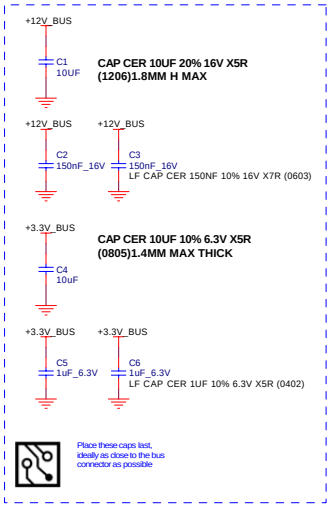
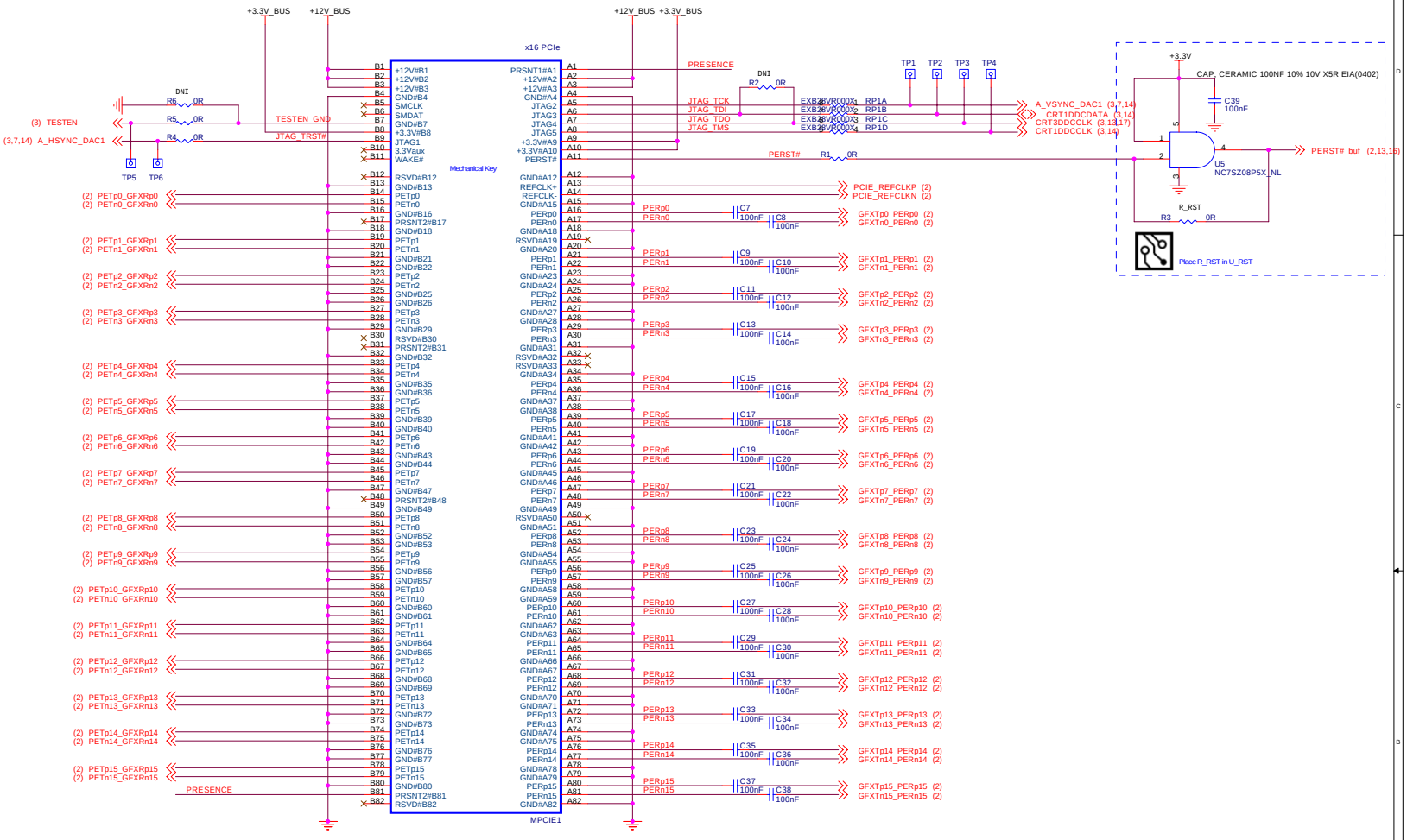
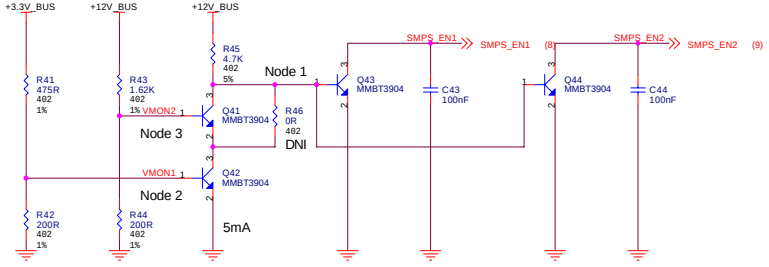
PCI-EXPRESS EDGE CONNECTOR





POWER SEQUENCING



Power Sequence Circuit to ensure SMPS_EN is released after +12V_BUS and +3.3V_BUS are both in regulation.
Pull-up may or may not be required on SMPS_EN signal depending on SMPS design.

Node 1 When +12V ramps above min Vbe, SMPS_EN will be helt low

Node 2 When +3.3V gets close to regulation, one of the two conditions of releasing SMPS_EN is active

Target ~ 900mV when +3.3 at min regulation (worse case)

Typical trigger when +3.3V ramps above 2.2V (650mV)

Node 3 When +12V gets close to regulation, one of the two conditions of releasing SMPS_EN is active

Target ~ 1.25V when +12 at min regulation (worse case)

Typical trigger when +12V ramps above 10V (1.1V)

SYMBOL LEGEND	
DNI	DO NOT INSTALL
#	ACTIVE LOW
	DIGITAL GROUND
	ANALOG GROUND

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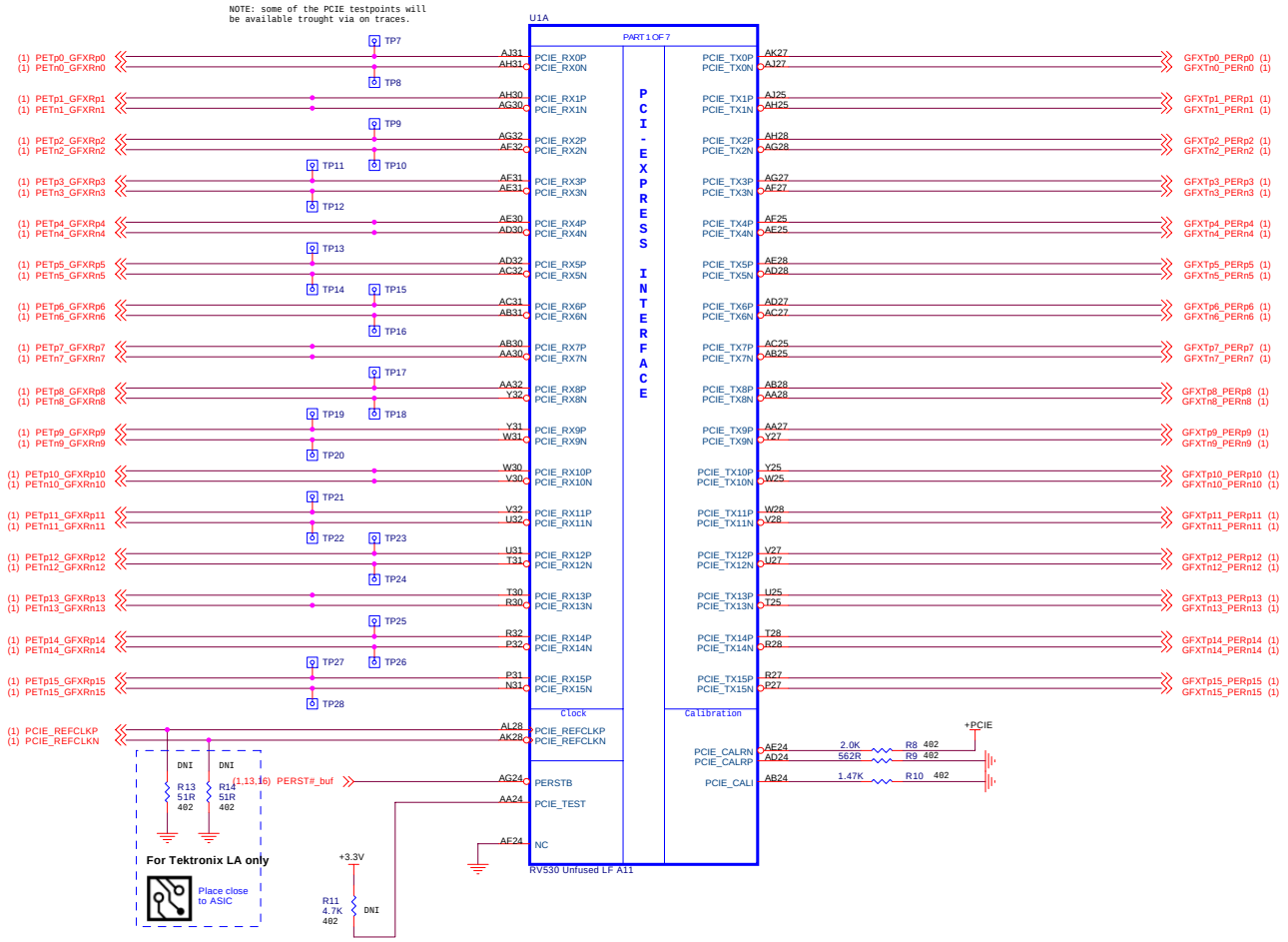
Size C	Document Number 105-A671xx-00A	Rev 0
Date: Saturday, August 06, 2005	Sheet 1 of 20	



