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T&I (TPV-INVENTA TECHNOLOGY CO., LTD)		OEM MODEL	CA203M		Size	A3
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M		Rev	DVT_0.1
Key Component	COVER	PCB NAME	6150A0008201		remark	<remark>
Date	Friday, August 24, 2012	Sheet	1	of	40	

# OTS CA203 EVT Schematics

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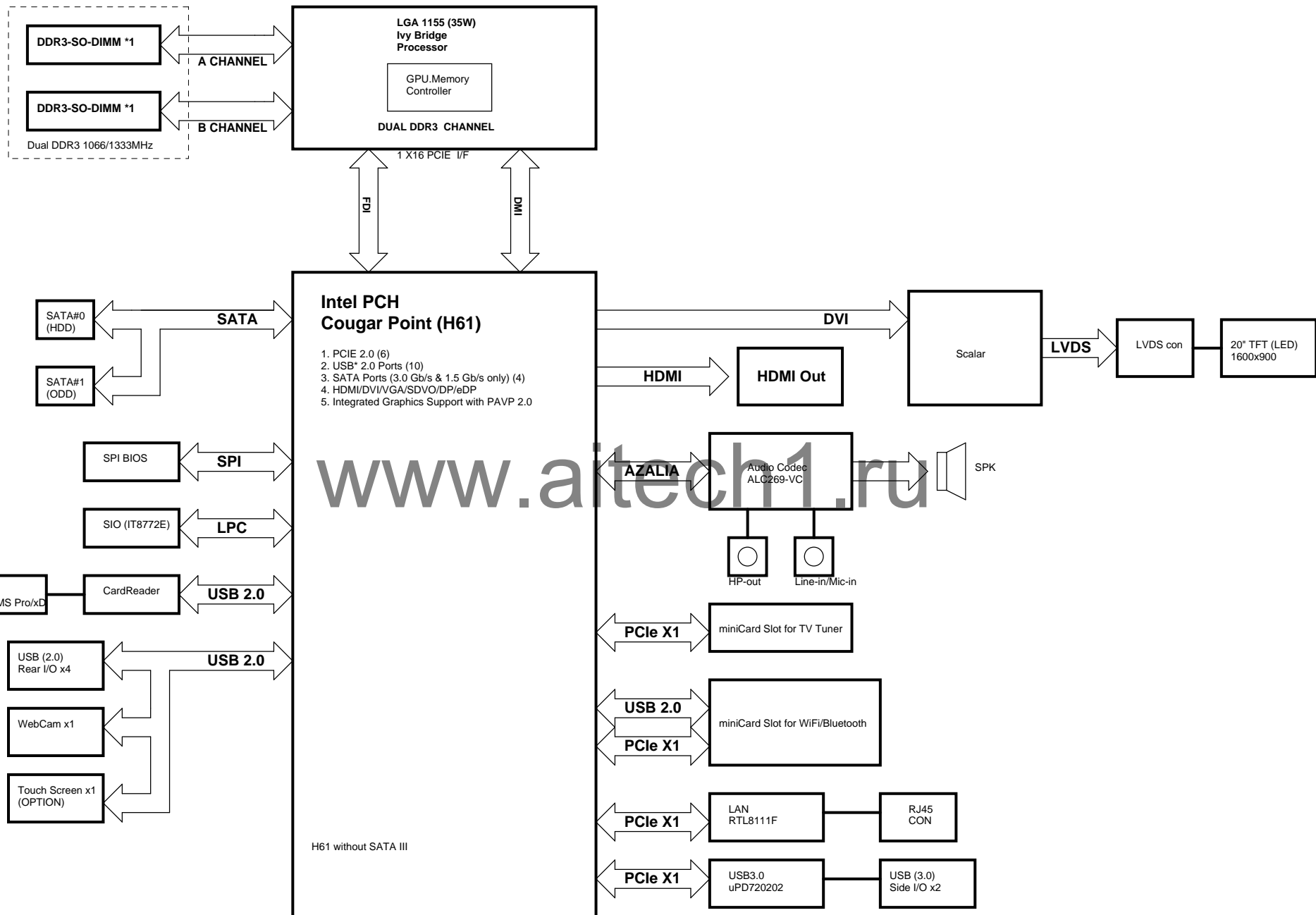
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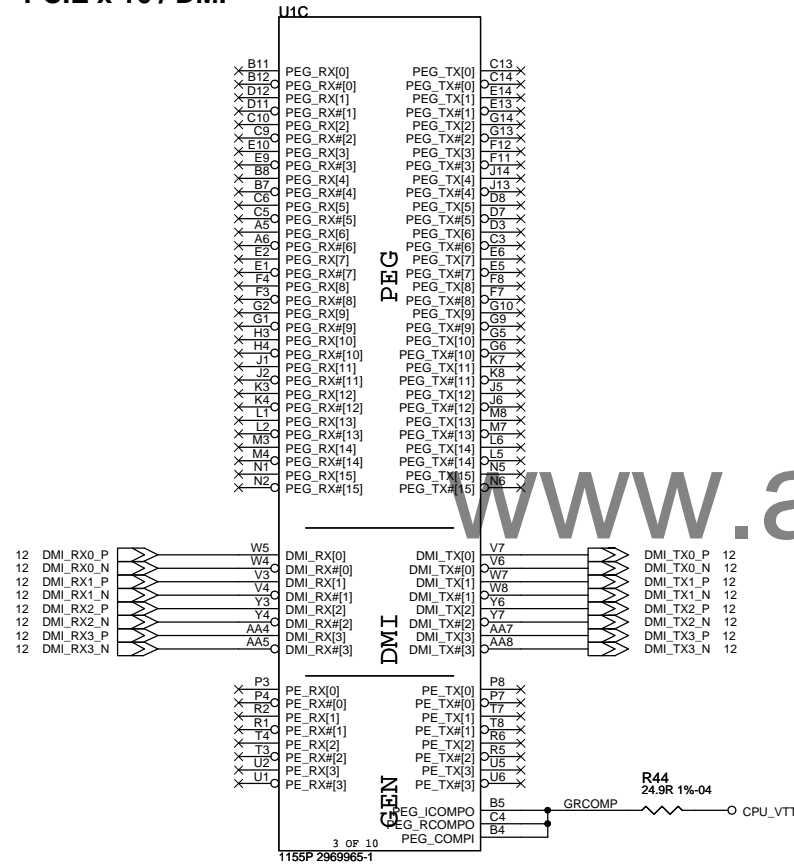


T&I (TPV-INVENTA TECHNOLOGY CO., LTD)		OEM MODEL	CA203M	Size	A3
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev	DVT_0.1
Key Component	INDEX	PCB NAME	6150A0008201	remark	<remark>
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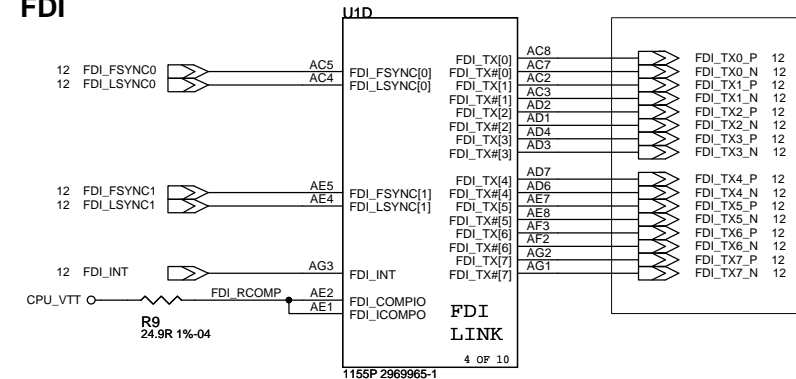
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Key Component	BLOCK DIAGRAM	PCB NAME	6150A0008201	remark	<remark>
Date	Friday, August 24, 2012	Sheet	3 of 40		

# PCIE x 16 / DMI

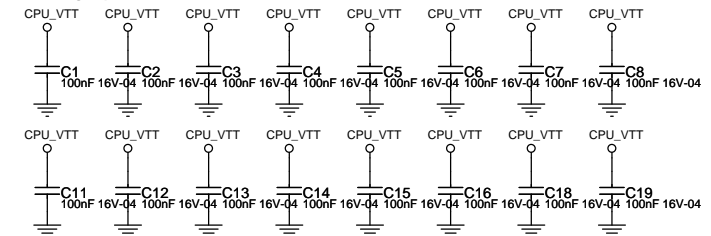


- (1) SHORT B4 & C4 TOGETHER, ROUTE AS A SINGLE 4 MIL TRACE TO 24.9 OHM
- (2) ROUTE B5 TO 24.9 OHM AS A SEPERATE 10 MIL TRACE

