


P75D V10

GP107 128b GDDR5, 75W DVI-D + HDMI + DP

TABLE OF CONTENTS

Page	Description
1	Table of Contents
2	Block Diagram
3	PCI Express
4	MEMORY: GPU Partition A/B
5	MEMORY: FBA[31:0]
6	MEMORY: FBA[63:32]
7	MEMORY: FBB[31:0]
8	MEMORY: FBB[63:32]
9	GPU FBVDDQ & 1V8 Decoupling
10	GPU NVVDD & NVVDDS DECOUPLING
11	IFPAB DVI-DL
12	IFPD DP
13	IFPC HDMI
14	IFPEF UNUSED
15	MISC1: Fan, Thermal, JTAG, GPIO
16	MISC2: ROM, XTAL, Straps
17	Power Inputs and Filtering
18	Power Sequence
19	PS: NV3V3 & NV12V
20	PSI: 1V8
21	PSII: 5V & 12V_FAN
22	PS III: PEXVDD
23	PS IV: FBVDDQ
24	PS V: NVVDD OVR2+1
25	PS V: NVVDD Phase 1,2

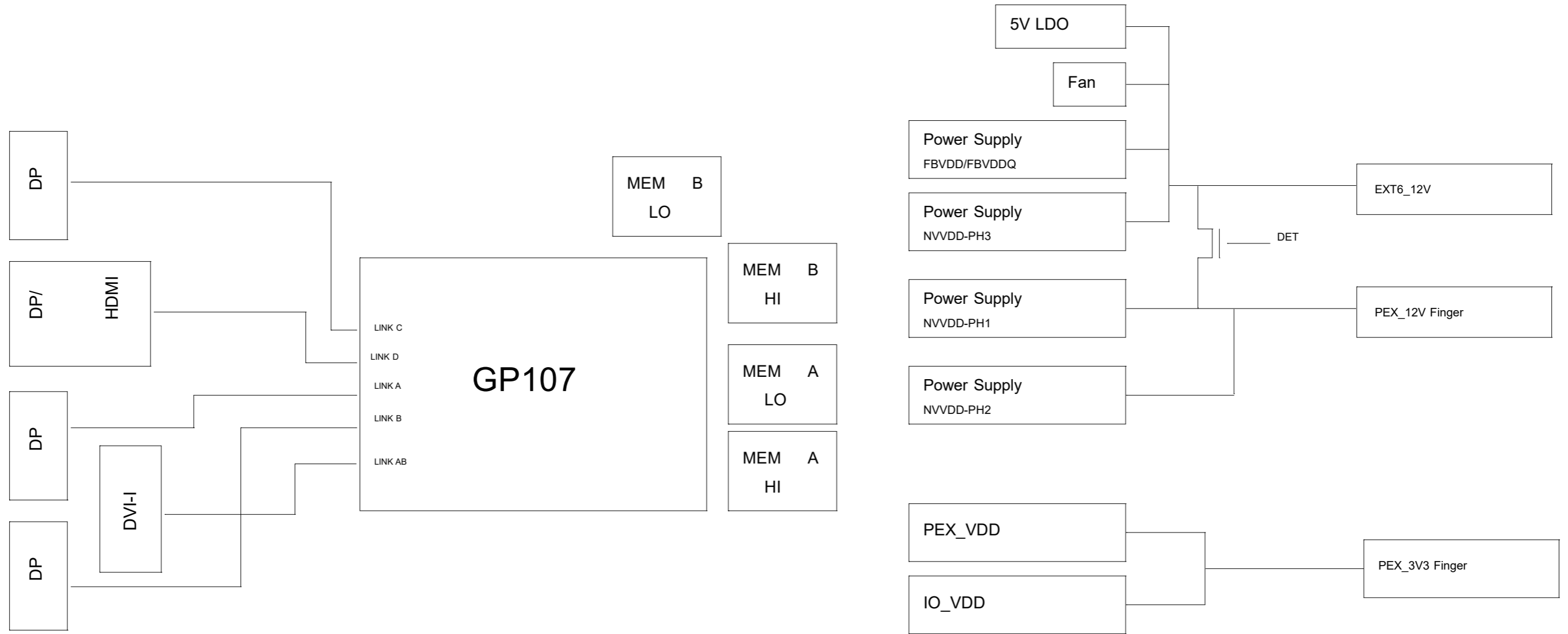
Page	Description
26	PS V: NVVDD Phase 3
27	SN Eprom&MECH_ Bracket/Thermal

		Galaxy Microsystems (HK) Ltd.	
Page Name: Table of Contents			
Size: Custom	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 23, 2016	Sheet 1 of 27		
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.			

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> Table of Contents

Block Diagram

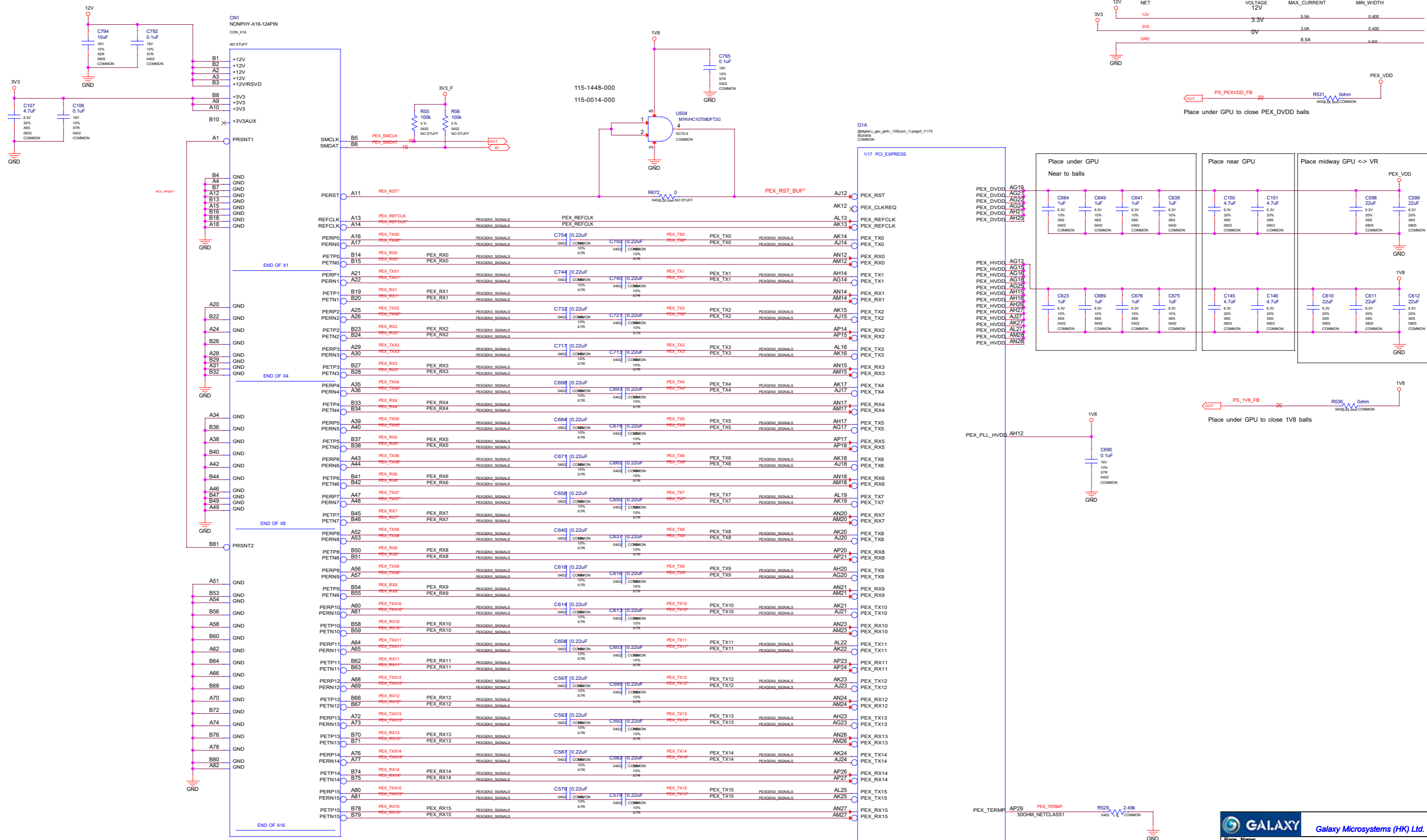


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> Block Diagram

		Galaxy Microsystems (HK) Ltd.	
Page Name: Block Diagram			
Size: Custom	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 21, 2016	Sheet 2 of 27		
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.			

PCI Express



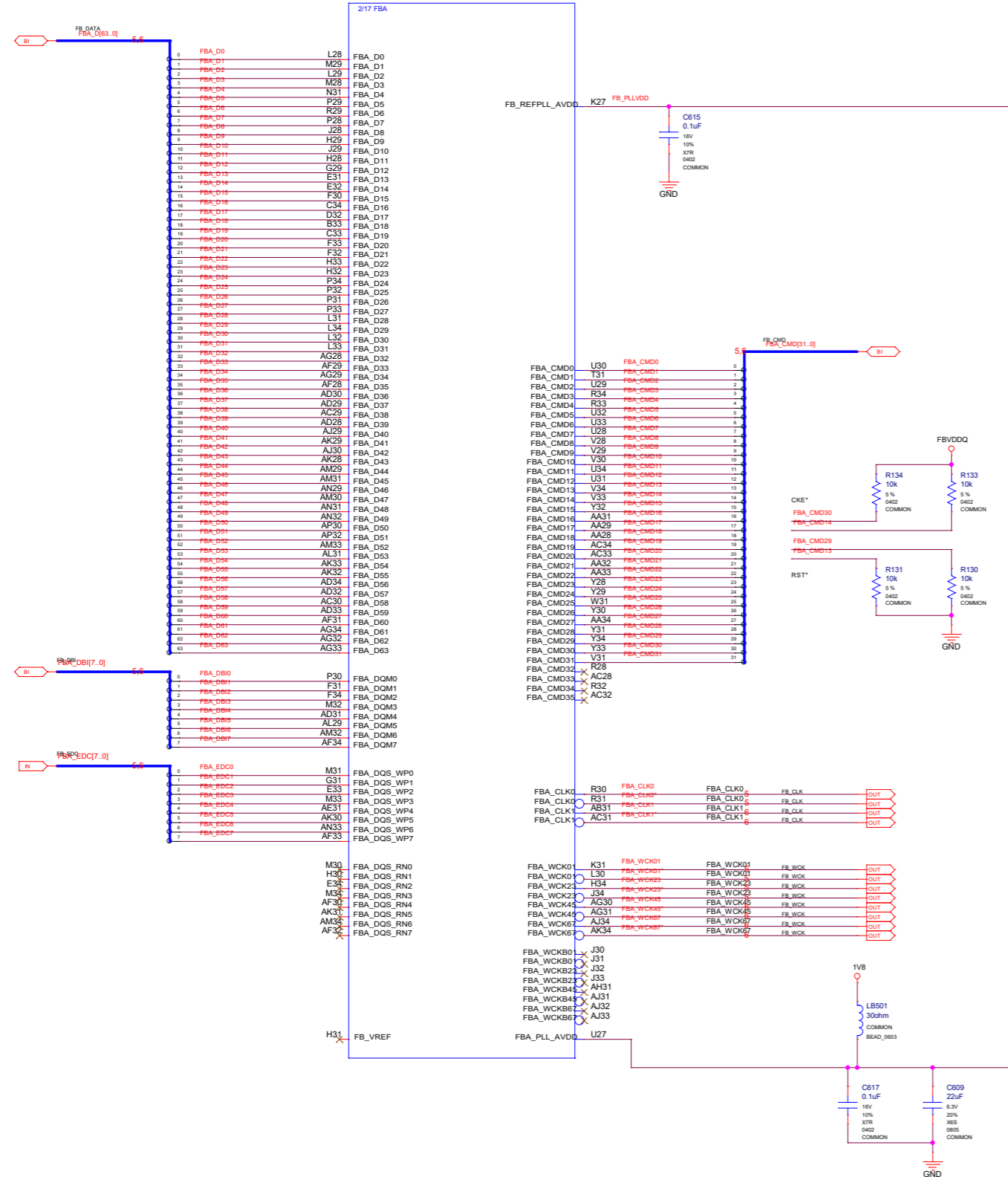
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> PCI Express

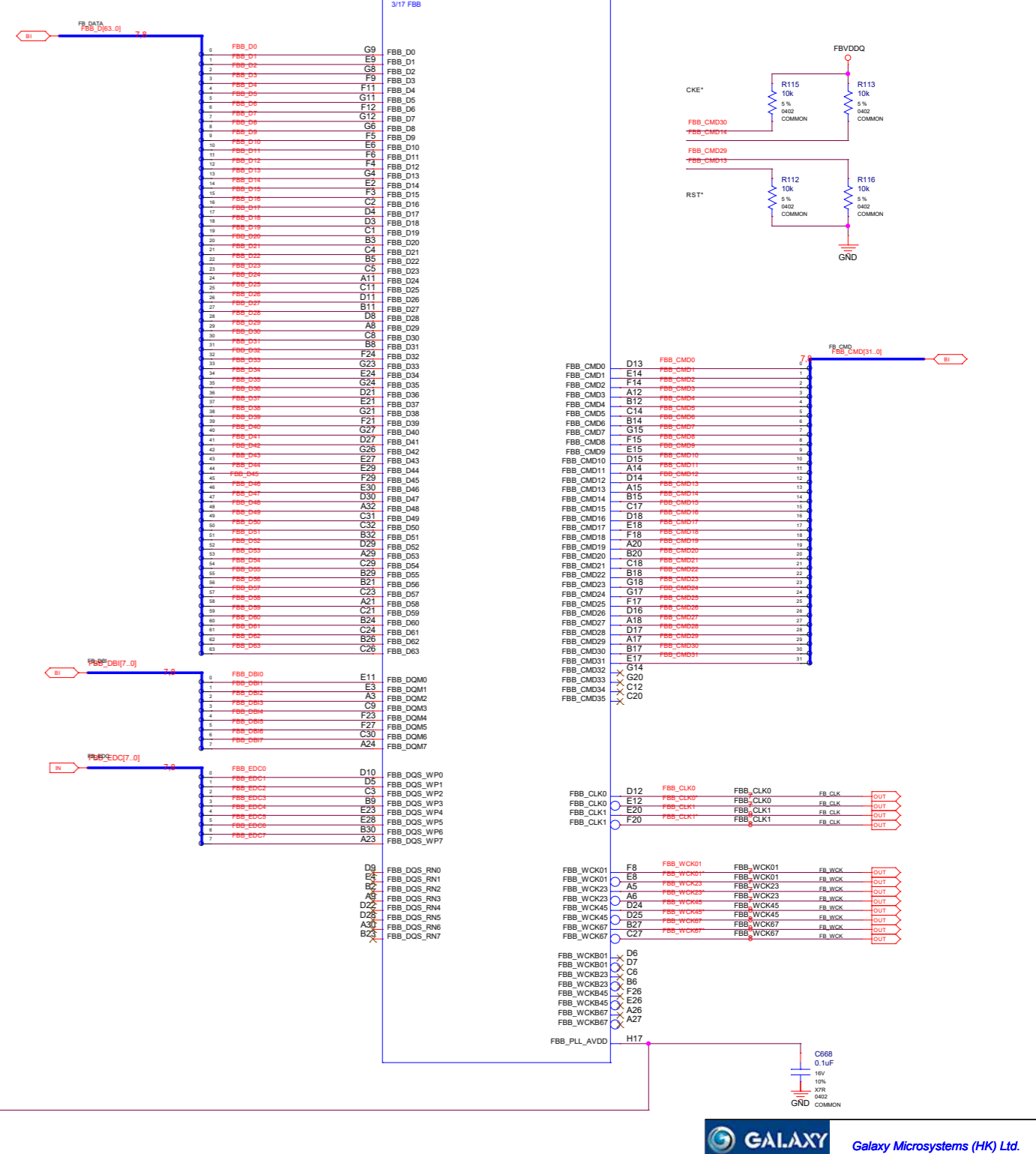
		PCI Express	
		Page Name:	Rev V10
Size Custom	Project Name: P75L	Design By: James	Rev V10
Date: Wednesday, December 21, 2016	Sheet 3 of 27	PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.	

