

1	Cover Sheet
2	System Block Diagram
3	Clock Distribution
4	SNB-E MEMORY 1 & 2
5	SNB-E MEMORY 3 & 4
6	SNB-E MEMORY CONTROLLER
7	SNB-E MISC/RESERVED
8	SNB-E PCIE/DMI
9	SNB-E POWER
10	SNB-E GND
11	DDR III DIMM 1 / DIMM 2
12	DDR III DIMM 3&5 / DIMM 4&6
13	DDR III DQ VREF
14	PBG-PCIE/USB/DMI/SAS
15	PBG-PCI/SATA
16	PBG-SMB/LPC/AUDIO/RTC
17	PBG-NVRAM
18	PBG-POWER
19	PBG-GND
20	Clock Gen ICS9LPRS113
21	Clock Buffer DB1200
22	PCIE X16 slot
23	PCIE x1 Slots
24	SIO-Fintek F71889AD
25	Gigabit LAN - RTL8111E
26	USB 3.0 NEC UPD720200-1
27	USB 3.0 NEC UPD720200-2
28	SATA/ESATA Port
29	Audio Codec ALC892
30	FAN Port
31	Front / Rear USB Connectors
32	PBG Core Power
33	DDR Power
34	CPU_VTT
35	VRD12 - ISL6366
36	Phase Extender
37	VCCP & VSA POWER
38	CPU Decoupling Caps
39	ATX F_Panel/EMI/LED
40	CPU XDP

# MS-7712

Version : 0A

## CPU :

**INTEL Sandy Bridge-E Processor**

## System Chipset :

**INTEL Patsburg Chipset**

## On Board Chipset :

**VRM 12 -- ISL6366 6 Phase**

**Gigabit LAN -- RTL8111E**

**USB 3.0 -- UPD720200\*2**

**HDA Codec -- Realtek ALC892**

**Super I/O -- F71889AD**

**SPI Flash 32Mb**

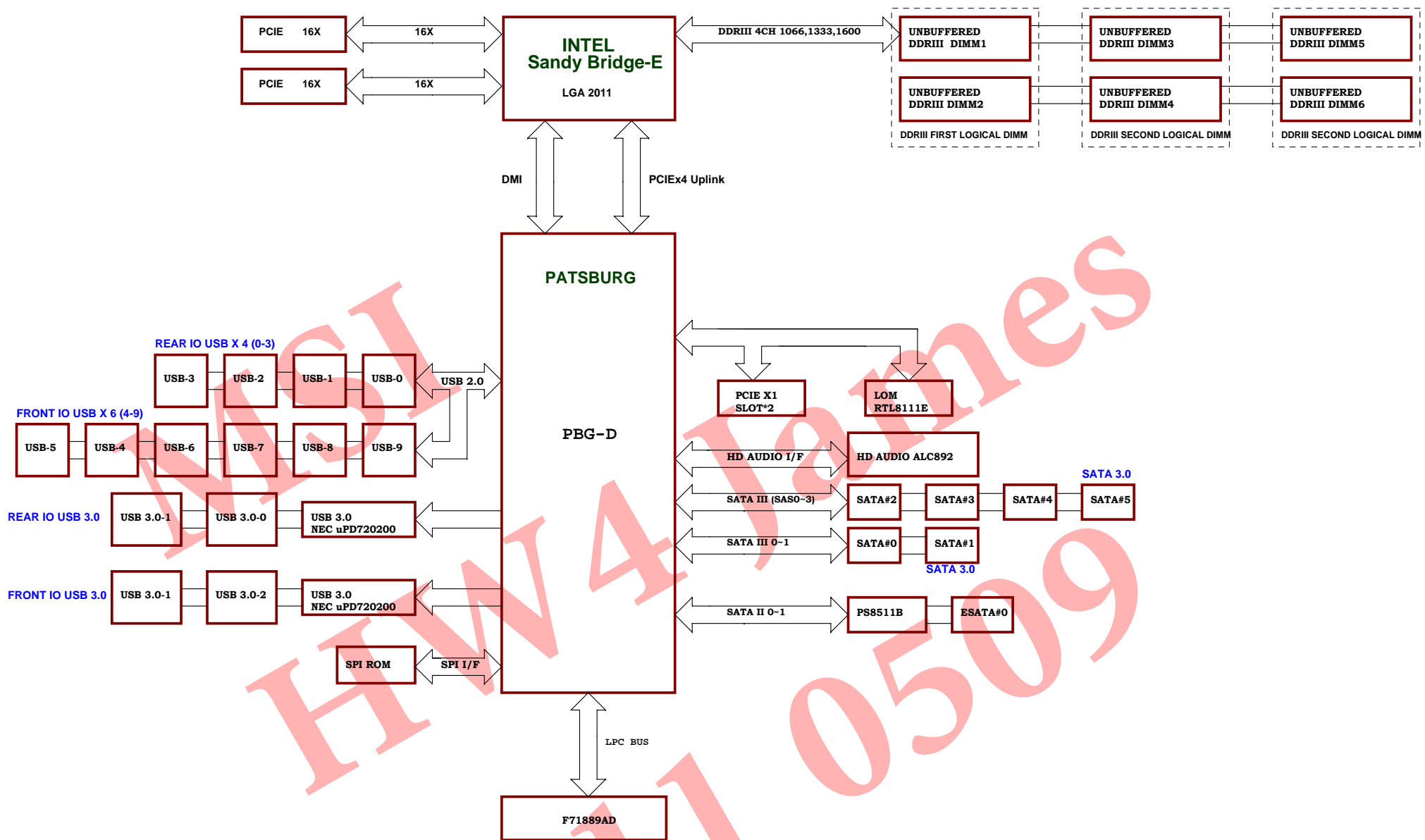
## Main Memory :

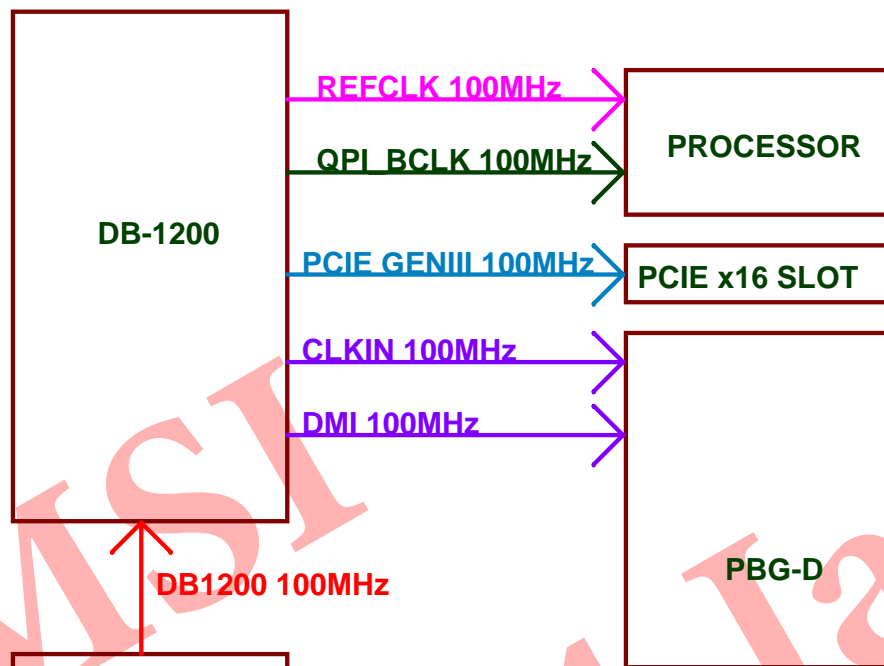
**4 Channel DDR III \* 4 (Max 16GB)**

## Expansion Slot :

**PCI Express x16 Slot \* 2**

**PCI Express x1 Slot \* 2**





11 MEM\_MA\_DATA[63..0] ← MEM\_MA\_DATA[63..0]

CPU1E

MEM_MA_DATA0	CC7	DDR0_DQ_00
MEM_MA_DATA1	CC8	DDR0_DQ_01
MEM_MA_DATA2	CC8	DDR0_DQ_02
MEM_MA_DATA3	CC9	DDR0_DQ_03
MEM_MA_DATA4	CC9	DDR0_DQ_04
MEM_MA_DATA5	CC7	DDR0_DQ_05
MEM_MA_DATA6	CC7	DDR0_DQ_06
MEM_MA_DATA7	CC7	DDR0_DQ_07
MEM_MA_DATA8	CC8	DDR0_DQ_08
MEM_MA_DATA9	CC8	DDR0_DQ_09
MEM_MA_DATA10	CC8	DDR0_DQ_10
MEM_MA_DATA11	CC8	DDR0_DQ_11
MEM_MA_DATA12	CC8	DDR0_DQ_12
MEM_MA_DATA13	CC8	DDR0_DQ_13
MEM_MA_DATA14	CC8	DDR0_DQ_14
MEM_MA_DATA15	CC8	DDR0_DQ_15
MEM_MA_DATA16	CC8	DDR0_DQ_16
MEM_MA_DATA17	CC8	DDR0_DQ_17
MEM_MA_DATA18	CC8	DDR0_DQ_18
MEM_MA_DATA19	CC8	DDR0_DQ_19
MEM_MA_DATA20	CC8	DDR0_DQ_20
MEM_MA_DATA21	CC8	DDR0_DQ_21
MEM_MA_DATA22	CC8	DDR0_DQ_22
MEM_MA_DATA23	CC8	DDR0_DQ_23
MEM_MA_DATA24	CC8	DDR0_DQ_24
MEM_MA_DATA25	CC8	DDR0_DQ_25
MEM_MA_DATA26	CC8	DDR0_DQ_26
MEM_MA_DATA27	CC8	DDR0_DQ_27
MEM_MA_DATA28	CC8	DDR0_DQ_28
MEM_MA_DATA29	CC8	DDR0_DQ_29
MEM_MA_DATA30	CC8	DDR0_DQ_30
MEM_MA_DATA31	CC8	DDR0_DQ_31
MEM_MA_DATA32	CC8	DDR0_DQ_32
MEM_MA_DATA33	CC8	DDR0_DQ_33
MEM_MA_DATA34	CC8	DDR0_DQ_34
MEM_MA_DATA35	CC8	DDR0_DQ_35
MEM_MA_DATA36	CC8	DDR0_DQ_36
MEM_MA_DATA37	CC8	DDR0_DQ_37
MEM_MA_DATA38	CC8	DDR0_DQ_38
MEM_MA_DATA39	CC8	DDR0_DQ_39
MEM_MA_DATA40	CC8	DDR0_DQ_40
MEM_MA_DATA41	CC8	DDR0_DQ_41
MEM_MA_DATA42	CC8	DDR0_DQ_42
MEM_MA_DATA43	CC8	DDR0_DQ_43
MEM_MA_DATA44	CC8	DDR0_DQ_44
MEM_MA_DATA45	CC8	DDR0_DQ_45
MEM_MA_DATA46	CC8	DDR0_DQ_46
MEM_MA_DATA47	CC8	DDR0_DQ_47
MEM_MA_DATA48	CC8	DDR0_DQ_48
MEM_MA_DATA49	CC8	DDR0_DQ_49
MEM_MA_DATA50	CC8	DDR0_DQ_50
MEM_MA_DATA51	CC8	DDR0_DQ_51
MEM_MA_DATA52	CC8	DDR0_DQ_52
MEM_MA_DATA53	CC8	DDR0_DQ_53
MEM_MA_DATA54	CC8	DDR0_DQ_54
MEM_MA_DATA55	CC8	DDR0_DQ_55
MEM_MA_DATA56	CC8	DDR0_DQ_56
MEM_MA_DATA57	CC8	DDR0_DQ_57
MEM_MA_DATA58	CC8	DDR0_DQ_58
MEM_MA_DATA59	CC8	DDR0_DQ_59
MEM_MA_DATA60	CC8	DDR0_DQ_60
MEM_MA_DATA61	CC8	DDR0_DQ_61
MEM_MA_DATA62	CC8	DDR0_DQ_62
MEM_MA_DATA63	CC8	DDR0_DQ_63

XE15  
XC15  
XH18  
XF18  
XB14  
XD14  
XG17  
XK18

CH8	MEM_MA_DQS_H0	MEM_MA_DQS_H0 11
CG7	MEM_MA_DQS_L0	MEM_MA_DQS_L0 11
CF4	MEM_MA_DQS_H1	MEM_MA_DQS_H1 11
CE3	MEM_MA_DQS_L1	MEM_MA_DQS_L1 11
CK14	MEM_MA_DQS_H2	MEM_MA_DQS_H2 11
CH14	MEM_MA_DQS_L2	MEM_MA_DQS_L2 11
CE11	MEM_MA_DQS_H3	MEM_MA_DQS_H3 11
CD10	MEM_MA_DQS_L3	MEM_MA_DQS_L3 11
CC33	MEM_MA_DQS_H4	MEM_MA_DQS_H4 11
CE33	MEM_MA_DQS_L4	MEM_MA_DQS_L4 11
CJ33	MEM_MA_DQS_H5	MEM_MA_DQS_H5 11
CL33	MEM_MA_DQS_L5	MEM_MA_DQS_L5 11
CD40	MEM_MA_DQS_H6	MEM_MA_DQS_H6 11
CB40	MEM_MA_DQS_L6	MEM_MA_DQS_L6 11
CK40	MEM_MA_DQS_H7	MEM_MA_DQS_H7 11
CH40	MEM_MA_DQS_L7	MEM_MA_DQS_L7 11

RSVD_037	CE7	CE7
RSVD_038	CE8	CE8
RSVD_039	CE9	CE9
RSVD_040	CE10	CE10
RSVD_041	CE11	CE11
RSVD_042	CE12	CE12
RSVD_043	CE13	CE13
RSVD_044	CE14	CE14
RSVD_045	CE15	CE15
RSVD_046	CE16	CE16
RSVD_047	CE17	CE17
RSVD_048	CE18	CE18
RSVD_049	CE19	CE19
RSVD_050	CE20	CE20
RSVD_051	CE21	CE21
RSVD_052	CE22	CE22
RSVD_053	CE23	CE23
RSVD_054	CE24	CE24

SNB-E

11 MEM\_MB\_DATA[63..0] ← MEM\_MB\_DATA[63..0]

CPU1G

MEM_MB_DATA0	CP4	DDR1_DQ_00
MEM_MB_DATA1	CP2	DDR1_DQ_01
MEM_MB_DATA2	CP4	DDR1_DQ_02
MEM_MB_DATA3	CP4	DDR1_DQ_03
MEM_MB_DATA4	CP4	DDR1_DQ_04
MEM_MB_DATA5	CP4	DDR1_DQ_05
MEM_MB_DATA6	CP4	DDR1_DQ_06
MEM_MB_DATA7	CP4	DDR1_DQ_07
MEM_MB_DATA8	CP4	DDR1_DQ_08
MEM_MB_DATA9	CP4	DDR1_DQ_09
MEM_MB_DATA10	CP4	DDR1_DQ_10
MEM_MB_DATA11	CP4	DDR1_DQ_11
MEM_MB_DATA12	CP4	DDR1_DQ_12
MEM_MB_DATA13	CP4	DDR1_DQ_13
MEM_MB_DATA14	CP4	DDR1_DQ_14
MEM_MB_DATA15	CP4	DDR1_DQ_15
MEM_MB_DATA16	CP4	DDR1_DQ_16
MEM_MB_DATA17	CP4	DDR1_DQ_17
MEM_MB_DATA18	CP4	DDR1_DQ_18
MEM_MB_DATA19	CP4	DDR1_DQ_19
MEM_MB_DATA20	CP4	DDR1_DQ_20
MEM_MB_DATA21	CP4	DDR1_DQ_21
MEM_MB_DATA22	CP4	DDR1_DQ_22
MEM_MB_DATA23	CP4	DDR1_DQ_23
MEM_MB_DATA24	CP4	DDR1_DQ_24
MEM_MB_DATA25	CP4	DDR1_DQ_25
MEM_MB_DATA26	CP4	DDR1_DQ_26
MEM_MB_DATA27	CP4	DDR1_DQ_27
MEM_MB_DATA28	CP4	DDR1_DQ_28
MEM_MB_DATA29	CP4	DDR1_DQ_29
MEM_MB_DATA30	CP4	DDR1_DQ_30
MEM_MB_DATA31	CP4	DDR1_DQ_31
MEM_MB_DATA32	CP4	DDR1_DQ_32
MEM_MB_DATA33	CP4	DDR1_DQ_33
MEM_MB_DATA34	CP4	DDR1_DQ_34
MEM_MB_DATA35	CP4	DDR1_DQ_35
MEM_MB_DATA36	CP4	DDR1_DQ_36
MEM_MB_DATA37	CP4	DDR1_DQ_37
MEM_MB_DATA38	CP4	DDR1_DQ_38
MEM_MB_DATA39	CP4	DDR1_DQ_39
MEM_MB_DATA40	CP4	DDR1_DQ_40
MEM_MB_DATA41	CP4	DDR1_DQ_41
MEM_MB_DATA42	CP4	DDR1_DQ_42
MEM_MB_DATA43	CP4	DDR1_DQ_43
MEM_MB_DATA44	CP4	DDR1_DQ_44
MEM_MB_DATA45	CP4	DDR1_DQ_45
MEM_MB_DATA46	CP4	DDR1_DQ_46
MEM_MB_DATA47	CP4	DDR1_DQ_47
MEM_MB_DATA48	CP4	DDR1_DQ_48
MEM_MB_DATA49	CP4	DDR1_DQ_49
MEM_MB_DATA50	CP4	DDR1_DQ_50
MEM_MB_DATA51	CP4	DDR1_DQ_51
MEM_MB_DATA52	CP4	DDR1_DQ_52
MEM_MB_DATA53	CP4	DDR1_DQ_53
MEM_MB_DATA54	CP4	DDR1_DQ_54
MEM_MB_DATA55	CP4	DDR1_DQ_55
MEM_MB_DATA56	CP4	DDR1_DQ_56
MEM_MB_DATA57	CP4	DDR1_DQ_57
MEM_MB_DATA58	CP4	DDR1_DQ_58
MEM_MB_DATA59	CP4	DDR1_DQ_59
MEM_MB_DATA60	CP4	DDR1_DQ_60
MEM_MB_DATA61	CP4	DDR1_DQ_61
MEM_MB_DATA62	CP4	DDR1_DQ_62
MEM_MB_DATA63	CP4	DDR1_DQ_63

XE13  
XD14  
XD16  
XD18  
XD19  
XD20  
XD21  
XD22  
XD23  
XD24  
XD25  
XD26  
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XD55  
XD56  
XD57  
XD58  
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XD61  
XD62  
XD63

DDR1_DQS_DP_00	CR3	MEM_MB_DQS_H0	MEM_MB_DQS_H0 11
DDR1_DQS_DN_00	CT4	MEM_MB_DQS_L0	MEM_MB_DQS_L0 11
DDR1_DQS_DP_01	DE9	MEM_MB_DQS_H1	MEM_MB_DQS_H1 11
DDR1_DQS_DN_01	DC9	MEM_MB_DQS_L1	MEM_MB_DQS_L1 11
DDR1_DQS_DP_02	CU9	MEM_MB_DQS_H2	MEM_MB_DQS_H2 11
DDR1_DQS_DN_02	CV8	MEM_MB_DQS_L2	MEM_MB_DQS_L2 11
DDR1_DQS_DP_03	CU15	MEM_MB_DQS_H3	MEM_MB_DQS_H3 11
DDR1_DQS_DN_03	CR15	MEM_MB_DQS_L3	MEM_MB_DQS_L3 11
DDR1_DQS_DP_04	CP32	MEM_MB_DQS_H4	MEM_MB_DQS_H4 11
DDR1_DQS_DN_04	CT32	MEM_MB_DQS_L4	MEM_MB_DQS_L4 11
DDR1_DQS_DP_05	DB34	MEM_MB_DQS_H5	MEM_MB_DQS_H5 11
DDR1_DQS_DN_05	CV34	MEM_MB_DQS_L5	MEM_MB_DQS_L5 11
DDR1_DQS_DP_06	CU38	MEM_MB_DQS_H6	MEM_MB_DQS_H6 11
DDR1_DQS_DN_06	CV38	MEM_MB_DQS_L6	MEM_MB_DQS_L6 11
DDR1_DQS_DP_07	DC38	MEM_MB_DQS_H7	MEM_MB_DQS_H7 11
DDR1_DQS_DN_07	DE38	MEM_MB_DQS_L7	MEM_MB_DQS_L7 11

