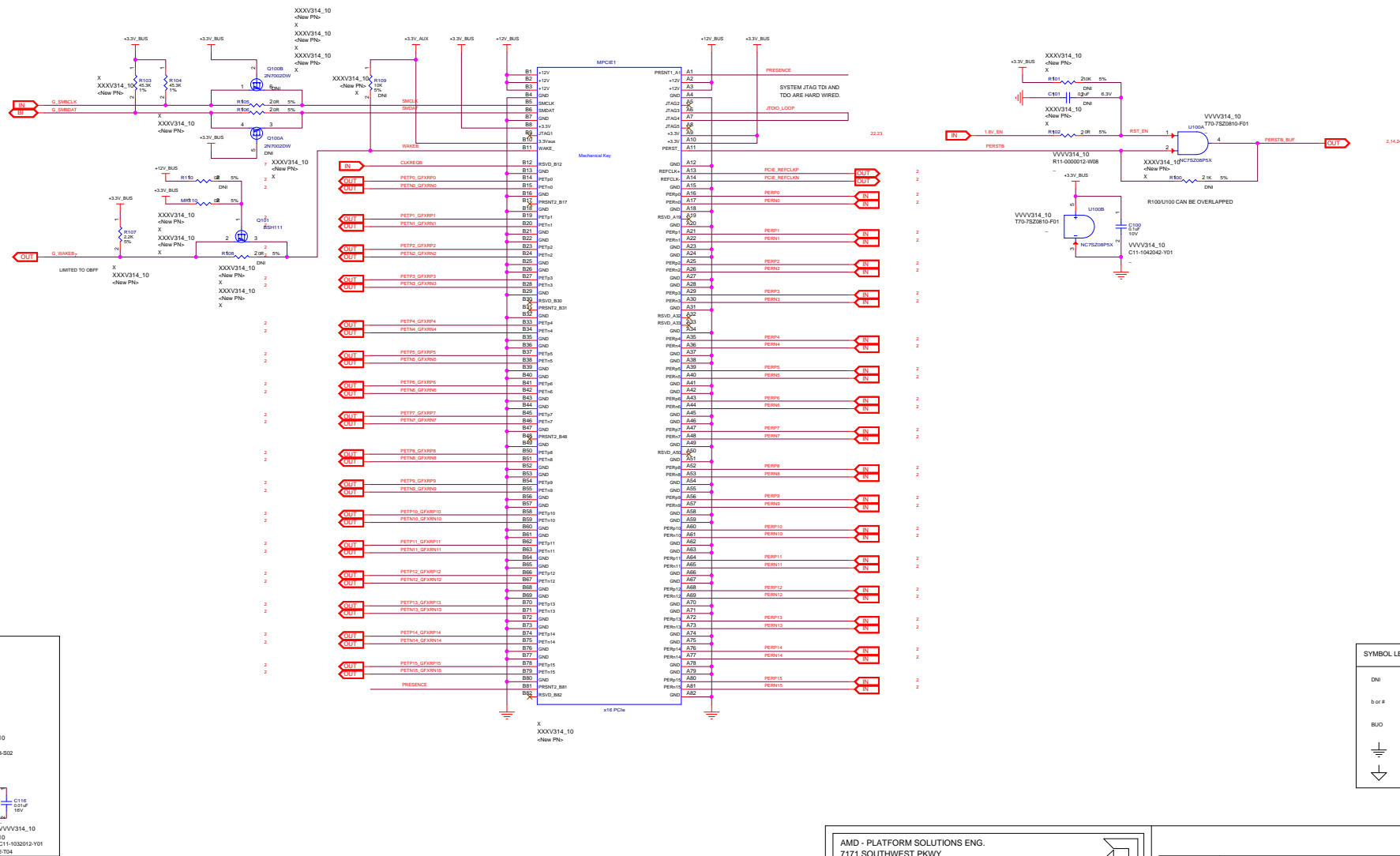


(1) PCI-EXPRESS EDGE CONNECTOR



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MSI

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MS-V314

Size Custom
Date: Tuesday, June 17, 2014 Sheet 1 of 28

SHEET: PCI-EXPRESS CONNECTOR

DATE: Mon May 12 19:11:52 2014 REV: 01

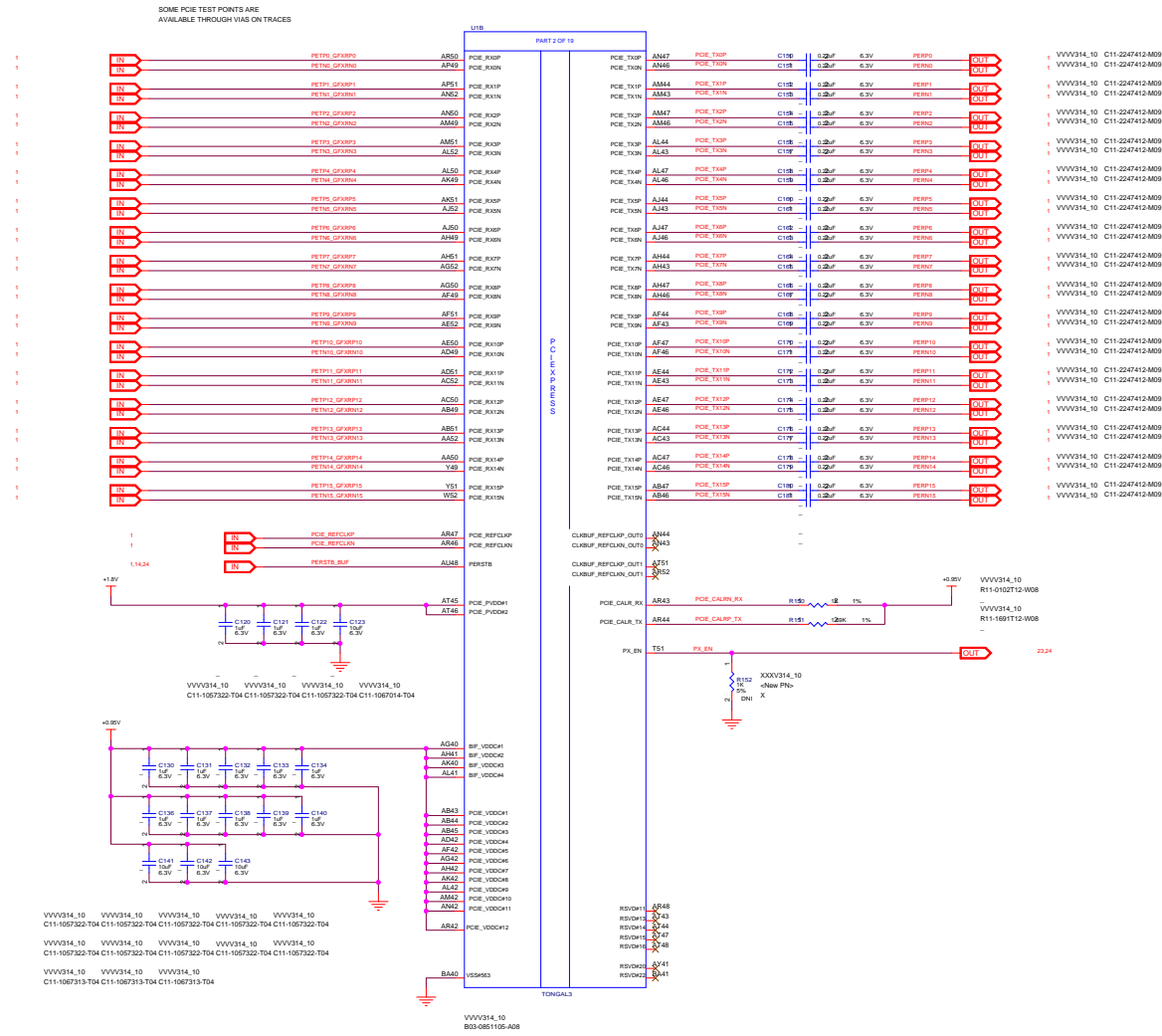
SHEET NUMBER: 1 OF 25

DOCUMENT NUMBER: 105-C766xx-00A

TITLE:

Tonga-z56 G5 x32

(2) PCIE INTERFACE



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SHEET:	GPU PCIE		
DATE:	Mon May 12 19:11:54 2014		
SHEET NUMBER:	2	OF	25
DOCUMENT NUMBER:	105-C766xx-00A		



