

MS-7698 Ver: 0A

CPU:

AMD FT1

System Chipset:

AMD HUDSON-D1

On Board Chipset:

**Super I/O -- NUVOTON NCT5572D
LAN -- RTL8111E
HD Codec -- ALC662-VC1
BIOS -- SPI ROM 8M**

Main Memory:

DDR III X 2 (Max 16GB)

Expansion Slots:

**PCI-E X 16 *1
PCI-E X 1 *1
MINI-PCI-E X 1 *1**

Clock Generator:

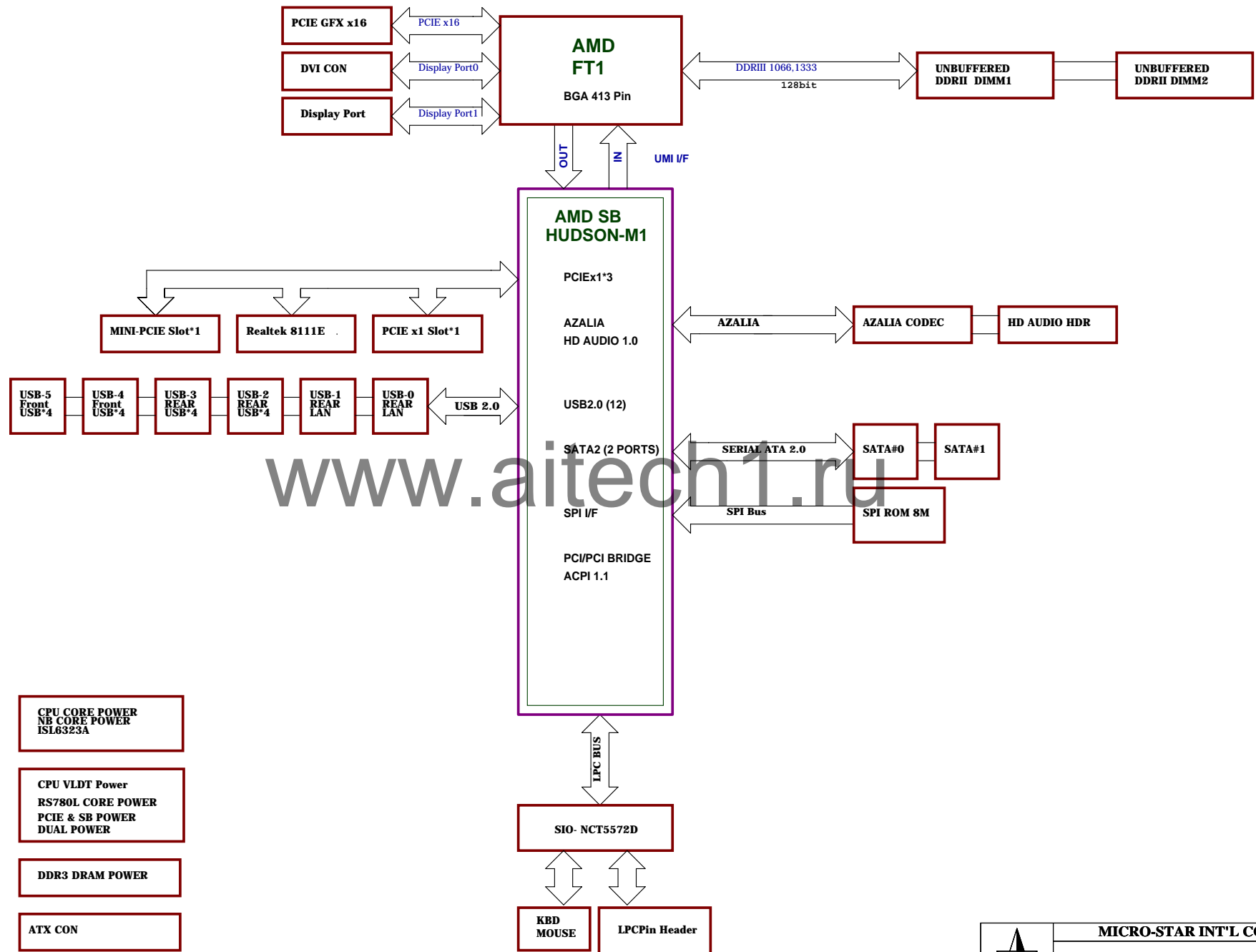
Controller--Realtek RTM880T794

PWM:

Controller -- Intersil ISL6323A

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Project RS-780L BLOCK DIAGRAM



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SB710

GPIO	Alt Func	I/O/NC	Power	Tolerance	Default	Signal Name
GPIO[00]	CLK_REQ0#/SATA_IS3#	I/O	Core	3.3V-5V	GPI	N/A
GPIO[02]	SPKR	I/O	Core	3.3V-5V	GPI	SPKR
GPIO[03]	FANOUT0	I/O	Core	3.3V-5V	GPI	CHASSICS_SW
GPIO[04]	SMARTVOLT1/SATA_IS2#	I/O	Core	3.3V-5V	GPI	CLEAR_CMOS
GPIO[05]	SMARTVOLT2/SHUTDOWN#	I/O	Core	3.3V-5V	GPI	GPIO5
GPIO[06]	CLK_REQ3#/SATA_IS1#	I/O	Core	3.3V-5V	GPI	RECOVERY
GPIO[08]	DDC1_SDA	I/O	Core	3.3V-5V	GPI	PDMA66
GPIO[09]	DDC1_SCL	I/O	Core	3.3V-5V	GPI	N/A
GPIO[10]	SATA_IS0#	I/O	Core	3.3V-5V	GPI	HOOD_SW_DET#
GPIO[11]	SPI_DO	I/O	Resume	3.3V	GPI	SPI_DATAOUT
GPIO[12]	SPI_DI	I/O	Resume	3.3V	GPI	SPI_DATAIN
GPIO[13]	LAN_RST#	I/O	Core	3.3V-5V	GPO(Lo)	LAN_RST#
GPIO[14]	ROM_RST#	I/O	Resume	3.3V	GPO(Lo)	SPI_WP#
GPIO[21..15]	IDC_D[6:0]	I/O	Core	3.3V-5V	GPO(Hi)	IDC_D[6..0]
GPIO[22]	IDC_D7	I/O	Core	3.3V-5V	GPO(Hi)	IDC_D7
GPIO[30..23]	IDC_D[15:8]	I/O	Core	3.3V-5V	GPO(Hi)	IDC_D[15..8]
GPIO[31]	SPI_HOLD#	I/O	Resume	3.3V	GPI	SPIHOLD#
GPIO[32]	SPI_CS1#	I/O	Resume	3.3V	GPI	SPI_CS#
GPIO[33]	INTE#	I/O	Core	3.3V-5V	GPI	INTA#
GPIO[34]	INTF#	I/O	Core	3.3V-5V	GPI	INTB#
GPIO[35]	INTG#	I/O	Core	3.3V-5V	GPI	INTC#
GPIO[36]	INTH#	I/O	Core	3.3V-5V	GPI	INTD#
GPIO[39]	CLK_REQ1#/SATA_IS4#/ FANOUT3	I/O	Core	3.3V-5V	GPI	PE0_PRNTX16#
GPIO[40]	CLK_REQ2#/SATA_IS5#/ FANIN3	I/O	Core	3.3V-5V	GPI	N/A
GPIO[41]	PCICLK5	I/O	Core	3.3V-5V	GPI	PCI_CLK5
GPIO[42]	AZ_SDIN0	I/O	Resume	3.3V	GPI	AZ_SDATA_IN0
GPIO[43]	AZ_SDIN1	I/O	Resume	3.3V	GPI	LED_SW
GPIO[44]	AZ_SDIN2	I/O	Resume	3.3V	GPI	N/A
GPIO[46]	AZ_SDIN3	I/O	Resume	3.3V	GPI	CLEAR_PASSWORD
GPIO[47]	SPI_CLK	I/O	Resume	3.3V	OUTPUT	SPI_CLK_R
GPIO[48]	FANOUT1	I/O	Core	3.3V-5V	GPI	FUSB1_DET
GPIO[49]	FANOUT2	I/O	Core	3.3V-5V	GPI	FUSB2_DET
GPIO[50]	FANIN0	I/O	Core	3.3V-5V	GPI	FUSB3_DET
GPIO[51]	FANIN1	I/O	Core	3.3V-5V	GPI	N/A
GPIO[52]	FANIN2	I/O	Core	3.3V-5V	GPI	N/A
GPIO[53]	VIN0	I/O	Resume	3.3V	GPI	AUDIO_AMP_DIS#
GPIO[54]	VIN1	I/O	Resume	3.3V	GPI	FRNT_AUD_DET
GPIO[55]	VIN2	I/O	Resume	3.3V	GPI	SLOT_3V_EN
GPIO[56]	VIN3	I/O	Resume	3.3V	GPI	5VDDIMM_MODE
GPIO[57]	VIN4	I/O	Resume	3.3V	GPI	N/A
GPIO[58]	VIN5	I/O	Resume	3.3V	GPI	N/A
GPIO[59]	VIN6	I/O	Resume	3.3V	GPI	N/A
GPIO[60]	VIN7	I/O	Resume	3.3V	GPI	N/A
GPIO[61]	TEMPIN0	I/O	Resume	3.3V	GPI	N/A
GPIO[62]	TEMPIN1	I/O	Resume	3.3V	GPI	N/A
GPIO[63]	TEMPIN2	I/O	Resume	3.3V	GPI	N/A
GPIO[64]	TEMPIN3/TALERT#	I/O	Resume	3.3V	GPI	TALERT#
GPIO[65]	BMREQ#/REQ5#	I/O	Core	3.3V-5V	GPI	SB600_PCI_REQ5#
GPIO[66]	LLB#	I/O	Resume	3.3V	GPI	LAN_ISOLATEB
GPIO[67]	SATA_ACT#	I/O	Core	3.3V	GPO	SATA_LED
GPIO[68]	LDRQ1#/GNT5#	I/O	Core	3.3V-5V	GPI	SB600_PCI_GNT5#
GPIO[70]	REQ3#	I/O	Core	3.3V-5V	GPI	REQ3#
GPIO[71]	REQ4#	I/O	Core	3.3V-5V	GPI	REQ4#
GPIO[72]	GNT3#	I/O	Core	3.3V-5V	GPO(Hi)	GNT3#
GPIO[73]	GNT4#	I/O	Core	3.3V-5V	GPO(Hi)	GNT4#
GEVENT0	USB_OC6#/IR_TX1/GEVENT6#	I/O	Resume	3.3V	GPI(Hi)	BIZ_COVER

SIO(F71889ED)

PIN	PIN NAME	USAGE	Input/Output	NOTES
51	GPIO25	MB_ID0	INPUT	MB_ID
52	GPIO26	MB_ID1	INPUT	MB_ID
53	GPIO27	MB_ID2	INPUT	MB_ID
40	GPIO12	MB_ID3	INPUT	MB_ID
60	GPIO06	BEEP	OUTPUT	BEEP sound output
58	GPIO04	LED_VSB	OUTPUT	Standby state LED control
59	GPIO05	LED_VCC	OUTPUT	S0 state LED control
41	GPIO13	PRT_DET#	INPUT	Printer port cable detect
42	GPIO14	COM2_DET#	INPUT	COM port cable detect

DDR-III DIMM Config.