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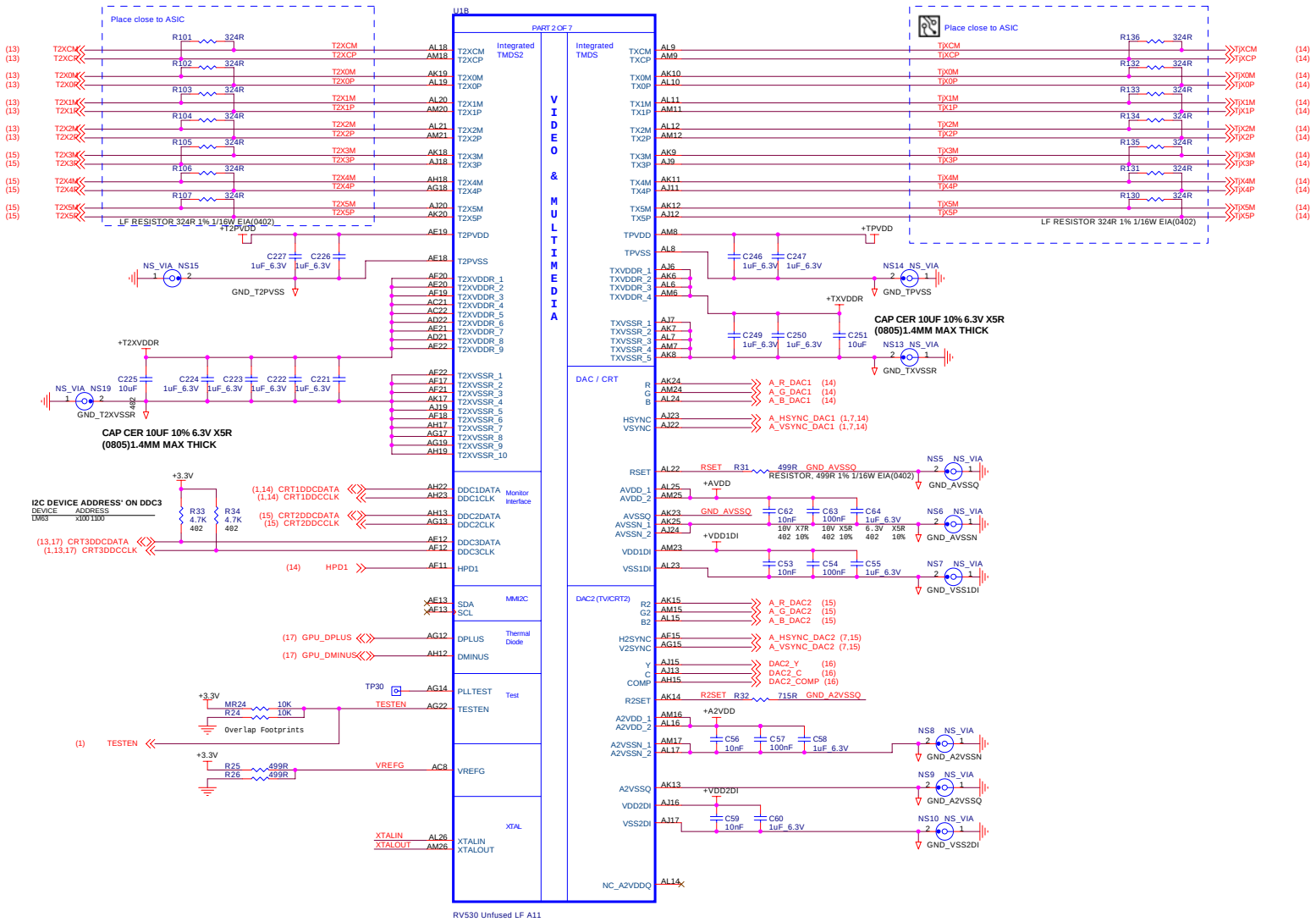

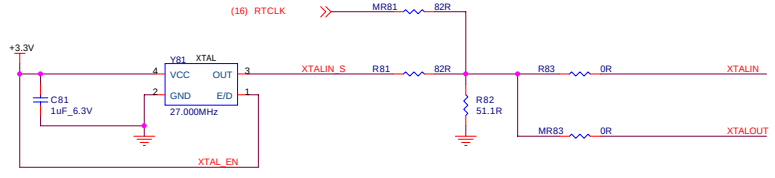

Company	ATI Technologies Inc.
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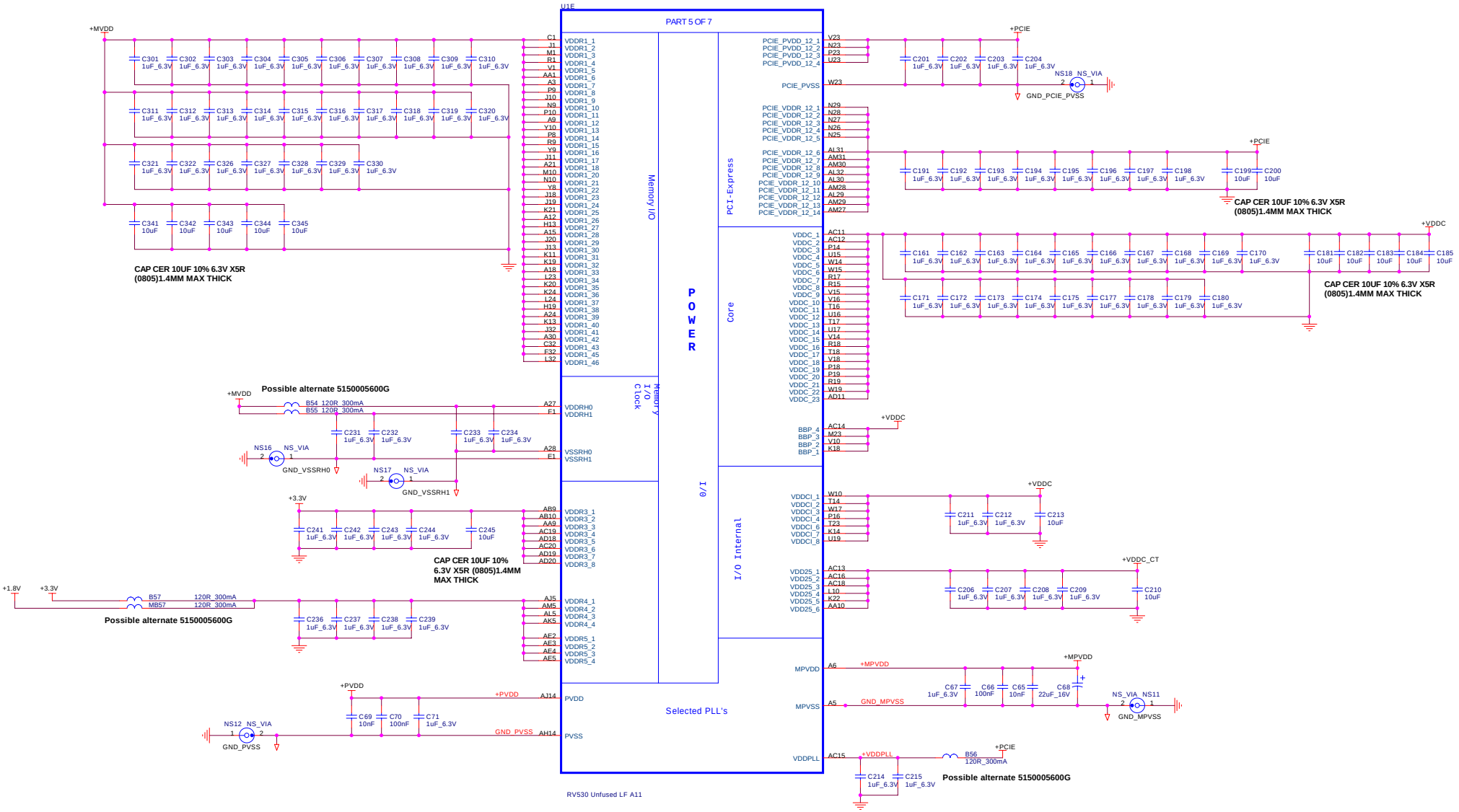

