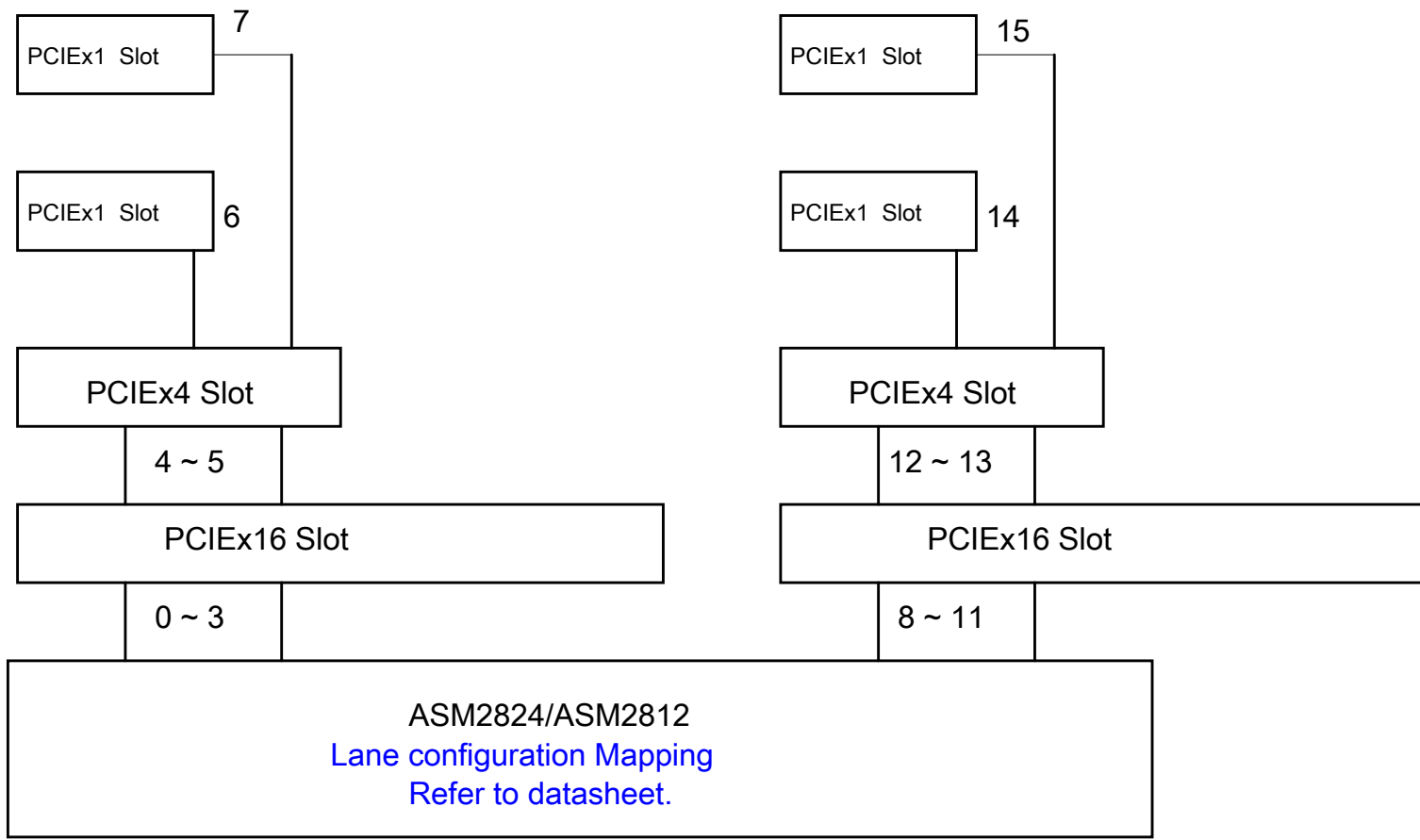