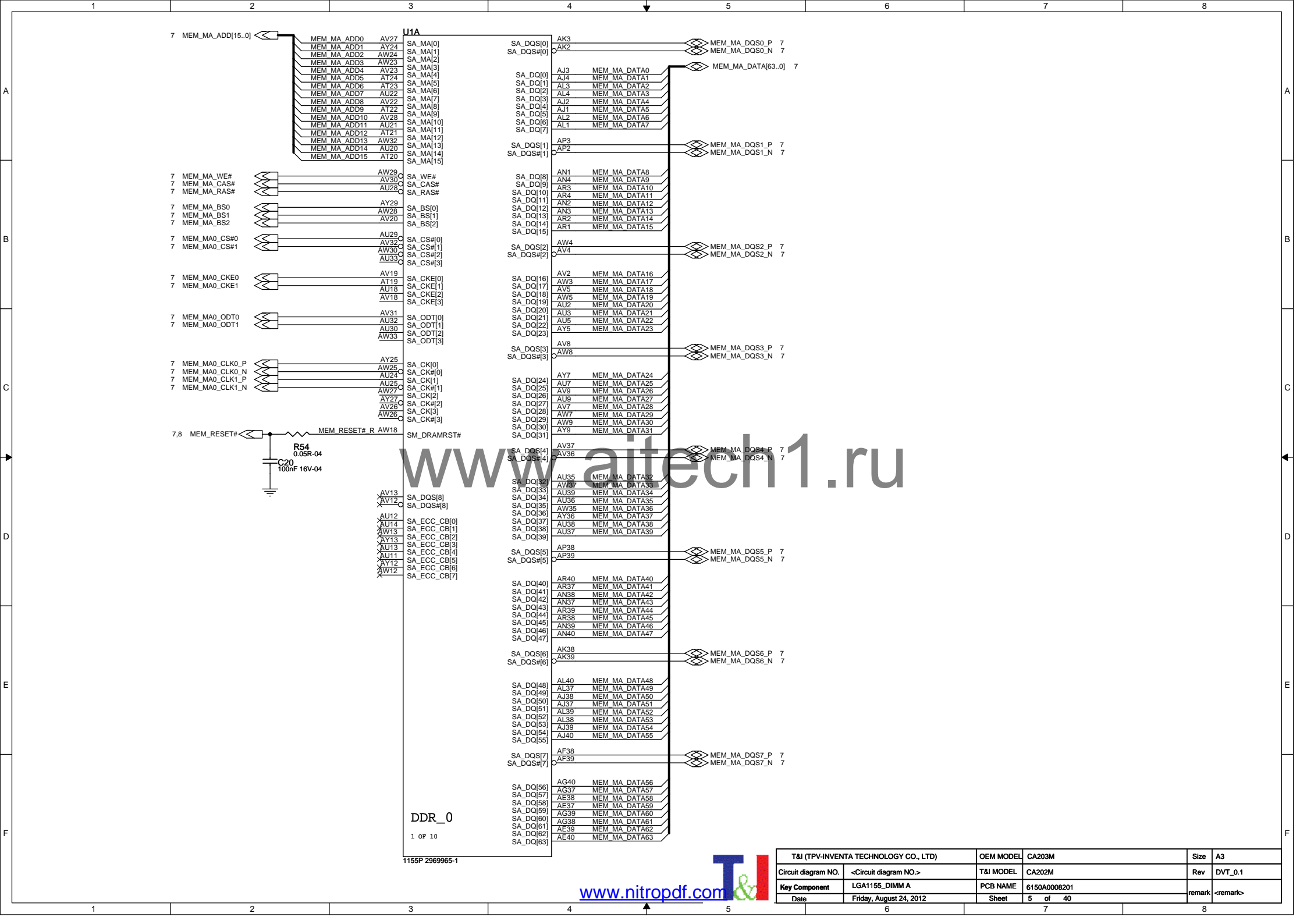
# FDI



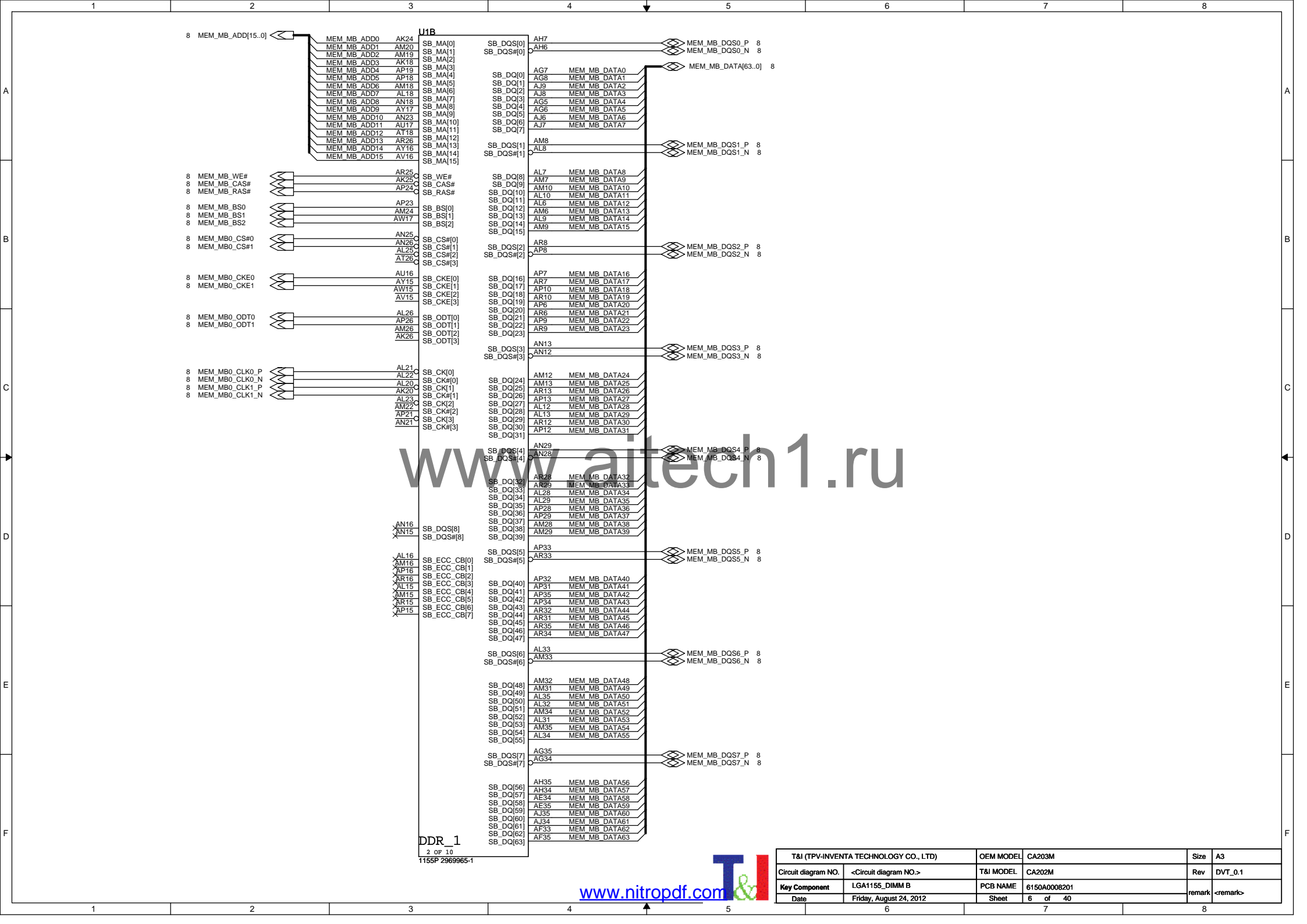
# Stitching caps for PCIE, DMI, FDI bus



T&I (TPV-INVENTA TECHNOLOGY CO., LTD)		OEM MODEL	CA203M	Size	A3
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev	DVT_0.1
Key Component	LGA1155_DMI/FDI	PCB NAME	6150A0008201	remark	<remark>
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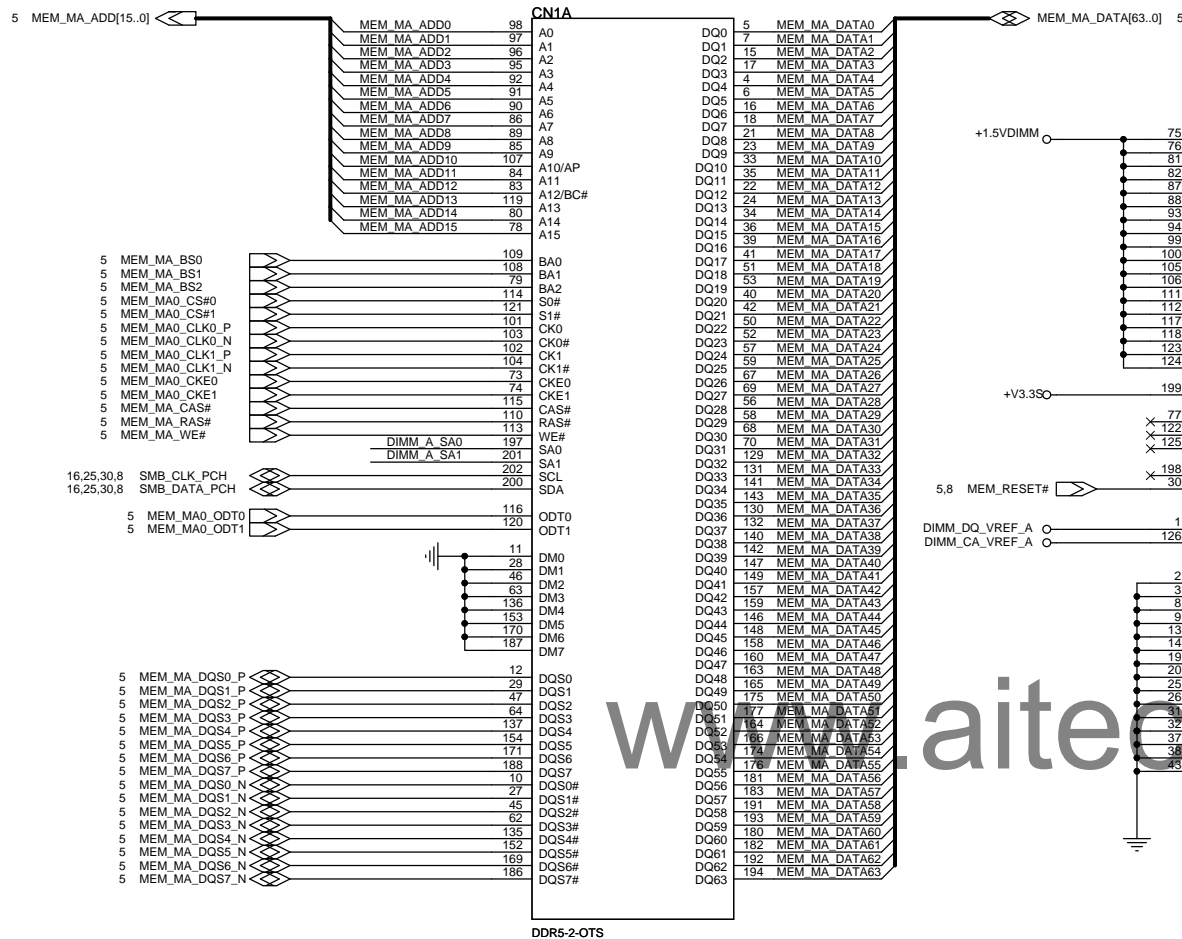
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Key Component	LGAI1155_DIMM A	PCB NAME	6150A0008201	remark	<remark>
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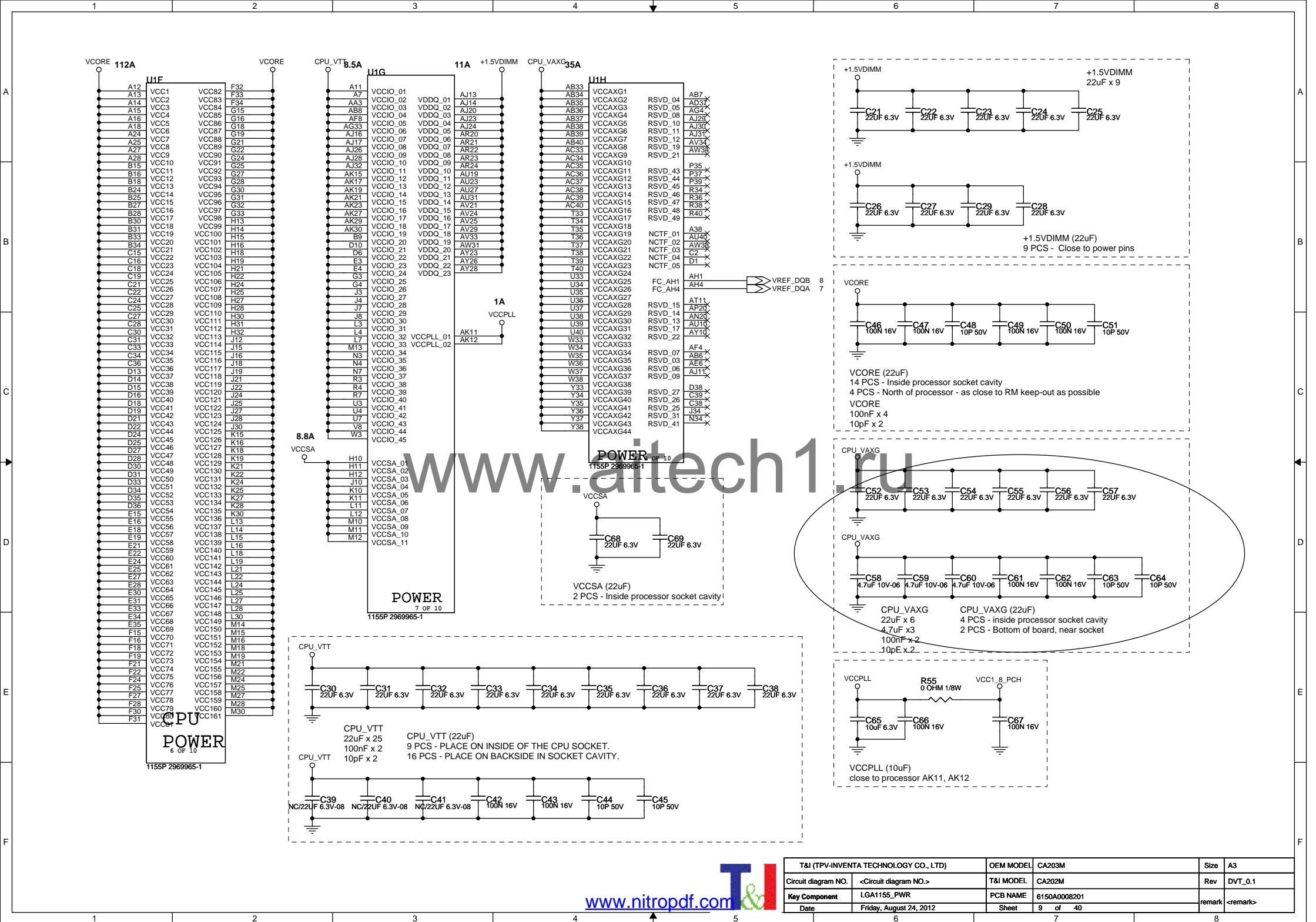
DDR\_1  
2 of 10  
1155P 2969965-1

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Key Component	LGA1155_DIMM B	PCB NAME	6150A0008201	remark	<remark>
Date	Friday, August 24, 2012	Sheet	6 of 40		