MEMORY: GPU Partition A/B

G1B
@signal_gpu_g4c_128kym_2|page1_0168
B0A00
COMMON



G1C
@signal_gpu_g4c_128kym_3|page1_0169
B0A00
COMMON

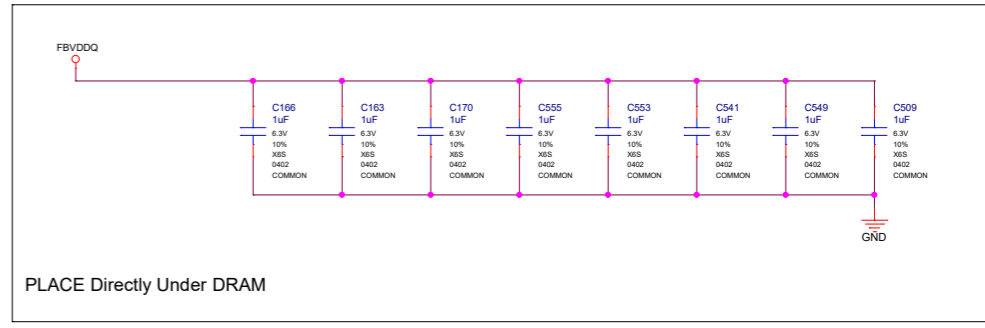
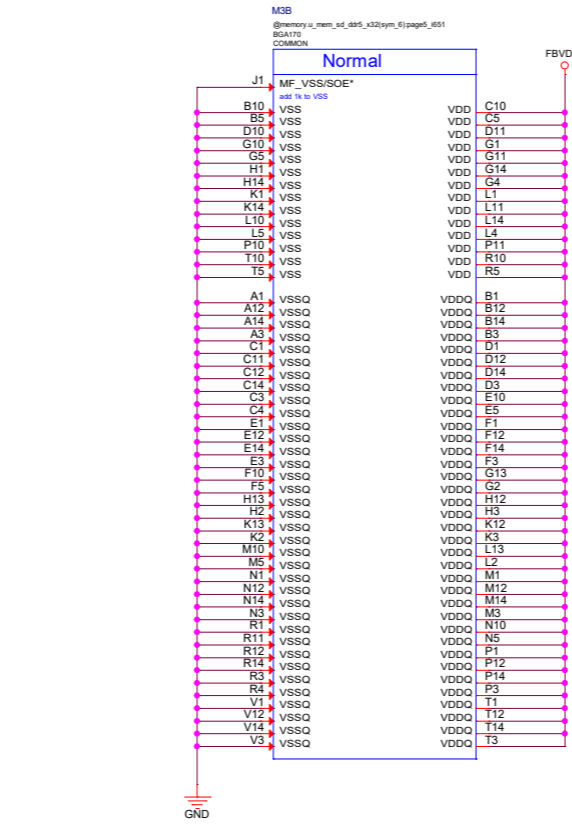
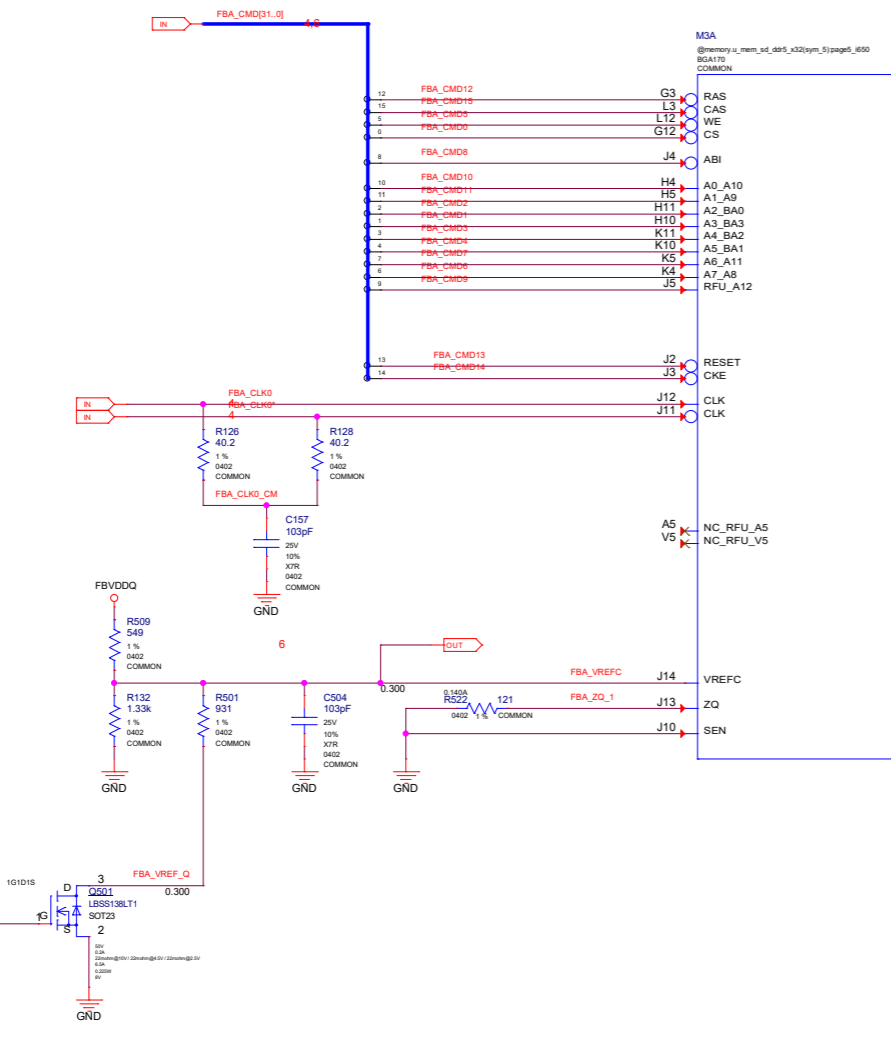


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

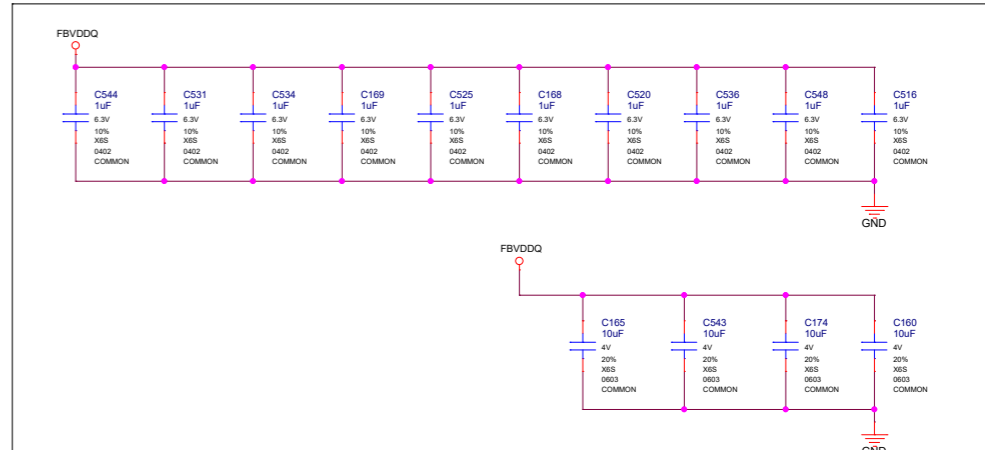
GALAXY Galaxy Microsystems (HK) Ltd.
Page Name: MEMORY: GPU Partition A/B
Size: Custom Project Name: P75L Design By: James Rev: V10
Date: Wednesday, December 21, 2016 Sheet 4 of 27
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.

MEMORY: FBA Partition 31.0

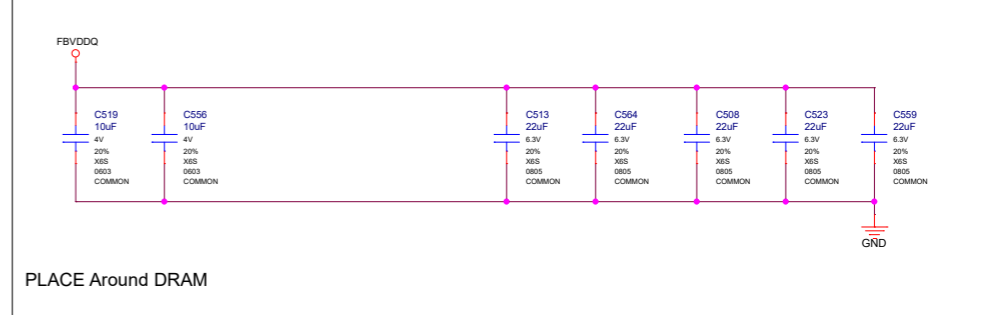
CMD	0..31	32..63
CMD0	CS*	
CMD1	A3_BA3	
CMD2	A2_BA0	
CMD3	A4_BA2	
CMD4	A5_BA1	
CMD5	WE*	
CMD6	A7_A8	
CMD7	A6_A11	
CMD8	AB1*	
CMD9	A12_RFU	
CMD10	A0_A10	
CMD11	A1_A9	
CMD12	RAS*	
CMD13	RST*	
CMD14	CKE*	
CMD15	CAS*	
CMD16		CS*
CMD17		A3_BA3
CMD18		A2_BA0
CMD19		A4_BA2
CMD20		A5_BA1
CMD21		WE*
CMD22		A7_A8
CMD23		A6_A11
CMD24		AB1*
CMD25		A12_RFU
CMD26		A0_A10
CMD27		A1_A9
CMD28		RAS*
CMD29		RST*
CMD30		CKE*
CMD31		CAS*



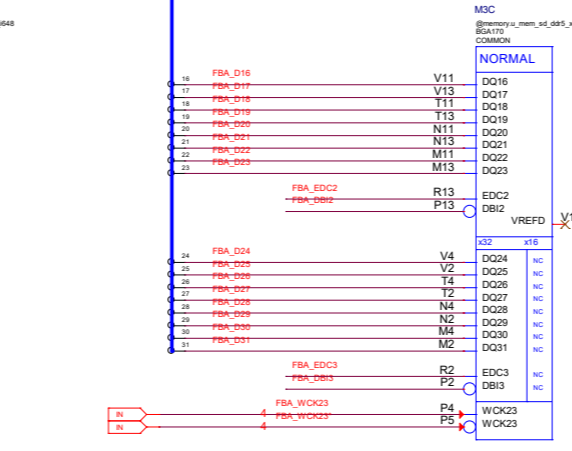
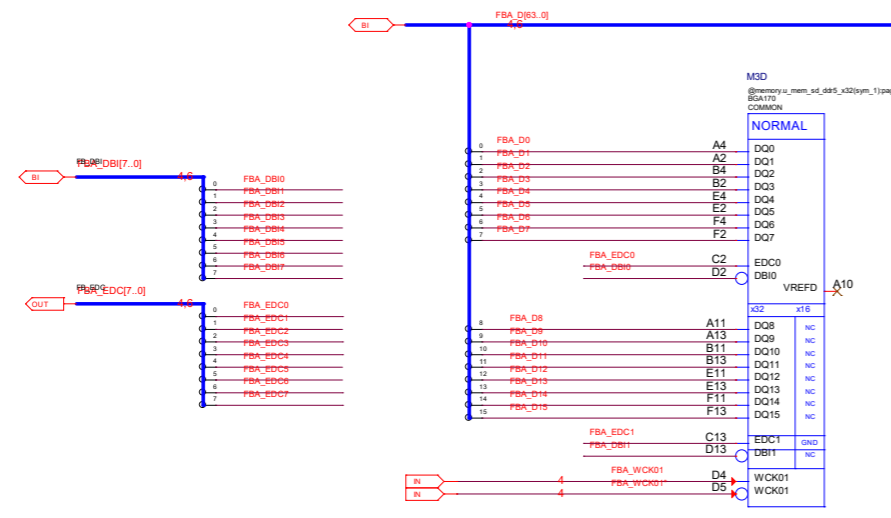
PLACE Directly Under DRAM



PLACE AT THE PACKAGE KEEPOUT/PERIMETER OF THE DRAM



PLACE Around DRAM



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

GALAXY Galaxy Microsystems (HK) Ltd.

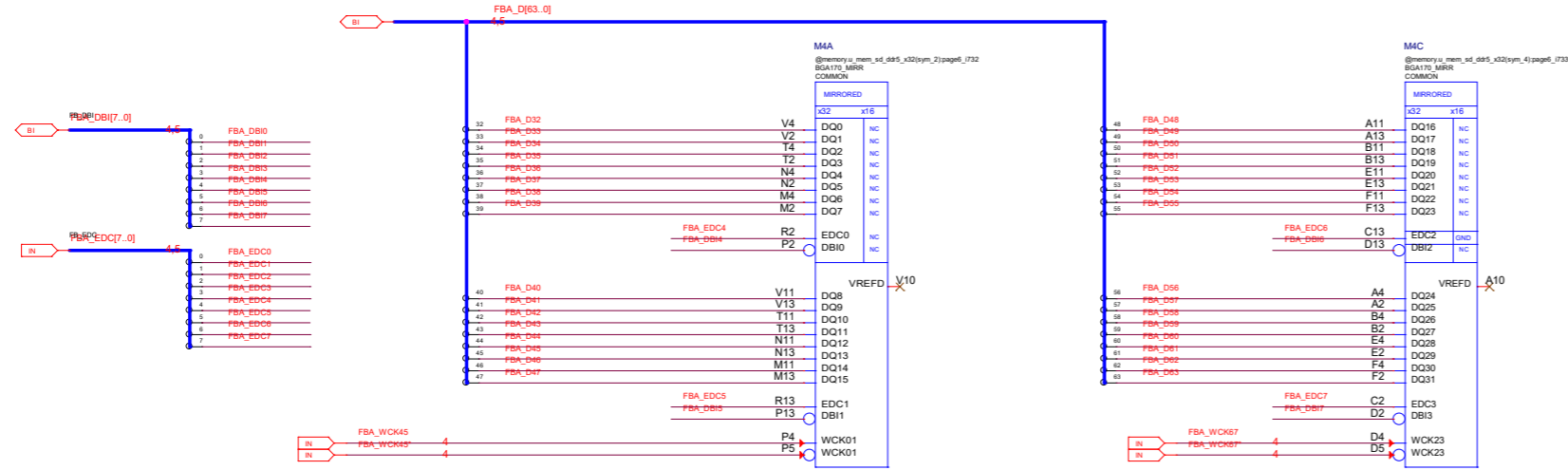
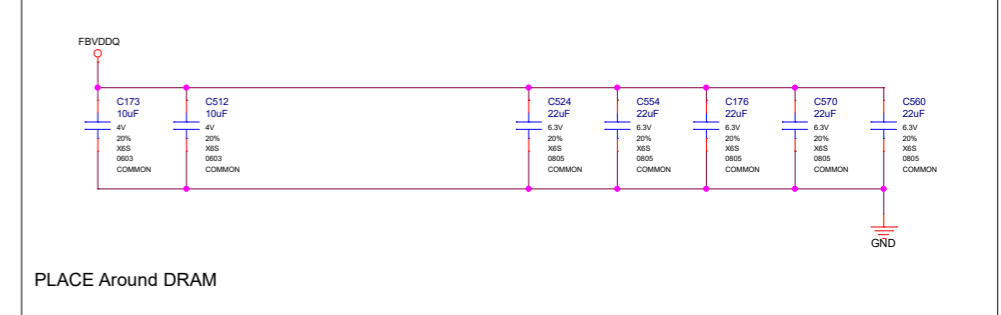
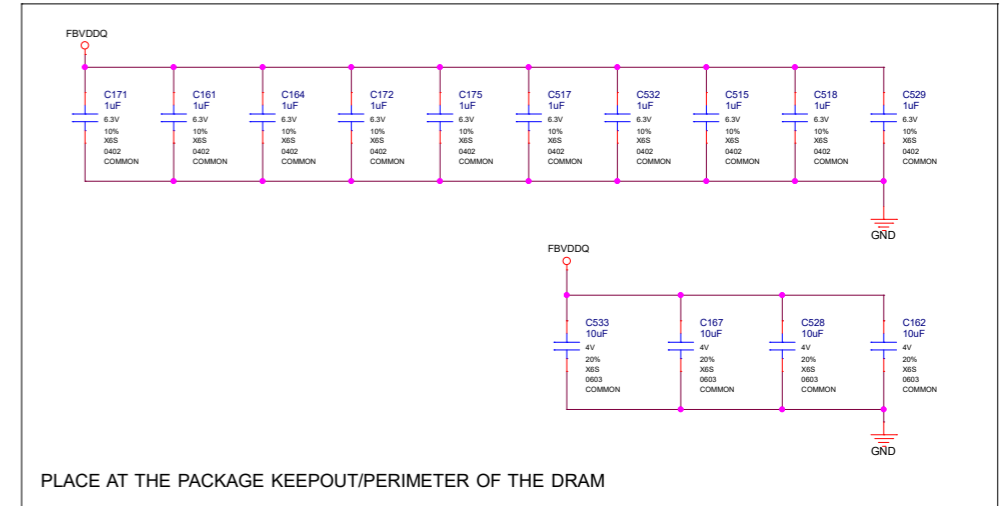
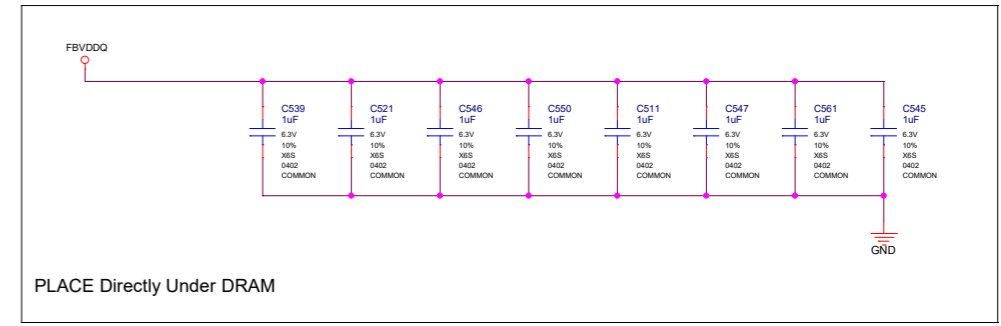
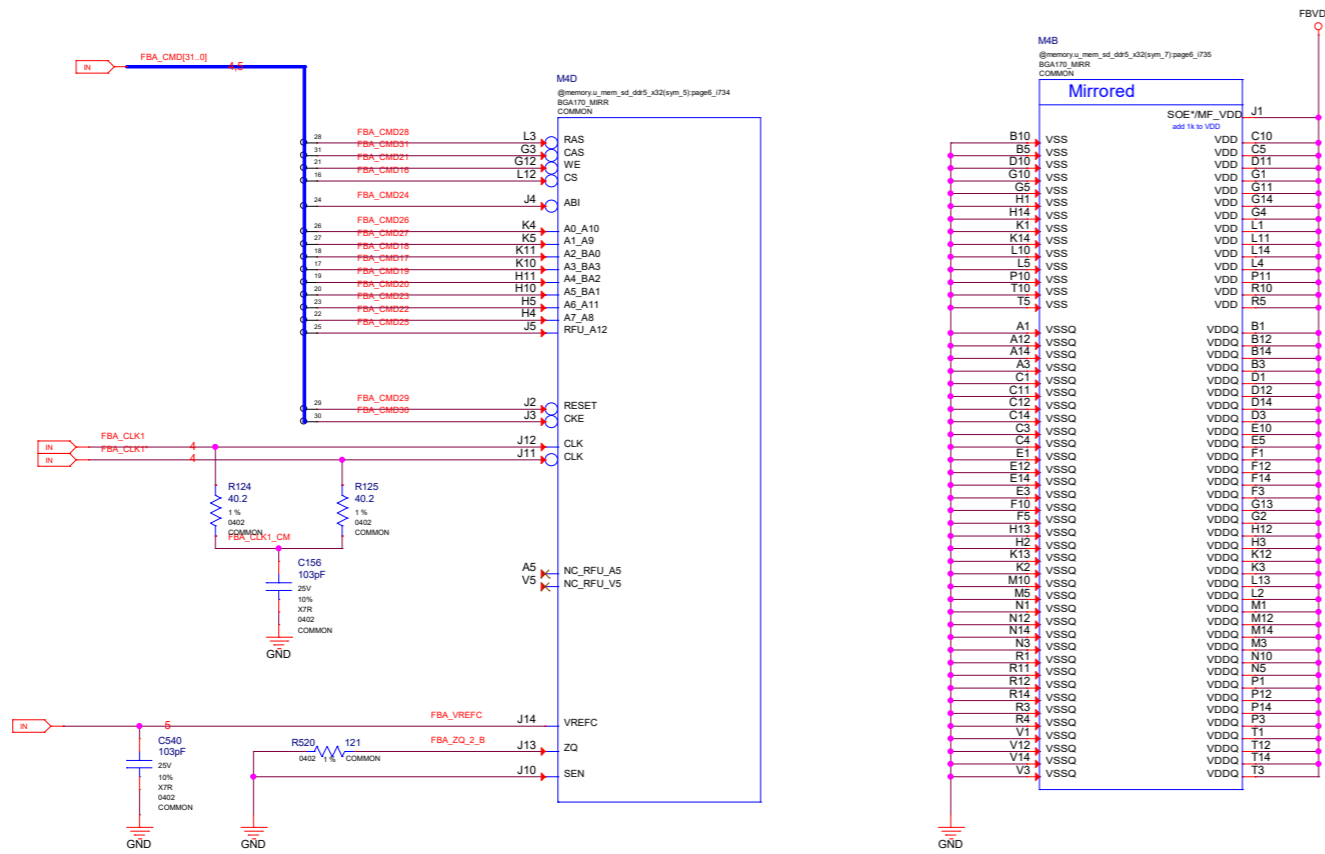
Page Name: MEMORY: FBA Partition 31.0

Size	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 21, 2016	Sheet 5 of 27		

PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.