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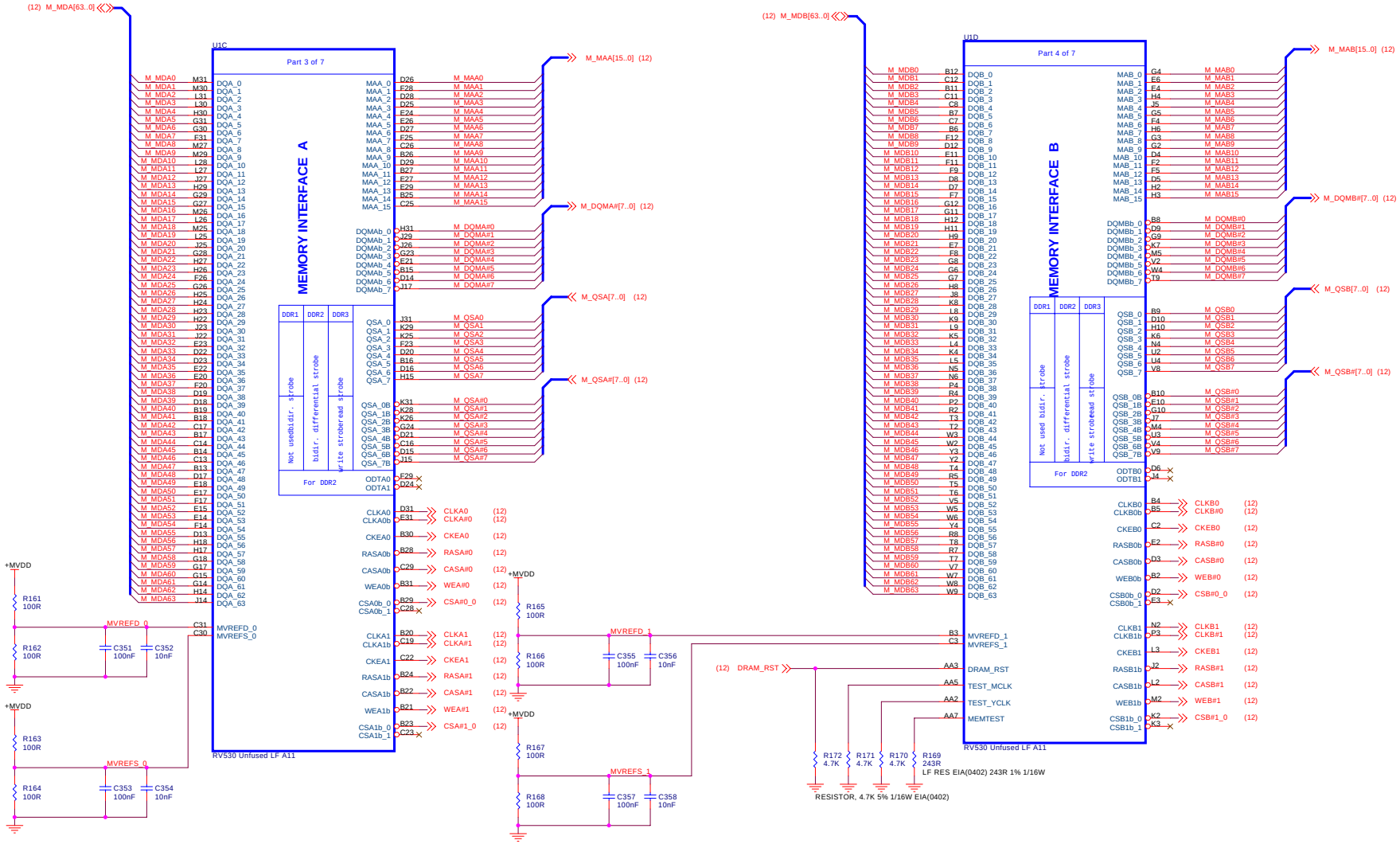

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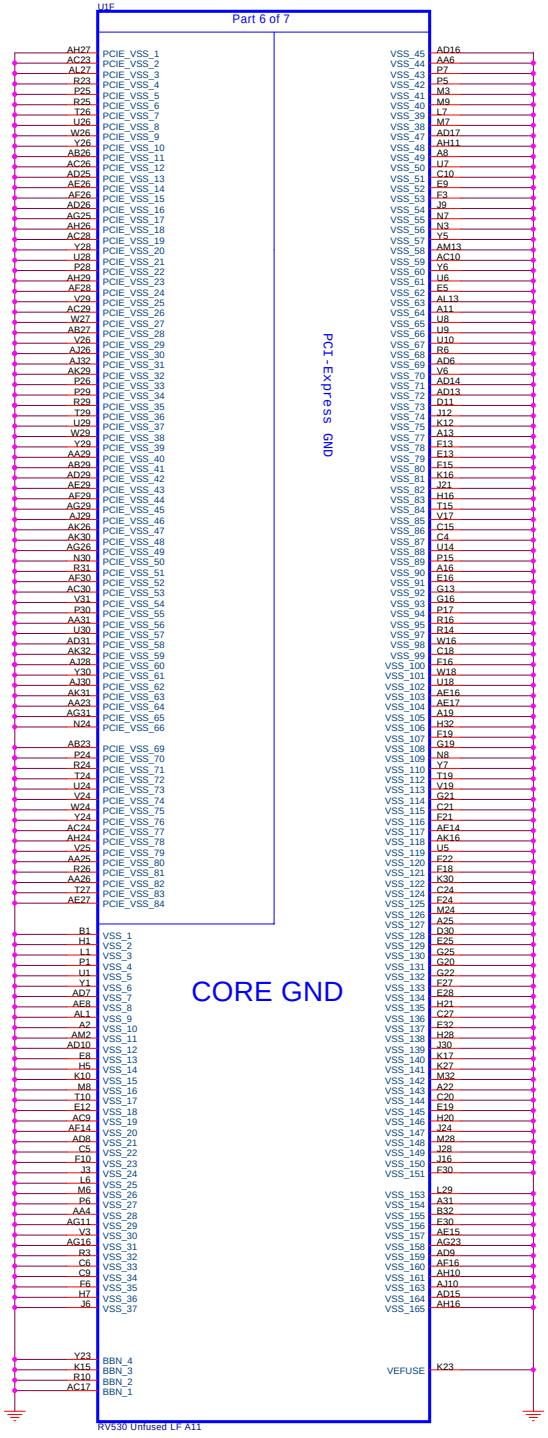

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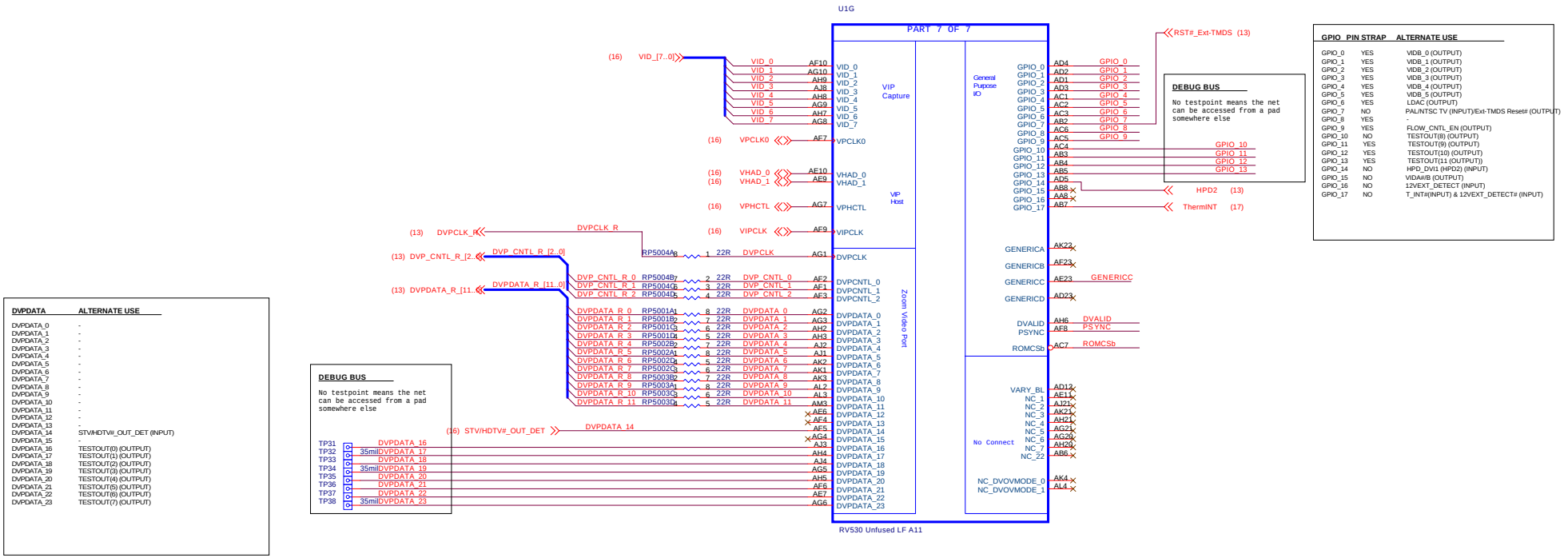
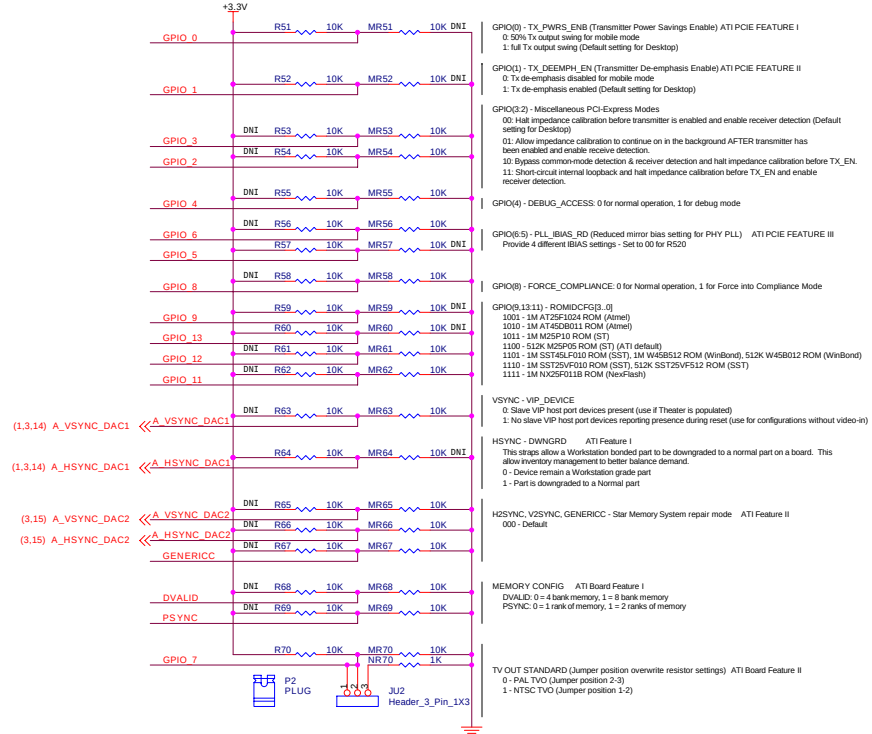