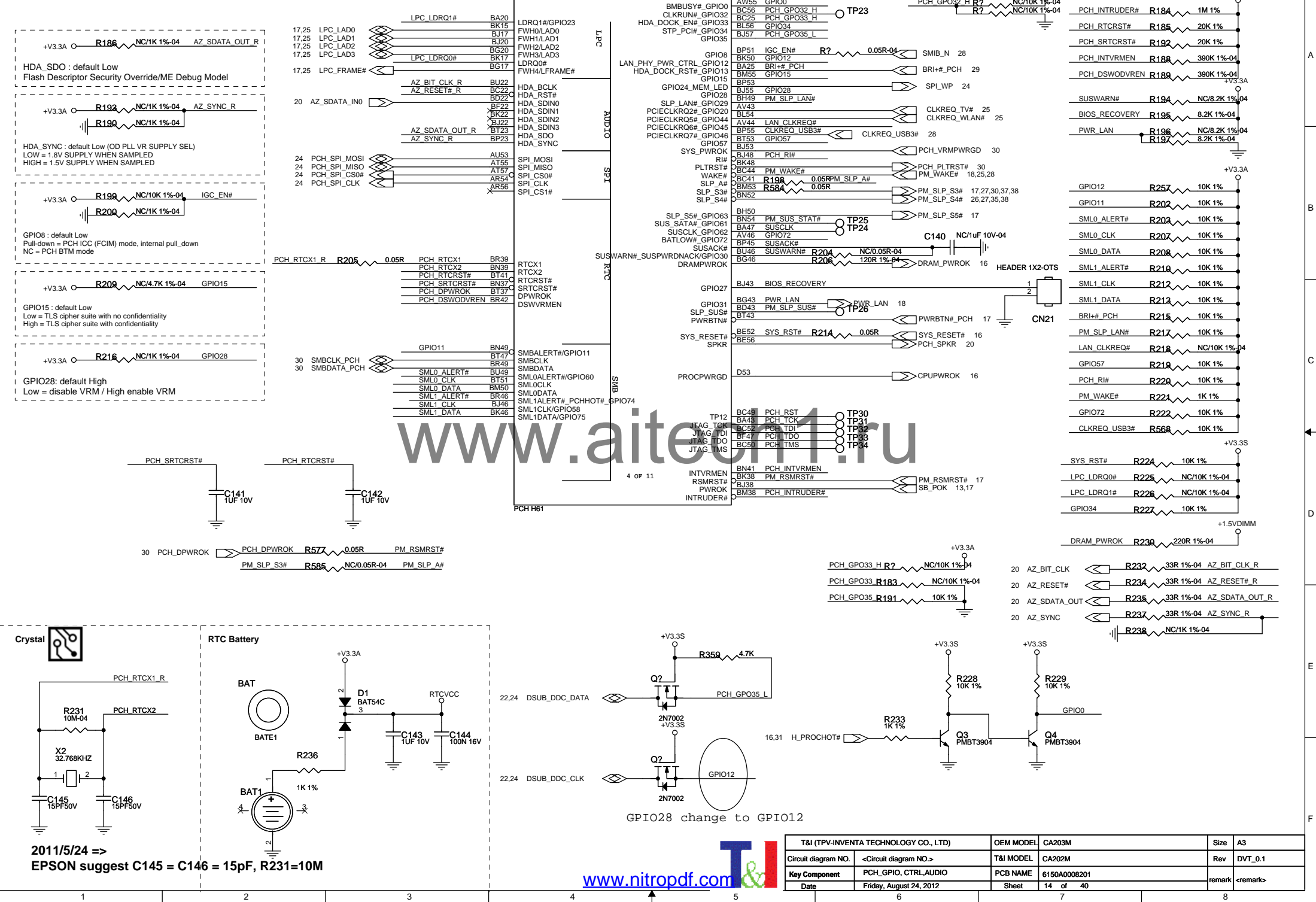








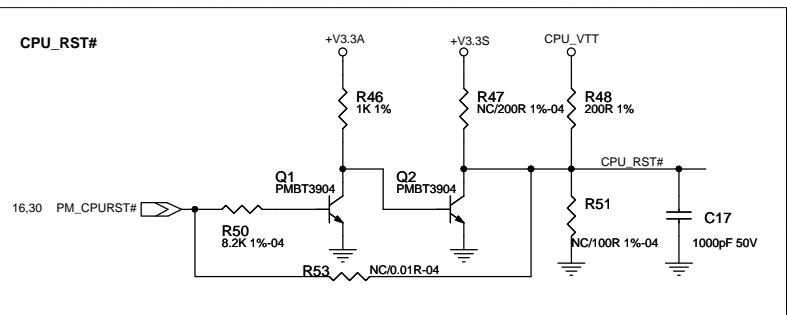
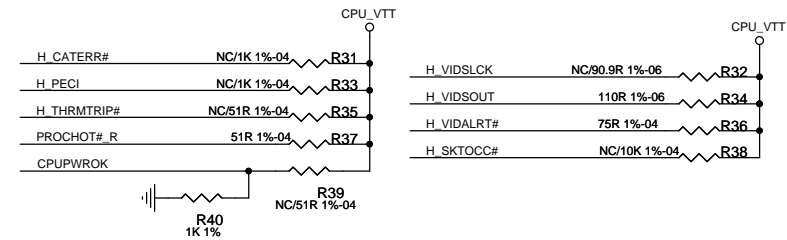
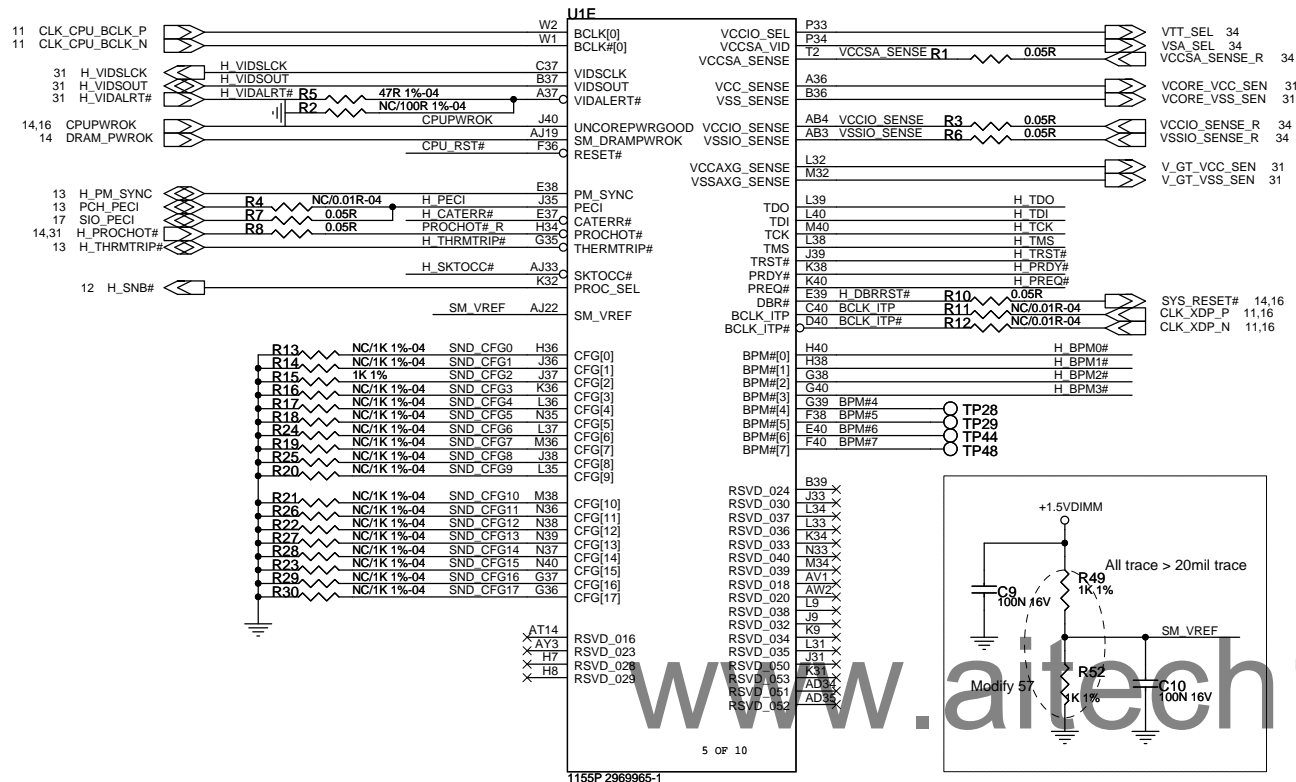
## PCH HDA / SPI / LPC / MISC



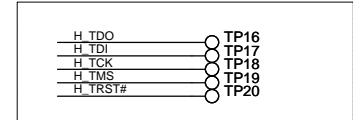
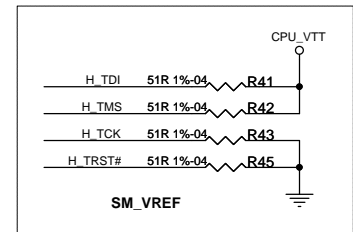


T&I (TPV-INVENTA TECHNOLOGY CO., LTD)		OEM MODEL	CA203M	Size	Custom
Diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev	DVT_0.1
Key Component	PCH_PWR_GND	PCB NAME	15EA-00008201		
Design	Exhibitor Agreement 24/ 2019	Sheet	15EA_01_40	remark	<remark>

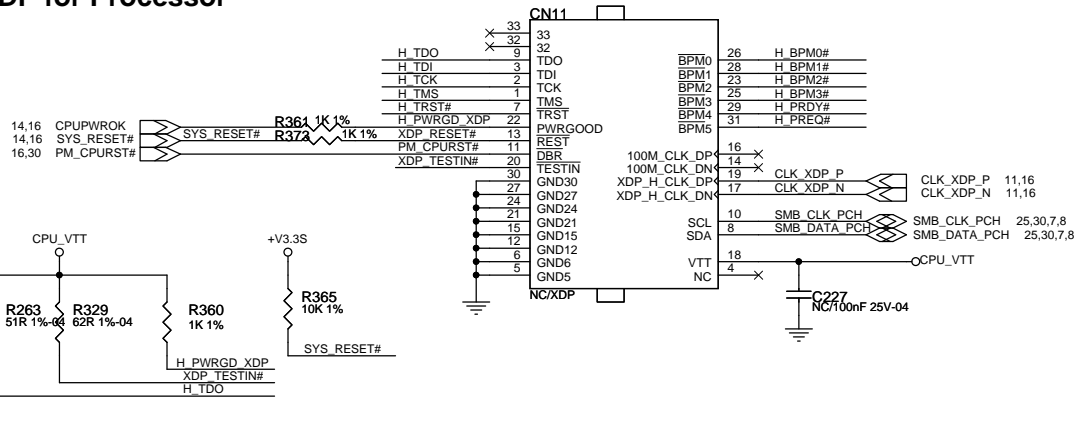
## H2\_E



CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	NORM	Reverse	LANE REVERSAL[0],x16
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
5	RSVD	RSVD	RSVD
6	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
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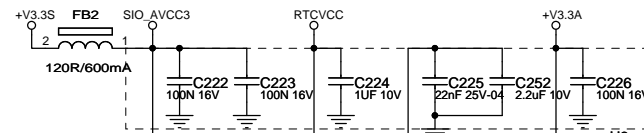


## XDP for Processor

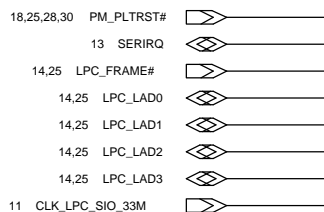


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Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev
Key Component	XDP for Processor	PCB NAME	6150A0008201	remark
Date	Friday, August 24, 2012	Sheet	16 of 40	<remark>

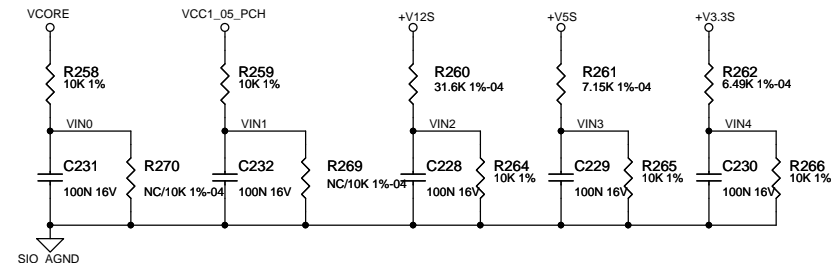
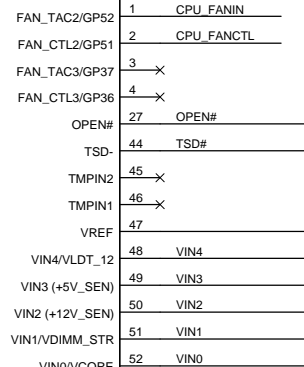
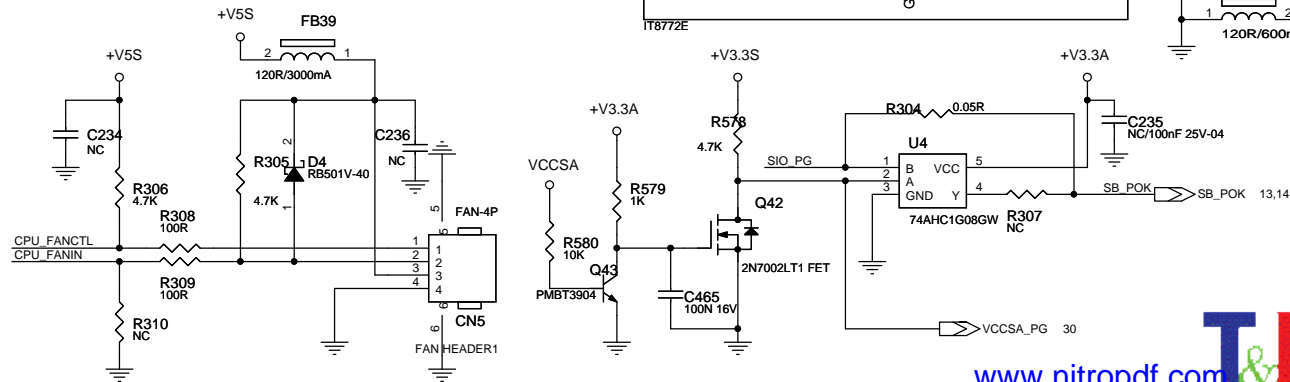
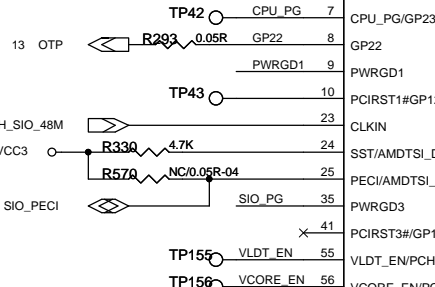
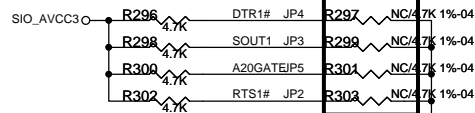




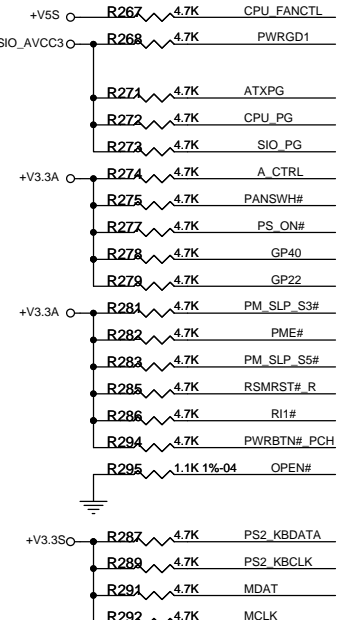
Note:  
C226, C222, C223, C224 close to IT8772



NC R496,R498,R501,R504,R554



Note:  
close to IT8772, and Do Not  
remove this 1uF Cap. of VREF.

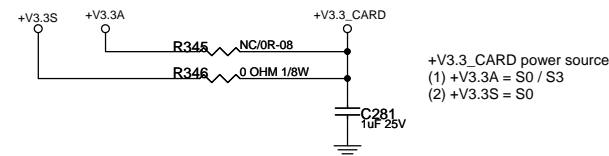


#### Power On Strapping Options

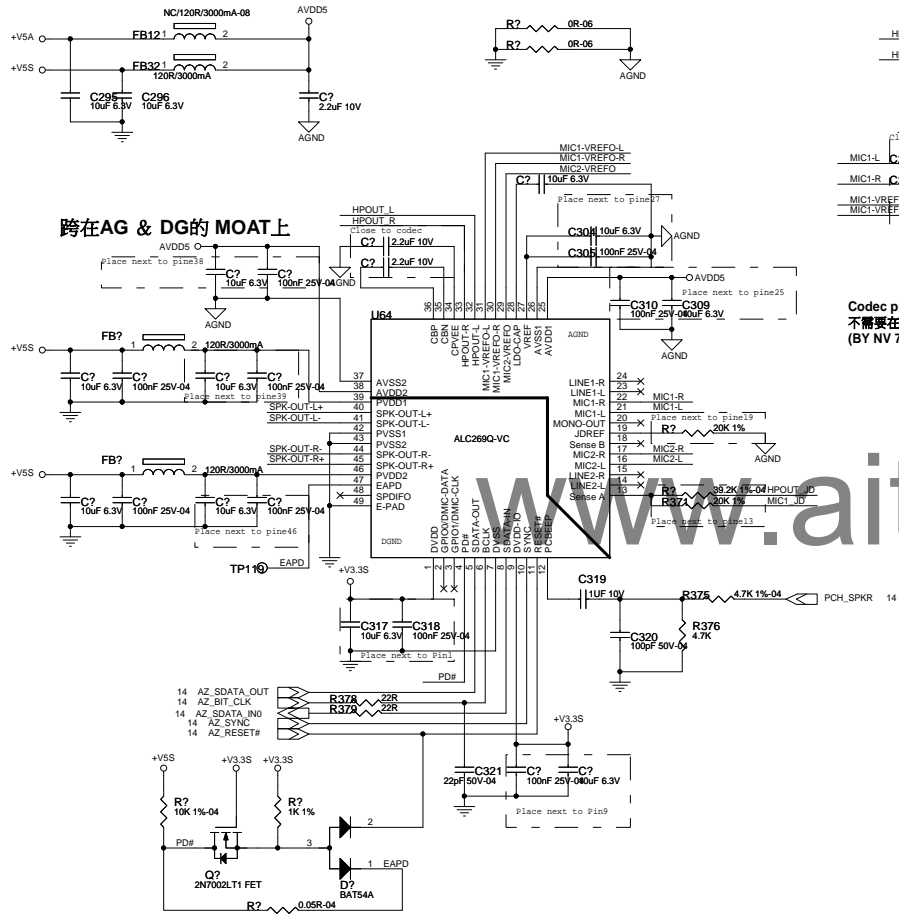
Symbol	value	Description
Pin 61 DTR1#	1	K8 power sequence function is disabled
	0	K8 power sequence function is enabled
Pin 59 & 21 SOUT1 & A20GATE	11	The default value of EC Index 15h/16h/17h is 80h
	10	The default value of EC Index 15h/16h/17h is FFh(Fan off)
	01	The default value of EC Index 15h/16h/17h is 00h(Fan full speed)
	00	The default value of EC Index 15h/16h/17h is 40h
Pin57 RTS1#	1	Disable WDT to rest PWROK
	0	Enable WDT to rest PWROK

