PCIe
Z170	USB3/ OTG	USB3/ SSIC	USB3/ SSIC	USB3	USB3	USB3	USB3/ PCIe	USB3/ PCIe	USB3/ PCIe	USB3/ PCIe/ LAN	PCIe/ LAN	PCIe	PCIe	PCIe

Sku	15	16	17	18	19	20	21	22	23	24	25	26	RST for PCIe Ports
H110	PCIe/ LAN	PCIe	N/A	LAN Only	SATA*/ LAN	SATA*	SATA	SATA	N/A	N/A	N/A	N/A	0
B150	PCIe/LAN SATA*	PCIe/ SATA*	PCIe	PCIe/ LAN	SATA* /LAN	SATA*	SATA	SATA	SATA	SATA	N/A	N/A	0
H170	PCIe/LAN SATA	PCIe/ SATA	PCIe	PCIe/ LAN	PCIe/LAN SATA	PCIe/ SATA	PCIe/ SATA	PCIe/ SATA	SATA	SATA	PCIe	PCIe	2
Z170	PCIe/LAN SATA	PCIe/ SATA	PCIe	PCIe/ LAN	PCIe/LAN SATA	PCIe/ SATA	PCIe/ SATA	PCIe/ SATA	PCIe/ SATA	PCIe/ SATA	PCIe	PCIe	3

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MS-7995	
Size: Custom	Document Description: PCH-USB/PCIE/DMI/SATA
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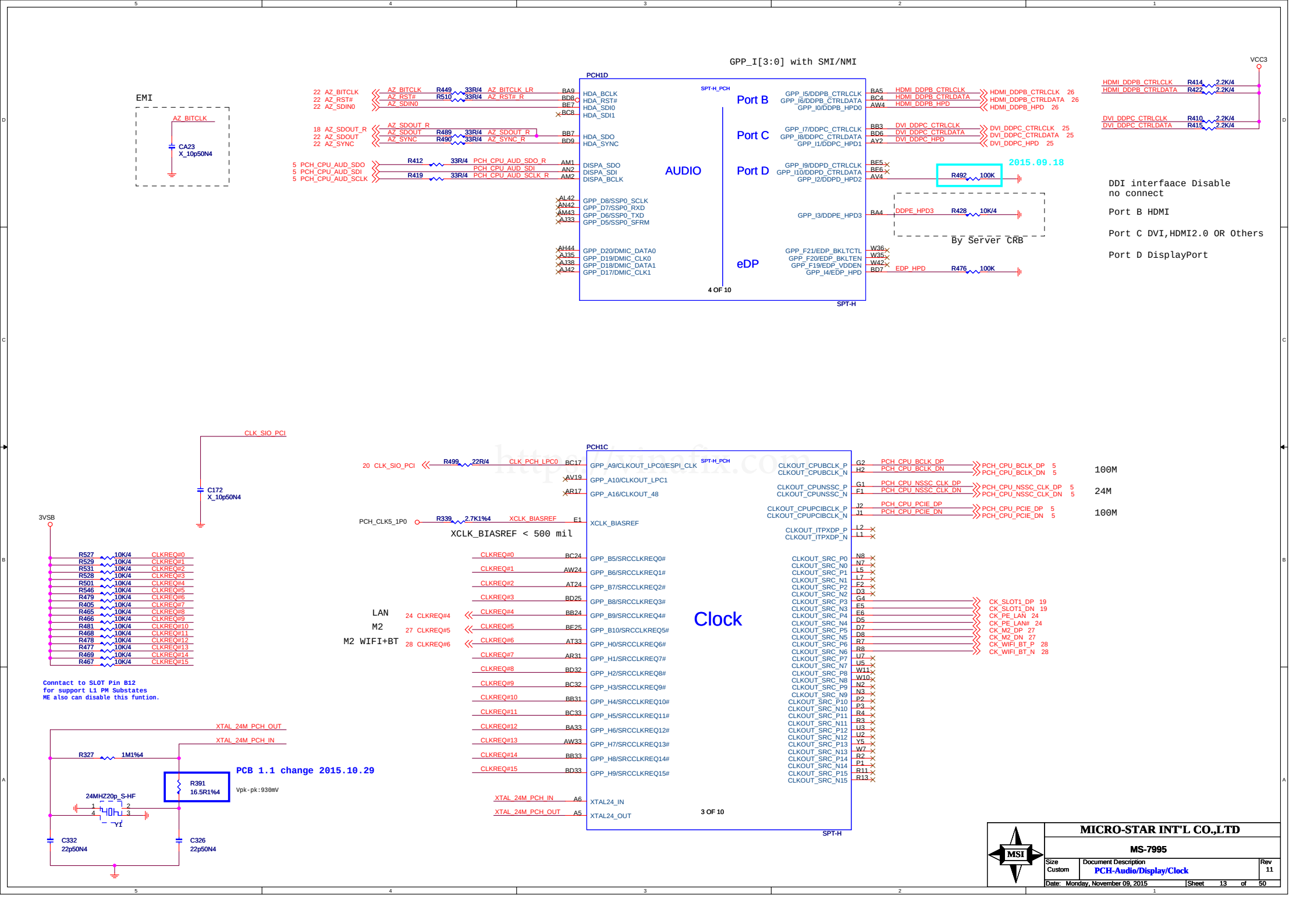
GPP_I[3:0] with SMI/NMI
EMI
AZ_BITCLK
CA23
X_10p50N4
PCH1D
SPT-H_PCH
AUDIO
Port B
Port C
Port D
eDP
HDA_BCLK
HDA_RST#
HDA_SDI0
HDA_SDI1
HDA_SDO
HDA_SYNC
DISPA_SDO
DISPA_SDI
DISPA_BCLK
GPP_D8/SSP0_SCLK
GPP_D7/SSP0_RXD
GPP_D6/SSP0_TXD
GPP_D5/SSP0_SFRM
GPP_D20/DMIC_DATA0
GPP_D19/DMIC_CLK0
GPP_D18/DMIC_DATA1
GPP_D17/DMIC_CLK1
GPP_I5/DDPB_CTRLCLK
GPP_I6/DDPB_CTRLDATA
GPP_I0/DDPB_HPD0
GPP_I7/DDPC_CTRLCLK
GPP_I8/DDPC_CTRLDATA
GPP_I1/DDPC_HPD1
GPP_I9/DDPD_CTRLCLK
GPP_I10/DDPD_CTRLDATA
GPP_I2/DDPD_HPD2
GPP_I3/DDPE_HPD3
GPP_F21/EDP_BKLTCTL
GPP_F20/EDP_BKLTEN
GPP_F19/EDP_VDDEN
GPP_I4/EDP_HPD
4 OF 10
SPT-H
2015.09.18
By Server CRB
DDI interfaace Disable
no connect
Port B HDMI
Port C DVI,HDMI2.0 OR Others
Port D DisplayPort
CLK_SIO_PCI
C172
X_10p50N4
PCH1C
GPP_A9/CLKOUT_LPC0/ESPI_CLK
GPP_A10/CLKOUT_LPC1
GPP_A16/CLKOUT_48
XCLK_BIASREF
XCLK_BIASREF < 500 mil
Clock
CLKOUT_CPUBCLK_P
CLKOUT_CPUBCLK_N
CLKOUT_CPUNSSC_P
CLKOUT_CPUNSSC_N
CLKOUT_CPUPCIBCLK_P
CLKOUT_CPUPCIBCLK_N
CLKOUT_ITPXDP_P
CLKOUT_ITPXDP_N
CLKOUT_SRC_P0
CLKOUT_SRC_N0
CLKOUT_SRC_P1
CLKOUT_SRC_N1
CLKOUT_SRC_P2
CLKOUT_SRC_N2
CLKOUT_SRC_P3
CLKOUT_SRC_N3
CLKOUT_SRC_P4
CLKOUT_SRC_N4
CLKOUT_SRC_P5
CLKOUT_SRC_N5
CLKOUT_SRC_P6
CLKOUT_SRC_N6
CLKOUT_SRC_P7
CLKOUT_SRC_N7
CLKOUT_SRC_P8
CLKOUT_SRC_N8
CLKOUT_SRC_P9
CLKOUT_SRC_N9
CLKOUT_SRC_P10
CLKOUT_SRC_N10
CLKOUT_SRC_P11
CLKOUT_SRC_N11
CLKOUT_SRC_P12
CLKOUT_SRC_N12
CLKOUT_SRC_P13
CLKOUT_SRC_N13
CLKOUT_SRC_P14
CLKOUT_SRC_N14
CLKOUT_SRC_P15
CLKOUT_SRC_N15
CLKREQ#0
CLKREQ#1
CLKREQ#2
CLKREQ#3
CLKREQ#4
CLKREQ#5
CLKREQ#6
CLKREQ#7
CLKREQ#8
CLKREQ#9
CLKREQ#10
CLKREQ#11
CLKREQ#12
CLKREQ#13
CLKREQ#14
CLKREQ#15
LAN
M2
M2 WIFI+BT
XTAL24_IN
XTAL24_OUT
3 OF 10
SPT-H
100M
24M
100M
3VSB
Conntact to SLOT Pin B12
for support L1 PM Substates
ME also can disable this funtion.
XTAL_24M_PCH_OUT
XTAL_24M_PCH_IN
R327 1M1%4
R391 16.5R1%4
PCB 1.1 change 2015.10.29
Vpk-pk:930mV
24MHZ20p_S-HF
Y1
C332 22p50N4
C326 22p50N4
MICRO-STAR INT'L CO.,LTD
MS-7995
Size Custom
Document Description PCH-Audio/Display/Clock
Rev 11
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W/ SMI/NMI Funtion

GPP_B[23,20,14]
GPP_C[23:22]
GPP_D[4:0]
GPP_E[8:0]

PCH1F

SPT-H_PCH

GROUP CD PWR
GPIO A
GPIO D
GROUP BCH PWR
GPIO B
GROUP EF PWR
GPIO E
GPIO F
GPIO C
GPIO G
GPIO H
GPIO DSW

6 OF 10

SPT-H

ISH For U,Y only use

GPP_B11 default GPO to LOW

If the interface is not used: the signals can be used as GPIO. If GPIO functionality is also not used, the signals can be left as no-connect.

UART/GPIO no use can no connect

PCH GPIO For BIOS DETCET MSI ID USED

SML For sever only use

MSI ID USED

DEBUG LED USE

OPT BOM SELECT

2015.04.23 USB mode change Pull down

For BIOS BOM USE

	GPP_G21	GPP_G22	GPP_G23
B150 Ac	0	0	0
B150	0	0	1
H170	0	1	0
H110	1	0	0

When used as DEVSLP, no external pull-up or pull-down termination required from SATA Host DEVSLP.

RSVD For B150 SATA/PCIE use

RSVD For B150 SATA/PCIE use

PCH1E

SPT-H_PCH

USB OC#
SATA DEVSLP
CLINK
SATA Strap

5 OF 10

SPT-H

If an AMT capable Intel WLAN device is not implemented then this signal can be left as NO CONNECT (NC).

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Size: Custom | Document Description: PCH-GPIO/USBOC#/SATASTRAP | Rev: 11

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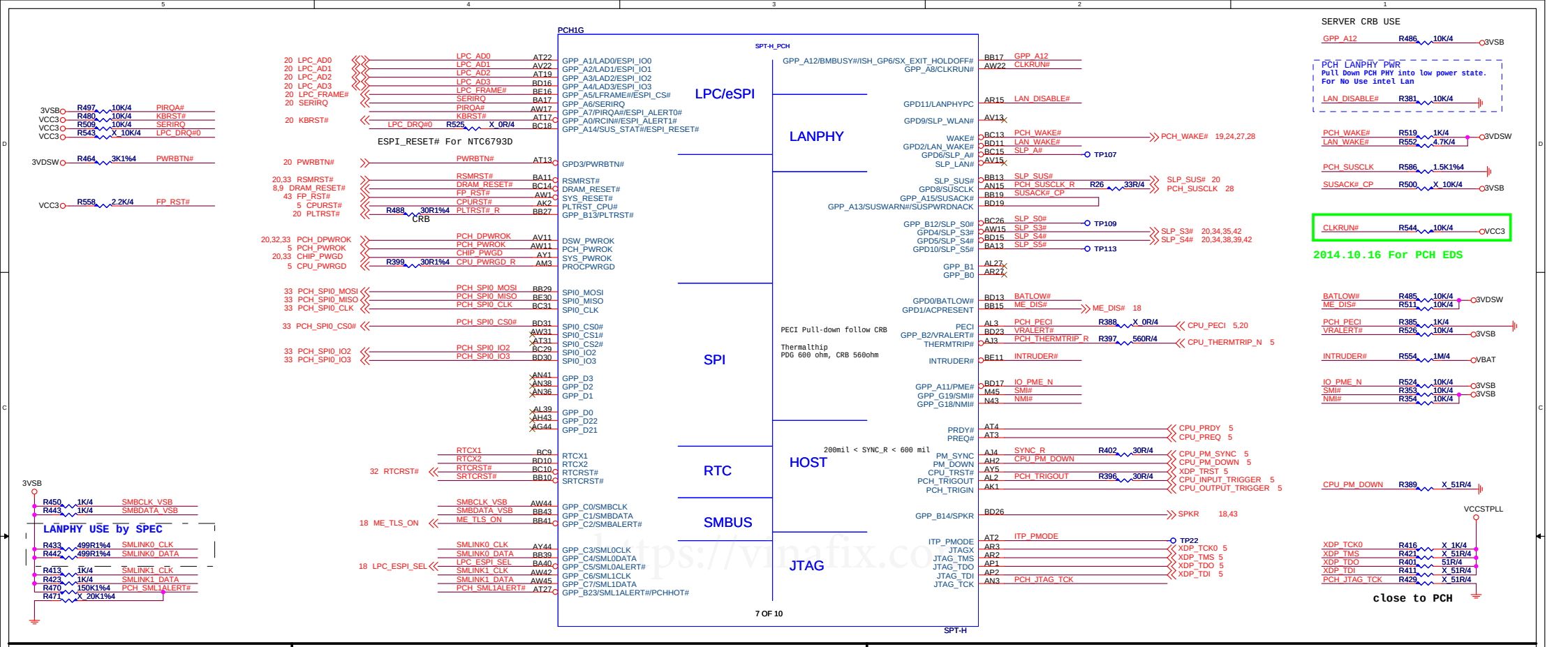
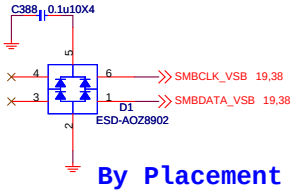


SMBUS ESD



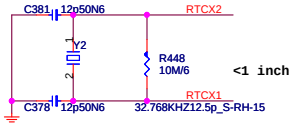
By Placement

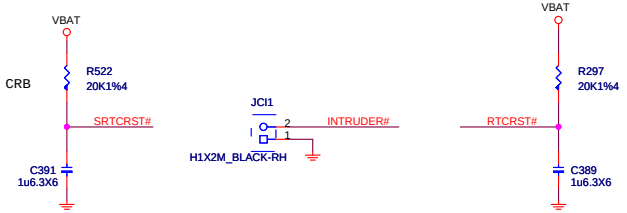
PCH Thermal Monitor

當溫度高於設定之後，此信號會被拉LOW。
PS:只能在S0下使用，S5 不會有功能

RTC Block

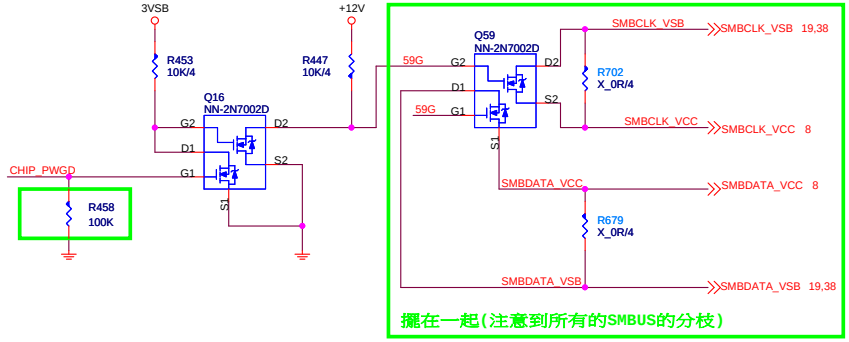
Close to PCH





SMBUS隔離線路(PCH接出來是PULL HIGH 3VSB)
需要再S3/S5底下動作的接SMBCLK_VSB/SMBDATA_VSB
不需要的接SMBCLK_VCC/SMBDATA_VCC

基本上PCIE的SLOT要接
3VSB的CPU的PWM IC/DDR
要接VCC3的其他的請注意
要怎麼接



擺在一起(注意到所有的SMBUS的分枝)

