

CODE NAME :

PROJECT NAME : C3PO_INTEL

VERSION : A00

DATE : 2010/07/08

FLEXTRONICS CONFIDENTIAL

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THESE SCHEMATICS SARE NOT VALIDATED

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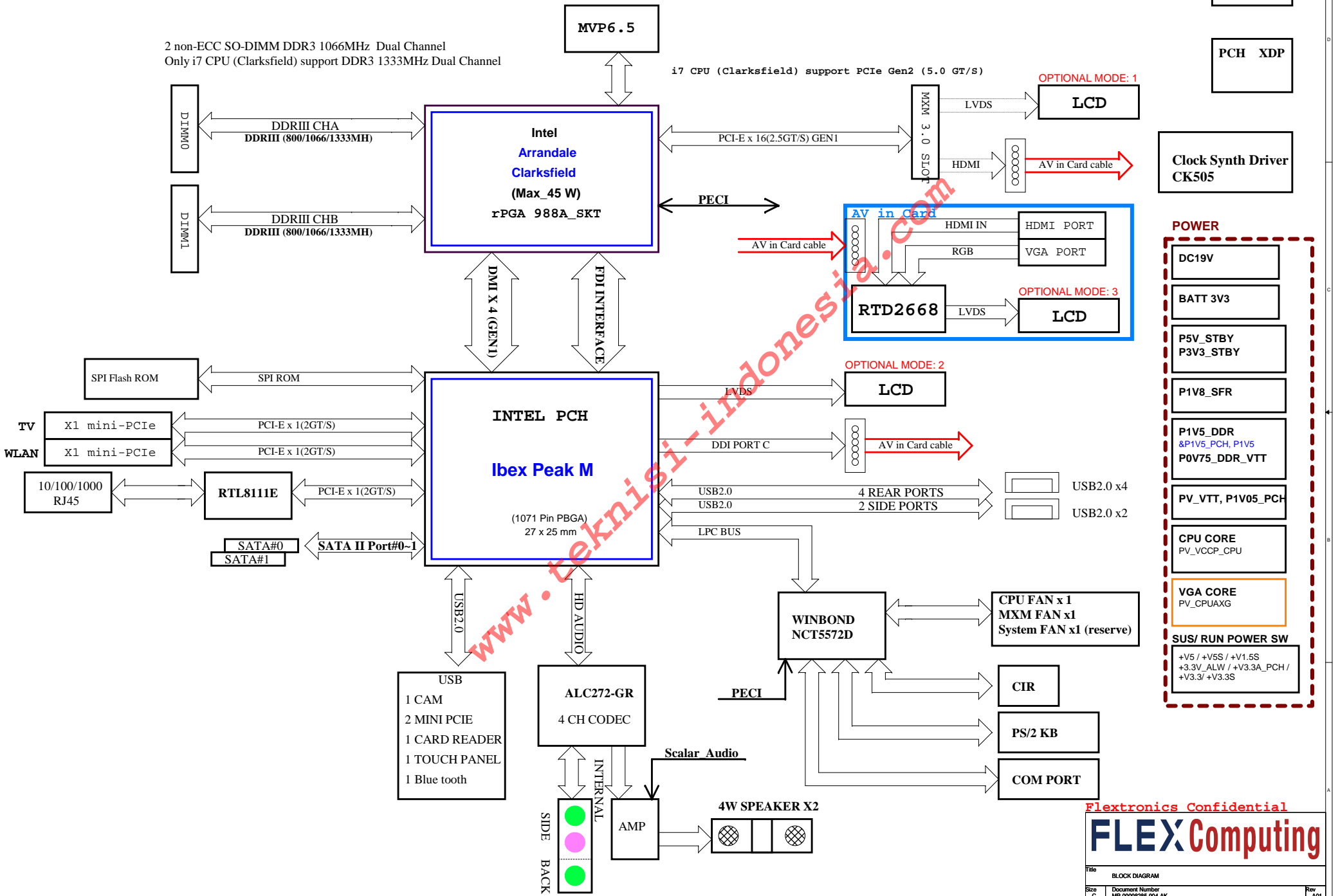
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FLEXComputing

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BLOCK DIAGRAM

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

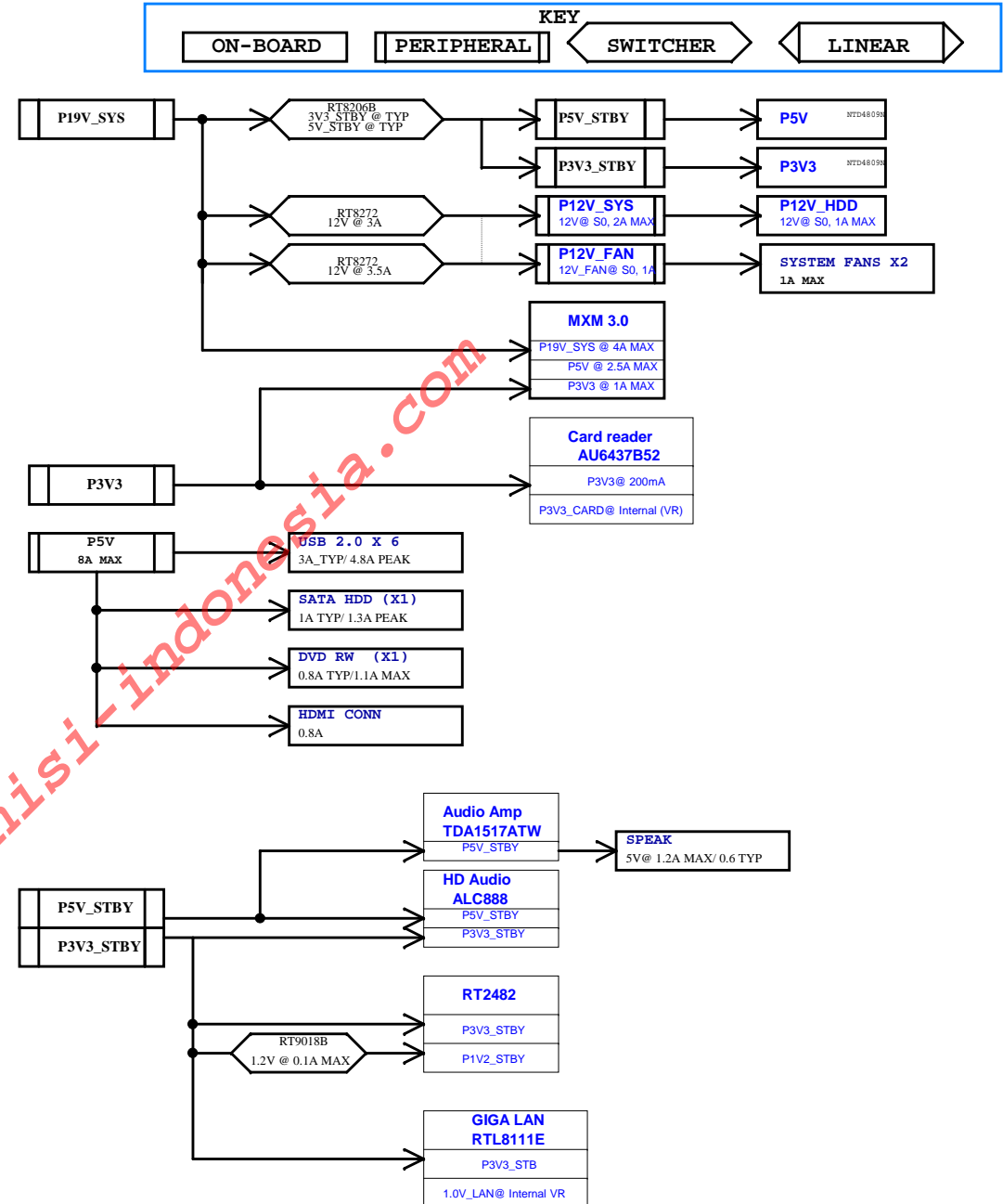
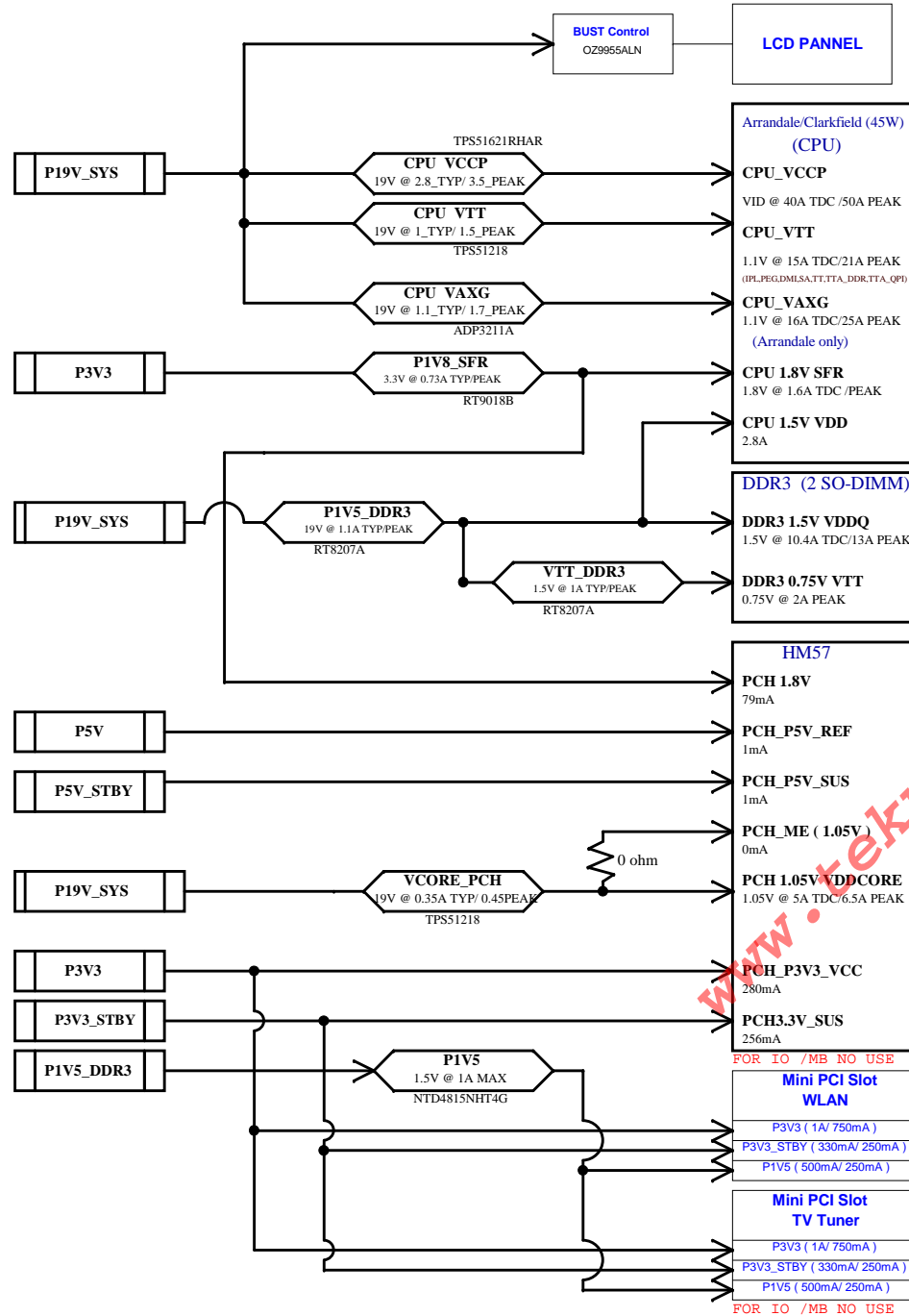


