

	1	2	3	4	5	6	7	8	
A									A
B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

Manaus10AB\ABG

X01 Build

2010.08.02

INVENTEC			
TITLE <i>Berlin 10AD</i>			
SIZE A3	CODE CS	DOC. NUMBER <i>1310A2333201</i>	REV X01
CHANGE by <i>Devin Hsieh</i>		2-Aug-2010	
SHEET		1	OF 48

TABLE OF CONTENTS

PAGE

1. COVER PAGE
2. INDEX
3. BLOCK DIAGRAM
4. POWER SEQUENCE BLOCK
5. PCB
6. SYSTEM POWER
7. SYSTEM POWER
8. SYSTEM POWER
9. SYSTEM POWER
10. SYSTEM POWER
11. SYSTEM POWER
12. SYSTEM POWER
13. SUPER I/O(KBC)
14. K/B & TP/B CONN
15. FAN & THERMAL
16. LAN
17. RJ45 & TRANSFORMER
18. AUDIO CODEC
19. SPDIF & MIC & HP
20. CARDREADER
21. LCM
22. RGB CONN
23. SATA HDD & ODD
24. USB
25. WLAN
26. LID SW
27. LED

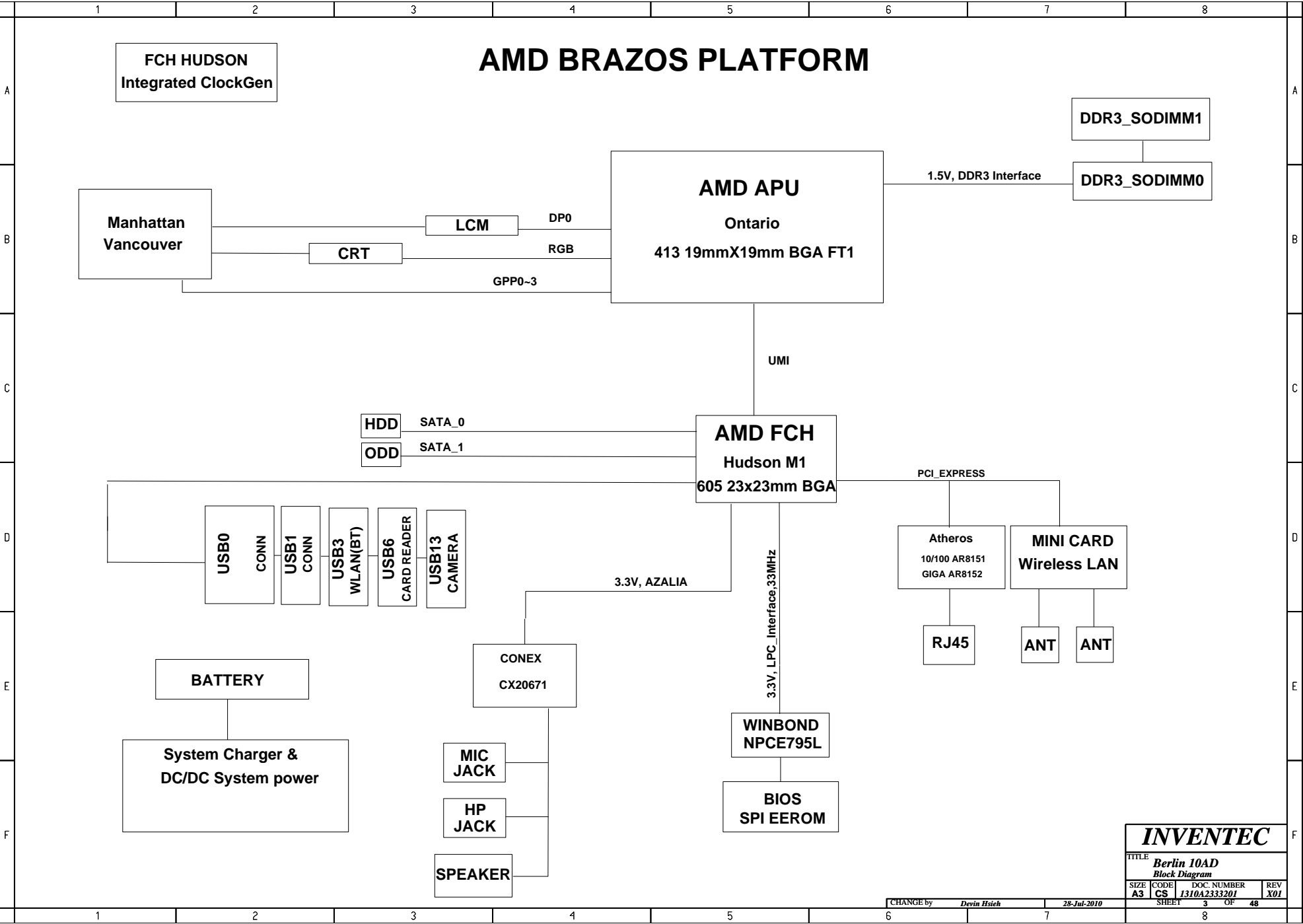
PAGE

28. DDR2 DIMM0
29. DDR2 DIMM1
30. APU-1
31. APU-2
32. APU-3
33. APU-4
34. FCH-1
35. FCH-2
36. FCH-3
37. FCH-4
38. EMI
39. Power Board
40. VGA POWER
41. VGA
42. VGA
43. VGA
44. VGA
45. VGA
46. VGA
47. VRAM
48. VRAM

INVENTEC

TITLE Berlin 10AD			
Index			
SIZE A3	CODE CS	DOC. NUMBER 1310A2333201	REV X01
SHEET		2	OF 48

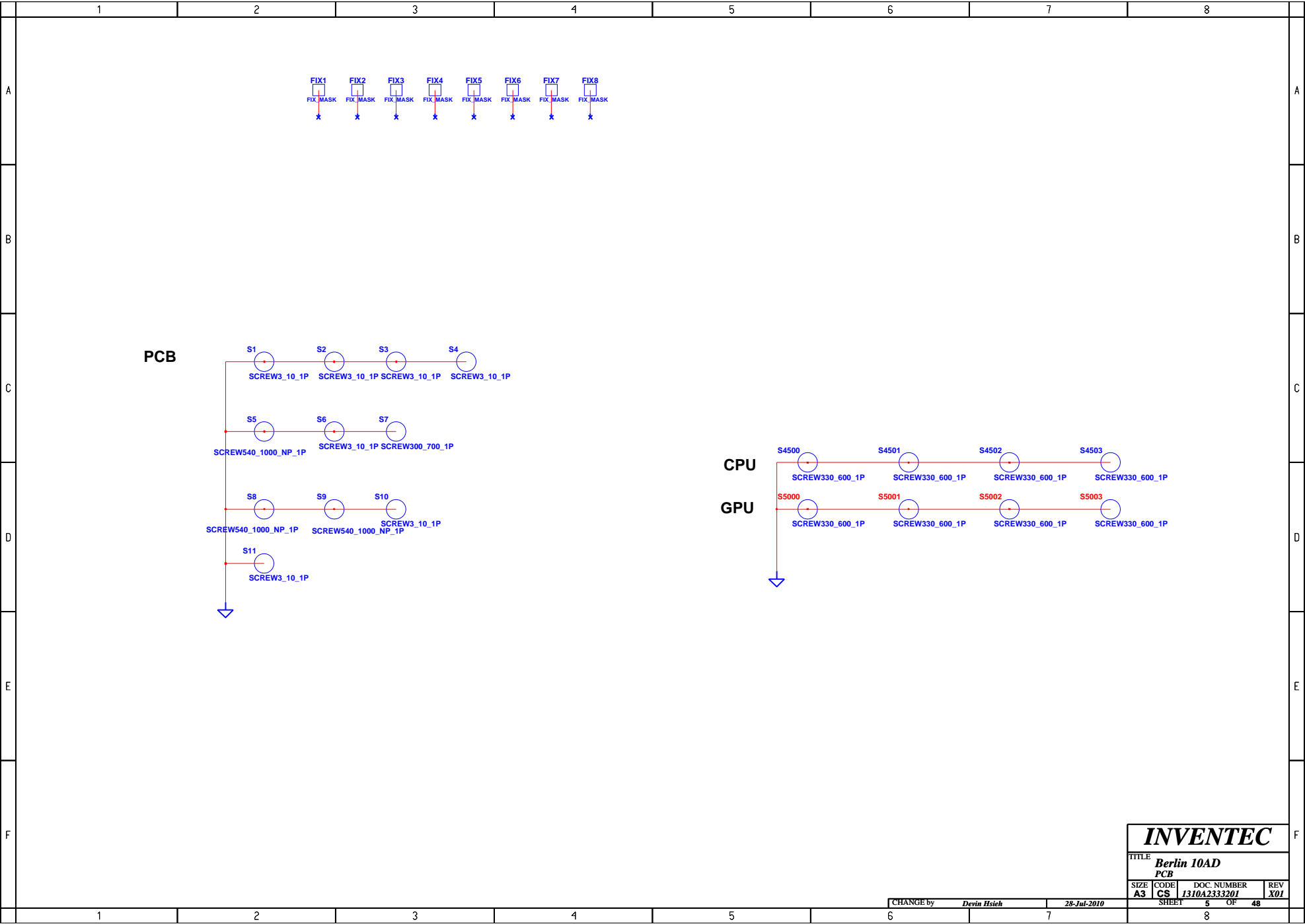
CHANGE by **Devin Hsieh** 28-Jul-2010



	1	2	3	4	5	6	7	8	
A									A
B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

Update by power budget

INVENTEC			
TITLE Berlin 10AD <i>Power Sequence Block</i>			
SIZE A3	CODE CS	DOC. NUMBER 1310A2333201	REV X01
CHANGE by <i>Devin Hsieh</i>		2-Nov-2009	
SHEET 4		OF 48	



INVENTEC

TITLE **Berlin 10AD**
PCB

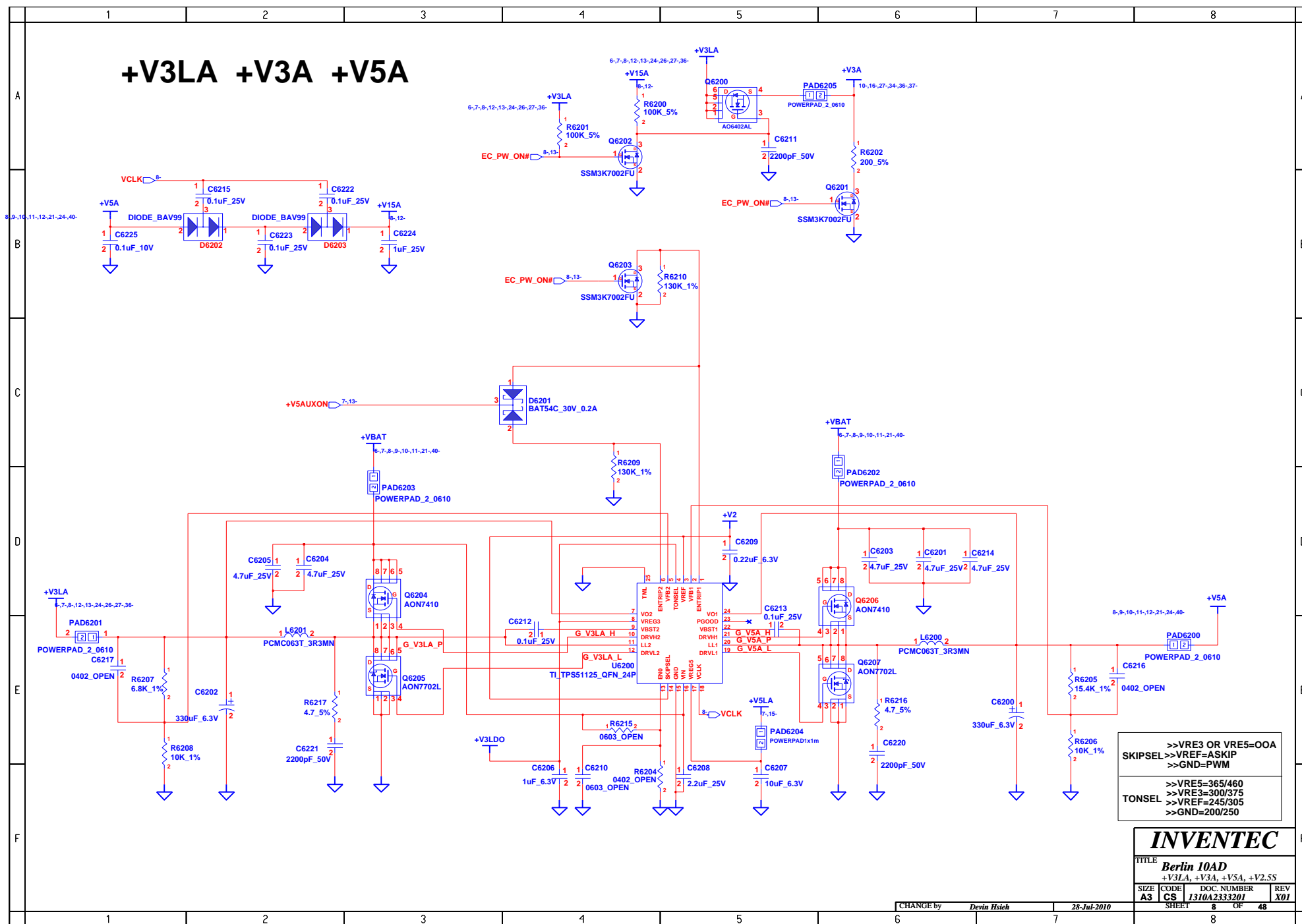
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A2333201	X01

CHANGE by *Devin Hsieh* 28-Jul-2010

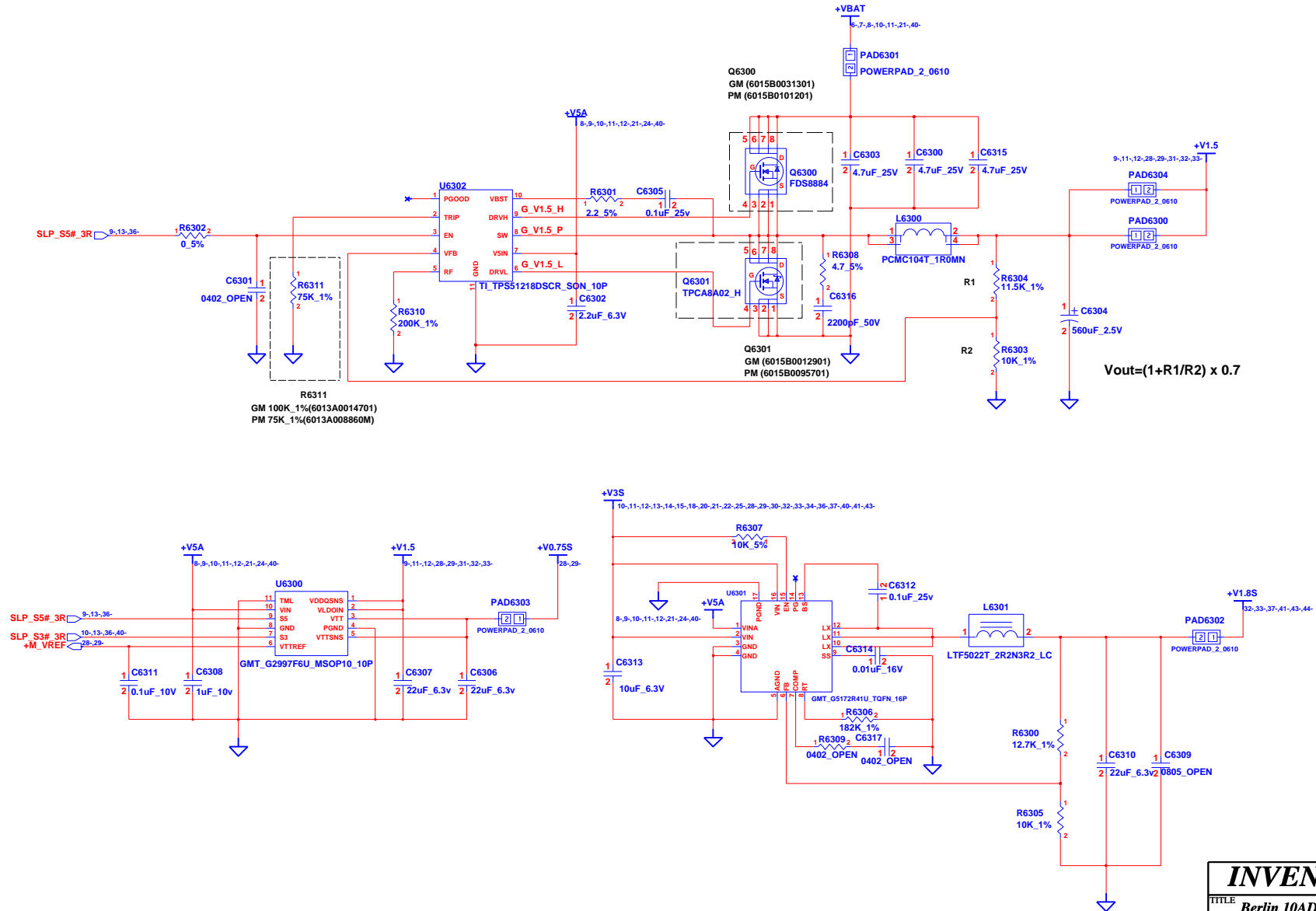
SHEET 5 OF 48



CHANGE by	<i>Devin Hsieh</i>	<i>2-Nov-2009</i>
-----------	--------------------	-------------------