MEMORY: FBA Partition 63..32

CMD	0..31	32..63
CMD0	CS*	
CMD1	A3_BA3	
CMD2	A2_BA0	
CMD3	A4_BA2	
CMD4	A5_BA1	
CMD5	WE*	
CMD6	A7_A8	
CMD7	A6_A11	
CMD8	AB*	
CMD9	A12_RFU	
CMD10	A0_A10	
CMD11	A1_A9	
CMD12	RAS*	
CMD13	RST*	
CMD14	CKE*	
CMD15	CAS*	
CMD16		CS*
CMD17		A3_BA3
CMD18		A2_BA0
CMD19		A4_BA2
CMD20		A5_BA1
CMD21		WE*
CMD22		A7_A8
CMD23		A6_A11
CMD24		AB*
CMD25		A12_RFU
CMD26		A0_A10
CMD27		A1_A9
CMD28		RAS*
CMD29		RST*
CMD30		CKE*
CMD31		CAS*



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> MEMORY: FBA(63:32)

GALAXY Galaxy Microsystems (HK) Ltd.

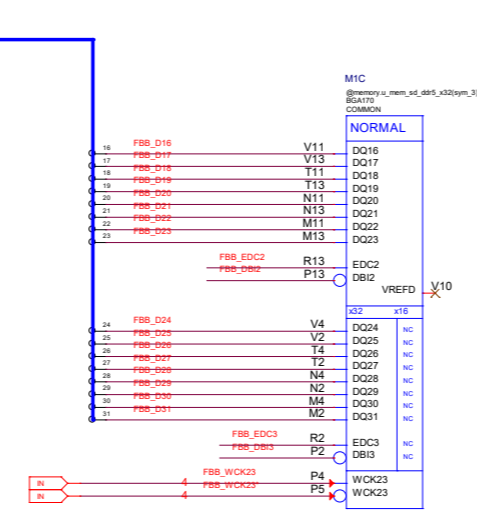
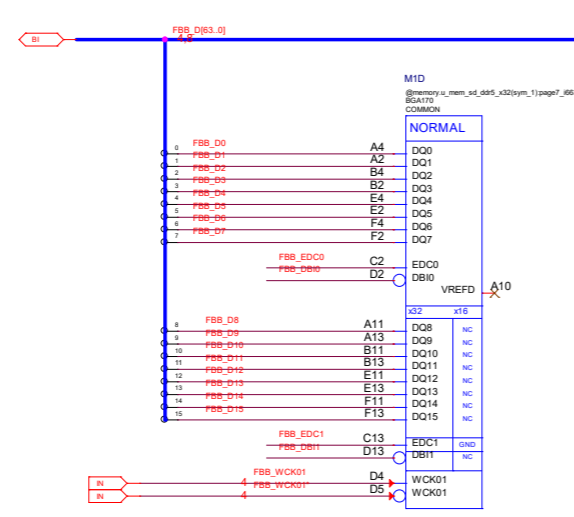
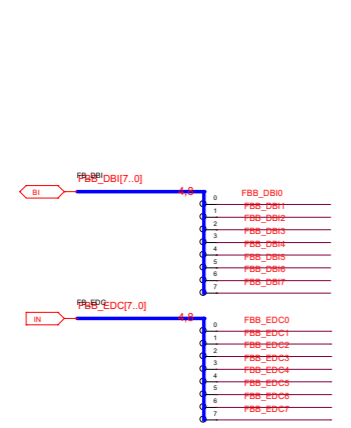
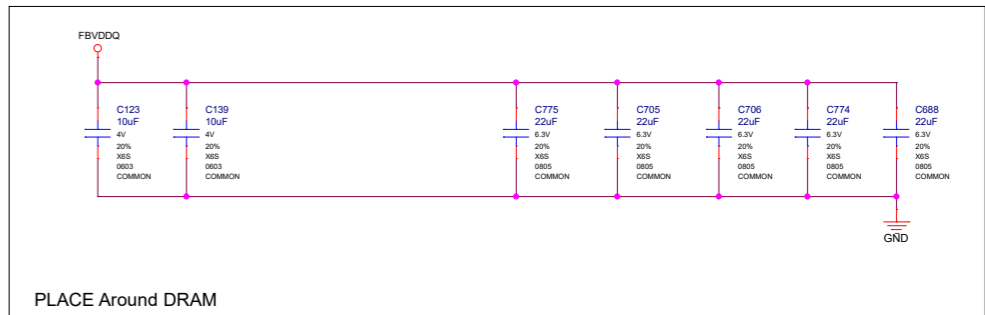
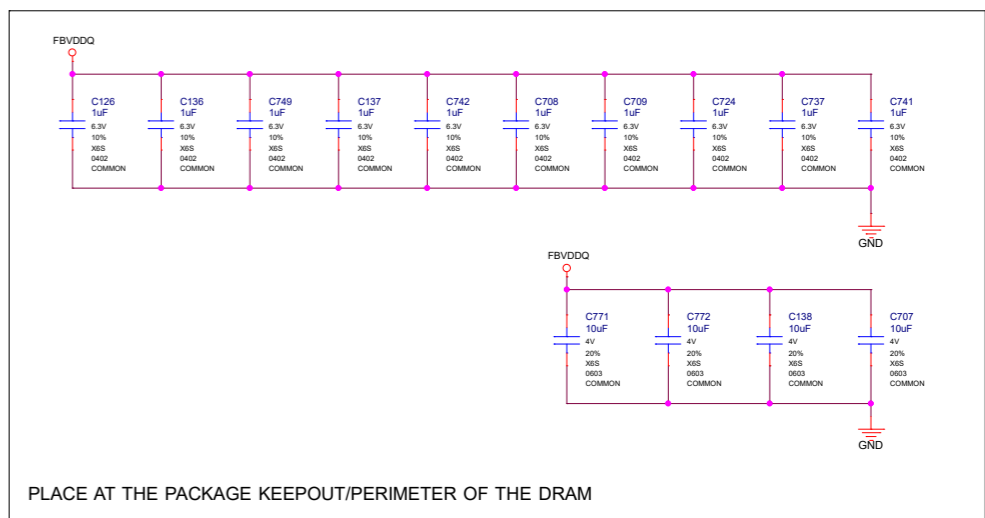
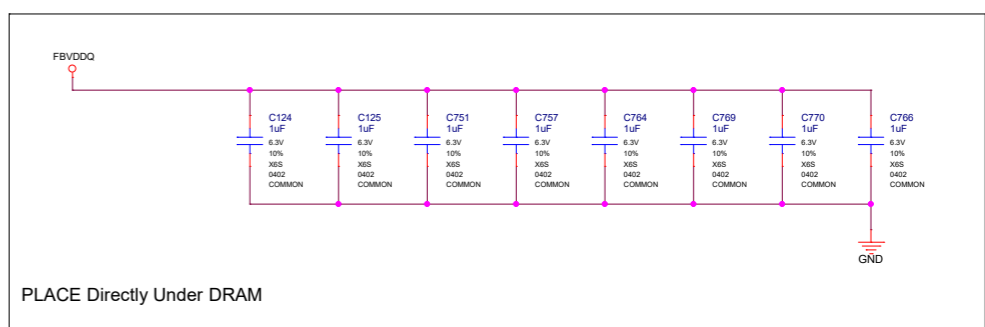
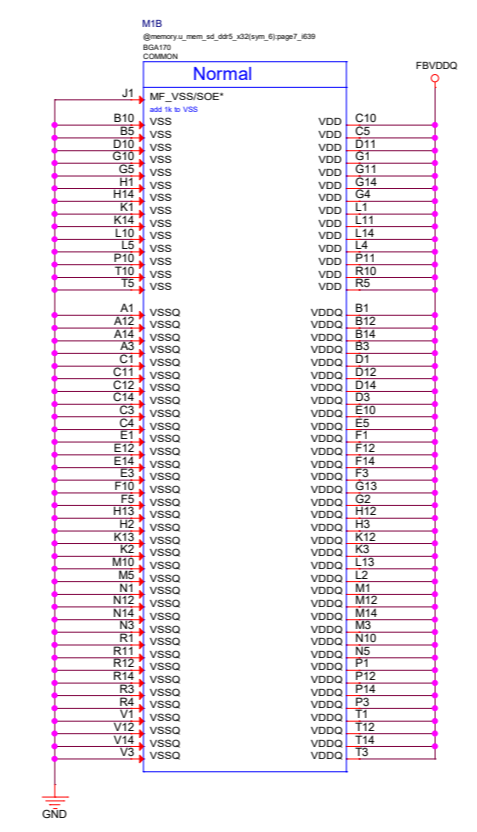
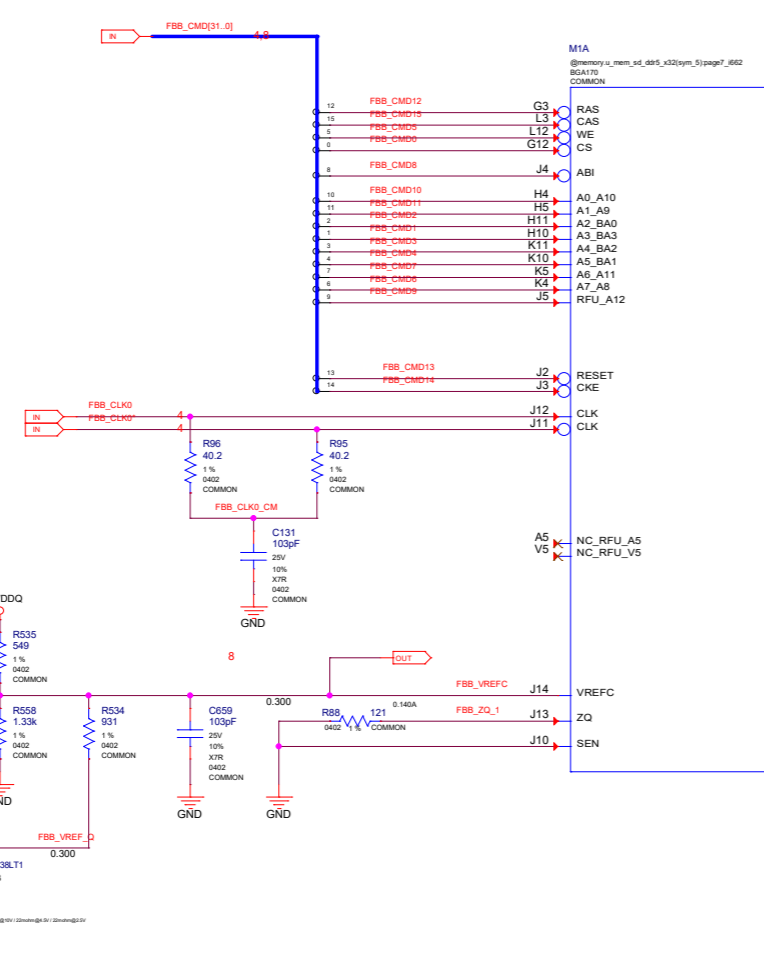
Page Name: MEMORY: FBA Partition 63..32

Size: Custom	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 21, 2016	Sheet: 6	of: 27	

PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.

MEMORY: FBB Partition 31..0

CMD	0..31	32..63
CMD0	CS*	CS*
CMD1	A3_BA3	A3_BA3
CMD2	A2_BA0	A2_BA0
CMD3	A4_BA2	A4_BA2
CMD4	A5_BA1	A5_BA1
CMD5	WE*	WE*
CMD6	A7_A8	A7_A8
CMD7	A6_A11	A6_A11
CMD8	AB1*	AB1*
CMD9	A12_RFU	A12_RFU
CMD10	A0_A10	A0_A10
CMD11	A1_A9	A1_A9
CMD12	RAS*	RAS*
CMD13	RST*	RST*
CMD14	CKE*	CKE*
CMD15	CAS*	CAS*
CMD16	CS*	CS*
CMD17	A3_BA3	A3_BA3
CMD18	A2_BA0	A2_BA0
CMD19	A4_BA2	A4_BA2
CMD20	A5_BA1	A5_BA1
CMD21	WE*	WE*
CMD22	A7_A8	A7_A8
CMD23	A6_A11	A6_A11
CMD24	AB1*	AB1*
CMD25	A12_RFU	A12_RFU
CMD26	A0_A10	A0_A10
CMD27	A1_A9	A1_A9
CMD28	RAS*	RAS*
CMD29	RST*	RST*
CMD30	CKE*	CKE*
CMD31	CAS*	CAS*



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

GALAXY Galaxy Microsystems (HK) Ltd.

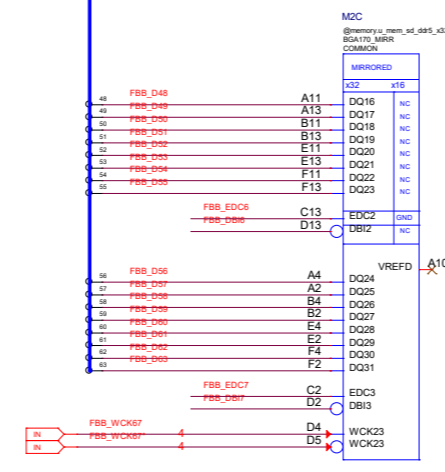
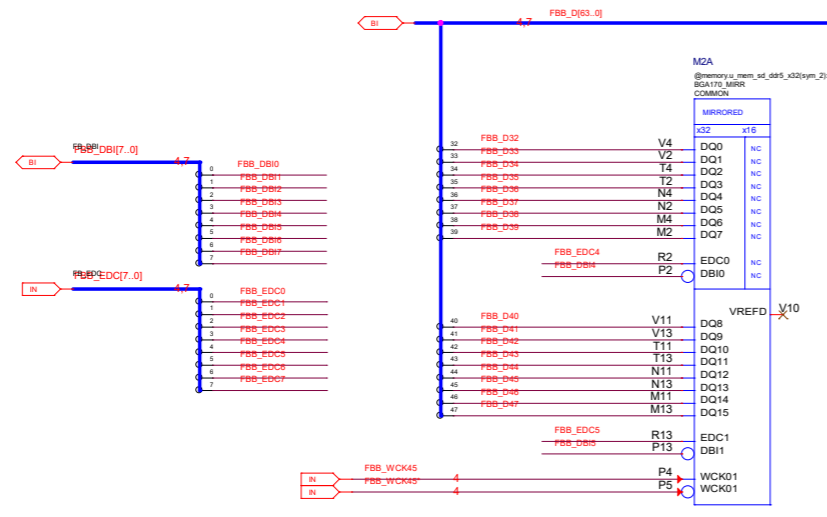
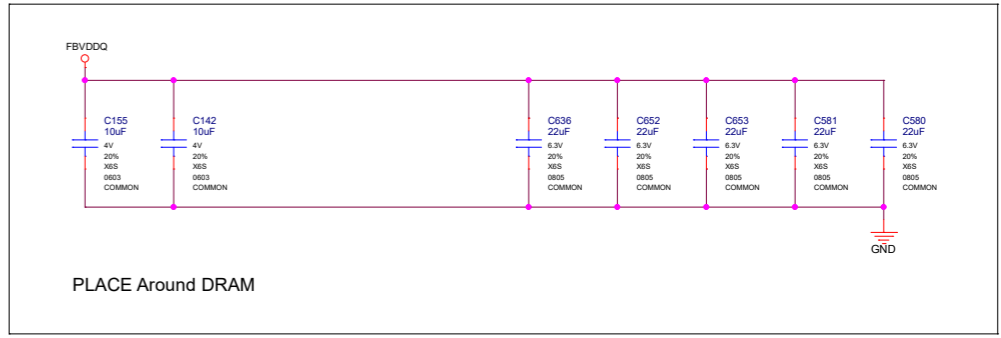
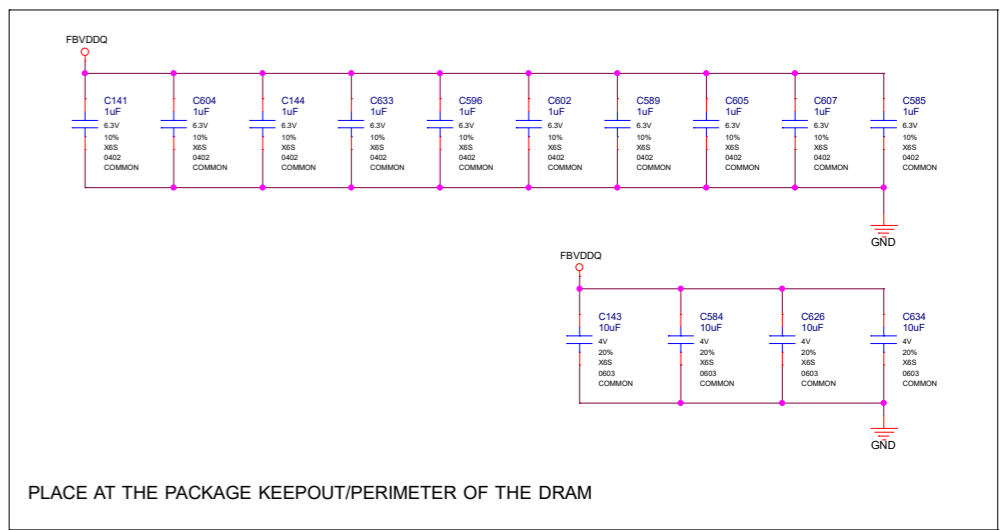
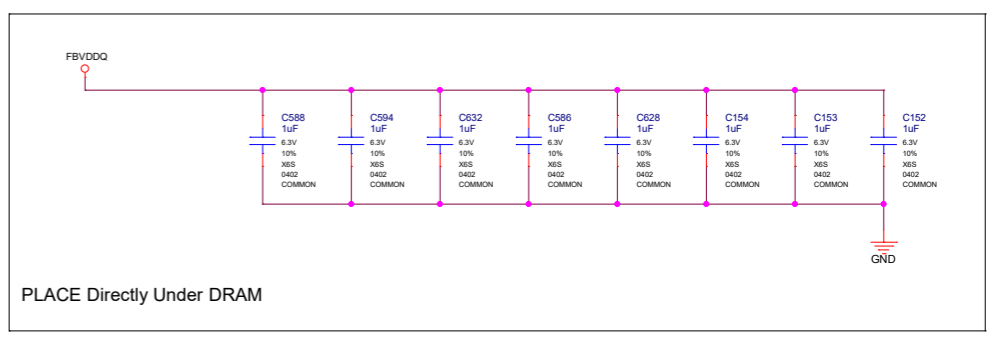
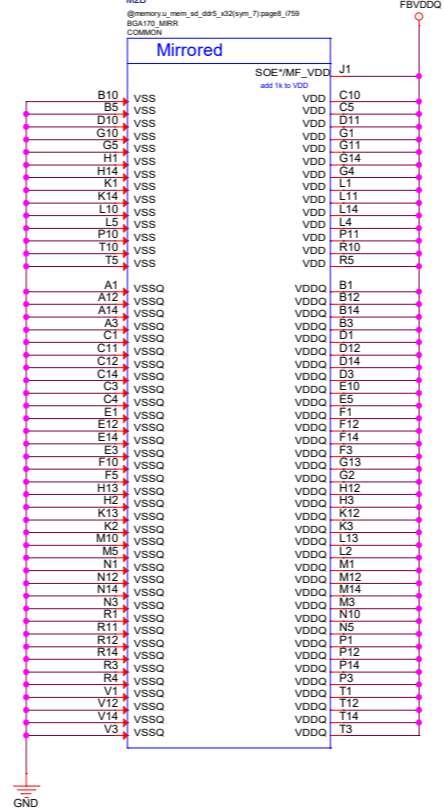
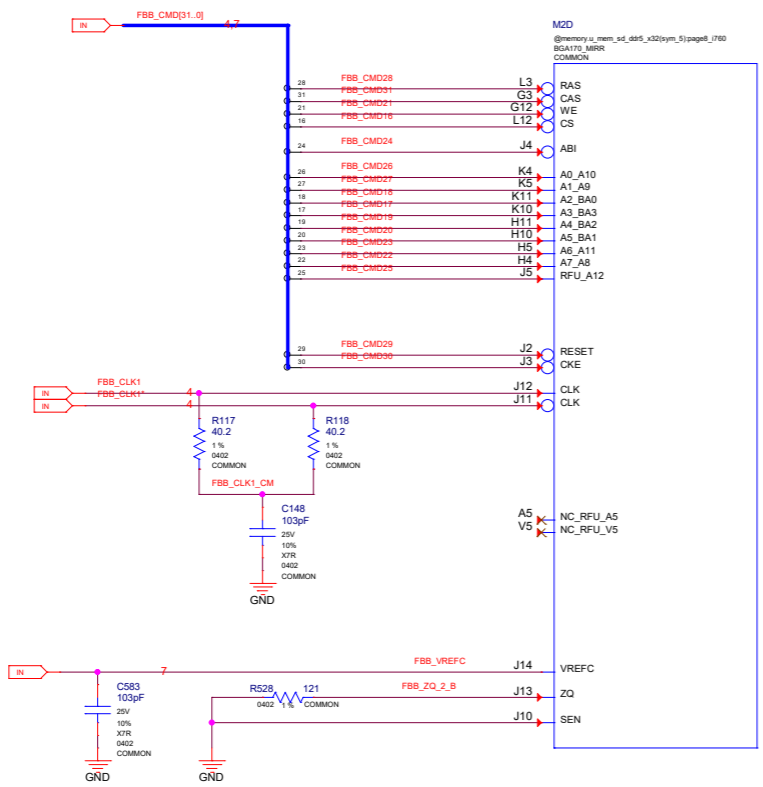
Page Name: MEMORY: FBB Partition 31..0

