

LCFC Confidential

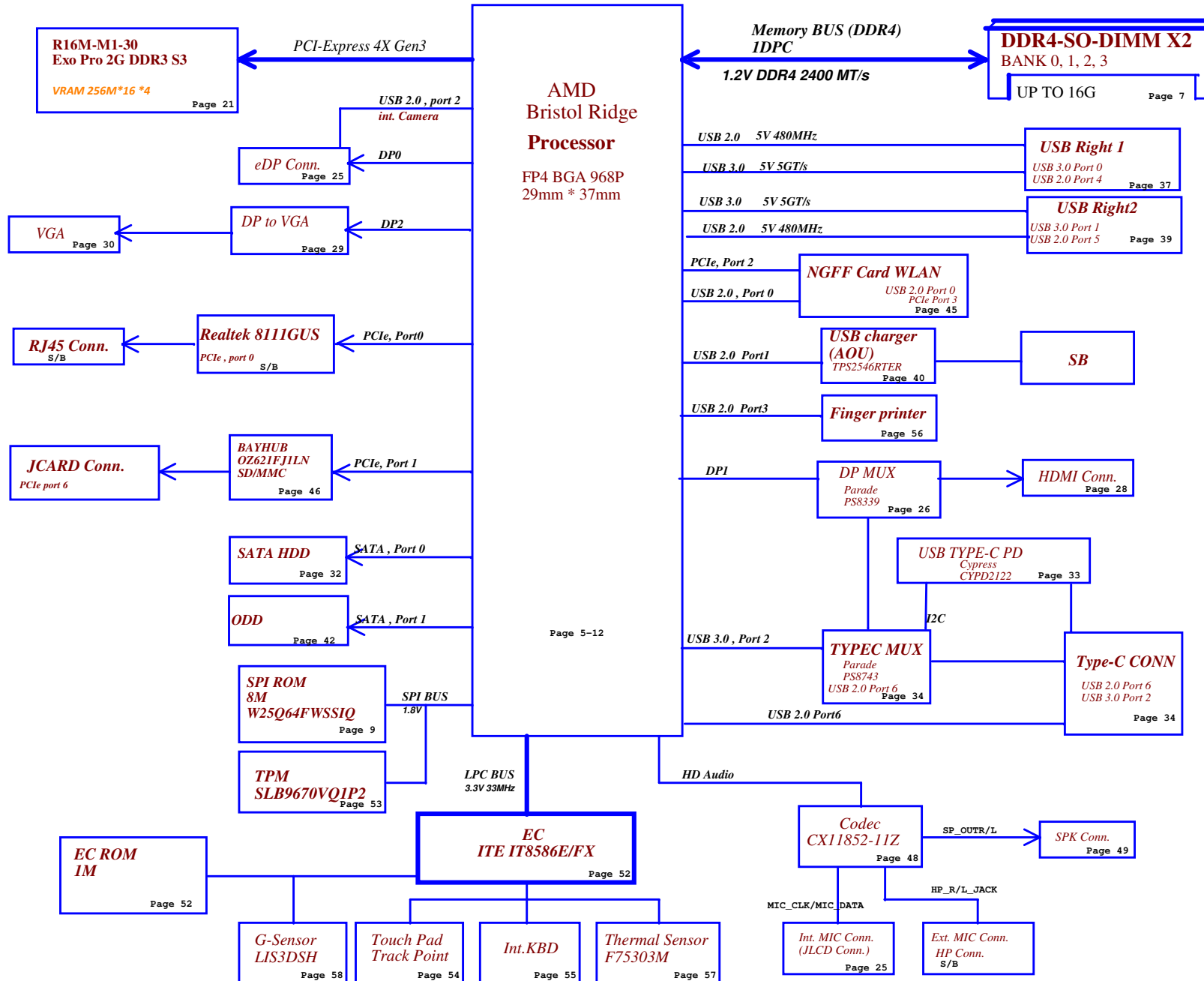
CE575 NM-A871 Rev1.0 Schematic

***AMD Bristol Ridge Processor with DDR4
R16M-M1-30 with DDR3 4GB
2016-07-20 Rev1.0***

Security Classification		LC Future Center Secret Data		Title	
Issued Date	2015/10/5	Deciphered Date	2016/10/31	COVER PAGE	
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AMD Bristol Ridge FP4



Voltage Rails (O --> Means ON , X --> Means OFF)

Power Plane / State	B+	+3VALW +5VALW +1.8VALW +1.05VALW	+1.2V +2.5V	+5VS +3VS +1.5VS +1.05VS +0.6VS +VCC_CORE +VGA_CORE +3.3VS_VGA +1.8VS_VGA +1.05VS_VGA
S0	O	O	O	O
S3	O	O	O	X
S5 S4/AC Only	O	O	X	X
S5 S4 Battery only	O	X	X	X
S5 S4 AC & Battery don't exist	X	X	X	X

STATE	SIGNAL	SLP_A#	SLP_S3#	SLP_S4#	SLP_S5#	EC_ON	EC_ON2	SUSP#
S0		HIGH	HIGH	HIGH	HIGH	ON	ON	ON
S3 (Suspend to RAM)		LOW	LOW	HIGH	HIGH	ON	ON	OFF
S4 (Suspend to Disk)		LOW	LOW	LOW	HIGH	ON	ON	OFF
S5 (Soft OFF)		LOW	LOW	LOW	LOW	ON	ON	OFF

USB2 Port

Port	Device
1	On Board
2	On Board
3	On Board
4	On Board
5	On Board
6	SB
7	On Board
8	On Board

USB3 Port

Port	Device
1	On Board
2	On Board
3	X
4	On Board

PCIE Port

Port	Device
1	
2	X
3	WLAN
4	LAN
5	X
6	CardReader
7	X
8	X
9	GPU
10	GPU
11	GPU
12	GPU

SATA Port

Port	Device
0	HDD
1	ODD

SMBUS Control Table

	SOURCE	Main VGA	BATT	SODIMM	WLAN WIMAX	Thermal Sensor	PCH	CP Module	Security ROM	LAN PHY	G-Sensor	TYPEC
EC_SMB_CK1 EC_SMB_DA1	IT8580F +3VL	X	V +3VALW	X	X	X	X	X	X	X	X	X
EC_SMB_CK3 EC_SMB_DA3	IT8580F +3VS	V +3VS_VGA	X	X	X	V +3VS	V +3VALW_PCH	X	X	X	V +3VALW	X
EC_SMB_CK2 EC_SMB_DA2	IT8580F	X	X	X	X	X	X	X	X	X	X	CYPD2122 +3VPD_VDD

ZZZ1 PCB@
NM-A871
DA800002000

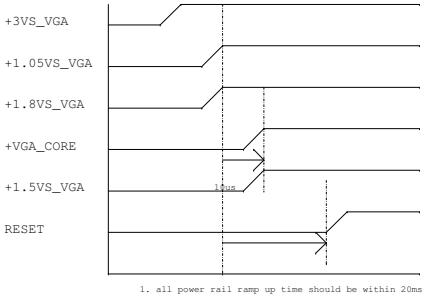
VGA and DDR3 Voltage Rails (JET TOPAZ R16M-M1-30 GPIO)

20151117

GPIO	I/O	ACTIVE	Function Description
GPIO0	OUT	N/A	
GPIO5	IN	-	GPIO5_AC_BATT
GPIO6	IN	-	GPIO6
GPIO7	OUT	N/A	
GPIO8	OUT	-	GPIO8_ROMSO
GPIO9	OUT	-	GPIO9_ROMSI
GPIO10	OUT	-	GPIO10_ROMSCK
GPIO11	OUT	N/A	
GPIO12	OUT	N/A	
GPIO13	OUT	N/A	
GPIO15	IN	N/A	SVI2_SVD
GPIO16	OUT	N/A	
GPIO17	OUT	N/A	
GPIO19	OUT	N/A	GPIO19_CTF
GPIO20	IN	IN	SVI2_SVC
GPIO21	OUT	N/A	
GPIO22	OUT	N/A	GPIO22_ROMCSB
GPIO29	OUT	N/A	
GPIO30	OUT	N/A	

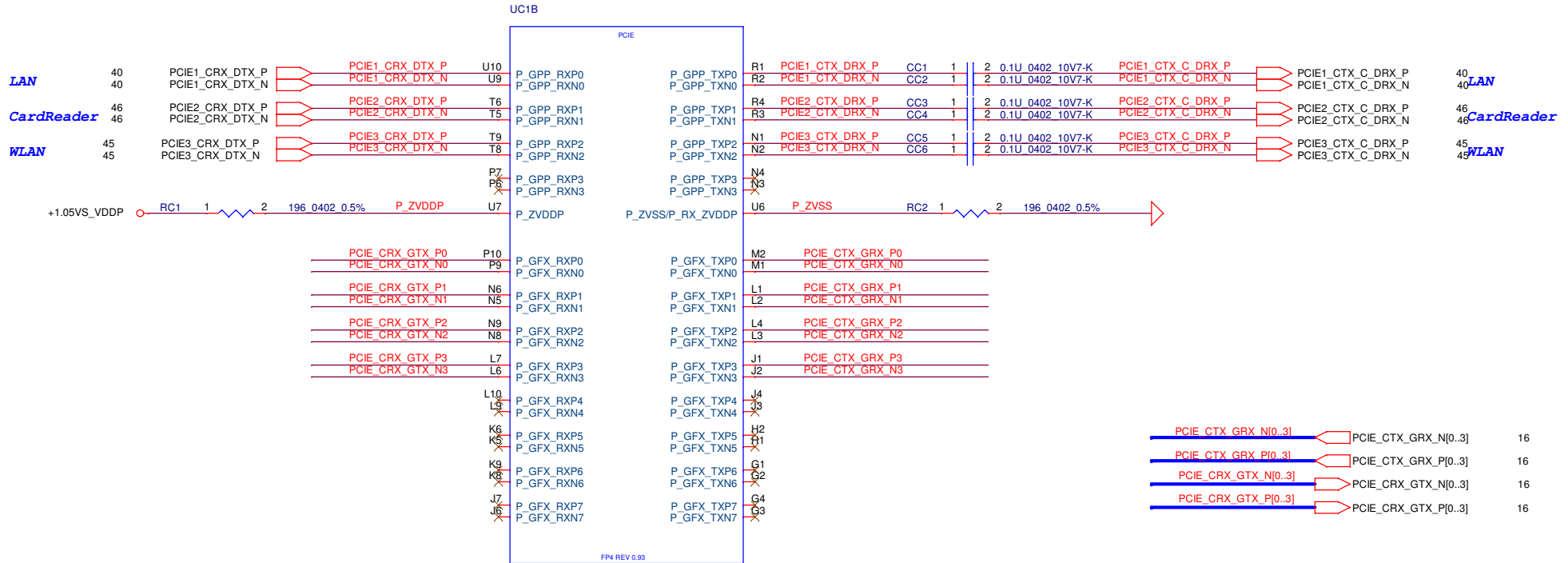
BOM Structure Table

BOM Structure	NOTE
TYPEC@	For TYPEC
EMC_TC@	For TYPEC EMC
DIS@	For GPU function
X76@	GPU VRAM Setting
TPM@	Trusted Platform Module(TPM)
SA@	SATA redriver function
RESA@	Disable SATA re-driver
UMA@	UMA SKU ID
DPRE@	DP re-driver function
RE@	Disable HDMI re-driver
HD@	HDMI repeater function
ME@	ME Connector
ESD@	For ESD function
EMI@	For EMI function
NVPRO@	For Non-VPRO function
VPRO@	For VPRO function
U31@	For U3 port1 redriver function
U32@	For U3 port2 redriver function
U33@	For U3 port3 redriver function



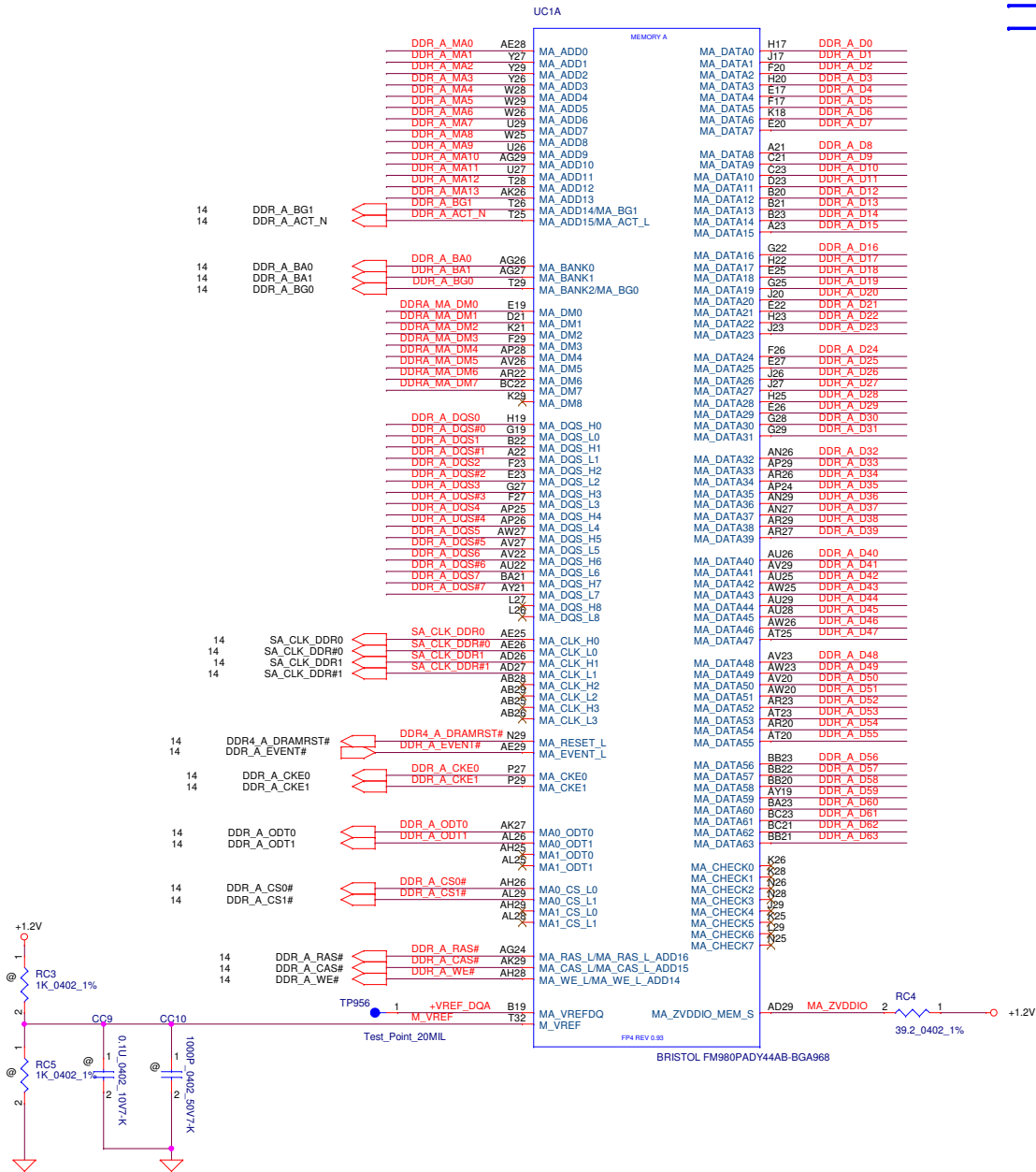
	Device ID
JET-XT	0x6664
TOPAZ XT	0x6900

			RV104	RV105
Memory (GDDR3)				
Samsung	1G	SA22225SH30*4	PU 8.45K	PD 2K
	2G	SA000063F00*4	PU 3.4K	PD 10K
Hynix	1G	SA00005VS10*4	PU 4.53K	PD 2K
	2G	SA00005YL10*4	PU 4.75K	NC
Micron	1G	SA00005M100*4	NC	PD 4.75K
	2G	SA000060I00*4	PU 3.24K	PD 5.62K



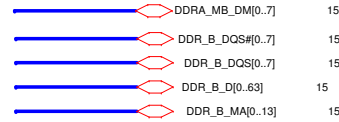
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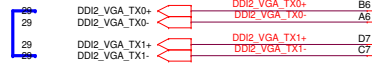


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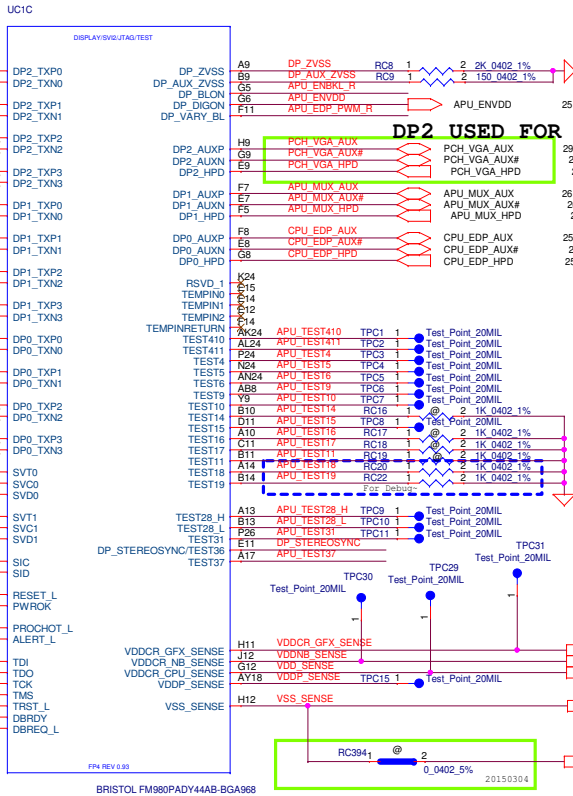
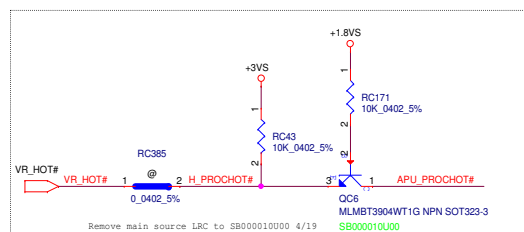
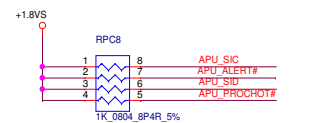
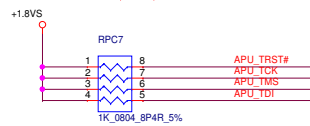
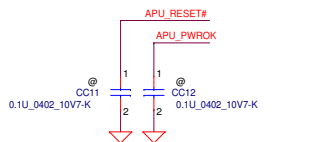
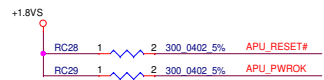
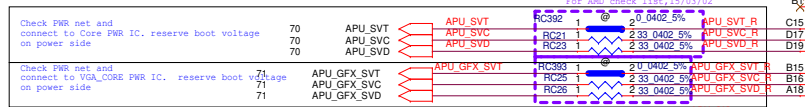
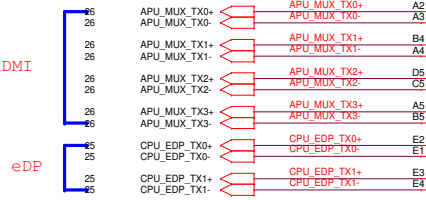


Rev 1.0

VGA



TYPE C/ HDMI



APU_ENBL_R

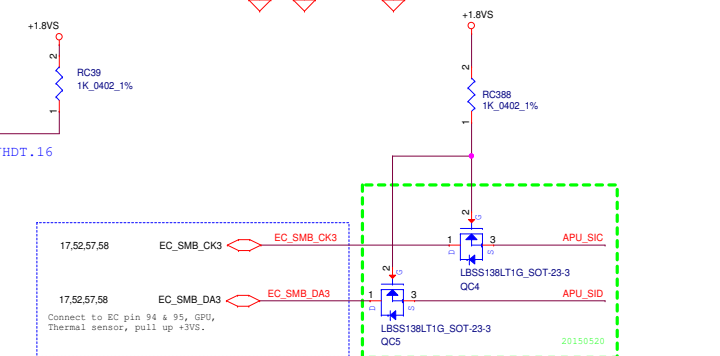
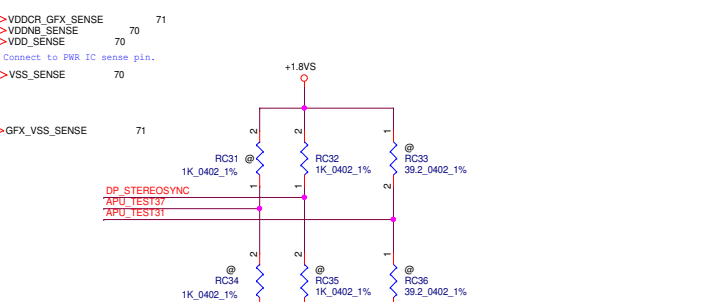
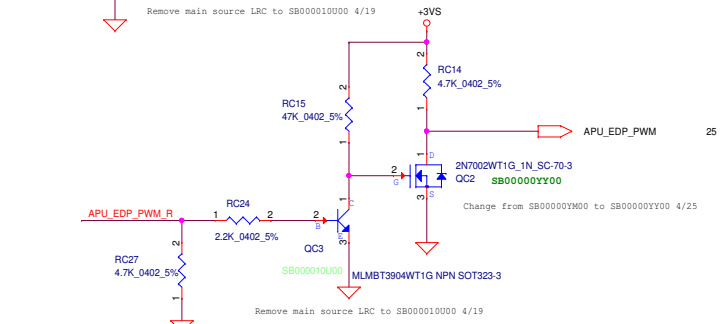
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RL12
2.2K_0402_5%