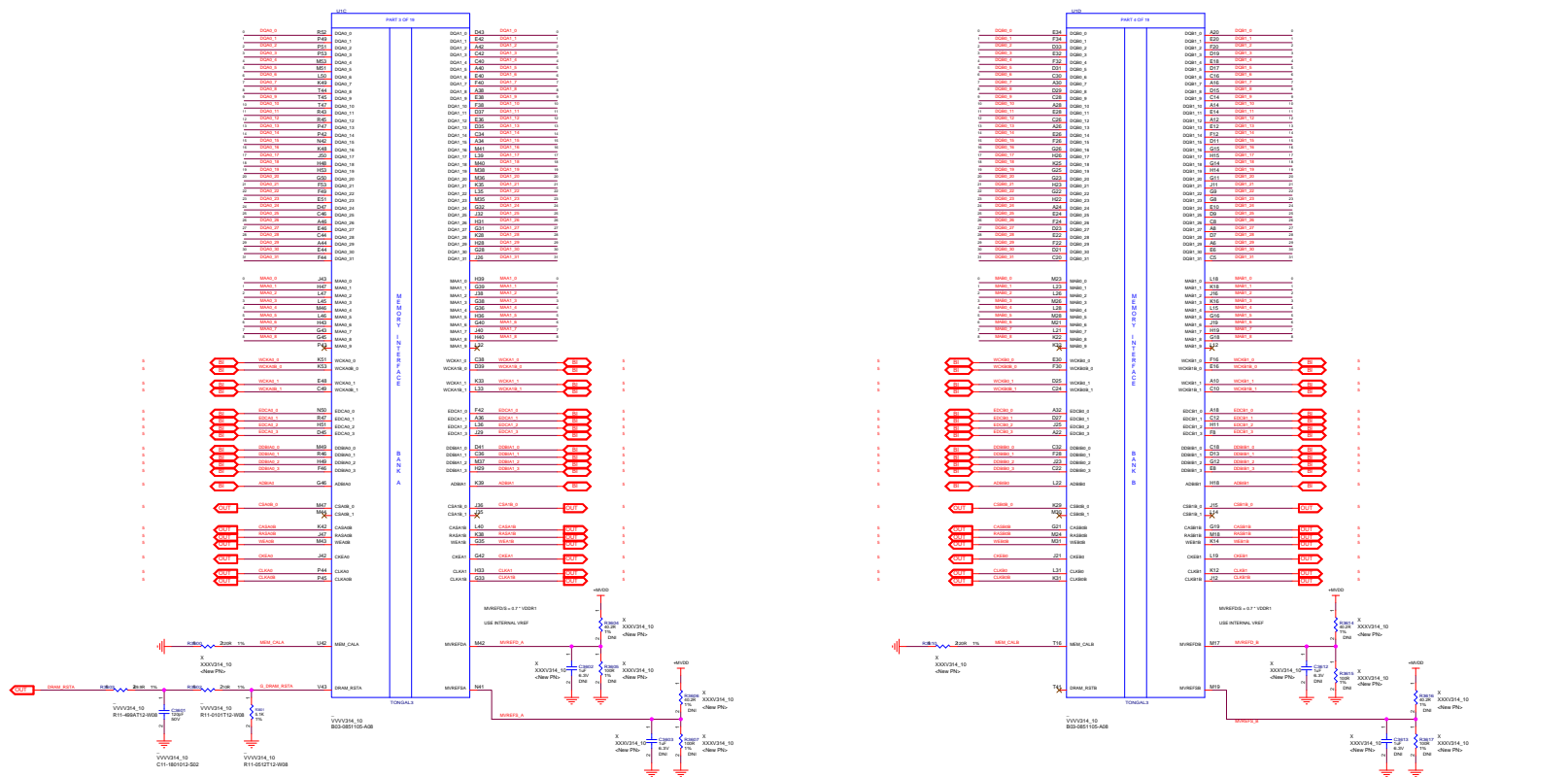
MICRO-STAR INT'L CO., LTD.

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Size Custom	Rev 1.0
Date: Tuesday, June 17, 2014	Sheet 2 of 28

TITLE:	Tonga-256 G5 x32
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(3) MEM INTERFACE CH AB



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SHEET: GPU MEM CH AB

DATE: Mon May 12 10:11:52 2014

SHEET NUMBER: 3 OF 25

DOCUMENT NUMBER: 105.C765a-05A

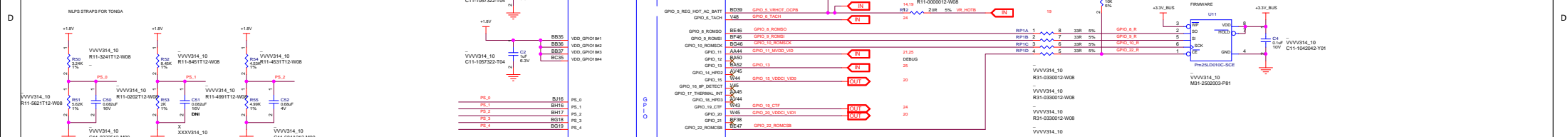
MICRO-STAR INT'L CO., LTD.
MS-V314
Date: Tuesday, June 17, 2014
Sheet: 3 of 36

TITLE: Tonga-256 G5 x32

Rev: 1.0

(7) GPIO STRAP CF PLL XTAL

D



C

I2C ADDRESS			
I2C ADDRESS	FUNCTION	DEVICE	
0x40	VDD0FVDDC REGULATOR	NCP1002	
0x46	1.8V REF DAC FOR FCC	UP1801	
0x58	DIGITAL POT FOR VDDCI	AD5272	
0x5C	DIGITAL POT FOR MVD0	AD5274	