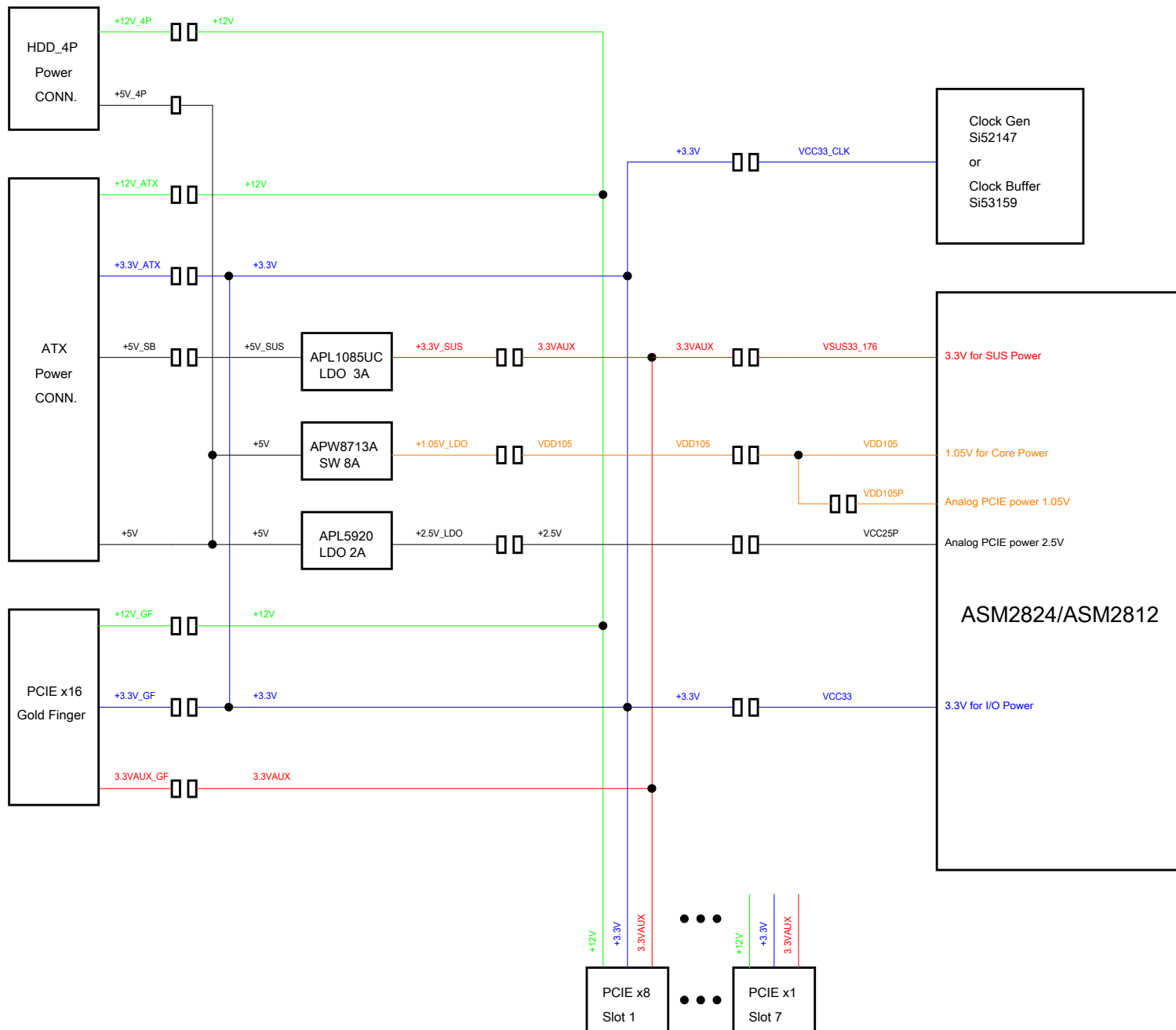