+V1.8S +V0.75S +V1.5

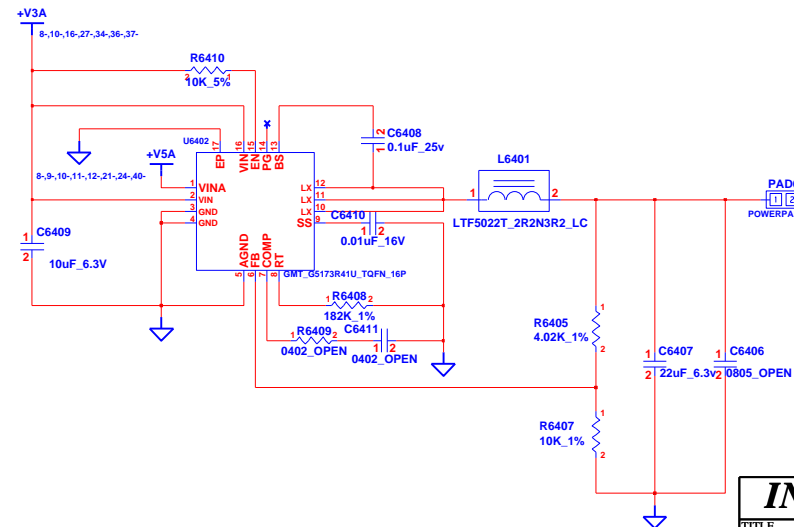
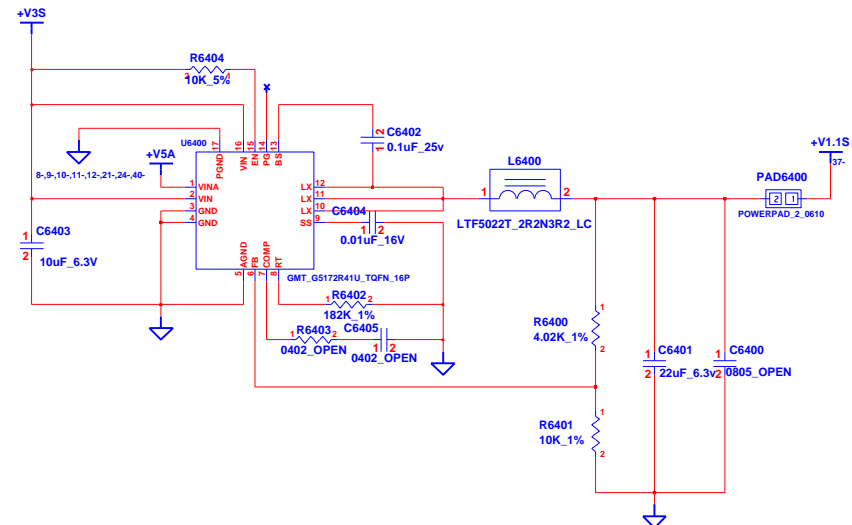
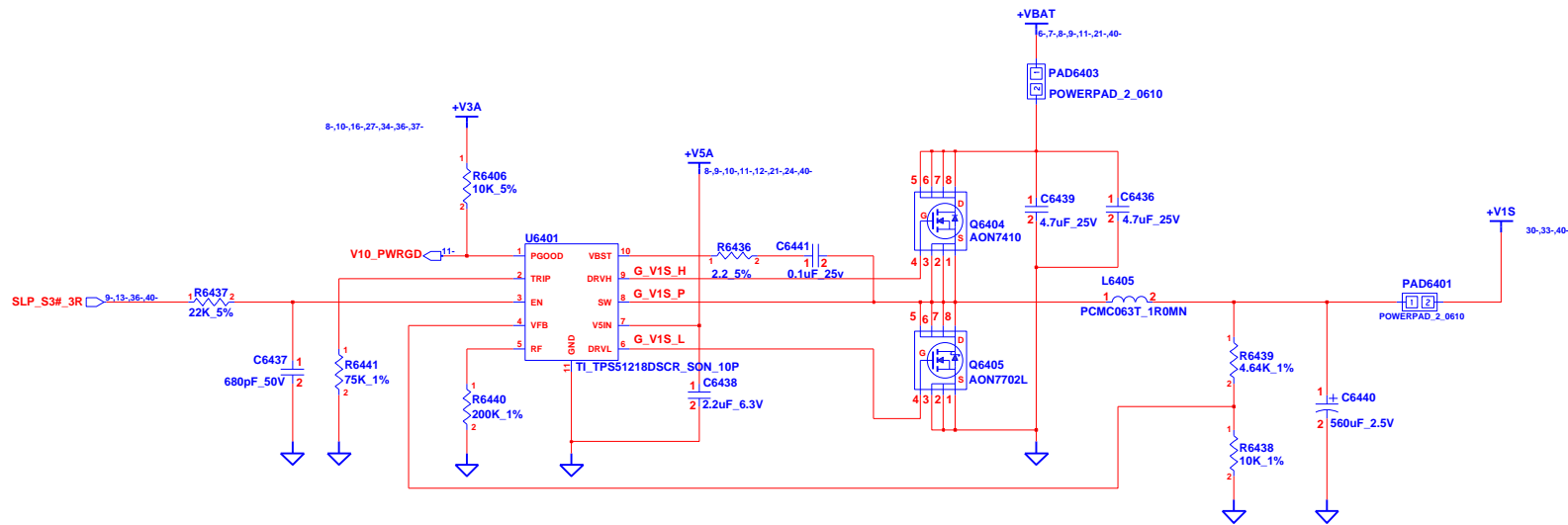


INVENTEC

TITLE			
Berlin 10AD			
+CPU VDDR, +V0.75, +V1.5			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A2333201	X01

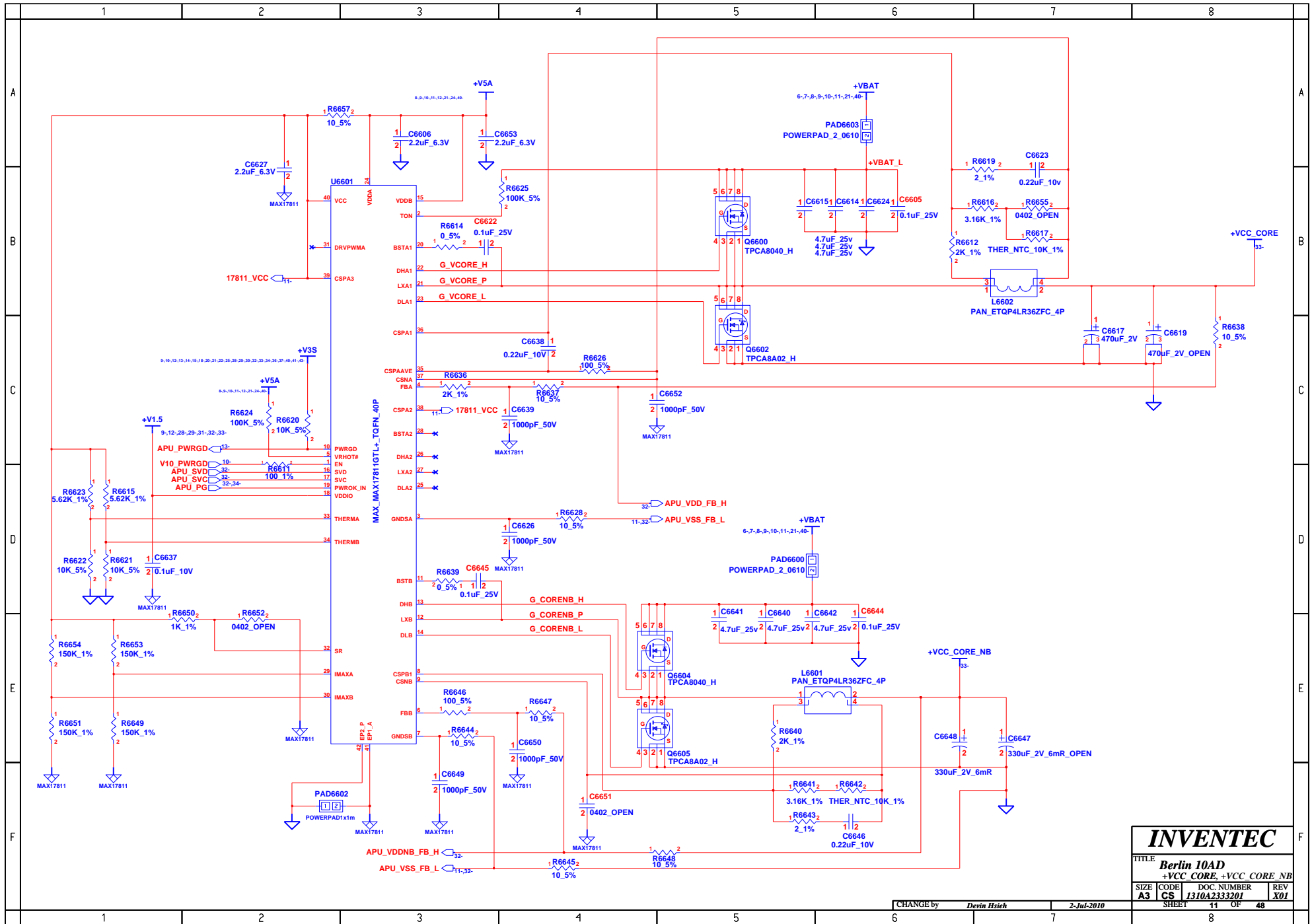
CHANGE by Devin Hsieh 2-Nov-2009

SHEET 9 OF 48

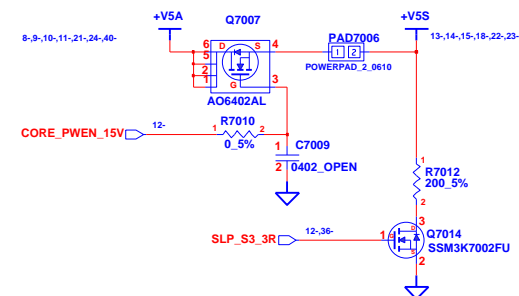
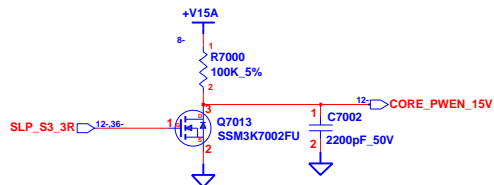
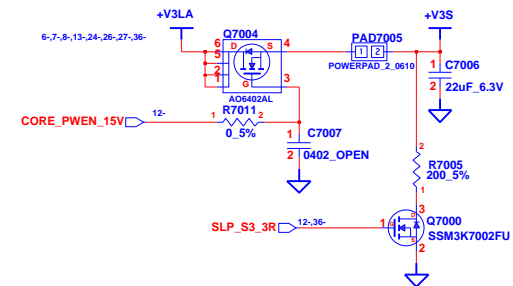
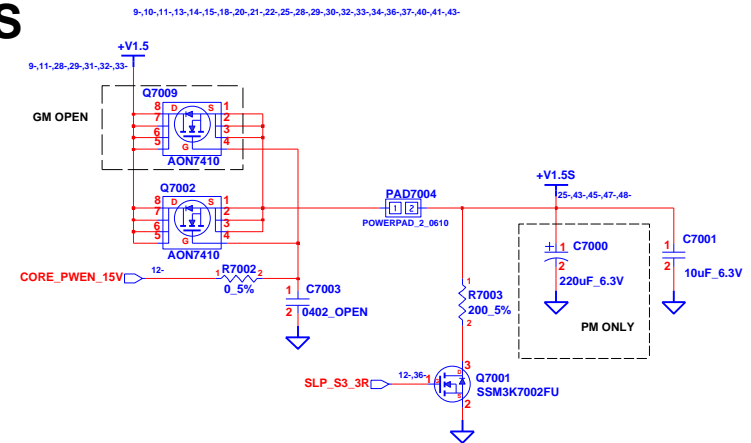


TITLE			
Berlin 10AD +V1.1A, +V1.1S, +V1.8S			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A2333201	X01
SHEET		10	OF 48