I2C ADDRESS			
I2C ADDRESS	FUNCTION	DEVICE	
0x58	EXT TEMP SENSOR	LM96183	

B



A



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MS-**V314**

Size Custom

Rev 1.0

Date: Tuesday, June 17, 2014

Sheet 7 of 28

SHEET: GPU GPIO STRAP CF PLL XTAL

DATE: Mon May 12 19:11:52 2014

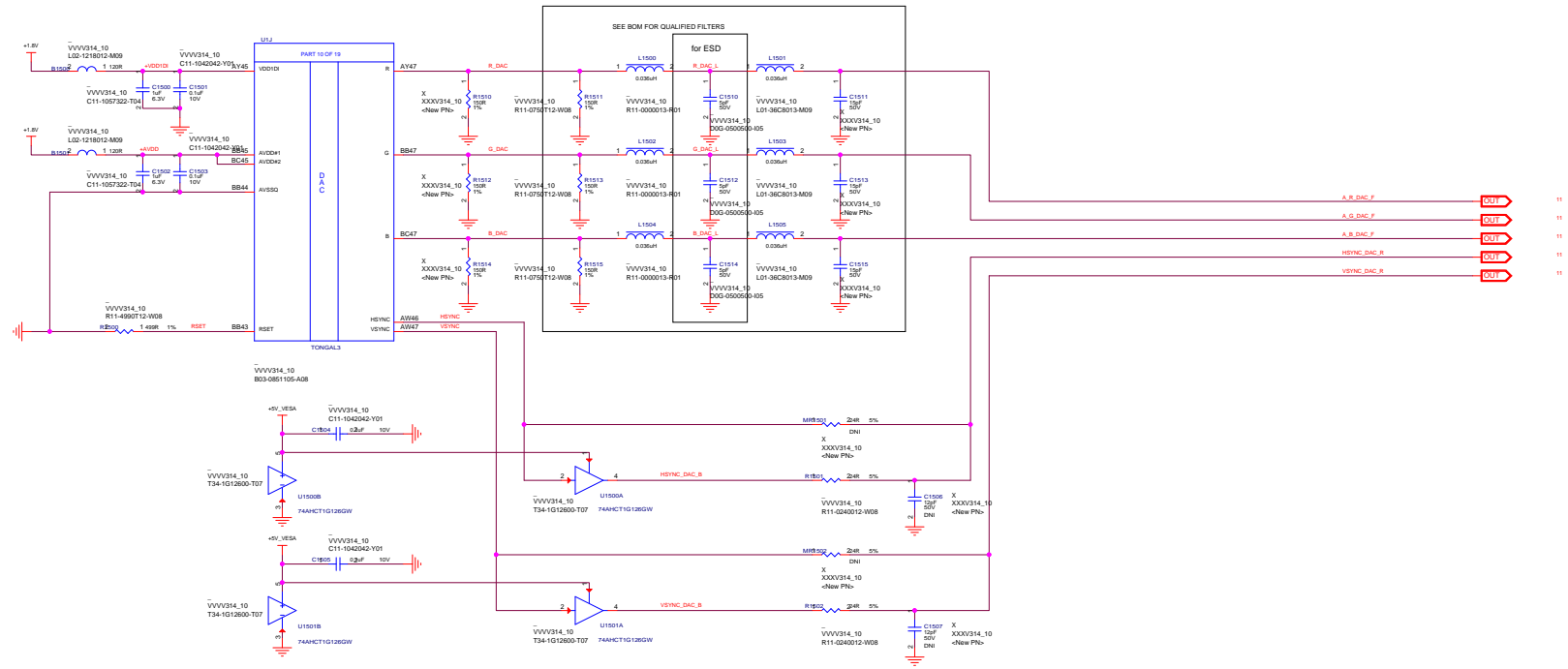
SHEET NUMBER: 7 OF 25

DOCUMENT NUMBER: 105-C766xx-00A

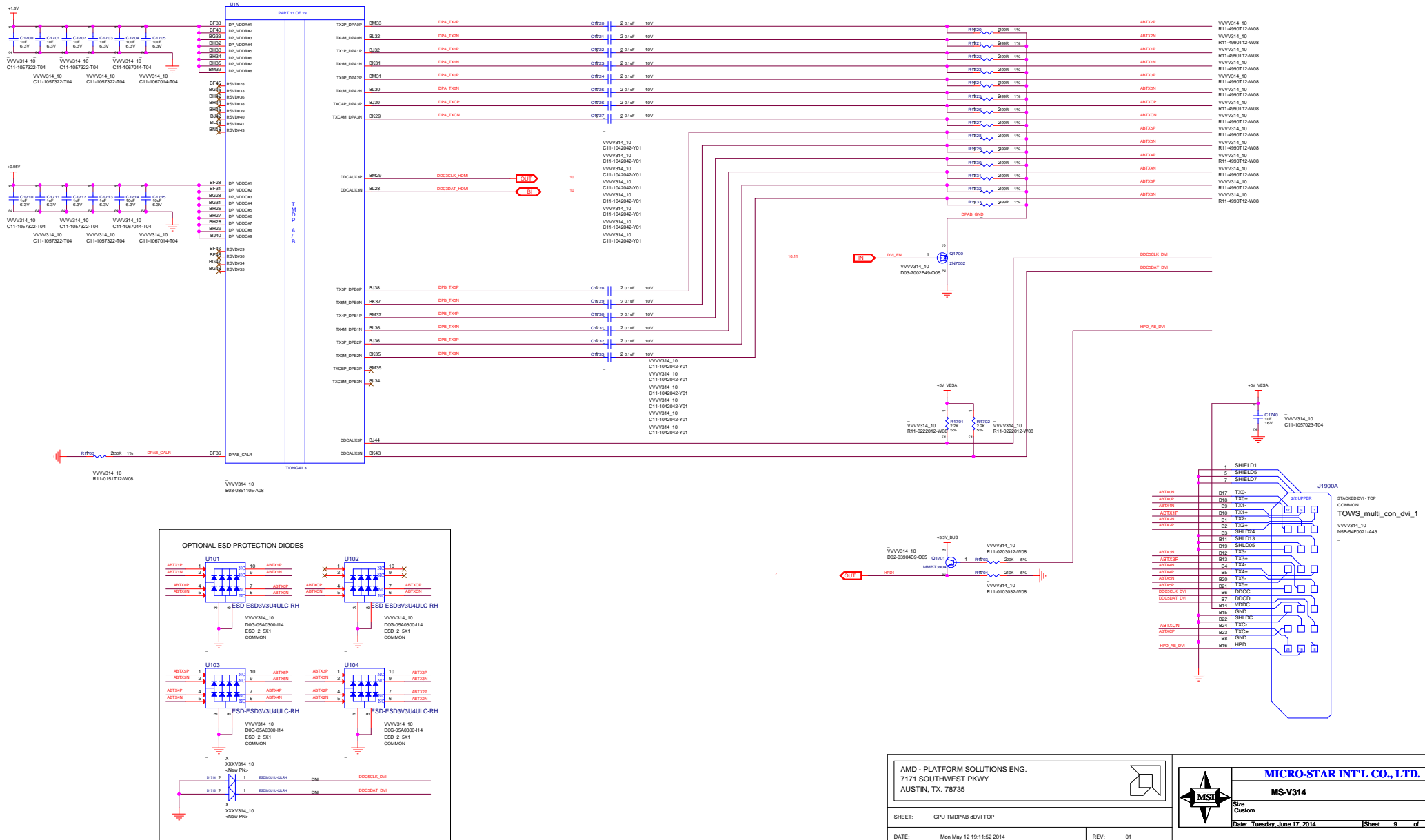
REV: 01

TITLE: Tonga-Z56 G5 x32

8 7 6 5 4 3 2 1

[illegible]