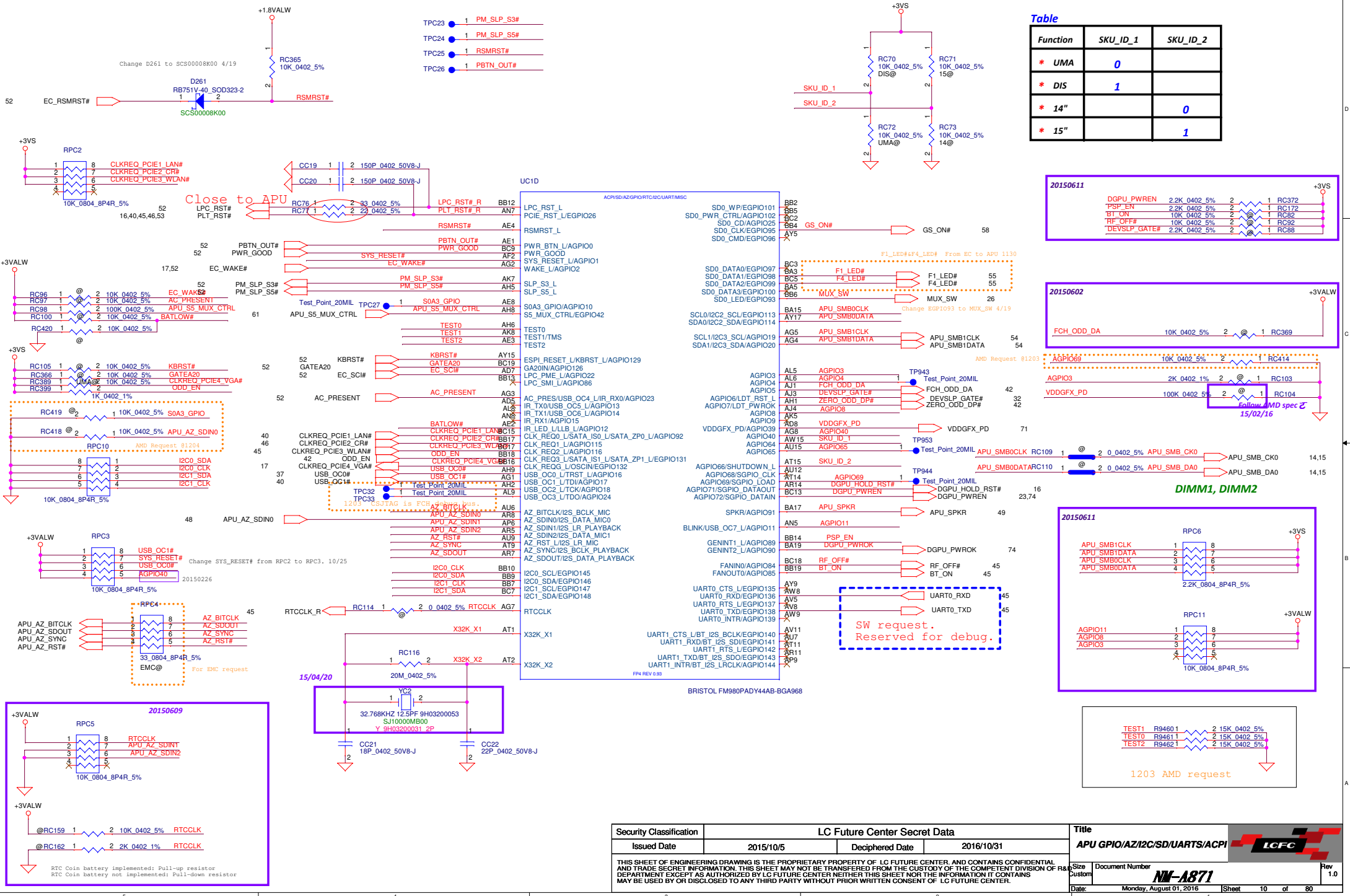
QC1
SB00001U00

MLMBT3904WTG NPN SOT323-3

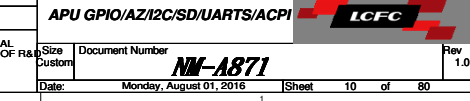
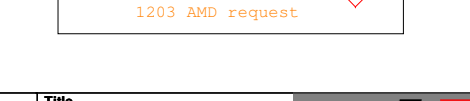
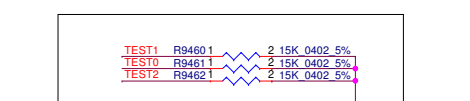
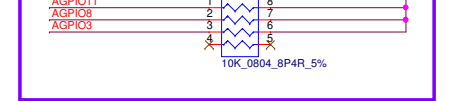
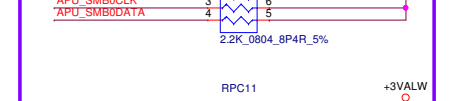
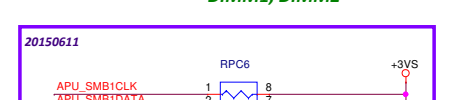
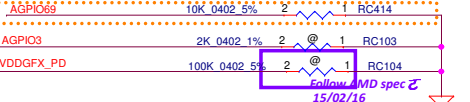
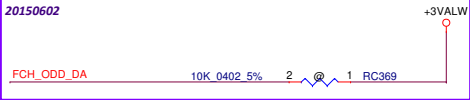
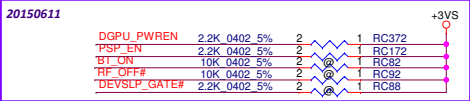
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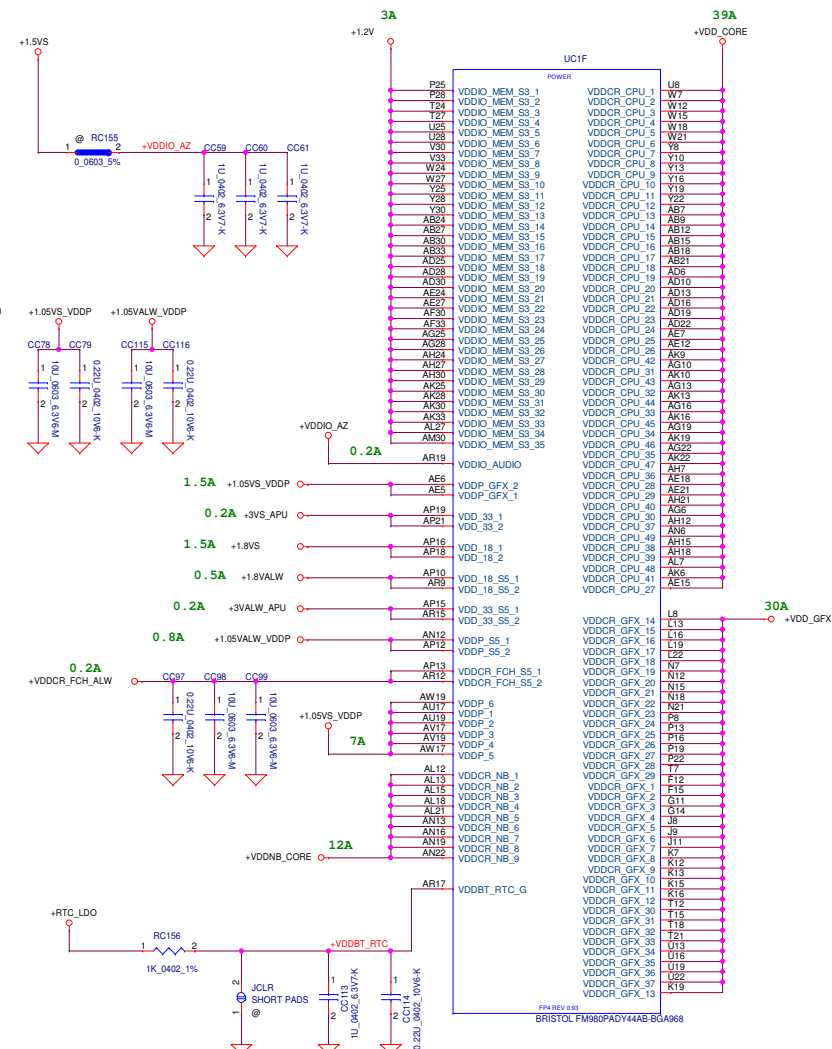
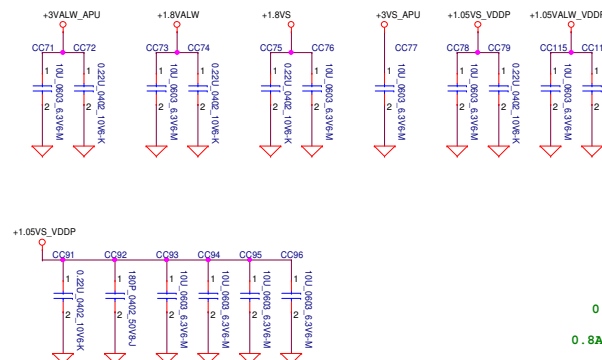
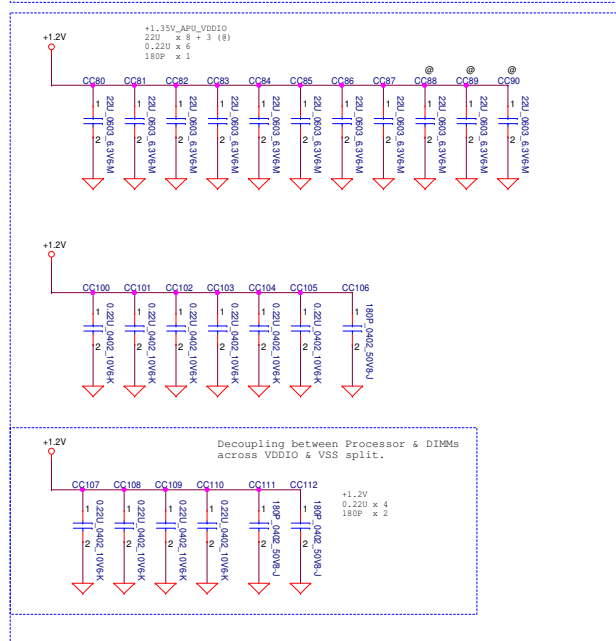
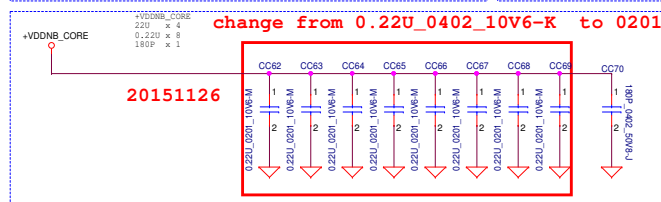
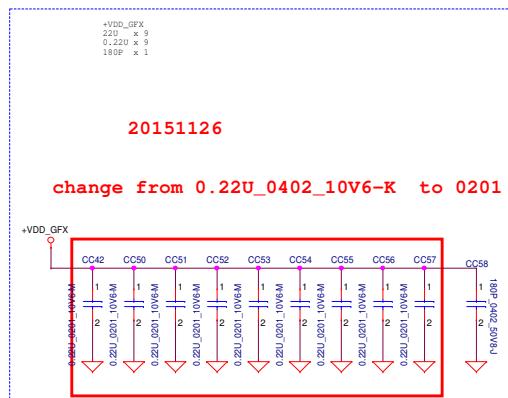
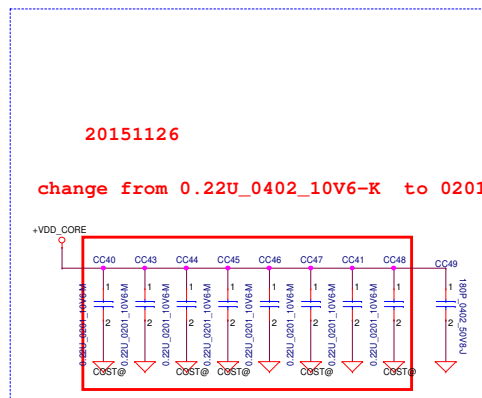
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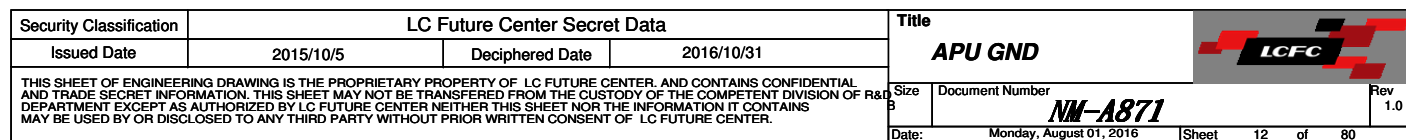
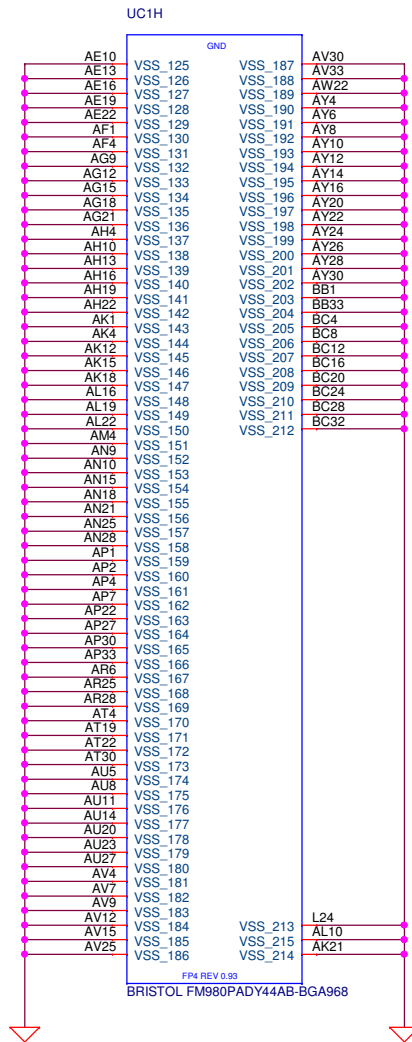


Function	SKU_ID_1	SKU_ID_2
* UMA	0	
* DIS	1	
* 14"		0
* 15"		1



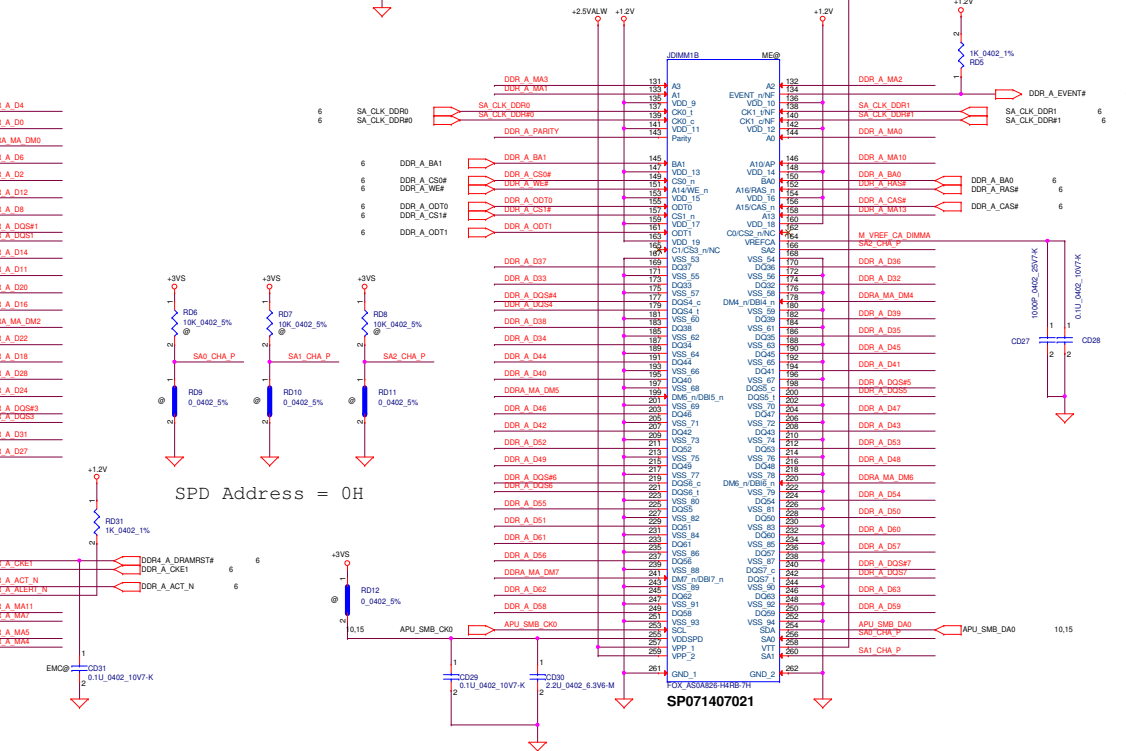
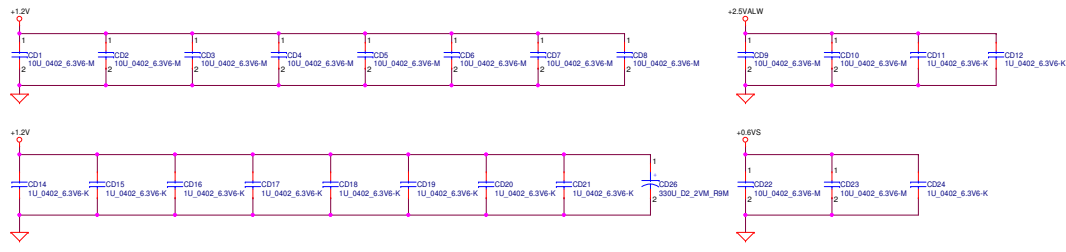
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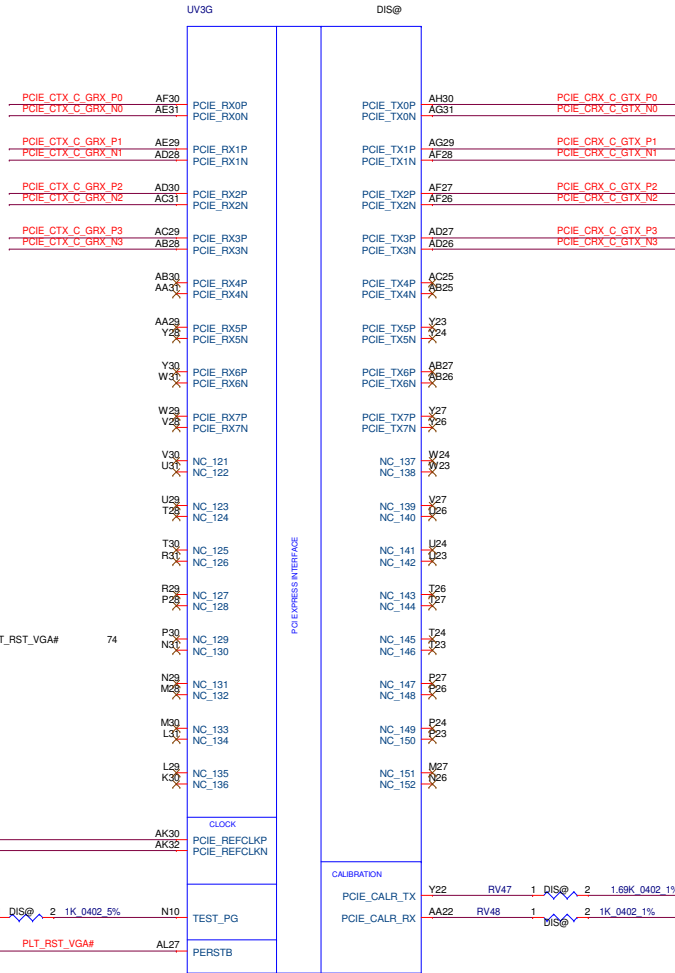
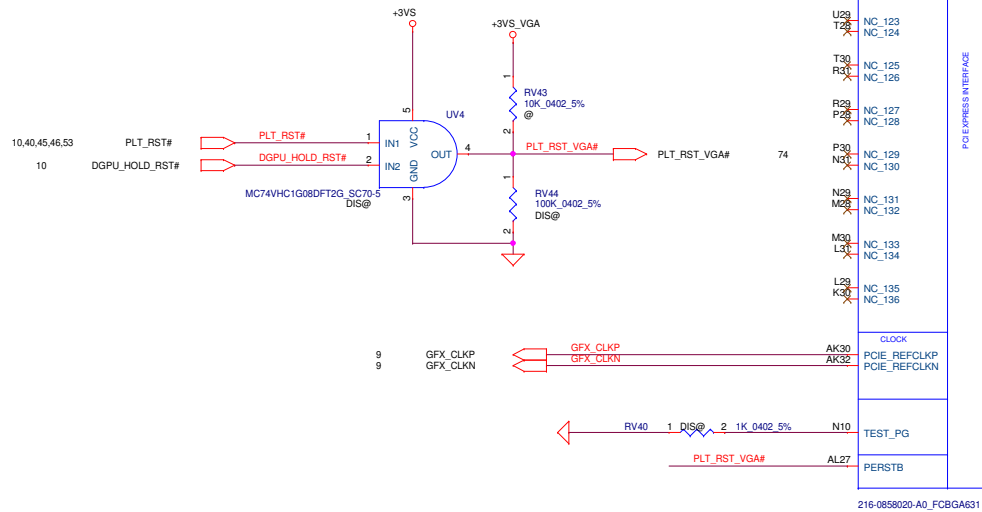
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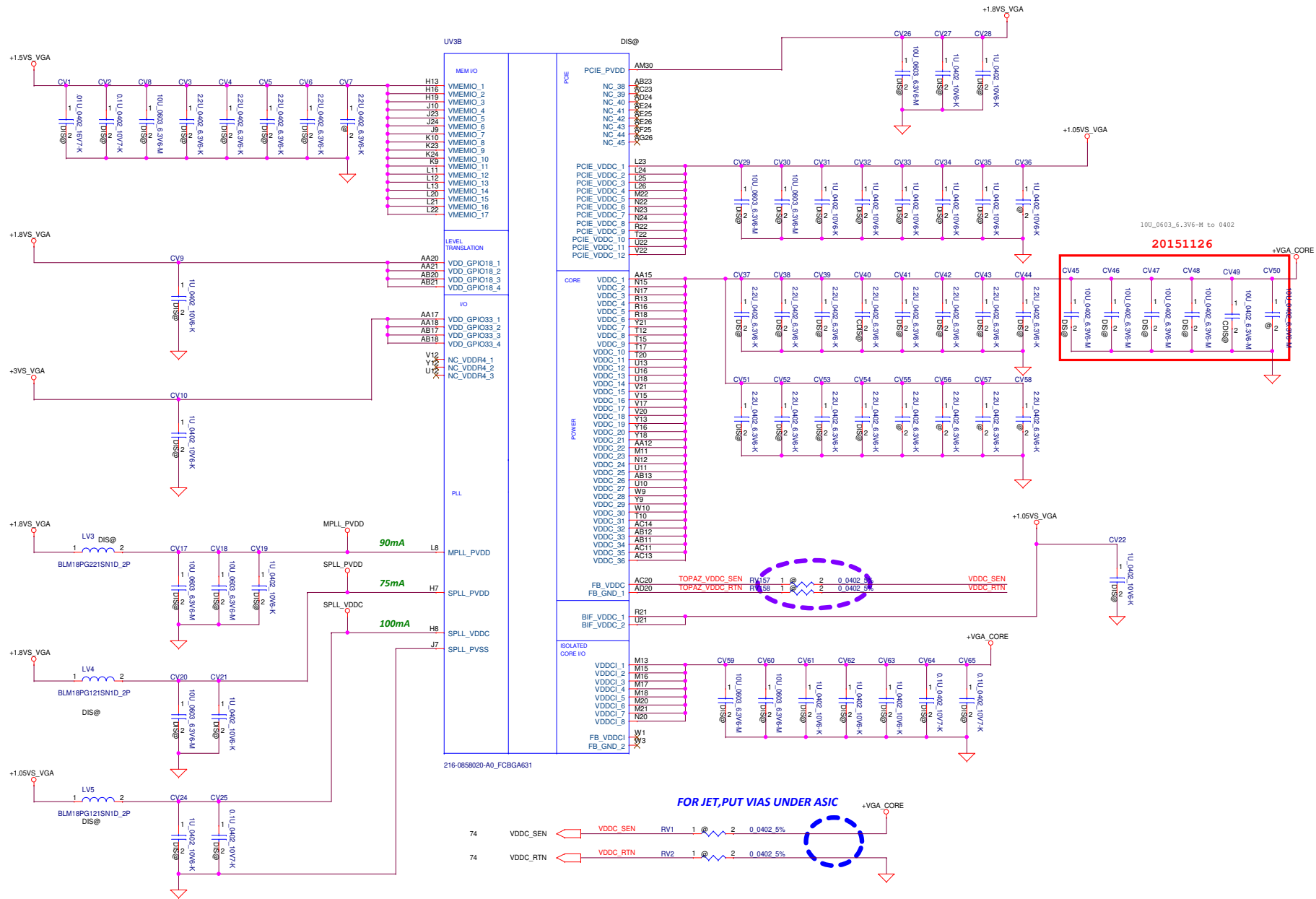


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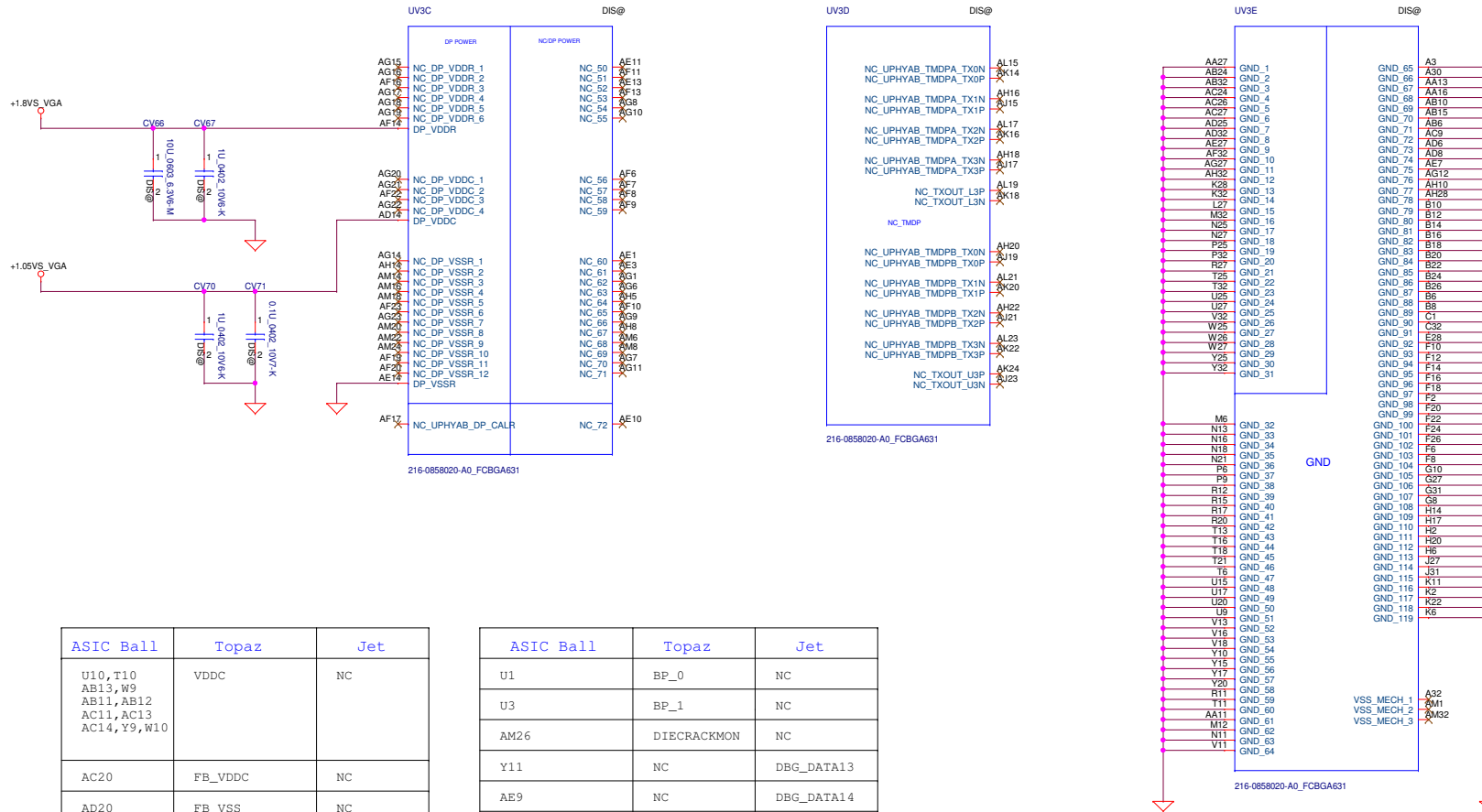
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PCIE_CTX_GRX_P0	CV132	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CTX_C_GRX_P0				
PCIE_CTX_GRX_N0	CV133	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CTX_C_GRX_N0				
PCIE_CTX_GRX_P1	CV134	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CTX_C_GRX_P1				
PCIE_CTX_GRX_N1	CV135	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CTX_C_GRX_N1				
PCIE_CTX_GRX_P2	CV136	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CTX_C_GRX_P2				
PCIE_CTX_GRX_N2	CV137	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CTX_C_GRX_N2				
PCIE_CTX_GRX_P3	CV138	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CTX_C_GRX_P3				
PCIE_CTX_GRX_N3	CV139	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CTX_C_GRX_N3				