ASM2824 /ASM2812 Schematics
Revision 0.3

TITLE	SHEET
COVER SHEET	1
BLOCK DIAGRAM	2
POWER_BLOCK DIAGRAM	3
SYSTEM POWER	4
ASM2824/ASM2812	5
PCIE_GFx16	6
PCIE_SLOT_x16*2_lanex4	7
PCIE_SLOT_x4*2_lanex2	8
PCIE_SLOT_x1*4_Lanex1	9
HOTPLUG/SPI/UART/SMBUS/DEBUG	10
POWER/GND	11

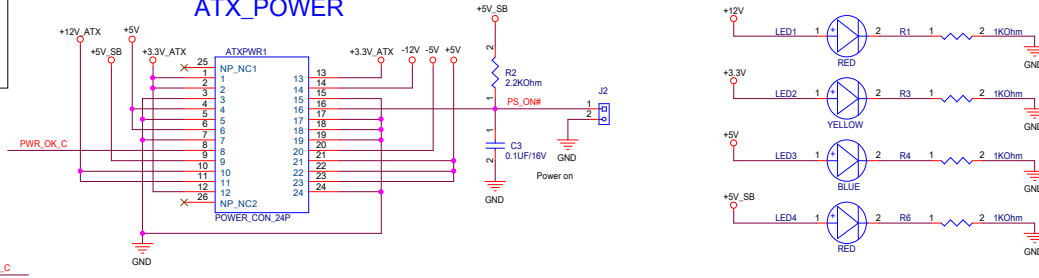




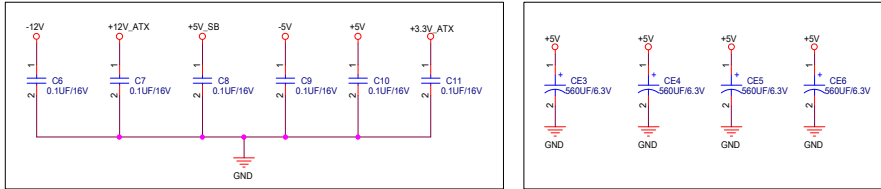


250W ATX
3.3V--->20A
5V----->25A
12V----->18A

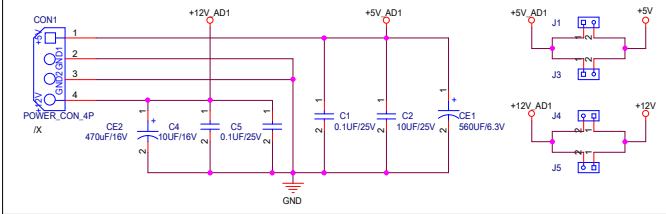
ATX_POWER



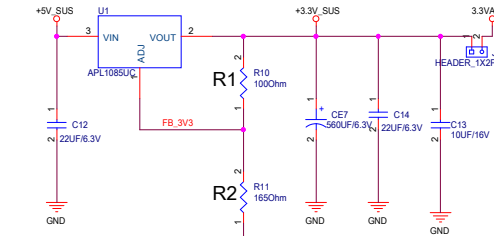
Close to ATX PWR con.



4Pin_POWER_Con.



+3.3VAUX



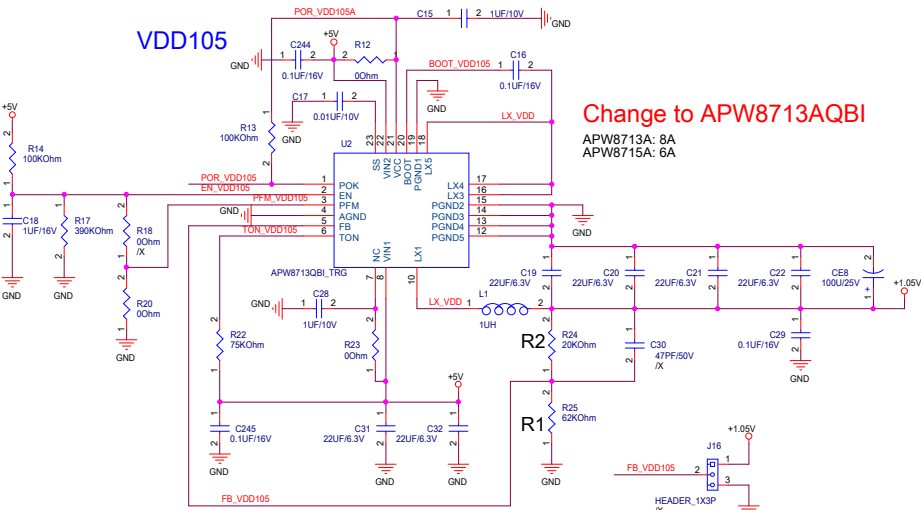
$$V_{out} = 1.25(1 + R2/R1)$$

$$3.3 = 1.25(1 + 165/100)$$

$$2.5 = 1.25(1 + 100/100)$$

102=165//270
RS2

VDD105



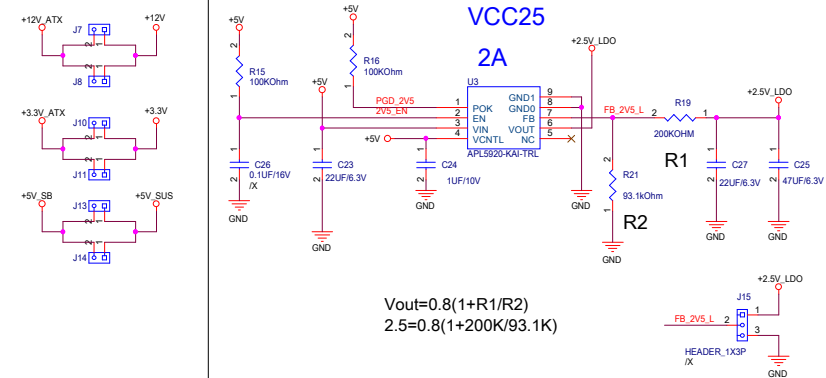
Change to APW8713AQBI

APW8713A: 8A
APW8715A: 6A

$$V_{OUT} = 0.8V * [1 + (R2/R1)]$$

$$1.058 = 0.8(1 + 20K/62K)$$

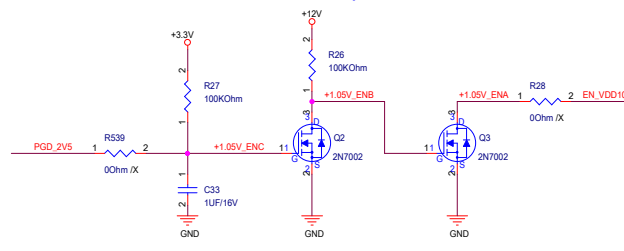
VCC25



$$V_{out} = 0.8(1 + R1/R2)$$

$$2.5 = 0.8(1 + 200K/93.1K)$$

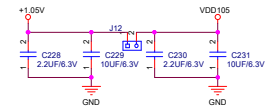
VDD105 Power Sequence



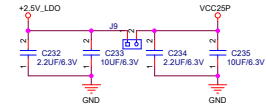
asmedia
ASMEDIA TECHNOLOGY INC

File #	SYSTEM POWER
Size #	Document Number
C	
Date	Friday, July 03, 2020
Sheet	4 of 11
Rev	0.3

