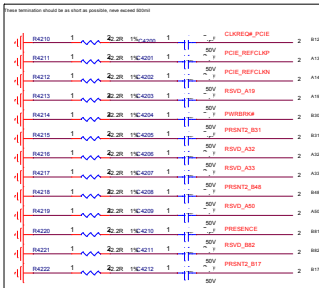


TABLE OF CONTENTS

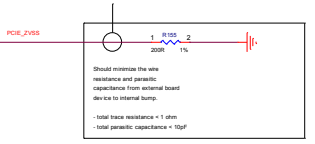
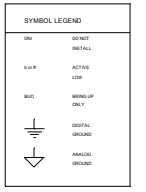
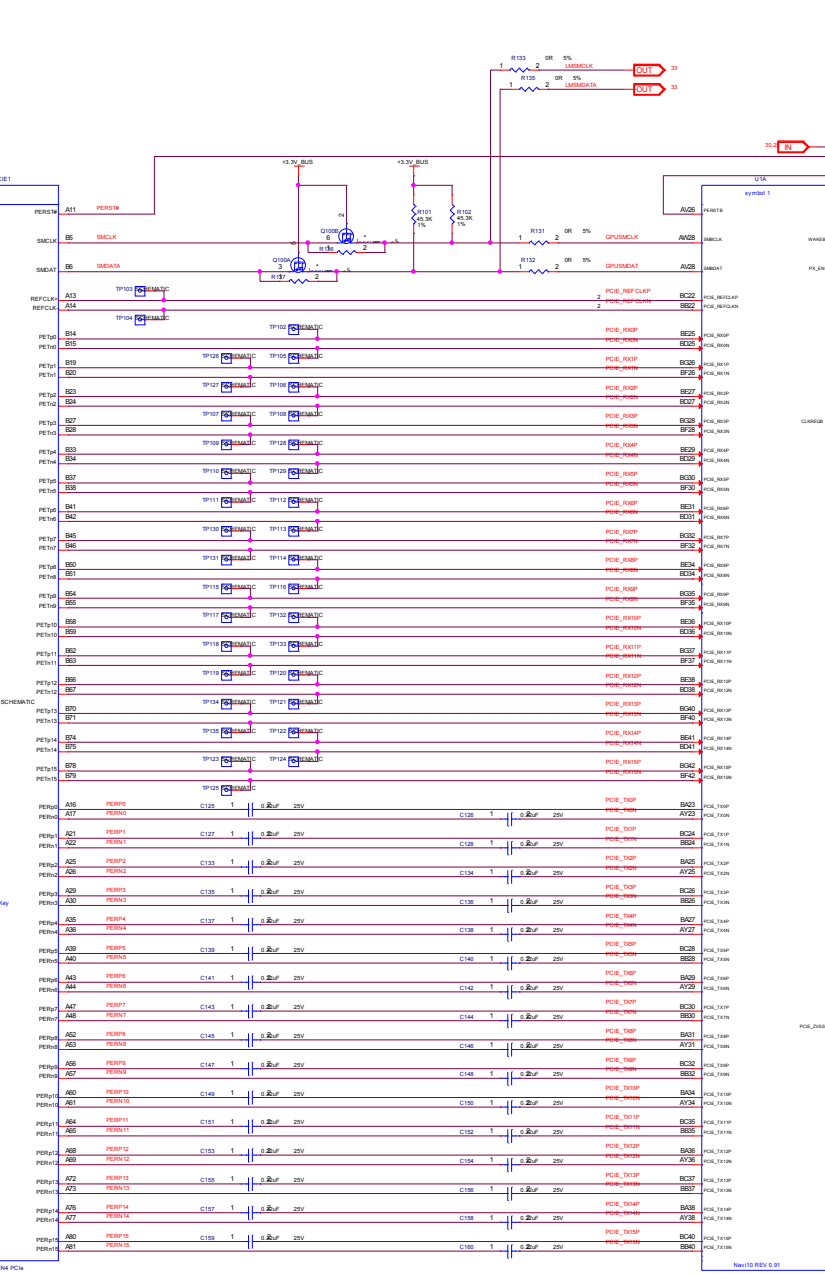
SHEET NO.	SHEET NAME	SHEET NO.	SHEET NAME
1	TOC	26	SMALL RAIL REGULATORS
2	NAV110 PCIe Interface	27	NAV110 DECAPS
3	NAV110 GPIOs	28	NAV110 POWER
4	NAV110 XTAL	29	NAV110 GND
5	NAV110 MEM CHAB	30	POWER MANAGEMENT
6	NAV110 MEM CHCD	31	SV2 & BAMAQO
7	NAV110 MEM CHEF	32	MECHANICAL & THERMAL
8	NAV110 MEM CHGH	33	DEBUG
9	GDDR6 MEM CHAB	34	BLOCK DIAGRAM
10	GDDR6 MEM CHCD	35	REVISION HISTORY
11	GDDR6 MEM CHEF		
12	GDDR6 MEM CHGH		
13	NAV110 TMDPA - DP		
14	NAV110 TMDPC - HDMI		
15	NAV110 TMDPEF - DP DP		
16	GFX & SOC CONTROLLER		
17	VDDCR_GFX PHASES 2 and 5		
18	VDDCR_GFX PHASES 1 and 4		
19	VDDCR_GFX PHASES 3 and 7		
20	VDDCR_GFX PHASES 6 and VDDCR_SOC		
21	MVDD_VDDCI CONTROLLER		
22	REG MVDD		
23	REG VDDCI		
24	REG 0.75V		
25	REG 1.8V		

<p>AMD - PLATFORM HARDWARE ENG #48, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203</p>	 CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC. © 2018 Advanced Micro Devices This AMD Board schematic and design is the exclusive property of AMD, and is provided only to the customer under a non-disclosure agreement with AMD for the customer's project. Further disclosure or distribution is strictly prohibited. Use of this schematic and design for any purpose other than what is stated in the non-disclosure agreement is prohibited. AMD makes no representation or warranties of any kind regarding the schematic and design, including, but not limited to, any copyright, patent, or trademark rights. AMD is not responsible for any consequences resulting from use of the information included herein.
SHEET: TOC	DATE: Mon Apr 15 05:57:55 2019 REV: 1.00
SHEET NUMBER: 1 OF 35	TITLE: NAV110 G8X16Mode DP DP HDMI DP
DOCUMENT NUMBER: 105_D199w_00A	NOTES: NOTE

PLACE THESE CAPS AS CLOSE TO
PCIe CONNECTOR AS POSSIBLE



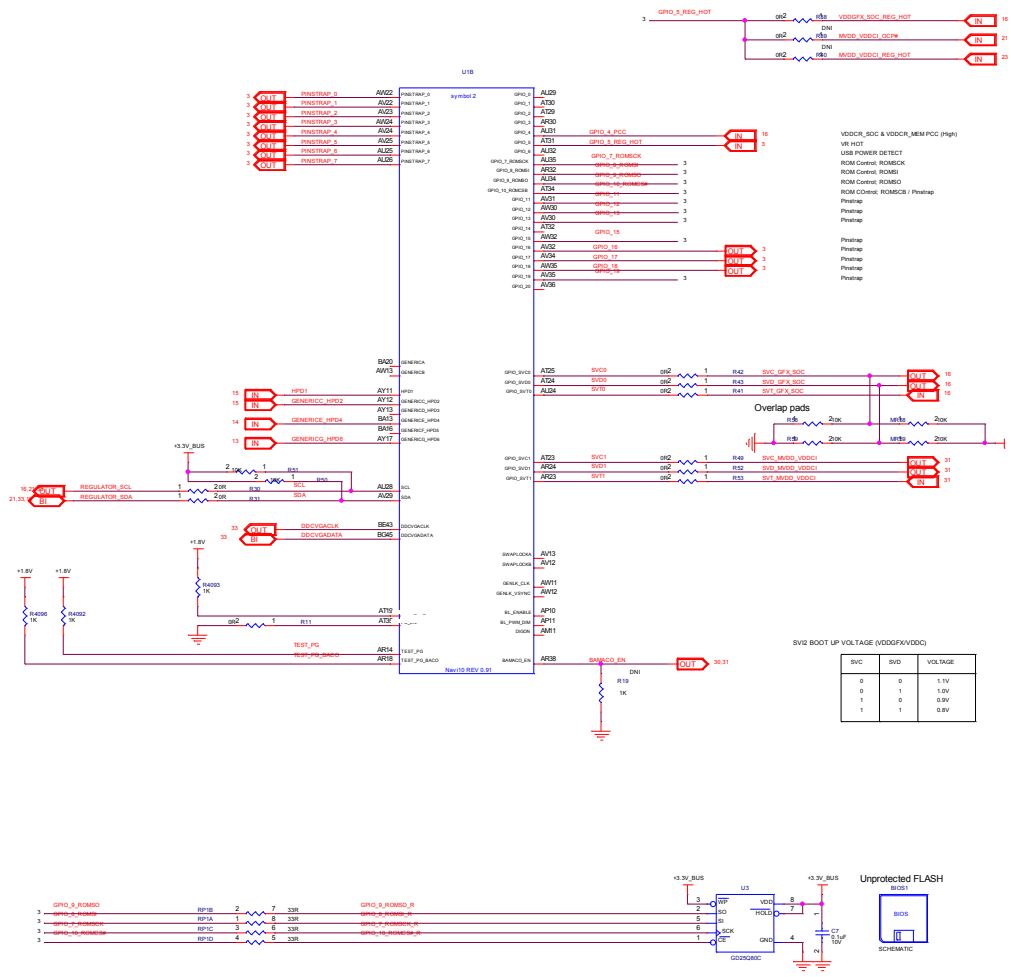
Mechanical Key



**AMD - PLATFORM HARDWARE ENG
#48, No.1387, ZHANGDONG ROAD
SHANGHAI, CHINA 201203**

SHEET: NAV10 PCIe Interface		REV: 1.00	
DATE: Mon Apr 15 05:57:55 2019			
SHEET NUMBER: 2	OF 35	TITLE: NAV10 G8x16Mode DP HDMI DP	
DOCUMENT NUMBER: 105_D199w_00A			
NOTES: NOTE			

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRO DEVICES INC.
© 2018 Advanced Micro Devices
This AMD Board schematic and design is the exclusive property of AMD, and is provided only to qualified users under an Intellectual Property Agreement with AMD. No other AMD documents, including but not limited to, may be used without the express written consent of AMD. AMD makes no representation or warranty of any kind regarding the accuracy and design, including, but not limited to, any design or schematic, and assumes no responsibility for any consequences resulting from use of the information included herein.



Note: Internal PUPD at GPIO pad is ~40k strength in 14nm design spec

User	Internal Default Value	Definition
BIF	0	STRAP_BIF_GEM_DIS_A 0: PCIe GEN 4 supported 1: PCIe GEN 4 not supported
	0	PINSTRAP_BIF_CLK_PM_EN 0: CLKREQ power management capability is disabled 1: CLKREQ power management capability is enabled
	0	PINSTRAP_BIF_LC_TX_SWING 0: VGA controller capacity enabled 1: The device won't be recognized as the system's VGA controller
DCE	0	PINSTRAP_BIF_VGA_DIS 0: VGA controller capacity enabled 1: The device won't be recognized as the system's VGA controller
	0	PINSTRAP_AUD_PORT_CONN[2:0] Number of audio-capable display outputs 4: 2 endpoints connected 5: 3 endpoints connected 6: 1 endpoint connected 7: 0 endpoints connected
	0	PINSTRAP_AUD[1:0] 1: Audio for DisplayPort only 2: Audio for DisplayPort and HDMI if dangle is detected 3: Audio for DisplayPort and native HDMI
	0	
Platform	0	
	0	
	0	
SMU	1	
	1	PINSTRAP_BIOS_ROM_EN 0: Disable the external BIOS ROM device 1: Enable the external BIOS ROM device

AMD - PLATFORM HARDWARE ENG #48, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
© 2018 Advanced Micro Devices

This AMD based schematic and design is the exclusive property of AMD, and is provided only to the customer under a non-disclosure Agreement with AMD. No other AMD based schematic or design is to be disclosed or otherwise used without the express written consent of AMD. AMD makes no representation or warranty of any kind regarding the contents and design, including, but not limited to, intellectual property infringement, or any consequences resulting from use of the information included herein.

SHEET: NAV10 GPOs

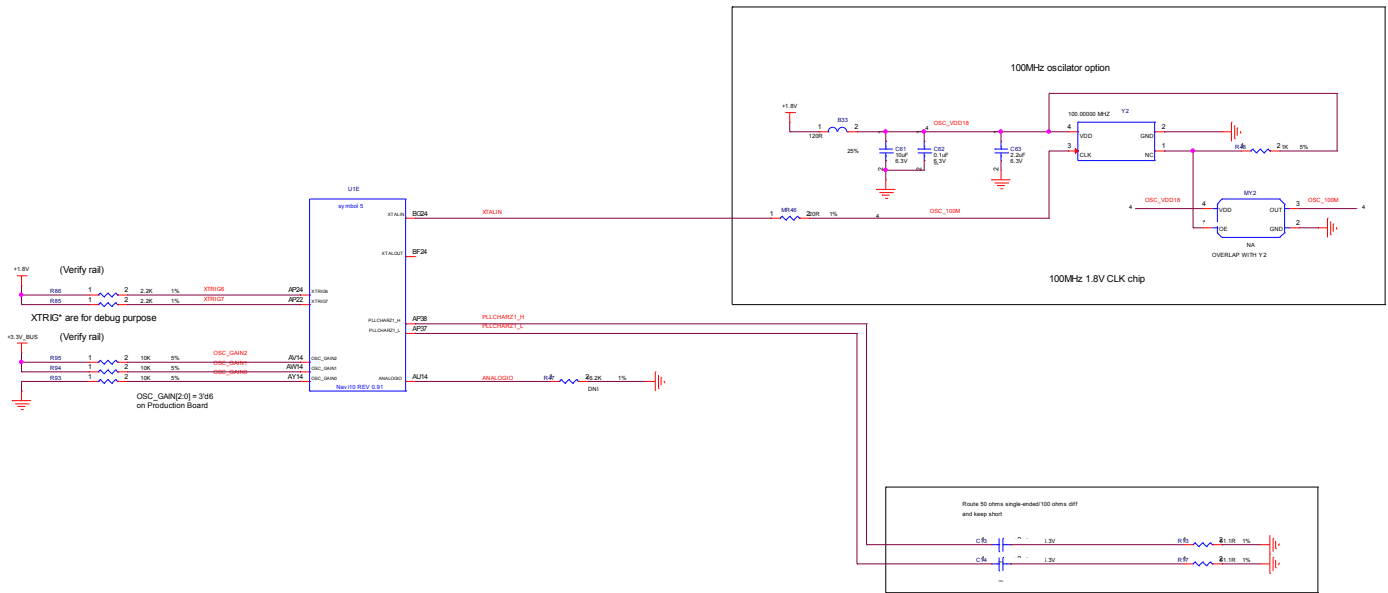
DATE: Mon Apr 15 05:57:56 2019 REV: 1.00

SHEET NUMBER: 3 OF 35

DOCUMENT NUMBER: 105_D199w_00A

NOTES: NOTE

TITLE: NAV10 G8X16Mode DP DP HDMI DP



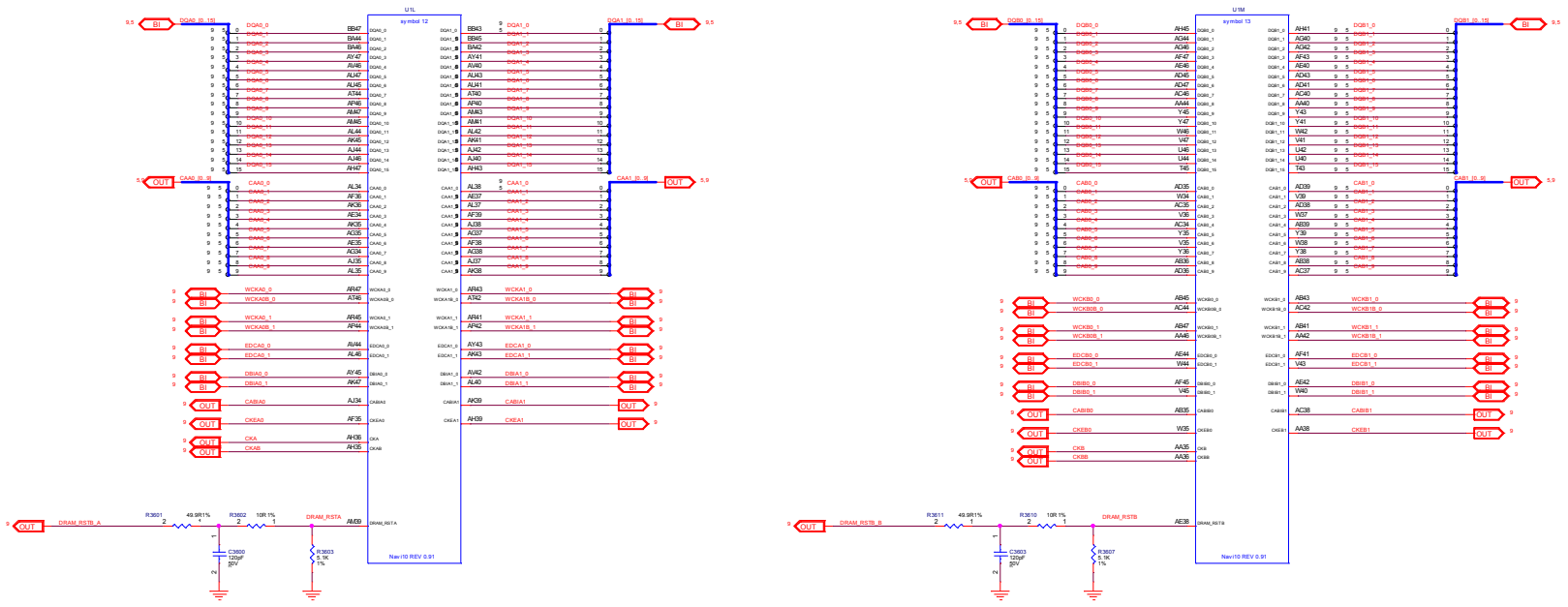
AMD - PLATFORM HARDWARE ENG
 #48, No.1387, ZHANGDONG ROAD
 SHANGHAI, CHINA 201203

SHEET: NAV10 XTAL
 DATE: Mon Apr 15 05:57:56 2019 REV: 1.00
 SHEET NUMBER: 4 OF 35
 DOCUMENT NUMBER: 105_D199w_00A
 NOTES: NOTE

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
 © 2018 Advanced Micro Devices
 This AMD Board schematic and design is the exclusive property of AMD, and is provided only to the customer under a non-disclosure agreement with AMD. No other disclosure, reproduction, or distribution of this schematic or design is permitted. Use of this schematic and design for any purpose other than that intended requires a Board Technology License Agreement with AMD. AMD makes no representation or warranty of any kind regarding the accuracy and design, including, but not limited to, any copyright notices or other notices, for any consequences resulting from use of the information included herein.