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FLEX Computing

Title			BLOCK DIAGRAM
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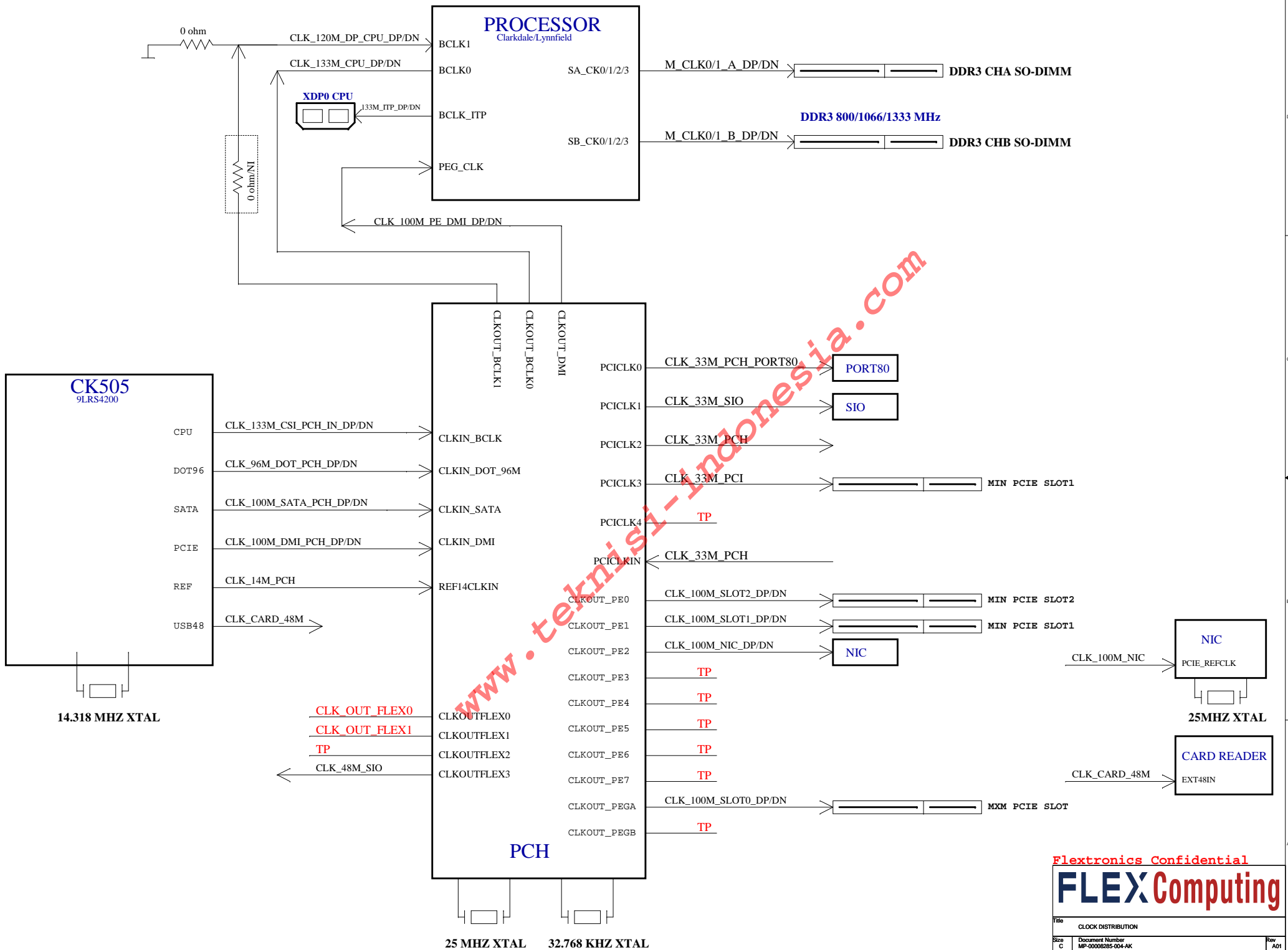
NOTE VR EFFICIENCY INTO ACCOUNT WHEN SIZING POWER SUPPLY

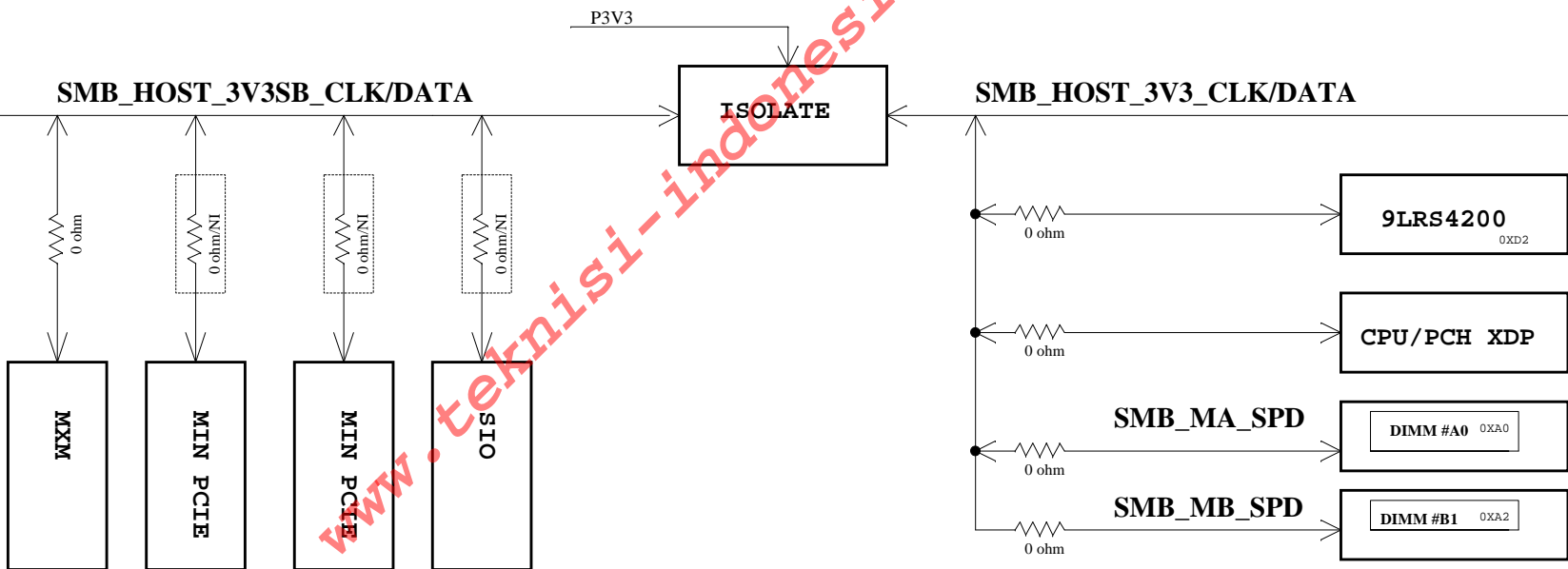
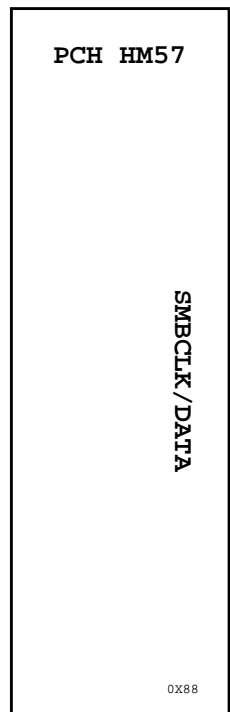


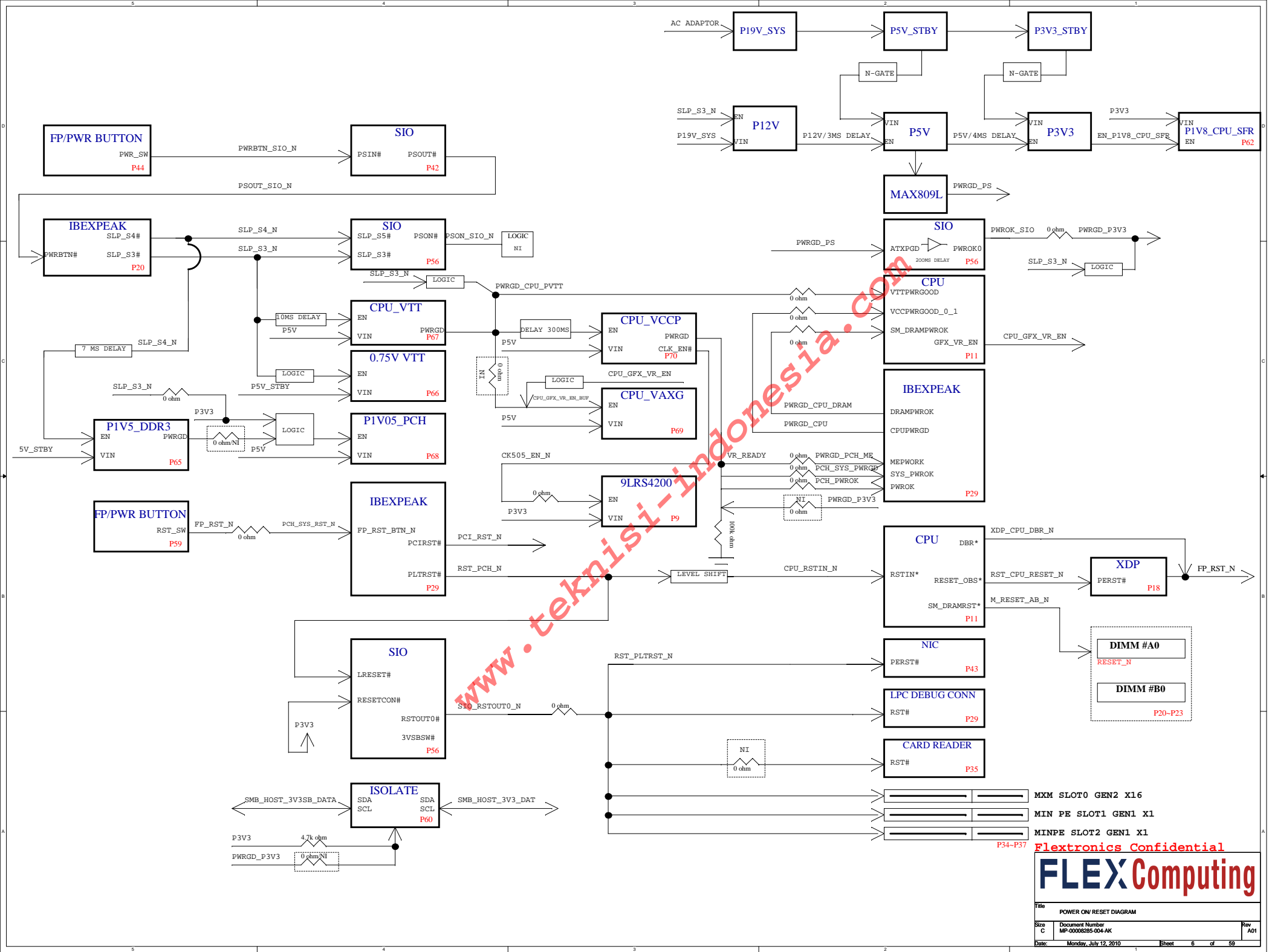
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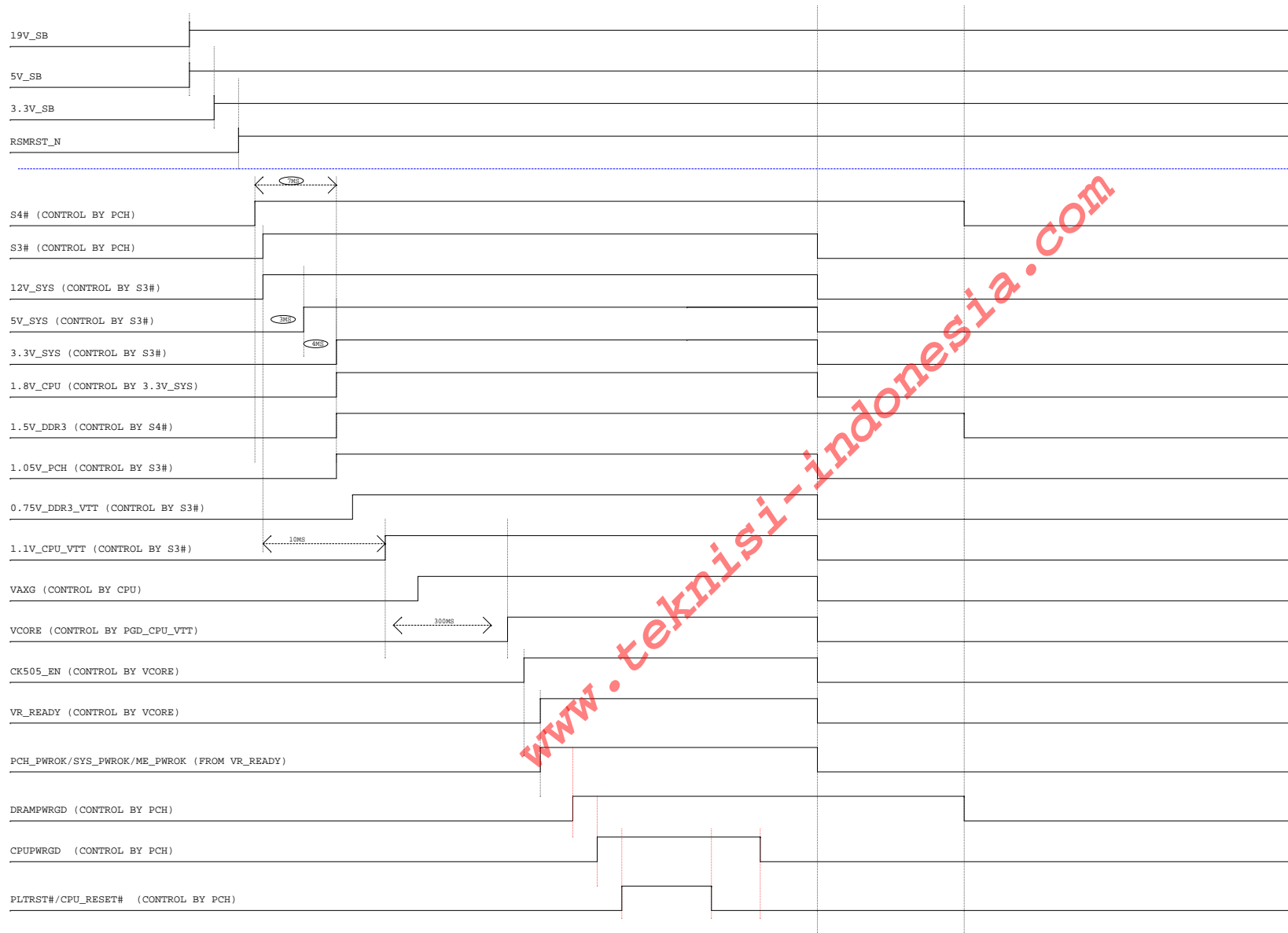
Title POWER DISTRIBUTION		
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HM57 power on/down sequency



