

CODE NAME :

PROJECT NAME : MINK_C3PO_INTEL

VERSION : A00

DATE : 2010/07/16

FLEXTRONICS CONFIDENTIAL

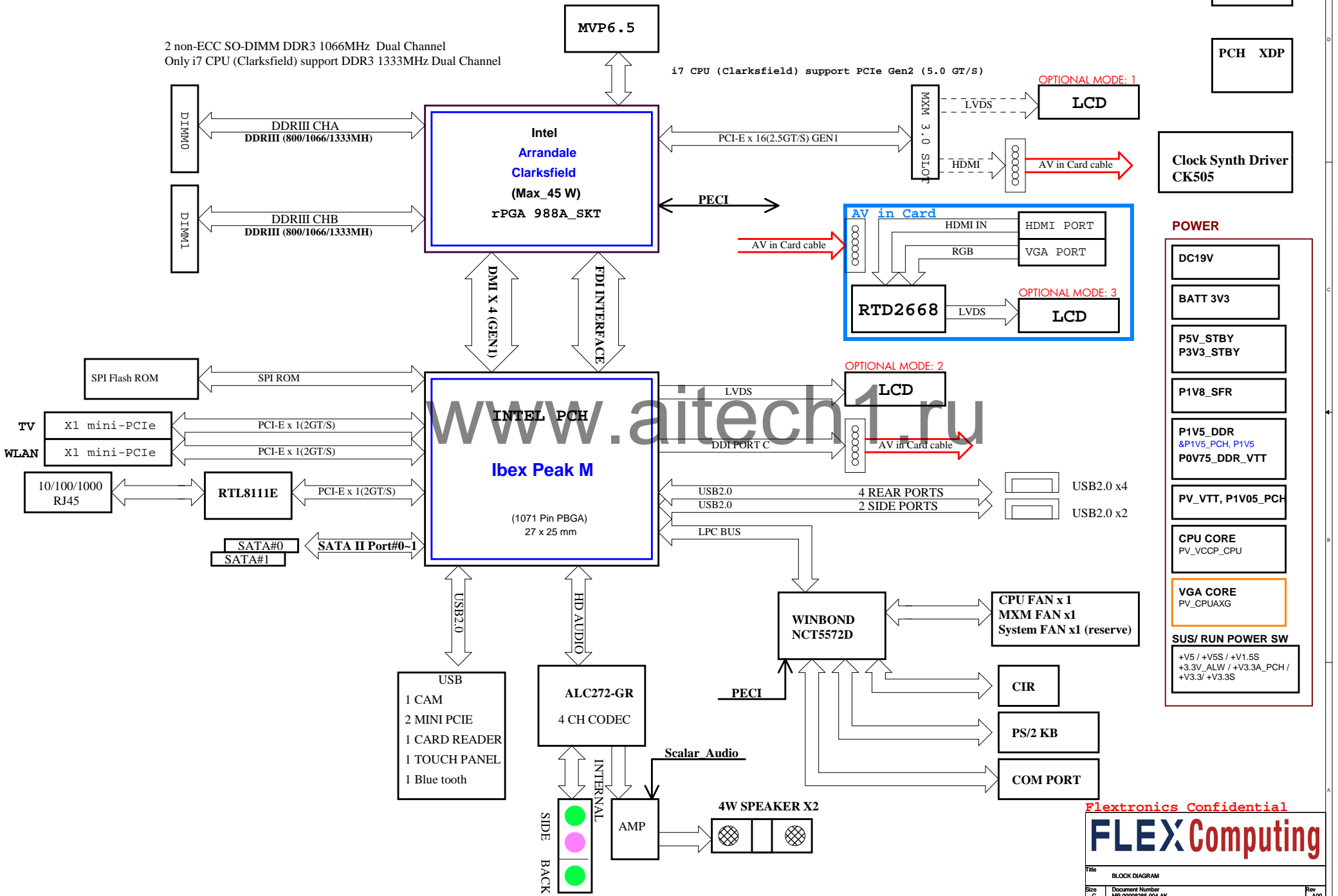
DO NOT DISTRIBUTE
THESE SCHEMATICS SARE NOT VALIDATED

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03	POWER DISTRIBUTION
04	CLOCK DISTRIBUTION
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08	BLANK
09	CLOCK GEN_CK505
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11	CPU_MEMORY_CHA
12	CPU_MEMORY_CHB
13	CPU_PCIE/DMI/IPL I/F
14	CPU_PWR_VCCP
15	CPU_RSVD/GFX_PWR
16	CPU_GND
17	CPU & PCH_XDP
18	DDR3\CPU_CHA_DIMM0
19	DDR3\CPU_CHB_DIMM0
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30	MXM 3.0 CONN

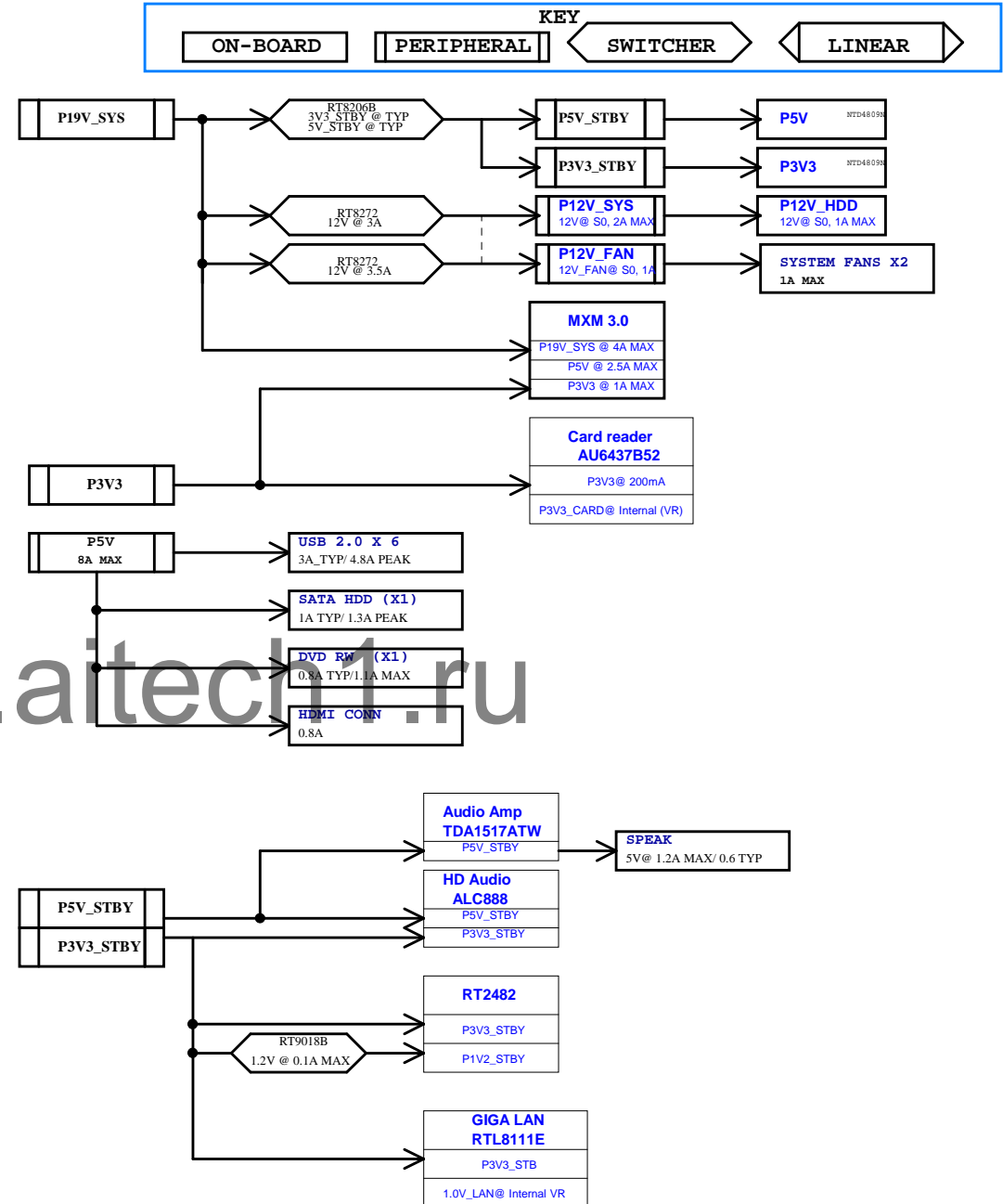
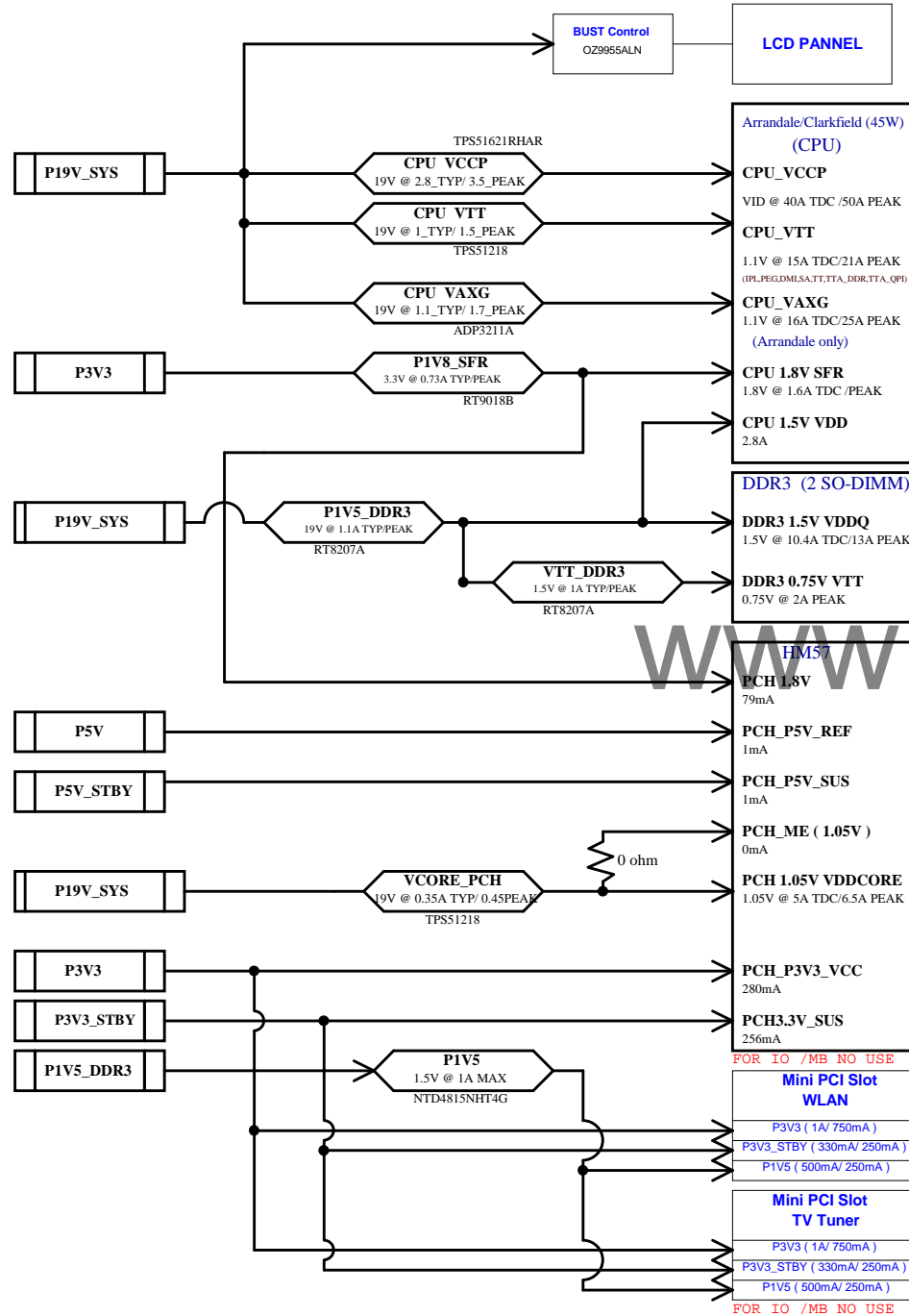
Page	Description
31	MXM_HDMI/ LVDS/ CONN
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36	USB_BACK
37	USB_SIDE/BT/TOUCH/CAMERA/RF
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44	SIDE BUTTON/ LED/ DISPLAY IN
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56	PS2 HEADER/ DISCHARGE CIRCUI
57	SCREW HOLE_LBL_HS
58	EVT_Change List
59	DVT_Change List

BLOCK DIAGRAM

2 non-ECC SO-DIMM DDR3 1066MHz Dual Channel
Only i7 CPU (Clarksfield) support DDR3 1333MHz Dual Channel



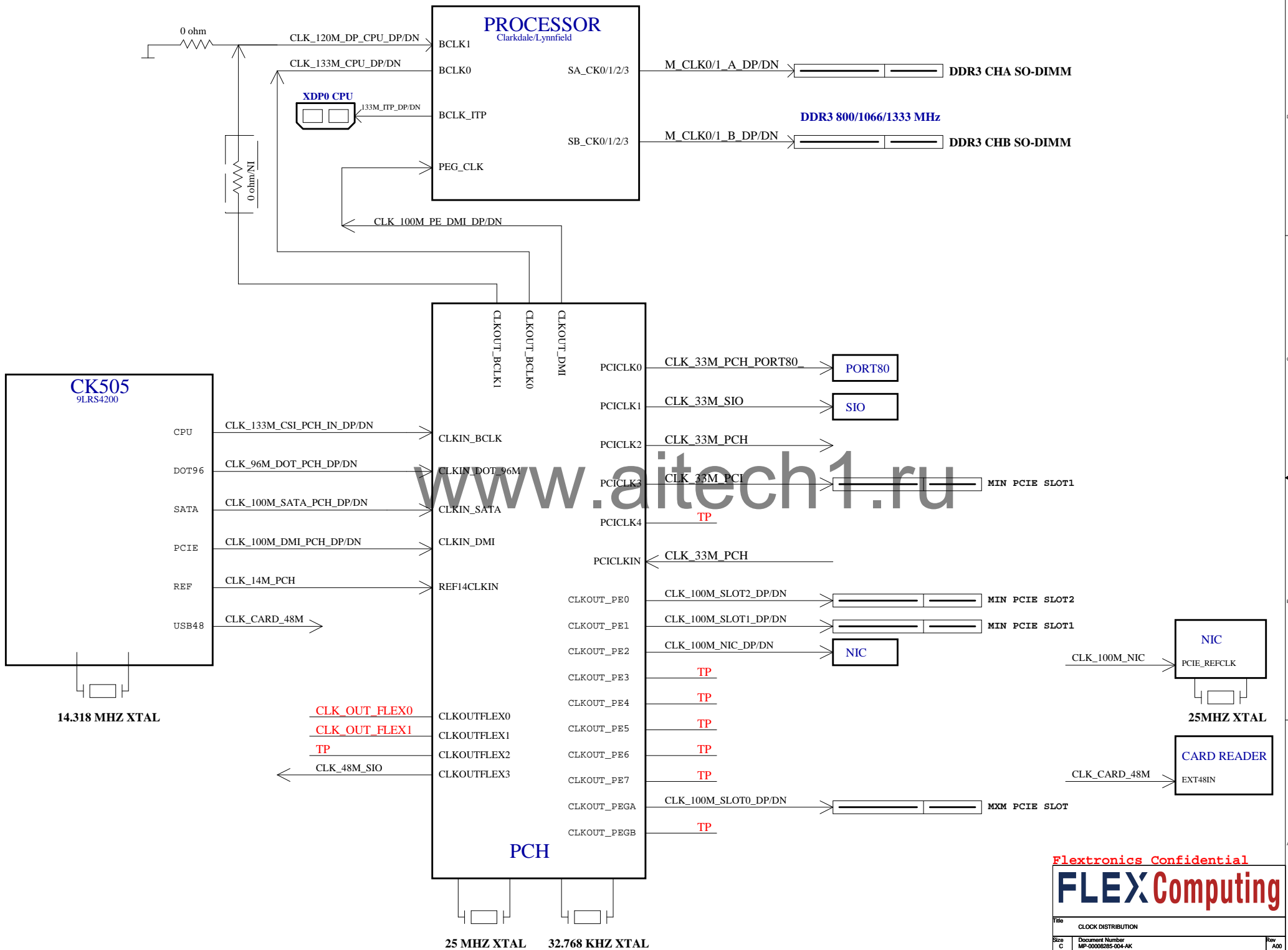
NOTE VR EFFICIENCY INTO ACCOUNT WHEN SIZING POWER SUPPLY

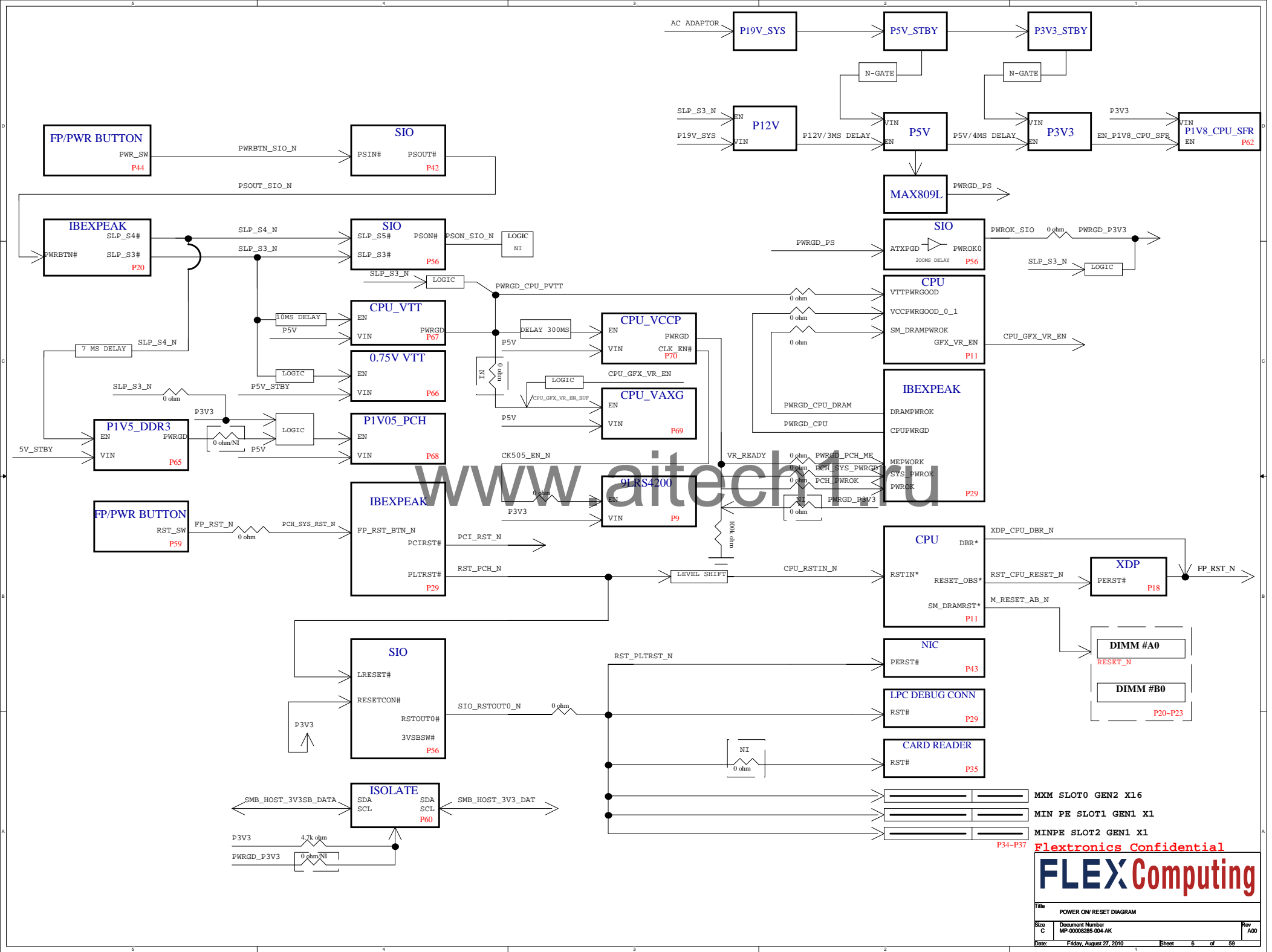


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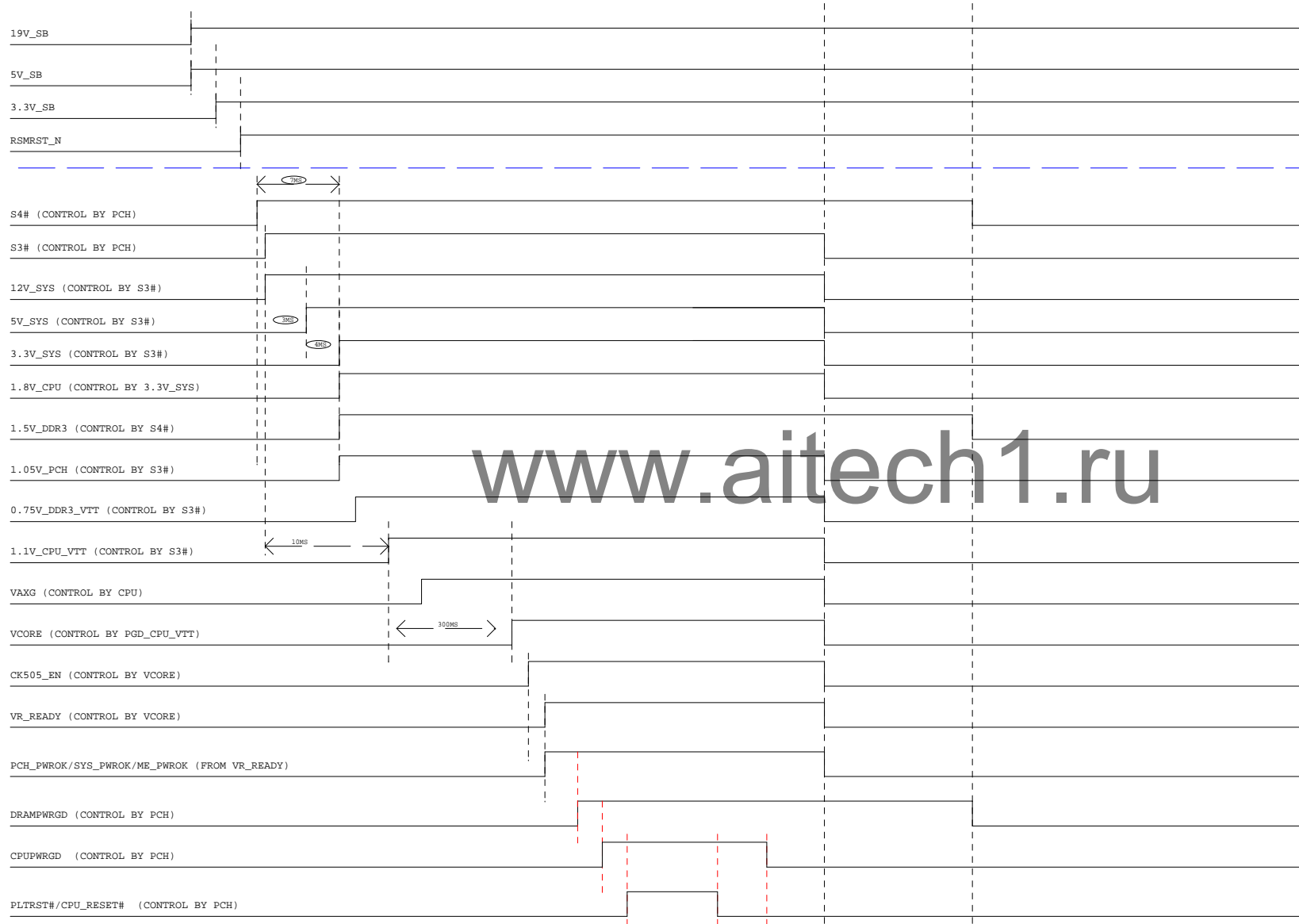
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Title POWER DISTRIBUTION		
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HM57 power on/down sequency



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Title POWER ON SEQUENCE		
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BLANK