CS	1310A233201
SHEET	10 OF 48



+V3 +V5S +V3S +V1.5S

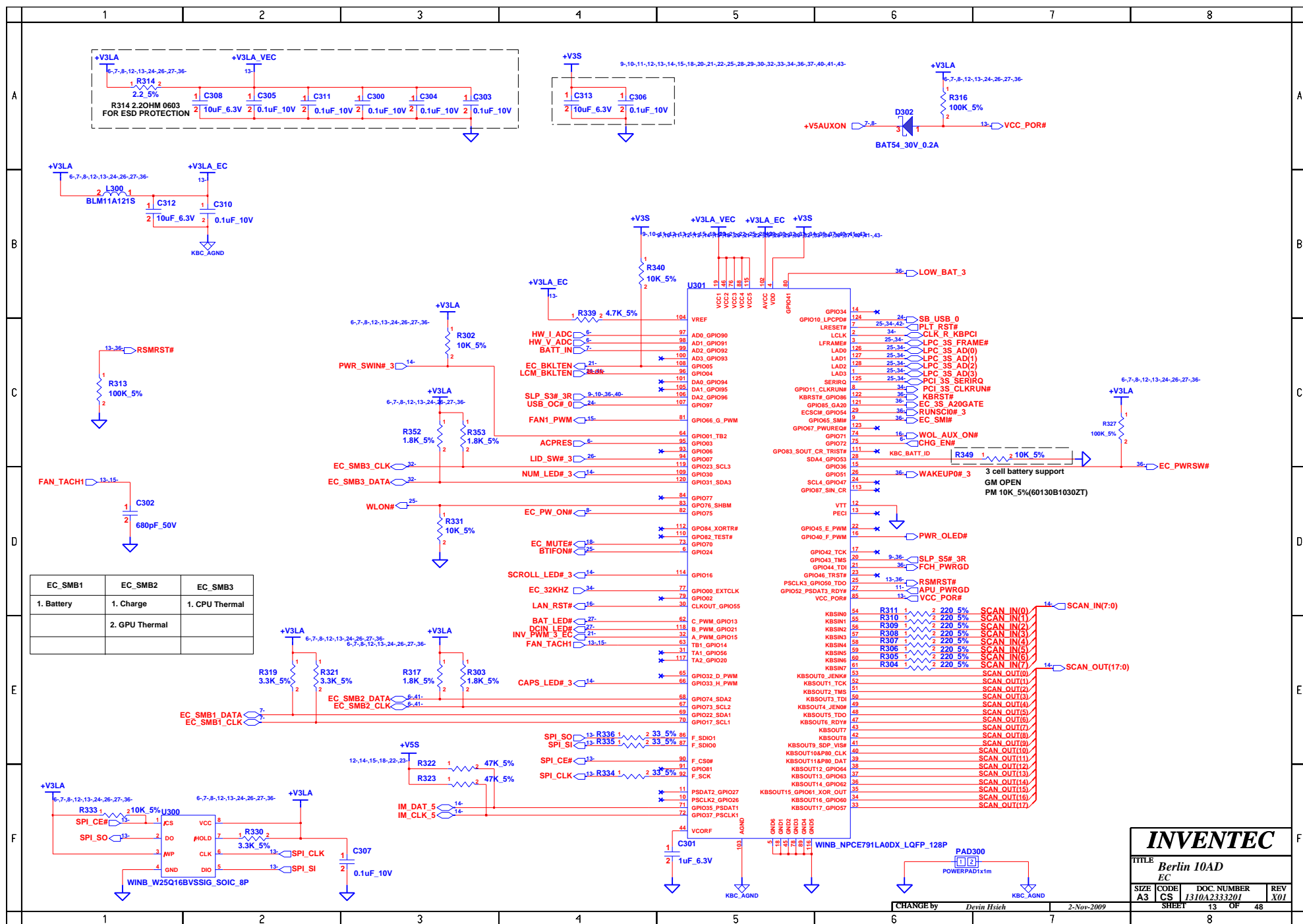
**INVENTEC**

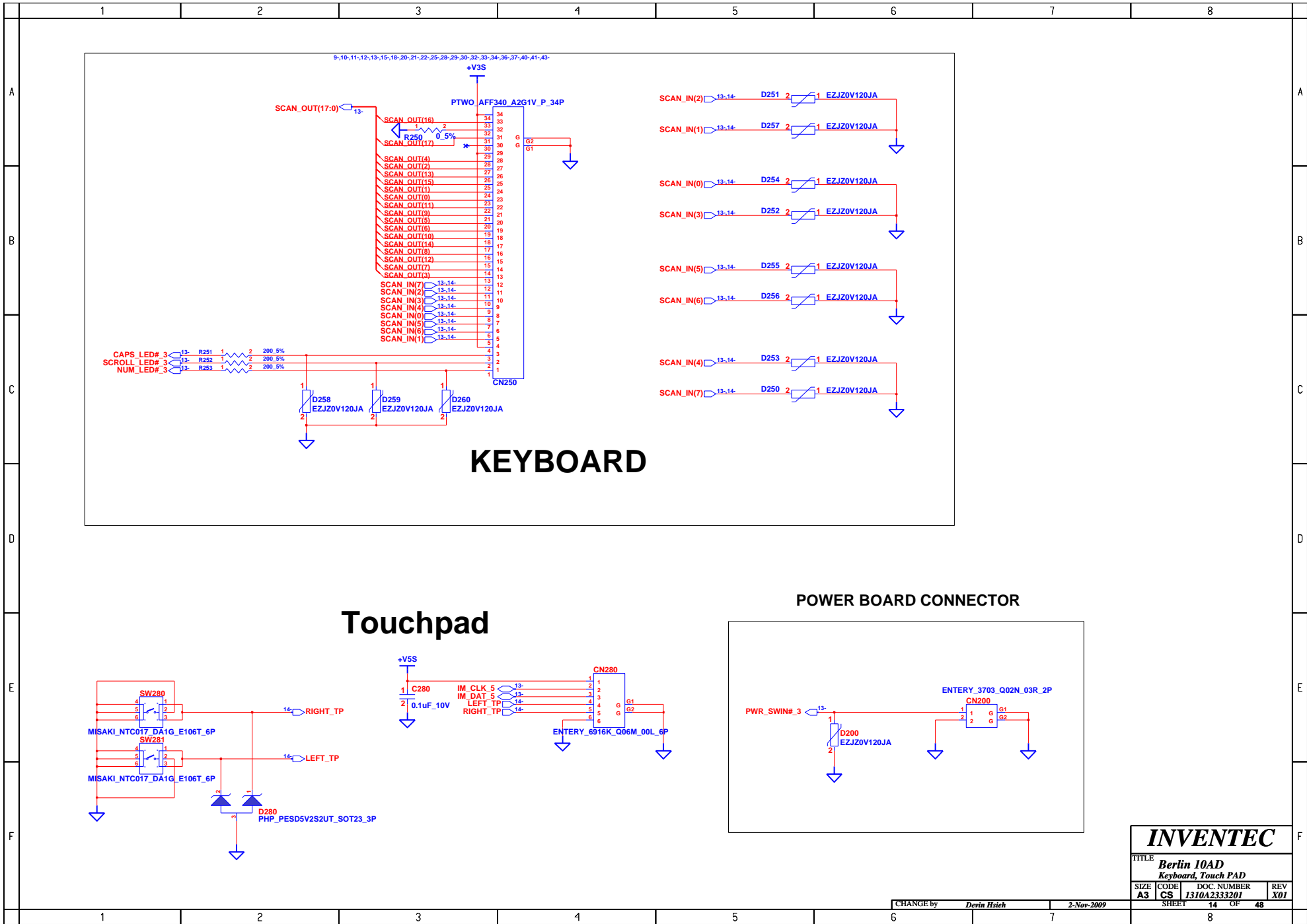
TITLE	Berlin 10AD
	+V3 +V5S +V3S +V1.5S

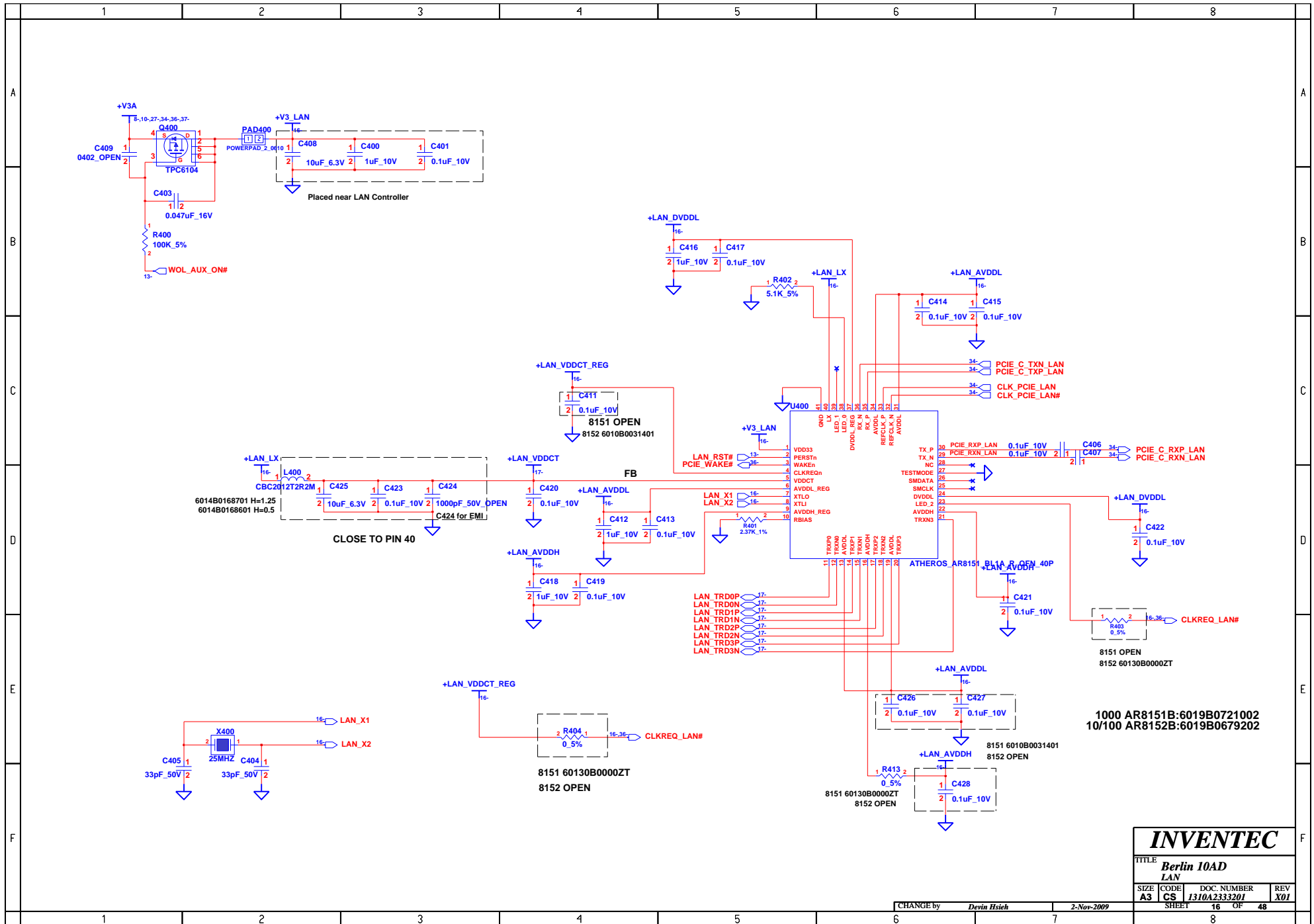
SIZE A3	CODE CS	DOC. NUMBER 1310A2333201	REV X01
-------------------	-------------------	------------------------------------	-------------------

CHANGE by	<i>Devin Hsieh</i>	2-Nov-2009
-----------	--------------------	------------

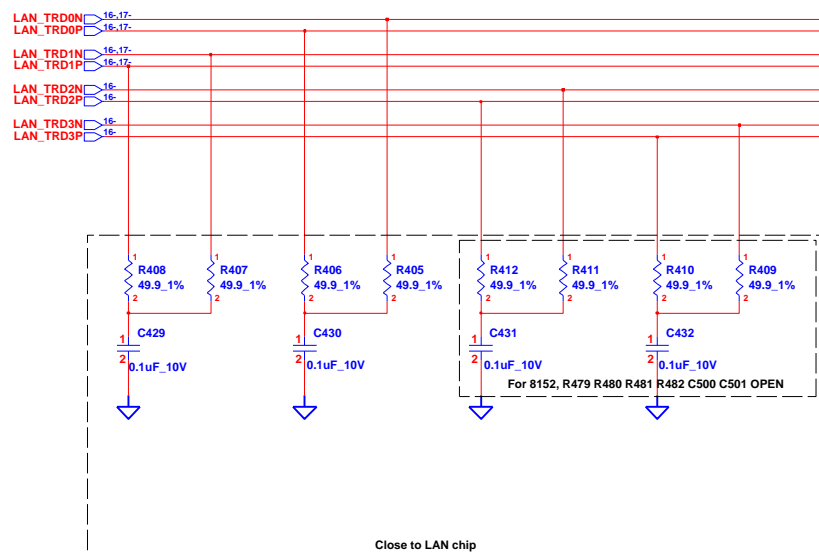
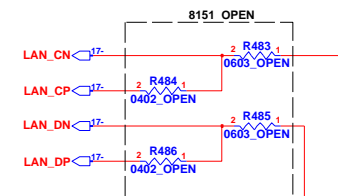
8





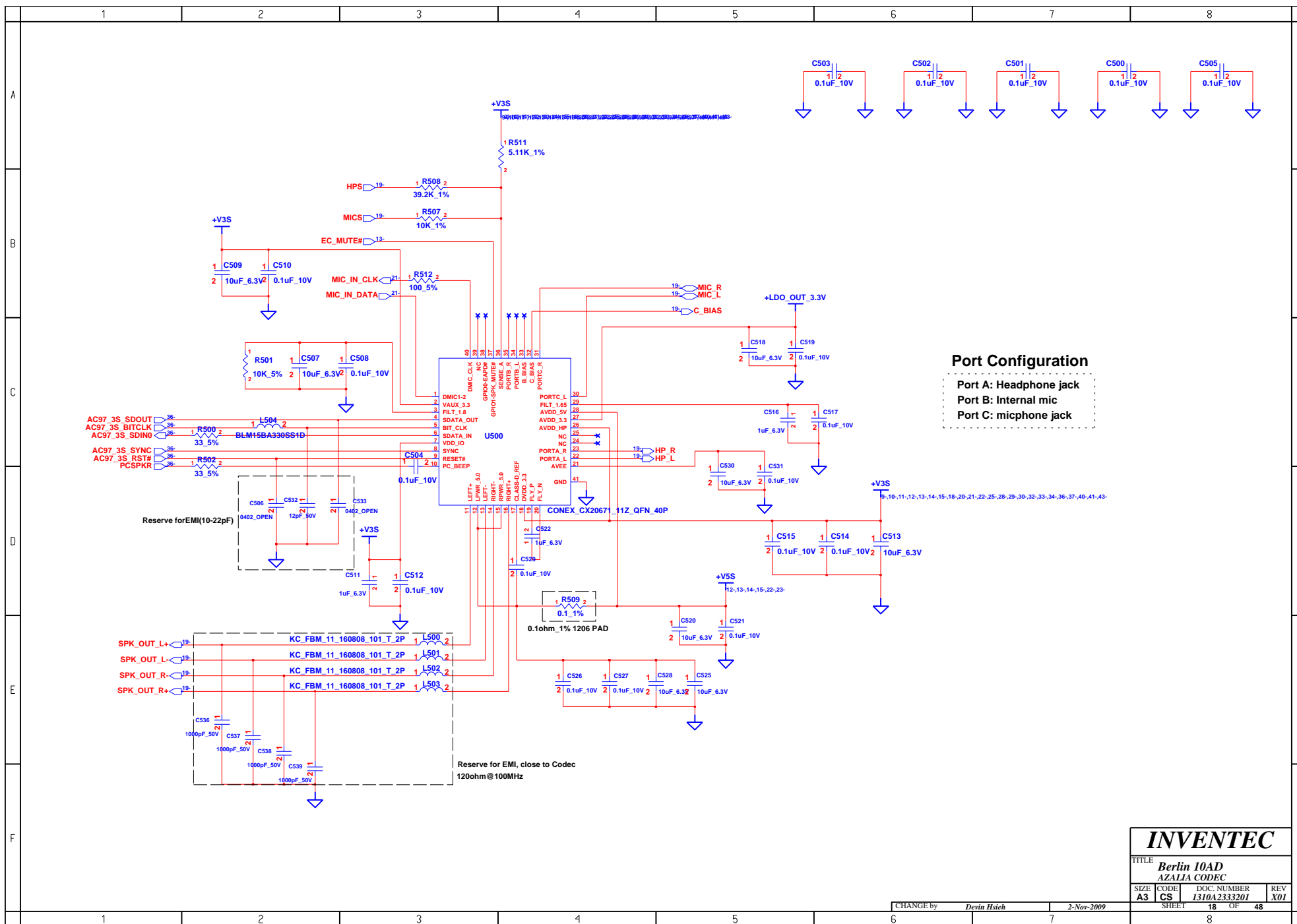


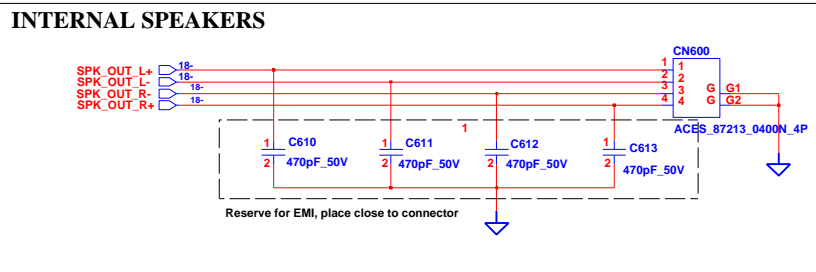
INVENTEC			
TITLE: Berlin 10AD LAN			
SIZE: A3	CODE: CS	DOC. NUMBER: 1310A2333201	REV: X01
CHANGE by: Devin Hsieh		2-Nov-2009	
SHEET: 16		OF: 48	

**INVENTEC**

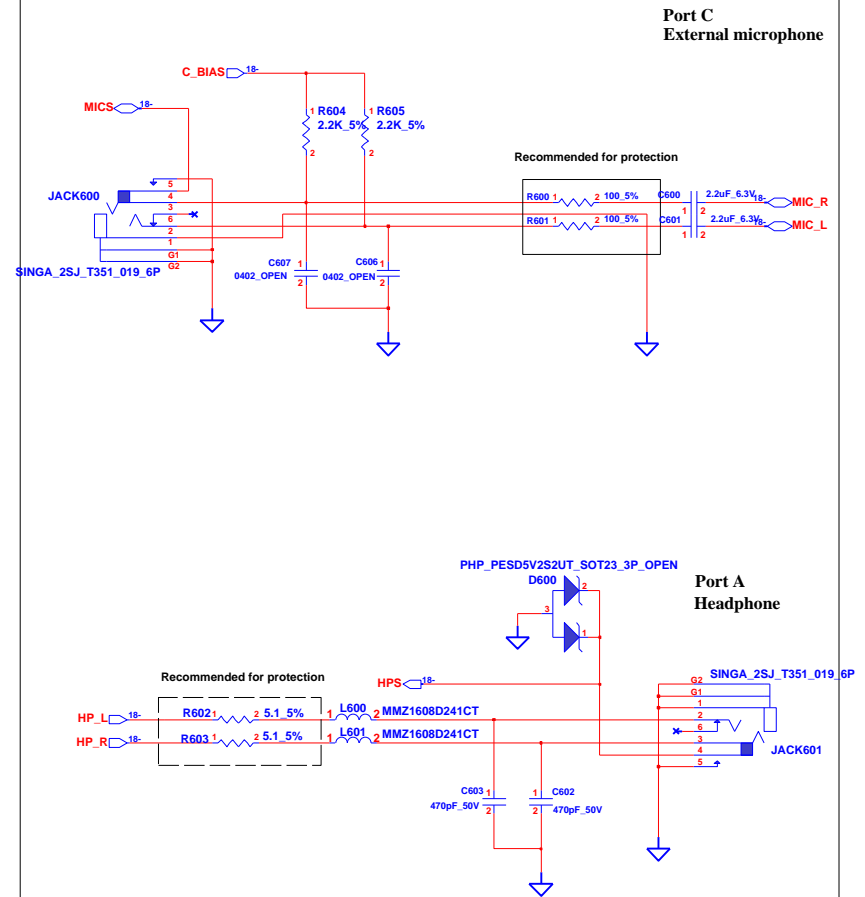
SIZE A3	CODE CS	DOC. NUMBER 1310A2333201	REV X01
-------------------	-------------------	------------------------------------	-------------------