Size	Project Name: P75L	Design By: James	Rev: V10
Date:	Wednesday, December 21, 2016	Sheet 7 of 27	

PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.

MEMORY: FBB Partition 63..32

CMD	0..31	32..63
CMD0	CS*	
CMD1	A3_BA3	
CMD2	A2_BA0	
CMD3	A4_BA2	
CMD4	A5_BA1	
CMD5	WE*	
CMD6	A7_A8	
CMD7	A6_A11	
CMD8	AB*	
CMD9	A12_RFU	
CMD10	A0_A10	
CMD11	A1_A9	
CMD12	RAS*	
CMD13	RST*	
CMD14	CKE*	
CMD15	CAS*	
CMD16		CS*
CMD17		A3_BA3
CMD18		A2_BA0
CMD19		A4_BA2
CMD20		A5_BA1
CMD21		WE*
CMD22		A7_A8
CMD23		A6_A11
CMD24		AB*
CMD25		A12_RFU
CMD26		A0_A10
CMD27		A1_A9
CMD28		RAS*
CMD29		RST*
CMD30		CKE*
CMD31		CAS*



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> MEMORY: FBB[63:32]

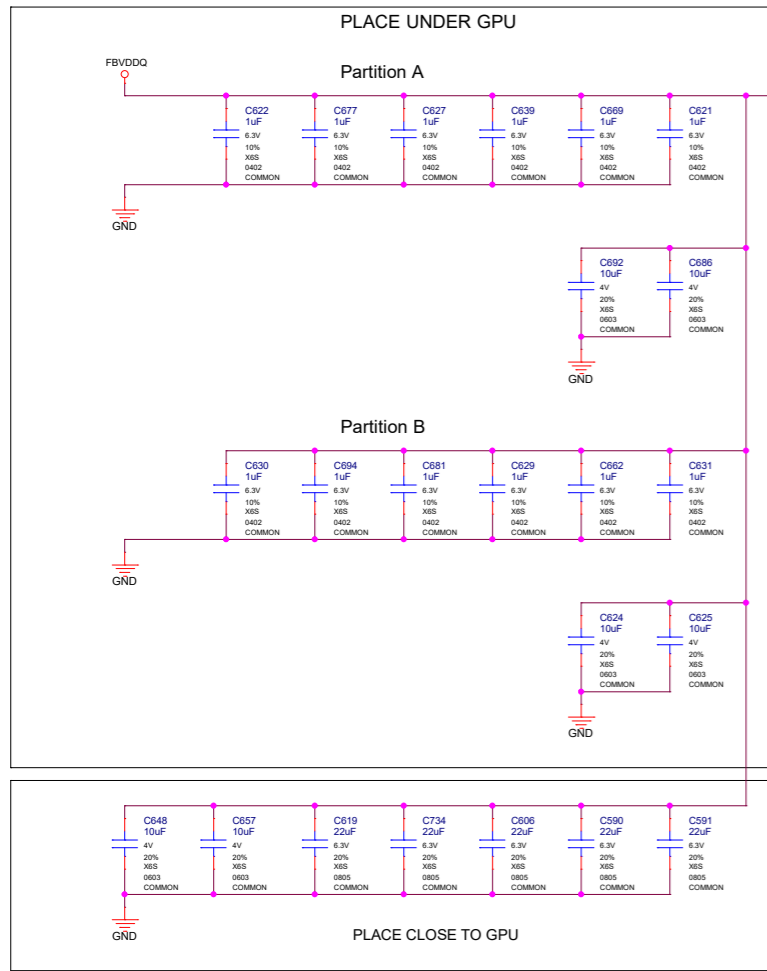
GALAXY Galaxy Microsystems (HK) Ltd.

Page Name: MEMORY: FBB Partition 63..32

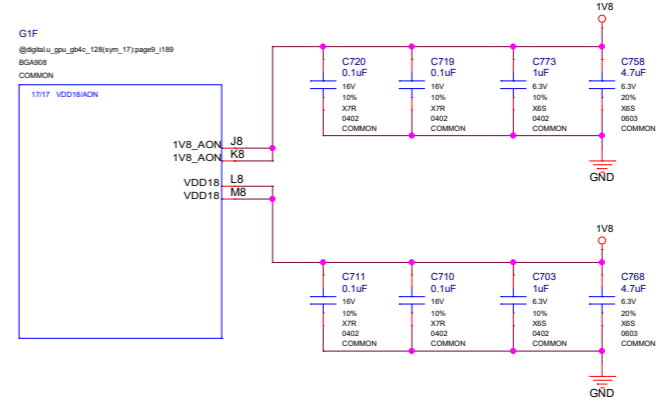
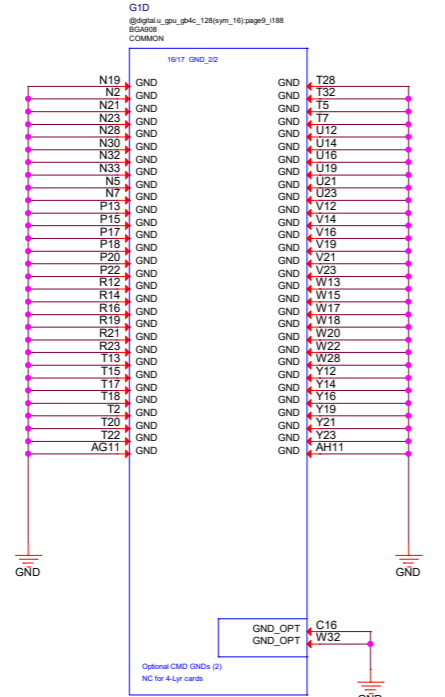
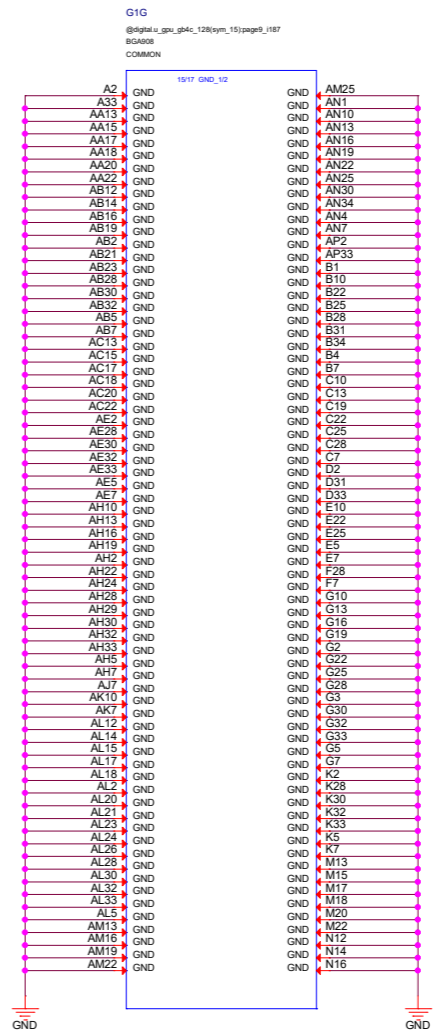
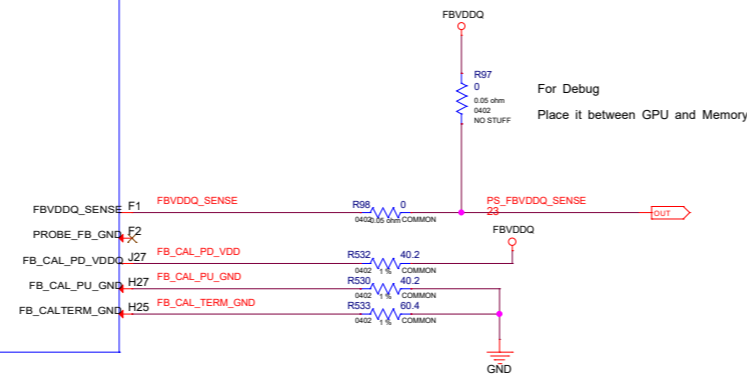
Size: Custom	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 21, 2016	Sheet: 8	of: 27	

PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.

GPU FBVDDQ & 1V8 Decoupling



- G1E
@signal_u_gpu_g4c_128(sym_14)page9_188
BGA988
COMMON
- 1417 FBVDDQ
 - AA27 FBVDDQ
 - AA30 FBVDDQ
 - AA33 FBVDDQ
 - AA15 FBVDDQ
 - AA17 FBVDDQ
 - AD27 FBVDDQ
 - AE27 FBVDDQ
 - AG27 FBVDDQ
 - AF27 FBVDDQ
 - AB12 FBVDDQ
 - B13 FBVDDQ
 - FBVDDQ
 - B16 FBVDDQ
 - AB19 FBVDDQ
 - E13 FBVDDQ
 - E16 FBVDDQ
 - E19 FBVDDQ
 - H10 FBVDDQ
 - H11 FBVDDQ
 - H12 FBVDDQ
 - H14 FBVDDQ
 - H15 FBVDDQ
 - H16 FBVDDQ
 - H18 FBVDDQ
 - H19 FBVDDQ
 - H20 FBVDDQ
 - H21 FBVDDQ
 - H22 FBVDDQ
 - H23 FBVDDQ
 - H24 FBVDDQ
 - H8 FBVDDQ
 - H9 FBVDDQ
 - L27 FBVDDQ
 - M27 FBVDDQ
 - N27 FBVDDQ
 - P27 FBVDDQ
 - R27 FBVDDQ
 - T27 FBVDDQ
 - Y27 FBVDDQ
 - W30 FBVDDQ
 - W33 FBVDDQ
 - Y27 FBVDDQ



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> GPU FBVDDQ & 1V8 Decoupling

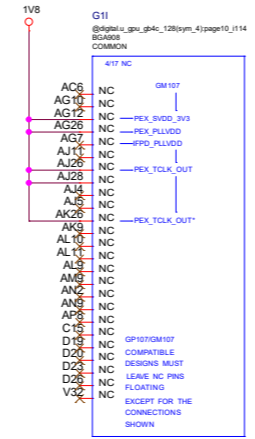
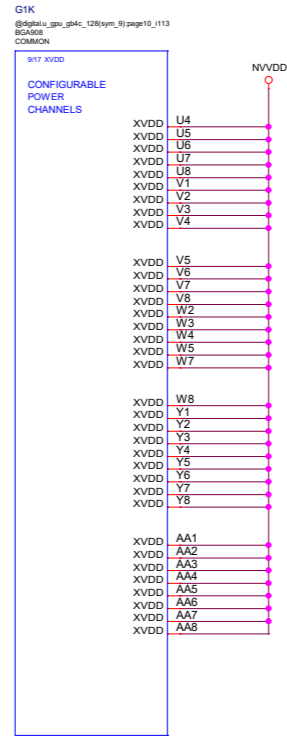
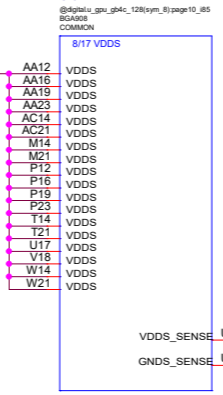
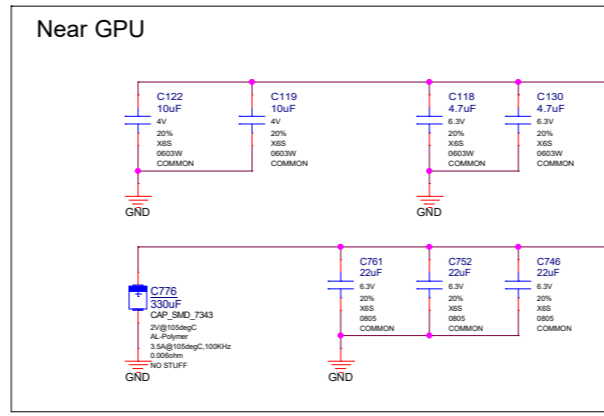
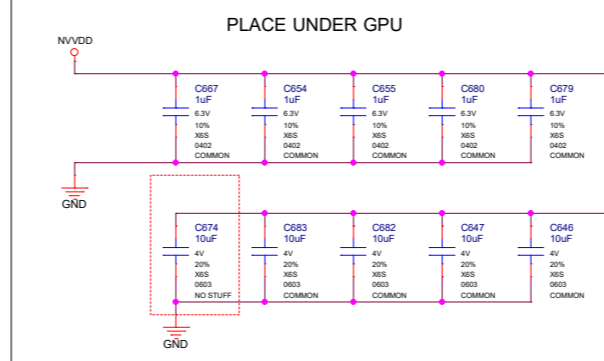
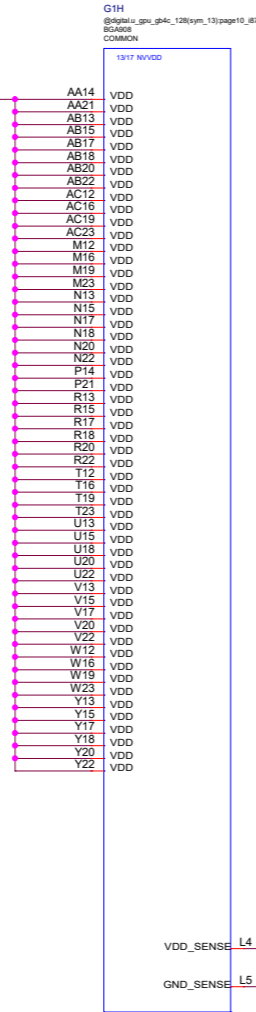
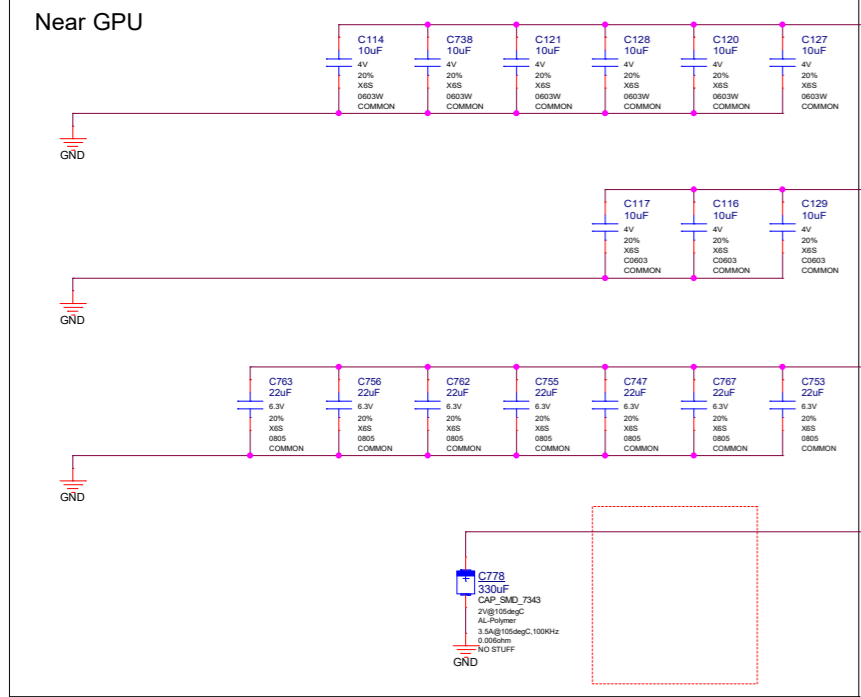
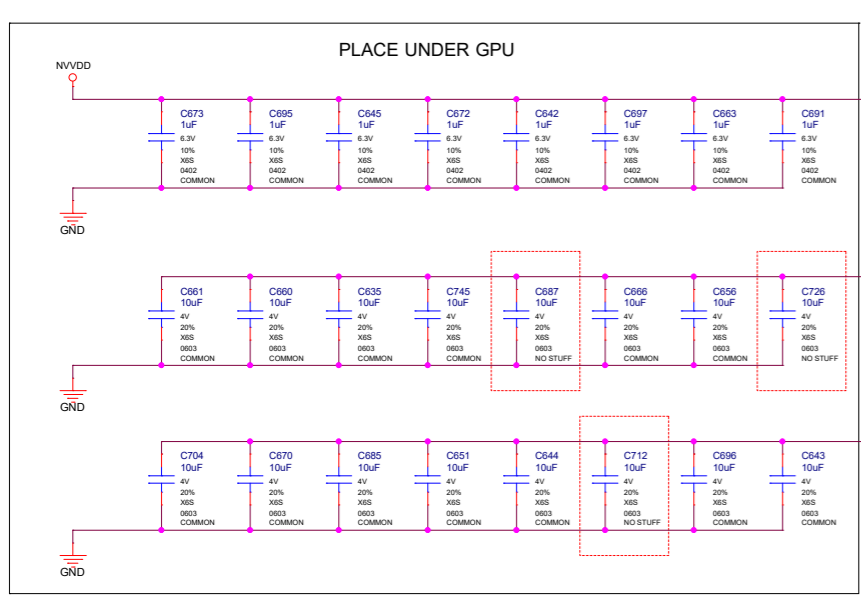
GALAXY Galaxy Microsystems (HK) Ltd.