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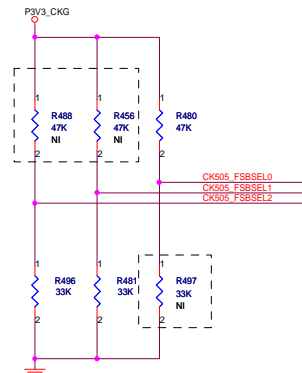
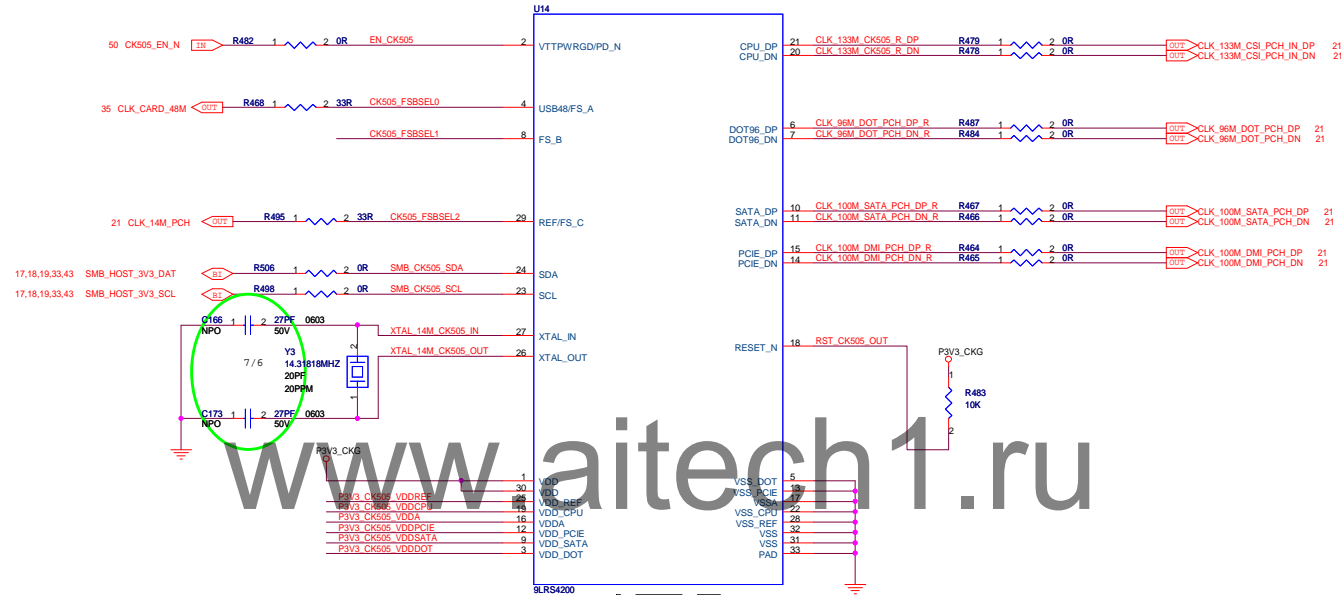
Title		
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Size	Document Number	Rev
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CLOCK_GEN_CK505 SOLUTION CHOSE

VER:X01 item023

DEFAULT ->

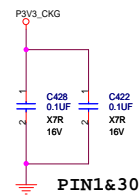
IC select	damping resistors R4,R5,R8,R9, R10,R12,R13,R14	X'tal Cap load C1 & C2
ICS9LR54200 MP-00005845-000	Resisters Value 0R	CAP Value 20pF
RTM875N-638	Resisters Value 33R	CAP Value 27pF



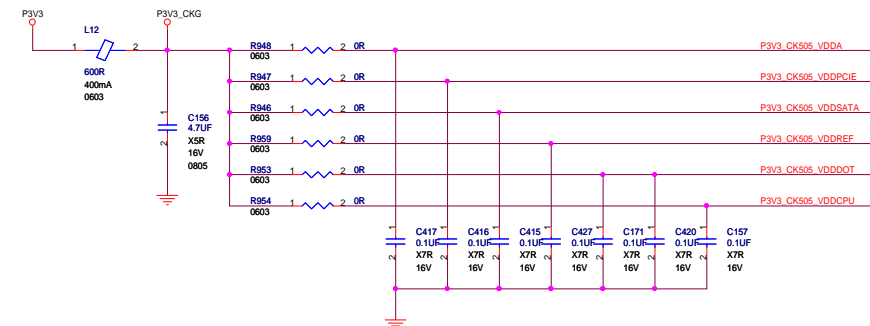
Clock Selection Table

FSC	FSB	FSA	Function
1	0	1	100 MHz CPU
0	0	1	133 MHz CPU
0	1	1	166 MHz CPU
0	1	0	200 MHz CPU
0	0	0	266 MHz CPU
1	0	0	333 MHz CPU
1	1	0	400 MHz CPU
1	1	1	Reserved

DEFAULT



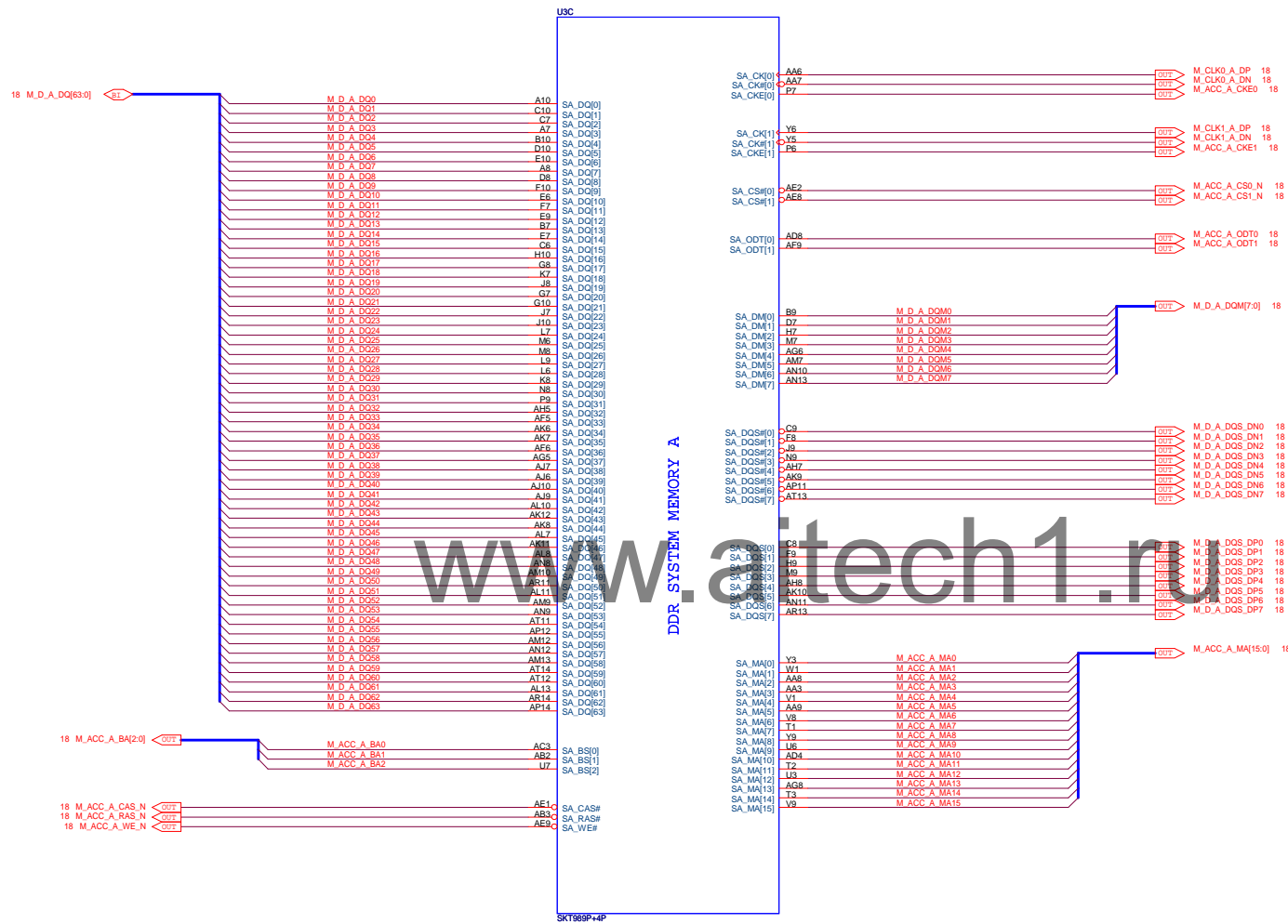
PIN1&30

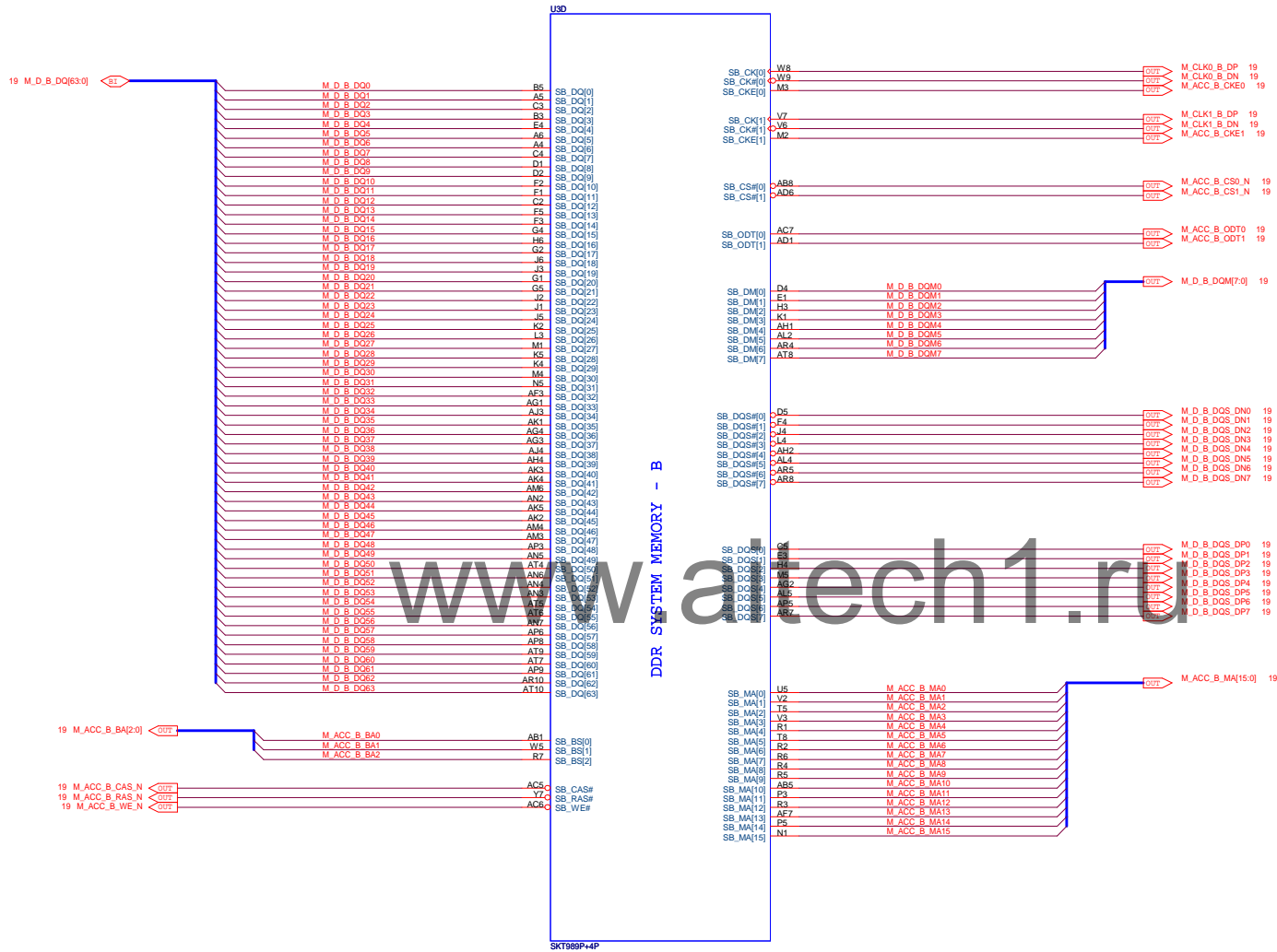


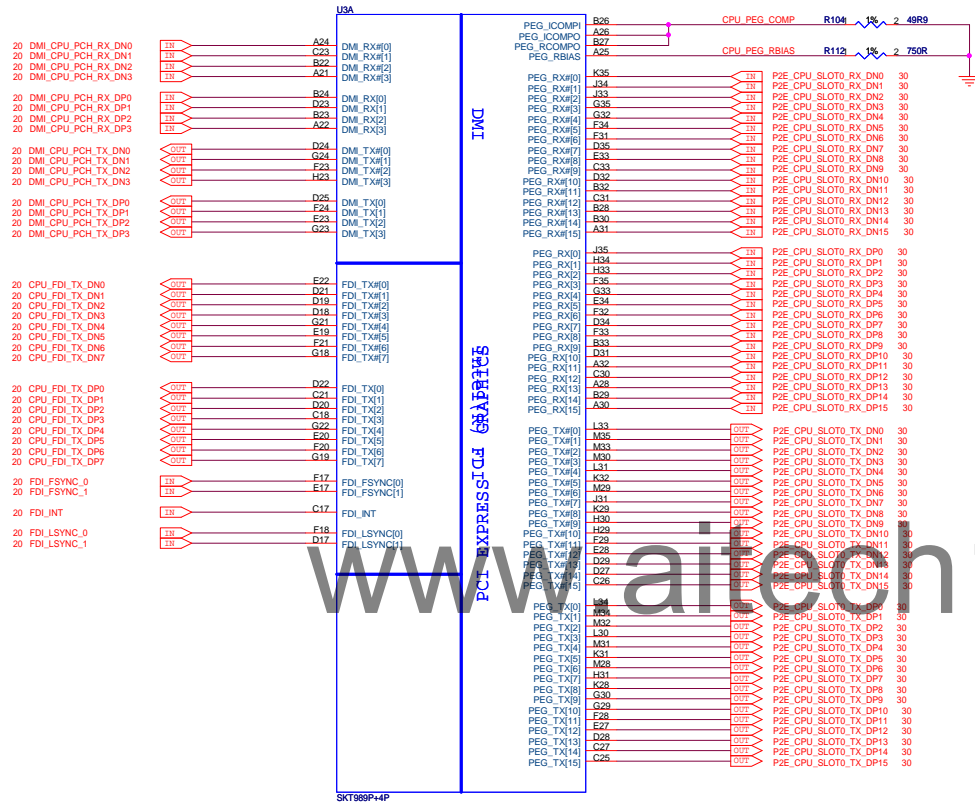
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Title CLOCK_GEN_CK505		
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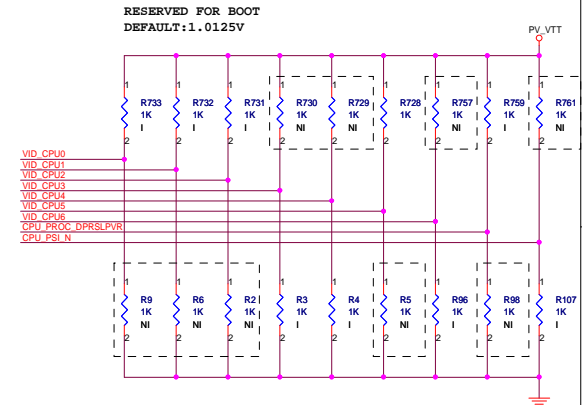
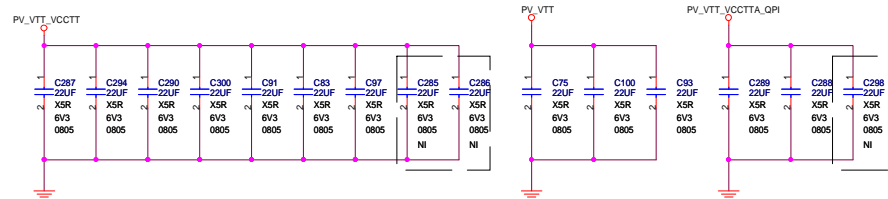
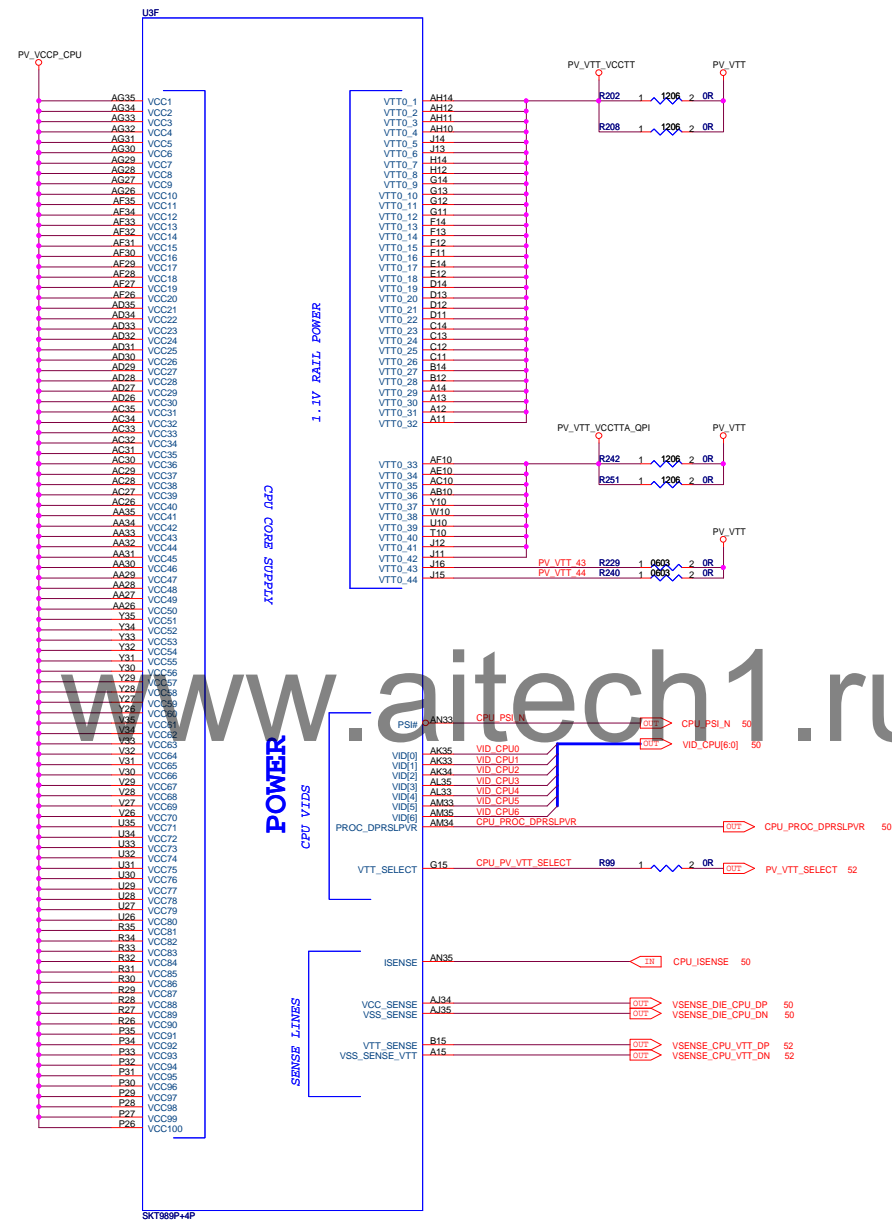


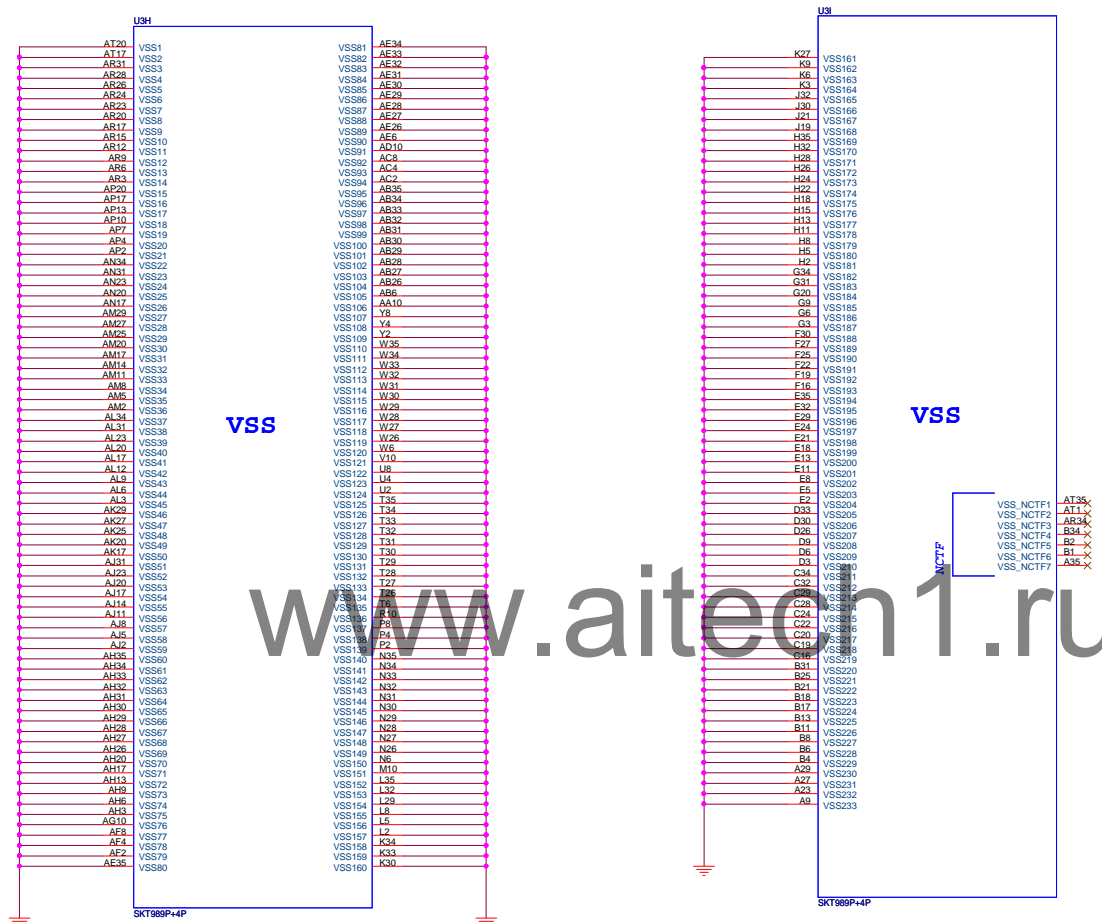
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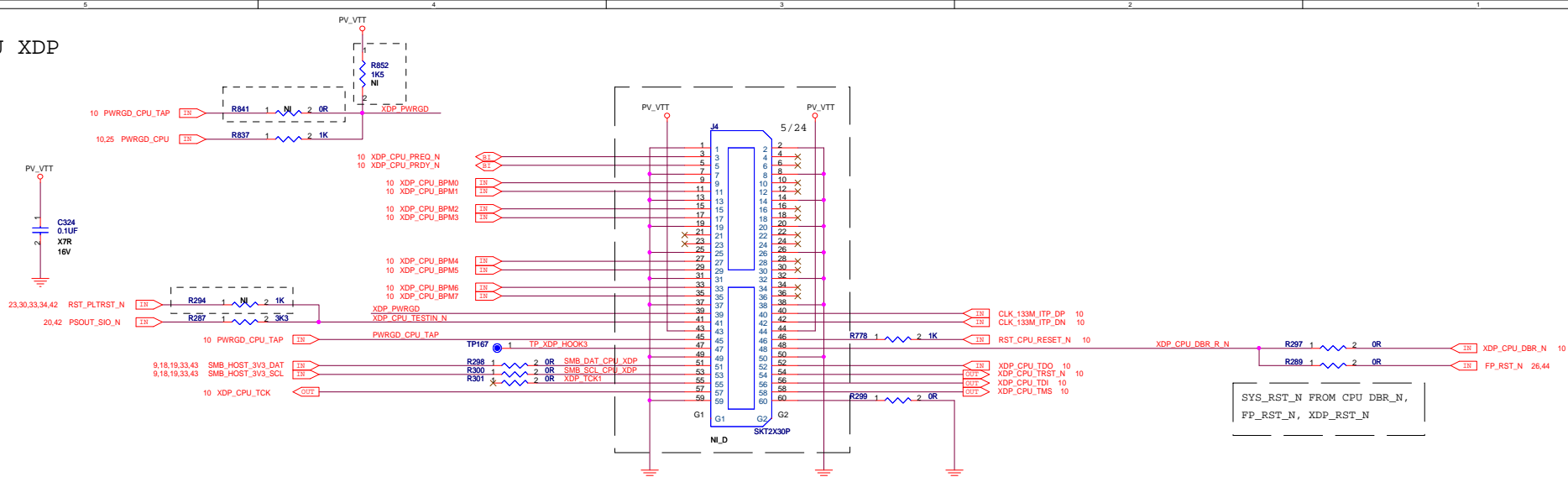
FLEXComputing

File		
CPU_PCIE/DM/PL V/F		
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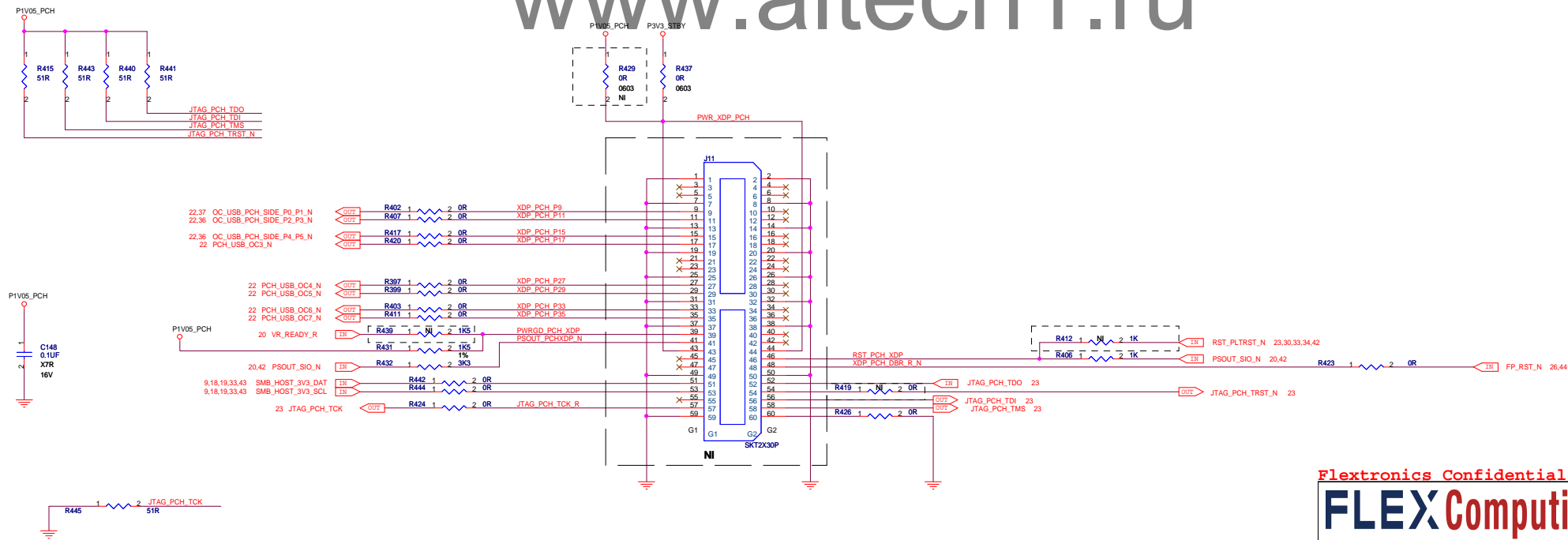