DEVICE	ADDRESS	CLOCK
XMM1	00	MEM_MAO_CLK_H0/LO MEM_MAO_CLK_H1/L1
XMM2	10	MEM_MA1_CLK_H0/LO MEM_MA1_CLK_H1/L1
XMM3	01	MEM_MBO_CLK_H0/LO MEM_MBO_CLK_H1/L1
XMM4	11	MEM_MB1_CLK_H0/LO MEM_MB1_CLK_H1/L1

PCI Config.

DEVICE	MCP1 INT Pin	REQ#/GNT#	IDSEL	CLOCK
PCI Slot 1	INTA# INTB# INTC# INTD#	REQ#0 GNT#0	AD21	PCI1_CLK
PCI Slot 2	INTB# INTC# INTD# INTA#	REQ#1 GNT#1	AD22	PCI2_CLK

JUMPER SETTING

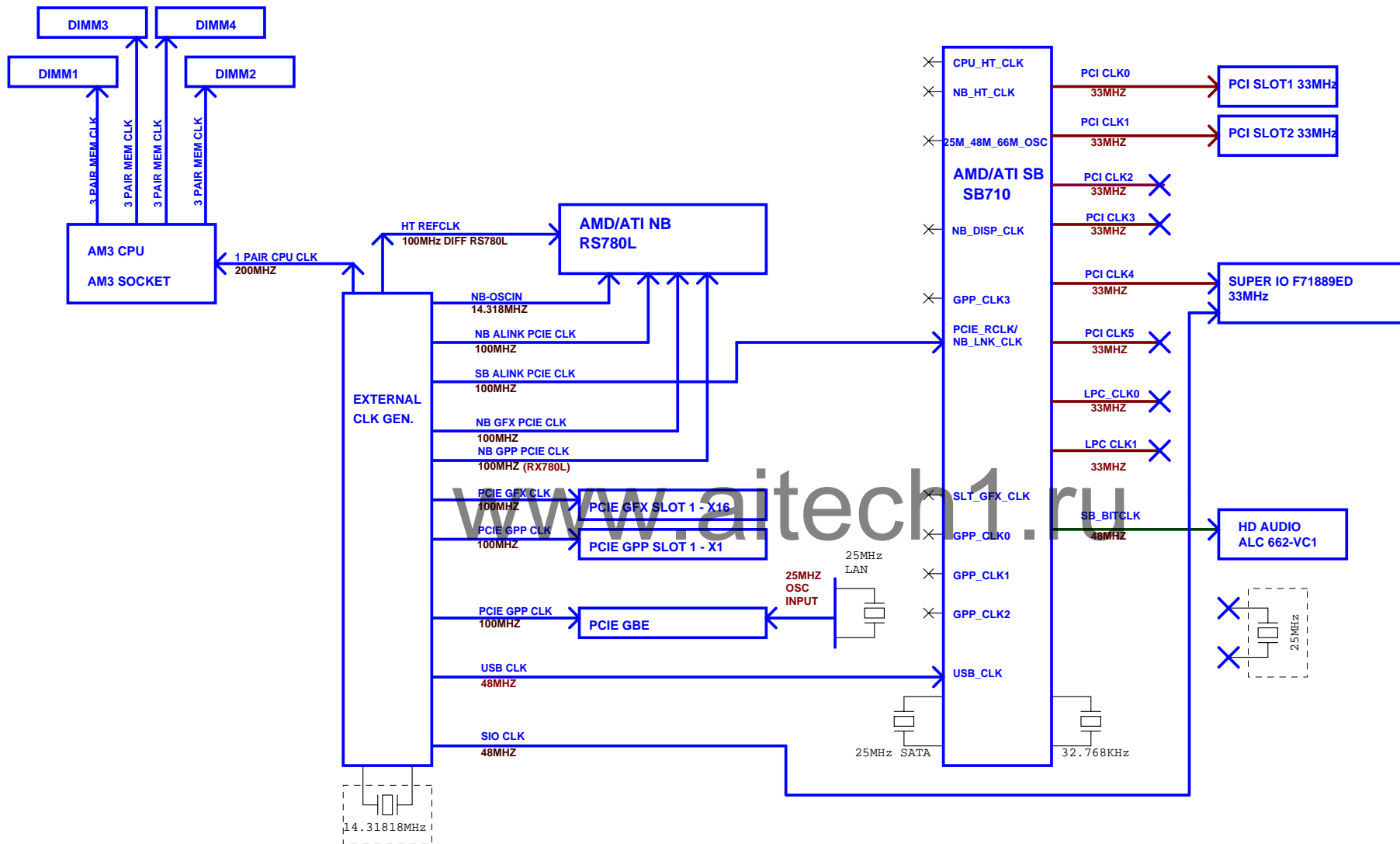
Clear CMOS(E50)	(1-2) NORMAL	(2-3) CLEAR
Clear Password(E49)	(HI) NORMAL	(LO) CLEAR
BOOT BLOCK RECOVERY(E15)	(HI) RECOVERY	(LO) NORMAL
BIZ COVER(RCV1)	(HI) NORMAL	(LO) RECOVERY



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External clock mode
Internal clock mode