T&I (TPV-INVENTA TECHNOLOGY CO., LTD)	OEM MODEL	CA203M	Size	A3
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev
Key Component	SIO (IT8772E)	PCB NAME	6150A0008201	remark
Date	Friday, August 24, 2012	Sheet	17 of 40	<remark>



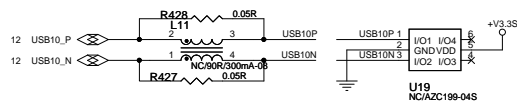
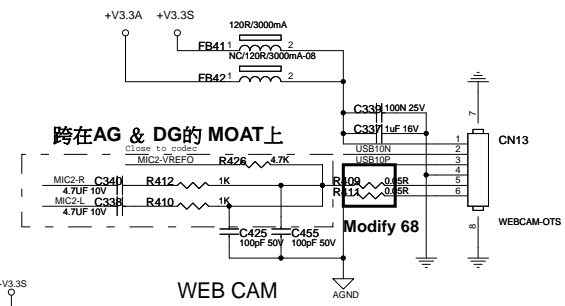
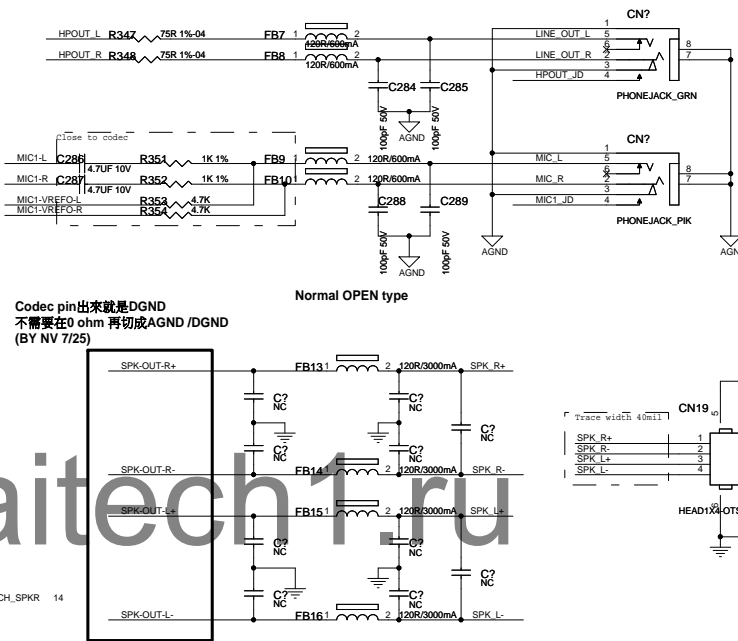
Share Pin

**DEL U7,FB16 ; ADD FB17,L1,FB63,R150 ,C637,C638,C639,C640三個AGND1**



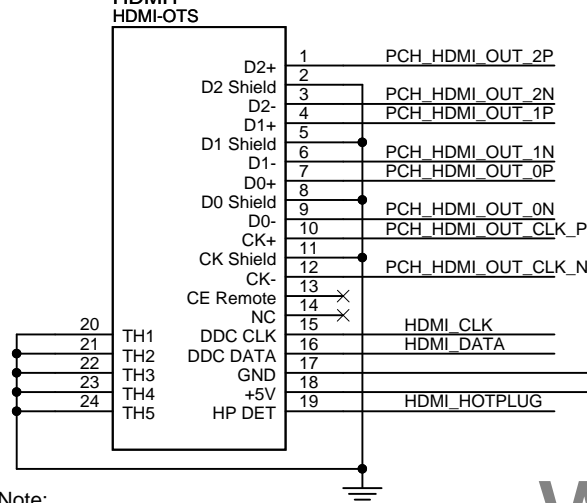
Codec pin出來就是DGND  
不需要在0 ohm 再切成AGND /DGND  
(BY NV 7/25)

Normal OPEN type

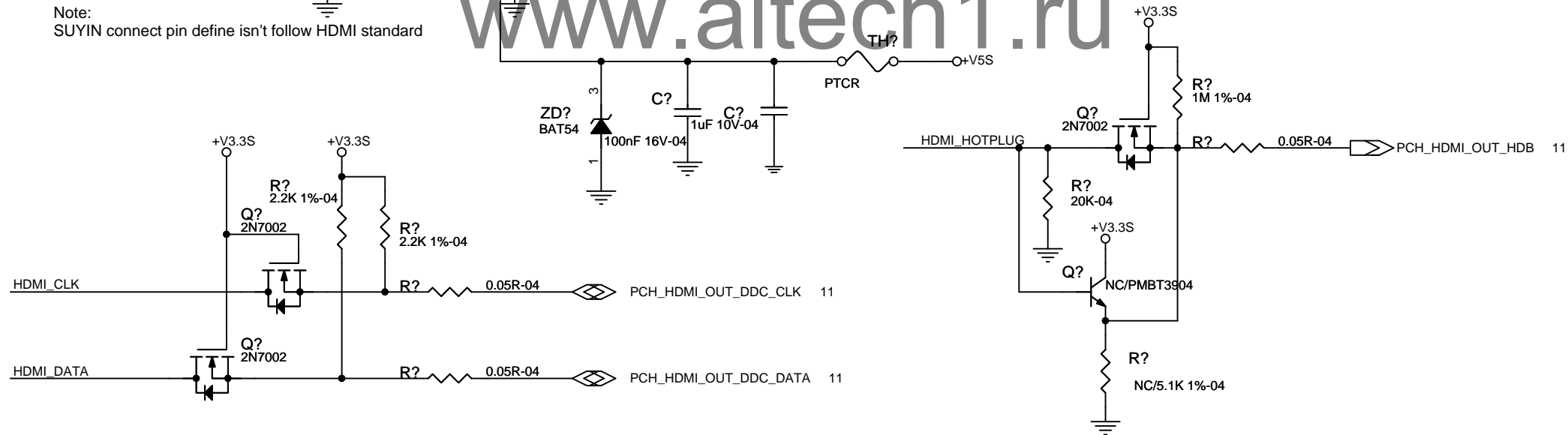


# Scalar Output HDMI

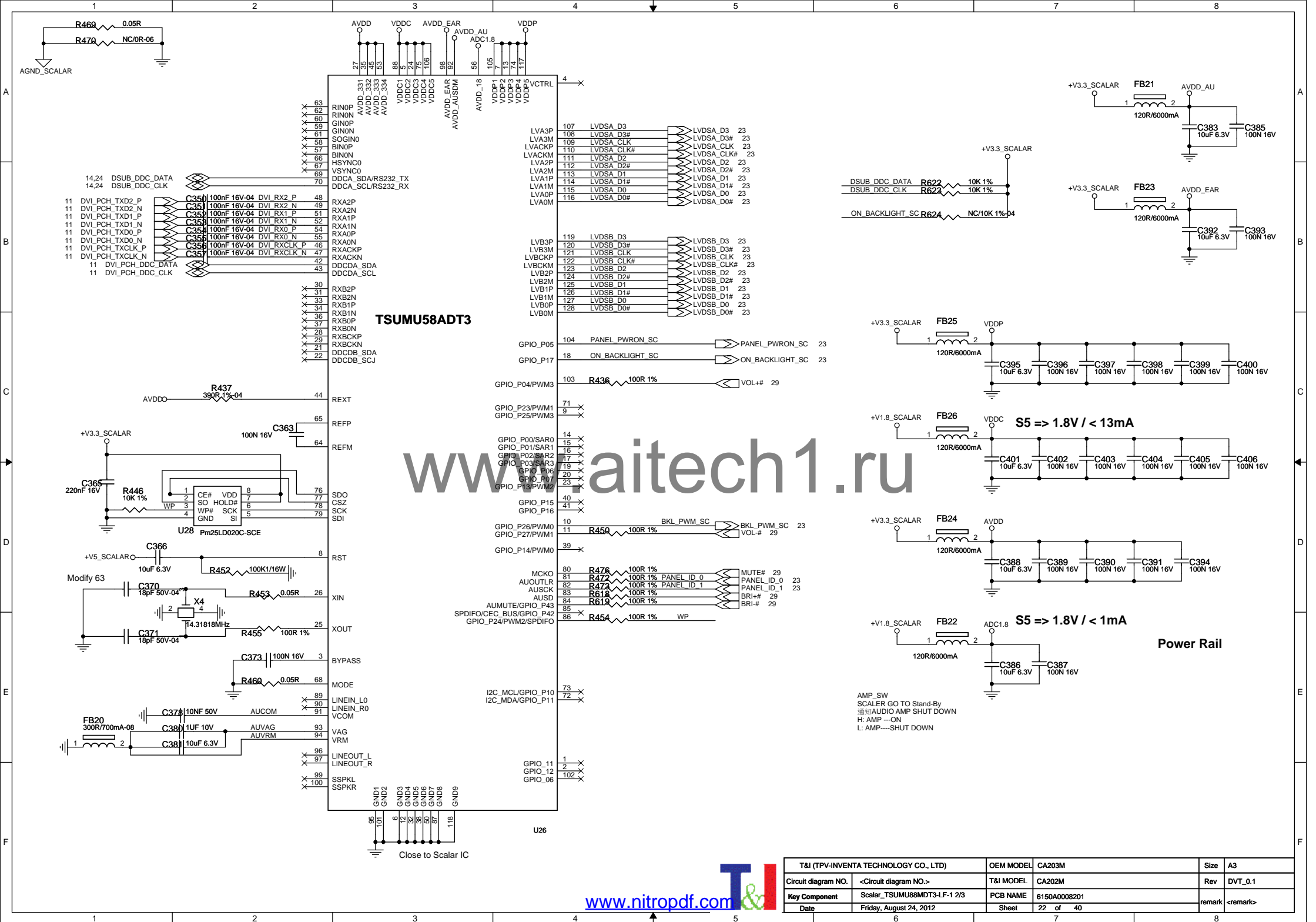
## HDMI OUT PIN 19 HIGH



Note:  
SUYIN connect pin define isn't follow HDMI standard

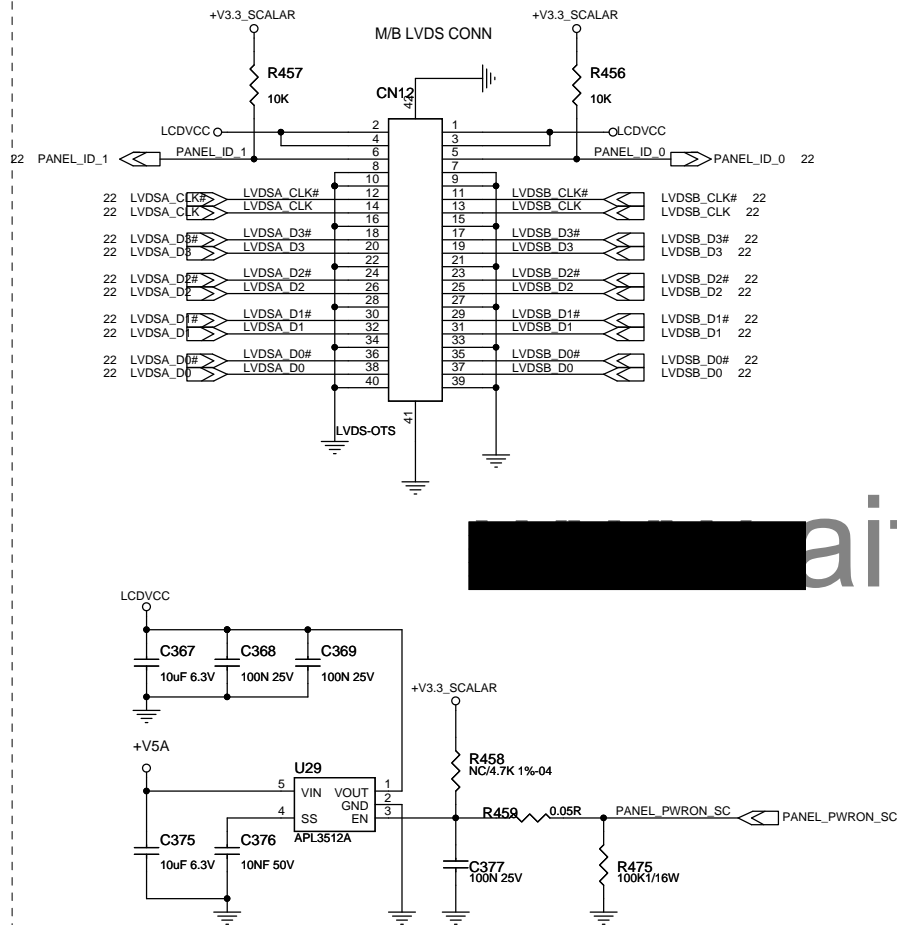


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Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev
Key Component	LGA1155_DIMM B	PCB NAME	6150A0008201	remark
Date	Friday, August 24, 2012	Sheet	21 of 40	<remark>