DDR1_DQS_DP_08	DC15	MEM_MB_DQS_H8	MEM_MB_DQS_H8 11
DDR1_DQS_DN_08	DE15	MEM_MB_DQS_L8	MEM_MB_DQS_L8 11
DDR1_DQS_DP_09	CT2	MEM_MB_DQS_H9	MEM_MB_DQS_H9 11
DDR1_DQS_DN_09	CR1	MEM_MB_DQS_L9	MEM_MB_DQS_L9 11
DDR1_DQS_DP_10	DB8	MEM_MB_DQS_H10	MEM_MB_DQS_H10 11
DDR1_DQS_DN_10	CV8	MEM_MB_DQS_L10	MEM_MB_DQS_L10 11
DDR1_DQS_DP_11	CU13	MEM_MB_DQS_H11	MEM_MB_DQS_H11 11
DDR1_DQS_DN_11	CT13	MEM_MB_DQS_L11	MEM_MB_DQS_L11 11
DDR1_DQS_DP_12	DB3	MEM_MB_DQS_H12	MEM_MB_DQS_H12 11
DDR1_DQS_DN_12	CV3	MEM_MB_DQS_L12	MEM_MB_DQS_L12 11
DDR1_DQS_DP_13	CU3	MEM_MB_DQS_H13	MEM_MB_DQS_H13 11
DDR1_DQS_DN_13	CT3	MEM_MB_DQS_L13	MEM_MB_DQS_L13 11
DDR1_DQS_DP_14	DB3	MEM_MB_DQS_H14	MEM_MB_DQS_H14 11
DDR1_DQS_DN_14	CV3	MEM_MB_DQS_L14	MEM_MB_DQS_L14 11
DDR1_DQS_DP_15	CU3	MEM_MB_DQS_H15	MEM_MB_DQS_H15 11
DDR1_DQS_DN_15	CT3	MEM_MB_DQS_L15	MEM_MB_DQS_L15 11
DDR1_DQS_DP_16	DB3	MEM_MB_DQS_H16	MEM_MB_DQS_H16 11
DDR1_DQS_DN_16	CV3	MEM_MB_DQS_L16	MEM_MB_DQS_L16 11
DDR1_DQS_DP_17	CU3	MEM_MB_DQS_H17	MEM_MB_DQS_H17 11
DDR1_DQS_DN_17	CT3	MEM_MB_DQS_L17	MEM_MB_DQS_L17 11
DDR1_DQS_DP_18	DB3	MEM_MB_DQS_H18	MEM_MB_DQS_H18 11
DDR1_DQS_DN_18	CV3	MEM_MB_DQS_L18	MEM_MB_DQS_L18 11
DDR1_DQS_DP_19	CU3	MEM_MB_DQS_H19	MEM_MB_DQS_H19 11
DDR1_DQS_DN_19	CT3	MEM_MB_DQS_L19	MEM_MB_DQS_L19 11
DDR1_DQS_DP_20	DB3	MEM_MB_DQS_H20	MEM_MB_DQS_H20 11
DDR1_DQS_DN_20	CV3	MEM_MB_DQS_L20	MEM_MB_DQS_L20 11
DDR1_DQS_DP_21	CU3	MEM_MB_DQS_H21	MEM_MB_DQS_H21 11
DDR1_DQS_DN_21	CT3	MEM_MB_DQS_L21	MEM_MB_DQS_L21 11
DDR1_DQS_DP_22	DB3	MEM_MB_DQS_H22	MEM_MB_DQS_H22 11
DDR1_DQS_DN_22	CV3	MEM_MB_DQS_L22	MEM_MB_DQS_L22 11
DDR1_DQS_DP_23	CU3	MEM_MB_DQS_H23	MEM_MB_DQS_H23 11
DDR1_DQS_DN_23	CT3	MEM_MB_DQS_L23	MEM_MB_DQS_L23 11
DDR1_DQS_DP_24	DB3	MEM_MB_DQS_H24	MEM_MB_DQS_H24 11
DDR1_DQS_DN_24	CV3	MEM_MB_DQS_L24	MEM_MB_DQS_L24 11
DDR1_DQS_DP_25	CU3	MEM_MB_DQS_H25	MEM_MB_DQS_H25 11
DDR1_DQS_DN_25	CT3	MEM_MB_DQS_L25	MEM_MB_DQS_L25 11
DDR1_DQS_DP_26	DB3	MEM_MB_DQS_H26	MEM_MB_DQS_H26 11
DDR1_DQS_DN_26	CV3	MEM_MB_DQS_L26	MEM_MB_DQS_L26 11
DDR1_DQS_DP_27	CU3	MEM_MB_DQS_H27	MEM_MB_DQS_H27 11
DDR1_DQS_DN_27	CT3	MEM_MB_DQS_L27	MEM_MB_DQS_L27 11
DDR1_DQS_DP_28	DB3	MEM_MB_DQS_H28	MEM_MB_DQS_H28 11
DDR1_DQS_DN_28	CV3	MEM_MB_DQS_L28	MEM_MB_DQS_L28 11
DDR1_DQS_DP_29	CU3	MEM_MB_DQS_H29	MEM_MB_DQS_H29 11
DDR1_DQS_DN_29	CT3	MEM_MB_DQS_L29	MEM_MB_DQS_L29 11
DDR1_DQS_DP_30	DB3	MEM_MB_DQS_H30	MEM_MB_DQS_H30 11
DDR1_DQS_DN_30	CV3	MEM_MB_DQS_L30	MEM_MB_DQS_L30 11
DDR1_DQS_DP_31	CU3	MEM_MB_DQS_H31	MEM_MB_DQS_H31 11
DDR1_DQS_DN_31	CT3	MEM_MB_DQS_L31	MEM_MB_DQS_L31 11
DDR1_DQS_DP_32	DB3	MEM_MB_DQS_H32	MEM_MB_DQS_H32 11
DDR1_DQS_DN_32	CV3	MEM_MB_DQS_L32	MEM_MB_DQS_L32 11
DDR1_DQS_DP_33	CU3	MEM_MB_DQS_H33	MEM_MB_DQS_H33 11
DDR1_DQS_DN_33	CT3	MEM_MB_DQS_L33	MEM_MB_DQS_L33 11
DDR1_DQS_DP_34	DB3	MEM_MB_DQS_H34	MEM_MB_DQS_H34 11
DDR1_DQS_DN_34	CV3	MEM_MB_DQS_L34	MEM_MB_DQS_L34 11
DDR1_DQS_DP_35	CU3	MEM_MB_DQS_H35	MEM_MB_DQS_H35 11
DDR1_DQS_DN_35	CT3	MEM_MB_DQS_L35	MEM_MB_DQS_L35 11
DDR1_DQS_DP_36	DB3	MEM_MB_DQS_H36	MEM_MB_DQS_H36 11
DDR1_DQS_DN_36	CV3	MEM_MB_DQS_L36	MEM_MB_DQS_L36 11
DDR1_DQS_DP_37	CU3	MEM_MB_DQS_H37	MEM_MB_DQS_H37 11
DDR1_DQS_DN_37	CT3	MEM_MB_DQS_L37	MEM_MB_DQS_L37 11
DDR1_DQS_DP_38	DB3	MEM_MB_DQS_H38	MEM_MB_DQS_H38 11
DDR1_DQS_DN_38	CV3	MEM_MB_DQS_L38	MEM_MB_DQS_L38 11
DDR1_DQS_DP_39	CU3	MEM_MB_DQS_H39	MEM_MB_DQS_H39 11
DDR1_DQS_DN_39	CT3	MEM_MB_DQS_L39	MEM_MB_DQS_L39 11
DDR1_DQS_DP_40	DB3	MEM_MB_DQS_H40	MEM_MB_DQS_H40 11
DDR1_DQS_DN_40	CV3	MEM_MB_DQS_L40	MEM_MB_DQS_L40 11
DDR1_DQS_DP_41	CU3	MEM_MB_DQS_H41	MEM_MB_DQS_H41 11
DDR1_DQS_DN_41	CT3	MEM_MB_DQS_L41	MEM_MB_DQS_L41 11
DDR1_DQS_DP_42	DB3	MEM_MB_DQS_H42	MEM_MB_DQS_H42 11
DDR1_DQS_DN_42	CV3	MEM_MB_DQS_L42	MEM_MB_DQS_L42 11
DDR1_DQS_DP_43	CU3	MEM_MB_DQS_H43	MEM_MB_DQS_H43 11
DDR1_DQS_DN_43	CT3	MEM_MB_DQS_L43	MEM_MB_DQS_L43 11
DDR1_DQS_DP_44	DB3	MEM_MB_DQS_H44	MEM_MB_DQS_H44 11
DDR1_DQS_DN_44	CV3	MEM_MB_DQS_L44	MEM_MB_DQS_L44 11
DDR1_DQS_DP_45	CU3	MEM_MB_DQS_H45	MEM_MB_DQS_H45 11
DDR1_DQS_DN_45	CT3	MEM_MB_DQS_L45	MEM_MB_DQS_L45 11
DDR1_DQS_DP_46	DB3	MEM_MB_DQS_H46	MEM_MB_DQS_H46 11
DDR1_DQS_DN_46	CV3	MEM_MB_DQS_L46	MEM_MB_DQS_L46 11
DDR1_DQS_DP_47	CU3	MEM_MB_DQS_H47	MEM_MB_DQS_H47 11
DDR1_DQS_DN_47	CT3	MEM_MB_DQS_L47	MEM_MB_DQS_L47 11
DDR1_DQS_DP_48	DB3	MEM_MB_DQS_H48	MEM_MB_DQS_H48 11
DDR1_DQS_DN_48	CV3	MEM_MB_DQS_L48	MEM_MB_DQS_L48 11
DDR1_DQS_DP_49	CU3	MEM_MB_DQS_H49	MEM_MB_DQS_H49 11
DDR1_DQS_DN_49	CT3	MEM_MB_DQS_L49	MEM_MB_DQS_L49 11
DDR1_DQS_DP_50	DB3	MEM_MB_DQS_H50	MEM_MB_DQS_H50 11
DDR1_DQS_DN_50	CV3	MEM_MB_DQS_L50	MEM_MB_DQS_L50 11
DDR1_DQS_DP_51	CU3	MEM_MB_DQS_H51	MEM_MB_DQS_H51 11
DDR1_DQS_DN_51	CT3	MEM_MB_DQS_L51	MEM_MB_DQS_L51 11
DDR1_DQS_DP_52	DB3	MEM_MB_DQS_H52	MEM_MB_DQS_H52 11
DDR1_DQS_DN_52	CV3	MEM_MB_DQS_L52	MEM_MB_DQS_L52 11
DDR1_DQS_DP_53	CU3	MEM_MB_DQS_H53	MEM_MB_DQS_H53 11
DDR1_DQS_DN_53	CT3	MEM_MB_DQS_L53	MEM_MB_DQS_L53 11
DDR1_DQS_DP_54	DB3	MEM_MB_DQS_H54	MEM_MB_DQS_H54 11
DDR1_DQS_DN_54	CV3	MEM_MB_DQS_L54	MEM_MB_DQS_L54 11
DDR1_DQS_DP_55	CU3	MEM_MB_DQS_H55	MEM_MB_DQS_H55 11
DDR1_DQS_DN_55	CT3	MEM_MB_DQS_L55	MEM_MB_DQS_L55 11
DDR1_DQS_DP_56	DB3	MEM_MB_DQS_H56	MEM_MB_DQS_H56 11
DDR1_DQS_DN_56	CV3	MEM_MB_DQS_L56	MEM_MB_DQS_L56 11
DDR1_DQS_DP_57	CU3	MEM_MB_DQS_H57	MEM_MB_DQS_H57 11
DDR1_DQS_DN_57	CT3	MEM_MB_DQS_L57	MEM_MB_DQS_L57 11
DDR1_DQS_DP_58	DB3	MEM_MB_DQS_H58	MEM_MB_DQS_H58 11
DDR1_DQS_DN_58	CV3	MEM_MB_DQS_L58	MEM_MB_DQS_L58 11
DDR1_DQS_DP_59	CU3	MEM_MB_DQS_H59	MEM_MB_DQS_H59 11
DDR1_DQS_DN_59	CT3	MEM_MB_DQS_L59	MEM_MB_DQS_L59 11
DDR1_DQS_DP_60	DB3	MEM_MB_DQS_H60	MEM_MB_DQS_H60 11
DDR1_DQS_DN_60	CV3	MEM_MB_DQS_L60	MEM_MB_DQS_L60 11
DDR1_DQS_DP_61	CU3	MEM_MB_DQS_H61	MEM_MB

12 MEM\_MC\_DATA[63..0] <--

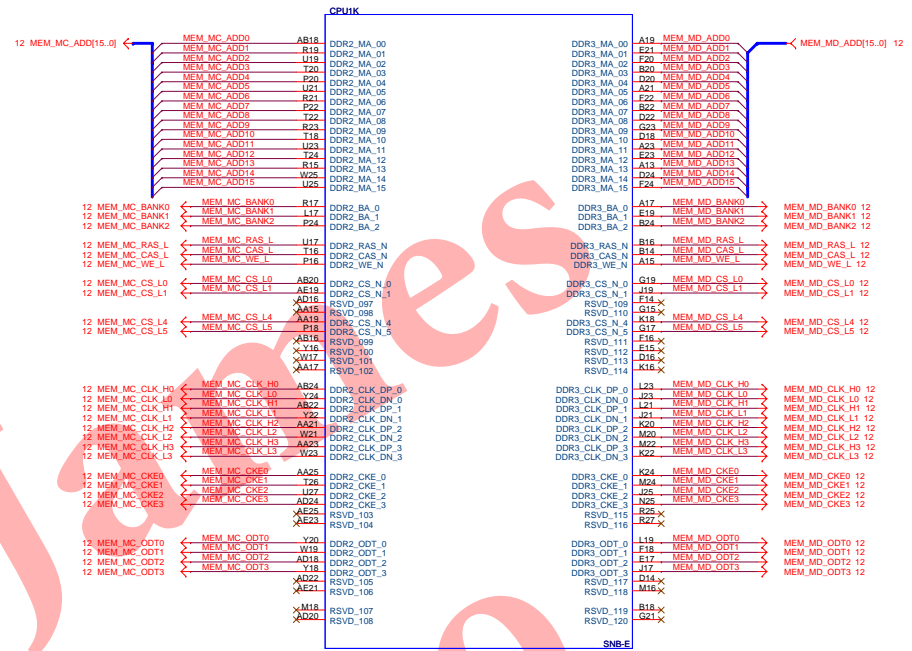
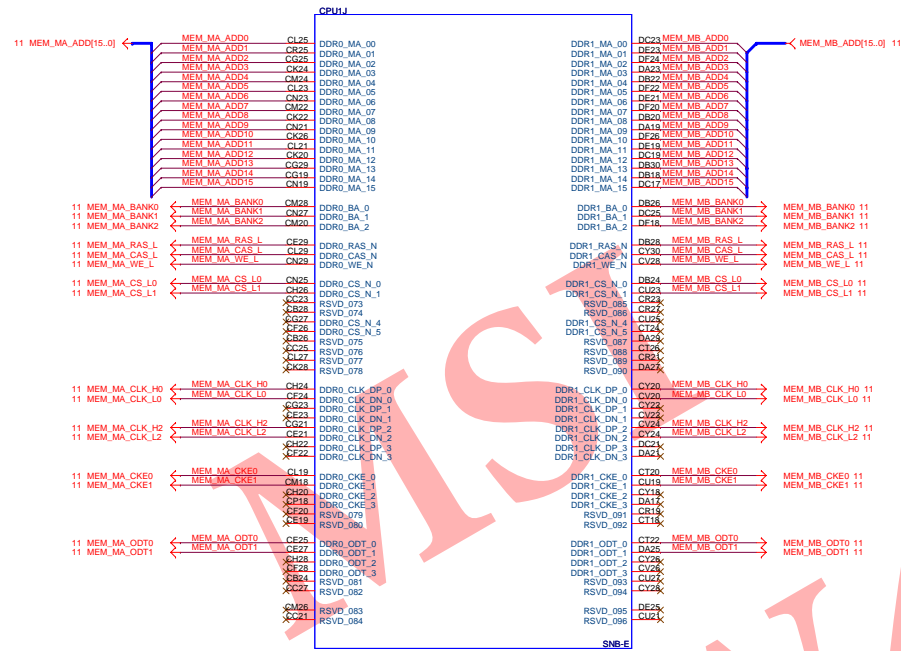
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MEM_MC_DATA2_P40	DDR2_DQ_02			
MEM_MC_DATA3_T36	DDR2_DQ_03	DDR2_DQS_DP_01	AB38 MEM_MC_DQS_H1	MEM_MC_DQS_H1 12
MEM_MC_DATA4_R41	DDR2_DQ_04	DDR2_DQS_DN_01	AD38 MEM_MC_DQS_L1	MEM_MC_DQS_L1 12
MEM_MC_DATA5_U41	DDR2_DQ_05			
MEM_MC_DATA6_R37	DDR2_DQ_06	DDR2_DQS_DP_02	U31 MEM_MC_DQS_H2	MEM_MC_DQS_H2 12
MEM_MC_DATA7_U37	DDR2_DQ_07	DDR2_DQS_DN_02	W31 MEM_MC_DQS_L2	MEM_MC_DQS_L2 12
MEM_MC_DATA8_A41	DDR2_DQ_08			
MEM_MC_DATA9_AD40	DDR2_DQ_09	DDR2_DQS_DP_03	AC33 MEM_MC_DQS_H3	MEM_MC_DQS_H3 12
MEM_MC_DATA10_A37	DDR2_DQ_10	DDR2_DQS_DN_03	AA33 MEM_MC_DQS_L3	MEM_MC_DQS_L3 12
MEM_MC_DATA11_AC37	DDR2_DQ_11			
MEM_MC_DATA12_AC41	DDR2_DQ_12	DDR2_DQS_DP_04	AE11 MEM_MC_DQS_H4	MEM_MC_DQS_H4 12
MEM_MC_DATA13_A41	DDR2_DQ_13	DDR2_DQS_DN_04	AC11 MEM_MC_DQS_L4	MEM_MC_DQS_L4 12
MEM_MC_DATA14_AF38	DDR2_DQ_14			
MEM_MC_DATA15_AE37	DDR2_DQ_15	DDR2_DQS_DP_05	AC7 MEM_MC_DQS_H5	MEM_MC_DQS_H5 12
MEM_MC_DATA16_U33	DDR2_DQ_16	DDR2_DQS_DN_05	AB8 MEM_MC_DQS_L5	MEM_MC_DQS_L5 12
MEM_MC_DATA17_R33	DDR2_DQ_17			
MEM_MC_DATA18_W28	DDR2_DQ_18	DDR2_DQS_DP_06	W11 MEM_MC_DQS_H6	MEM_MC_DQS_H6 12
MEM_MC_DATA19_U28	DDR2_DQ_19	DDR2_DQS_DN_06	U11 MEM_MC_DQS_L6	MEM_MC_DQS_L6 12
MEM_MC_DATA20_T34	DDR2_DQ_20			
MEM_MC_DATA21_P34	DDR2_DQ_21	DDR2_DQS_DP_07	AB4 MEM_MC_DQS_H7	MEM_MC_DQS_H7 12
MEM_MC_DATA22_V30	DDR2_DQ_22	DDR2_DQS_DN_07	AC3 MEM_MC_DQS_L7	MEM_MC_DQS_L7 12
MEM_MC_DATA23_T30	DDR2_DQ_23			
MEM_MC_DATA24_AE38	DDR2_DQ_24	DDR2_DQS_DP_08	AC23 MEM_MC_DQS_H8	MEM_MC_DQS_H8 12
MEM_MC_DATA25_AE33	DDR2_DQ_25	DDR2_DQS_DN_08	AB28 MEM_MC_DQS_L8	MEM_MC_DQS_L8 12
MEM_MC_DATA26_AE33	DDR2_DQ_26			
MEM_MC_DATA27_AE33	DDR2_DQ_27	RSVD_001	U39 X	
MEM_MC_DATA28_A36	DDR2_DQ_28	RSVD_002	W39 X	
MEM_MC_DATA29_W36	DDR2_DQ_29			
MEM_MC_DATA30_AB32	DDR2_DQ_30	RSVD_003	AB40 X	
MEM_MC_DATA31_AD32	DDR2_DQ_31	RSVD_004	AC39 X	
MEM_MC_DATA32_AE13	DDR2_DQ_32			
MEM_MC_DATA33_AE13	DDR2_DQ_33	RSVD_005	V32 X	
MEM_MC_DATA34_AG11	DDR2_DQ_34	RSVD_006	T32 X	
MEM_MC_DATA35_AE10	DDR2_DQ_35			
MEM_MC_DATA36_AE10	DDR2_DQ_36	RSVD_007	V34 X	
MEM_MC_DATA37_AE13	DDR2_DQ_37	RSVD_008	AB3 X	
MEM_MC_DATA38_AE10	DDR2_DQ_38			
MEM_MC_DATA39_AD10	DDR2_DQ_39	RSVD_009	AB13 X	
MEM_MC_DATA40_V8	DDR2_DQ_40	RSVD_010	AD13 X	
MEM_MC_DATA41_Y8	DDR2_DQ_41			
MEM_MC_DATA42_AE8	DDR2_DQ_42	RSVD_011	Y8 X	
MEM_MC_DATA43_AG7	DDR2_DQ_43	RSVD_012	AA7 X	
MEM_MC_DATA44_U7	DDR2_DQ_44			
MEM_MC_DATA45_W7	DDR2_DQ_45	RSVD_013	T12 X	
MEM_MC_DATA46_AE8	DDR2_DQ_46	RSVD_014	V12 X	
MEM_MC_DATA47_U13	DDR2_DQ_47			
MEM_MC_DATA48_R13	DDR2_DQ_48	RSVD_015	AC5 X	
MEM_MC_DATA49_U13	DDR2_DQ_49	RSVD_016	AD4 X	
MEM_MC_DATA50_T10	DDR2_DQ_50			
MEM_MC_DATA51_V10	DDR2_DQ_51	RSVD_017	AC28 X	
MEM_MC_DATA52_T14	DDR2_DQ_52	RSVD_018	AD28 X	
MEM_MC_DATA53_V14	DDR2_DQ_53			
MEM_MC_DATA54_R9	DDR2_DQ_54			
MEM_MC_DATA55_U9	DDR2_DQ_55			
MEM_MC_DATA56_W3	DDR2_DQ_56			
MEM_MC_DATA57_Y4	DDR2_DQ_57			
MEM_MC_DATA58_AE4	DDR2_DQ_58			
MEM_MC_DATA59_AE5	DDR2_DQ_59			
MEM_MC_DATA60_U4	DDR2_DQ_60			
MEM_MC_DATA61_V4	DDR2_DQ_61			
MEM_MC_DATA62_AE2	DDR2_DQ_62			
MEM_MC_DATA63_AE3	DDR2_DQ_63			
AF30	DDR2_ECC_0			
Y28	DDR2_ECC_1			
Y26	DDR2_ECC_2			
AB26	DDR2_ECC_3			
AB30	DDR2_ECC_4			
AD30	DDR2_ECC_5			
Y27	DDR2_ECC_6			
Y29	DDR2_ECC_7			