CPU XDP



PCH XDP (NI)

PCH JTAG TERMINATION

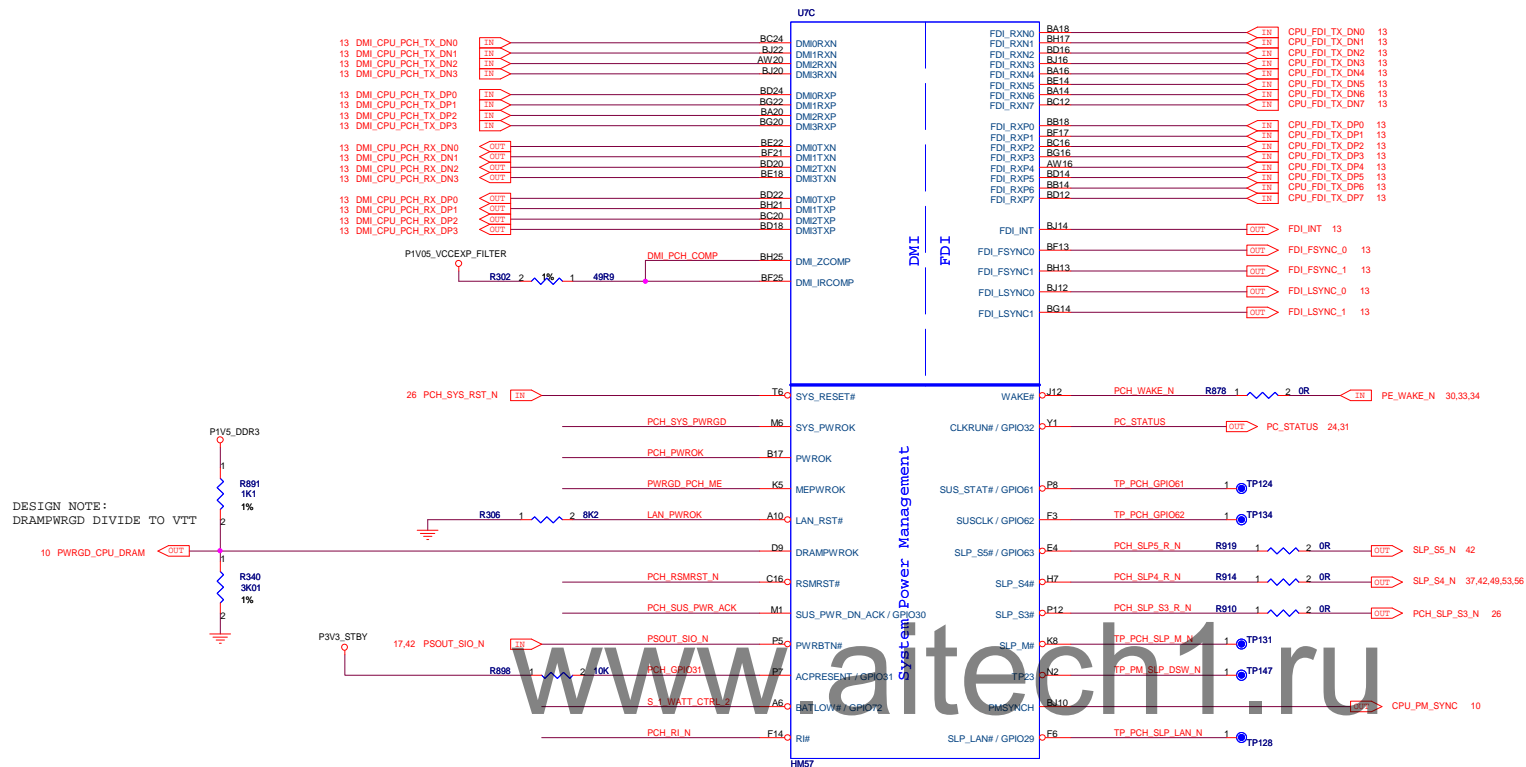


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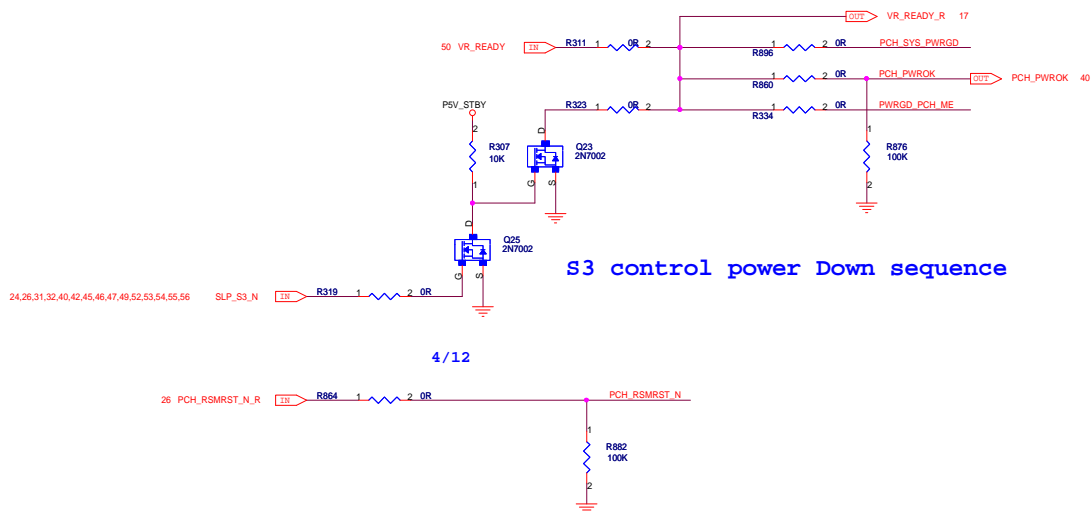
FLEX Computing

Title			
CPU & PCH_XDP			
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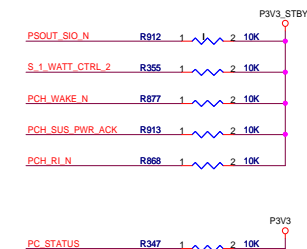
DESIGN NOTE:
DRAMPWRGD DIVIDE TO VTT



PCH POWER ON SEQUENCY



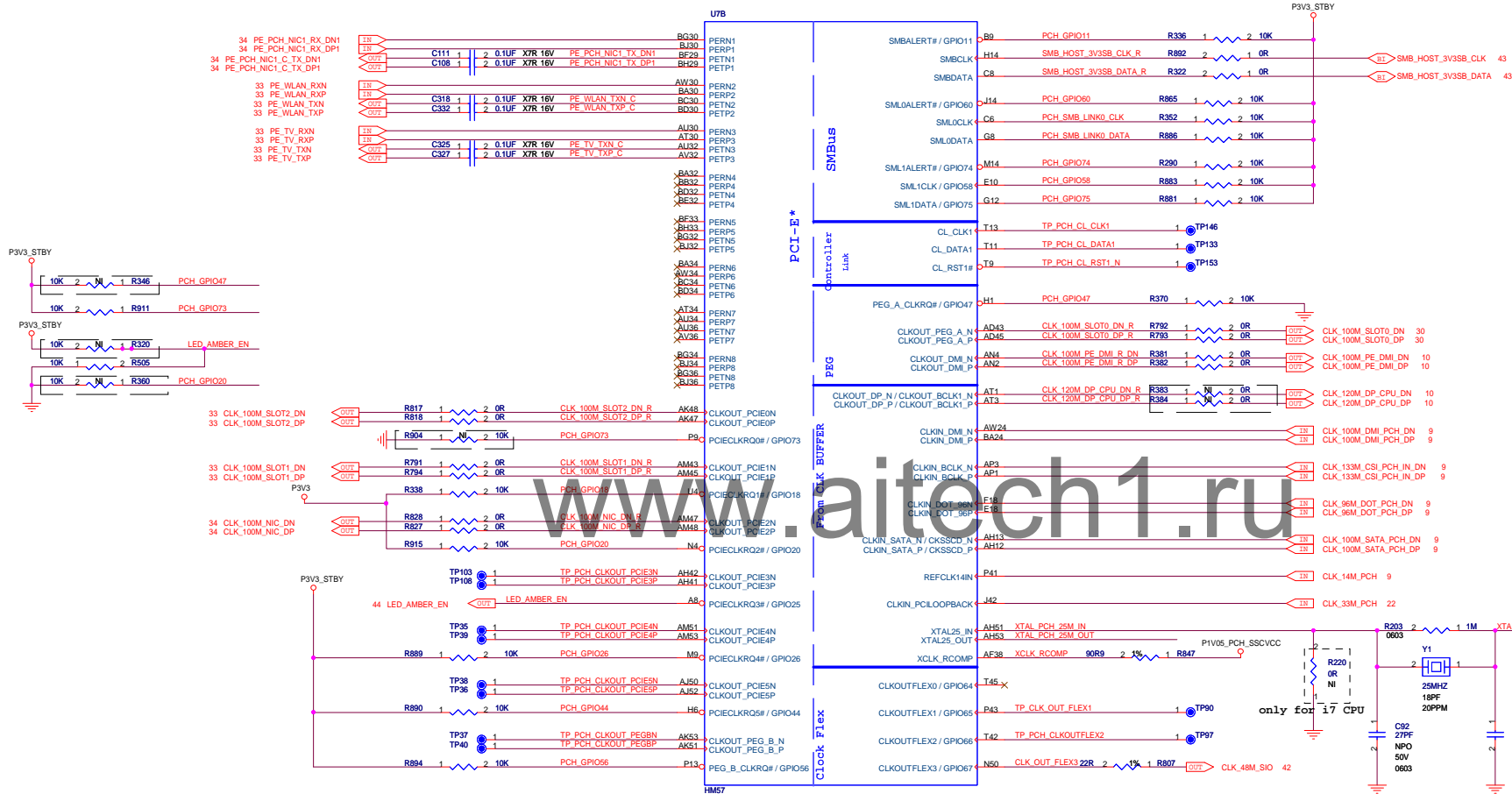
S3 control power Down sequence



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Title		
PCH_DMIFDI		
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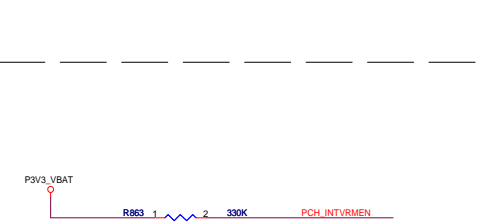
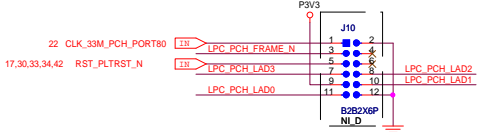
CLKOUT_PEG_A/B/P/N	CLKOUT_PCIE [0..7] P/N
100M PE GEN2 CLK	100M PE GEN1 CLK
CLKOUT_HCLK0_N/CLKOUT_PCIE0N	CLKIN_HCLK_N
133M CLK OR 100M PE GNE1 CLK	133M CLK FROM 505
CLKOUT_DMI_N	
CLK 100M PE GNE2 CLK	

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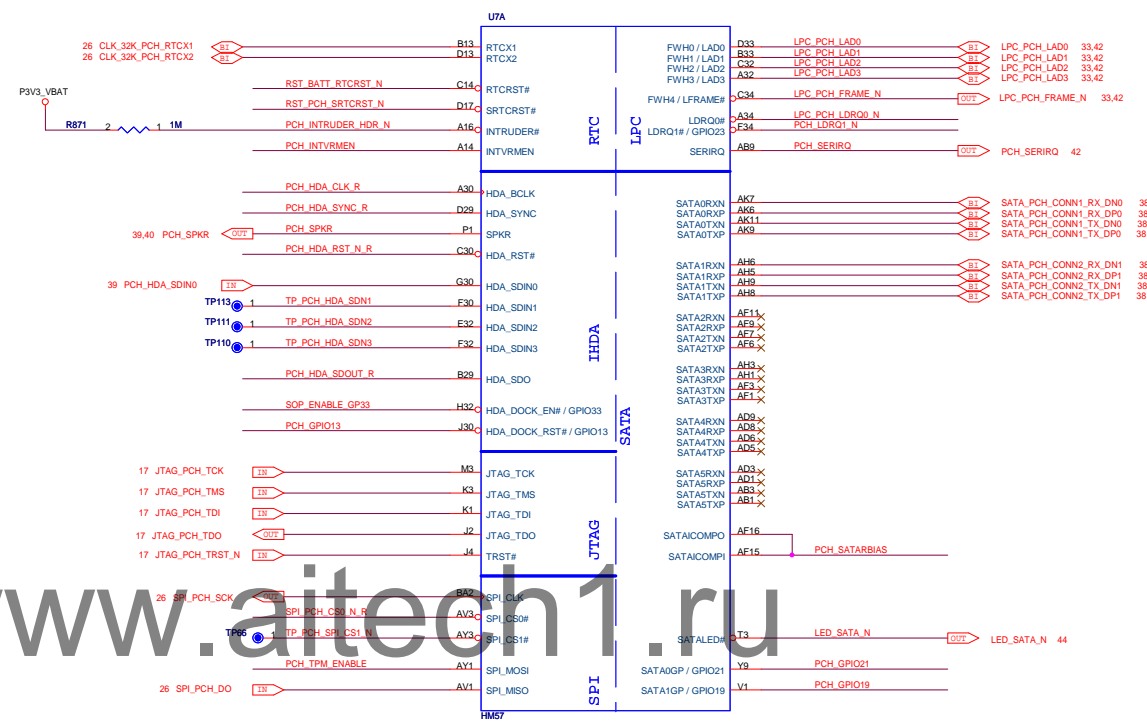
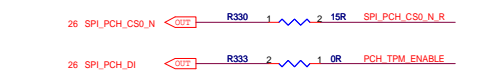
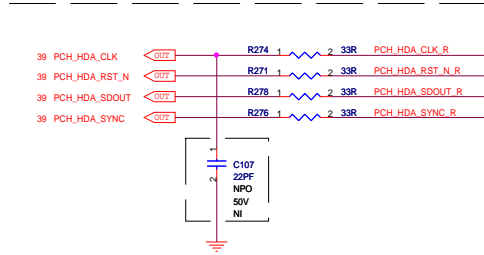
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Title		
PCH_PCIE/CLK		
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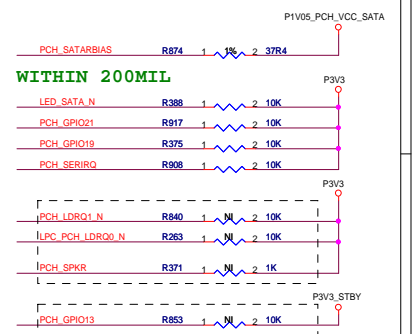
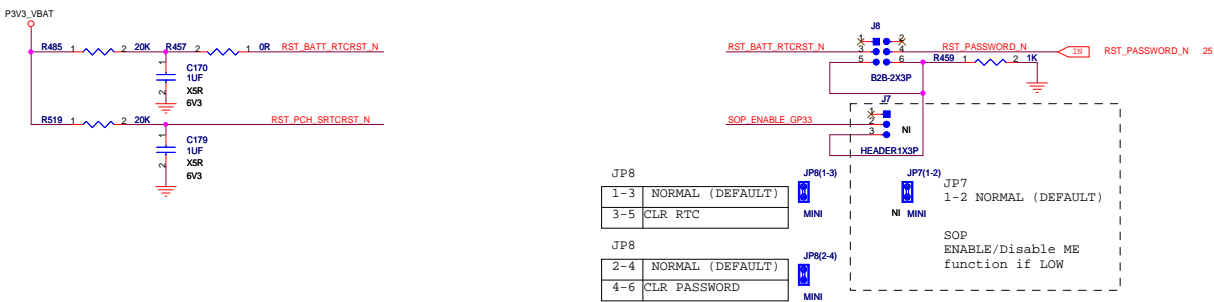
LPC DEBUG CONN



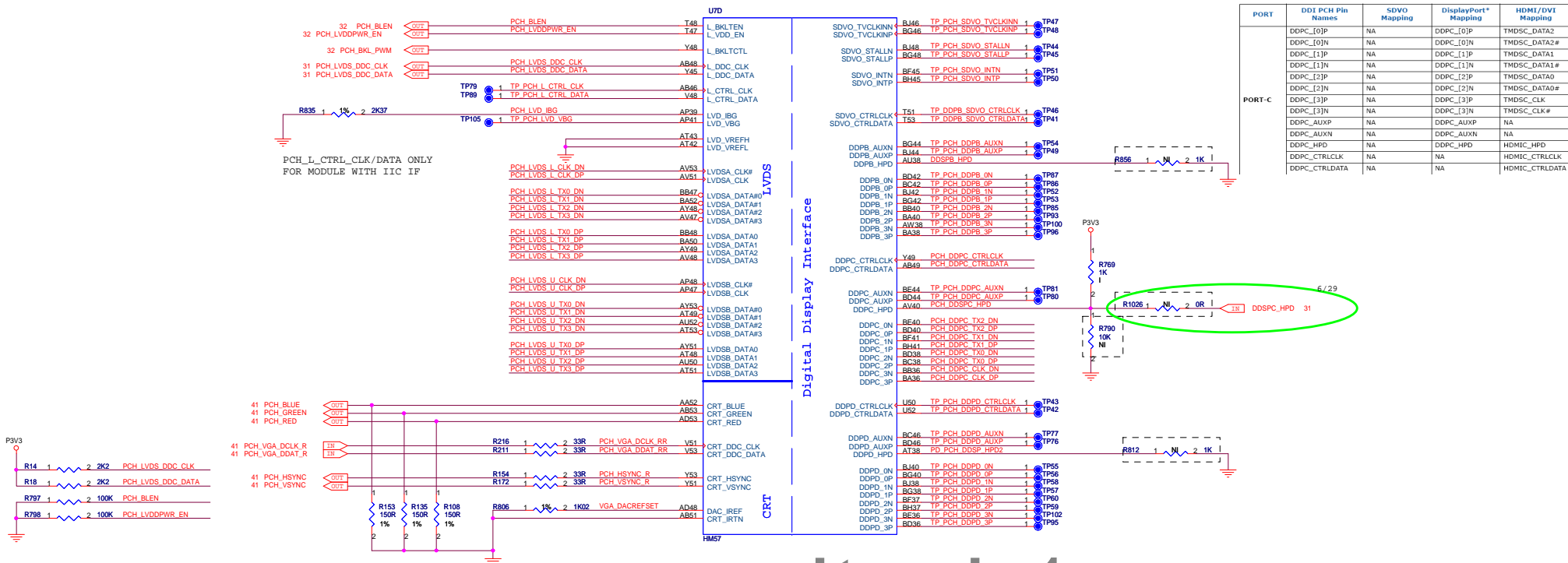
PULL HIGH TO ENABLE INTERNAL VRM



CLEAR CMOS/CLEAR PASSWORD

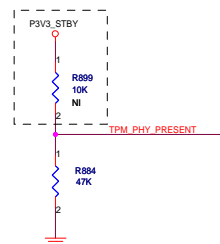
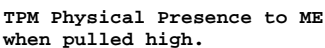
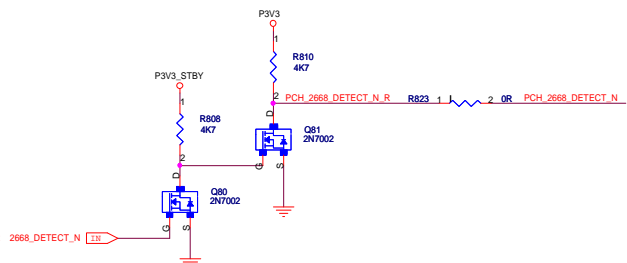
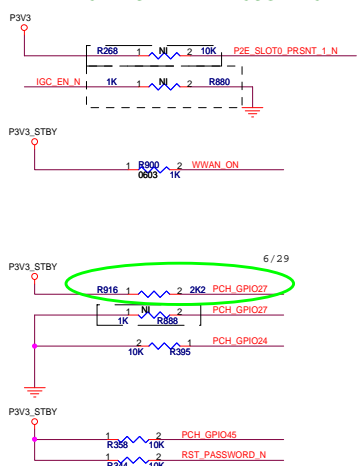


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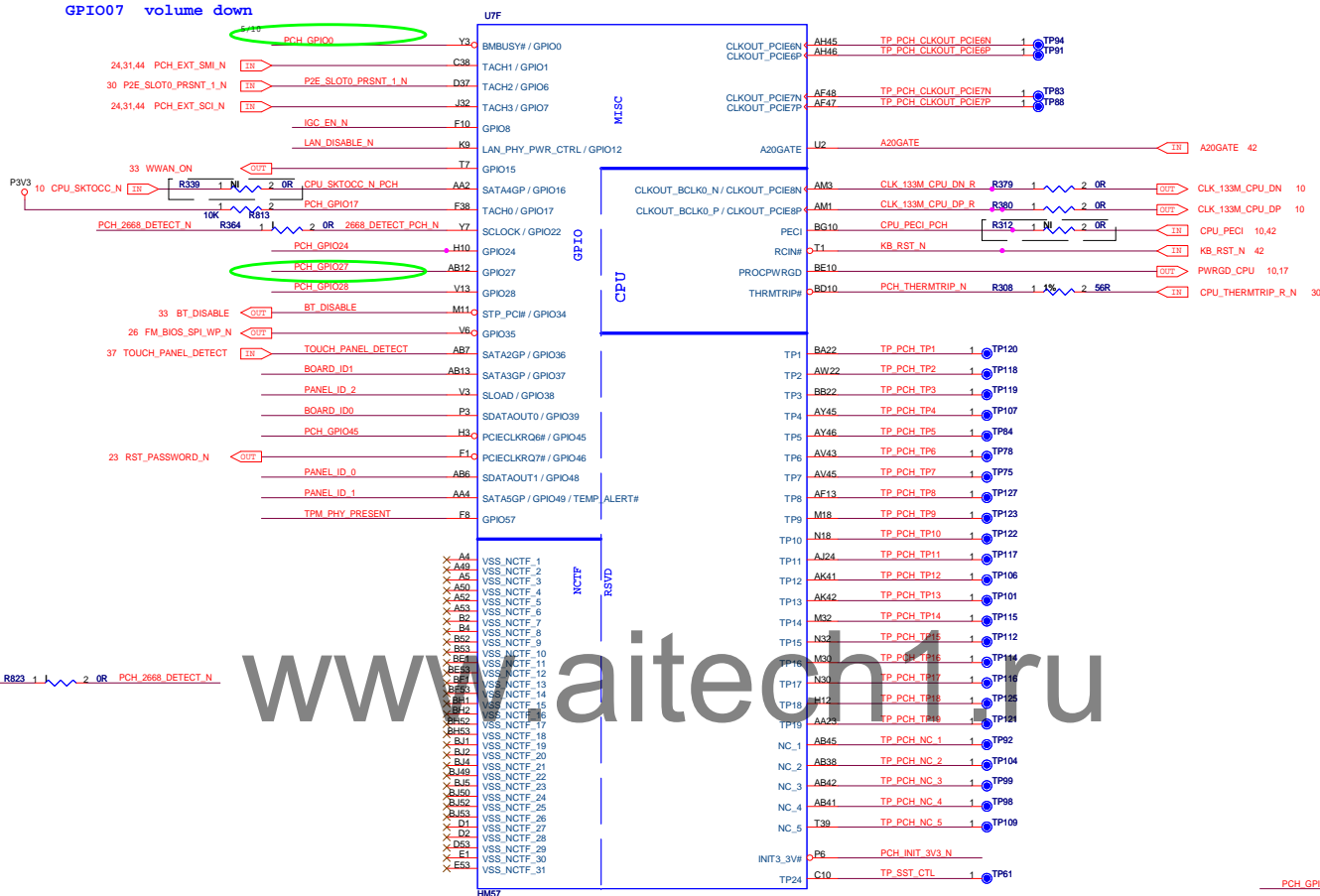


Title			
PCH_LVDS/ DDI/ CONN			
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CLOCK VALIDATION STRAP
EMPTY FOR BUFFER THROUGH MODE