CS 1310A2333201
SHEET 17 OF 48





AUDIO JACKS



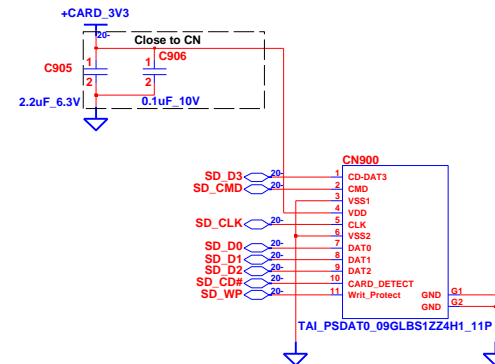
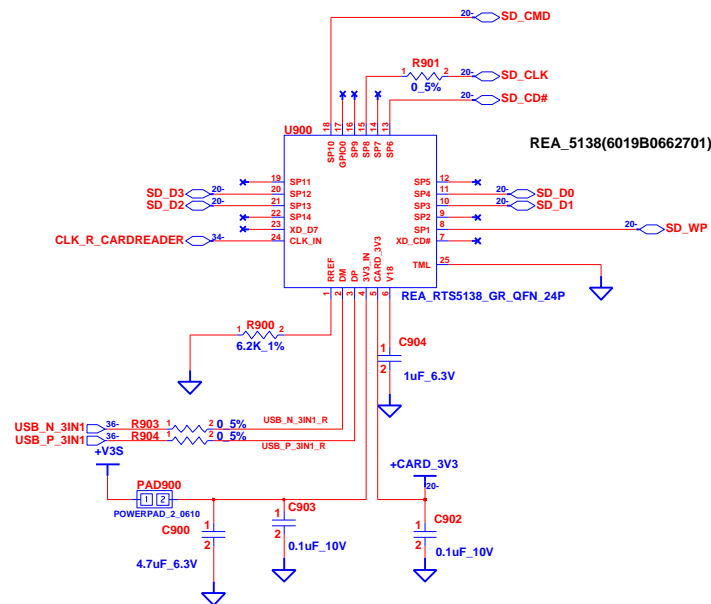
INVENTEC

TITLE			
Berlin 10AD			
MIC & SPEAKER			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	I310A2333201	X01

CHANGE by Devin Hsieh 2-Nov-2009

SHEET 19 OF 48

CARD READER & USB BOARD



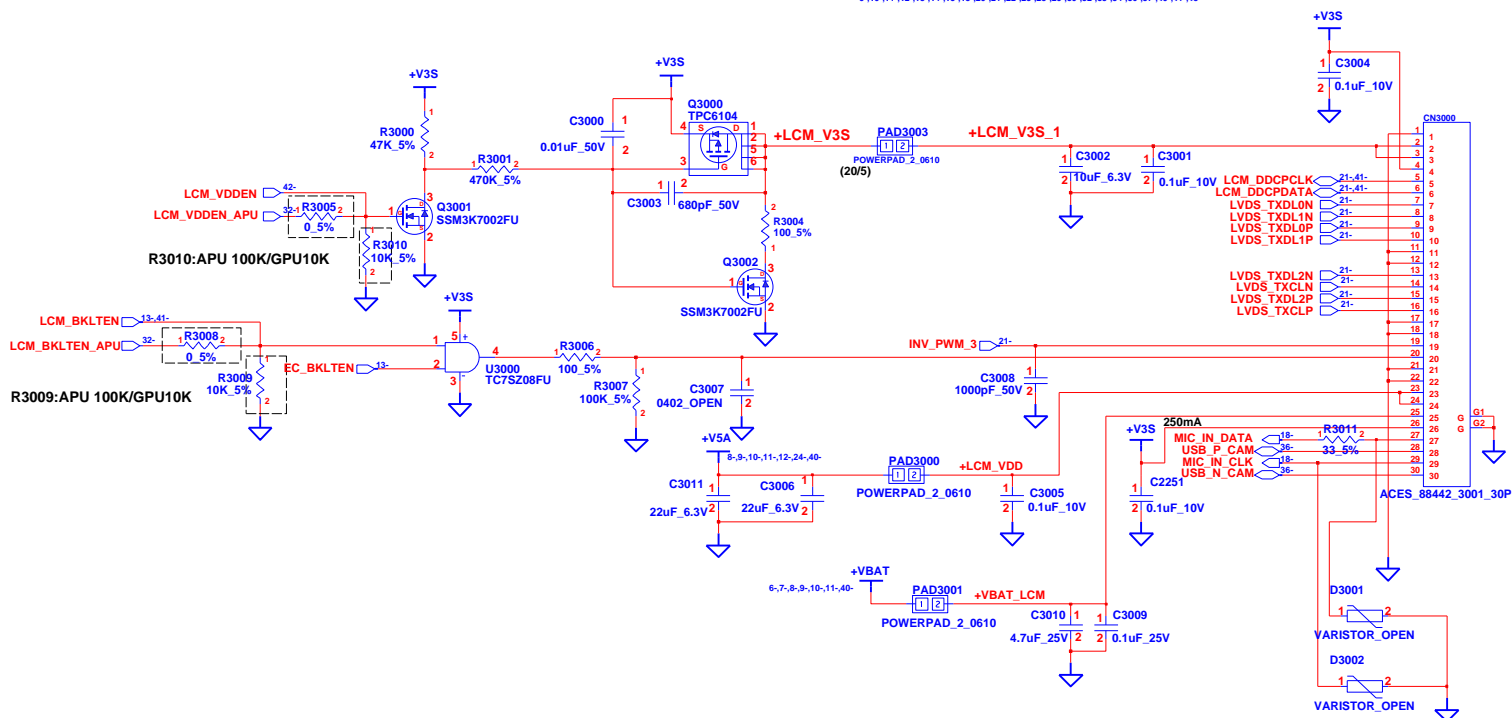
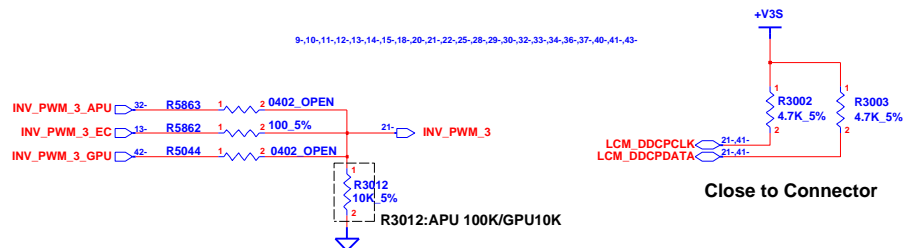
INVENTEC			
TITLE Berlin 10AD			
MDC			
SIZE A3	CODE CS	DOC. NUMBER 1310A2333201	REV X01
CHANGE by Devin Hsieh		28-Jul-2010	
SHEET 20		OF 48	

GM/PM CO-LAYOUT

[illegible]

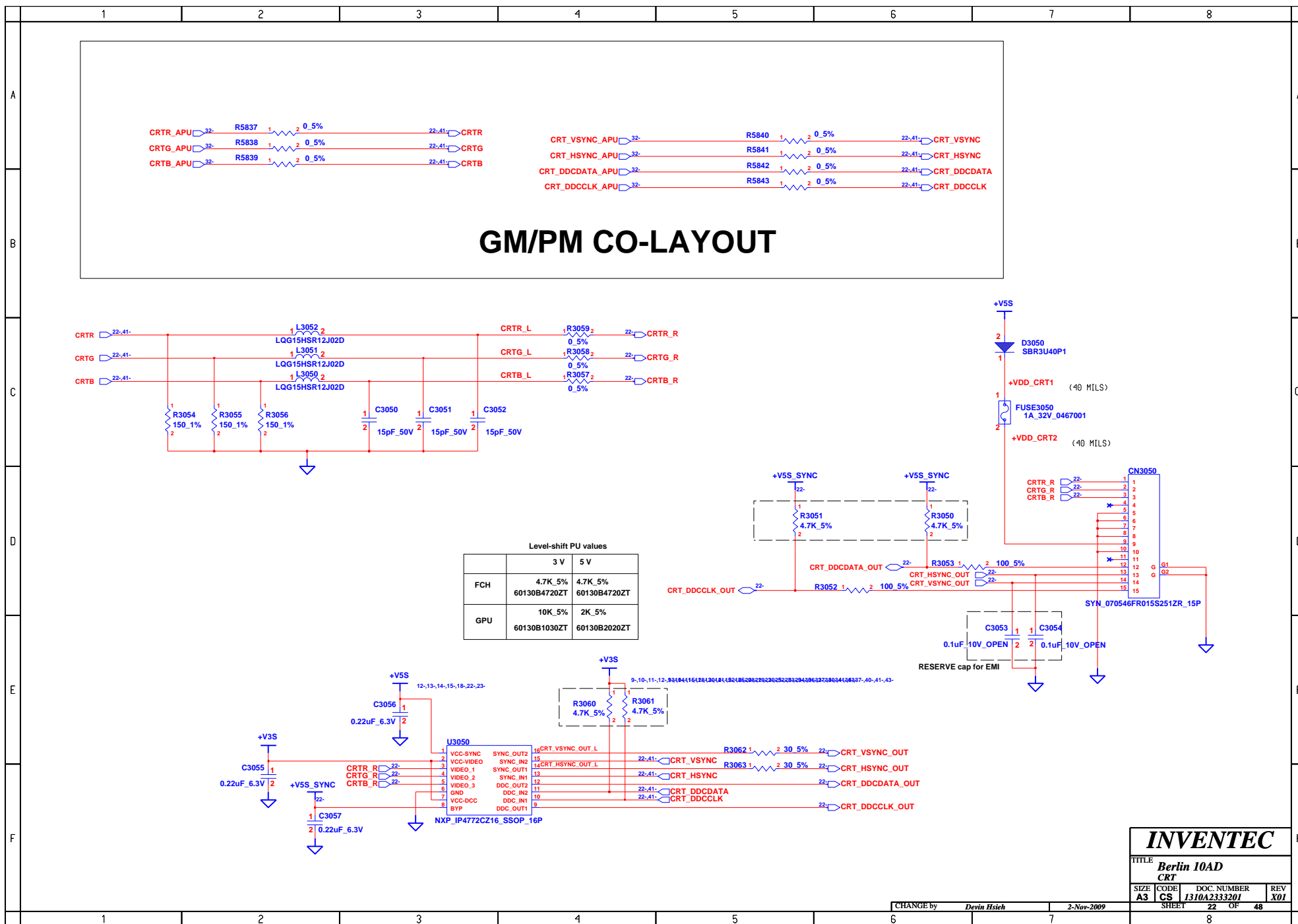
LCM_DDCPCLK_APU 32- 100 5% 2 1 R5844 21-41- LCM_DDCPCLK
LCM_DDCPDATA_APU 32- 100 5% 2 1 R5810 21-41- LCM_DDCPDATA

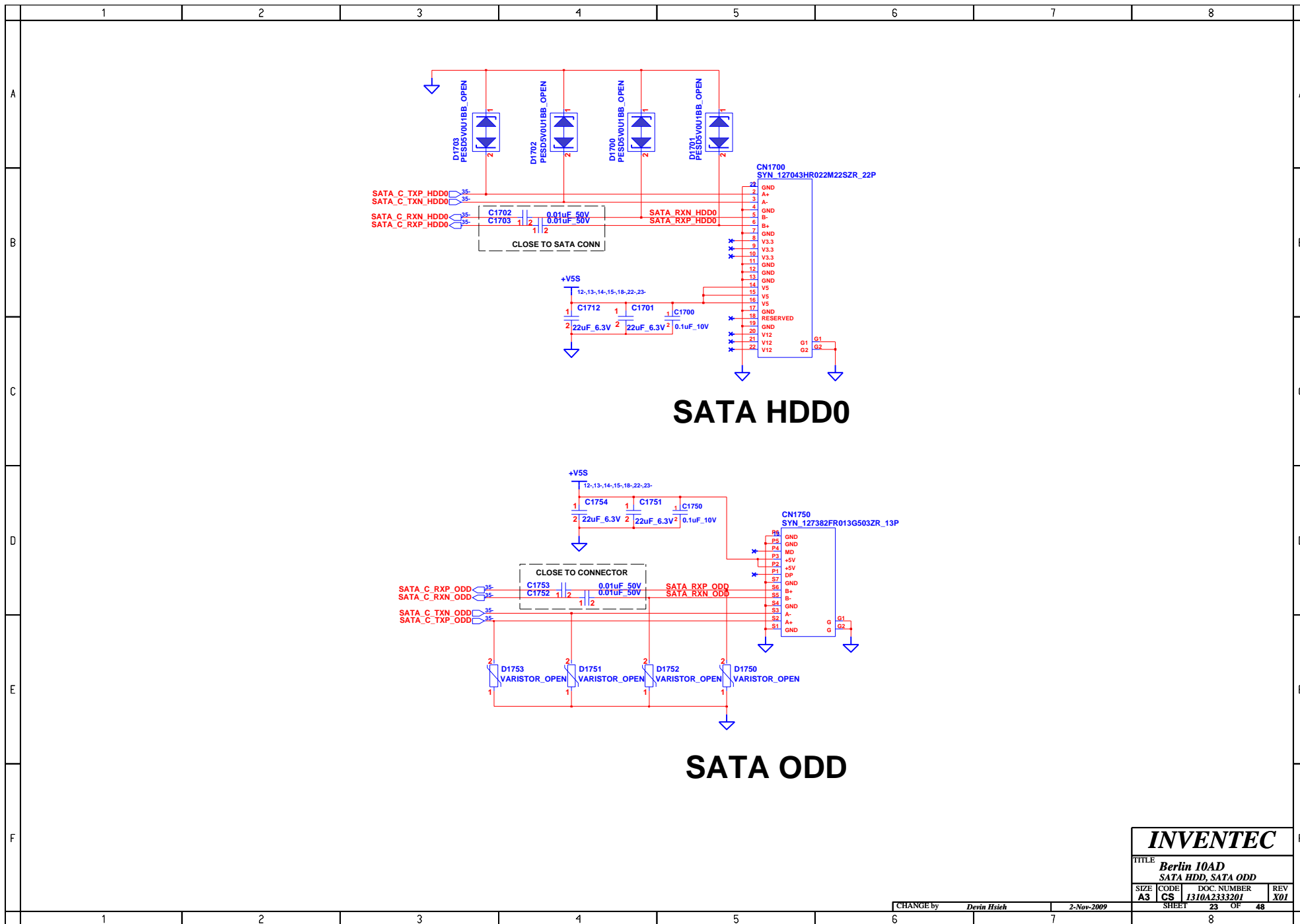
LCM DDC PU values

**INVENTEC**

TITLE			
<i>Berlin 10AD</i> <i>LCM</i>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A233201	X01
SHEET		21	OF 48

CHANGE by	<i>Devin Hsieh</i>	2-Nov-2009
-----------	--------------------	------------