TITLE: NAV10 G8X16Mode DP DP HDMI DP

NAVI 10 MEM INTERFACE CH A/B

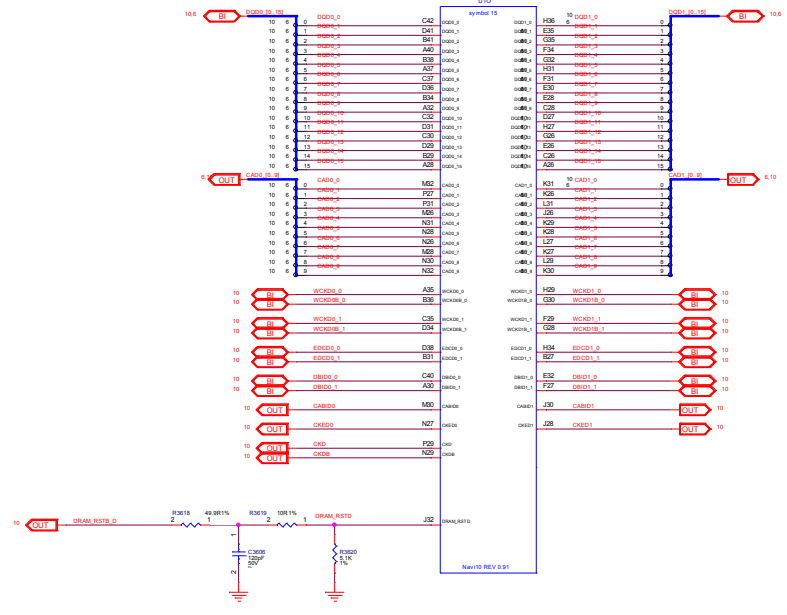
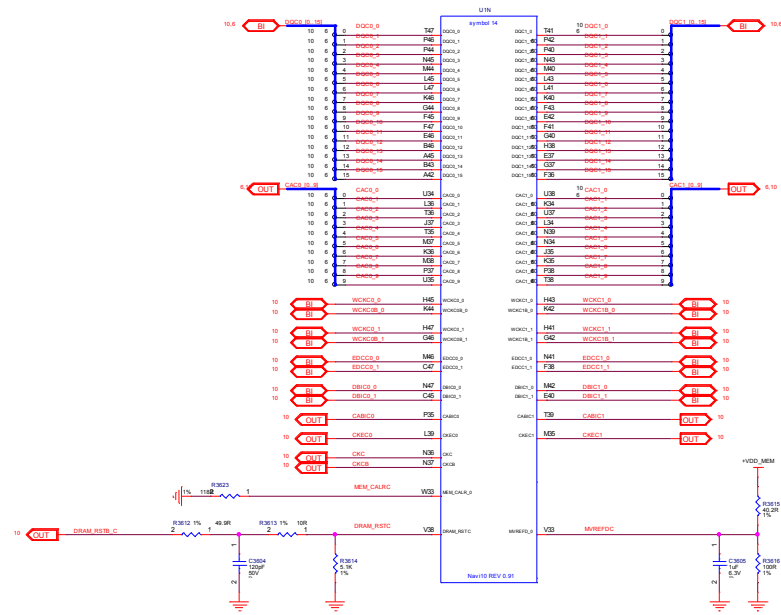


AMD - PLATFORM HARDWARE ENG
 #48, No.1387, ZHANGDONG ROAD
 SHANGHAI, CHINA 201203

SHEET: NAVI10 MEM CHAB
DATE: Mon Apr 15 05:57:57 2019
SHEET NUMBER: 5 OF 35
DOCUMENT NUMBER: 105_D199w_00A
NOTES: NOTE

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
 5118 Advanced Micro Devices
 This AMD based schematic and design is the exclusive property of AMD, and is provided only to the customer under a non-disclosure Agreement with AMD. It is intended for internal use only. AMD makes no representation or warranty of any kind regarding the accuracy and design, including, but not limited to, any copyright or patent infringement claims, or any other claims, and disclaims responsibility for any consequences resulting from use of the information included herein.

TITLE: NAVI10 G8X16Mode DP DP HDMI DP

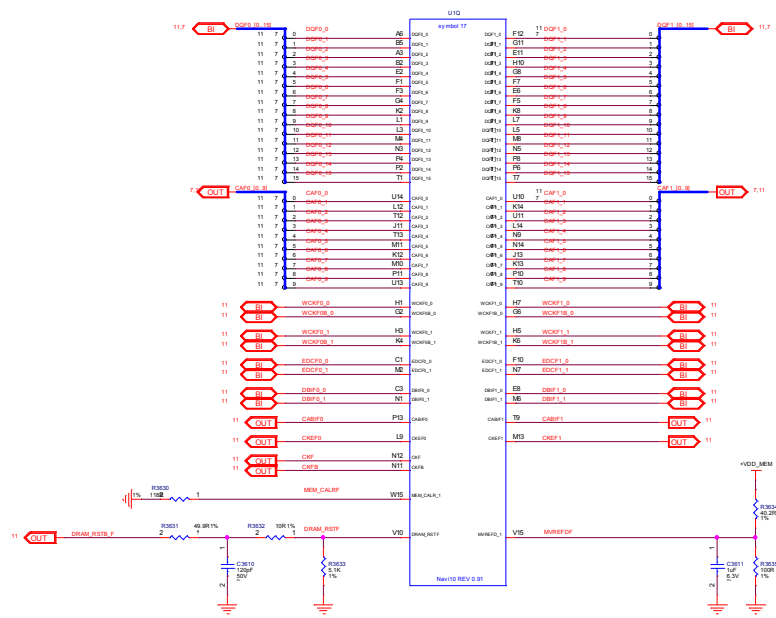
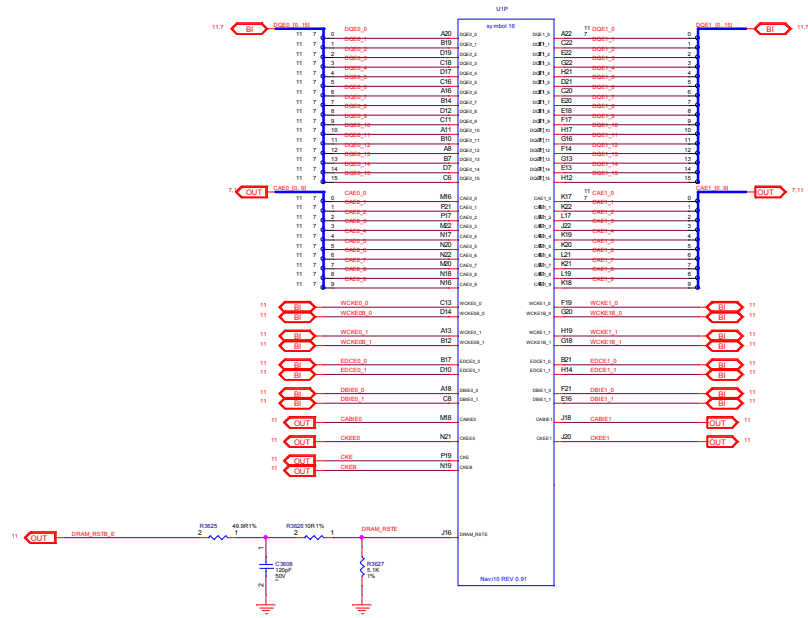


AMD - PLATFORM HARDWARE ENG
 #48, No.1387, ZHANGDONG ROAD
 SHANGHAI, CHINA 201203

SHEET: NAVI10 MEM CHCD
 DATE: Mon Apr 15 05:57:57 2019
 SHEET NUMBER: 6 OF 35
 DOCUMENT NUMBER: 105_D190w_00A
 NOTES: NOTE

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
 © 2018 Advanced Micro Devices
 This AMD based schematic and design is the exclusive property of AMD, and is provided only to the customer under a non-disclosure agreement with AMD. No other disclosure, reproduction, or distribution is permitted. Use of this schematic and design for any purpose other than that authorized requires a formal Technology License Agreement with AMD. AMD makes no representation or warranty of any kind regarding the contents and design, including, but not limited to, copyright ownership or infringement, for any consequences resulting from use of the information included herein.

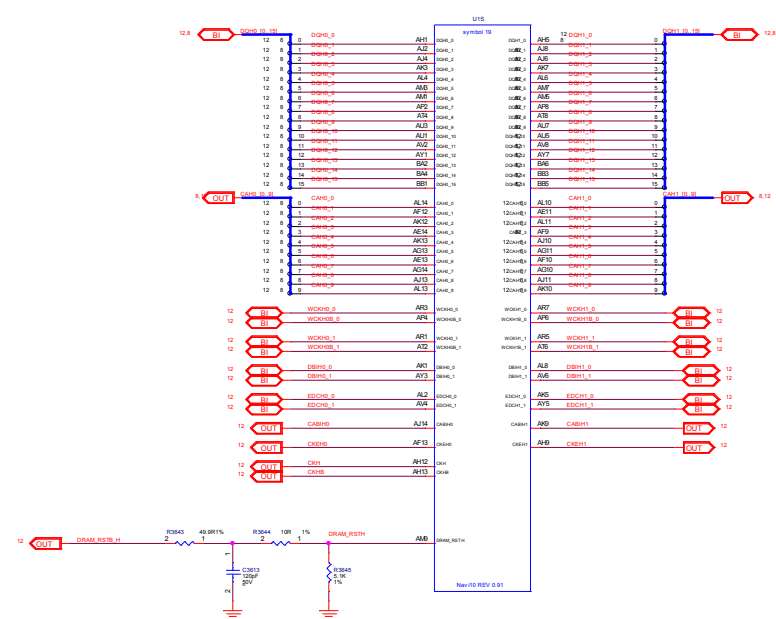
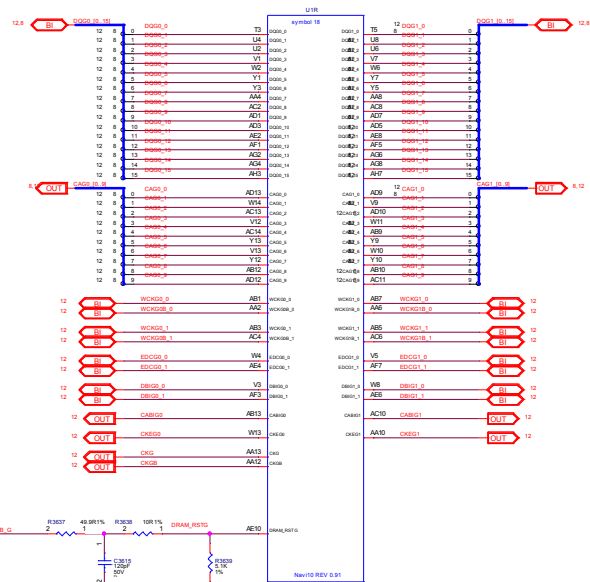
TITLE: NAVI10 G8X16Mode DP DP HDMI DP



<p>AMD - PLATFORM HARDWARE ENG #48, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203</p>	
SHEET: NAVI10 MEM CHEF	
DATE: Mon Apr 15 05:57:57 2019	REV: 1.00
SHEET NUMBER: 7 OF 35	
DOCUMENT NUMBER: 105_D190w_00A	
NOTES: NOTE	

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
 5118 Advanced Micro Devices
 This AMD based schematic and design is the exclusive property of AMD, and is provided only to the customer under a non-disclosure Agreement with AMD. It is intended for internal use only. AMD makes no representation or warranty of any kind regarding the accuracy and design, including, but not limited to, any copyright notices or other notices, of any component or sub-component shown on this schematic or design. AMD makes no representation or warranty of any kind regarding the accuracy and design, including, but not limited to, any copyright notices or other notices, of any component or sub-component shown on this schematic or design.

TITLE: NAVI10 G8x16Mode DP HDMI DP



AMD - PLATFORM HARDWARE ENG
#48, No.1387, ZHANGDONG ROAD
SHANGHAI, CHINA 201203

SHIELD: NAVI10 MEM CHSH

DATE: Mon Apr 15 05:57:58 2019

REVISION: 1.00

SHEET NUMBER: 8 OF 35

DOCUMENT NUMBER: 105_D199w_00A

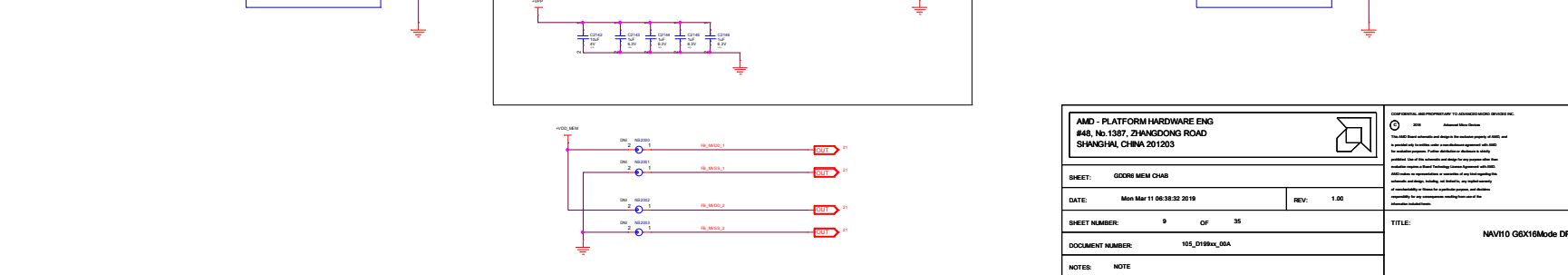
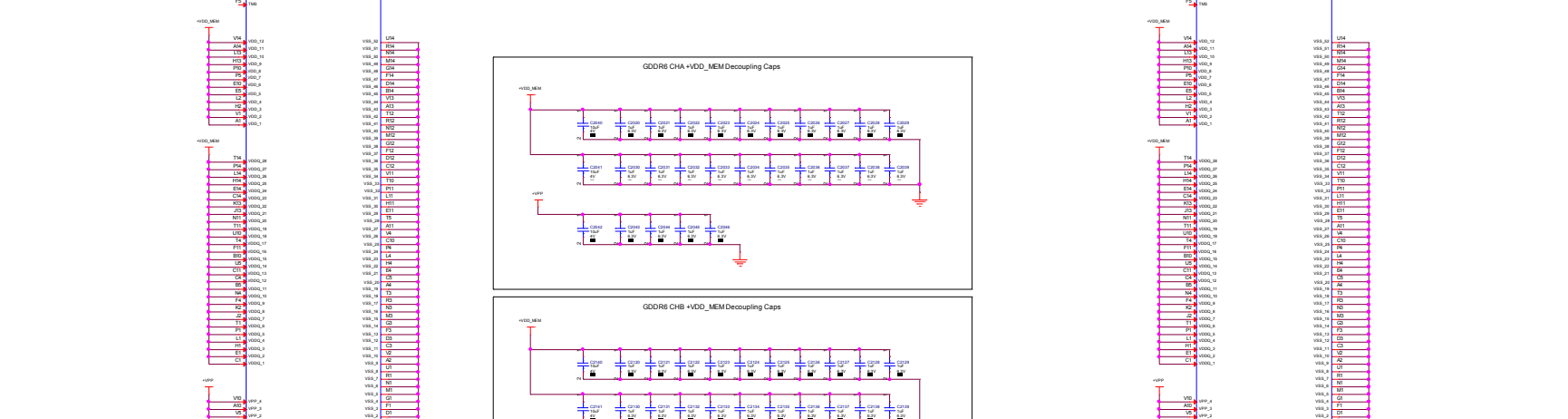
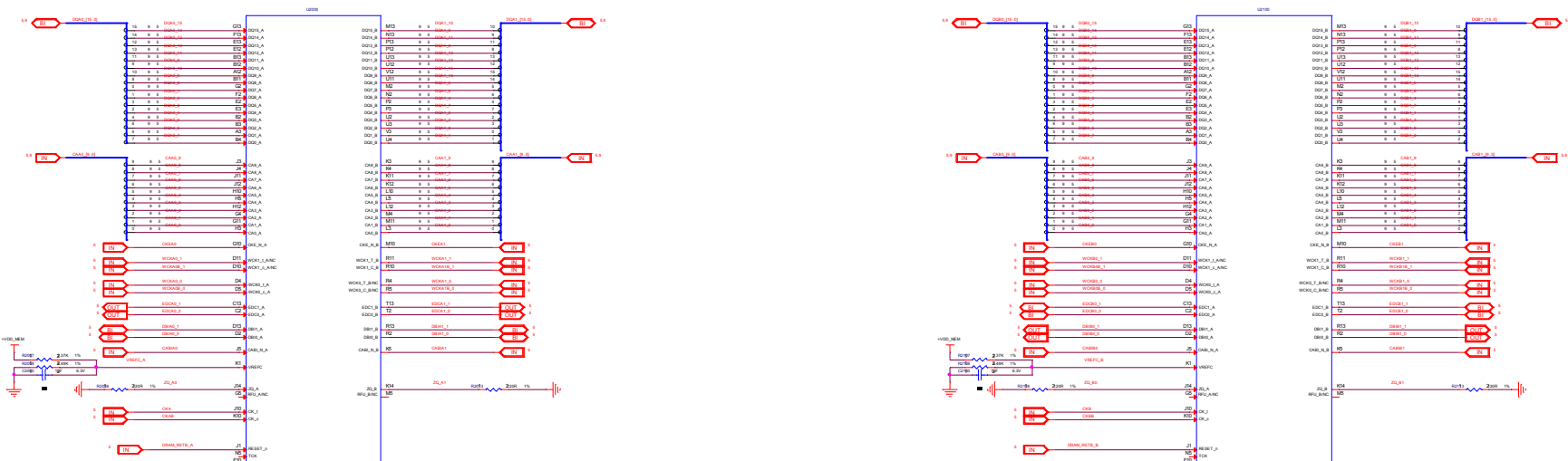
NOTES: NONE

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.