SMBCLK_VCC R452 1K/4 VCC3
SMBDATA_VCC R426 1K/4 VCC3

MICRO-STAR INT'L CO.,LTD		
MS-7995		
Size: Custom	Document Description: PCH-LPC/SPI/SMBUS/MISC	Rev: 11
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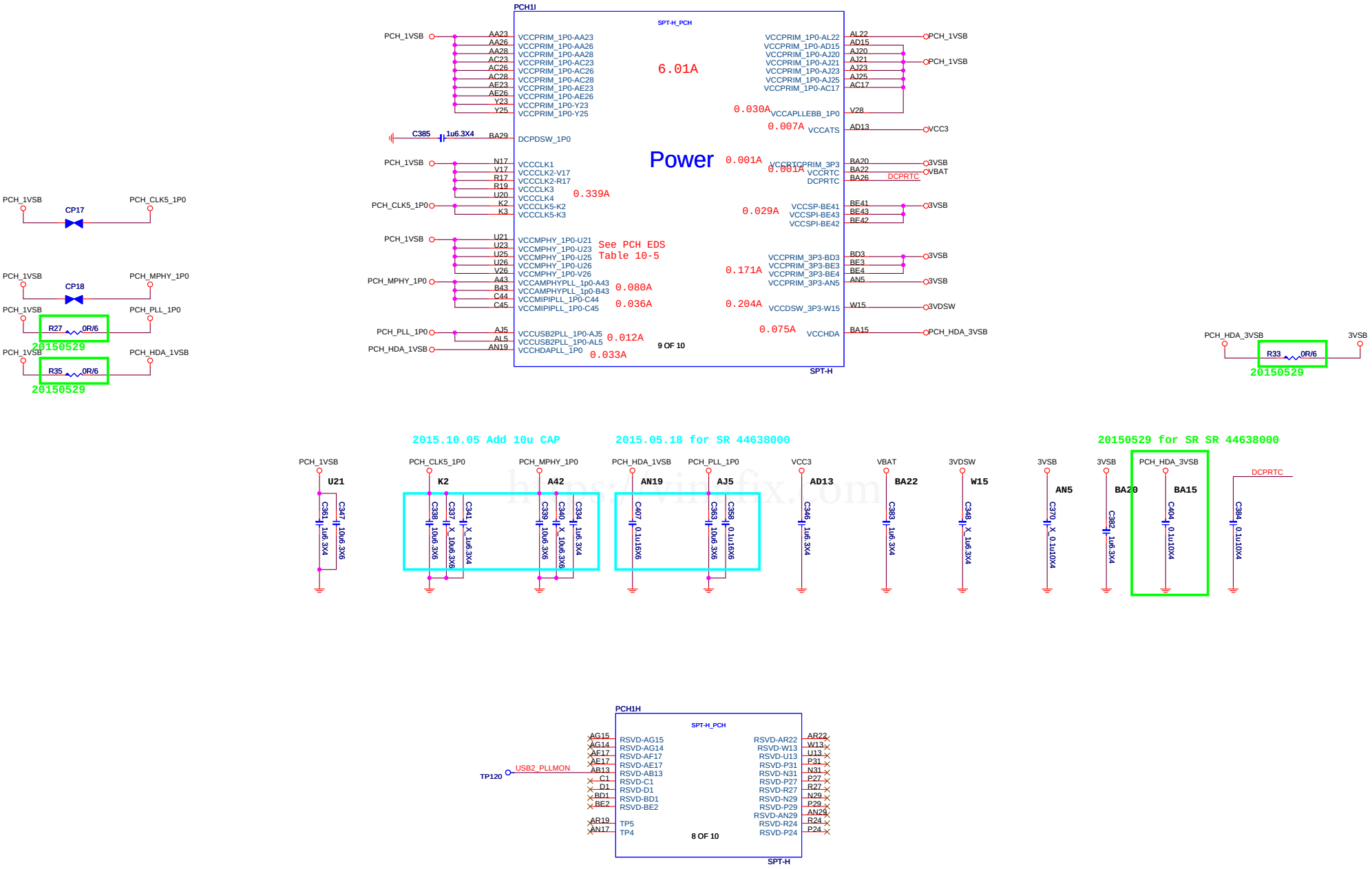
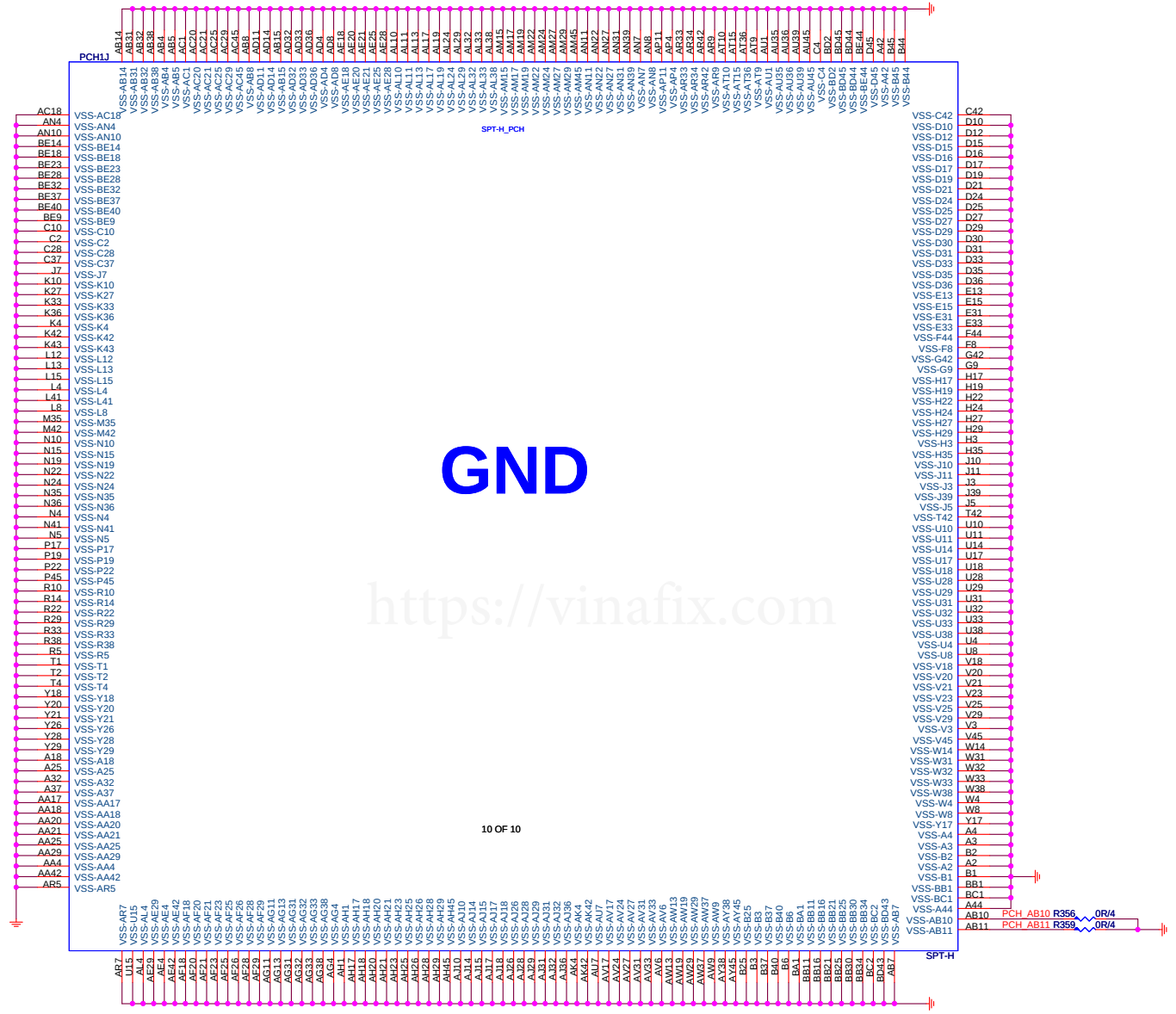
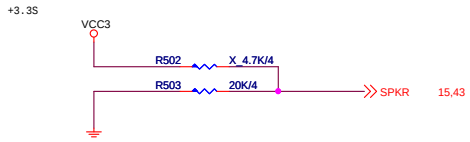


MICRO-STAR INT'L CO.,LTD	
MS-7995	
Size: Custom	Document Description: PCH-Power
Rev: 11	
Date: Monday, November 09, 2015	Sheet 16 of 50



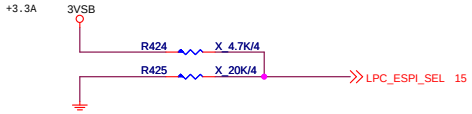
MICRO-STAR INT'L CO.,LTD			
MS-7995			
Size: Custom	Document Description: PCH-GND		Rev: 11
Date: Monday, November 09, 2015		Sheet 17 of 50	

TOP Swap



Internal pull-down 20K is disabled after PLTRST#

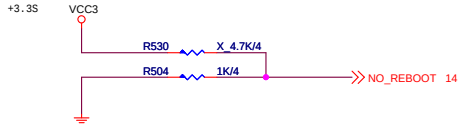
LPC eSPI Mode



0 : LPC
1 : eSPI

Internal pull-down 20K is disabled after RSMRST

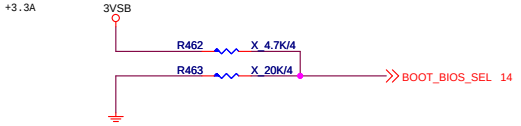
No Reboot



0 : DISABLE (Default)
1 : ENABLE

Internal pull-down 20K is disabled after PLTRST#

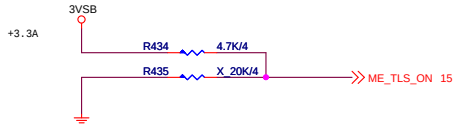
Boot BIOS



0 : SPI
1 : LPC

Internal pull-down 20K is disabled after PLTRST

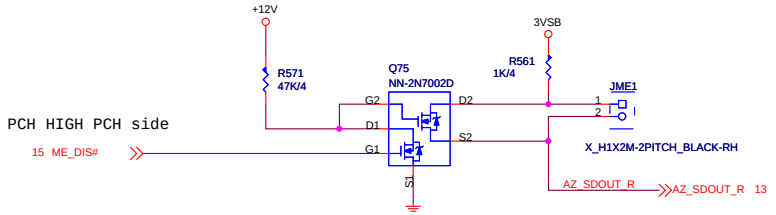
AMT and SBA with confidentiality



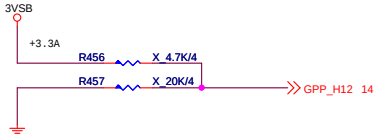
0 : DISABLE
1 : ENABLE (Default)

Internal pull-down 20K is disabled after RSMRST

HDA_SDO



ESPI FLASH SHARING MODE



0 : MASTER ATTACHED FLASH SHARING
1 : SLAVE ATTACHED FLASH SHARING

Internal pull-down 20K is disabled after RSMRST

MICRO-STAR INT'L CO.,LTD		
MS-7995		
Size: Custom	Document Description: PCH-Strap	Rev: 11
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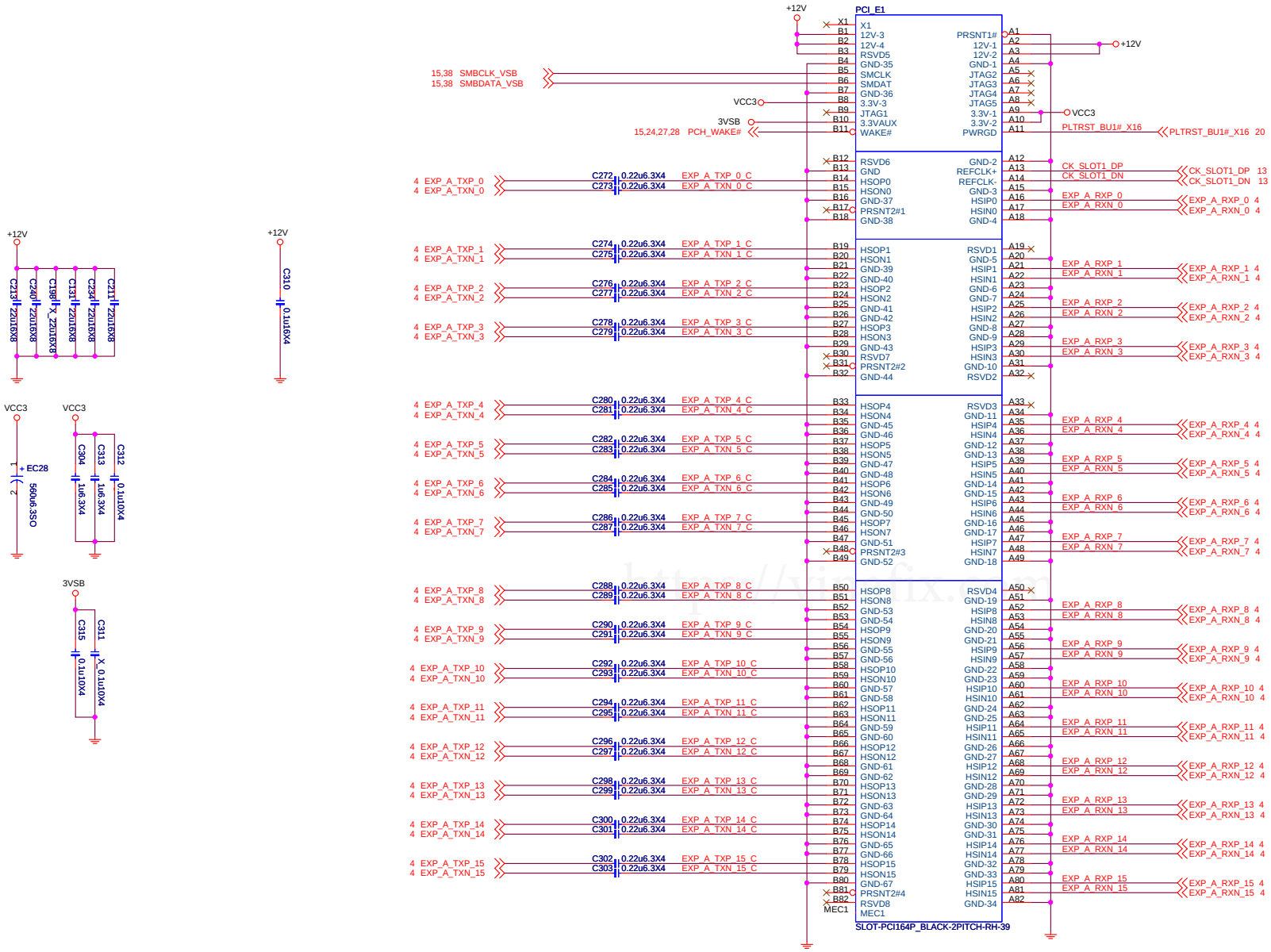

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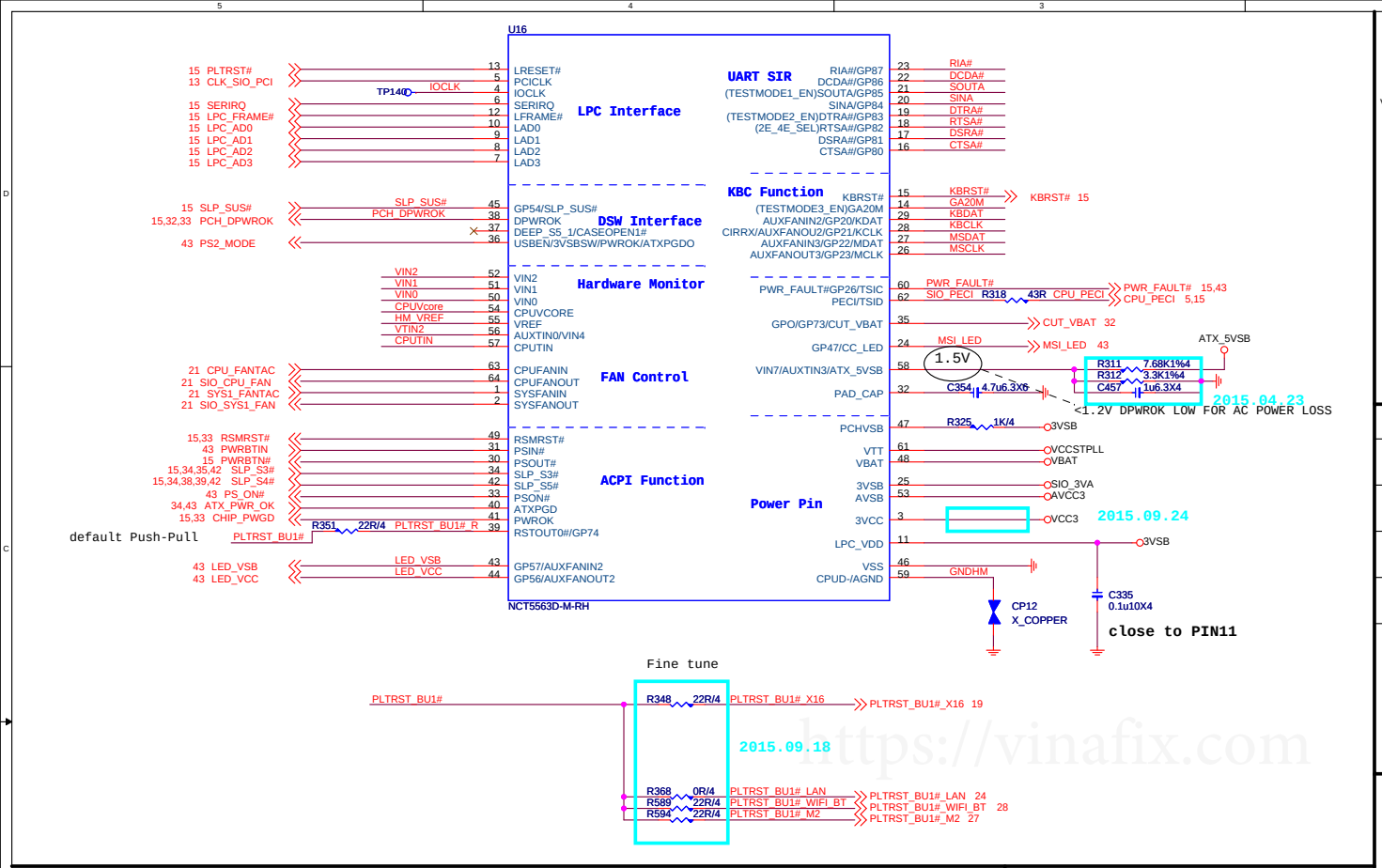
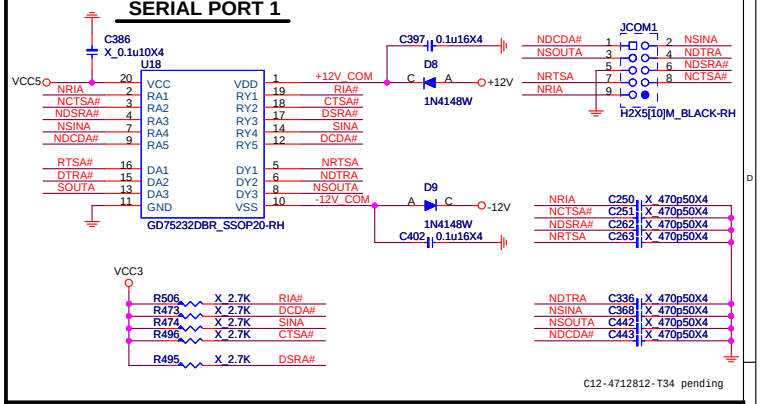
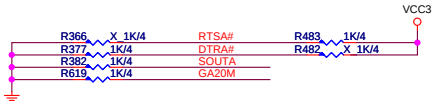
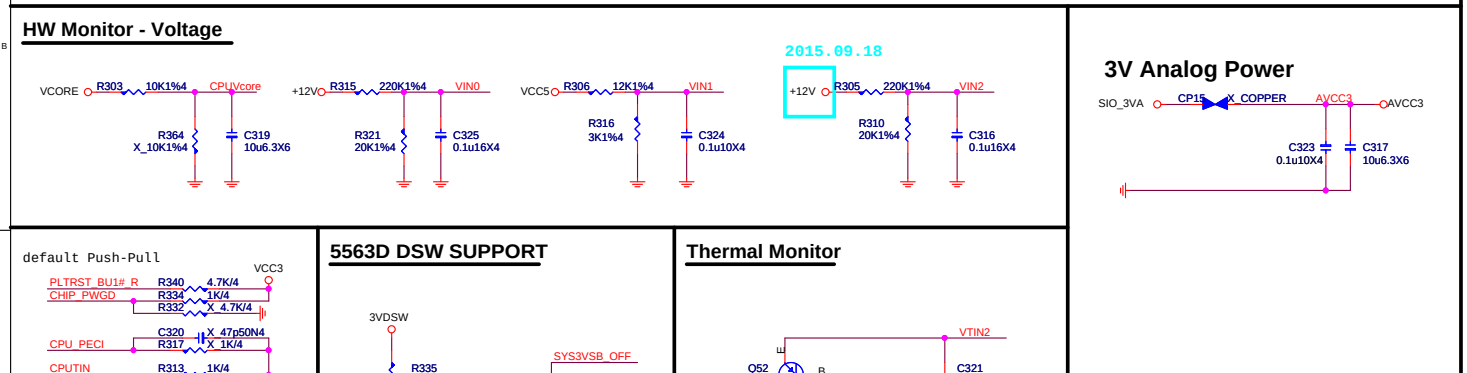