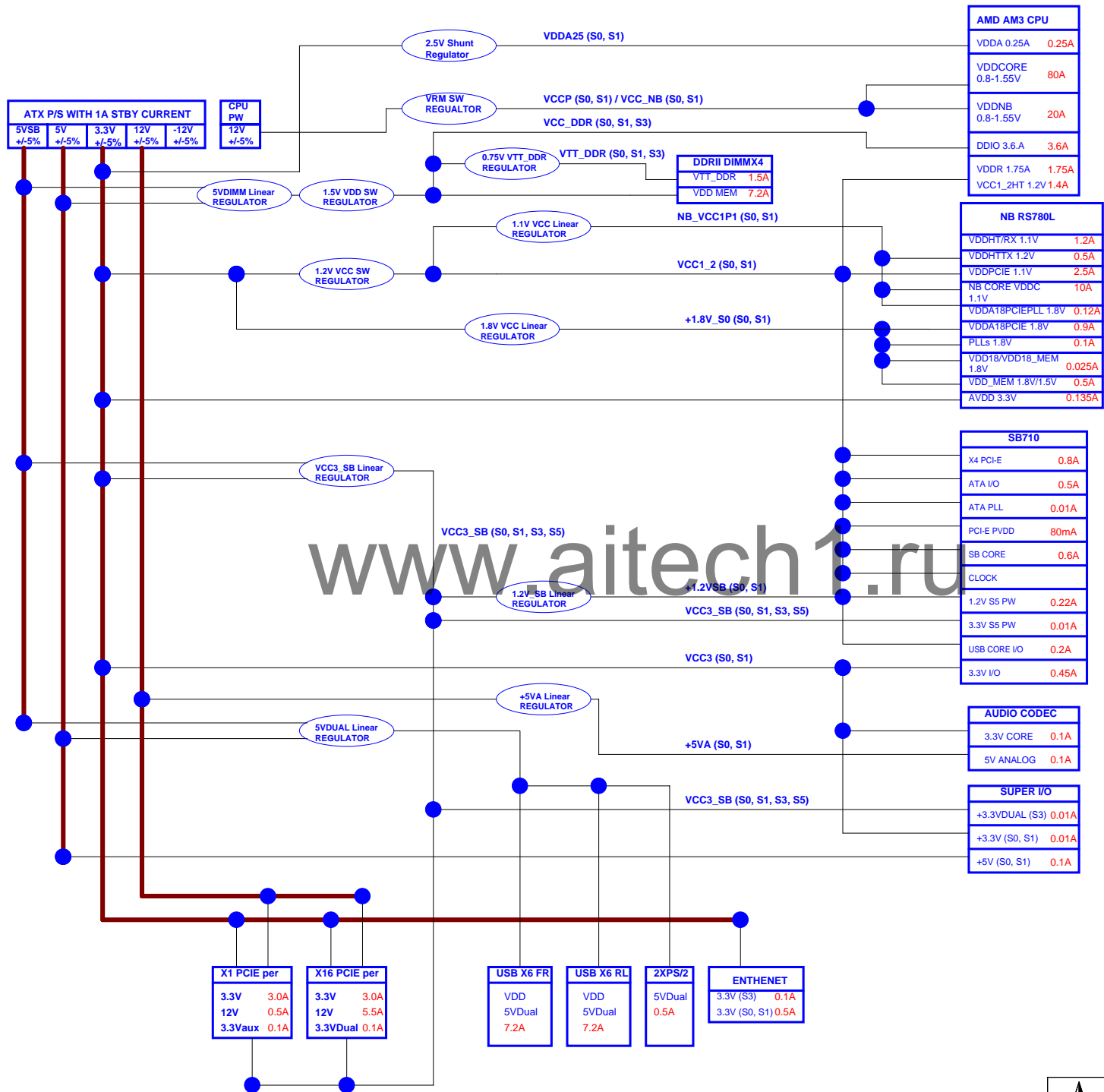


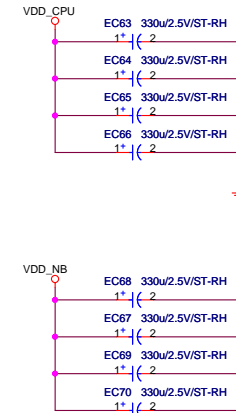
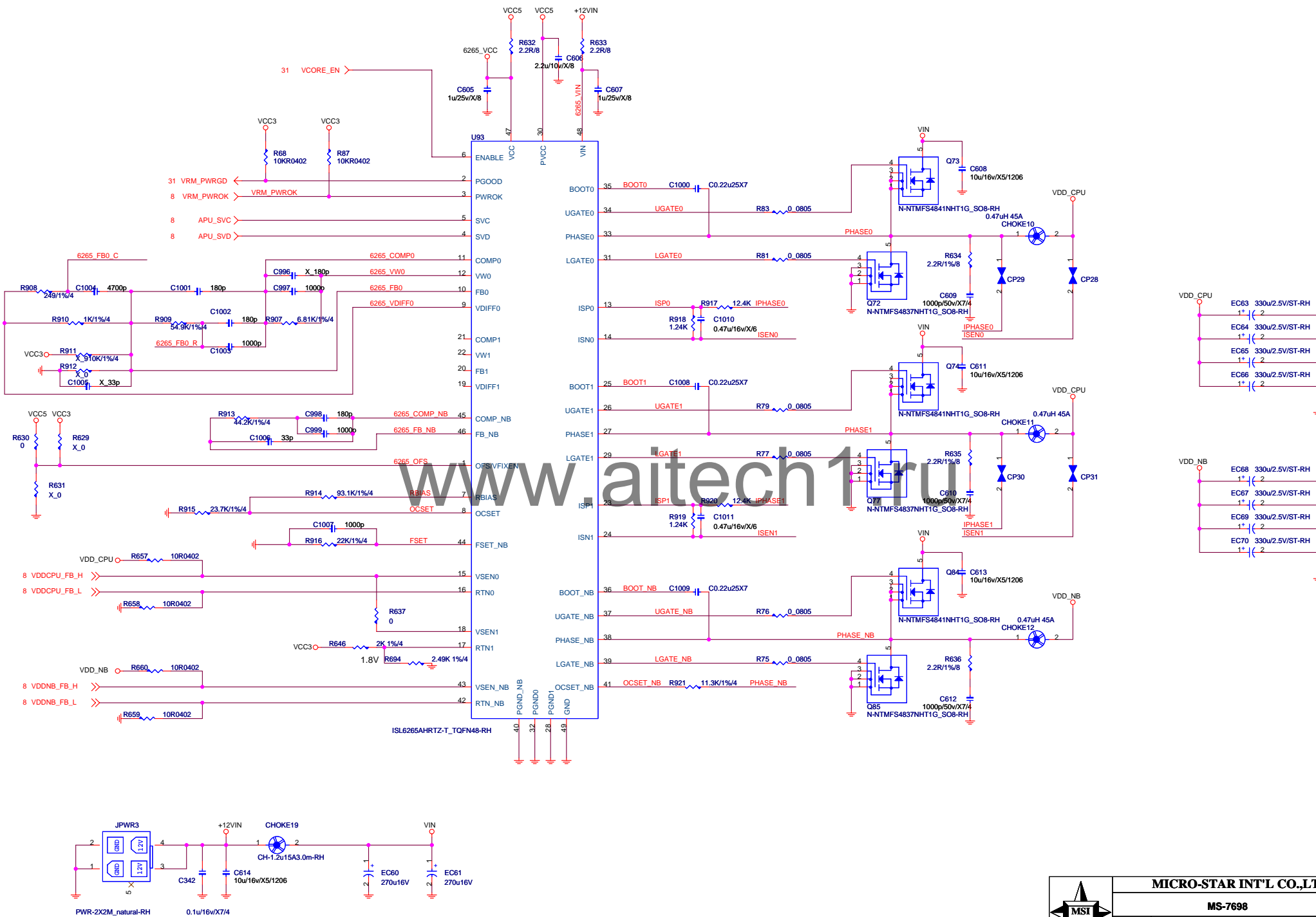
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Power Deliver Chart



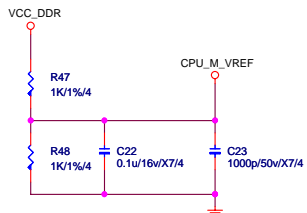


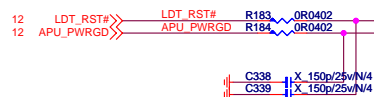
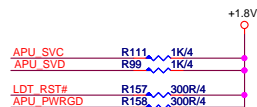
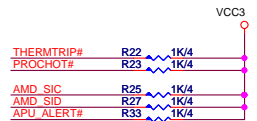
10 MEM_DQS_L[7..0] <<> MEM_DQS_L[7..0]
10 MEM_DQS_H[7..0] <<> MEM_DQS_H[7..0]
10 MEM_DM[7..0] <<> MEM_MA_DM[7..0]
10 MEM_ADD[15..0] <<> MEM_ADD[15..0]
10 MEM_DATA[63..0] <<> MEM_DATA[63..0]

U1E

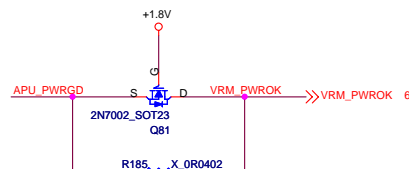
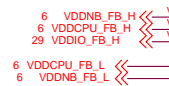
ONTARIO (2.0)
PART 1 OF 5

MEMORY I/F

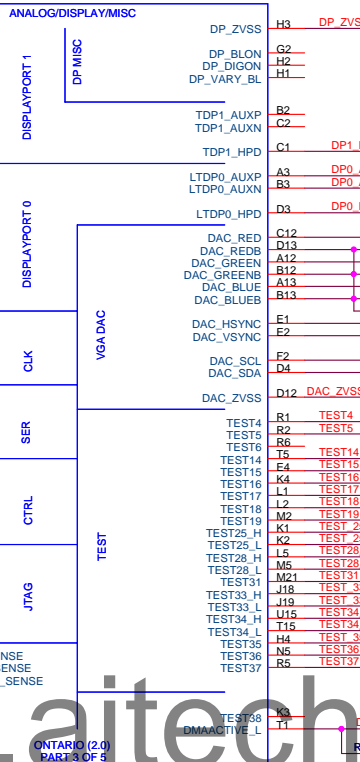




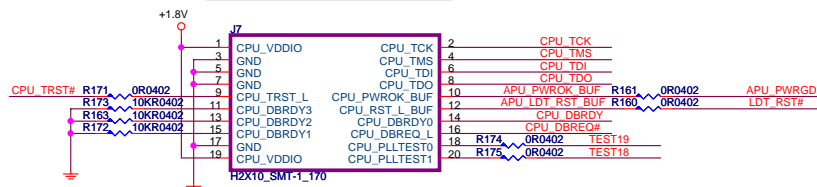
HDMI



U1B



HDT+ Connector

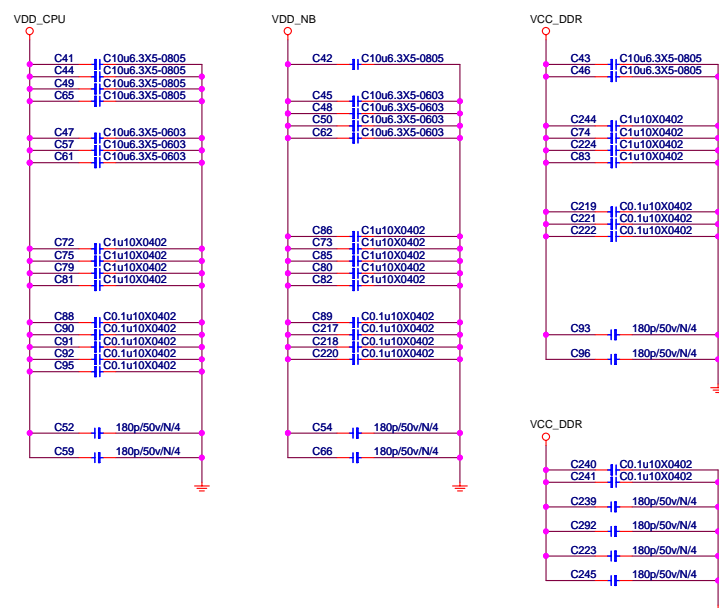
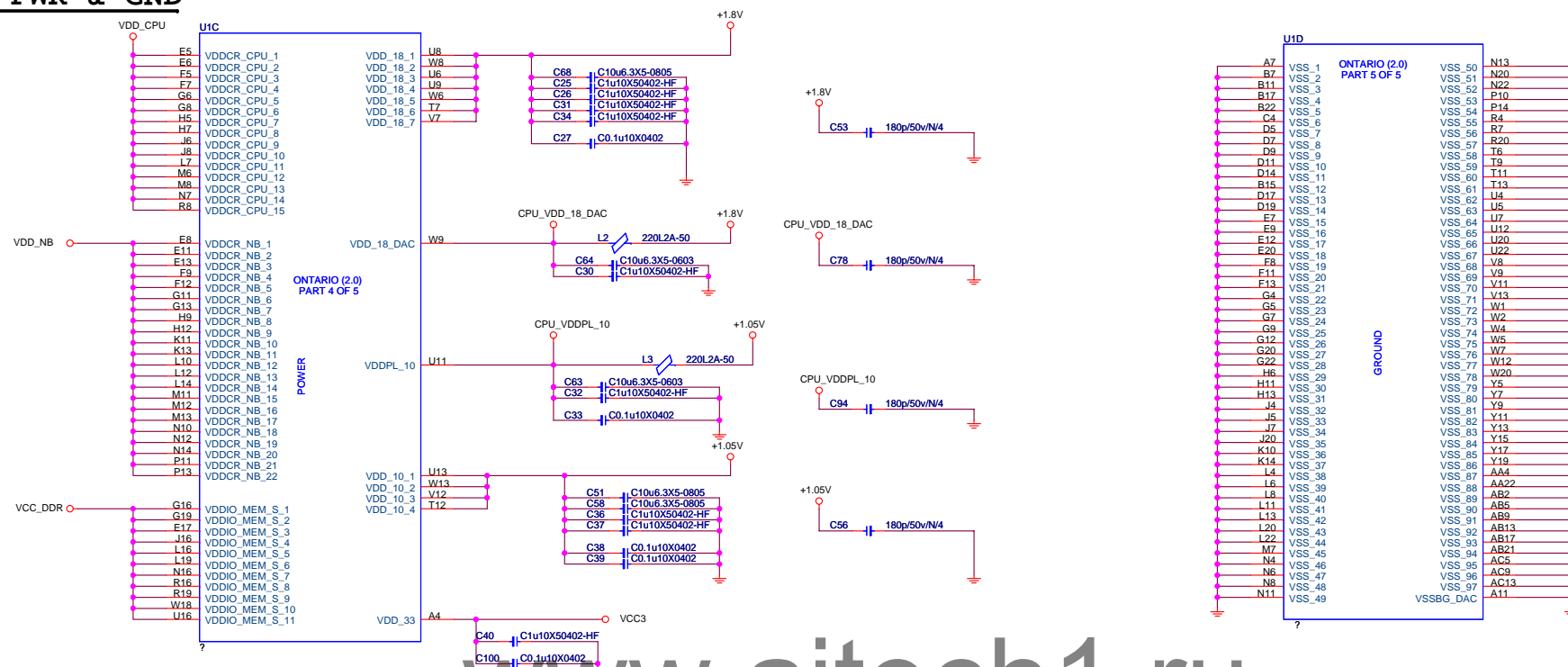