© 2018 Advanced Micro Devices

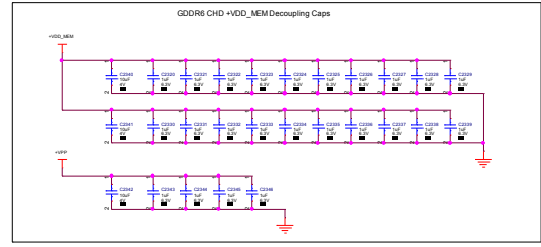
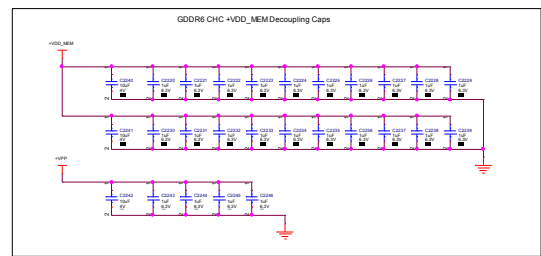
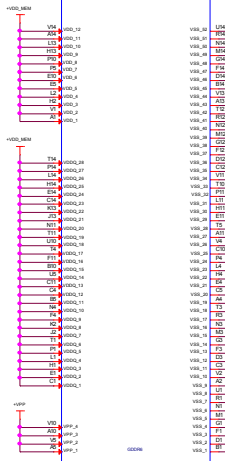
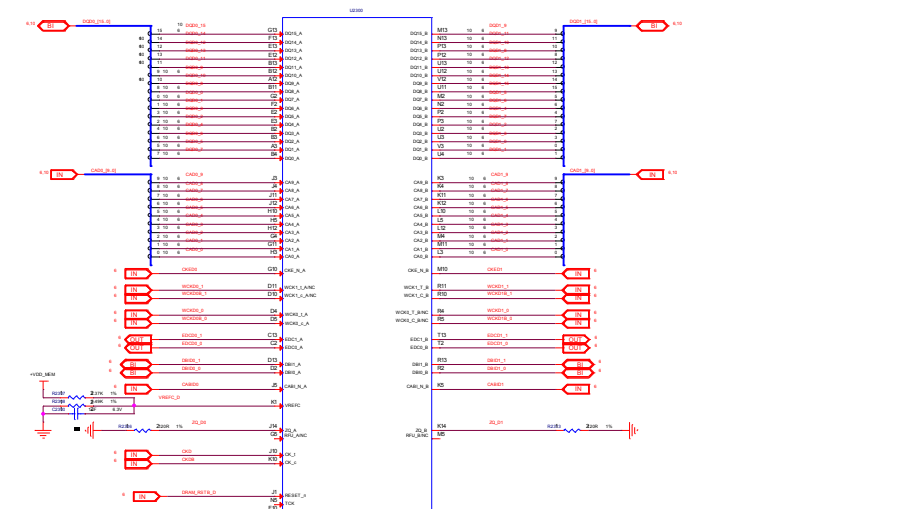
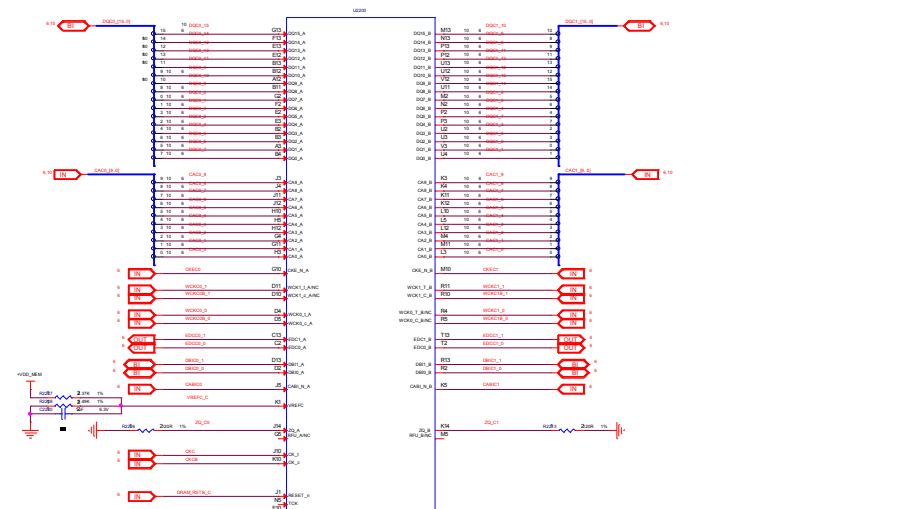
This AMD based schematic and design is the exclusive property of AMD, and is provided only to the customer under a non-disclosure Agreement with AMD. No redistribution, reproduction, or disclosure of this schematic is allowed without the prior written permission of AMD. AMD makes no representation or warranty of any kind regarding the accuracy and design, including, but not limited to, any potential safety or environmental concerns, for any application, and disclaims responsibility for any consequences resulting from use of the information contained herein.

TITLE: NAVI10 G8X16Mode DP DP HDMI DP



<p>AMD - PLATFORM HARDWARE ENG #46, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203</p>		<p>© 2018 Advanced Micro Devices, Inc. <small>This AMD document and design for custom projects of AMD, and its contents are provided under a non-exclusive license to AMD. AMD reserves the right to modify or discontinue this document without notice. AMD is not responsible for errors or for consequences arising from the use of the information contained herein. AMD makes no warranty, express or implied, for any third party's use of the information contained herein.</small></p>	
<p>SHEET: GDDR6 MEM CHAB</p>		<p>REV: 1.00</p>	
<p>DATE: Mon Mar 11 06:38:32 2019</p>		<p>SHEET NUMBER: 9 OF 35</p>	
<p>DOCUMENT NUMBER: 105_0199x_05A</p>		<p>TITLE: NAV10 G6X16Mode DP DP/HDMI DP</p>	
<p>NOTES: NOTE</p>		<p></p>	

GDDR6x16 CHCD Memory

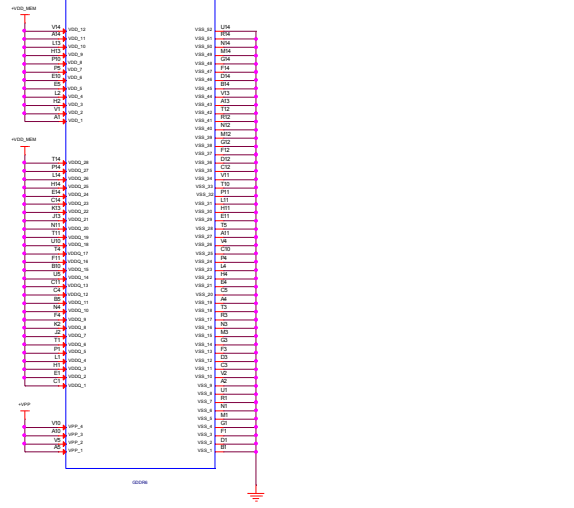
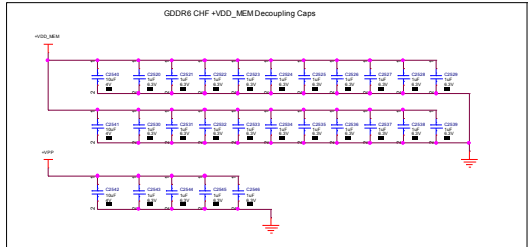
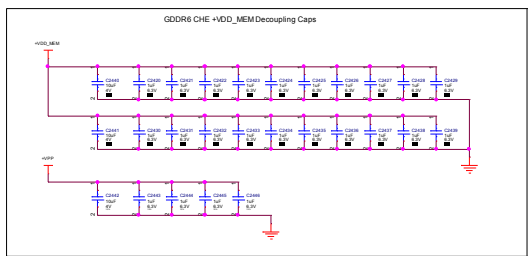
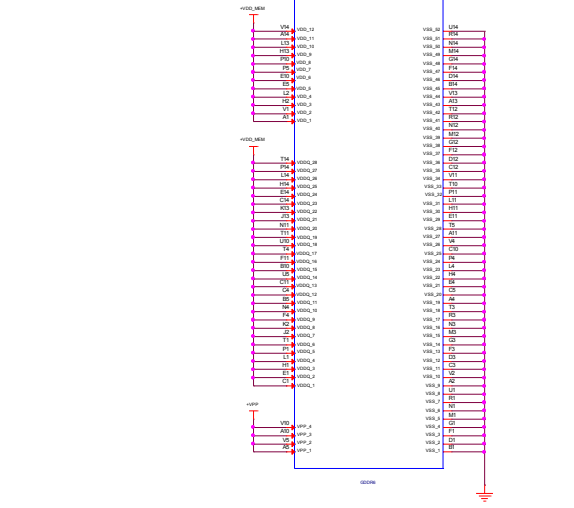
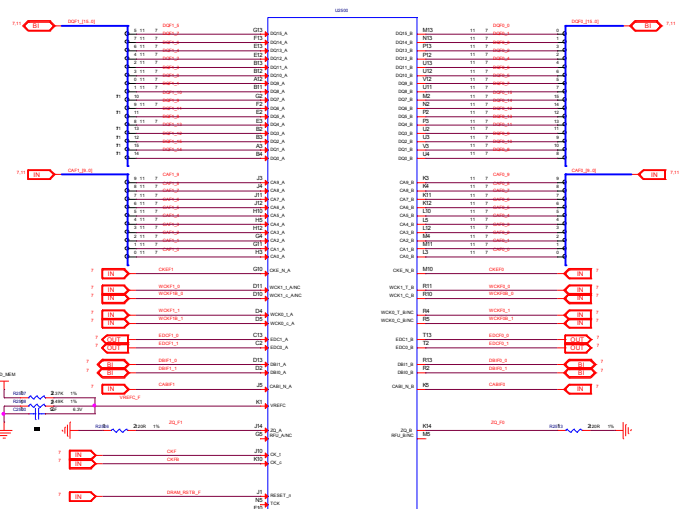
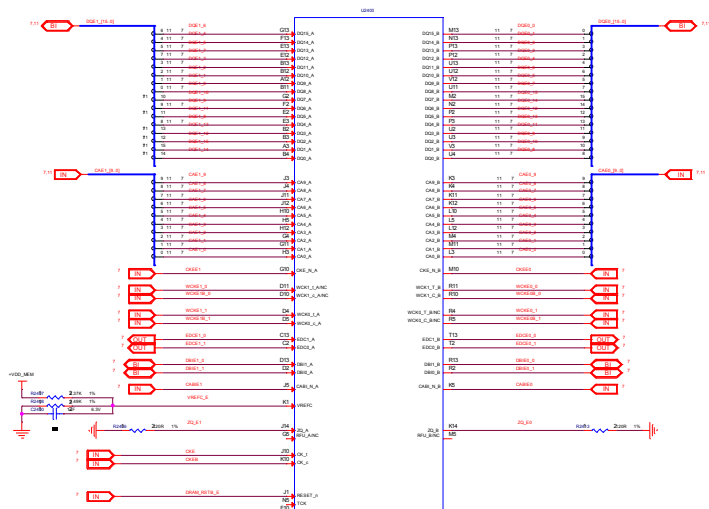


AMD - PLATFORM HARDWARE ENG
 #46, No.1367, ZHANGDONG ROAD
 SHANGHAI, CHINA 201203

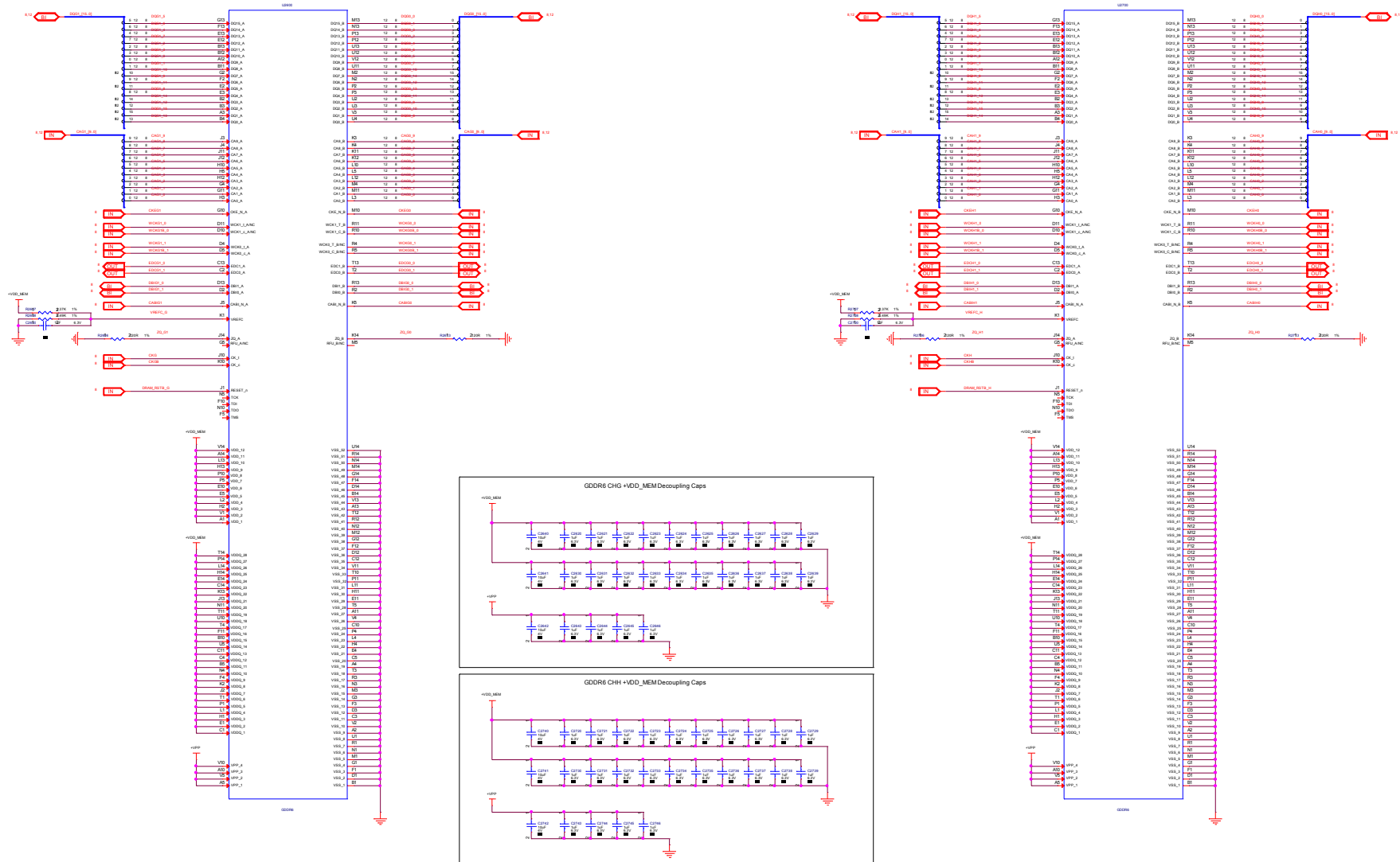
SHEET: GDDR6 MEM CHCD
 DATE: Mon Mar 11 06:38:33 2019
 SHEET NUMBER: 10 OF 35
 DOCUMENT NUMBER: 105_0198xk_05A
 NOTES: NOTE

NAV10 G6X16Mode DP DP HDMI DP

DATE: Mon Mar 11 06:38:33 2019
 SHEET NUMBER: 10 OF 35
 DOCUMENT NUMBER: 105_0198xk_05A
 NOTES: NOTE

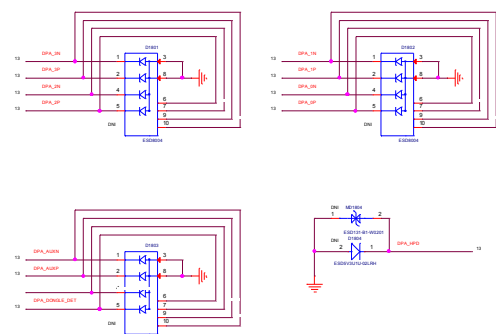
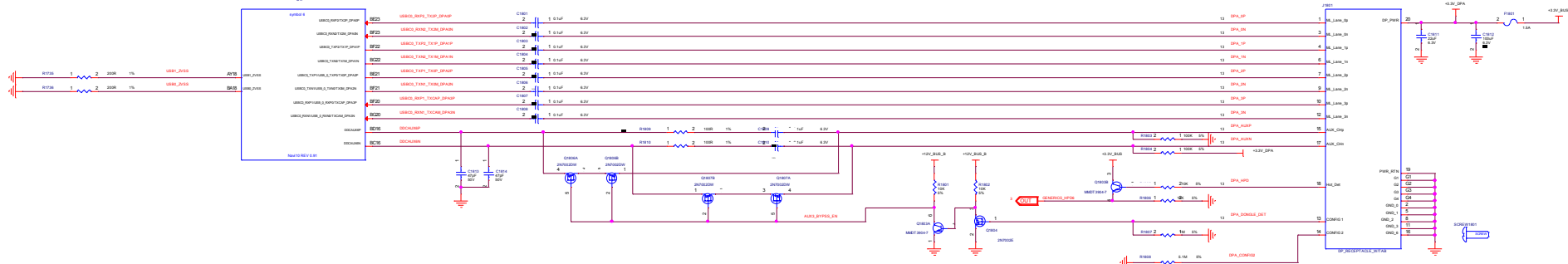
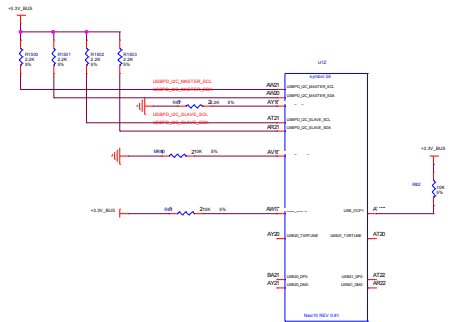
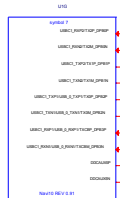


<p>AMD - PLATFORM HARDWARE ENG #46, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203</p>		<p>© 2018 Advanced Micro Devices, Inc. All rights reserved.</p>	
<p>SHEET: GDDR6 MEM CHEF</p>		<p>DATE: Mon Mar 11 06:38:33 2019</p>	
<p>SHEET NUMBER: 11 OF 35</p>		<p>REV: 1.00</p>	
<p>DOCUMENT NUMBER: 105_0198x_GSA</p>		<p>TITLE: NAV10 G6X16Mode DP DP HDMI DP</p>	
<p>NOTES: NOTE</p>			