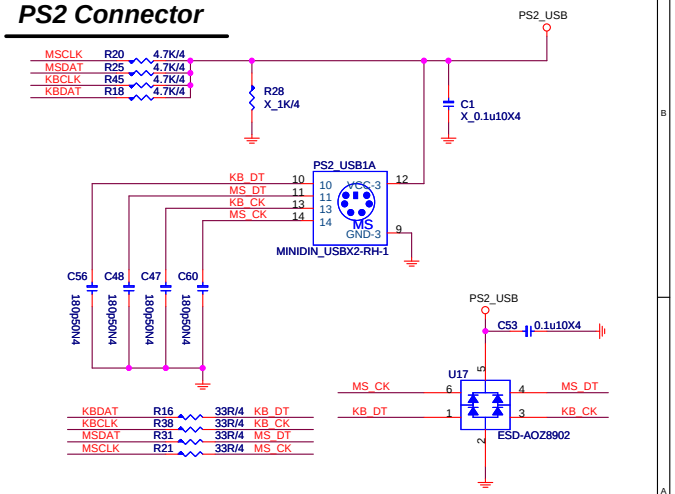


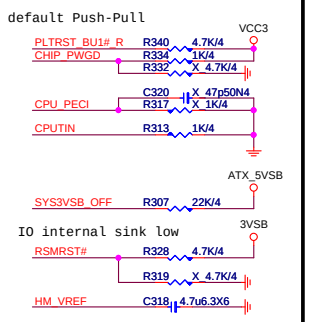
POWER ON STRAPPING PIN FOR NCT5563D

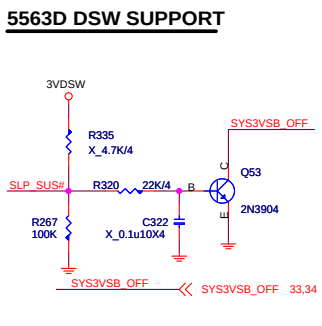
PIN	5563D NAME	Circuit NAME	0	1
18	2E_4E_SEL	RTSA#	I/O ADDRESS 2E	I/O ADDRESS 4E
19	24M_48M_SEL	DTRA#	24M CLOCK SOURCE	48M CLOCK SOURCE
21	TESTMODE1_EN	SOUTA	DISABLE TEST1MODE	ENABLE TEST1MODE

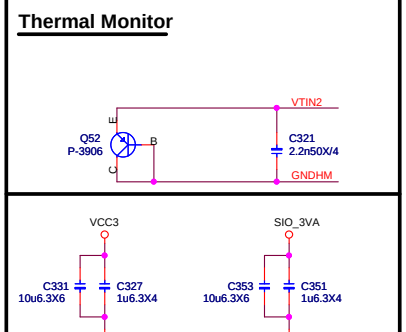












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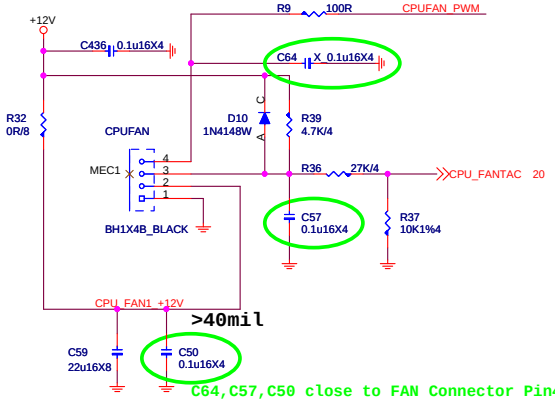
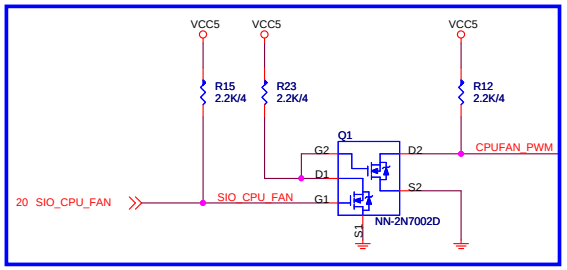
Type G : 4 PIN CPU FAN FROM SIO

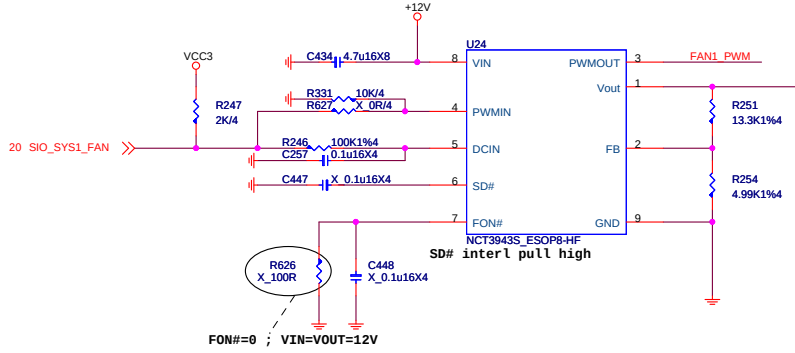


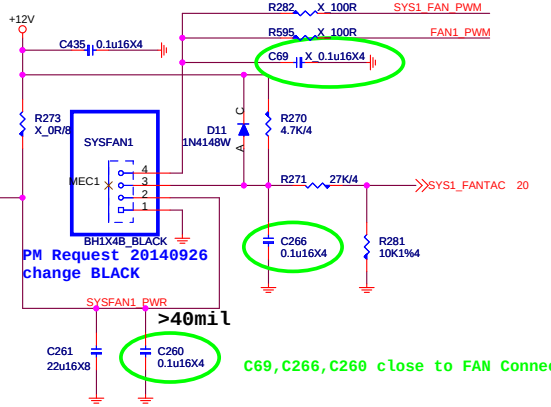
C64,C57,C50 close to FAN Connector Pin4,PIN3,PIN2

SIO PWM

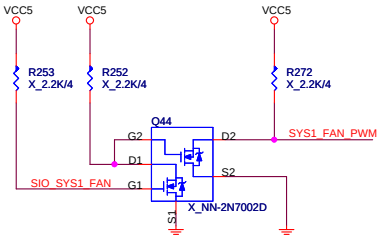


Type H : 4 PIN SYS FAN FROM SIO





C69,C266,C260 close to FAN Connector Pin4,PIN3,PIN2



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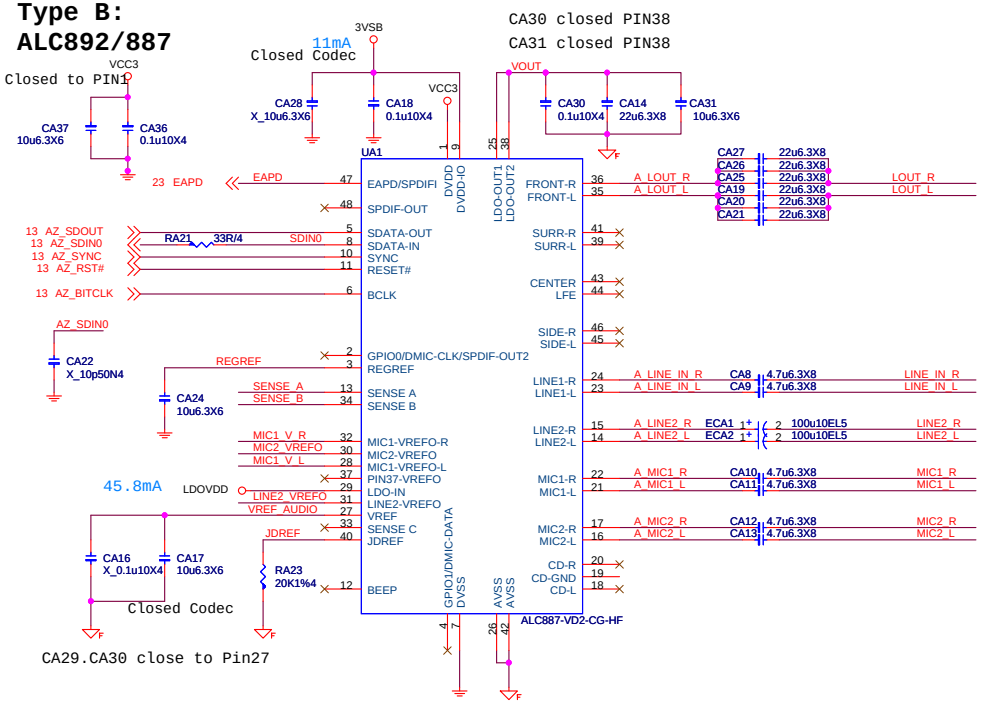
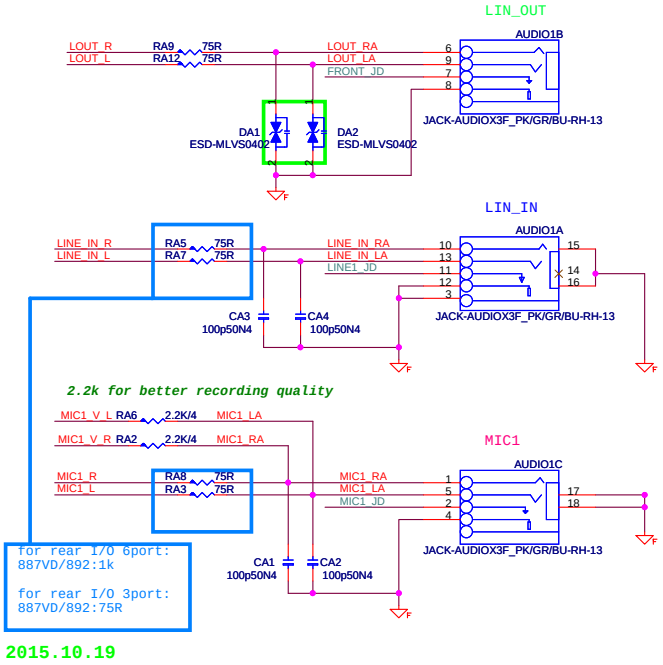
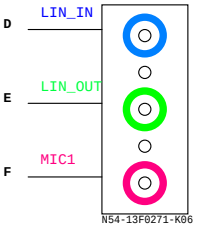
Type B: ALC892/887

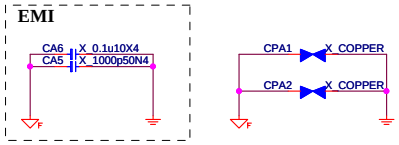
CA14 closed PIN25
CA30 closed PIN38
CA31 closed PIN38

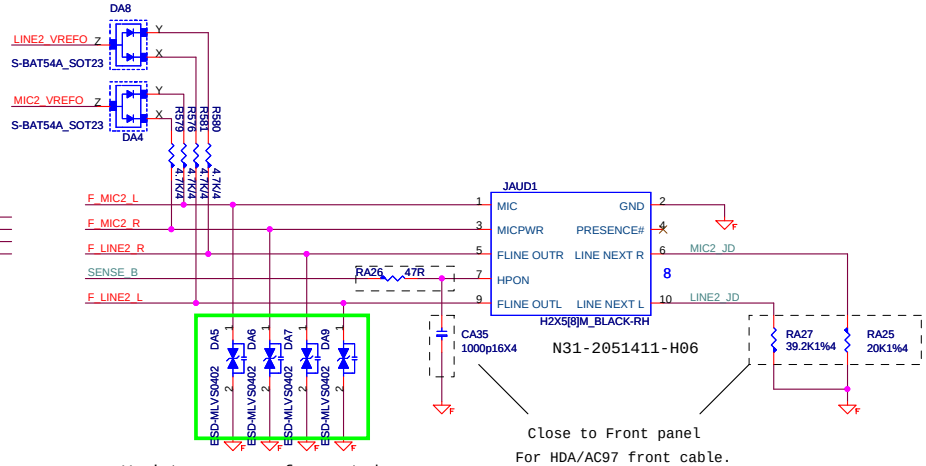


CA29.CA30 close to Pin27

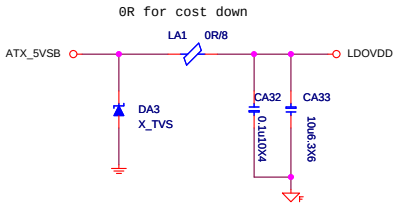




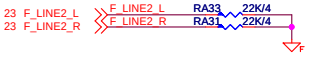




Closed Codec



CA32,CA33 close to LA1



Varister --> cap for cost down

D0G-2950500-SI0
D0G-3010510-I05
Close to Jack

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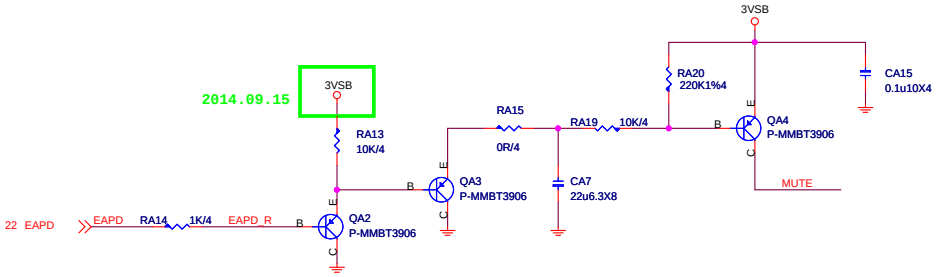
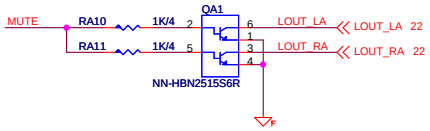
Rear Line OUT De-POP circuit

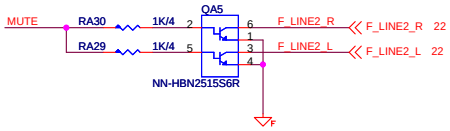
De-pop circuit for Rear Line out & Front Headphone out)



Digital

Analog





History:

2014/02/13: stuff de-pop circuit of Line out & HP out.