PIN BASED STRAPS



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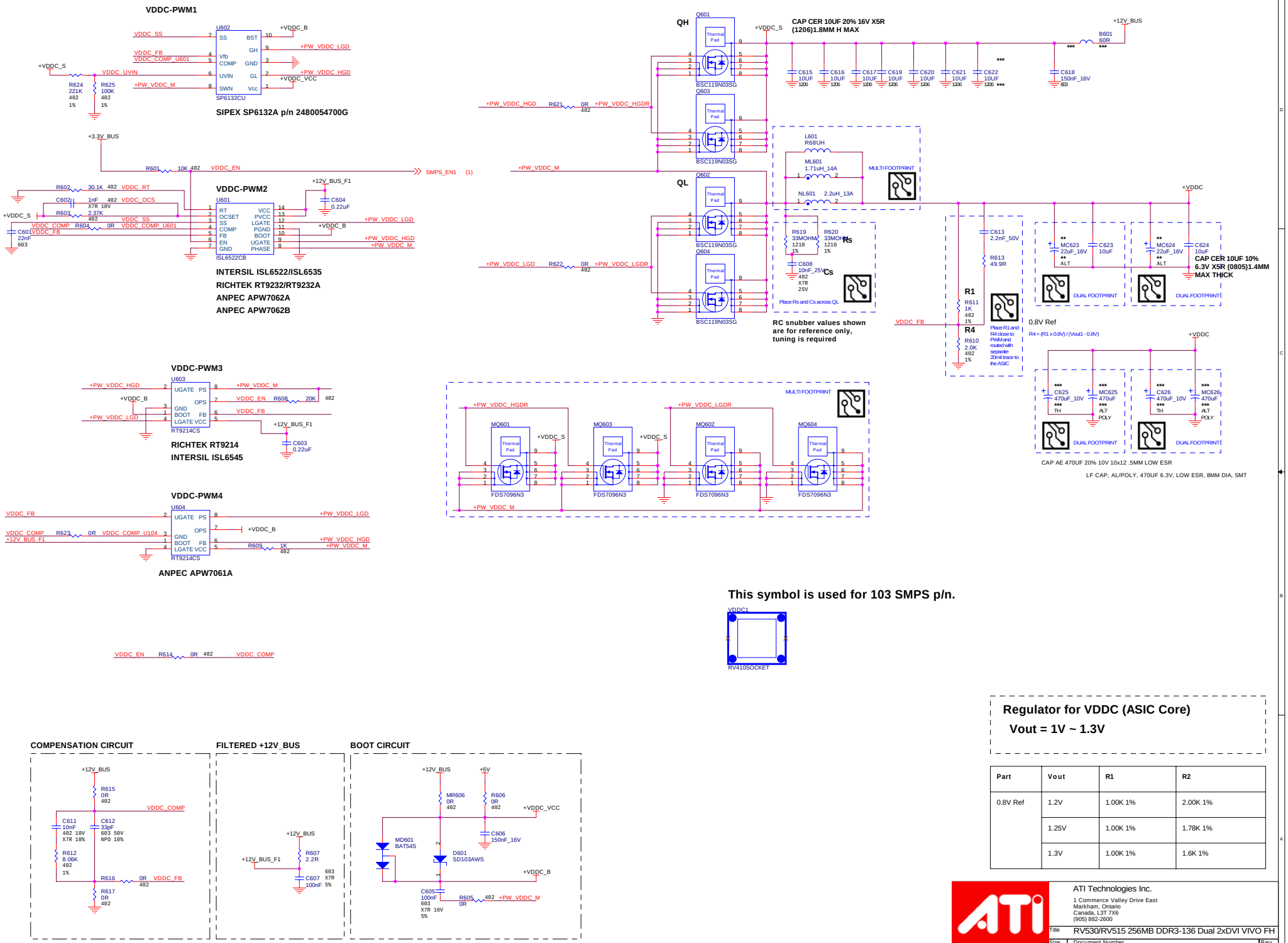

Regulator for VDDC (ASIC Core)

Vout = 1V ~ 1.3V

Part	Vout	R1	R2
0.8V Ref	1.2V	1.00K 1%	2.00K 1%
	1.25V	1.00K 1%	1.78K 1%
	1.3V	1.00K 1%	1.6K 1%

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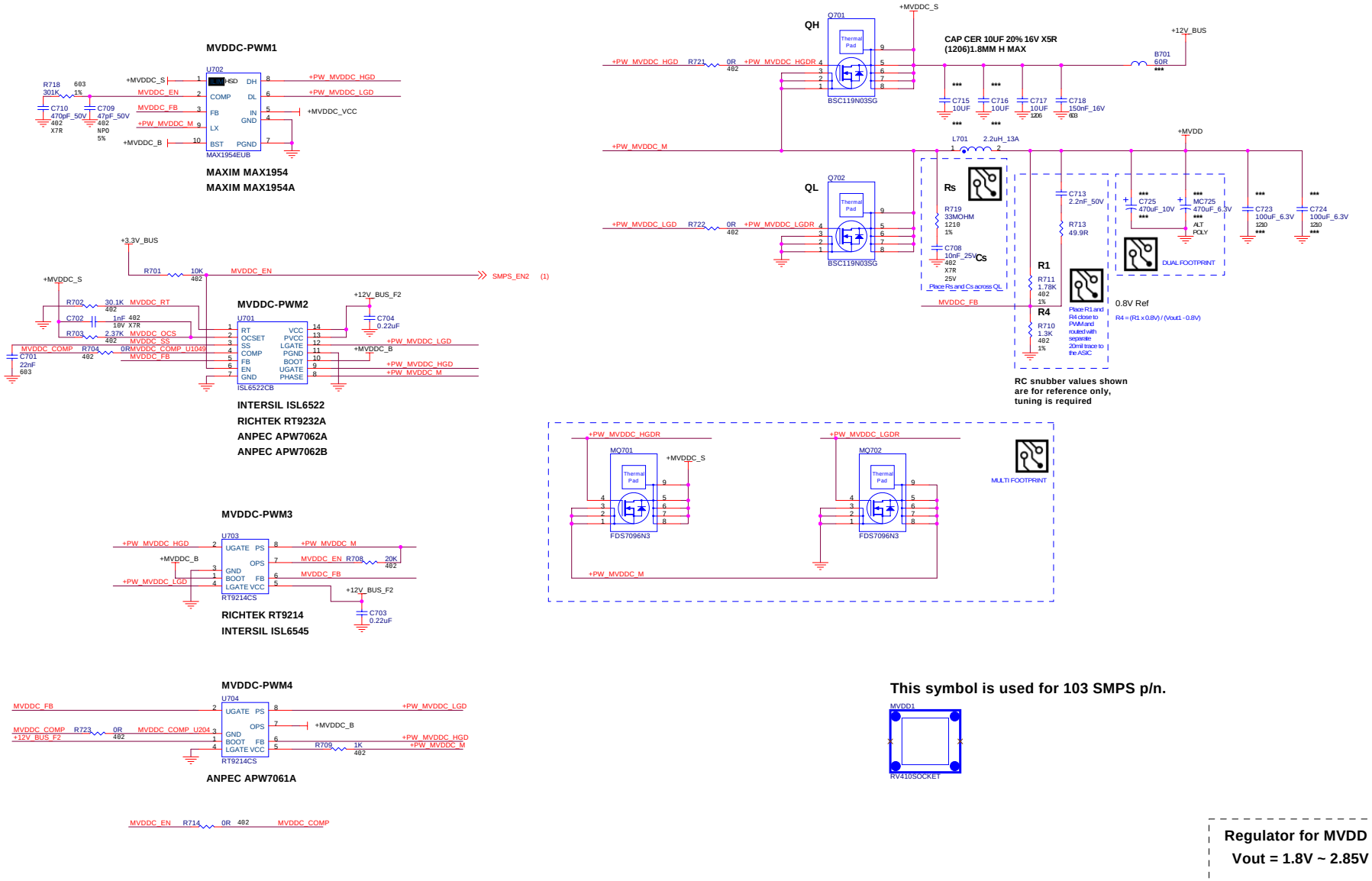

Part	Vout	R1	R2
0.8V Ref	1.9V	1.78K	1.3K
	2.0V	1.69K 1.78K	1.1K 1.21K

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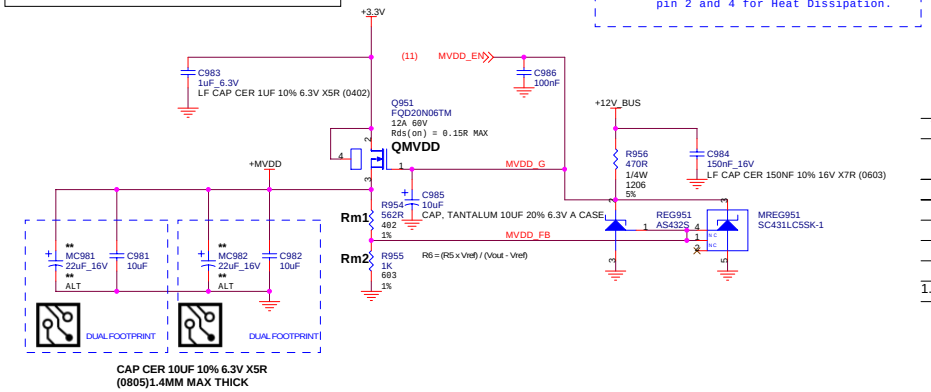
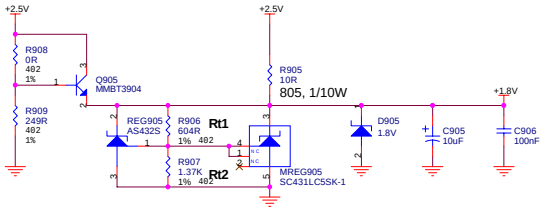
Regulator for +MVDDQ
Vout = 1.85V ~ 2.65V
Iout = 1.7A MAX
P_QMVDD = 2.5W MAX



CAP CER 10UF 10% 6.3V X5R
(0805)1.4MM MAX THICK

Voltage Req.	Rm1		Rm2		
2.85V					
2.55V	22.1R	316022R100G	1.1K	3240110100G	2.5V Ref.
2.5V	0R	3150000000	DNI		2.5V Ref.
2.1V min	681R	3160681000G	953R	3240953000	1.24V Ref.
2.0V min	681R	3160681000G	1.1K	3240110100G	1.24V Ref.
1.9V min, 1.94V nom.	562R	3160562000G	1K	3160100100G	1.24V Ref.