Page Name: GPU FBVDDQ & 1V8 Decoupling

Size: Custom	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 21, 2016	Sheet 9 of 27		

PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.

GPU NVVDD & NVVDDS Decoupling



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE PRACTICE, OR INDUSTRY STANDARDS.

GALAXY Galaxy Microsystems (HK) Ltd.

Page Name: GPU NVVDD & NVVDDS Decoupling

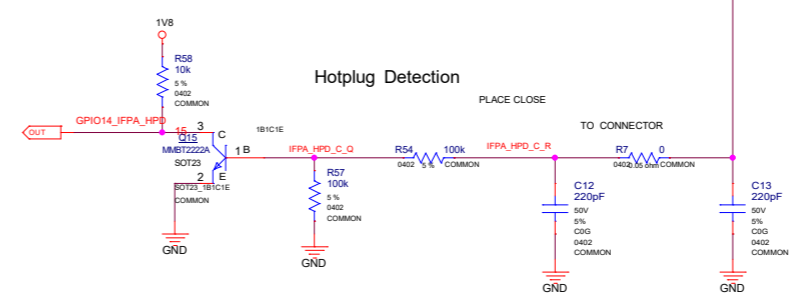
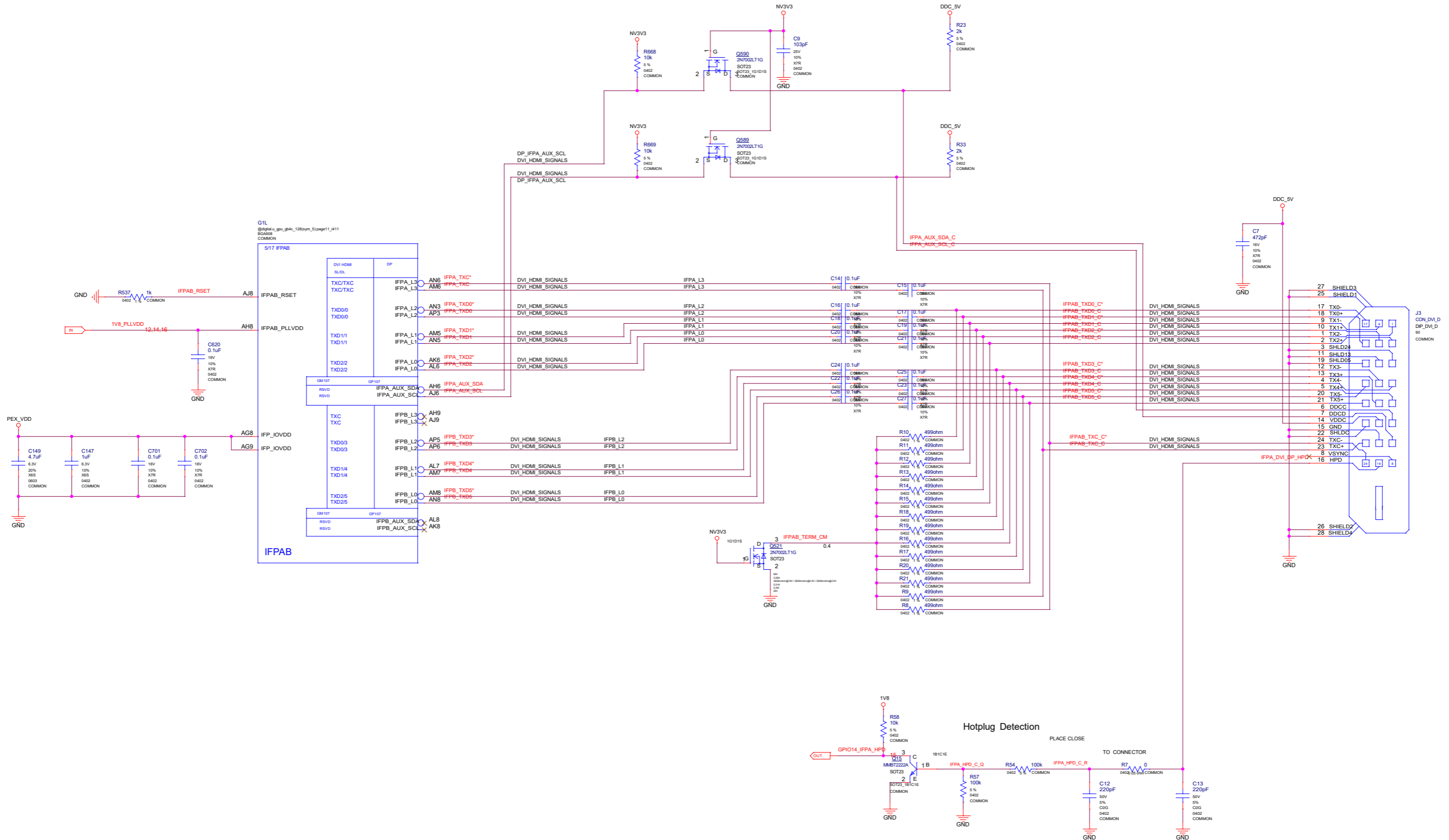
Size: Custom Project Name: P75L Design By: James Rev: V10

Date: Wednesday, December 21, 2016 Sheet 10 of 27

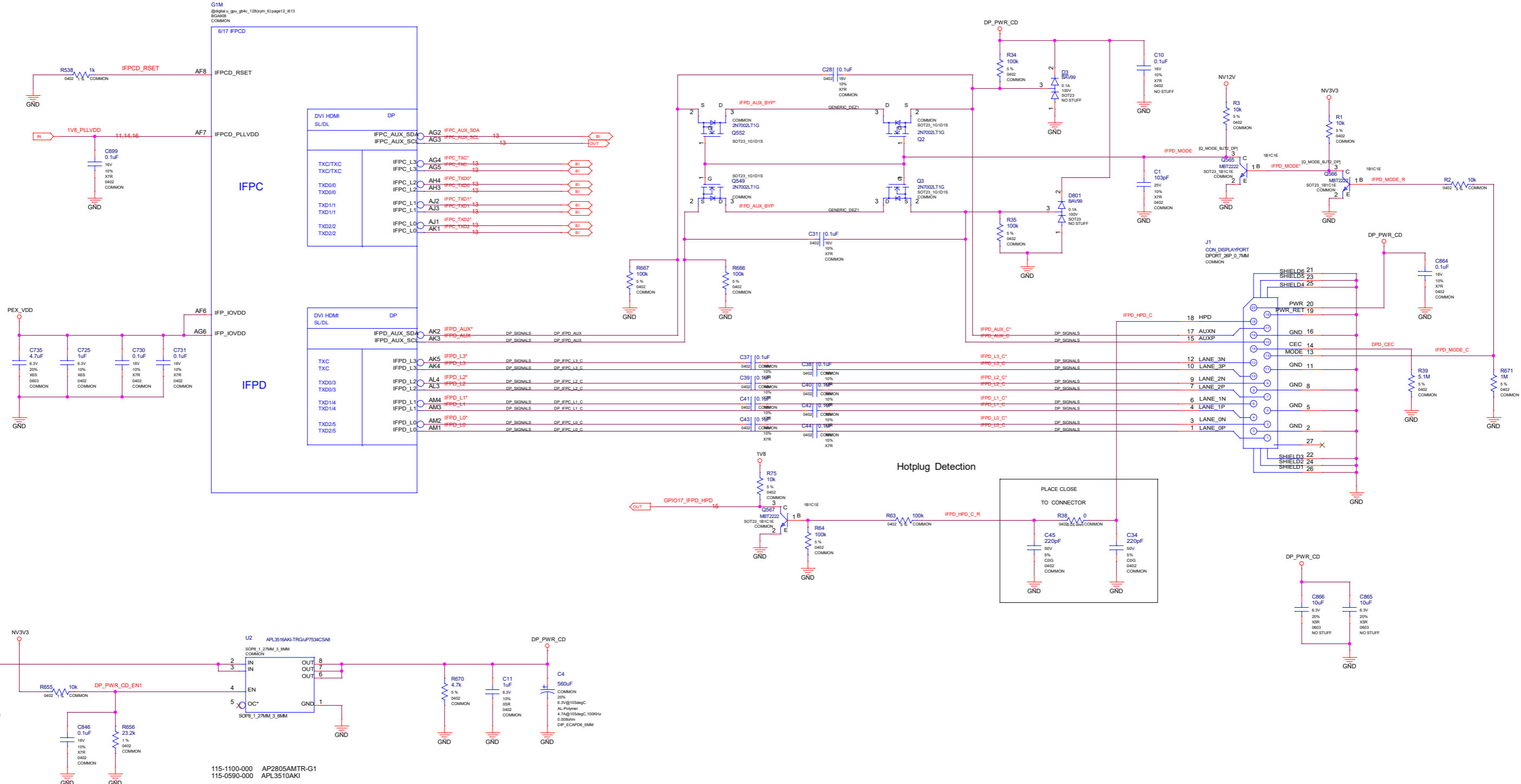
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> GPU NVVDD & NVVDDS DECOUPLING

IFPAB DVI-DL



IFPD DP



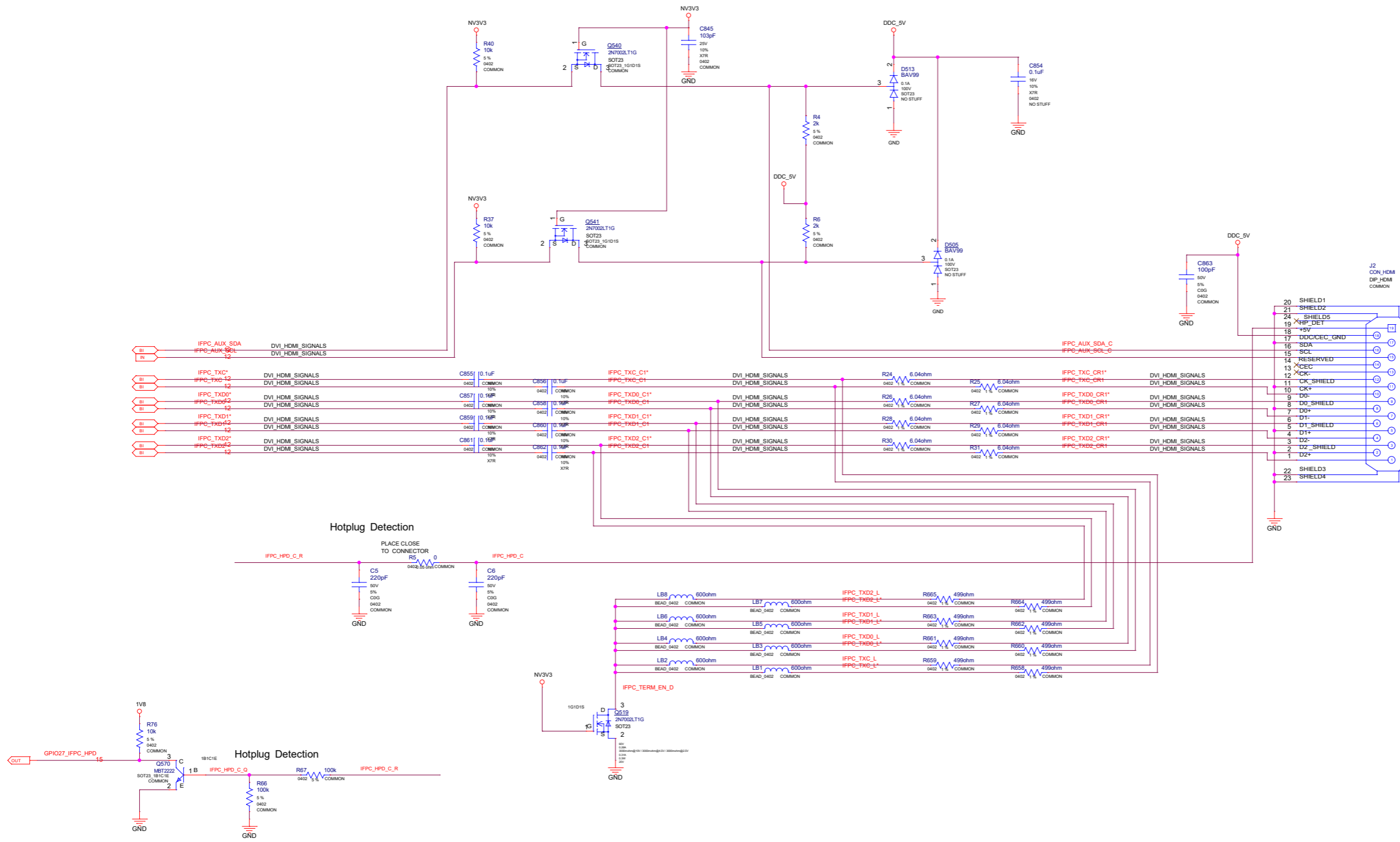
115-1100-000 AP2805AMTR-G1
115-0590-000 APL3510AK1

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> IFPD DP

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

GALAXY Galaxy Microsystems (HK) Ltd.			
Page Name: IFPD DP			
Size: Custom	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 21, 2016		Sheet 12 of 27	
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.			

IFPC HDMI



GALAXY Galaxy Microsystems (HK) Ltd.

