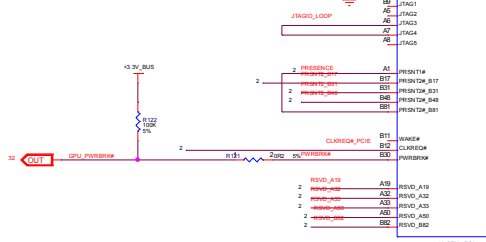
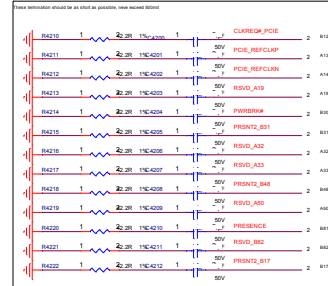
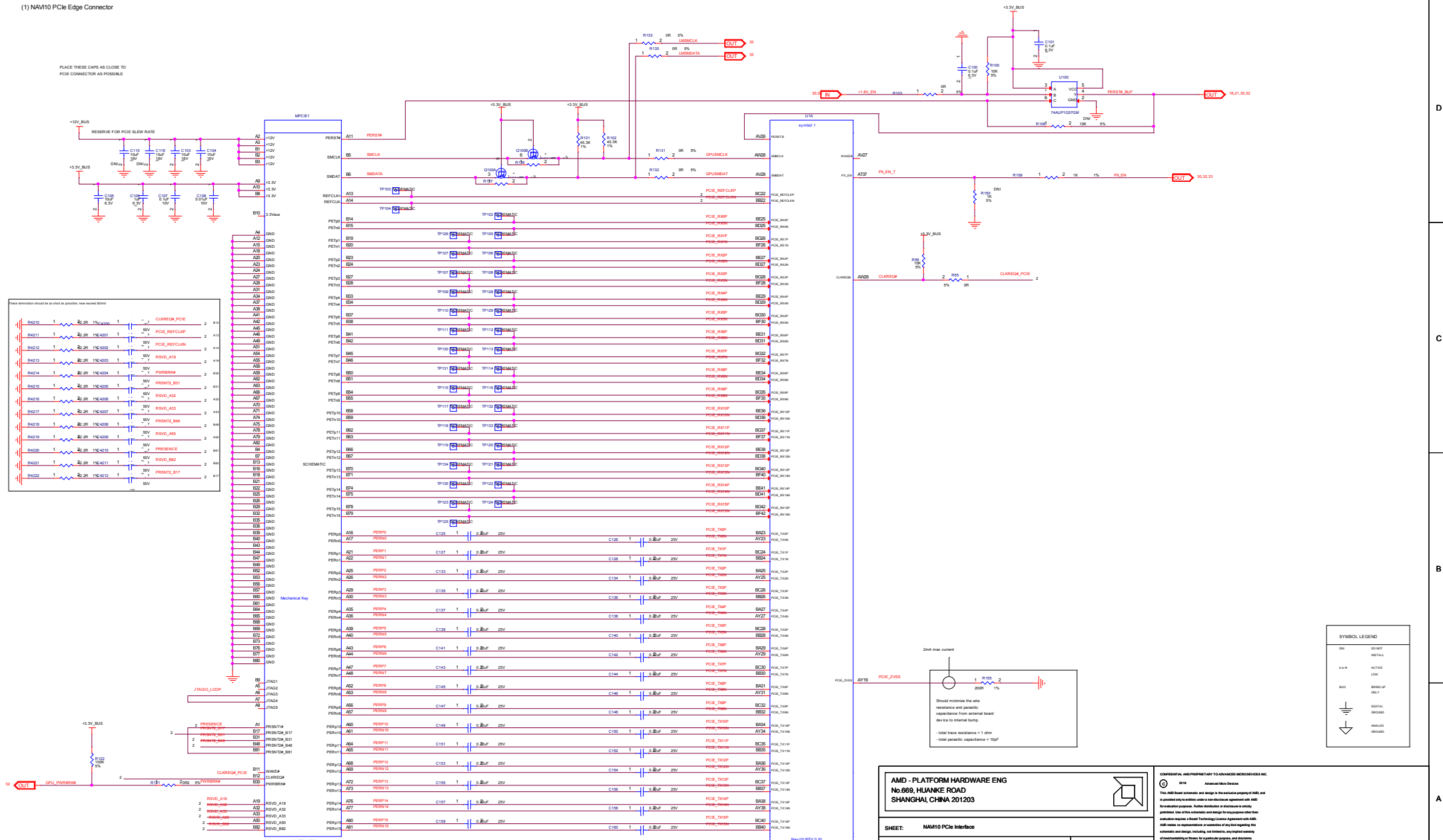


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SHEET: TOC	DATE: Fri Jun 21 05:25:22 2019		REV: 1.00
SHEET NUMBER: 1 OF 35		TITLE: NAV110 G8X16mode DP DP HDMI DP	
DOCUMENT NUMBER: 105_D199w_008		NOTES: NOTE	

PLACE THESE CAPS AS CLOSE TO PCIe CONNECTOR AS POSSIBLE



*16 GEN6 PCB

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SHEET: NAV10 PCIe Interface

DATE: Fri Jun 21 05:25:22 2019 **REV:** 1.00

SHEET NUMBER: 2 OF 35

DOCUMENT NUMBER: 105_D199w_008

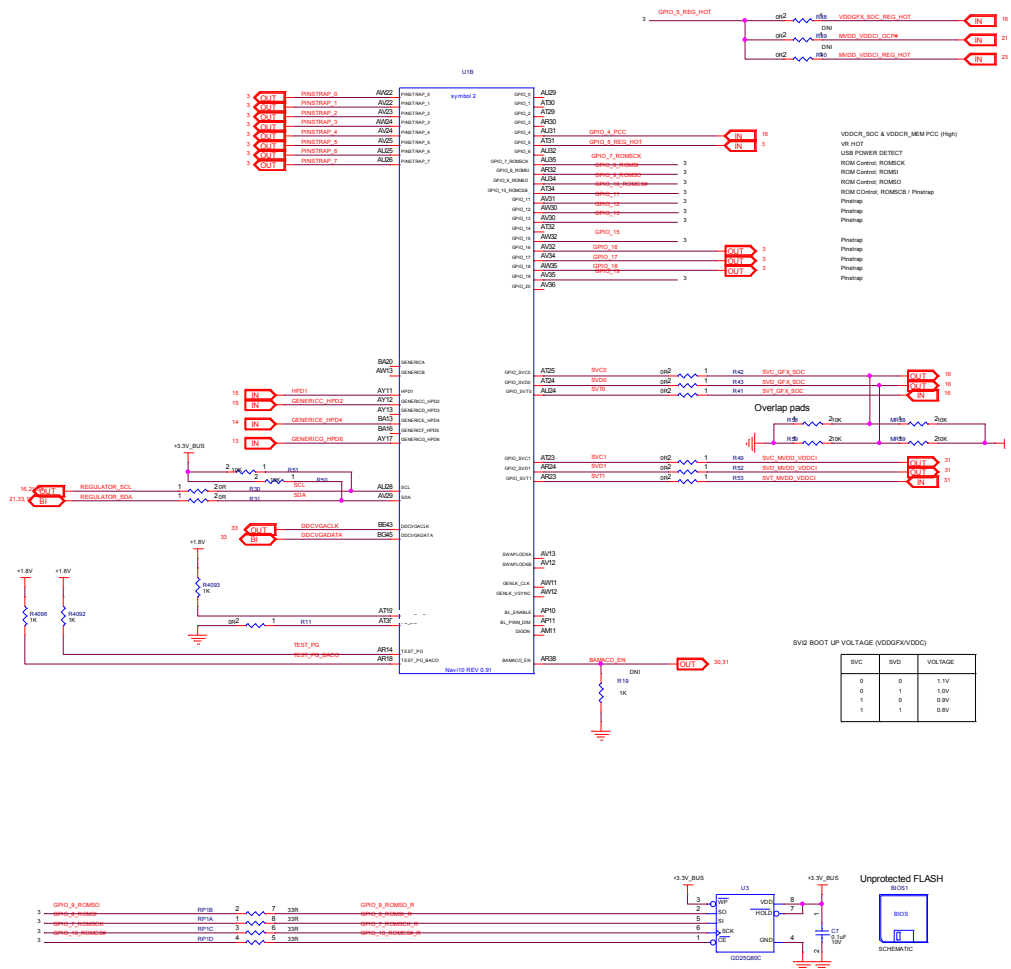
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TITLE: NAV10 G8X16mode DP HDMI DP



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

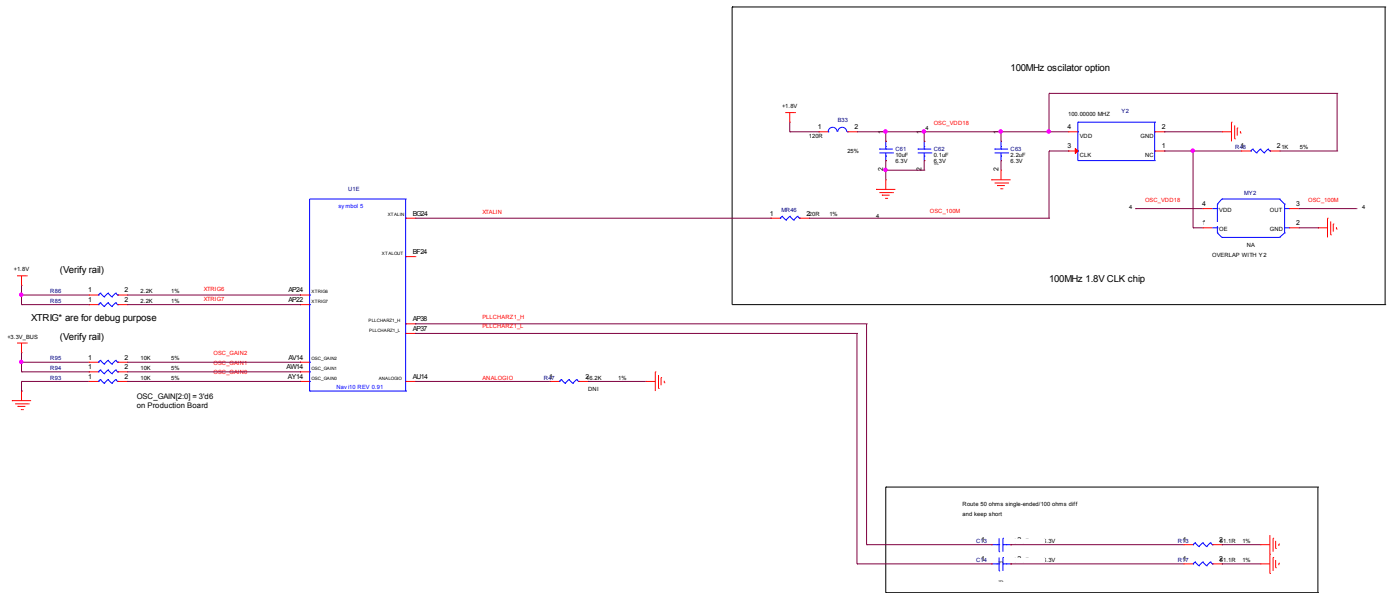
User	Internal Default Value	Definition
BIF	0	STRAP_BIF_GEM_DIS_A 0: PCIe GEN 4 supported 1: PCIe GEN 4 not supported
	0	PINSTRAP_BIF_CLK_PM_EN 0: CLKREQ power management capability is disabled 1: CLKREQ power management capability is enabled
	0	PINSTRAP_BIF_LC_TX_SWING 0: VGA controller capacity enabled 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	
	0	
	1	PINSTRAP_SMBUS_ADDR 0: 0x4th 1: 0x6th
	1	PINSTRAP_BIOS_ROM_EN 0: Disable the external BIOS ROM device 1: Enable the external BIOS ROM device

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SHEET: NAV10 GPOs		REV: 1.00	
DATE: Fri Jun 21 05:25:23 2019	SHEET NUMBER: 3 OF 35		TITLE: NAV10 G8X16mode DP HDMI DP
DOCUMENT NUMBER: 105_D199w_008		NOTES: NOTE	



(Verify rail)
 +1.8V
 R85 1 2 2.2k 1% XTRIG2
 R86 1 2 2.2k 1% XTRIG1
 XTRIG* are for debug purpose

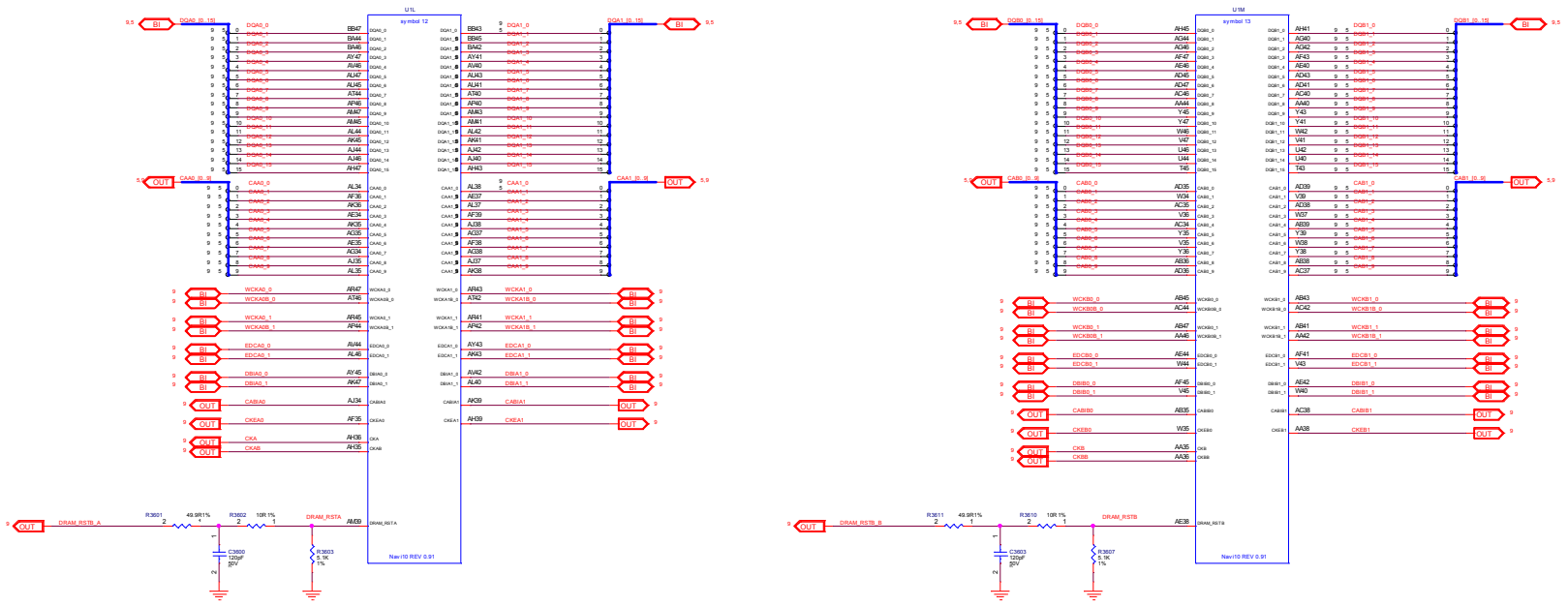
(Verify rail)
 +1.8V_BUS
 R83 1 2 10k 5% OSC_GANZ
 R84 1 2 10k 5% OSC_GANZ
 R85 1 2 10k 5% OSC_GANZ
 OSC_GANZ[0] = 396 on Production Board

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SHEET:	NAV10_XTAL	
DATE:	Fri Jun 21 05:25:23 2019	REV: 1.00
SHEET NUMBER:	4 OF 35	
DOCUMENT NUMBER:	105_D199w_008	
NOTES:	NOTE	

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TITLE:
 NAV10 G8X16mode DP DP HDMI DP