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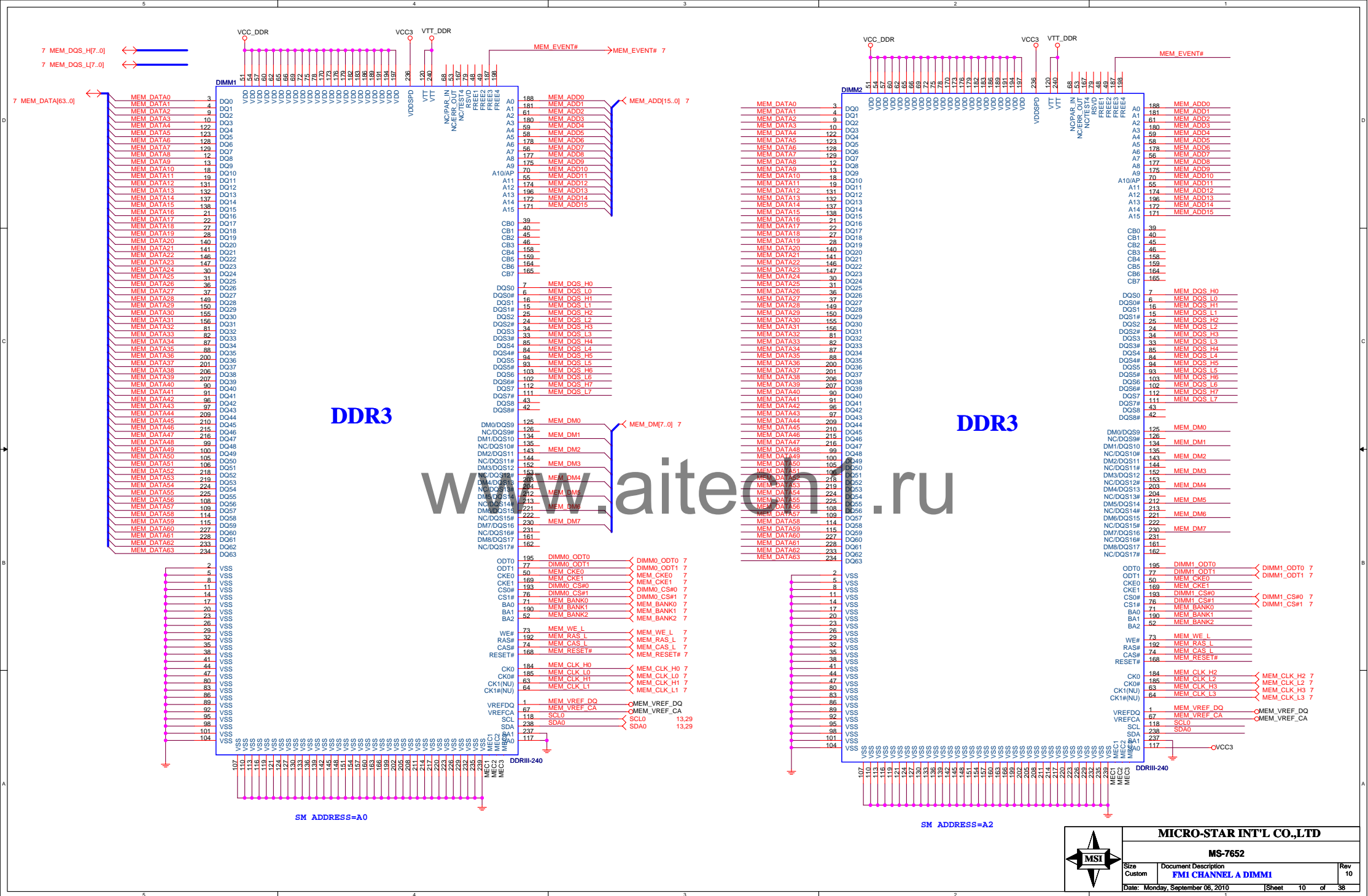
CPU AM3 PWR & GND



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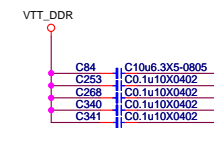
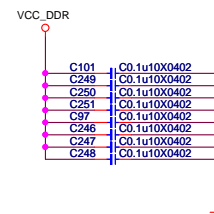
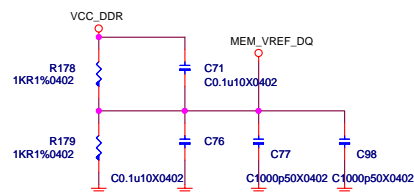
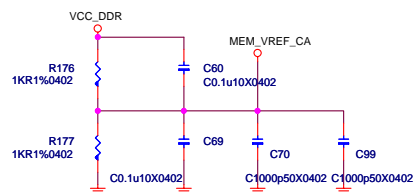
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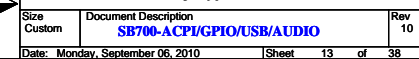
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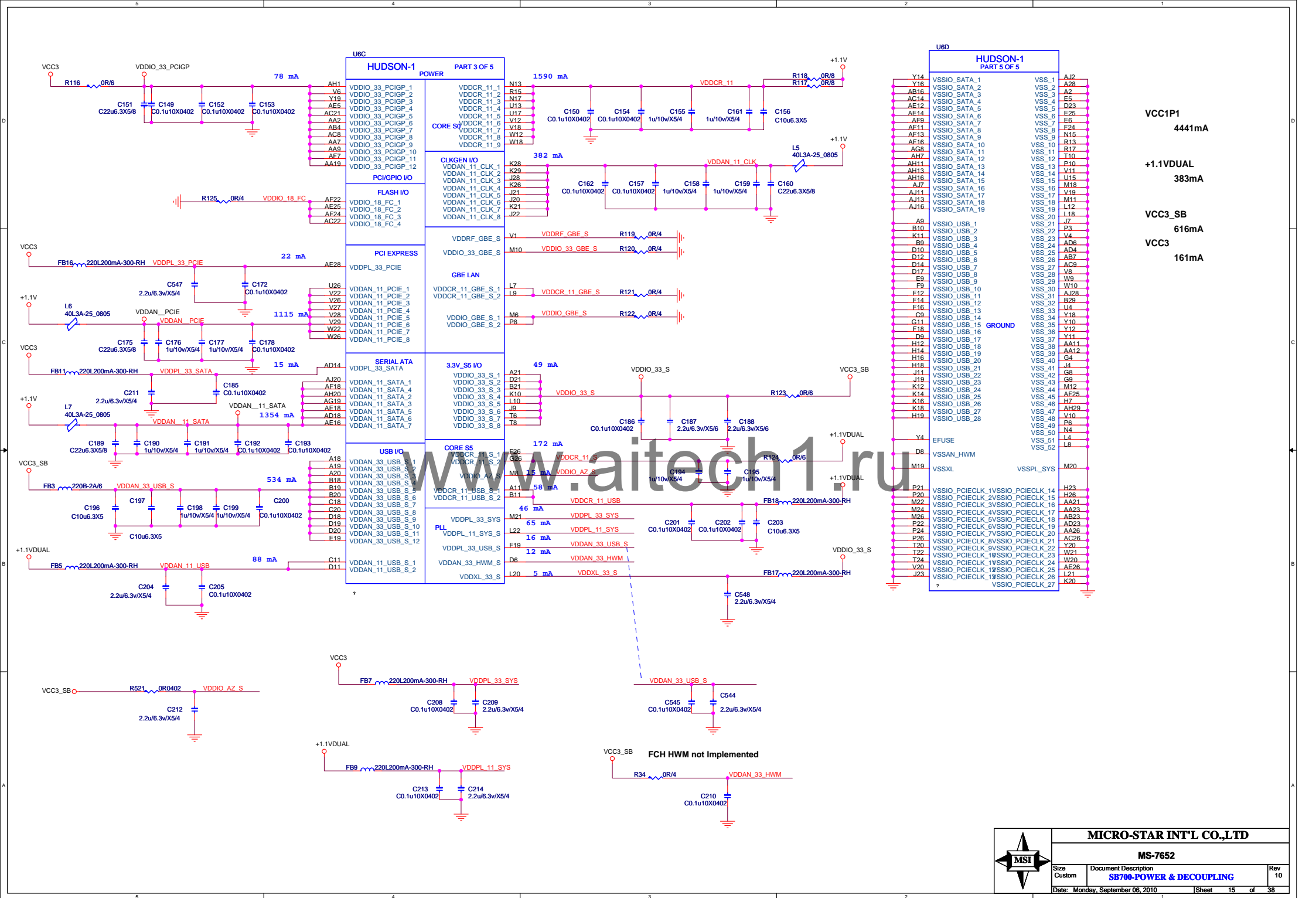


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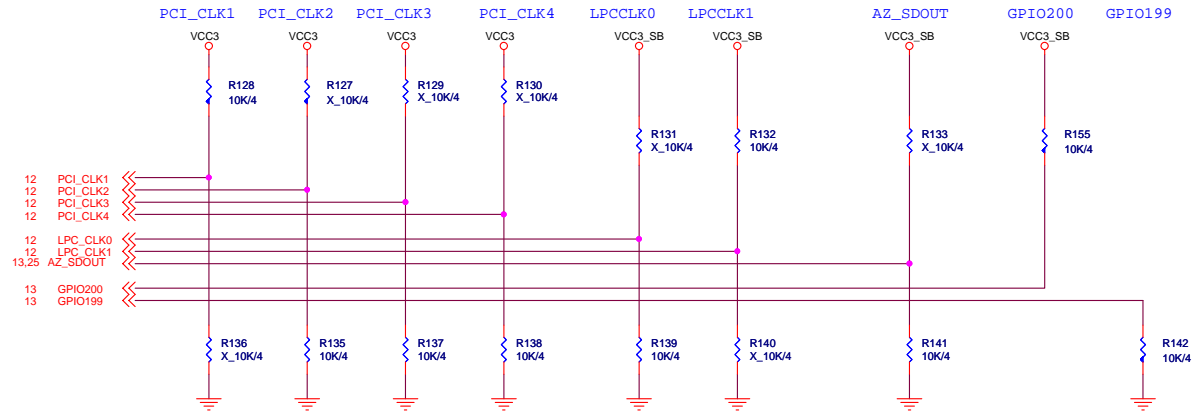
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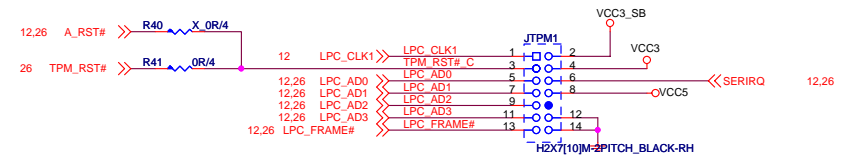
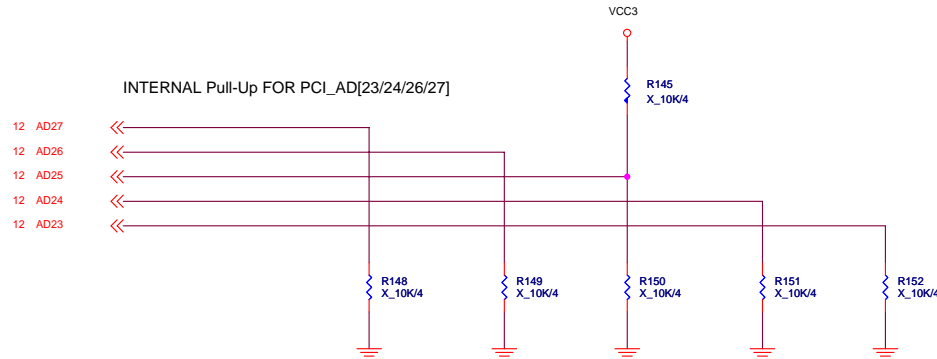