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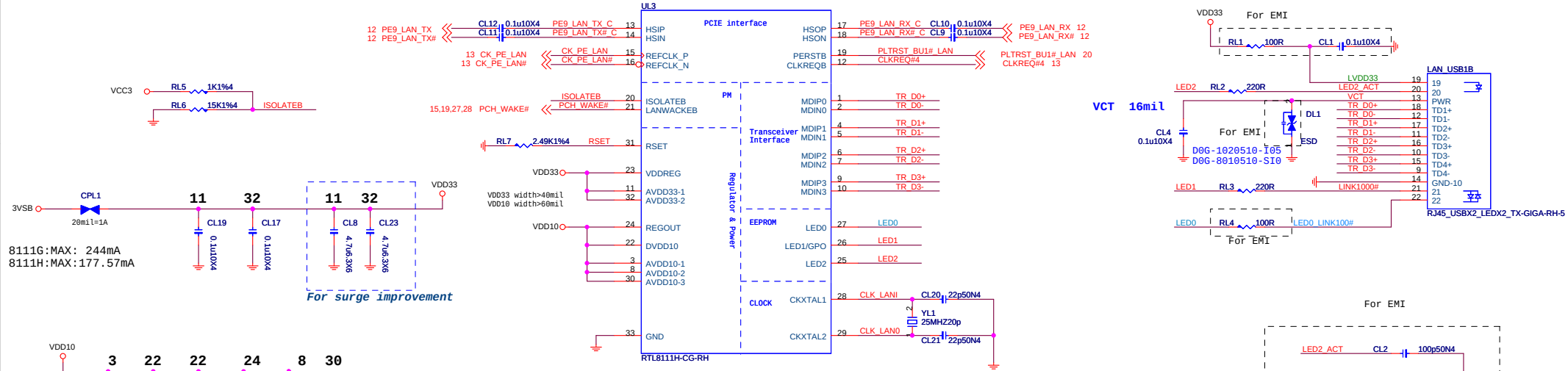
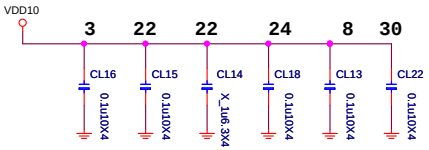
RTL8111G/RTL8111H Giga LAN

8111H:B06-08111CC-R09
8111G:B06-081116C-R09

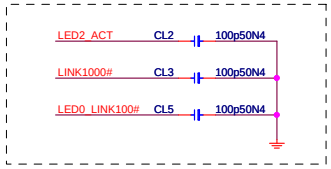


8111G:MAX: 244mA
8111H:MAX:177.57mA

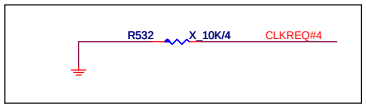


Pin33: 4 via from top layer to GND layer
and make the via at the center of IC.

LAN Connector

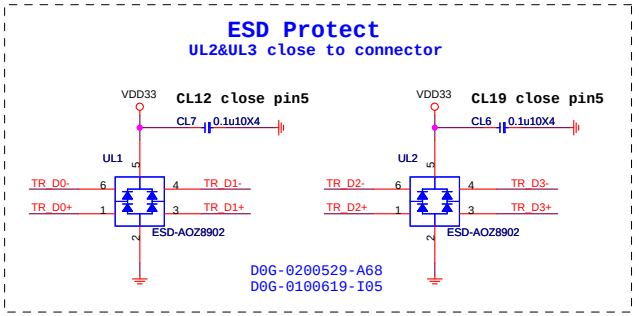


For module unstuff



ESD Protect

UL2&UL3 close to connector



8111G POWER Consumption

	3.3V @ mA	mW
10 M Idle/TxRx	17.15/116.7	56.6/385.1
100 M Idle/TxRx	71.45/129.5	235.8/427.4
Giga Idle/TxRx	179.1/243.9	591/804.9
ALDPS	6.41	21.15

8111H POWER Consumption

	3.3V @ mA	mW
10 M Idle/TxRx	9.9/84.69	32.67/279.48
100 M Idle/TxRx	48.11/92.44	158.76/305.05
Giga Idle/TxRx	124.5/177.57	410.85/585.98
ALDPS	5.50	18.15

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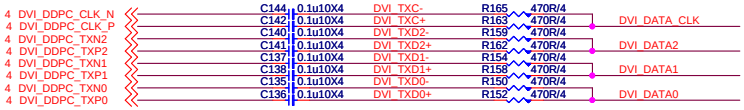
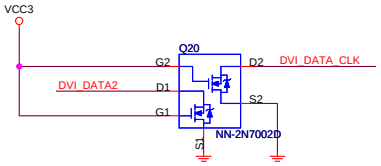
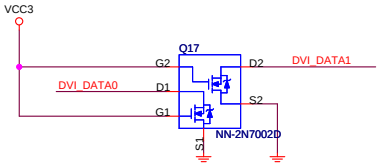
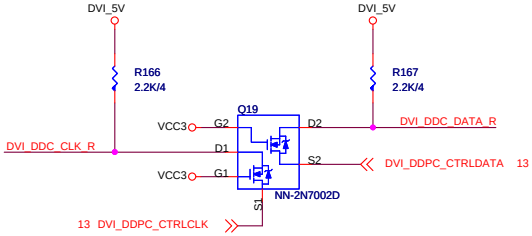
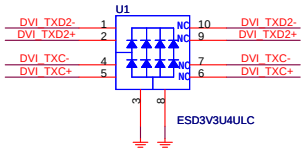
DVI max resolution is 1920x1200 @ 60 Hz

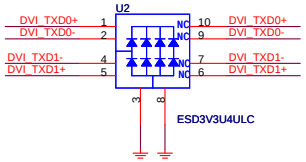


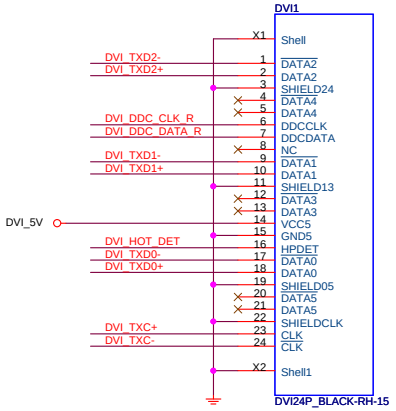


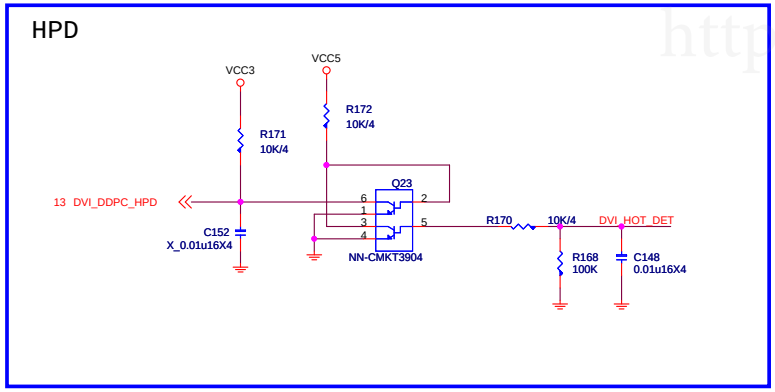


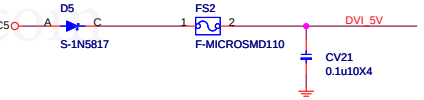


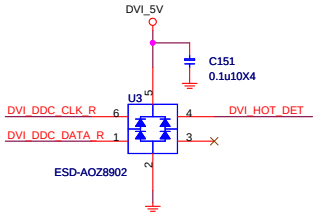


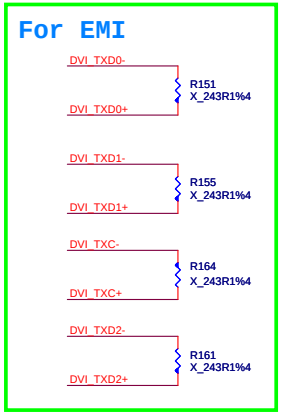


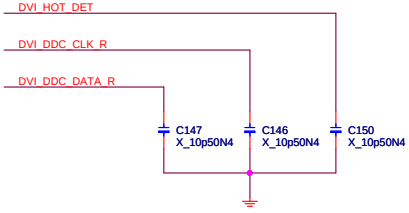












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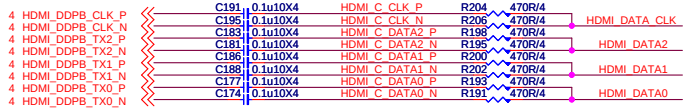
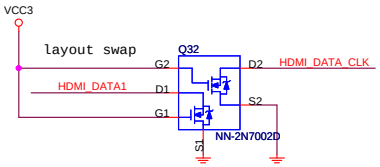
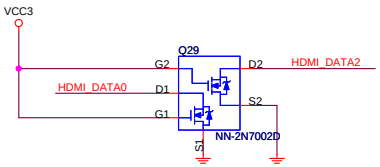
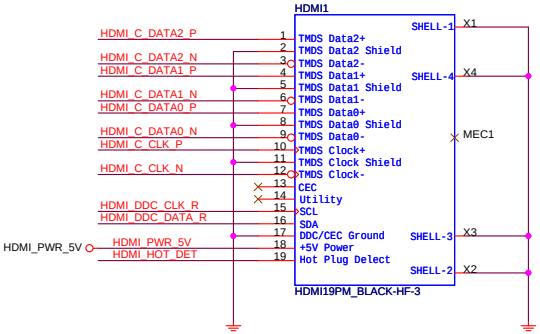
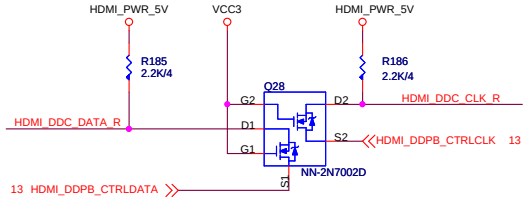
The HDMI* interface supports HDMI with 3D, 4Kx2K@24Hz, Deep Color, and x.v.Color.

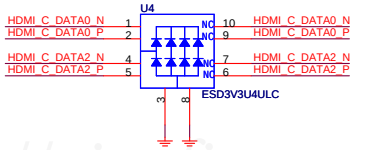


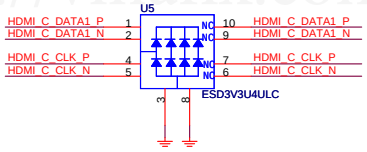


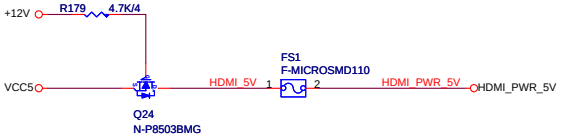












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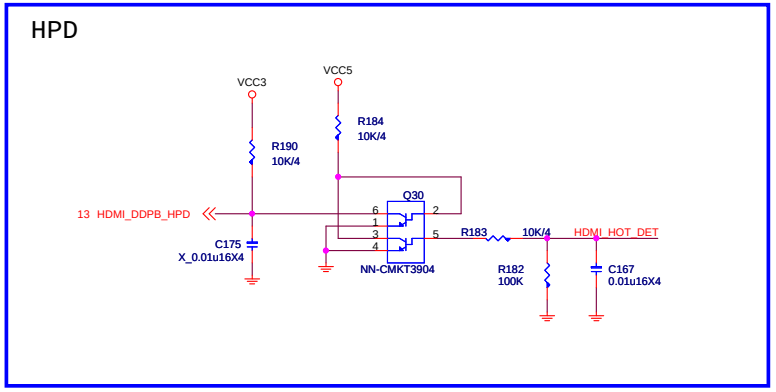

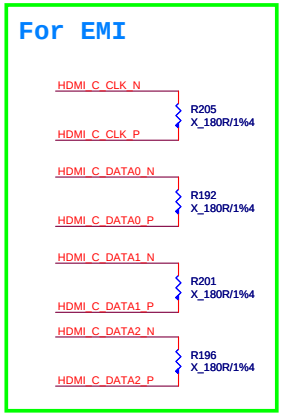

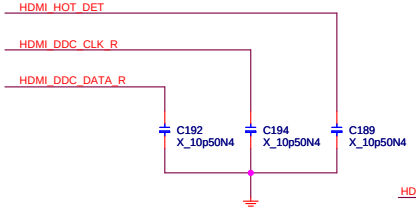

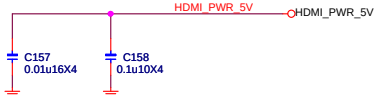

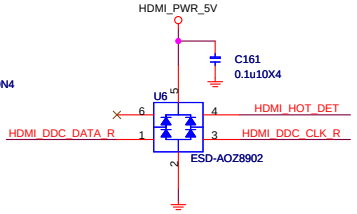

MICRO-STAR INT'L CO.,LTD

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Size: Custom | Document Description: HDMI Connector | Rev: 11

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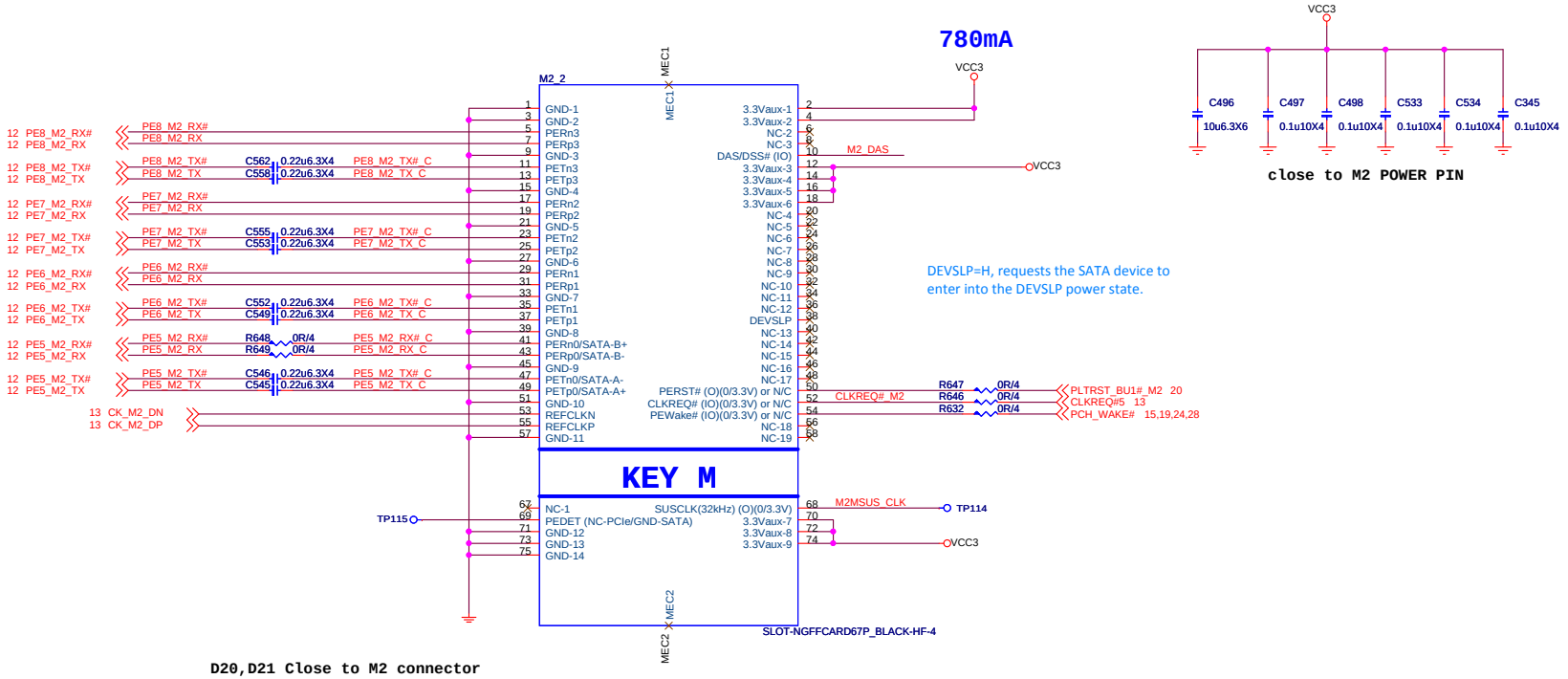
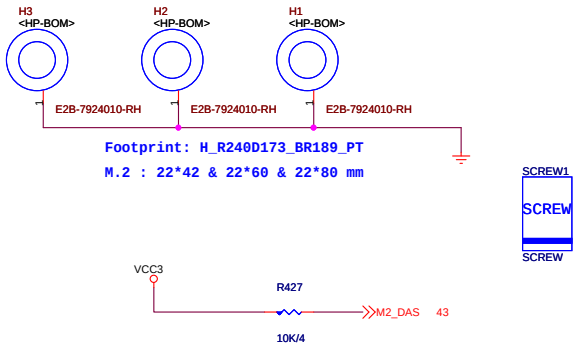