NAVI 10 MEM INTERFACE CH A/B

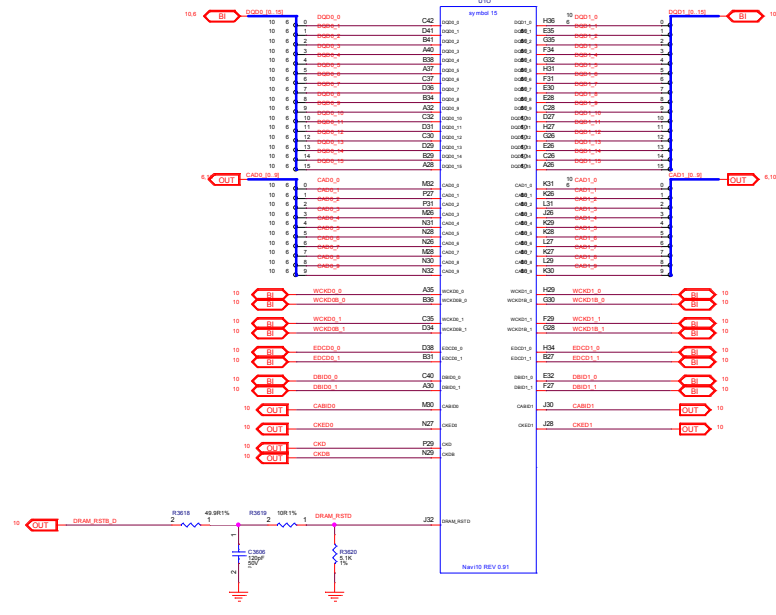
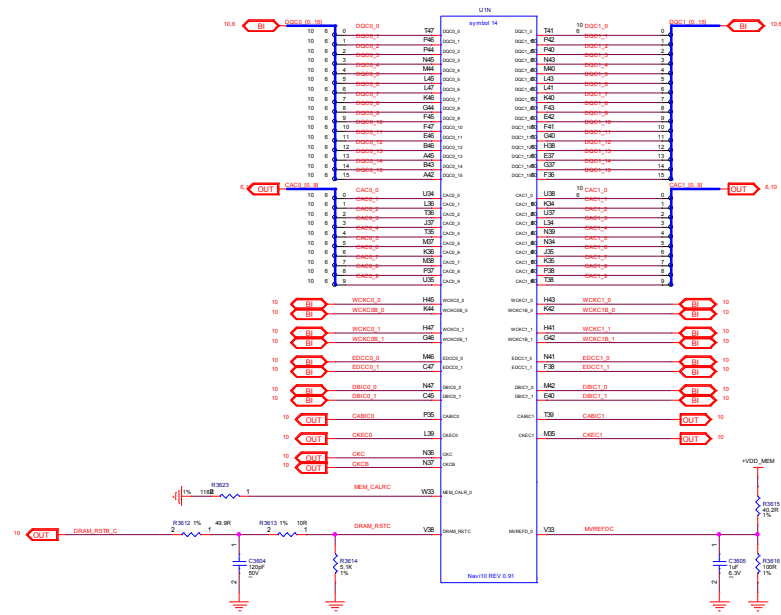


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SHEET: NAVI10 MEM CHAB
 DATE: Fri Jun 21 05:25:24 2019
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 DOCUMENT NUMBER: 105_D199w_008
 NOTES: NOTE

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TITLE: NAVI10 G8X16mode DP DP HDMI DP

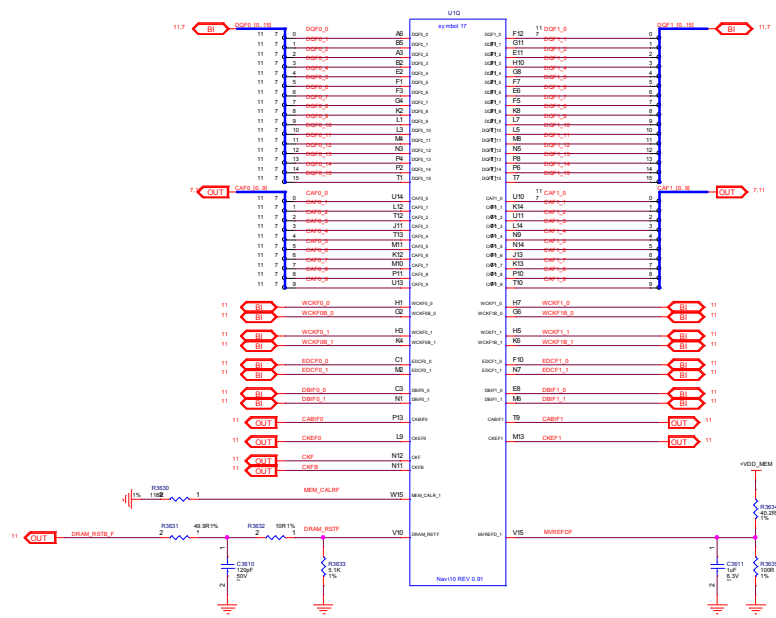
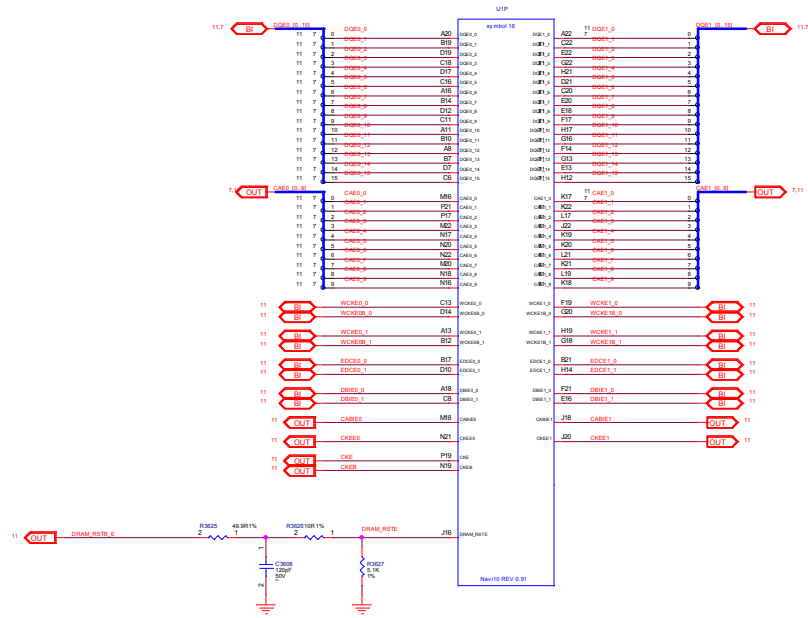


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SHEET: NAVI10 MEM CHCD
DATE: Fri Jun 21 05:25:24 2019
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DOCUMENT NUMBER: 105_D199w_008
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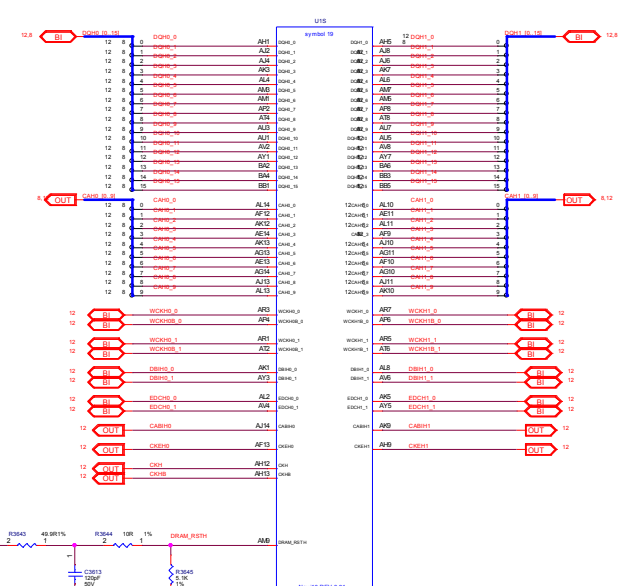
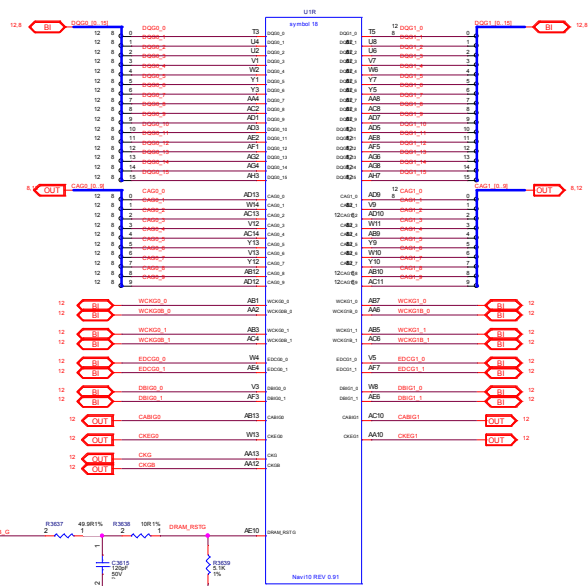
TITLE: NAVI10 G8X16mode DP DP HDMI DP



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SHEET: NAVI10 MEM CHEF	
DATE: Fri Jun 21 05:25:25 2019	REV: 1.00
SHEET NUMBER: 7 OF 35	
DOCUMENT NUMBER: 105_D190w_008	
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TITLE: NAVI10 G8X16mode DP DP HDMI DP

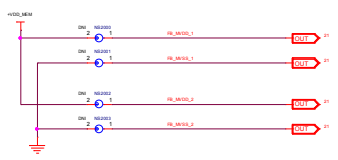
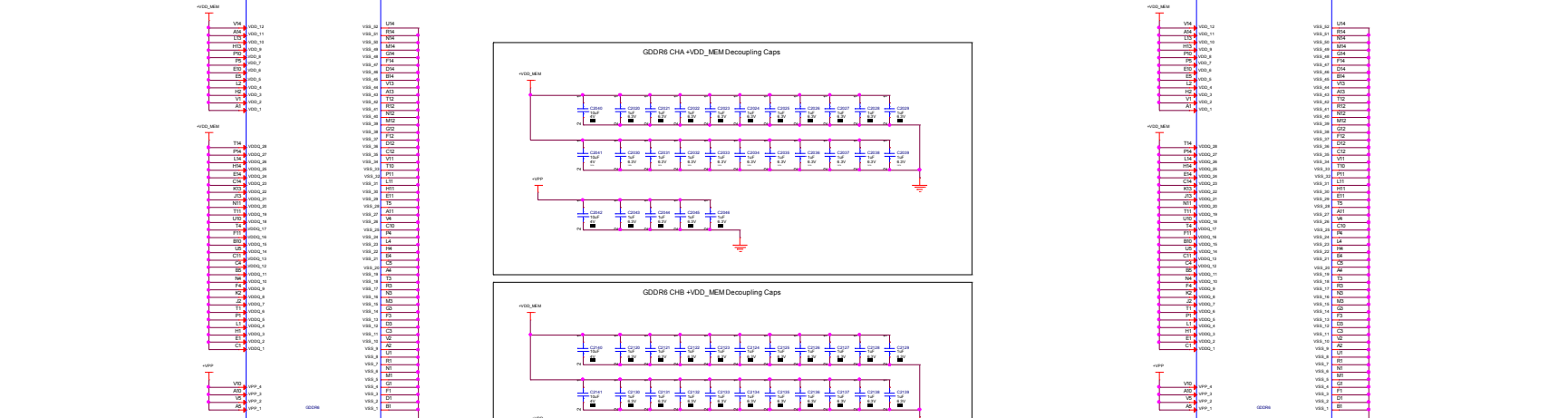
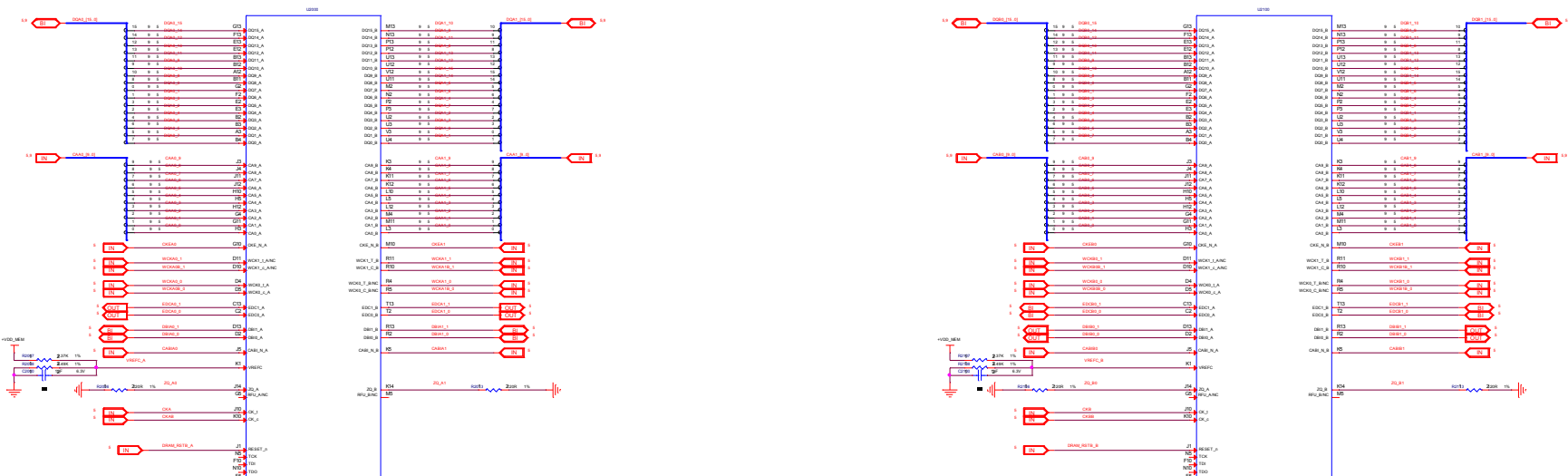


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SHEET: NAV10 MEM CHGH
 DATE: Fri Jun 21 05:25:26 2019
 SHEET NUMBER: 8 OF 35
 DOCUMENT NUMBER: 105_D199w_008
 NOTES: NOTE