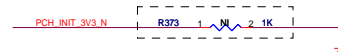
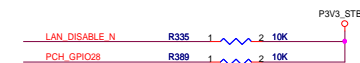
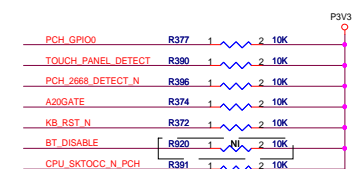
```
GPI001  volume up
GPI007  volume down
```



```

PECI ROUTE:
1. CPU TO PCH
2. CPU TO SIO (DEFAULT)

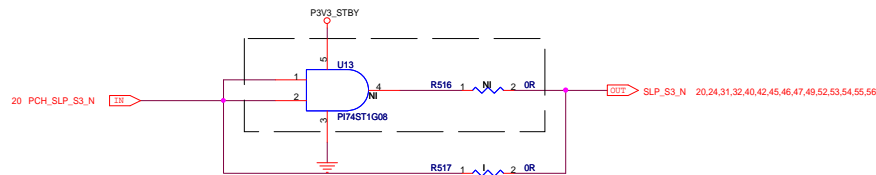
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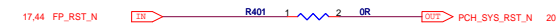
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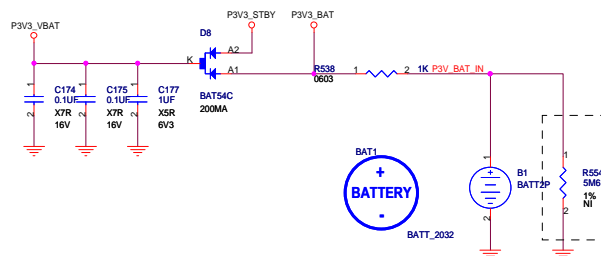
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PCH_GPIO/MISC_A		
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C	MP-00008285-004-AK	A



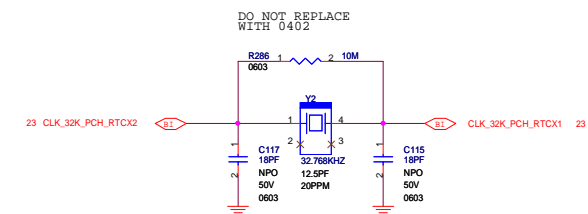
PCH_SYS_RST---MUST IN S0 POWER



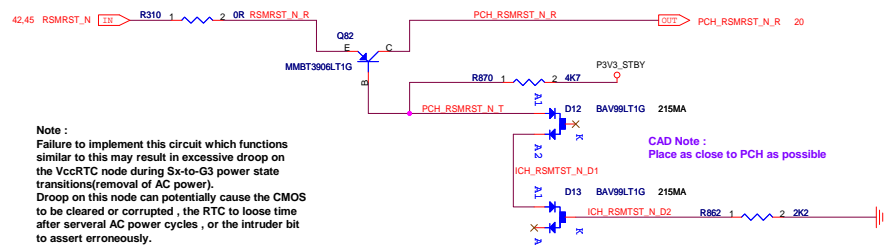
BATTERY



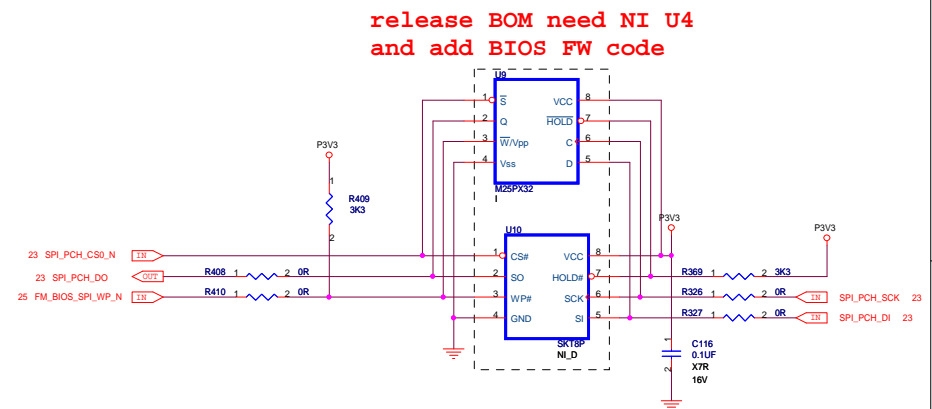
RTC CLK

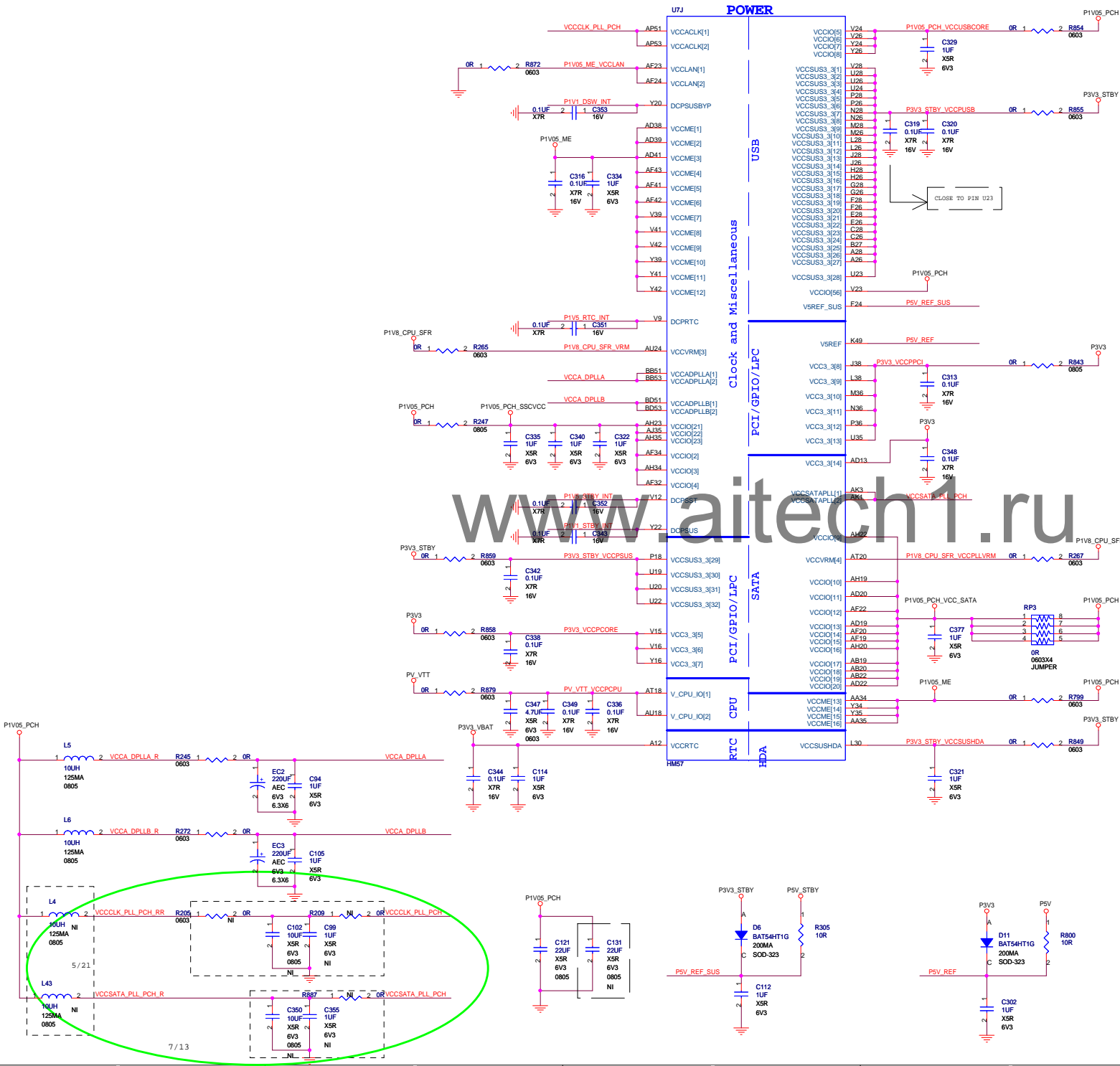


RTC POWER LOST



4MB SPI ROM





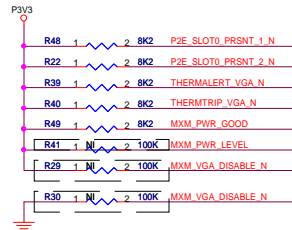
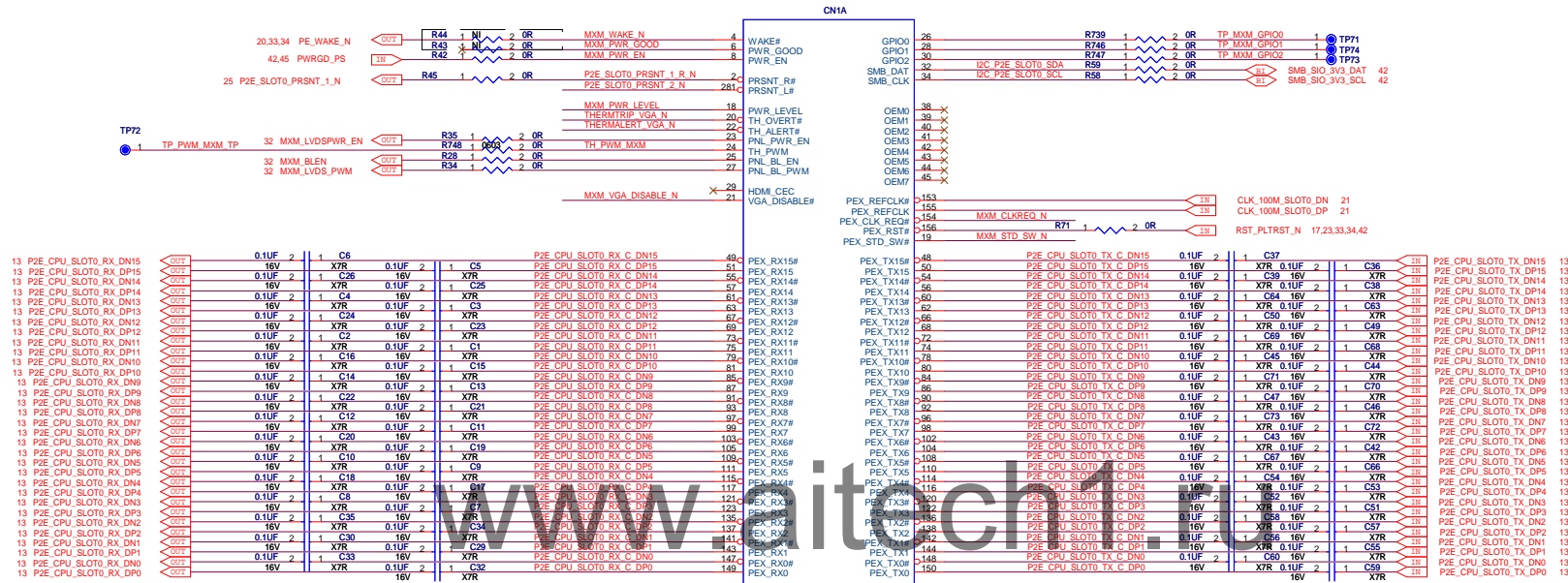
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Title		PCH_PWR/GND_B
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C		
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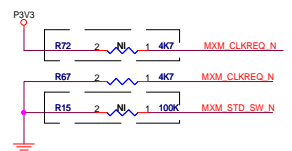
U7I		
AY7	VSS1599	H49
B11	VSS1600	H5
B15	VSS1601	J24
B19	VSS1602	K11
B23	VSS1603	K43
B31	VSS1604	K47
B35	VSS1605	K7
B39	VSS1606	L14
B43	VSS1607	L18
B47	VSS1608	L2
B51	VSS1609	L22
B55	VSS1610	L32
B59	VSS1611	L36
B63	VSS1612	L40
B67	VSS1613	L52
B71	VSS1614	M12
B75	VSS1615	M16
B79	VSS1616	M20
B83	VSS1617	N38
B87	VSS1618	N39
B91	VSS1619	N43
B95	VSS1620	N47
B99	VSS1621	N52
C01	VSS1622	P11
C05	VSS1623	P15
C09	VSS1624	P19
C13	VSS1625	P23
C17	VSS1626	P27
C21	VSS1627	P31
C25	VSS1628	P35
C29	VSS1629	P39
C33	VSS1630	P43
C37	VSS1631	P47
C41	VSS1632	R2
C45	VSS1633	R6
C49	VSS1634	R10
C53	VSS1635	R14
C57	VSS1636	R18
C61	VSS1637	T12
C65	VSS1638	T16
C69	VSS1639	T20
C73	VSS1640	T24
C77	VSS1641	T28
C81	VSS1642	T32
C85	VSS1643	T36
C89	VSS1644	T40
C93	VSS1645	T44
C97	VSS1646	T48
D01	VSS1647	T52
D05	VSS1648	T56
D09	VSS1649	T60
D13	VSS1650	T64
D17	VSS1651	T68
D21	VSS1652	T72
D25	VSS1653	T76
D29	VSS1654	T80
D33	VSS1655	T84
D37	VSS1656	T88
D41	VSS1657	T92
D45	VSS1658	T96
D49	VSS1659	T100
D53	VSS1660	T104
D57	VSS1661	T108
D61	VSS1662	T112
D65	VSS1663	T116
D69	VSS1664	T120
D73	VSS1665	T124
D77	VSS1666	T128
D81	VSS1667	T132
D85	VSS1668	T136
D89	VSS1669	T140
D93	VSS1670	T144
D97	VSS1671	T148
E01	VSS1672	T152
E05	VSS1673	T156
E09	VSS1674	T160
E13	VSS1675	T164
E17	VSS1676	T168
E21	VSS1677	T172
E25	VSS1678	T176
E29	VSS1679	T180
E33	VSS1680	T184
E37	VSS1681	T188
E41	VSS1682	T192
E45	VSS1683	T196
E49	VSS1684	T200
E53	VSS1685	T204
E57	VSS1686	T208
E61	VSS1687	T212
E65	VSS1688	T216
E69	VSS1689	T220
E73	VSS1690	T224
E77	VSS1691	T228
E81	VSS1692	T232
E85	VSS1693	T236
E89	VSS1694	T240
E93	VSS1695	T244
E97	VSS1696	T248
F01	VSS1697	T252
F05	VSS1698	T256
F09	VSS1699	T260
F13	VSS1700	T264
F17	VSS1701	T268
F21	VSS1702	T272
F25	VSS1703	T276
F29	VSS1704	T280
F33	VSS1705	T284
F37	VSS1706	T288
F41	VSS1707	T292
F45	VSS1708	T296
F49	VSS1709	T300
F53	VSS1710	T304
F57	VSS1711	T308
F61	VSS1712	T312
F65	VSS1713	T316
F69	VSS1714	T320
F73	VSS1715	T324
F77	VSS1716	T328
F81	VSS1717	T332
F85	VSS1718	T336
F89	VSS1719	T340
F93	VSS1720	T344
F97	VSS1721	T348
G01	VSS1722	T352
G05	VSS1723	T356
G09	VSS1724	T360
G13	VSS1725	T364
G17	VSS1726	T368
G21	VSS1727	T372
G25	VSS1728	T376
G29	VSS1729	T380
G33	VSS1730	T384
G37	VSS1731	T388
G41	VSS1732	T392
G45	VSS1733	T396
G49	VSS1734	T400
G53	VSS1735	T404
G57	VSS1736	T408
G61	VSS1737	T412
G65	VSS1738	T416
G69	VSS1739	T420
G73	VSS1740	T424
G77	VSS1741	T428
G81	VSS1742	T432
G85	VSS1743	T436
G89	VSS1744	T440
G93	VSS1745	T444
G97	VSS1746	T448
H01	VSS1747	T452
H05	VSS1748	T456
H09	VSS1749	T460
H13	VSS1750	T464
H17	VSS1751	T468
H21	VSS1752	T472
H25	VSS1753	T476
H29	VSS1754	T480
H33	VSS1755	T484
H37	VSS1756	T488
H41	VSS1757	T492
H45	VSS1758	T496
H49	VSS1759	T500
H53	VSS1760	T504
H57	VSS1761	T508
H61	VSS1762	T512
H65	VSS1763	T516
H69	VSS1764	T520
H73	VSS1765	T524
H77	VSS1766	T528
H81	VSS1767	T532
H85	VSS1768	T536
H89	VSS1769	T540
H93	VSS1770	T544
H97	VSS1771	T548
I01	VSS1772	T552
I05	VSS1773	T556
I09	VSS1774	T560
I13	VSS1775	T564
I17	VSS1776	T568
I21	VSS1777	T572
I25	VSS1778	T576
I29	VSS1779	T580
I33	VSS1780	T584
I37	VSS1781	T588
I41	VSS1782	T592
I45	VSS1783	T596
I49	VSS1784	T600
I53	VSS1785	T604
I57	VSS1786	T608
J01	VSS1787	T612
J05	VSS1788	T616
J09	VSS1789	T620
J13	VSS1790	T624
J17	VSS1791	T628
J21	VSS1792	T632
J25	VSS1793	T636
J29	VSS1794	T640
J33	VSS1795	T644
J37	VSS1796	T648
J41	VSS1797	T652
J45	VSS1798	T656
J49	VSS1799	T660
J53	VSS1800	T664
J57	VSS1801	T668
K01	VSS1802	T672
K05	VSS1803	T676
K09	VSS1804	T680
K13	VSS1805	T684
K17	VSS1806	T688
K21	VSS1807	T692
K25	VSS1808	T696
K29	VSS1809	T700
K33	VSS1810	T704
K37	VSS1811	T708
K41	VSS1812	T712
K45	VSS1813	T716
K49	VSS1814	T720
K53	VSS1815	T724
K57	VSS1816	T728
L01	VSS1817	T732
L05	VSS1818	T736
L09	VSS1819	T740
L13	VSS1820	T744
L17	VSS1821	T748
L21	VSS1822	T752
L25	VSS1823	T756
L29	VSS1824	T760
L33	VSS1825	T764
L37	VSS1826	T768
L41	VSS1827	T772
L45	VSS1828	T776
L49	VSS1829	T780
L53	VSS1830	T784
L57	VSS1831	T788
M01	VSS1832	T792
M05	VSS1833	T796
M09	VSS1834	T800
M13	VSS1835	T804
M17	VSS1836	T808
M21	VSS1837	T812
M25	VSS1838	T816
M29	VSS1839	T820
M33	VSS1840	T824
M37	VSS1841	T828
M41	VSS1842	T832
M45	VSS1843	T836
M49	VSS1844	T840
M53	VSS1845	T844
M57	VSS1846	T848
N01	VSS1847	T852
N05	VSS1848	T856
N09	VSS1849	T860
N13	VSS1850	T864
N17	VSS1851	T868
N21	VSS1852	T872
N25	VSS1853	T876
N29	VSS1854	T880
N33	VSS1855	T884
N37	VSS1856	T888
N41	VSS1857	T892
N45	VSS1858	T896
N49	VSS1859	T900
N53	VSS1860	T904
N57	VSS1861	T908
O01	VSS1862	T912
O05	VSS1863	T916
O09	VSS1864	T920
O13	VSS1865	T924
O17	VSS1866	T928
O21	VSS1867	T932
O25	VSS1868	T936
O29	VSS1869	T940
O33	VSS1870	T944
O37	VSS1871	T948
O41	VSS1872	T952
O45	VSS1873	T956
O49	VSS1874	T960
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O57	VSS1876	T968
P01	VSS1877	T972
P05	VSS1878	T976
P09	VSS1879	T980