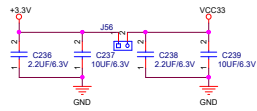
For Power TEST/Short



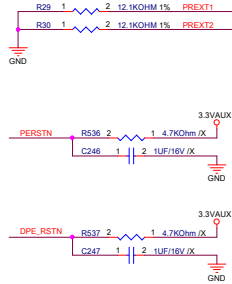
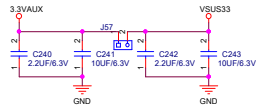
For Power TEST/Short



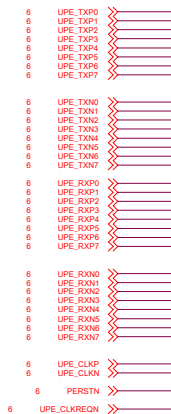
For Power TEST/Short



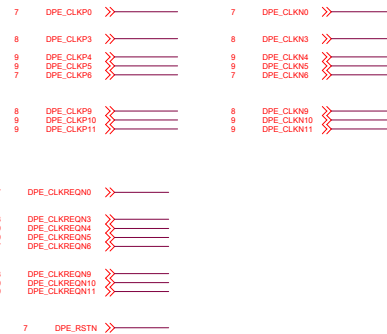
For Power TEST/Short



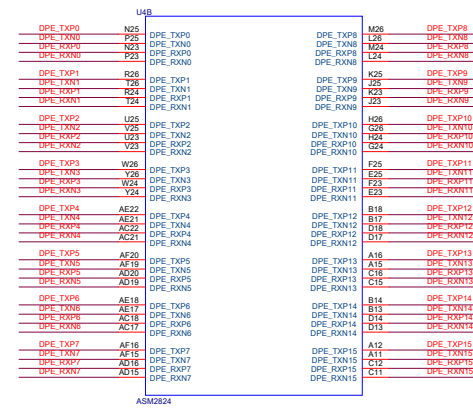
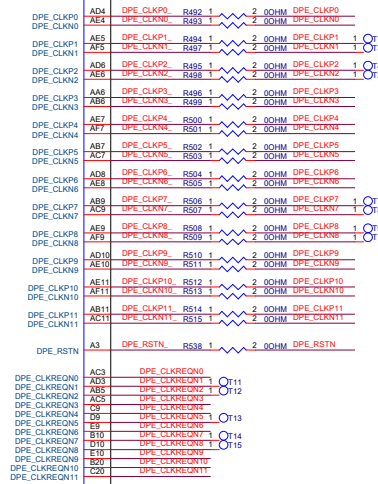
PCIe UPSTREAM



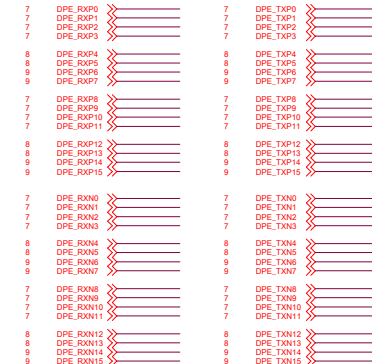
PCIe CLOCK



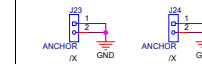
ASM2812 DEP_CLK Mapping Refer to datasheet.