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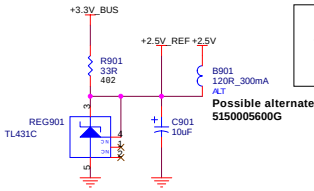
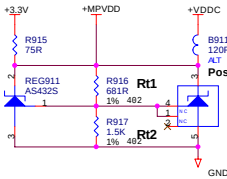
Alt regulator for +MPVDD
Vout = 1.2V (not tracking to VDDC)
Iout = 10mA MAX

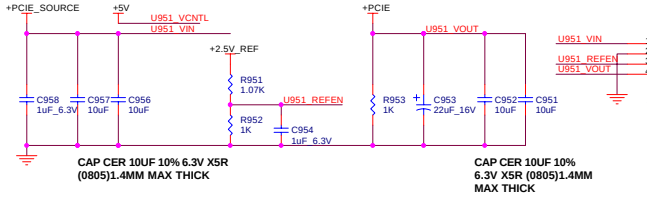
Optional regulator for +PCIE
Vout = 1.2V ~1.25V
Iout = 1.2A MAX

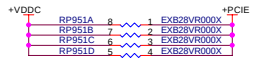
RT9199 p/n 2480054800G (480mR RdsON Max)
RT9199A (300mR RdsON Max)
RT9173C (250mR RdsON Max)
APL5331 p/n 2480054200G (350mR MAX for 2A)





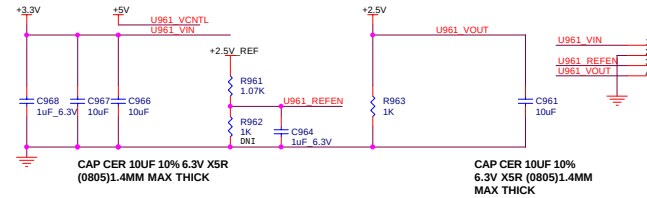
	Rt1		Rt2	
1.52V	432R	3240432000 3160432000	2.15K	3160215100
1.61V	432R	3240432000	1.5K 1.5K	3230015200 3160150100
1.69V	432R	3240432000	1.21K	3240121100
1.718V	562R	3240562000	1.5K 1.5K	3230015200 3160150100
1.75V	604R	3160604000	1.5K 1.5K	3230015200 3160150100
1.8V	604R	3160604000	1.37K	3160137100



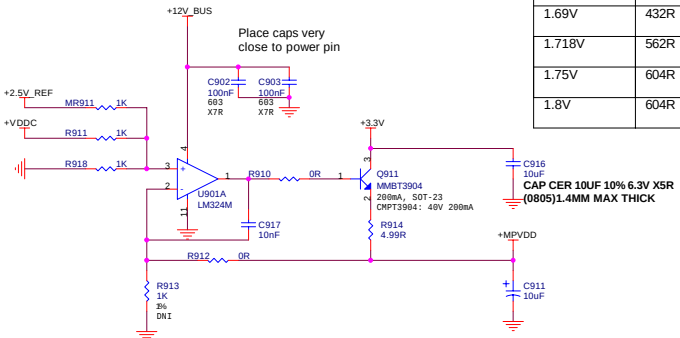


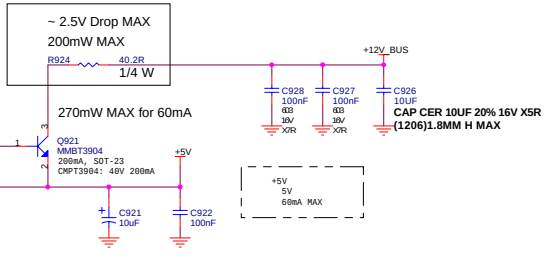
Supported footprint:
RT9173C/RT9199A/RT9199
APL5331

Optional regulator for +2.5V
Vout = 2.5V
Iout = 600mA MAX

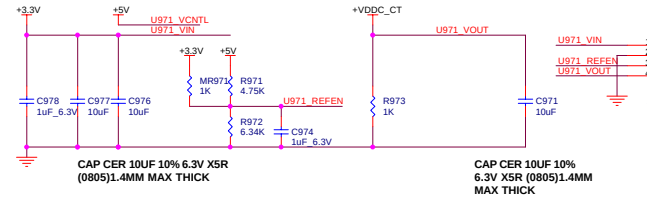


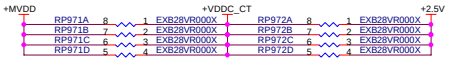
Supported footprint:
RT9173C/RT9199A/RT9199
APL5331



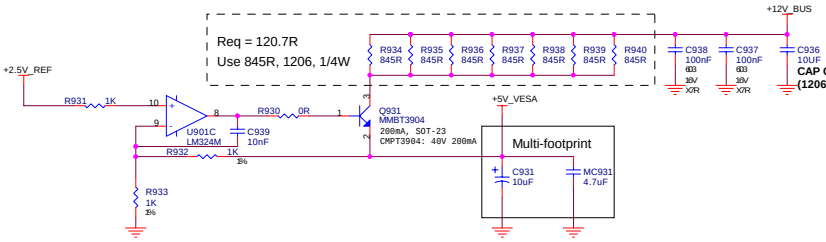


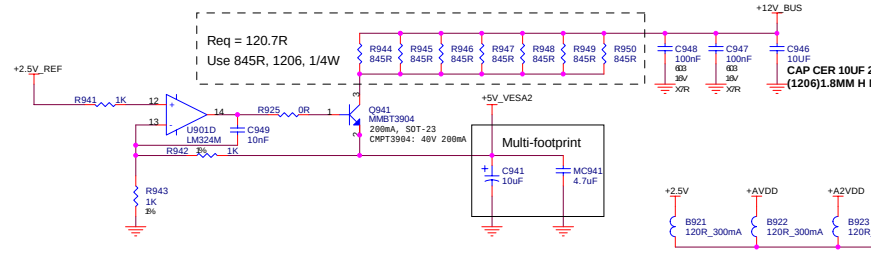
Optional Regulator for +VDDC_CT
Vout = 2.5V ~ 2.85V
Iout = 100mA MAX

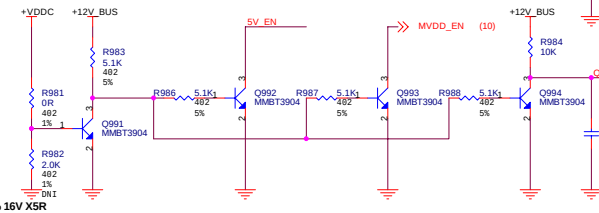


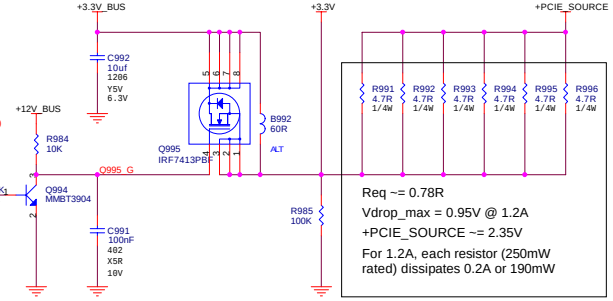


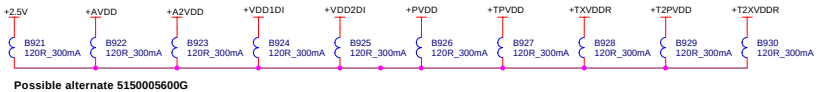
Supported footprint:
RT9173C/RT9199A/RT9199
APL5331