D20,D21 Close to M2 connector



MSI	MICRO-STAR INT'L CO.,LTD	
	MS-7995	
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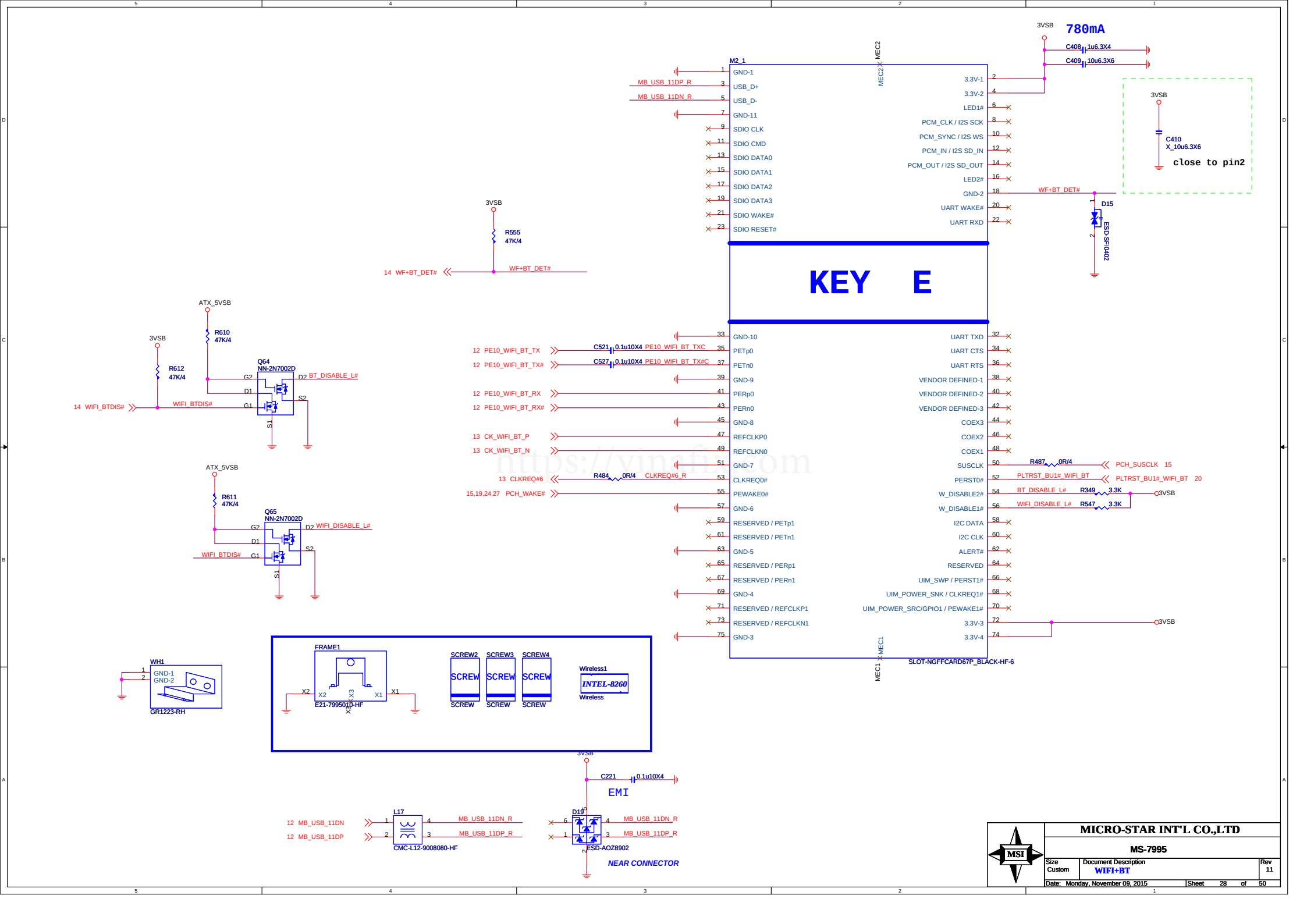
3VSB
780mA
C408 1u6.3X4
C409 10u6.3X6
C410 X_10u6.3X6
close to pin2
MEC2
M2_1
GND-1
MB_USB_11DP_R
USB_D+
MB_USB_11DN_R
USB_D-
GND-11
SDIO CLK
SDIO CMD
SDIO DATA0
SDIO DATA1
SDIO DATA2
SDIO DATA3
SDIO WAKE#
SDIO RESET#
3.3V-1
3.3V-2
LED1#
PCM_CLK / I2S SCK
PCM_SYNC / I2S WS
PCM_IN / I2S SD_IN
PCM_OUT / I2S SD_OUT
LED2#
GND-2
UART WAKE#
UART RXD
WF+BT_DET#
D15
ESD-SF0402
R555 47K/4
14 WF+BT_DET#
KEY E
GND-10
12 PE10_WIFI_BT_TX
C521 0.1u10X4 PE10_WIFI_BT_TXC
PETp0
12 PE10_WIFI_BT_TX#
C527 0.1u10X4 PE10_WIFI_BT_TX#C
PETn0
GND-9
12 PE10_WIFI_BT_RX
PERp0
12 PE10_WIFI_BT_RX#
PERn0
GND-8
13 CK_WIFI_BT_P
REFCLKP0
13 CK_WIFI_BT_N
REFCLKN0
GND-7
13 CLKREQ#6
R484 0R/4 CLKREQ#6_R
CLKREQ0#
15,19,24,27 PCH_WAKE#
PEWAKE0#
GND-6
RESERVED / PETp1
RESERVED / PETn1
GND-5
RESERVED / PERp1
RESERVED / PERn1
GND-4
RESERVED / REFCLKP1
RESERVED / REFCLKN1
GND-3
UART TXD
UART CTS
UART RTS
VENDOR DEFINED-1
VENDOR DEFINED-2
VENDOR DEFINED-3
COEX3
COEX2
COEX1
SUSCLK
R487 0R/4
PCH_SUSCLK 15
PERST0#
PLTRST_BU1#_WIFI_BT
PLTRST_BU1#_WIFI_BT 20
W_DISABLE2#
BT_DISABLE_L#
R349 3.3K
3VSB
W_DISABLE1#
WIFI_DISABLE_L#
R547 3.3K
I2C DATA
I2C CLK
ALERT#
RESERVED
UIM_SWP / PERST1#
UIM_POWER_SNK / CLKREQ1#
UIM_POWER_SRC/GPIO1 / PEWAKE1#
3.3V-3
3.3V-4
3VSB
MEC1
SLOT-NGFFCARD67P_BLACK-HF-6
ATX_5VSB
R610 47K/4
3VSB
R612 47K/4
Q64 NN-2N7002D
G2
D1
G1
S2
S1
D2 BT_DISABLE_L#
14 WIFI_BTDIS#
WIFI_BTDIS#
ATX_5VSB
R611 47K/4
Q65 NN-2N7002D
G2
D1
G1
S2
S1
D2 WIFI_DISABLE_L#
WIFI_BTDIS#
WH1
GND-1
GND-2
GR1223-RH
FRAME1
X2
X3
X1
E21-7995010-HF
SCREW2
SCREW3
SCREW4
SCREW
Wireless1
INTEL-8260
Wireless
3VSB
C221 0.1u10X4
EMI
L17
12 MB_USB_11DN
12 MB_USB_11DP
MB_USB_11DN_R
MB_USB_11DP_R
CMC-L12-9008080-HF
D19
ESD-AOZ8902
NEAR CONNECTOR
MICRO-STAR INT'L CO.,LTD
MS-7995
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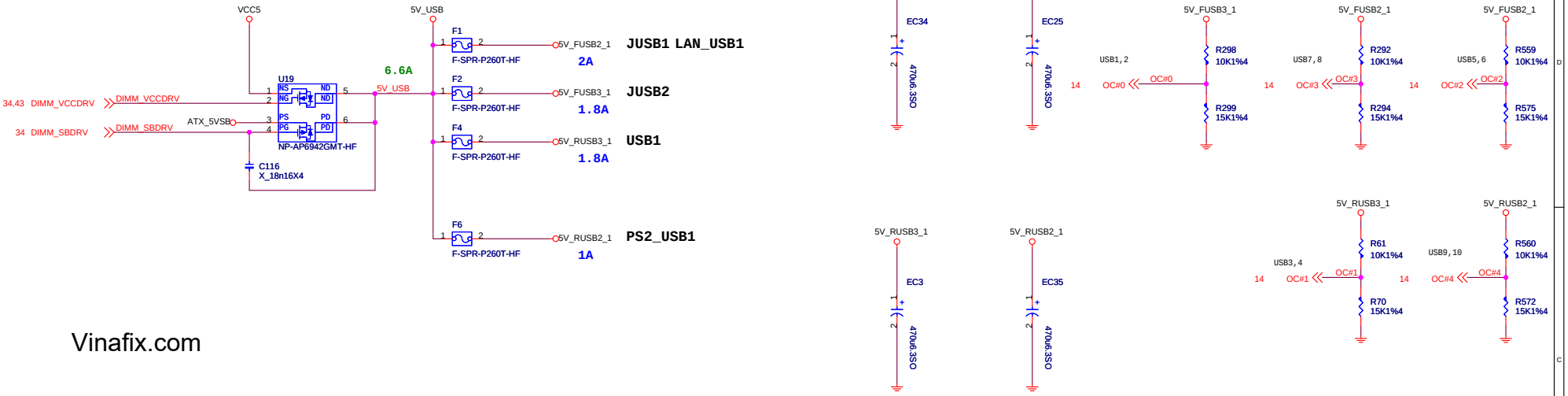
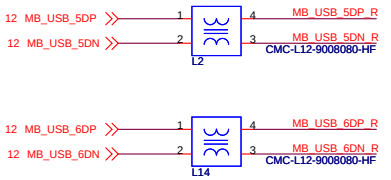
USB POWER

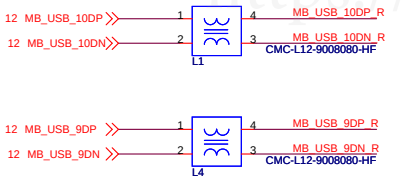


Vinafix.com

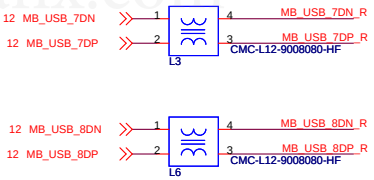
FRONT USB PORT 5,6

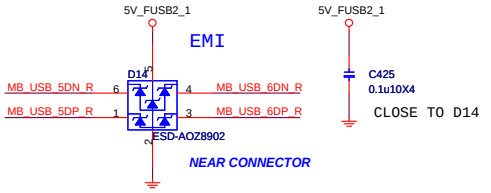


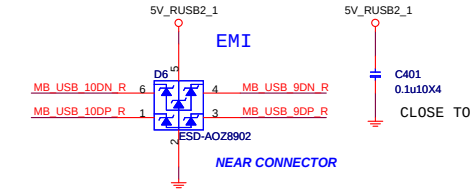
FRONT USB PORT 9,10

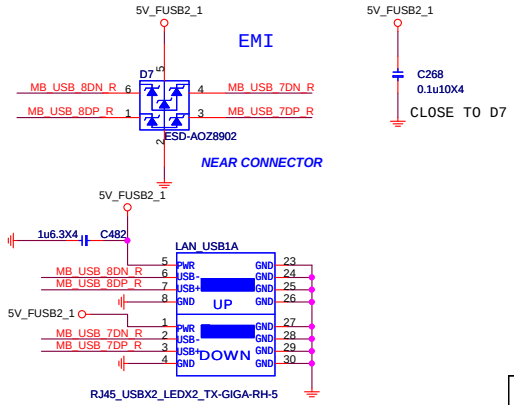


FRONT USB PORT 7,8









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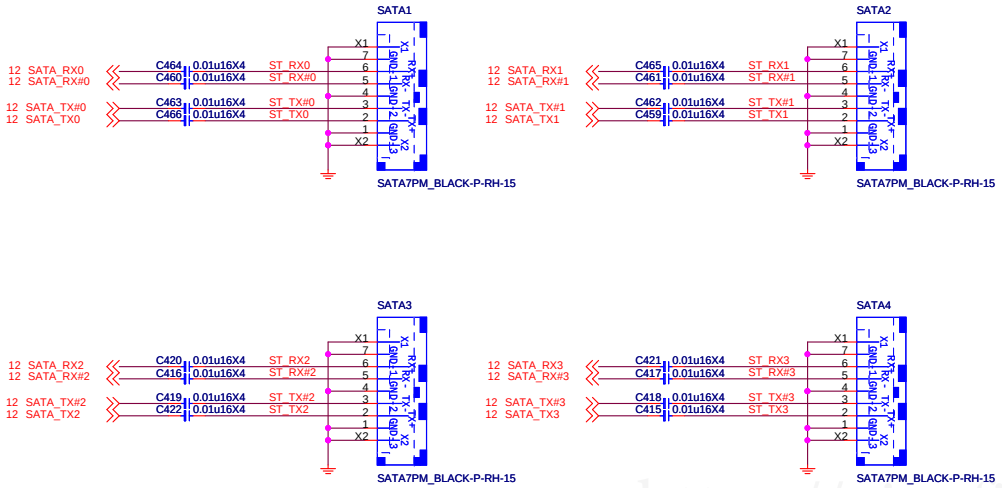
SATA GEN3



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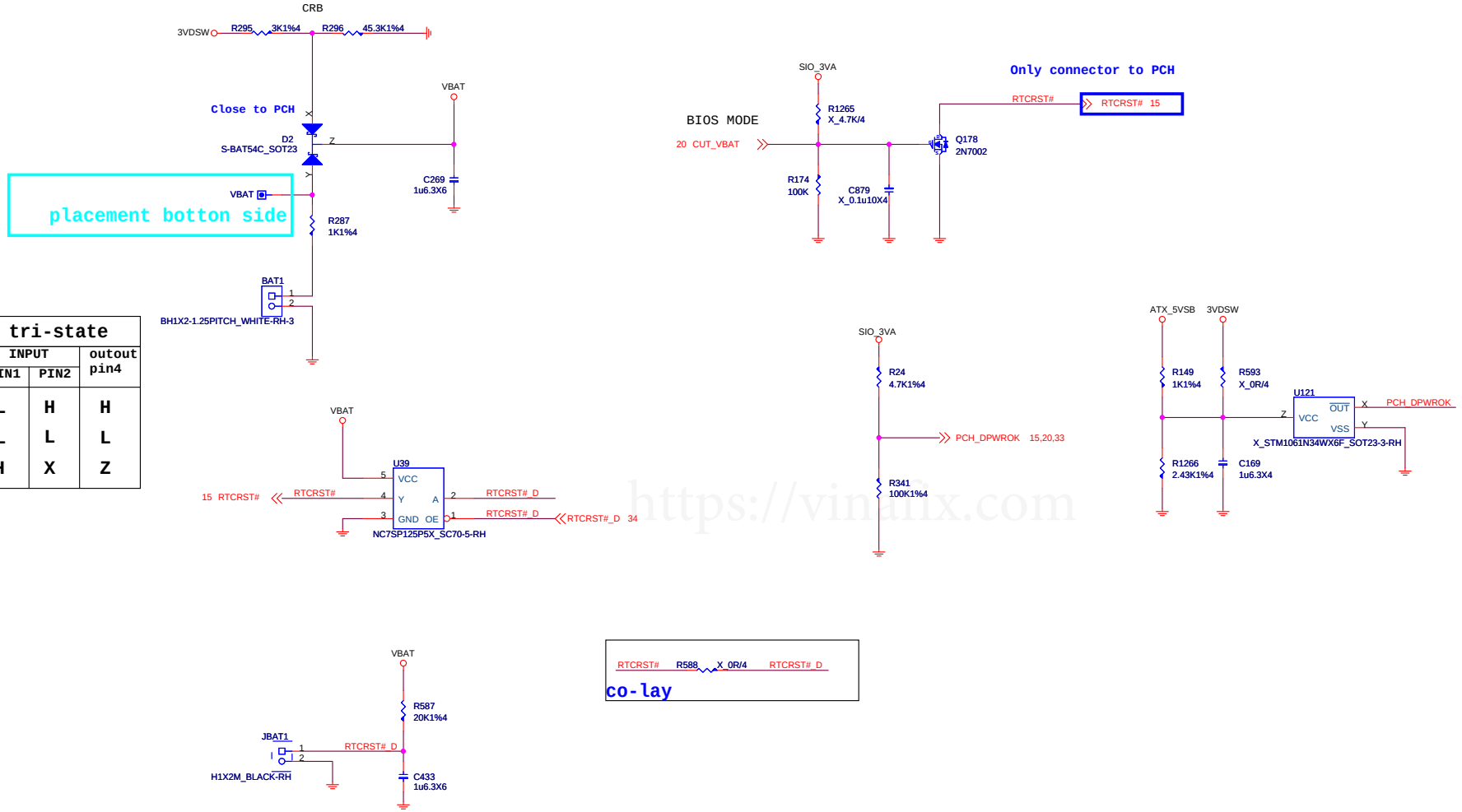
5563D CLR_CMOS



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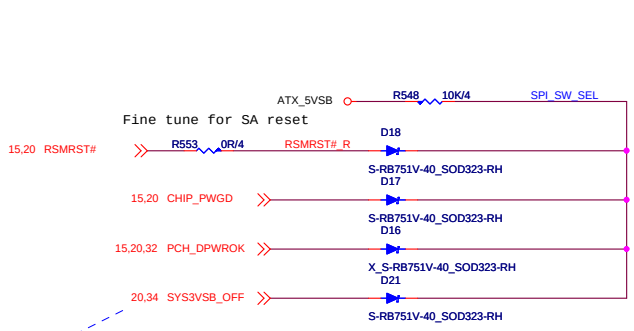
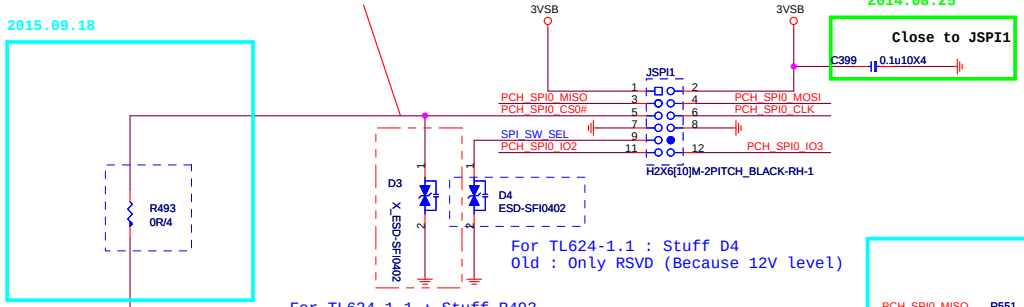
15 PCH_SPI0_MOSI — PCH_SPI0_MOSI
15 PCH_SPI0_MISO — PCH_SPI0_MISO
15 PCH_SPI0_CLK — PCH_SPI0_CLK
15 PCH_SPI0_CS0# — PCH_SPI0_CS0#
15 PCH_SPI0_IO2 — PCH_SPI0_IO2
15 PCH_SPI0_IO3 — PCH_SPI0_IO3



For TL624-1.1 (SKYLAKE)
In skylake,PCH core is powered by VSB which need sink RSMRST#
to low by SPI_SW_SEL.