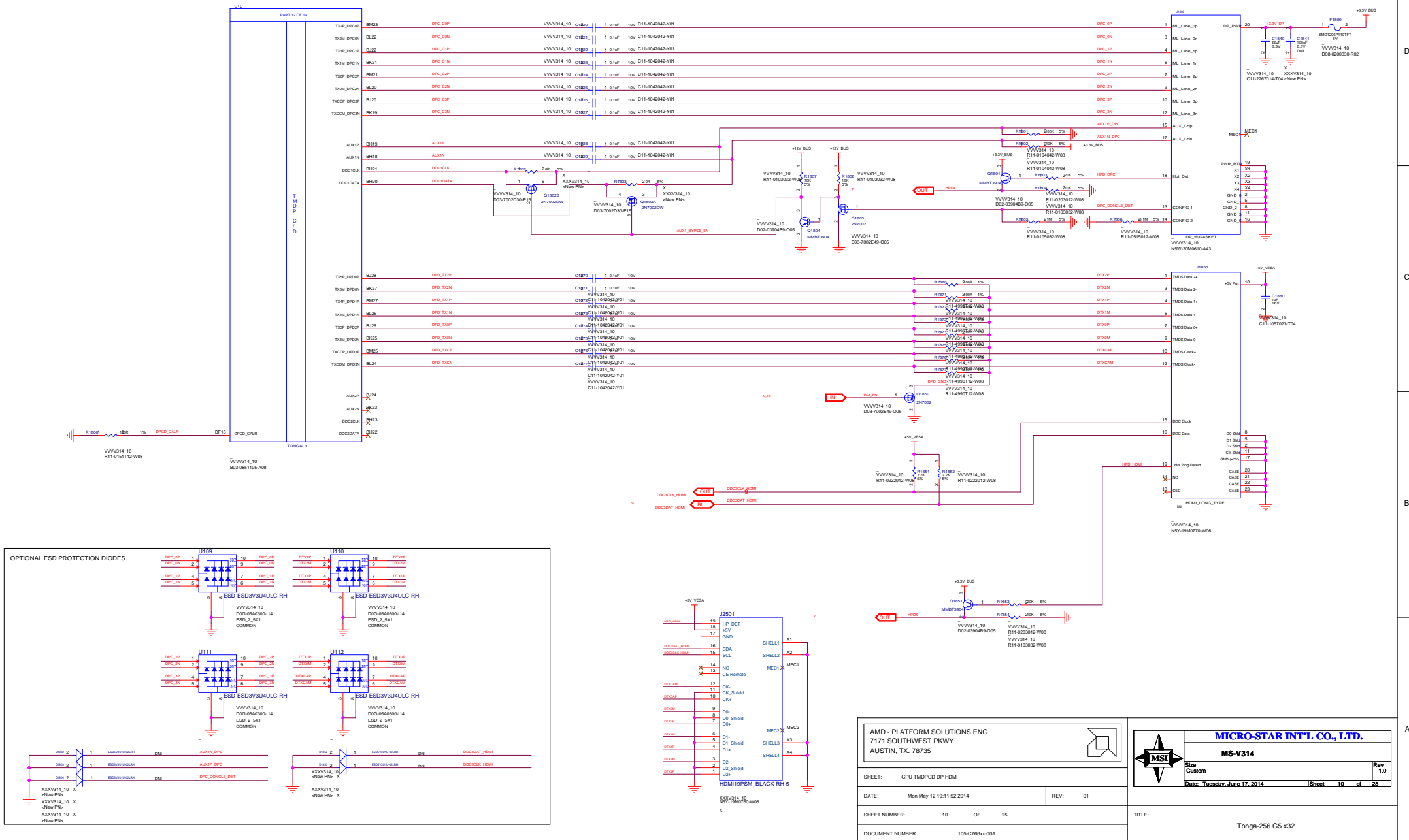
(9) TMDPAB sDVI



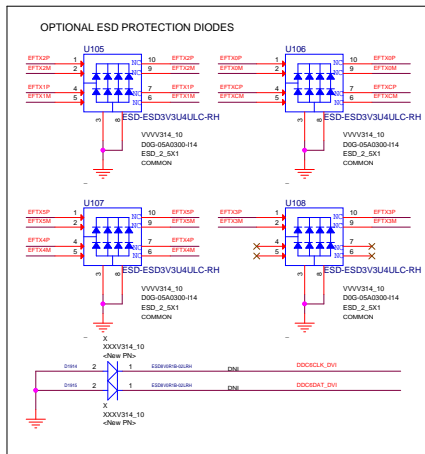
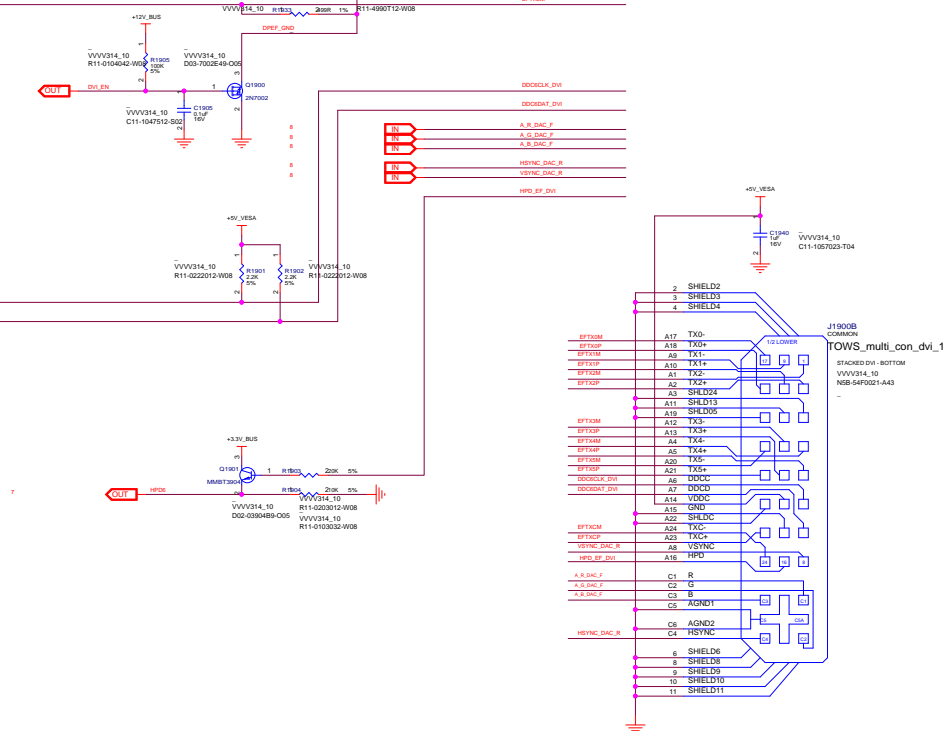
AMD - PLATFORM SOLUTIONS ENG. 7711 SOUTHWEST PKWY AUSTIN, TX. 78735			
SHEET: GPU TMDPAB dVBI TOP		REV: 01	
DATE: Mon May 12 10:11:52 2014		TITLE: Tonga-Z56 G5 x32	
SHEET NUMBER: 9 OF 25		DOCUMENT NUMBER: 105-C766xx-00A	



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Date: Tuesday, June 17, 2014		Sheet 9 of 28	