T&I (TPV-INVENTA TECHNOLOGY CO., LTD)		OEM MODEL	CA203M	Size	A3
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev	DVT_0.1
Key Component	Scalar_TSUMU58MDT3-LF-1 2/3	PCB NAME	6150A0008201	remark	<remark>
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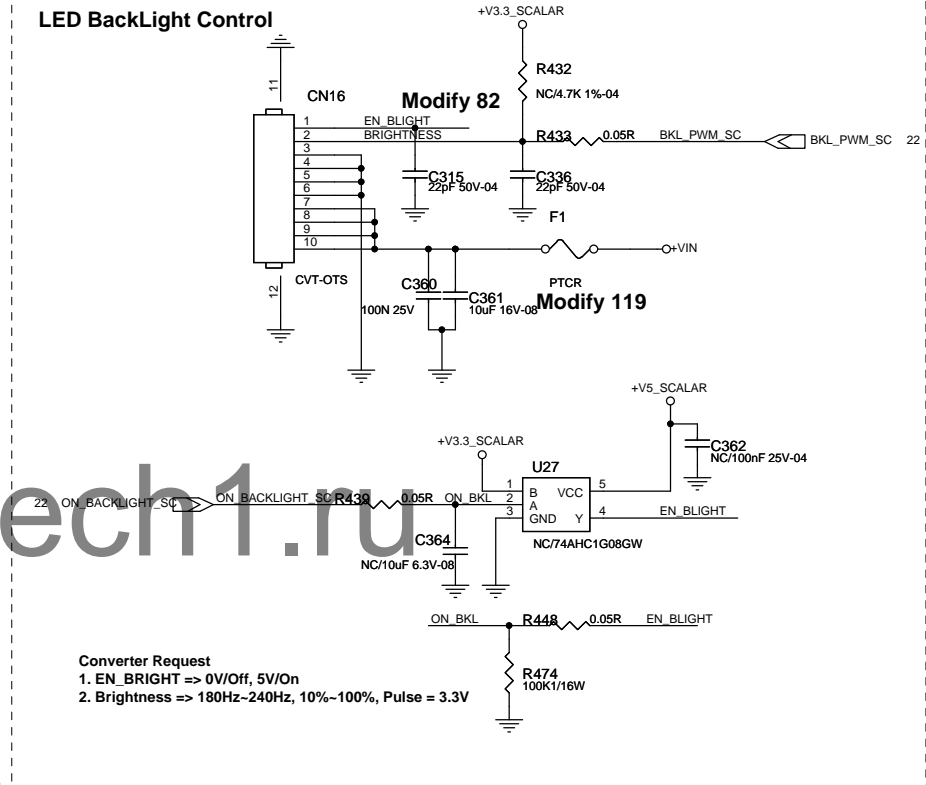
## Panel Control



Modify 34

The trace width of +V5A for LCDVCC should over 40 mil

## LED BackLight Control

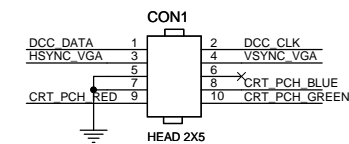
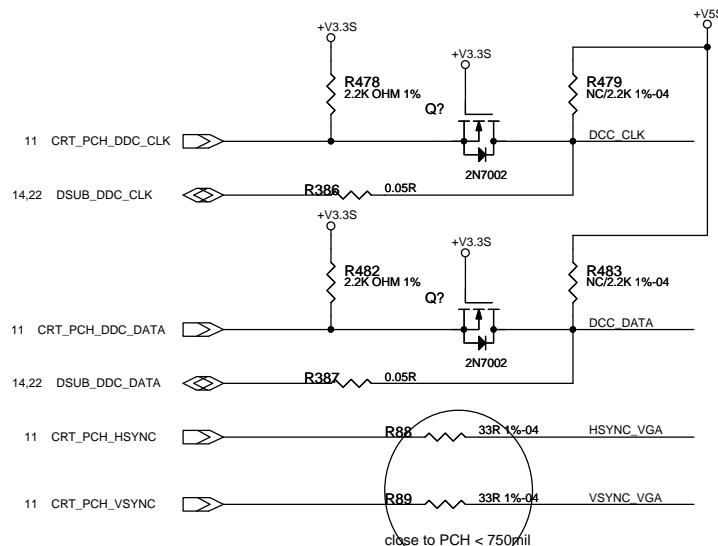
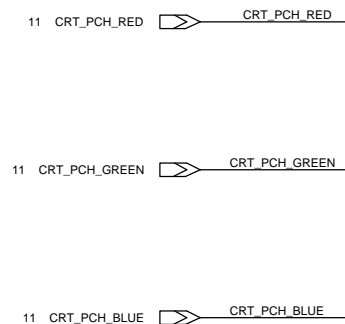


Converter Request

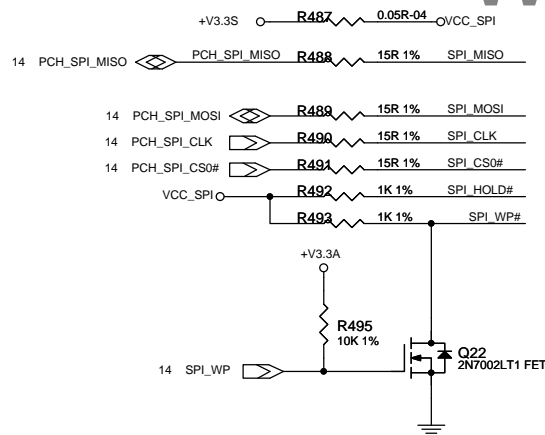
1. EN\_BRIGHT => 0V/Off, 5V/On
2. Brightness => 180Hz~240Hz, 10%~100%, Pulse = 3.3V

T&I (TPV-INVENTA TECHNOLOGY CO., LTD)		OEM MODEL	CA203M	Size	A3
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev	DVT_0.1
Key Component	Scalar_Control 3/3	PCB NAME	6150A0008201	remark	<remark>
Date	Friday, August 24, 2012	Sheet	23 of 40		

## VGA Header for Debug



## BIOS SPI ROM

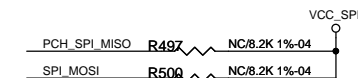
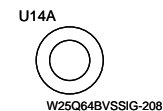
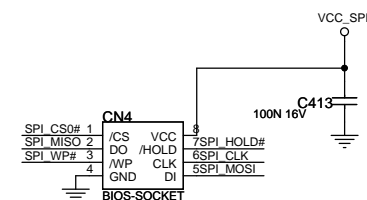


**1MB SPI ROM**  
1st -- 056G2233 5 Winbond W25X80BVSSIG

**2MB SPI ROM**  
1st -- 056G1133951 Winbond W25Q16BVSSIG  
2nd -- 056G1133 97 MXIC MX25L1605MC-12G

**4MB SPI ROM**  
1s4 -- 056G2233 34 MX25L3206EM2I-12G

**8MB SPI ROM**  
1st -- 056G2233 16 Winbond W25Q64BVSSIG  
2nd -- 056G2233 15 MXIC MX25L6445EM2I-10G

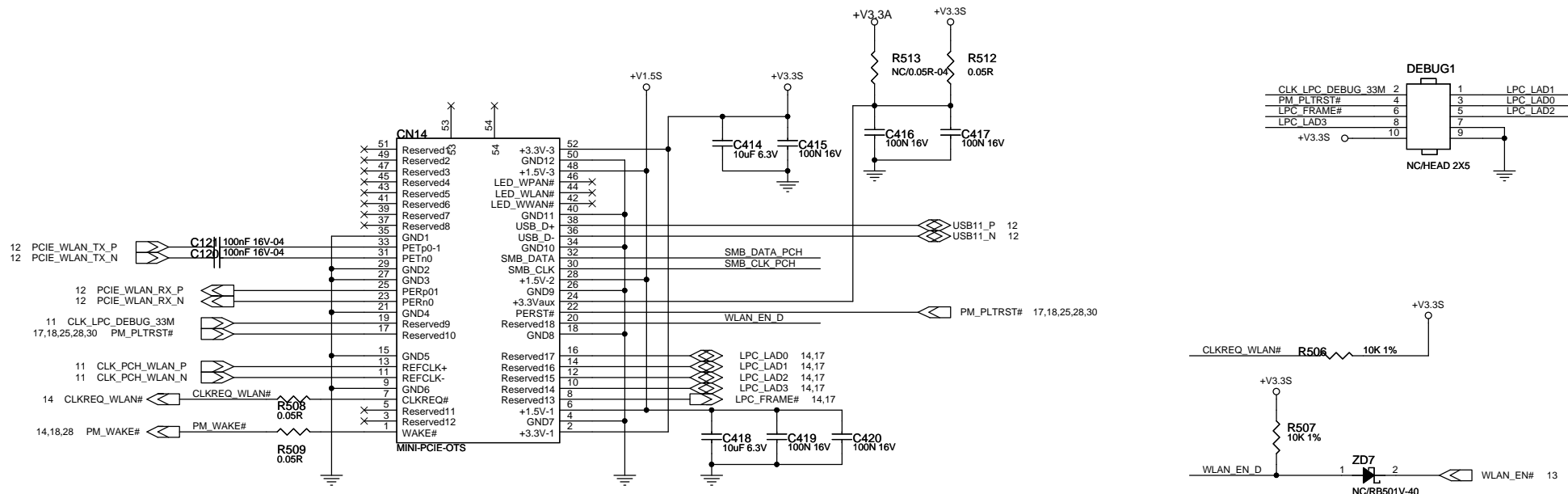


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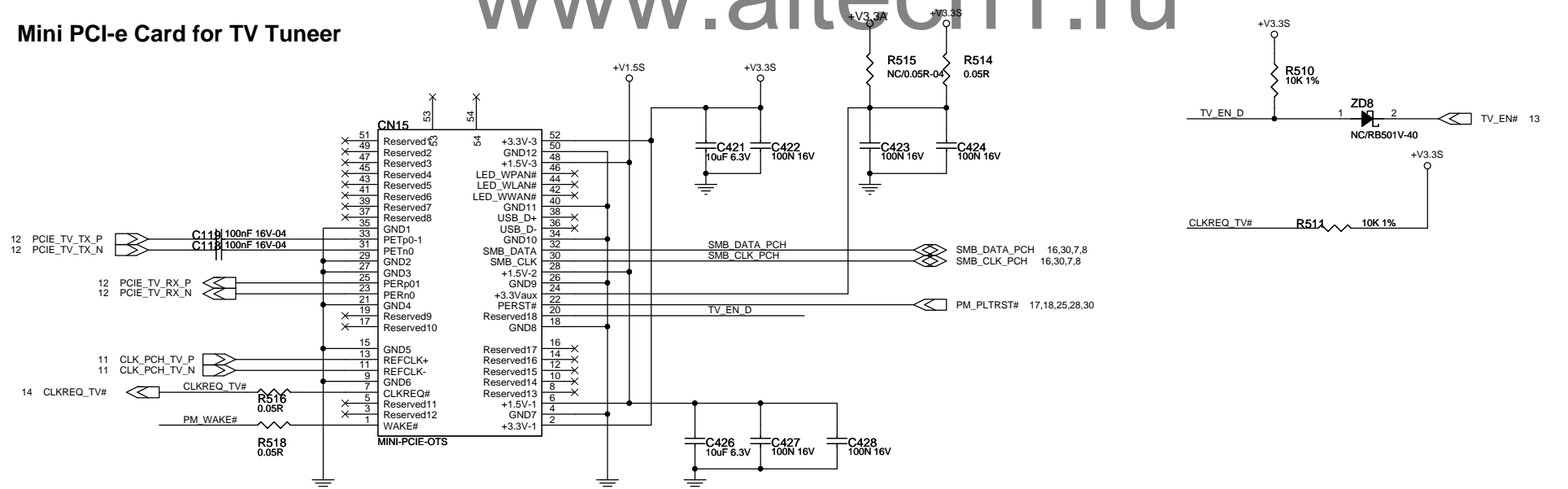
T&I (TPV-INVENTA TECHNOLOGY CO., LTD)		OEM MODEL	CA203M	Size	A3
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev	DVT_0.1
Key Component	Display VGA out /SPI ROM SYS	PCB NAME	6150A0008201	remark	<remark>
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## Mini PCI-e Card for WLAN

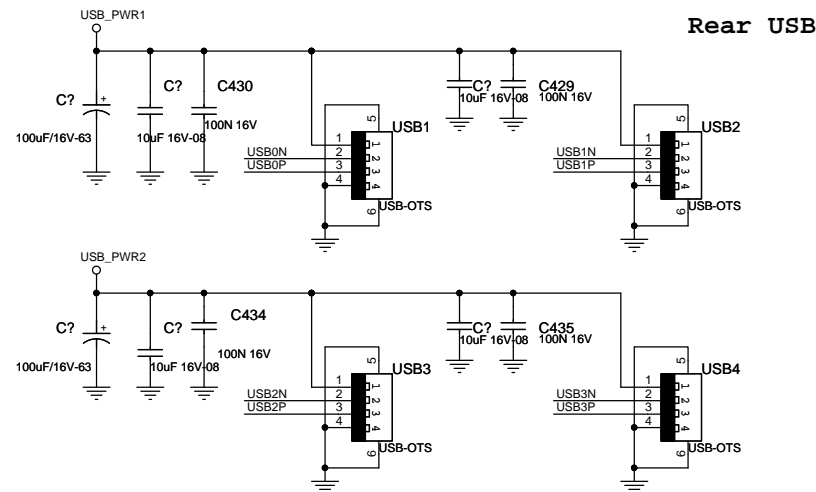
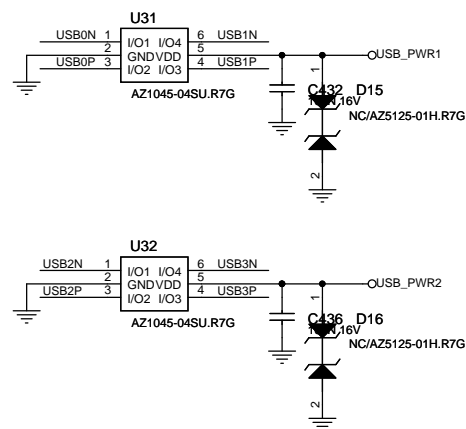
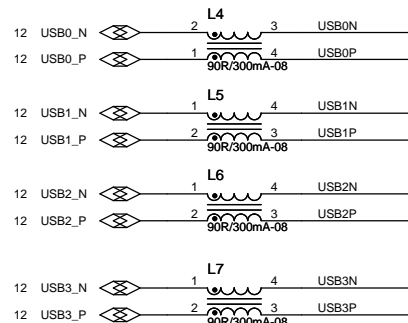