Possible alternate 5150005600G

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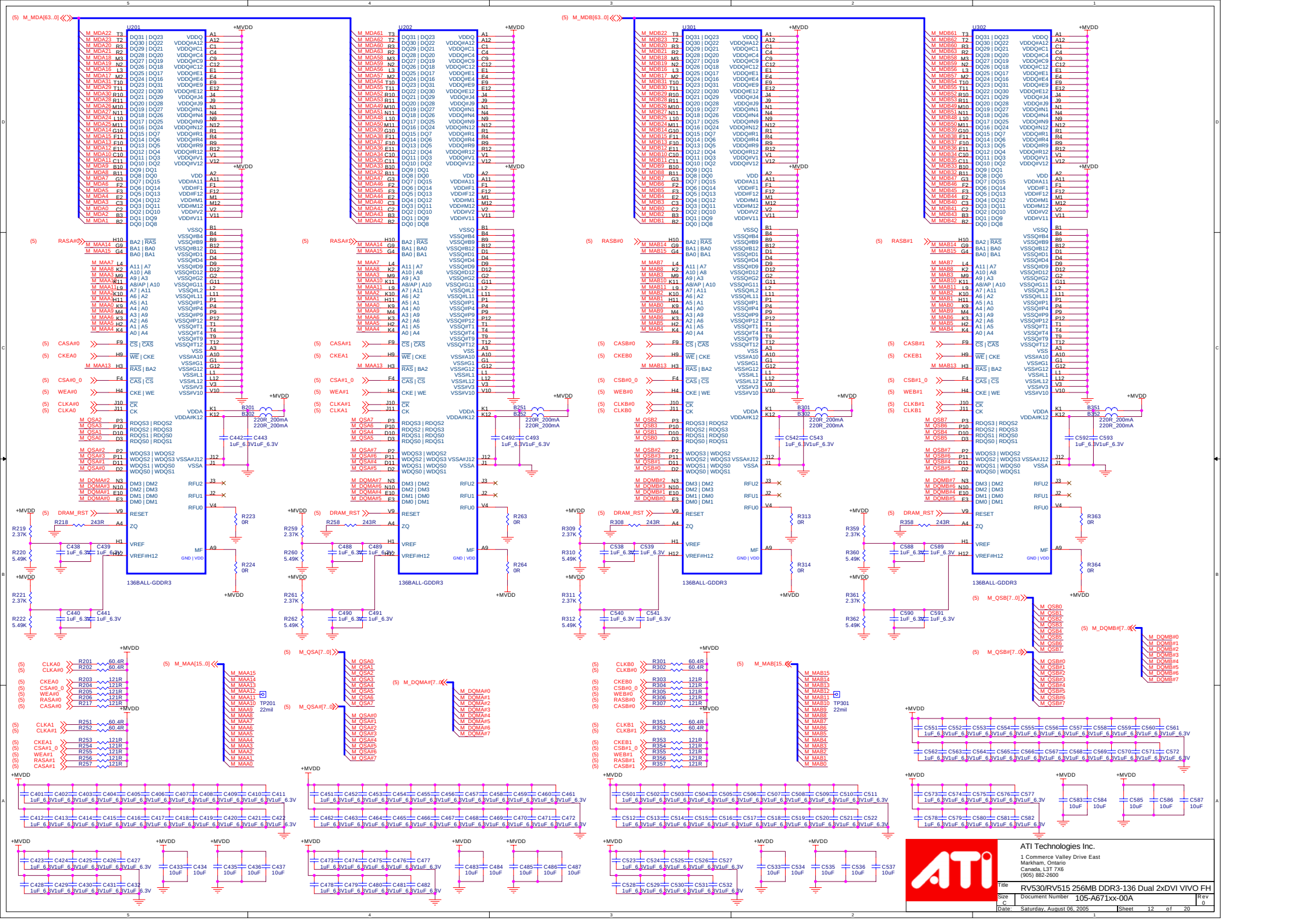
U201
U202
U301
U302
136BALL-GDDR3
M_MDA[63..0]
M_MDB[63..0]
RASA#0
RASA#1
RASB#0
RASB#1
CASA#0
CASA#1
CASB#0
CASB#1
CKEA0
CKEA1
CKEB0
CKEB1
WEA#0
WEA#1
WEB#0
WEB#1
CLKA#0
CLKA#1
CLKB#0
CLKB#1
DRAM_RST
M_QSA[7..0]
M_QSB[7..0]
M_DQMA#[7..0]
M_DQMB#[7..0]
M_MAA[15..0]
M_MAB[15..0]
+MVDD
220R_200mA
TP201
TP301
22mil
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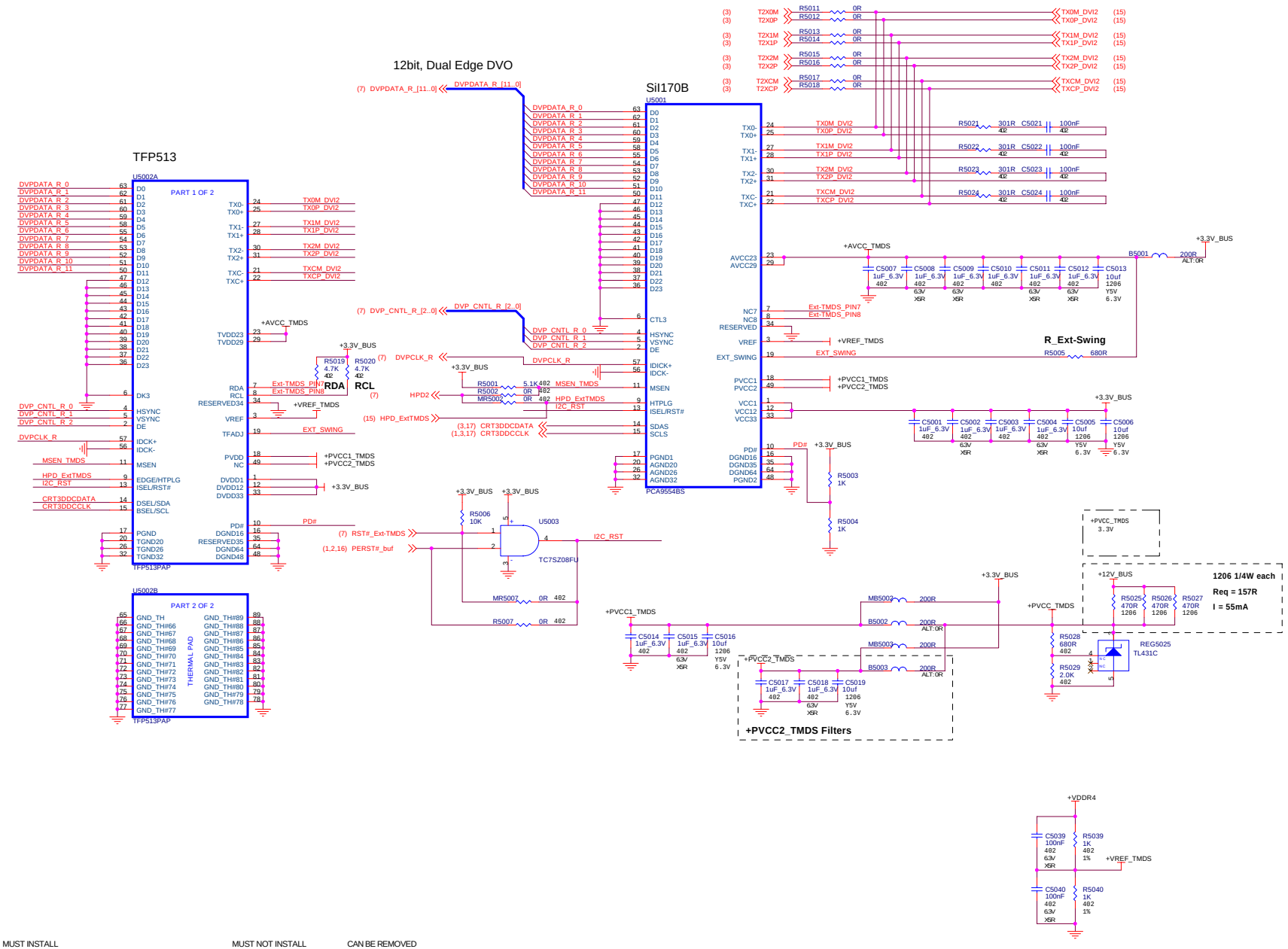

STUFFING OPTIONS

EXT TMDS TX TO BE USED	MUST INSTALL	MUST NOT INSTALL	CAN BE REMOVED
Sil170B	Sil170B, +PVCC2_TMDS Filters R_Ext-Swing =	TFP513	RDA, RCL
TFP513	TFP513, RDA, RCL 505R <= R_Ext-Swing <= 515R	Sil170B	(Optional) +PVCC2_TMDS Filters

NOTE:
1 - Other components are to be installed.
2 - Components marked as DNI should not be installed. They should only be installed if default board settings are to be changed in which case other components may have to be adjusted accordingly.

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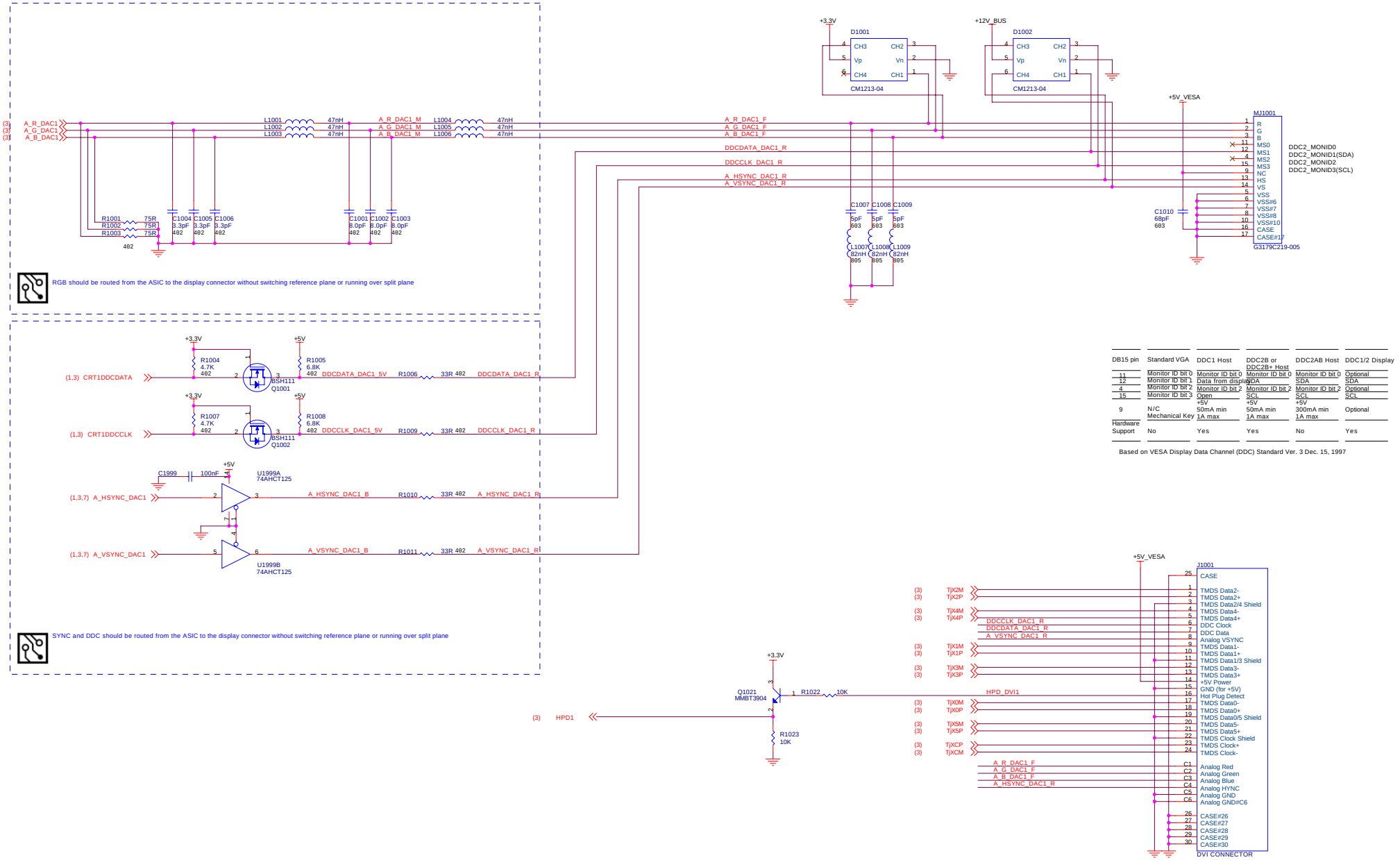