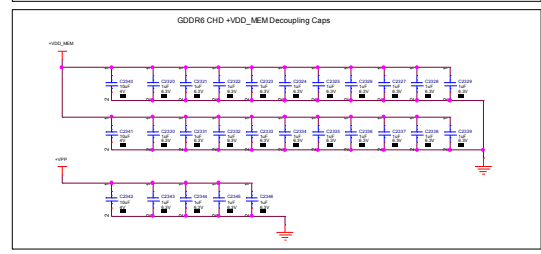
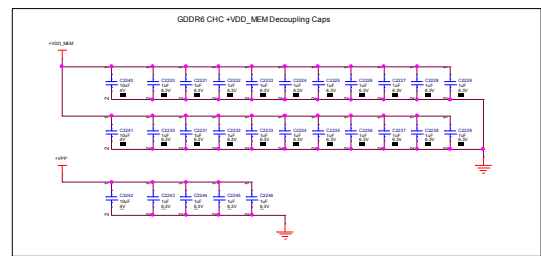
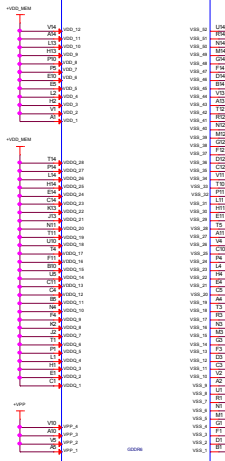
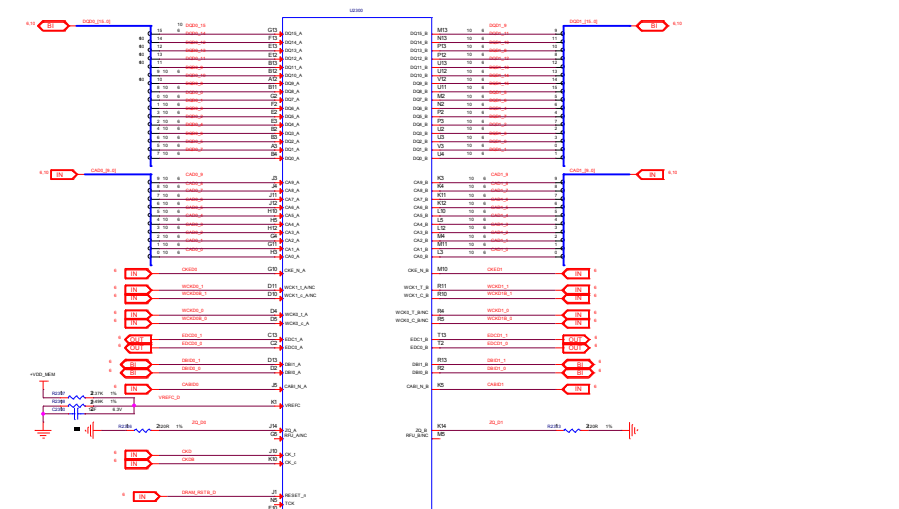
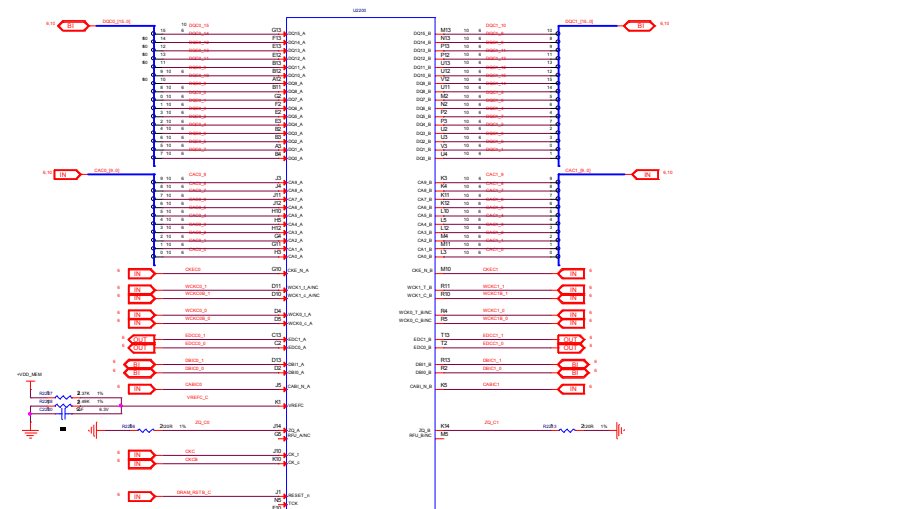
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TITLE:
 NAV110 G8X16mode DP DP HDMI DP



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<p>SHEET: GDDR6 MEM CHAB</p>		<p>REV: 1.00</p>	
<p>DATE: Fri Jun 21 03:45:56 2019</p>		<p>SHEET NUMBER: 9 OF 35</p>	
<p>DOCUMENT NUMBER: 105_0199x_098</p>		<p>TITLE: NAV10 G6X16mode DP DP HDMI DP</p>	
<p>NOTES: NOTE</p>		<p>NOTES:</p>	

GDDR6x16 CHCD Memory



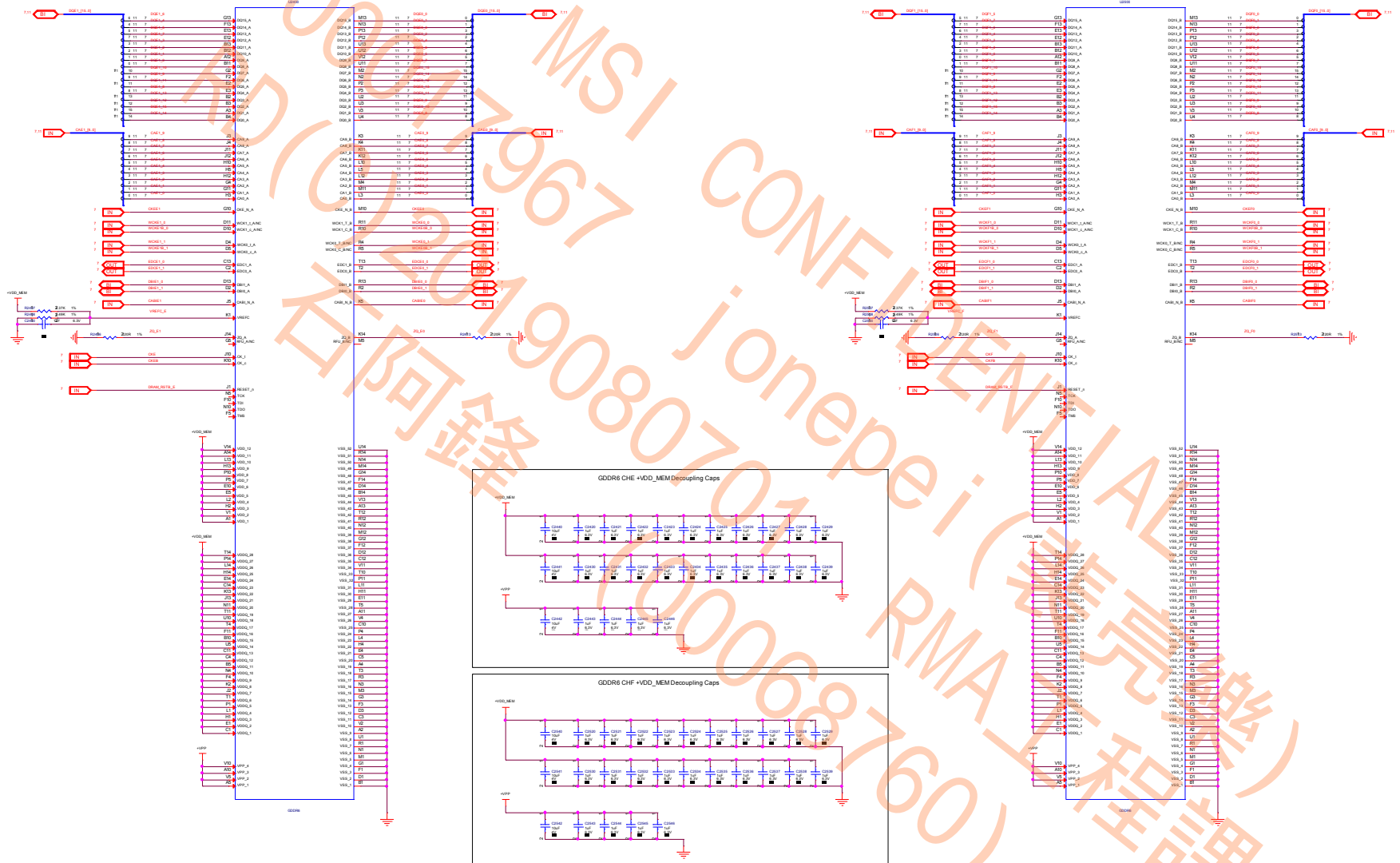
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SHEET: GDDR6 MEM CHCD
 DATE: Fri Jun 21 03:45:56 2019
 SHEET NUMBER: 10 OF 35
 DOCUMENT NUMBER: 105_0199x_098
 NOTES: NOTE

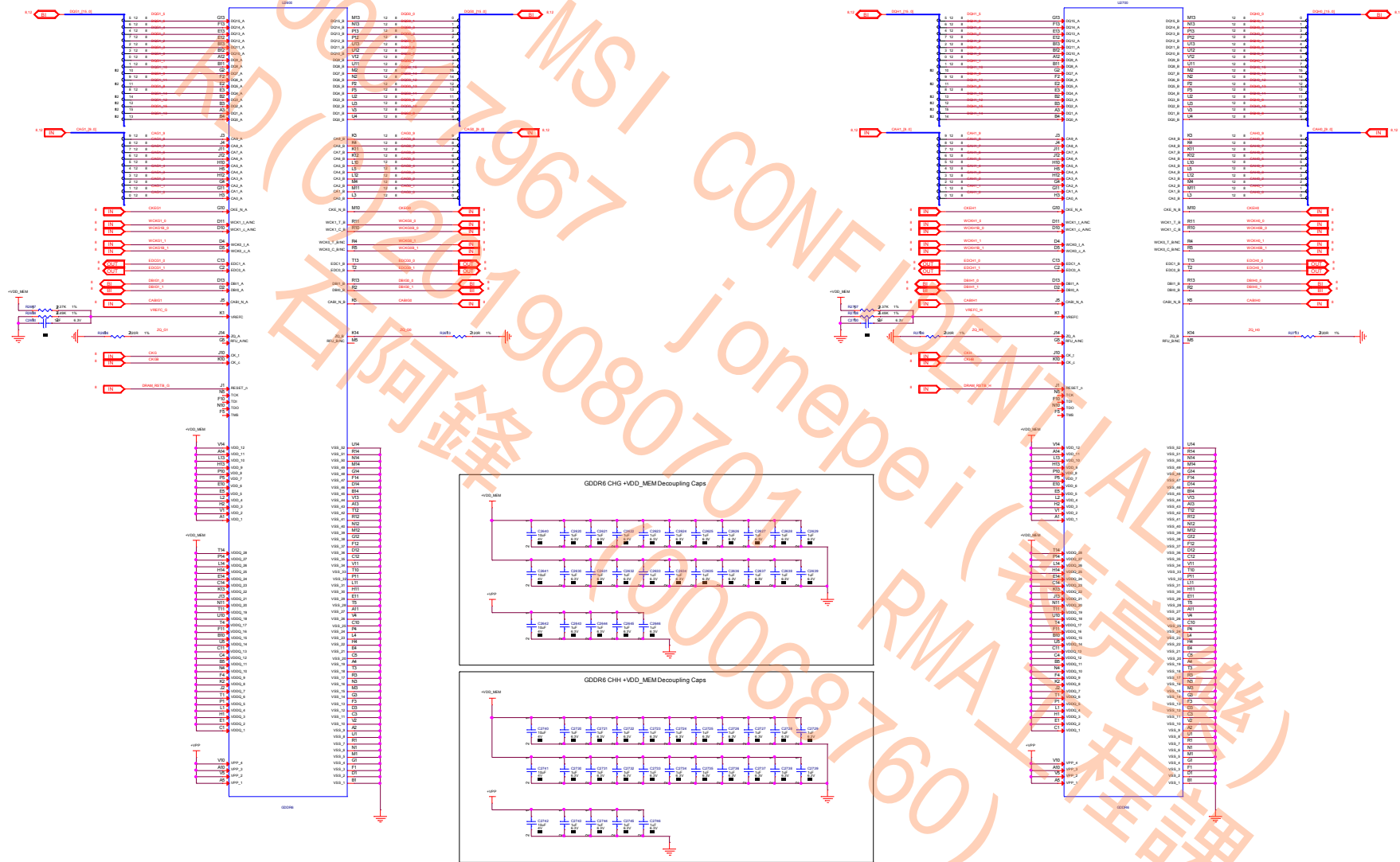
NAV10 G6X16mode DP DP HDMI DP

REV: 1.00

TITLE: NAV10 G6X16mode DP DP HDMI DP

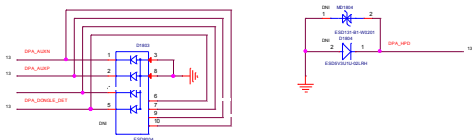
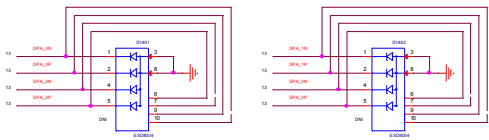
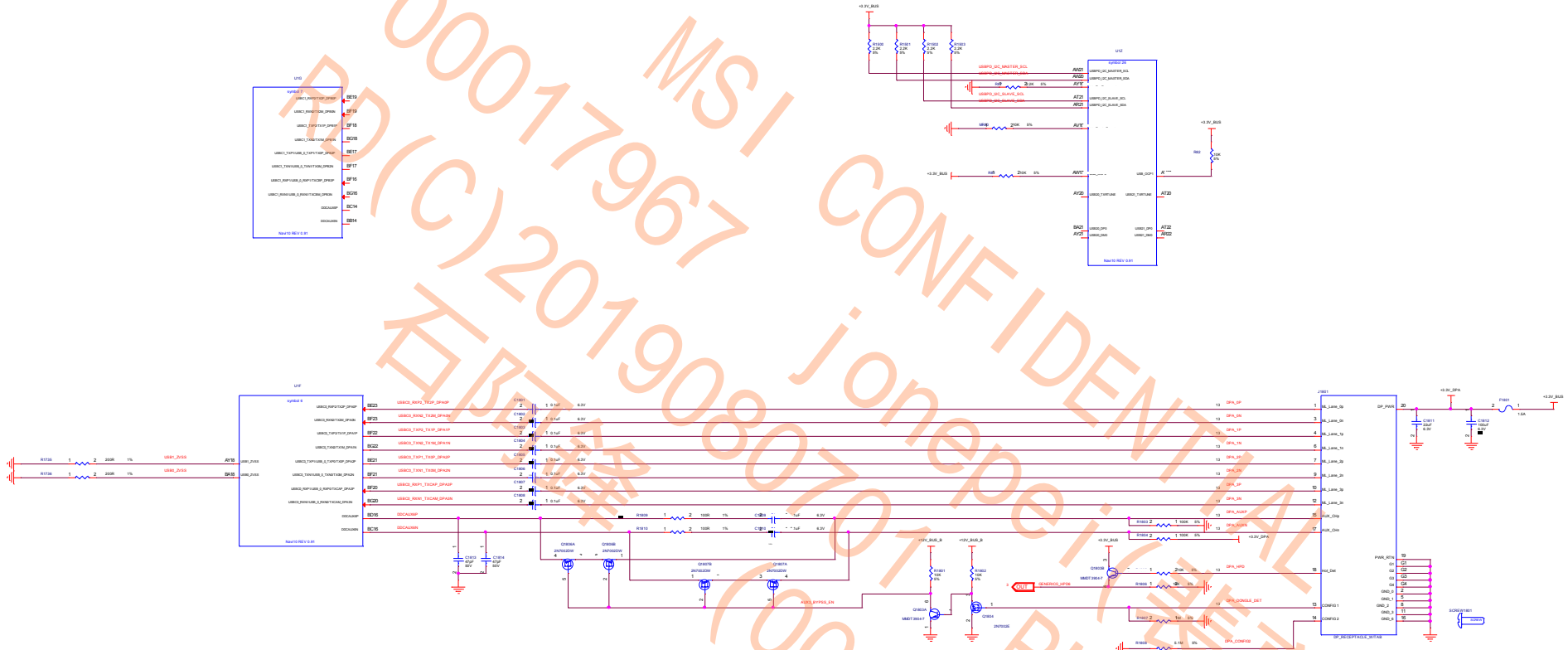