## Mini PCI-e Card for TV Tuner



Modify 30  
Modify 71

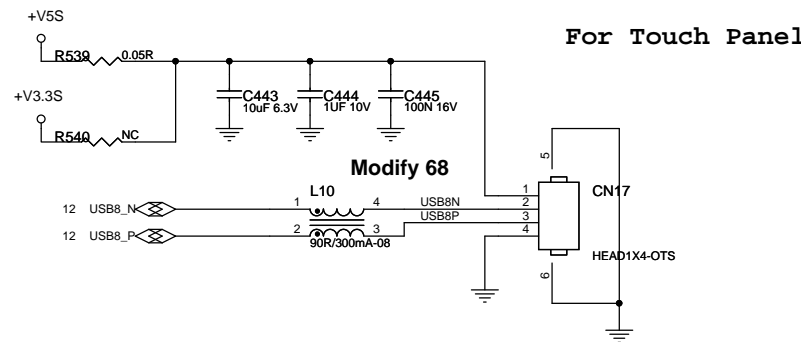
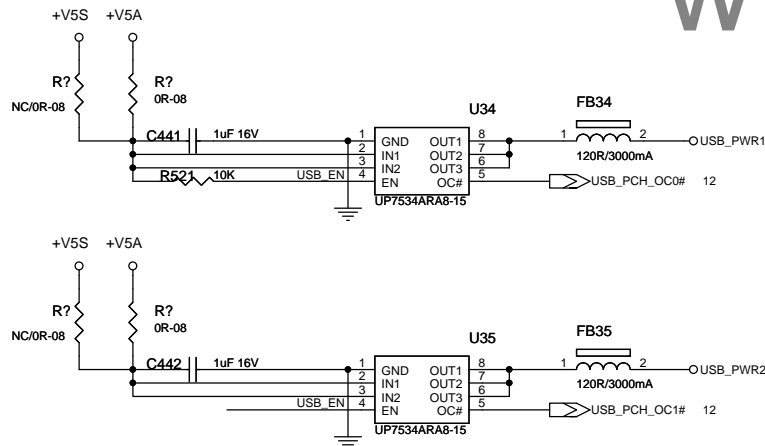
T&I (TPV-INVENTA TECHNOLOGY CO., LTD)	OEM MODEL	CA203M	Size	A3
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev
Key Component	MINI CARD WIFI_TV	PCB NAME	6150A0008201	remark
Date	Friday, August 24, 2012	Sheet	25 of 40	<remark>



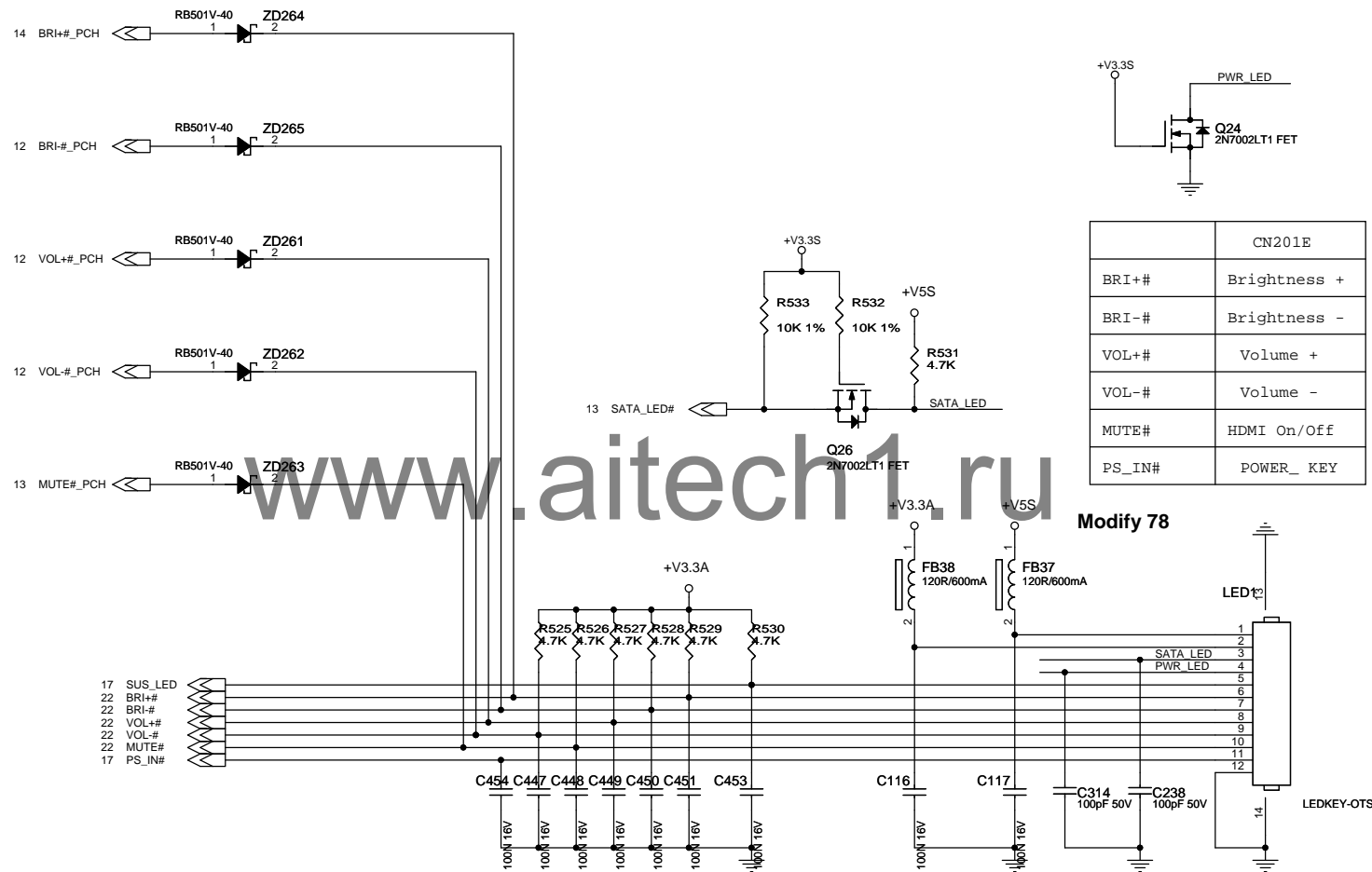
14,27,35,38 PM\_SLP\_S4# R520 0.05R-04 USB\_EN

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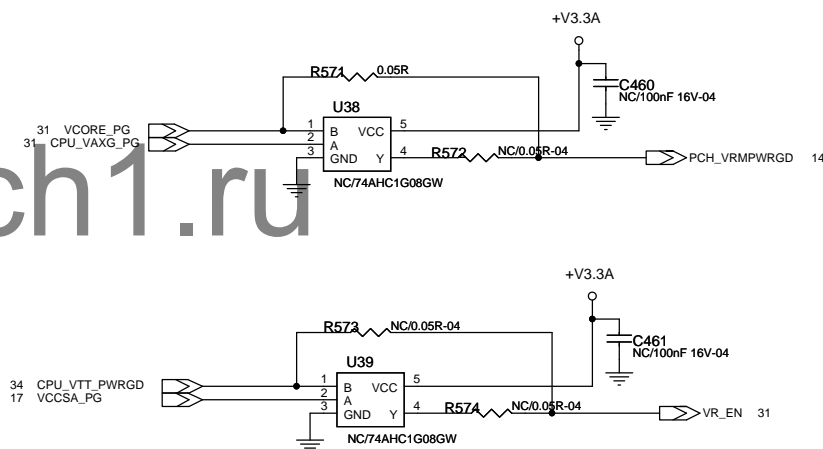
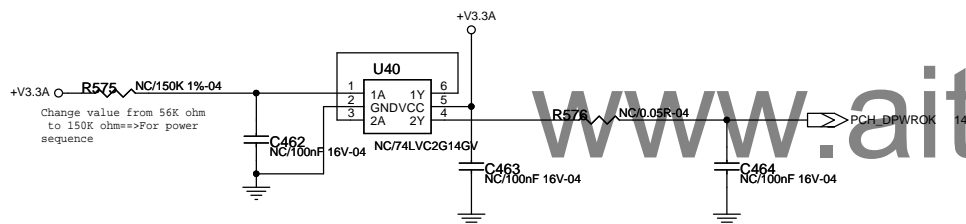
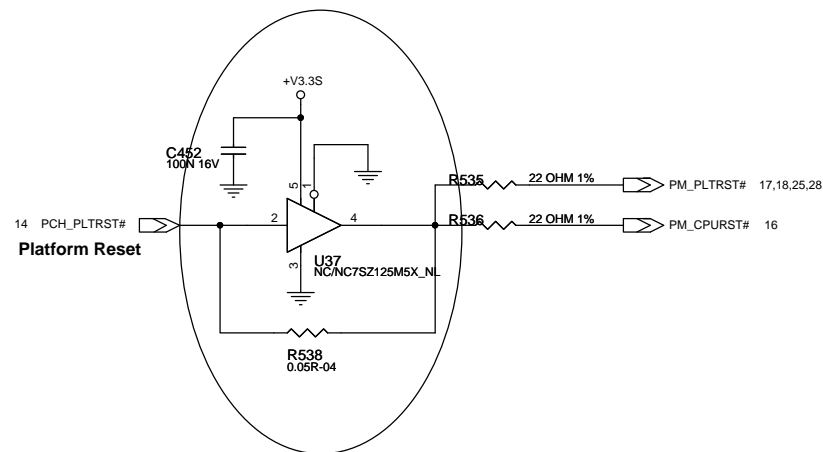
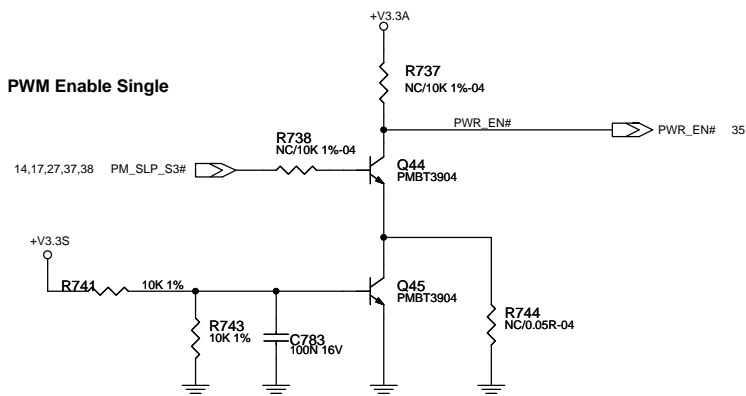
USB side IO change to USB3.0



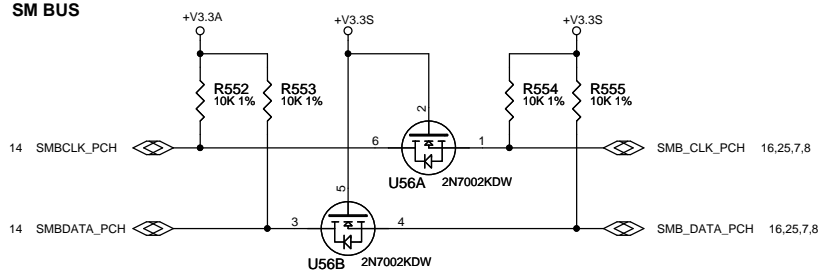
T&I (TPV-INVENTA TECHNOLOGY CO., LTD)		OEM MODEL	CA203M	Size	A3
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev	DVT_0.1
Key Component	USB	PCB NAME	6150A0008201	remark	<remark>
Date	Friday, August 24, 2012	Sheet	26 of 40		



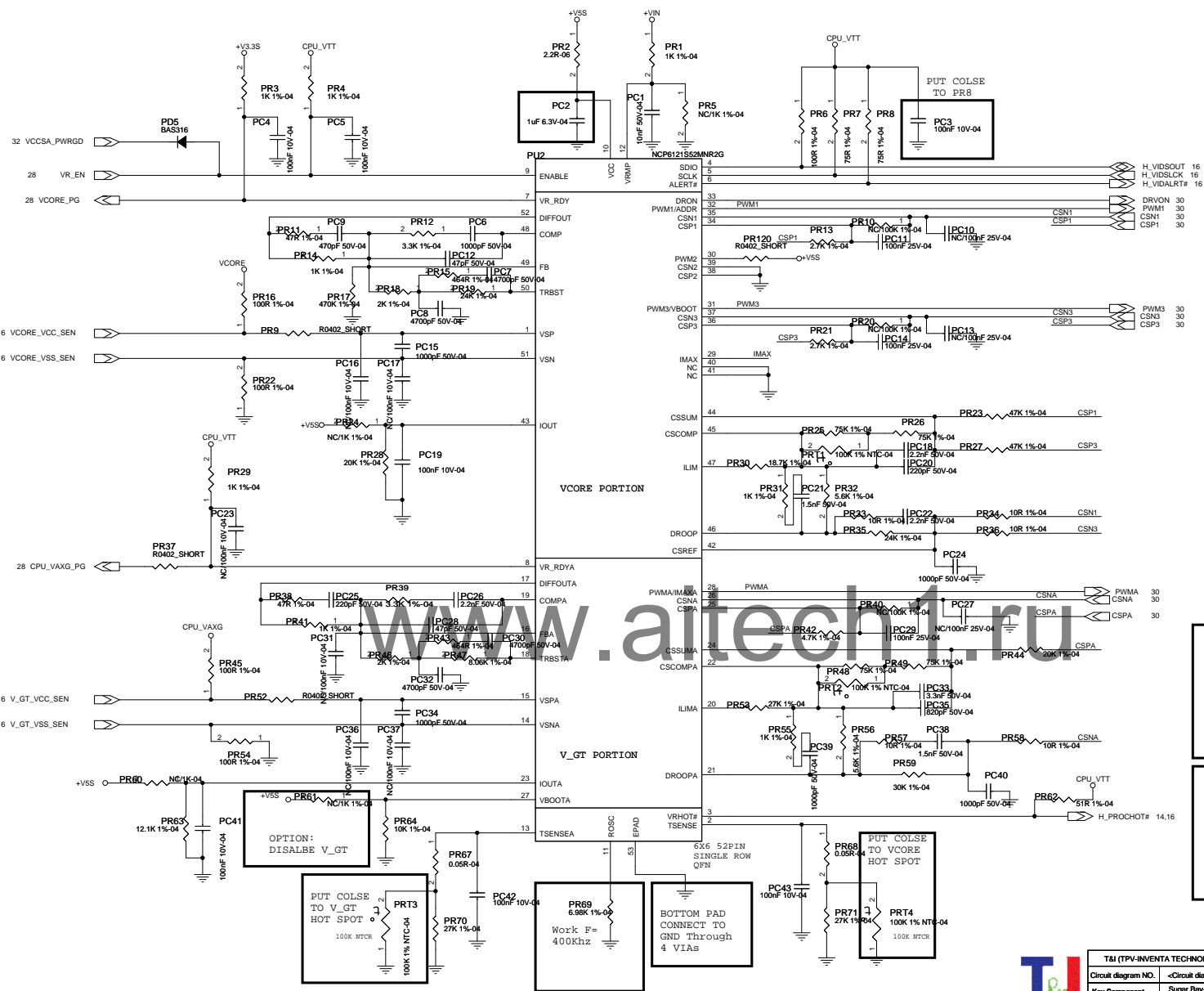
# PWM Enable Single



# SM BUS

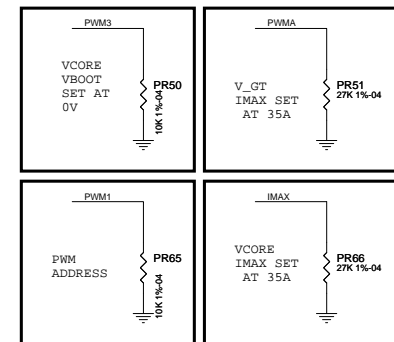


T&I (TPV-INVENTA TECHNOLOGY CO., LTD)		OEM MODEL	CA203M	Size	A3
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev	DVT_0.1
Key Component	Controller 1	PCB NAME	6150A0008201	remark	<remark>
Date	Friday, August 24, 2012	Sheet	28 of 40		