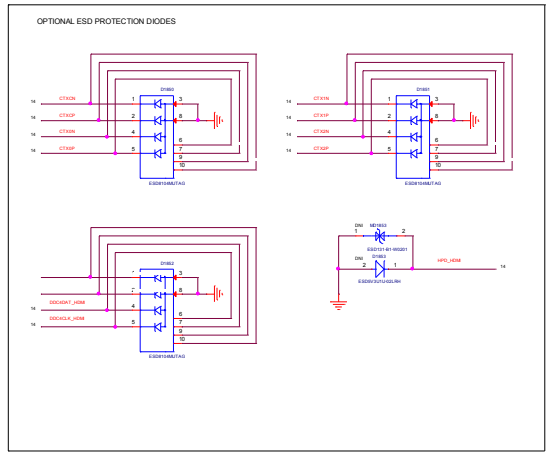
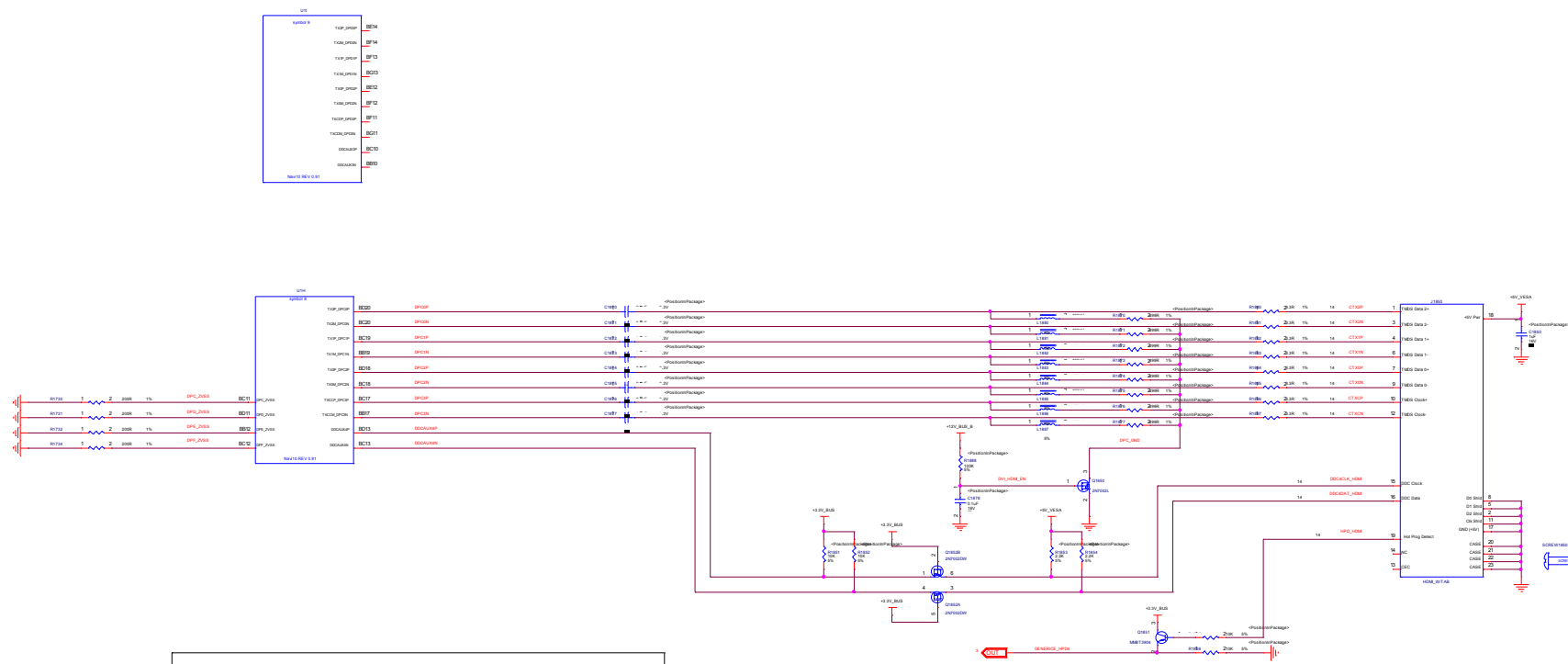
<p>AMD - PLATFORM HARDWARE ENG #46, No.1367, ZHANGDONG ROAD SHANGHAI, CHINA 201203</p>		<p>AMD reserves all rights in and to the information contained herein. © 2018 Advanced Micro Devices, Inc. All rights reserved.</p>
<p>SHEET: GDDR6 MEM CHGH</p>		<p>TITLE: NAV10 G6X16Mode DP DP HDMI DP</p>
<p>DATE: Mon Mar 11 06:38:34 2019</p>	<p>REV: 1.00</p>	
<p>SHEET NUMBER: 12 OF 35</p>		
<p>DOCUMENT NUMBER: 105_0198K_05A</p>		
<p>NOTES: NOTE</p>		

NAVI10 TMDP A/B



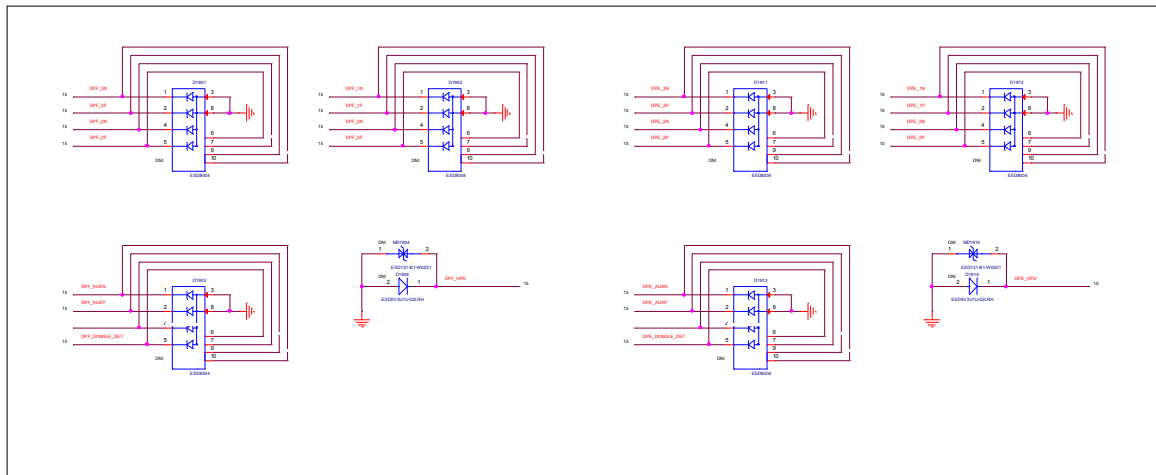
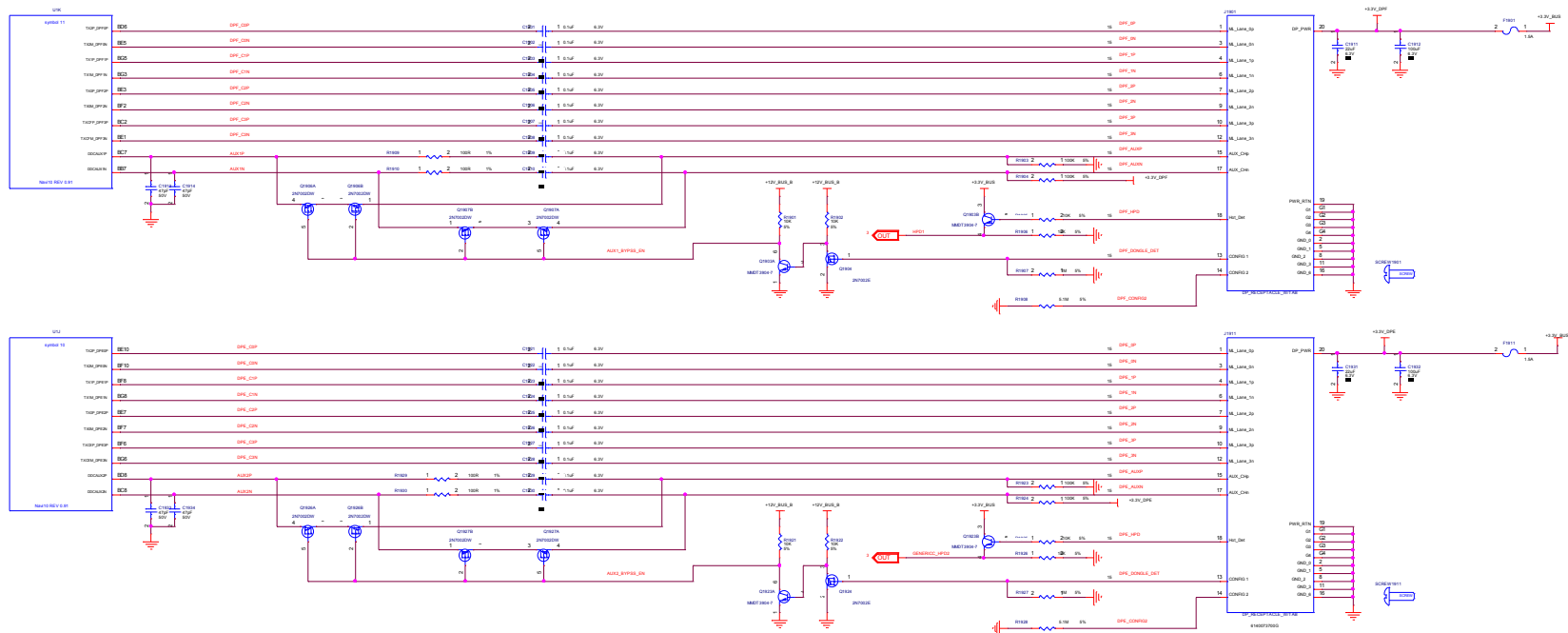
AMD - PLATFORM HARDWARE ENG #46, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203		SHEET: NAVI10 TMDPA - DP DATE: Mon Mar 11 06:38:20 2019 SHEET NUMBER: 13 OF 35 DOCUMENT NUMBER: 101_0199x_05A NOTES: NOTE		REV: 1.00 TITLE: NAVI10 G6X16Mode DP DP/HDMI DP	
--	--	---	--	--	--

NAVI10 TMDP C/D

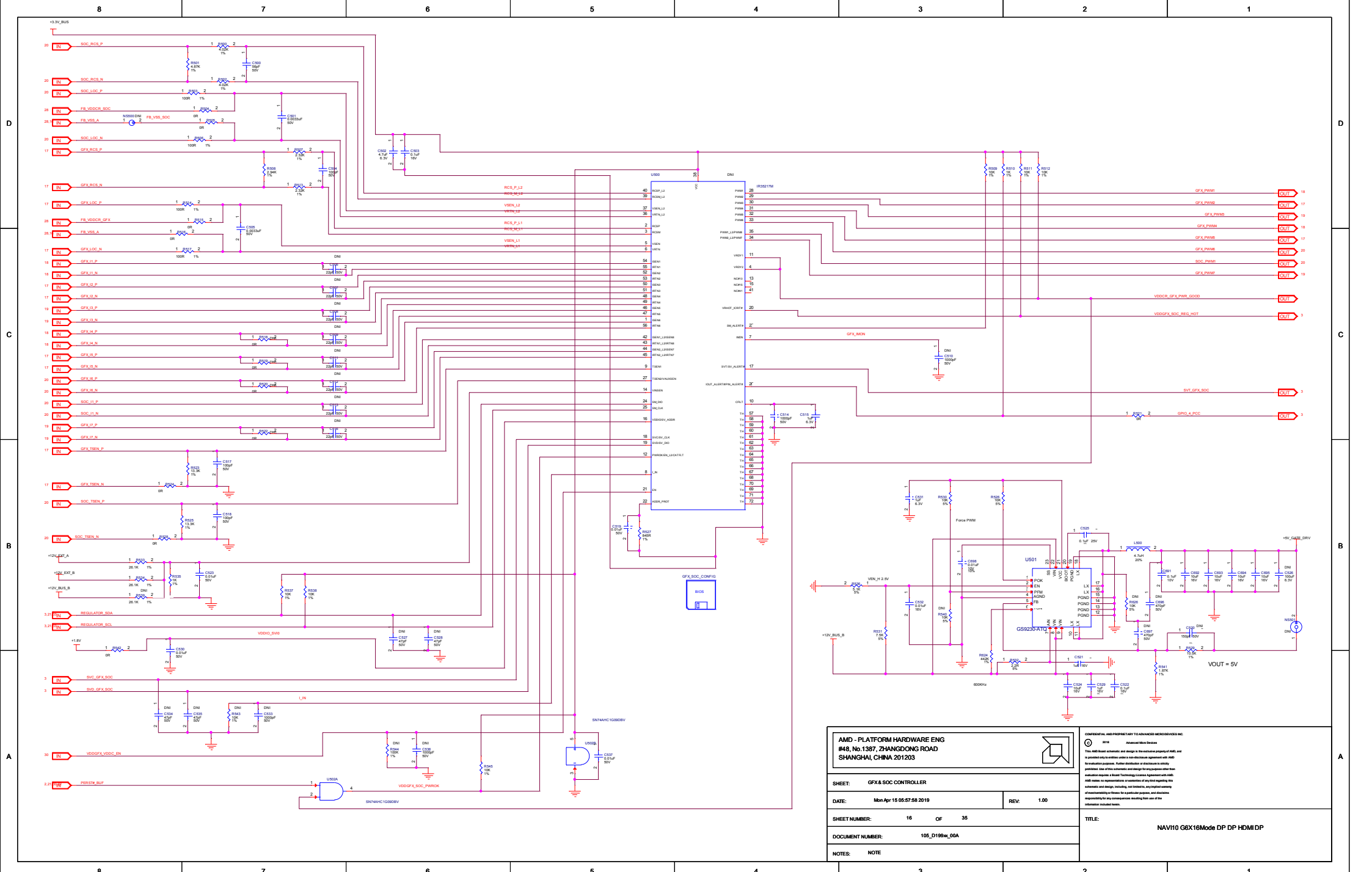


AMD - PLATFORM HARDWARE ENG #48, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203			User specific add-in information (User specific revision only) © 2019 AMD All rights reserved. The AMD logo, and other marks and designs are the trademarks of AMD, and are used under license by the licensee. Further distribution is restricted in order to maintain the integrity of the design and to protect the licensee's investment in the design. AMD makes no representation or warranty of any kind regarding the contents and design, including, but not limited to, any implied warranty of merchantability or fitness for particular purposes, and the licensee shall be responsible for any modifications made to the design.
SHEET: NAVI10 TMDPC - HDMI DATE: Mon Mar 11 06:38:28 2019 DOCUMENT NUMBER: 105_0199KX_GSA NOTES: NOTE			REV: 1.00 TITLE: NAVI10 G6X16Mode DP DP/HDMI DP

(9) NAVI10 TMDP E/F



AMD - PLATFORM HARDWARE ENG #46, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203		AMD Advanced Graphics
SHEET: NAVI10 TMDPEF - DP DP		TITLE: NAVI10 G6X16Mode DP DP HDMI DP
DATE: Mon Mar 11 06:38:27 2019	REV: 1.00	
SHEET NUMBER: 15 OF 35	DOCUMENT NUMBER: 105_0198Xc_05A	
NOTES: NOTE	NOTES:	



AMD - PLATFORM HARDWARE ENG
#48, No.1387, ZHANGDONG ROAD
SHANGHAI, CHINA 201203

SHEET: **GFX SOC CONTROLLER**

DATE: **Mon Apr 15 05:57:58 2019** REV: **1.00**

SHEET NUMBER: **16** OF **35**

DOCUMENT NUMBER: **105_D199w_00A**

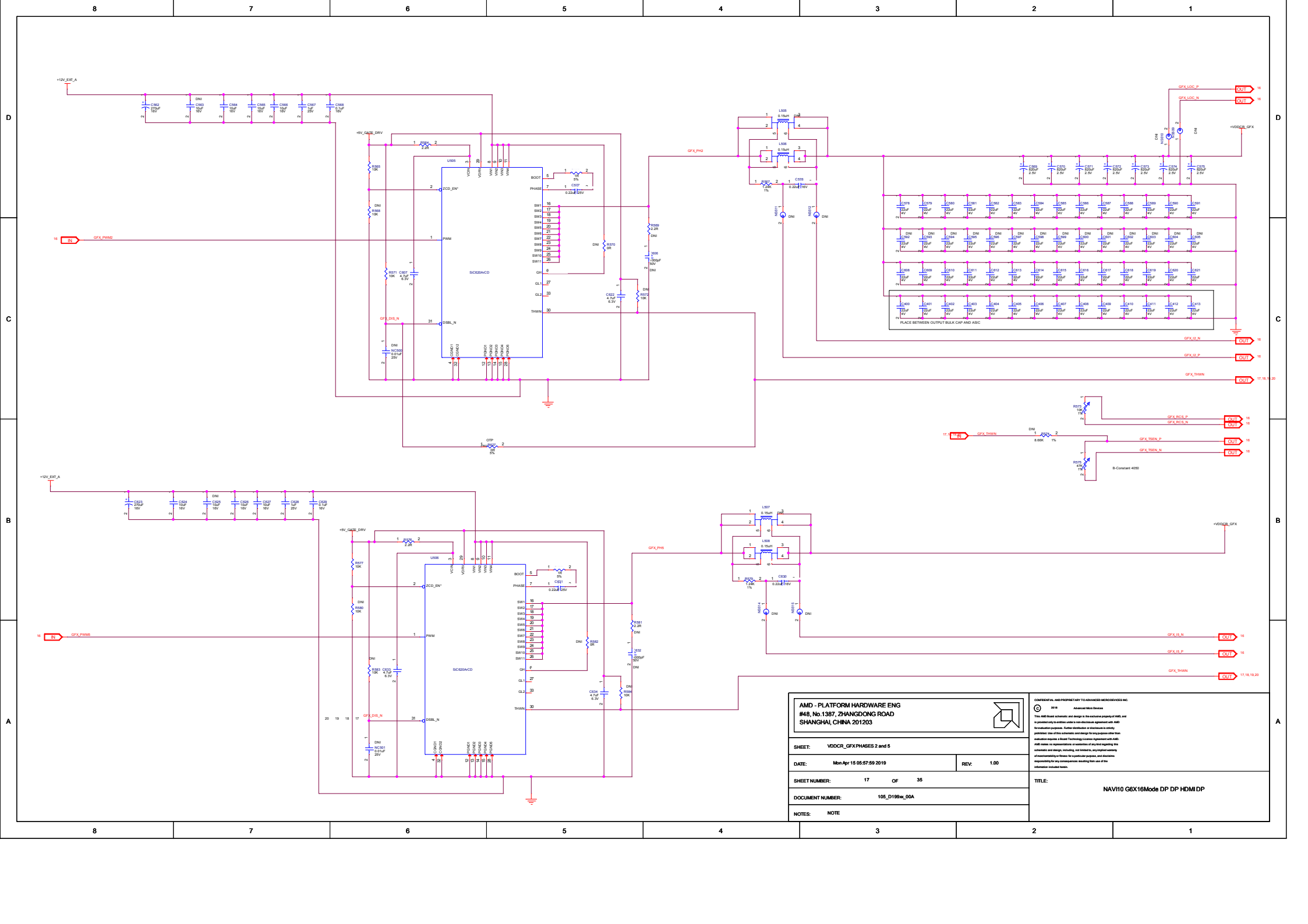
NOTES: **NOTE**

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.

© 2018 **Advanced Micro Devices**

This AMD based schematic and design is the exclusive property of AMD, and is provided only to the customer under a non-disclosure Agreement with AMD. It is intended for use in the customer's product. Further distribution or disclosure is strictly prohibited. Use of this schematic and design for any purpose other than that intended requires a written Technology Transfer Agreement with AMD. AMD makes no representation or warranty of any kind regarding the contents and design, including, but not limited to, any patentability or infringement liability for any consequences resulting from use of the information included herein.