PCIe DOWNSTREAM



HEATSINK



5 UPE_TXP0

5 UPE_TXP1

5 UPE_TXP2

5 UPE_TXP3

5 UPE_TXP4

5 UPE_TXP5

5 UPE_TXP6

5 UPE_TXP7

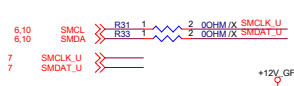


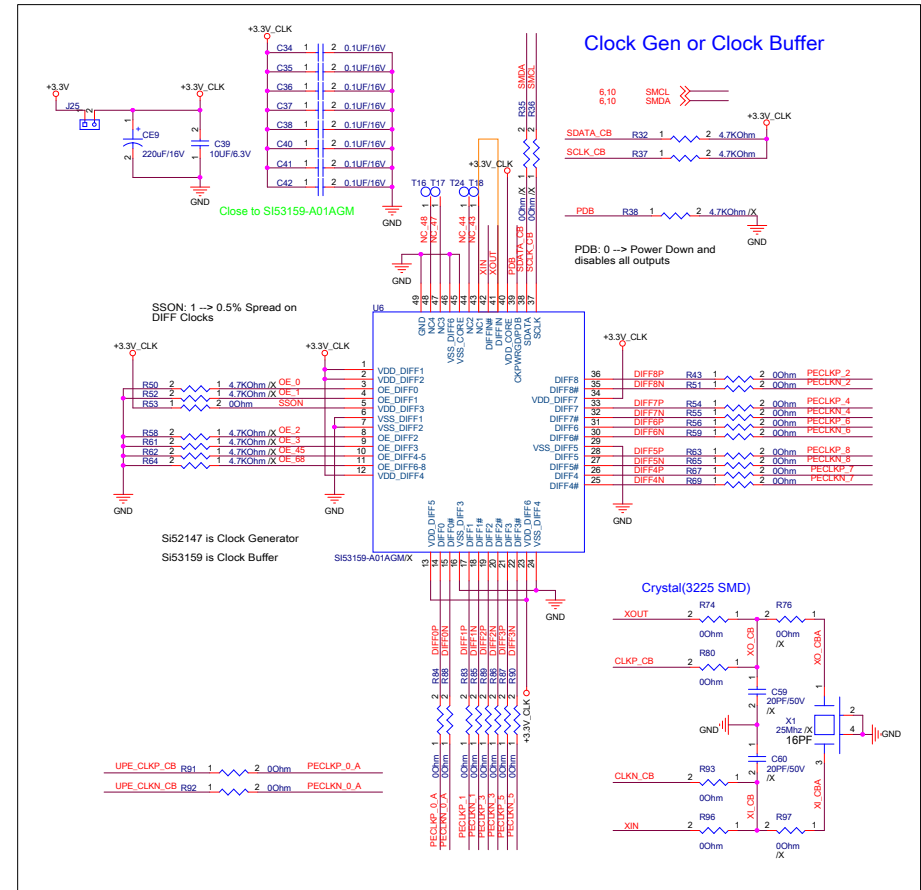
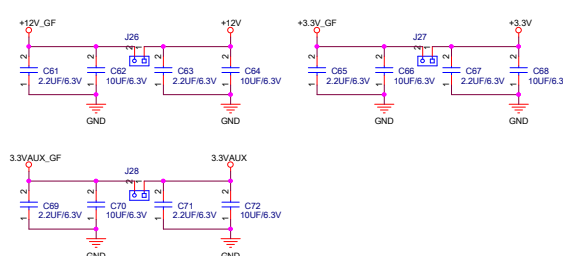
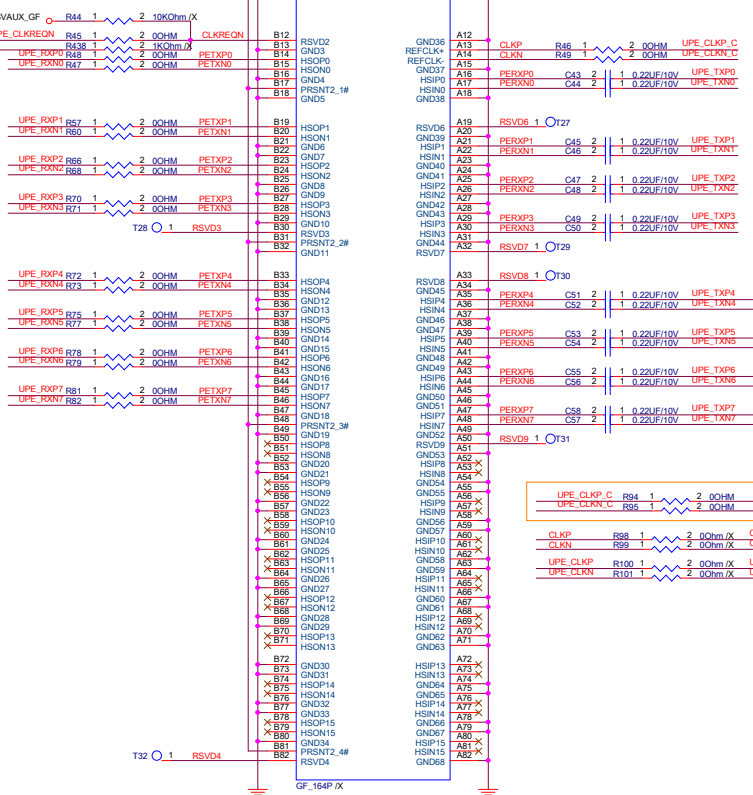
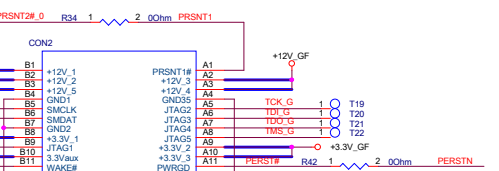
Diagram showing the pin connections for the PRSNT1# pin. The connections are as follows:

Pin	Signal
B1	+12V_1
B2	+12V_2
B3	+12V_3
B4	+12V_5
B5	GND1
B6	SMDCLK
B7	SMDAT
B8	GND2
B9	+3.3V_1
B10	JTAG1
B11	+3.3V_2

The cable is labeled with the following signals:

- PRSNT2# 0
- PRSNT1

The cable is connected to the connector via a 0.0hm resistor.