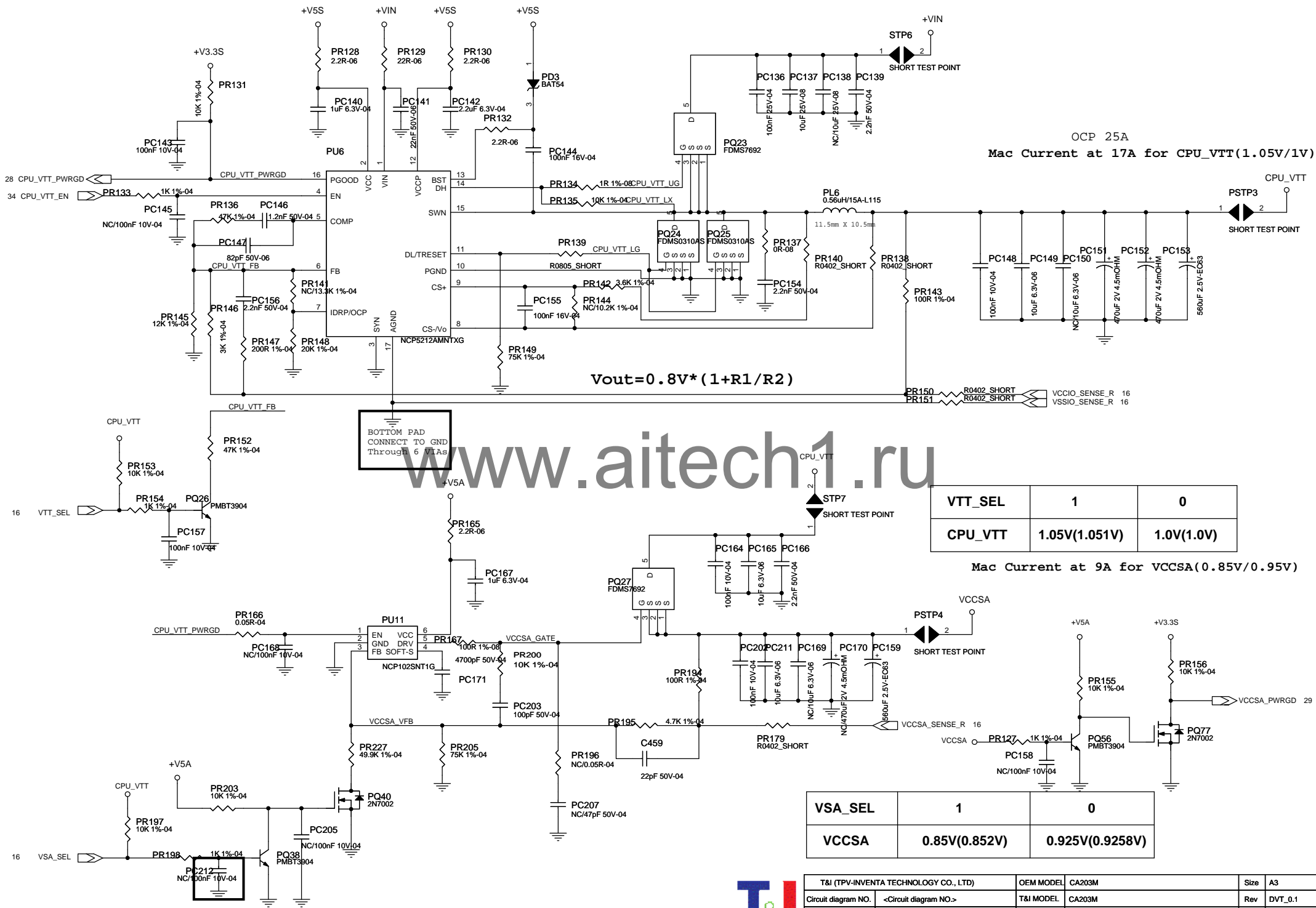
PWM ADDRESS		
RESISTOR VALUE	SVID ADDRESS FOR VCORE RAIL	SVID ADDRESS FOR V_GT RAIL
10K	0000	0001
25K	0010	0011
45K	0100	0101
70K	0110	0111
95K	1000	1001
125K	1010	1011
165K	1100	1101

BOOT VOLTAGE	
RESISTOR VALUE	BOOT VOLTAGE
10K	0V
25K	0.9V
45K	1.0V
70K	1.1V
95K	1.2V
125K	1.35V
165K	1.5V
VCC	Shutdown (VbootA only)

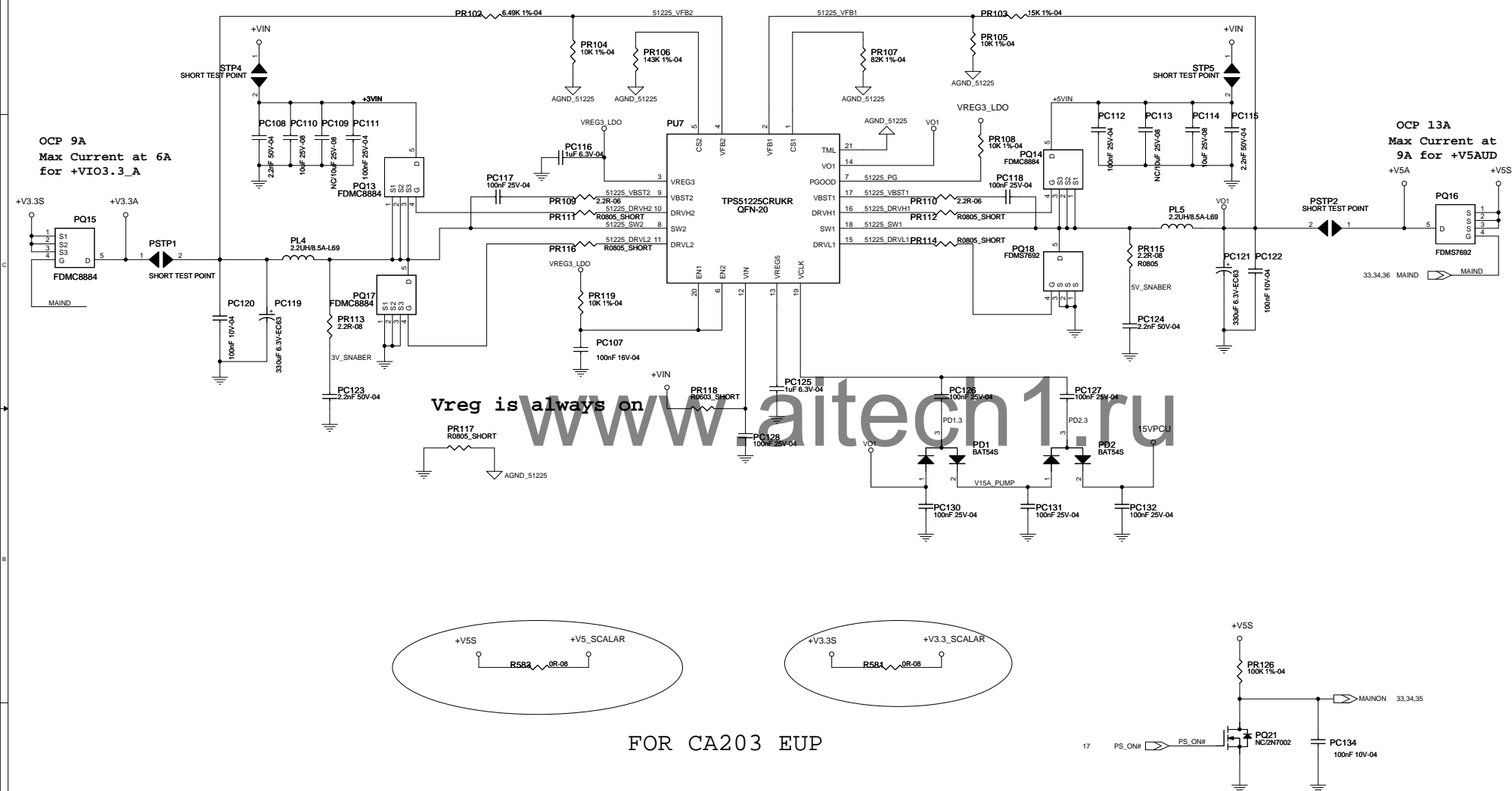


T&I (TPV-INVENTA TECHNOLOGY CO., LTD)		OEM MODEL	CA203M	Size	Custom
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA203M	Rev	DVT_0.1
Key Component	Super Bay-CPU 1/2	PCB NAME	6150A0006201	remark	<remark>
Date	Friday, August 24, 2012	Sheet	29 of 40		





# SYSTEM +3V\_ALW/+3V\_S5/+3V\_S3/+3V\_S0 +5V\_ALW/+5V\_S3/+5V\_S0

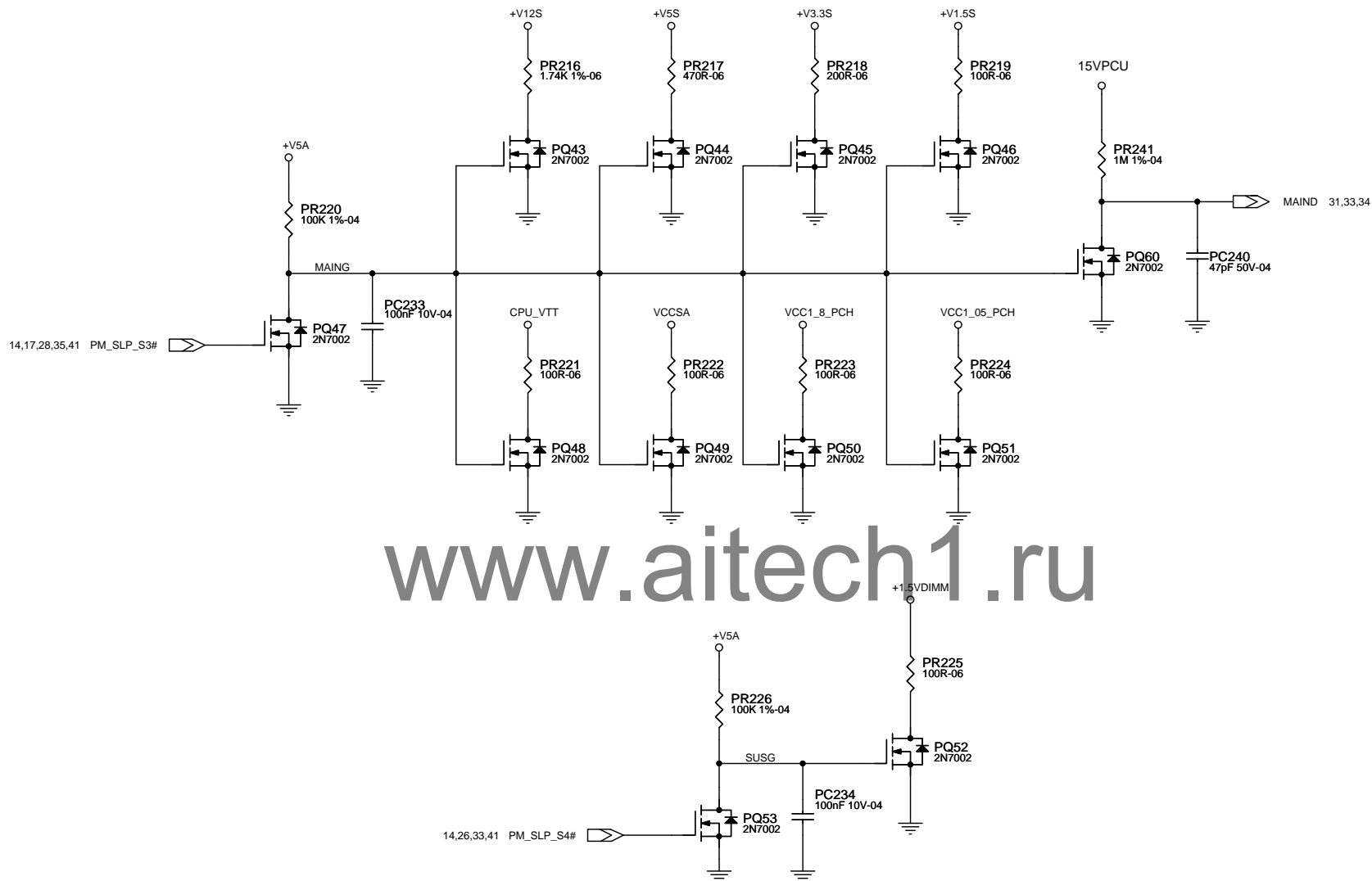






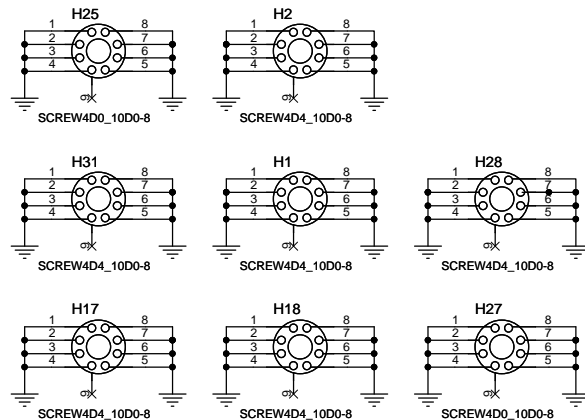






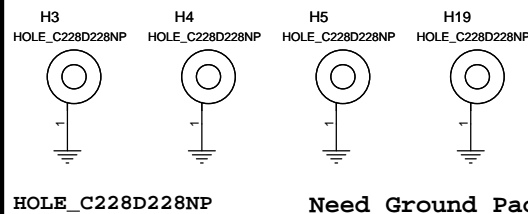
T&I (TPV-INVENTA TECHNOLOGY CO., LTD)		OEM MODEL	CA203M	Size	B
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA203M	Rev	DVT_0.1
Key Component	Discharge Circuit	PCB NAME	6150A0008201	remark	<remark>
Date	Friday, August 24, 2012	Sheet	36 of 40		