TITLE: **NAV10 G8x16Mode DP DP HDMI DP**



AMD - PLATFORM HARDWARE ENG
#48, No.1387, ZHANGDONG ROAD
SHANGHAI, CHINA 201203

SHEET: VDDCR_GFXPHASES 2 and 5

DATE: Mon Apr 15 05:57:59 2019 REV: 1.00

SHEET NUMBER: 17 OF 35

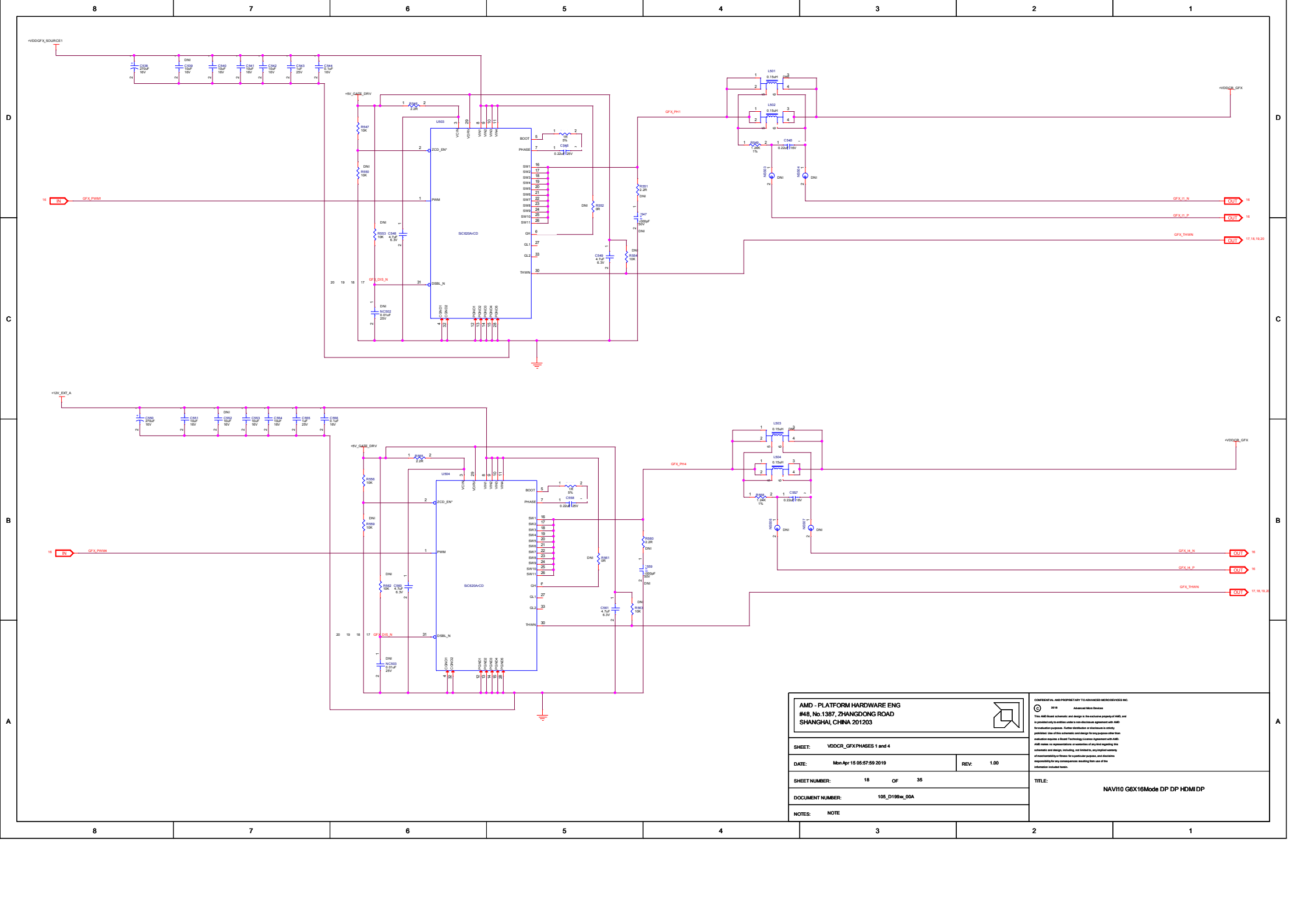
DOCUMENT NUMBER: 105_D199w_00A

NOTES: NOTE

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
 © 2018 Advanced Micro Devices

This AMD based schematic and design is the exclusive property of AMD, and is provided only to the extent of the license agreement with AMD. AMD makes no representation or warranty of any kind regarding the contents and design, including, but not limited to, any copyright or other intellectual property rights, for any third party. AMD makes no representation or warranty of any kind regarding the contents and design, including, but not limited to, any copyright or other intellectual property rights, for any third party.

TITLE: NAVI10 G8X16Mode DP DP HDMI DP



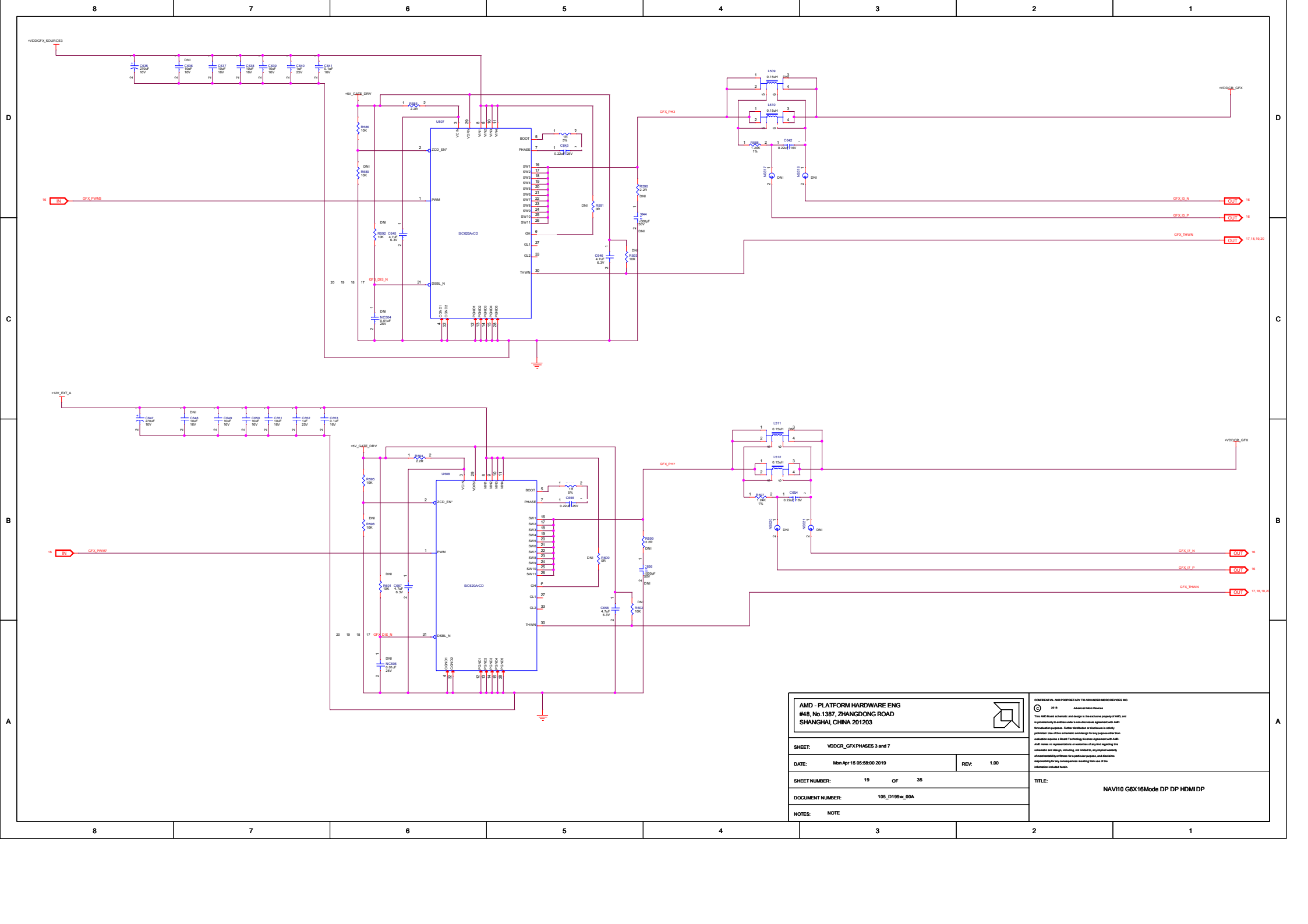
AMD - PLATFORM HARDWARE ENG #48, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203		
SHEET: VDDCR_GFXPHASES 1 and 4		
DATE: Mon Apr 15 05:57:59 2019	REV: 1.00	
SHEET NUMBER: 18 OF 35		
DOCUMENT NUMBER: 105_D199w_00A		
NOTES: NOTE		

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
 © 2018 Advanced Micro Devices
 This AMD based schematic and design is the exclusive property of AMD, and is provided only to the customer under a non-disclosure Agreement with AMD. No other disclosure, reproduction, or distribution of this schematic or design is permitted. Use of this schematic and design for any purpose other than that intended requires a formal Technology License Agreement with AMD. AMD makes no representation or warranty of any kind regarding the accuracy and design, including, but not limited to, any copyright, patent, or other intellectual property rights, for any component, and disclaims responsibility for any consequences resulting from use of the information included herein.

TITLE:
NAV10 G8X16Mode DP DP HDMI DP

GFX_H_N **OUT** 15
 GFX_H_P **OUT** 15
 GFX_THWN **OUT** 17, 18, 19, 20

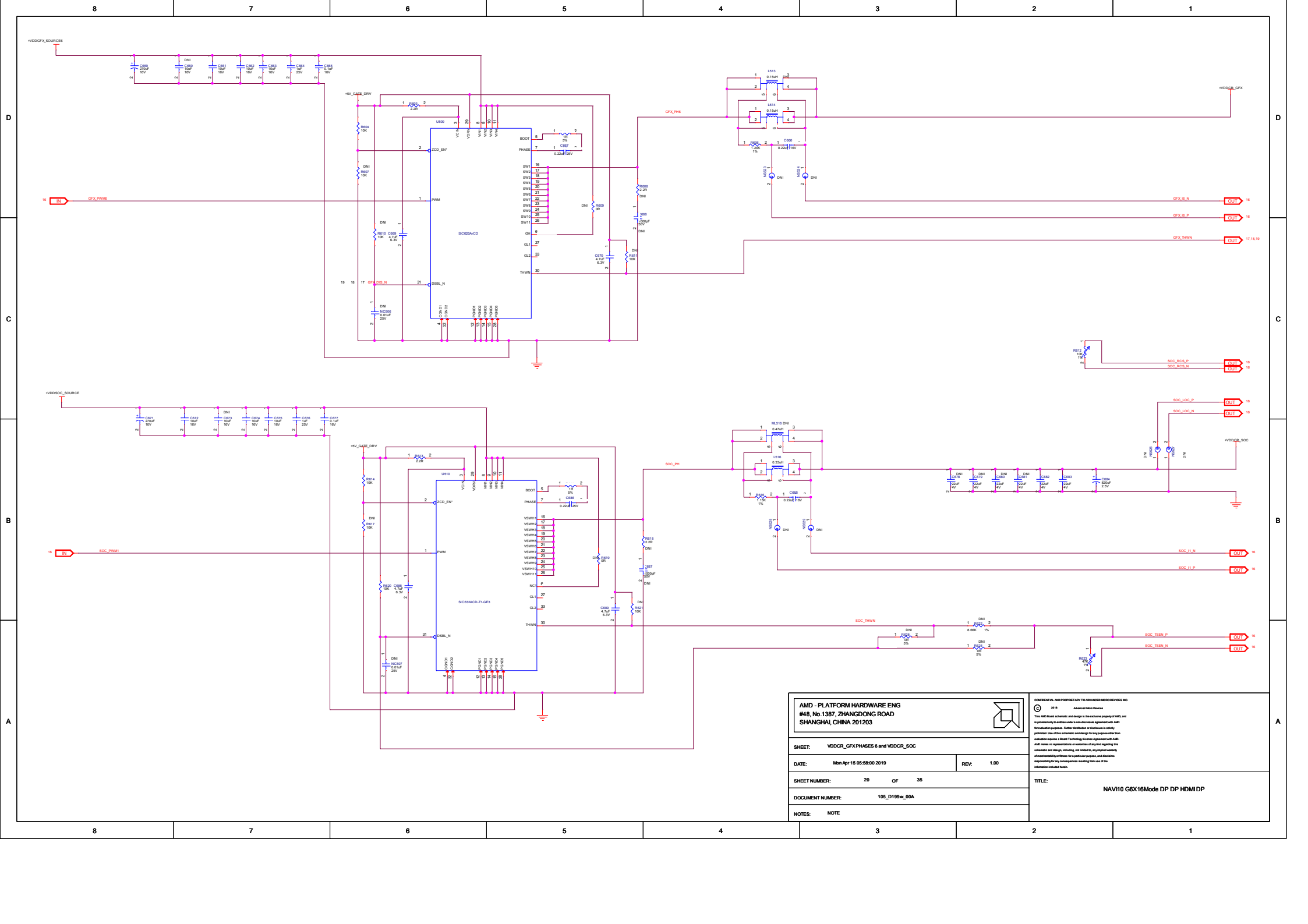
GFX_H_N **OUT** 15
 GFX_H_P **OUT** 15
 GFX_THWN **OUT** 17, 18, 19, 20



AMD - PLATFORM HARDWARE ENG #48, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203		
SHEET: VDDCR_GFXPHASES 3 and 7		
DATE: Mon Apr 15 05:58:00 2019	REV: 1.00	
SHEET NUMBER: 19 OF 35		
DOCUMENT NUMBER: 105_D199w_00A		
NOTES: NOTE		

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
 © 2018 Advanced Micro Devices
 This AMD based schematic and design is the exclusive property of AMD, and is provided only to the customer under a non-disclosure Agreement with AMD. No other disclosure, reproduction, or distribution of this schematic or design is permitted without the prior written consent of AMD. AMD makes no representation or warranty of any kind regarding the accuracy and design, including, but not limited to, any copyright or patent infringement claims, or any other claims, or any other responsibility for any consequences resulting from use of the information included herein.

TITLE:
NAV10 G8X16Mode DP DP HDMI DP

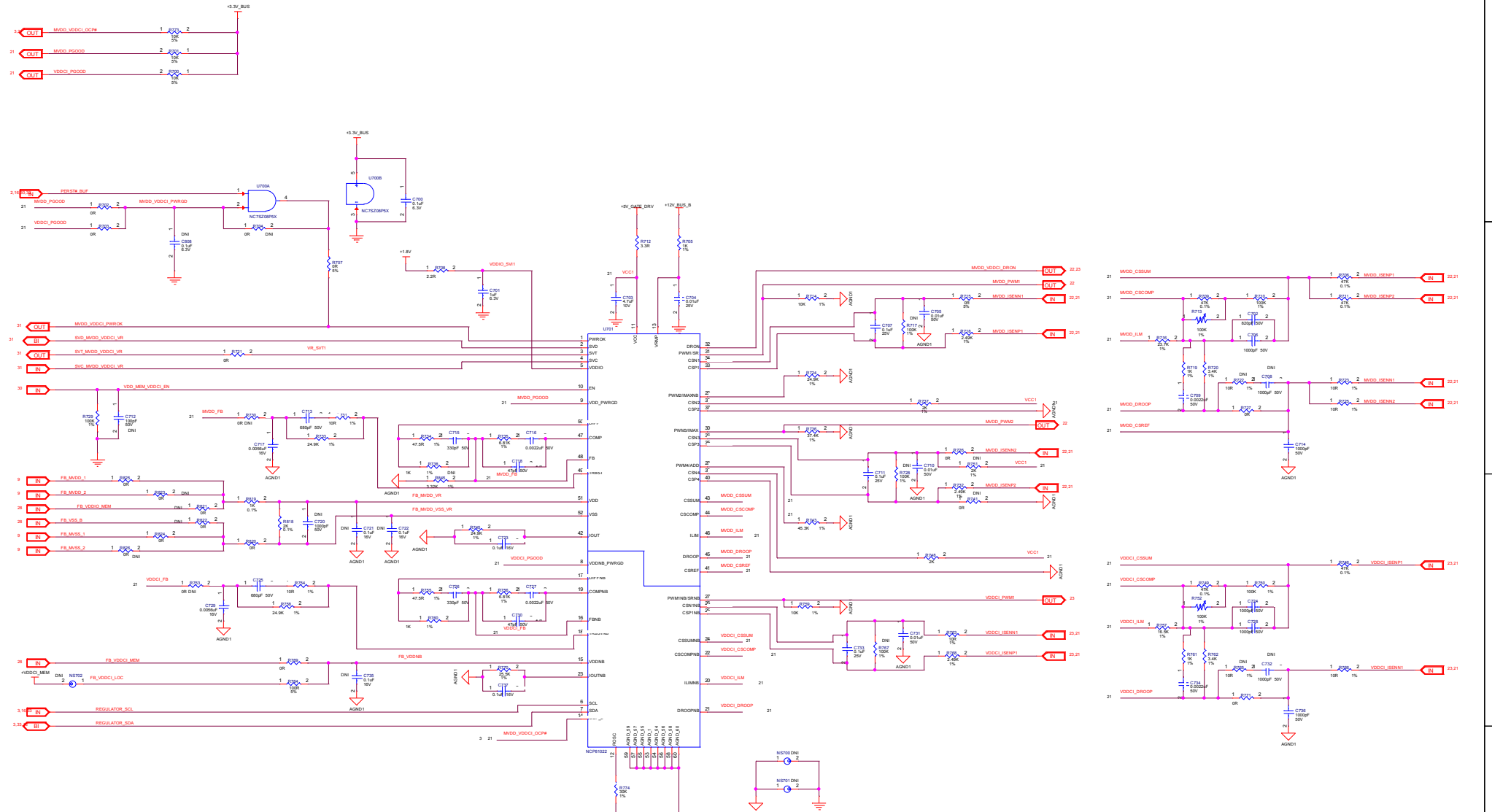


AMD - PLATFORM HARDWARE ENG
#48, No.1387, ZHANGDONG ROAD
SHANGHAI, CHINA 201203

SHEET: VDDCR_GFXPHASES 6 and VDDCR_SOC
 DATE: Mon Apr 15 05:58:00 2019 REV: 1.00
 SHEET NUMBER: 20 OF 35
 DOCUMENT NUMBER: 105_D198w_00A
 NOTES: NOTE

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
 © 2018 Advanced Micro Devices
 This AMD based schematic and design is the exclusive property of AMD, and is provided only to the customer under a non-disclosure Agreement with AMD. No other disclosure or distribution is authorized without the express written permission of AMD. AMD makes no representation or warranty of any kind regarding the contents and design, including, but not limited to, any copyright or patent infringement liability, for any consequences resulting from use of the information contained herein.