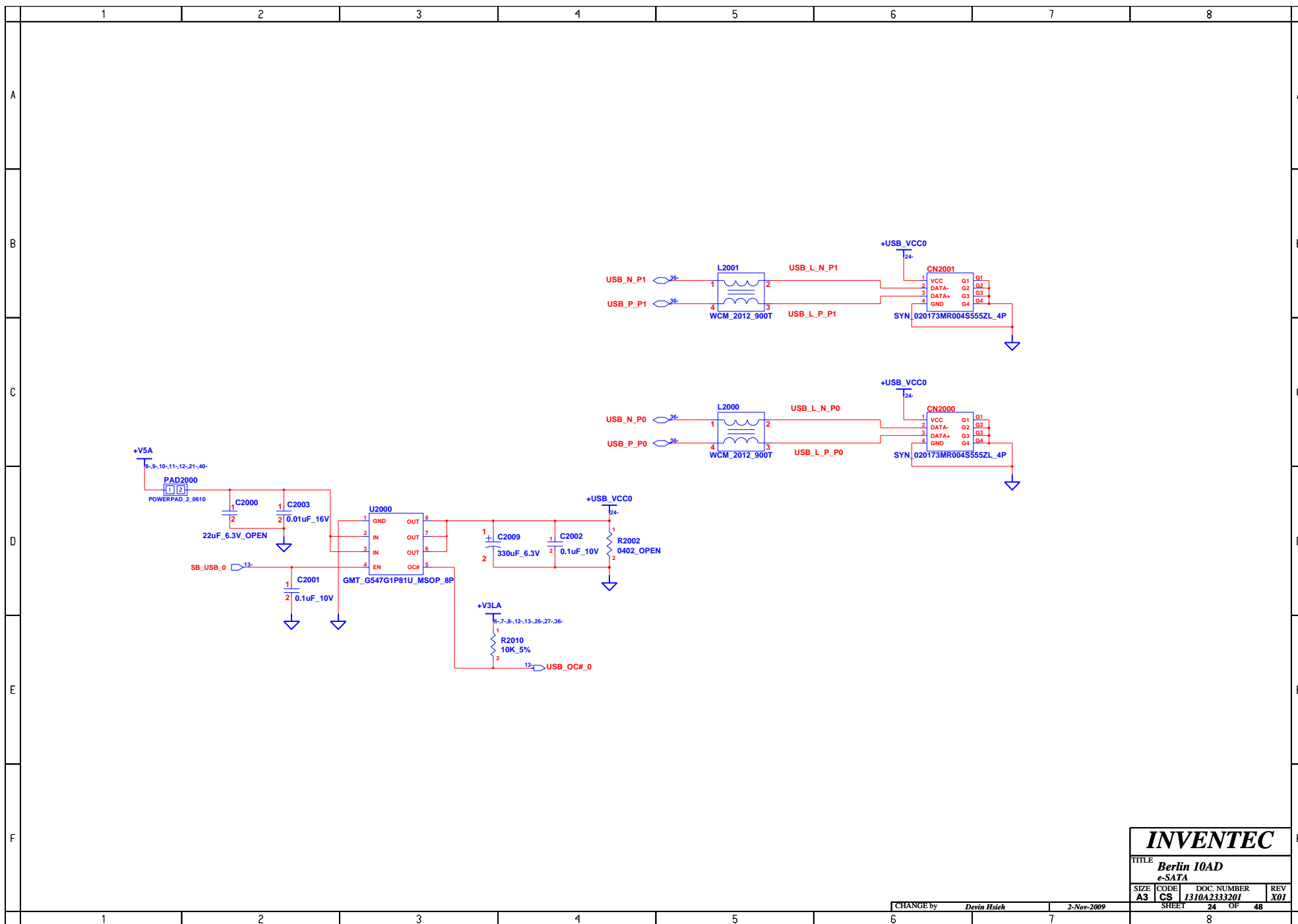


INVENTEC

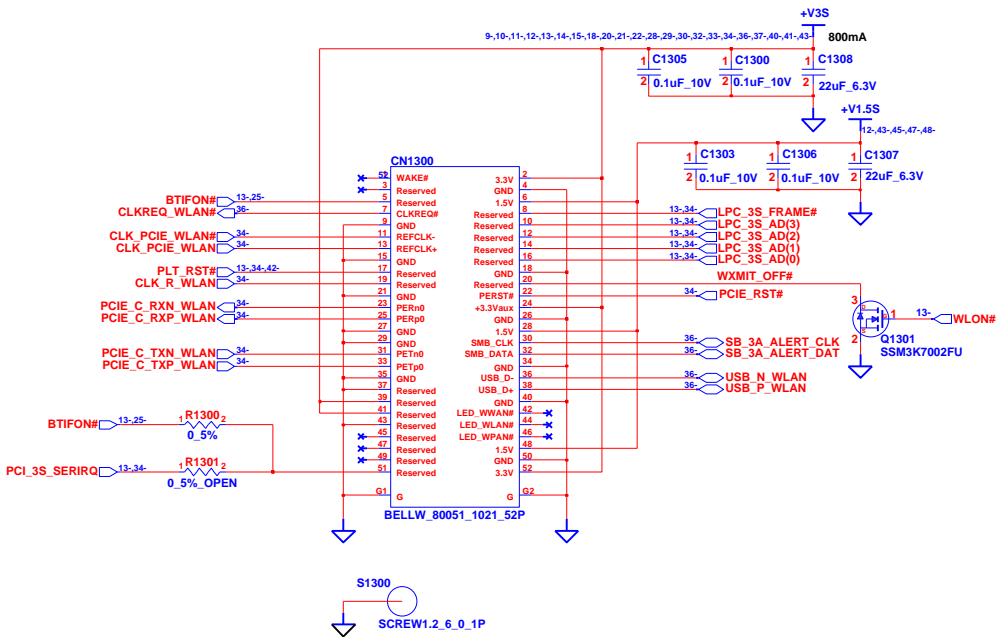
TITLE			
Berlin 10AD			
SATA HDD, SATA ODD			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A2333201	X01

CHANGE by Devin Hsieh 2-Nov-2009

SHEET 23 OF 48



Wireless & BT & Debug card



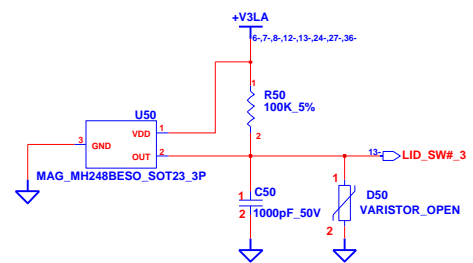
INVENTEC

TITLE			
Berlin 10AD			
WLAN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A2333201	X01

CHANGE by Devin Hsieh 2-Nov-2009

SHEET 25 OF 48

HALL SENSOR

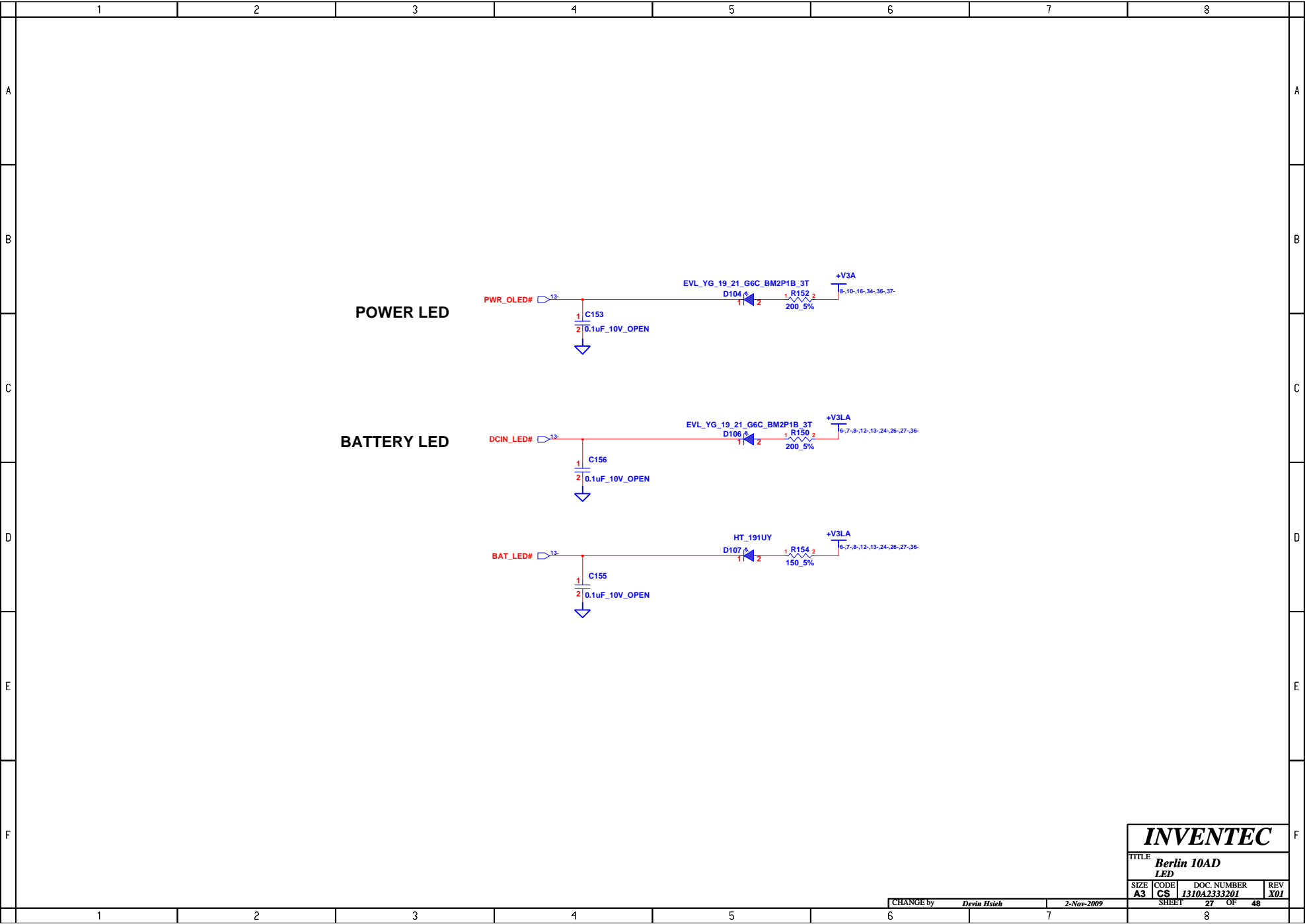


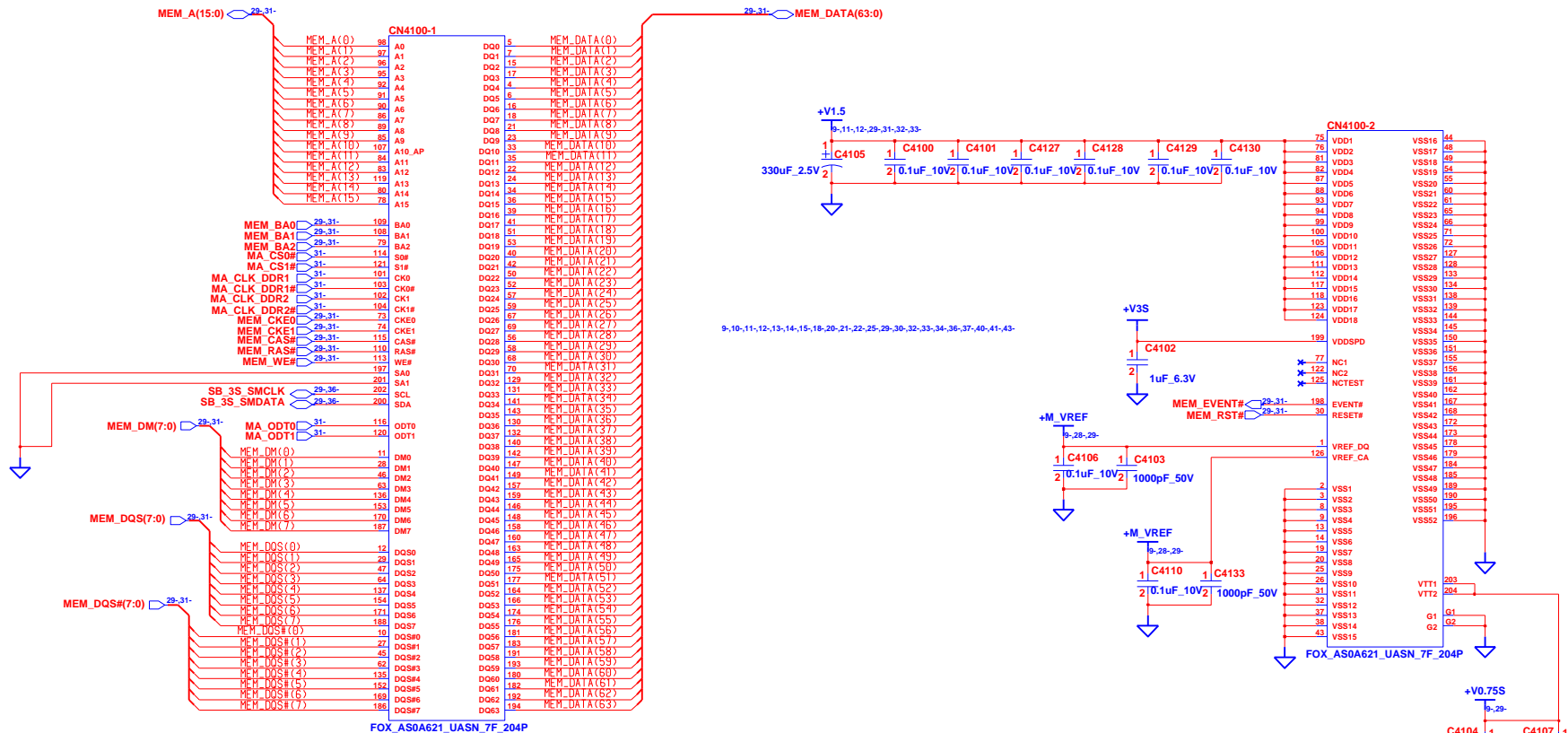
INVENTEC

TITLE **Berlin 10AD**
HALL SENSOR

SIZE A3	CODE CS	DOC. NUMBER 1310A2333201	REV X01
SHEET 26		OF 48	

CHANGE by *Devin Hsieh* 2-Nov-2009





SO DIMM0
SLOT A

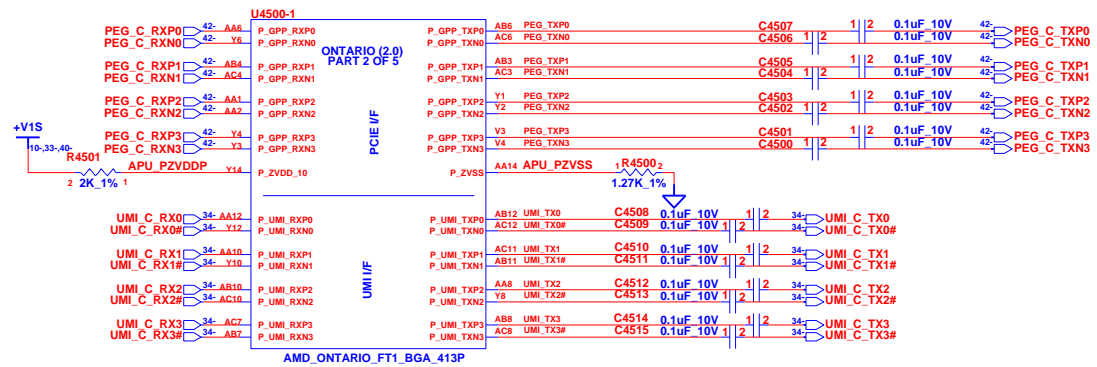
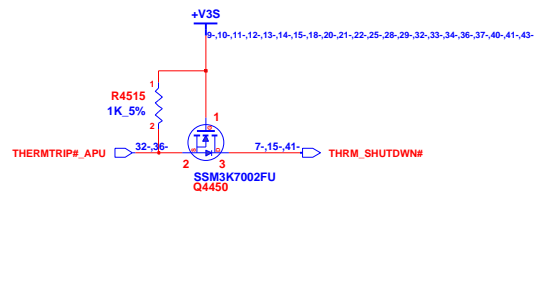
INVENTEC

TITLE
Berlin 10AD
DDR2 DIMM0

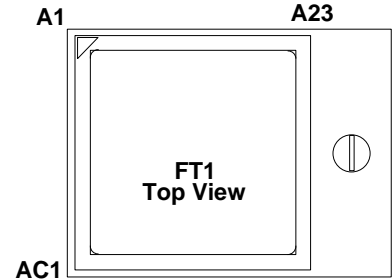
SIZE CODE DOC. NUMBER REV
A3 CS 1310A2333201 X01