(10) TMDPCD DP HDMI



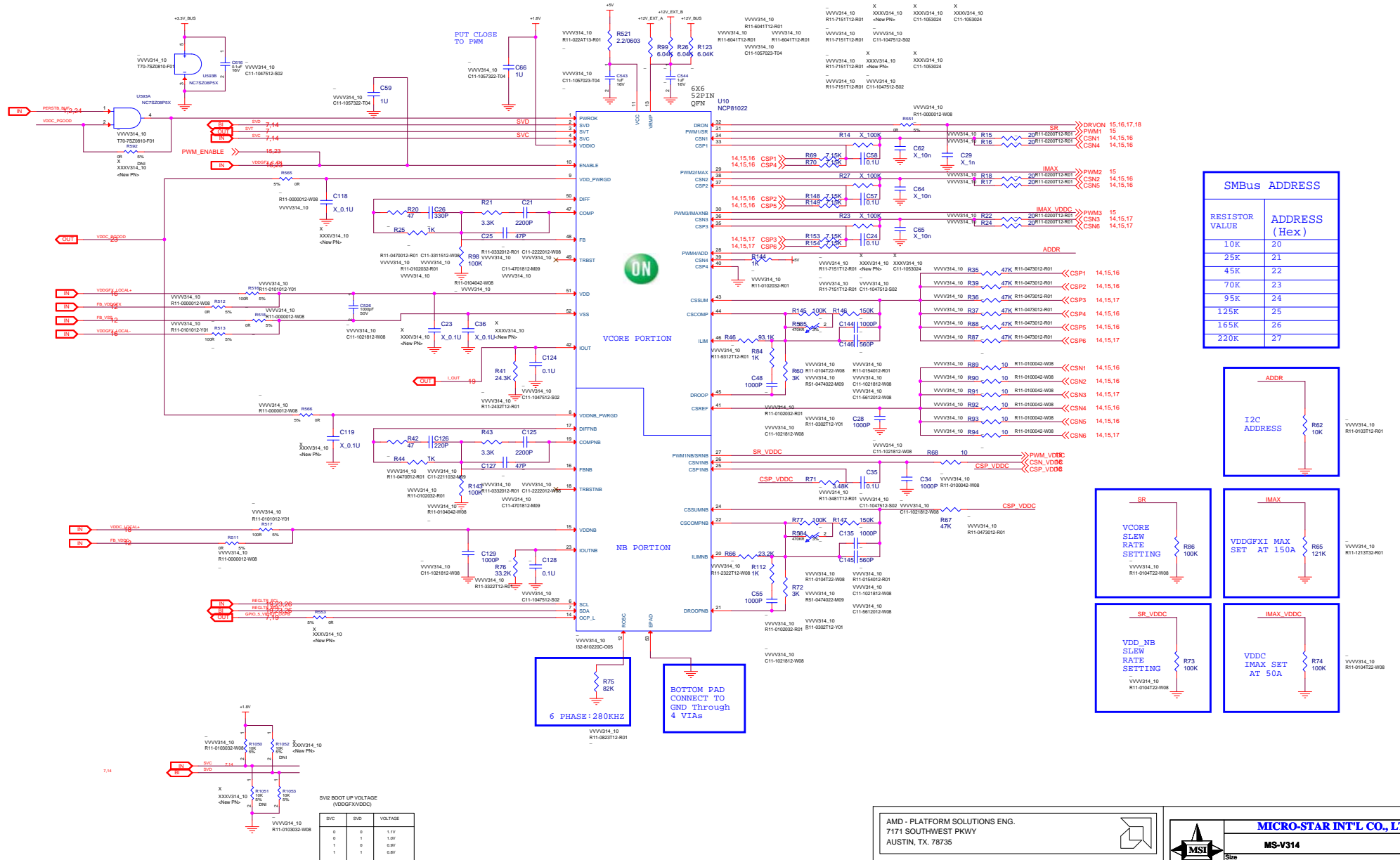
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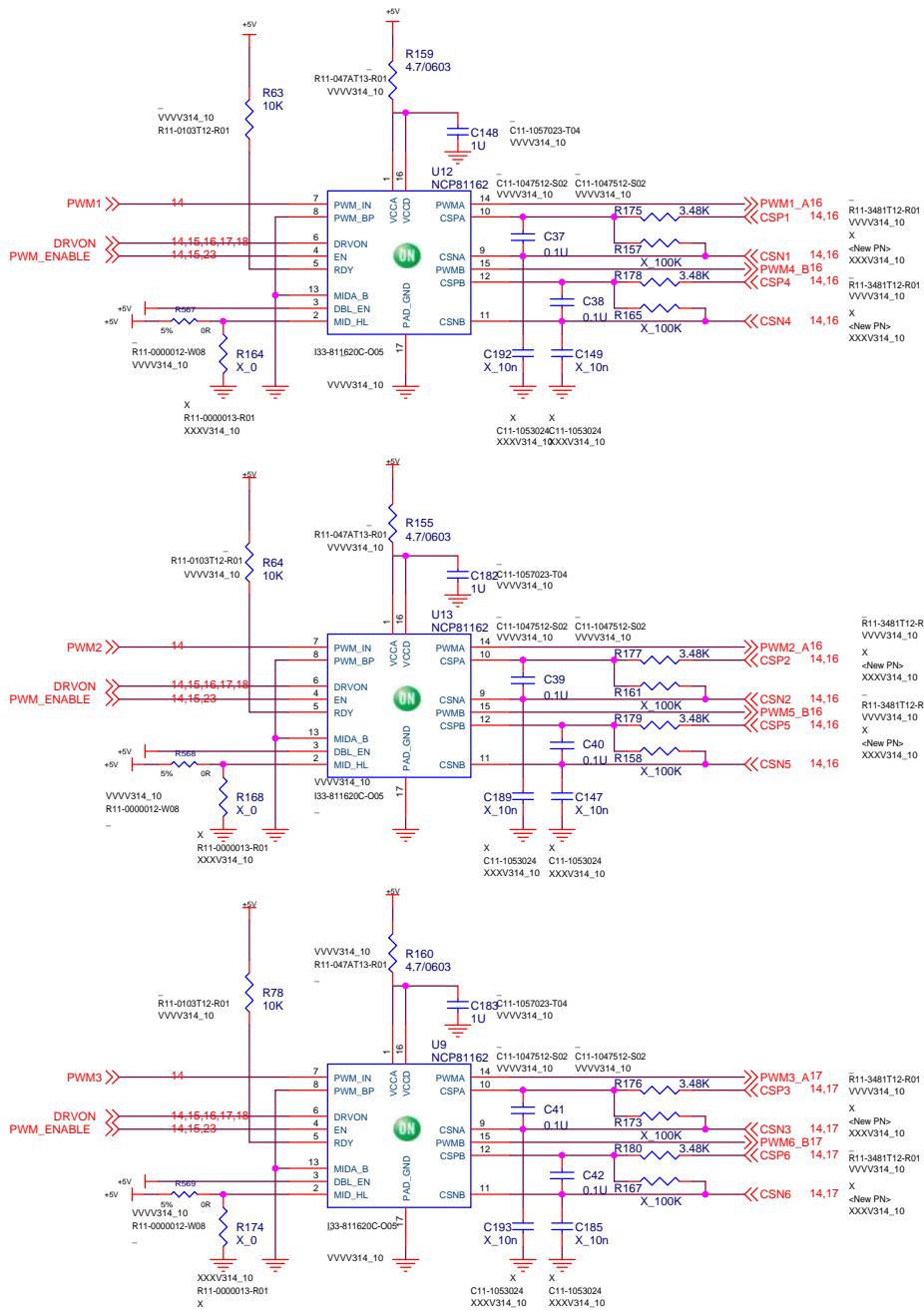
AMD - PLATFORM SOLUTIONS ENG. 7171 SOUTHWEST PKWY AUSTIN, TX. 78735			
SHEET: GPU TMDPEF dV1 BOTTOM			
DATE: Mon May 12 19:11:53 2014		REV: 01	
SHEET NUMBER: 11 OF 25		TITLE: Tonga-256 G5 x32	
DOCUMENT NUMBER: 105-C768xx-00A		MICRO-STAR INT'L CO., LTD. MS-V314 Size Custom Date: Tuesday, June 17, 2014 Sheet 11 of 28 Rev 1.0	