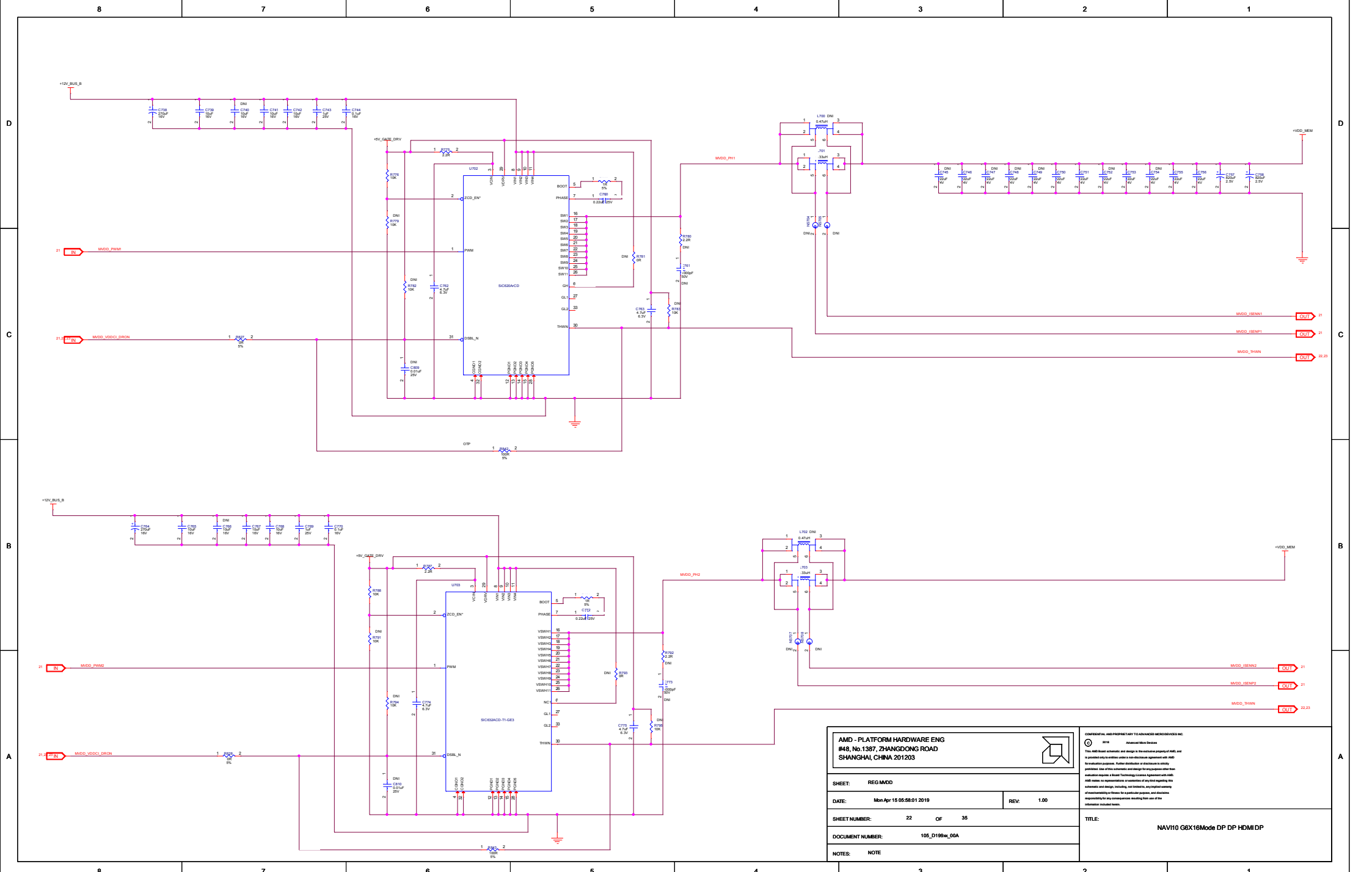
TITLE:
NAV10 G8X16Mode DP DP HDMI DP



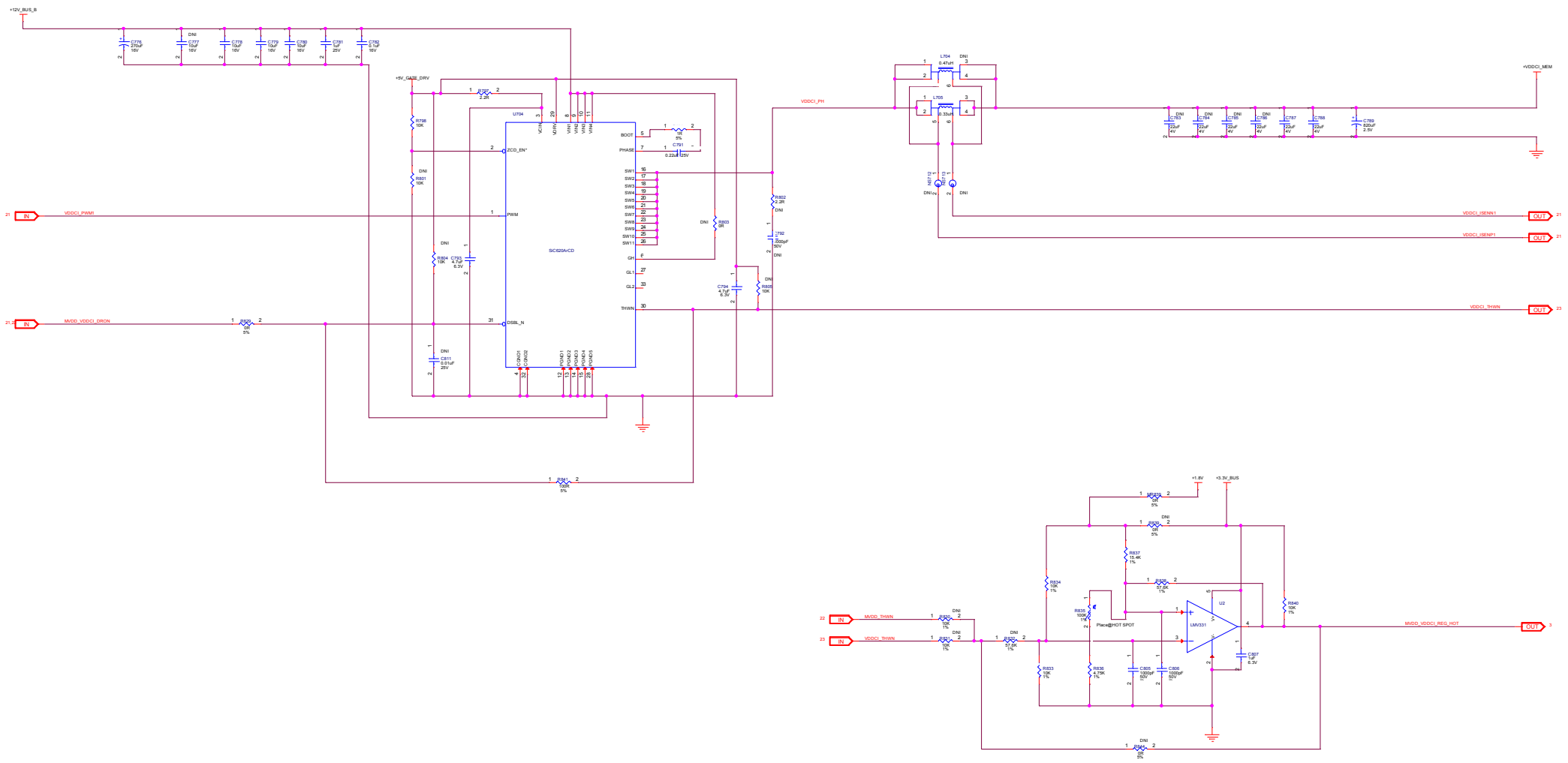
AMD - PLATFORM HARDWARE ENG #48, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203	
SHEET:	MDD_VDDCI CONTROLLER
DATE:	Mon Apr 15 05:58:01 2019
REV:	1.00
SHEET NUMBER:	21 OF 35
DOCUMENT NUMBER:	105_D199w_00A
NOTES:	NOTE

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
 © 2018 Advanced Micro Devices
 This AMD based schematic and design is the exclusive property of AMD, and is provided only to the customer under a non-disclosure Agreement with AMD. No other AMD based schematic or design is to be disclosed or otherwise made available to any third party without the express written consent of AMD. AMD makes no representation or warranty of any kind regarding the accuracy and design, including, but not limited to, intellectual property infringement, of this schematic or design for any purpose, and disclaims responsibility for any consequences resulting from use of the information included herein.

TITLE:
NAV110 G8X16Mode DP DP HDMI DP



AMD - PLATFORM HARDWARE ENG #48, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203			CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC. © 2018 Advanced Micro Devices This AMD based schematic and design is the exclusive property of AMD, and is provided only to the customer under a non-disclosure Agreement with AMD. No reproduction, distribution, or disclosure of this schematic or design is permitted. Use of this schematic and design for any purpose other than that intended requires a formal Technology Transfer Agreement with AMD. AMD makes no representation or warranty of any kind regarding the contents and design, including, but not limited to, any copyright or other intellectual property rights for any component, material, or design, and disclaims responsibility for any consequences resulting from use of the information included herein.
SHEET: REG MDDC	DATE: Mon Apr 15 05:58:01 2019		
SHEET NUMBER: 22 OF 35		TITLE: NAV110 G8X16Mode DP DP HDMI DP	
DOCUMENT NUMBER: 105_D198w_00A			
NOTES: NOTE			



AMD - PLATFORM HARDWARE ENG
 #48, No.1387, ZHANGDONG ROAD
 SHANGHAI, CHINA 201203

SHEET: REG VDDCI

DATE: Mon Apr 15 05:58:02 2019

SHEET NUMBER: 23 OF 35

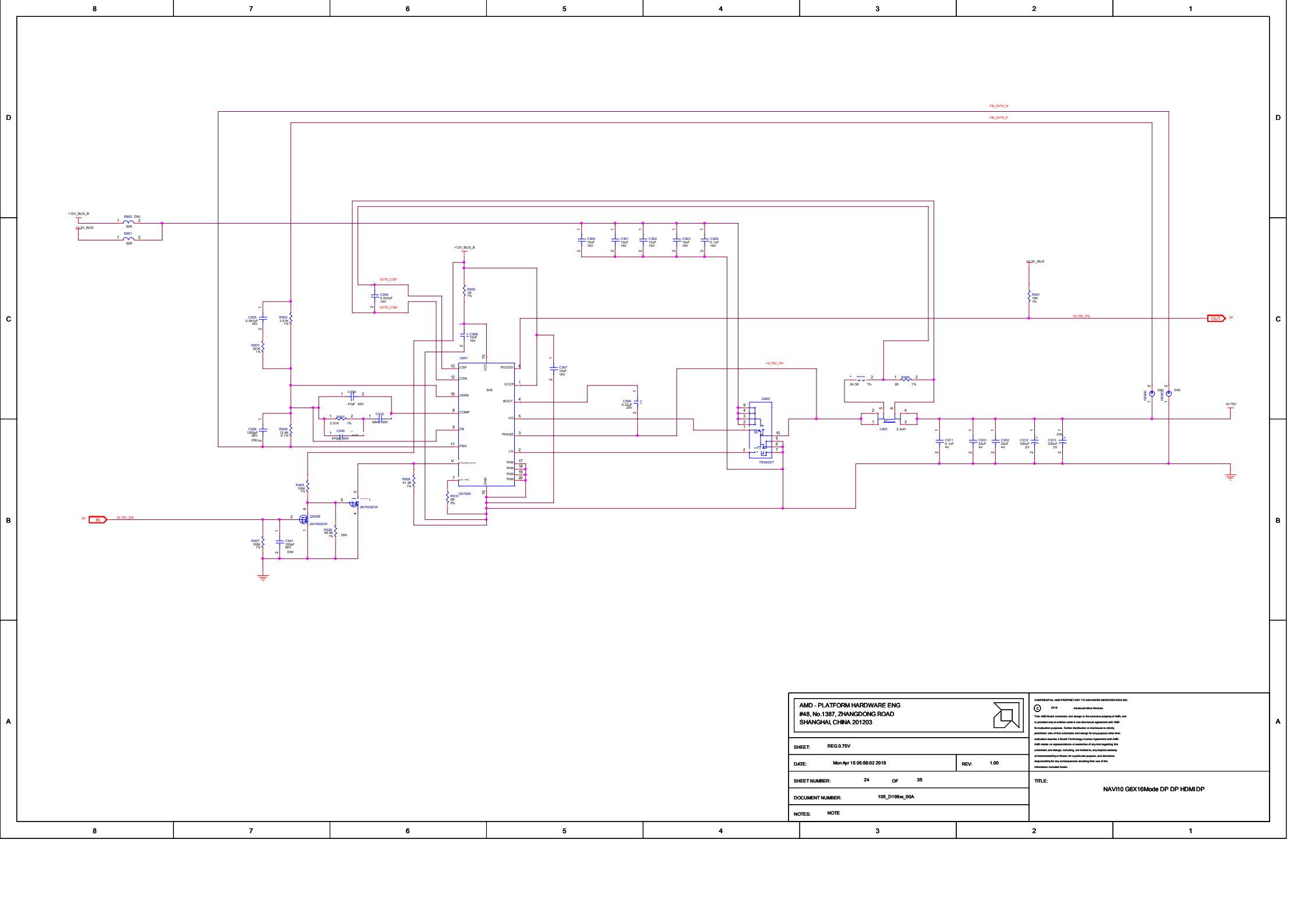
DOCUMENT NUMBER: 105_D199w_00A

NOTES: NOTE

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
 © 2018 Advanced Micro Devices

This AMD based schematic and design is the exclusive property of AMD, and is provided only to the user under a non-disclosure agreement with AMD. No redistribution, reproduction, or disclosure of this schematic or design is permitted without the express written consent of AMD. AMD makes no representation or warranty of any kind regarding the accuracy and design, including, but not limited to, any potential safety or environmental hazards for general purpose, and disclaims responsibility for any consequences resulting from use of the information included herein.

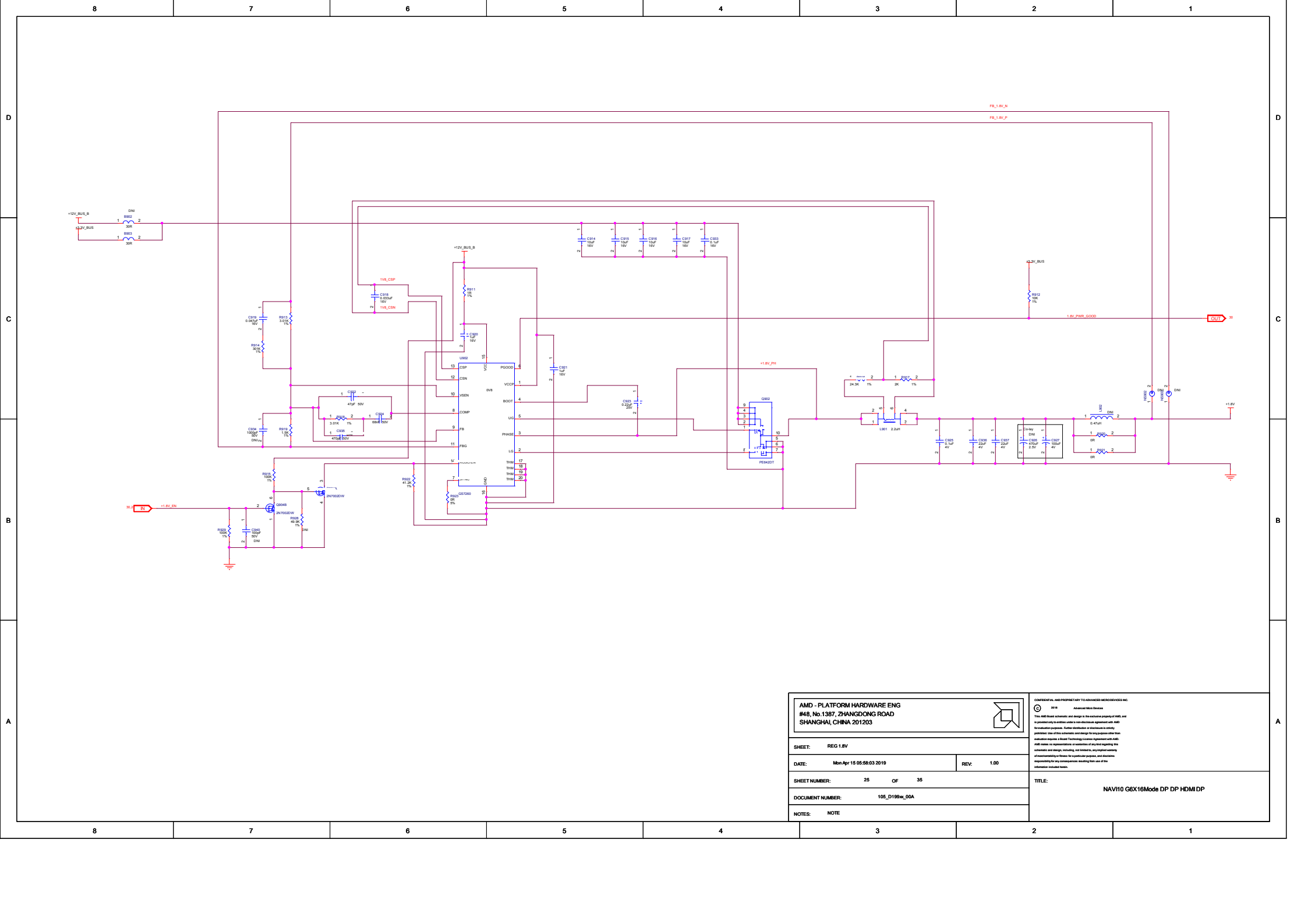
TITLE: NAVI10 G8X16Mode DP DP HDMI DP




AMD - PLATFORM HARDWARE ENG #48, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203		
SHEET: REG 0.75V		
DATE: Mon Apr 15 05:58:02 2019	REV: 1.00	
SHEET NUMBER: 24 OF 35		
DOCUMENT NUMBER: 105_D199w_00A		
NOTES: NOTE		

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
 5118 Advanced Micro Devices
 This AMD based schematic and design is the exclusive property of AMD, and is provided only under a non-disclosure Agreement with AMD. AMD makes no representation or warranty of any kind regarding the contents and design, including, but not limited to, any potential liability or consequences resulting from use of the information included herein.

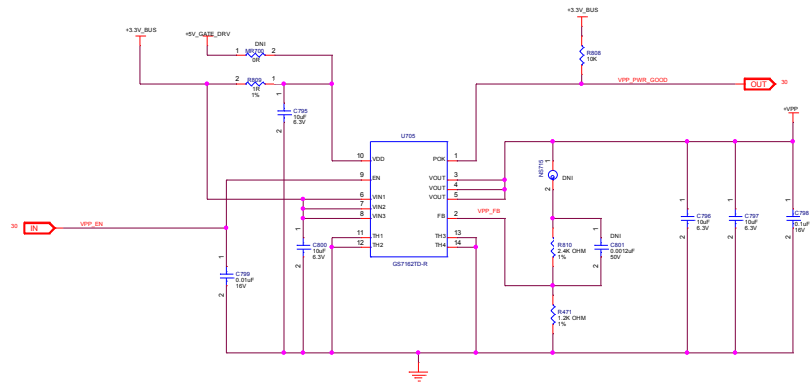
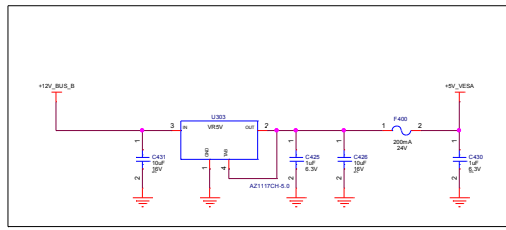
TITLE: NAV110 G8X16Mode DP DP HDMI DP



AMD - PLATFORM HARDWARE ENG #48, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203		
SHEET: REG 1.8V		
DATE: Mon Apr 15 05:58:03 2019	REV: 1.00	TITLE: NAV110 G8X16Mode DP DP HDMI DP
SHEET NUMBER: 25 OF 35	DOCUMENT NUMBER: 105_D199w_00A	
NOTES: NOTE		

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
 5118 Advanced Micro Devices
 This AMD based schematic and design is the exclusive property of AMD, and is provided only under a non-disclosure agreement with AMD. AMD makes no representation or warranty of any kind regarding the contents and design, including, but not limited to, any copyright, patent, or trademark rights in this document. AMD makes no representation or warranty of any kind regarding the contents and design, including, but not limited to, any copyright, patent, or trademark rights in this document. AMD makes no representation or warranty of any kind regarding the contents and design, including, but not limited to, any copyright, patent, or trademark rights in this document.