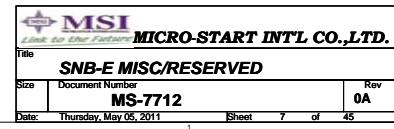
SNB-E

12 MEM\_MD\_DATA[63..0] <--

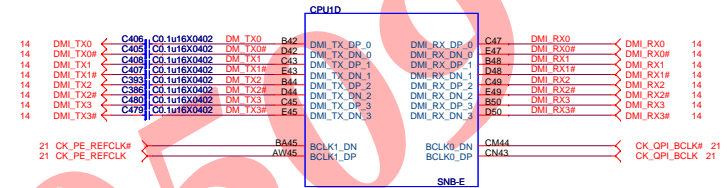
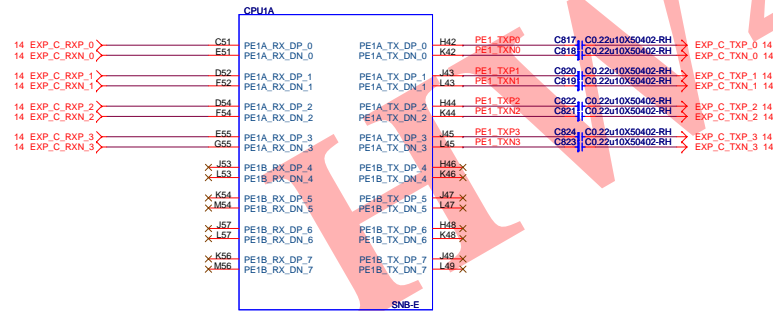
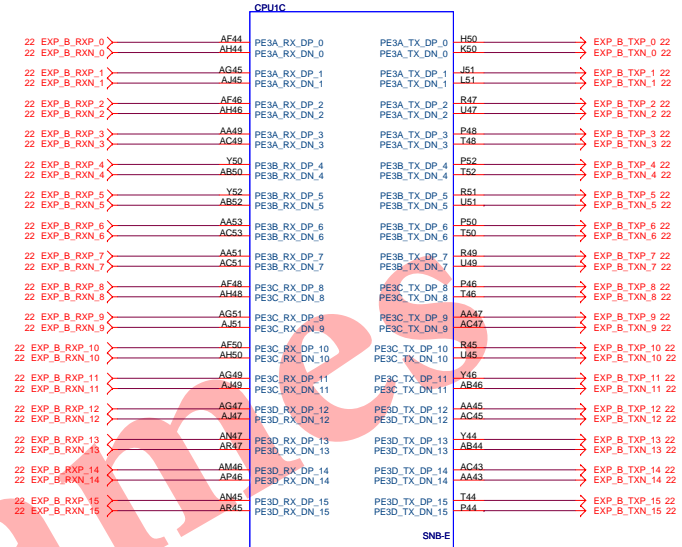
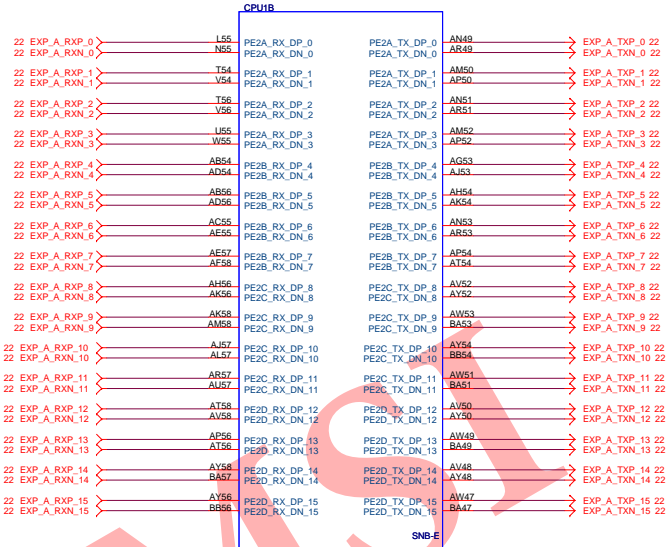
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MEM_MD_DATA1_A39	DDR3_DQ_01	DDR3_DQS_DN_00	B38 MEM_MD_DQS_L0	MEM_MD_DQS_L0 12
MEM_MD_DATA2_C37	DDR3_DQ_02			
MEM_MD_DATA3_E37	DDR3_DQ_03	DDR3_DQS_DP_01	J37 MEM_MD_DQS_H1	MEM_MD_DQS_H1 12
MEM_MD_DATA4_F40	DDR3_DQ_04	DDR3_DQS_DN_01	L37 MEM_MD_DQS_L1	MEM_MD_DQS_L1 12
MEM_MD_DATA5_D40	DDR3_DQ_05			
MEM_MD_DATA6_F38	DDR3_DQ_06	DDR3_DQS_DP_02	E33 MEM_MD_DQS_H2	MEM_MD_DQS_H2 12
MEM_MD_DATA7_A37	DDR3_DQ_07	DDR3_DQS_DN_02	G33 MEM_MD_DQS_L2	MEM_MD_DQS_L2 12
MEM_MD_DATA8_N39	DDR3_DQ_08			
MEM_MD_DATA9_L39	DDR3_DQ_09	DDR3_DQS_DP_03	N29 MEM_MD_DQS_H3	MEM_MD_DQS_H3 12
MEM_MD_DATA10_L36	DDR3_DQ_10	DDR3_DQS_DN_03	P28 MEM_MD_DQS_L3	MEM_MD_DQS_L3 12
MEM_MD_DATA11_J36	DDR3_DQ_11			
MEM_MD_DATA12_M40	DDR3_DQ_12	DDR3_DQS_DP_04	D10 MEM_MD_DQS_H4	MEM_MD_DQS_H4 12
MEM_MD_DATA13_K40	DDR3_DQ_13	DDR3_DQS_DN_04	B10 MEM_MD_DQS_L4	MEM_MD_DQS_L4 12
MEM_MD_DATA14_K36	DDR3_DQ_14			
MEM_MD_DATA15_H38	DDR3_DQ_15	DDR3_DQS_DP_05	N11 MEM_MD_DQS_H5	MEM_MD_DQS_H5 12
MEM_MD_DATA16_A38	DDR3_DQ_16	DDR3_DQS_DN_05	L11 MEM_MD_DQS_L5	MEM_MD_DQS_L5 12
MEM_MD_DATA17_F34	DDR3_DQ_17			
MEM_MD_DATA18_F32	DDR3_DQ_18	DDR3_DQS_DP_06	K5 MEM_MD_DQS_H6	MEM_MD_DQS_H6 12
MEM_MD_DATA19_D32	DDR3_DQ_19	DDR3_DQS_DN_06	J7 MEM_MD_DQS_L6	MEM_MD_DQS_L6 12
MEM_MD_DATA20_E36	DDR3_DQ_20			
MEM_MD_DATA21_C39	DDR3_DQ_21	DDR3_DQS_DP_07	M4 MEM_MD_DQS_H7	MEM_MD_DQS_H7 12
MEM_MD_DATA22_A33	DDR3_DQ_22	DDR3_DQS_DN_07	L3 MEM_MD_DQS_L7	MEM_MD_DQS_L7 12
MEM_MD_DATA23_B32	DDR3_DQ_23			
MEM_MD_DATA24_M32	DDR3_DQ_24	DDR3_DQS_DP_08	E27 X	
MEM_MD_DATA25_L31	DDR3_DQ_25	DDR3_DQS_DN_08	G27 X	
MEM_MD_DATA26_M28	DDR3_DQ_26			
MEM_MD_DATA27_L27	DDR3_DQ_27	RSVD_055	E39 X	
MEM_MD_DATA28_L33	DDR3_DQ_28	RSVD_056	G39 X	
MEM_MD_DATA29_K32	DDR3_DQ_29			
MEM_MD_DATA30_N27	DDR3_DQ_30	RSVD_057	M38 X	
MEM_MD_DATA31_M26	DDR3_DQ_31	RSVD_058	K38 X	
MEM_MD_DATA32_D12	DDR3_DQ_32			
MEM_MD_DATA33_D11	DDR3_DQ_33	RSVD_059	D34 X	
MEM_MD_DATA34_C9	DDR3_DQ_34	RSVD_060	B34 X	
MEM_MD_DATA35_E8	DDR3_DQ_35			
MEM_MD_DATA36_F12	DDR3_DQ_36	RSVD_061	N31 X	
MEM_MD_DATA37_B12	DDR3_DQ_37	RSVD_062	M30 X	
MEM_MD_DATA38_F10	DDR3_DQ_38			
MEM_MD_DATA39_A9	DDR3_DQ_39	RSVD_063	E11 X	
MEM_MD_DATA40_H13	DDR3_DQ_40	RSVD_064	G11 X	
MEM_MD_DATA41_L13	DDR3_DQ_41			
MEM_MD_DATA42_J9	DDR3_DQ_42	RSVD_065	K12 X	
MEM_MD_DATA43_L9	DDR3_DQ_43	RSVD_066	M12 X	
MEM_MD_DATA44_M14	DDR3_DQ_44			
MEM_MD_DATA45_M14	DDR3_DQ_45	RSVD_067	G7 X	
MEM_MD_DATA46_M10	DDR3_DQ_46	RSVD_068	H6 X	
MEM_MD_DATA47_M10	DDR3_DQ_47			
MEM_MD_DATA48_E7	DDR3_DQ_48	RSVD_069	J3 X	
MEM_MD_DATA49_F8	DDR3_DQ_49	RSVD_070	K4 X	
MEM_MD_DATA50_N7	DDR3_DQ_50			
MEM_MD_DATA51_P6	DDR3_DQ_51	RSVD_071	E28 X	
MEM_MD_DATA52_C7	DDR3_DQ_52	RSVD_072	H28 X	
MEM_MD_DATA53_D6	DDR3_DQ_53			
MEM_MD_DATA54_M6	DDR3_DQ_54			
MEM_MD_DATA55_M6	DDR3_DQ_55			
MEM_MD_DATA56_G3	DDR3_DQ_56			
MEM_MD_DATA57_H2	DDR3_DQ_57			
MEM_MD_DATA58_N3	DDR3_DQ_58			
MEM_MD_DATA59_P4	DDR3_DQ_59			
MEM_MD_DATA60_F4	DDR3_DQ_60			
MEM_MD_DATA61_H4	DDR3_DQ_61			
MEM_MD_DATA62_L1	DDR3_DQ_62			
MEM_MD_DATA63_M2	DDR3_DQ_63			
G29	DDR3_ECC_0			
J29	DDR3_ECC_1			
E25	DDR3_ECC_2			
C25	DDR3_ECC_3			
F30	DDR3_ECC_4			
H30	DDR3_ECC_5			
F28	DDR3_ECC_6			
H26	DDR3_ECC_7			