DIS@ support GEN3; 20151920									
PCIE_CRX_GTX_P0	CV191	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CRX_C_GTX_P0				
PCIE_CRX_GTX_N0	CV192	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CRX_C_GTX_N0				
PCIE_CRX_GTX_P1	CV193	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CRX_C_GTX_P1				
PCIE_CRX_GTX_N1	CV194	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CRX_C_GTX_N1				
PCIE_CRX_GTX_P2	CV195	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CRX_C_GTX_P2				
PCIE_CRX_GTX_N2	CV196	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CRX_C_GTX_N2				
PCIE_CRX_GTX_P3	CV197	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CRX_C_GTX_P3				
PCIE_CRX_GTX_N3	CV198	DIS@ 1	2	0.22U 0402 10V6-K	PCIE_CRX_C_GTX_N3				



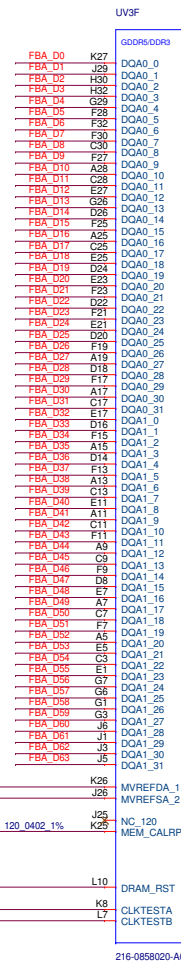
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ASIC Ball	Topaz	Jet
U10, T10 AB13, W9 AB11, AB12 AC11, AC13 AC14, Y9, W10	VDDC	NC
AC20	FB_VDDC	NC
AD20	FB_VSS	NC
W1	FB_VDDCI	NC
W3	FB_VSS	NC
AJ11	GPIO_SVC	NC_SVI2
AK12	GPIO_SVD	NC_SVI2
AL11	GPIO_SVT	NC_SVI2
N6	GPIO_11	NC_GPIO11
N5	GPIO_12	NC_GPIO12
N3	GPIO_13	NC_GPIO13
AJ27	WAKEB	NC_VSYNC
T8	PCC/GPIO_6	GPIO_6
AA3	PLL_ANALOG_OUT	NC
AA1	PLL_ANALOG_IN	NC

ASIC Ball	Topaz	Jet
U1	BP_0	NC
U3	BP_1	NC
AM26	DIECRACKMON	NC
Y11	NC	DBG_DATA13
AE9	NC	DBG_DATA14
L9	NC	DBG_DATA15
N9	NC	DBG_DATA16
AE8	NC	DBG_DATA12
AL9	NC	DBG_CNTL0
H13, H16, H19, J10 J23, J24, J9, K10 K23, K24, K9, L11 L12, L13, L20, L21 L22	VMEMIO	VDDR1
AA17, AA18 AB17, AB18	VDD_GPIO33	VDDR3
AA20, AA21 AB20, AB21	VDD_GPIO18	VDD_CT

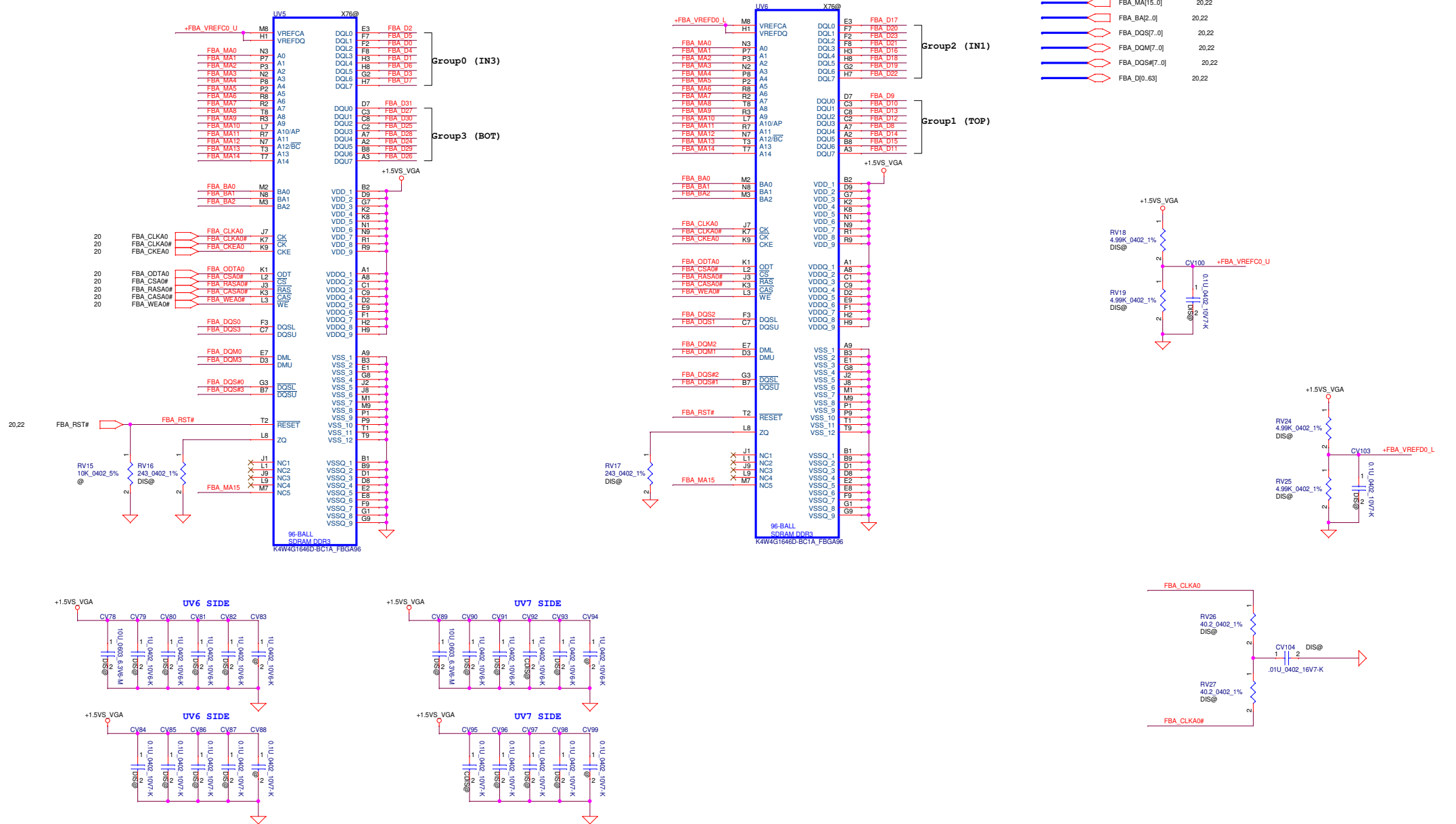
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PS0	1	1	0	0	1
PS1	0	0	1	1	1
PS2	0	0	0	0	0
PS3	1	1	?	?	?



		DiSe	
GD0R6/D0R3			
MAA0_0	K17	FBA_MAA0	
MAA0_1	J20	FBA_MAA1	
MAA0_2	H23	FBA_MAA2	
MAA0_3	G23	FBA_MAA3	
MAA0_4	G24	FBA_MAA4	
MAA0_5	H24	FBA_MAA5	
MAA0_6	J19	FBA_MAA6	
MAA0_7	K19	FBA_MAA7	
MAA0_8	G20	FBA_MAA13	
MAA0_9	L17	FBA_MAA15	
MAA1_0	J14	FBA_MAA8	
MAA1_1	K14	FBA_MAA9	
MAA1_2	J11	FBA_MAA10	
MAA1_3	J13	FBA_MAA11	
MAA1_4	H11	FBA_MAA12	
MAA1_5	G11	FBA_MAA12	
MAA1_6	J16	FBA_BA0	
MAA1_7	L15	FBA_BA1	
MAA1_8	G14	FBA_MAA14	
MAA1_9	L16		
	X		
WCKA0_0	E32	FBA_DOM0	
WCKA0B_0	E30	FBA_DOM1	
WCKA0_1	A21	FBA_DOM2	
WCKA0B_1	C21	FBA_DOM3	
WCKA1_0	E13	FBA_DOM4	
WCKA1B_0	D12	FBA_DOM5	
WCKA1_1	E3	FBA_DOM6	
WCKA1B_1	F4	FBA_DOM7	
	H28	FBA_D0S0	
EDCA0_0	A27	FBA_D0S1	
EDCA0_1	C23	FBA_D0S2	
EDCA0_2	E19	FBA_D0S3	
EDCA0_3	E15	FBA_D0S4	
EDCA1_0	D10	FBA_D0S5	
EDCA1_1	D6	FBA_D0S6	
EDCA1_2	G5	FBA_D0S7	
EDCA1_3			
DBI0A_0	H27	FBA_D0S0#	
DBI0A_1	A27	FBA_D0S1#	
DBI0A_2	C23	FBA_D0S2#	
DBI0A_3	C19	FBA_D0S3#	
DBI0A_1	C15	FBA_D0S4#	
DBI0A_2	E9	FBA_D0S5#	
DBI0A_1	C5	FBA_D0S6#	
DBI0A_2	H4	FBA_D0S7#	
DBI0A_3			
ADBI0A	L18	FBA_ODTA0	
ADBI0A	K16	FBA_ODTA1	
CLKA0	H25	FBA_CLKA0	
CLKA0B	H26	FBA_CLKA0#	
CLKA1	H9	FBA_CLKA1	
CLKA1B	G9	FBA_CLKA1#	
RASA0B	G22	FBA_RASA0#	
RASA1B	G17	FBA_RASA1#	
CASA0B	G19	FBA_CASA0#	
CASA1B	G16	FBA_CASA1#	
CSA0B_0	H22	FBA_CSA0#	
CSA0B_1	X22		
CSA1B_0	G13	FBA_CSA1#	
CSA1B_1	K13		
CKEA0	K20	FBA_CKEA0	
CKEA1	J17	FBA_CKEA1	
WEA0B	G25	FBA_WEA0#	
WEA1B	H10	FBA_WEA1#	

Security Classification		LC Future Center Secret Data		Title		
Issued Date	2015/10/5	Deciphered Date	2016/10/31	R16M-M1-30 MEM Interface		
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				Date:	Monday, August 01, 2016	Sheet 20 of 80 Rev 1.0

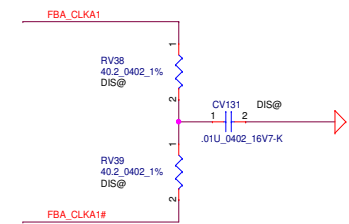
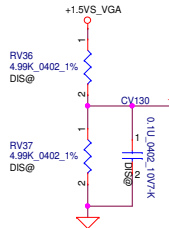
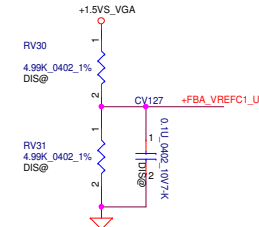
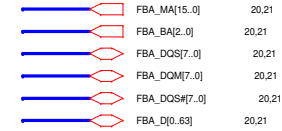
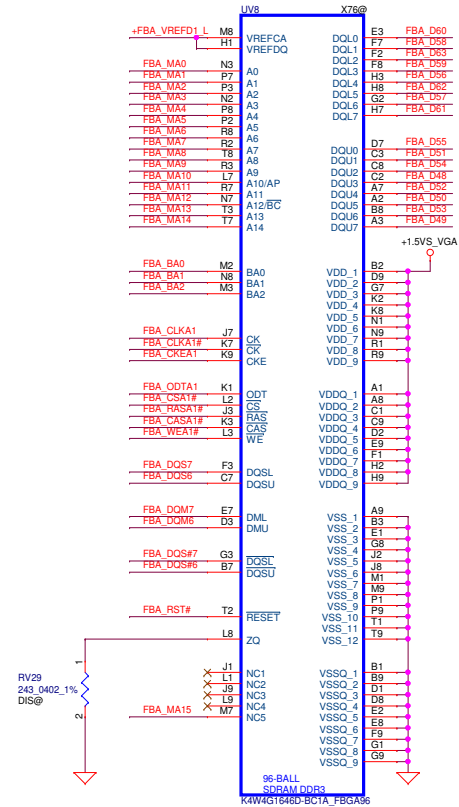
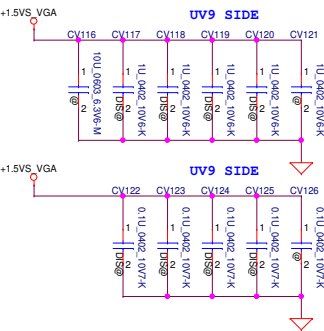
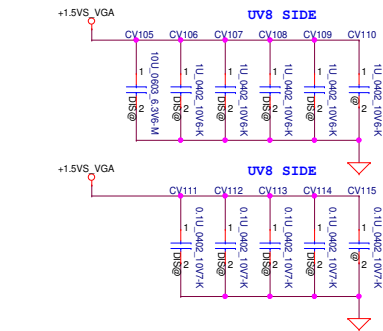
Memory Partition A - Lower 32 bits



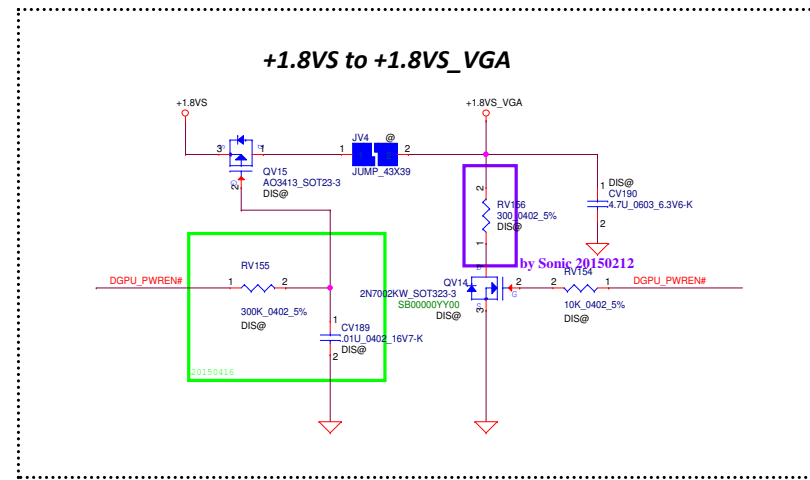
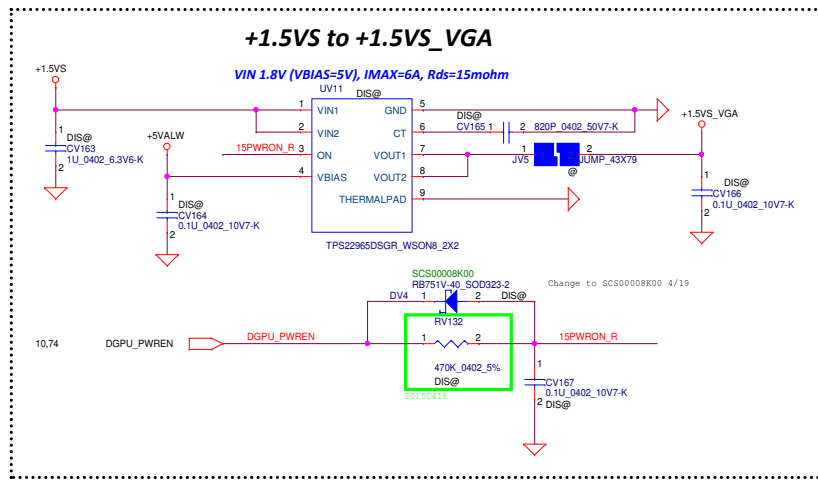
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Issued Date	2015/10/5	Deciphered Date	2016/10/31	R16M-M1-30 DDR3 VRAM U		
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				Date:	Monday, August 01, 2016	Sheet 21 of 80 Rev 1.0 

PCB Pinout and Groupings:

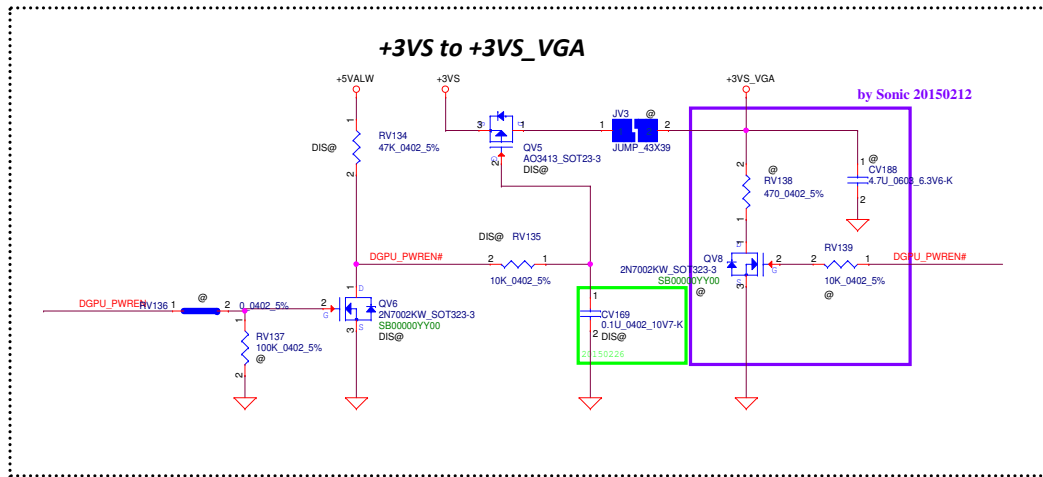
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 - FBA_BA[2..0] 20.21
 - FBA_DQS[7..0] 20.21
 - FBA_DQM[7..0] 20.21
 - FBA_DQS# [7..0] 20.21
 - FBA_D[0..63] 20.21
- Group6 (BOT):**
 - FBA_D60, D61, D62, D63, D64, D65, D66, D67, D68, D69, D70, D71, D72, D73, D74, D75, D76, D77, D78, D79, D80, D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93, D94, D95, D96, D97, D98, D99, D100, D101, D102, D103, D104, D105, D106, D107, D108, D109, D110, D111, D112, D113, D114, D115, D116, D117, D118, D119, D120, D121, D122, D123, D124, D125, D126, D127, D128, D129, D130, D131, D132, D133, D134, D135, D136, D137, D138, D139, D140, D141, D142, D143, D144, D145, D146, D147, D148, D149, D150, D151, D152, D153, D154, D155, D156, D157, D158, D159, D160, D161, D162, D163, D164, D165, D166, D167, D168, D169, D170, D171, D172, D173, D174, D175, D176, D177, D178, D179, D180, D181, D182, D183, D184, D185, D186, D187, D188, D189, D190, D191, D192, D193, D194, D195, D196, D197, D198, D199, D200, D201, D202, D203, D204, D205, D206, D207, D208, D209, D210, D211, D212, D213, D214, D215, D216, D217, D218, D219, D220, D221, D222, D223, D224, D225, D226, D227, D228, D229, D230, D231, D232, D233, D234, D235, D236, D237, D238, D239, D240, D241, D242, D243, D244, D245, D246, D247, D248, D249, D250, D251, D252, D253, D254, D255, D256, D257, D258, D259, D260, D261, D262, D263, D264, D265, D266, D267, D268, D269, D270, D271, D272, D273, D274, D275, D276, D277, D278, D279, D280, D281, D282, D283, D284, D285, D286, D287, D288, D289, D290, D291, D292, D293, D294, D295, D296, D297, D298, D299, D300, D301, D302, D303, D304, D305, D306, D307, D308, D309, D310, D311, D312, D313, D314, D315, D316, D317, D318, D319, D320, D321, D322, D323, D324, D325, D326, D327, D328, D329, D330, D331, D332, D333, D334, D335, D336, D337, D338, D339, D340, D341, D342, D343, D344, D345, D346, D347, D348, D349, D350, D351, D352, D353, D354, D355, D356, D357, D358, D359, D360, D361, D362, D363, D364, D365, D366, D367, D368, D369, D370, D371, D372, D373, D374, D375, D376, D377, D378, D379, D380, D381, D382, D383, D384, D385, D386, D387, D388, D389, D390, D391, D392, D393, D394, D395, D396, D397, D398, D399, D400, D401, D402, D403, D404, D405, D406, D407, D408, D409, D410, D411, D412, D413, D414, D415, D416, D417, D418, D419, D420, D421, D422, D423, D424, D425, D426, D427, D428, D429, D430, D431, D432, D433, D434, D435, D436, D437, D438, D439, D440, D441, D442, D443, D444, D445, D446, D447, D448, D449, D450, D451, D452, D453, D454, D455, D456, D457, D458, D459, D460, D461, D462, D463, D464, D465, D466, D467, D468, D469, D470, D471, D472, D473, D474, D475, D476, D477, D478, D479, D480, D481, D482, D483, D484, D485, D486, D487, D488, D489, D490, D491, D492, D493, D494, D495, D496, D497, D498, D499, D500, D501, D502, D503, D504, D505, D506, D507, D508, D509, D510, D511, D512, D513, D514, D515, D516, D517, D518, D519, D520, D521, D522, D523, D524, D525, D526, D527, D528, D529, D530, D531, D532, D533, D534, D535, D536, D537, D538, D539, D540, D541, D542, D543, D544, D545, D546, D547, D548, D549, D550, D551, D552, D553, D554, D555, D556, D557, D558, D559, D560, D561, D562, D563, D564, D565, D566, D567, D568, D569, D570, D571, D572, D573, D574, D575, D576, D577, D578, D579, D580, D581, D582, D583, D584, D585, D586, D587, D588, D589, D590, D591, D592, D593, D594, D595, D596, D597, D598, D599, D600, D601, D602, D603, D604, D605, D606, D607, D608, D609, D610, D611, D612, D613, D614, D615, D616, D617, D618, D619, D620, D621, D622, D623, D624, D625, D626, D627, D628, D629, D630, D631, D632, D633, D634, D635, D636, D637, D638, D639, D640, D641, D642, D643, D644, D645, D646, D647, D648, D649, D650, D651, D652, D653, D654, D655, D656, D657, D658, D659, D660, D661, D662, D663, D664, D665, D666, D667, D668, D669, D670, D671, D672, D673, D674, D675, D676, D677, D678, D679, D680, D681, D682, D683, D684, D685, D686, D687, D688, D689, D690, D691, D692, D693, D694, D695, D696, D697, D698, D699, D700, D701, D702, D703, D704, D705, D706, D707, D708, D709, D710, D711, D712, D713, D714, D715, D716, D717, D718, D719, D720, D721, D722, D723, D724, D725, D726, D727, D728, D729, D730, D731, D732, D733, D734, D735, D736, D737, D738, D739, D740, D741, D742, D743, D744, D745, D746, D747, D748, D749, D750, D751, D752, D753, D754, D755, D756, D757, D758, D759, D760, D761, D762, D763, D764, D765, D766, D767, D768, D769, D770, D771, D772, D773, D774, D775, D776, D777, D778, D779, D780, D781, D782, D783, D784, D785, D786, D787, D788, D789, D790, D791, D792, D793, D794, D795, D796, D797, D798, D799, D800, D801, D802, D803, D804, D805, D806, D807, D808, D809, D810, D811, D812, D813, D814, D815, D816, D817, D818, D819, D820,