P13	VSS1880	T984
P17	VSS1881	T988
P21	VSS1882	T992
P25	VSS1883	T996
P29	VSS1884	T1000
P33	VSS1885	T1004
P37	VSS1886	T1008
P41	VSS1887	T1012
P45	VSS1888	T1016
P49	VSS1889	T1020
P53	VSS1890	T1024
P57	VSS1891	T1028
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Q05	VSS1893	T1036
Q09	VSS1894	T1040
Q13	VSS1895	T1044
Q17	VSS1896	T1048
Q21	VSS1897	T1052
Q25	VSS1898	T1056
Q29	VSS1899	T1060
Q33	VSS1900	T1064
Q37	VSS1901	T1068
Q41	VSS1902	T1072
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Q49	VSS1904	T1080
Q53	VSS1905	T1084
Q57	VSS1906	T1088
R01	VSS1907	T1092
R05	VSS1908	T1096
R09	VSS1909	T1100
R13	VSS1910	T1104
R17	VSS1911	T1108
R21	VSS1912	T1112
R25	VSS1913	T1116
R29	VSS1914	T1120
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R37	VSS1916	T1128
R41	VSS1917	T1132
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R49	VSS1919	T1140
R53	VSS1920	T1144
R57	VSS1921	T1148
S01	VSS1922	T1152
S05	VSS1923	T1156
S09	VSS1924	T1160
S13	VSS1925	T1164
S17	VSS1926	T1168
S21	VSS1927	T1172
S25	VSS1928	T1176
S29	VSS1929	T1180
S33	VSS1930	T1184
S37	VSS1931	T1188
S41	VSS1932	T1192
S45	VSS1933	T1196
S49	VSS1934	T1200
S53	VSS1935	T1204
S57	VSS1936	T1208
T01	VSS1937	T1212
T05	VSS1938	T1216
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T25	VSS1943	T1236
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T49	VSS1949	T1260
T53	VSS1950	T1264
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U17	VSS1956	T1288
U21	VSS1957	T1292
U25	VSS1958	T1296
U29	VSS1959	T1300
U33	VSS1960	T1304
U37	VSS1961	T1308
U41	VSS1962	T1312
U45	VSS1963	T1316
U49	VSS1964	T1320
U53	VSS1965	T1324
U57	VSS1966	T1328
V01	VSS1967	T1332
V05	VSS1968	T1336
V09	VSS1969	T1340
V13	VSS1970	T1344
V17	VSS1971	T1348
V21	VSS1972	T1352
V25	VSS1973	T1356
V29	VSS1974	T1360
V33	VSS1975	T1364
V37	VSS1976	T1368
V41	VSS1977	T1372
V45	VSS1978	T1376
V49	VSS1979	T1380
V53	VSS1980	T1384
V57	VSS1981	T1388
W01	VSS1982	T1392
W05	VSS1983	T1396
W09	VSS1984	T1400
W13	VSS1985	T1404
W17	VSS1986	T1408
W21	VSS1987	T1412
W25	VSS1988	T1416
W29	VSS1989	T1420
W33	VSS1990	T1424
W37	VSS1991	T1428
W41	VSS1992	T1432
W45	VSS1993	T1436
W49	VSS1994	T1440
W53	VSS1995	T1444
W57	VSS1996	T1448
X01	VSS1997	T1452
X05	VSS1998	T1456
X09	VSS1999	T1460
X13	VSS2000	T1464
X17	VSS2001	T1468
X21	VSS2002	T1472
X25	VSS2003	T1476
X29	VSS2004	T1480
X33	VSS2005	T1484

SMBus Address	7-bit Address	Write Address	Read Address
0x98	1001100	0x98	0x99
0x9E	1001111	0x9E	0x9F
0x56	0101011	0x56	0x57
0x32	0011001	0x32	0x33



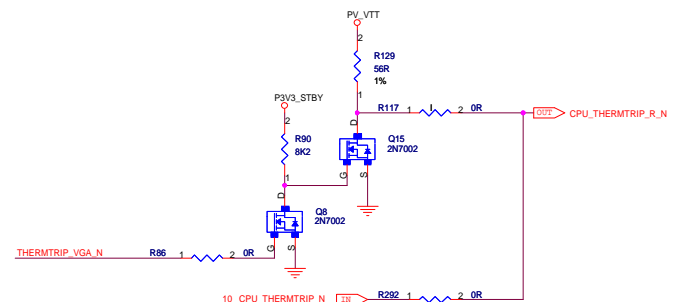
change MXM connect to SMT type

VGA_DISABLE# Pin	Base Class	Sub-Class	Class Code Description
NC	0x03	0x00	VGA-compatible controller
GND	0x03	0x02 or 0x80	3D controller or other display controller



MXM_CLKREQ_N: Pull-up resistor to 3.3 V is required on the system board if the function is supported. If the GPU does not support the feature the pin must be connected to GND on the module.

MXM_STD_SW_N: PCI Express swing select pin. Low to full swing leve

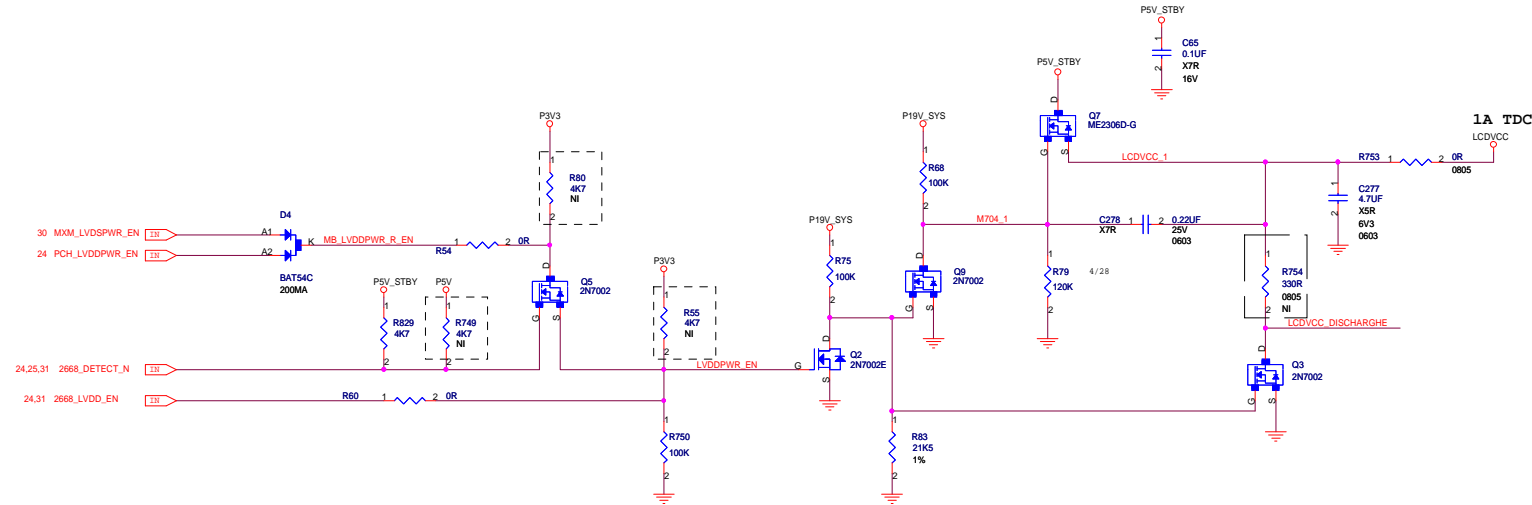


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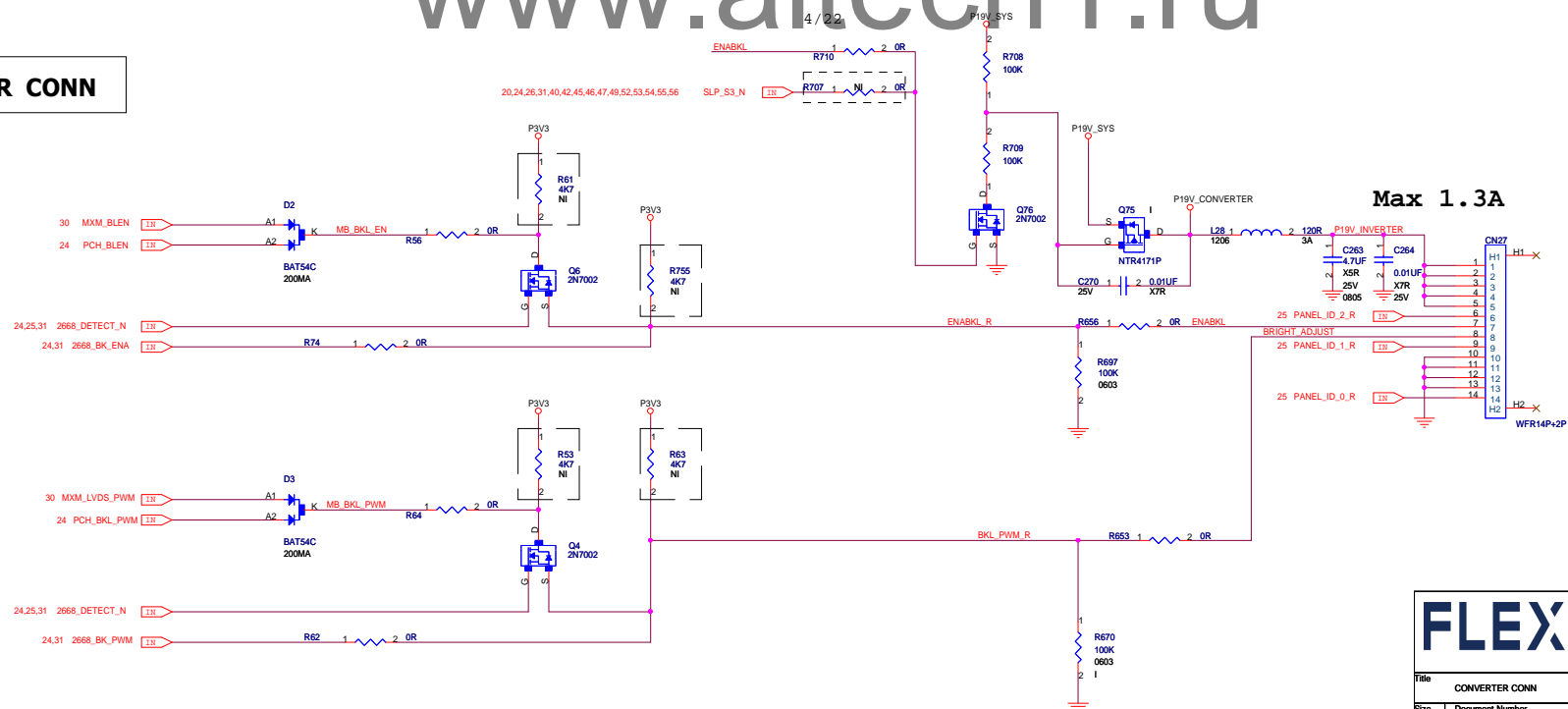
File		
MXM 3.0 CONN		
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SCALAR/MXM LVDS Power Enable



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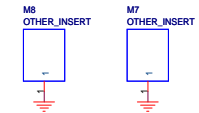
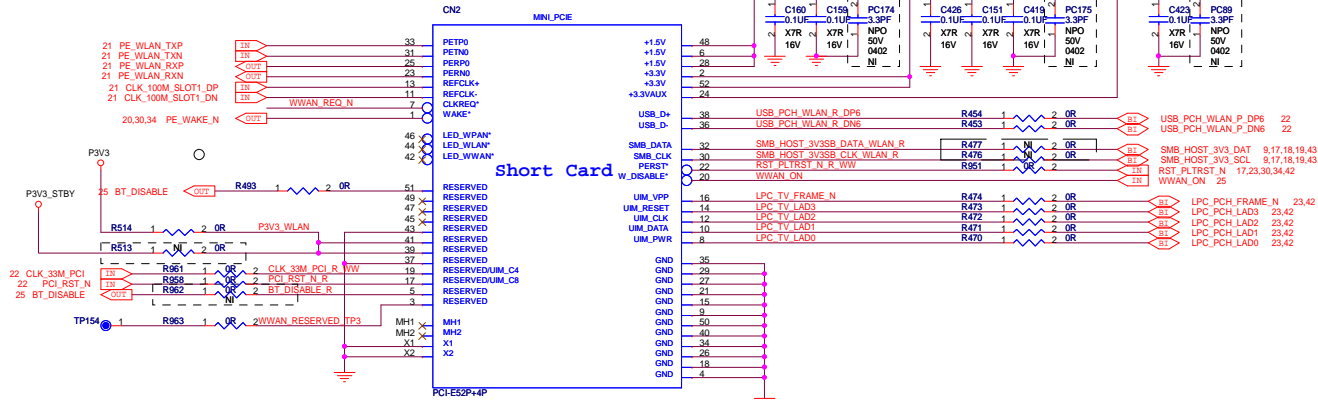
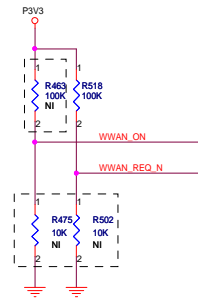
CONVERTER CONN



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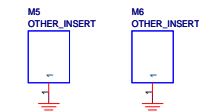
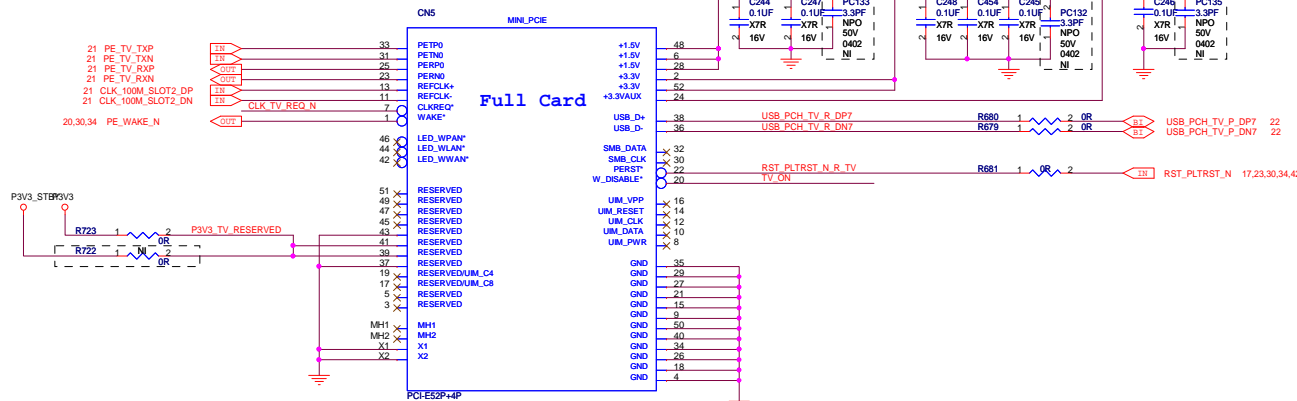
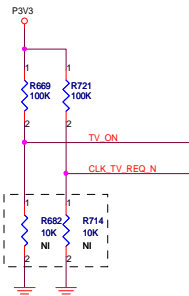
Title		
CONVERTER CONN		
Size	Document Number	Rev
C	MP-00008285-004-AK	A00
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WLAN



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TV TUNER

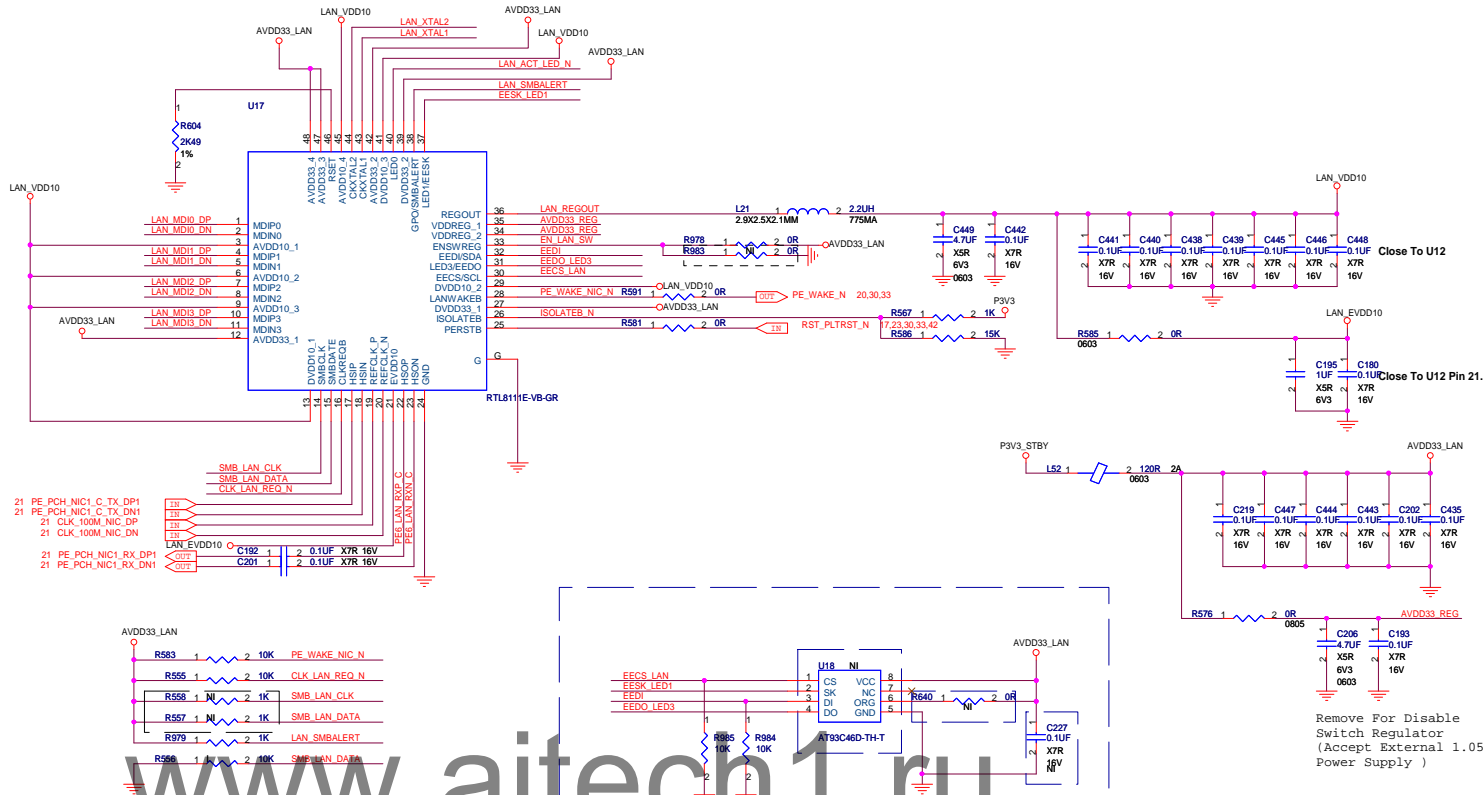


mini-PCIE	Peak/Normal
3.3V	1A/750mA
3.3Vaux	330mA/250mA
1.5V	500mA/250mA

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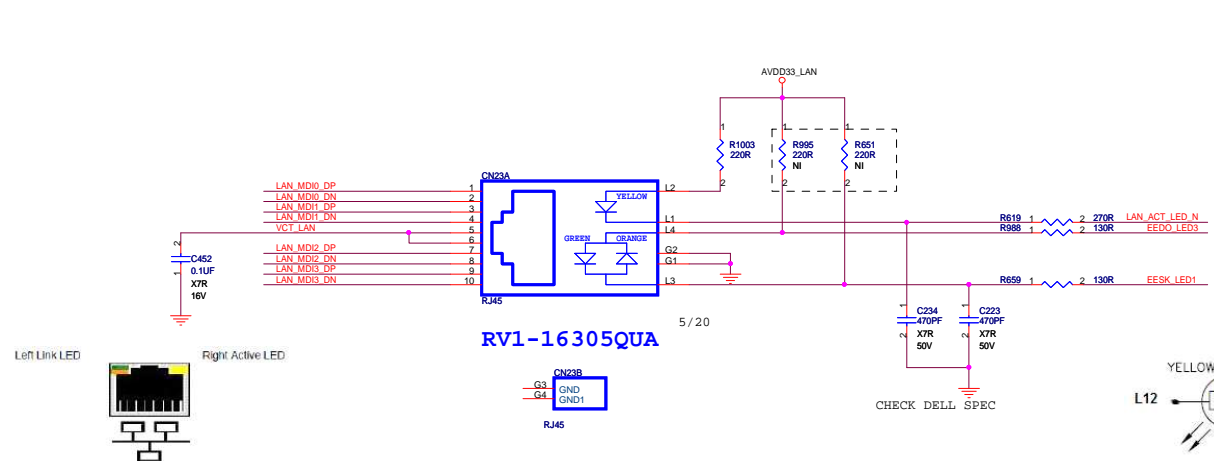
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Title MINI PCIe SLOT X2 TV/ WLAN		
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Remove For Disable
Switch Regulator
(Accept External 1.05V
Power Supply)

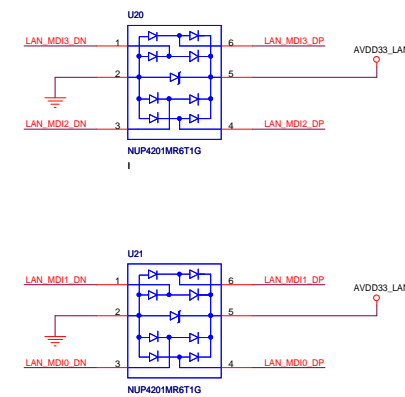
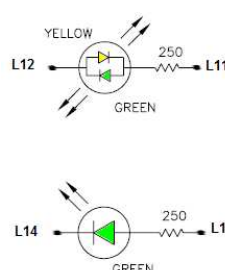
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RV1-16305QUA

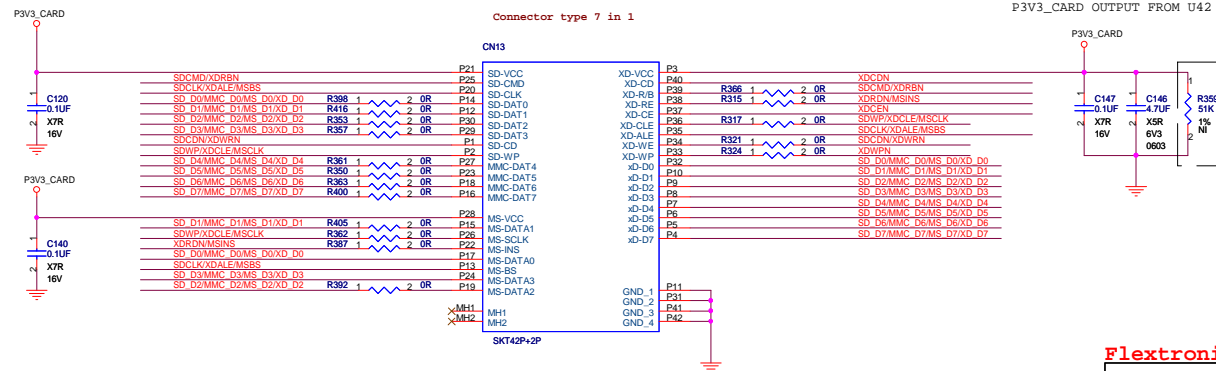
1G:ORANGE
10/100M:GREEN
ACTIVE:YELLOW

L11/L12:RIGHT LED
L13/L14:LEFT LED



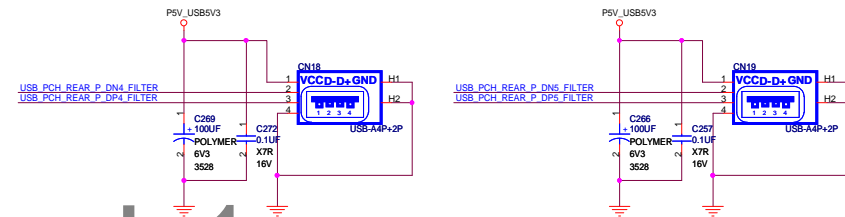
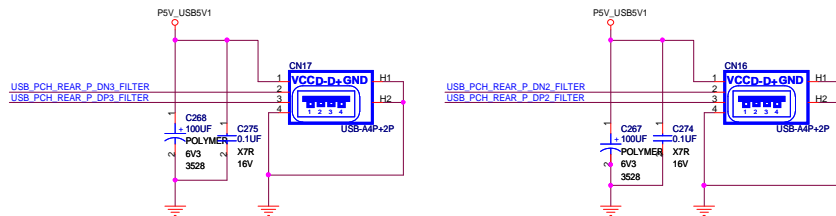
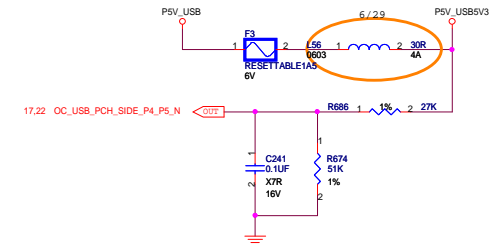
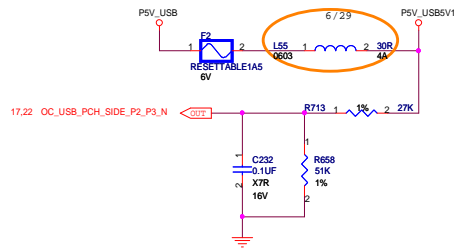
Function	LINK LED State/Color	Active LED State/Color
No Link	OFF/NA	OFF/NA
Link 10Mbps	ON/Green	
Link 100Mbps	ON/Green	
Link 1000Mbps	ON/Orange	
No network activity		OFF/NA
Network activity		Blinking/Yellow

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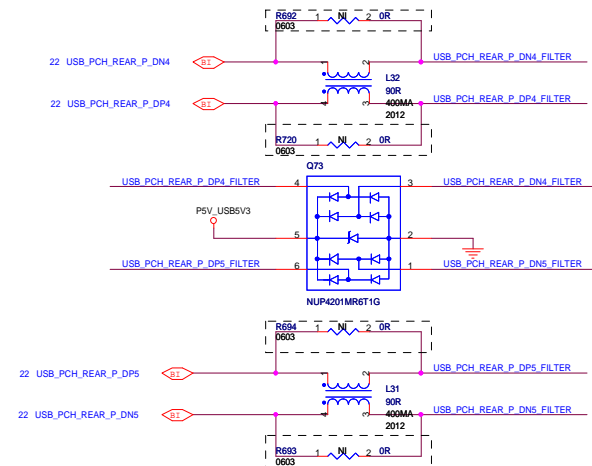
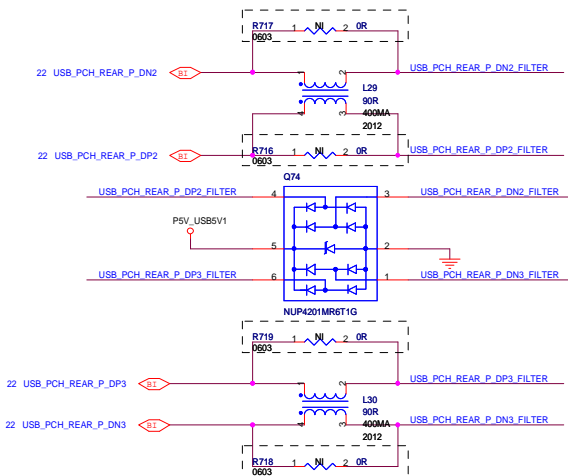


Title			
7 IN 1 CARD READER			
Size	Document Number	Rev	
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BACK USB



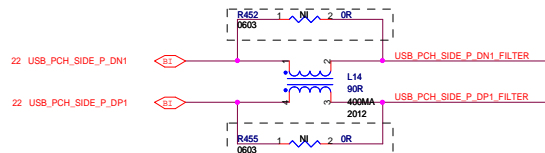
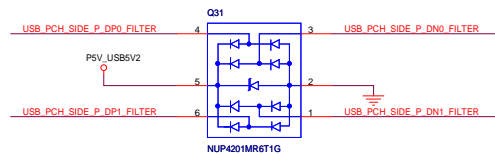
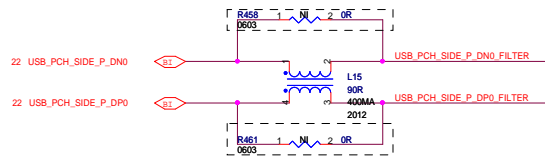
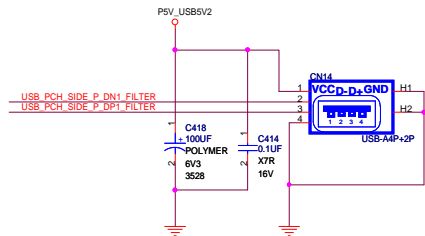
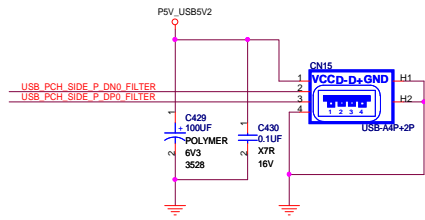
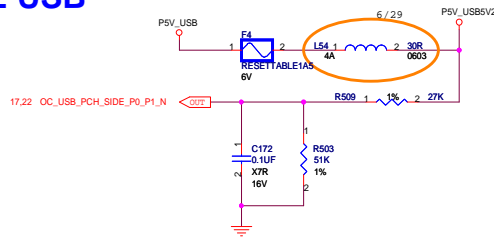
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Title		
USB_BACK		
Size	Document Number	Rev
C	MP-00008285-004-AK	A00
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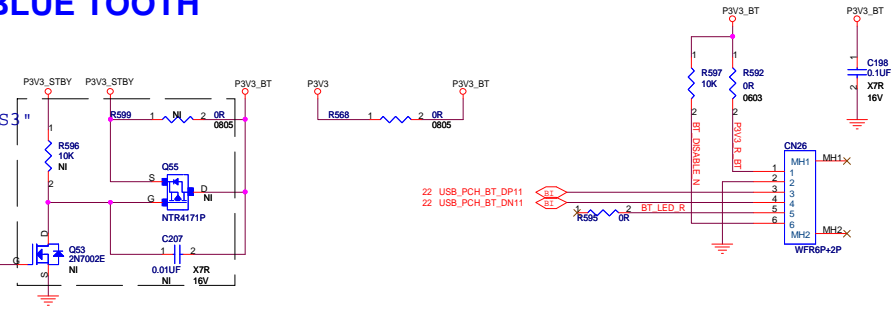
SIDE USB



BLUE TOOTH

Default suport "S3"

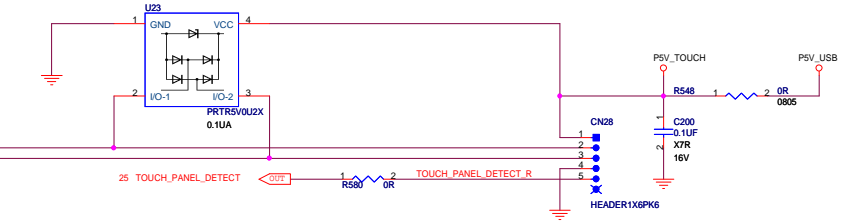
20.42.49.53.56 SLP_S4_N



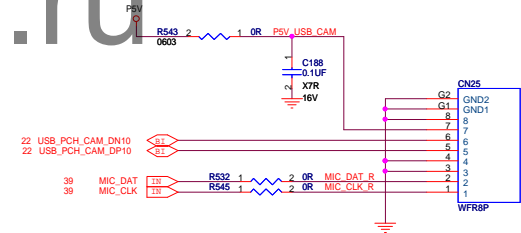
TOUCH

22 USB_PCH_TOUCH_2_DN12
22 USB_PCH_TOUCH_2_DP12

25 TOUCH_PANEL_DETECT



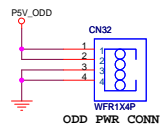
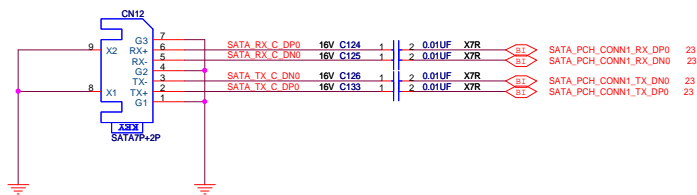
CAMERA MODULE