Page Name: IFPC HDMI

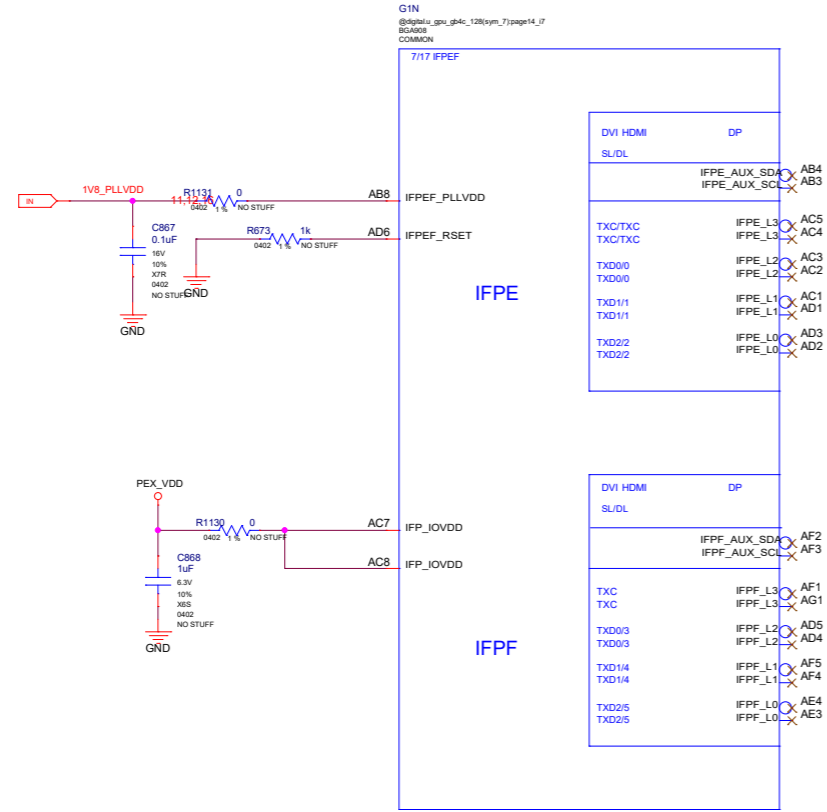
Size: Custom	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 21, 2016	Sheet: 13	of: 27	

PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL | <ASSEMBLY_DESCRIPTION> IFPC HDMI

IFPEF UNUSED



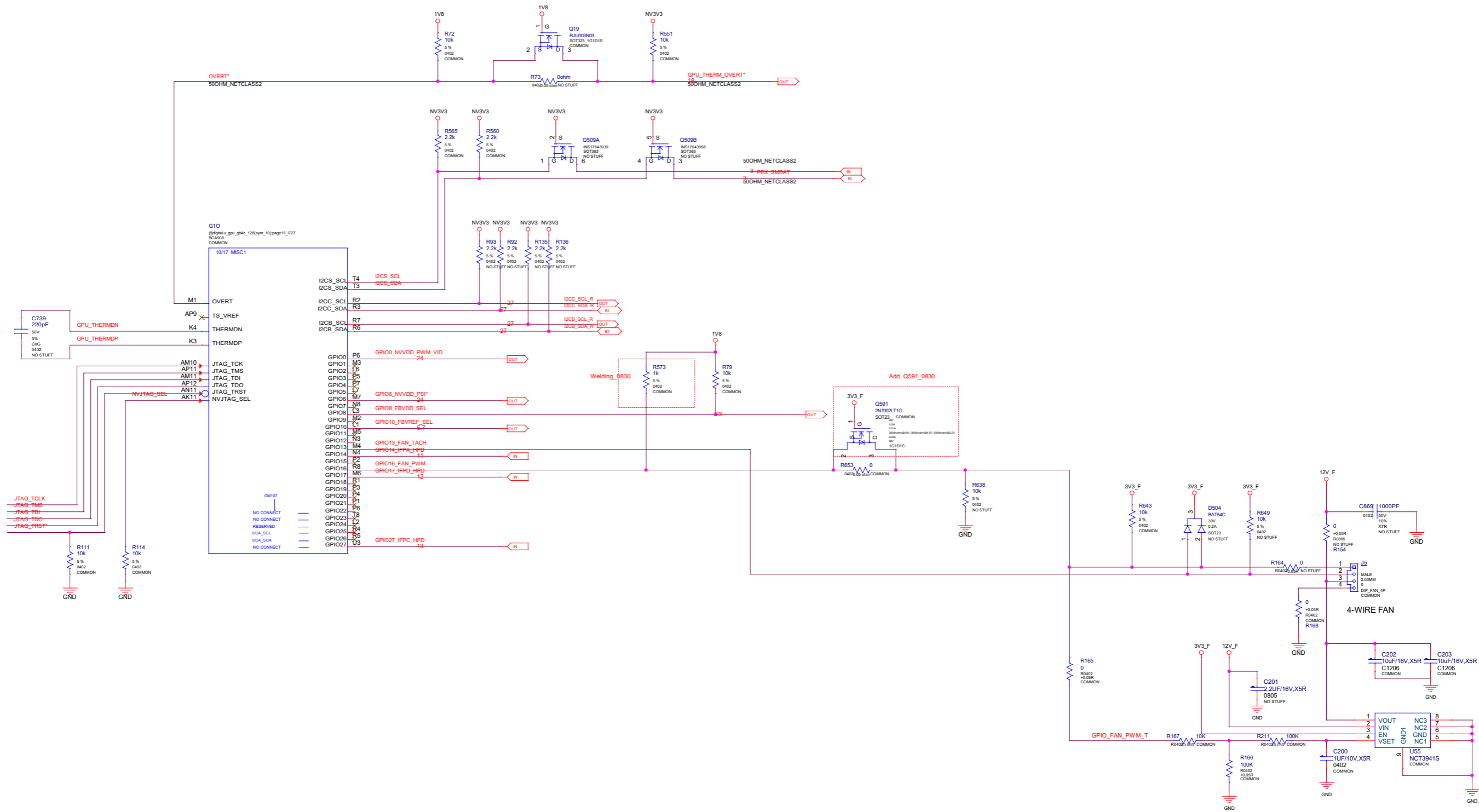
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> IFPEF UNUSED

		Galaxy Microsystems (HK) Ltd.	
Page Name: IFPD DP			
Size: Custom	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 21, 2016	Sheet: 14	of: 27	
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.			

MISC1: GPIO, Fan, Thermal, JTAG

PADS FOR DEBUGGING



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> MISC1: Fan, Thermal, JTAG, GPIO

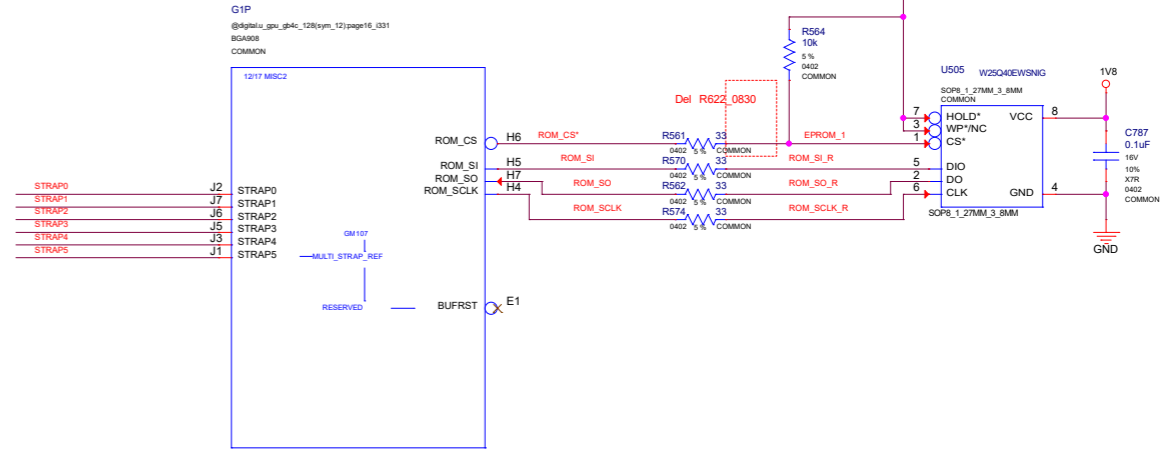
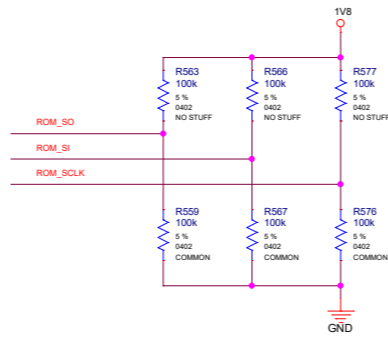
GALAXY		Galaxy Microsystems (HK) Ltd.	
Page Name:		MISC1: GPIO, Fan, Thermal, JTAG	
Size: Custom	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 21, 2016	Sheet: 15	of 27	
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.			

MISC2: ROM, XTAL, Straps

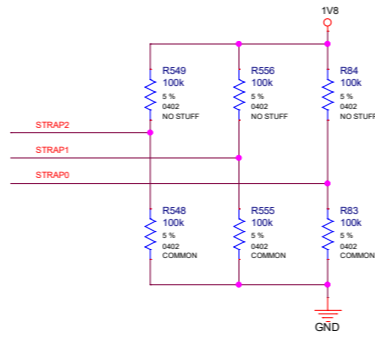
ROM_SO	ROM_SI	ROM_SCLK	SOR_EXPOSED[3:0]	1:ENABLE 0:DISABLE
L	L	L	1111	Default
L	L	H	1110	
L	H	L	1101	
L	H	H	1100	
H	L	L	1011	
H	L	H	1010	
H	H	L	1001	
H	H	H	1000	
L	L	M	0111	
L	M	L	0110	
L	M	H	0101	
L	H	M	0100	
H	L	M	0011	
H	M	L	0010	
H	M	H	0001	
H	H	M	0000	

STRAP2	STRAP1	STRAP0	RAMCFG[4:0]	
L	L	L	0000	Samsung B-Die 8Gb 256Mx32
L	L	H	0001	Micron F-Die 8Gb 256Mx32
L	H	L	0010	Hynix M-Die 8Gb 256Mx32
L	H	H	0011	
H	H	L	0110	Hynix A-Die 4Gb 128Mx32
H	H	H	0111	Samsung E-Die 4Gb 128Mx32
L	L	M	1000	Micron B-Die 4Gb 128Mx32
L	M	L	1001	

STRAP5	STRAP4	STRAP3	SMB_ALT_ADDR	DEVID_SEL	PCIE_CFG	VGA_DEVICE
M	H	H	1	1	1	1
M	H	L	1	1	1	0
M	L	H	1	1	0	1
M	L	L	1	1	0	0
L	H	M	1	0	1	1
L	M	H	1	0	1	0
L	M	L	1	0	0	1
L	L	M	1	0	0	0
H	H	H	0	1	1	1
H	H	L	0	1	1	0
H	L	L	0	1	0	1
L	H	H	0	0	1	1
L	H	L	0	0	1	0
L	L	H	0	0	0	1 DEFAULT
L	L	L	0	0	0	0



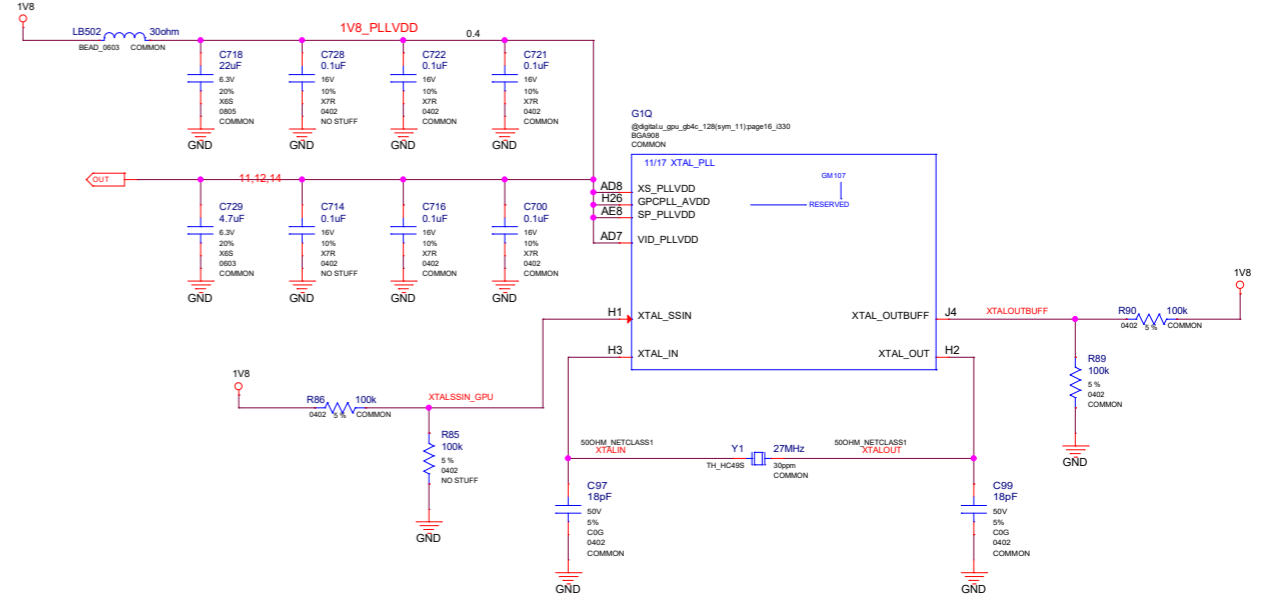
H=High :Tied to 1.8V
M=Middle:Tied to 0.9V
L=Low :Tied to 0V



1:SMB_ALT_ADDR ENABLE
0:SMB_ALT_ADDR DISABLE
1:DEVID_SEL REBRAND
0:DEVID_SEL ORIGINAL
1:PCIE_CFG LOW POWER
0:PCIE_CFG HIGH POWER
1:VGA_DEVICE ENABLE
0:VGA_DEVICE DISABLE

Smart Fan

XTALOUTBUFF	Volatge	SmartFan PWM	GPIO/PWM at the FAN
Low	0V	GPIO Disabled	100%
Middle	0.9V	66% PWM	33% PWM (Typical)
High	1.8V	33% PWM	66% PWM

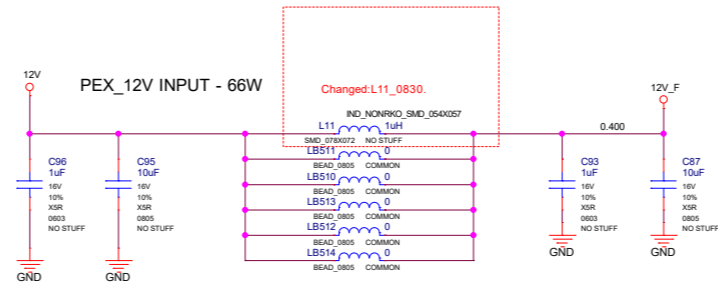
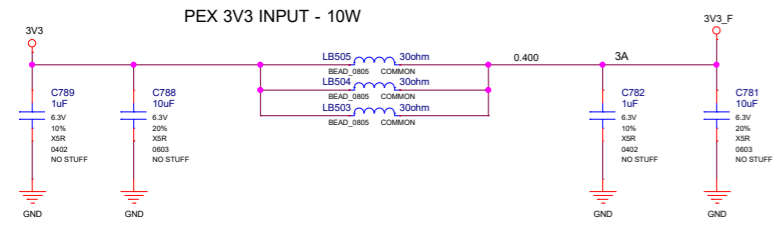


ASSEMBLY PAGE DETAIL
<ASSEMBLY_DESCRIPTION>
MISC2: ROM, XTAL, Straps

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

GALAXY Galaxy Microsystems (HK) Ltd.
Page Name: MISC2: ROM, XTAL, Straps
Size: Custom Project Name: P75L Design By: James Rev: V10
Date: Wednesday, December 21, 2016 Sheet: 16 of 27
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.

Power Inputs and Filtering

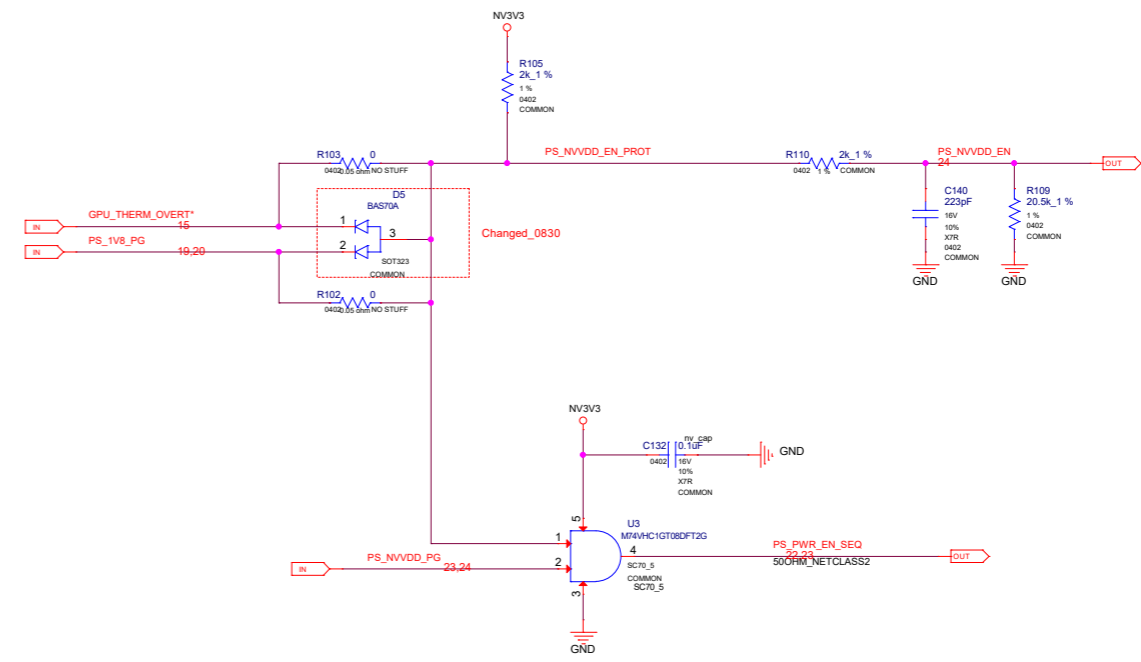
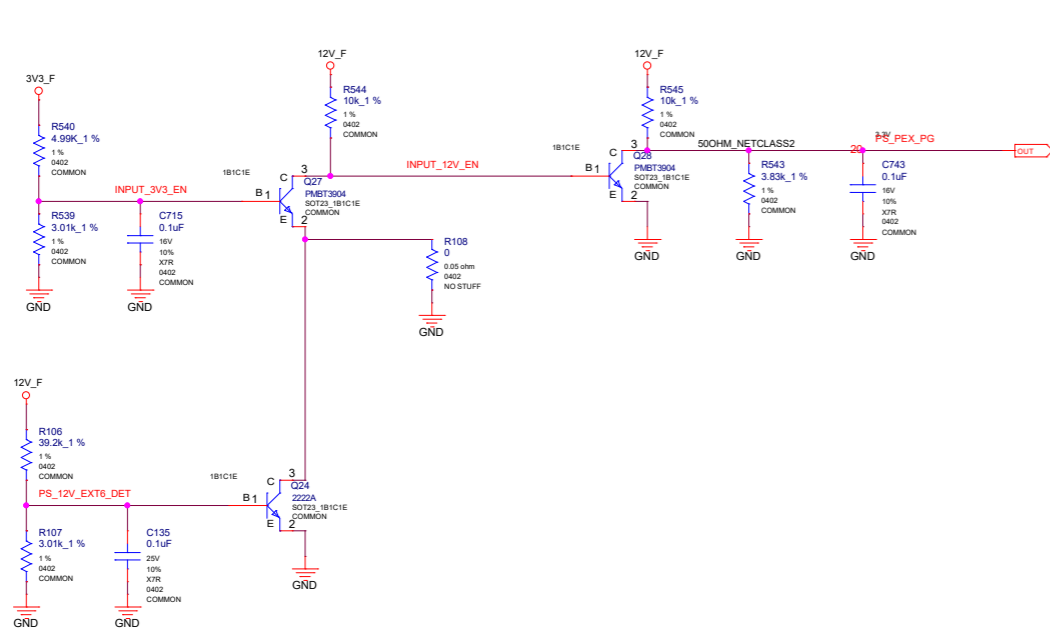


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL
 ~ASSEMBLY_DESCRIPTION~
 Power Inputs and Filtering

		Galaxy Microsystems (HK) Ltd.	
Page Name: Power Inputs and Filtering			
Size: Custom	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 21, 2016	Sheet: 17	of	27
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.			