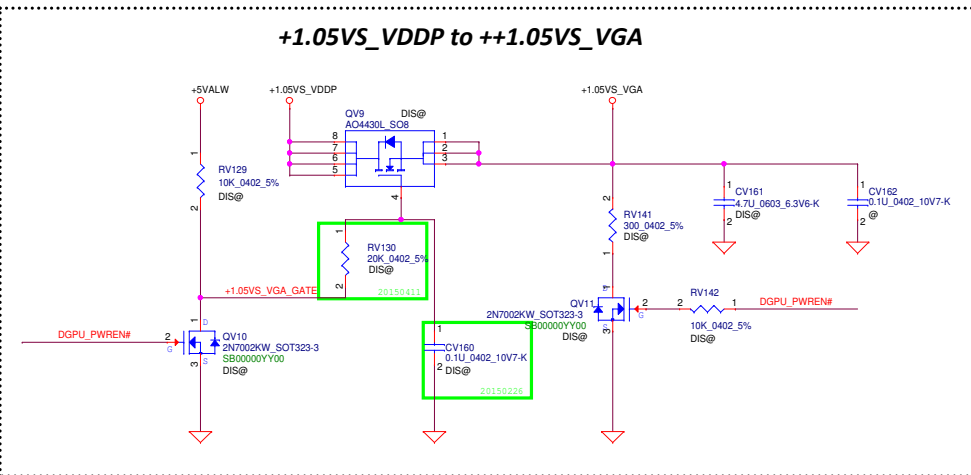
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Issued Date	2015/10/5	Deciphered Date	2016/10/31	R16M-M1-30 DDR3 VRAM L			
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MLPS	Bit				
	5	4	3	2	1
PS_0[5:1]	1	1	0	0	1
PS_1[5:1]	1	1	0	0	0
PS_2[5:1]	1	1	0	0	0
PS_3[5:1]	1	1	X	X	X



PS_0[1]	ROM_CONFIG[0]	STRAP BIOS_ROM_EN = 1 ROM_CONFIG[2:0] = [001] 256MB
PS_0[2]	ROM_CONFIG[1]	
PS_0[3]	ROM_CONFIG[2]	
PS_0[4]	N/A	1 (Default)
PS_0[5]	N/A	1 (Default)
PS_1[1]	STRAP_BIF_GEN3_EN_A	0 = PCIe GEN3 is not supported
PS_1[2]	STRAP_BIF_CLK_PM_EN	0 = The CLKREQB power management capability is disabled
PS_1[3]	N/A	0 (Default)
PS_1[4]	STRAP_TX_CFG_DRV_FULL_SWING	1 = The transmitter full-swing is enabled
PS_1[5]	STRAP_TX_DEEMPH_EN	1 = Tx deemphasis enabled
PS_2[1]	N/A	0 (Default)
PS_2[2]	N/A	0 (Default)
PS_2[3]	STRAP_BIOS_ROM_EN	0 = Disable the external BIOS ROM device
PS_2[4]	N/A	1 (Default)
PS_2[5]	N/A	1 (Default)
PS_3[1]	BOARD_CONFIG[0]	PS_3[3..1] 101 = Micron 2G 110 = Samsung 2G 111 = Hynix 2G
PS_3[2]	BOARD_CONFIG[1]	
PS_3[3]	BOARD_CONFIG[2]	
PS_3[4]	N/A	1 (Default)
PS_3[5]	N/A	1 (Default)



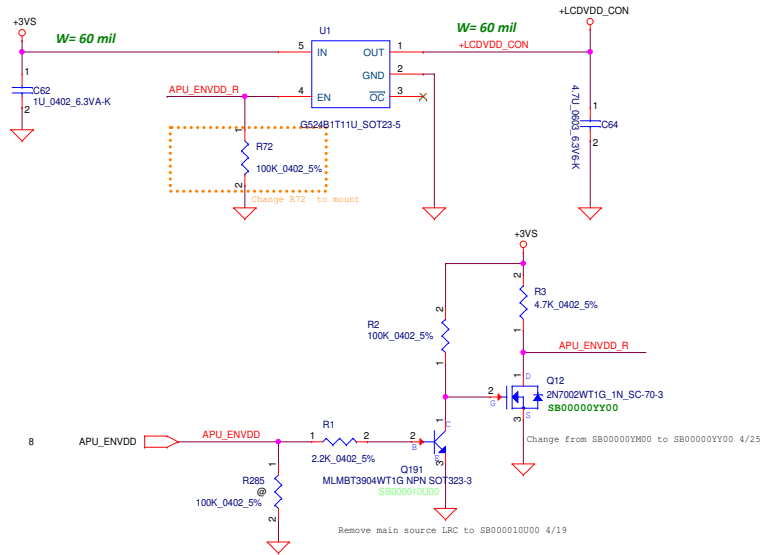
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Issued Date	2015/10/5	Deciphered Date	2016/10/31	R16M-M1-30 switch power	
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Date	Monday, August 01, 2016	Sheet		23 of 80	

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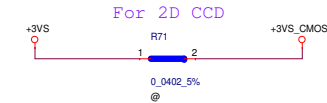
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				Document Number NM-A871	
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Date: Monday, August 01, 2016				Sheet 24 of 80	



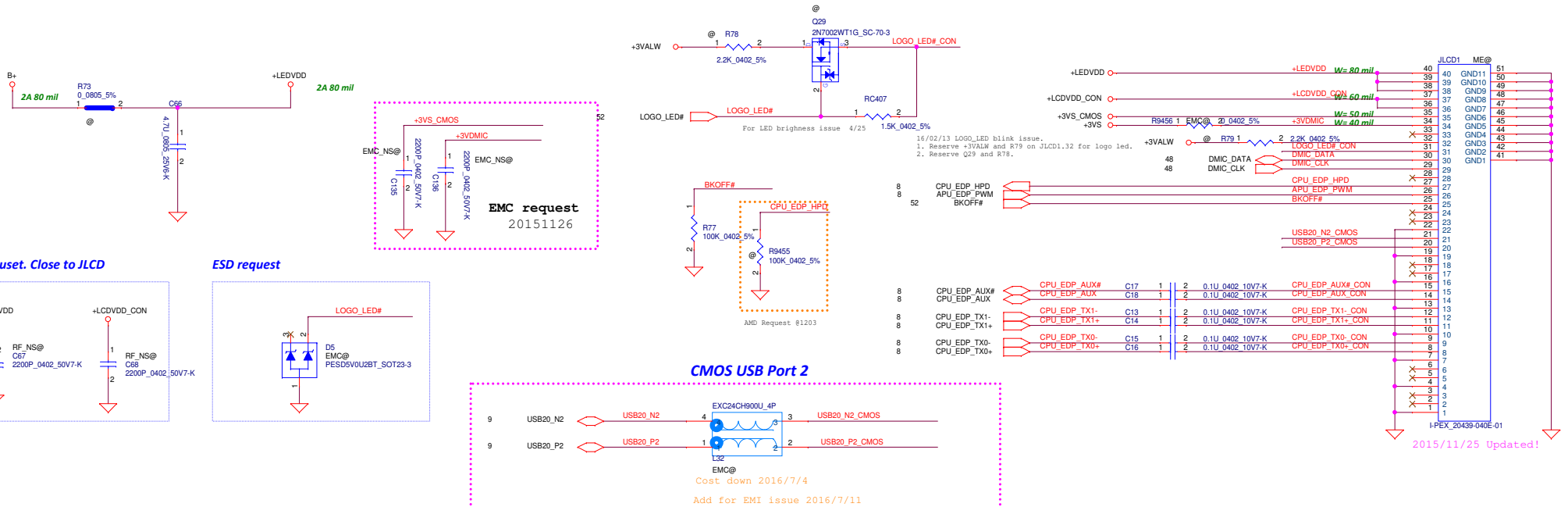
LCDVDD Circuit



CMOS Camera

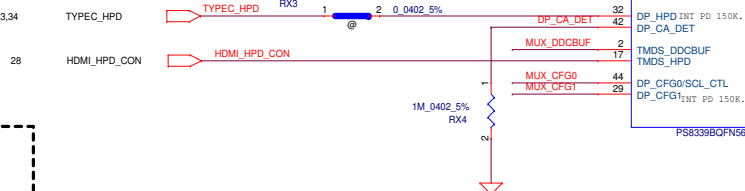
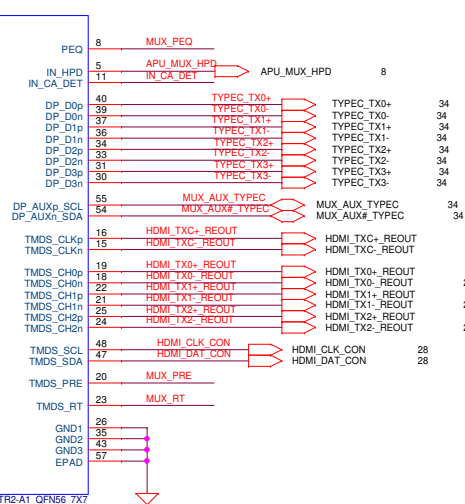


eDP CONN.



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Issued Date	2015/10/5	Deciphered Date	2016/10/31	eDP CONN	
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Date: Monday, August 01, 2016				Sheet	25 of 80

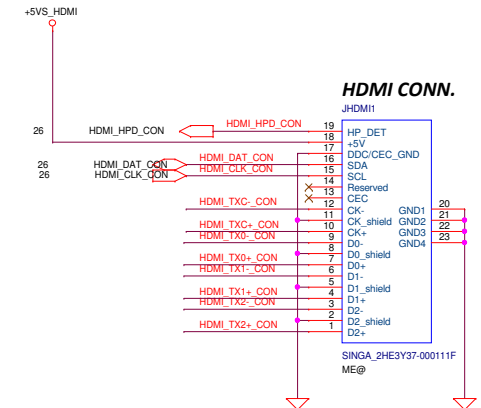
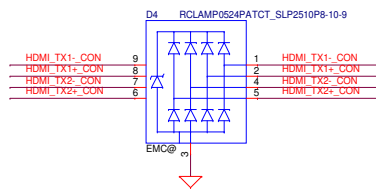
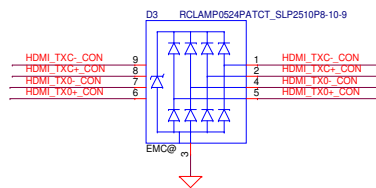
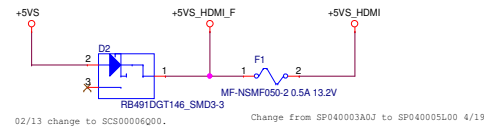
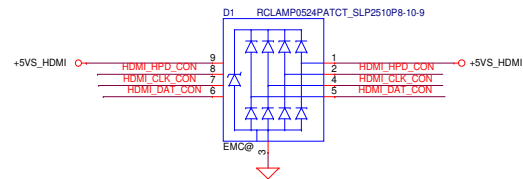
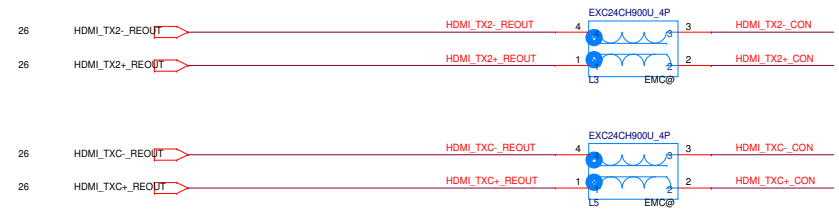
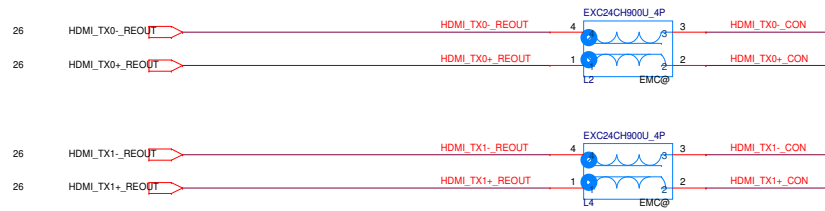


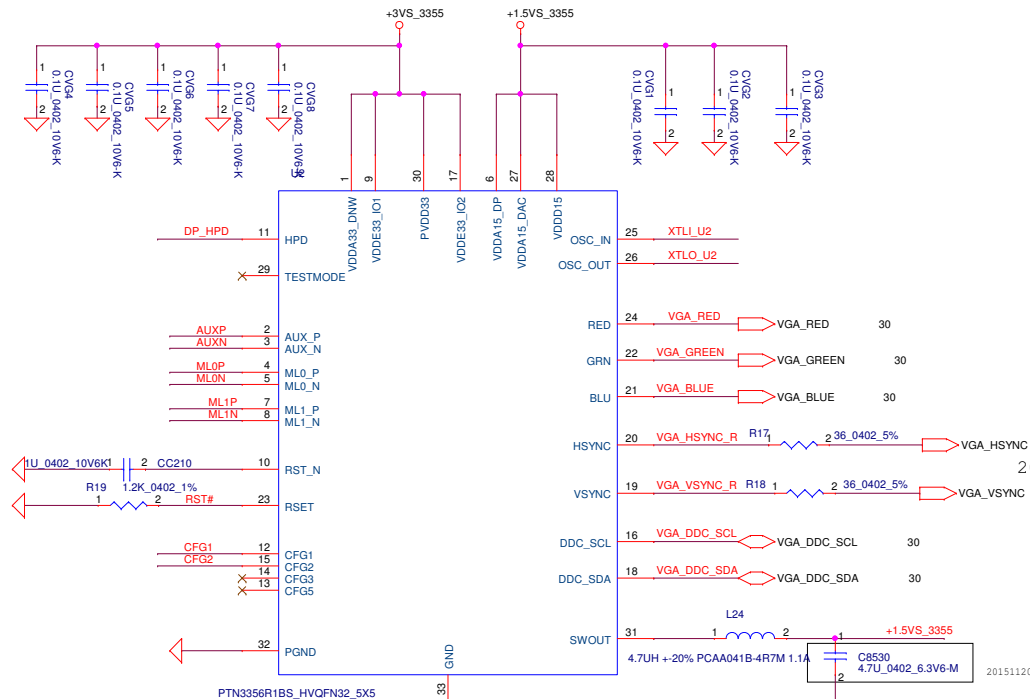
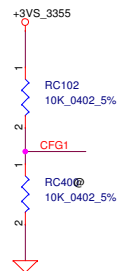
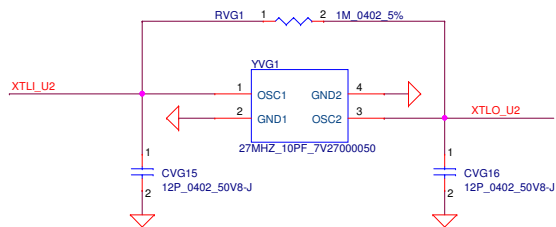
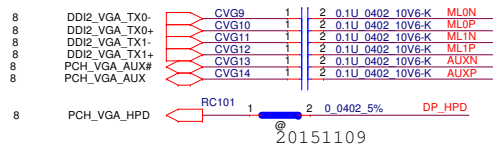
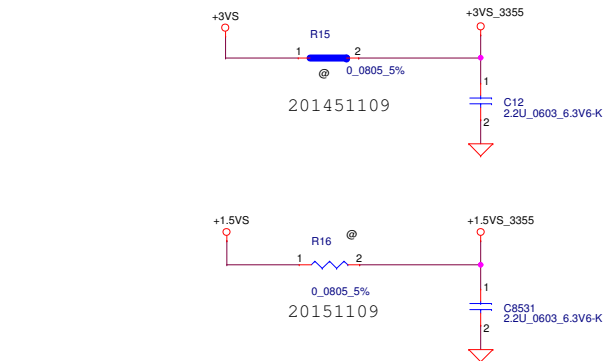
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Issued Date	2015/10/5	Deciphered Date	2016/10/31	Size	Document Number				
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Issued Date	2015/10/5	Deciphered Date	2016/10/31	HDMI RP			
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				Custom	NM-A871	1.0	
				Date:	Monday, August 01, 2016	Sheet	27 of 80



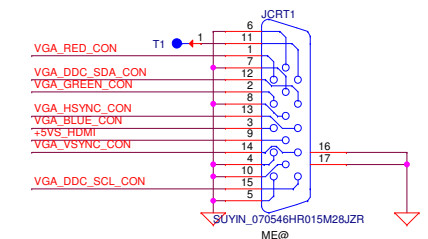


wait symbol
Change SH00000JMOJ 4.7UH +-20% TLPC4012C-4R7M 1.25A
to SH00000GT0J S COIL 4.7UH +-20% PCAA041B-4R7M 1.1A

Please Close CRT Connector

Traslater

Only for Skywalker
CRT Connector



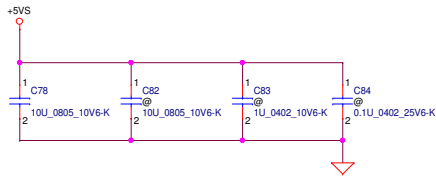
20151125 update symbol!

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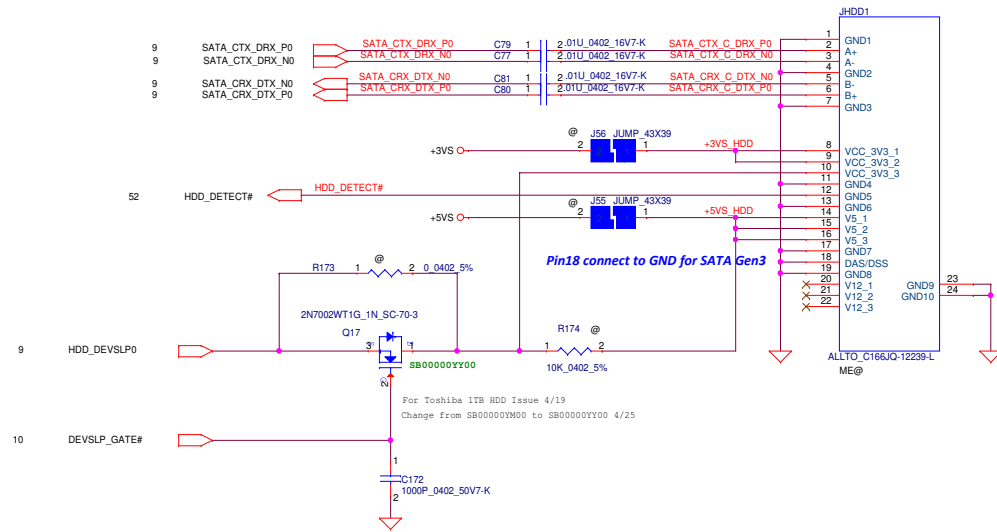
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		2016/10/31			
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				Document Number NW-A871	
				Rev 1.0	
Date: Monday, August 01, 2016				Sheet 31 of 80	



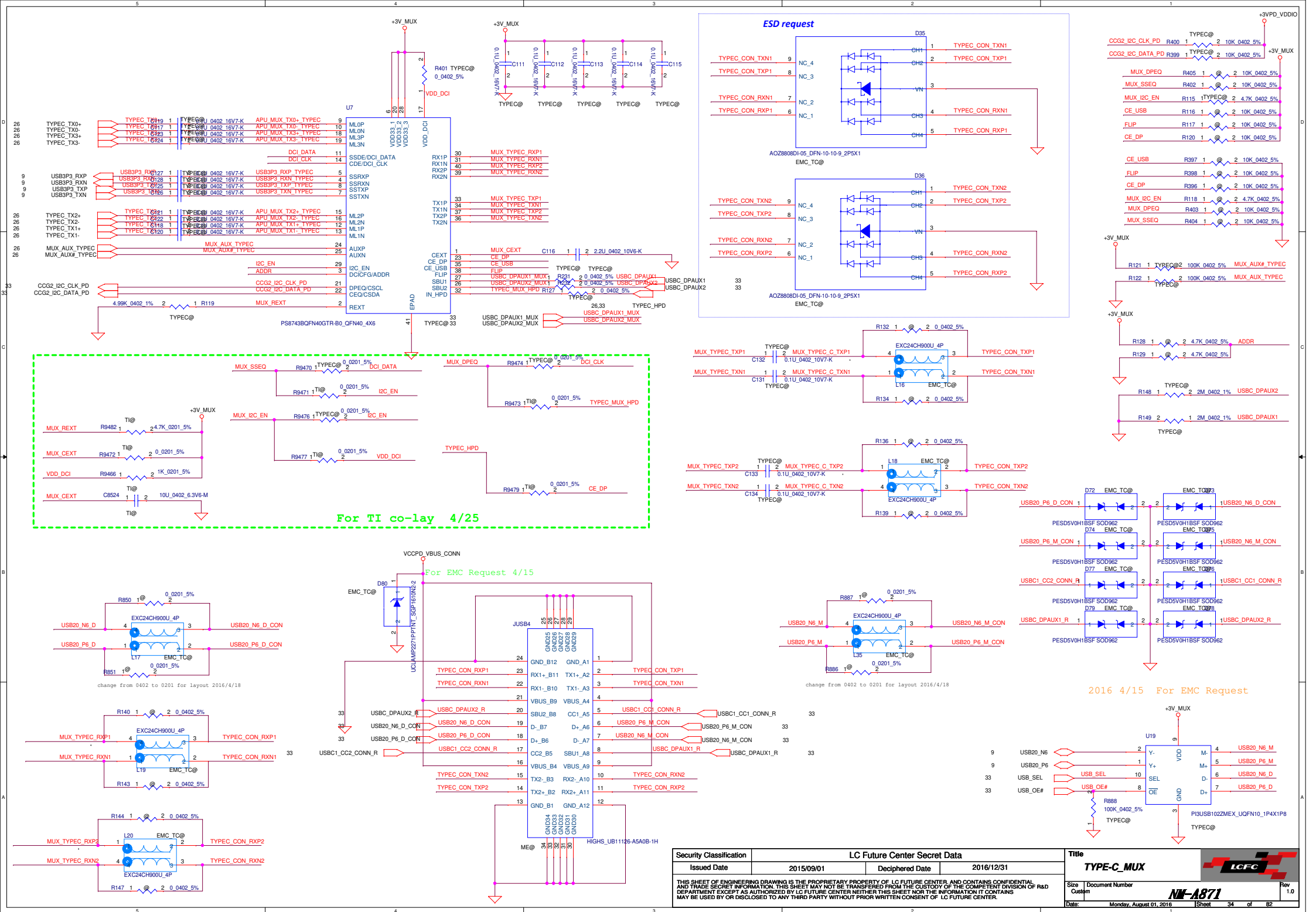
SATA HDD CONN.

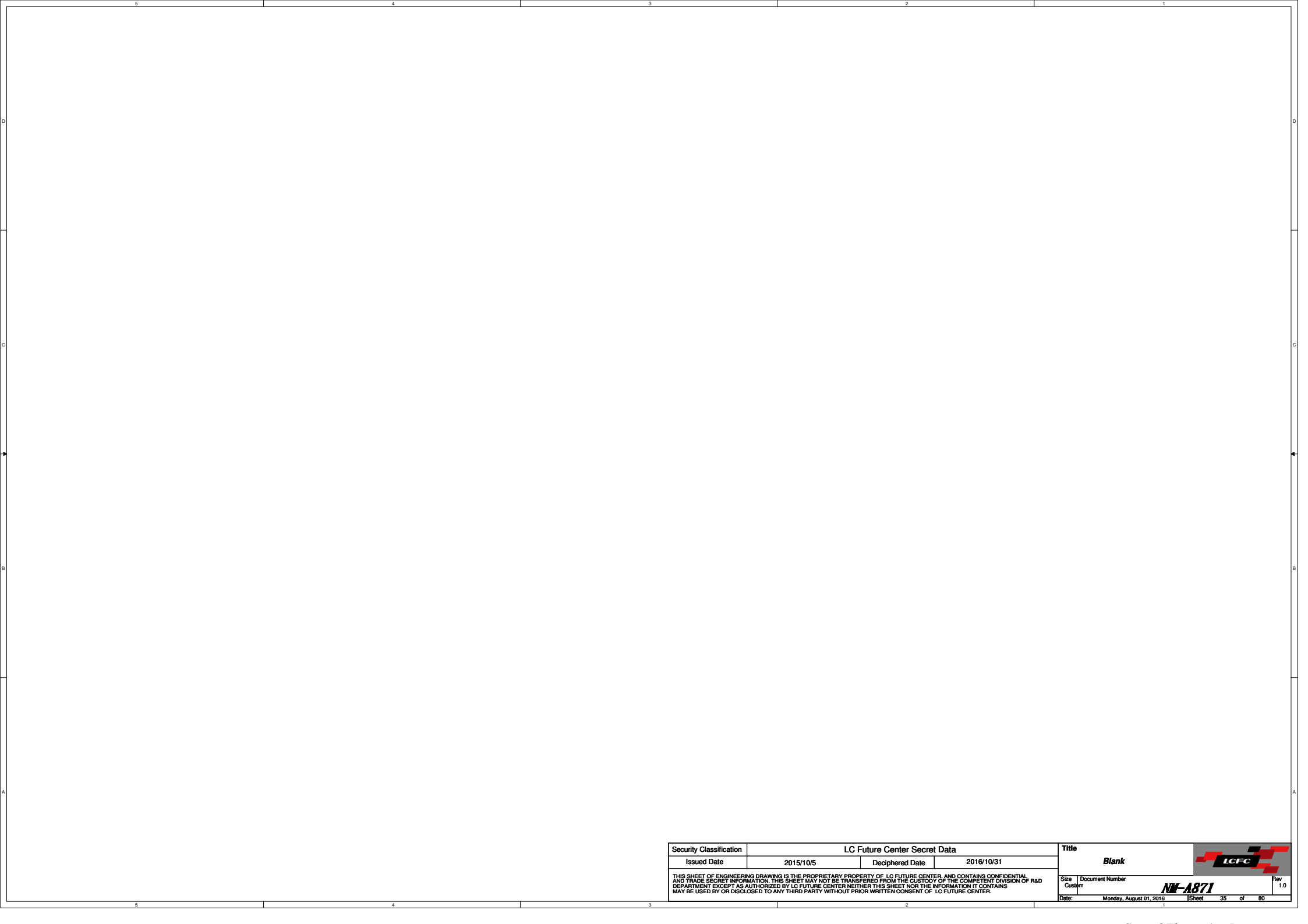


SATA HDD CONN.