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<p>SHEET: GDDR6 MEM CHEF</p>		<p>REV: 1.00</p>
<p>DATE: Fri Jun 21 03:45:57 2019</p>		<p>TITLE: NAV10 G6X16mode DP DP/HDMI DP</p>
<p>SHEET NUMBER: 11 OF 35</p>		<p>DOCUMENT NUMBER: 105_0198x_008</p>
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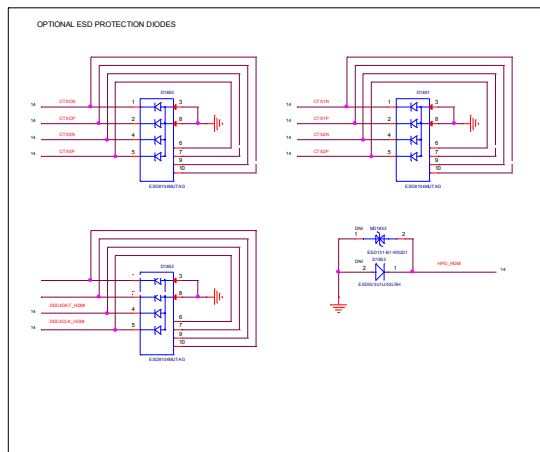
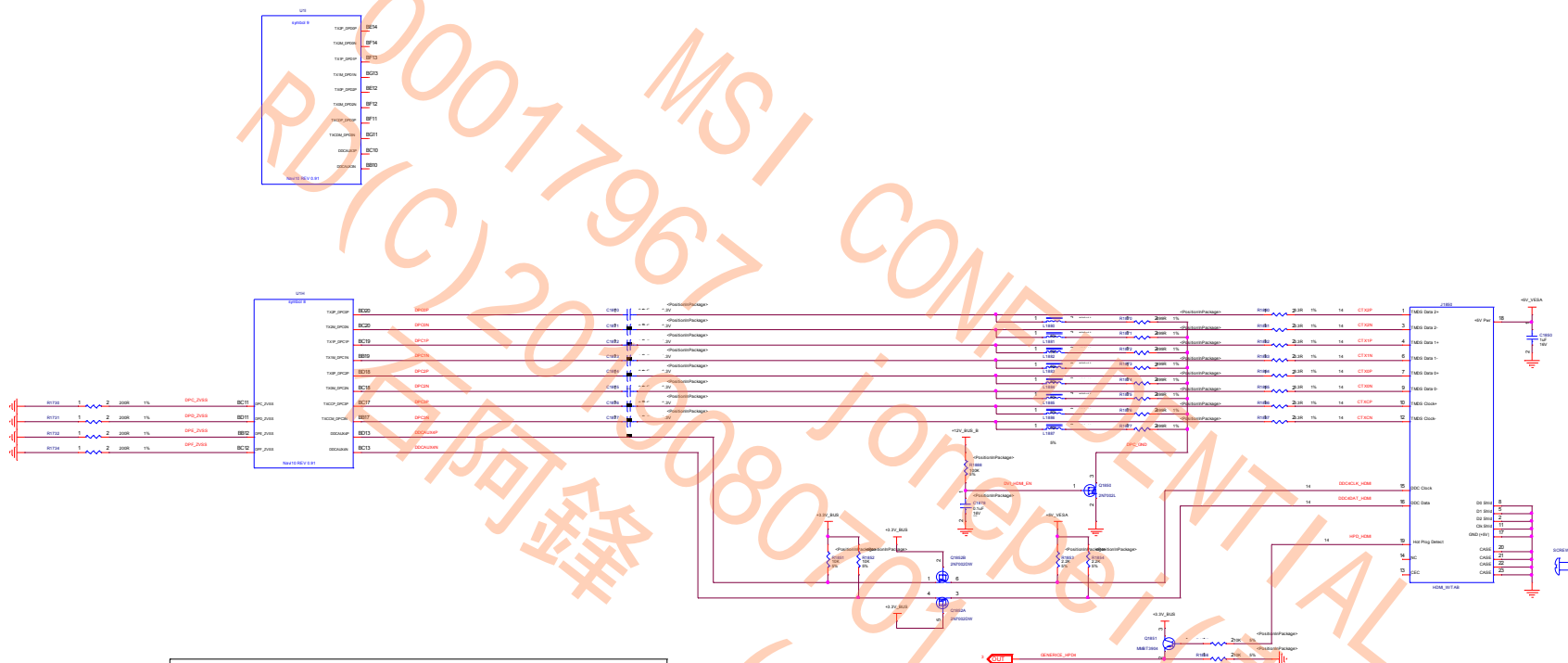
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<p>SHEET: GDDR6 MEM CHGH</p>		<p>REV: 1.00</p>	
<p>DATE: Fri Jun 21 03:45:58 2019</p>		<p>TITLE: NAV10 G6X16mode DP DP HDMI DP</p>	
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SHEET: NAVI10 TMDPA - DP			TITLE: NAVI10 G6X16mode DP DP/HDMI DP
DATE: Fri Jun 21 03:45:48 2019	REV: 1.00		
SHEET NUMBER: 13	OF 35		
DOCUMENT NUMBER: 105_0198xc_098			
NOTES: NOTE			

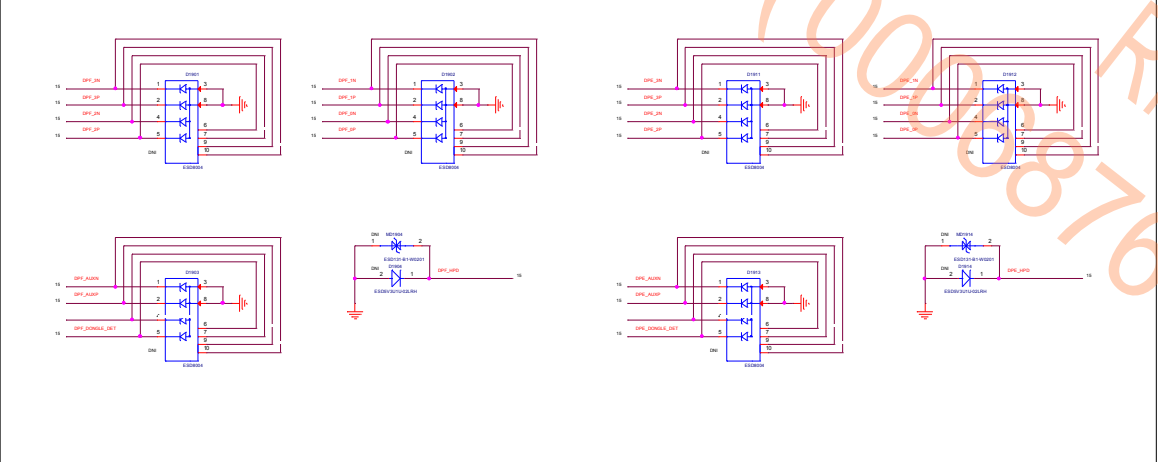
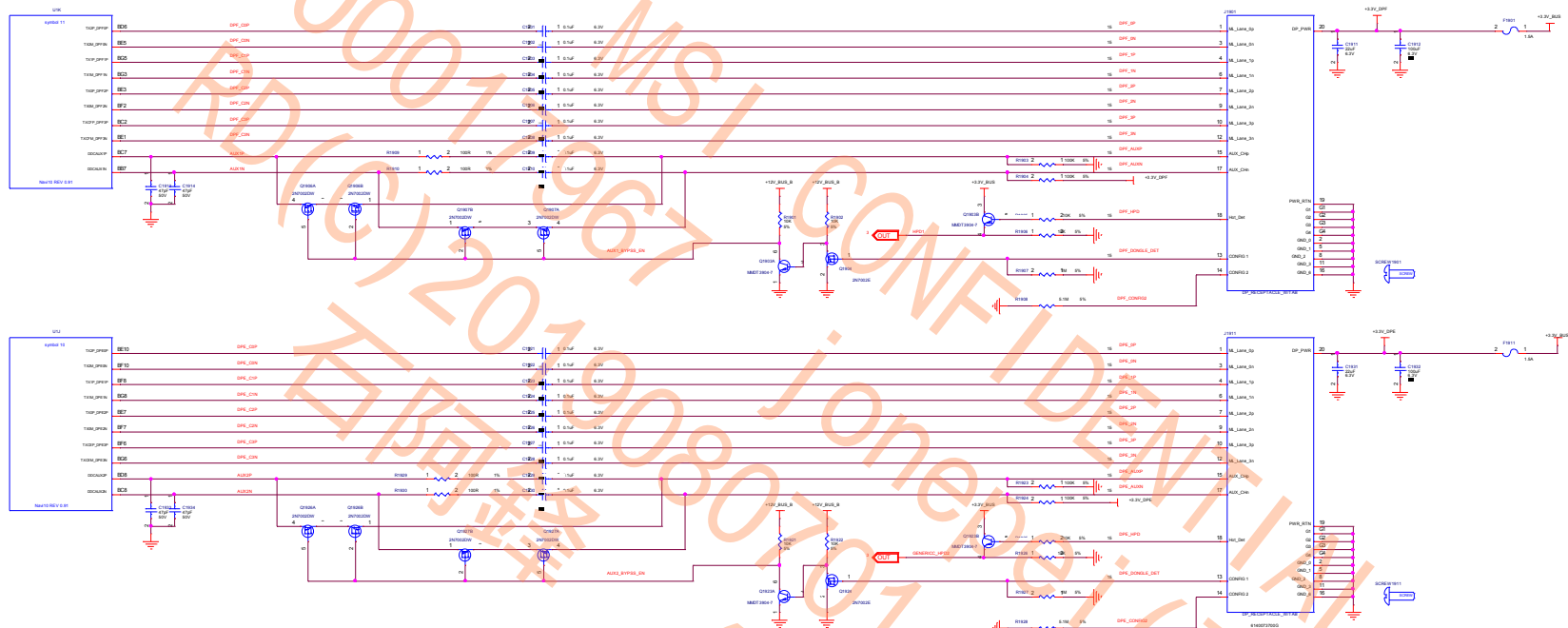
NAVI10 TMDP C/D



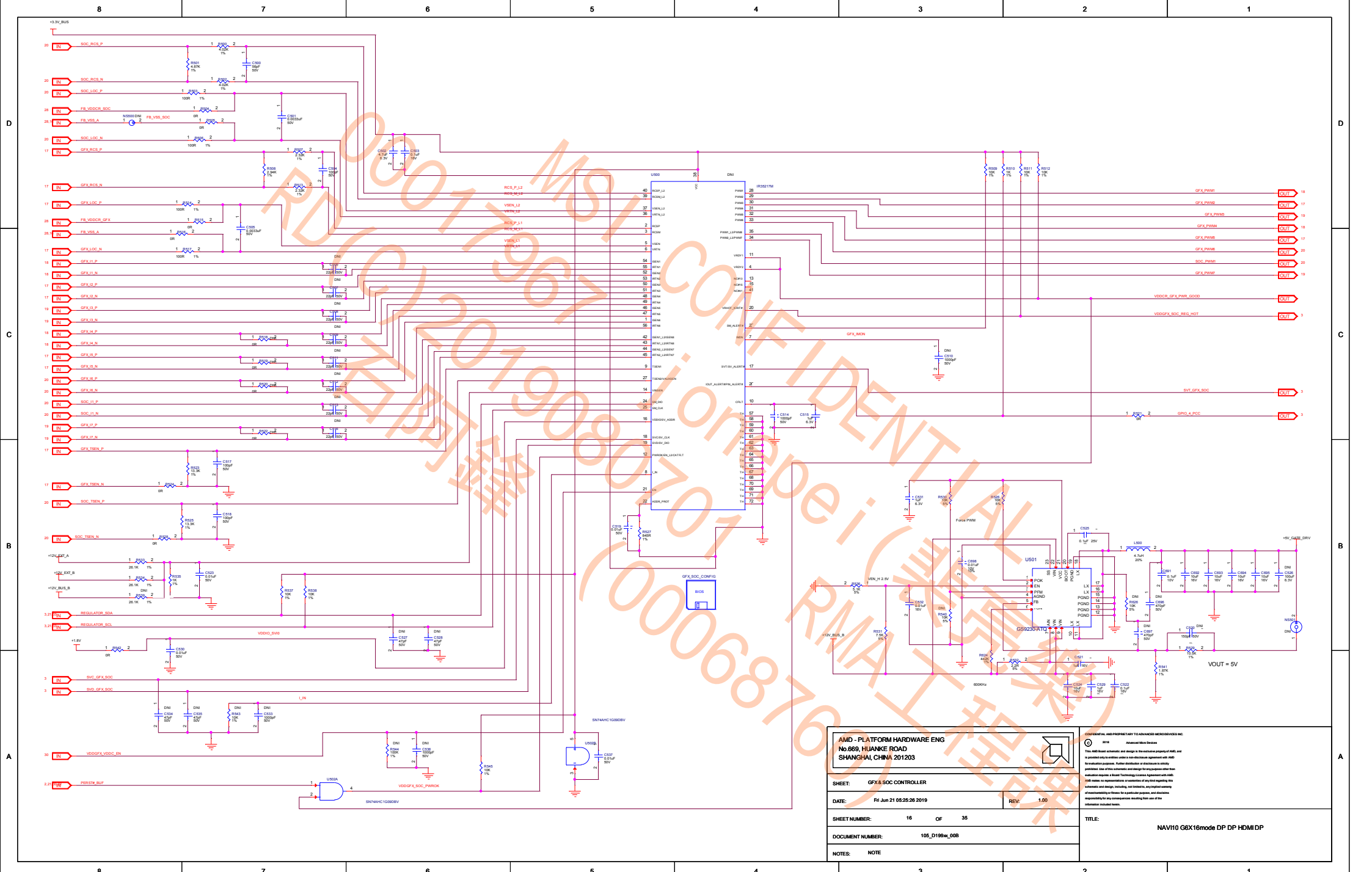
AMD - PLATFORM HARDWARE ENG No. 669, HUANKE ROAD SHANGHAI, CHINA 201203		SHEET: NAVI10 TMDP-C-HDMI DATE: Fri Jun 21 03:45:48 2019 SHEET NUMBER: 14 OF 35 DOCUMENT NUMBER: 105_0199Kc_098 NOTES: NOTE	TITLE: NAVI10 G6X16mode DP DP/HDMI DP
DATE: Fri Jun 21 03:45:48 2019			REV: 1.00
SHEET NUMBER: 14 OF 35			TITLE: NAVI10 G6X16mode DP DP/HDMI DP
DOCUMENT NUMBER: 105_0199Kc_098			TITLE: NAVI10 G6X16mode DP DP/HDMI DP
NOTES: NOTE			TITLE: NAVI10 G6X16mode DP DP/HDMI DP

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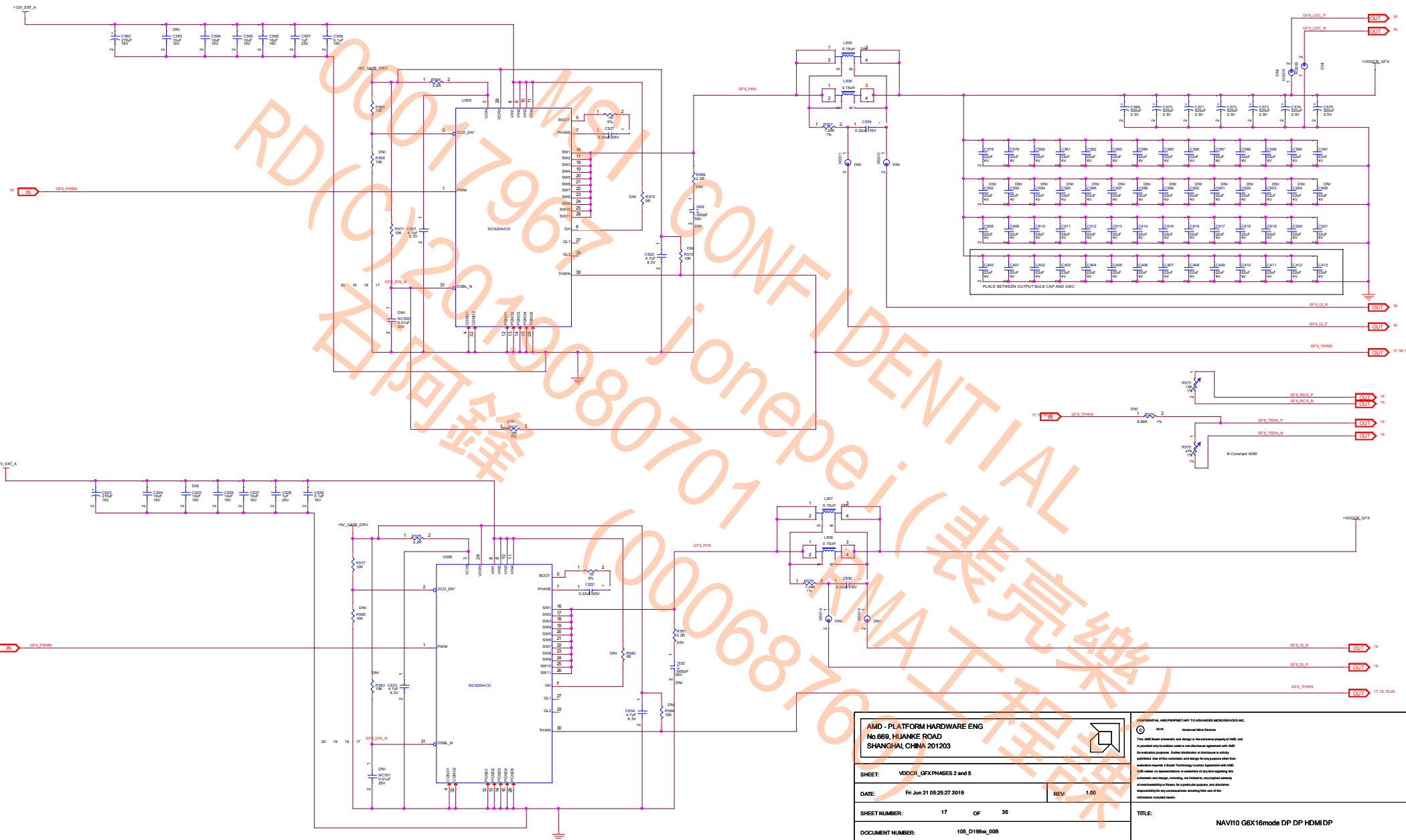
(9) NAVI10 TMDP E/F