REQUIRED STRAPS



	PCI_CLK1	PCI_CLK2	PCI_CLK3	PCI_CLK4	LPC_CLK0	LPC_CLK1	AZ_SDOUT	GPIO200 GPIO199
PULL HIGH	PCIE GEN2 DEFAULT	WatchDog Enable	Debug Straps Enable	NON-Fusion APU clock mode	EC ENABLE	Internal clock mode DEFAULT	Reserved (as low power mode is not supported)	ROM TYPE: 1 0 SPI ROM
PULL LOW	PCIE GEN1	WatchDog Disable DEFAULT	Debug Straps Disable DEFAULT	Fusion APU clock mode DEFAULT	EC DISABLE DEFAULT	External clock mode DEFAULT	Required setting (performance mode) DEFAULT	



FCH DEBUG STRAPS

	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE PCI PLL DEFAULT	Disable ILA autorun DEFAULT	Use Internal PLL FC CLK DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	Use ROM TYPE to straps ROM type DEFAULT
PULL LOW	BYPASS PCI PLL	Enable ILA autorun	Bypass FC CLK	USE EEPROM PCIE STRAPS	Reserved

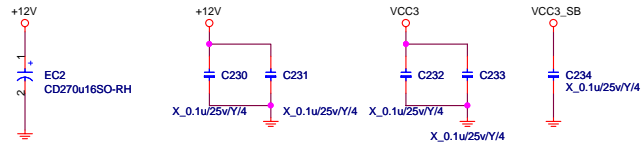
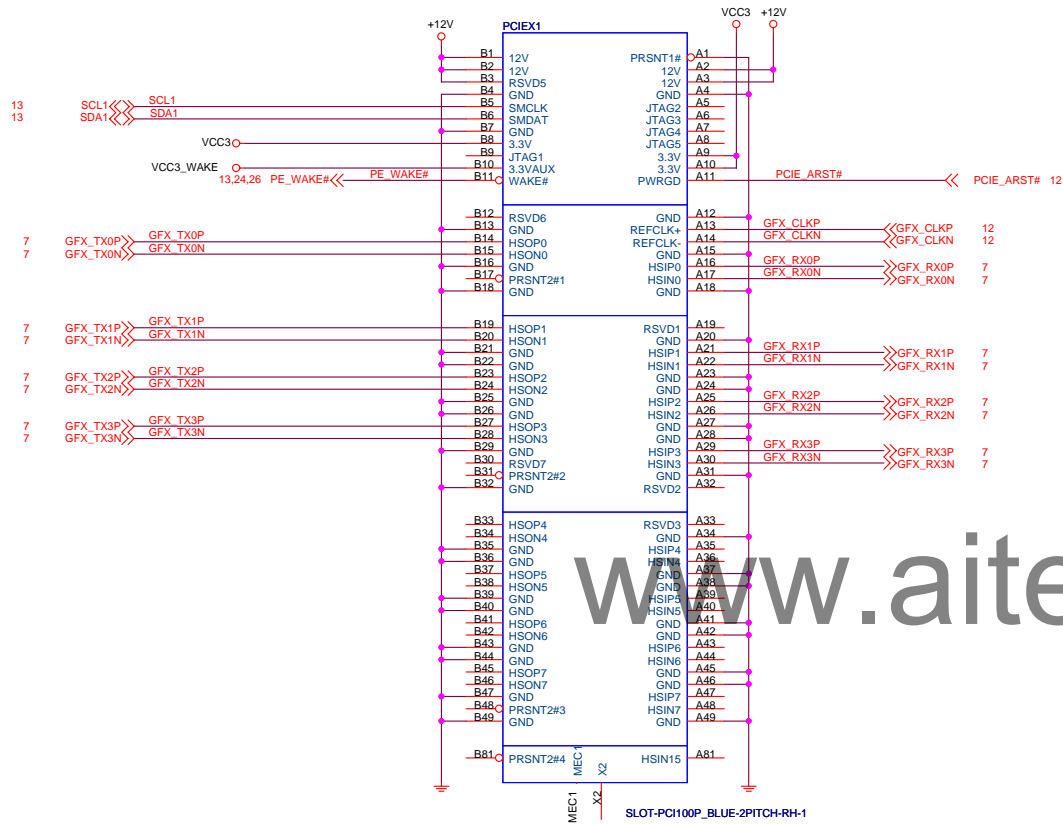


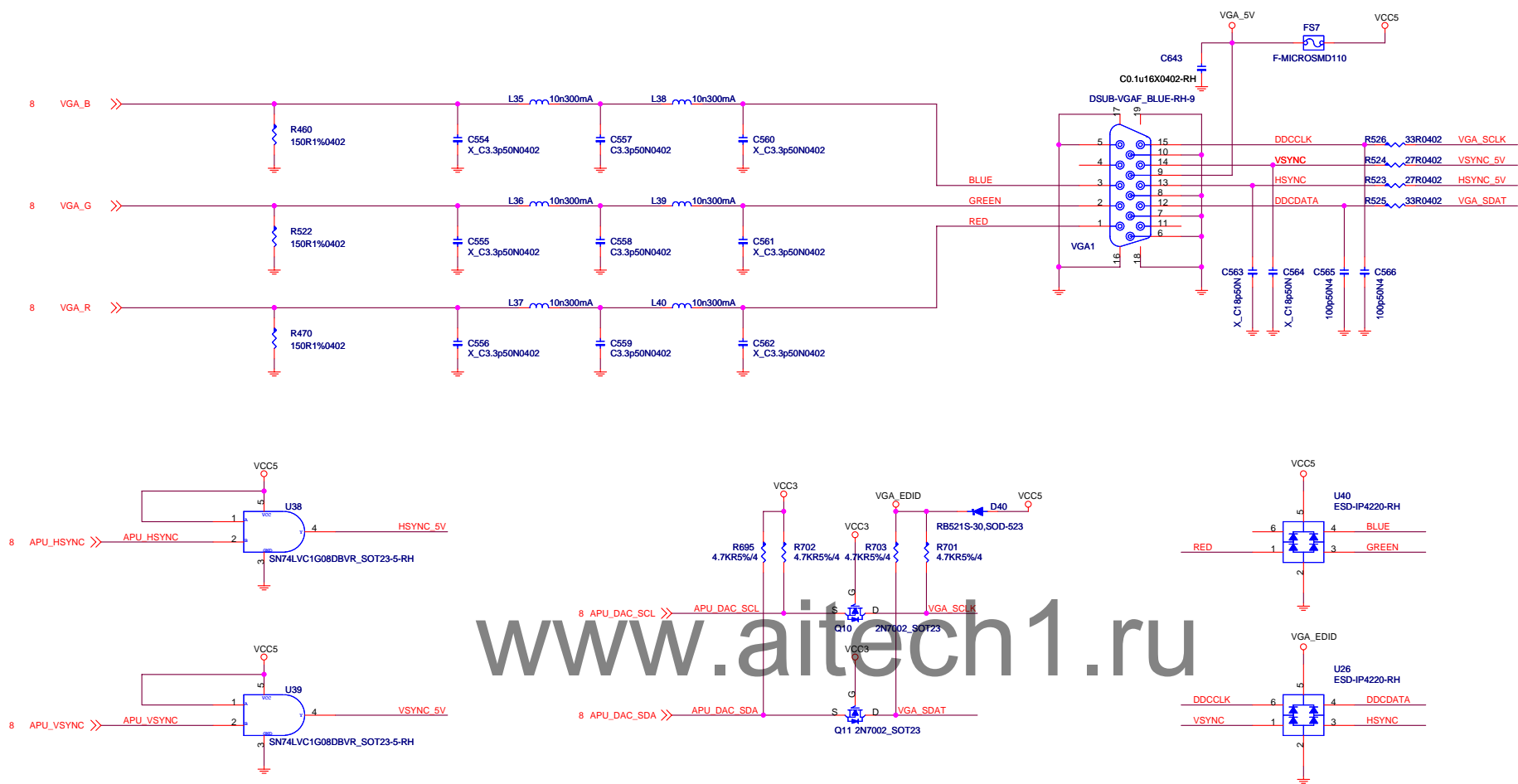
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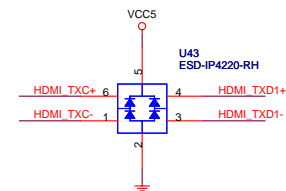
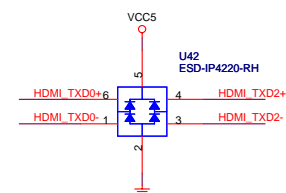
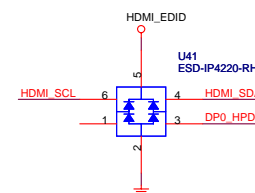
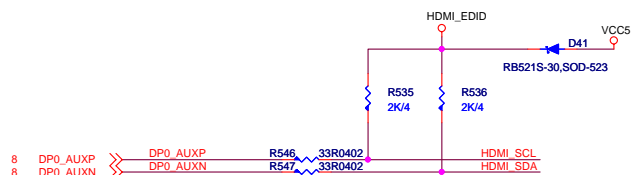
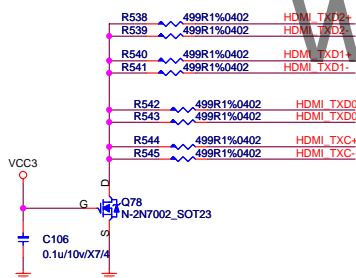
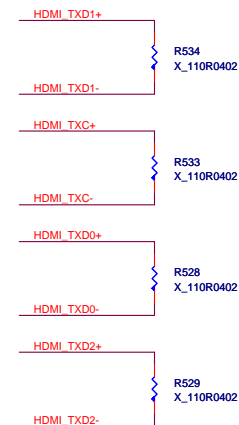
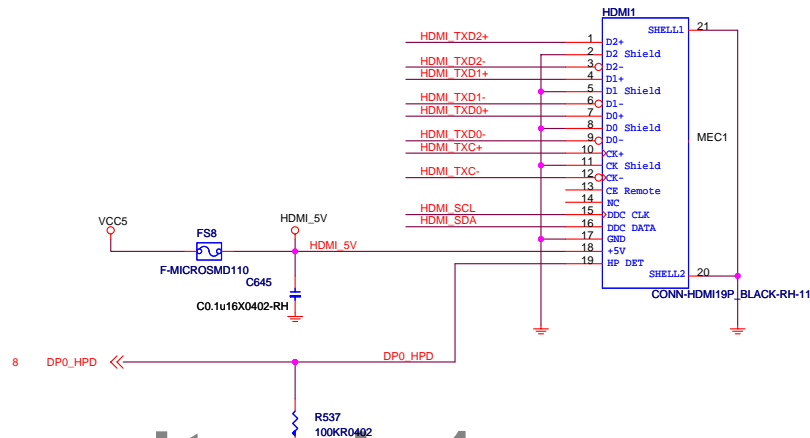
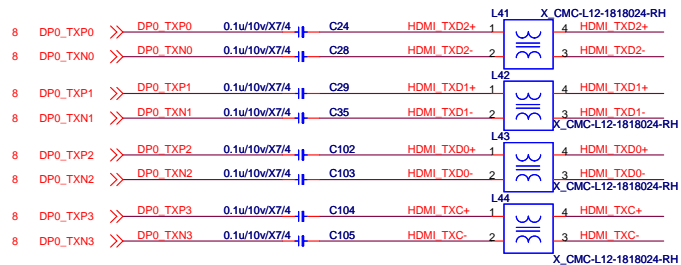
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PCI EXPRESS x16 Slot