SPI CS# < 25pF
D0G-0402510-SI0

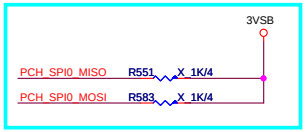
2015.09.18



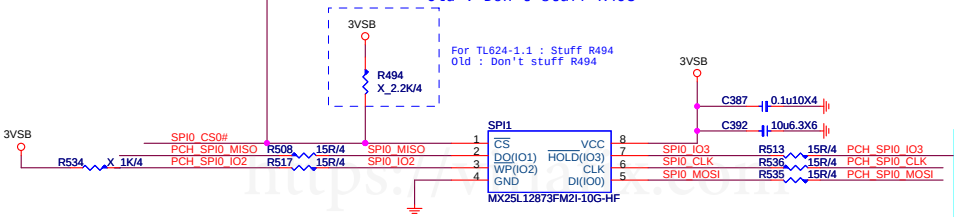
2014.08.25
Close to JSPI1
C399 0.1u10X4

For TL624-1.1 : Stuff D4
Old : Only RSVD (Because 12V level)

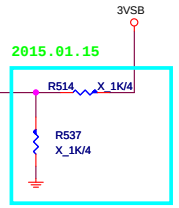
2014.12.15



For TL624-1.1 : Stuff R493
Old : Don't stuff R493



2015.01.15



2014.09.24 For intel MOW36 update

pull down resistor on SPI0_IO3 is needed for SKL S/H platforms with pre-ES1/ES1 ES2 samples.

20150115
update this issue for PRE-ES2/ES2 refer mail 20150115
From synge

* if you not support Standby power in S5 Status, component Q14.G Pull-high to +12V & Q14 MOS select 2N7002
* if you support Standby power in S5 Status(Ex; PCH is B75 Chipset) , component Q14.G Pull-high to ATX_5VSB , Q14 must select "Vth" under 1V (Component Suggestion as below)

D03-0341409-A68 / D03-0230019-A30

MICRO-STAR INT'L CO.,LTD
MS-7995
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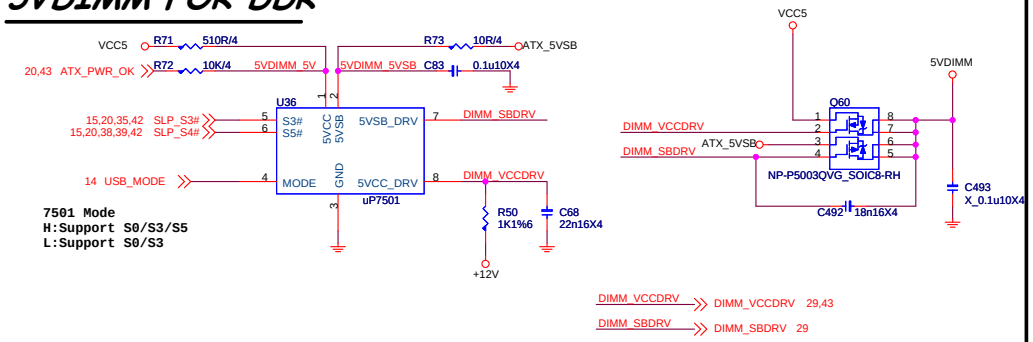
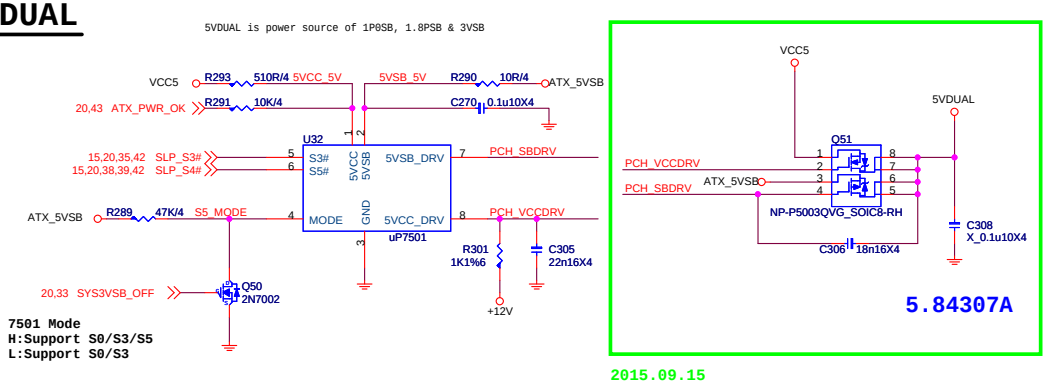
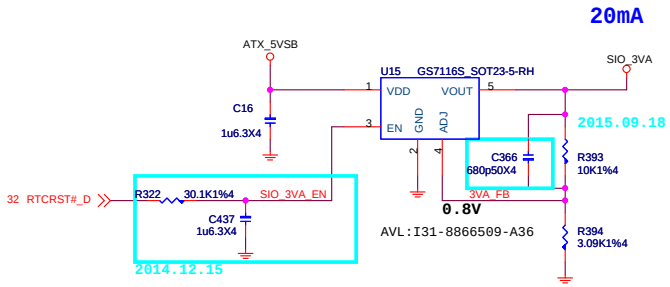
5VDIMM FOR DDR

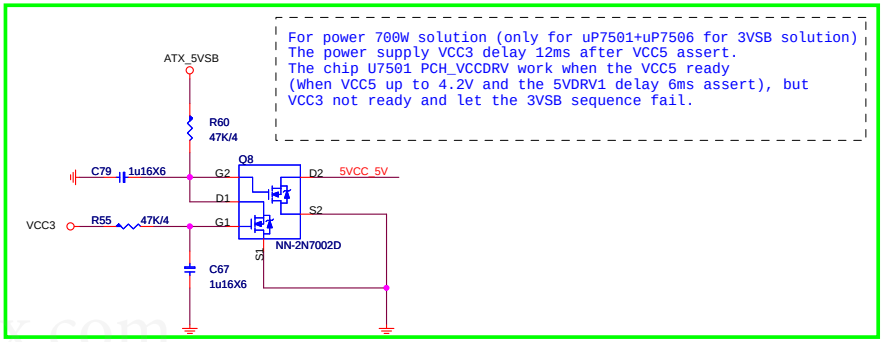


5VDUAL

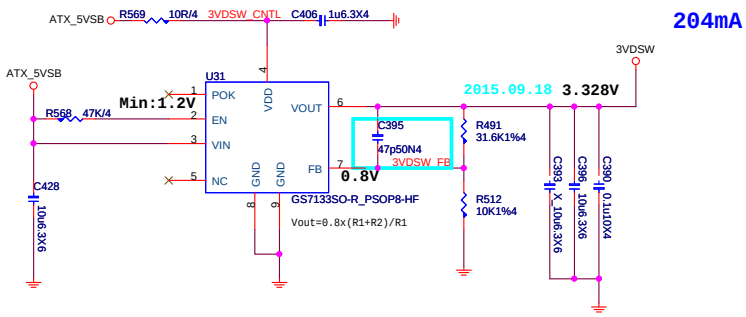


SIO_3VA



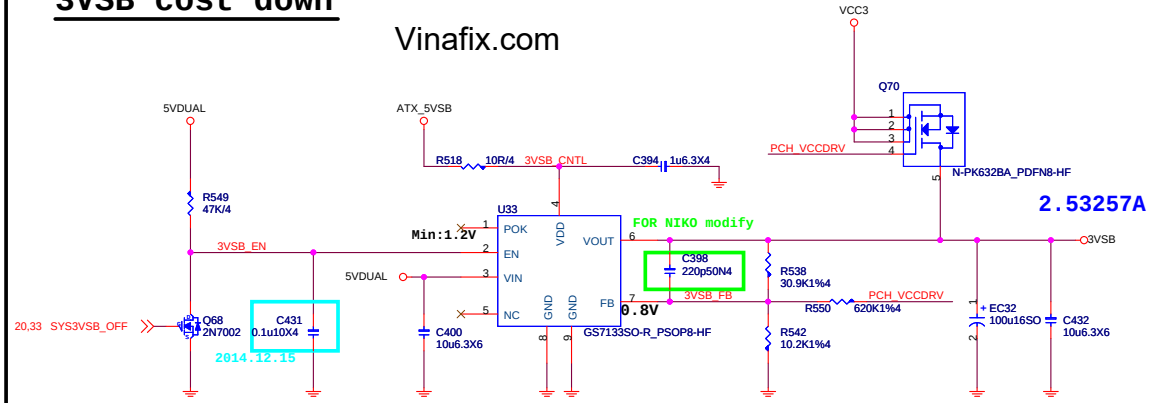


3VDSW



3VSB cost down

Vinafix.com



MSI	MICRO-STAR INT'L CO.,LTD	
	MS-7995	
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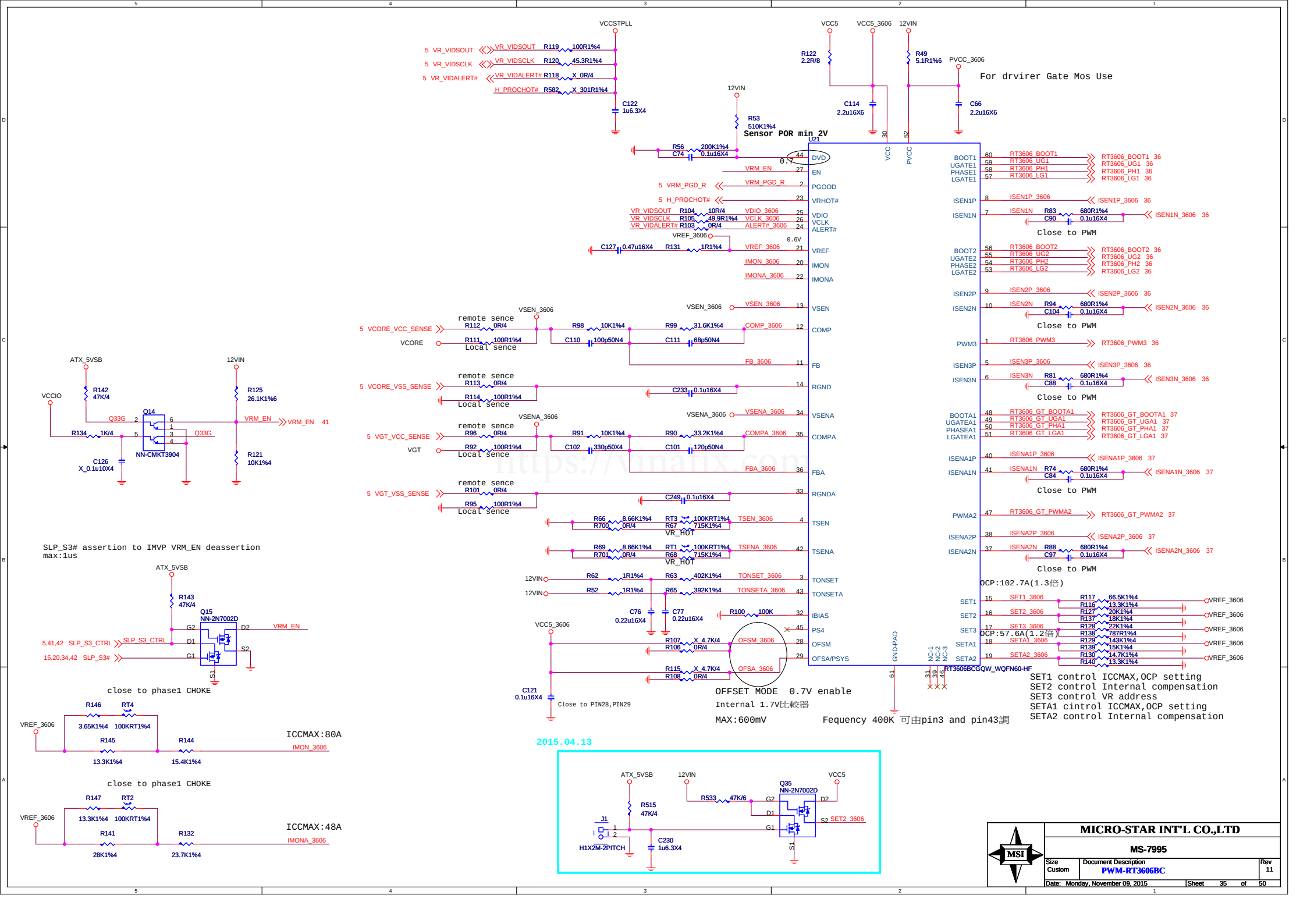
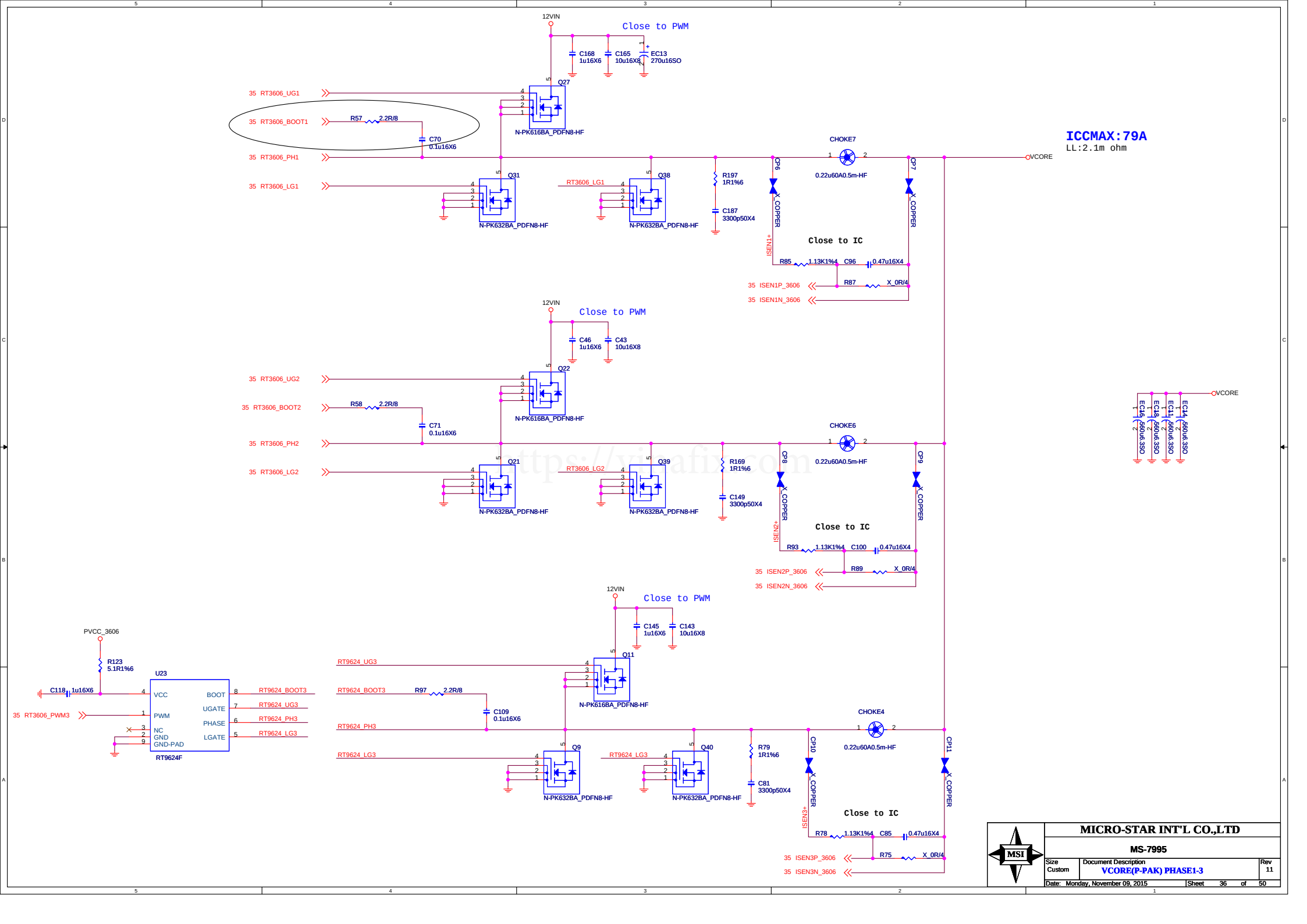

VCCSTPLL
VCC5
VCC5_3606
12VIN
PVCC_3606
For drvirer Gate Mos Use
Sensor POR min_2V
U21
RT3606BCGQW_WQFN60-HF
Close to PWM
OCP:102.7A(1.3倍)
OCP:57.6A(1.2倍)
OFFSET MODE 0.7V enable
Internal 1.7V比較器
MAX:600mV
Fequency 400K 可由pin3 and pin43調
SET1 control ICCMAX,OCP setting
SET2 control Internal compensation
SET3 control VR address
SETA1 cintrol ICCMAX,OCP setting
SETA2 control Internal compensation
SLP_S3# assertion to IMVP VRM_EN deassertion
max:1us
close to phase1 CHOKE
ICCMAX:80A
close to phase1 CHOKE
ICCMAX:48A
2015.04.13
MICRO-STAR INT'L CO.,LTD
MS-7995
PWM-RT3606BC
Monday, November 09, 2015