Power sequence

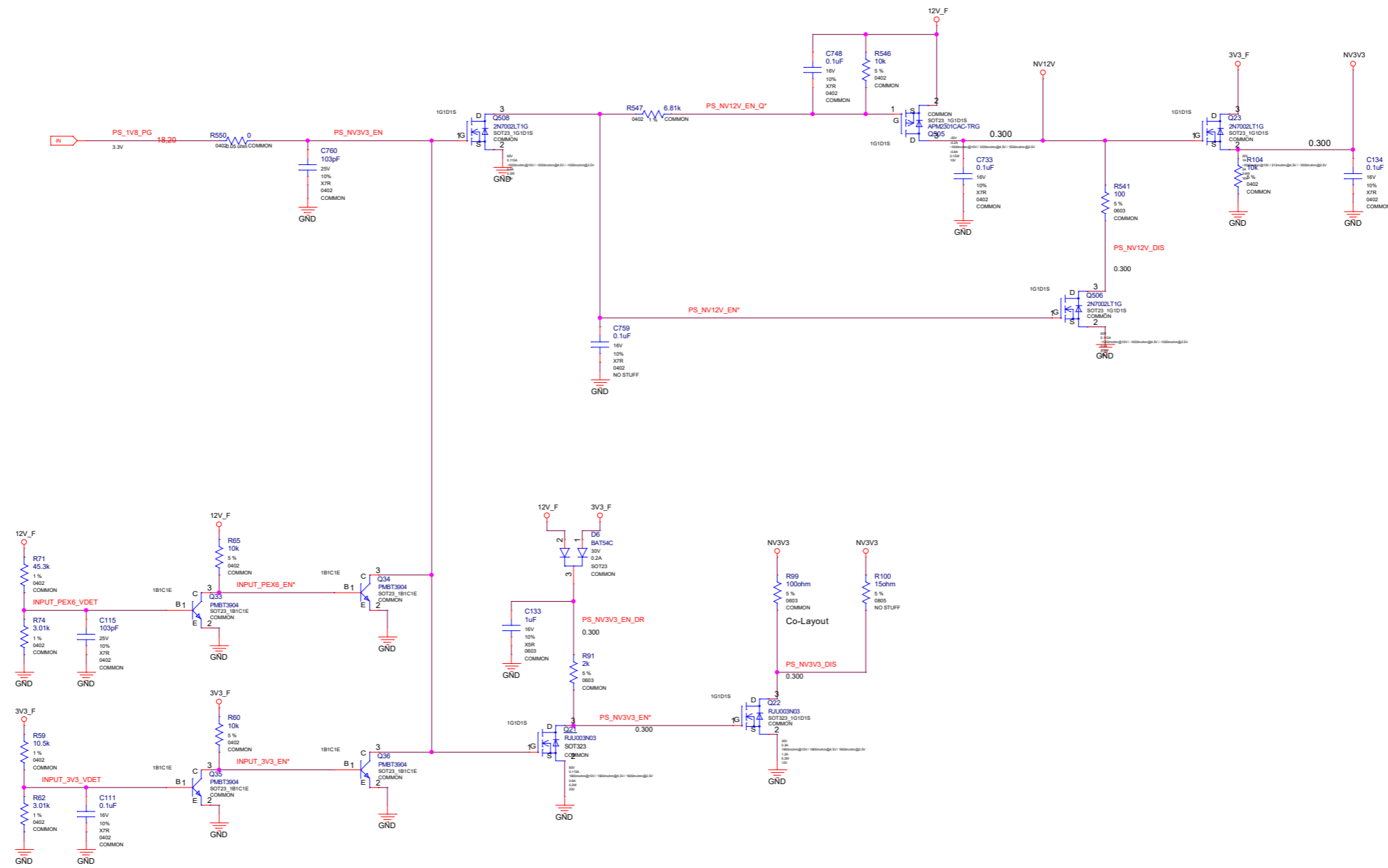


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL
 <ASSEMBLY_DESCRIPTION>
 Power Sequence

Page Name:	Power sequence
Size: Custom	Project Name: P75L
Design By: James	Rev: V10
Date: Wednesday, December 21, 2016	Sheet 18 of 27
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.	

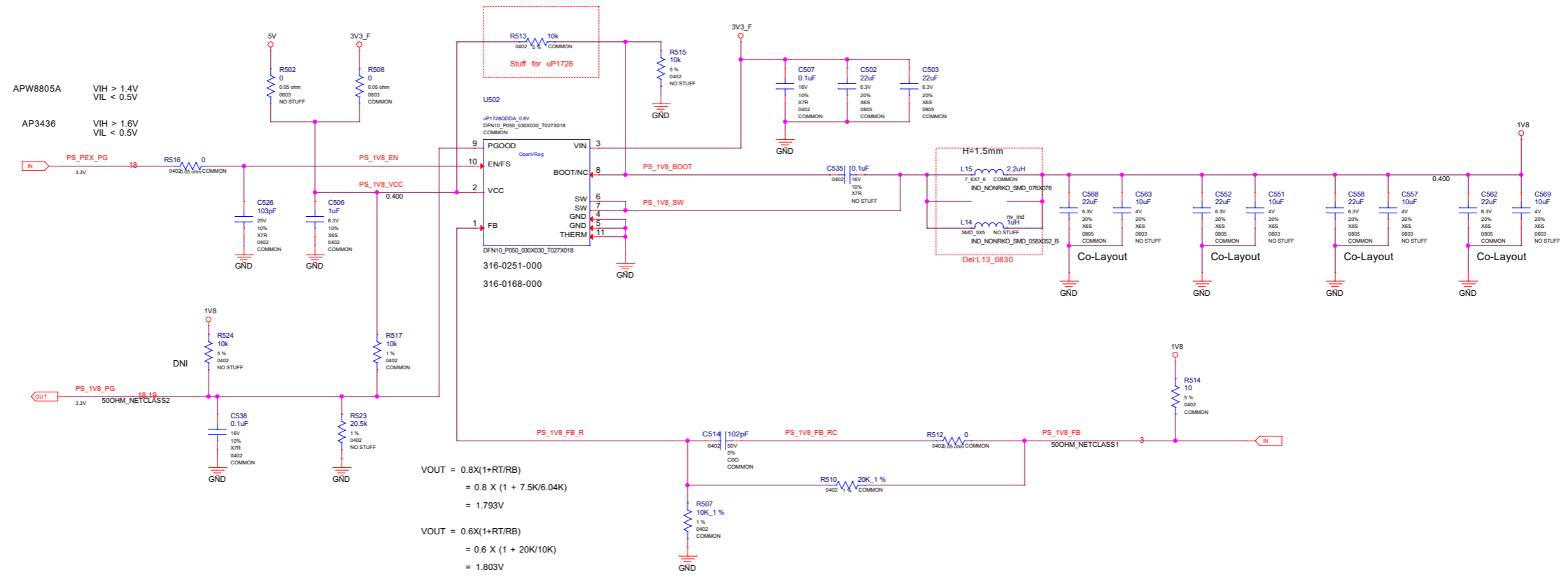
PS: NV3V3 & NV12V



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> PS: NV3V3 & NV12V

		Galaxy Microsystems (HK) Ltd.	
Page Name:		PS: NV3V3 & NV12V	
Size: Custom	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 21, 2016	Sheet: 19	of 27	
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.			

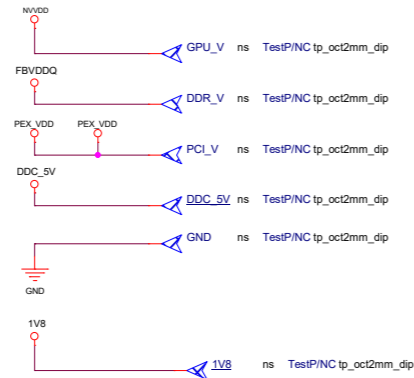
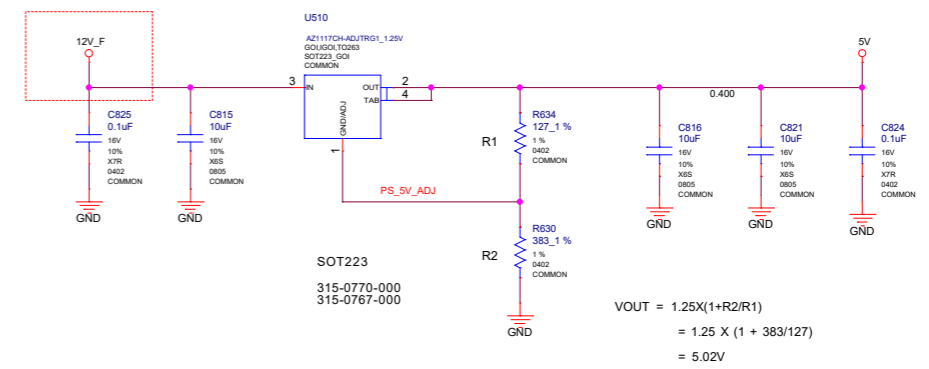
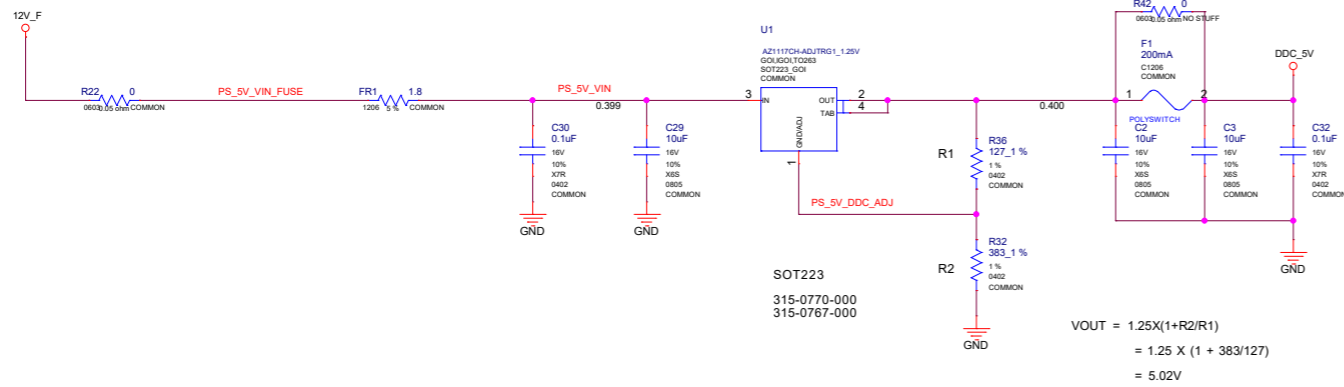


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL
 ~ASSEMBLY_DESCRIPTION~
 PS I: 1V8

Page Name:	PS I: 1V8
Size: Custom	Project Name: P75L
Date: Wednesday, December 21, 2016	Design By: James
Sheet 20 of 27	Rev V10
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.	

PSII:5V

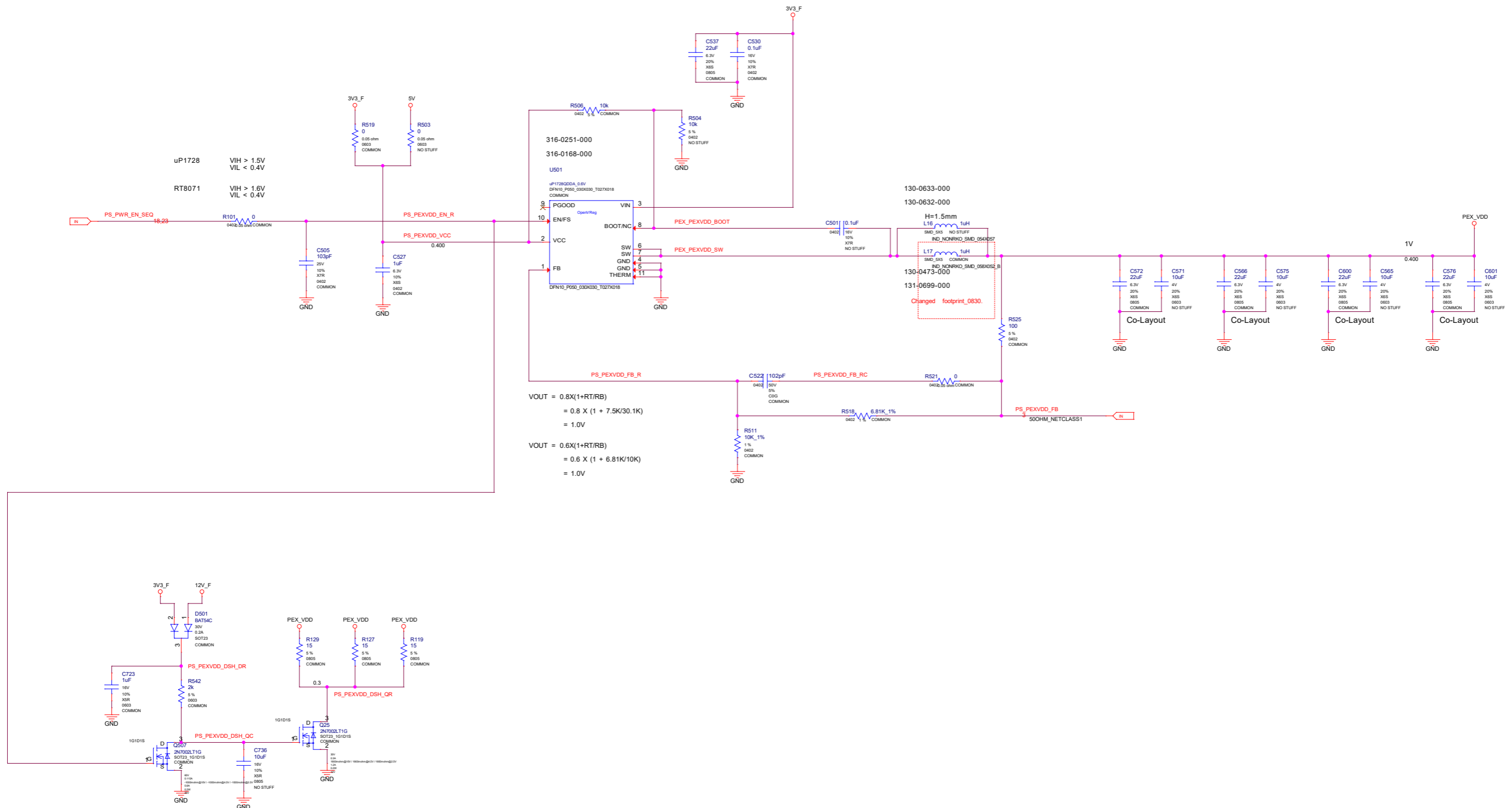


		Galaxy Microsystems (HK) Ltd.	
Page Name:		PSII:5V & 12V_FAN	
Size: Custom	Project Name: P75L	Design By: James	Rev V10
Date: Wednesday, December 21, 2016		Sheet 21 of 27	
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.			

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> PSII: 5V & 12V_FAN

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, MATERIALS) ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

PS III: PEXVDD

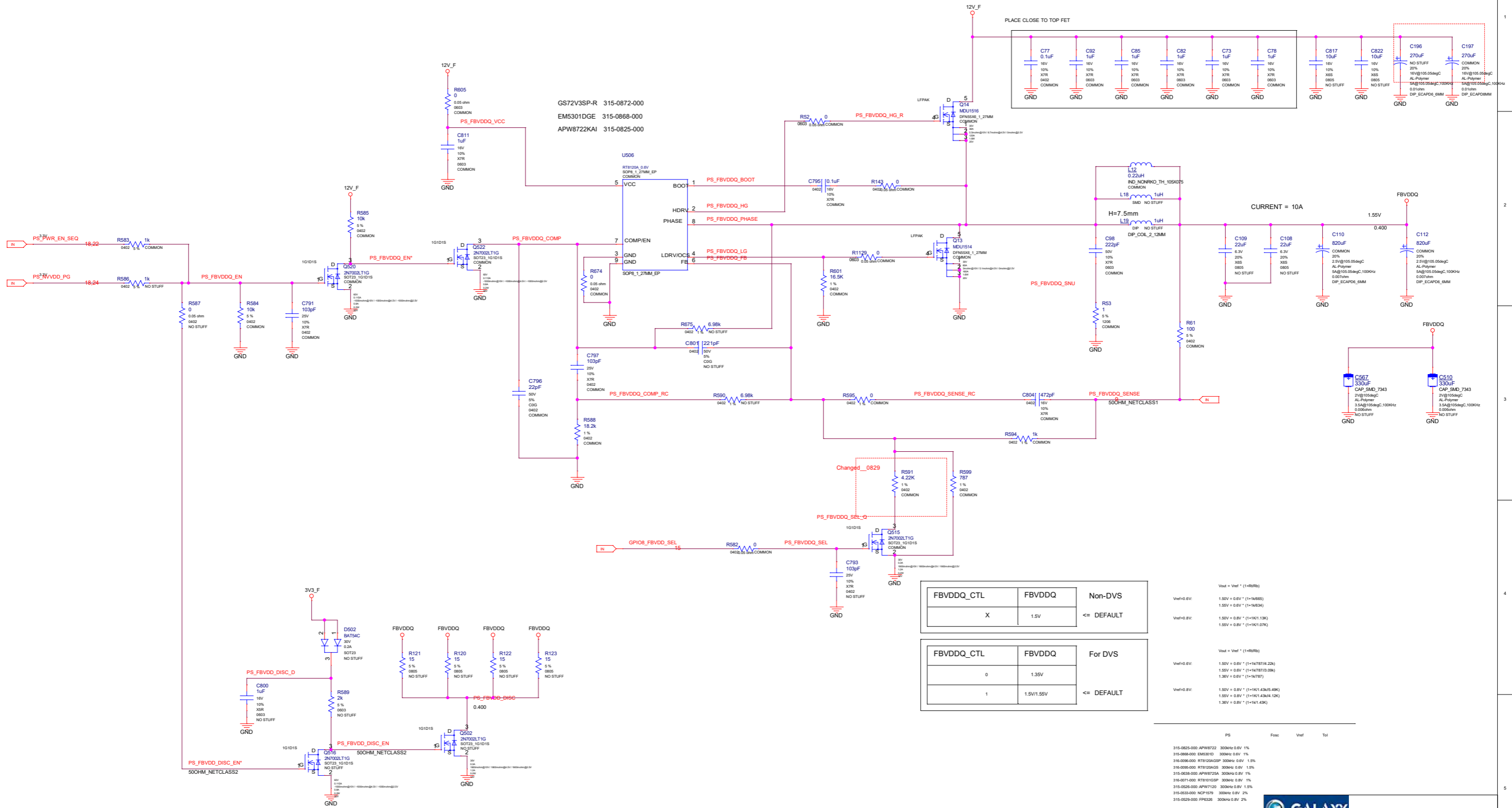


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL | <ASSEMBLY_DESCRIPTION> PS II: PEXVDD

Galaxy Microsystems (HK) Ltd.	
Page Name:	PSII:5V & 12V_FAN
Size: Custom	Project Name: P75L
	Design By: James
	Rev: V10
Date: Wednesday, December 21, 2016	Sheet 22 of 27
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.	