BLANK

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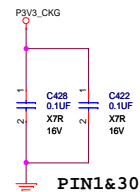
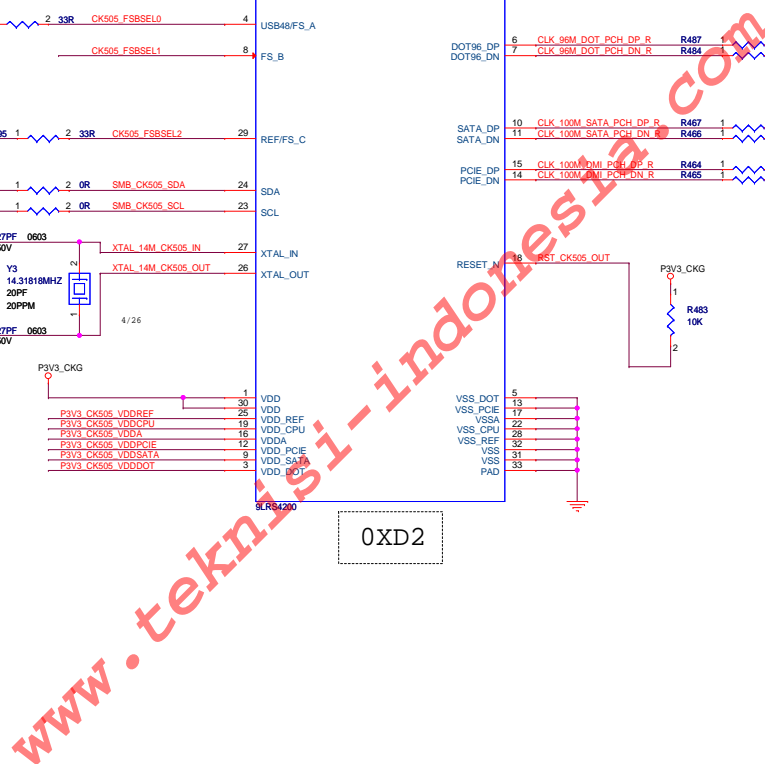
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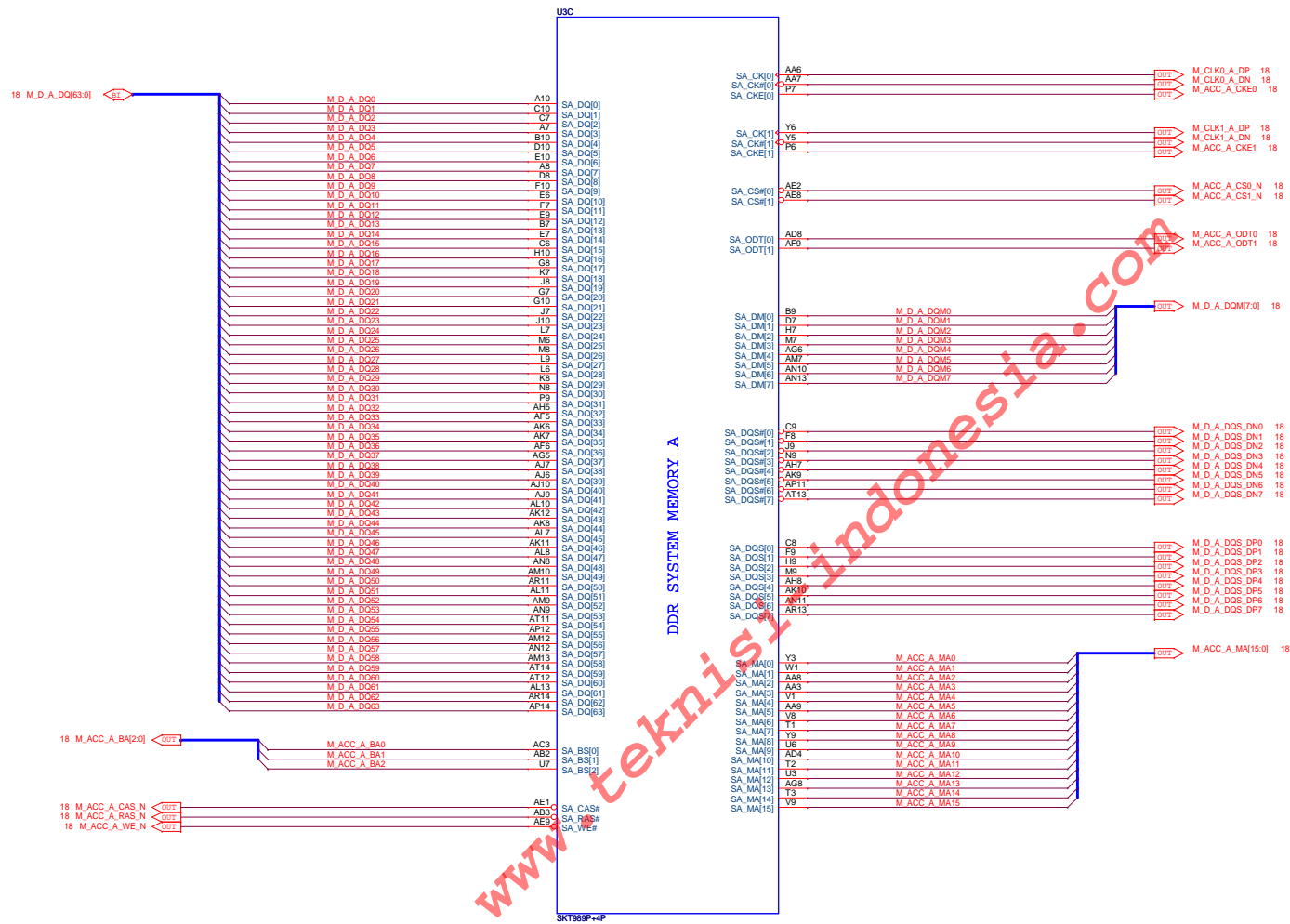
VER:X01 item02:

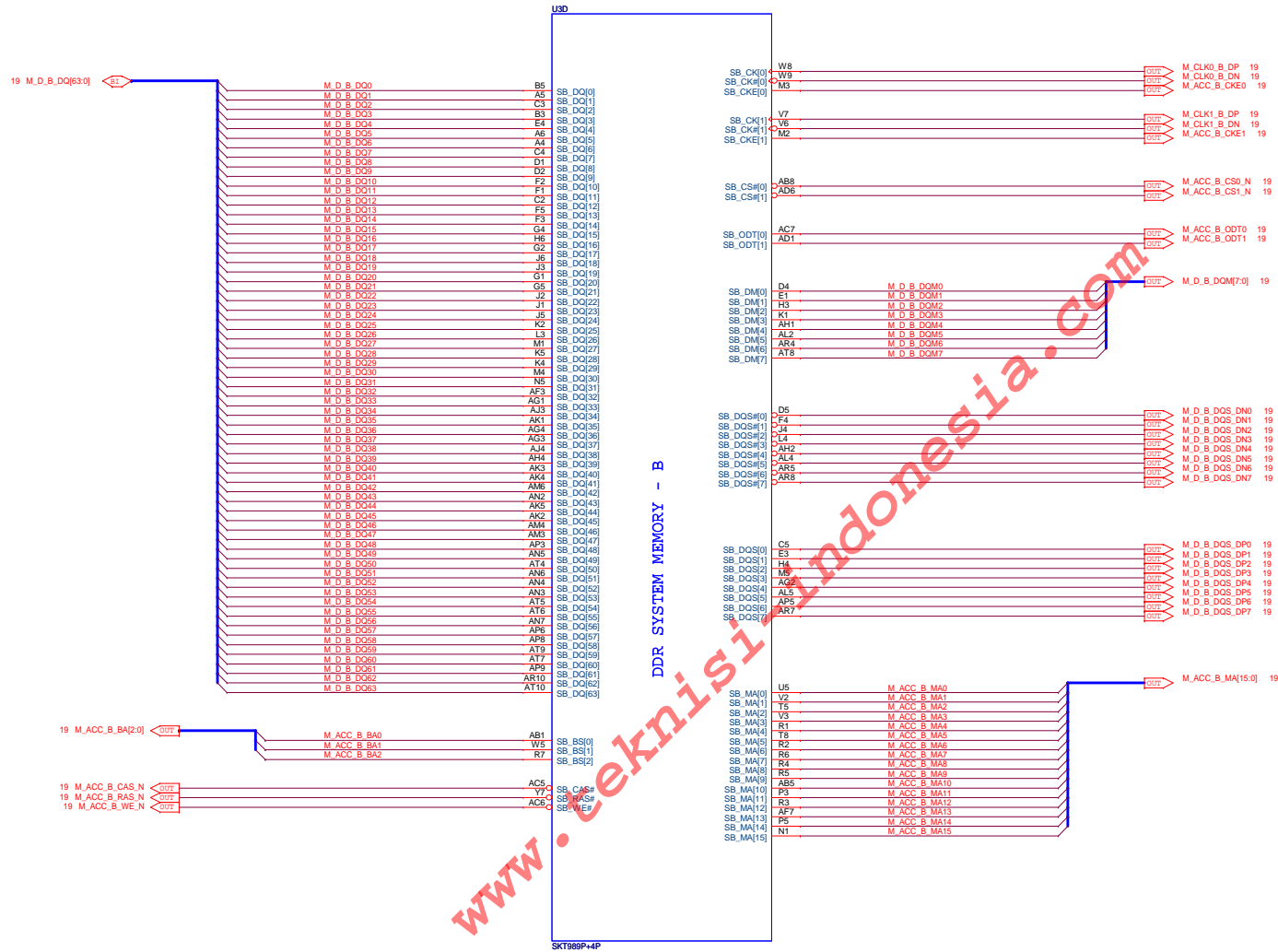
DEFAULT ->



DEFAULT

DEFAULT

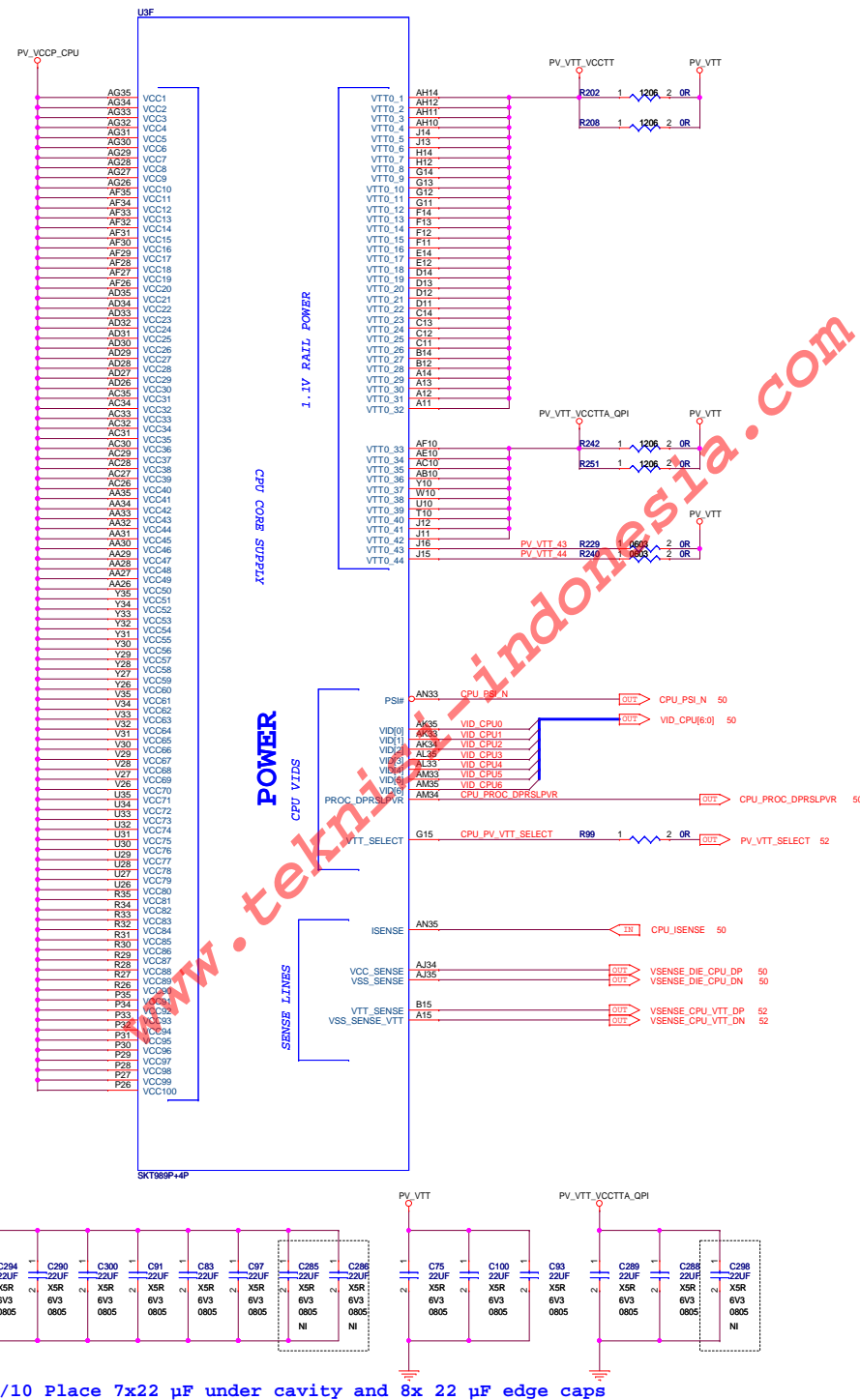




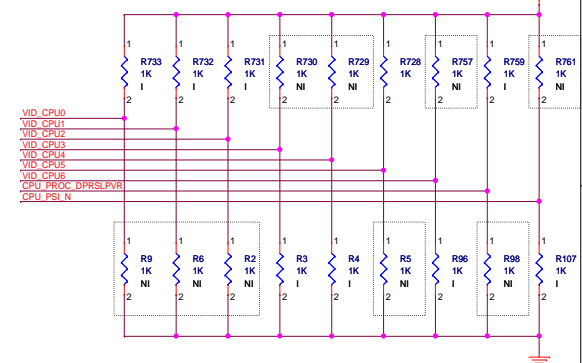
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Title CPU_MEMORY_CHB		
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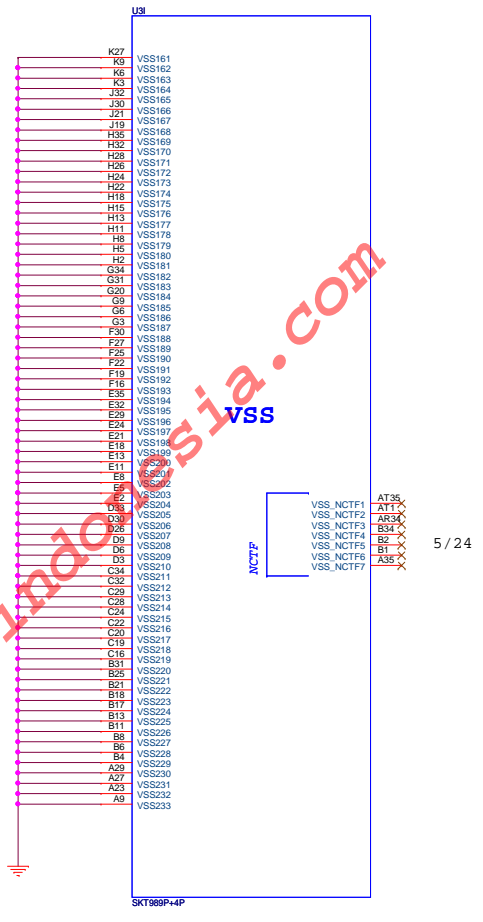
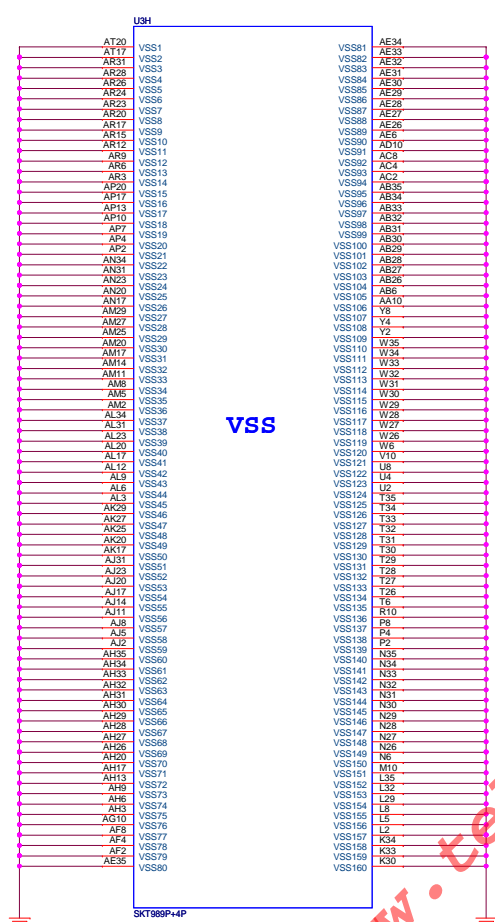
RESERVED FOR BOOT
DEFAULT:1.0125V



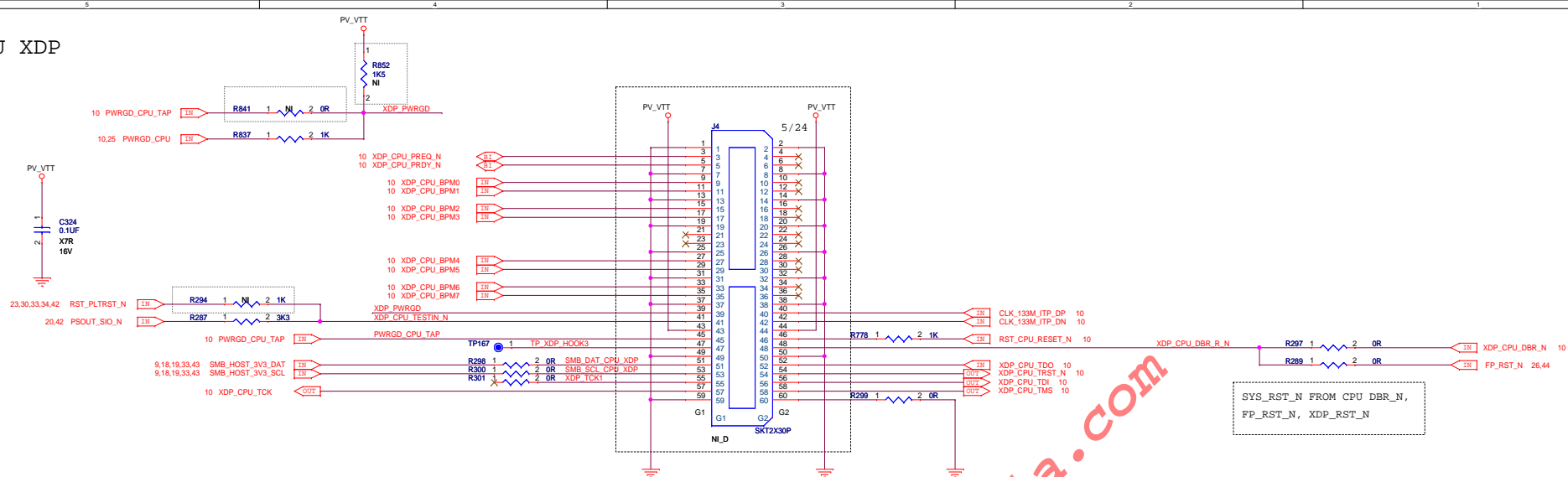
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FLEX Computing

Title		
CPU_PWR_VCCP		
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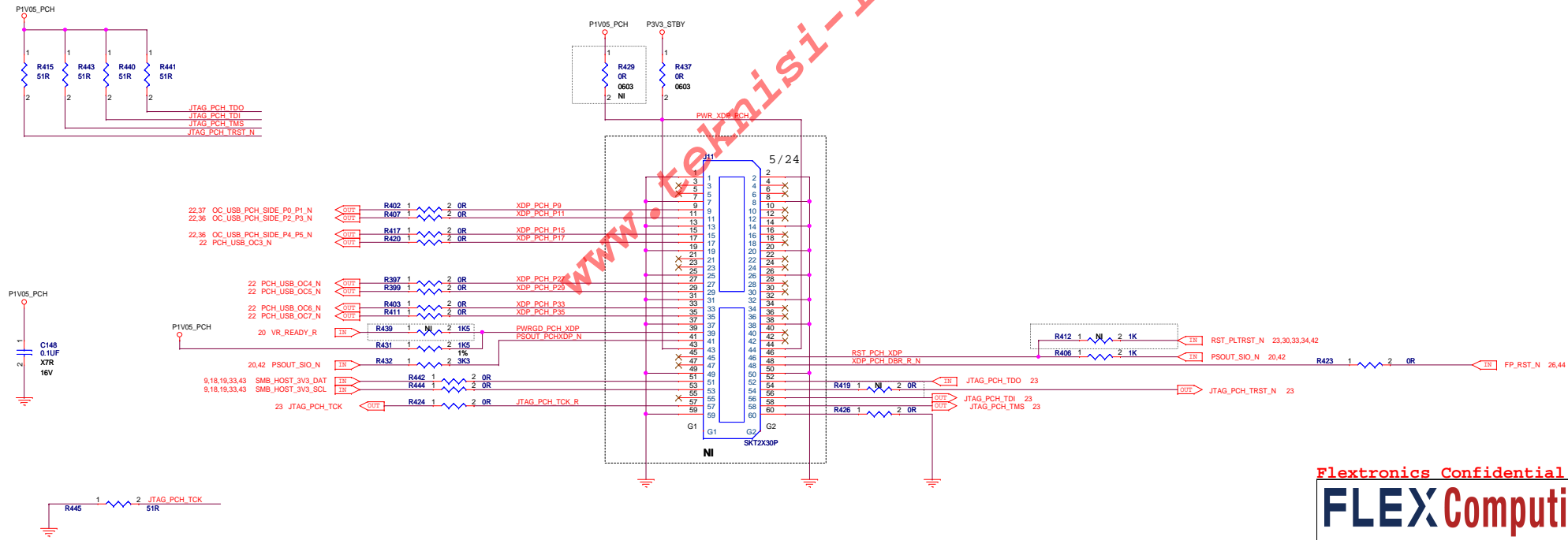


CPU XDP



PCH XDP (NI)