12VIN
Close to PWM
C168 1u16X6
C165 10u16X8
EC13 270u16SO
Q27
35 RT3606_UG1
35 RT3606_BOOT1
R57 2.2R/8
C70 0.1u16X6
35 RT3606_PH1
35 RT3606_LG1
N-PK616BA_PDFN8-HF
Q31
Q38
RT3606_LG1
N-PK632BA_PDFN8-HF
R197 1R1%6
C187 3300p50X4
CHOKE7
0.22u60A0.5m-HF
CP6
CP7
X_COPPER
ISEN1N+
Close to IC
R85 1.13K1%4
C96 0.47u16X4
R87 X_0R/4
35 ISEN1P_3606
35 ISEN1N_3606
VCORE
ICCMAX:79A
LL:2.1m ohm
12VIN
Close to PWM
C46 1u16X6
C43 10u16X8
Q22
35 RT3606_UG2
35 RT3606_BOOT2
R58 2.2R/8
C71 0.1u16X6
35 RT3606_PH2
35 RT3606_LG2
N-PK616BA_PDFN8-HF
Q21
Q39
RT3606_LG2
N-PK632BA_PDFN8-HF
R169 1R1%6
C149 3300p50X4
CHOKE6
0.22u60A0.5m-HF
CP8
CP9
X_COPPER
ISEN2N+
Close to IC
R93 1.13K1%4
C100 0.47u16X4
R89 X_0R/4
35 ISEN2P_3606
35 ISEN2N_3606
EC16 560u6.3SO
EC15 560u6.3SO
EC12 560u6.3SO
EC11 560u6.3SO
EC14 560u6.3SO
VCORE
PVCC_3606
R123 5.1R1%6
C118 1u16X6
U23
VCC
PWM
NC
GND
GND-PAD
BOOT
UGATE
PHASE
LGATE
RT9624F
35 RT3606_PWM3
RT9624_BOOT3
RT9624_UG3
RT9624_PH3
RT9624_LG3
12VIN
Close to PWM
C145 1u16X6
C143 10u16X8
Q11
RT9624_UG3
RT9624_BOOT3
R97 2.2R/8
C109 0.1u16X6
RT9624_PH3
RT9624_LG3
N-PK616BA_PDFN8-HF
Q9
Q40
RT9624_LG3
N-PK632BA_PDFN8-HF
R79 1R1%6
C81 3300p50X4
CHOKE4
0.22u60A0.5m-HF
CP10
CP11
X_COPPER
ISEN3N+
Close to IC
R78 1.13K1%4
C85 0.47u16X4
R75 X_0R/4
35 ISEN3P_3606
35 ISEN3N_3606
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MS-7995
Size Custom
Document Description
VCORE(P-PAK) PHASE1-3
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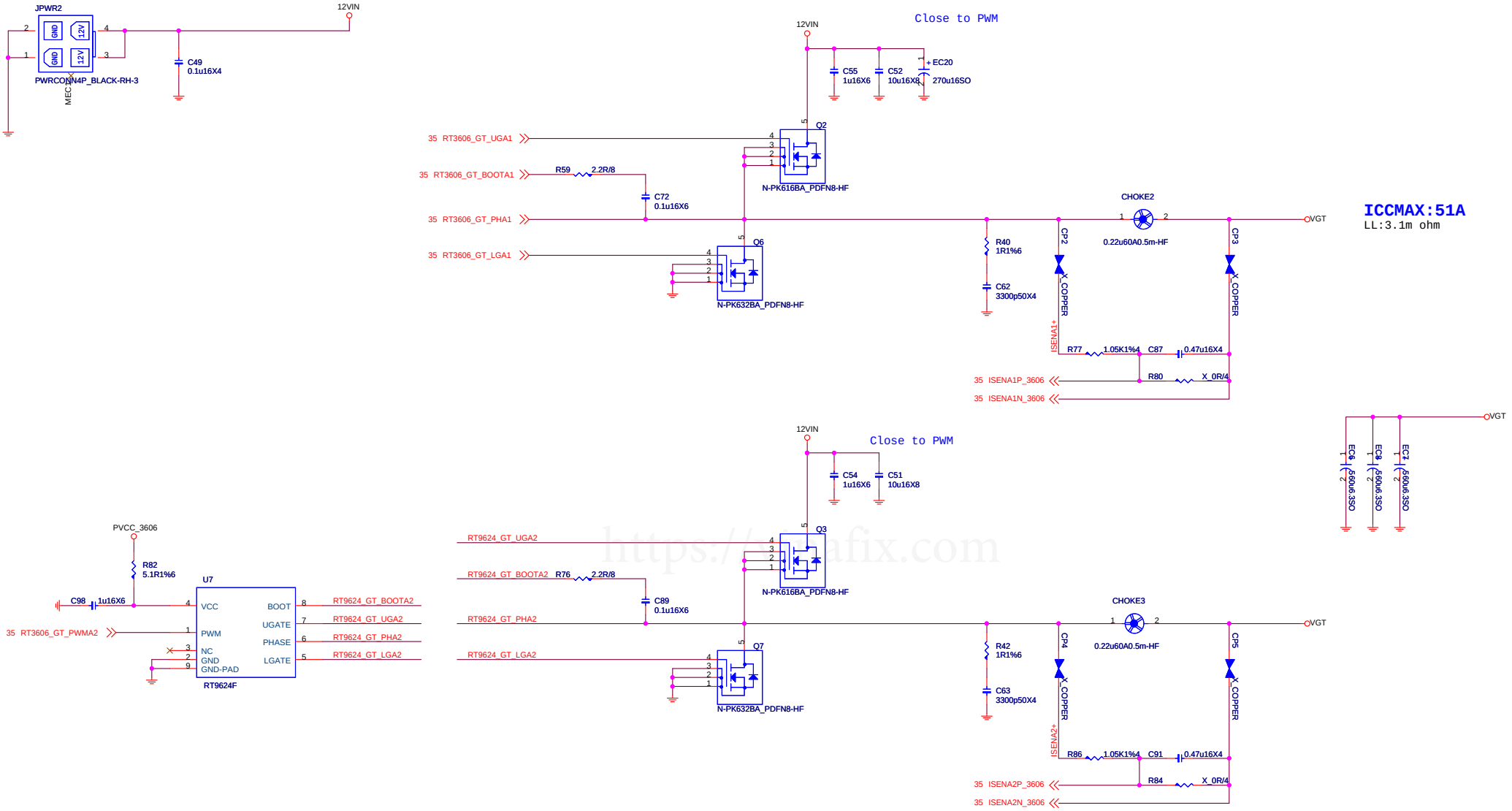

MICRO-STAR INT'L CO.,LTD		
MS-7995		
Size: Custom	Document Description: VGT(P-PAK) PHASE1-2	Rev: 11
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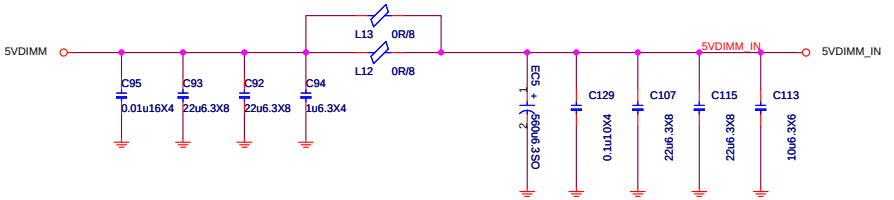
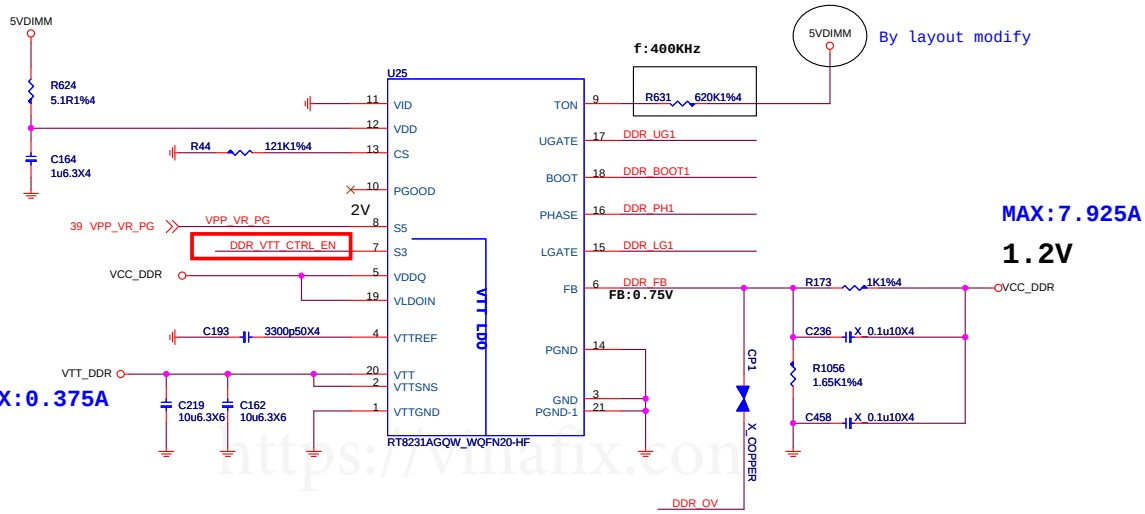
DDR4_1.2V 2.8A+ 4.75A+0.375A=7.925

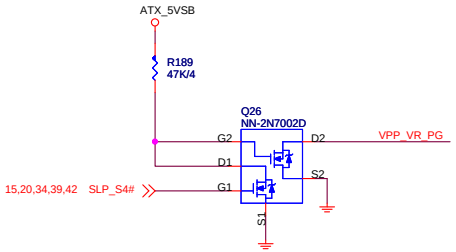
2.8A FOR CPU
9.5A FOR 4DIMM DDR4
4.75A FOR 2DIMM DDR4
0.375A FOR VTT_DDR

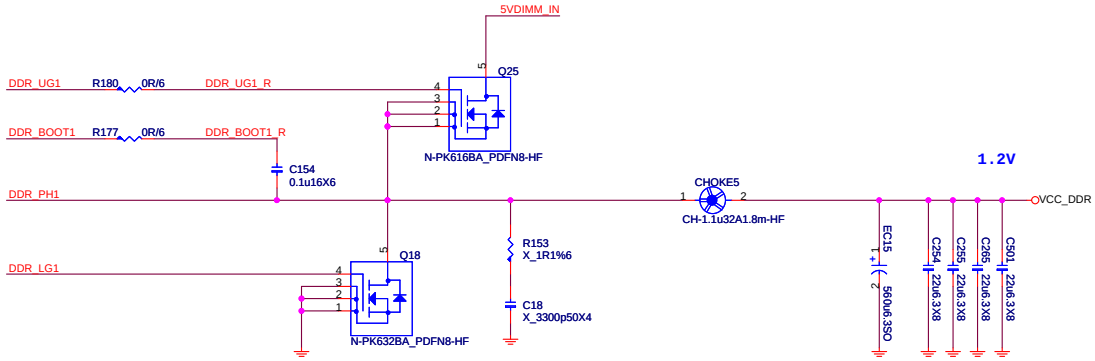
OCP =7.925A*1.5=11.8875A
Rlimit(R44)
Current Limit =121K*5uA/10/5mohm
--> 121Kohm(12.1A)

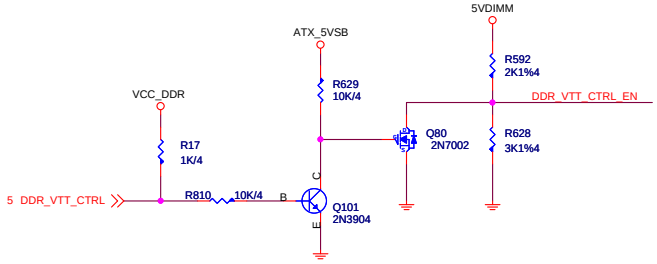
```
Irms = Iout * SQRT((Vout/Vin) * (1 - (Vout/Vin)))
     = 9.357 * 0.44
     = 4.154A
```





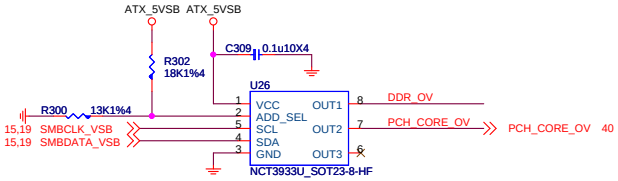






UPI VOLTAGE CONSOLE

0x26:RH=18K,RL=13K



MICRO-STAR INT'L CO.,LTD

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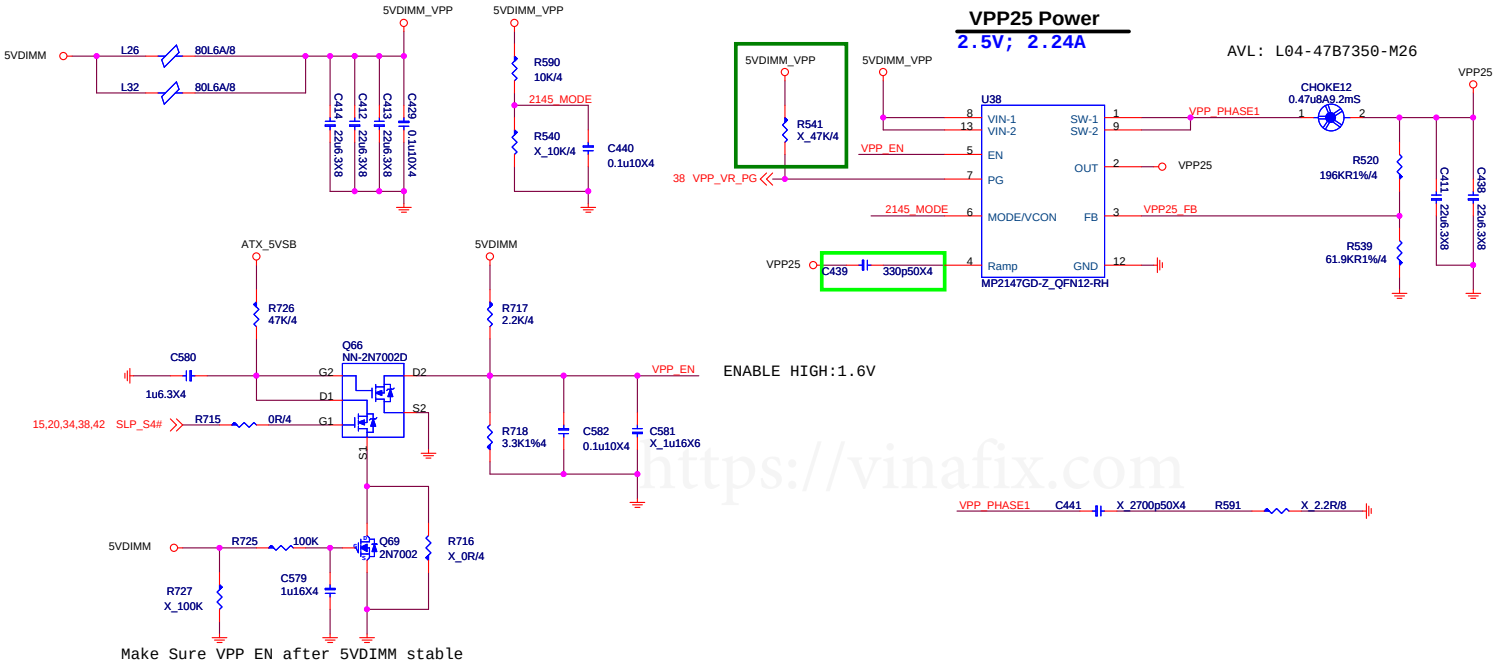
2DIMM :1.12A FOR DDR VPP2.5V



MICRO-STAR INT'L CO.,LTD		
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PCH_1VSB

1.0V; 9.142A+5.5A=14.642A

(6.54A +0.132*4+0.154*6+0.054+0.132*3)

OCP = 21.963A

Rocset = 1.5 * Imax * Rdson(low) / Iocset
= 1.5 * 14.642 * 5mohm / 10uA
= 11.169K

Rocs:11.3K,OCP:
D03-3669S00-F01 : 22.6A

Rdson(low)4.5V
D03-4C05N03-O05 : 5 mohm
D03-632BA0C-N03 : 4.6 mohm
D03-3056M00-U47 : 6.2mohm
D03-3669S00-F01 : 5.2m ohm

2014.08.22 close to U34

close to PIN7

2015.01.22
for up1540:stuff R438->36K,
C379->NC,C373->3.3nF
for RT8125:R438.C379.C373->NC

2015.01.22
for up1540:R403->2.2R,C362->1uF
for RT8125:R403->10R,C362->1uF

POR:4.2V

EN:2.4V

2014.12.25
for up1540:C364&R407 ->NC

2014.12.25
for up1540:C365 is OCP set min:5Kohm
stuff 7.87K OCP SET:15.74A
RT8125C stuff C1000P C11-1022032-W08

2014.12.25
for up1540:R623 ->NC

2014.12.25
for up1540:R374->NC

to sink/source over voltage IC.
pin10 sink/source current capability can't over 1mA
So max voltage can't over 1.8V.
from NCT3933

2014.12.25
for up1540:stuff R622->0R

2014.12.25
for up1540:R420 ->NC
RT8125C:R420 ->NC

Vout = Vref * (1 + R821/R822)
= 0.8 * (1 + 1K/3.92K)
= 0.8 * 1.2551
= 1.004V

Irms = Iout * SQRT((Vout/Vin) * (1 - (Vout/Vin)))
= 14.892 * 0.4
= 5.95686A

for ripple

too Big

MAX:14.642A
OCP:21.963A

Lmin = ((Vin - Vout)/(Fsw * k * Iout_max)) * (Vout/Vin)
= 0.59689uH (K = 30%)

PLACE UNDER THE PCH

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SA Power:1.05V,11.1A

*OCP =11.1A*1.4=15.54A*
*Rocs(R15)=OCP*Rdson(Low side)3.4mohm]/10uA*
=15.54(3.4)mohm/10uA*
=5.2836Kohm

Rocs:5.2836K,OCP:
D03-4C05N03-O05 : 15.76A
D03-632BA0C-N03 : 16.24A
use UBIQ MOS need Check

Rdson(low)10V
D03-4C05N03-O05 : 3.4mohm
D03-632BA0C-N03 : 3.3mohm
D03-3056M00-U47 : 4.2mohm

2015.01.22
for up1540:R96->2.2R,C84->1uF
for RT8125:R96->10R,C84->1uF

+12V R210 10R/8 C207 1u16X6

EN:VIH2.4V
EN pin Maximum:6.5V

POR:4.2V

2014.10.16
up1540 no stuff

U35 RT8125EGQW
VCCSA_EN → EN
PGOOD
SA_REFOUT → REFOUT
REFIN
VCC
GND
BOOT → SA_BOOT1 R211 0R/6 SA_BOOT1_R C208 0.1u16X4
PHASE → SA_PH1
UGATE → SA_UG1
LGATE/OCSET → SA_LG1
FB → SA_FB R217 1K1%4