SNB-E

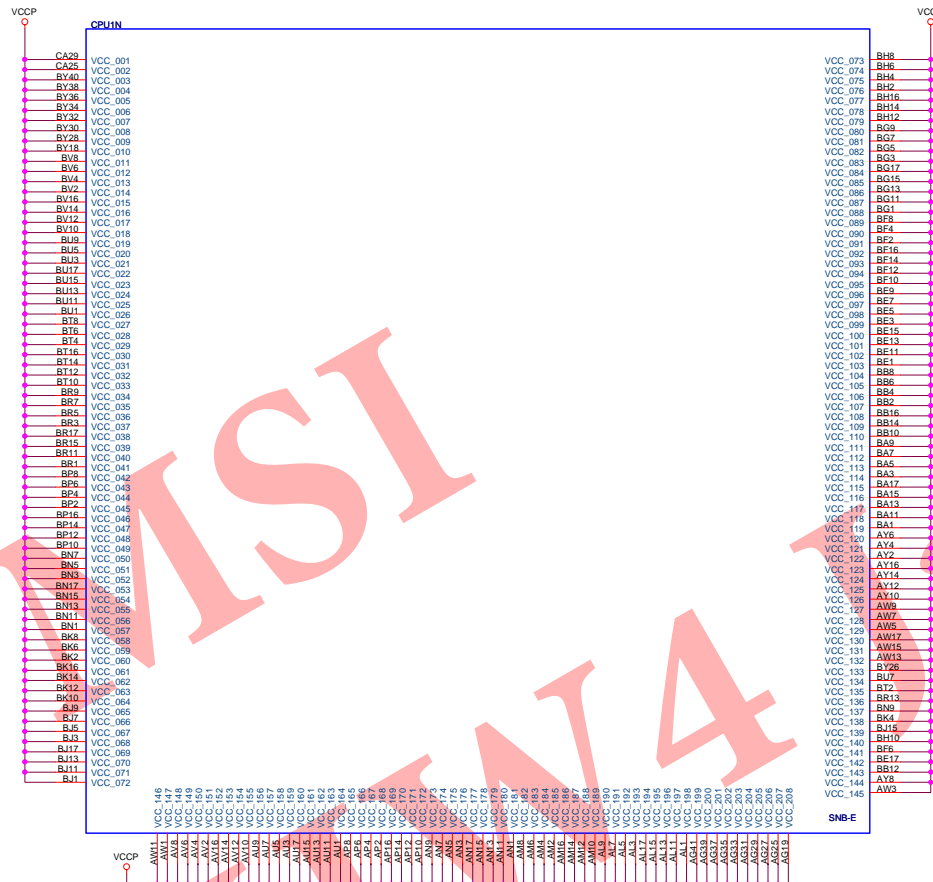




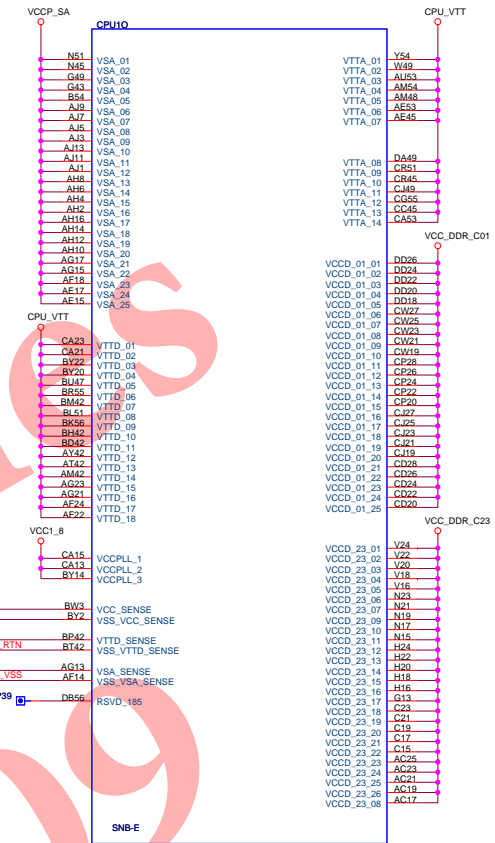


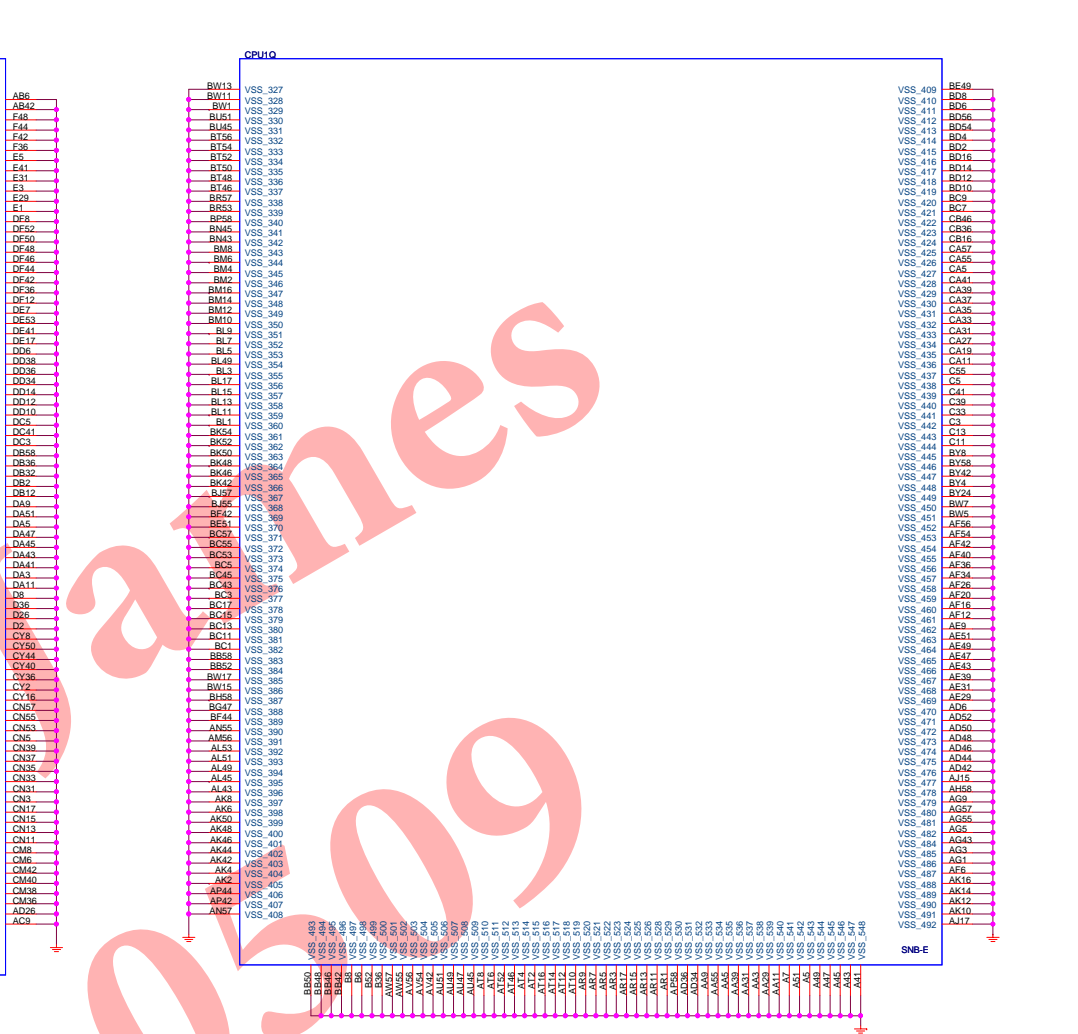
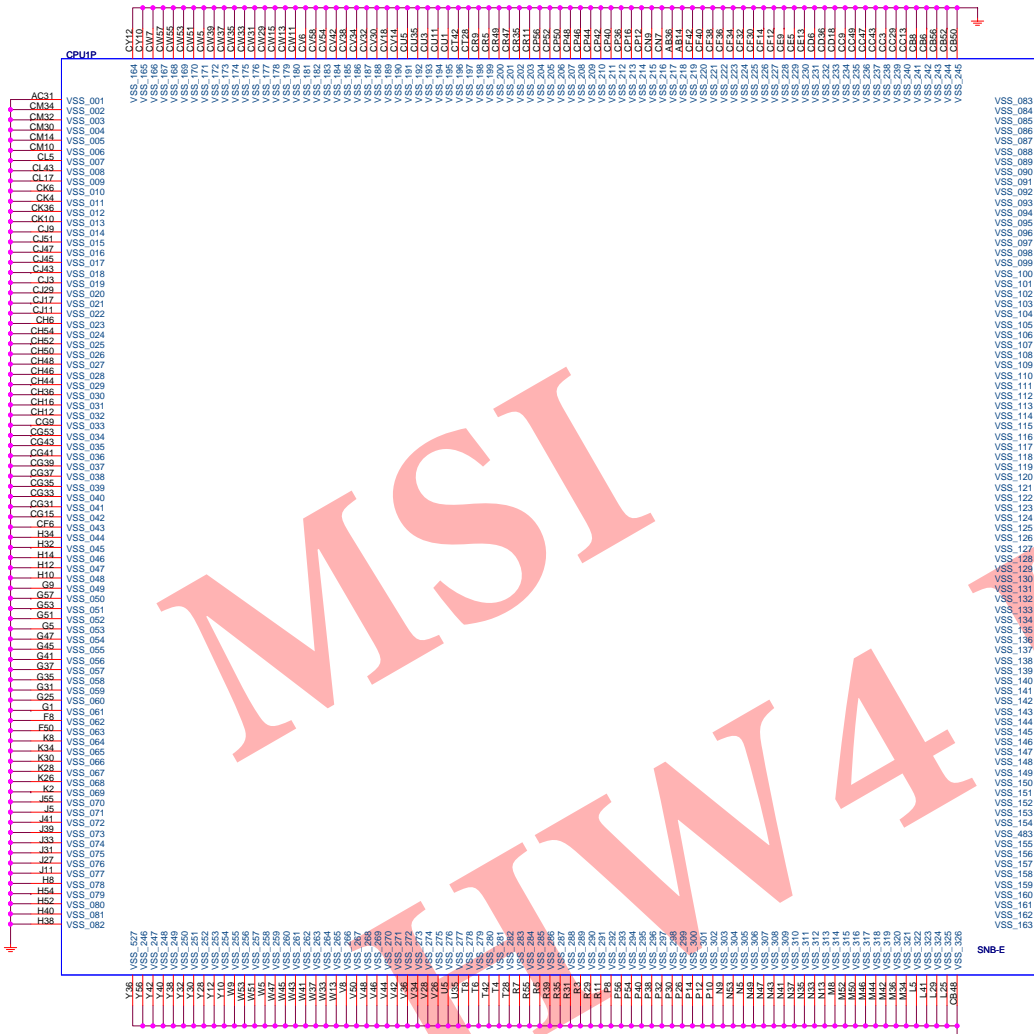




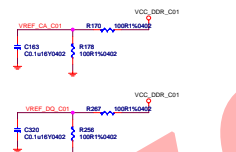
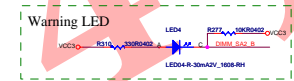
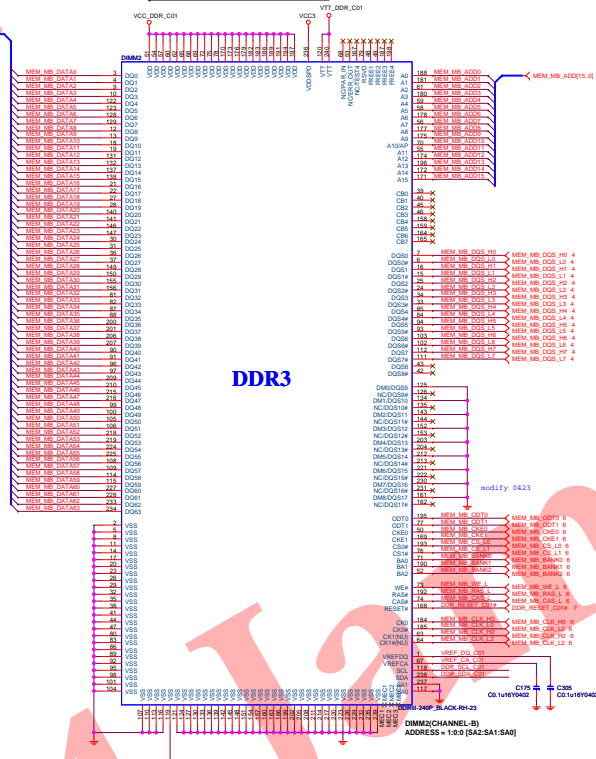


34 CPU\_VCC\_SENSE CPU\_VCC\_SENSE BW3  
35 CPU\_VSS\_SENSE CPU\_VSS\_SENSE BY2  
34 CPU\_VTT\_SENSE CPU\_VTT\_SENSE BP42  
34 CPU\_VTT\_SENSE\_RTIN CPU\_VTT\_SENSE\_RTIN BT42  
35 CPU\_VSA\_SENSE CPU\_VSA\_SENSE AG13  
35 CPU\_VSA\_SENSE\_VSS CPU\_VSA\_SENSE\_VSS AF14





### DDRIII DIMM\_B1



DDR3 DIMM\_C1

DDR3

DDR3 DIMM\_D1

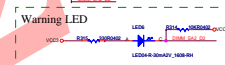
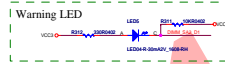
DDR3

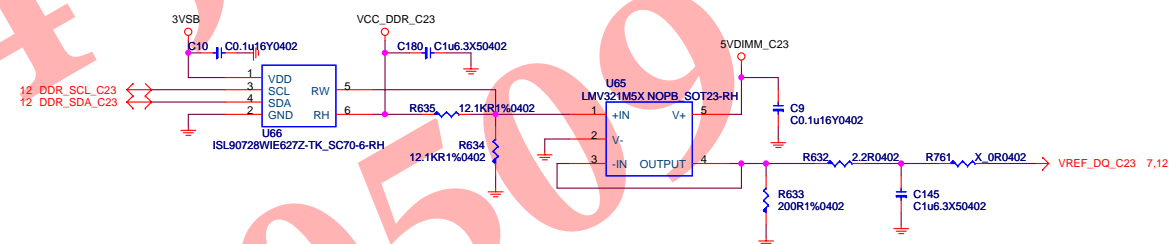
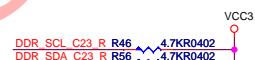
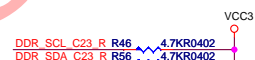
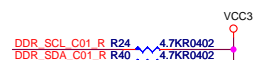
DDR3 DIMM\_C2

DDR3

DDR3 DIMM\_D2

DDR3



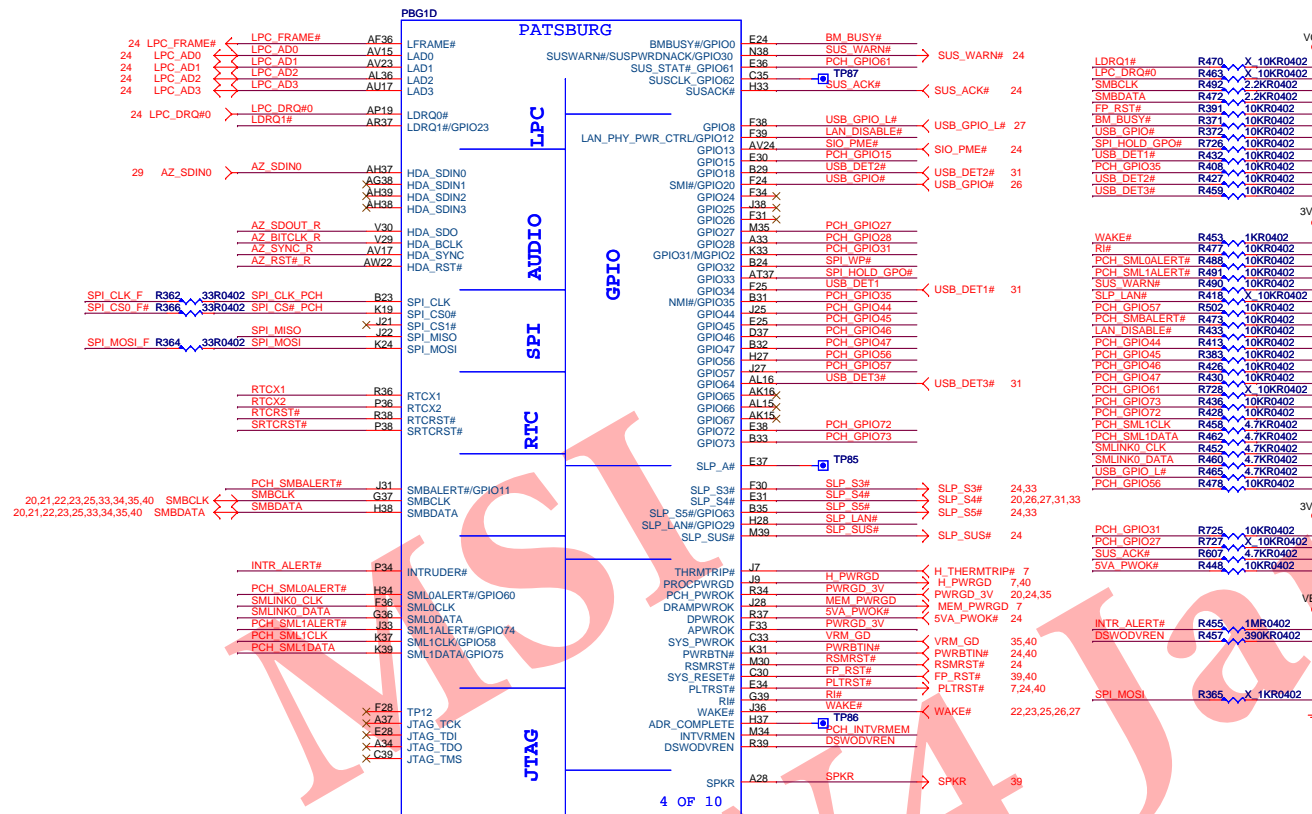




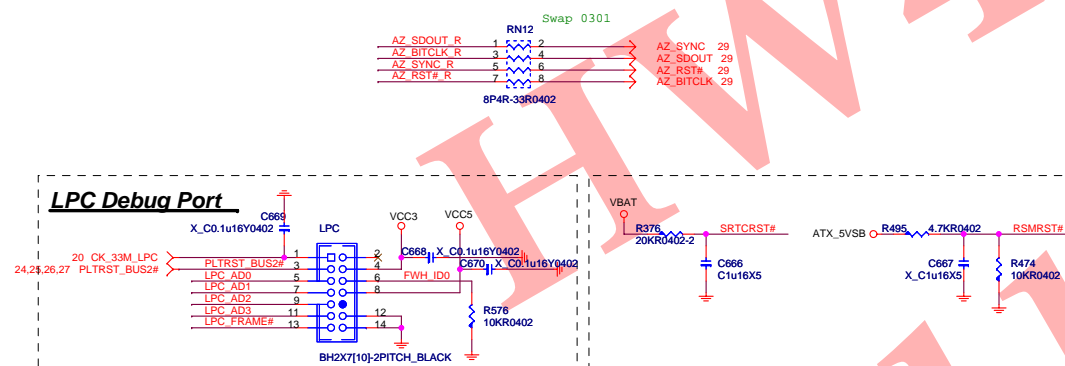
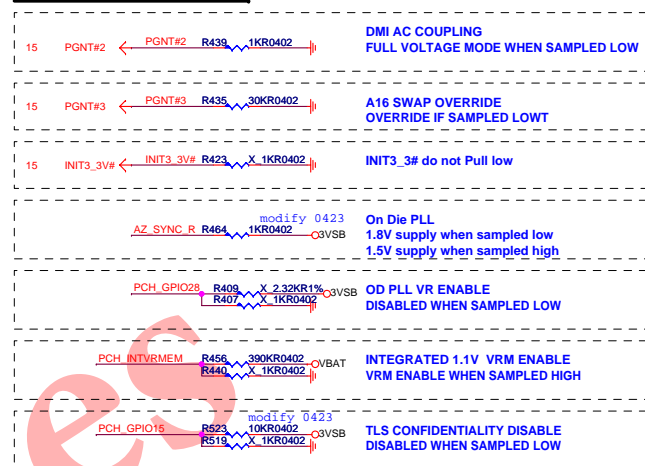






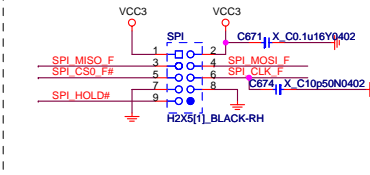


## REQUIRED STRAPS



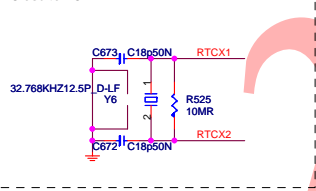
## SPI DEBUG PROT

Close to SPI ROM



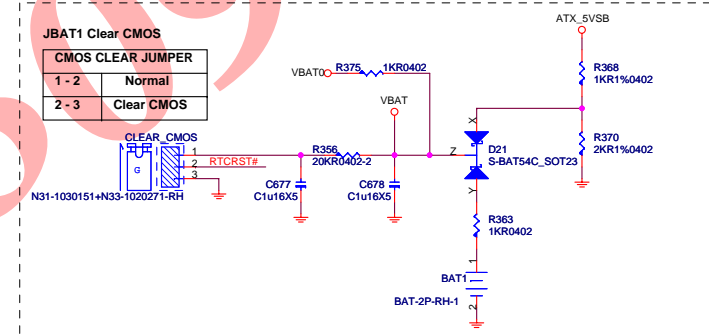
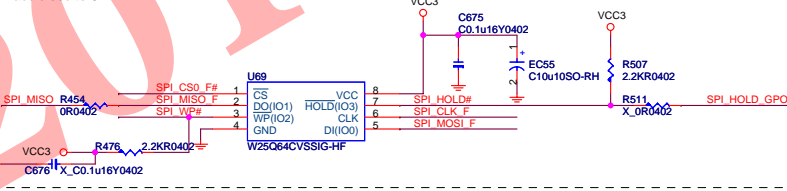
## RTC Block

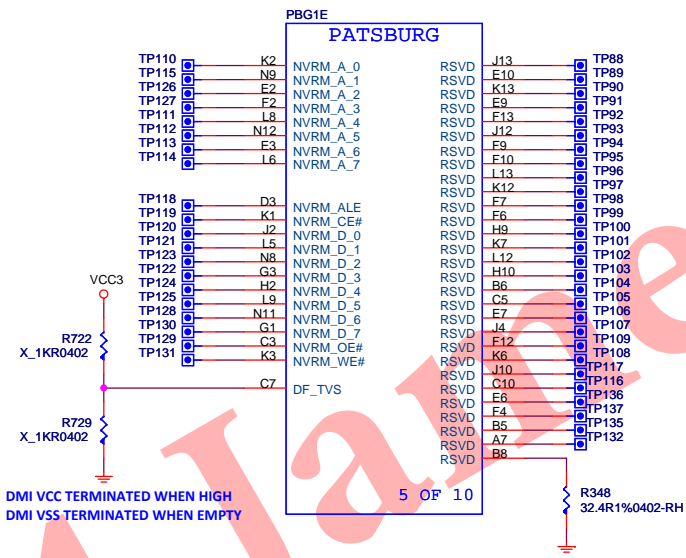
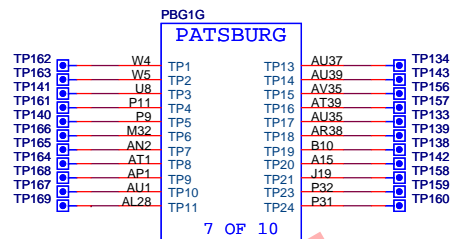
Close to PCH

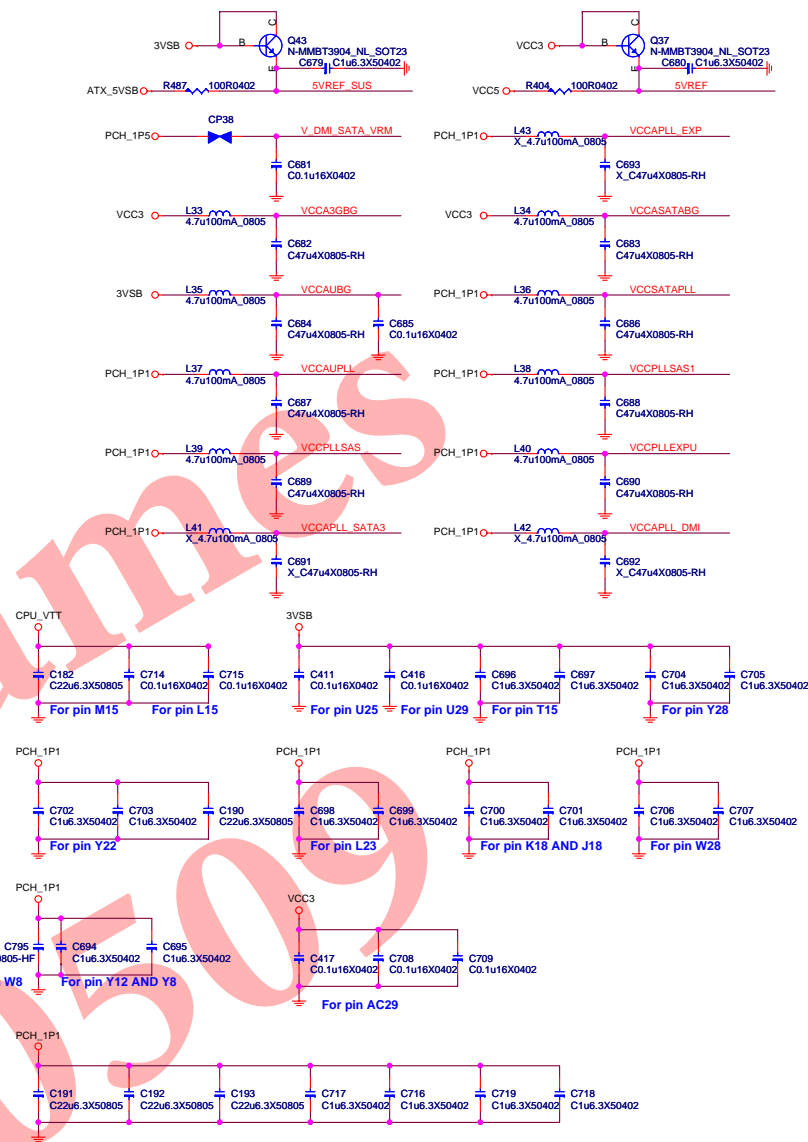


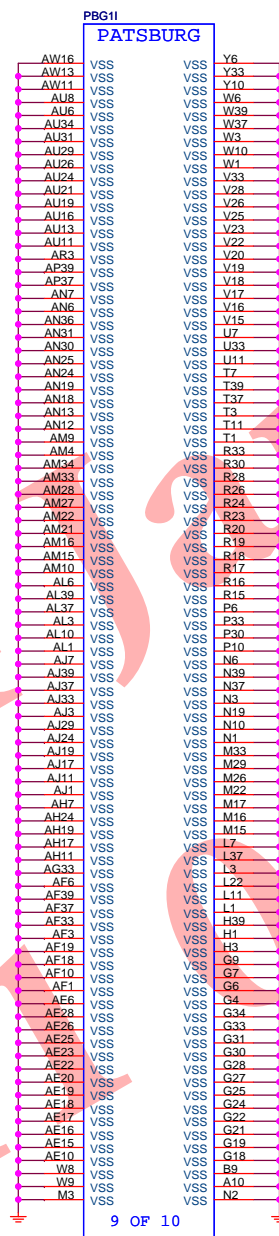
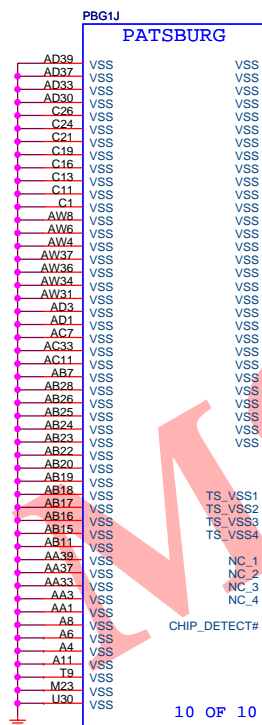
## SPI FLASH ROM

Place close to SB.