DB15 pin	Standard VGA	DDC1 Host	DDC2B or DDC2B+ Host	DDC2AB Host	DDC1/2 Display
11	Monitor ID bit 0	Monitor ID bit 0	Monitor ID bit 0	Monitor ID bit 0	Optional
12	Monitor ID bit 1	Data from display	SDA	SDA	SDA
4	Monitor ID bit 2	Monitor ID bit 2	Monitor ID bit 2	Monitor ID bit 2	Optional
15	Monitor ID bit 3	Open	SCL	SCL	SCL
		+5V	+5V	+5V	
9	N/C	50mA min	50mA min	300mA min	Optional
Hardware Support	Mechanical Key	1A max	1A max	1A max	
	No	Yes	Yes	No	Yes

Based on VESA Display Data Channel (DDC) Standard Ver. 3 Dec. 15, 1997

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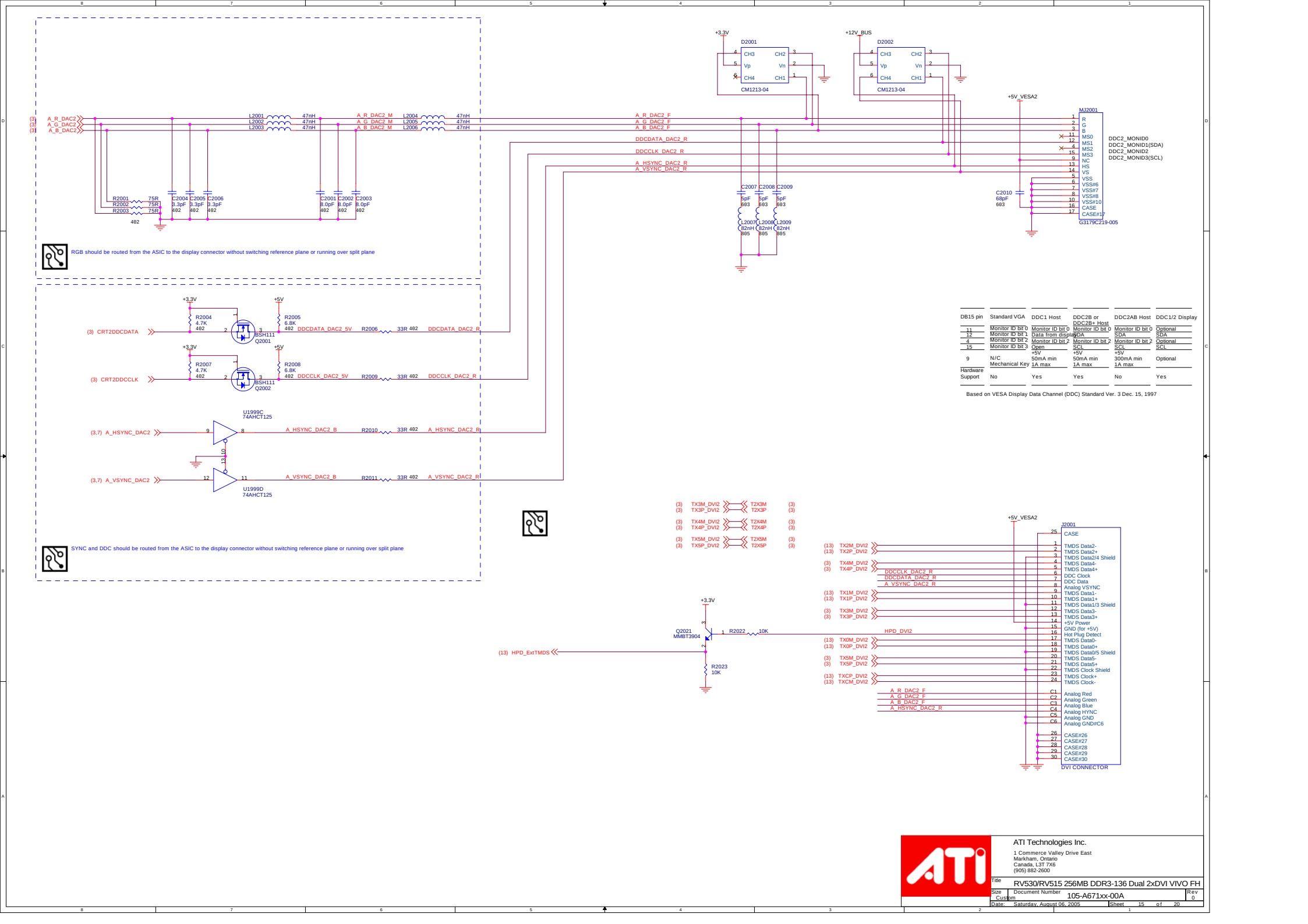

DB15 pin	Standard VGA	DDC1 Host	DDC2B or DDC2B+ Host	DDC2AB Host	DDC1/2 Display
11	Monitor ID bit 0	Monitor ID bit 0	Monitor ID bit 0	Monitor ID bit 0	Optional
12	Monitor ID bit 1	Data from display	SDA	SDA	SDA
4	Monitor ID bit 2	Monitor ID bit 2	Monitor ID bit 2	Monitor ID bit 2	Optional
15	Monitor ID bit 3	Open	SCL	SCL	SCL
9	N/C	+5V 50mA min	+5V 50mA min	+5V 300mA min	Optional
Hardware Support	Mechanical Key	1A max	1A max	1A max	
	No	Yes	Yes	No	Yes

Based on VESA Display Data Channel (DDC) Standard Ver. 3 Dec. 15, 1997

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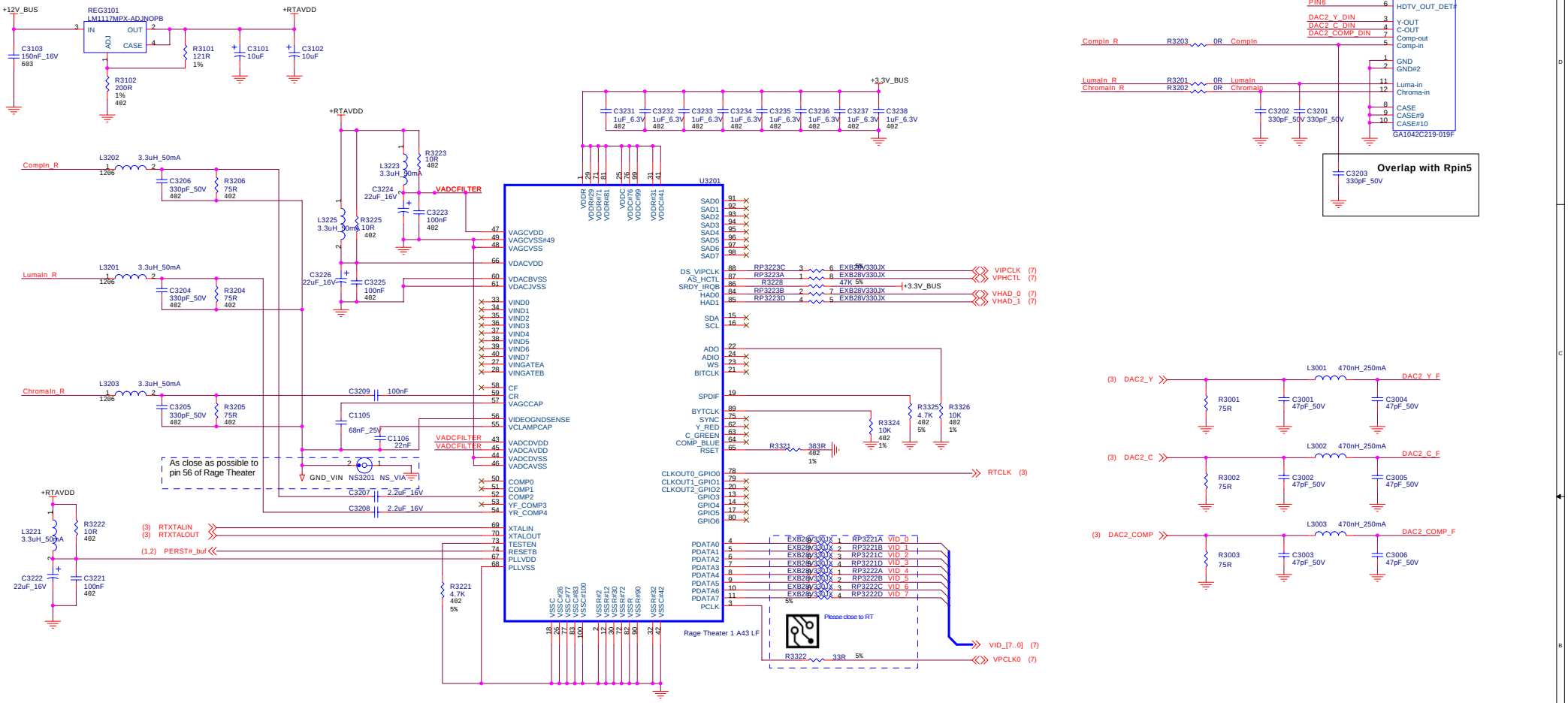
+RTAVDD
Vout = 3.3V
Iout = 125mA MAX, 80mA RMS