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SIO GPIO40 Pin7 (I_VSB3V)

USB_CHARGE: (OD)

0: Don't support USB charge and resume.
1: Support USB charge and resume.

Power plug in , H/W default support USB charge.

SIO GPIO25 (I_VSB3V)
SIO GPIO50 (I_VSB3V)

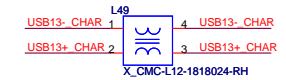
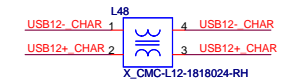
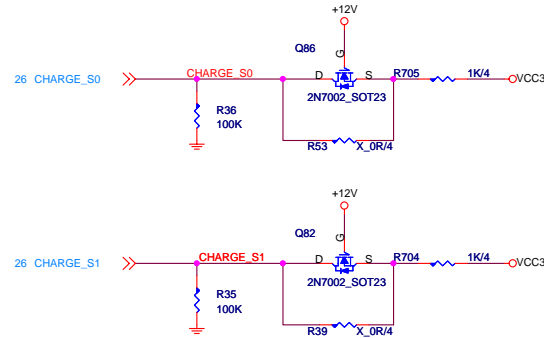
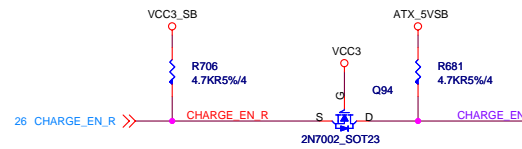
Pin power : I_3VSB
Register power : I_3VSB
Register reset : I_3VSB

CHARGE_S1: (PUSH PULL)
CHARGE_S0: (PUSH PULL)

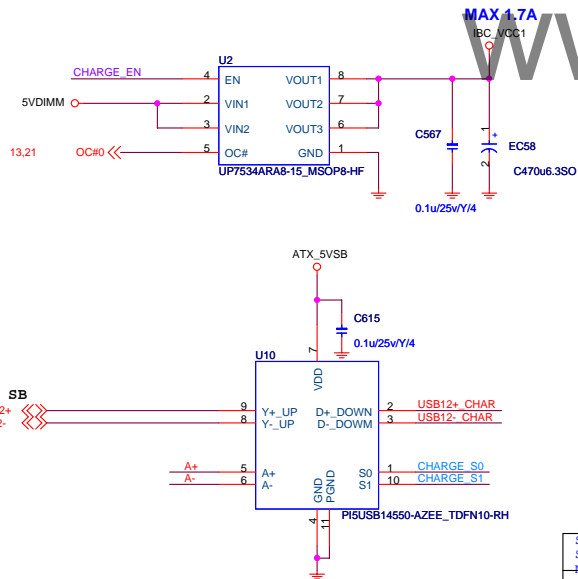
S0 S1
AUTO: 0 0
DCP : 0 1
A : 1 0
Y : 1 1

Pin power : I_3VSB
Register power : I_3VSB
Register reset : I_3VSB

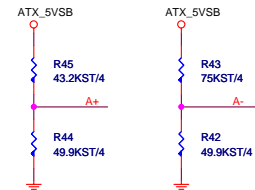
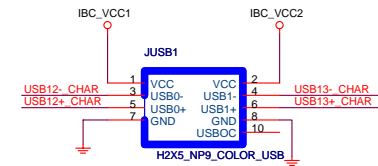
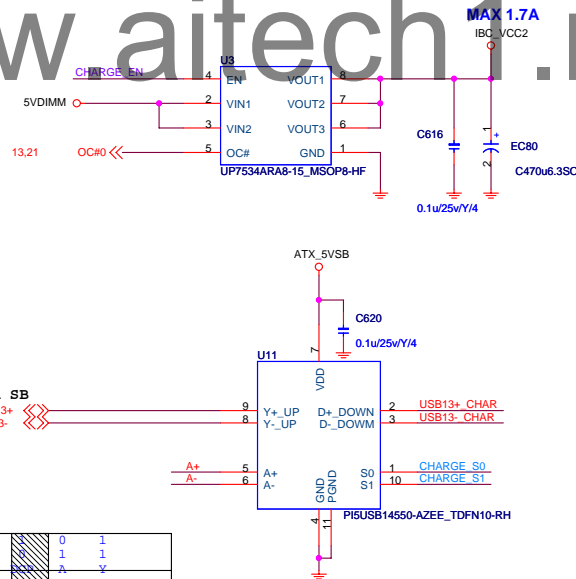
H/W default support auto charging in S3/S4/S5 and usb link in S0.



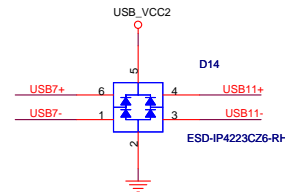
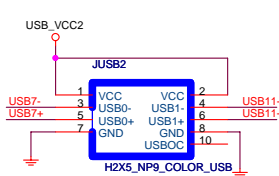
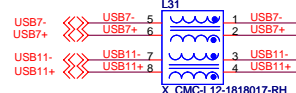
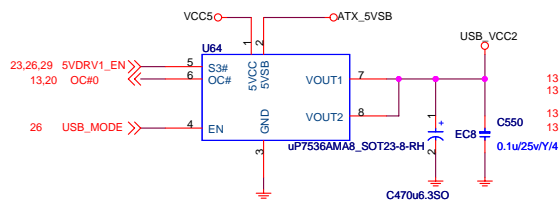
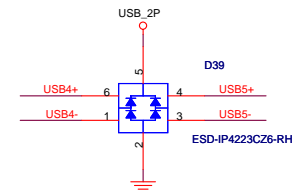
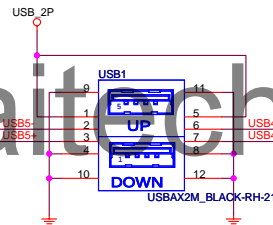
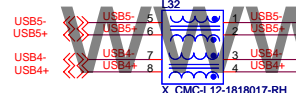
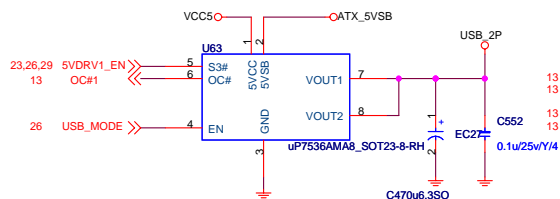
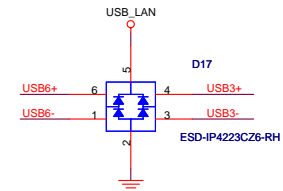
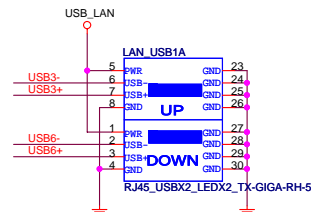
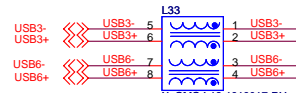
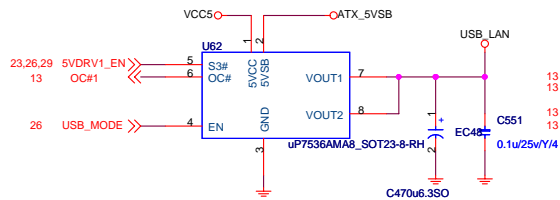
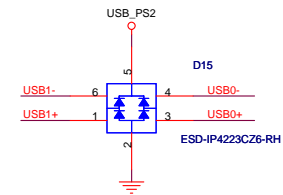
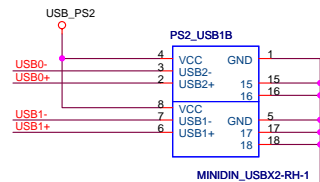
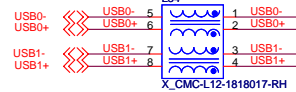
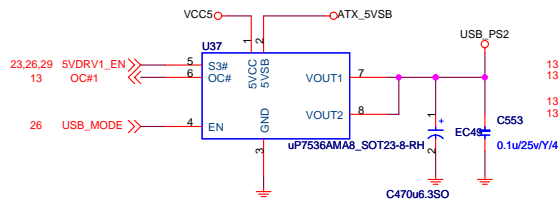
USB POWER PORT 0 For Battery Charging 1.1