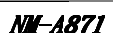
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THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.					
Size	Document Number			Rev	
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				NW-A871	
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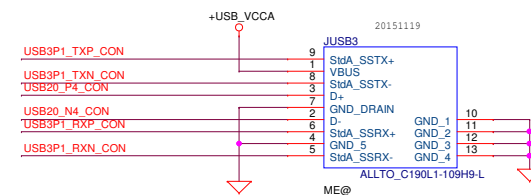
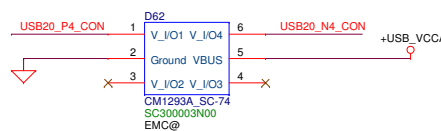
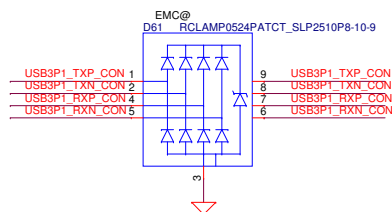
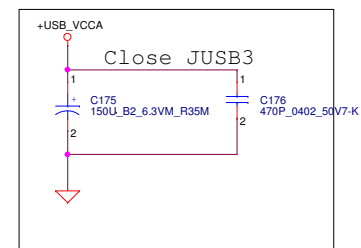
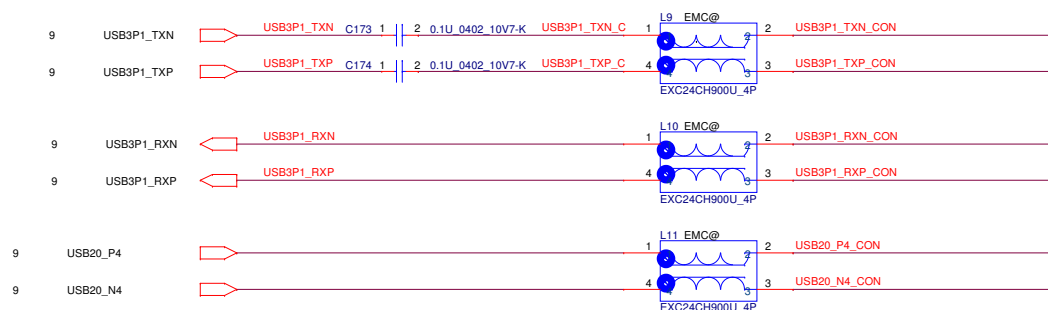
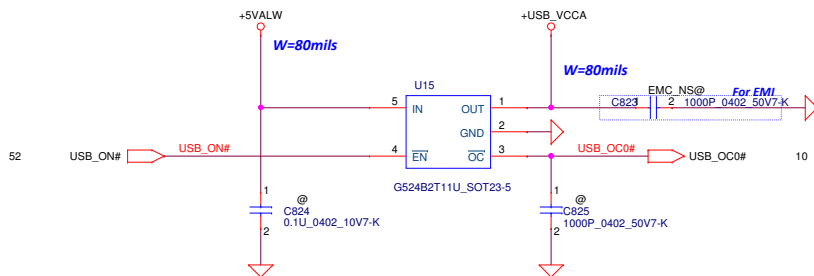




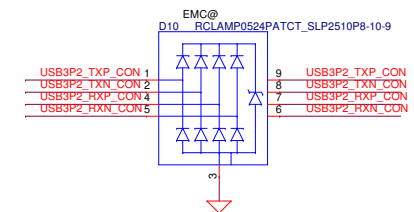
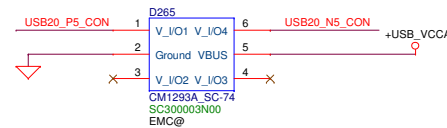
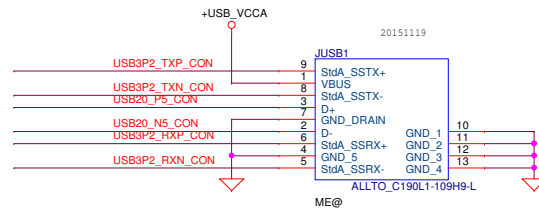
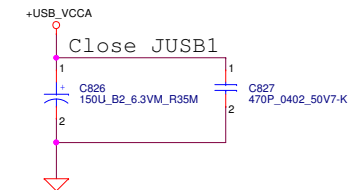
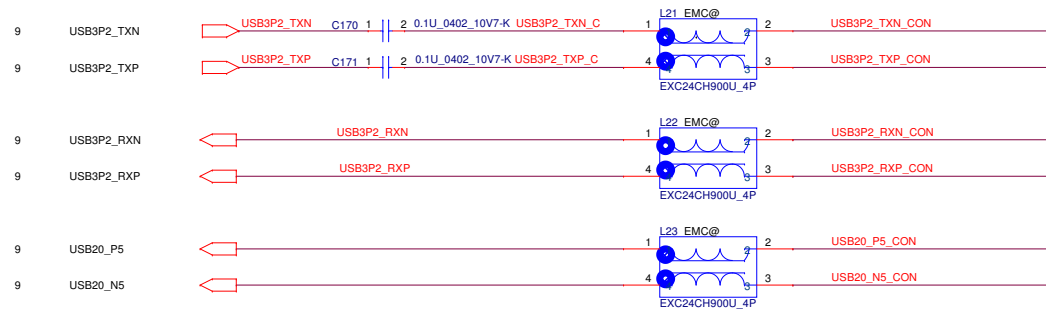
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				Cusom	NW-A871	1.0
				Date:	Monday, August 01, 2016	Sheet 35 of 80

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Issued Date	2015/10/5	Deciphered Date	2016/10/31	BLANK			
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				Custom			
				Date:	Monday, August 01, 2016	Sheet	36 of 80
						Rev	1.0



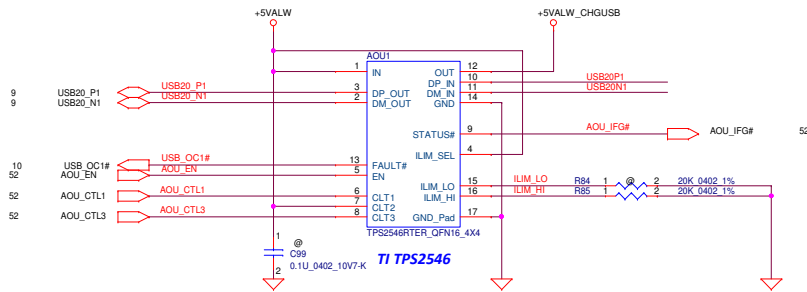
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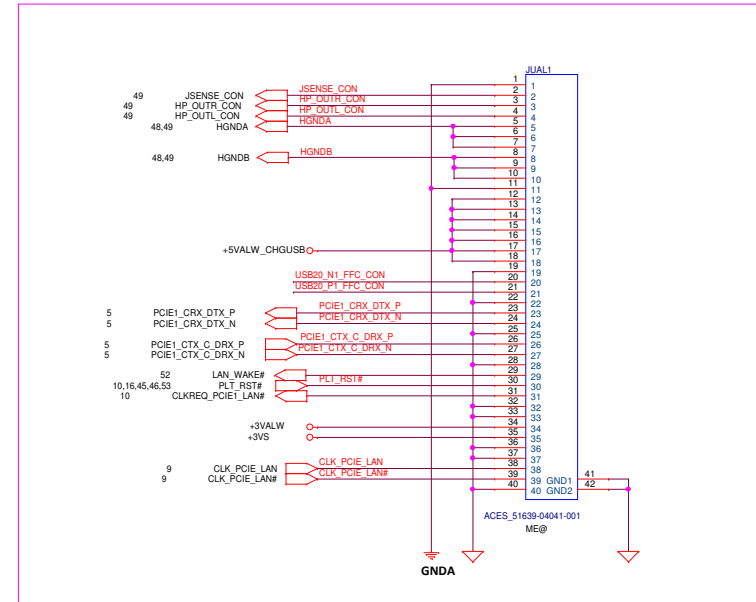
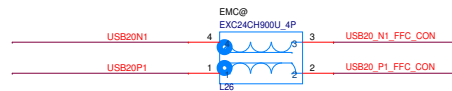
Move to Small Board wait confirm

20151117

PORT1 (AOU)



CLT1	CLT2	CLT3	ILIM_SEL	MOD
0	0	0	X	DCH OUT held low
★	1	1	1	CDP Data Connected and Port Power Mgt. Function Active
★	1	1	0	SDP2 Data Connected
★	1	1	X	SDP1 Data Connected
★	0	1	0	SDP1 Data Connected
	1	0	0	DCP_Short Device Forced to stay in DCP BC 1.2 charging mode
	1	0	1	DCP_Divider Device Forced to stay in DCP Divider 1 Charging Mode
★	0	1	1	DCP_Auto Data Disconnected and Port Power Mgt. Function Active
	0	0	1	DCP_Auto Data Disconnected and Power Wake Function Active



2016/0203 Update pin18, pin 12 to +5VALW_CHGUSB

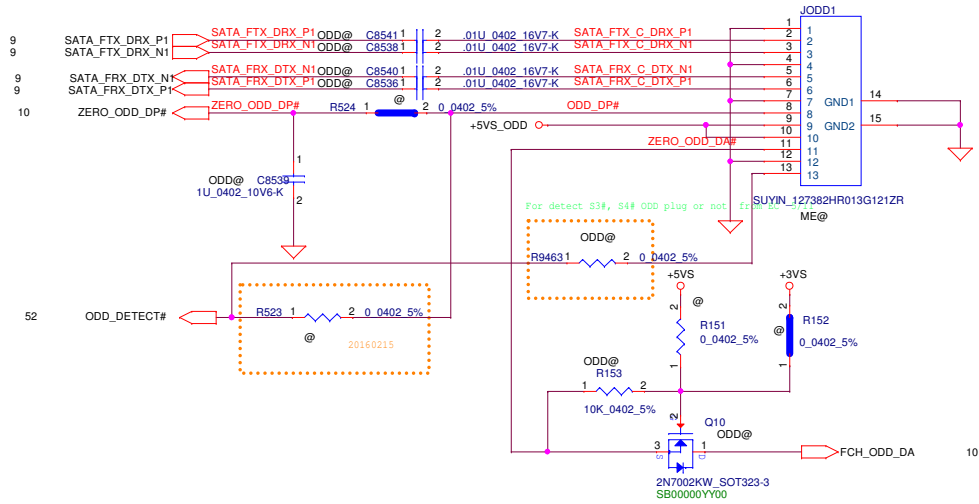
2016/0203 Update pin32, pin 36 to +GND

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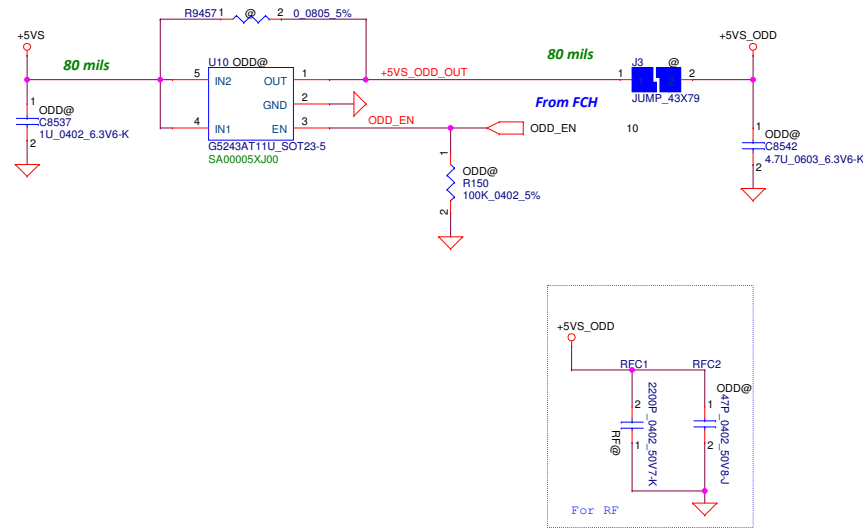
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Issued Date	2015/10/5	Deciphered Date	2016/10/31	DC V TO VS/ V-PCH/VM	
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				Sheet 41	of 80

SATA ODD & ODD Power Control

Only for Skywalker



+5VS TO +5VS_ODD



Move to Small Board

20151110

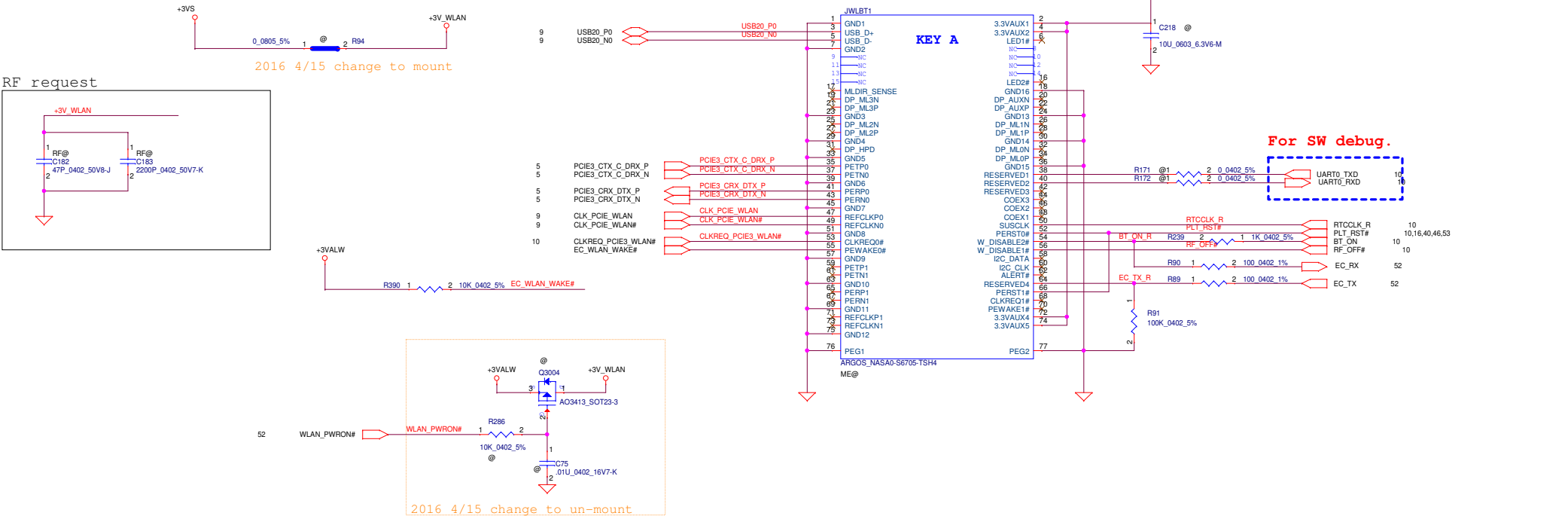
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					Rev: 1.0
Sheet 43 of 80					

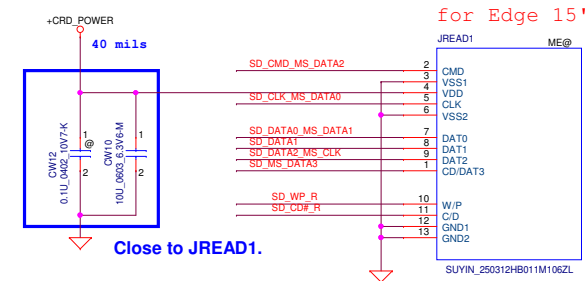
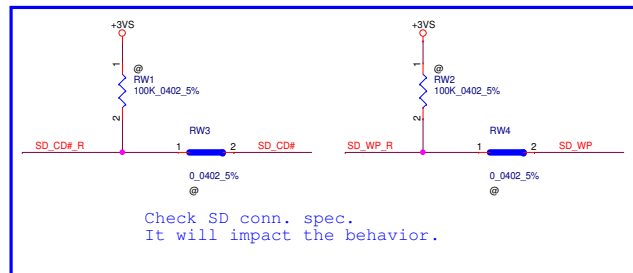
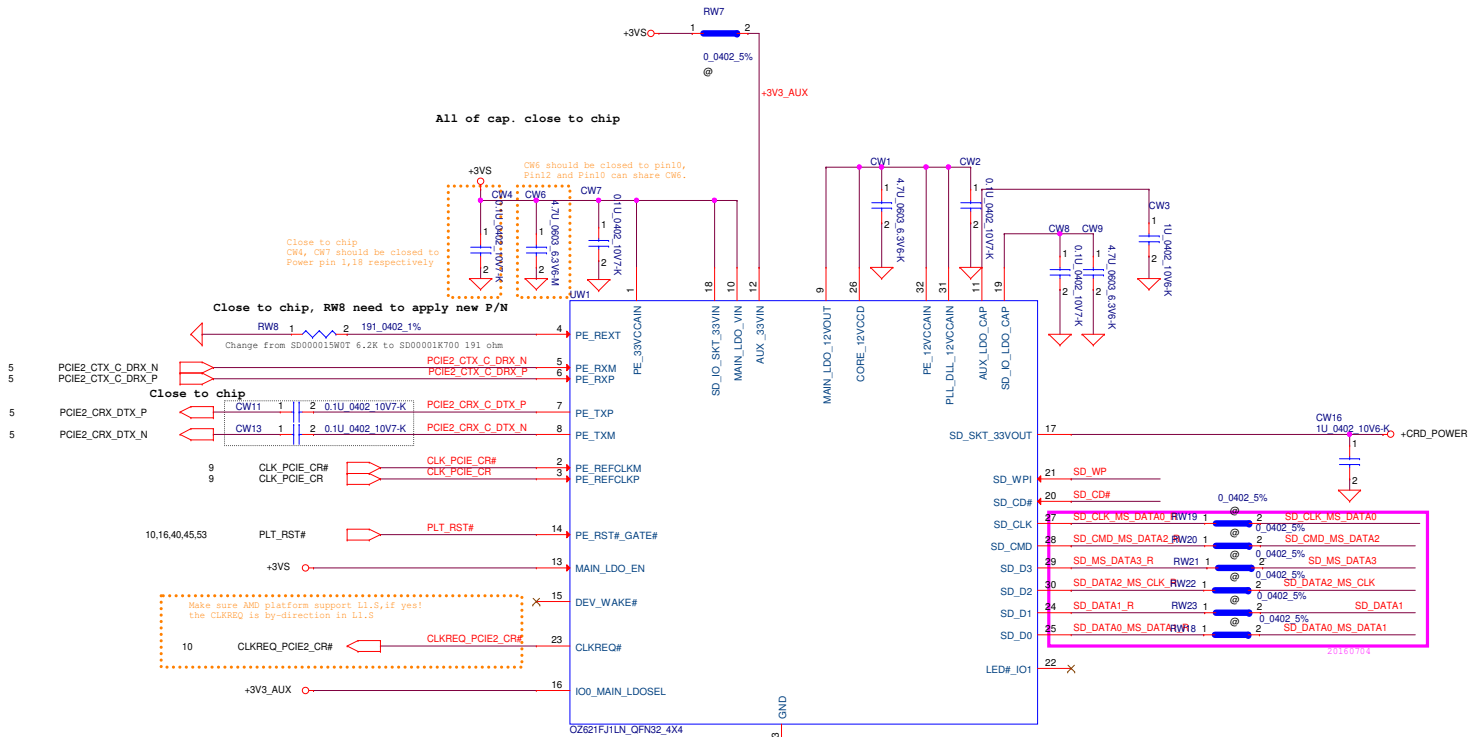
Move to Small Board

20151110

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				Custom	NM-A871	1.0	
				Date:	Monday, August 01, 2016		

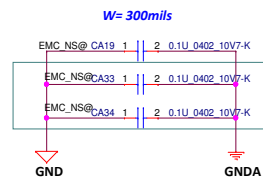
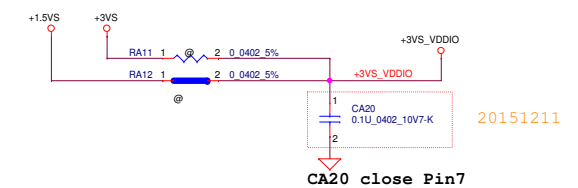
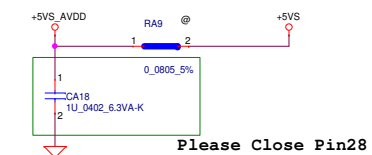
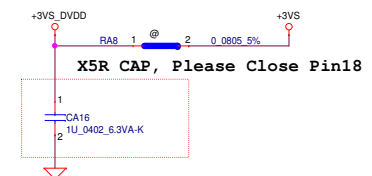
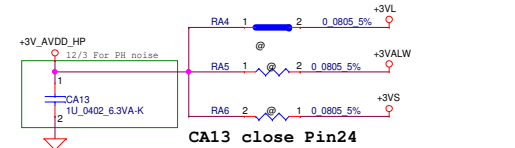
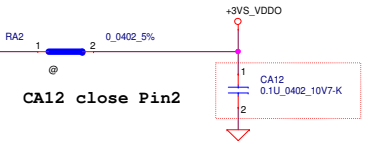
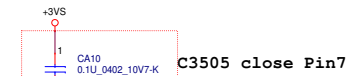
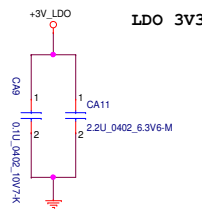
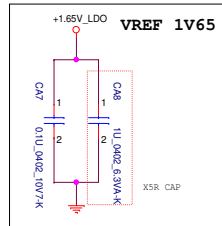
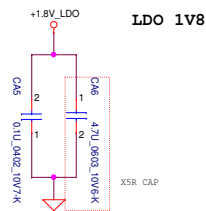
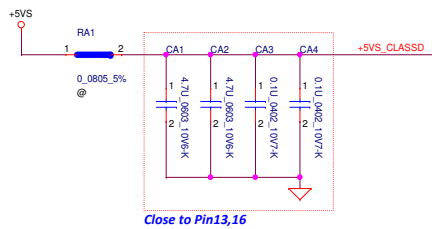
TYPE-A NGFF CCARD FOR WLAN
3.2H CONNECTOR