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SHEET:	NAVI10 TMDPEF - DP DP	REV:	1.00
DATE:	Fri Jun 21 03:45:49 2019		
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DOCUMENT NUMBER:	105_0198x_008		
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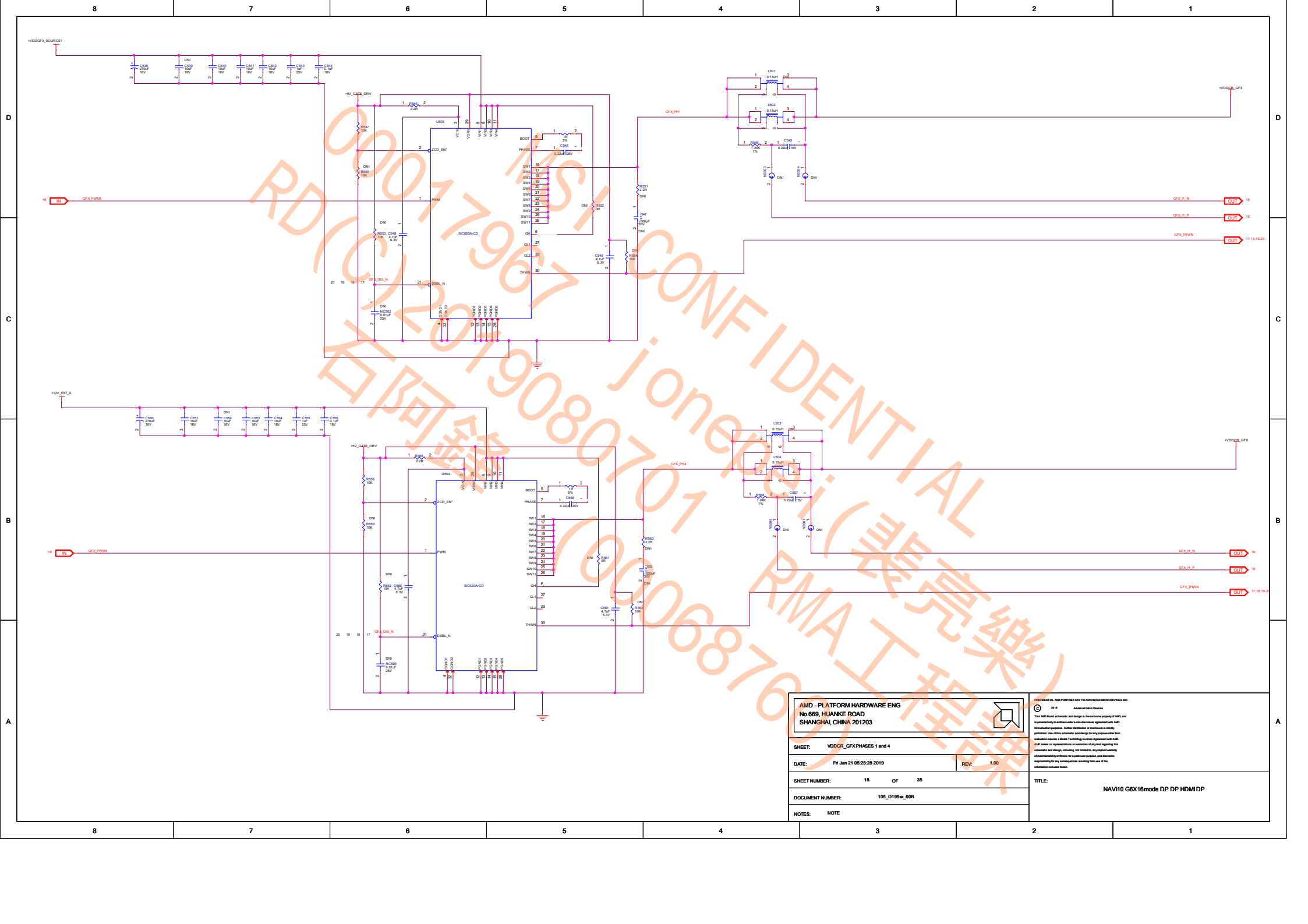


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SHEET: GFX & SOC CONTROLLER	DATE: Fri Jun 21 05:25:26 2019		
SHEET NUMBER: 16 OF 35	TITLE: NAV10 G8X16mode DP DP HDMI DP		
DOCUMENT NUMBER: 105_D199w_008	NOTES: NOTE		



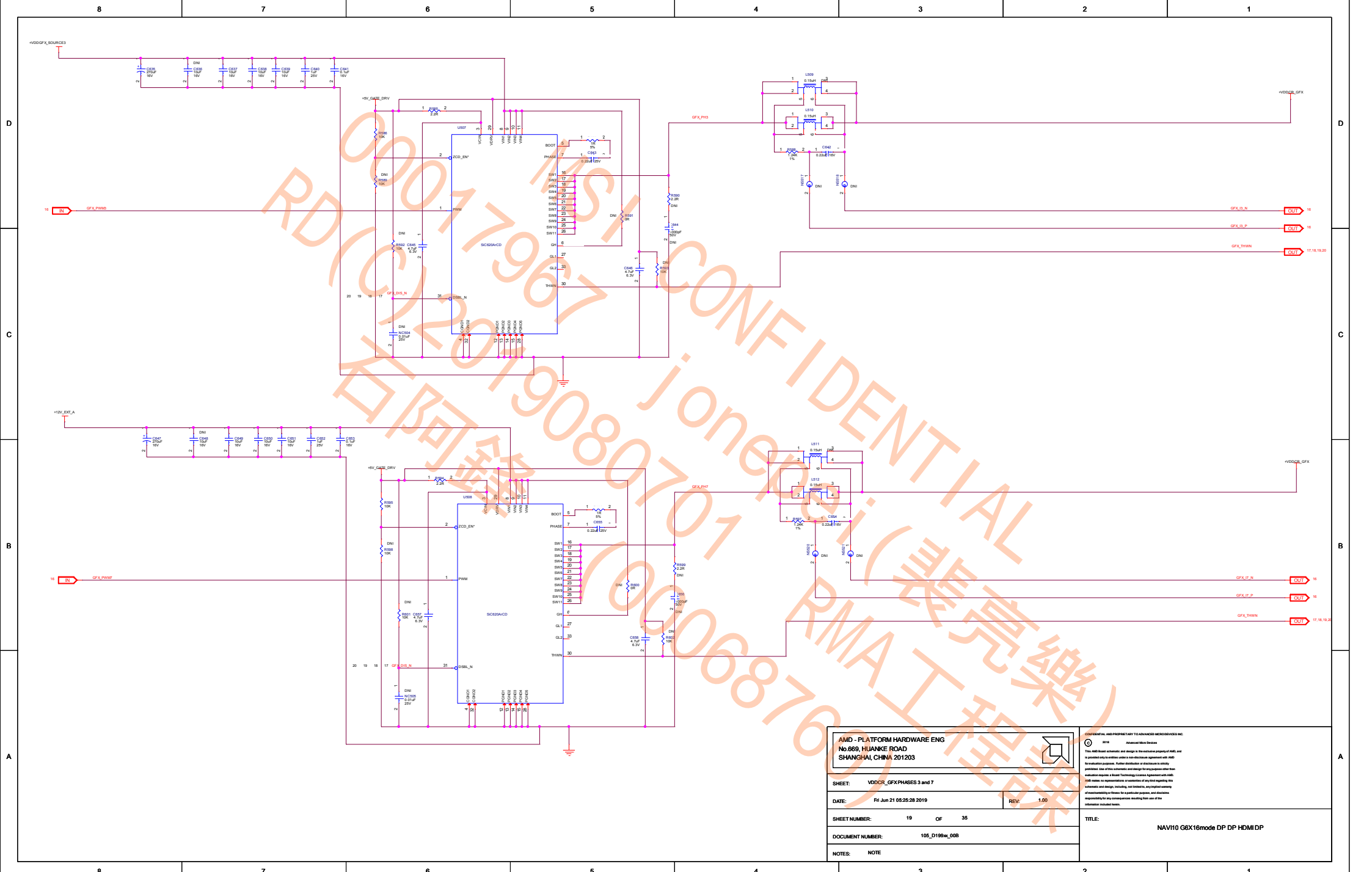
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SHEET: VDDCR_GFXPHASES 2 and 5	
DATE: Fri Jun 21 05:25:27 2019	REV: 1.00
SHEET NUMBER: 17 OF 35	TITLE: NAVI10 G8X16mode DP DP HDMI DP
DOCUMENT NUMBER: 105_D199w_008	NOTES: NOTE

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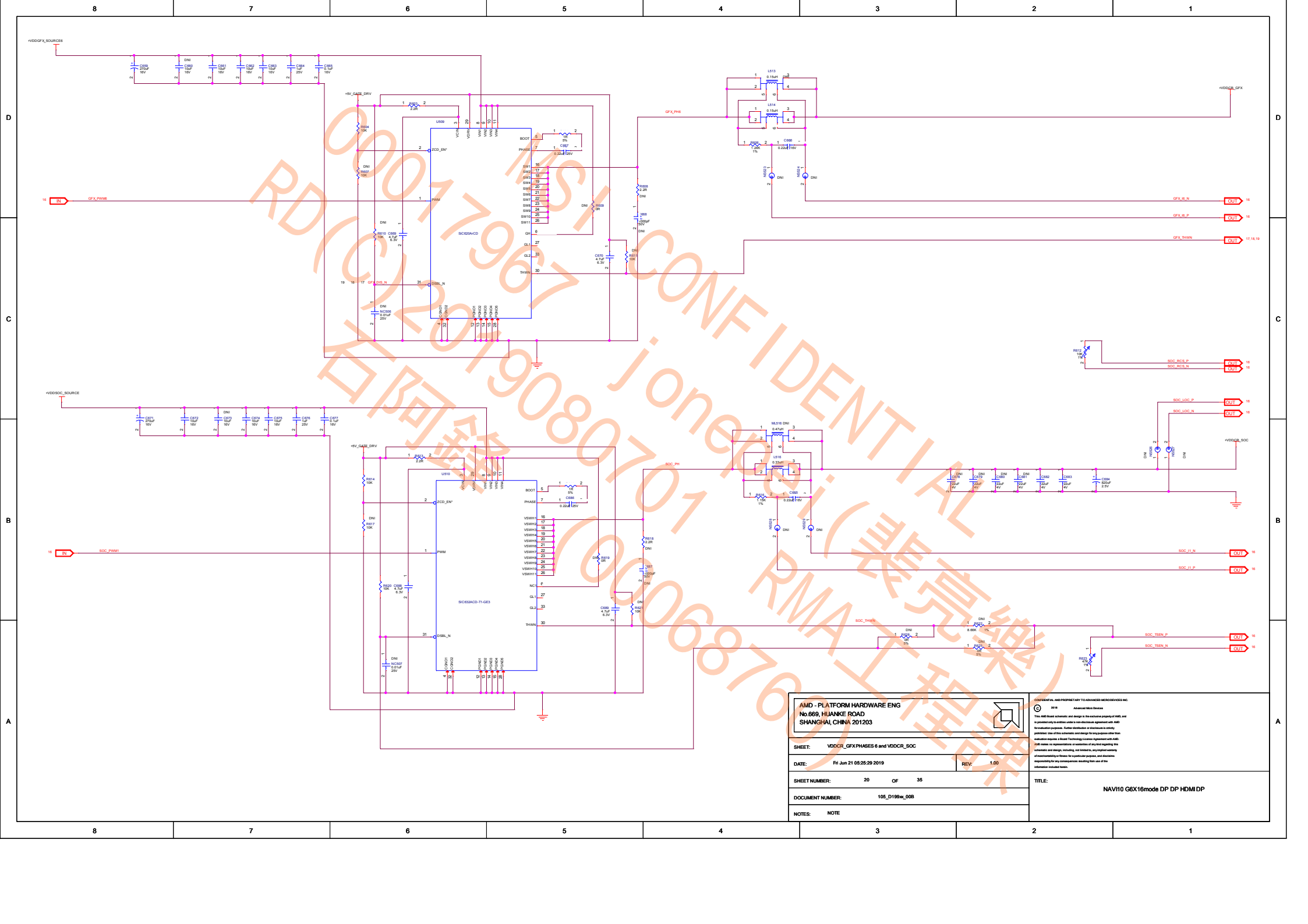
AMD - PLATFORM HARDWARE ENG No.669, HUANKE ROAD SHANGHAI, CHINA 201203	
SHEET: VDDCR_GFXPHASES 1 and 4	
DATE: Fri Jun 21 05:25:28 2019	REV: 1.00
SHEET NUMBER: 18 OF 35	TITLE: NAVI10 G8X16mode DP HDMI DP
DOCUMENT NUMBER: 105_D199w_008	
NOTES: NOTE	

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SHEET: VDDCR_GFXPHASES 3 and 7		
DATE: Fri Jun 21 05:25:28 2019	REV: 1.00	
SHEET NUMBER: 19 OF 35		
DOCUMENT NUMBER: 105_D199w_008		
NOTES: NOTE		

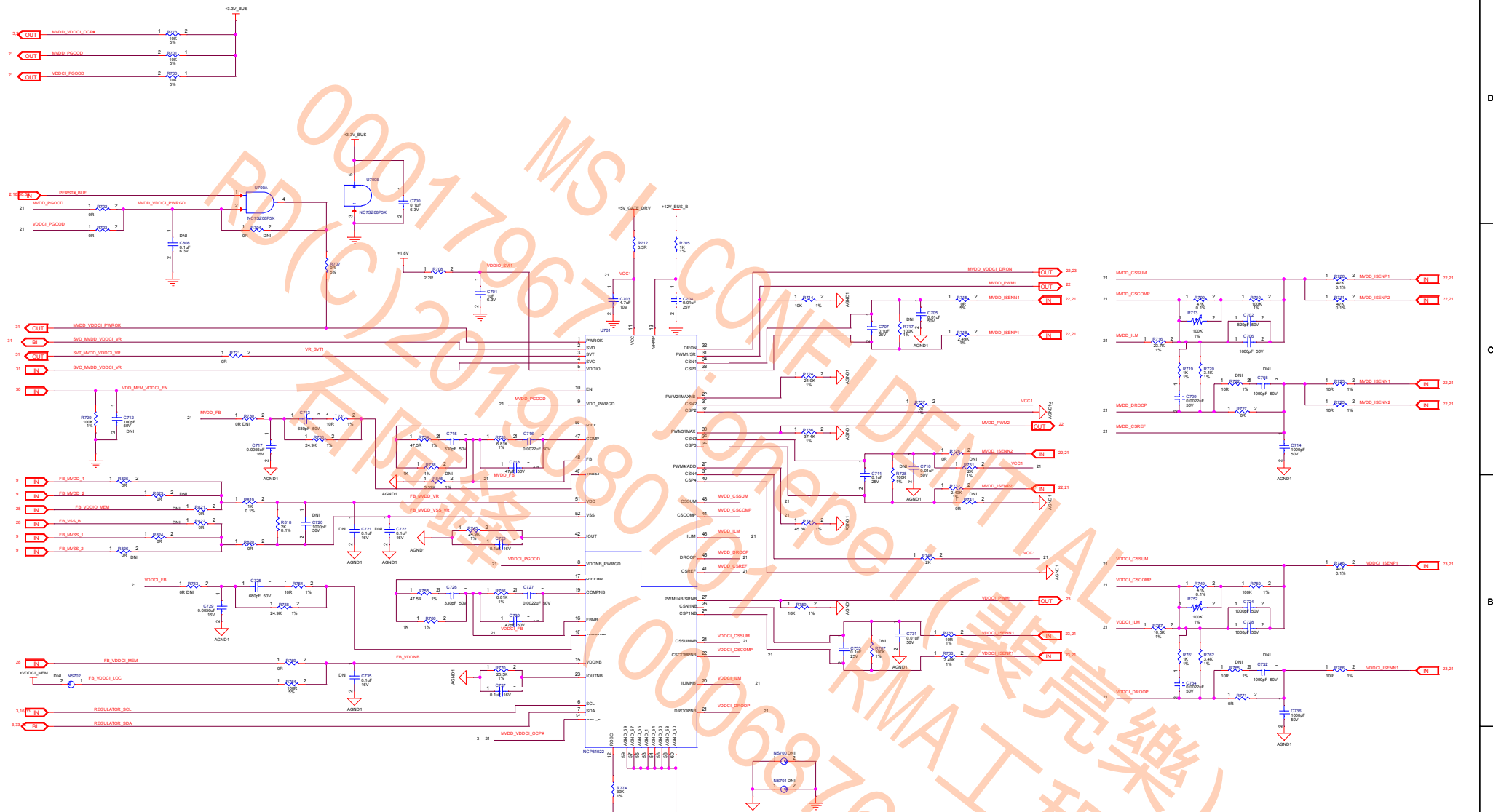
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TITLE:	
NAV110 G8X16mode DP DP HDMI DP	