CHANGE by Devin Hsieh 2-Nov-2009

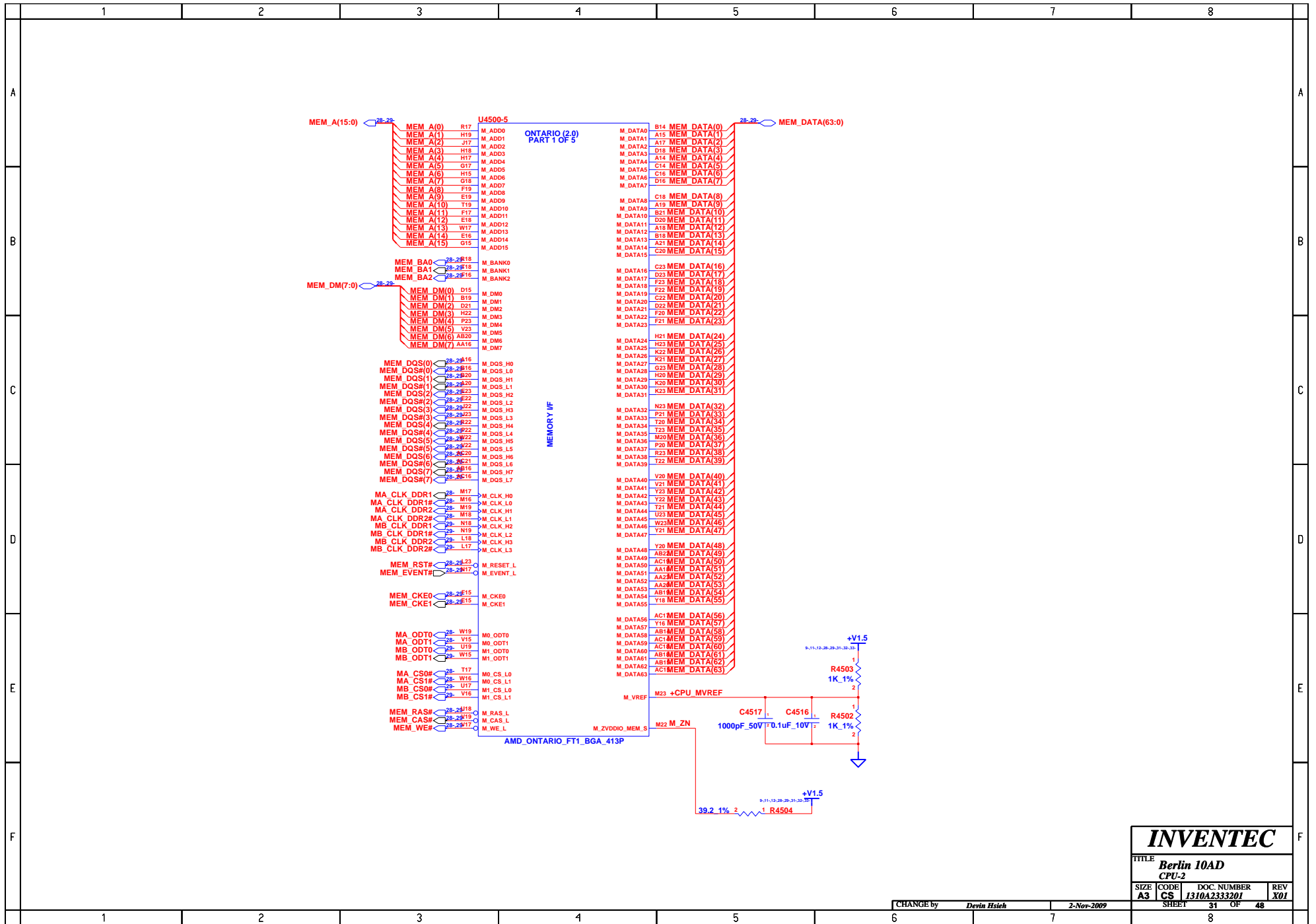
SHEET 28 OF 48



Layout: Add stitching caps if crossing plane split.



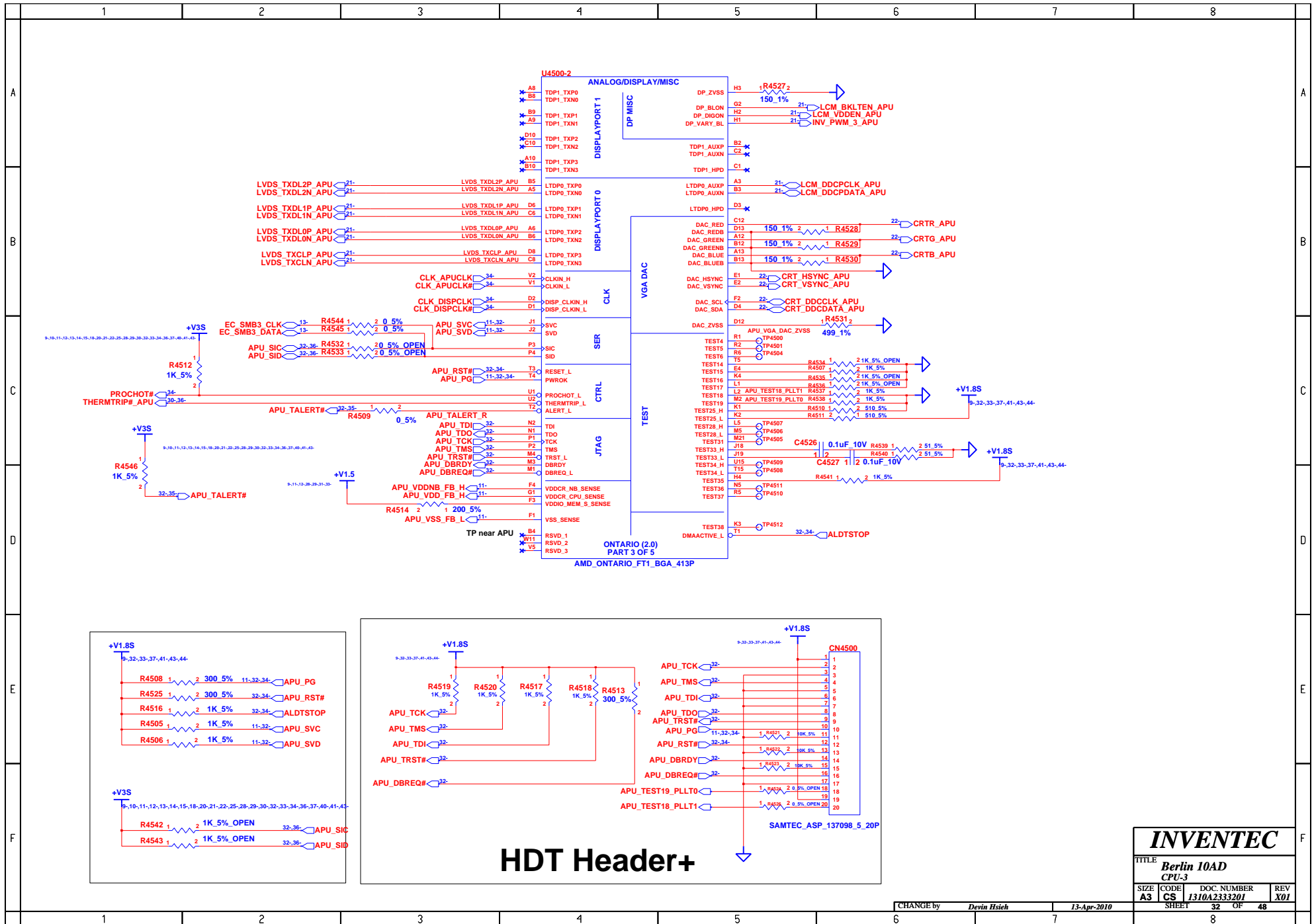
INVENTEC			
TITLE			
Berlin 10AD			
CPU-1			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A2333201	X01
CHANGE by		3-May-2010	
SHEET		30	OF 48

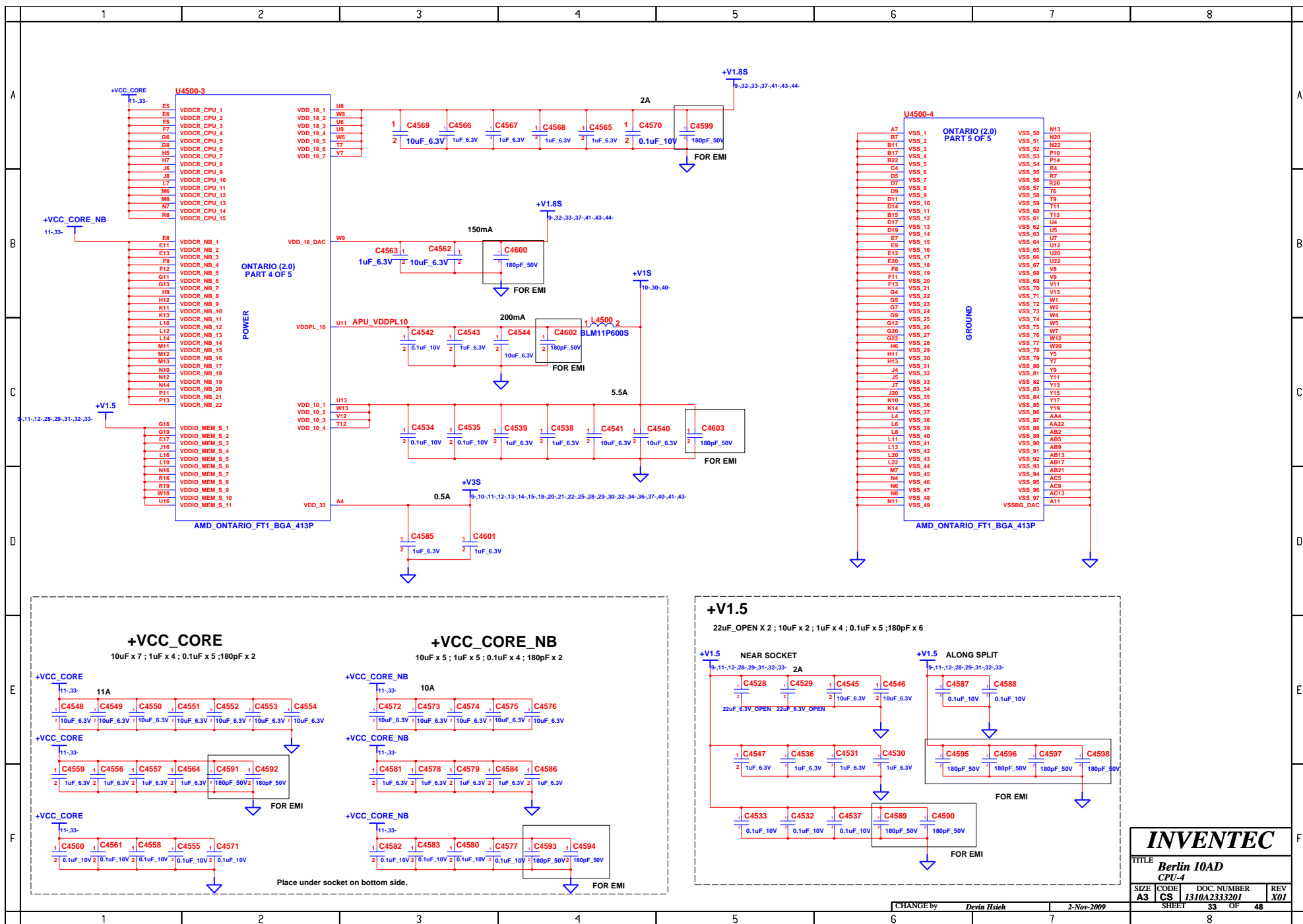


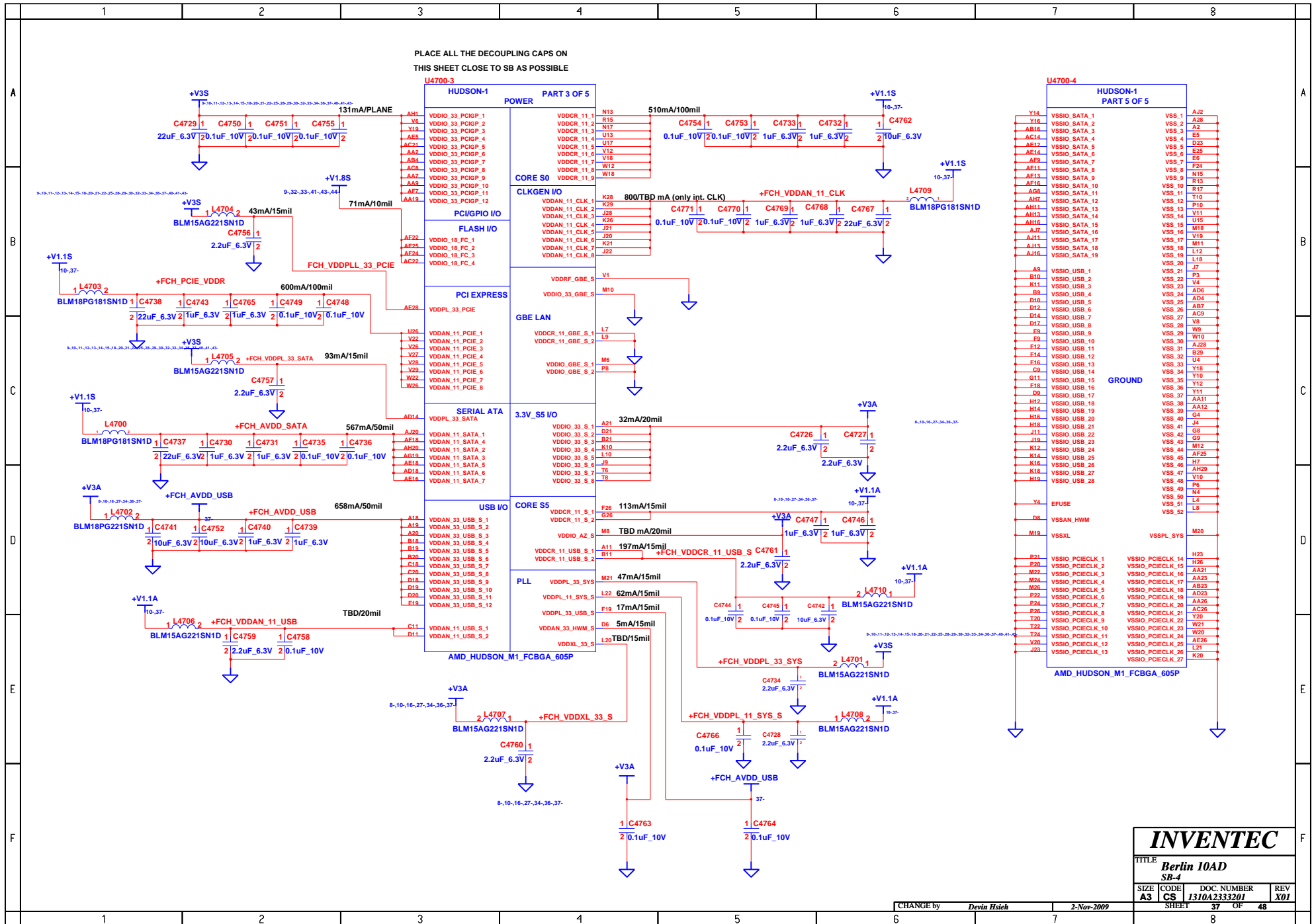
INVENTEC

TITLE			
Berlin 10AD			
CPU-2			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A2333201	X01
SHEET		31 OF	48

CHANGE by Devin Hsieh 2-Nov-2009







	1	2	3	4	5	6	7	8	
A	EMI								A
B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