**SCREW 4/10-8 (MB)**



**SCREW FOR CPU HEATSINK**

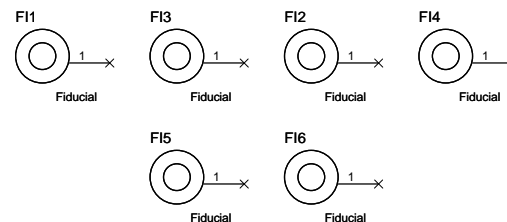
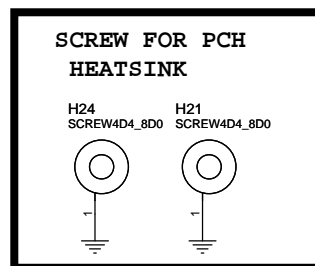
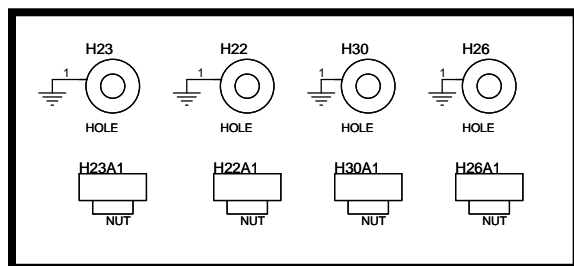
**SCREW 4.4/8 \* 4 (HEATSINK)**



HOLE\_C228D228NP

Need Ground Pad

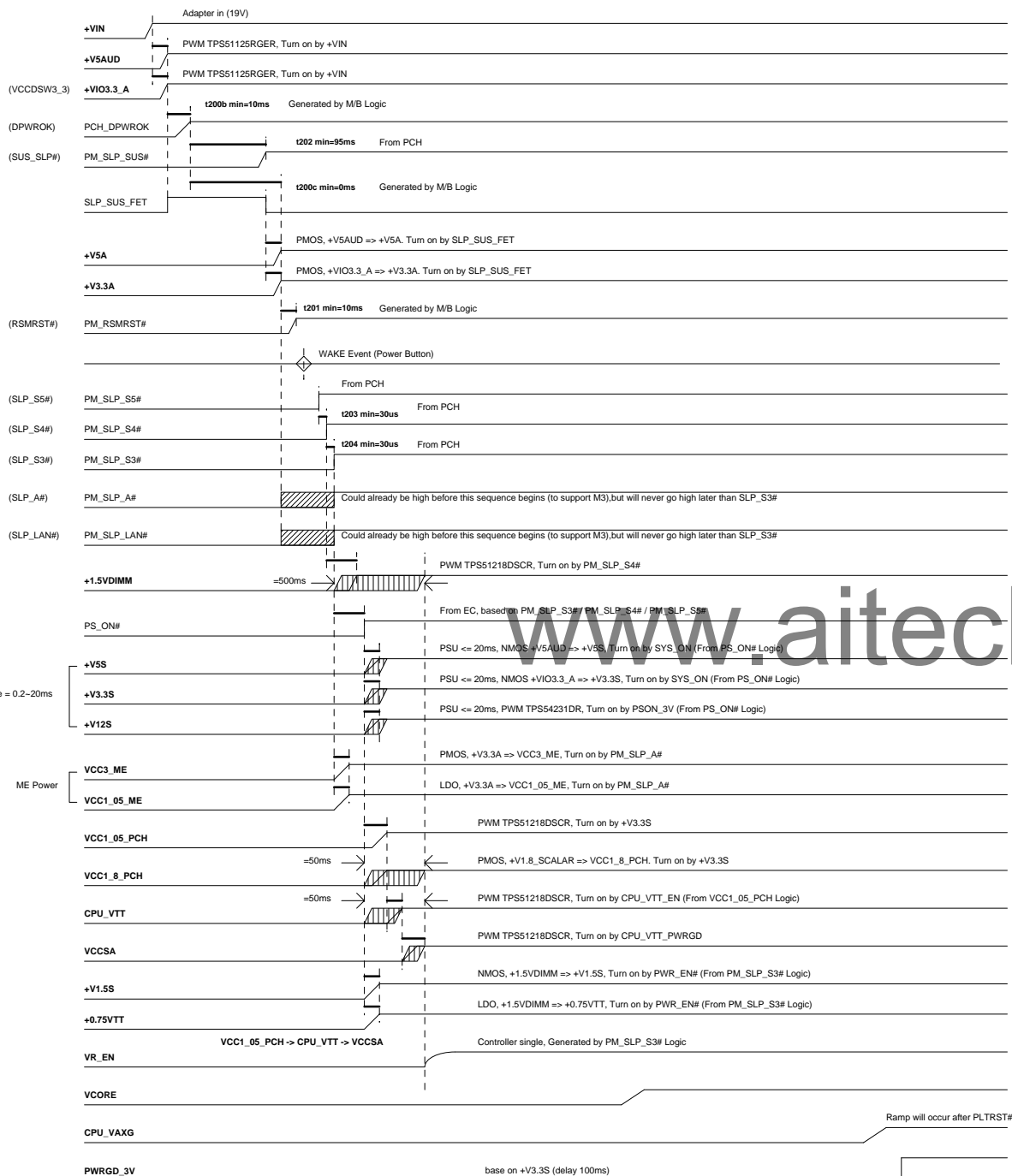
[www.aitech1.ru](http://www.aitech1.ru)



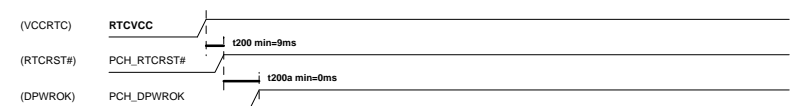
T&I (TPV-INVENTA TECHNOLOGY CO., LTD)		OEM MODEL	CA203M	Size	A3
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev	DVT_0.1
Key Component	Screw	PCB NAME	6150A0008201	remark	<remark>
Date	Friday, August 24, 2012	Sheet	37 of 40		



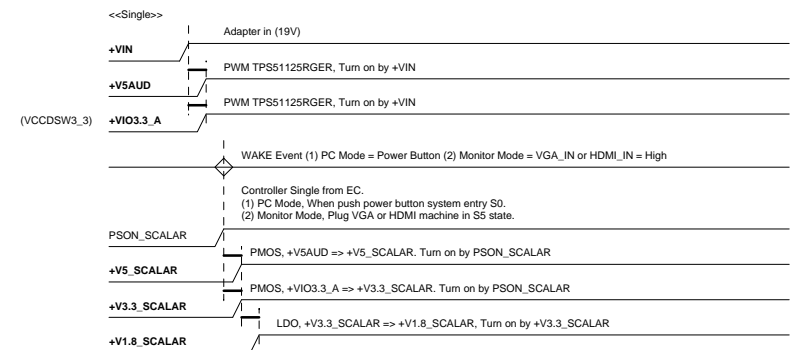
## System Power



## RTC Power



## Scalar Power



Scalar power can turn on before SUS\_PWR (+V5A / +V3.3A) or later, but will never go high later than SLP\_S3#



T&I (TPV-INVENTA TECHNOLOGY CO., LTD)	OEM MODEL	CA203M	Size	Custom
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA203M	Rev
Key Component	Power Sequence	PCB NAME	#150A0008201	DVT_0.1
Date	Friday, August 24, 2012	Sheet	39 of 40	remark

REVISION HISTORY

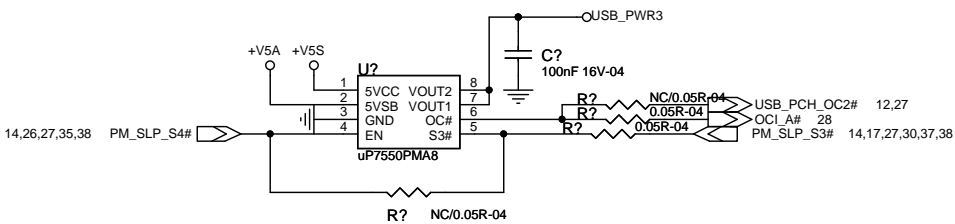
Date	Author	Ver	Comments
2012/7/30			1. L11,L15,L18,L19,L20做gate swapping
2012/7/31			1. R488.R489.R490.R491 change to 0.05R-04
2012/8/8			1. U37 change to NC,R538 add 0R
2012/8/9			1. change NEC to ASM1042 focus on P27 P28
2012/8/10			1. Footprint 0.05R-04 R0402_SHORT PR9,PR37,PR52,PR80,PR81,PR96,PR98,PR100,PR101,PR120,PR138,PR140,PR150,PR151,PR169,PR179,PR180,PR185 CHANGE SHORT PAD FOOTPRINT PSTP1~PSTP7 , STP1~STP10 PU7=TPS51125 TPS51225 (6019B0945001) PQ31,PQ37=P1603BV FDMC8884 PU8,PU10=TPS51218 TPS51211
2012/8/14			1. U59.U60 change to uP7550PMA8
2012/8/16			1. Del FB27 FB28 FB29
2012/8/20			1. PQ16 change,L13 L14 L16 L17 L19 L20 swap pin
2012/8/23			1. For Power change

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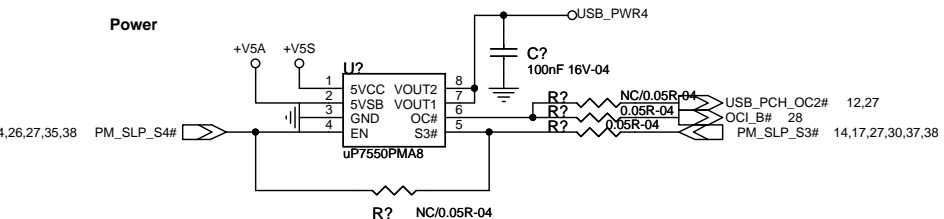
T&I (TPV-INVENTA TECHNOLOGY CO., LTD)		OEM MODEL	CA203M	Size	A3
Circuit diagram NO.	<Circuit diagram NO.>	T&I MODEL	CA202M	Rev	DVT_0.1
Key Component	History	PCB NAME	6150A0008201	remark	<remark>
Date	Friday, August 24, 2012	Sheet	40 of 40		



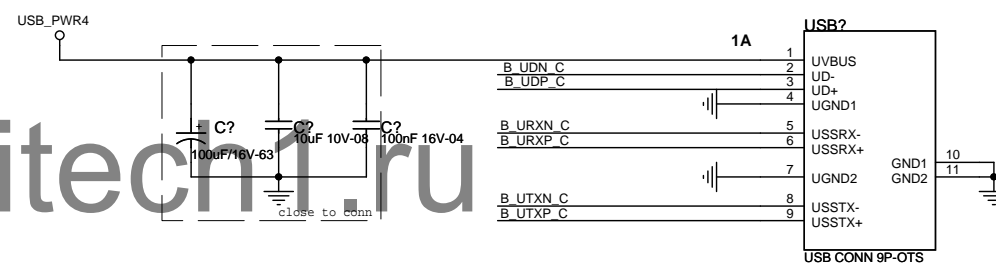
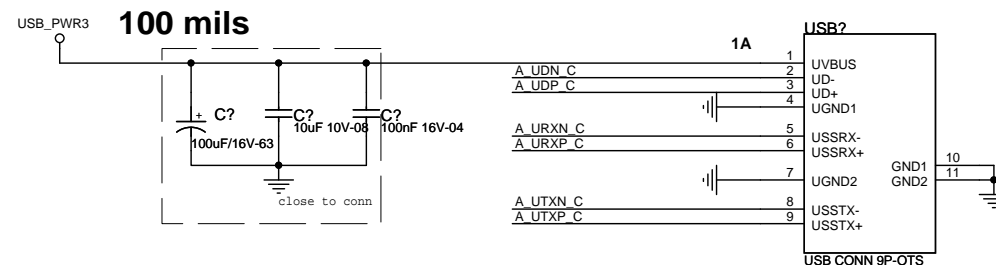
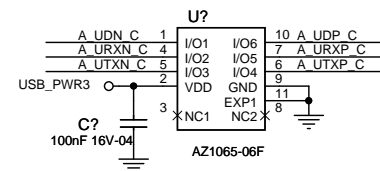
## SIDE USBx2 2.0&3.0 co-lay



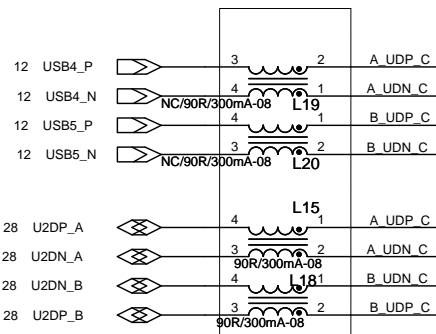
Power



## ESD USB3.0

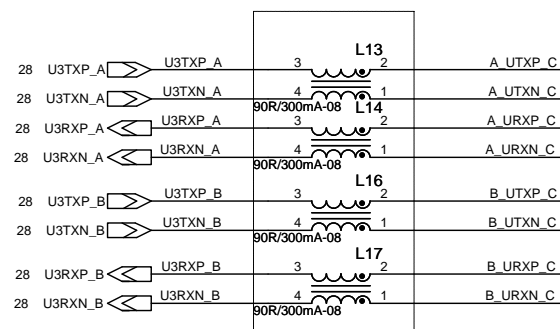


## USB2.0 TO PCH



## USB2.0 TO ASMedia

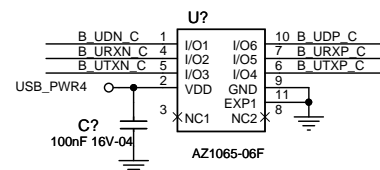
Please place these common-mode-choke to together



For ASMedia

Please place these common-mode-choke to together

## ESD USB3.0



T & I	OEM MODEL	CA203	Size	B
線路圖編號	6050A2525101	T&I MODEL	CA203	Rev
Key Component	SIDE USB3.0x2	PCB NAME	6050A2525101	備註
Date	Friday, August 24, 2012	Sheet	41 of 42	<備註>