PCH JTAG TERMINATION

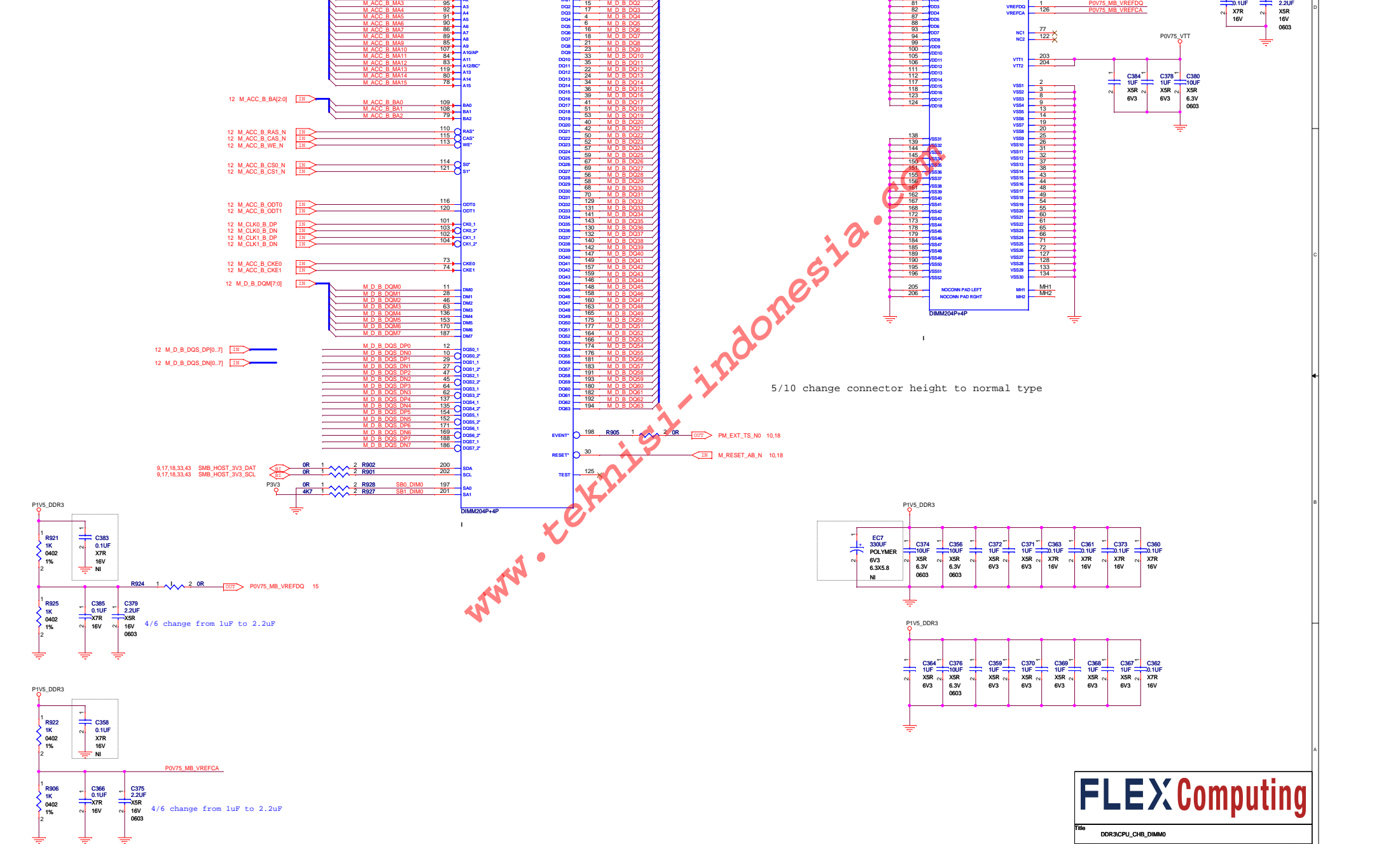


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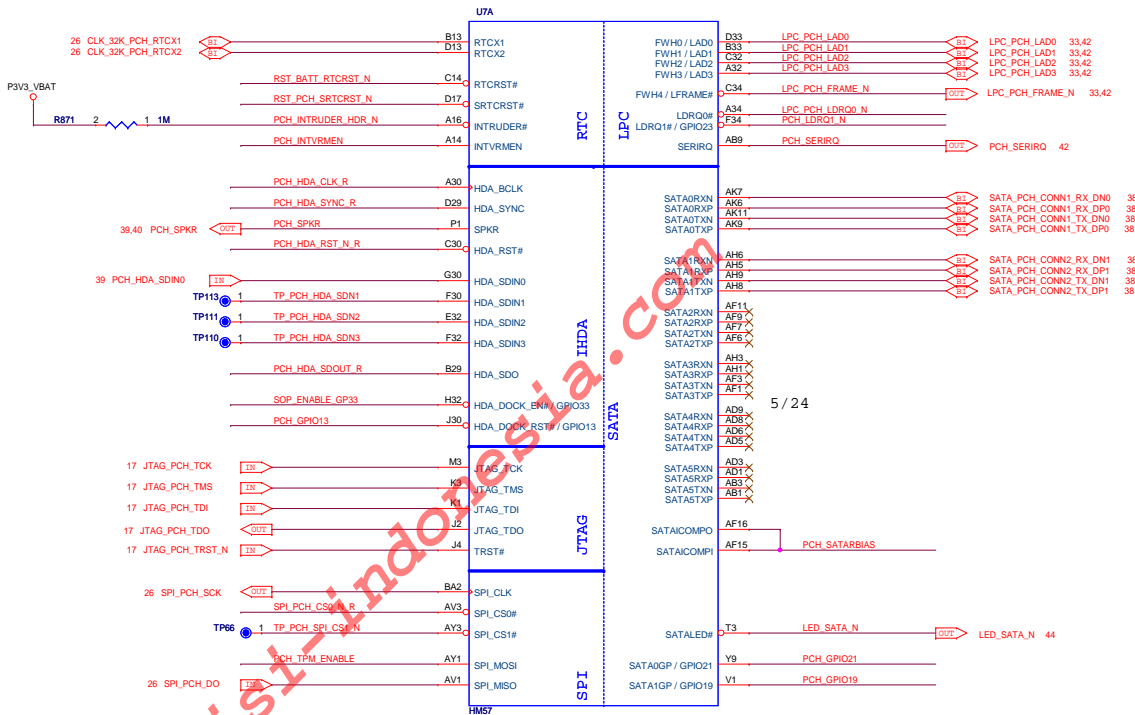
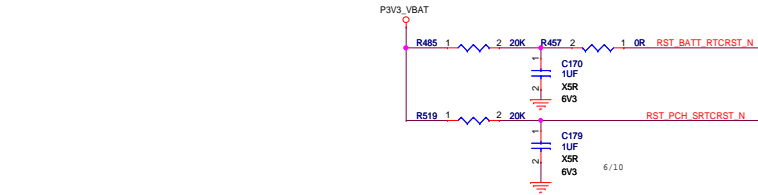
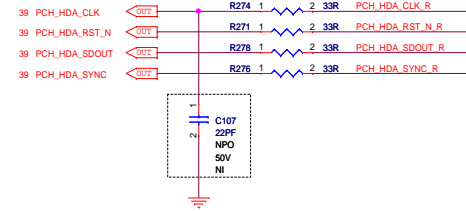
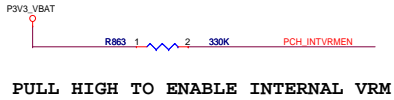
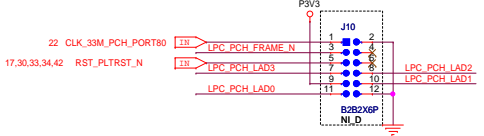
File		
CPU & PCH_XDP		
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DDR3 DIMM0

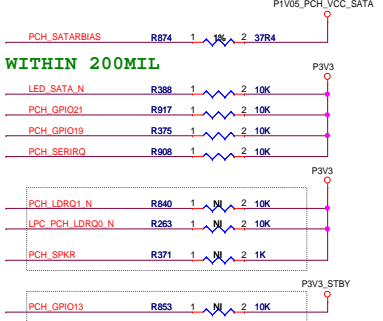
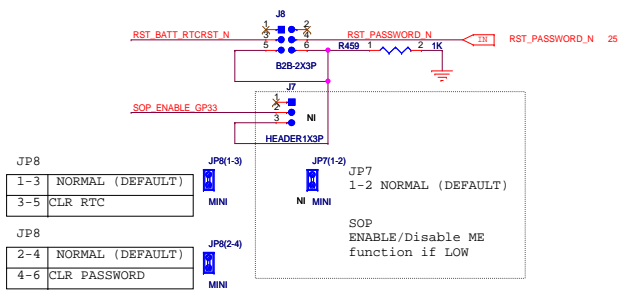


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LPC DEBUG CONN



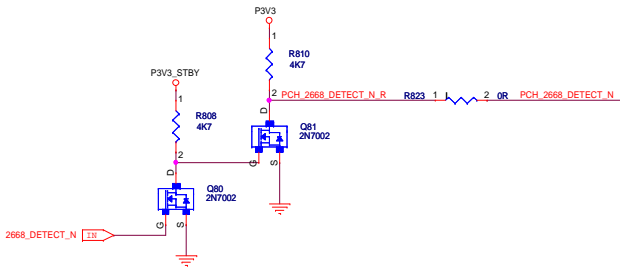
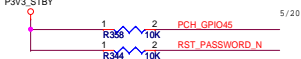
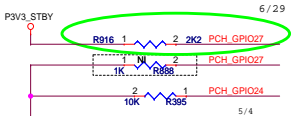
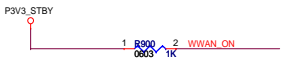
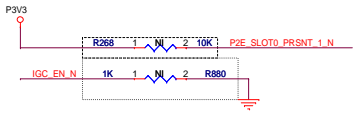
CLEAR CMOS/CLEAR PASSWORD



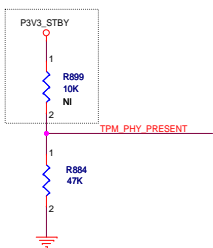
MOBILE DOES NOT IMPLEMENT PWM AND SST PINS