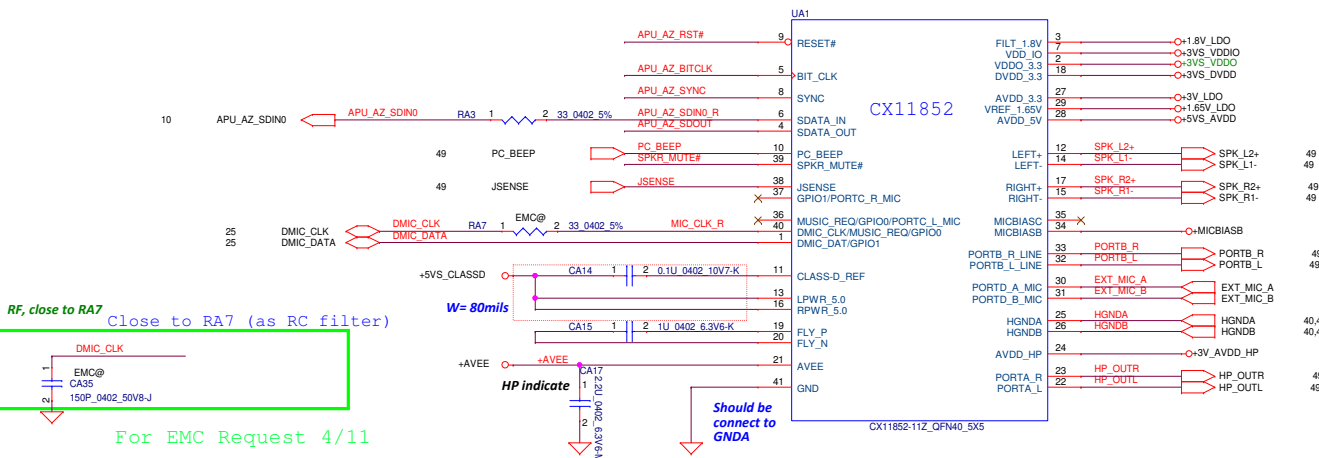


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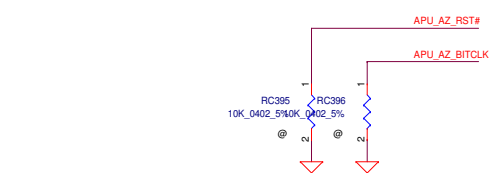
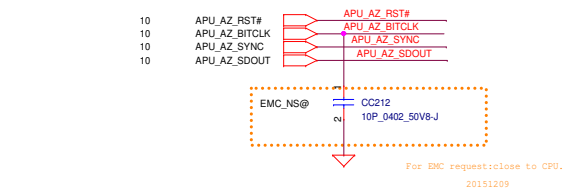
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Base on EMC request
2015/11/25



RF, close to RA7
Close to RA7 (as RC filter)
For EMC Request 4/11



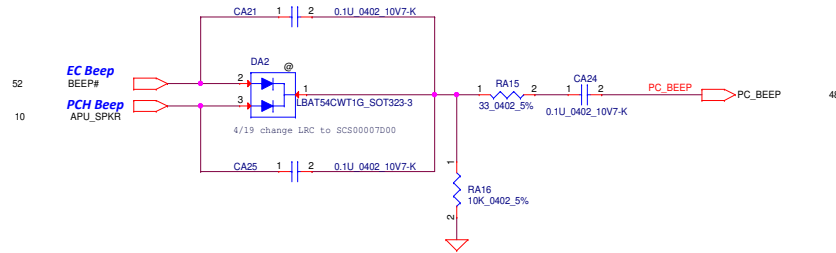
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				Customer	Rev
				Date: Monday, August 01, 2016	Sheet 48 of 80



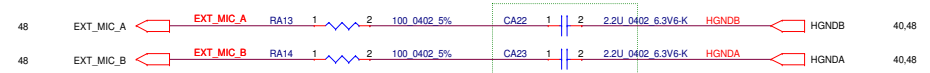
LCFC

NW-A871

PC Beep

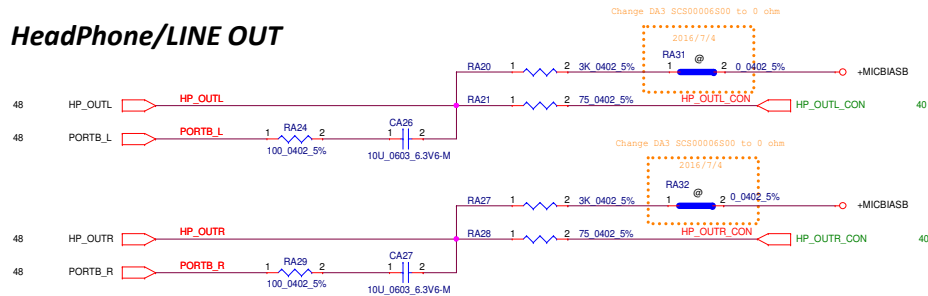


EXT. MIC/LINE IN Apple --> EXT_MIC_A, HGND B
Nokia --> EXT_MIC_B, HGND A

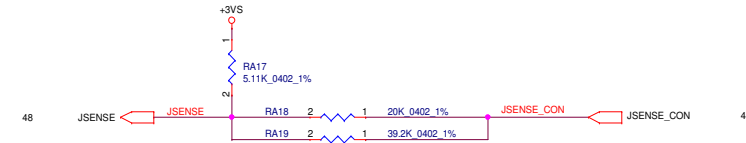


Changed CA29 & CA30 from 1uF to 2.2uF/X5R to meet Port-D(headset-Mic) THD+N <= -65 dB

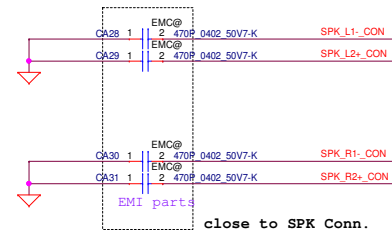
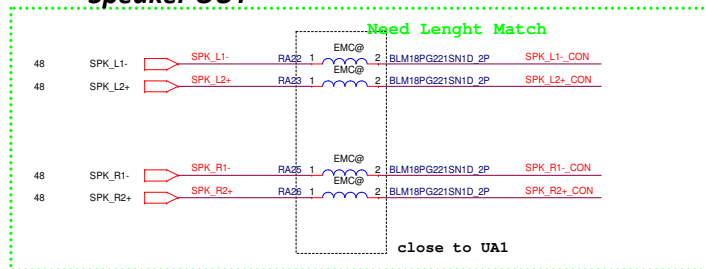
HeadPhone/LINE OUT



CA31, CA32 change to 4.7U for Quality requirement

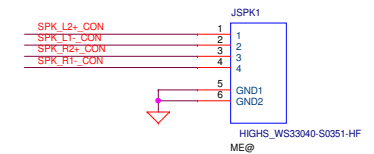


Speaker OUT



SPK CONN.

ME update PN



Change SPK conn. to 4 pins.

20151119

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Issued Date	2015/10/5	Deciphered Date	2016/10/31	HP/MIC JACK/Speaker		
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Size	Document Number	Customer		Rev		
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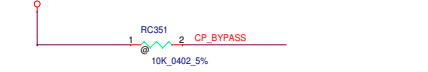
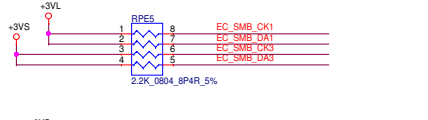
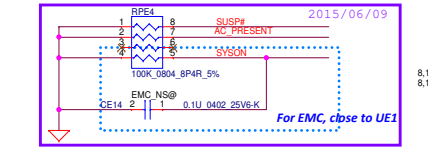
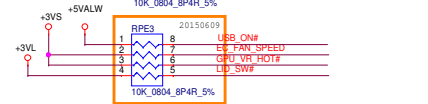
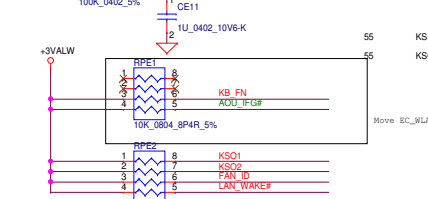
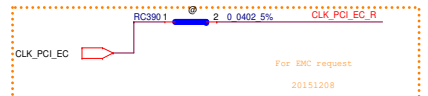
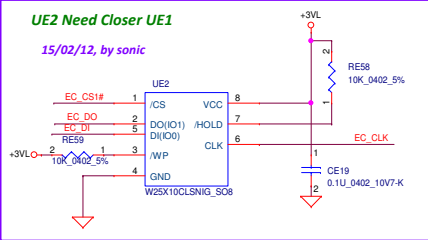
Move to Small Board

20151110

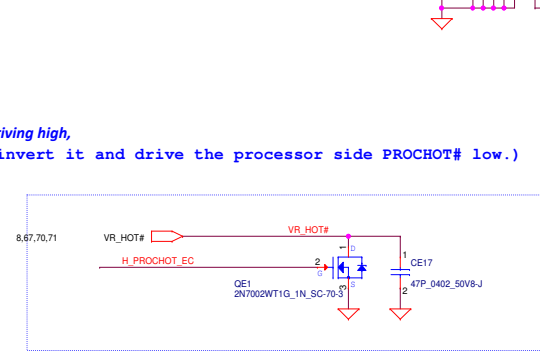
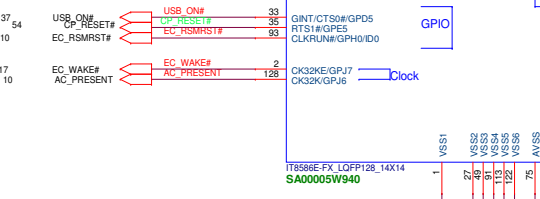
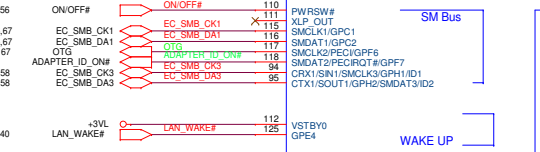
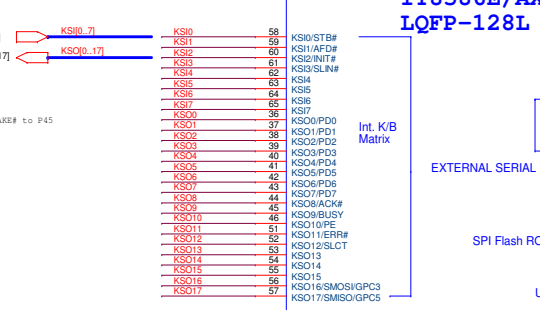
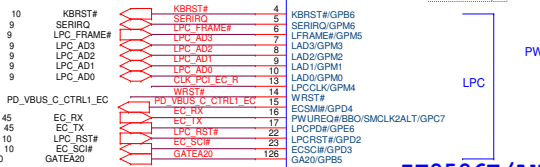
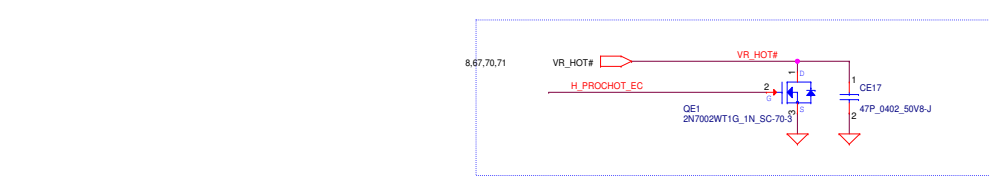
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Issued Date	2015/10/5	Deciphered Date	2016/10/31	AUDIO JACK				
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				Date:	Monday, August 01, 2016	Sheet	50	of

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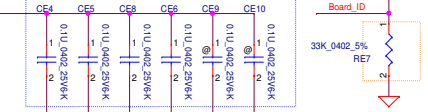
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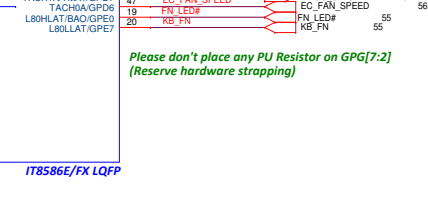
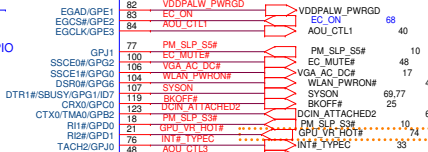
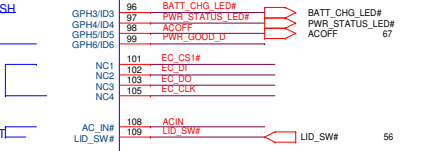
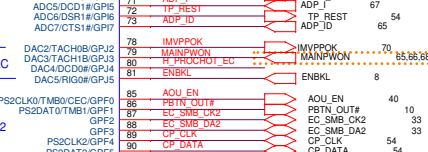
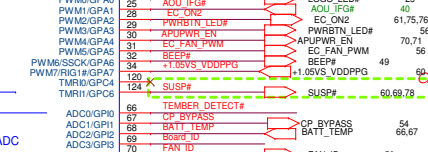
PROCHOT#
(EC asserts PROCHOT# signal by driving high, the level shifter must invert it and drive the processor side PROCHOT# low.)



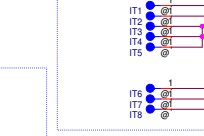
All capacitors close to EC



minimum trace width 12 mil

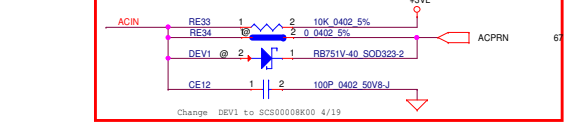
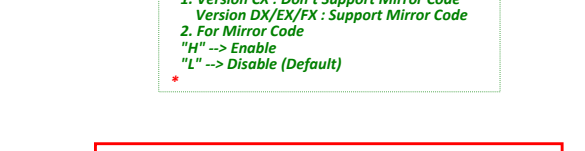
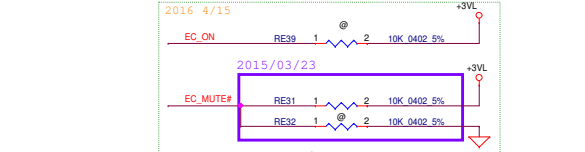
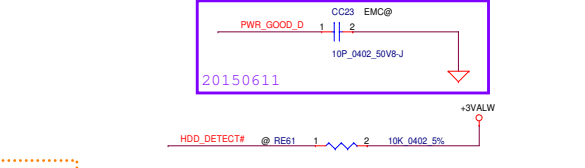
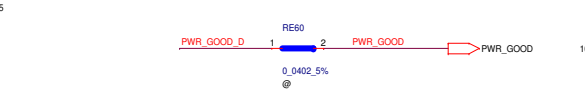
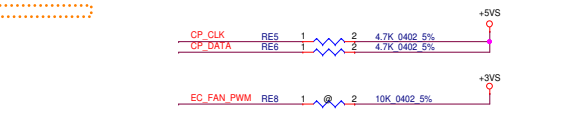
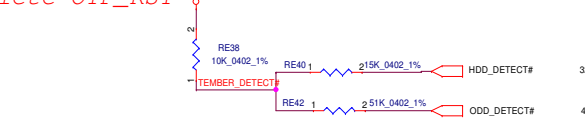
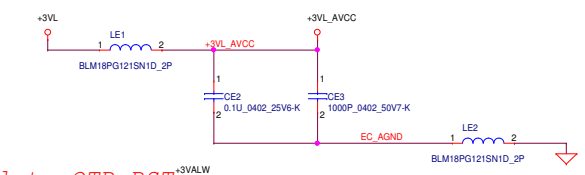


For factory EC flash



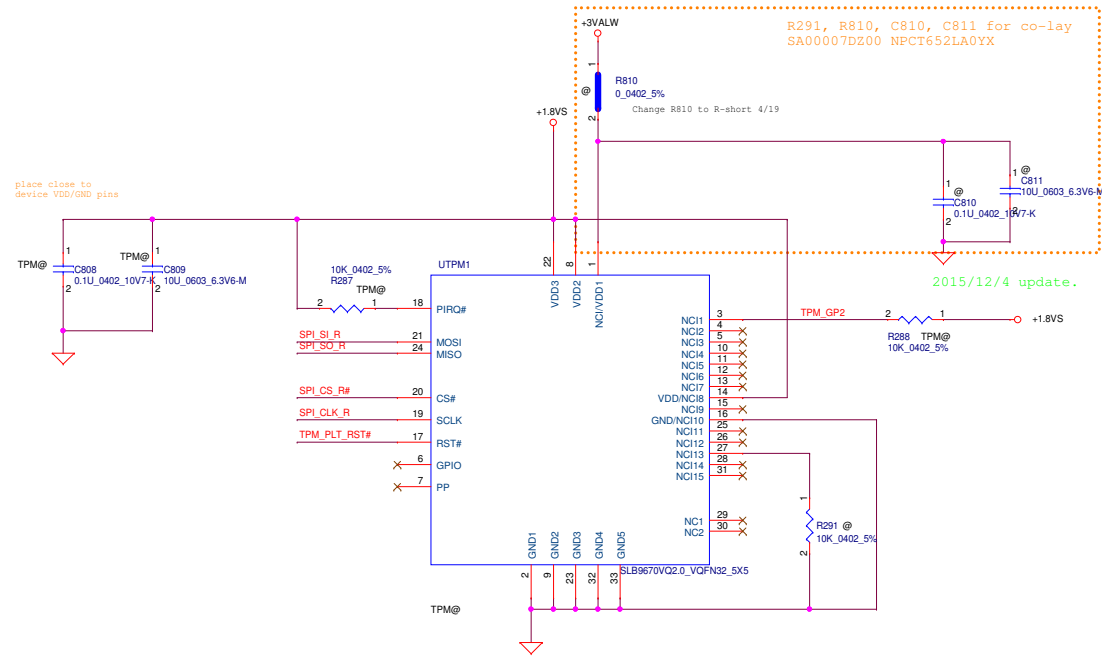
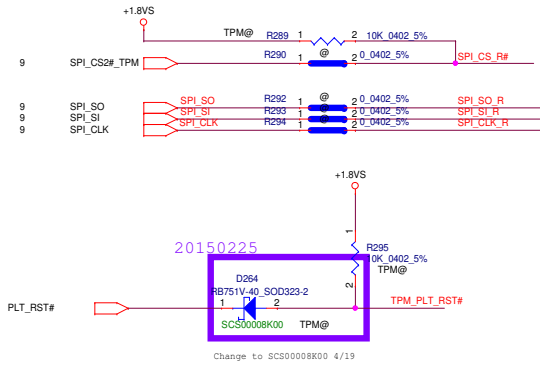
Vcc	RE3
3.3V +/- 5%	100K +/- 1%

Board ID	RE7	VAD_BID min	VAD_BID tYP	VAD_BID max	Phase
0	0K +/- 5%	0 V	0 V	0 V	SDV
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V	FVT
2	18K +/- 5%	0.436 V	0.503 V	0.538 V	SIT
3	33K +/- 5%	0.712 V	0.819 V	0.875 V	SVT
4	4.7K +/- 5%	0.141 V	0.148 V	0.155 V	
5	24K +/- 5%	0.612 V	0.638 V	0.664 V	



TPM IC

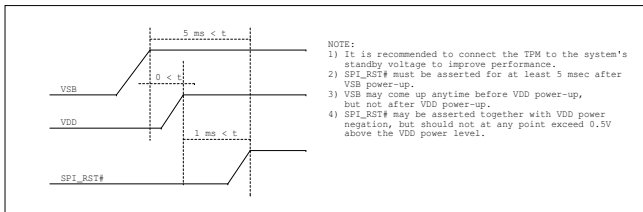
Only for UMA SKU



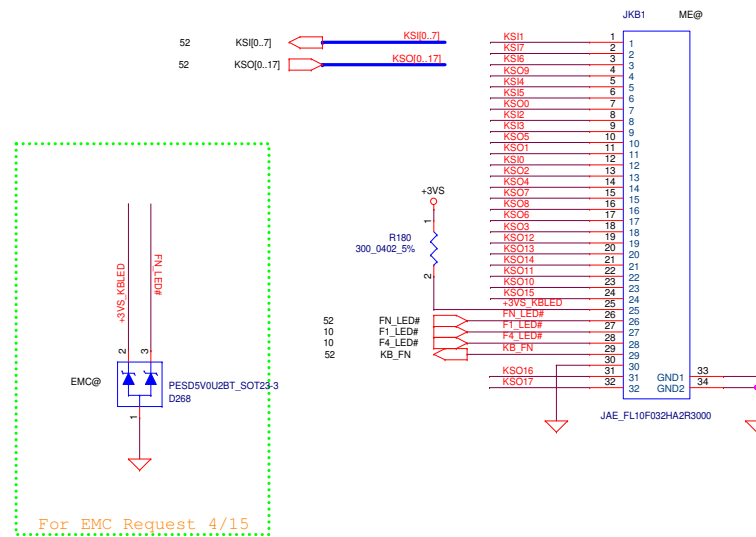
Change UTPM1 SA000075L00 to SA000075L10 4/15

11/19 Change TPM vender
12/7 update SCH

NOTE:
Check timing sequence in SDV phase.

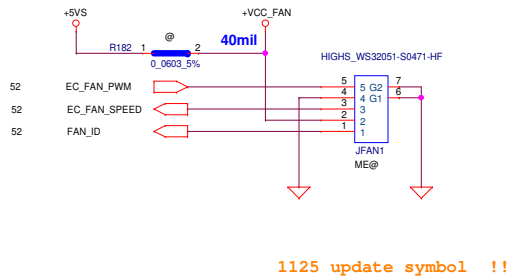


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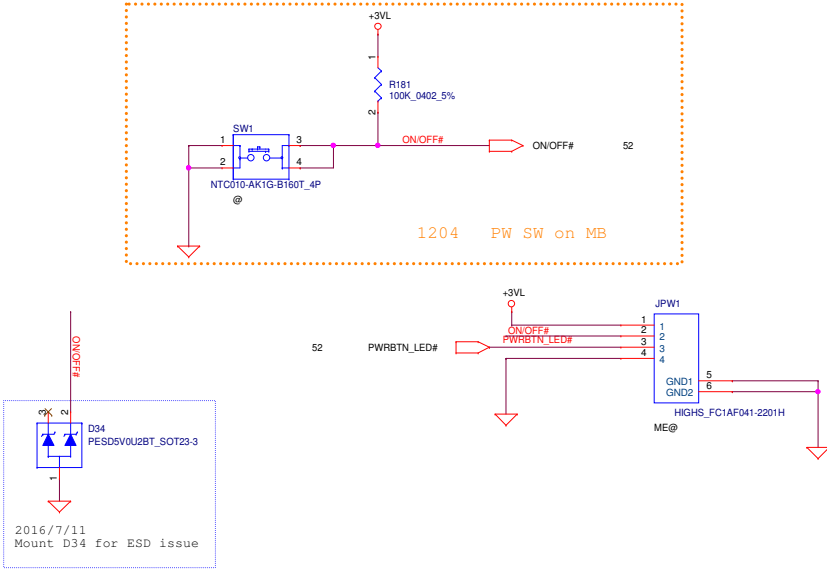
KB CONN

Security Classification		LC Future Center Secret Data		Title		
Issued Date	2015/10/5	Deciphered Date	2016/10/31	KB/RTC/TOUCH PAN CONN.		
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				Document Number Date: Monday, August 01, 2016		
				Sheet 55 of 80		Rev 1.0

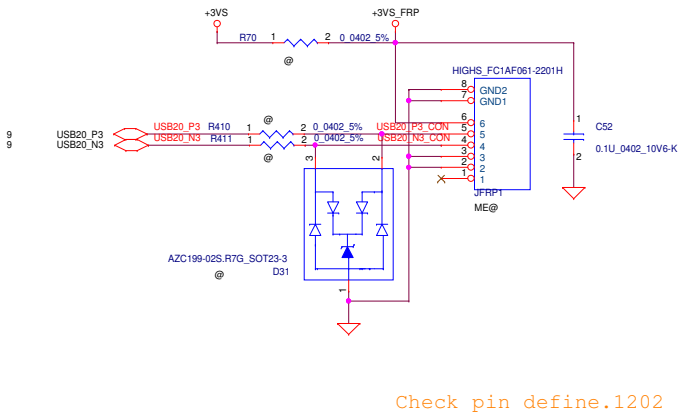
FAN CONN.



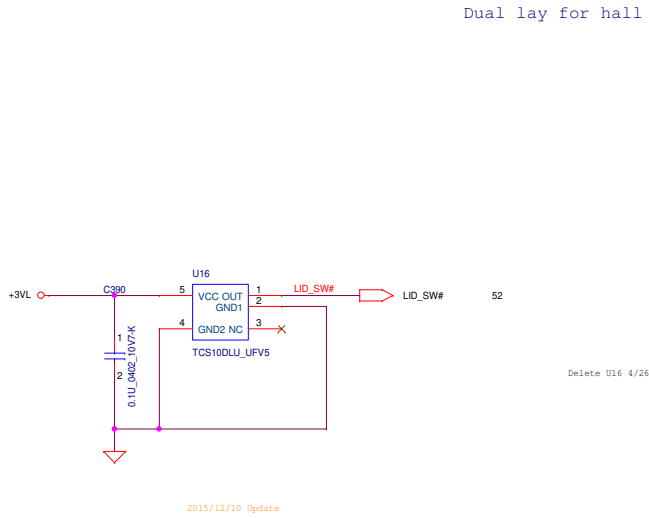
PWR B



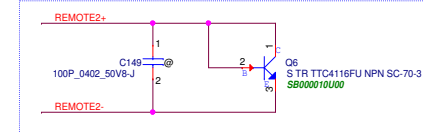
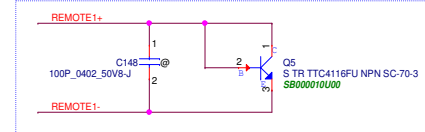
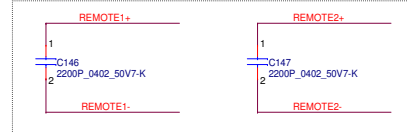
FingerPrint CONN.