	MICRO-STAR INT'L CO., LTD.		
	MS-V314		
	Size Custom		Rev 1.0
Date: Tuesday, June 17, 2014		Sheet 13 of 28	

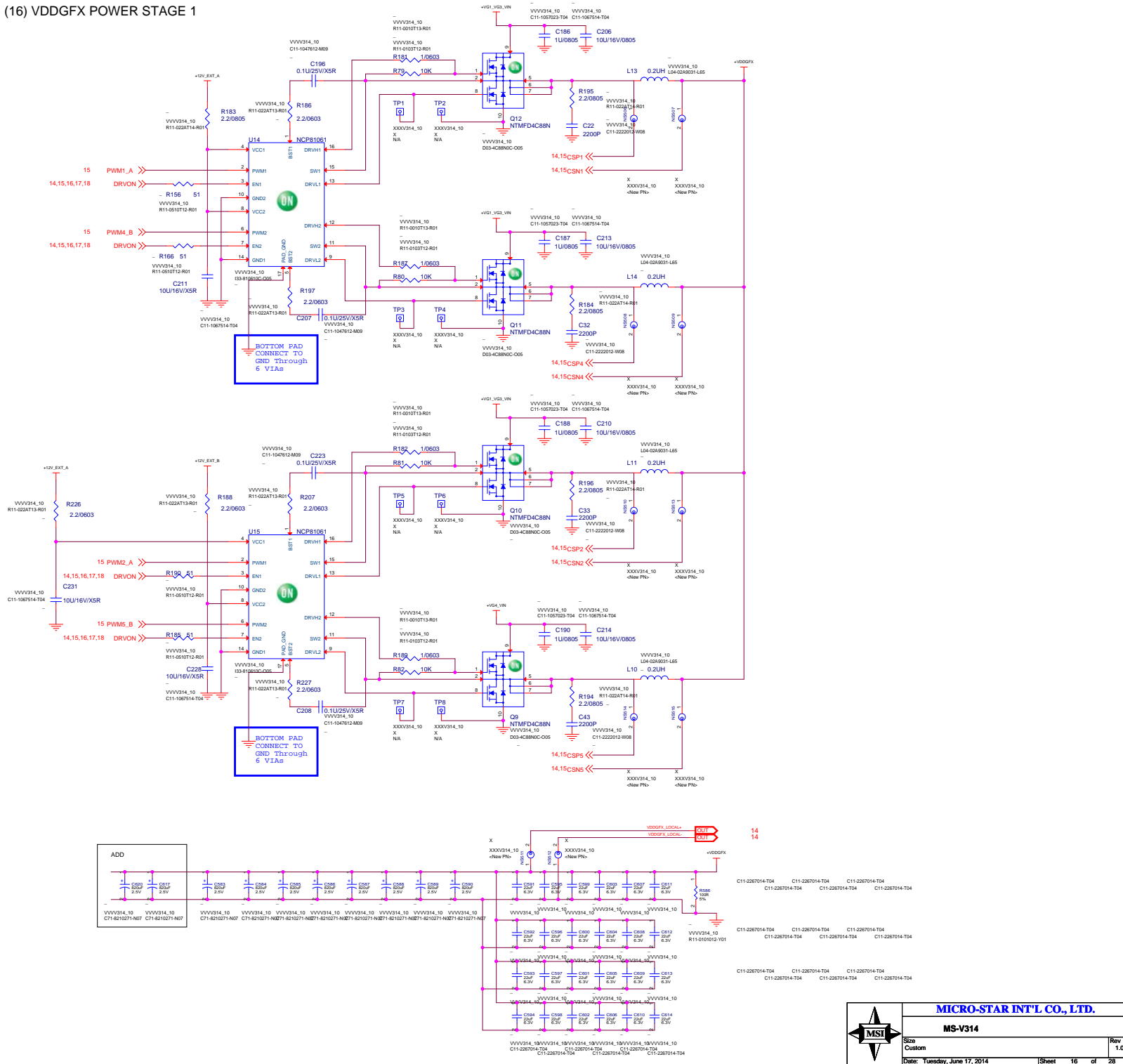
AMD SVI2 POWER CKT - 6+1 PHASE

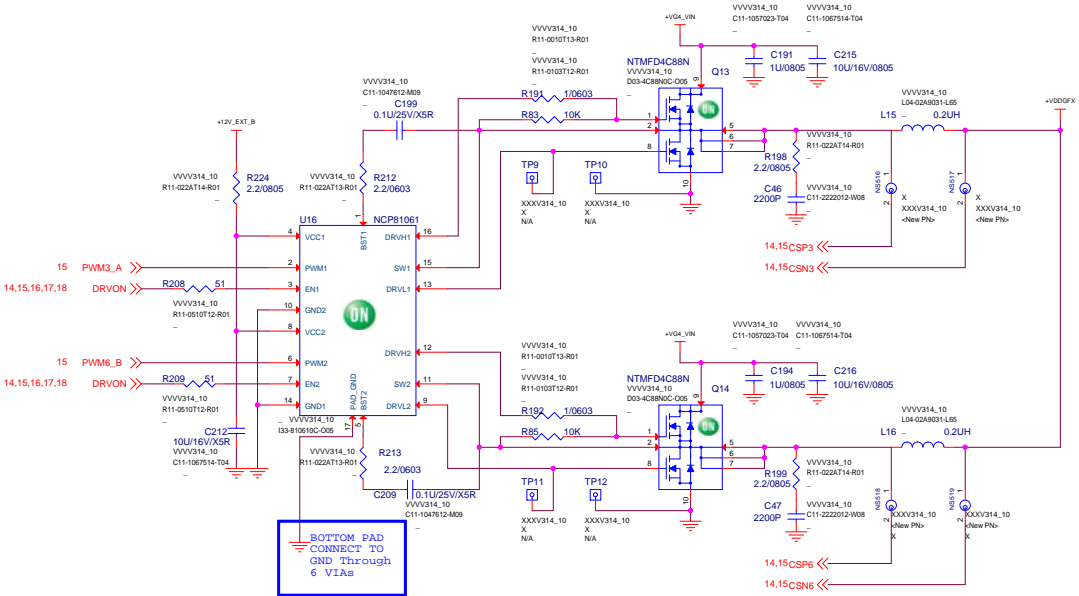


(15) PHASE DOUBLERS

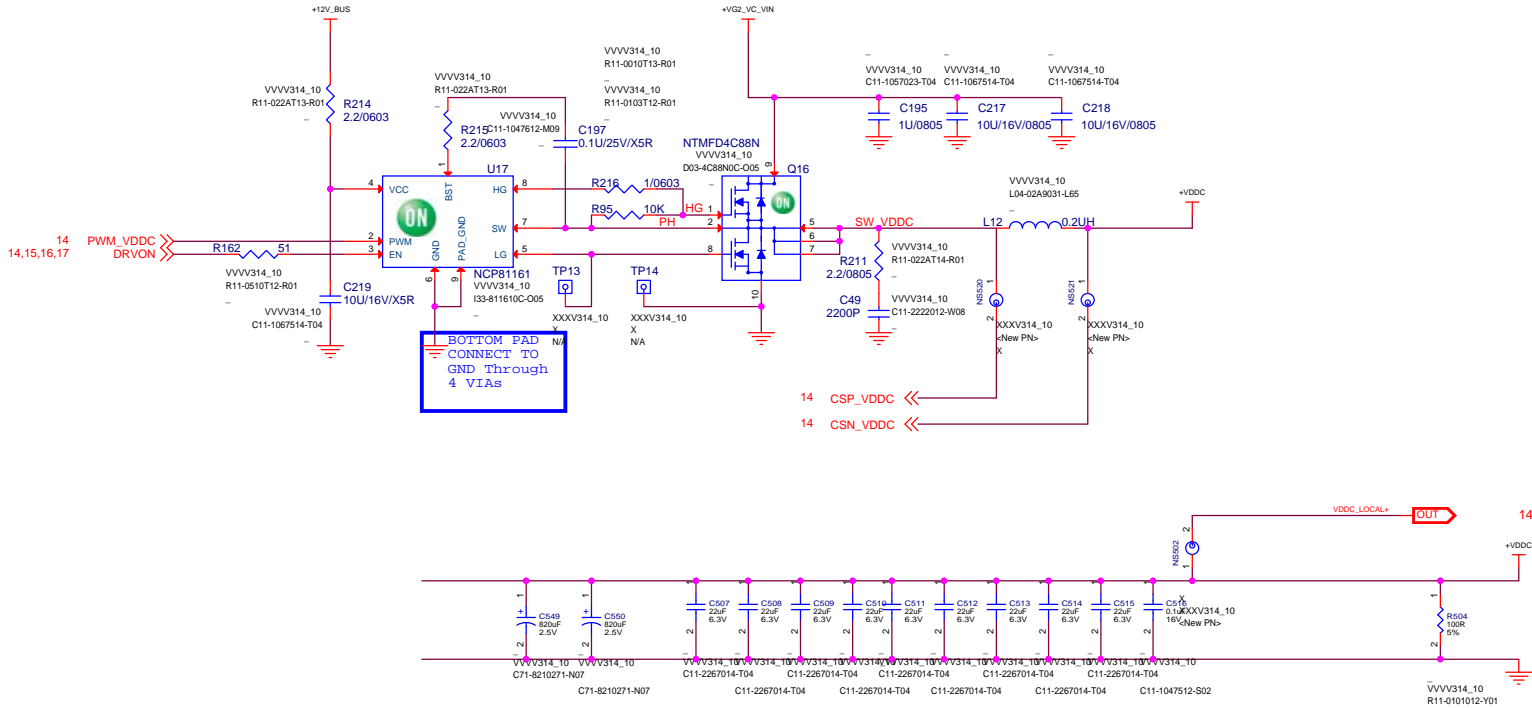



(16) VDDGFX POWER STAGE 1



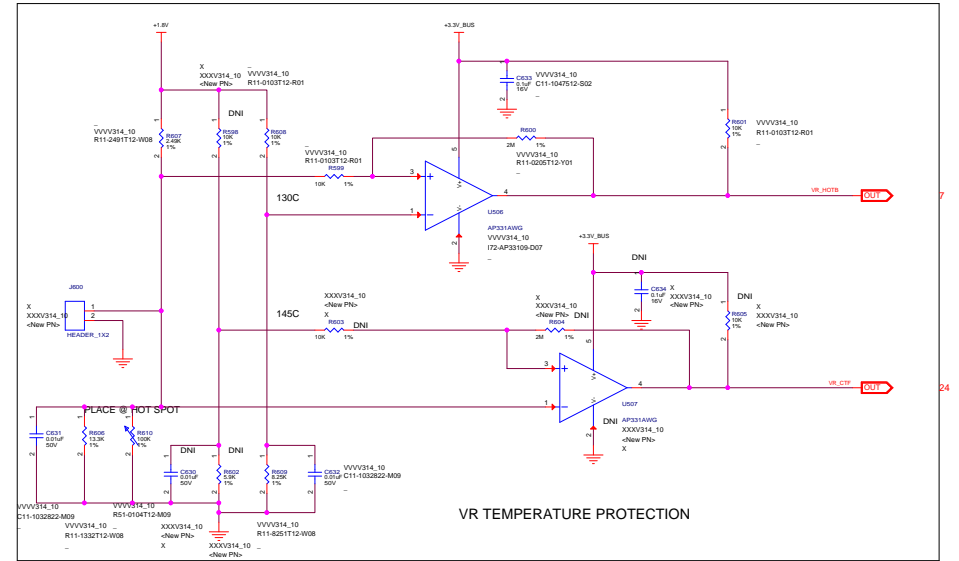
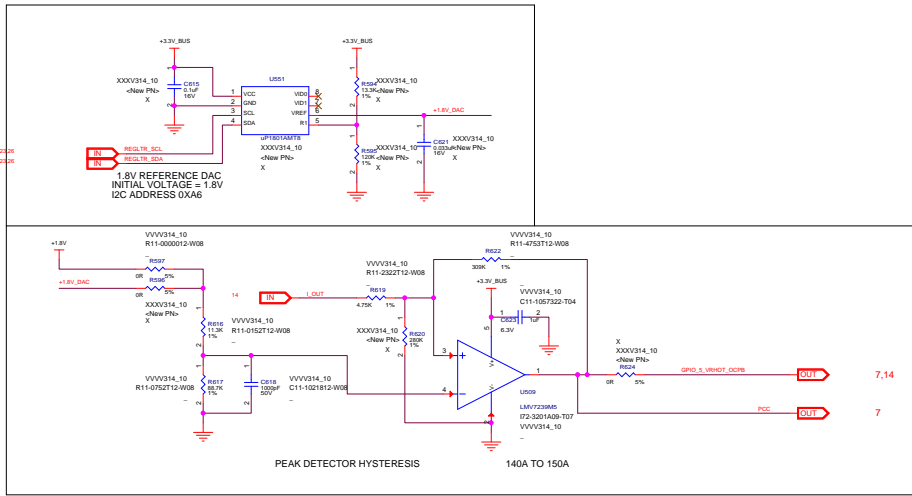


(18) VDDC OUTPUT STAGE



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(19) PCC & VRHOT



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SHEET: PCC VRHOT
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DOCUMENT NUMBER: 105-C766xx-00A

	MICRO-STAR INT'L CO., LTD.	
	MS-V314	
	Size Custom	Rev 1.0
Date: Wednesday, June 18, 2014		