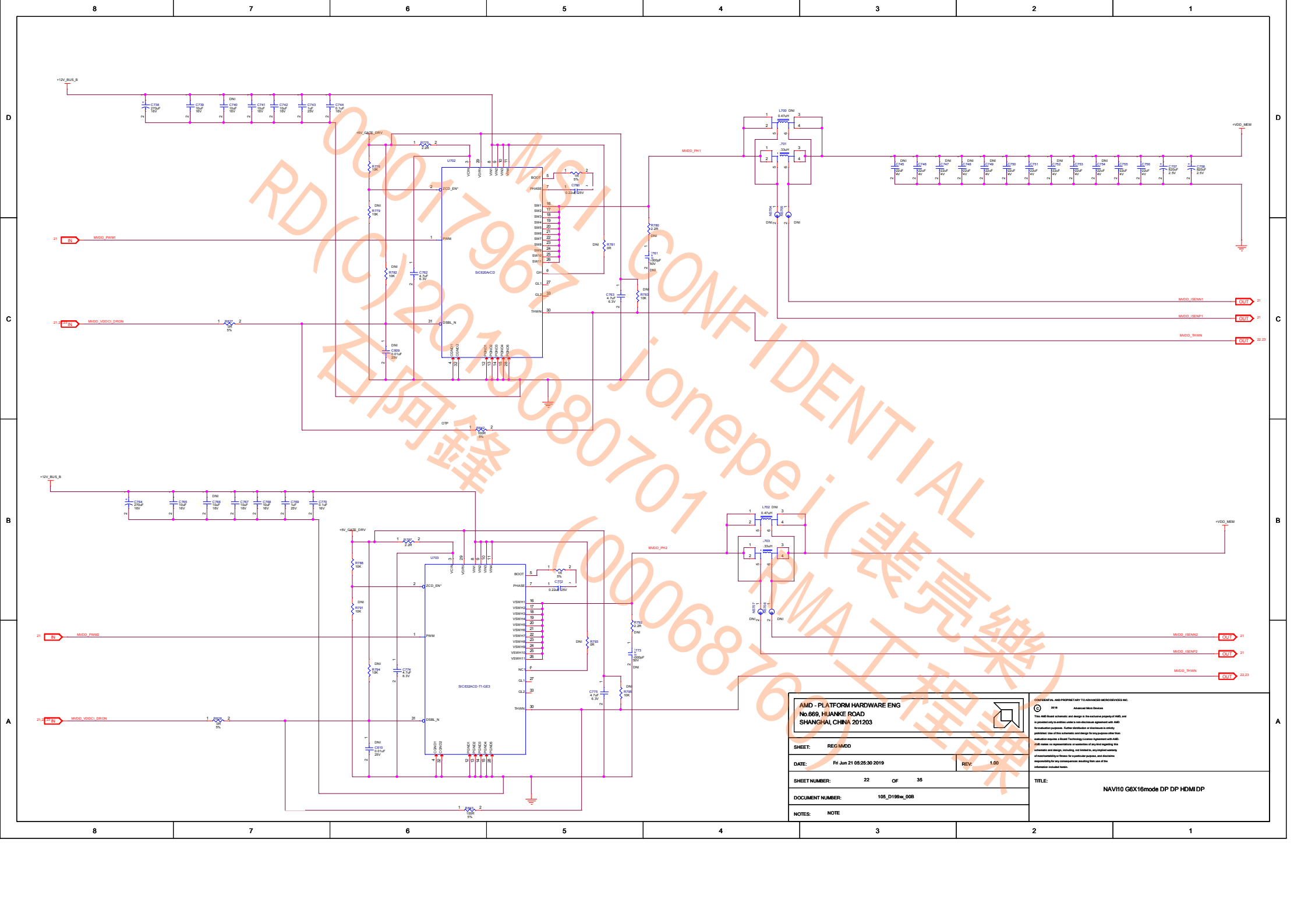
AMD - PLATFORM HARDWARE ENG No.669, HUANKE ROAD SHANGHAI, CHINA 201203	
SHEET: VDDCR_GFXPHASES 6 and VDDCR_SOC	
DATE: Fri Jun 21 05:25:29 2019	REV: 1.00
SHEET NUMBER: 20	OF 35
DOCUMENT NUMBER: 105_D199w_008	
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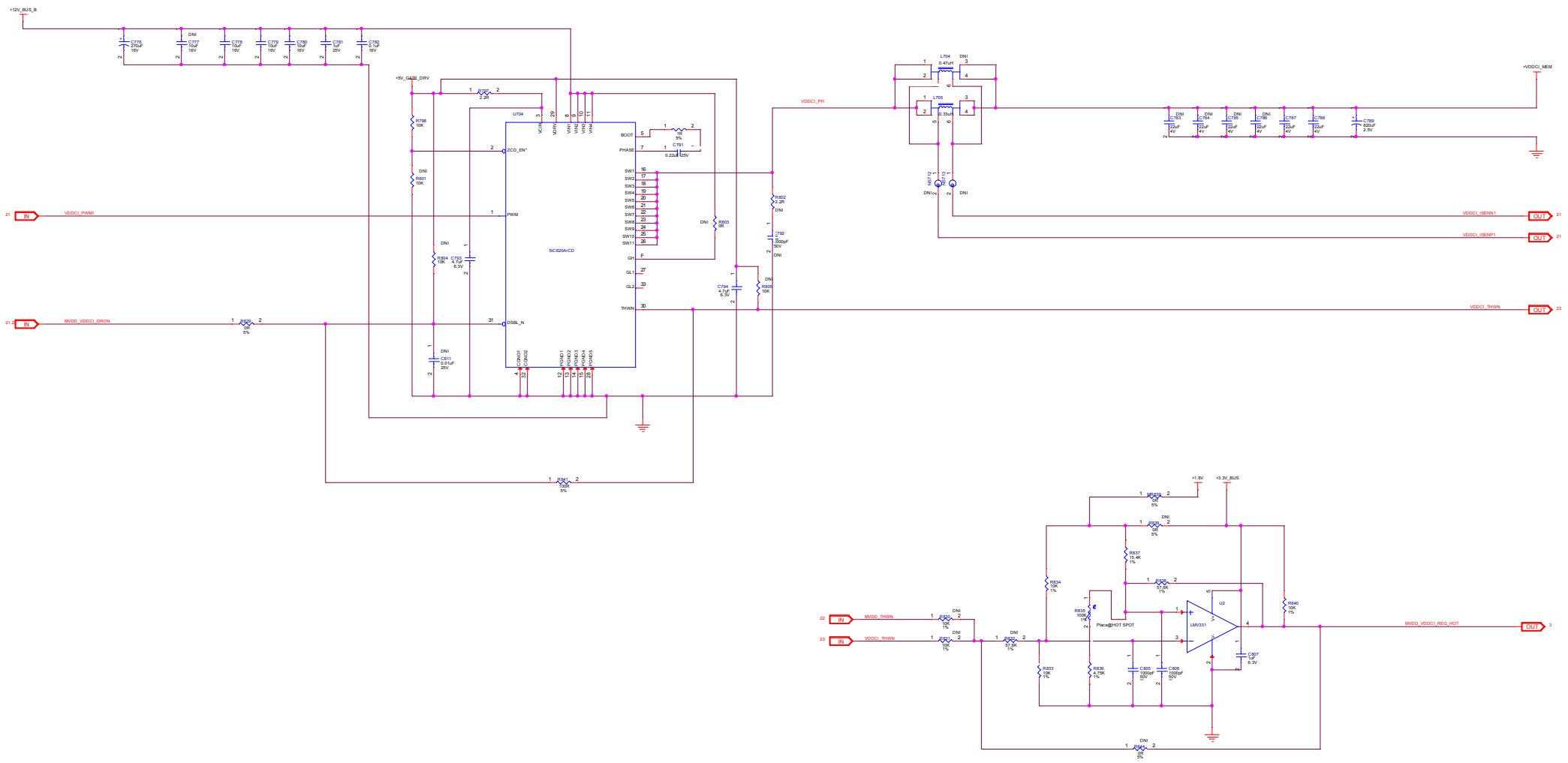
TITLE: NAV10 G8X16mode DP DP HDMI DP



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SHEET: MDD_VDDCI CONTROLLER	DATE: Fri Jun 21 05:25:29 2019		REV: 1.00	TITLE: NAV10 G8X16mode DP DP HDMI DP
SHEET NUMBER: 21 OF 35	DOCUMENT NUMBER: 105_D199w_008	NOTES: NOTE		



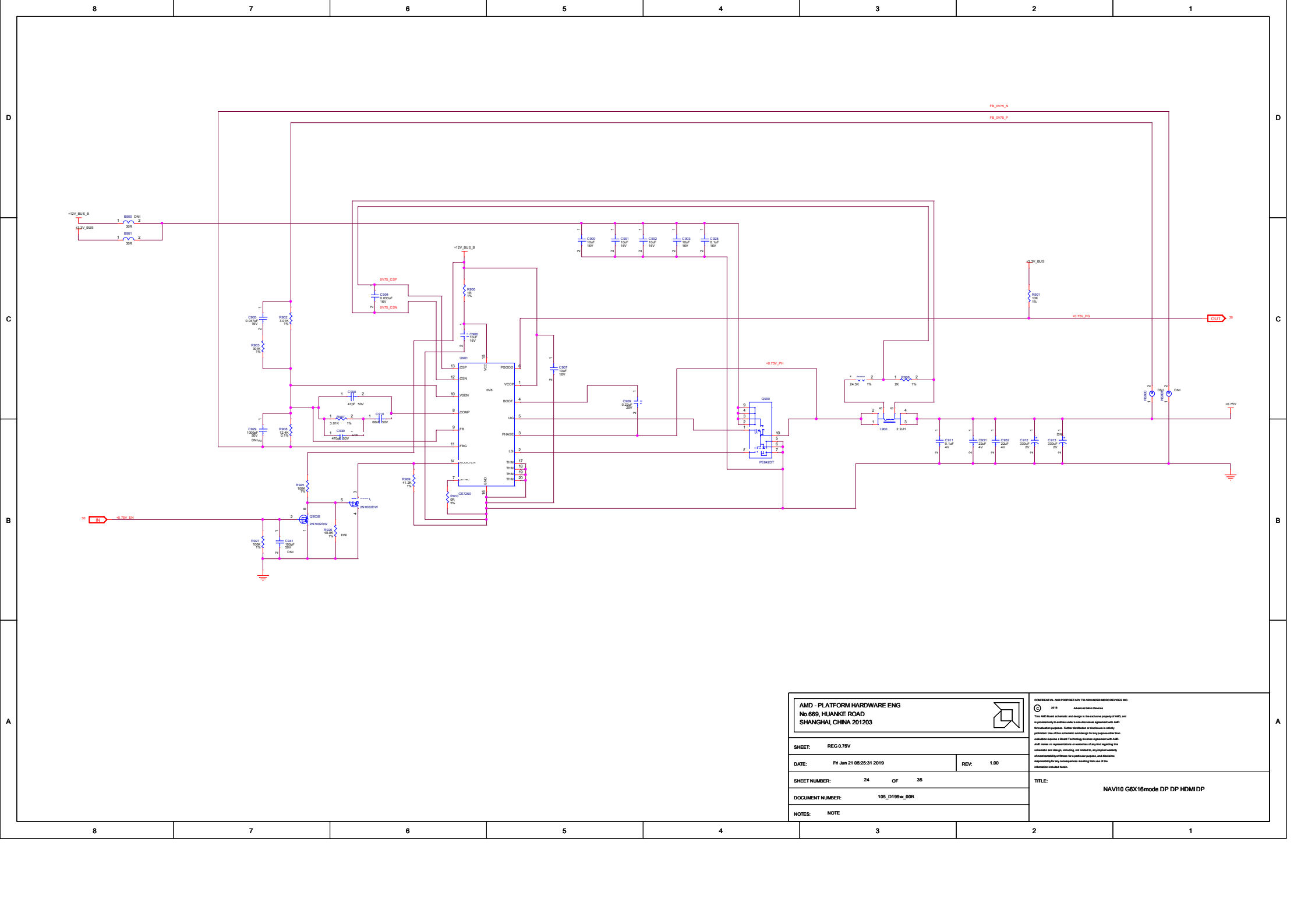
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SHEET: REG MDDC DATE: Fri Jun 21 05:25:30 2019 SHEET NUMBER: 22 OF 35 DOCUMENT NUMBER: 105_D199w_008 NOTES: NOTE	REV: 1.00 TITLE: NAVI10 G8X16mode DP HDMI DP		



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SHEET:	REG VDDCI
DATE:	Fri Jun 21 05:25:30 2019
REV:	1.00
SHEET NUMBER:	23 OF 35
DOCUMENT NUMBER:	105_D199w_008
NOTES:	NOTE

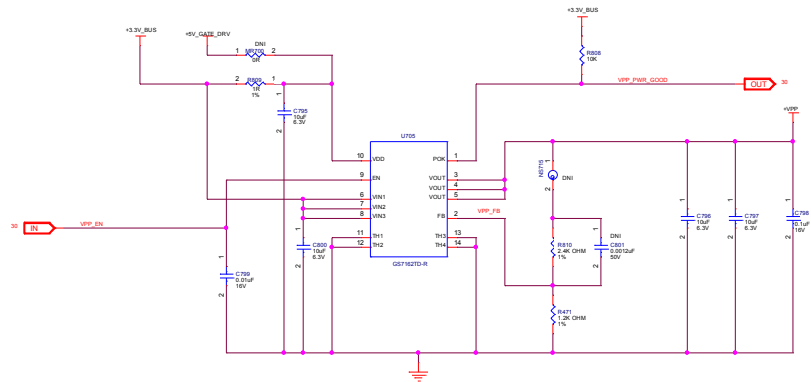
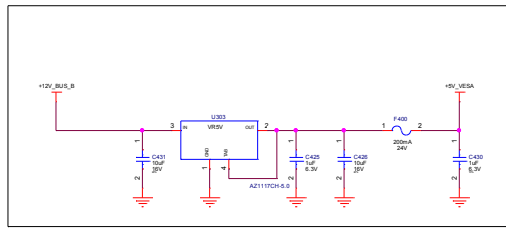
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TITLE:
NAV10 G8X16mode DP DP HDMI DP