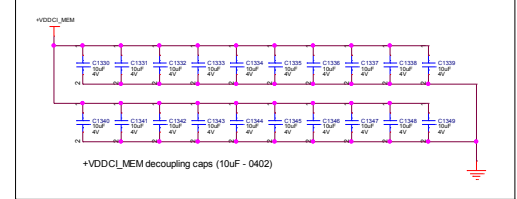
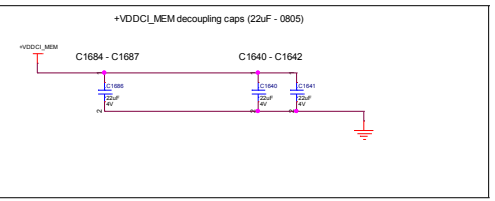
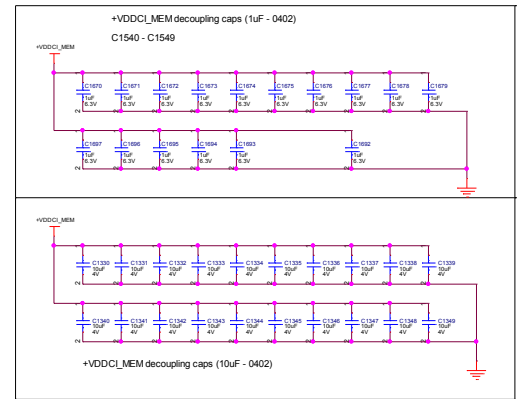
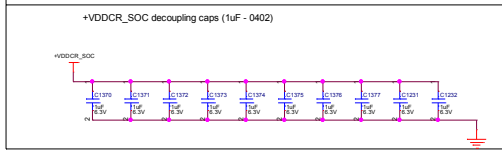
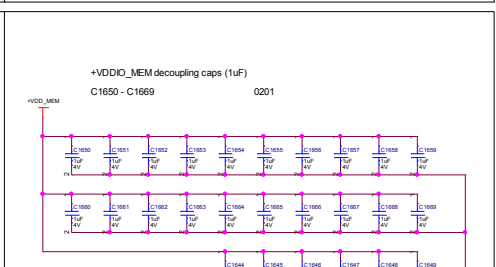
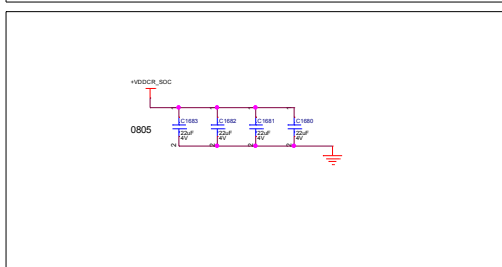
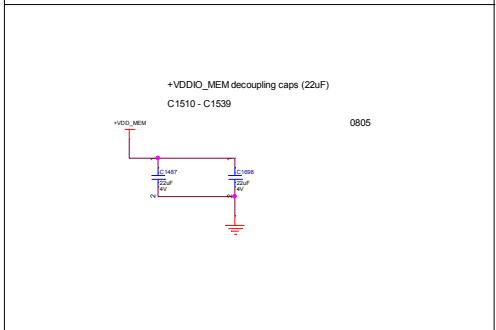
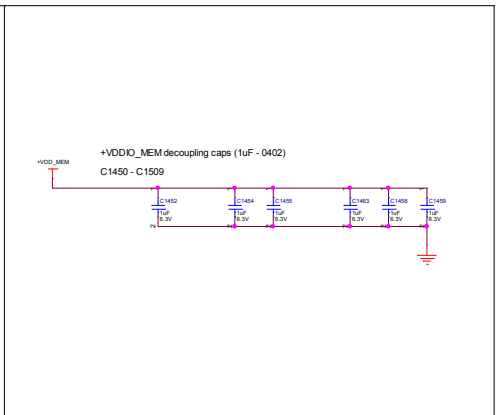
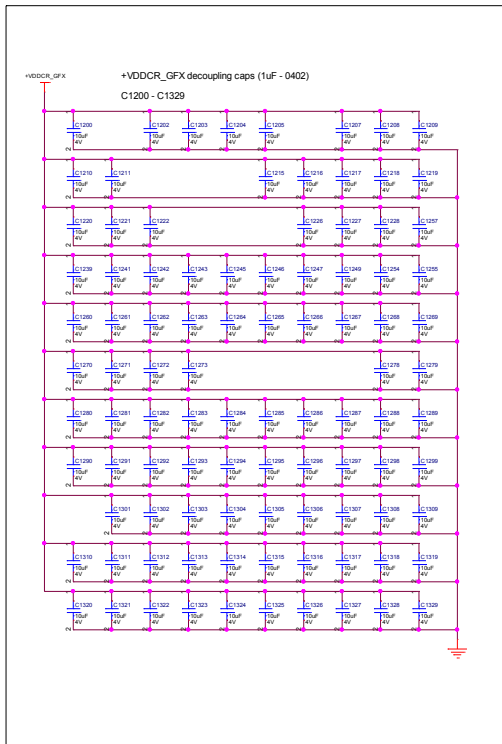
REGULATOR FOR +5V RALES
IOUT = 50mA



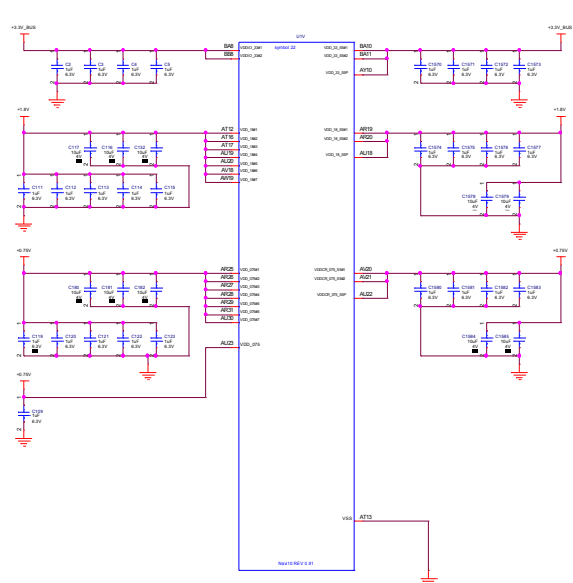
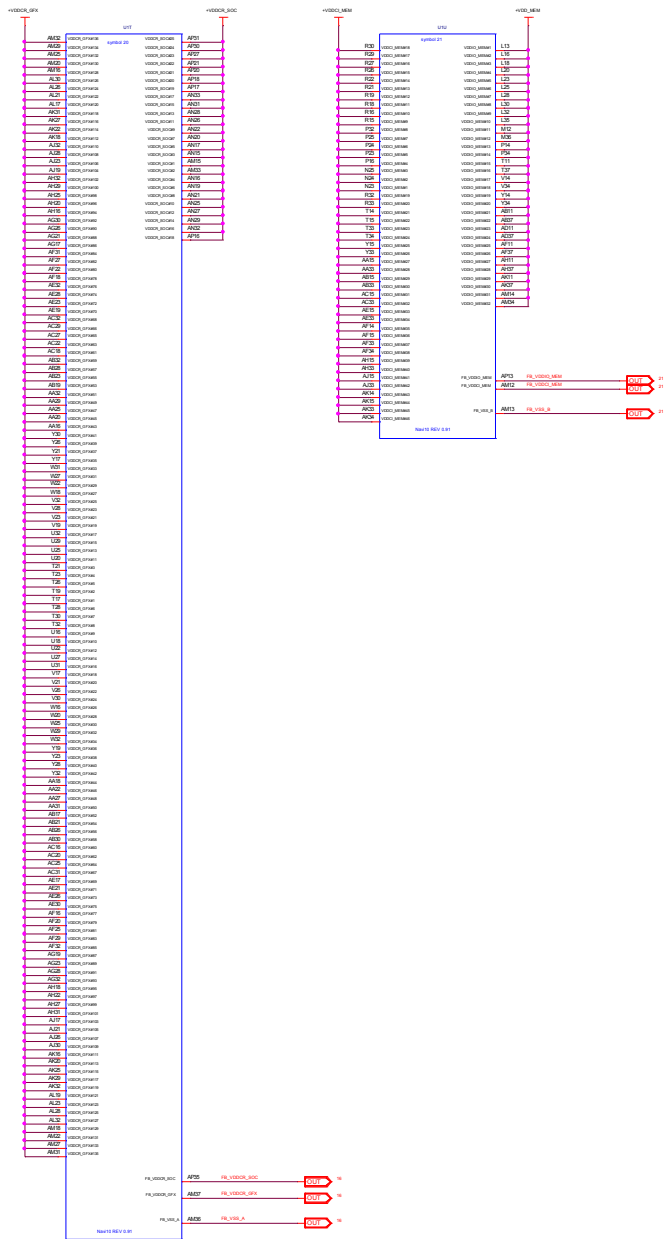
AMD - PLATFORM HARDWARE ENG #48, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203		
SHEET: SMALL RAIL REGULATORS		
DATE:	Mon Apr 15 05:58:03 2019	REV: 1.00
SHEET NUMBER:	26	OF 35
DOCUMENT NUMBER:	105_D199w_00A	
NOTES:	NOTE	

CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC.
 © 2018 Advanced Micro Devices
 This AMD based schematic and design is the exclusive property of AMD, and is provided only to the user under a non-disclosure agreement with AMD. The user is prohibited from reproducing, distributing, or otherwise making available this schematic and design for any purpose other than the intended use. AMD makes no representation or warranty of any kind regarding the schematic and design, including, but not limited to, any copyright, patent, or other intellectual property rights. The user is responsible for obtaining all necessary permissions for any consequences resulting from use of the information included herein.

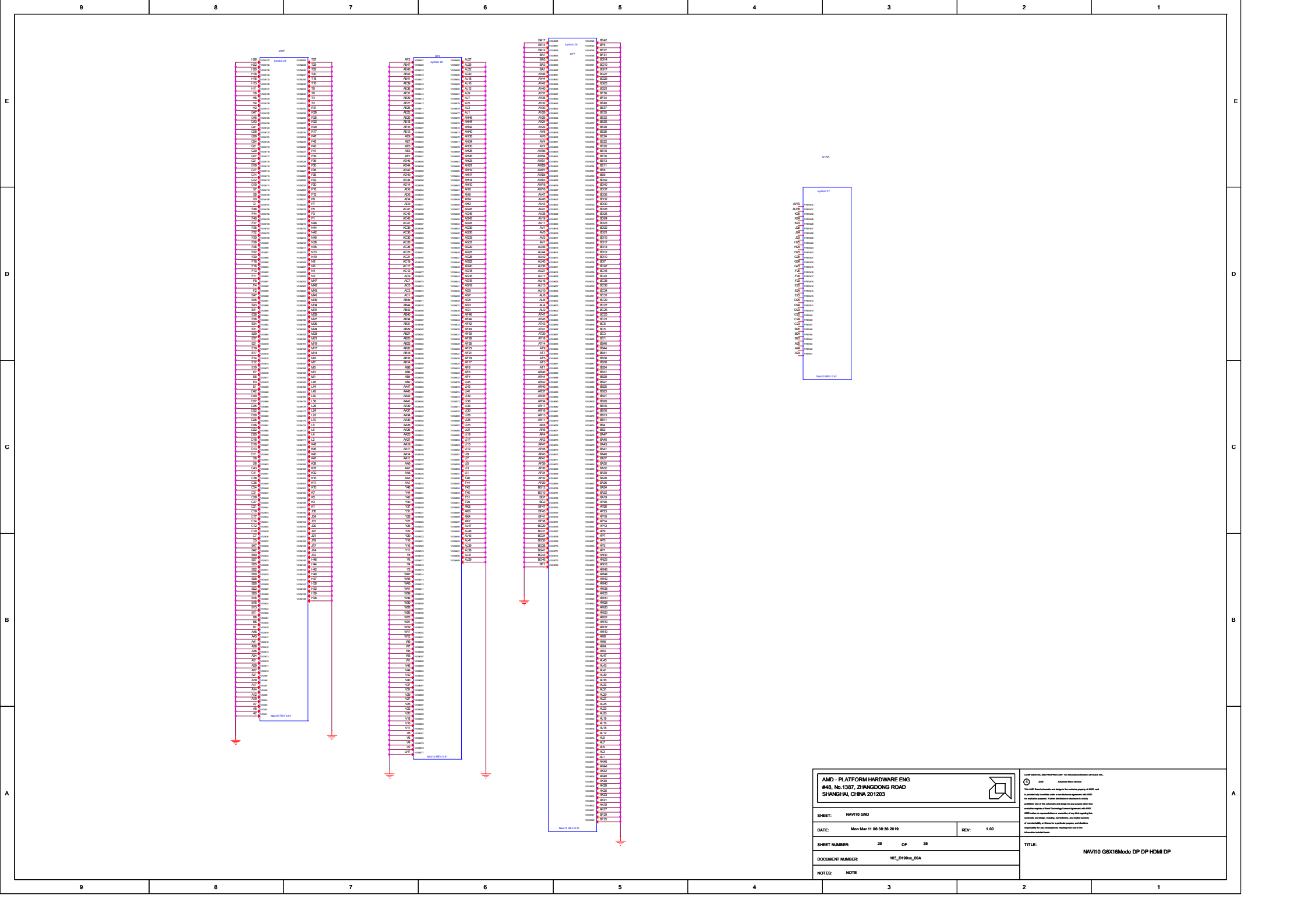
TITLE:
 NAVI10 G8X16Mode DP DP HDMI DP



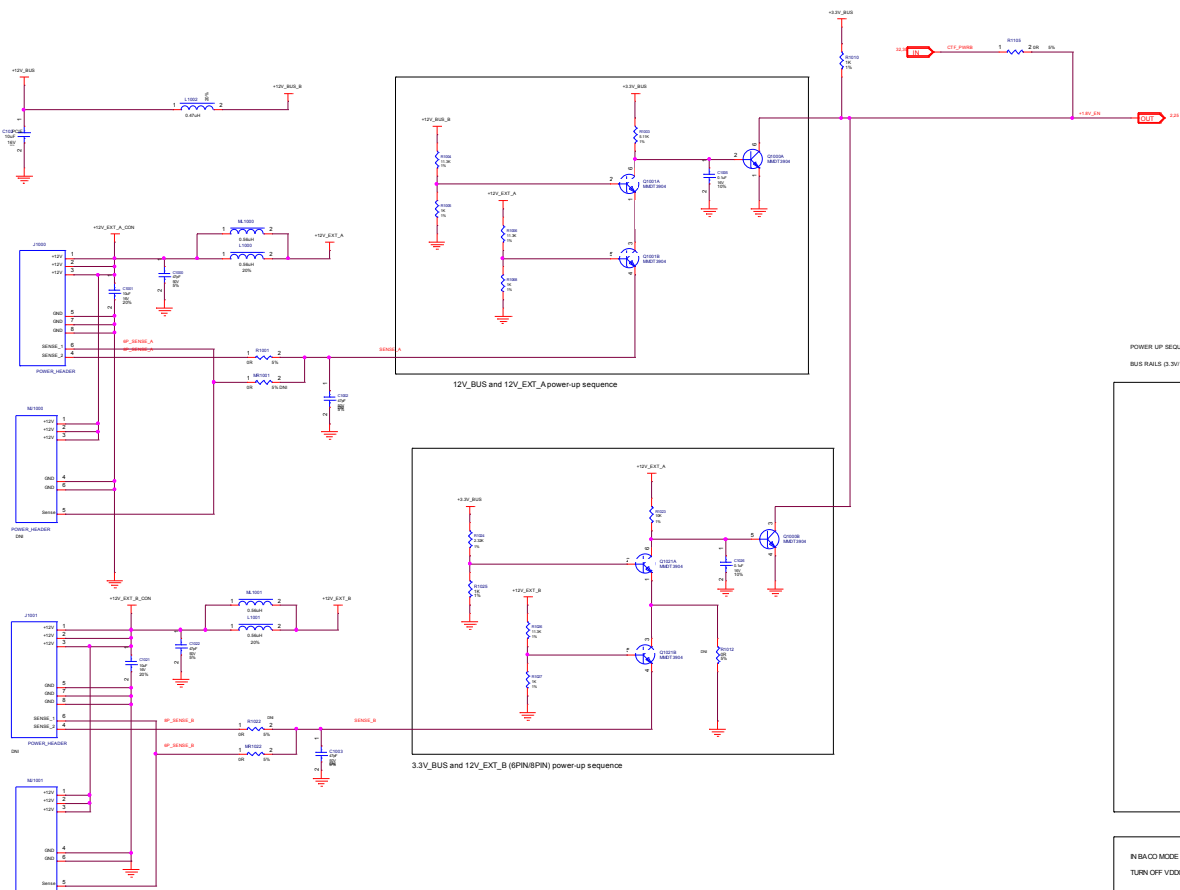
AMD - PLATFORM HARDWARE ENG #48, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203			CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC. © 2018 Advanced Micro Devices This AMD based schematic and design is the exclusive property of AMD, and is provided only to the user under a non-disclosure agreement with AMD for the intended purpose. Further distribution or disclosure is strictly prohibited. Use of this schematic and design for any purpose other than that intended requires a formal Technology License Agreement with AMD. AMD makes no representations or warranties of any kind regarding the schematic and design, including, but not limited to, any copyright, patent, or other intellectual property rights. AMD is not responsible for any consequences resulting from use of the information included herein.
SHEET: NAV110 DECAPS	DATE: Mon Apr 15 05:58:04 2019		
SHEET NUMBER: 27 OF 35		TITLE: NAV110 G8X16Mode DP DP HDMI DP	
DOCUMENT NUMBER: 105_D199w_00A			
NOTES: NOTE			



AMD - PLATFORM HARDWARE ENG #46, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203			User e-mail: amd.platform@amd.com © 2016 AMD All rights reserved. This AMD document and design are the exclusive property of AMD and its subsidiaries. No part of this document may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the prior written permission of AMD. AMD makes no representation or warranty of any kind regarding the contents and design, including, but not limited to, any third party's intellectual property. AMD is not responsible for any damages or liability for any loss or damage resulting from the use of this document.
SHEET: NAV10 POWER			
DATE: Mon Apr 15 05:58:04 2019			
SHEET NUMBER: 28 OF 35			
DOCUMENT NUMBER: 105_0198x_05A			
NOTES: NOTE			
TITLE: NAV10 G6X16Mode DP DP HDMI DP			

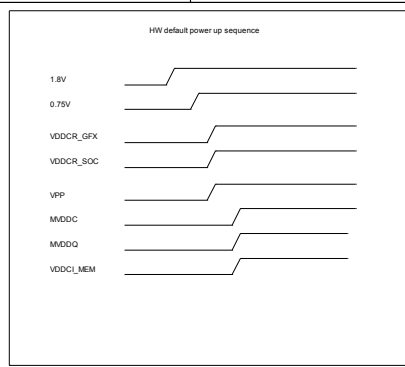


AMD - PLATFORM HARDWARE ENG #46, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203		<small>USER SPECIFIC, NOT FOR GENERAL DISTRIBUTION</small> <small>© 2016 Advanced Micro Devices, Inc.</small> <small>The AMD logo and other marks are the registered property of AMD, and its use without the written consent of AMD is prohibited. AMD is not responsible for any damage or loss of data that may occur as a result of using the information provided herein. AMD is not responsible for any damage or loss of data that may occur as a result of using the information provided herein. AMD is not responsible for any damage or loss of data that may occur as a result of using the information provided herein.</small>	
SHEET: NAV10 GND		REV: 1.00	
DATE: Mon Mar 11 06:38:36 2019		TITLE: NAV10 G6X16Mode DP DP HDMI DP	
SHEET NUMBER: 20 OF 35		DOCUMENT NUMBER: 105_0198K_05A	
NOTES: NOTE			