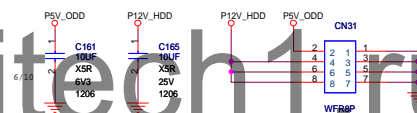
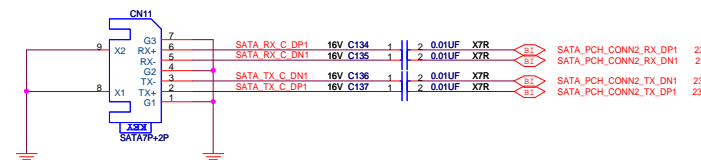
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Title		
USB_SIDE/TOUCH/CAMERA/R		
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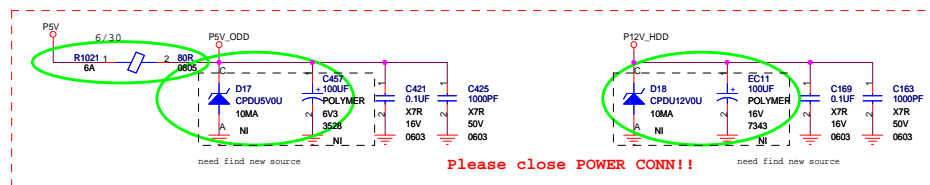


ODD



HDD

Need Add Zener Diode and bulk capacitor on 12V/ 5V

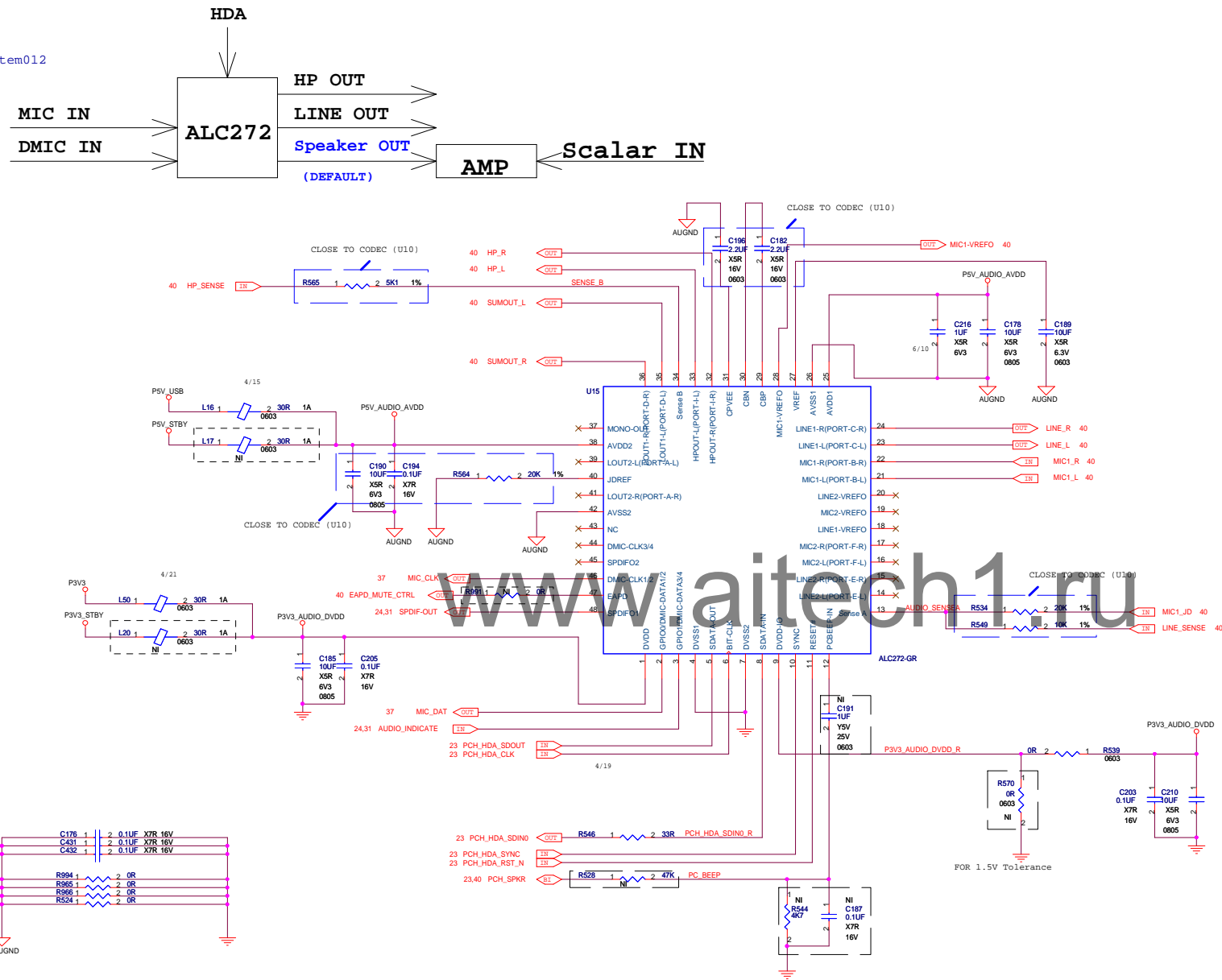


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Title		
SATA CONN X2		
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VER:X01 item012

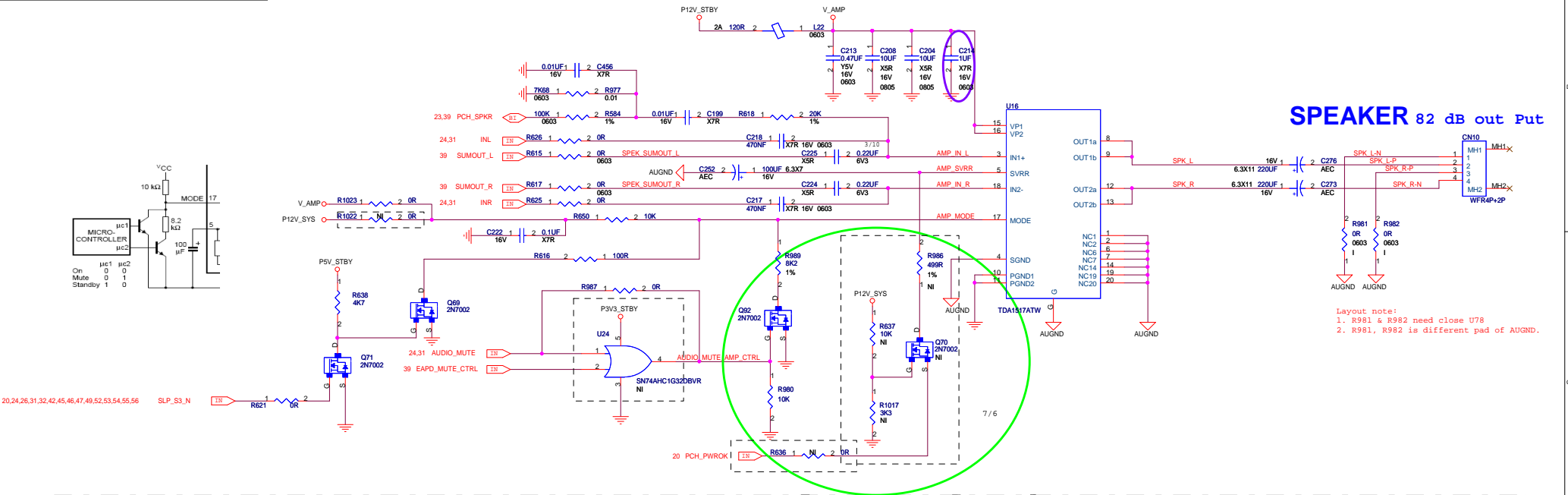


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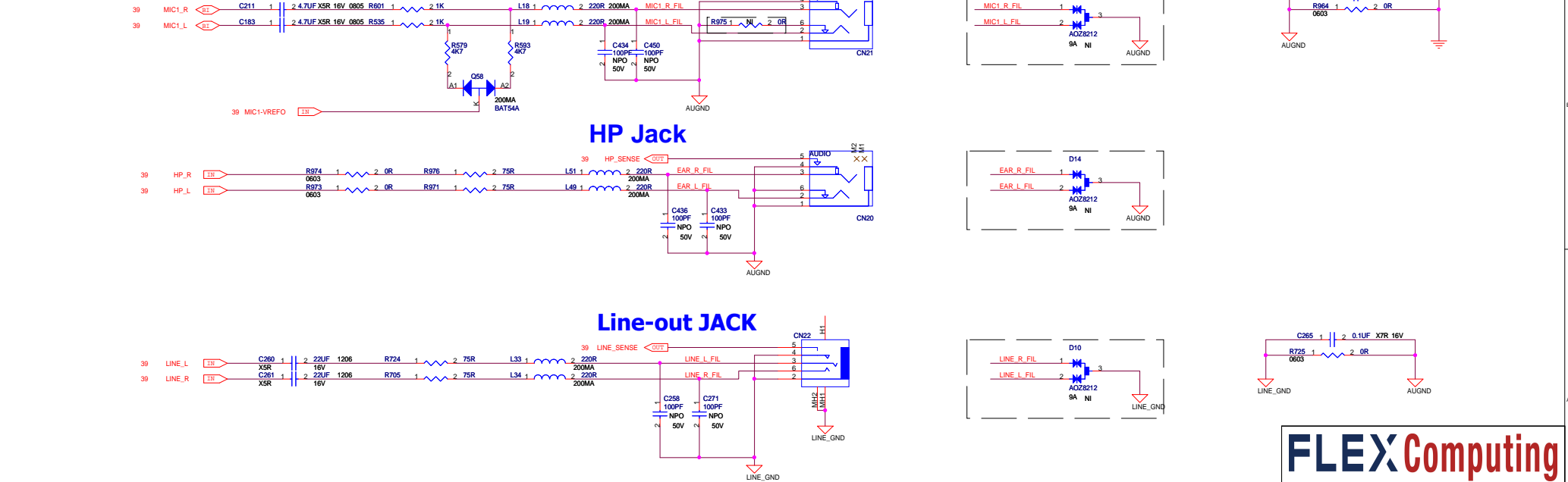
FLEXComputing

Title AUDIO ALC888		
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Audio AMP / SPKR

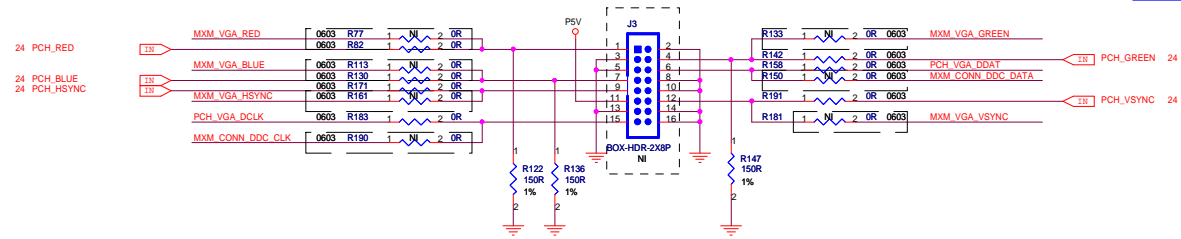
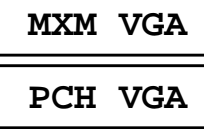


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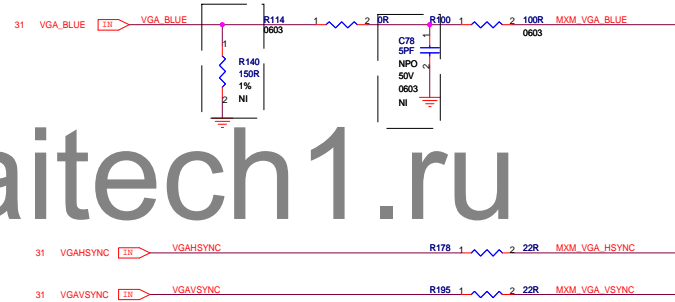
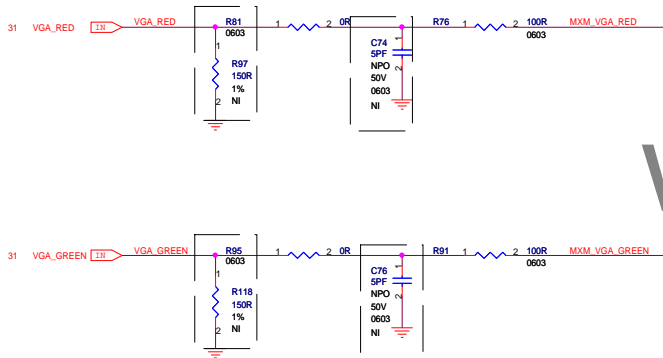


MXM/PCH VGA PORT -- Debug only

VGA DEBUG PORT

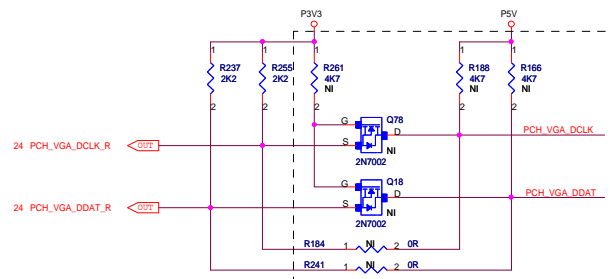


ONLY FOR DEBUG MODULE ALREADY IMPLEMENT 150 OHM

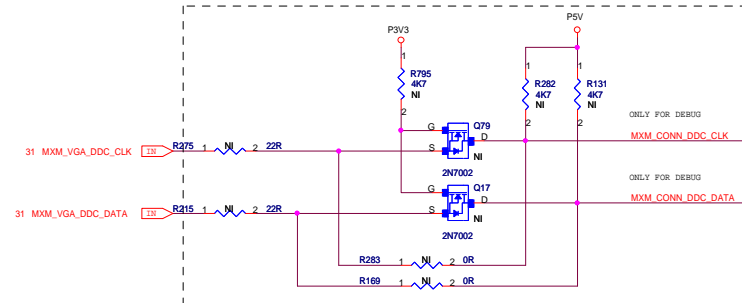


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Defense Design



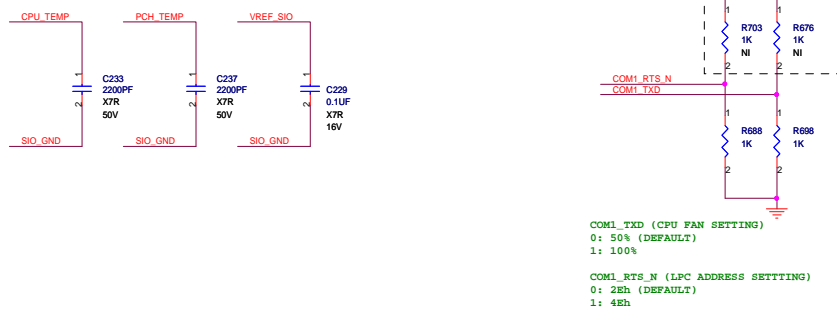
Defense Design



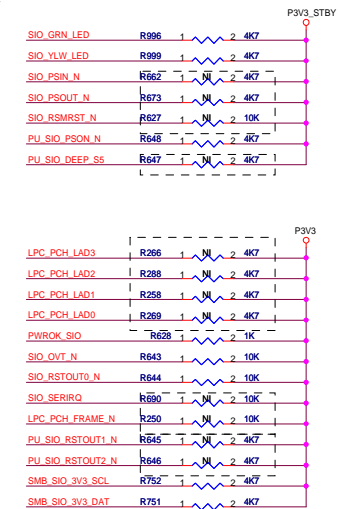
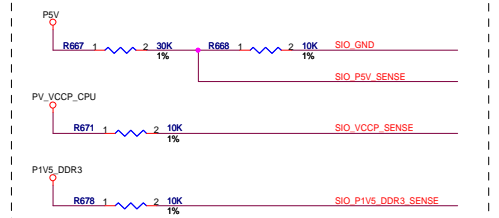
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FLEX Computing

Title VGA OUT/ DEBUG PORT		
Size C	Document Number MP-00008285-004-AK	Rev A00
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Voltage Sensing



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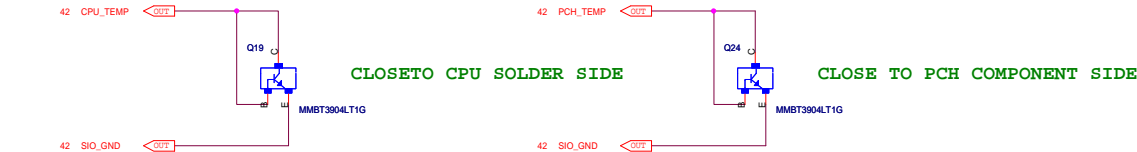
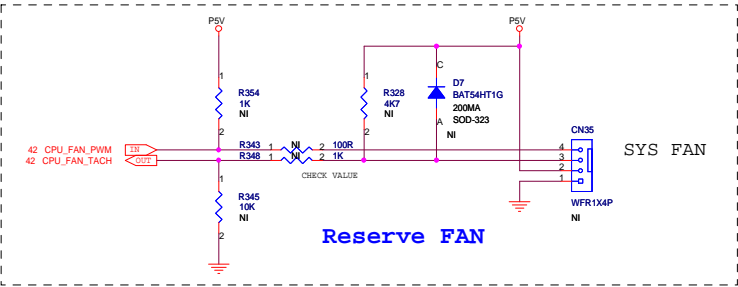
4/22 EA sugges

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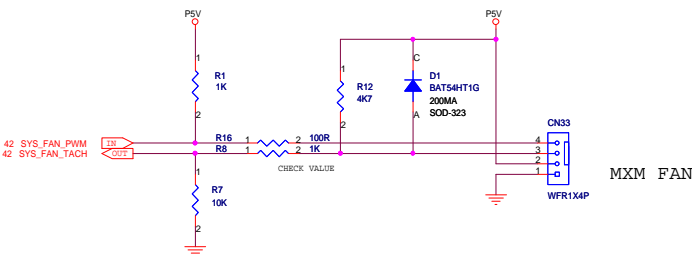
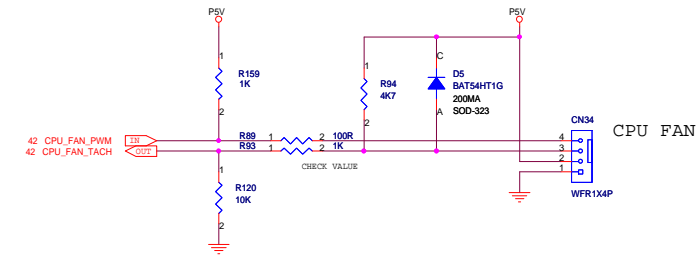
FLEX Computing

Title		SIO_NCT5572D			
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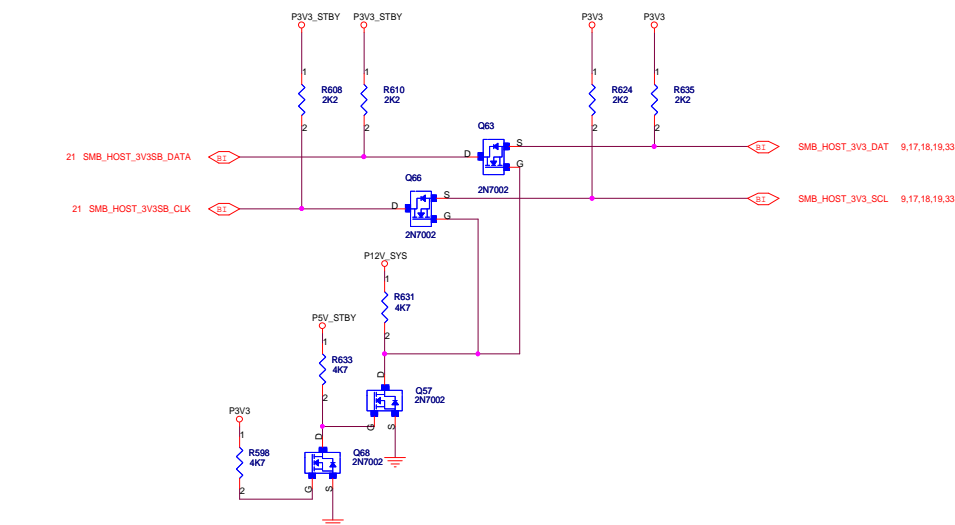
FAN



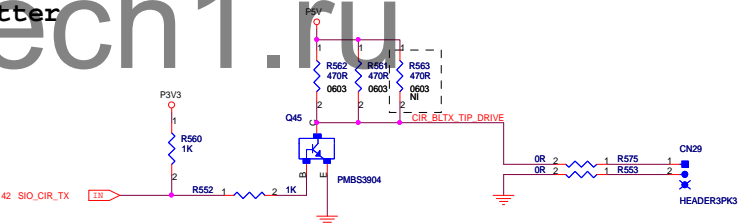
ROUTE THEM AS DIFFERENTIAL PAIRS



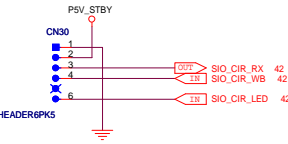
SMBUS SWITCH



CIR Emitter



CAM module CIR Receiver

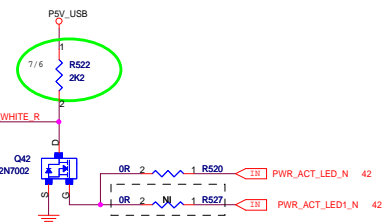
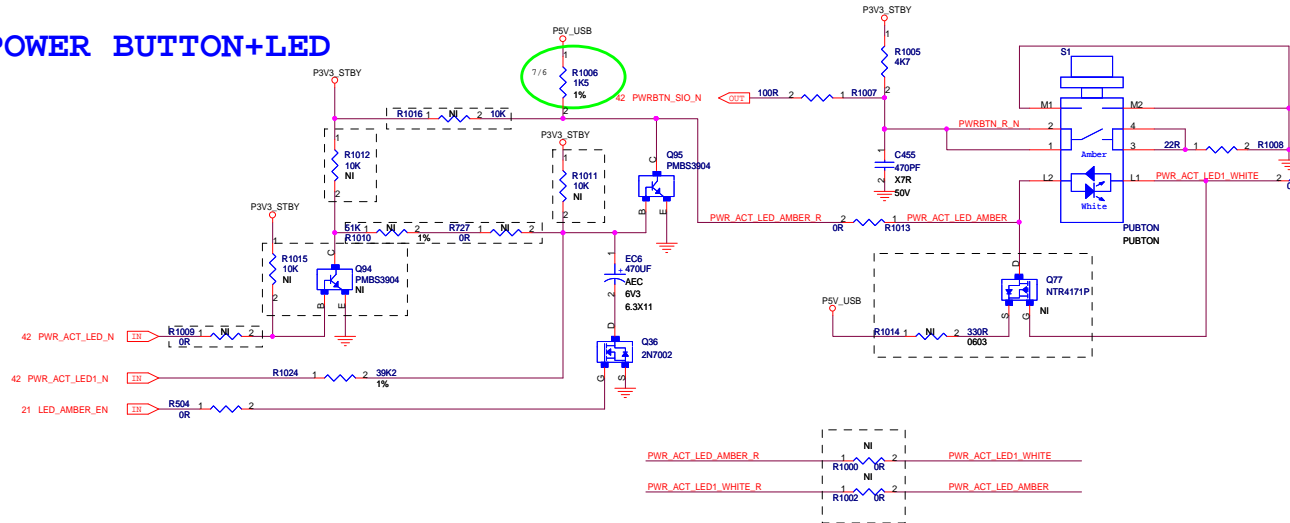


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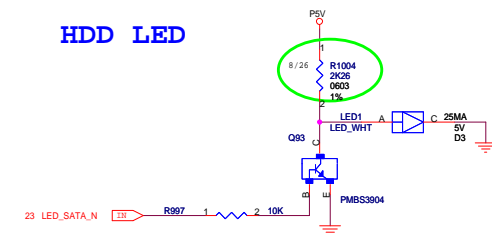
FLEXComputing

File FAN CONN/TEMP SENSOR/ SMBUS		
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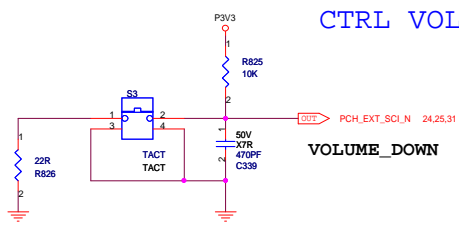
POWER BUTTON+LED



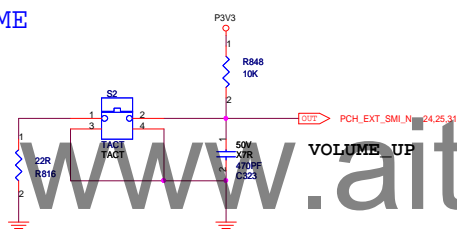
HDD LED



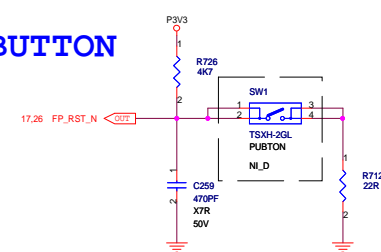
CTRL VOLUME



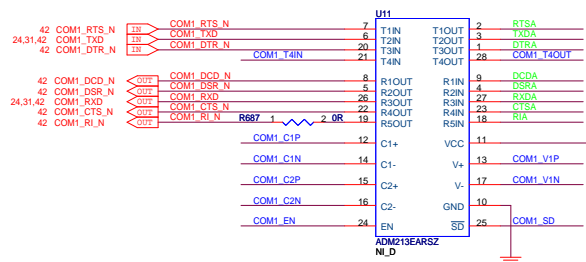
VOLUME_UM



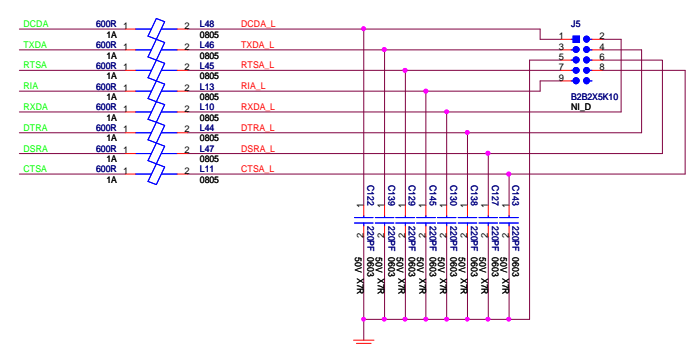
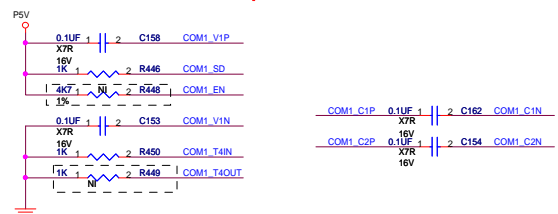
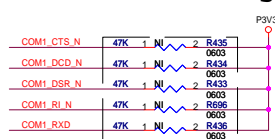
RESET_BUTTON



DDRMARGIN TEST && UEFI DEBUG



Prevent floating

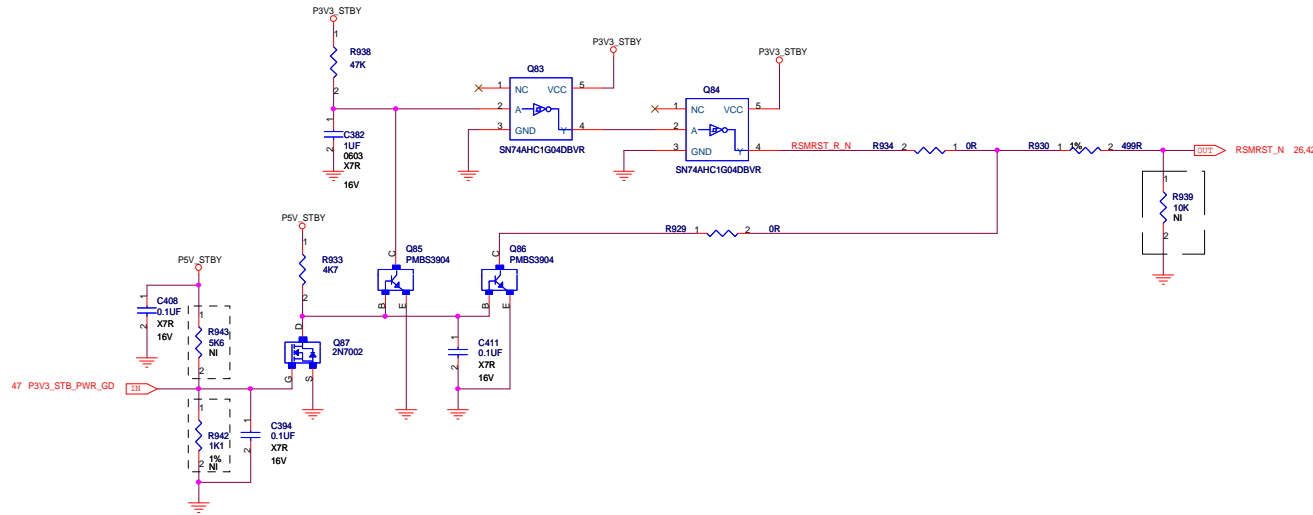


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Title			
SIDE BUTTON/ LED/ DISPLAY IN			
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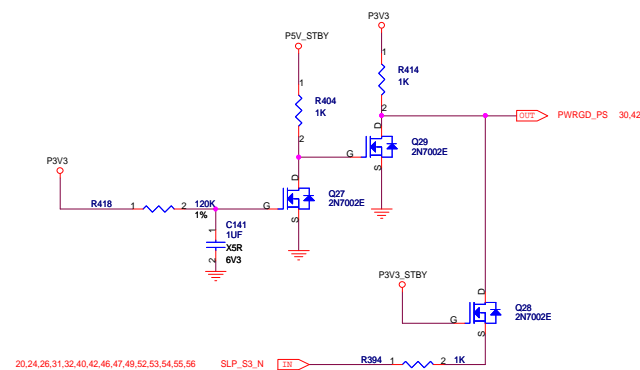
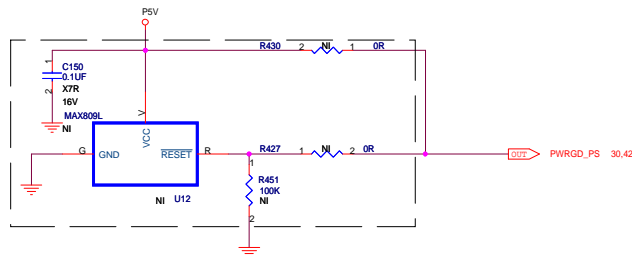
RSM_RST



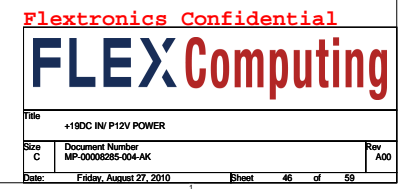
PWRGD_PS

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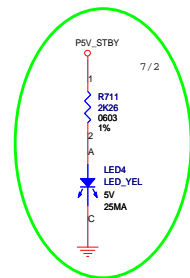
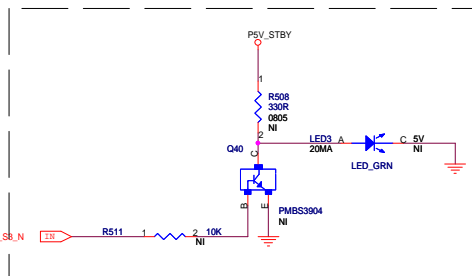
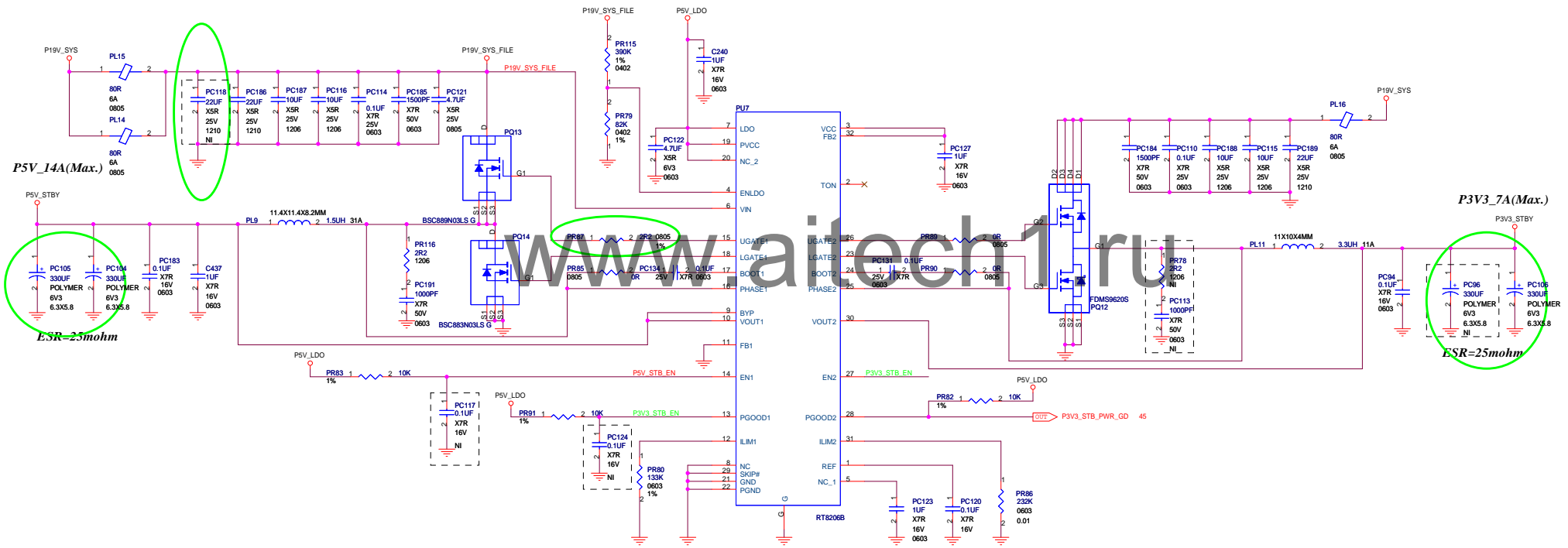
Check it... NI-U76 on EVT build



P12V_STBY

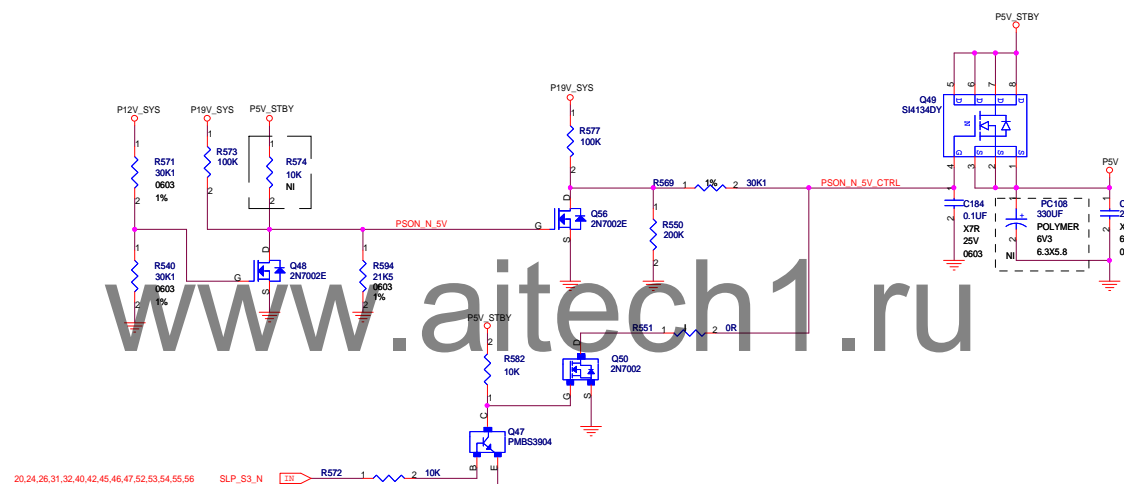
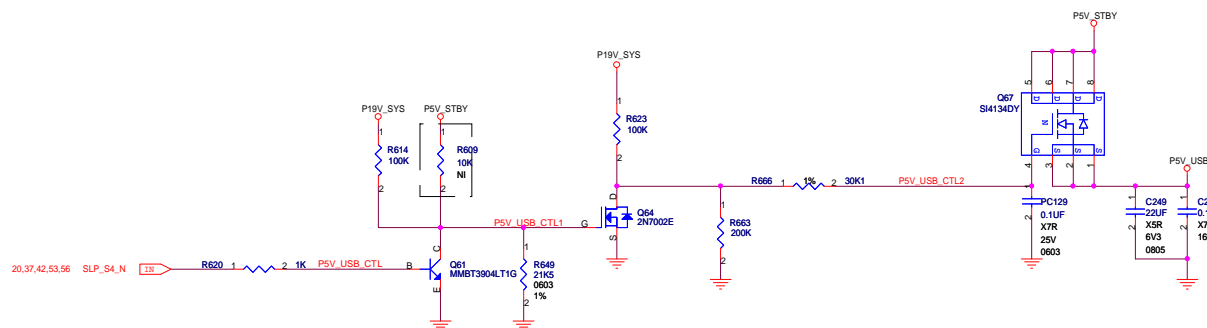


P19V TO P5V_STBY/P3V3_STBY

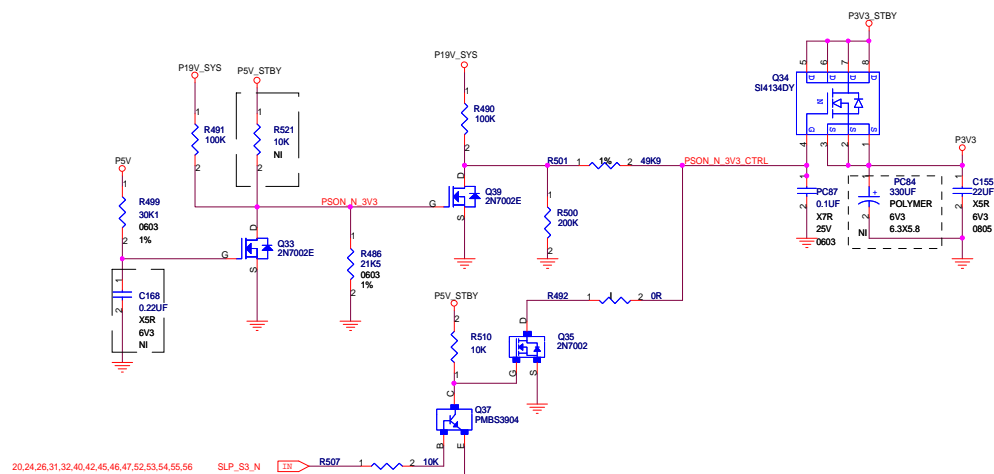


BLANK
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P5V (S0)



P3V3 (S0)

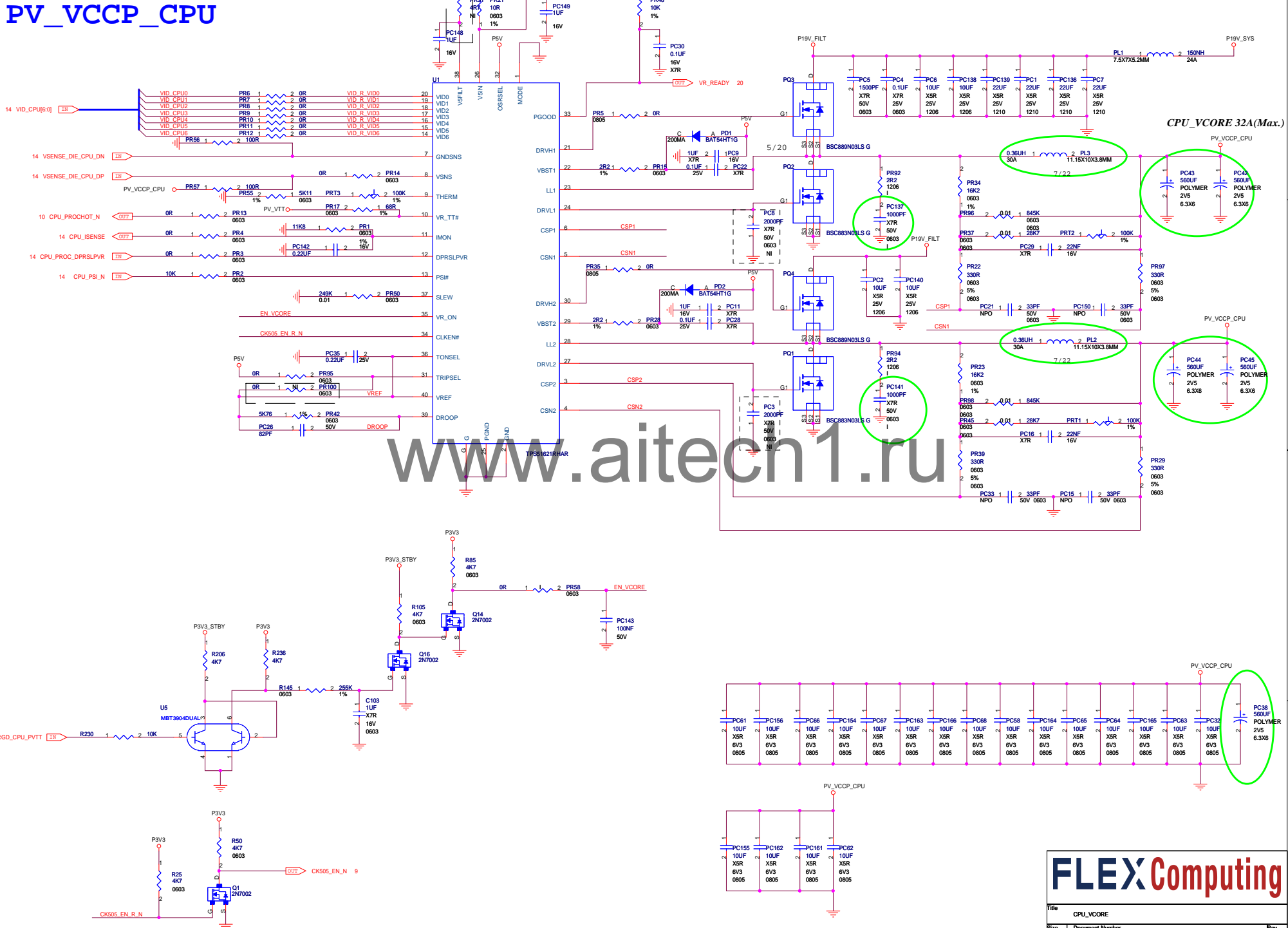


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Title		P5V/ P5V_USB/ P3V3
Size	Document Number	Rev
C	MP-00008285-004-AK	

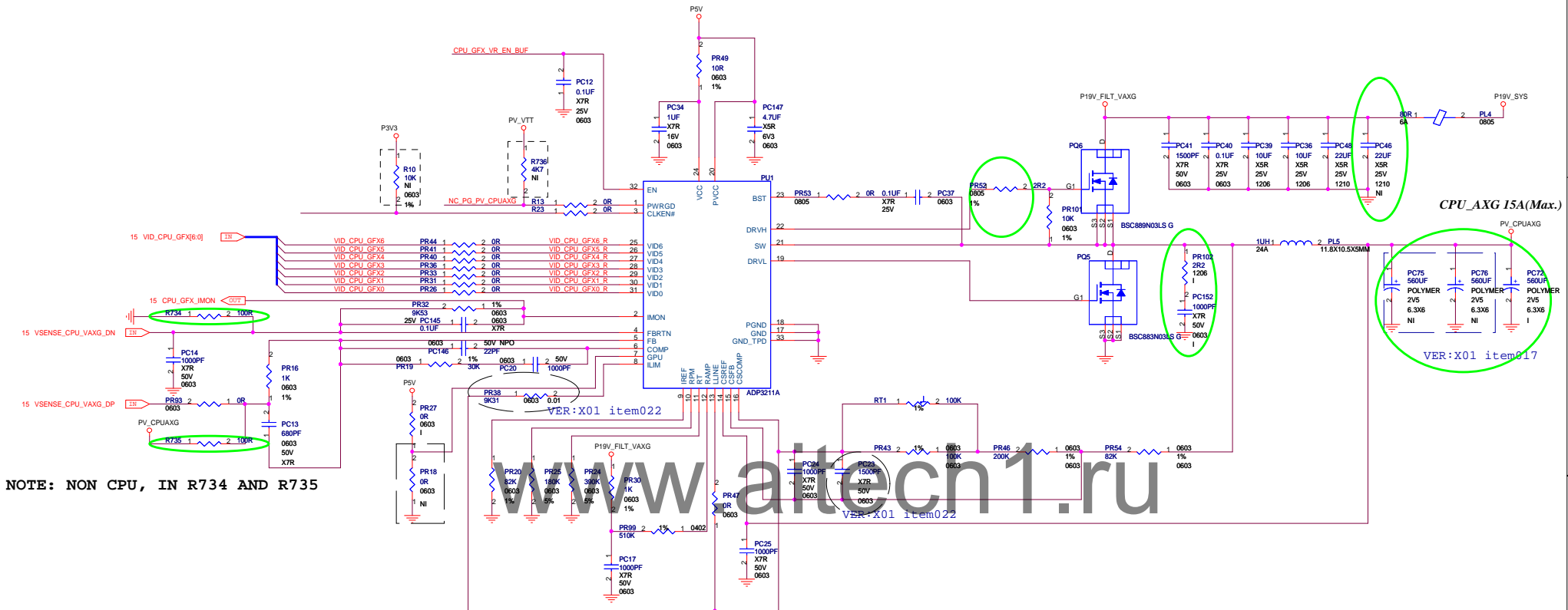
PV_VCCP_CPU



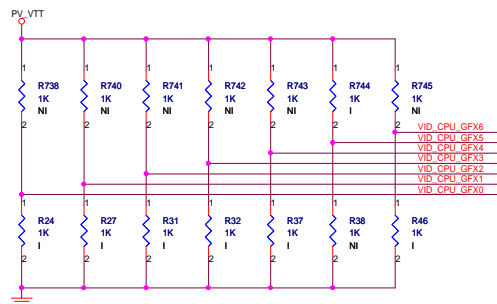
FLEX Computing

Title				
CPU_VCORE				
Size	Document Number			Rev
C	MP-00008285-004-AK			A00
Part	Sheet	EO	of	EO

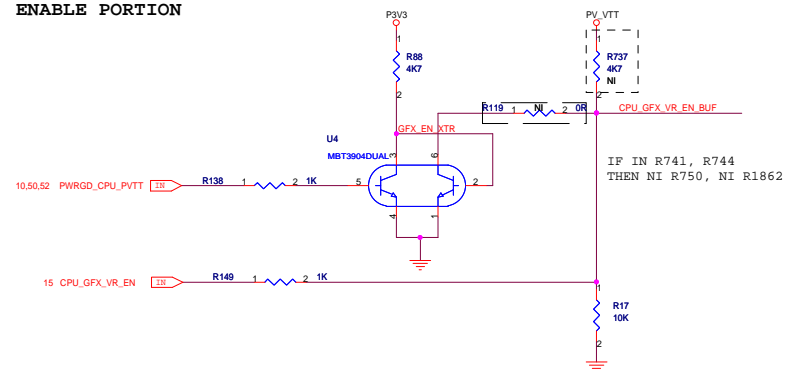
PV_CPUAXG



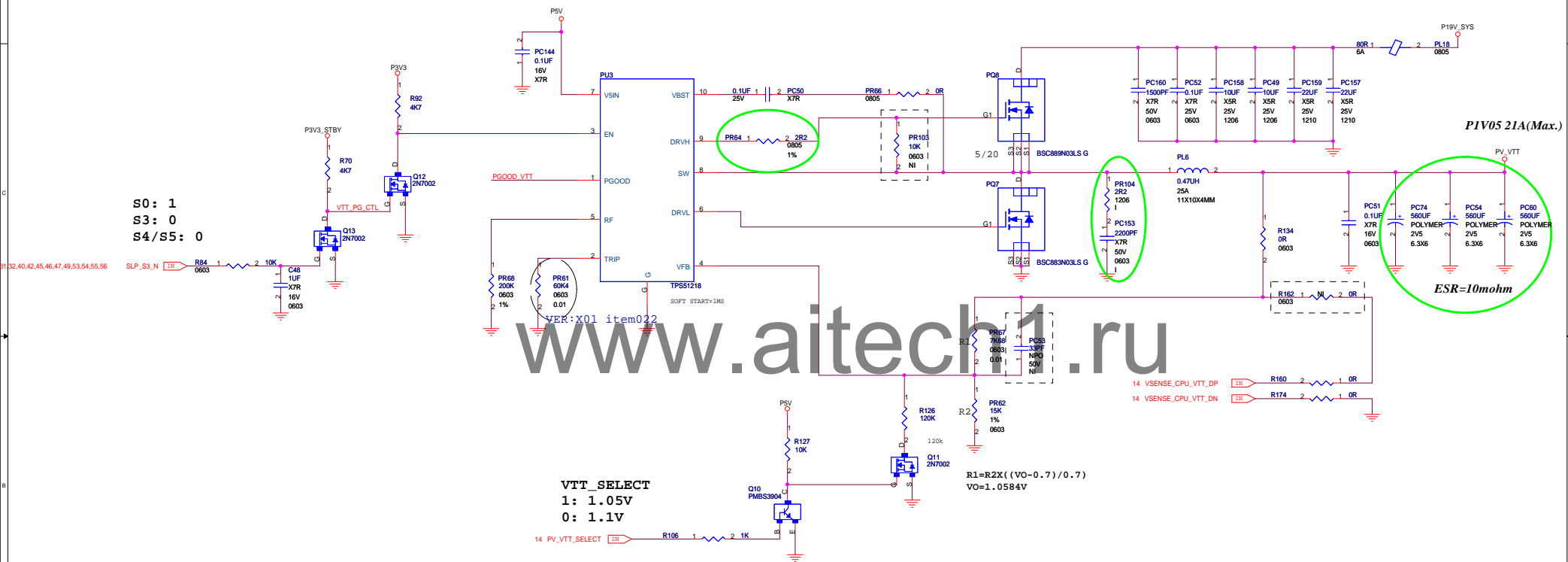
RESERVED FOR BOOT DEFAULT:1.1V



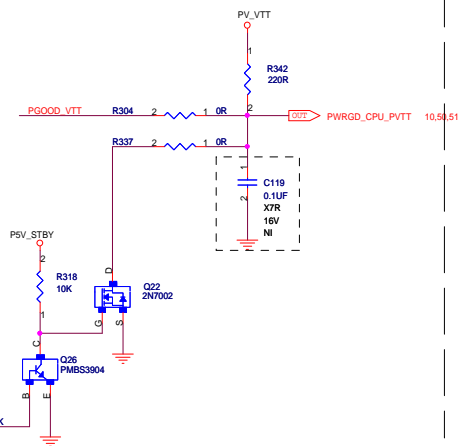
ENABLE PORTION



PV_VTT



PWRGOOD CIRCUIT



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Title			
CPU VTT POWER			
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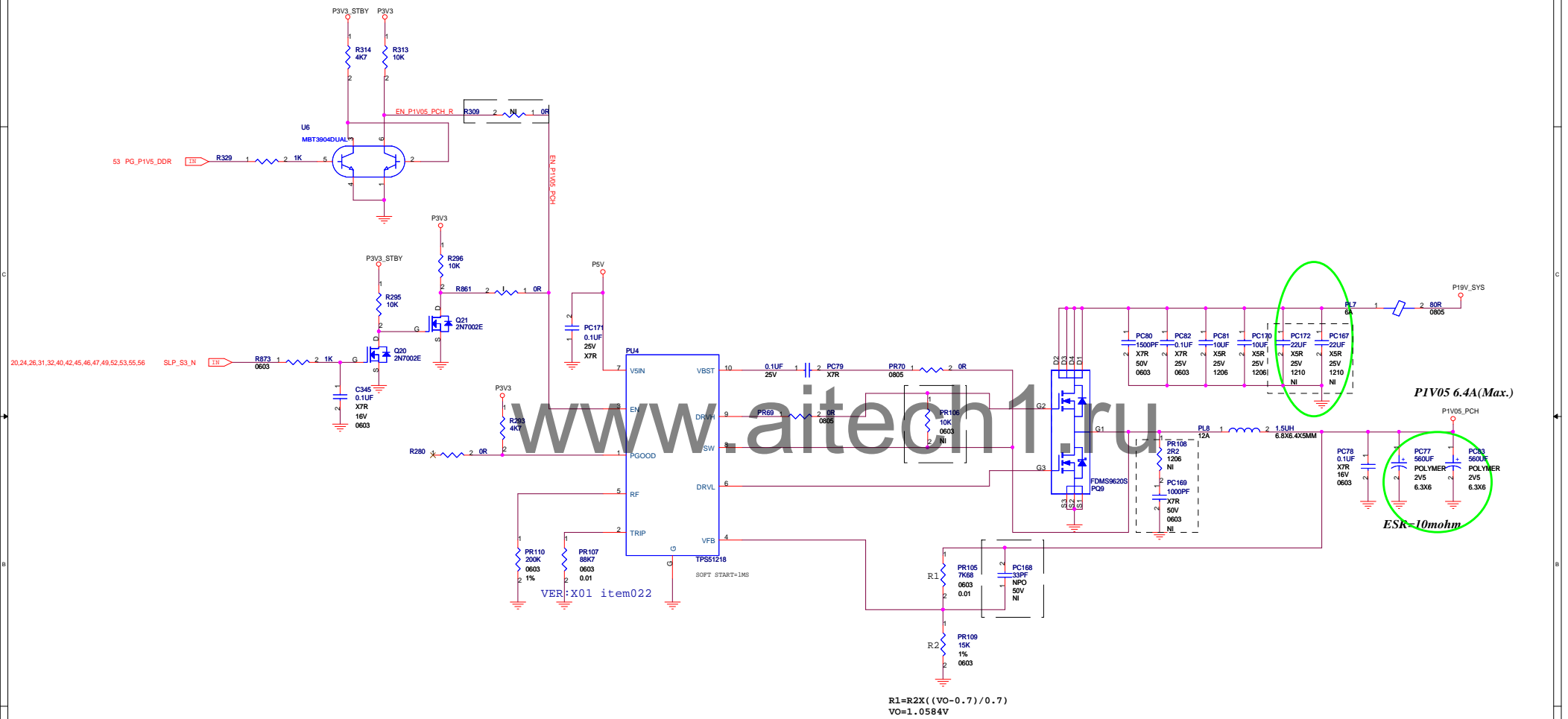
P0V75_VTT



FLEX Computing

Title			
DDR3_P1V5/ VTT_0V75 POWER			
Size	Document Number	Rev	
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PCH_P1V05

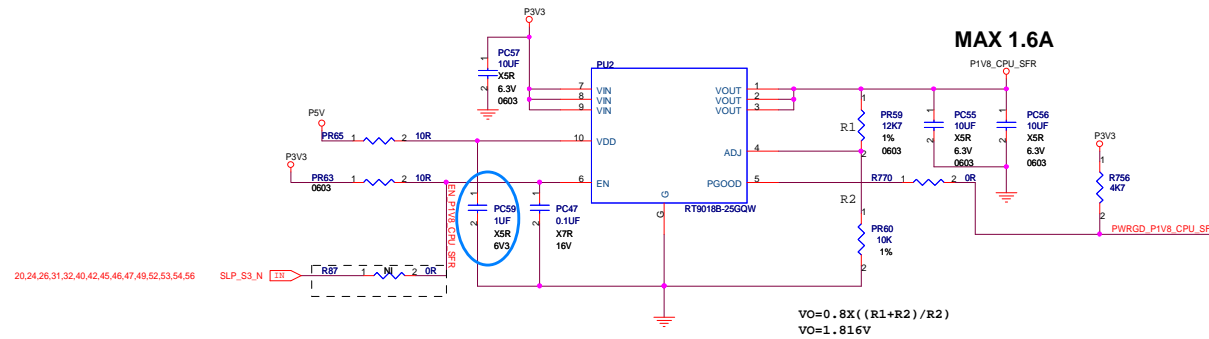


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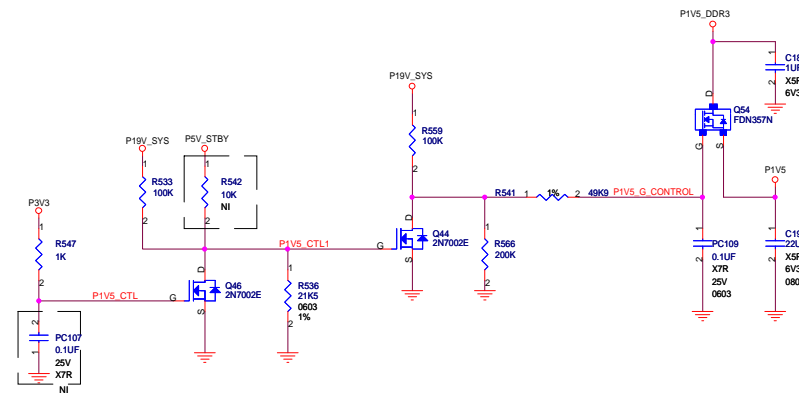
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File			PCH 1V05 POWER
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P1V5



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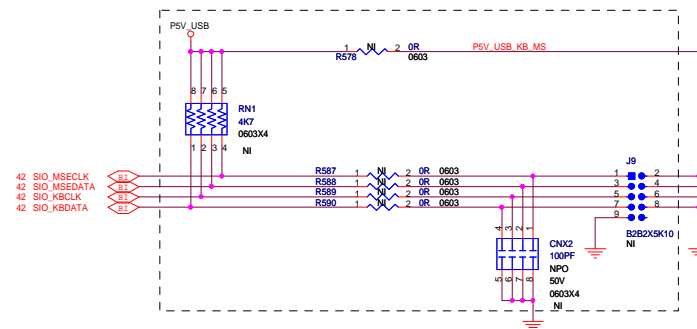


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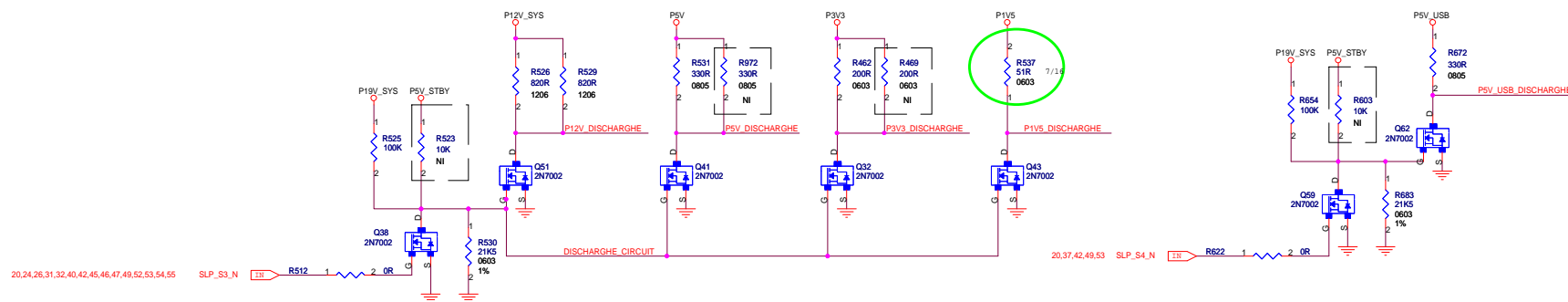
Title			
P1V8_SFR/ P1V5			
Size	Document Number	Rev	
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PS2 HEADER



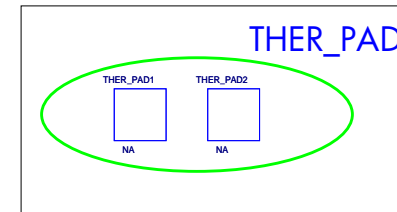
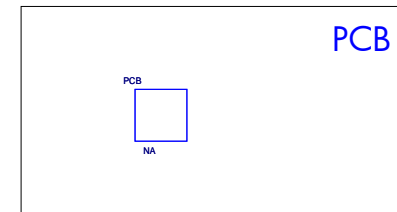
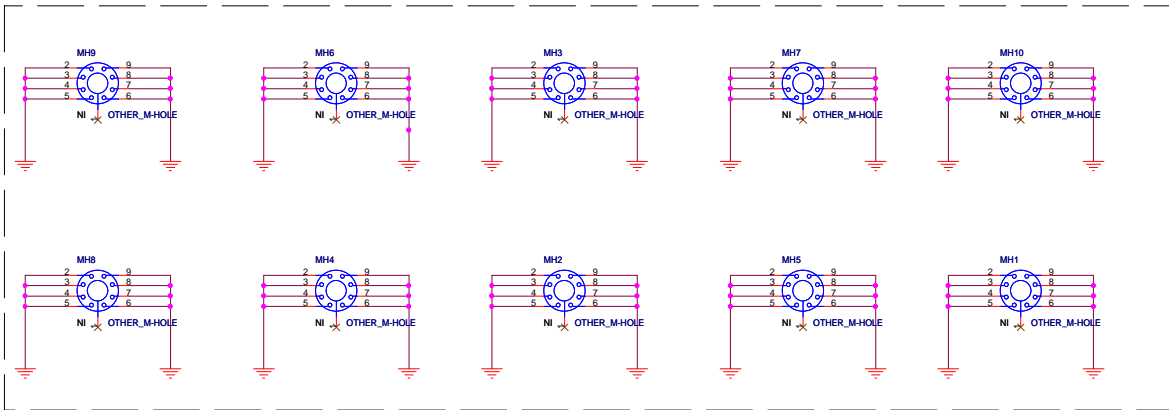
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DISCHARGE CIRCUIT

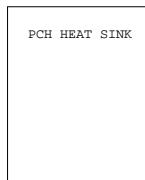
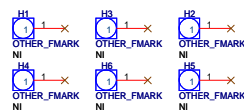
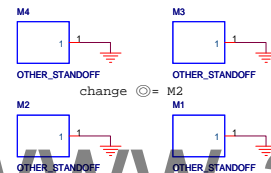


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Title		
PS2 HEADER/ DISCHARGE CIRCUIT		
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FOR BLOWER



ADD SCREWTECH FOR HINTSINK 11/13

SSI-to EVTchange list:

Item	Category	Page	Description \ Deliverables	Reason
0001	CPU	10, 17	Connect BMP# [7..0] to XDP	Follow Intel schematic review feedback
0002	Memory	19	Change DIMM conn (J4) to higher one 11mm	For thermal improvement