Tongsa-256 G5 x32

1

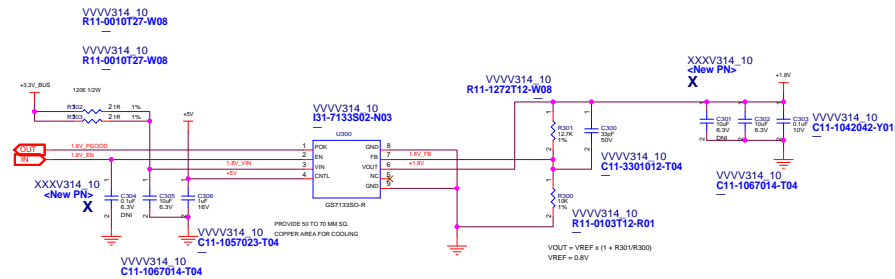
3 |

A |

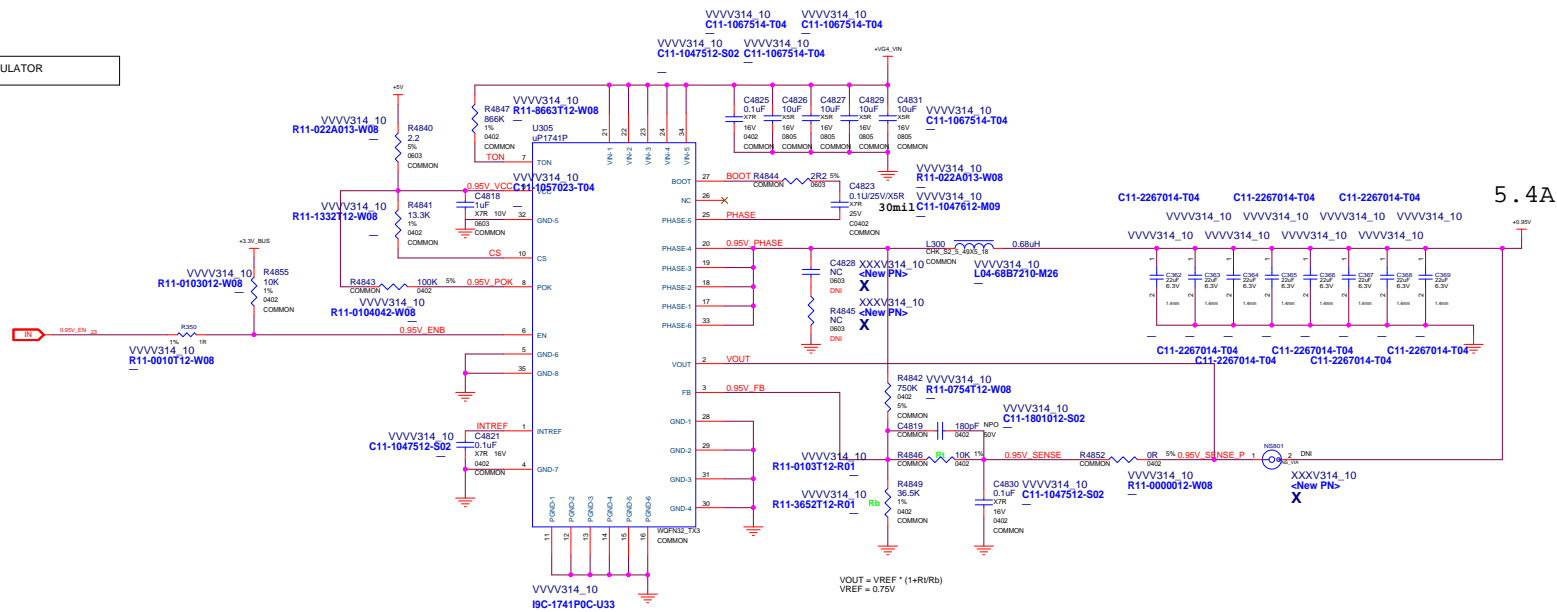


(22) SMALL RAIL REGULATOR

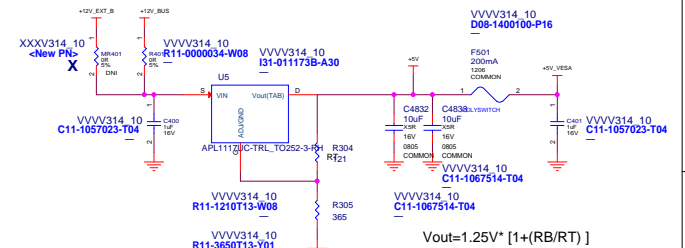
1.8V REGULATOR





0.95V REGULATOR



5V REGULATOR

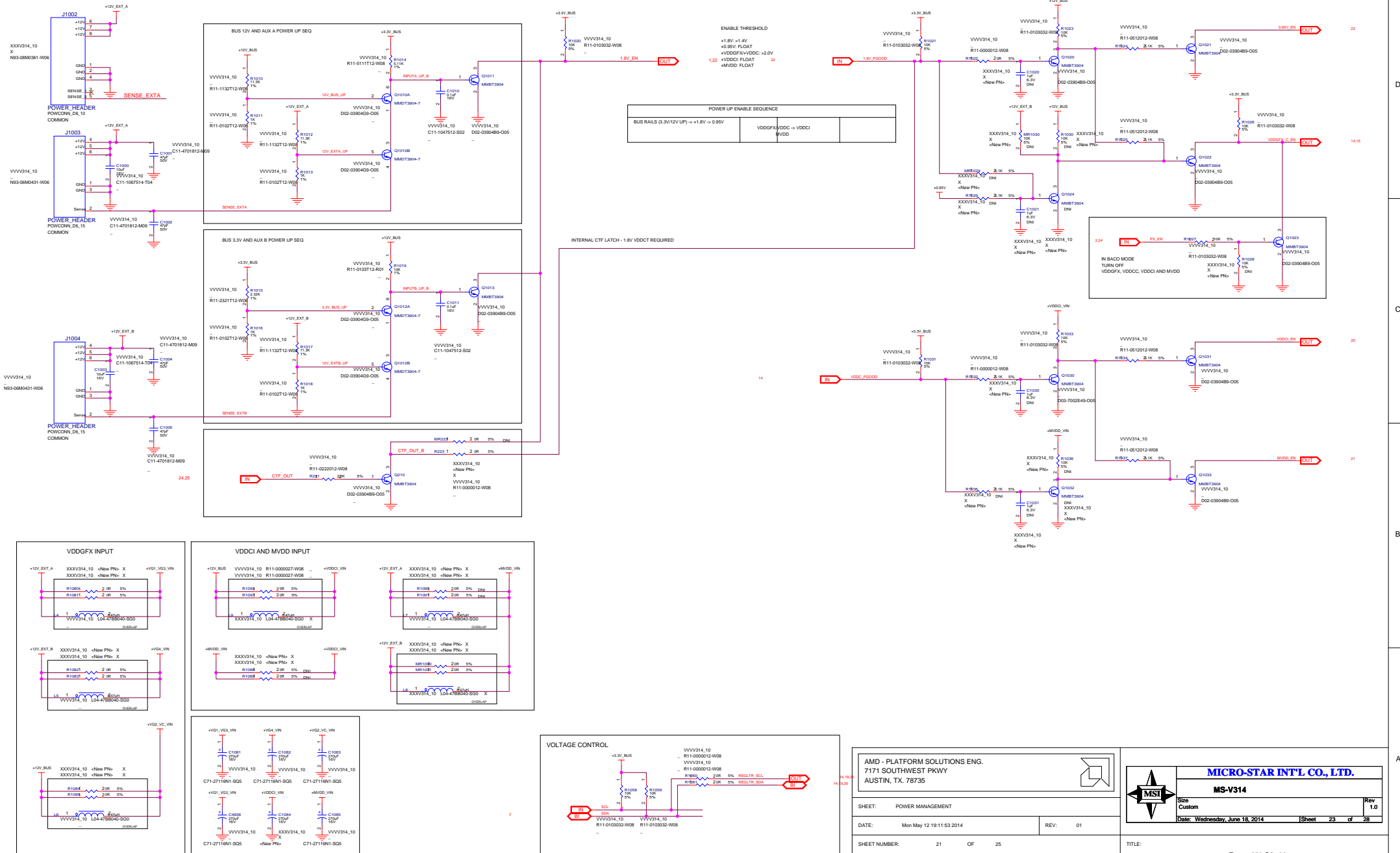


AMD - PLATFORM SOLUTIONS ENG. 7171 SOUTHWEST PKWY AUSTIN, TX. 78735	
SHEET: SMALL RAIL REGULATOR	
DATE: Mon May 12 19:11:53 2014	REV: 01
SHEET NUMBER: 20 OF 25	
DOCUMENT NUMBER: 105-C768xx-00A	

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MICRO-STAR INT'L CO., LTD.													
MS-V314													
<table style="width: 100%; border-bottom: 1px solid black;"> <tr> <td style="width: 50%; padding: 2px;">Size Custom</td> <td style="width: 50%; text-align: right; padding: 2px;">Rev 1.0</td> </tr> </table>	Size Custom	Rev 1.0											
Size Custom	Rev 1.0												
<table style="width: 100%; border-bottom: 1px solid black;"> <tr> <td style="width: 80%; padding: 2px;">Date: Tuesday, June 17, 2014</td> <td style="width: 20%; text-align: right; padding: 2px;">Sheet 22 of 28</td> </tr> </table>		Date: Tuesday, June 17, 2014	Sheet 22 of 28										
Date: Tuesday, June 17, 2014	Sheet 22 of 28												

TITLE:	Tonga-256 G5 x32
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(23) POWER MANAGEMENT



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SHEET: POWER MANAGEMENT

DATE: Mon May 12 19:11:53 2014

SHEET NUMBER: 21 OF 25

DOCUMENT NUMBER: 105-C766xx-00A

REV: 01



MICRO-STAR INT'L CO., LTD.