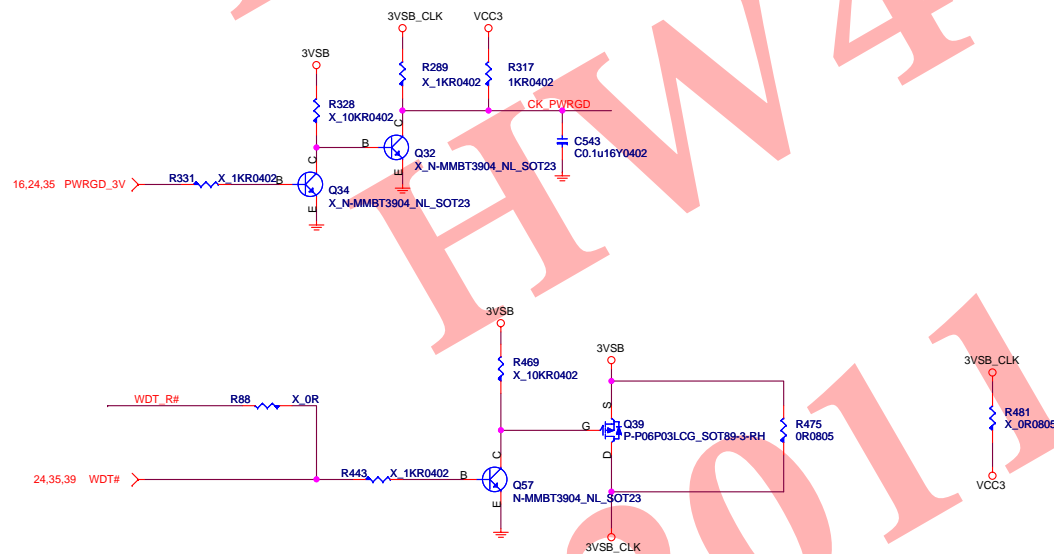
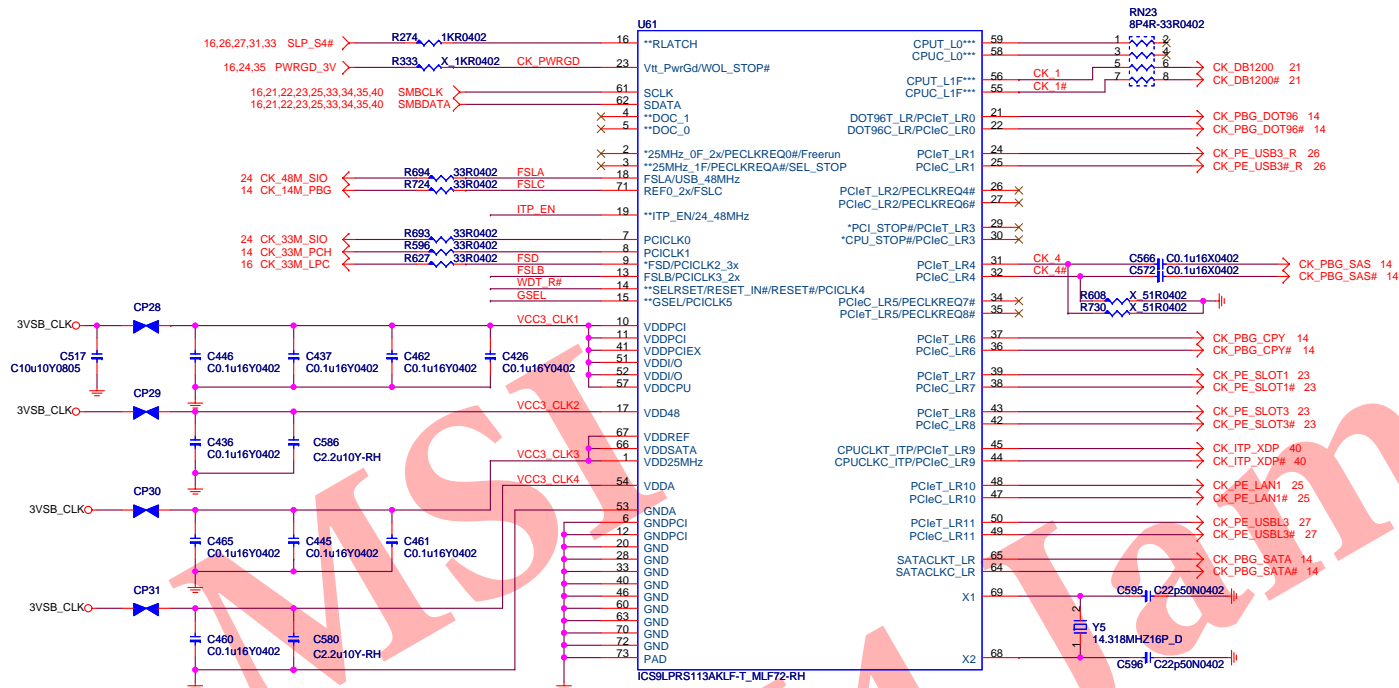




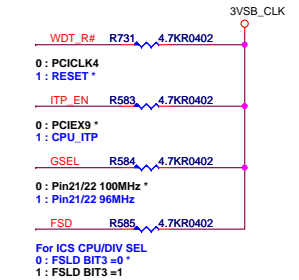




**Clock Gen ICS9LPRS113A**

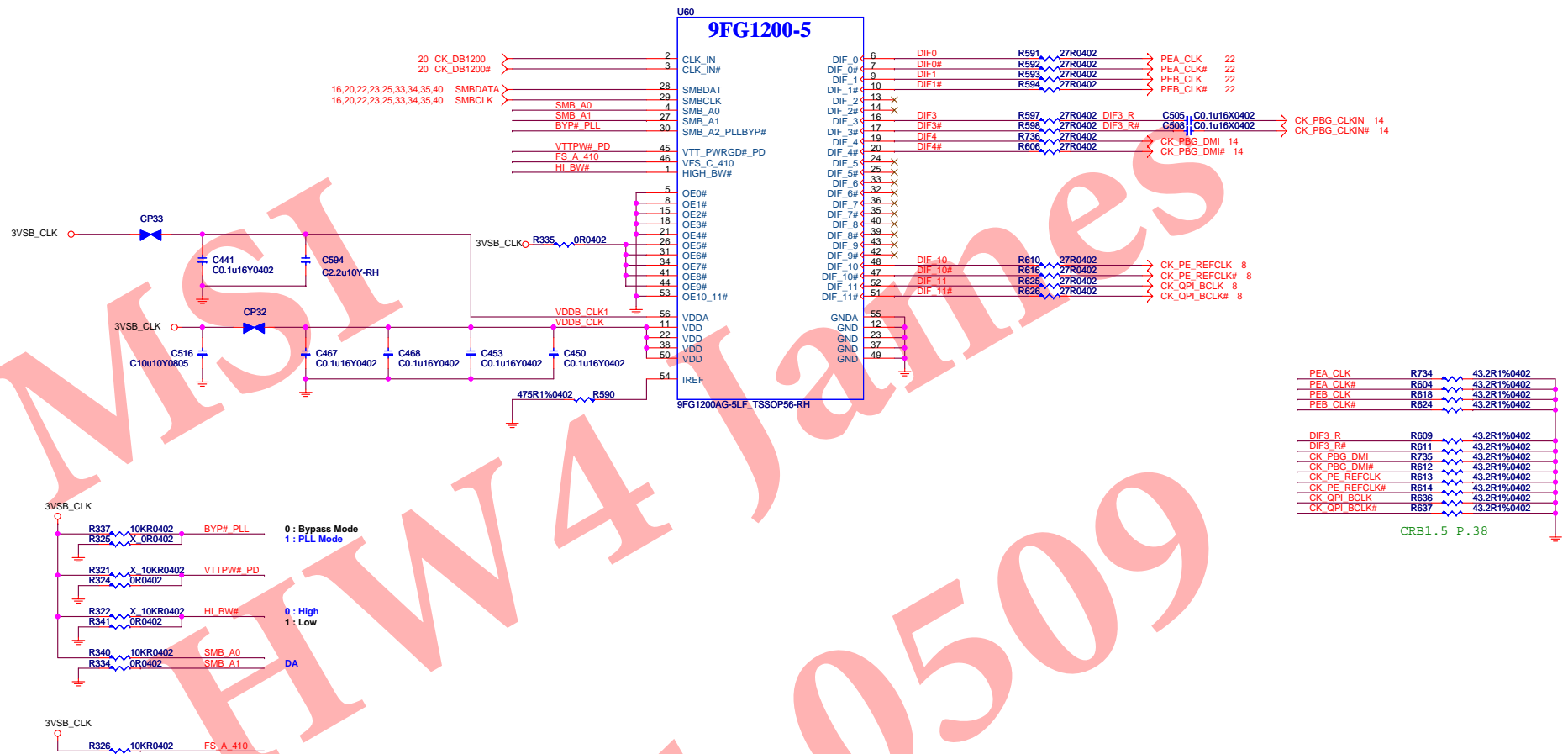


### CLOCK GEN STRAPING

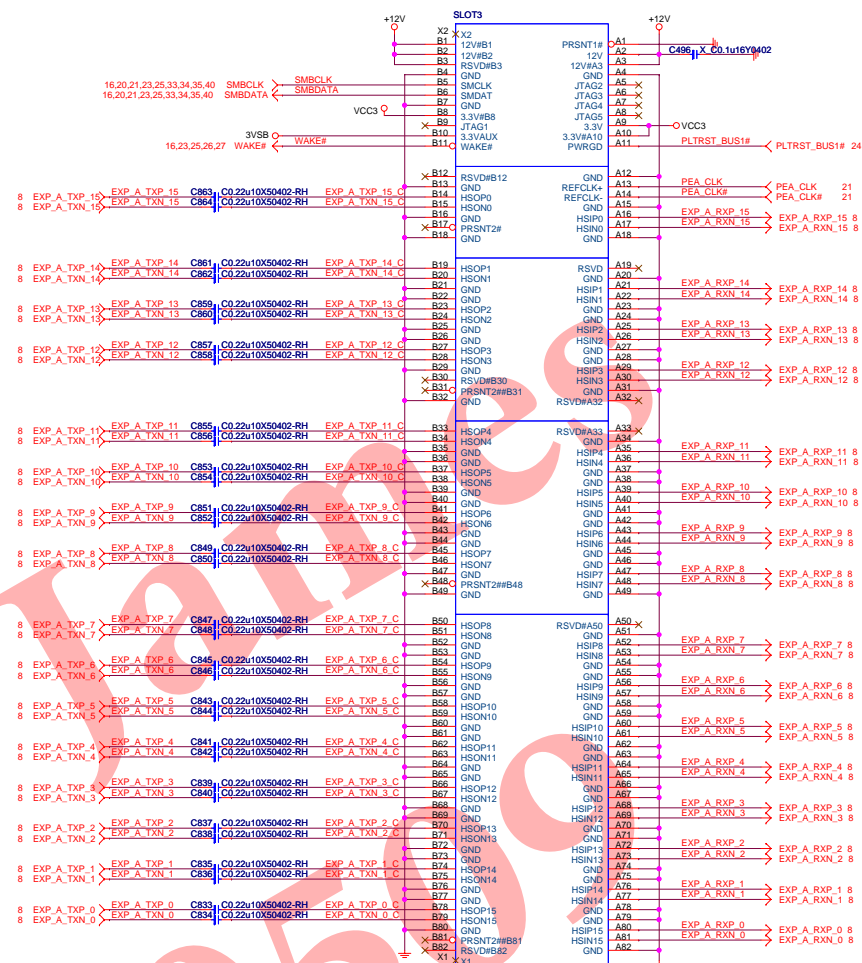
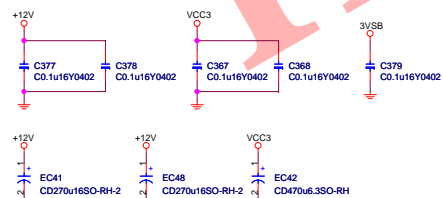
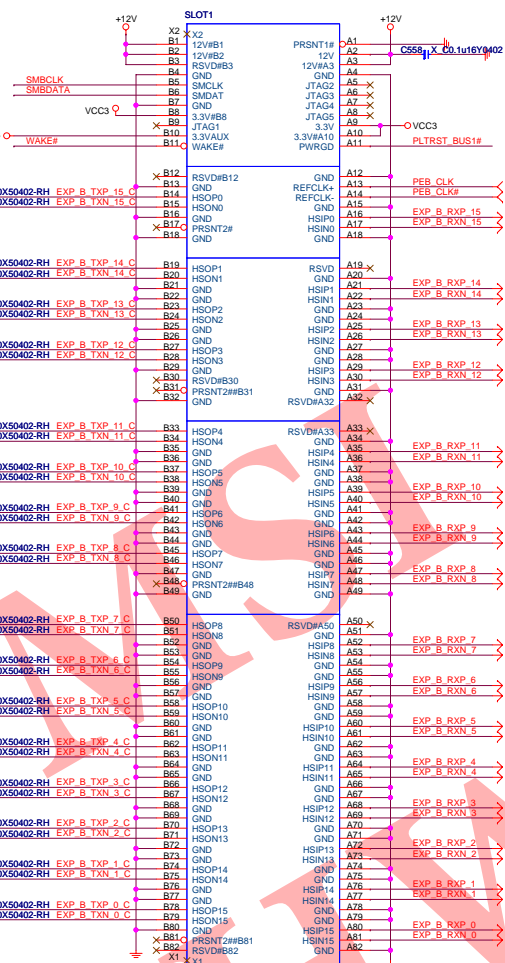


FSL			TABLE
C	B	A	FSB FREQUENCY
0	0	0	266 MHz
0	0	1	133 MHz
0	1	0	200 MHz
0	1	1	166 MHz
1	0	0	333 MHz
1	0	1	100 MHz (DEFAULT)
1	1	0	400 MHz
1	1	1	200 MHz

# **Clock Buffer 9FG1200D**

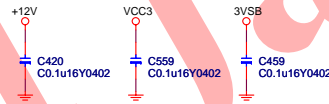
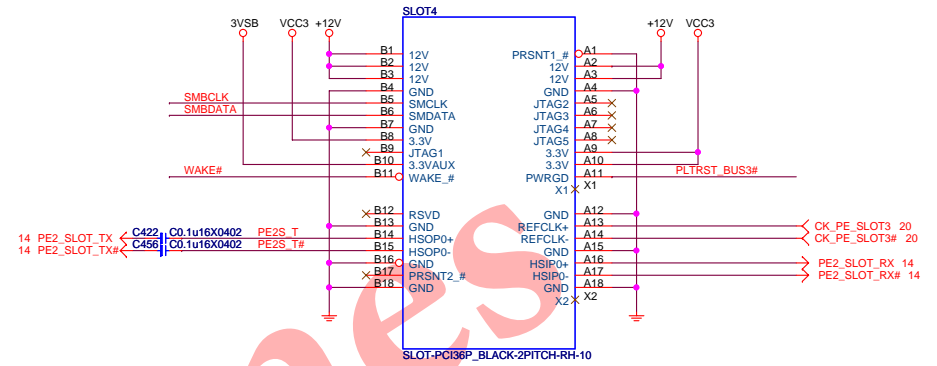
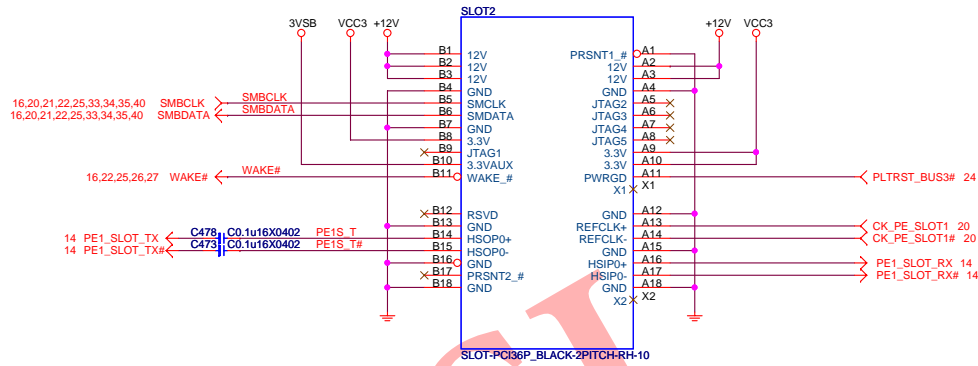



**PCI EXPRESS X16 SLOT**



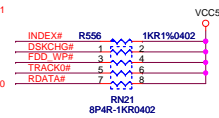


# **PCI EXPRESS X1 SLOT**



 <b>MICRO-START INT'L CO.,LTD.</b>	
File	
<b>PCIE x1 SLOTS</b>	
Size	Document Number
	<b>MS-7712</b>
Date: Thursday, May 05, 2011	Rev <b>0A</b>
Sheet 23 of 45	

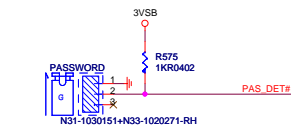
## FLOPPY CONNECTOR



## LPT CONNECTOR

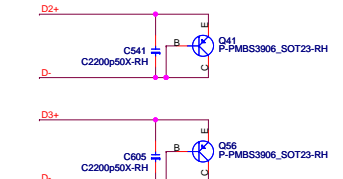


## PASSWORD DETECTION



PAS\_DET#  
1-2 Short: Clear password  
1-2 Open: -

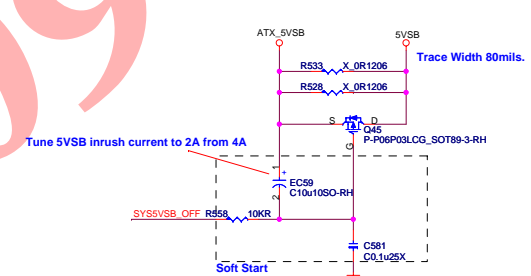
## Temperature Sensing



## Chassis Intrusion



## 5VSB Power Switch



## Power On Strapping Table (select RED mode)

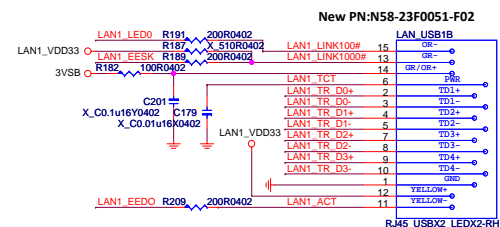
Symbol	Value	Description
PLTRST_BUS1#	1	Pin 1-56 are GPIO pins
PLTRST_BUS2#	0	Pin 51-56 are Bus Interface functions
RTSB#	1	Fan control mode: PWM mode.
	0	Fan control mode: DAC mode.
SLIN#	PU-1k	Pin 100-116 as LPT interfaces
	PU-20k	Pin 100-116 as PVID Controller
	PD-1k	Pin 102/103/111/112 as SVID Controller
	PD-47k	Pin 100-103 and pin 105-116 as GPIO pins
DTRA#	1	Fan full duty is 60%.
	0	Fan full duty is 100%.
RTSA#	1	Enable the 80 port function.
	0	Disable the 80 port function.
SOUTA	1	Configuration Register I/O port is 4E/4F.
	0	Configuration Register I/O port is 2E/2F.
SOUT2	1	OVP warning mode
	0	OVP force mode