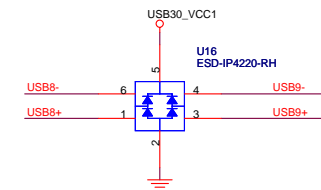
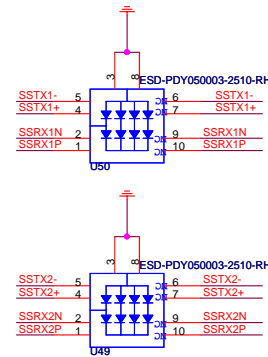
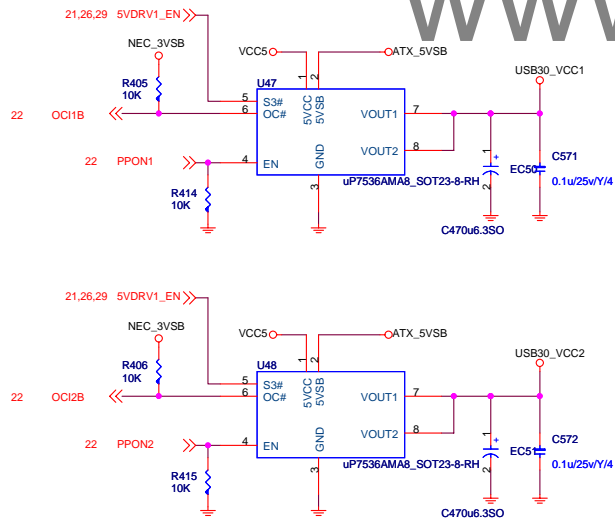
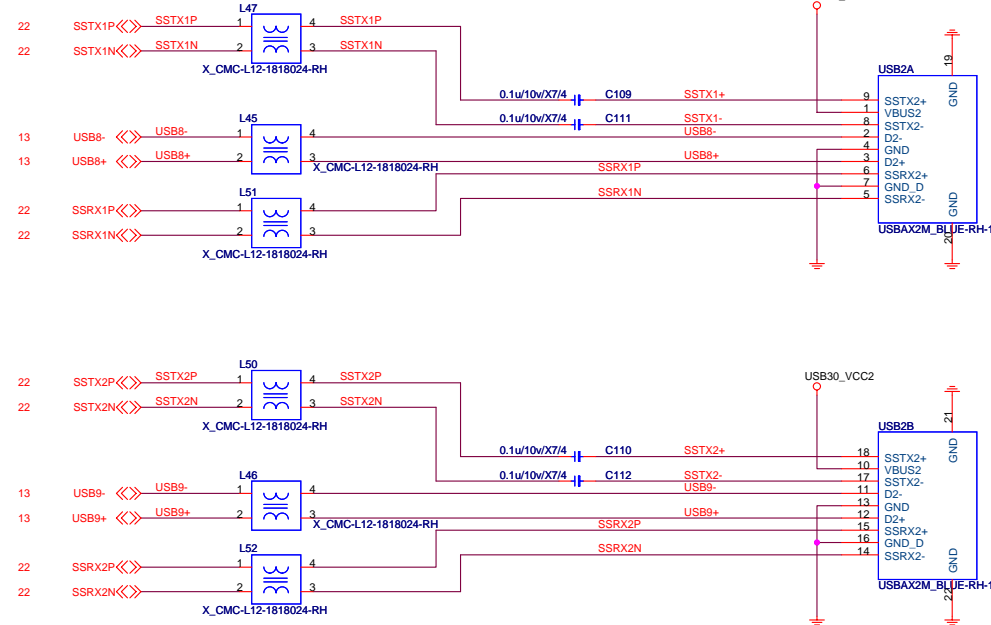


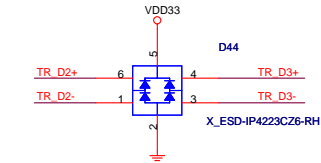
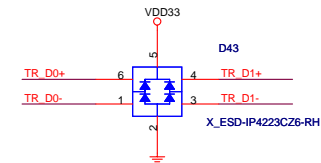
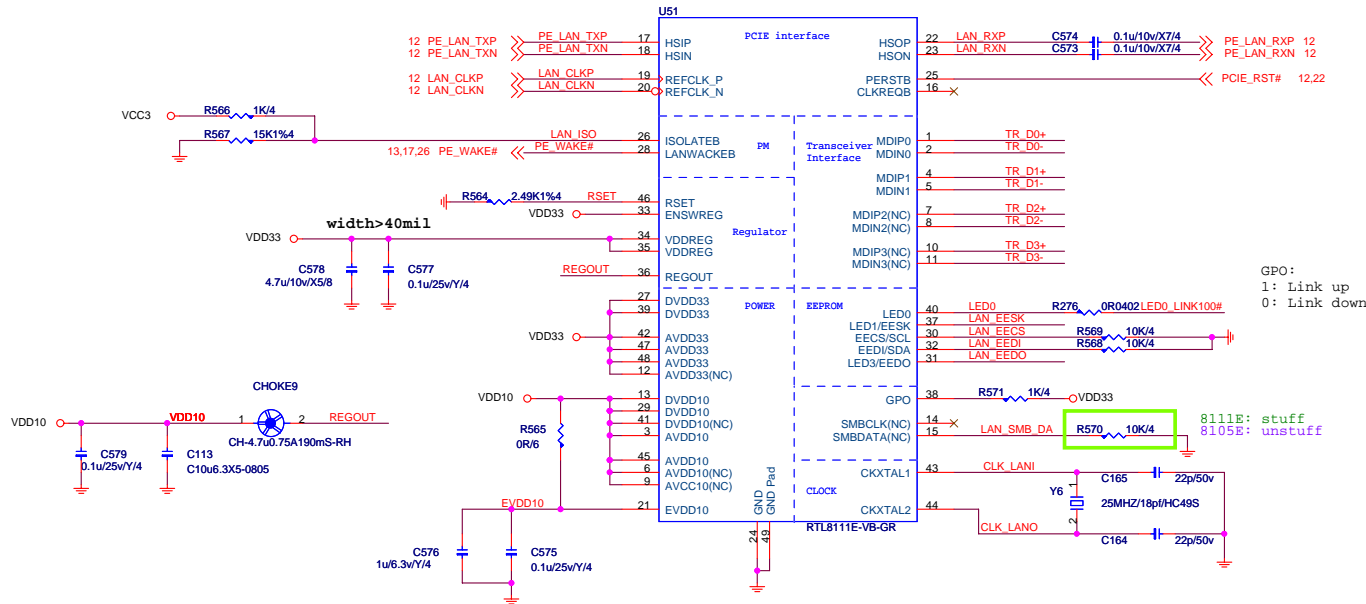
USB POWER PORT 1 For IPOD/IPAD/IPHONE Charging



A type
2.70V< D+ <3.1 V ,
1.85V< D- < 2.1V.
For i-Pad / i-Phone 4G charges current up to 1.6A.



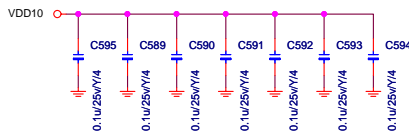
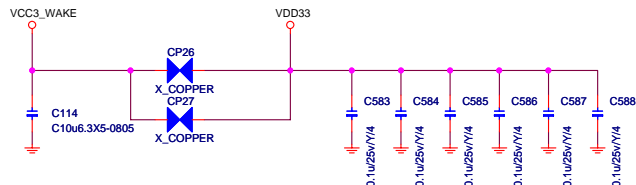




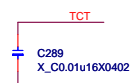
2pF
D0G-0200529-A68
D0G-0303309-C12

1pF
D0G-0422003-P03
D0G-0422003-N47

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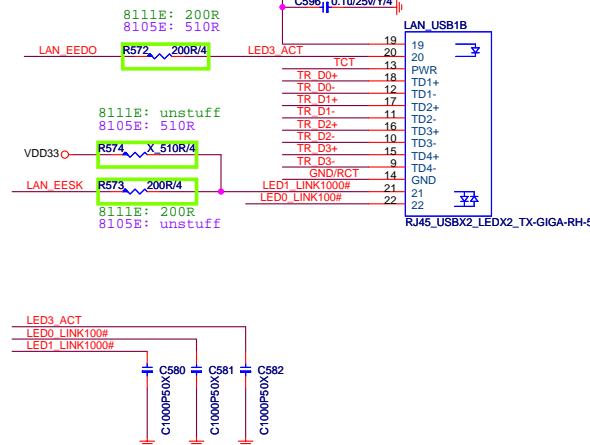
8111E: unstuff
8105E: stuff



GND/RCT



8111E: 0R
8105E: 0.01uF



Giga-Lan	10/100-Lan
N58-22F0731	N58-22F0771
Link Active 1000 100 10	Link Active 1000 100 10
Yellow Blinking Orange Green None	Yellow Blinking Green None
19	19
20	20
21	21
22	22

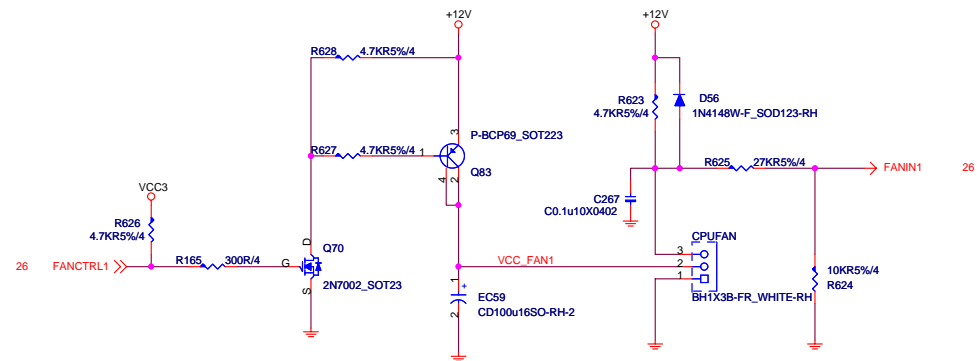
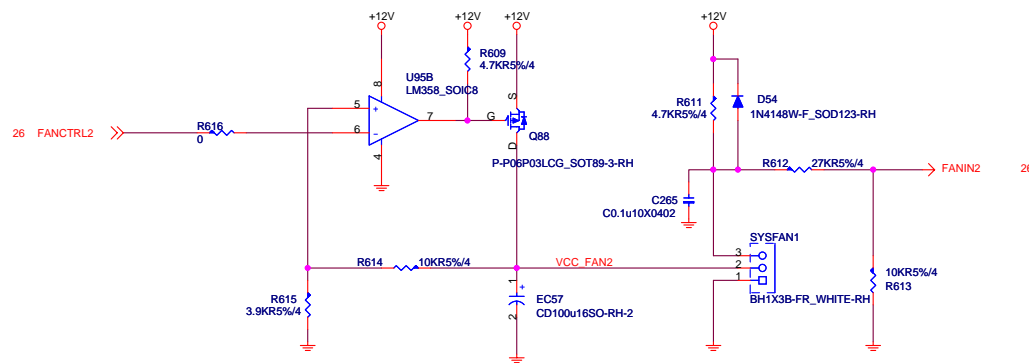


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Size	Document Description	Rev
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Date: Monday, September 06, 2010	Sheet 24 of 38	