0003	CPU VR	14, 15	Add R159, R211, R346, R292 0R for PV_VTT	add PV_VTT power source width
0004	XDP	17	none install PCH XDP CONN	this only for Debug used
0005	Memory	18, 19	chaneg 1uF to 2.2uF on C102, C113, C75, C86 for P0V75_VREFD	Follow Intel schematic review feedback
0006	Memory	18, 19	add EC8, EC9 330uF (I), on P1V5_DDR3	Follow Intel schematic review feedback
0007	CPU	20	Remove PWROK_SIO control circuit	Fix power down sequence issue
0008	Chipset	21	add R571 pull GND on XTAL_PCH_25M_IN	Follow Intel schematic review feedback
0009	Chipset	22	NI R215 for PCH_NV_ALE desable	Follow Intel schematic review feedback
0010	GPIO	22	add GPIO2/ 3/ /4 /5	for AV in function implementation
0011	GPIO	23	add GPIO46	for CLEAR PASSWORD/ Dell request
0012	Chipset	24	NI R286, R296 for HPD detece	Intel suggest, PCH_DOSP_HP default pull GND
0013	AV IN	24, 31	change AV IN CONN from 30P to 40P	for AV in function implementation
0014	AV IN	24	change AV IN power from main power to stanby	for AV in function implementation
0015	Chipset	24	Add R2149 pull high to P3V3 for enable PCH DDPC fuction output	Meet AV in board design requirement
0016	Chipset	25	add GPIO 38/ 48/ 49, and add J104, 105, 106 header	for panel ID selection
0017	Chipset	25	add GPIO15	for WLAN disable control by BIOS
0001	Chipset	26	Change WP# pin pull up from SB3V to P3V3	Follow Intel schematic review feedback
0002	Chipset	27	add C135, C126, C127, C140, C255 (PCH filter CAP)	Follow Intel schematic review feedback
0003	MXM	30	change MXM CONN (J12) type from DIP to SMT	SMT is popular type and follow buyer request
0004	MXM/PCH	31	non install LVDS EDDID function (U11)	change EDDID data from EPROM to BIOS detection
0005	SYSTEM	32	change design for LVDS_EN/ BLK_PWM/ EN control circuit from manual to auto detection	Dell request
0006	SYSTEM	32	Change Net converter_GND to GND	Fix converter board can not workable to causeLCD no display issue
0007	DFM	33	Change LPC bus connection form TV CONN to WLAN CONN	Prevent the LPC bus conflict with TV card B-cas bus
0008	LAN	34	Change LAN EEPROM (U25) to none install	default program in LAN chip
0009	card reader	35	add by pass CAP C773 to P3V3_CARD	vendor suggest fix chip power squence issue
0010	BT & Touch	37	Add power control circuit for Bluetooth and Touch panel header power source	implement BT and touch pad suppoer S3 wake up
0011	SATA	38	add C781, C782 , C779, C780 on SATA power	EMI suggestion
0012	AUDIO	39	change audio codec solution from ALC888 to ALC272	Cost down for Over design
0013	SYSTEM	40	connect PCH_SPKR net to AMP input	For BIOS Beep code function supported without Buzzer
0014	SYSTEM	41	None install VGA CONN header	prevent chassis conflict with this header, (this only for debug use)
0015	CIR	43	cahnge J95 header 2P to 3P (CIR Emitter)	Prevent plug-in error
0016	SYSTEM	43	add reserve FAN (J38) for SYSTEM, but non install	For thermal request
0017	SYSTEM	44	change S3 (power button) and add LED breathing function	Meet Dell behavior SPEC
0018	Power	46	add P12V_STBY power	Fix AMP pop issue on boot and sturn off system
0019	SYSTEM	56	add PS/2 KB/MOUSE function (J31)	Dell request
0020	CPU	57	change CPU HEATSINK standoff type (M7, M8, M9, M10)	Fix the screw didn't match standoff issue
0021	SIO	42	Modify SIO_GND_Power connect to GND directly	Board can not power on cause by RSMRST#, PCIRST# can not rise 2.5V and keep normal status. Root cause is SIO GND floating
0022	SIO	42	Modify SIO_GND_Power connect to GND directly	Converter board function can not work normal, Root cause is Converter board wrong Ground net
0023	System VR	50, 52	change voltage divider R751 1K to 10K and R1028 4K7 to 220R of PWRGD_CPU_PVTT	i7 CPU have successive of reboot behavior cause by VTTTPWRGD level not correct
0024	CPU	51	Remove PC130	System hang after install New GPU driver
0025	System VR	53	Change PR140 From 13K change to 2.26Kohm	For P1V5_DDR3 PMM OCP issue
0026	System VR	54	Change PR154 From 100K change to 8.7Kohm	For P1V5_PMM OCP issue
0027	System VR	47	Change PR76 From 200K change to 238Kohm	For P3V3_STBY PMM OCP issue
0028	CPU VR	52	Change PR127 From 100K change to 60Kohm	For P1V5_VTT PMM OCP issue
0029	CPU VR	51	Change PR20 From 10K change to 9.31Kohm	For PV_CPUAUXG PMM OCP issue
0030	CPU VR	50	Change PC181+PC107 From 47nF change to 22nF	For CPU_VCORE RC match
0031	CPU VR	51	Change PC136 From NI chang to 1500PF	For PV_CPUAUXG Transient issue.(RC match)
0032	CPU VR	51	Change PC131, PC129 From 560UF chang to Non install	For PV_CPUAUXG Bode Measurement.
0033	CPU VR	50	Change PR136 From 10K5 change to 11K8	For CPU_VCORE IMON Measurement.
0034	CPU VR	51	Change EC4 From 330uF change to Non install	For GFX_PWR Bode Measurement.
0035	Clocks	21	non install R571 on PCH XTAL 25M	this application only for i7 CPU, install will capable of remove 25Mhz XTAL
0036	GPIO	22, 24, 31	remove PCH GPIO2, 3 VOLUME control function	Scalar volume control will move to GPIO1 and 7
0037	GPIO	25	add one level shift circuit of 2668_DETECT_N	GPIO is 3.3V source but AV board detect need 5V power
0038	GPIO	25	Del J104, J105, J106 for panel ID	Follow Dell request of auto detect panel
0039	System VR	26	add RTC POWER LOST circuit	fix RTC power loss issue
0040	MXM	30, 42	change MXM Smbus link source from PCH_HOST to SIO_HOST	For MXM thermo sense
0041	USB	36, 37	change CONN insulator color from white to black	Dell request
0042	AMP	40	Add R529 on AMP micro control	For amplifier mute control
0043	Codec	40	remove C254, C258 100uF on HP JACK	Realtek suggest
0044	Codec	40	change C321, C322 to 10uF 1206	Realtek suggest
0045	VGA	41	Add VGA debug port on EVT board	For debug smooth
0046	Chipset/ SIO	26, 45	non install R977, R918 on SIO RSMRST control and use external RSMRST control of P3V3_STB_PWRGD (non install R632, R658 and install R652(0R), R627 (499R)	Fix RSMRST power down sequence issue
0047	SIO	44	change Power button LED light color	Dell request