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SHEET: REG 076V	DATE: Fri Jun 21 05:25:31 2019		REV: 1.00
SHEET NUMBER: 24 OF 35		TITLE: NAV110 G8X16mode DP DP HDMI DP	
DOCUMENT NUMBER: 105_D199w_008			
NOTES: NONE			

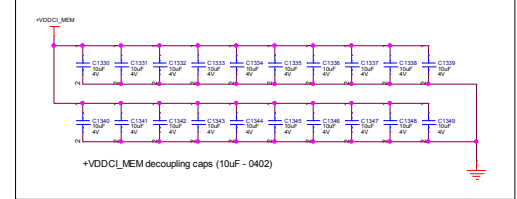
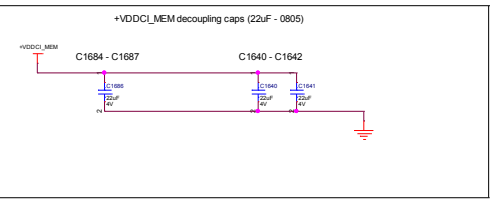
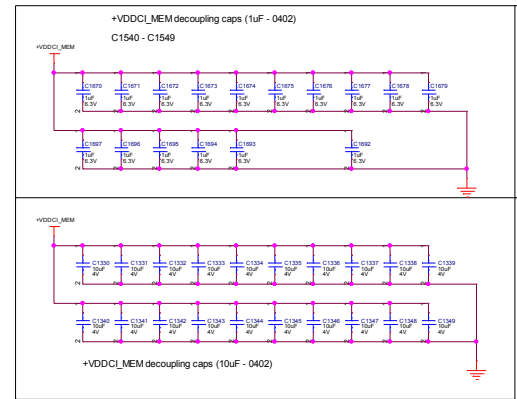
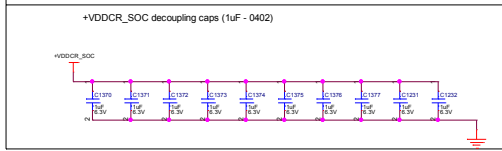
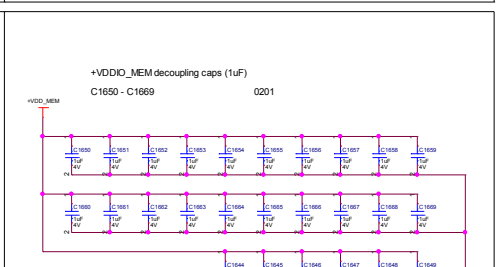
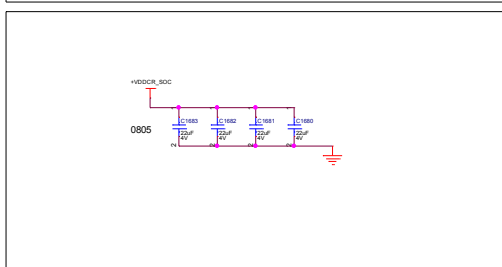
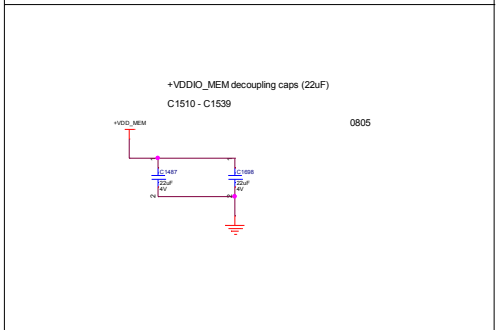
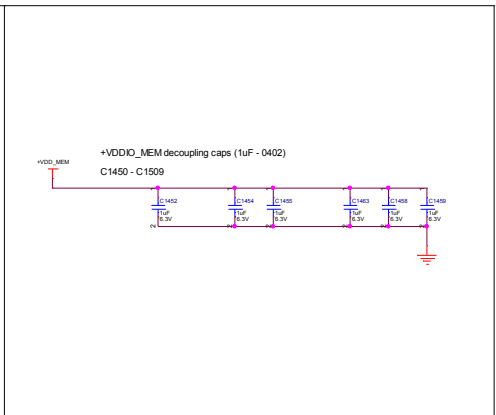
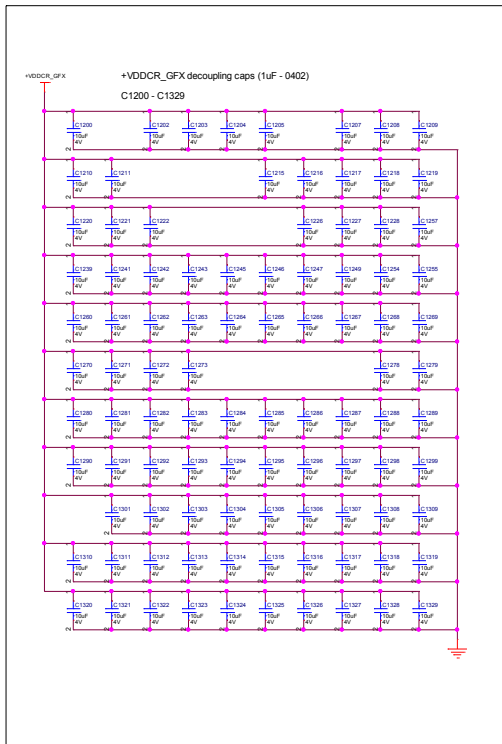
REGULATOR FOR +5V RAALS
 IOUT = 50mA



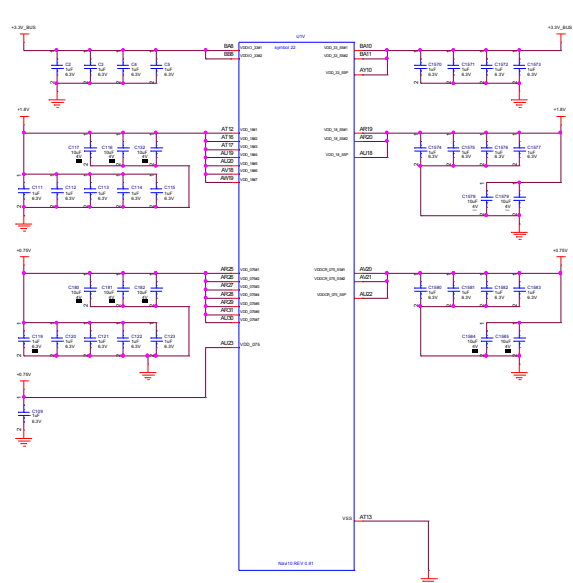
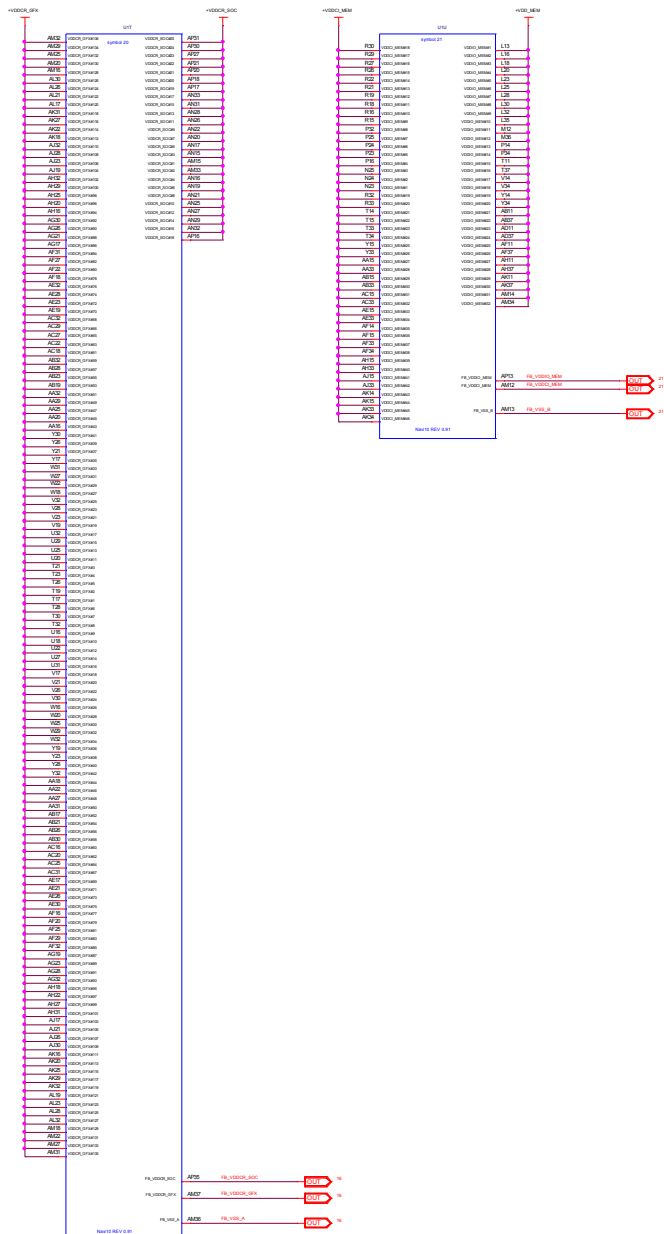
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SHEET: SMALL RAIL REGULATORS		
DATE:	Fri Jun 21 05:25:32 2019	REV: 1.00
SHEET NUMBER:	26	OF 35
DOCUMENT NUMBER:	105_D199w_008	
NOTES:	NOTE	

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TITLE:
 NAVI10 G8X16mode DP DP HDMI DP

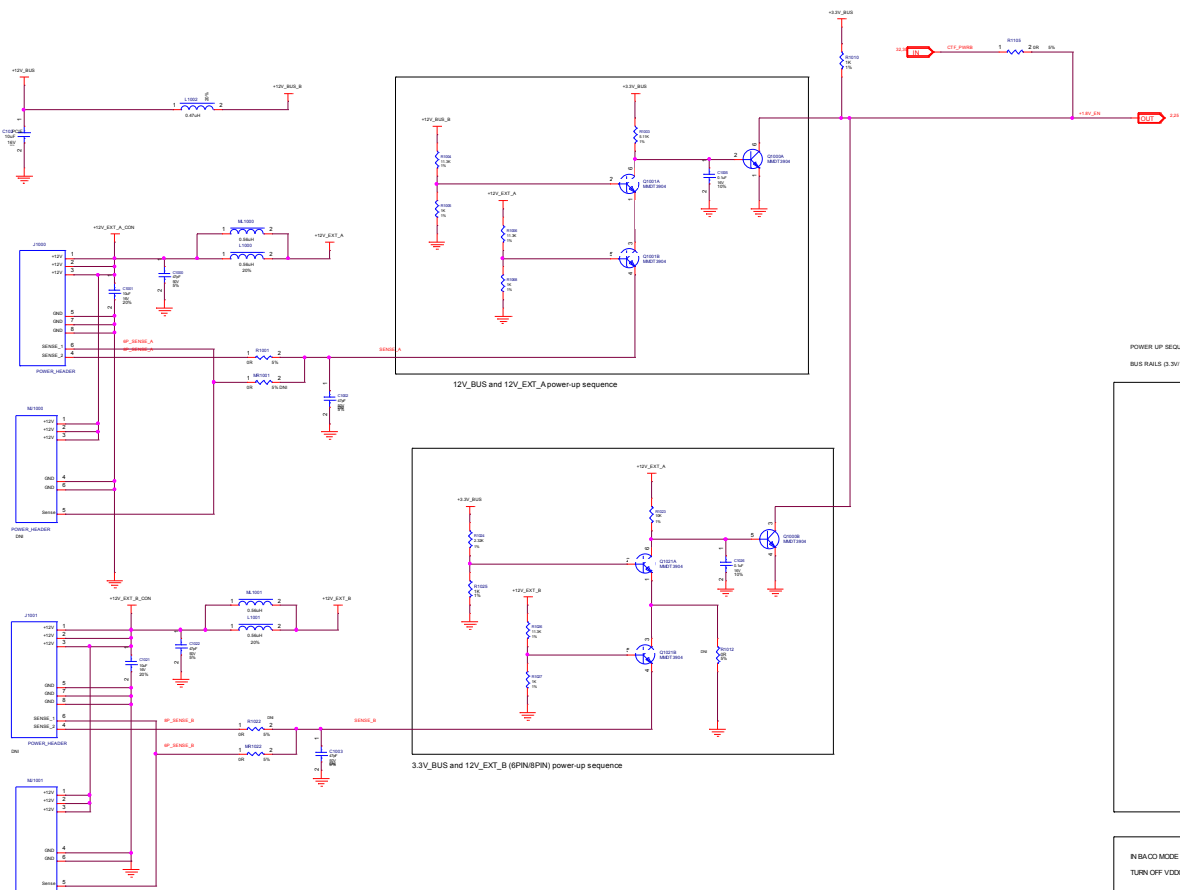


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SHEET: NAV10 DECAPS	DATE: Fri Jun 21 05:25:32 2019		
SHEET NUMBER: 27 OF 35		TITLE: NAV10 G8X16mode DP HDMI DP	
DOCUMENT NUMBER: 105_D199w_008			
NOTES: NOTE			



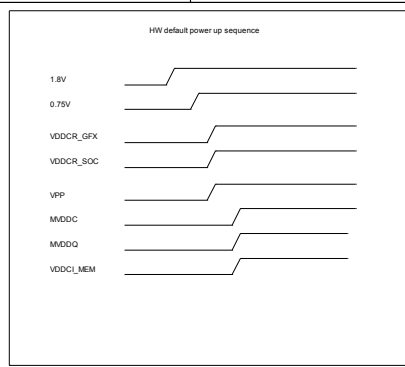
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<p>SHEET: NAV10 POWER</p>		<p>REV: 1.00</p>	
<p>DATE: Fri Jun 21 05:25:33 2019</p>		<p>SHEET NUMBER: 28 OF 35</p>	
<p>DOCUMENT NUMBER: 105_0198K_098</p>		<p>TITLE: NAV10 G6X16mode DP DP HDMI DP</p>	
<p>NOTES: NOTE</p>			

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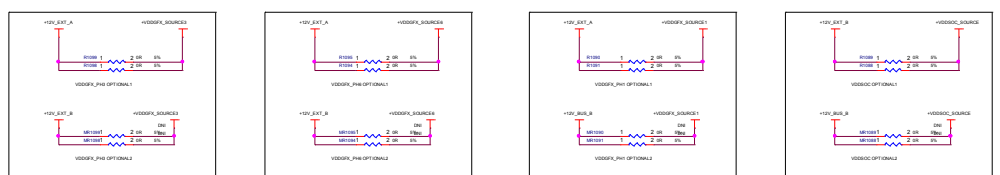
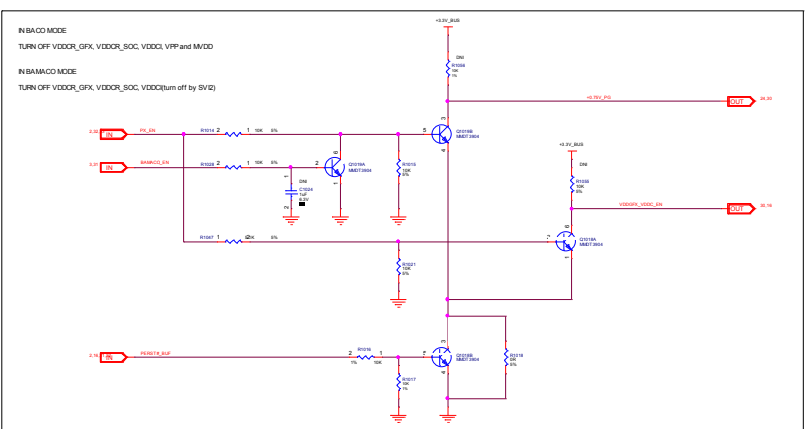
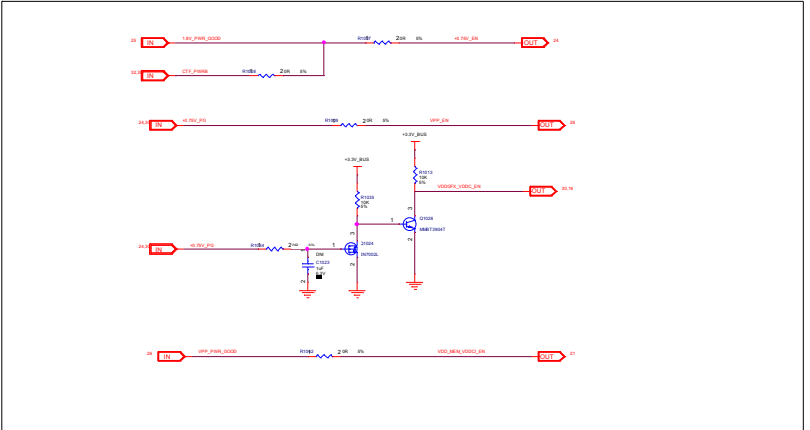