PLTRST_BUS1#	SLOT1 SLOT3
PLTRST_BUS2#	USB3.0 LAN1 eSATA 1394
PLTRST_BUS3#	SLOT2 SLOT4

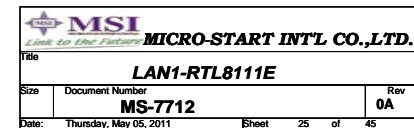
For USB3.0 reset

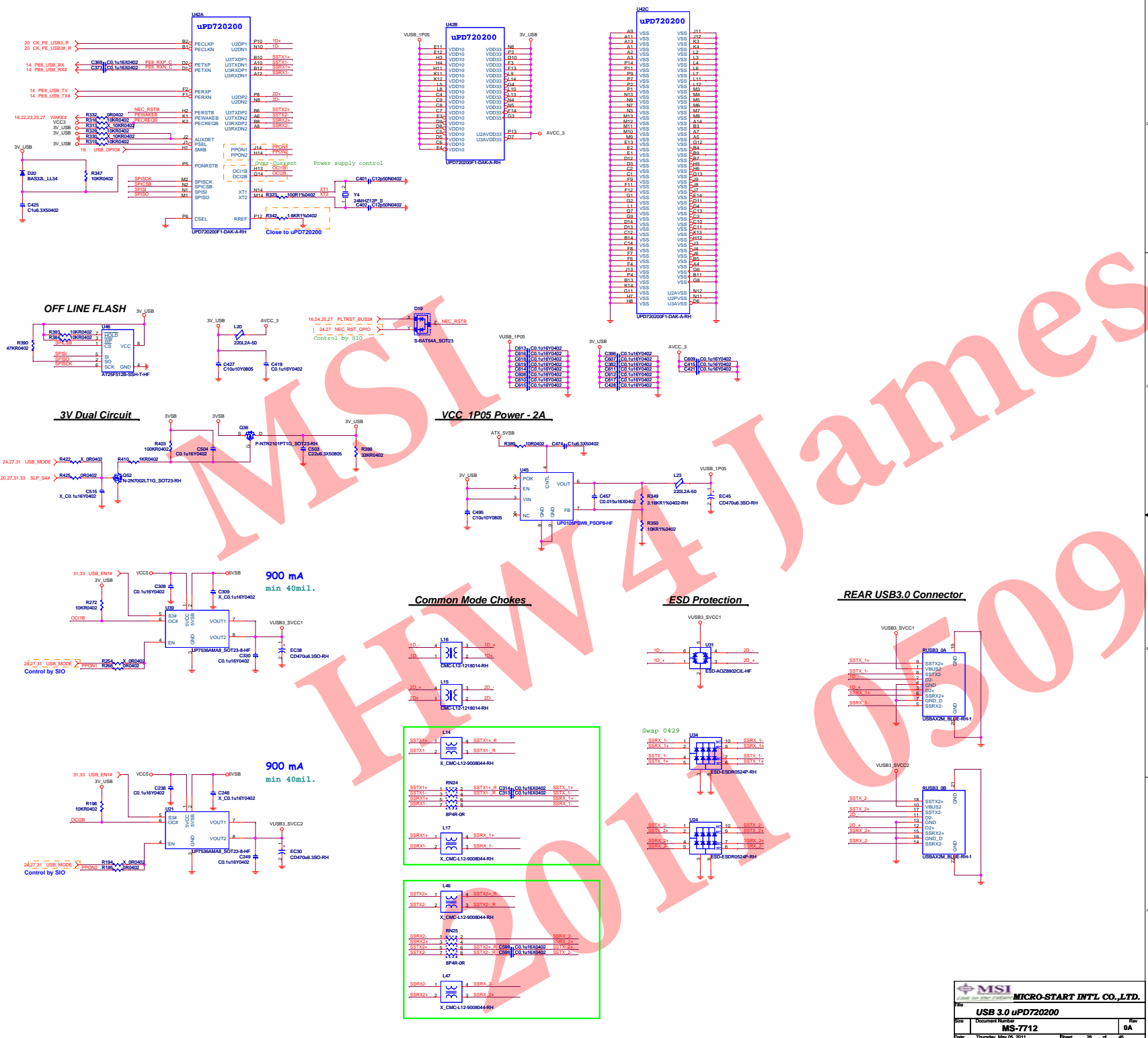
F71889AD

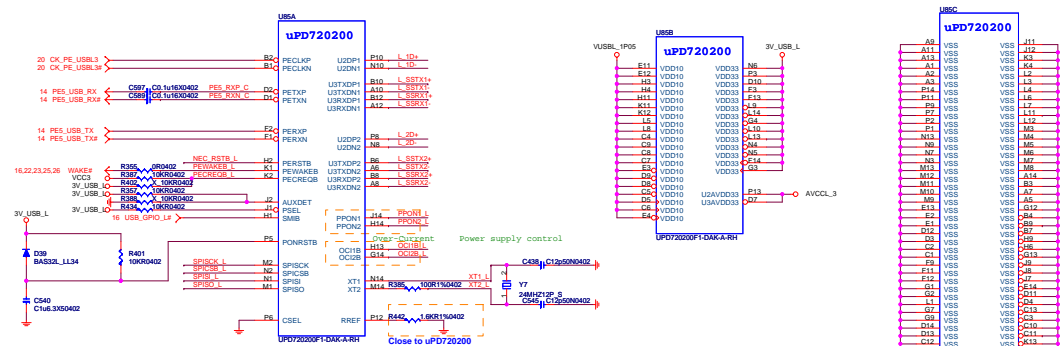
F71889AD-LAA-RH



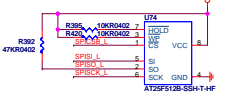
3.3v Power on rise time : 1~100ms.



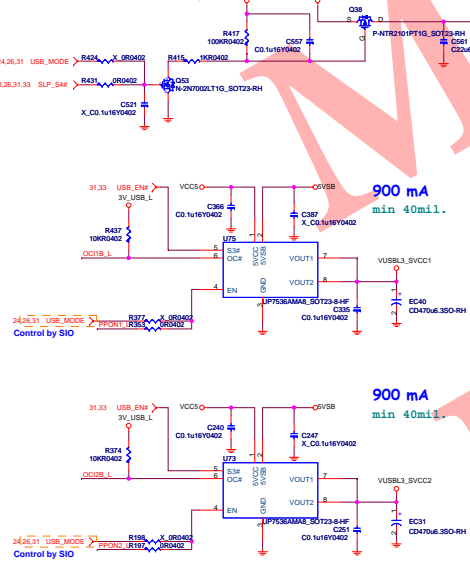




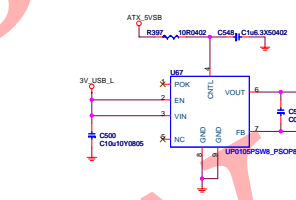
### OFF LINE FLASH



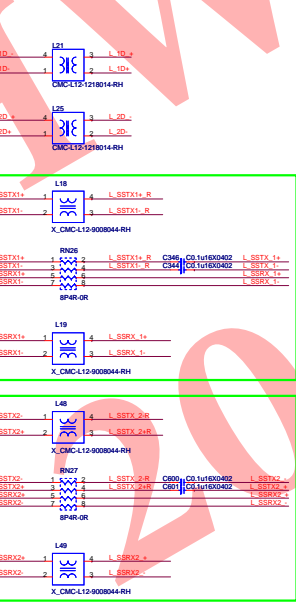
### 3V Dual Circuit



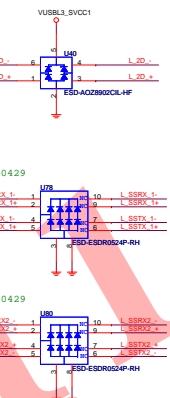
### VCC 1P05 Power - 2A



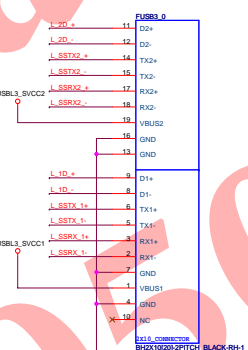
### Common Mode Chokes



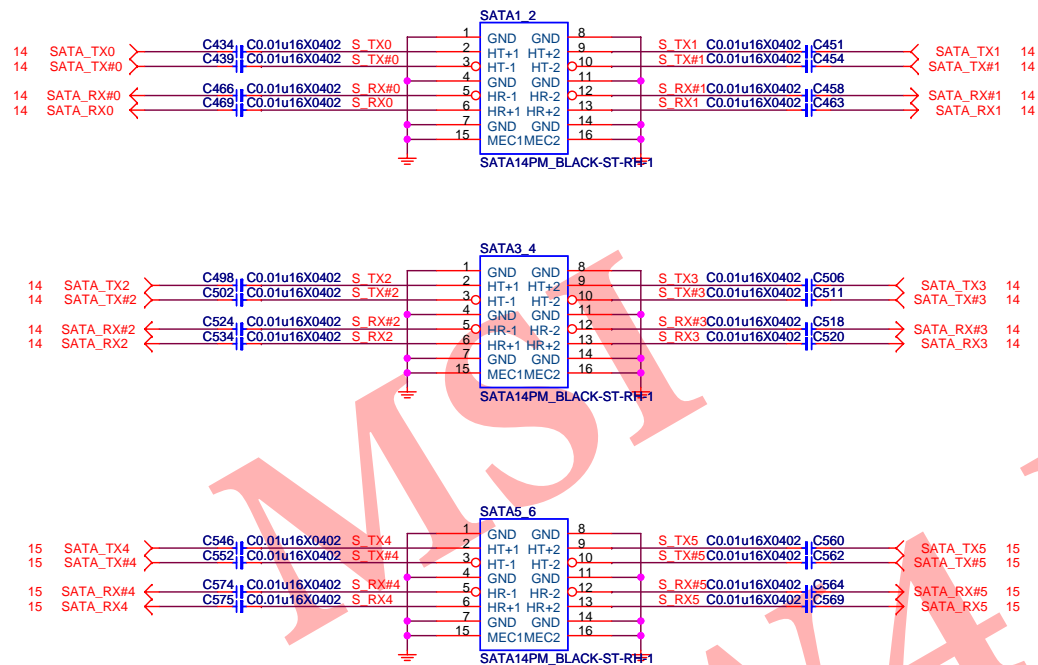
### ESD Protection



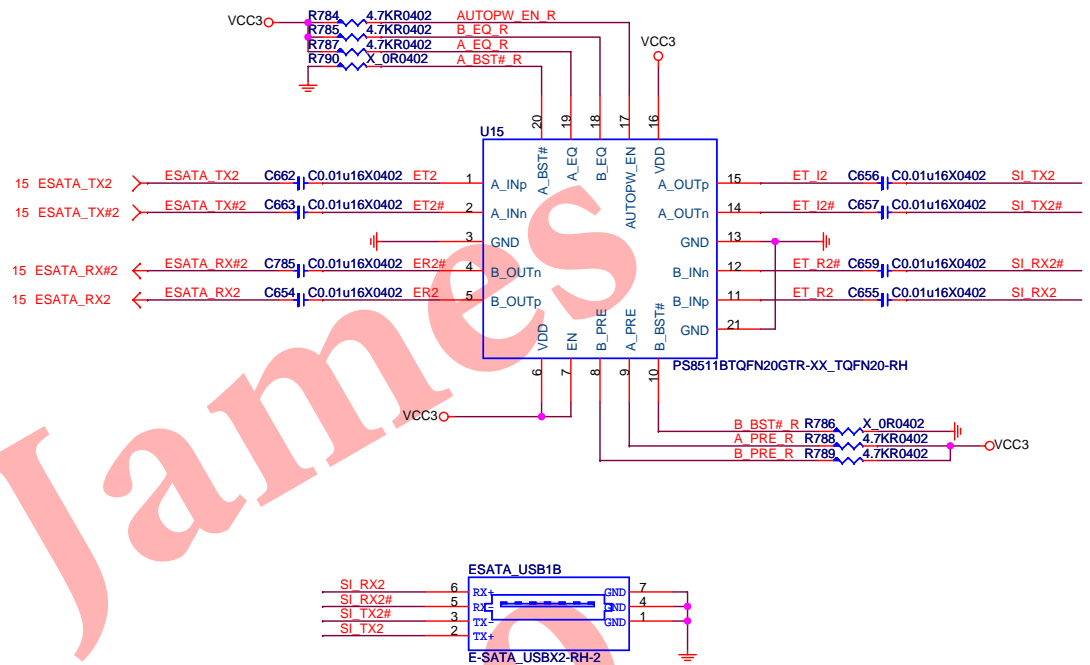
### FRONT USB3.0 Connector



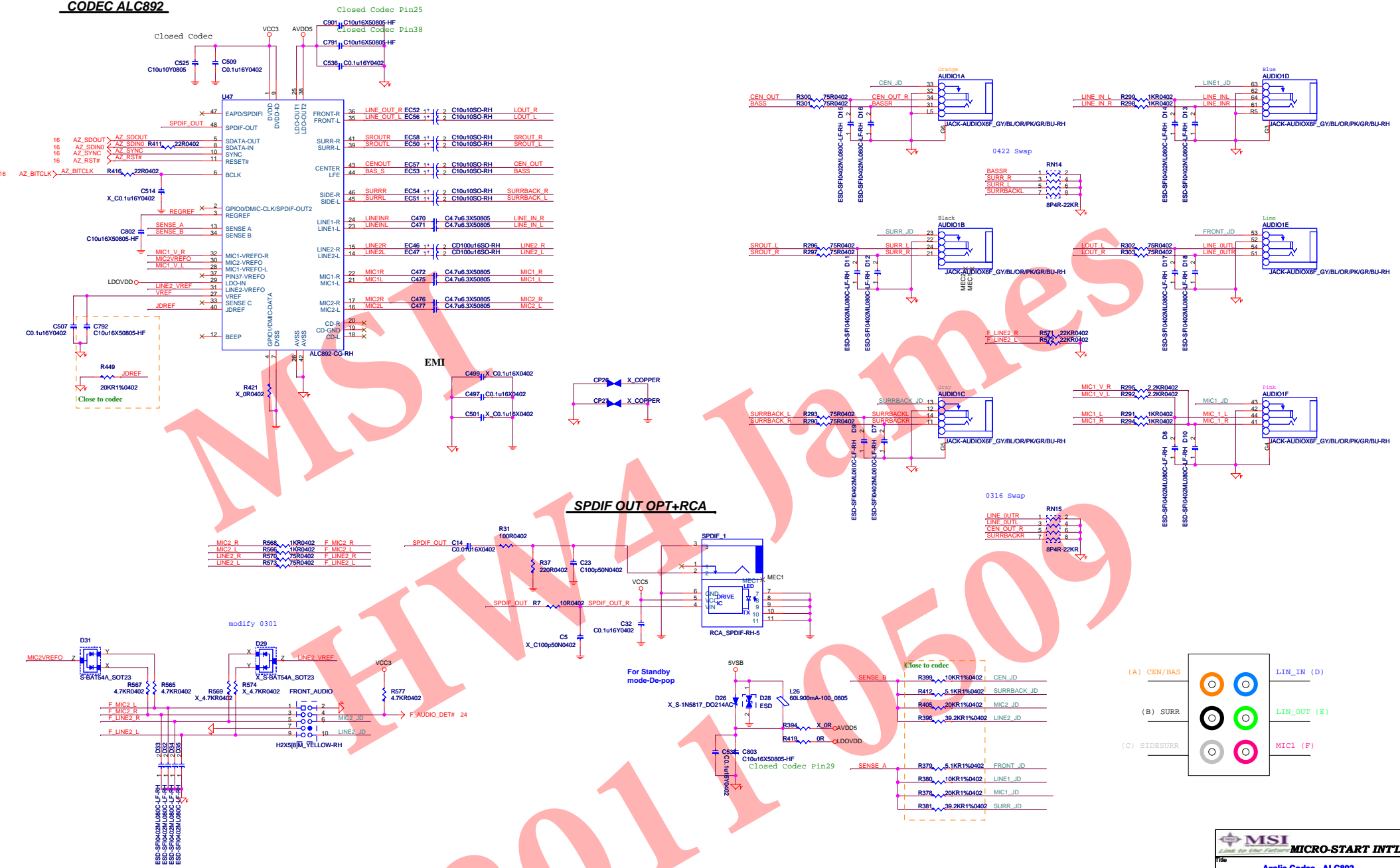
## SATA Connector



## ESATA Connector

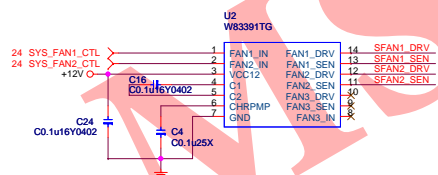
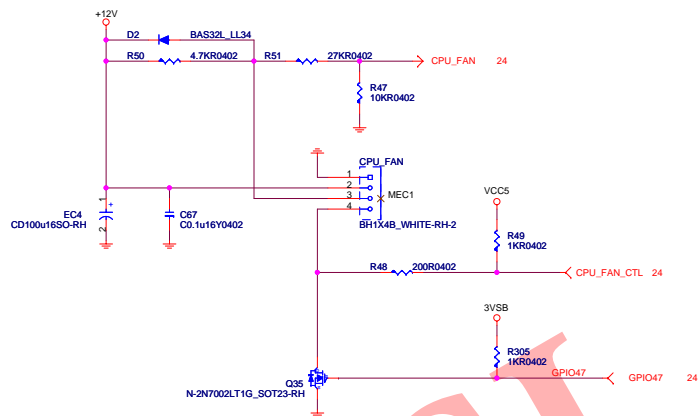


**CODEC ALC892**

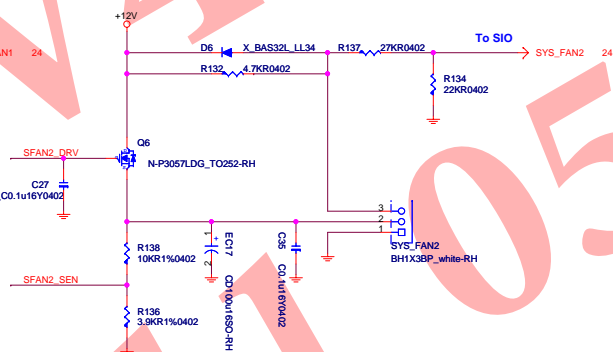
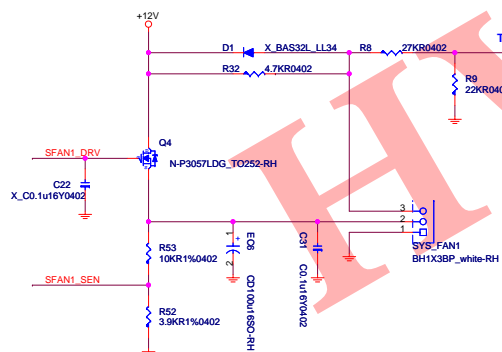




# **CPU Fan**



# **System Fan**



[illegible]

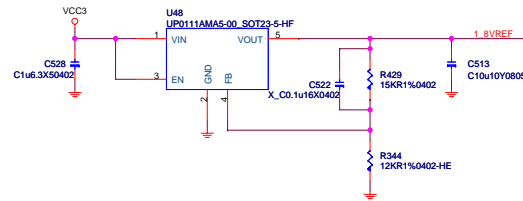
CFG_MODE2	CFG_MODE1	CFG_MODE0	Charge Mode
0	0	0	SDP mode
0	1	0	CDP mode
0	1	1	DCP mode
1	0	0	Apple 1A mode
1	0	1	Apple 2A mode
1	1	0	Auto mode (DCP and Apple 1A)
1	1	1	Auto mode (DCP and Apple 2A)

Note :  
S0/S3/S4/ : CDP mode  
S5 : Auto mode

ILJM_SEL2	ILJM_SEL1	ILJM_SEL0	Charge Mode
0	0	0	500mA
0	1	0	900mA
0	1	1	1.2A
1	0	0	1.5A
1	0	1	1.8A
1	1	0	2.0A
1	1	1	2.5A

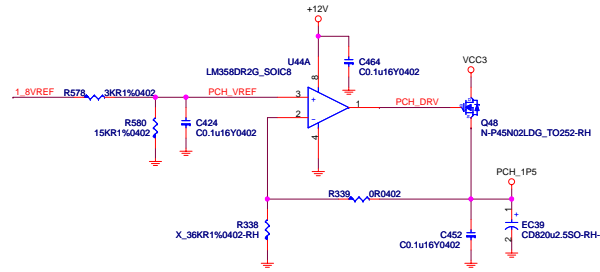
[illegible]