R219 1K1%4
C216 1000p16X4
C215 1000p16X4
SA_REFIN

FB:0.8V
Vout=0.8*(1+R19/R20)

F:300K 不可調

up1540 stuff R
RT8125C stuff C1000P C11-1022032-W08

VCCSA
R218 10R1%4
R221 0R/4 VCCSA_SENSE 5
C212 X_0.1u10X4
2015.09.18
R215 3.16K1%4
R225 0R/4 VSS_VCCSA_SENSE 5
R226 10R1%4

MAX:11.1A

2014.08.14
close to U35

VCCSA_EN
R223 X_36K1%4
C214 X_33p50N4
C218 X_0.01u16X4
RSVD for up1540

2015.01.22
for up1540:stuff R223->36K,
C214->NC,C218->10nF
for RT8125:R223.C214.C218->NC

Irms = Iout * SQRT((Vout/Vin) * (1 - (Vout/Vin)))
= 11.1* 0.2825
= 3.13575A

2014.09.11 By layout

ATX_5VSB
R248 47K/4
C239 X_0.1u10X4
Q72 NN-2N7002D
35 VRM_EN
R244 0R/4
+12V
R232 26.1K1%4
VCCSA_EN
R250 10K1%4
C247 X_0.1u16X4

VCCSA_EN
5,35,42 SLP_S3_CTRL
SLP_S3_CTRL
Q41 2N7002

SLP_S3# assertion to VR disabled
max:1us

+12V
C196 1u16X6
C201 10u16X8
EC1 270u16SO

SA_UG1 R207 0R/6 SA_UG1_R
Q33 N-PK616BA_PDFN8-HF

SA_PH1
CHOKE11 CH-1.0u15A7.5mS-HF
VCCSA
1.05V,11.1A

R212 X_2.2R/8
C210 X_3300p50X4
snubber
C205 1u6.3X4
C200 22u6.3X8
EC21 560u6.3SO
EC22 560u6.3SO

SA_LG1
Q34 N-PK632BA_PDFN8-HF
R213 5.36K1%4
OCPSET:min 5Kohm

Lmin = ((Vin - Vout)/(Fsw * k * Iout_max)) * (Vout/Vin)
= 0.5914uH (K = 30%)

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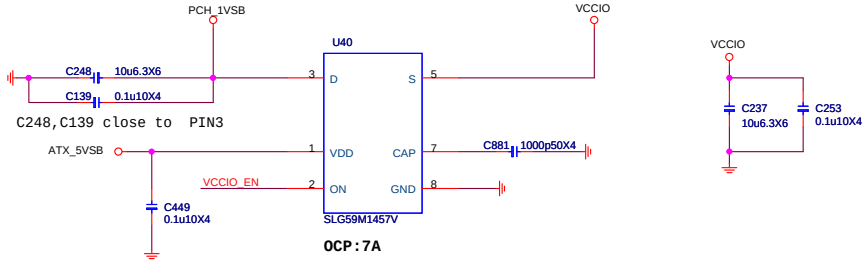
2015.10.29 change to SLG59M1457 load switch, Pwr source by PCH_1VSB

VCCIO

0.95V; 5.5A

Source 1.00V

MAX:5.5A

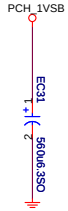


OCP:7A

RDSon:7.8m ohm

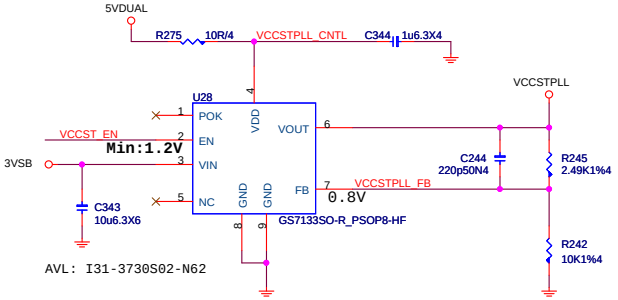
OTP:120度

VCCIO ramped and stable before beginning of VCCOPC/VCCEOPIO ramp



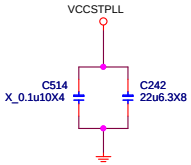
2015.10.29 change to GS7133

VCCSTPLL



AVL: I31-3730S02-N62

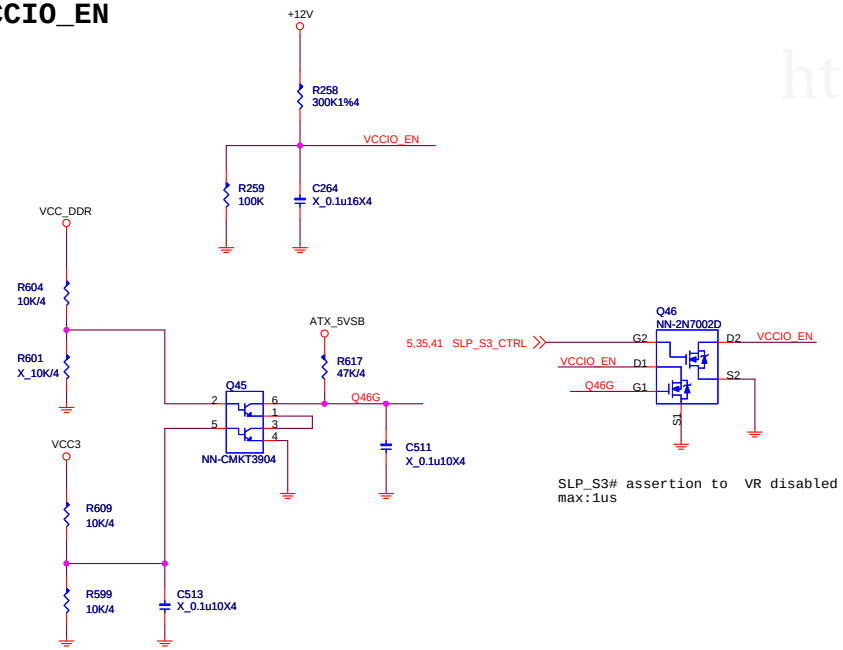
MAX:250mA



C514,C242 close to PIN5

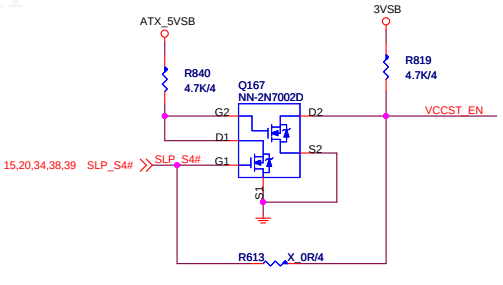
VCCST/PLL stable 1ms before PROCPWRGD

VCCIO_EN

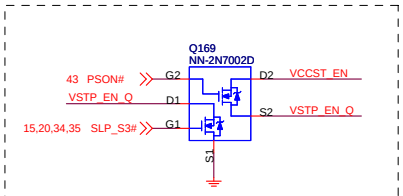


SLP_S3# assertion to VR disabled max:1us

VCCSTPLL_EN



FIX G3 -> S5 mode VCCSTPLL leakage



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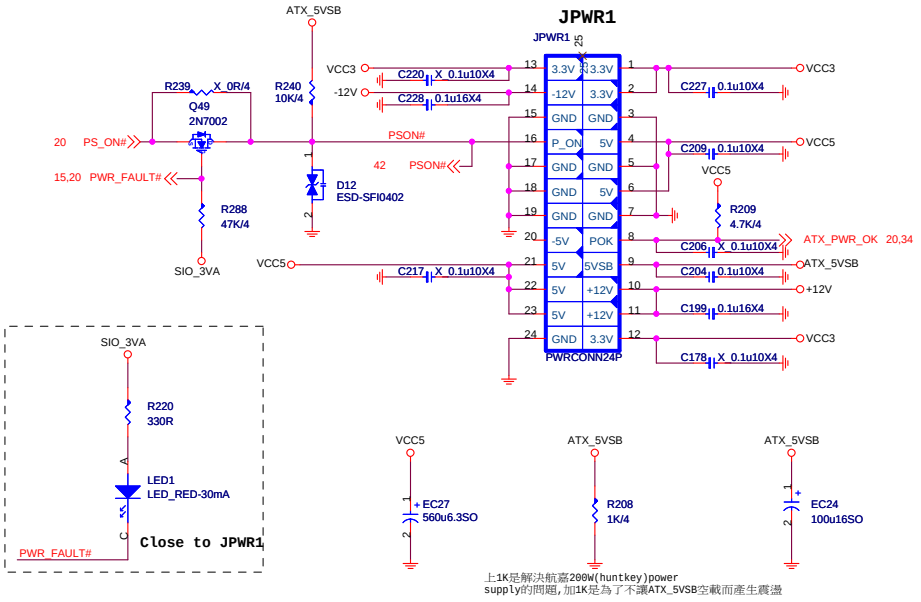
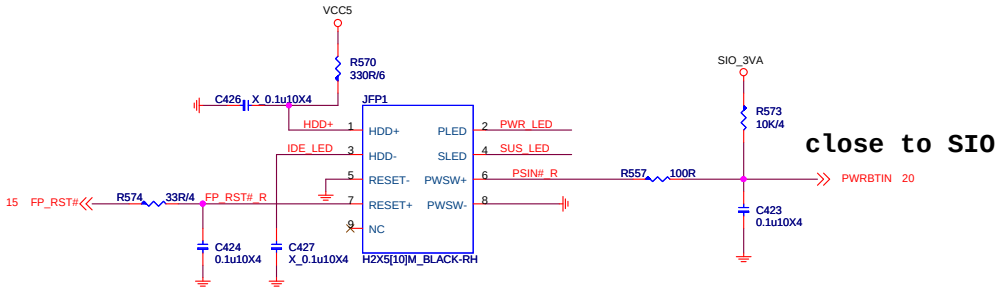
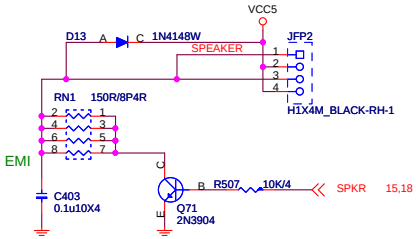
ATX POWER CONNECTOR



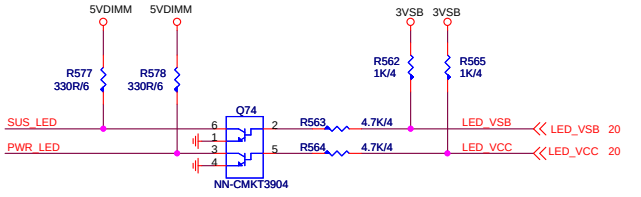
FRONT PANNEL



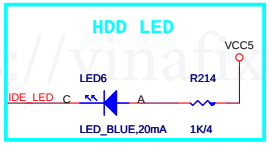
Speaker Pin Header



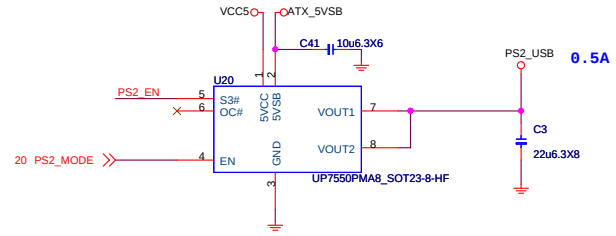
LED (for NV5533)



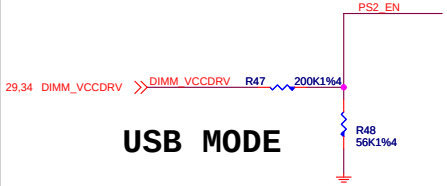
HDD LED



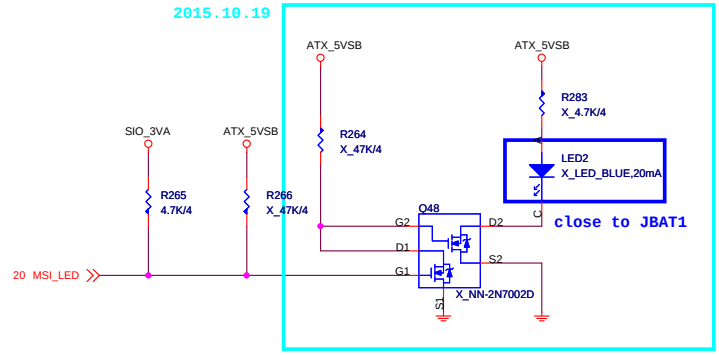
PS2 POWER



USB MODE



MSI LED



TPM

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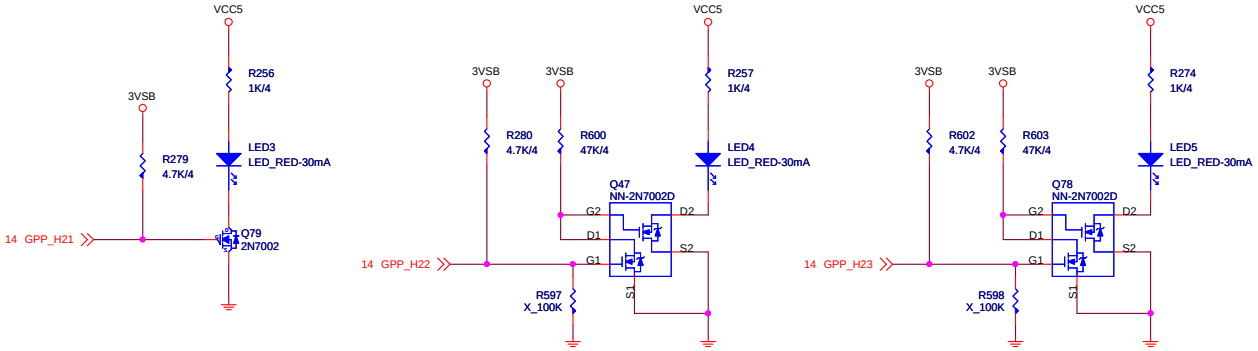
DEBUG LED



GPIO / LED	GPP_H21	GPP_H22	GPP_H23
亮	GPI PULL HIGH	GPO PO LOW	GPO PO LOW
滅	GPO LOW	GPO HIGH (default HIGH)	GPO HIGH (default HIGH)

關機斷電狀態下，3個LED先維持default全暗，開機通電後：

1. 首先進行CPU checkCPU LED 亮，check PASS後則CPU LED滅掉。
2. 接著依序進行Memory /memory LED亮check PASS後則memory LED滅掉。
3. VGA的check/VGA LED亮，check PASS後則VGA LED滅掉。
4. 因此最後正常順利開機後，三個LED燈都是滅掉的。（系統重啟或其他原因造成系統重開機，則LED仍按上述行為動作）

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EMI CAP

MSI	MICRO-STAR INT'L CO.,LTD	
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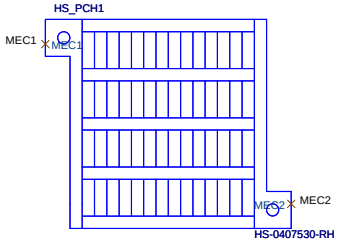


VCC_DDR — VCC_DDR
VTT_DDR — VTT_DDR
5VDIMM — 5VDIMM
3VSB — 3VSB

3VDSW — 3VDSW
PCH_1VSB — PCH_1VSB
VCORE — VCORE
VGT — VGT
VCCSA — VCCSA
VCCSTPLL — VCCSTPLL
VCCIO — VCCIO

H110 OPT.

PCH100 — PCH H110 — X_H110
LA50 — Label — GEN2 0.1uF — X_0.1u10X4
LA100 — MKT H110 — X_MKT
BIOS100 — 8M BIOS — X_8M BIOS

H170 AC OPT.

PCH1000 — PCH H170 — X_H170
LA1000 — MKT H170 AC — X_MKT

B150 OPT.

LA10 — MKT B150 AC — MKT
LA500 — MKT B150 — X_MKT

LA11 — AMI — AMI

BAT1_X1 — BAT-CR2032

CPU_H1 — CPU 鐵座 — CPU_H1

LABEL1 — HDMI — HDMI LABEL
H110
B150 AC
B150
H170 AC

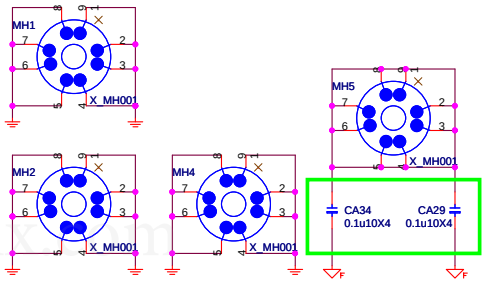
LABEL2 — VIRTUAL — VIRTUAL LABEL
B150 AC
B150

LABEL3 — Bundel — Bundel LABEL
B150 AC
B150

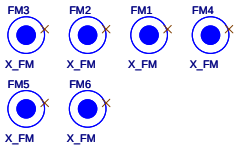
PCB1

7995_10

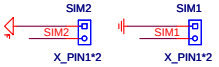
Mounting Holes



Optical Fiducial Marks-120



Simulation



2015/10/52015/10/16PD0-0799510-E48,競華,23,寶安恩斯邁廠(MSIS)6,black
2015/10/52015/10/16PD0-0799510-E48,競華,29,寶安恩斯邁廠(MSIS)6,black
2015/10/52015/10/16PD0-0799510-G37,精成-深圳,23,寶安恩斯邁廠(MSIS)6,black
2015/10/52015/10/16PD0-0799510-G37,精成-深圳,29,寶安恩斯邁廠(MSIS)6,black

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