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Size Custom

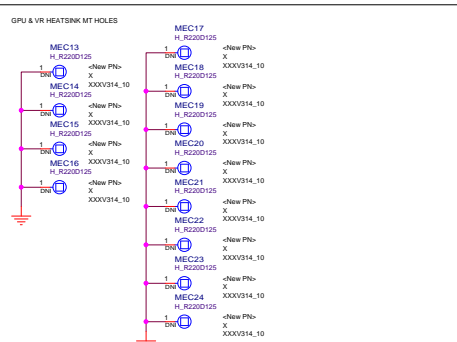
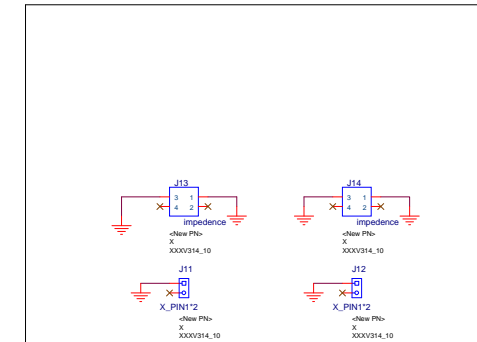
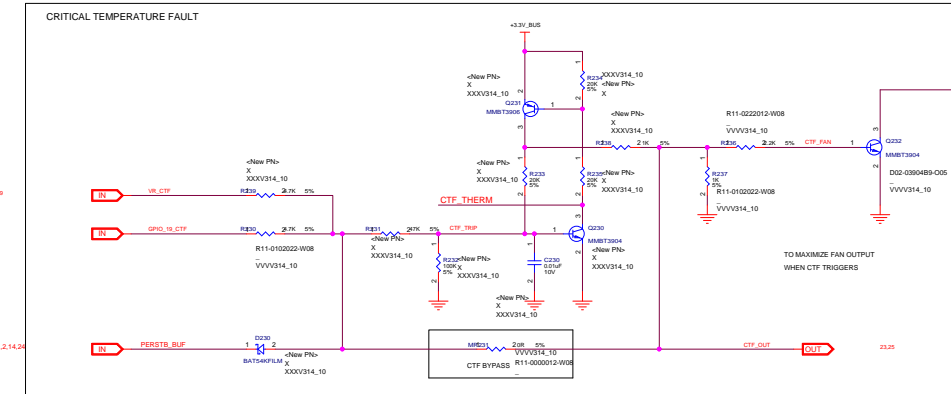
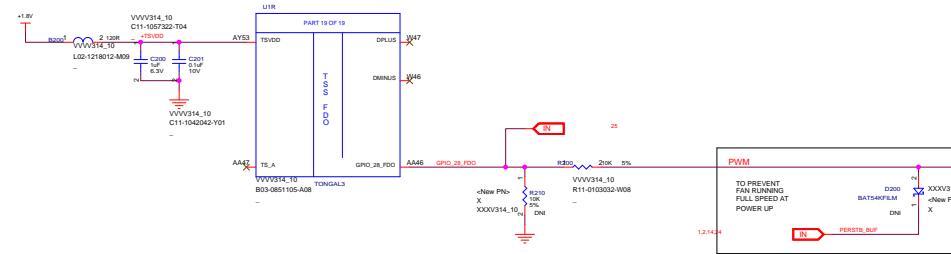
Date: Wednesday, June 18, 2014

Rev 1.0

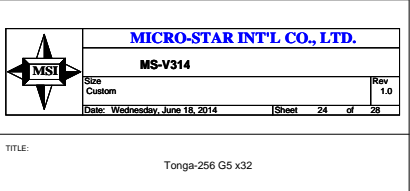
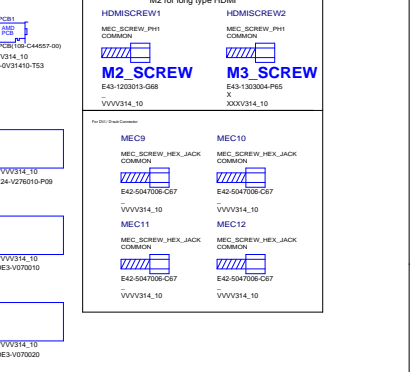
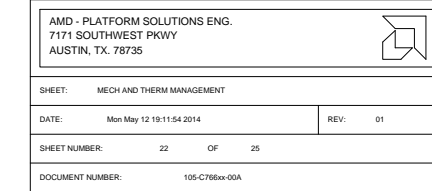
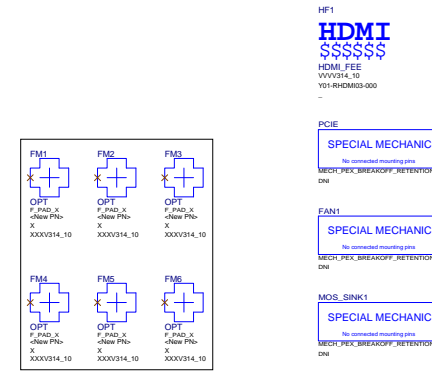
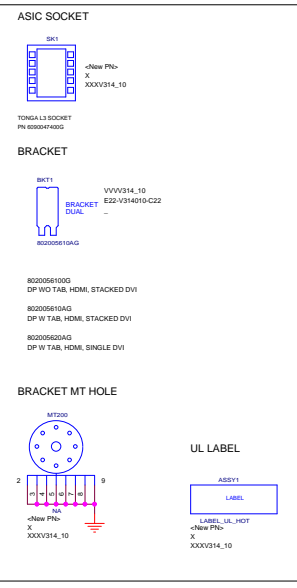
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TITILE: Tonga-Z56 G5 x32

(24) MECH AND THERM MANAGEMENT

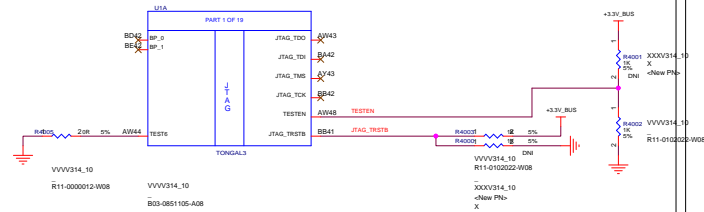


Vias	Layer	Ref Plane	Single Ended 45 Ohm +/- 5ohm	Single Ended 50 Ohm +/- 10%	Differential 80 Ohm +/- 10%	Differential 85 Ohm +/- 10%
			Target LW mm [mils] (3)	Target LW mm [mils] (3)	Target LW/SP mm [mils] (3)	Target LW/SP mm [mils] (3)
	L1	L2	0.1300 [5.12]	0.1020 [4.02]	0.1300/0.1800 [5.12/7.09]	0.1100/0.1400 [4.33/5.51]
	L2	L5				
	L6	L5	0.1300 [5.12]	0.1020 [4.02]	0.1300/0.1800 [5.12/7.09]	0.1100/0.1400 [4.33/5.51]



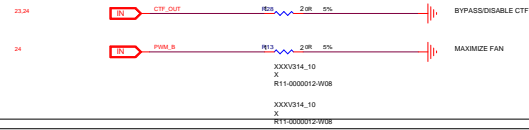
(25) DEBUG CIRCUIT

JTAG



LM96163 FOR BACKUP THERMAL CONTROL

SWITCHES



VTMM - TEST CONNECTOR FOR VOLTAGE MEASUREMENTS

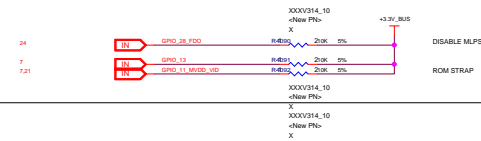
DIGITAL POTS

LED LIGHTS

LED RED "ON" INDICATES CTF FAULT

LED GREEN "ON" INDICATES BACO MODE

DEBUG PIN STRAPS



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SHEET: DEBUG CIRCUIT

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TITLE:	Tonga-256 G5 x32
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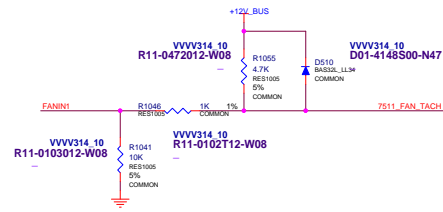
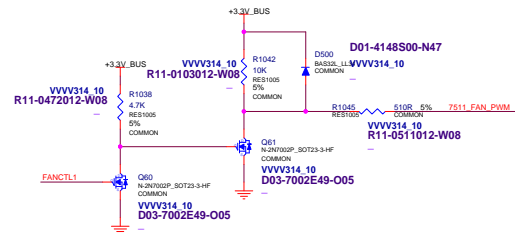
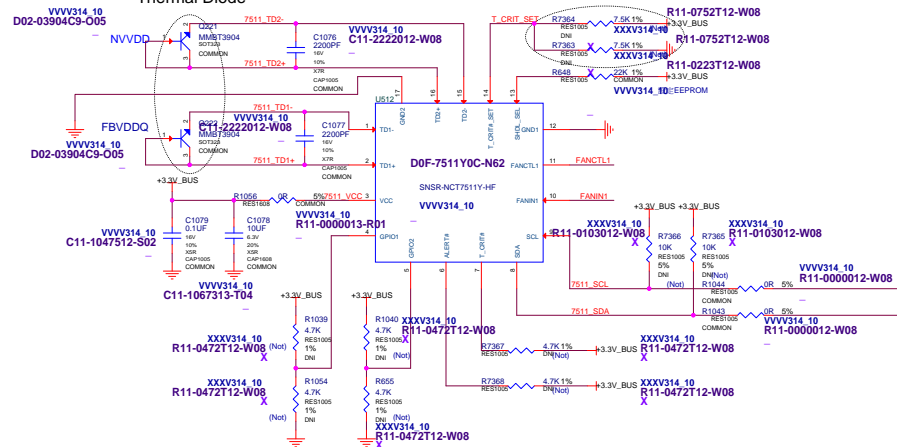
Thermal IC : NCT7511Y

Layout notice :

- *Add ground shielding for D+ and Dtraces.
- *D+/D- route has to be away from the high noise area.
- *The recommended traces width and ground shielding spacing are 10mils.

Please refer datasheet
TCRIT_{SET} Table
If floating, shutdown temp. set to 65°C

Thermal Diode



EEPROM