7	PECLKP_1	»»	_____
7	PECLKN_1		
7	PECLKP_2	»»	_____
7	PECLKN_2		
8	PECLKP_3	»»	_____
8	PECLKN_3		
8	PECLKP_4	»»	_____
8	PECLKN_4		
9	PECLKP_5	»»	_____
9	PECLKN_5		
9	PECLKP_6	»»	_____
9	PECLKN_6		
9	PECLKP_7	»»	_____
9	PECLKN_7		
9	PECLKP_8	»»	_____
9	PECLKN_8		

5



3



2



7



7

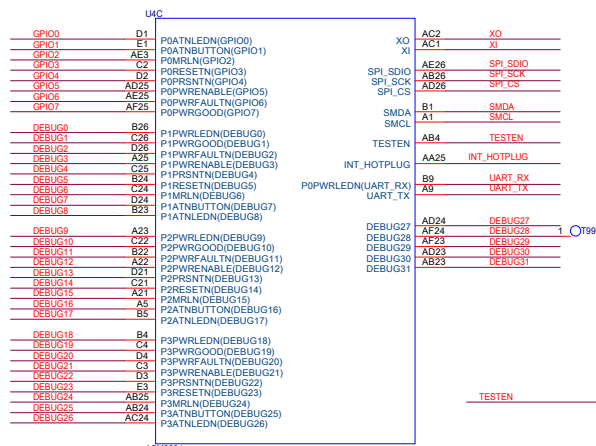
[illegible]

PCIE_X1 Slot

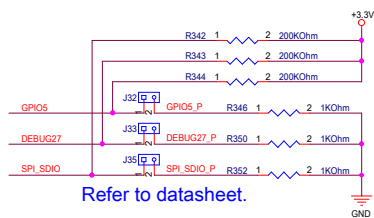
The diagram illustrates the electrical connections for a PCIe X1 slot. It is divided into three main sections: Power and Ground, Signal Connections, and Component Values.

Power and Ground Connections:

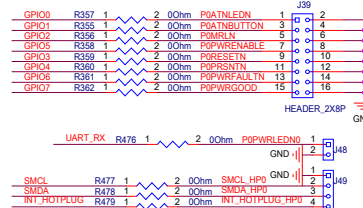
- +12V:** Connected to pins B1, B2, B3, B4, B5, B6, B7, B8, B9, B10, B11, B12, B13, B14, B15, B16, B17, B18.
- +3.3V:** Connected to pins T93, T94, T95, T96, T97, T98, T99, T100, T101, T102, T103, T104, T105, T106, T107, T108, T109, T110, T111, T112, T113, T114, T115, T116, T117, T118, T119, T120, T121, T122, T123, T124, T125, T126, T127, T128, T129, T130, T131, T132, T133, T134, T135, T136, T137, T138, T139, T140, T141, T142, T143, T144, T145, T146, T147, T148, T149, T150, T151, T152, T153, T154, T155, T156, T157, T158, T159, T160, T161, T162, T163, T164, T165, T166, T167, T168, T169, T170, T171, T172, T173, T174, T175, T176, T177, T178, T179, T180, T181, T182, T183, T184, T185, T186, T187, T188, T189, T190, T191, T192, T193, T194, T195, T196, T197, T198, T199, T200, T201, T202, T203, T204, T205, T206, T207, T208, T209, T210, T211, T212, T213, T214, T215, T216, T217, T218, T219, T220, T221, T222, T223, T224, T225, T226, T227, T228, T229, T230, T231, T232, T233, T234, T235, T236, T237, T238, T239, T240, T241, T242, T243, T244, T245, T246, T247, T248, T249, T250, T251, T252, T253, T254, T255, T256, T257, T258, T259, T260, T261, T262, T263, T264, T265, T266, T267, T268, T269, T270, T271, T272, T273, T274, T275, T276, T277, T278, T279, T280, T281, T282, T283, T284, T285, T286, T287, T288, T289, T290, T291, T292, T293, T294, T295, T296, T297, T298, T299, T300, T301, T302, T303, T304, T305, T306, T307, T308, T309, T310, T311, T312, T313, T314, T315, T316, T317, T318, T319, T320, T321, T322, T323, T324, T325, T326, T327, T328, T329, T330, T331, T332, T333, T334, T335, T336, T337, T338, T339, T340, T341, T342, T343, T344, T345, T346, T347, T348, T349, T350, T351, T352, T353, T354, T355, T356, T357, T358, T359, T360, T361, T362, T363, T364, T365, T366, T367, T368, T369, T370, T371, T372, T373, T374, T375, T376, T377, T378, T379, T380, T381, T382, T383, T384, T385, T386, T387, T388, T389, T390, T391, T392, T393, T394, T395, T396, T397, T398, T399, T400, T401, T402, T403, T404, T405, T406, T407, T408, T409, T410, T411, T412, T413, T414, T415, T416, T417, T418, T419, T420, T421, T422, T423, T424, T425, T426, T427, T428, T429, T430, T431, T432, T433, T434, T435, T436, T437, T438, T439, T440, T441, T442, T443, T444, T445, T446, T447, T448, T449, T450, T451, T452, T453, T454, T455, T456, T457, T458, T459, T460, T461, T462, T463, T464, T465, T466, T467, T468, T469, T470, T471, T472, T473, T474, T475, T476, T477, T478, T479, T480, T481, T482, T483, T484, T485, T486, T487, T488, T489, T490, T491, T492, T493, T494, T495, T496, T497, T498, T499, T500, T501, T502, T503, T504, T505, T506, T507, T508, T509, T510, T511, T512, T513, T514, T515, T516, T517, T518, T519, T520, T521, T522, T523, T524, T525, T526, T527, T528, T529, T530, T531, T532, T533, T534, T535, T536, T537, T538, T539, T540, T541, T542, T543, T544, T545, T546, T547, T548, T549, T550, T551, T552, T553, T554, T555, T556, T557, T558, T559, T560, T561, T562, T563, T564, T565, T566, T567, T568, T569, T570, T571, T572, T573, T574, T575, T576, T577, T578, T579, T580, T581, T582, T583, T584, T585, T586, T587, T588, T589, T590, T591, T592, T593, T594, T595, T596, T597, T598, T599, T600, T601, T602, T603, T604, T605, T606, T607, T608, T609, T610, T611, T612, T613, T614, T615, T616, T617, T618, T619, T620, T621, T622, T623, T624, T625, T626, T627, T628, T629, T630, T631, T632, T633, T634, T635, T636, T637, T638, T639, T640, T641, T642, T643, T644, T645, T646, T647, T648, T649, T650, T651, T652, T653, T654, T655, T656, T657, T658, T659, T660, T661, T662, T663, T664, T665, T666, T667, T668, T669, T670, T671, T672, T673, T674, T675, T676, T677, T678, T679, T680, T681, T682, T683, T684, T685, T686, T687, T688, T689, T690, T691, T692, T693, T694, T695, T696, T697, T698, T699, T700, T701, T702, T703, T704, T705, T706, T707, T708, T709, T710, T711, T712, T713, T714, T715, T716, T717, T718, T719, T720, T721, T722, T723, T724, T725, T726, T727, T728, T729, T730, T731, T732, T733, T734, T735, T736, T737, T738, T739, T740, T741, T742, T743, T744, T745, T746, T747, T748, T749, T750, T751, T752, T753, T754, T755, T756, T757, T758, T759, T760, T761, T762, T763, T764, T765, T766, T767, T768, T769, T770, T771, T772, T773, T774, T775, T776, T777, T778, T779, T780, T781, T782, T783, T784, T785, T786, T787, T788, T789, T790, T791, T792, T793, T794, T795, T796, T797, T798, T799, T800, T801, T802, T803, T804, T805, T806, T807, T808, T809, T810, T811, T812, T813, T814, T815, T816, T817, T818, T819, T820, T821, T822, T823, T824, T825, T826, T827, T828, T829, T830, T831, T832, T833, T834, T835, T836, T837, T838, T839, T840, T841, T842, T843, T844, T845, T846, T847, T848, T849, T850, T851, T852, T853, T854, T855, T856, T85



H/W Strapping

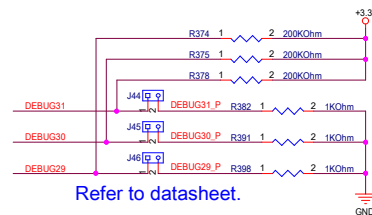


HOTPLUG Header



ASM2824 First 8 lane group PCIe lane configuration:

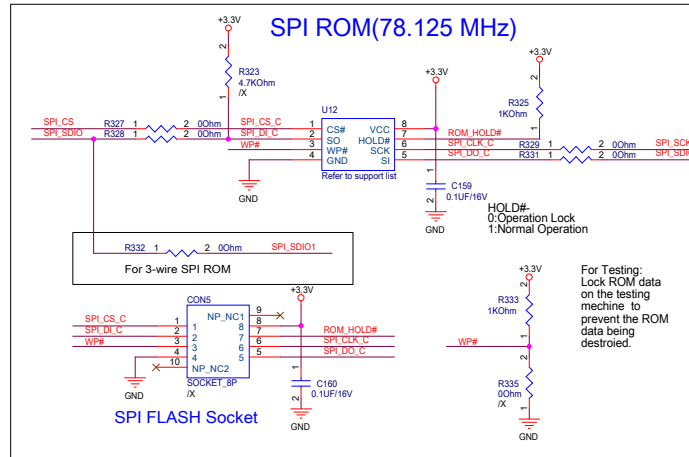
Strapping bits	LANE0	LANE1	LANE2	LANE3	LANE4	LANE5	LANE6	LANE7
GPIO5,DEBUG27,SPI_SDIO								
PECLK Mapping	LANE0	LANE1	LANE2	LANE3	LANE4	LANE5		
0 0 0	x2	x1	x1	x2	x1	x1		
0 0 1	x2	x1	x1	x4				
0 1 0		x4		x2	x1	x1		
0 1 1		x4			x4			
1 0 0				x8				



ASM2824 Second 8 lane group PCIe lane configuration:

Strapping bits	LANE8	LANE9	LANE10	LANE11	LANE12	LANE13	LANE14	LANE15
DEBUG31,DEBUG30,DEBUG29								
PECLK Mapping	LANE6	LANE7	LANE8	LANE9	LANE10	LANE11		
0 0 0	x2	x1	x1	x2	x1	x1		
0 0 1	x2	x1	x1	x4				
0 1 0		x4		x2	x1	x1		
0 1 1		x4			x4			
1 0 0				x8				

SPI ROM(78.125 Mhz)

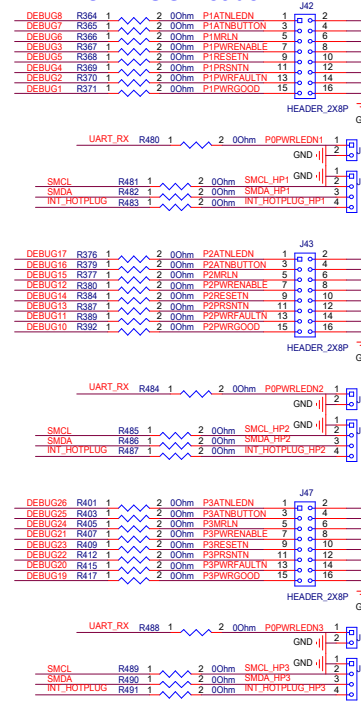


Clock mode select: SPI_SCK, UART_TX

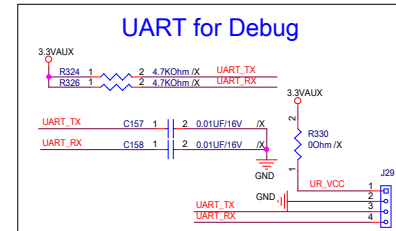
Strapping bit	Upstream Clock
SPI_SCK	0 : 100MHz diff 1 : OSC
Strapping bit	Downstream Clock
UART_TX	0 : 100MHz diff 1 : OSC

Refer to datasheet.

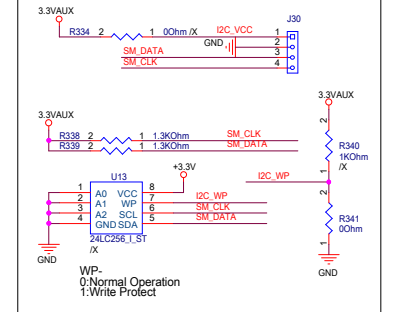
HOTPLUG Header



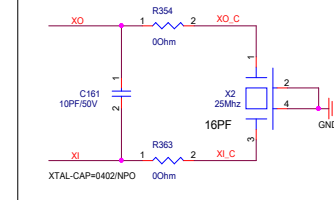
UART for Debug



I2C

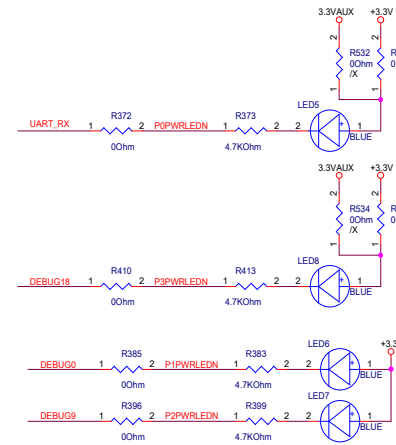


Crystal(3225 SMD)



Lane configuration Mapping

Refer to datasheet.



Refer to datasheet.

Refer to datasheet.