### 1.8V Reference Power



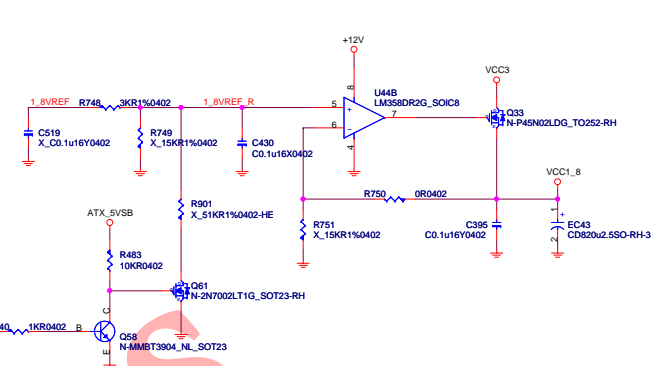
### PBG 1.5V Power Rail

Linear 1.5V, 0.512A Imax



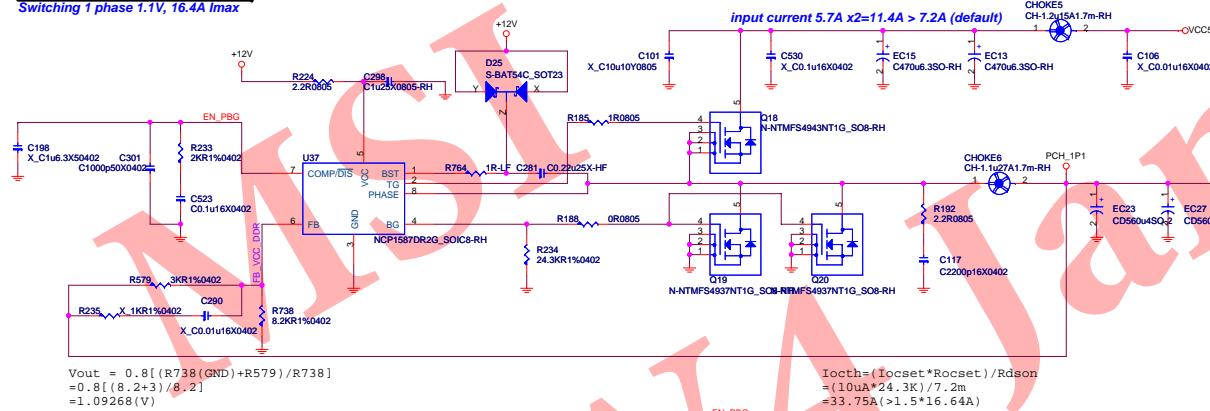
### VCCPLL Power Rail

Linear 1.8V, 2A Imax



### PBG Core Power Rail

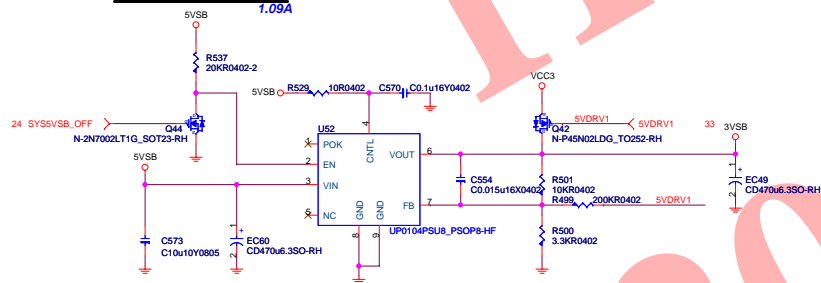
Switching 1 phase 1.1V, 16.4A Imax



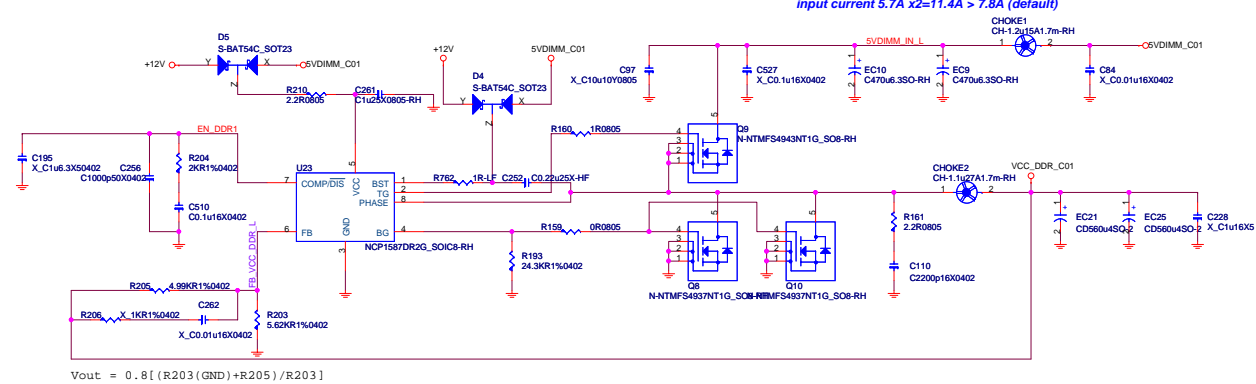
IVT_ID#		VOLTAGE
H	SNB-E	1.8V(normal)
L	IVB-E	1.7V

### 3VSB Power Rail

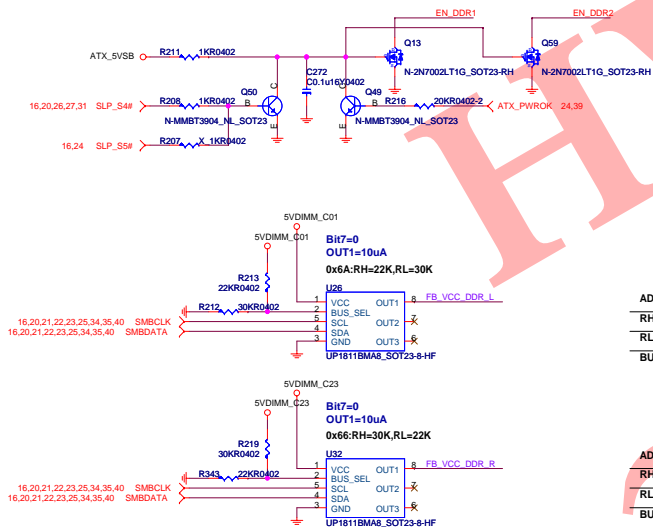
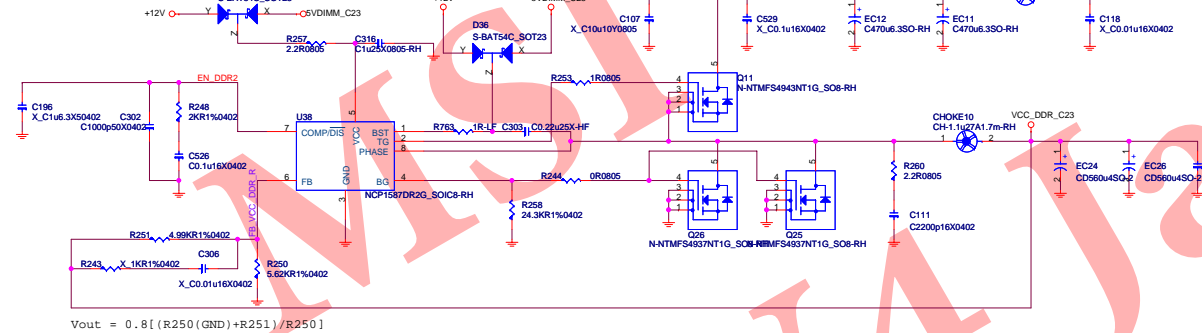
1.09A



**DDR III 1.5V POWER**  
Switch 1 Phase 1.5V 17A



**DDR III 1.5V POWER**  
Switch 1 Phase 1.5V 17A



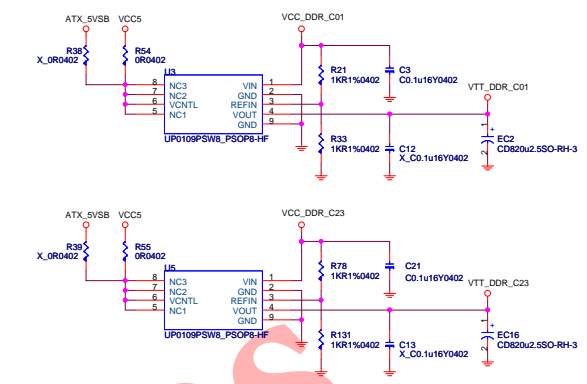
### UPI VOLTAGE CONSOLE

ADDRESS	0x2A	0x28	0x26	0x24	0x22	0x20
RH (KOhm)	OPEN	3.9	3	2.2	1.3	10
RL (KOhm)	10	1.3	2.3	3	3.9	OPEN
BUS_SEL	0%	25%	40%	60%	75%	100%

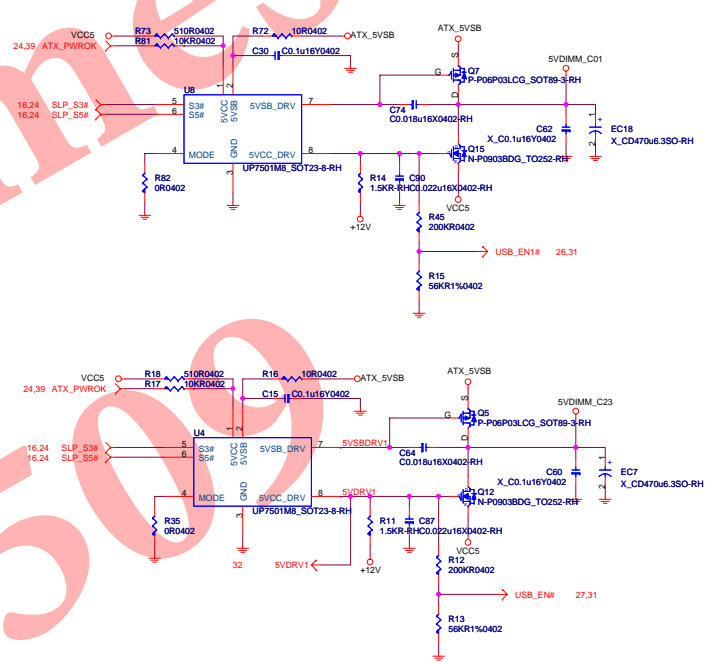
### UPI VOLTAGE CONSOLE

ADDRESS	0x2A	0x28	0x26	0x24	0x22	0x20
RH (KOhm)	OPEN	3.9	3	2.2	1.3	10
RL (KOhm)	10	1.3	2.3	3	3.9	OPEN
BUS_SEL	0%	25%	40%	60%	75%	100%

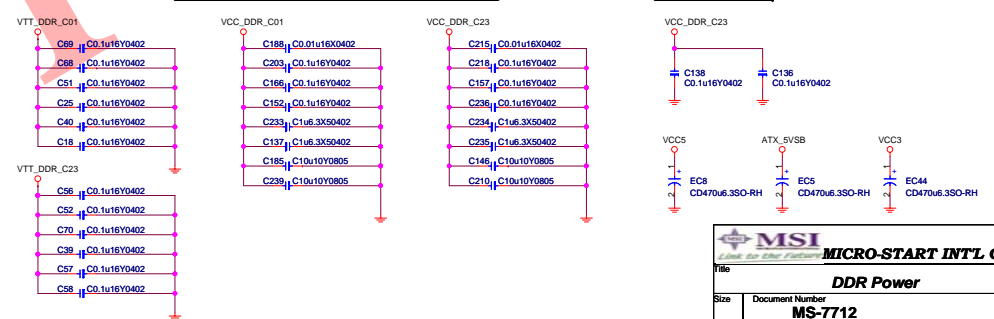
### DDRIII Termination Power



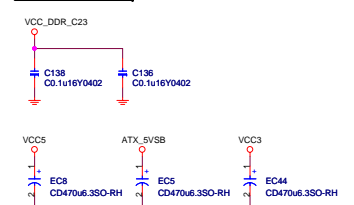
### DDRIII Regulator Power Source

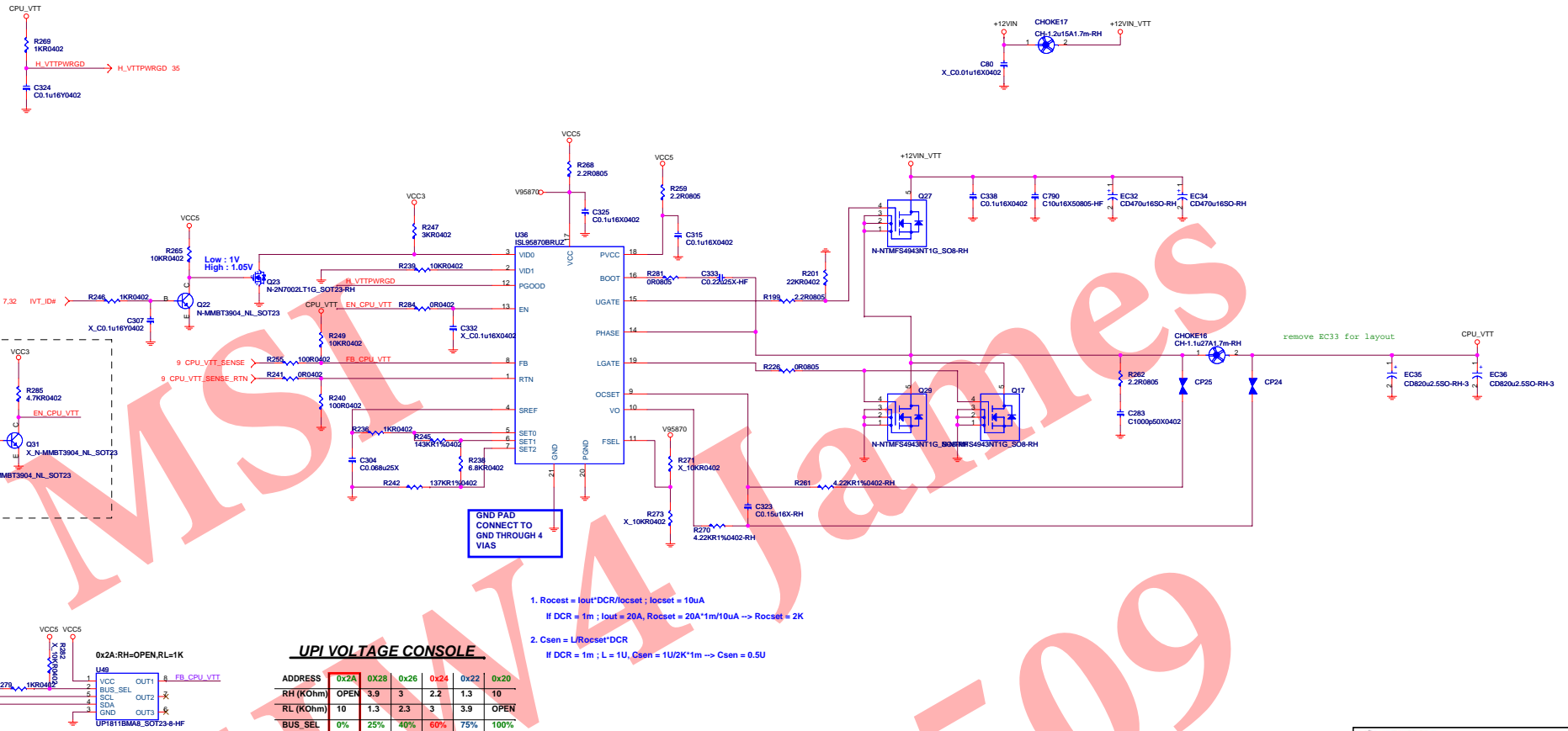


**DDRIII I/O Power Decoupling Caps.**



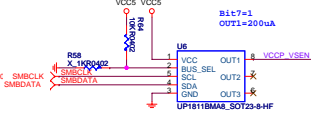
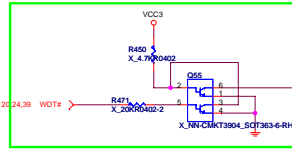
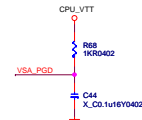
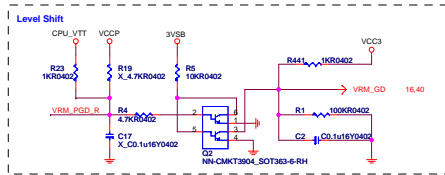
### EMI CAPs





ADDRESS	0x2A	0x28	0x26	0x24	0x22	0x20
RH (KOhm)	OPEN	3.9	3	2.2	1.3	10
RL (KOhm)	10	1.3	2.3	3	3.9	OPEN
BUS_SEL	0%	25%	40%	60%	75%	100%

## Voltage Regular Module (VRD12)

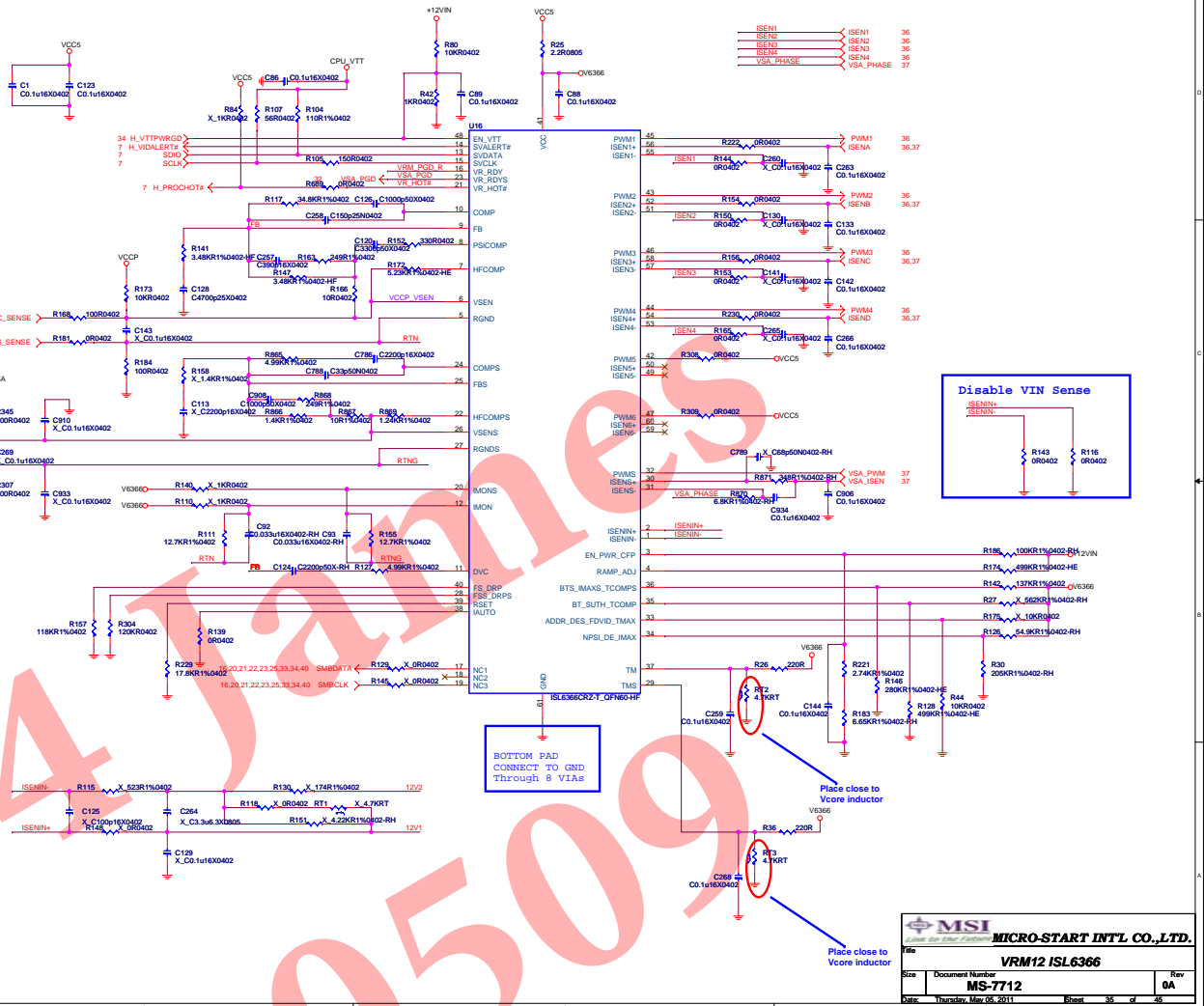
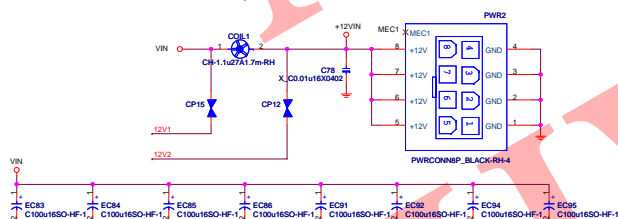