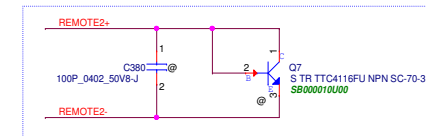
Lid Switch



Address 1001_101xb
Internal pull up 1.2K to 1.5V
R for initial thermal shutdown temp

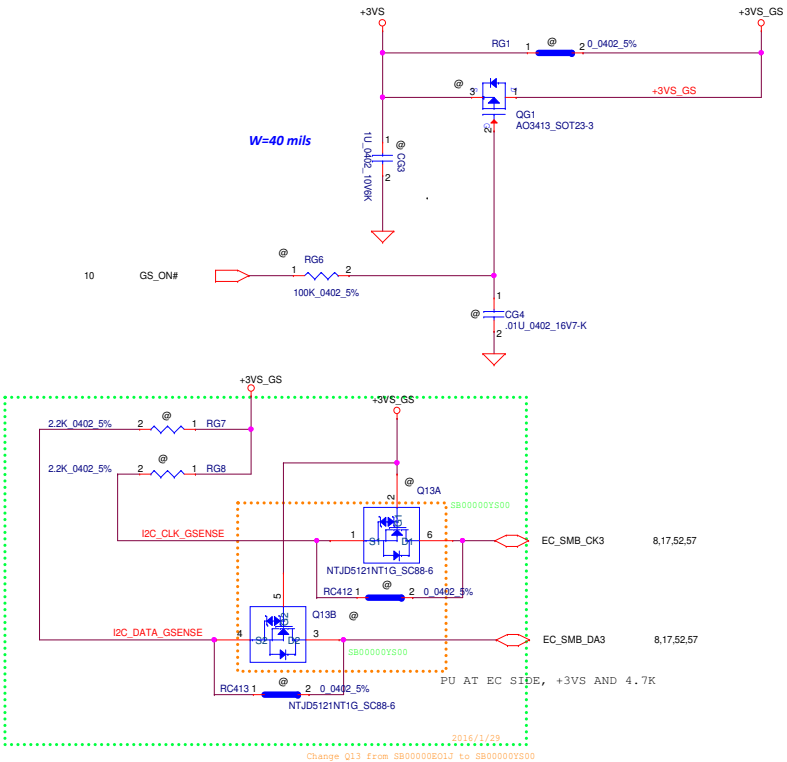


20151120



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Issued Date	2015/10/5	Deciphered Date	2016/10/31	Thermal Sensor 	
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APS G-Sensor



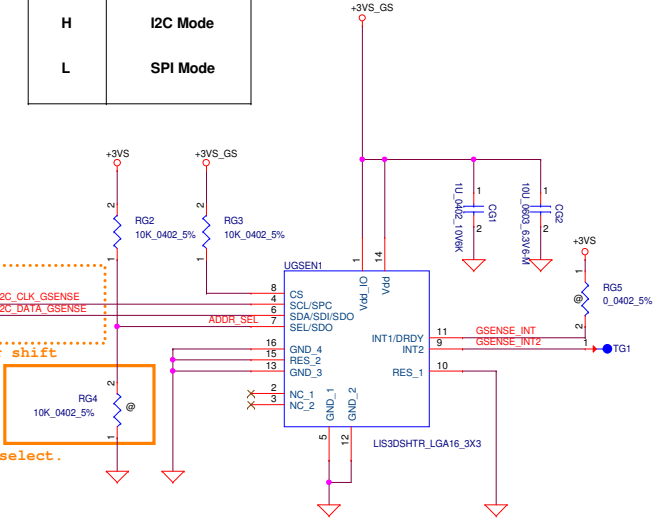
TABLE

P/N	Mode Selection
H	I2C Mode
L	SPI Mode

2016/1/27

Change net name for co-lay lever shift

un-mount RG4, address select.



TABLE

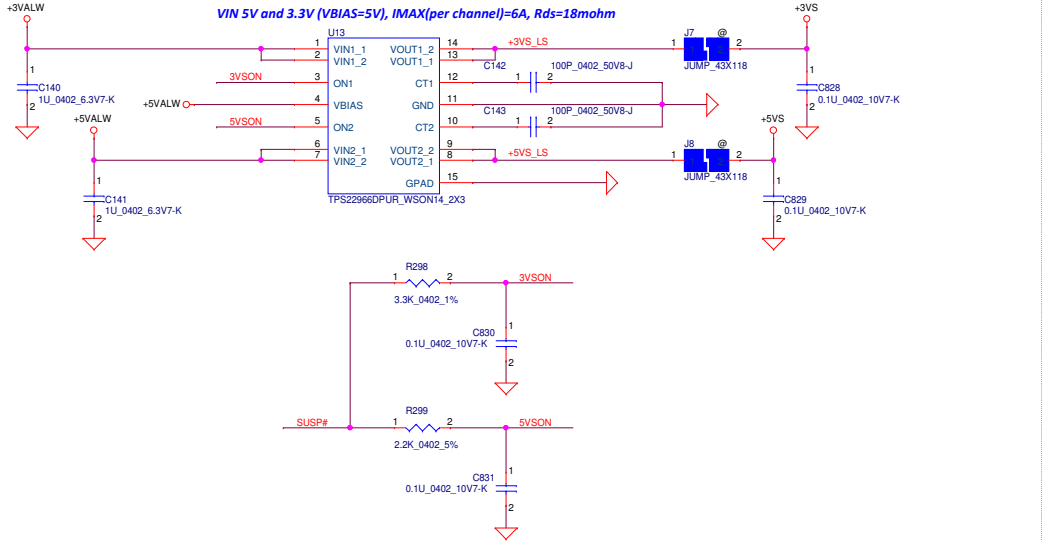
P/N	ADDR_SEL	Address
LIS3DH	H	32h (W) & 33h (R)
	L	30h (W) & 31h (R)
KX023-1025	H	3Eh (W) & 3Fh (R)
	L	3Ch (W) & 3Dh (R)

5	4	3	2	1																				
D				D																				
C				C																				
B				B																				
A				A																				
<table><tr><td colspan="2">Security Classification</td><td colspan="2">LC Future Center Secret Data</td><td>Title</td></tr><tr><td>Issued Date</td><td>2015/10/5</td><td>Deciphered Date</td><td>2016/10/31</td><td>XXXX</td></tr><tr><td colspan="4">THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</td><td> Size B Document Number Rev 1.0 </td></tr><tr><td colspan="2">Date:</td><td colspan="2">Monday, August 01, 2016</td><td>Sheet 59 of 80</td></tr></table>					Security Classification		LC Future Center Secret Data		Title	Issued Date	2015/10/5	Deciphered Date	2016/10/31	XXXX	THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Size B Document Number Rev 1.0	Date:		Monday, August 01, 2016		Sheet 59 of 80
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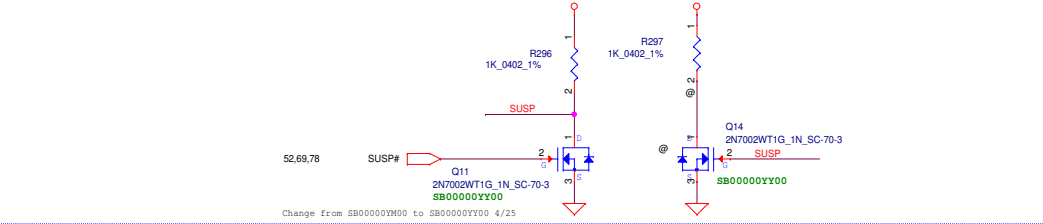


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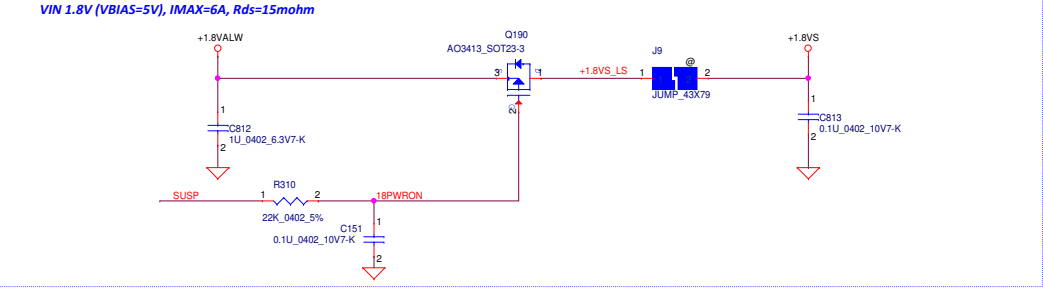
+5VALW To +5VS
+3VALW To +3VS



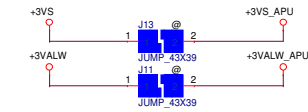
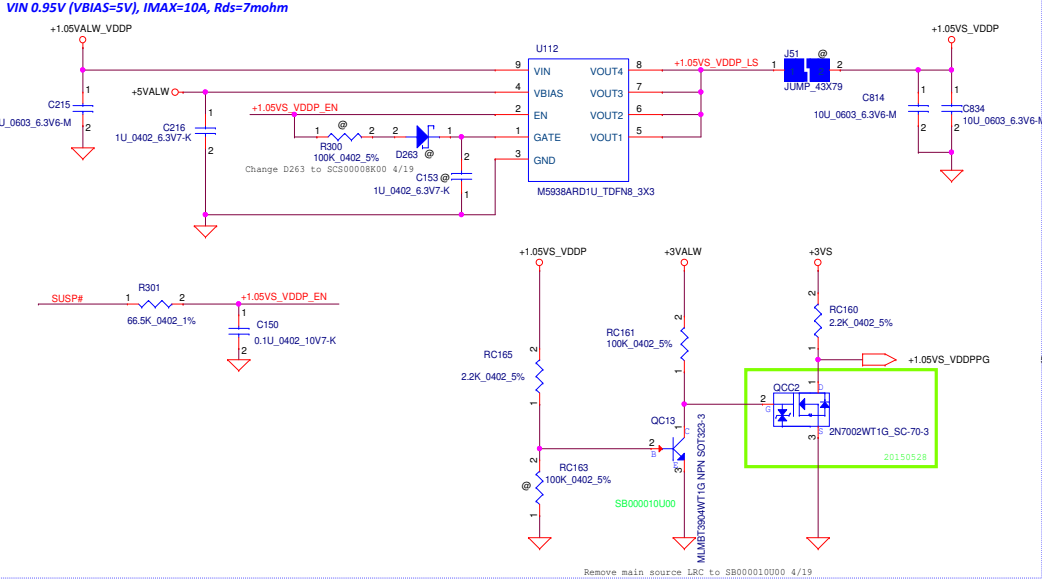
For DisCharge



+1.8VALW to +1.8VS 2A request



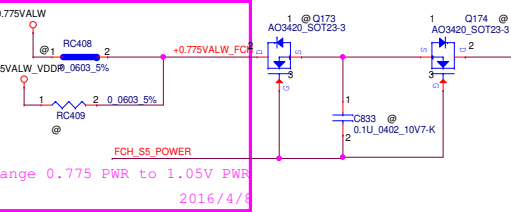
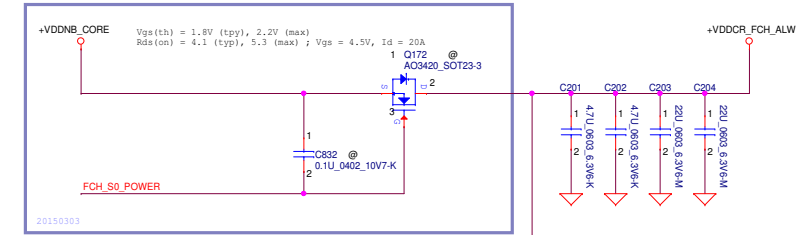
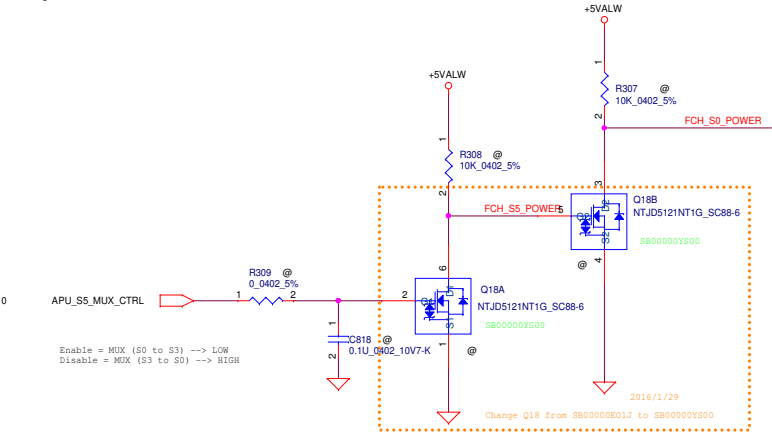
+1.05VALW_VDDP to +VDDP 10A request



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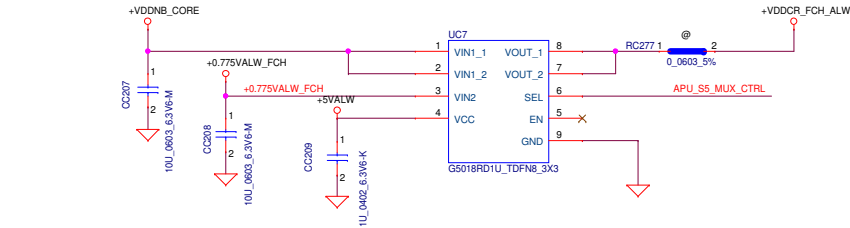
+VDDCR_FCH_ALW

During S0: track +VDDNB_CORE
During S5/S4/S3: set to +0.775V

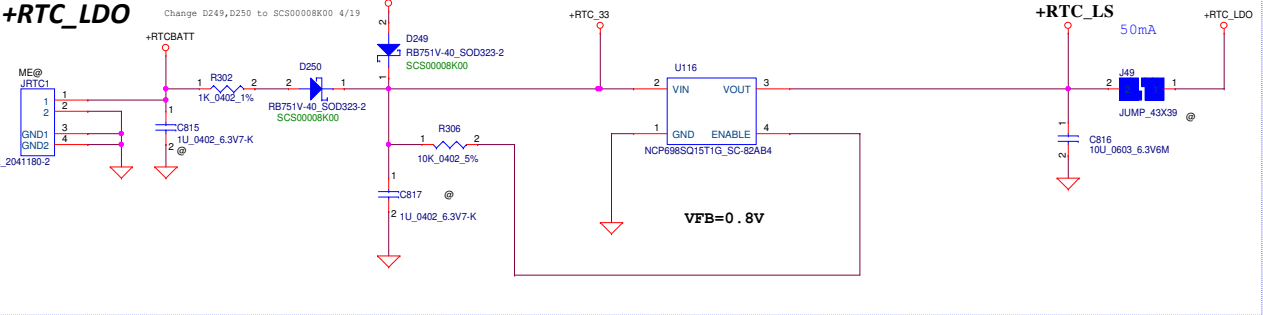


Co-lay

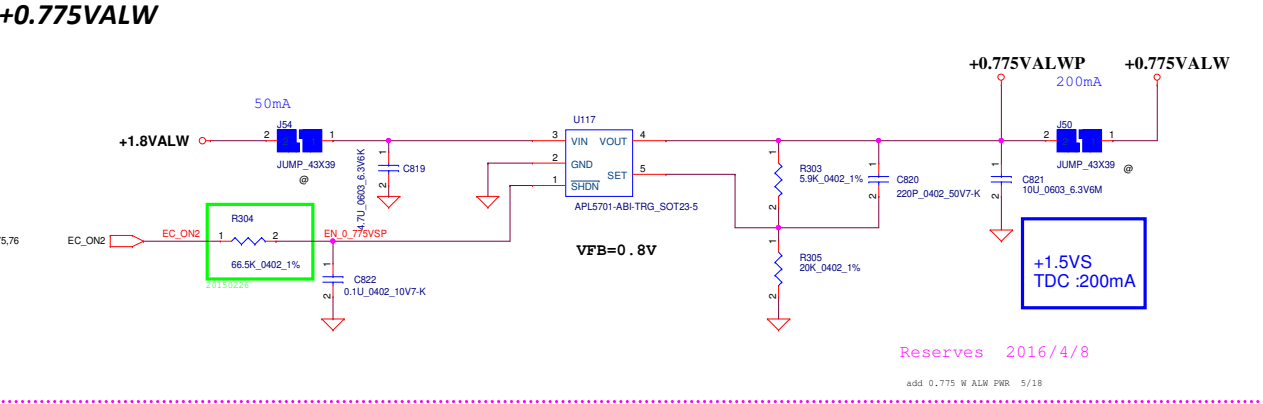
2015/11/05



+RTC_LDO



+0.775VALW



Security Classification	LC Future Center Secret Data			Title	3VS/5VS/1.1VS/VDDIO_RUN	
Issued Date	2015/10/5	Deciphered Date	2016/10/31	Size	Document Number	Rev
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C				C																											
B				B																											
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20151119 UPDATE

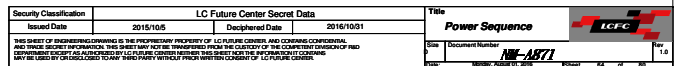
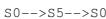
Screw Hole



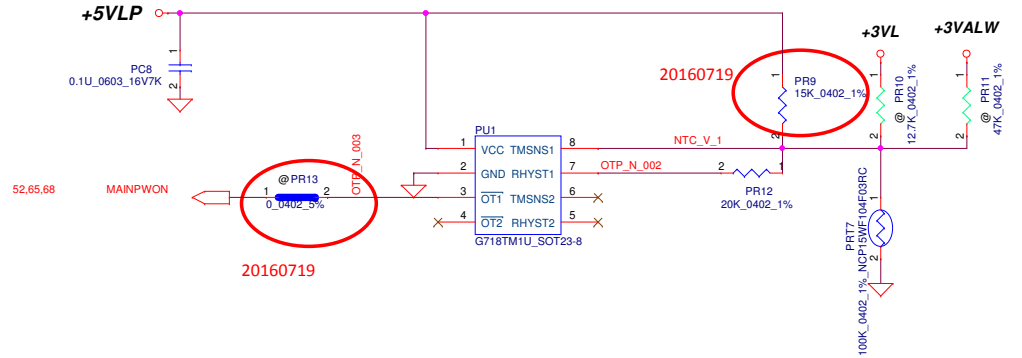
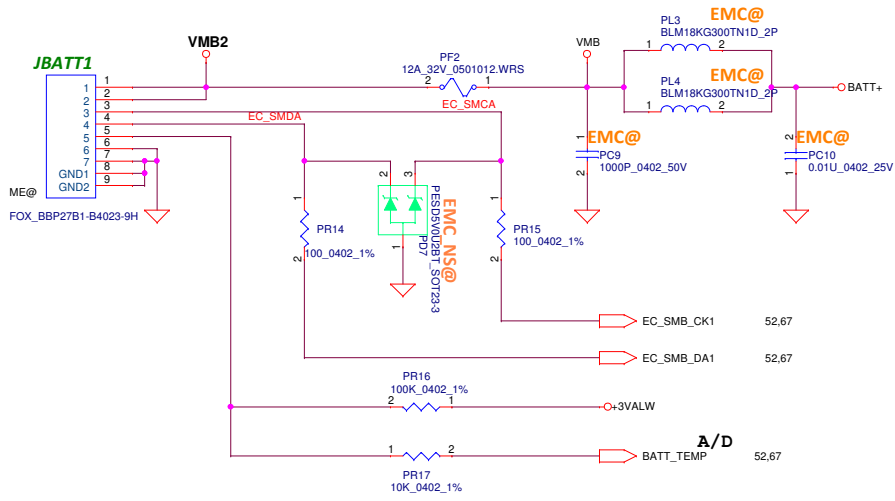
Center Zero

PCB Fedical Mark PAD





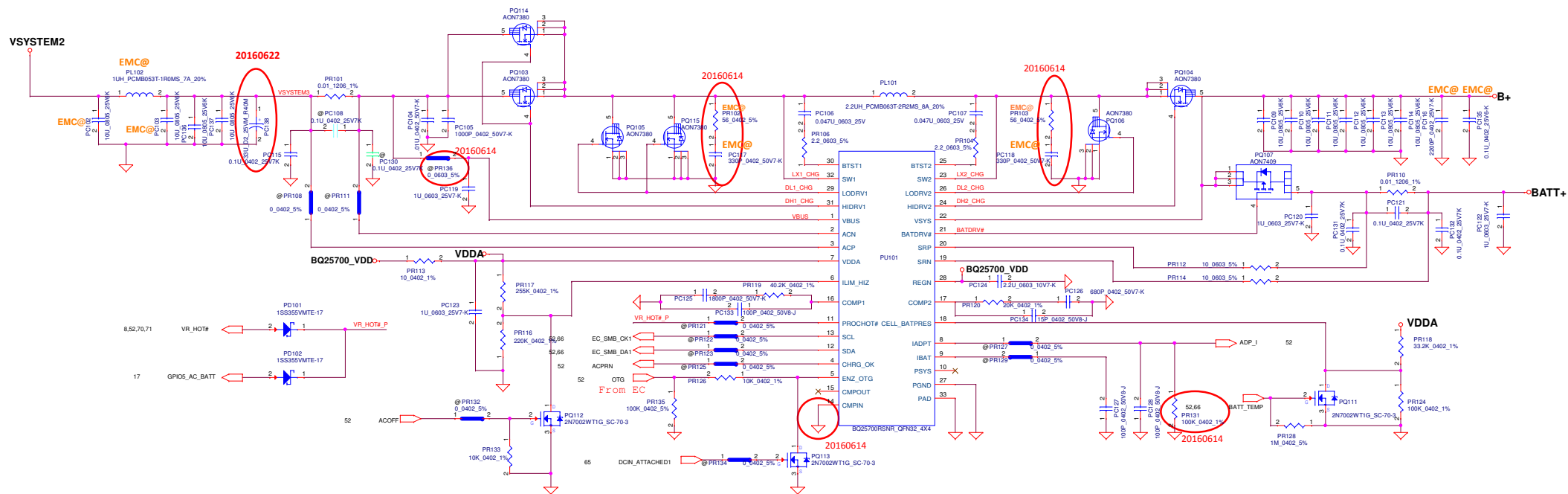
PRT7 under CPU botten side :
CPU thermal protection at 93 +-3 degree C
Recovery at 56 +-3 degree C