CLOCK VALIDATION STRAP
EMPTY FOR BUFFER THROUGH MODE

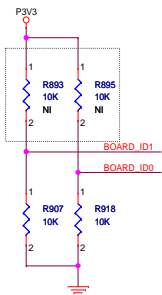
GPIO01 volume up
GPIO07 volume down



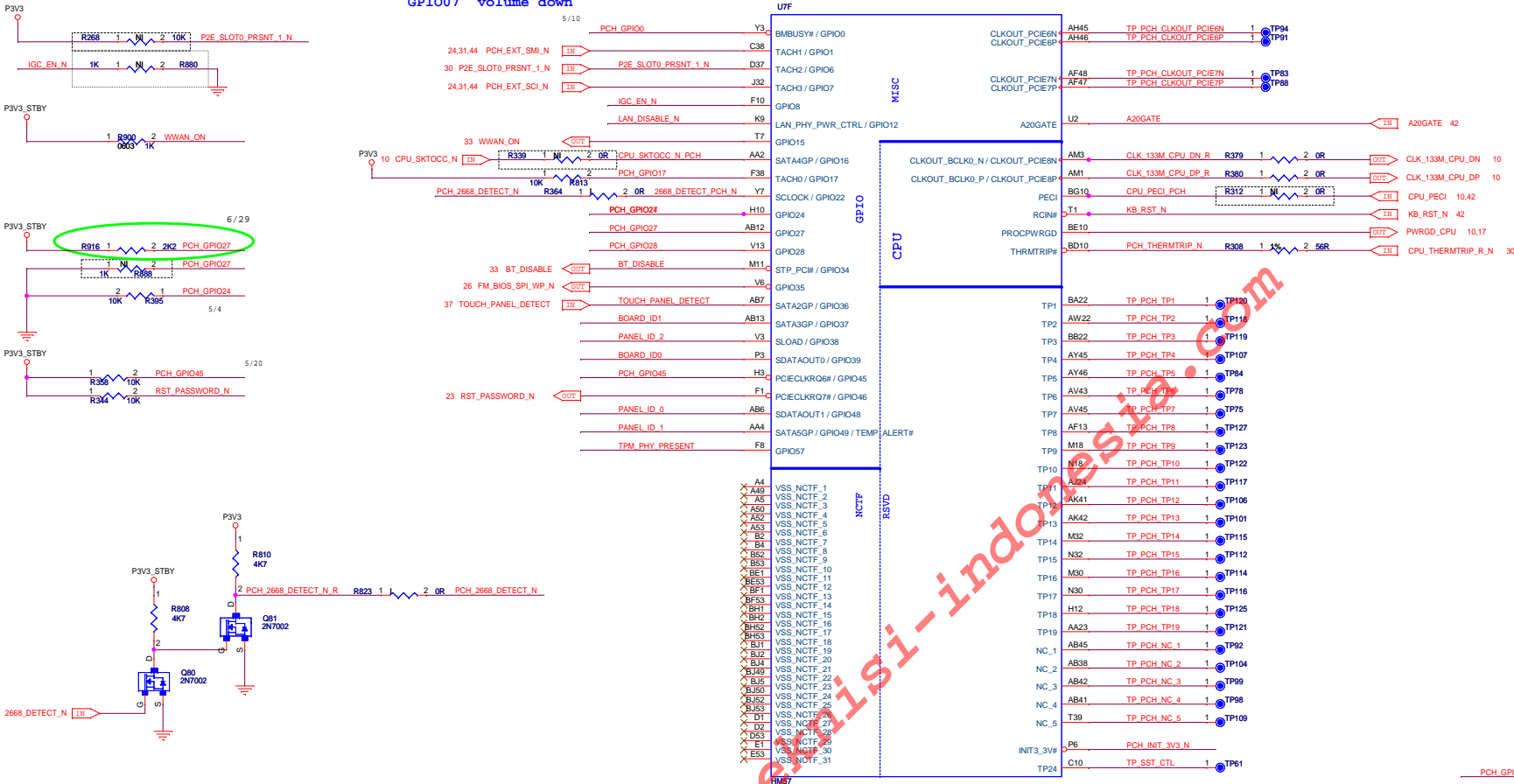
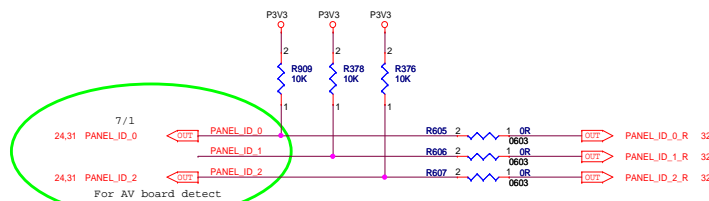
TPM Physical Presence to ME
when pulled high.



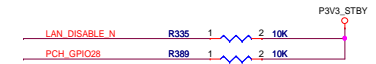
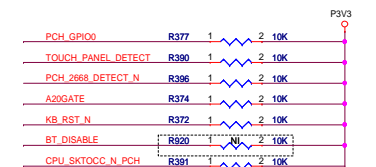
BOARD ID1/ID0
00 : X01
01 : X02
10 : X03

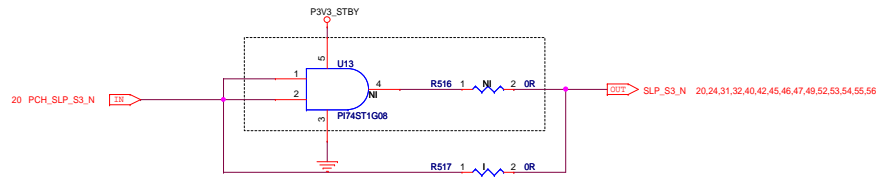


BOARD Panel ID
ID2 ID1 ID0 Panel
1 0 0 Samsung23"
1 0 1 LG23"
1 1 0 Samsung21.5"
1 1 1 LG21.5"
0 * * Reserved



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

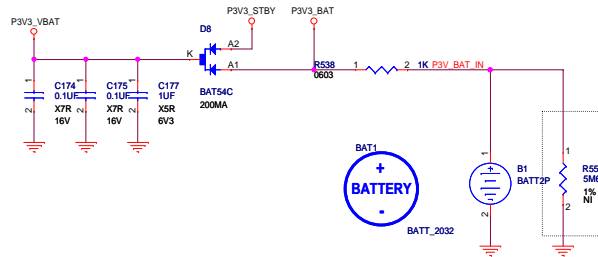




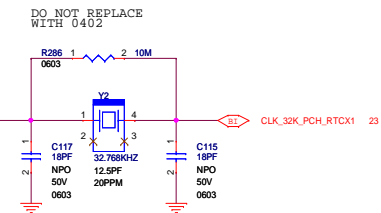
PCH_SYS_RST---MUST IN S0 POWER



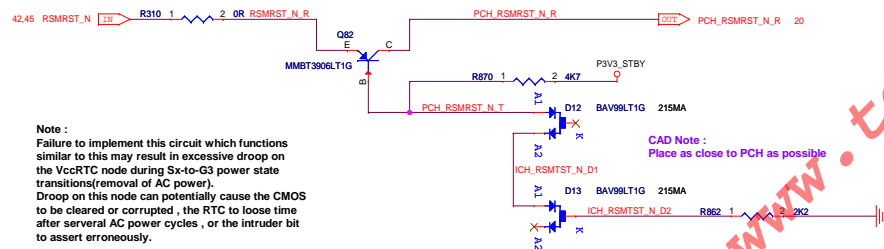
BATTERY



RTC CLK



RTC POWER LOST

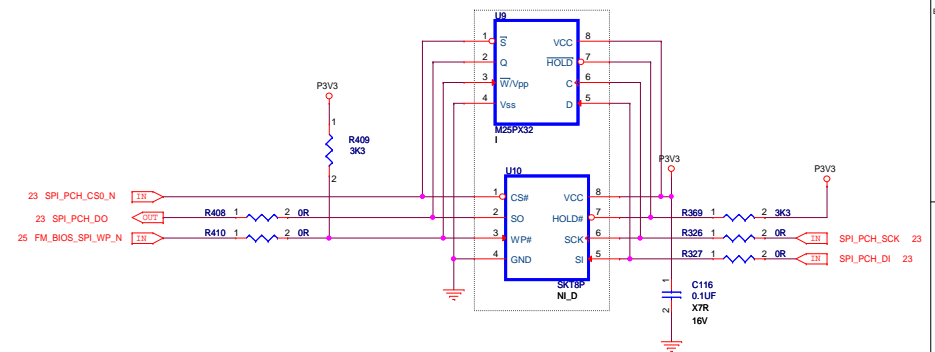


Note :
Failure to implement this circuit which functions similar to this may result in excessive droop on the VccRTC node during Sx-to-G3 power state transitions (removal of AC power). Droop on this node can potentially cause the CMOS to be cleared or corrupted, the RTC to lose time after several AC power cycles, or the intruder bit to assert erroneously.

CAD Note :
Place as close to PCH as possible

4MB SPI ROM

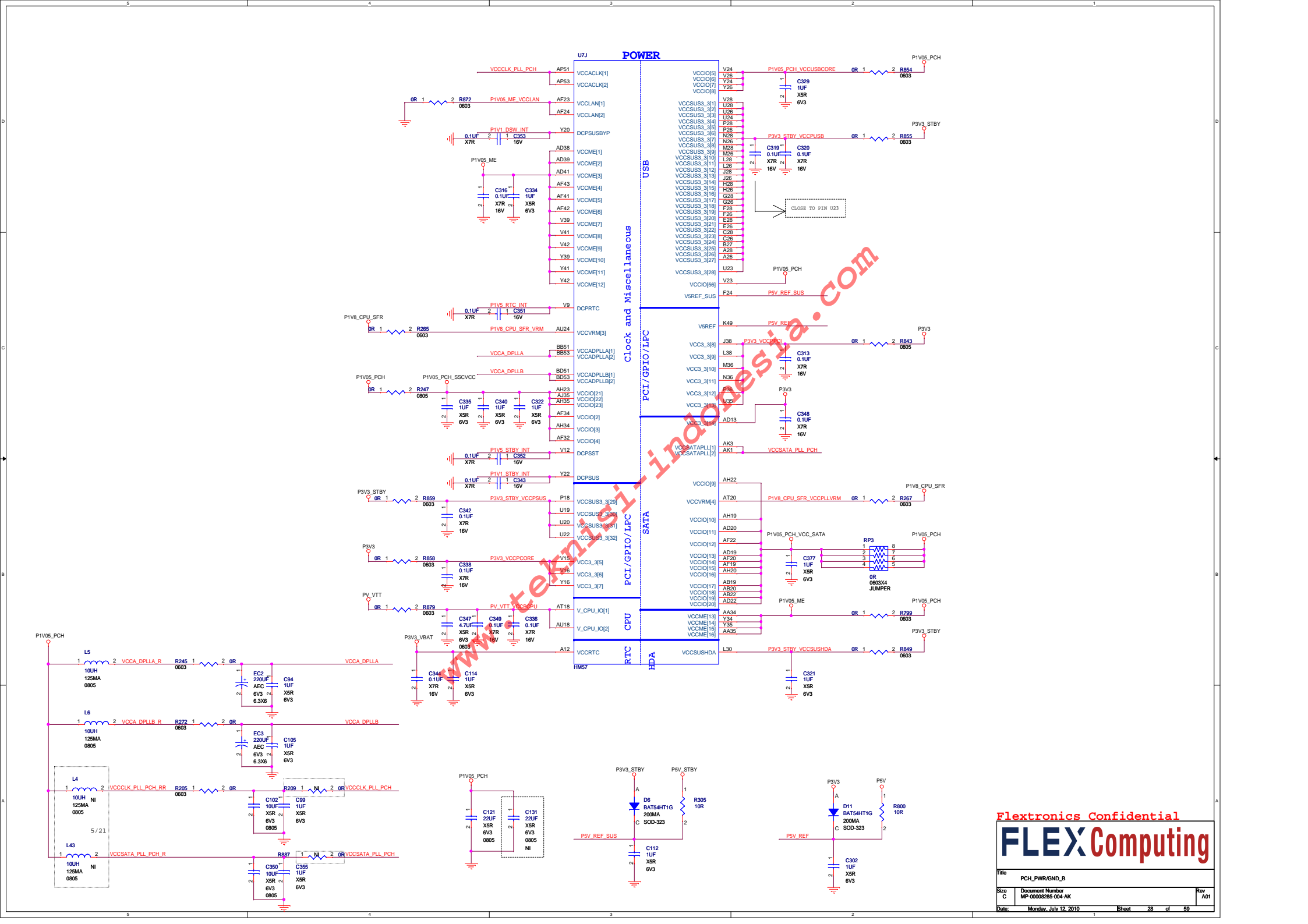
release BOM need NI U4
and add BIOS FW code



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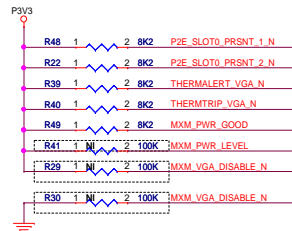
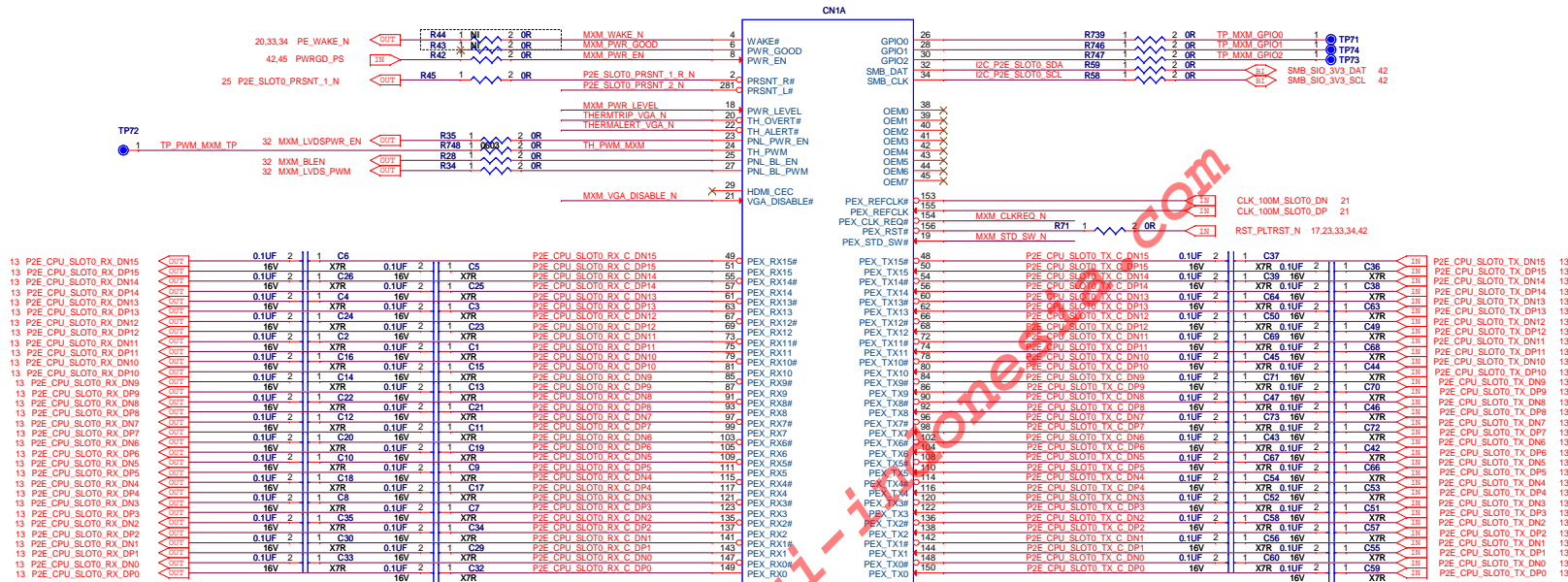
FLEX Computing