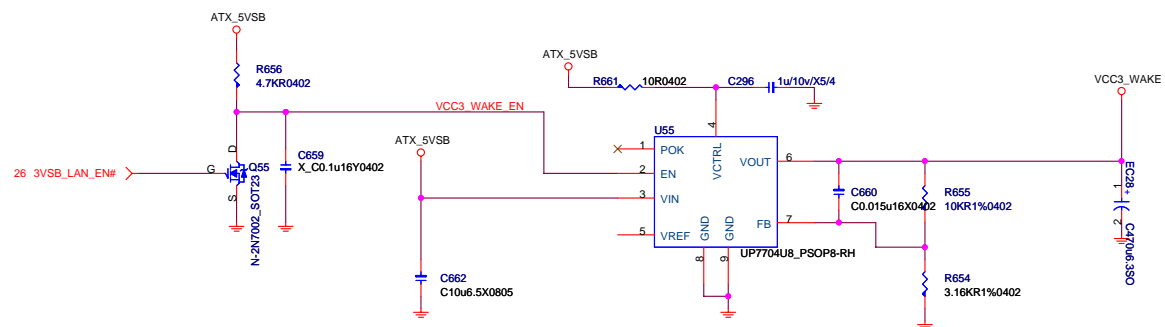
www.aitech1.ru



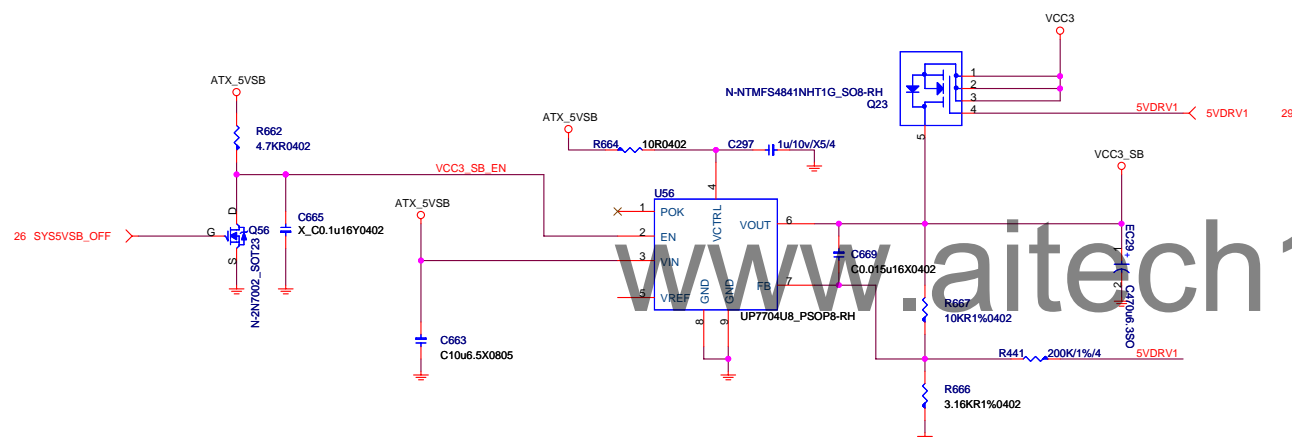
MICRO-STAR INT'L CO.,LTD

MS-7652

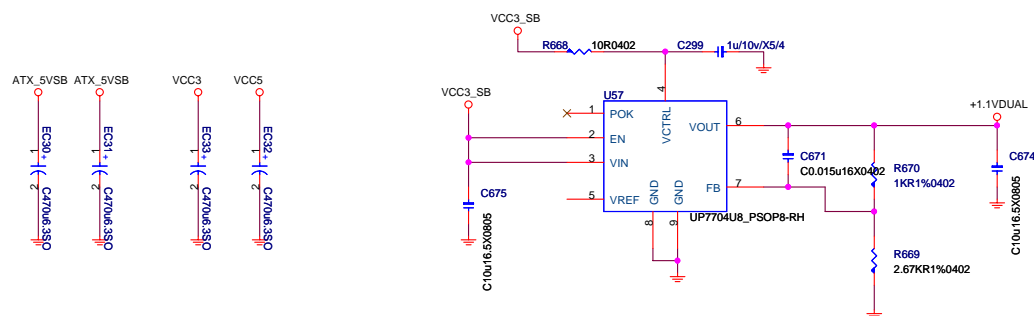
Size	Document Description	Rev
Custom	FAN	10
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VCC3_WAKE
1A



VCC3_SB
1.5A



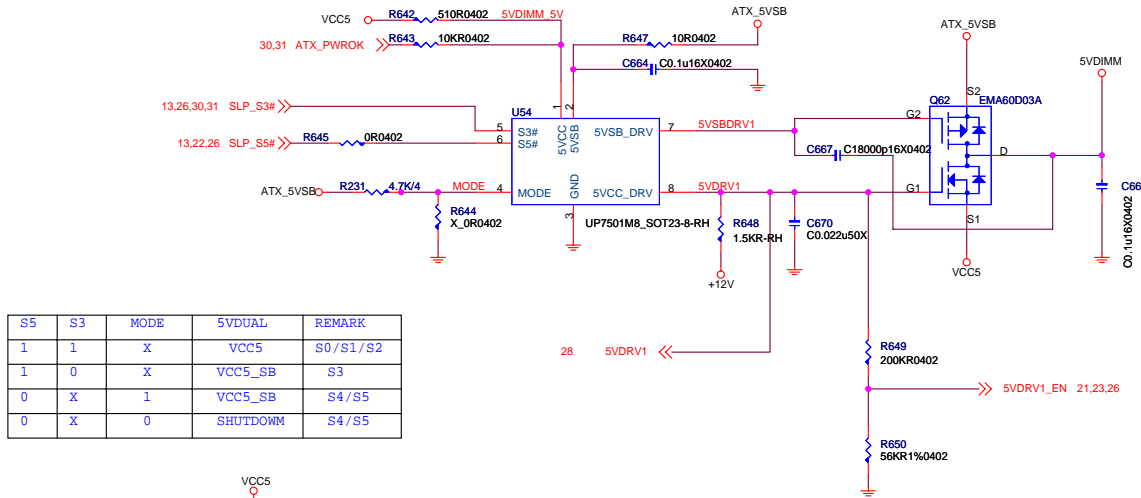
+1.1VDUAL
383mA



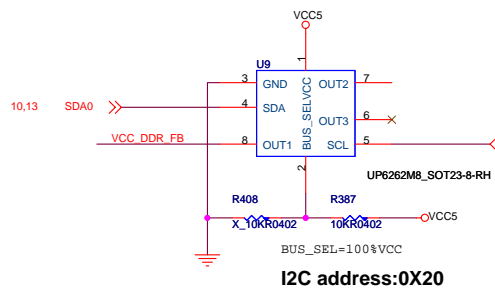
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MS-7652

Size	Document Description	Rev
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Date: Monday, September 06, 2010	Sheet 28 of 38	

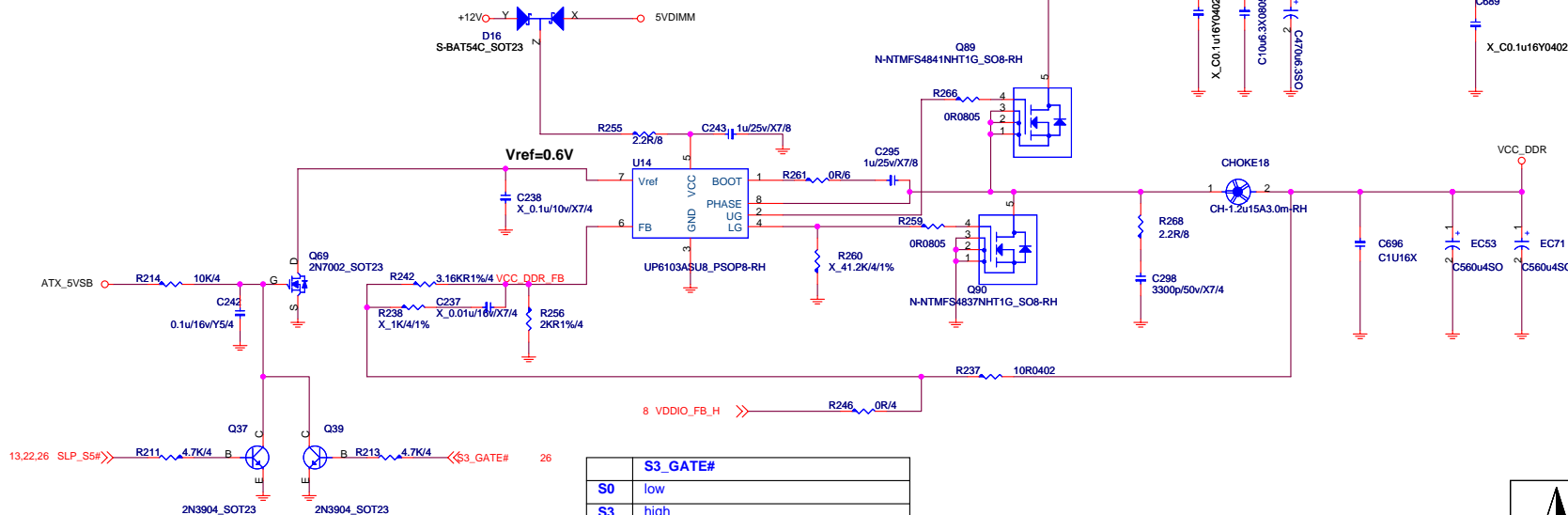


S5	S3	MODE	5VDUAL	REMARK
1	1	X	VCC5	S0/S1/S2
1	0	X	VCC5_SB	S3
0	X	1	VCC5_SB	S4/S5
0	X	0	SHUTDOWN	S4/S5



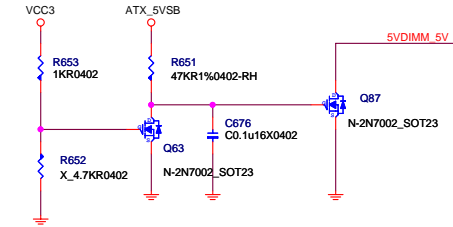
I2C address:0X20

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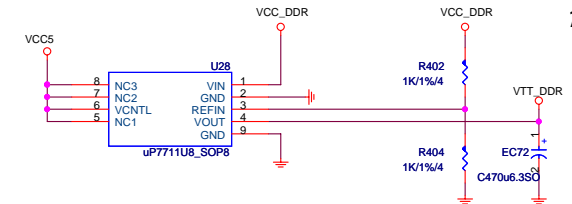


S3_GATE#
S0 low
S3 high
S5 Default low, can be programmed to high

For special PSU sequence



DDR VTT Power



VTT_DDR
1A

linput x 5V = 1.5V x 7A / 0.8
linput = 2.625A

D=1.5/5=0.3
I cap-rms=7A x 0.55 x 0.84 =3.234A

VCC_DDR
7A



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MS-7652		
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