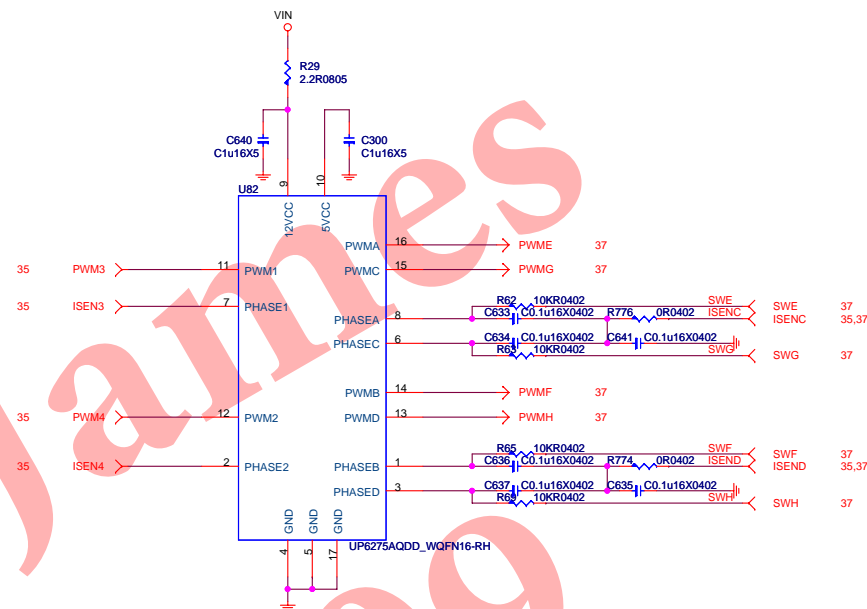
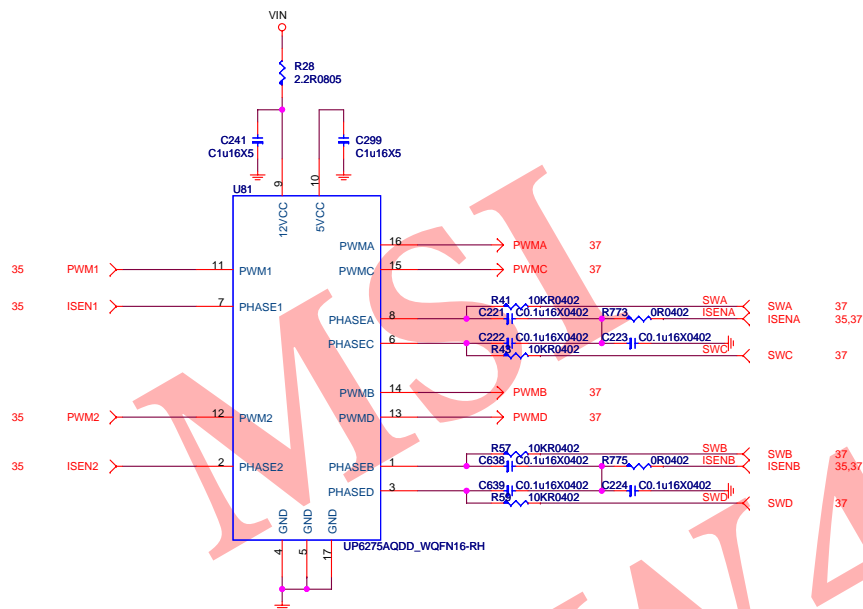
## UPI VOLTAGE CONSOLE

0x20:RH=10K,RL=open;Bit7=1

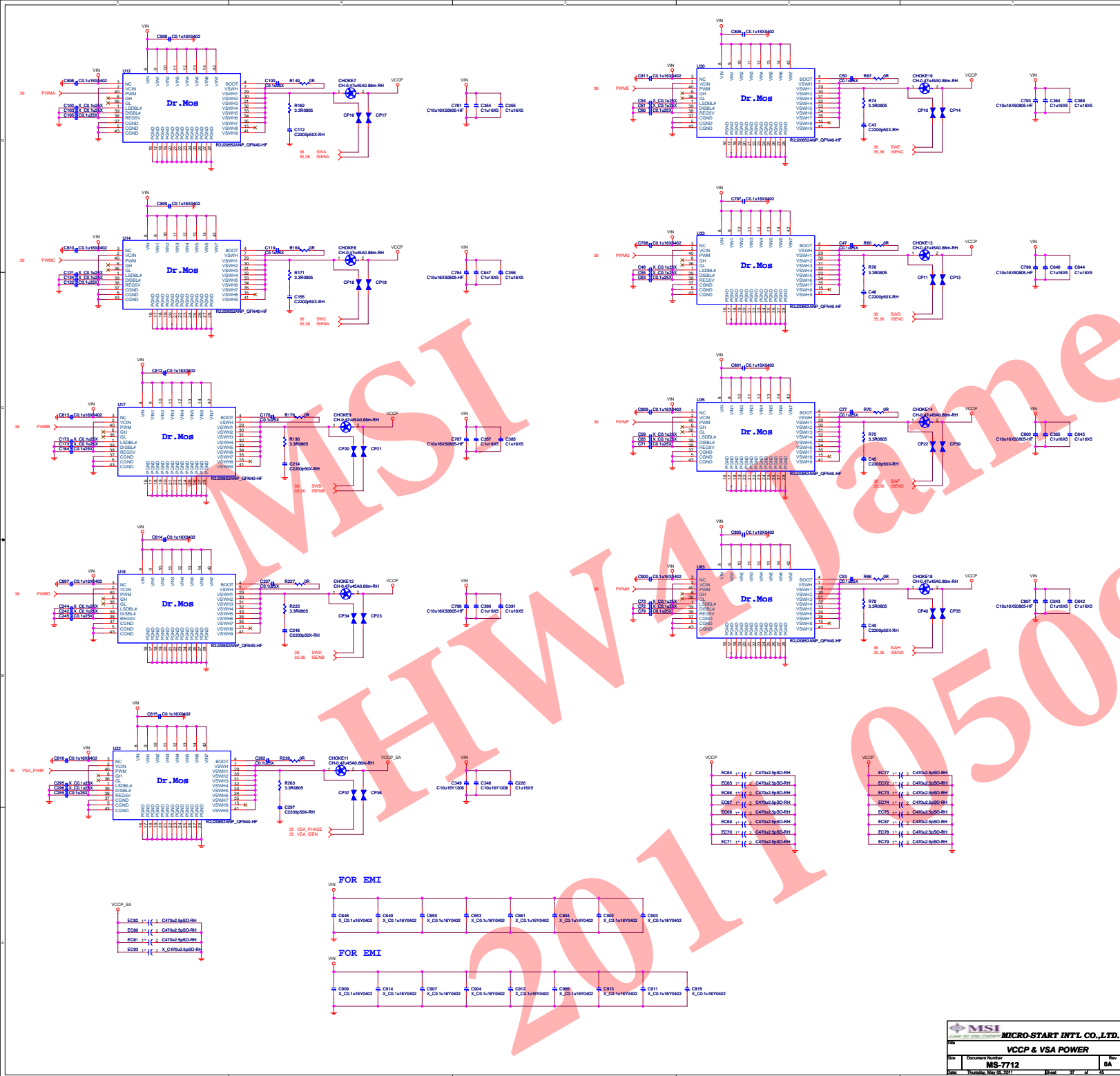
ADDRESS	0x2A	0x28	0x26	0x24	0x22	0x20
RH (Kohm)	OPEN	3.9	3	2.2	1.3	10
RL (Kohm)	10	1.3	2.3	3	3.9	OPEN
BUS_SEL	0%	25%	40%	60%	75%	100%

## CPU Core Power +12V Input

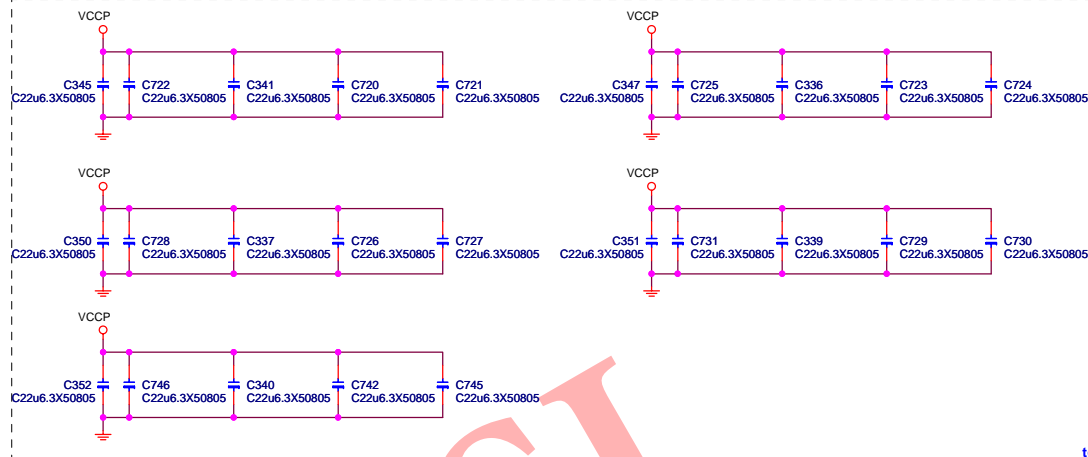






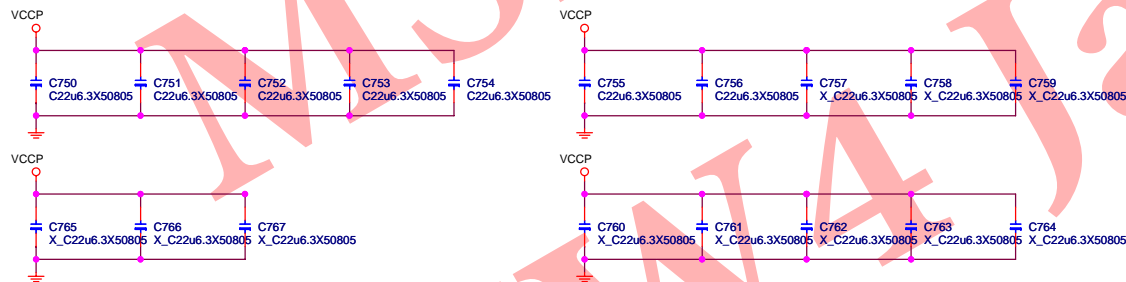


## VCCP Decoupling



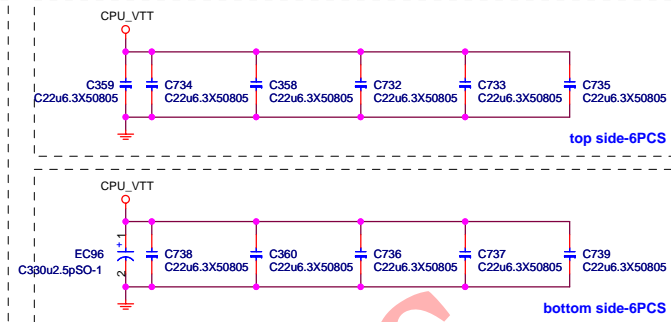
top side-25PCS

## VCCP Decoupling Bottom Side

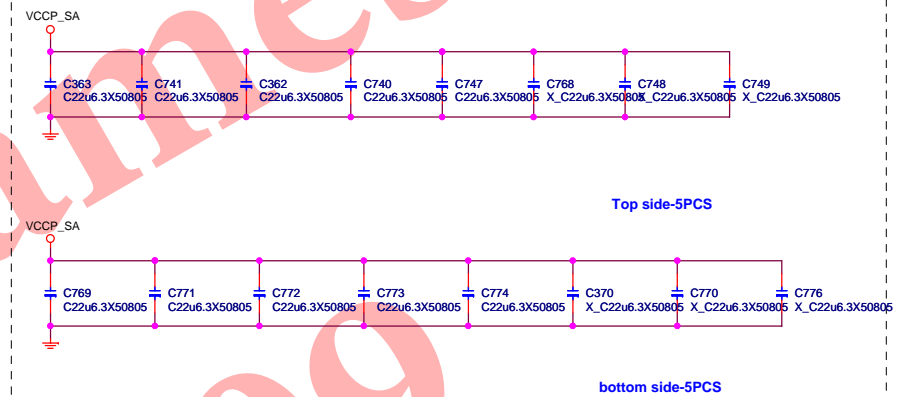


bottom side-6PCS

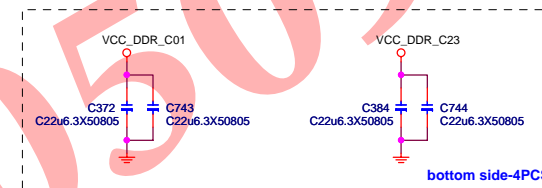
## CPU VTT Decoupling



## CPU VSA Decoupling

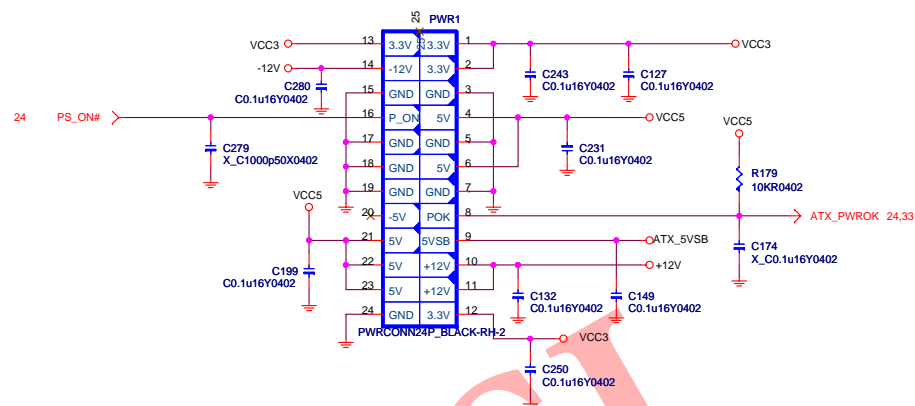


## CPU VCC DDR Decoupling

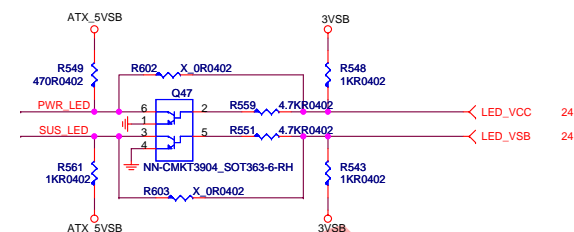


# ATX Power Connector / Front Panel / LED

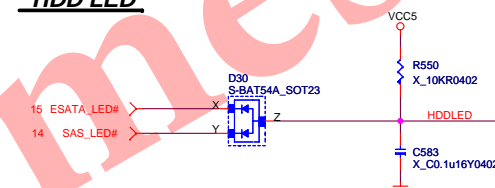
## 24 Pin ATX Power Connector



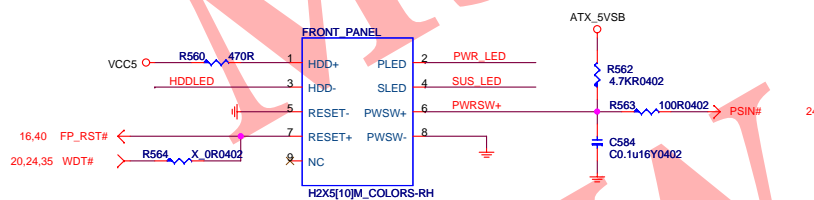
## Power LED



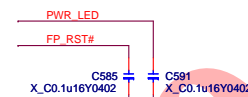
## HDD LED



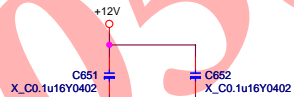
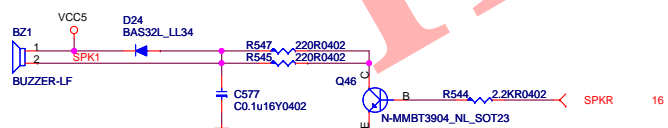
## Front Panel



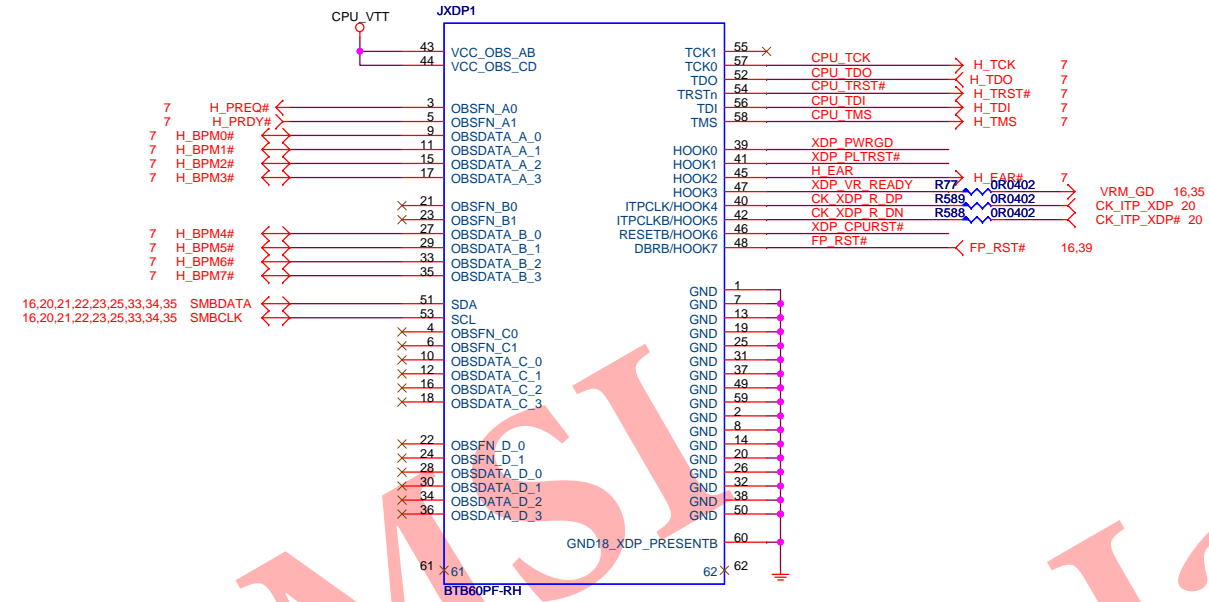
For EMI  
(close pin header)



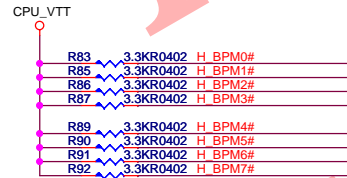
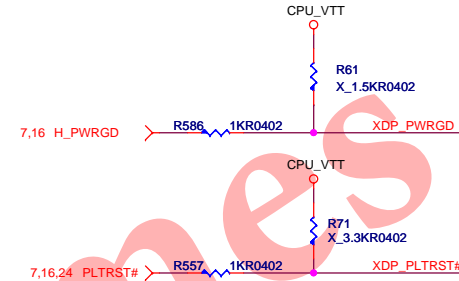
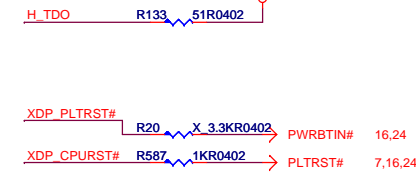
## Buzzer Circuit



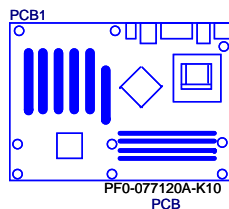
# CPU XDP PORT



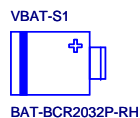
PLACE NEAR XDP CONNECTOR CPU\_VTT



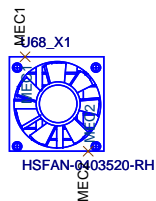
## Manual Parts



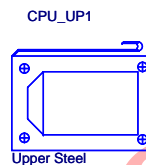
慶生PF0-077120A-K10



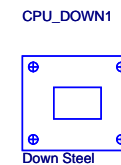
BAT-BCR2032P-RH



HSFAN-0403520-RH

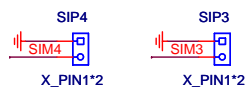


Upper Steel



Down Steel

## Simulation



## Optics Orientation Holes

### Optical Fiducial Marks-120



## PCB Mounting Holes

### Mounting Holes