Title		
PCH_GPIO/MISC_B		
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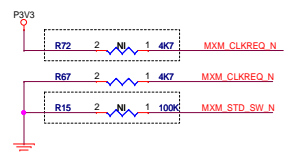


U71			H49		
AY7	VSS1598		VSS2689		
B11	VSS1600		H5		
B15	VSS1601		J24		
B19	VSS1601		K11		
B23	VSS1602		K43		
B31	VSS1603		K47		
B35	VSS1604		K7		
B39	VSS1605		L14		
B43	VSS1606		L18		
B47	VSS1607		L2		
B51	VSS1608		L22		
B55	VSS1609		L32		
B59	VSS1610		L36		
B63	VSS1611		L40		
B67	VSS1612		L44		
B71	VSS1613		M0		
B75	VSS1614		M12		
B79	VSS1615		M16		
B83	VSS1616		M20		
B87	VSS1617		M24		
B91	VSS1618		M28		
B95	VSS1619		M32		
B99	VSS1620		M36		
C03	VSS1621		M40		
C07	VSS1622		M44		
C11	VSS1623		M48		
C15	VSS1624		M52		
C19	VSS1625		M56		
C23	VSS1626		M60		
C27	VSS1627		M64		
C31	VSS1628		M68		
C35	VSS1629		M72		
C39	VSS1630		M76		
C43	VSS1631		M80		
C47	VSS1632		M84		
C51	VSS1633		M88		
C55	VSS1634		M92		
C59	VSS1635		M96		
C63	VSS1636		M100		
C67	VSS1637		M104		
C71	VSS1638		M108		
C75	VSS1639		M112		
C79	VSS1640		M116		
C83	VSS1641		M120		
C87	VSS1642		M124		
C91	VSS1643		M128		
C95	VSS1644		M132		
C99	VSS1645		M136		
D03	VSS1646		M140		
D07	VSS1647		M144		
D11	VSS1648		M148		
D15	VSS1649		M152		
D19	VSS1650		M156		
D23	VSS1651		M160		
D27	VSS1652		M164		
D31	VSS1653		M168		
D35	VSS1654		M172		
D39	VSS1655		M176		
D43	VSS1656		M180		
D47	VSS1657		M184		
D51	VSS1658		M188		
D55	VSS1659		M192		
D59	VSS1660		M196		
D63	VSS1661		M200		
D67	VSS1662		M204		
D71	VSS1663		M208		
D75	VSS1664		M212		
D79	VSS1665		M216		
D83	VSS1666		M220		
D87	VSS1667		M224		
D91	VSS1668		M228		
D95	VSS1669		M232		
D99	VSS1670		M236		
E03	VSS1671		M240		
E07	VSS1672		M244		
E11	VSS1673		M248		
E15	VSS1674		M252		
E19	VSS1675		M256		
E23	VSS1676		M260		
E27	VSS1677		M264		
E31	VSS1678		M268		
E35	VSS1679		M272		
E39	VSS1680		M276		
E43	VSS1681		M280		
E47	VSS1682		M284		
E51	VSS1683		M288		
E55	VSS1684		M292		
E59	VSS1685		M296		
E63	VSS1686		M300		
E67	VSS1687		M304		
E71	VSS1688		M308		
E75	VSS1689		M312		
E79	VSS1690		M316		
E83	VSS1691		M320		
E87	VSS1692		M324		
E91	VSS1693		M328		
E95	VSS1694		M332		
E99	VSS1695		M336		
F03	VSS1696		M340		
F07	VSS1697		M344		
F11	VSS1698		M348		
F15	VSS1699		M352		
F19	VSS1700		M356		
F23	VSS1701		M360		
F27	VSS1702		M364		
F31	VSS1703		M368		
F35	VSS1704		M372		
F39	VSS1705		M376		
F43	VSS1706		M380		
F47	VSS1707		M384		
F51	VSS1708		M388		
F55	VSS1709		M392		
F59	VSS1710		M396		
F63	VSS1711		M400		
F67	VSS1712		M404		
F71	VSS1713		M408		
F75	VSS1714		M412		
F79	VSS1715		M416		
F83	VSS1716		M420		
F87	VSS1717		M424		
F91	VSS1718		M428		
F95	VSS1719		M432		
F99	VSS1720		M436		
G03	VSS1721		M440		
G07	VSS1722		M444		
G11	VSS1723		M448		
G15	VSS1724		M452		
G19	VSS1725		M456		
G23	VSS1726		M460		
G27	VSS1727		M464		
G31	VSS1728		M468		
G35	VSS1729		M472		
G39	VSS1730		M476		
G43	VSS1731		M480		
G47	VSS1732		M484		
G51	VSS1733		M488		
G55	VSS1734		M492		
G59	VSS1735		M496		
G63	VSS1736		M500		
G67	VSS1737		M504		
G71	VSS1738		M508		
G75	VSS1739		M512		
G79	VSS1740		M516		
G83	VSS1741		M520		
G87	VSS1742		M524		
G91	VSS1743		M528		
G95	VSS1744		M532		
G99	VSS1745		M536		
H03	VSS1746		M540		
H07	VSS1747		M544		
H11	VSS1748		M548		
H15	VSS1749		M552		
H19	VSS1750		M556		
H23	VSS1751		M560		
H27	VSS1752		M564		
H31	VSS1753		M568		
H35	VSS1754		M572		
H39	VSS1755		M576		
H43	VSS1756		M580		
H47	VSS1757		M584		
H51	VSS1758		M588		
H55	VSS1759		M592		
H59	VSS1760		M596		
I03	VSS1761		M600		
I07	VSS1762		M604		
I11	VSS1763		M608		
I15	VSS1764		M612		
I19	VSS1765		M616		
I23	VSS1766		M620		
I27	VSS1767		M624		
I31	VSS1768		M628		
I35	VSS1769		M632		
I39	VSS1770		M636		
I43	VSS1771		M640		
I47	VSS1772		M644		
I51	VSS1773		M648		
I55	VSS1774		M652		
I59	VSS1775		M656		
J03	VSS1776		M660		
J07	VSS1777		M664		
J11	VSS1778		M668		
J15	VSS1779		M672		
J19	VSS1780		M676		
J23	VSS1781		M680		
J27	VSS1782		M684		
J31	VSS1783		M688		
J35	VSS1784		M692		
J39	VSS1785		M696		
J43	VSS1786		M700		
J47	VSS1787		M704		
J51	VSS1788		M708		
J55	VSS1789		M712		
J59	VSS1790		M716		
K03	VSS1791		M720		
K07	VSS1792		M724		
K11	VSS1793		M728		
K15	VSS1794		M732		
K19	VSS1795		M736		
K23	VSS1796		M740		
K27	VSS1797		M744		
K31	VSS1798		M748		
K35	VSS1799		M752		
K39	VSS1800		M756		
K43	VSS1801		M760		
K47	VSS1802		M764		
K51	VSS1803		M768		
K55	VSS1804		M772		
K59	VSS1805		M776		
L03	VSS1806		M780		
L07	VSS1807		M784		
L11	VSS1808		M788		
L15	VSS1809		M792		
L19	VSS1810		M796		
L23	VSS1811		M800		
L27	VSS1812		M804		
L31	VSS1813		M808		
L35	VSS1814		M812		
L39	VSS1815		M816		
L43	VSS1816		M820		
L47	VSS1817		M824		
L51	VSS1818		M828		
L55	VSS1819		M832		
L59	VSS1820		M836		
M03	VSS1821		M840		
M07	VSS1822		M844		
M11	VSS1823		M848		
M15	VSS1824		M852		
M19	VSS1825		M856		
M23	VSS1826		M860		
M27	VSS1827		M864		
M31	VSS1828		M868		
M35	VSS1829		M872		
M39	VSS1830		M876		
M43	VSS1831		M880		
M47	VSS1832		M884		
M51	VSS1833		M888		
M55	VSS1834		M892		
M59	VSS1835		M896		
M63	VSS1836		M900		
M67	VSS1837		M904		
M71	VSS1838		M908		
M75	VSS1839		M912		
M79	VSS1840		M916		
M83	VSS1841		M920		
M87	VSS1842		M924		
M91	VSS1843		M928		
M95	VSS1844		M932		
M99	VSS1845		M936		
N03	VSS1846		M940		
N07	VSS1847		M944		
N11	VSS1848		M948		
N15	VSS1849		M952		
N19	VSS1850		M956		
N23	VSS1851		M960		
N27	VSS1852		M964		
N31	VSS1853		M968		
N35	VSS1854		M972		
N39	VSS1855		M976		
N43	VSS1856		M980		
N47	VSS1857		M984		
N51	VSS1858		M988		
N55	VSS1859		M992		
N59	VSS1860		M996		
O03	VSS1861		M1000		
O07	VSS1862		M1004		
O11	VSS1863		M1008		
O15	VSS1864		M1012		
O19	VSS1865		M1016		
O23	VSS1866		M1020		
O27	VSS1867		M1024		
O31	VSS1868		M1028		
O35	VSS1869		M1032		
O39	VSS1870		M1036		
O43	VSS1871		M1040		
O47	VSS1872		M1044		
O51	VSS1873		M1048		
O55	VSS1874		M1052		
O59	VSS1875		M1056		
P03	VSS1876		M1060		
P07	VSS1877		M1064		
P11	VSS1878		M1068		
P15	VSS1879		M1072		
P19	VSS1880		M1076		
P23	VSS1881		M1080		
P27	VSS1882		M1084		
P31	VSS1883		M1088		
P35	VSS1884		M1092		
P39	VSS1885		M1096		
P43	VSS1886		M1100		
P47	VSS1887		M1104		
P51	VSS1888		M1108		
P55	VSS1889		M1112		
P59	VSS1890		M11		

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



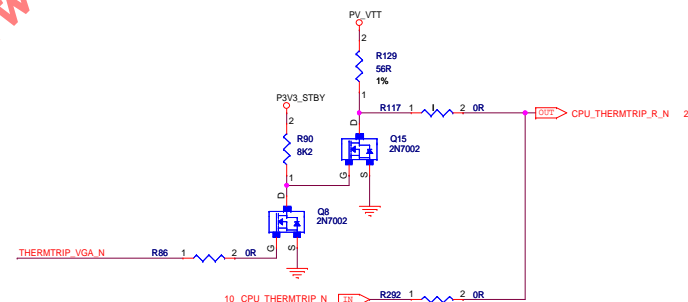
VGA_DISABLE# Pin	Base Class	Sub-Class	Class Code Description
NC	0x03	0x00	VGA-compatible controller
GND	0x03	0x02 or 0x80	3D controller or other display controller