12V_BUS and 12V_EXT_A power-up sequence

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

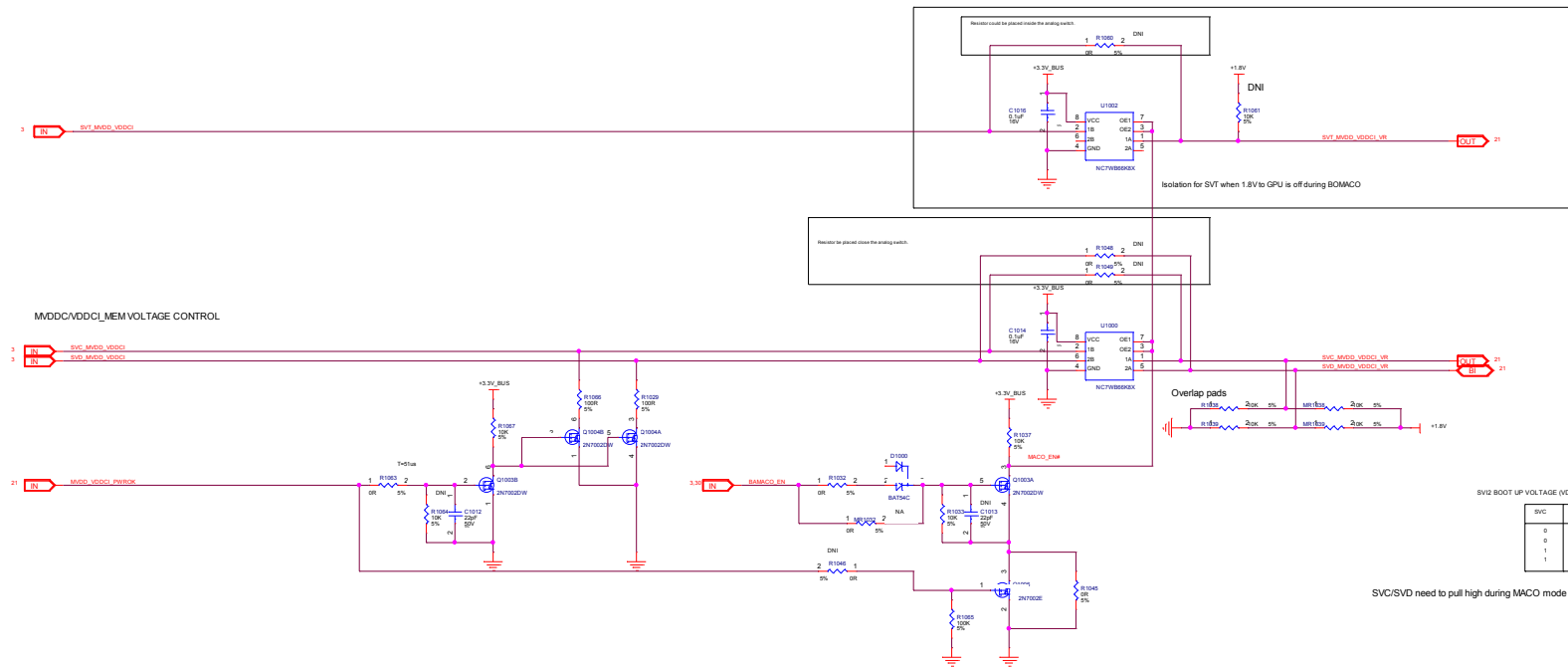


POWER UP SEQUENCE
BUS RAILS (0.9V12V UP) => 1.8V => 0.75V => VDDCR/VDDCRSOC
=> VPP => VDDC/MDDQ



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No. 669, HUANKE ROAD	
SHANGHAI, CHINA 201203	
SHEET: POWER MANAGEMENT	
DATE: F4 Jan 21 05:25:34 2019	REV: 1.00
SHEET NUMBER: 30	OF 35
DOCUMENT NUMBER: 105_0199x_098	
NOTES: NOTE	

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 TITLE: NAV10 G6X16mode DP DP/HDMI DP



MDDC/VDDC1_MEM VOLTAGE CONTROL

Overlap pads

SV12 BOOT UP VOLTAGE (VDDC1_MEM/MVDD)

SV12	SV12	VOLTAGE
0	0	1.1V
0	1	1.0V
1	0	0.9V
1	1	0.8V

SV12/SVD need to pull high during MACO mode

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No.669, HUANKE ROAD
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SHEET: SV2 & BAMCO

DATE: Fri Jun 21 05:25:34 2019

SHEET NUMBER: 31 OF 35

DOCUMENT NUMBER: 105_D199w_008

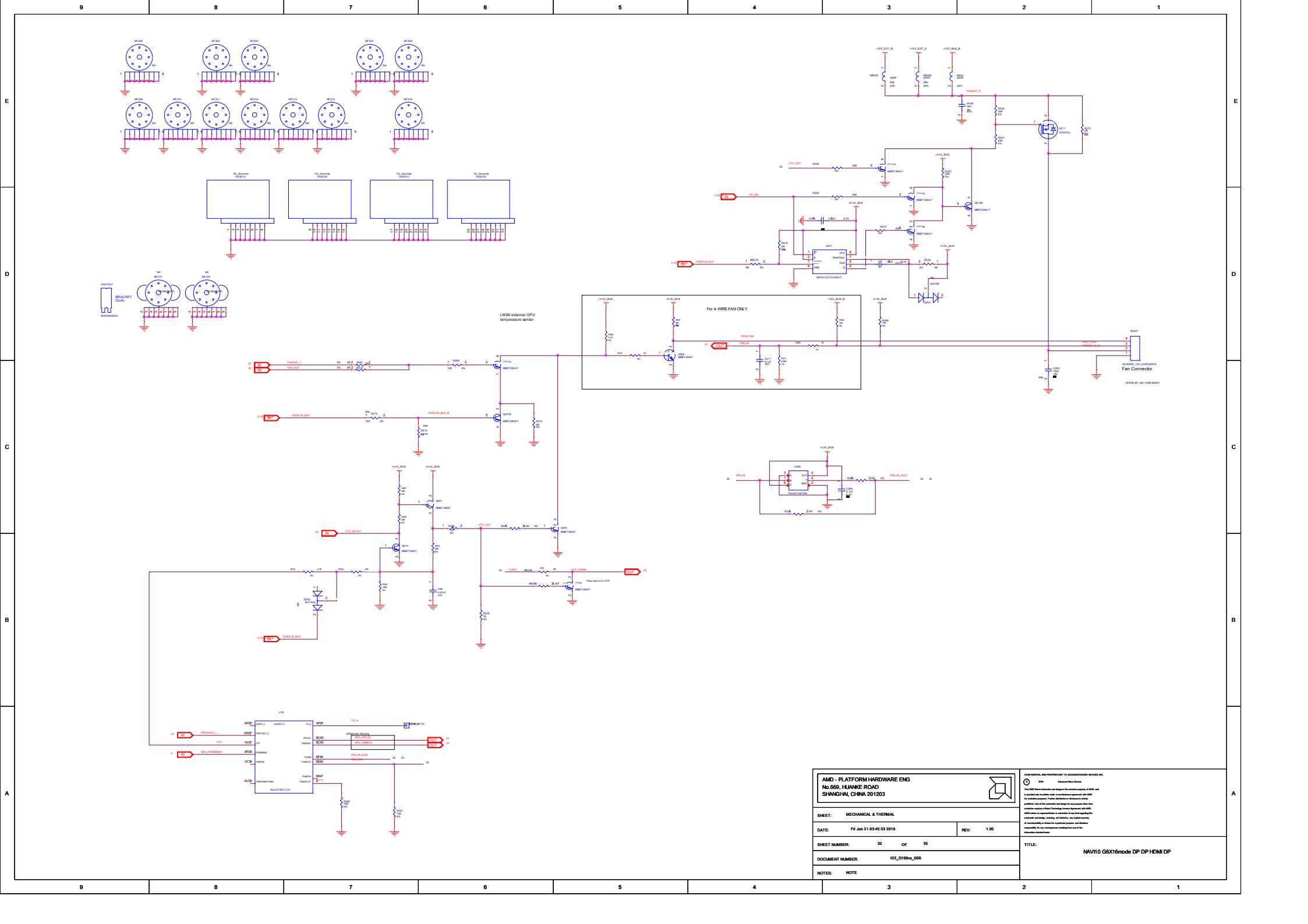
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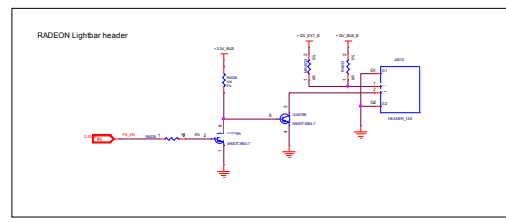
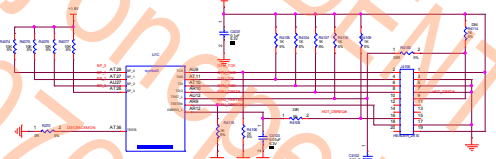
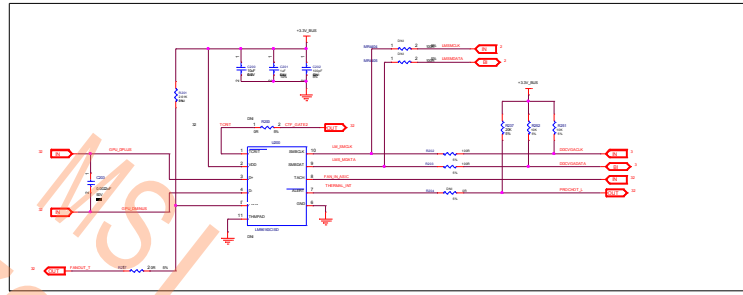
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TITLE: NAV110 G8X16mode DP HDMI DP

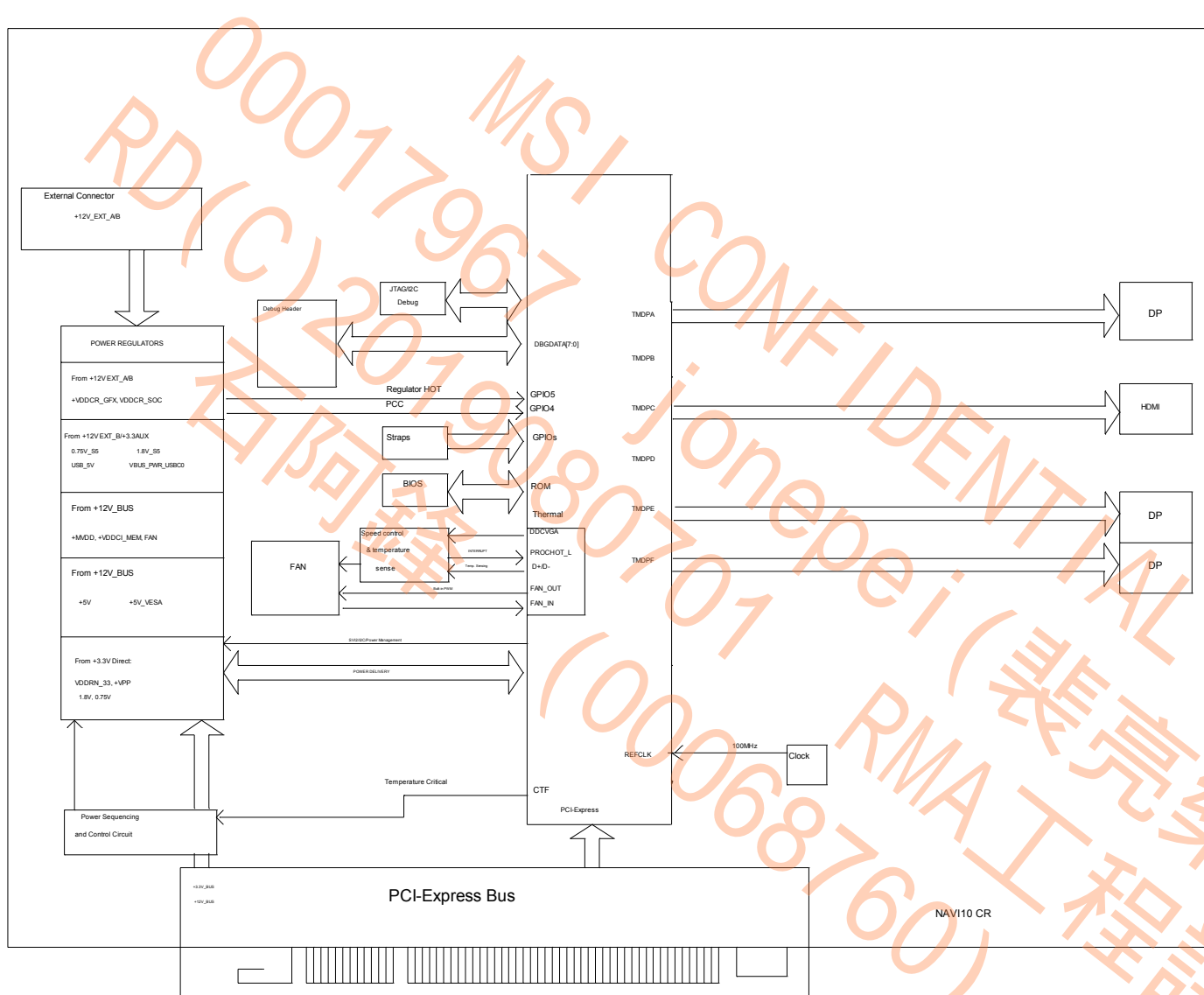


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SHEET: MECHANICAL & THERMAL	DATE: F4 Jan 21 03:45:53 2019		
SHEET NUMBER: 32 OF 35	TITLE: NAV10 G6X16mode DP DP HDMI DP		
DOCUMENT NUMBER: 105_0199xk_098	NOTES: NOTE		



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 RD(C)2019080701 jon@msi.com (裴亮樂)
 石阿鋒 RMA工程師 (00068760)

NAME: PLATFORM HARDWARE ENG NUMBER: HANKE.FEELD BRANCH: CHINA 201203			
SHEET: 000000			
DATE: Fri Jul 21 09:54:2018	REV: 1.00		
SHEET NUMBER: 33	5	TITLE: NAVY10_GEX16mode_EFDP4EM_DP	
DOCUMENT NUMBER: MSJ1804_008			



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SHEET: BLOCK DIAGRAM	REV: 1.00	
DATE: Mon Mar 11 03:18:02 2019		
SHEET NUMBER: 34 OF 35		
DOCUMENT NUMBER: 105_0198x_008		
NOTES: NOTE		TITLE: NAVI10 G6X16mode DP DP HDMI DP



TITLE: NAVI10 G6X16mode DP DP HDMI DP

DOCUMENT NUMBER: 106_D199rev_00B

DATE: Fri Jun 21 03:44:58 2019

SHEET NUMBER: 35 OF 35

REV: 1.00

REVISION HISTORY

ENGINEER: Peak, Dong

NOTES: NOTE

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SCH Rev	PCB Rev	Date	REVISION DESCRIPTION
1	-00A	FEB 11 2019	-00A schematics
2	-00B	JUN 21 2019	ADD PULL HIGH ON THE PWRBRKB

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