PS IV: FBVDDQ



FBVDDQ_CTL	FBVDDQ	Non-DVS
X	1.5V	<= DEFAULT

FBVDDQ_CTL	FBVDDQ	For DVS
0	1.35V	<= DEFAULT
1	1.5V/1.55V	<= DEFAULT

$V_{out} = V_{ref} * (1 + R/R_s)$
 $V_{ref} = 0.6V$
 $1.50V = 0.6V * (1 + R/R_s)$
 $1.55V = 0.6V * (1 + R/R_s)$
 $V_{ref} = 0.6V$
 $1.50V = 0.6V * (1 + R/R_s)$
 $1.55V = 0.6V * (1 + R/R_s)$

PS	Fosc	Vref	Tol
315-0825-000 APW8722	300kHz	0.6V	1%
315-0825-000 EMS301DGE	300kHz	0.6V	1%
315-0825-000 RT8120AG5	300kHz	0.6V	1.5%
315-0825-000 RT8120AG5	300kHz	0.6V	1.5%
315-0825-000 APW8725A	300kHz	0.6V	1%
316-0211-000 RT8120D5P	300kHz	0.6V	1%
315-0825-000 APW7120	300kHz	0.6V	1.5%
315-0533-000 NCP1579	300kHz	0.6V	2%
315-0529-000 FP6326	300kHz	0.6V	2%

GALAXY Galaxy Microsystems (HK) Ltd.

Page Name: PS IV: FBVDDQ

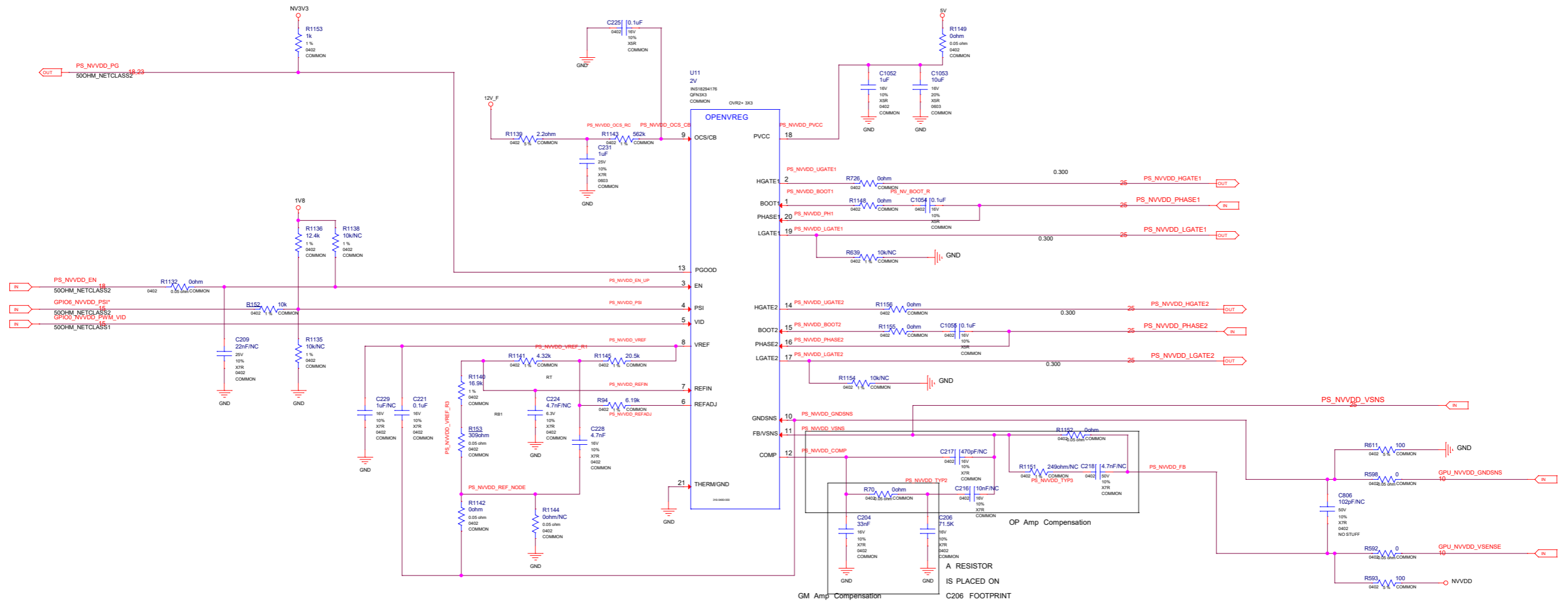
Size: Custom	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 21, 2016	Sheet: 23	of 27	

PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> PS IV: FBVDDQ

PS V: NVVDD OVR2+1



ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> PS V: NVVDD OVR2+1

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

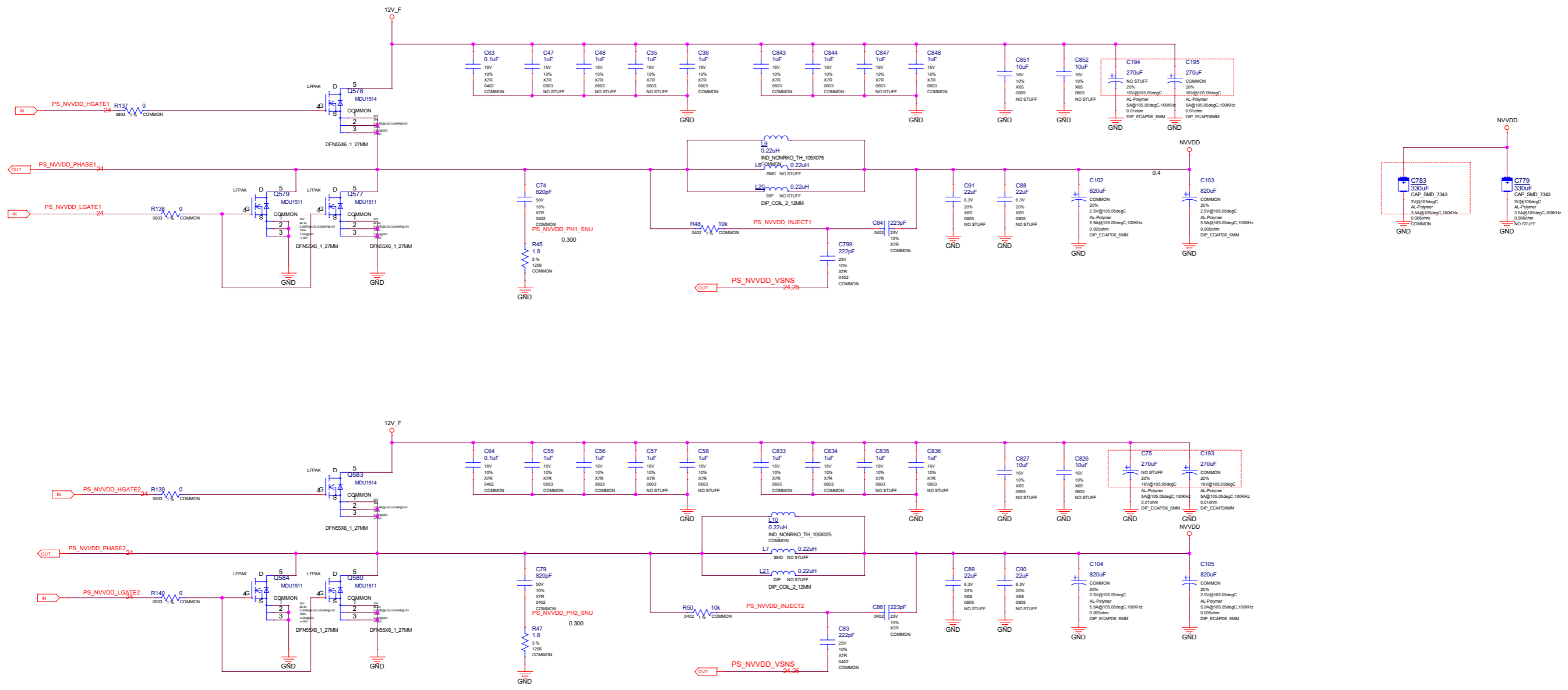
GALAXY Galaxy Microsystems (HK) Ltd.

Page Name: PS V: NVVDD OVR2+1

Size	Project Name:	Design By:	Rev
Custom	P75L	James	V10
Date:	Wednesday, December 21, 2016	Sheet	24 of 27

PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.

PS V: NVVDD Phase 1,2

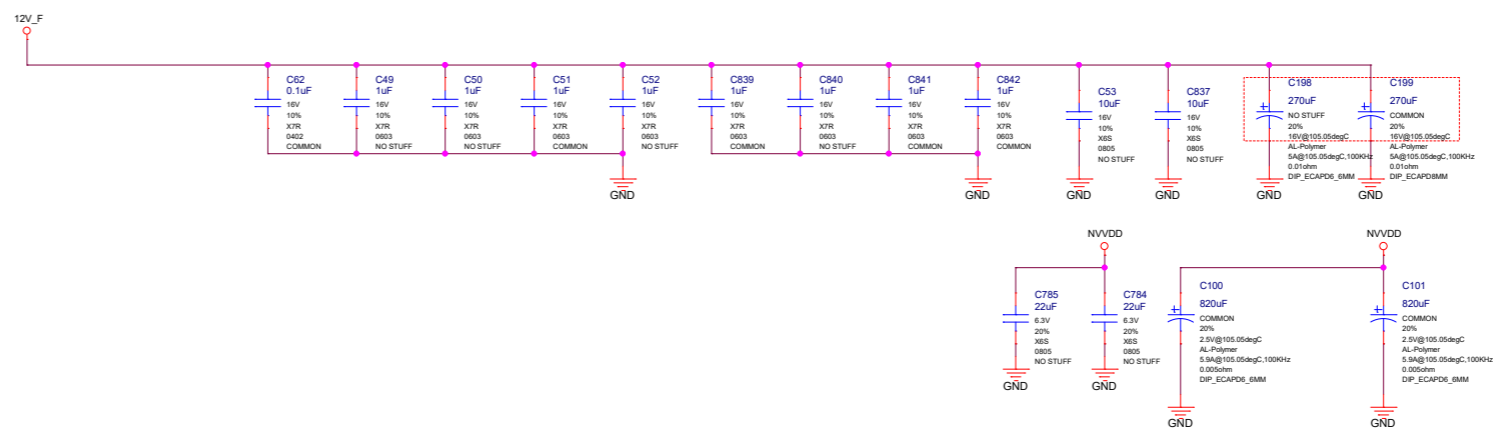


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL
 <ASSEMBLY_DESCRIPTION>
 PS V: NVVDD Phase 1,2

Galaxy Microsystems (HK) Ltd.		Page Name: PS V: NVVDD Phase 1,2	
		Size: Custom	Project Name: P75L
Date: Wednesday, December 21, 2016		Sheet 25 of 27	
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.			

PS V: NVVDD Phase 3

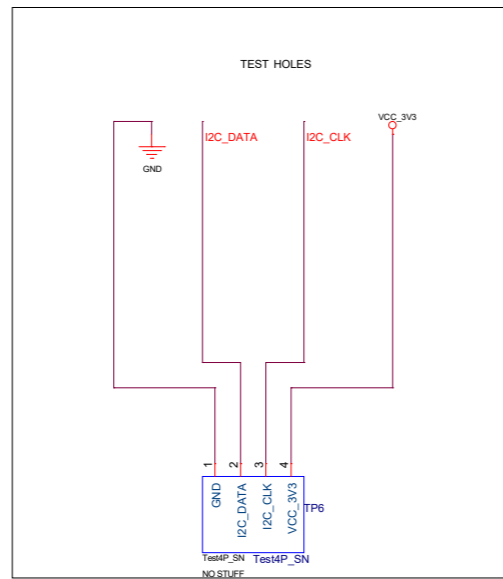


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> PS V: NVVDD Phase 3

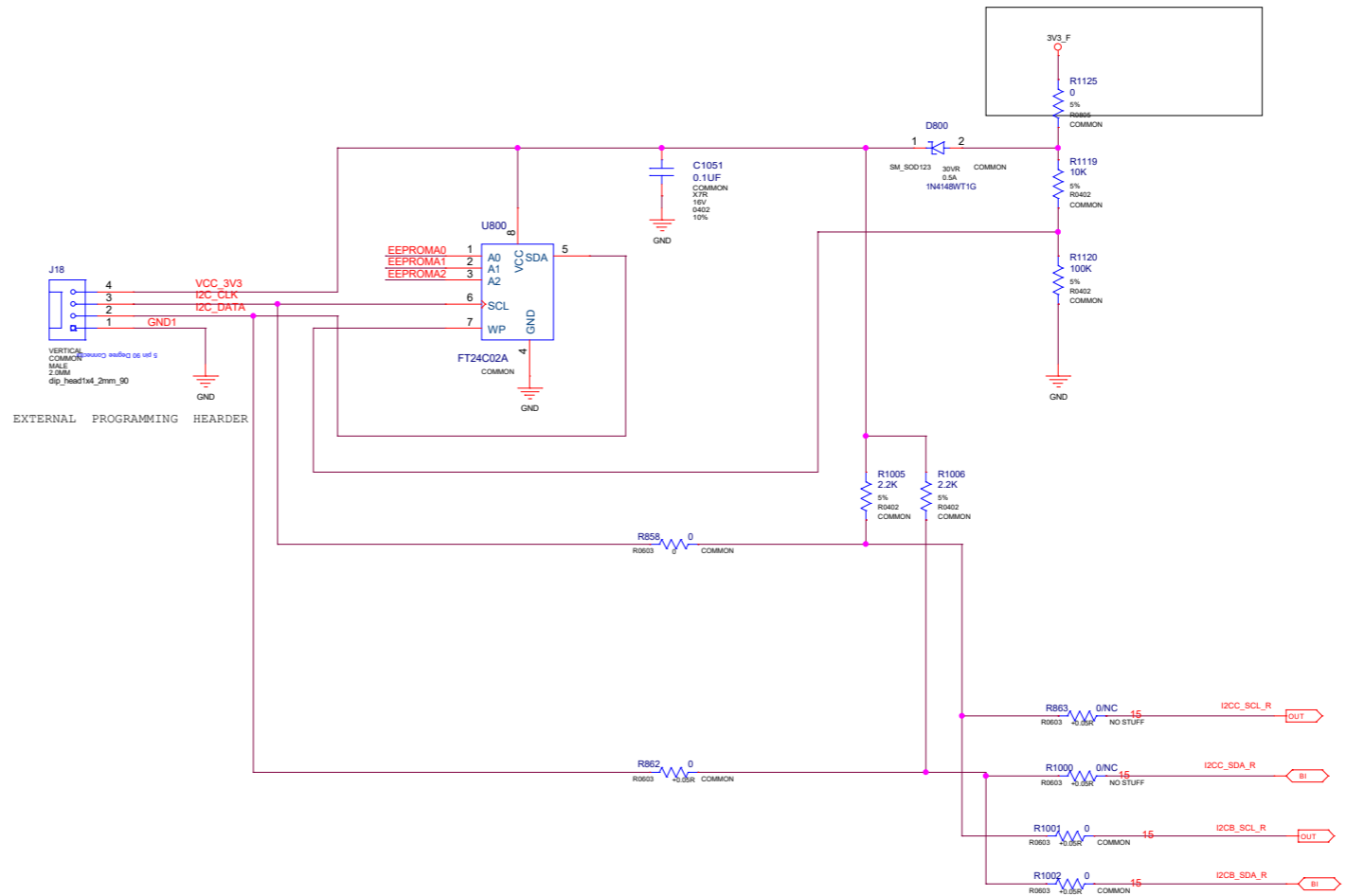
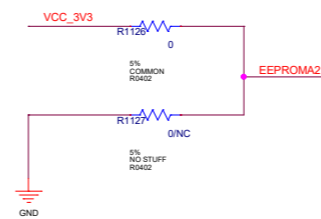
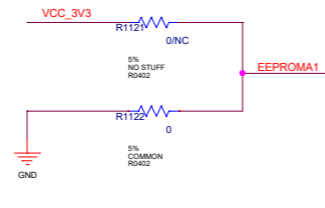
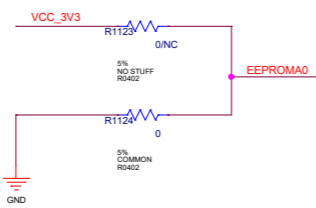
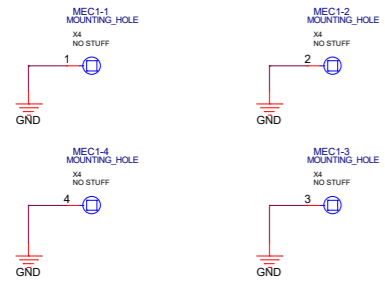
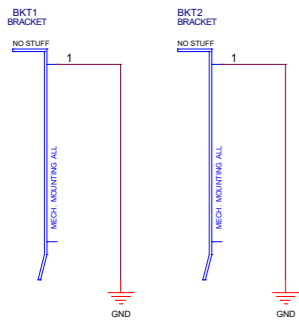
		Galaxy Microsystems (HK) Ltd.	
Page Name: PS V: NVVDD Phase 3			
Size: Custom	Project Name: P75L	Design By: James	Rev V10
Date: Wednesday, December 21, 2016	Sheet 26 of 27		
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.			

SN EPROM



PLACEMENT IN PCB : (TOP VIEW)
FROM LEFT TO RIGHT : GND,I2C_DATA,I2C_CLK,VCC_3V3

Brackets:



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL
-ASSEMBLY_DESCRIPTION-
MECH: Bracket/Thermal

		Galaxy Microsystems (HK) Ltd.	
Page Name: SN EPROM			
Size: Custom	Project Name: P75L	Design By: James	Rev: V10
Date: Wednesday, December 21, 2016	Sheet: 27	of: 27	
PROPERTY NOTE: This document contains information confidential and property to Galaxy Microsystems (HK) Ltd.			