INVENTEC

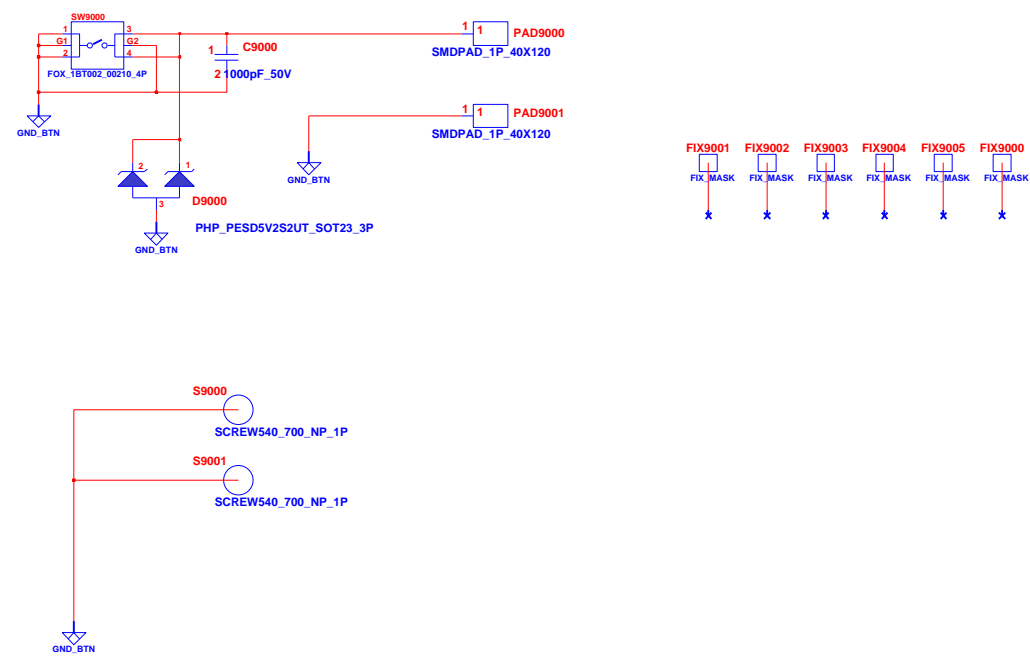
TITLE **Berlin 10AD**
EMI

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A2333201	X01

CHANGE by *Devin Hsieh* 5-Jul-2010

SHEET 38 OF 48

POWER BUTTON



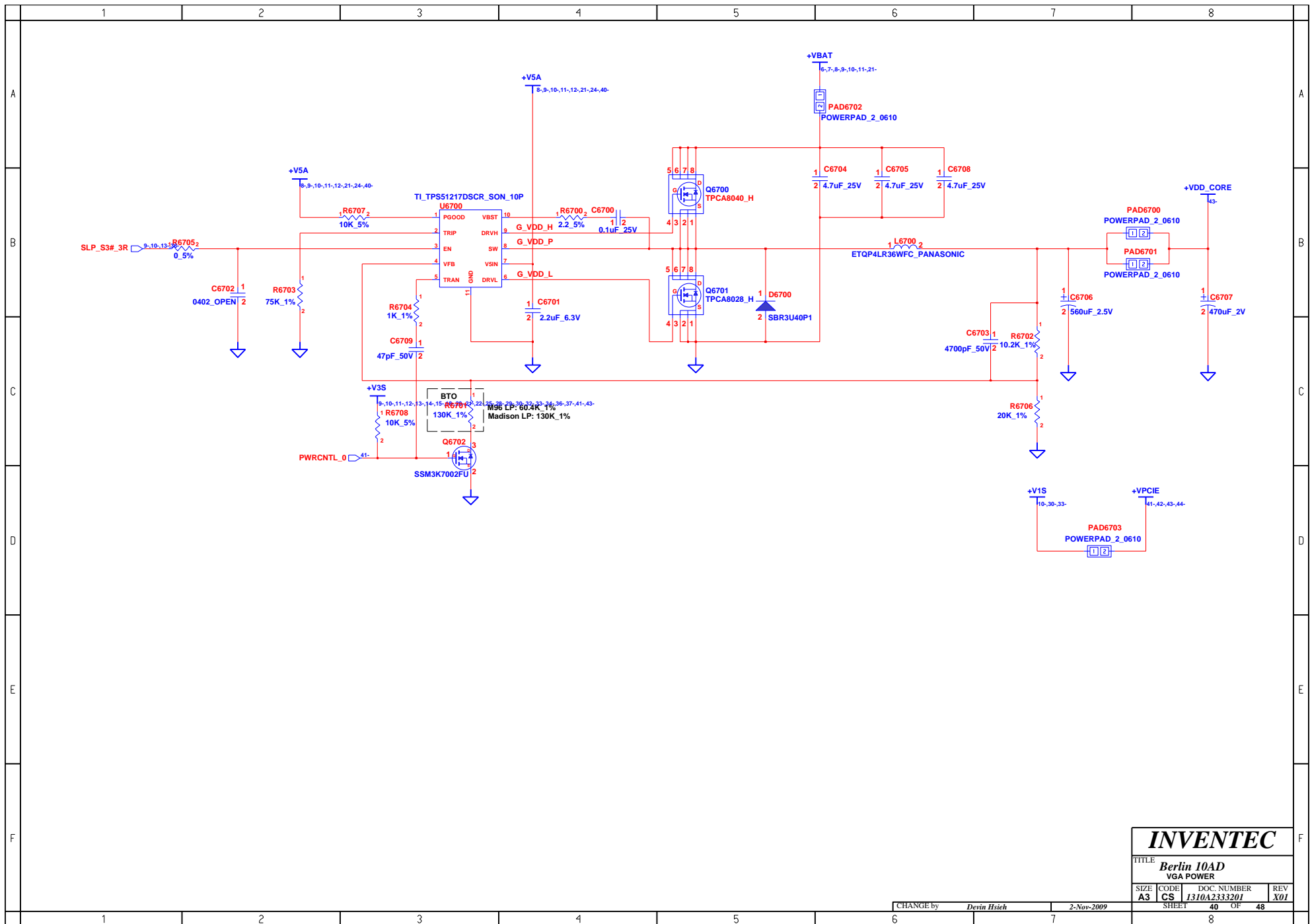
INVENTEC

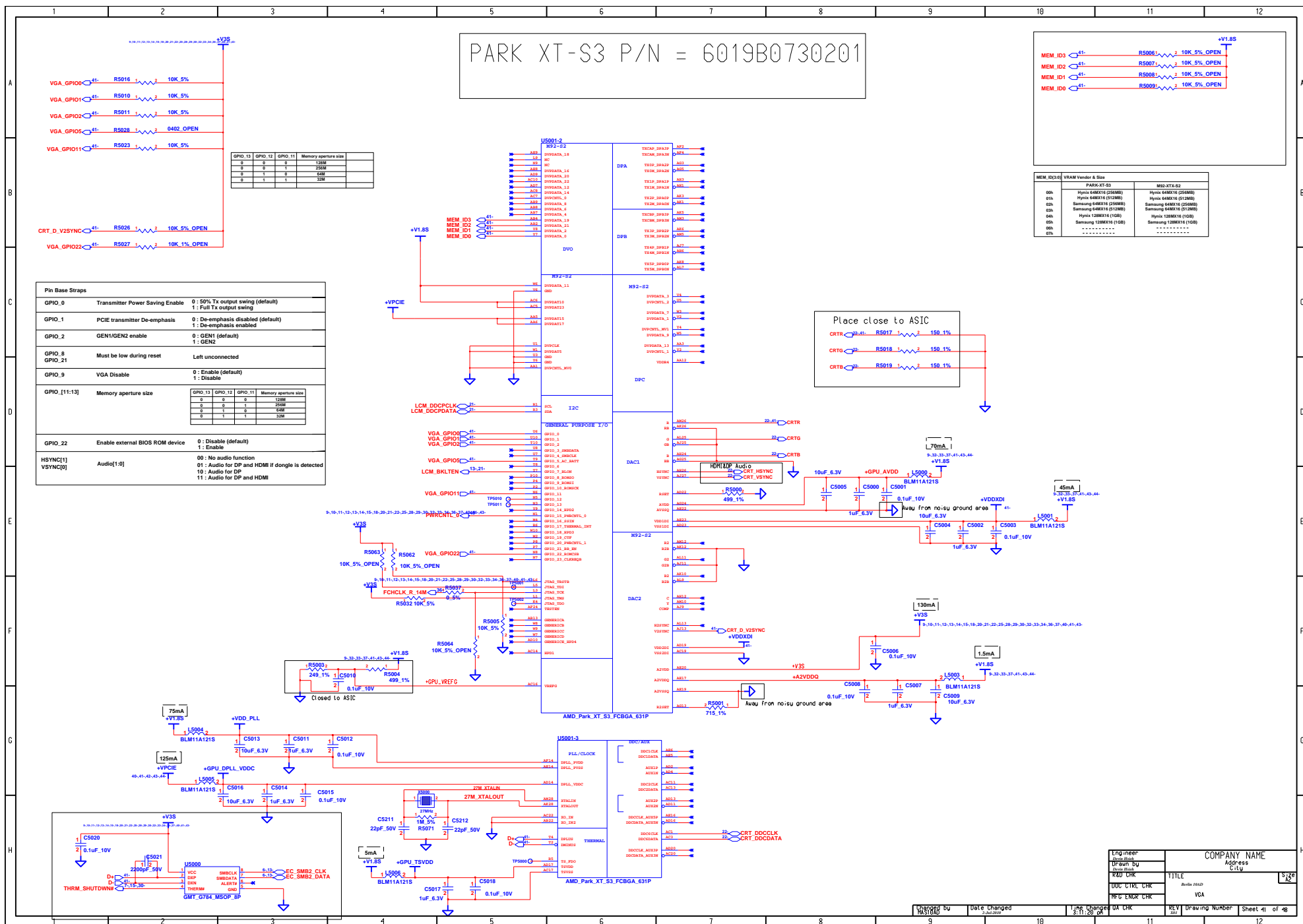
TITLE
Berlin 10AD
Pick Button Board

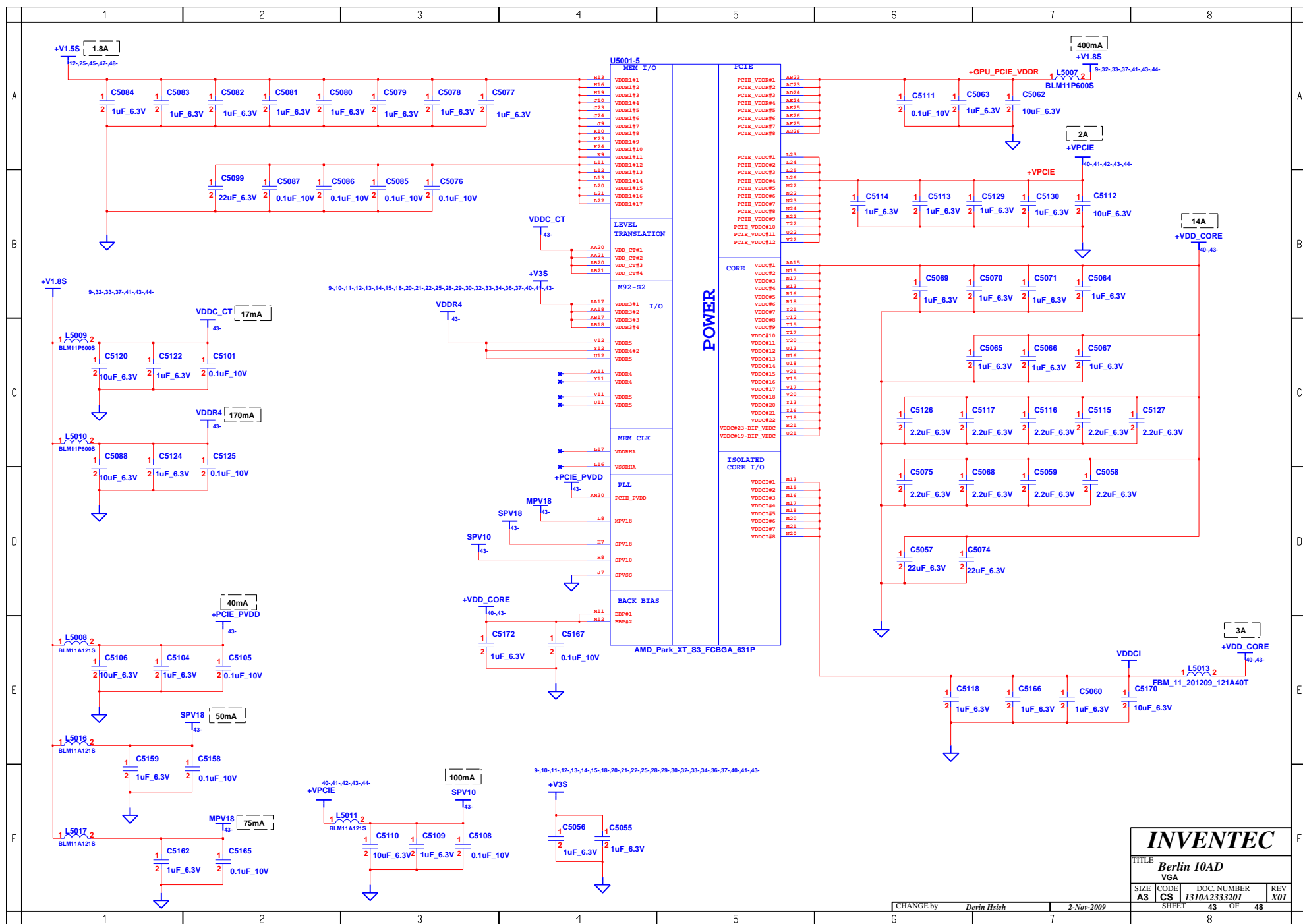
SIZE A3	CODE CS	DOC. NUMBER 1310A2333201	REV X01
-------------------	-------------------	------------------------------------	-------------------

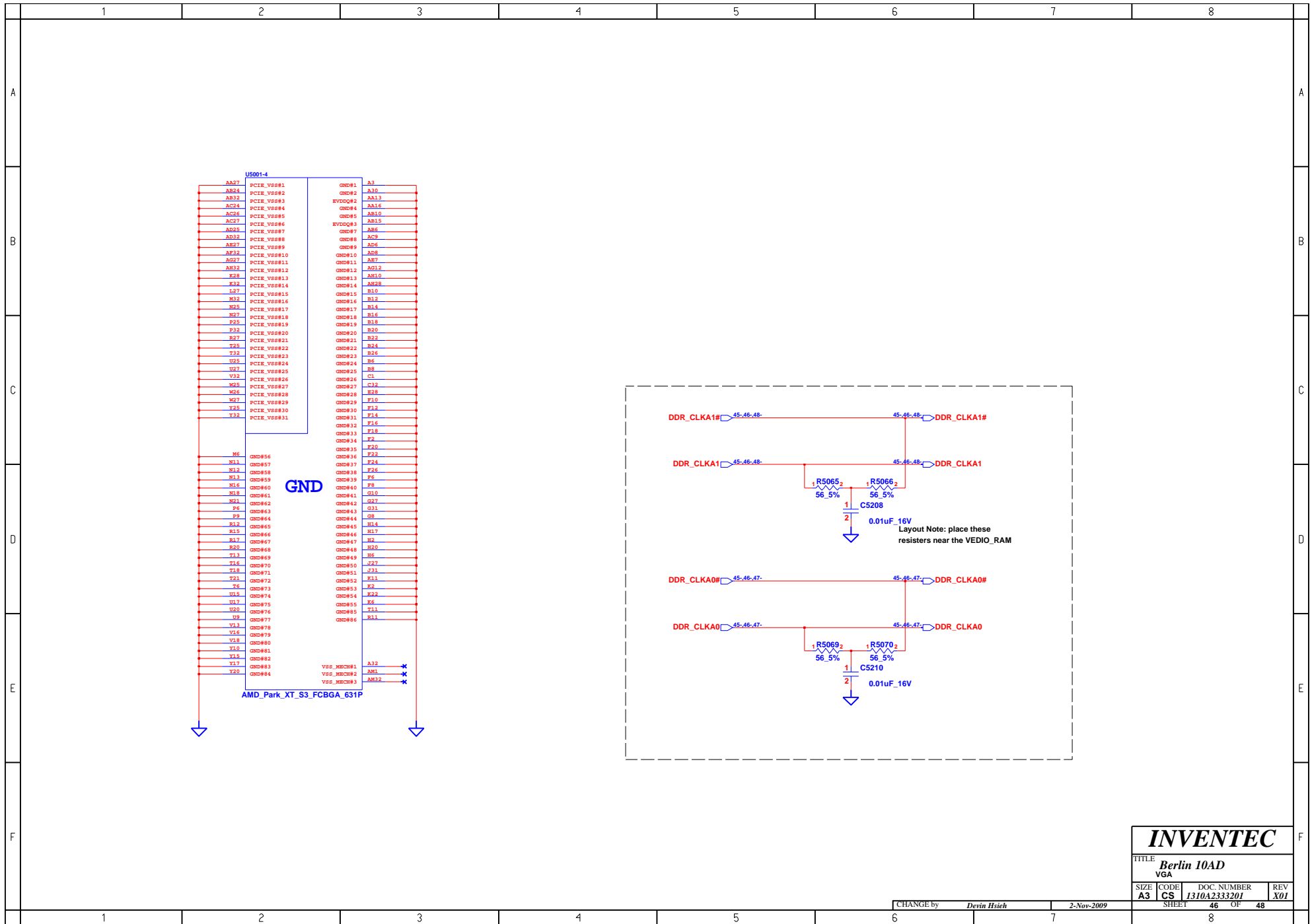
CHANGE by *Devin Hsieh* 28-Jul-2010

SHEET 39 OF 48









INVENTEC

TITLE			
Berlin 10AD			
VGA			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A2333201	X01
SHEET		46	OF 48