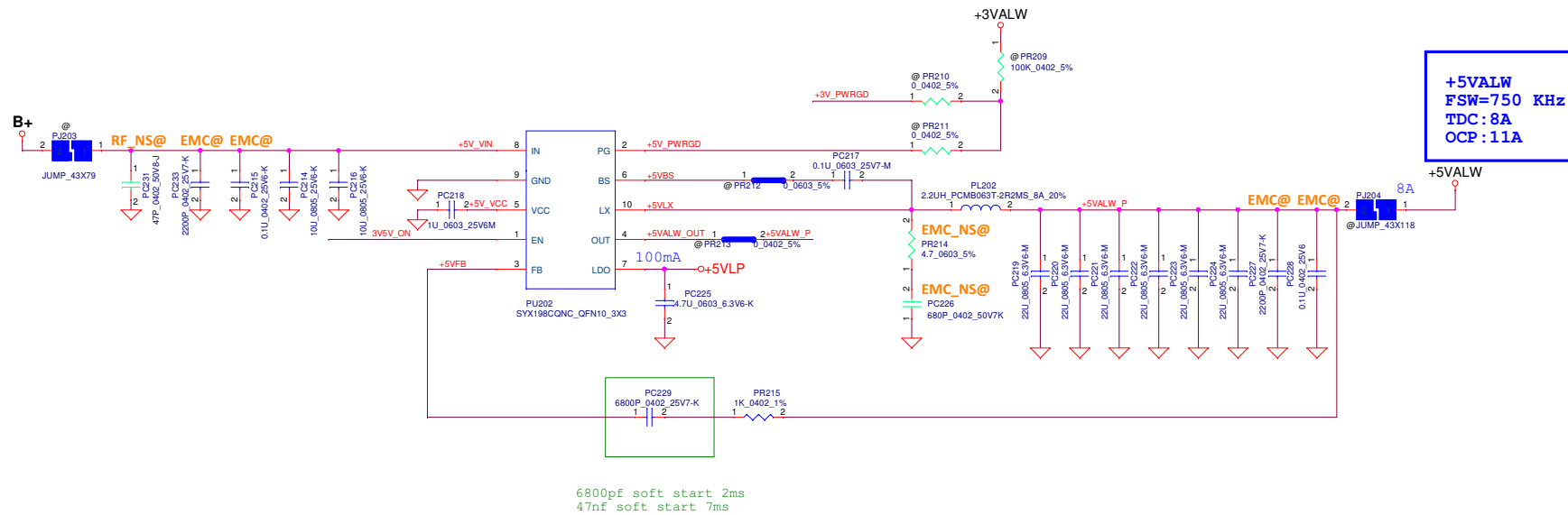
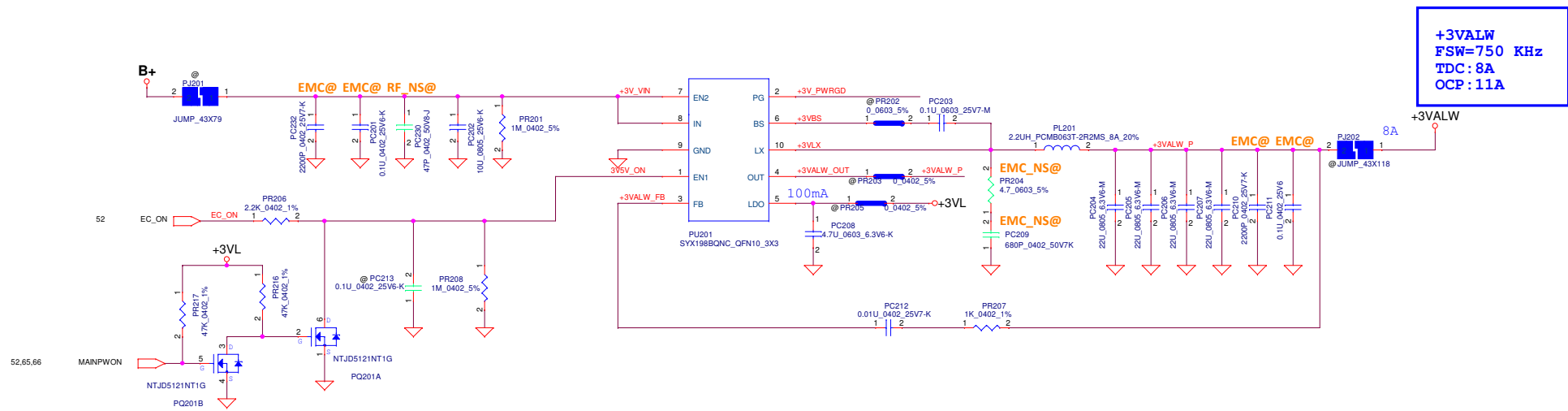
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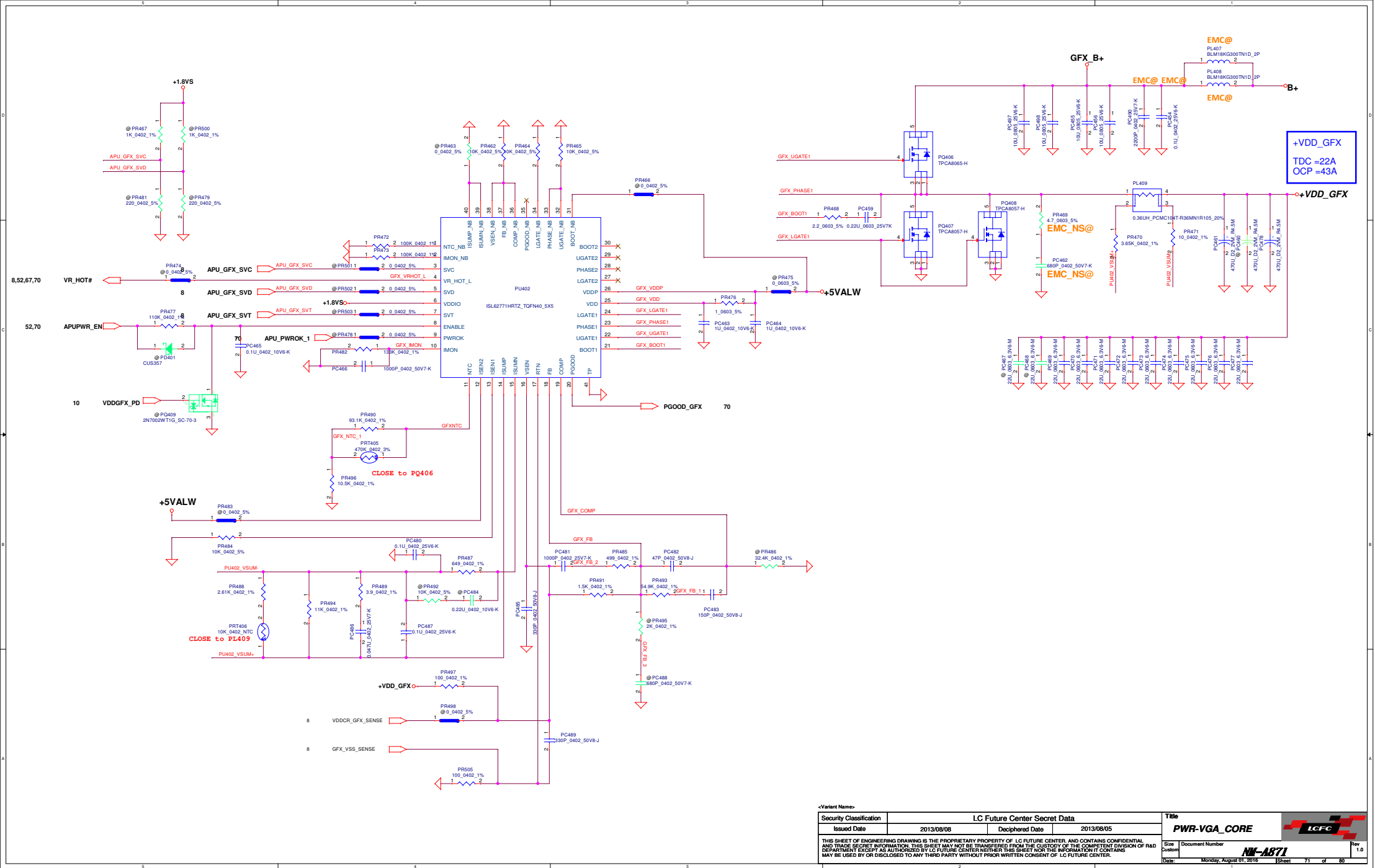


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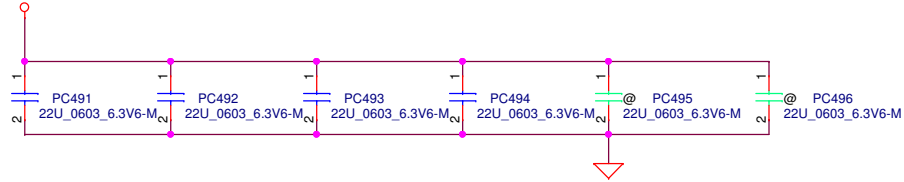


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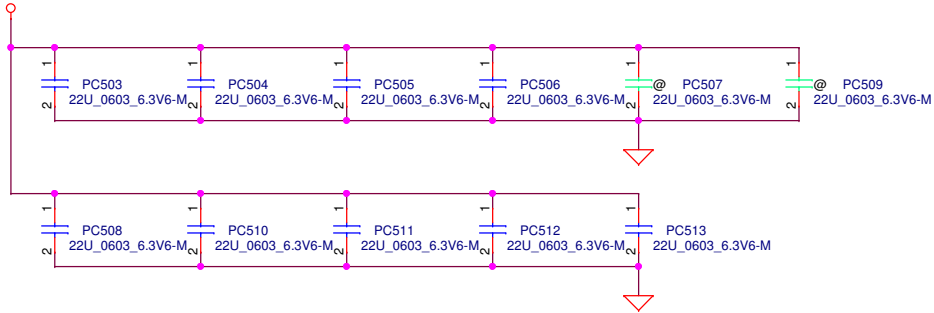
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+VDDNB_CORE

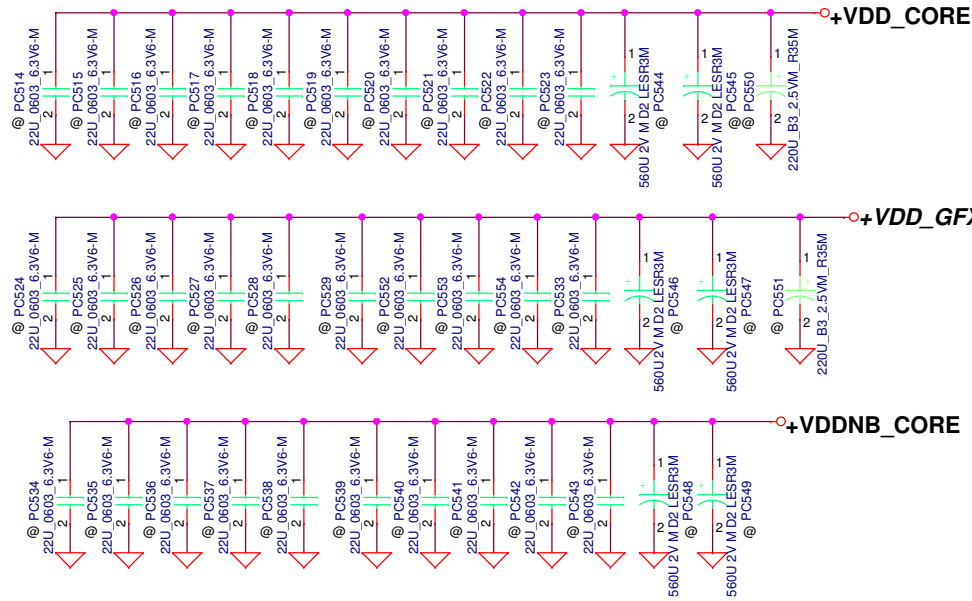


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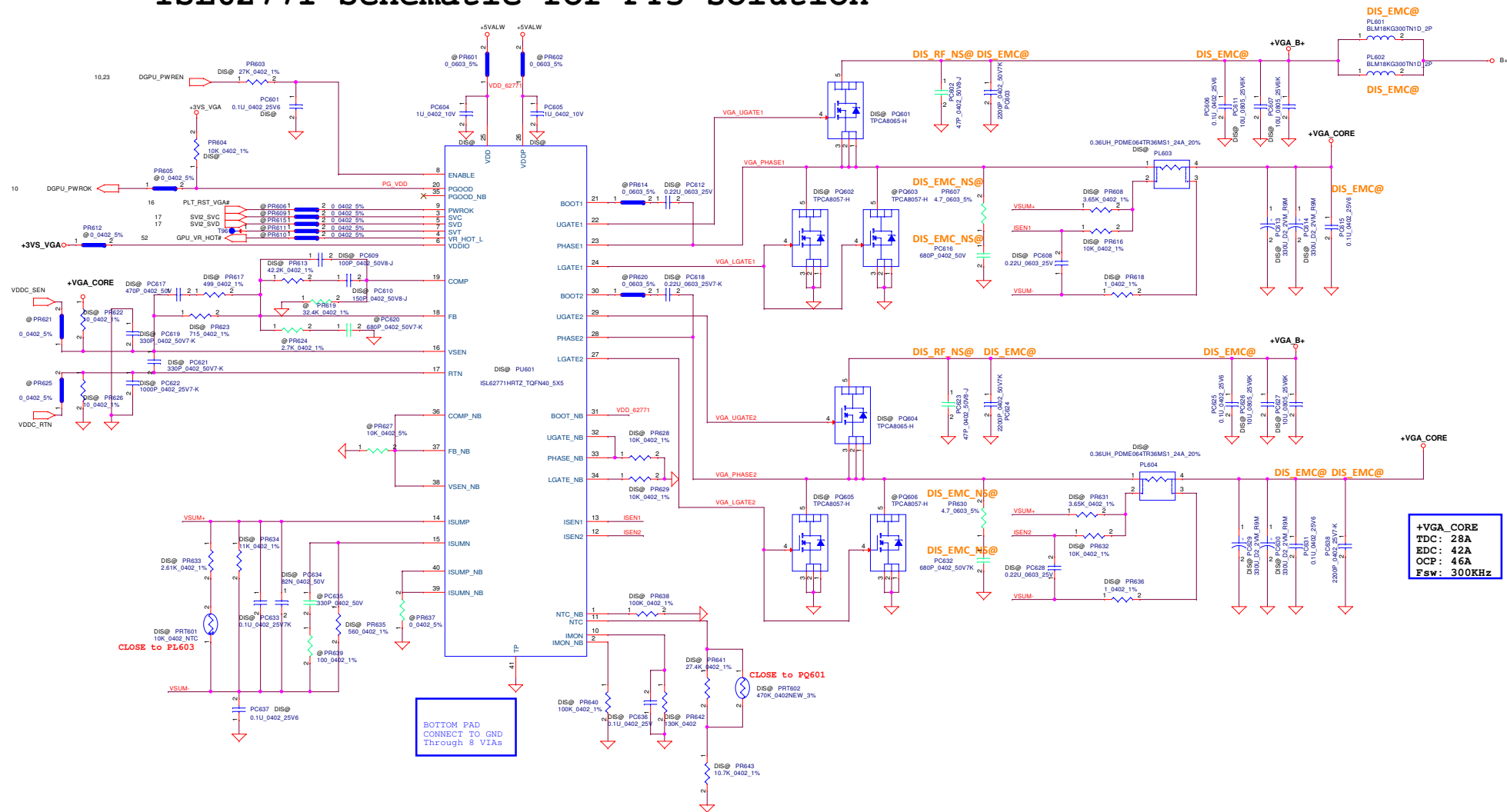


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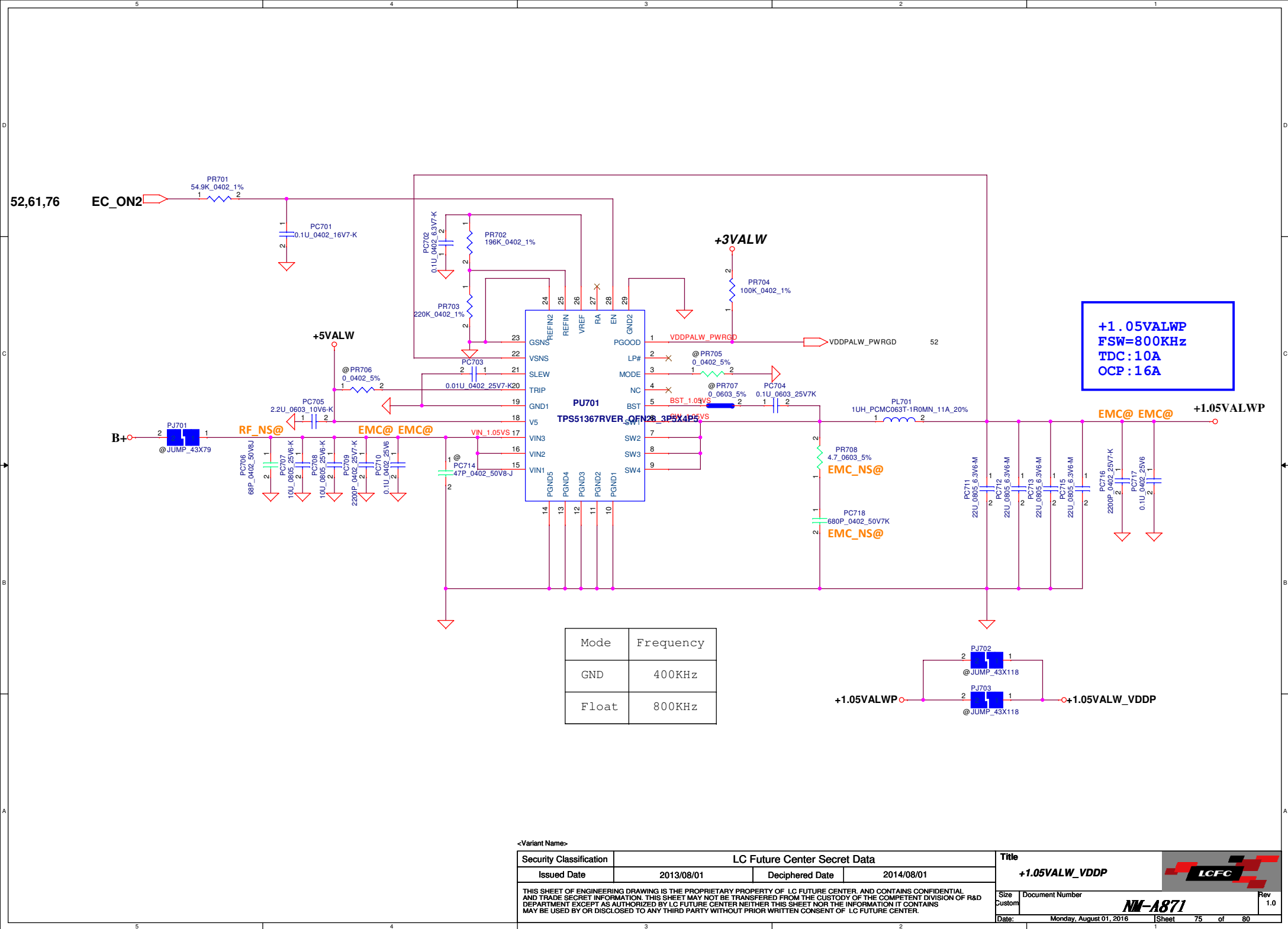
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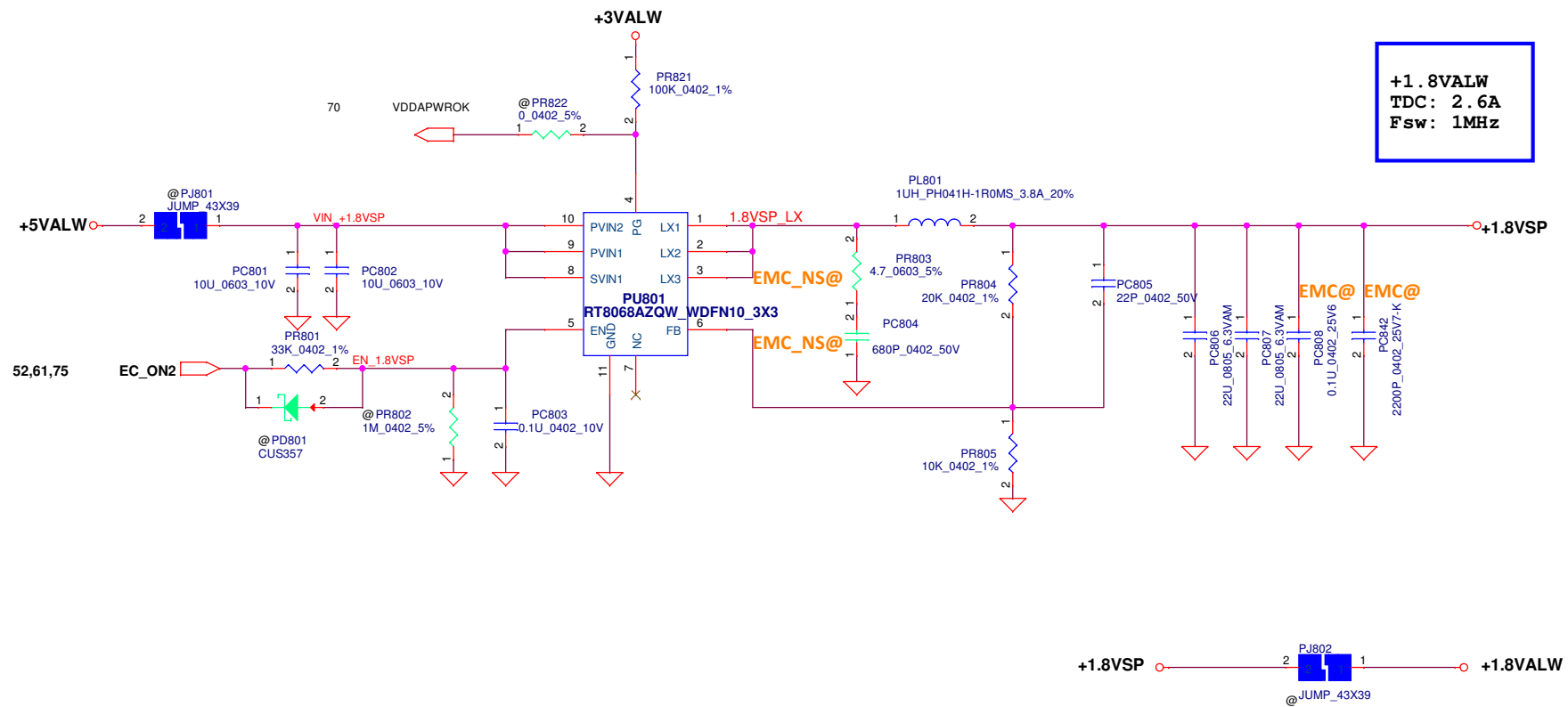
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ISL62771 Schematic for FT3 solution



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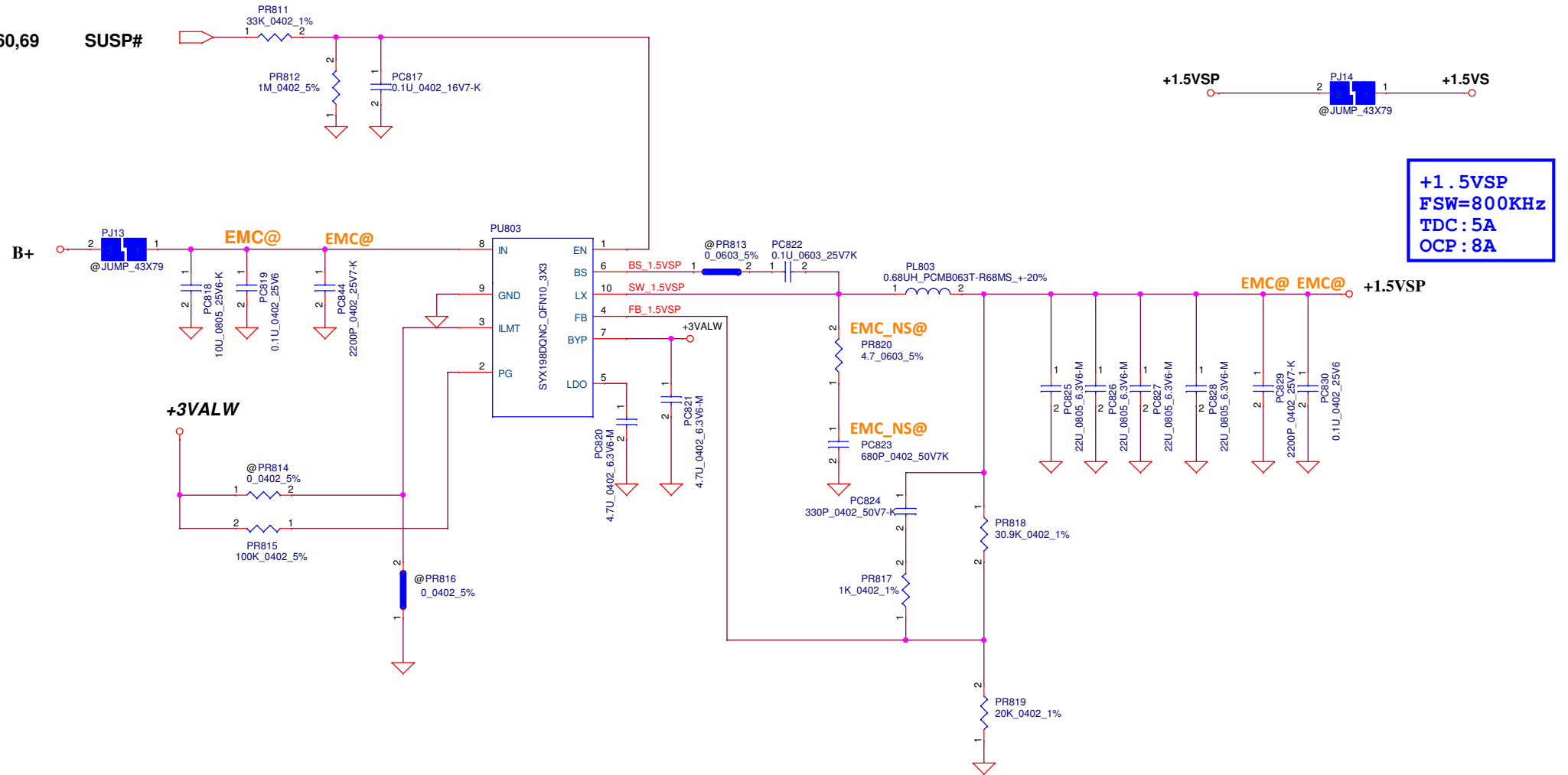
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