0048	System VR	46	change 12V(S0) enable control circuit, add Q626, R844, R846	Fix P12V_SYVS power loss issue
0049	System VR	24	Add R605 and non install	Fix RTC power loss issue
0050	System VR	32	Add R1041, C786 on P19V_CONVERTER power control	Fix PNP-MOS part DS voltage restrict issue
0051	XDP	20	Install R167 for PSOUT_SIO_N pull up RES	Fix XDP can't detect issue
0052	LVDS	24	Add COMMON CHOKE pre PCH LVDS data signal	LVDS amplitude voltage is over upper limit
0053	WLAN	33	Install R1908 connect to BT_DISABLE, and Non install R594	For BT module disable
0054	NIC	34	change LAN controller from RTL8111E-GR to RTL8111E-VB-GR	Buyer suggest, this is RTL8111E new type.
0055	NIC	34	Install R1859 for PE_WAKE_NIC_N	LAN WAKE up external pull high
0056	NIC	34	Change R1870, R1869, R1868 of LAN LED limit current RES	vendor suggest value
0057	WLAN	35	Change C773 from 4.7uF to 220uF	fix card reader chip power squence issue
0058	USB	37	Add U26 for USB ESD	Fix Touch panel EMI issue
0059	Audio	39	Remove R189, C333 for PCH_HDA_CLK	Fix PCH_HDA_CLK high pulse width error issue
0060	Audio	39	Add L55, L56 and non install L54, L24 , change Codec Power source	Energy star 5.0 solution, check it on EVT duild
0061	AMP	40	Change Mode and SVRR control AMP circuit	For PoP noise on Boot and show-down stage
0062	AMP	40	Swap speaker Right audio output P/ N signal	Because NXP AMP output R/ L-CH direction reverse.
0063	AMP	40	Change Audio_GND and GND applications on AMP function.	Promote the Speaker performance
0064	Audio	41	Remove D5, D6, D7, D8, D9, D10 and change to AOZ8212 solution	Promote the ESD protection
0065	AMP	43	non install Reserve FAN	For Thermo team try
0066	System VR	43	change R1833, R1834, R1835, R569, R574 from 0603 to 0805	over Dell SPEC
0067	System VR	45	Remove MAX809L and add PWRGD_PS control circuit	Add PWRGD_PS control circuit replace MAX809L
0068	System VR	56	Change DISCHARGE CIRCUIT RES Volue	over Dell SPEC
0069	Memory	19	Change DIMM conn (J3, J4) to fly type by 4/21	For thermal improvement
0070	MXM/PCH	30	change THERMITRIP_N logic circuit	Compress circuit
0071	SYSTEM	44	update power LED mode control circuit	For Dell requirement breathe function

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EVT-to DVTchange list:

Category	Page	Description \ Deliverables	Reason
PCB	all	Rename PCB parts location	
Memory	18, 19	change memory connector from high type to normal height	The mamory type was mistake on EVT stage.
GPIO	21	Non install GPIO47 pull up resistor (R346)	GPIO47 default non used need pull down
GPIO	23,25	remove J6 header and RTCRST GPIO control function	only reserve one header control for PCH_RTCRST_N
SYSTEM	24,31	change PC71,PC73,PC69,PC70, from 5nF to 3.3nF	For RF signal quality
GPIO	25	Remove GPIO for FP_AUD_DETECT & F_USB_DETECT	no used signal
GPIO	25	change FM_BIOS_SPI_WP_N from GIPO24 to GPIO35	GPIO 24 use STBY power but SPI_WP_N should be normal power
SYSTEM	26	Remove internal Buzzer function	For Debug parts, but need used this location for intell PPID label, so remove it
Converter	32	Change R708, R709 from 10K ohm to 100K ohm	For back light enable squence timing
SYSTEM	33	change PC174,PC175,PC89,PC132,PC133,PC135, from 5nF to 3.3nF	For RF signal quality
LAN	34	Change LAN internal output 1.05V power choke to SWF2520CF-2R2M	Follow Realtek suggest, and send sample board to Realtek retest.
LAN	34	Change RJ45 connector to RV1-16305QUA	Fix ISN and LAN surge issue
DFM	37,43	Change CN28, CN29, CN30 header	Add key pin for manufacture request
AMP	40	update PCH_SPKP circuit	Reduce PCH SPKP Beep volume, Dell request
AMP	40	Remove Speaker_GND, and change speaker out connect to AGND	For enhance speaker performance
SYSTEM	45	Change PWRGD_PS control circuit	For power sequence request
SYSTEM VR	46	C238, C236 4.7uF/25V 0805 capacitor * 2 pcs and change F5 (EVT) to L53 4.7 uH/10A	Solve ISN Test for flex power issue
SYSTEM VR	46	Change 12V_STBY output choke	For enhance 12V_STBY efficiency will be added 3%-4%, thanks.
PWM Power	47,50,51,52,53	From FDMS7692A to BSC889N03LS G	For Mosfet damaged issue.
PWM Power	47,50,51,52,53	From FDMS7660 to BSC883N03LS G	For Mosfet damaged issue.
PWM Power	53	Change P1V5_DDR output choke From MP-00005762-000 to MP-00000269-000	For material issue. Delta lead time is too long.
SYSTEM	56	Non install all PS2 function component.	non use fouction
SYSTEM	44	update Power LED control circuit and change R515 to "39K + EC6 to 470uF" (6/1)	For Power LED behavior action
DFM	all	Remove NC net, and add Test point for non used function net	For DFM request
SYSTEM	49	non install EC CAPs PC84, PC108 of P3V3, P5V	Cost request
AMP	40	change R977 to 7K68 ohm and R618 to 20K	change Beep volume for Dell request (fine tune it to close internal buzzer's volume)
SYSTEM	44	change R1006 from 330 ohm to 470 ohm	Revise brightness of Power button LED
AV board	24,31	Change AV-IN connector Pin design for panel ID detect	For Scaler detect Panel ID
AV board	24,31	Swap volume confirm pin of AV connector	AV Mode volume issue
SYSTEM	38	Add bulk capacitor and zener diode on HDD, ODD power line	For limit the level of spike to protect HDD circuit.
LVDS	24	remove COMMON CHOKE and 0 ohm for LVDS signal.	For LVDS signal quality issue
AMP	40	change C217, C218 from Y5V type to X7R	Y5V will cause THD issues at low frequency. (Vendor suggest)
SYSTEM	all	change MLCC CAP Y5V type to X7R or X5R type	Cost request
SYSTEM	all	Change low power MLCC CAP from 25V rated to 16V or 6.3V type	Cost request
Display	31	Non install C27 and R19 of LVDS external EDID function	non use fouction
AMP	40	Remove D19 and change AMP mode control source from 12V_SYS to 12V_STBY	to lower POP noise
SYSTEM VR	49	Change P5V power control circuit	adjust power squence
SYSTEM VR	46	Change L53 to EPI 0603H-4R7M-K01	old part will EOL
AV board	44	Non install R448	For AV-board FW utility update
ME	46	Change CN24 (DC JACK) to height 14.1 type	For ME request

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