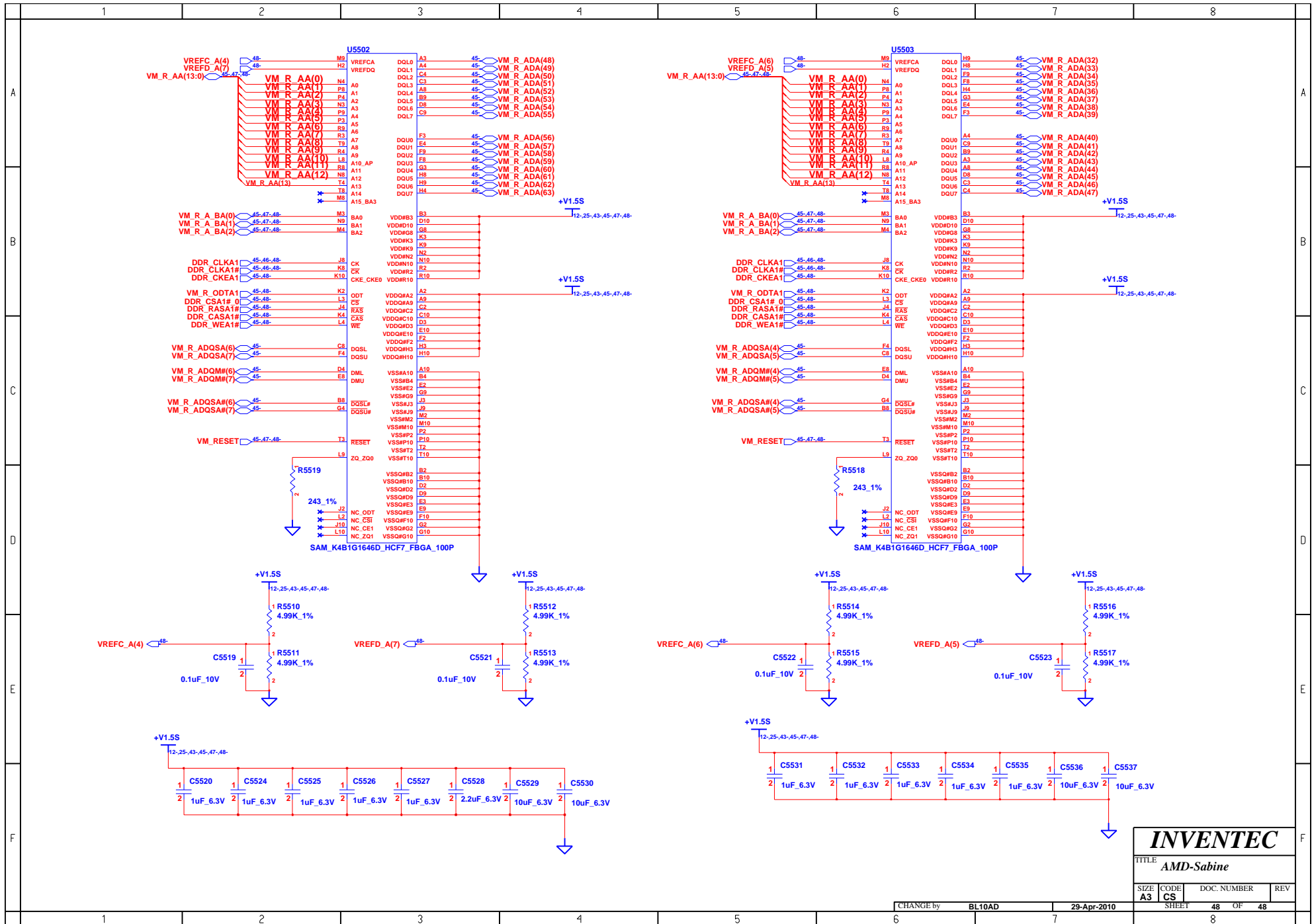
CHANGE by Devin Hsieh 2-Nov-2009

PARK Use channel A

The diagram illustrates the electrical connections for two identical integrated circuits, U5500 and U5501, used in the PARK Use channel A. Each circuit is powered by a +V1.5S supply and includes two reference voltage inputs, VREFC and VREFD, each connected to a 0.1µF capacitor (C5500, C5501 for U5500; C5503, C5504 for U5501). The power supply is filtered by a 4.99K 1% resistor (R5500, R5501 for U5500; R5502, R5503 for U5501) and a 10µF 6.3V capacitor (C5511 for U5500; C5518 for U5501). The signal pins for each IC are connected to a common bus, with specific pins like VM_R_AA(0) through VM_R_AA(12) and VM_R_AA(13) being highlighted. The diagram also shows the connection of various other pins, including VM_R_AA(0) through VM_R_AA(12), VM_R_AA(13), VM_R_AA(14), VM_R_AA(15), VM_R_AA(16), VM_R_AA(17), VM_R_AA(18), VM_R_AA(19), VM_R_AA(20), VM_R_AA(21), VM_R_AA(22), VM_R_AA(23), VM_R_AA(24), VM_R_AA(25), VM_R_AA(26), VM_R_AA(27), VM_R_AA(28), VM_R_AA(29), VM_R_AA(30), VM_R_AA(31), VM_R_AA(32), VM_R_AA(33), VM_R_AA(34), VM_R_AA(35), VM_R_AA(36), VM_R_AA(37), VM_R_AA(38), VM_R_AA(39), VM_R_AA(40), VM_R_AA(41), VM_R_AA(42), VM_R_AA(43), VM_R_AA(44), VM_R_AA(45), VM_R_AA(46), VM_R_AA(47), VM_R_AA(48), VM_R_AA(49), VM_R_AA(50), VM_R_AA(51), VM_R_AA(52), VM_R_AA(53), VM_R_AA(54), VM_R_AA(55), VM_R_AA(56), VM_R_AA(57), VM_R_AA(58), VM_R_AA(59), VM_R_AA(60), VM_R_AA(61), VM_R_AA(62), VM_R_AA(63), VM_R_AA(64), VM_R_AA(65), VM_R_AA(66), VM_R_AA(67), VM_R_AA(68), VM_R_AA(69), VM_R_AA(70), VM_R_AA(71), VM_R_AA(72), VM_R_AA(73), VM_R_AA(74), VM_R_AA(75), VM_R_AA(76), VM_R_AA(77), VM_R_AA(78), VM_R_AA(79), VM_R_AA(80), VM_R_AA(81), VM_R_AA(82), VM_R_AA(83), VM_R_AA(84), VM_R_AA(85), VM_R_AA(86), VM_R_AA(87), VM_R_AA(88), VM_R_AA(89), VM_R_AA(90), VM_R_AA(91), VM_R_AA(92), VM_R_AA(93), VM_R_AA(94), VM_R_AA(95), VM_R_AA(96), VM_R_AA(97), VM_R_AA(98), VM_R_AA(99), VM_R_AA(100), VM_R_AA(101), VM_R_AA(102), VM_R_AA(103), VM_R_AA(104), VM_R_AA(105), VM_R_AA(106), VM_R_AA(107), VM_R_AA(108), VM_R_AA(109), VM_R_AA(110), VM_R_AA(111), VM_R_AA(112), VM_R_AA(113), VM_R_AA(114), VM_R_AA(115), VM_R_AA(116), VM_R_AA(117), VM_R_AA(118), VM_R_AA(119), VM_R_AA(120), VM_R_AA(121), VM_R_AA(122), VM_R_AA(123), VM_R_AA(124), VM_R_AA(125), VM_R_AA(126), VM_R_AA(127), VM_R_AA(128), VM_R_AA(129), VM_R_AA(130), VM_R_AA(131), VM_R_AA(132), VM_R_AA(133), VM_R_AA(134), VM_R_AA(135), VM_R_AA(136), VM_R_AA(137), VM_R_AA(138), VM_R_AA(139), VM_R_AA(140), VM_R_AA(141), VM_R_AA(142), VM_R_AA(143), VM_R_AA(144), VM_R_AA(145), VM_R_AA(146), VM_R_AA(147), VM_R_AA(148), VM_R_AA(149), VM_R_AA(150), VM_R_AA(151), VM_R_AA(152), VM_R_AA(153), VM_R_AA(154), VM_R_AA(155), VM_R_AA(156), VM_R_AA(157), VM_R_AA(158), VM_R_AA(159), VM_R_AA(160), VM_R_AA(161), VM_R_AA(162), VM_R_AA(163), VM_R_AA(164), VM_R_AA(165), VM_R_AA(166), VM_R_AA(167), VM_R_AA(168), VM_R_AA(169), VM_R_AA(170), VM_R_AA(171), VM_R_AA(172), VM_R_AA(173), VM_R_AA(174), VM_R_AA(175), VM_R_AA(176), VM_R_AA(177), VM_R_AA(178), VM_R_AA(179), VM_R_AA(180), VM_R_AA(181), VM_R_AA(182), VM_R_AA(183), VM_R_AA(184), VM_R_AA(185), VM_R_AA(186), VM_R_AA(187), VM_R_AA(188), VM_R_AA(189), VM_R_AA(190), VM_R_AA(191), VM_R_AA(192), VM_R_AA(193), VM_R_AA(194), VM_R_AA(195), VM_R_AA(196), VM_R_AA(197), VM_R_AA(198), VM_R_AA(199), VM_R_AA(200), VM_R_AA(201), VM_R_AA(202), VM_R_AA(203), VM_R_AA(204), VM_R_AA(205), VM_R_AA(206), VM_R_AA(207), VM_R_AA(208), VM_R_AA(209), VM_R_AA(210), VM_R_AA(211), VM_R_AA(212), VM_R_AA(213), VM_R_AA(214), VM_R_AA(215), VM_R_AA(216), VM_R_AA(217), VM_R_AA(218), VM_R_AA(219), VM_R_AA(220), VM_R_AA(221), VM_R_AA(222), VM_R_AA(223), VM_R_AA(224), VM_R_AA(225), VM_R_AA(226), VM_R_AA(227), VM_R_AA(228), VM_R_AA(229), VM_R_AA(230), VM_R_AA(231), VM_R_AA(232), VM_R_AA(233), VM_R_AA(234), VM_R_AA(235), VM_R_AA(236), VM_R_AA(237), VM_R_AA(238), VM_R_AA(239), VM_R_AA(240), VM_R_AA(241), VM_R_AA(242), VM_R_AA(243), VM_R_AA(244), VM_R_AA(245), VM_R_AA(246), VM_R_AA(247), VM_R_AA(248), VM_R_AA(249), VM_R_AA(250), VM_R_AA(251), VM_R_AA(252), VM_R_AA(253), VM_R_AA(254), VM_R_AA(255), VM_R_AA(256), VM_R_AA(257), VM_R_AA(258), VM_R_AA(259), VM_R_AA(260), VM_R_AA(261), VM_R_AA(262), VM_R_AA(263), VM_R_AA(264), VM_R_AA(265), VM_R_AA(266), VM_R_AA(267), VM_R_AA(268), VM_R_AA(269), VM_R_AA(270), VM_R_AA(271), VM_R_AA(272), VM_R_AA(273), VM_R_AA(274), VM_R_AA(275), VM_R_AA(276), VM_R_AA(277), VM_R_AA(278), VM_R_AA(279), VM_R_AA(280), VM_R_AA(281), VM_R_AA(282), VM_R_AA(283), VM_R_AA(284), VM_R_AA(285), VM_R_AA(286), VM_R_AA(287), VM_R_AA(288), VM_R_AA(289), VM_R_AA(290), VM_R_AA(291), VM_R_AA(292), VM_R_AA(293), VM_R_AA(294), VM_R_AA(295), VM_R_AA(296), VM_R_AA(297), VM_R_AA(298), VM_R_AA(299), VM_R_AA(300), VM_R_AA(301), VM_R_AA(302), VM_R_AA(303), VM_R_AA(304), VM_R_AA(305), VM_R_AA(306), VM_R_AA(307), VM_R_AA(308), VM_R_AA(309), VM_R_AA(310), VM_R_AA(311), VM_R_AA(312), VM_R_AA(313), VM_R_AA(314), VM_R_AA(315), VM_R_AA(316), VM_R_AA(317), VM_R_AA(318), VM_R_AA(319), VM_R_AA(320), VM_R_AA(321), VM_R_AA(322), VM_R_AA(323), VM_R_AA(324), VM_R_AA(325), VM_R_AA(326), VM_R_AA(327), VM_R_AA(328), VM_R_AA(329), VM_R_AA(330), VM_R_AA(331), VM_R_AA(332), VM_R_AA(333), VM_R_AA(334), VM_R_AA(335), VM_R_AA(336), VM_R_AA(337), VM_R_AA(338), VM_R_AA(339), VM_R_AA(340), VM_R_AA(341), VM_R_AA(342), VM_R_AA(343), VM_R_AA(344), VM_R_AA(345), VM_R_AA(346), VM_R_AA(347), VM_R_AA(348), VM_R_AA(349), VM_R_AA(350), VM_R_AA(351), VM_R_AA(352), VM_R_AA(353), VM_R_AA(354), VM_R_AA(355), VM_R_AA(356), VM_R_AA(357), VM_R_AA(358), VM_R_AA(359), VM_R_AA(360), VM_R_AA(361), VM_R_AA(362), VM_R_AA(363), VM_R_AA(364), VM_R_AA(365), VM_R_AA(366), VM_R_AA(367), VM_R_AA(368), VM_R_AA(369), VM_R_AA(370), VM_R_AA(371), VM_R_AA(372), VM_R_AA(373), VM_R_AA(374), VM_R_AA(375), VM_R_AA(376), VM_R_AA(377), VM_R_AA(378), VM_R_AA(379), VM_R_AA(380), VM_R_AA(381), VM_R_AA(382), VM_R_AA(383), VM_R_AA(384), VM_R_AA(385), VM_R_AA(386), VM_R_AA(387), VM_R_AA(388), VM_R_AA(389), VM_R_AA(390), VM_R_AA(391), VM_R_AA(392), VM_R_AA(393), VM_R_AA(394), VM_R_AA(395), VM_R_AA(396), VM_R_AA(397), VM_R_AA(398), VM_R_AA(399), VM_R_AA(400), VM_R_AA(401), VM_R_AA(402), VM_R_AA(403), VM_R_AA(404), VM_R_AA(405), VM_R_AA(406), VM_R_AA(407), VM_R_AA(408), VM_R_AA(409), VM_R_AA(410), VM_R_AA(411), VM_R_AA(412), VM_R_AA(413), VM_R_AA(414), VM_R_AA(415), VM_R_AA(416), VM_R_AA(417), VM_R_AA(418), VM_R_AA(419), VM_R_AA(420), VM_R_AA(421), VM_R_AA(422), VM_R_AA(423), VM_R_AA(424), VM_R_AA(425), VM_R_AA(426), VM_R_AA(427), VM_R_AA(428), VM_R_AA(429), VM_R_AA(430), VM_R_AA(431), VM_R_AA(432), VM_R_AA(433), VM_R_AA(434), VM_R_AA(435), VM_R_AA(436), VM_R_AA(437), VM_R_AA(438), VM_R_AA(439), VM_R_AA(440), VM_R_AA(441), VM_R_AA(442), VM_R_AA(443), VM_R_AA(444), VM_R_AA(445), VM_R_AA(446), VM_R_AA(447), VM_R_AA(448), VM_R_AA(449), VM_R_AA(450), VM_R_AA(451), VM_R_AA(452), VM_R_AA(453), VM_R_AA(454), VM_R_AA(455), VM_R_AA(456), VM_R_AA(457), VM_R_AA(458), VM_R_AA(459), VM_R_AA(460), VM_R_AA(461), VM_R_AA(462), VM_R_AA(463), VM_R_AA(464), VM_R_AA(465), VM_R_AA(466), VM_R_AA(467), VM_R_AA(468), VM_R_AA(469), VM_R_AA(470), VM_R_AA(471), VM_R_AA(472), VM_R_AA(473), VM_R_AA(474), VM_R_AA(475), VM_R_AA(476), VM_R_AA(477), VM_R_AA(478), VM_R_AA(479), VM_R_AA(480), VM_R_AA(481), VM_R_AA(482), VM_R_AA(483), VM_R_AA(4

SHEET		47	OF	48
-------	--	----	----	----

CHANGE by	BL10AD	29-Apr-2010
-----------	--------	-------------



INVENTEC

TITLE
AMD-Sabine

SIZE	CODE	DOC. NUMBER	REV
A3	CS	SHEET 48 OF 48	

CHANGE by BL10AD 29-Apr-2010

8