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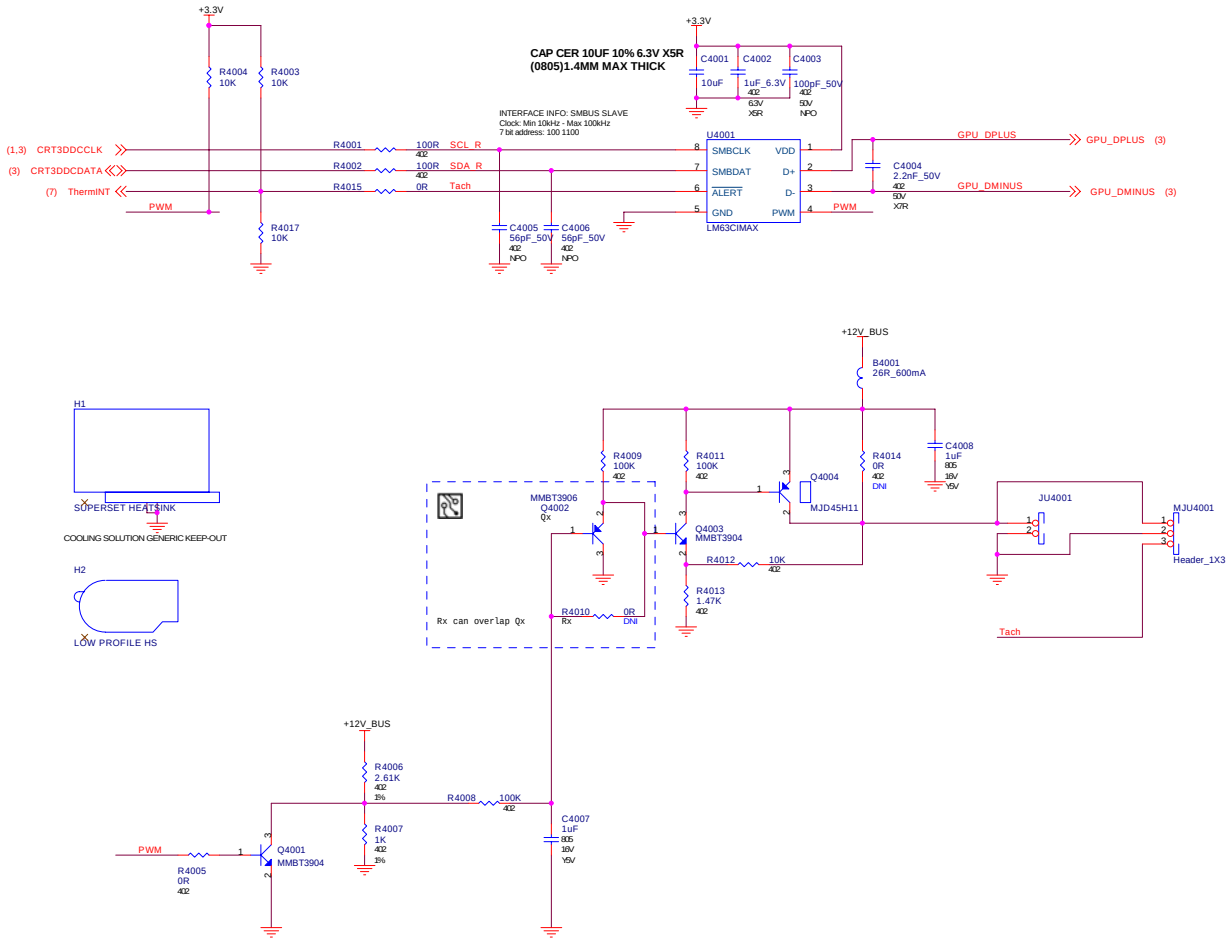

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DVI/VGA SCREWS

ASSY-SCREW1
SCREW
JACKSCREW
ASSY
7020000800

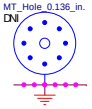
ASSY-SCREW2
SCREW
JACKSCREW
ASSY
7020000800

ASSY-SCREW5
SCREW
PAN_HEAD
7020001700

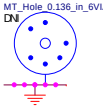
ASSY-SCREW3
SCREW
JACKSCREW
ASSY
7020000800

ASSY-SCREW4
SCREW
JACKSCREW
ASSY
7020000800

MT1
MT_Hole_0.136_in.
DNI

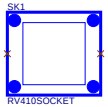


MT2
MT_Hole_0.136_in_6VIA
DNI



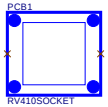
DNI

SK1



RV410SOCKET

PCB1



RV410SOCKET

<Variant Name>

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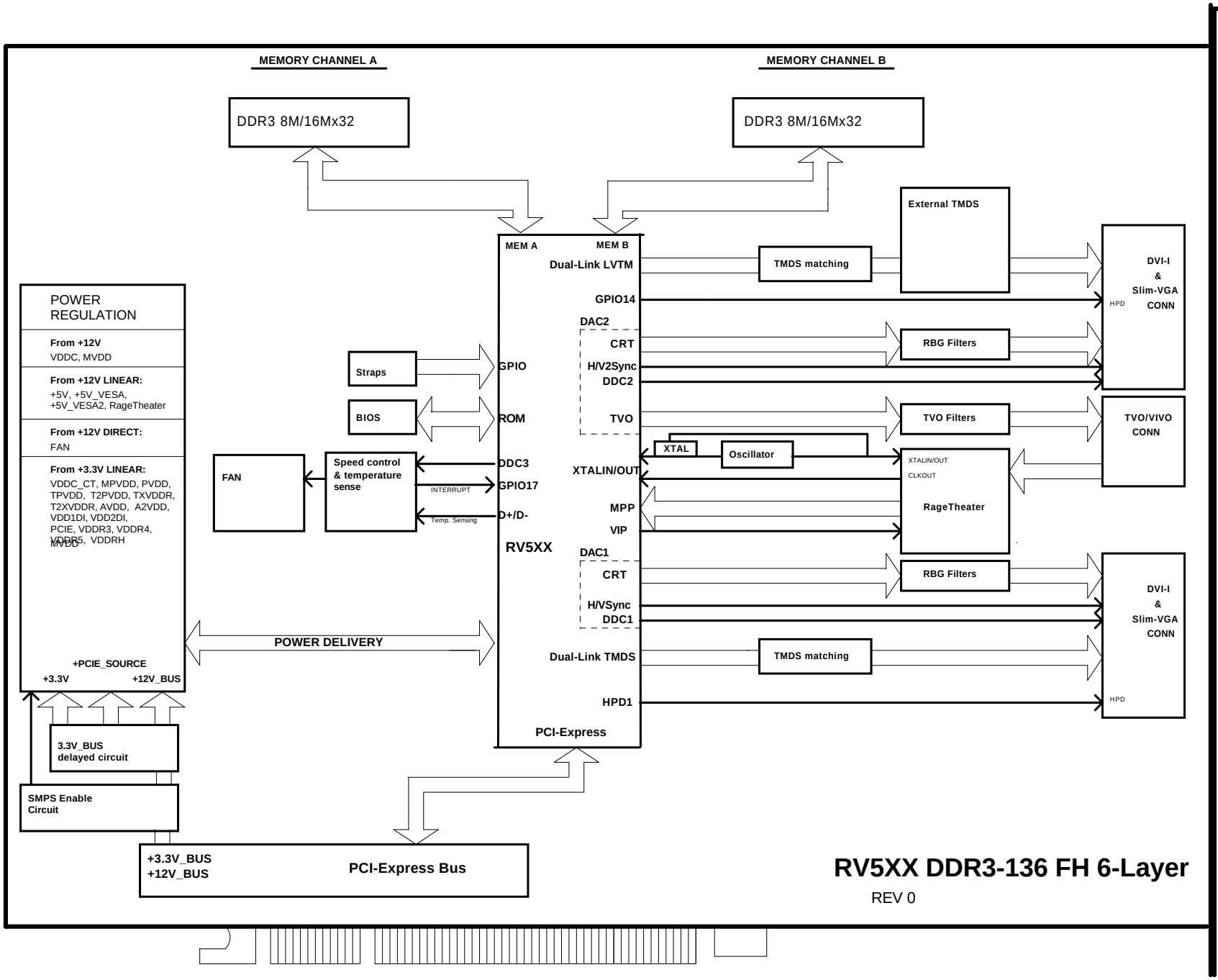
<variant Name>

Title	Schematic No.	Date:
RV530/RV515 256MB DDR3-136 Dual 2xDVI VIVO FH	105-A671xx-00A	**Saturday, August 06, 2005**

REVISION HISTORY

Rev 0

Sch Rev	PCB Rev	Date	REVISION DESCRIPTION
0	00A	05/07/20	Design based on A676-00B and memory of A675-00B (pg 01) Delete redundant SMPS_EN circuits (pg 03) Remove TMDS joins and add TMDS2 terminations (pg 04) Add 1.8V option for VDDR4 and VDDR5 (pg 05) Add additional separate MVREF, QS# and address; remove ODT for DDR2 (pg 07) Add DVO port and GPIO7 for ext TMDS reset (pg 11) Change power sequence circuit for +5V and add 1.8V power supply (pg 12) Add memory based on A675-00B (pg 13) Add ext TMDS HDCP support (pg 14) Remove HPD2 option (pg 15) Add 2nd DVI connector (pg 16) Remove C3241, C3242, C3243, C3244 and C3245. Remove +MVDDC/+MVDDQ reference, use only +MVDD



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