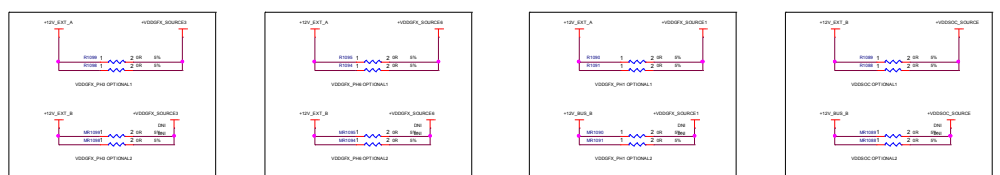
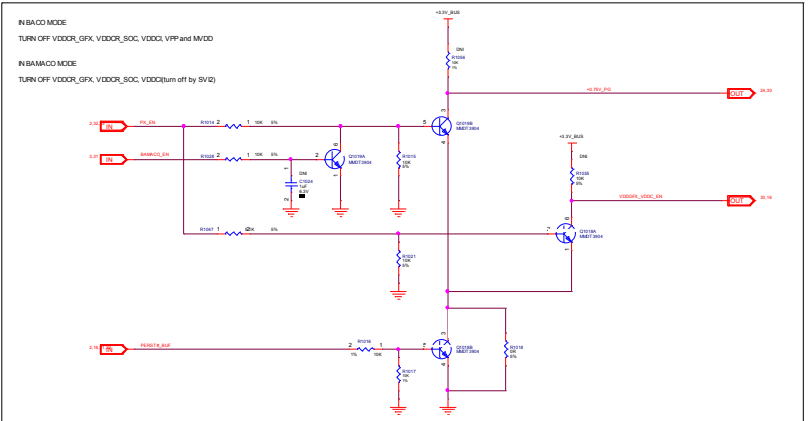
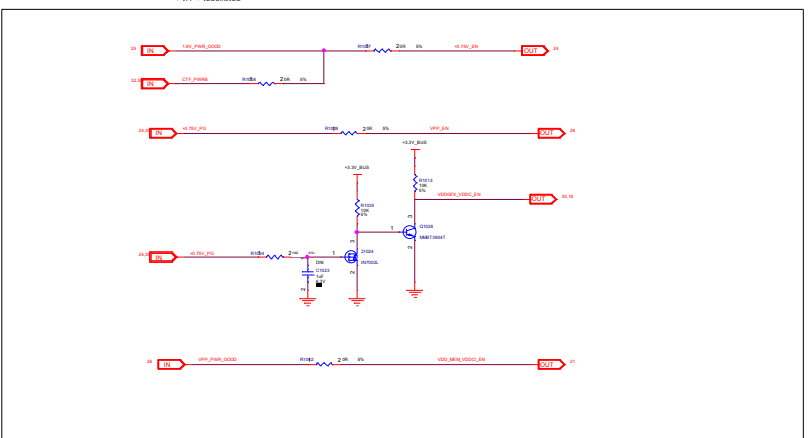


12V_BUS and 12V_EXT_A power-up sequence

3.3V_BUS and 12V_EXT_B (RPIN/RPN) power-up sequence



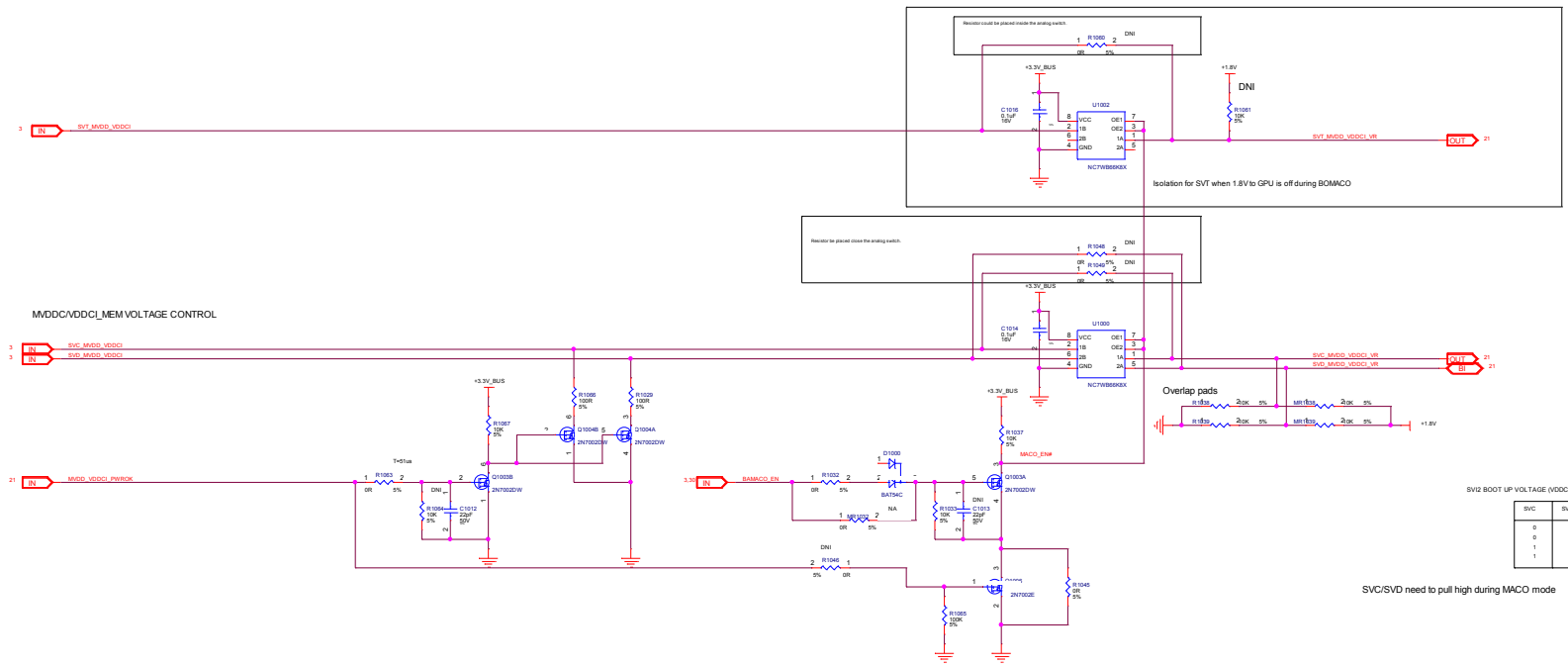
POWER UP SEQUENCE
BUS RAILS (0.9V12V UP) => 1.8V => 0.75V => VDDGFX/VDDSOC
=> VPP => VDDC/MDDQ



AMD - PLATFORM HARDWARE ENG #46, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203	
SHEET: POWER MANAGEMENT	
DATE: Mon Apr 15 05:58:05 2019	REV: 1.00
SHEET NUMBER: 30	OF 35
DOCUMENT NUMBER: 105_0199x_05A	
NOTES: NOTE	

© 2019 Advanced Micro Devices, Inc.
 All rights reserved.
 This document is the property of AMD and is intended for use only by the customer to whom it is issued. AMD makes no warranty, express or implied, for the use of this document in any other application. AMD reserves the right to change this document without notice and without liability for any damages resulting from the use of this document.

TITLE: NAV10 G6X16Mode DP DP/HDMI DP



MDDC/VDDC1_MEM VOLTAGE CONTROL

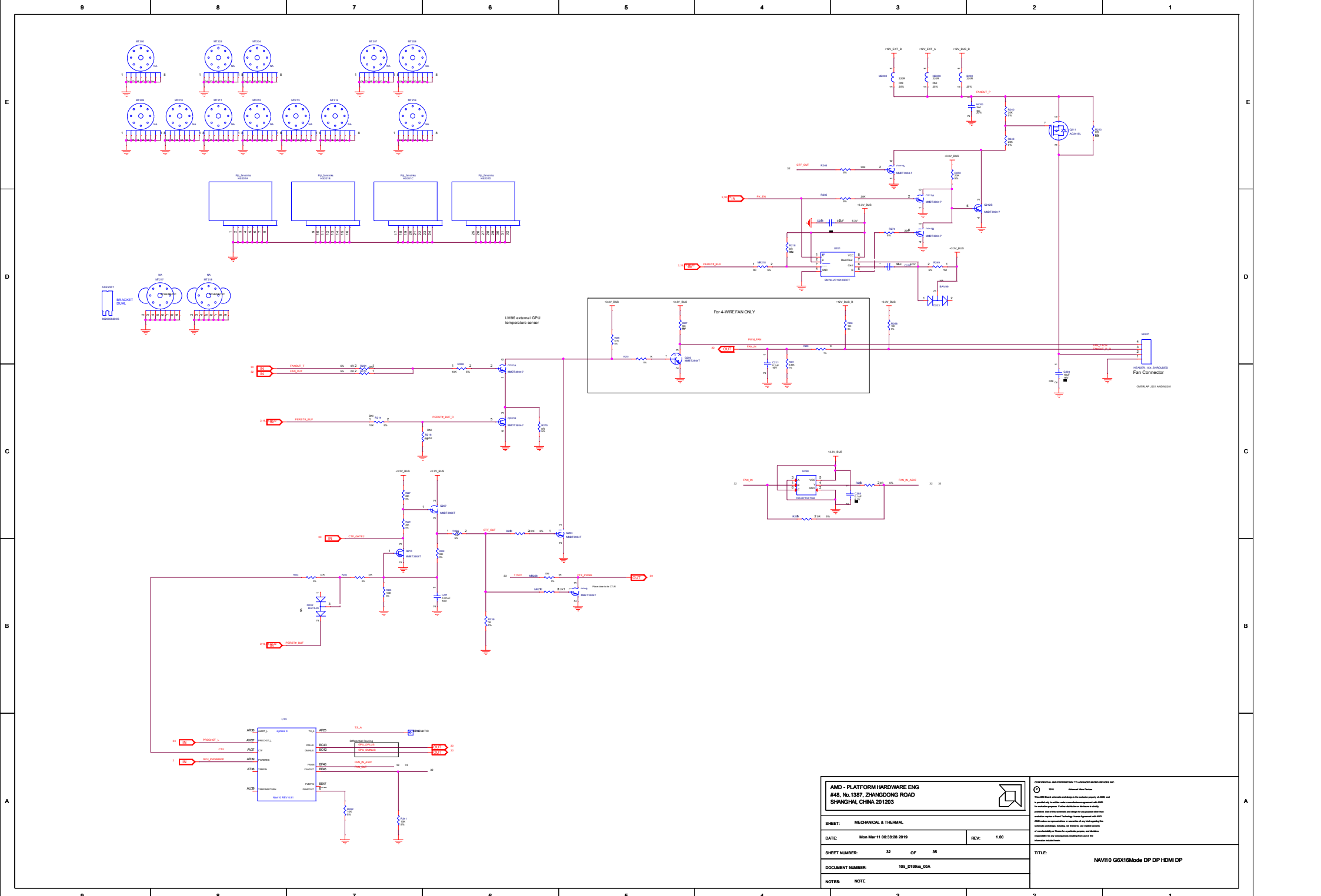
Overlap pads

SV2	SV2	VOLTAGE
0	0	1.1V
0	1	1.0V
1	0	0.9V
1	1	0.8V

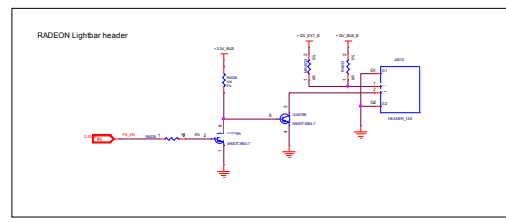
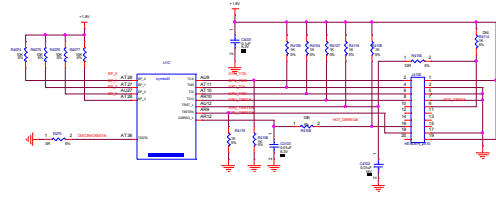
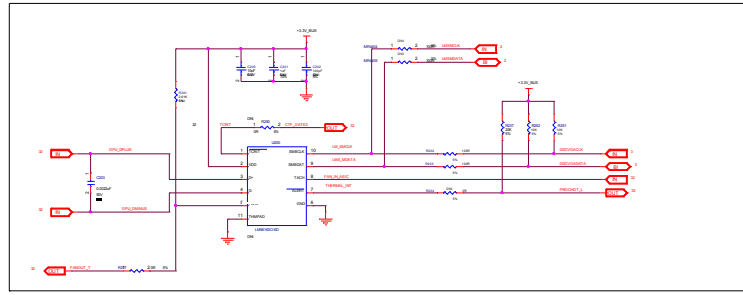
SV2/SVD need to pull high during MACO mode

AMD - PLATFORM HARDWARE ENG #48, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203	
SHEET: SV2 & BAMCO	REV: 1.00
DATE: Mon Apr 15 05:58:05 2019	
SHEET NUMBER: 31 OF 35	
DOCUMENT NUMBER: 105_D199w_00A	
NOTES: NOTE	

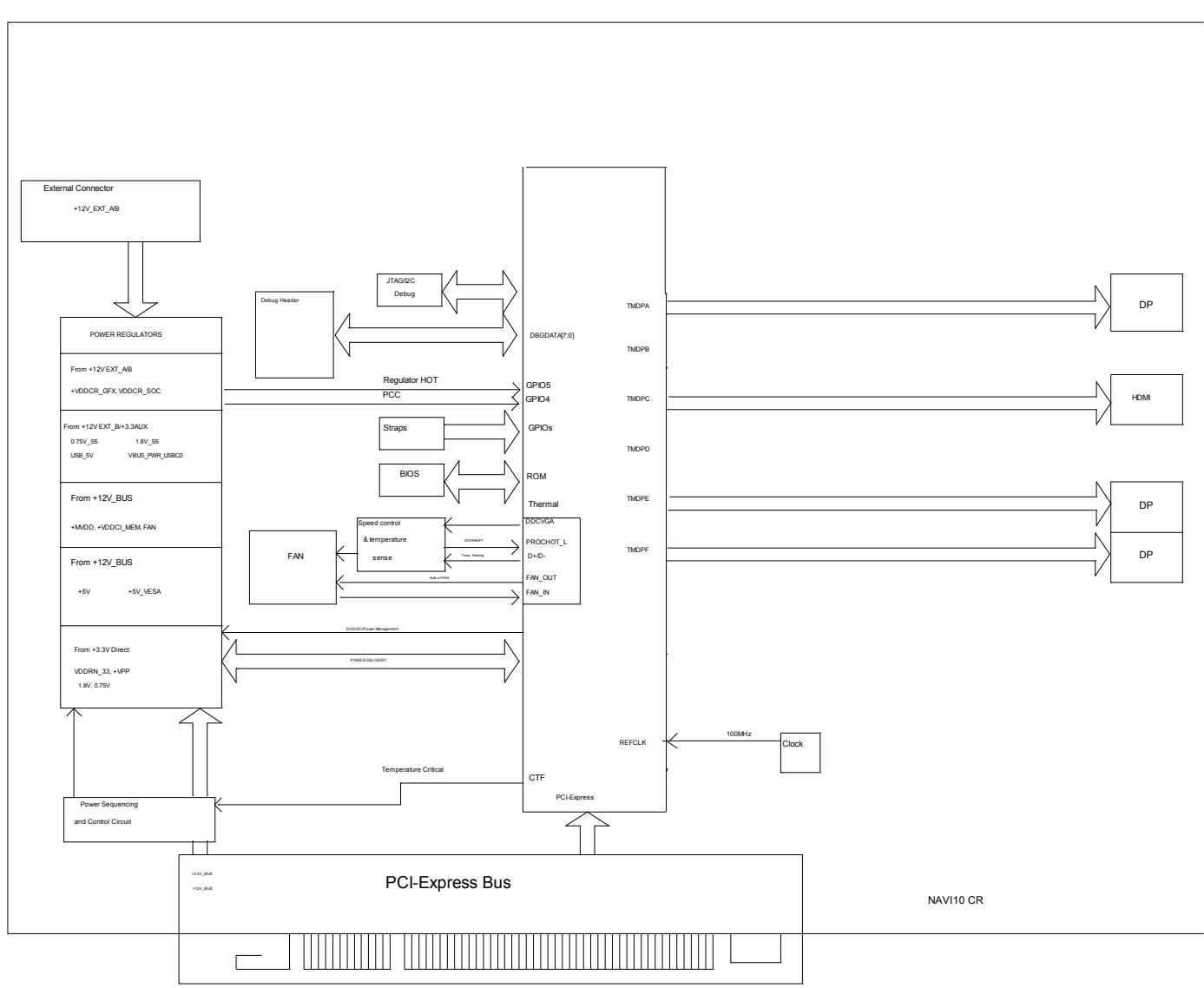
CONFIDENTIAL AND PROPRIETARY TO ADVANCED MICRODEVICES INC. © 2018 Advanced Micro Devices This AMD based schematic and design is the exclusive property of AMD, and is provided only to authorized users in accordance with the license agreement with AMD. AMD makes no representations or warranties of any kind regarding the schematic and design, including, but not limited to, any copyright ownership or confidentiality of the design for any purpose, and disclaims responsibility for any consequences resulting from use of the information included herein.
TITLE: NAV110 G8X16Mode DP DP HDMI DP



AMD - PLATFORM HARDWARE ENG #46, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203		<p>Copyright © 2019 Advanced Micro Devices, Inc. All rights reserved.</p> <p>AMD, the AMD logo, and the AMD logo with "AMD" text are trademarks of Advanced Micro Devices, Inc. in the United States and other countries. All other trademarks are the property of their respective owners.</p>
SHEET: MECHANICAL & THERMAL		
DATE: Mon Mar 11 06:38:28 2019	REV: 1.00	
SHEET NUMBER: 32	OF 35	
DOCUMENT NUMBER: 105_0199xk_05A		
NOTES: NOTE		TITLE: NAV10 G6X16Mode DP DP HDMI DP



A4ED - PLATFORM HARDWARE ENG SHEL NO.1387, ZHANGDONG ROAD SHANGHAI CHINA 201203			
SHEET:	08/08	REV:	1.00
DATE:	Mon May 11 09:39:38 2015		
SHEET NUMBER:	33	TITLE: NAVY10 GEX1684bde EPDP/HBM DP	
DOCUMENT NUMBER:	HEL1684_BA		



AMD - PLATFORM HARDWARE ENG		<p>© 2016 Advanced Micro Devices, Inc. <small>The AMD logo, AMD, and the AMD logo with the AMD text are trademarks of AMD. All other trademarks are the property of their respective owners. AMD, the AMD logo, and the AMD logo with the AMD text are registered trademarks of AMD. All other trademarks are the property of their respective owners. AMD, the AMD logo, and the AMD logo with the AMD text are registered trademarks of AMD. All other trademarks are the property of their respective owners.</small></p>
#46, No.1387, ZHANGDONG ROAD SHANGHAI, CHINA 201203		
SHEET: BLOCK DIAGRAM	REV: 1.00	
DATE: Mon Mar 11 03:18:00 2019		
SHEET NUMBER: 34 OF 35		
DOCUMENT NUMBER: 105_0198K_05A		
NOTES: NOTE		

TITLE:	NAVI10 G6X16Mode DP DP HDMI DP
--------	--------------------------------