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

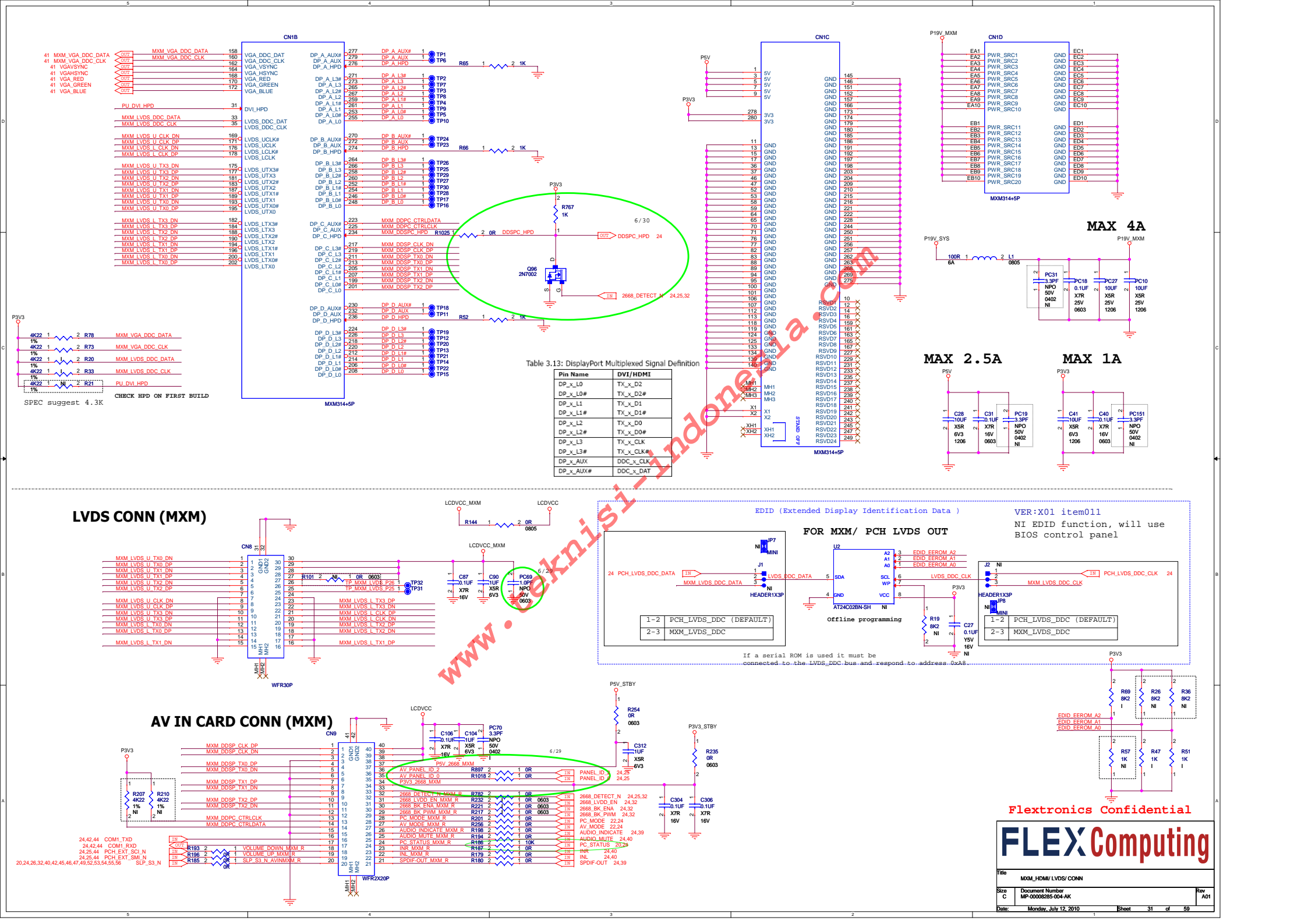
change MXM connect to SMT type



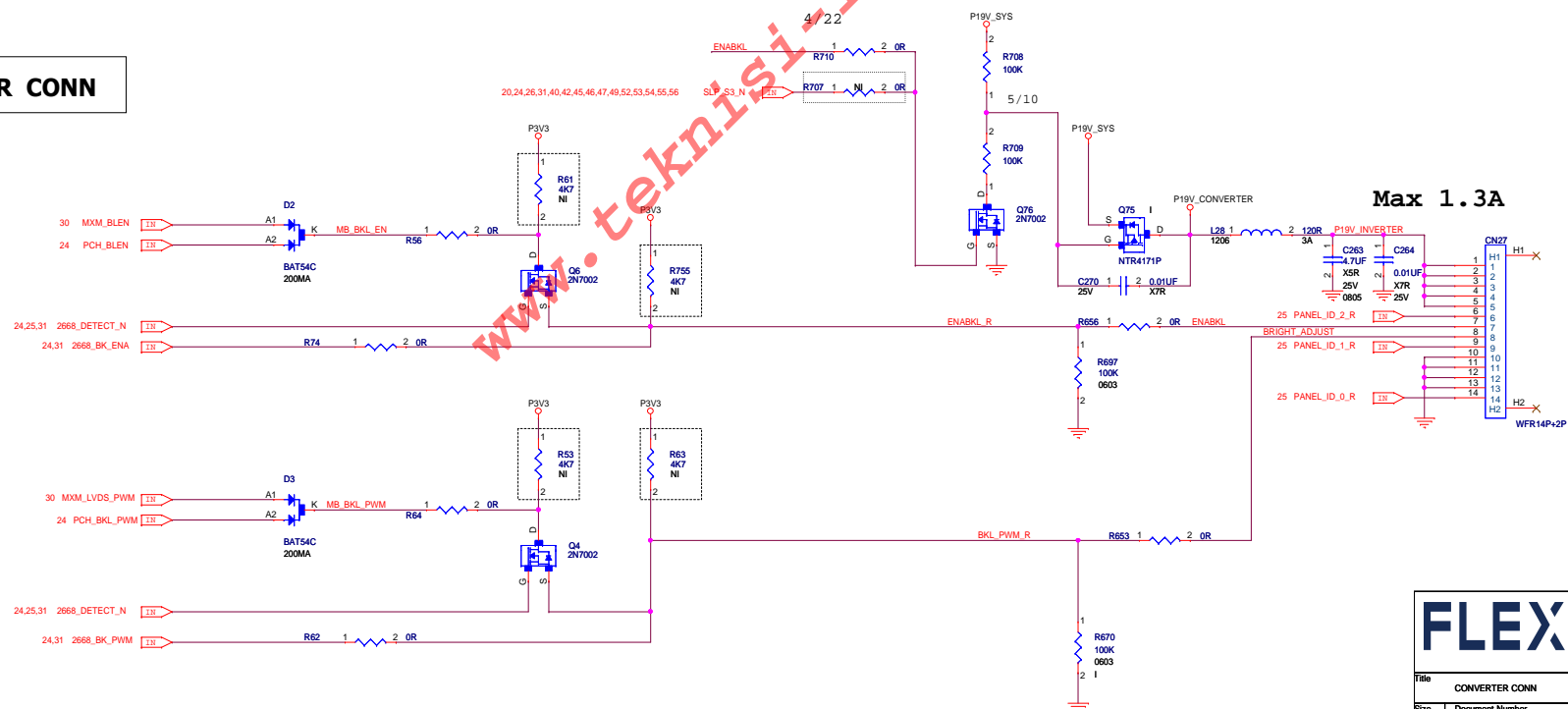
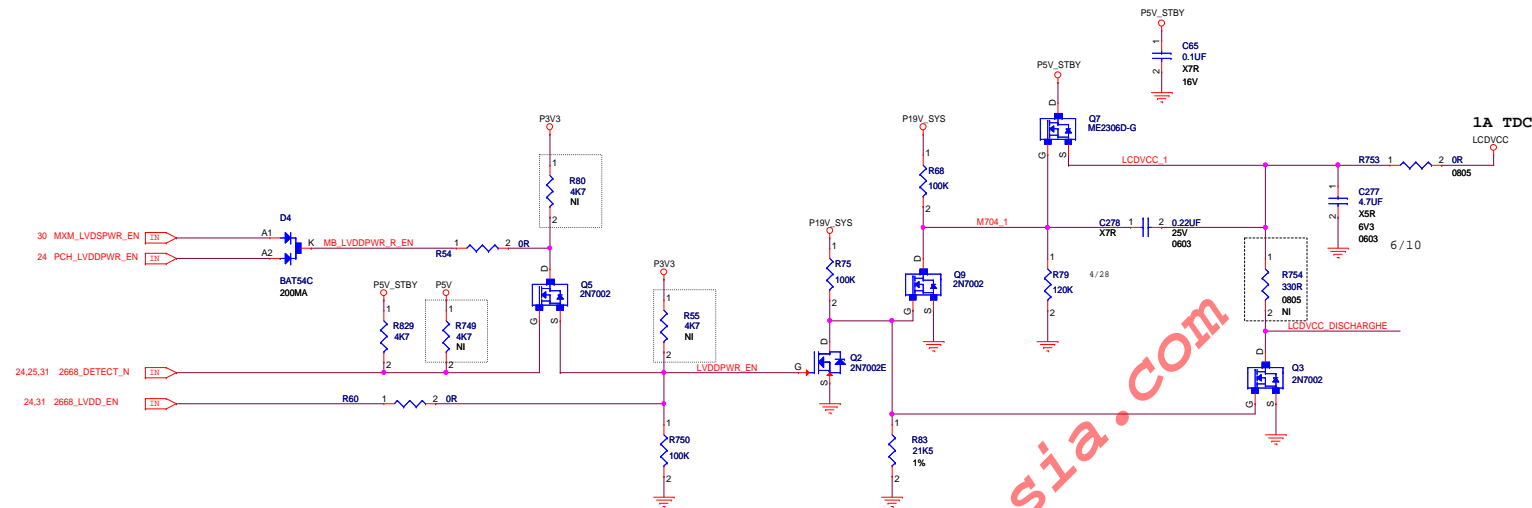
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FLEX Computing

File		
MXM 3.0 CONN		
Size	Document Number	Rev
C	MP-0000285-004-AK	A01
Date:	Monday, July 12, 2010	Sheet 30 of 59



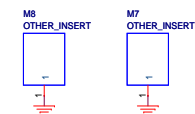
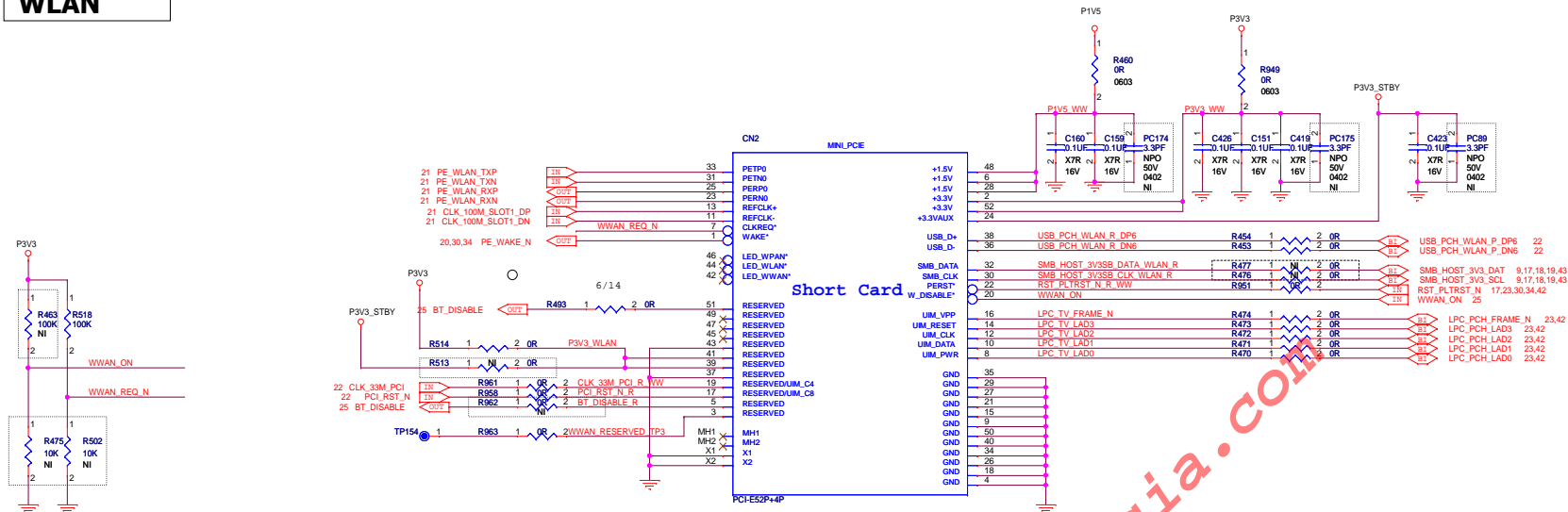
CONVERTER CONN



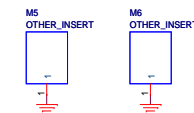
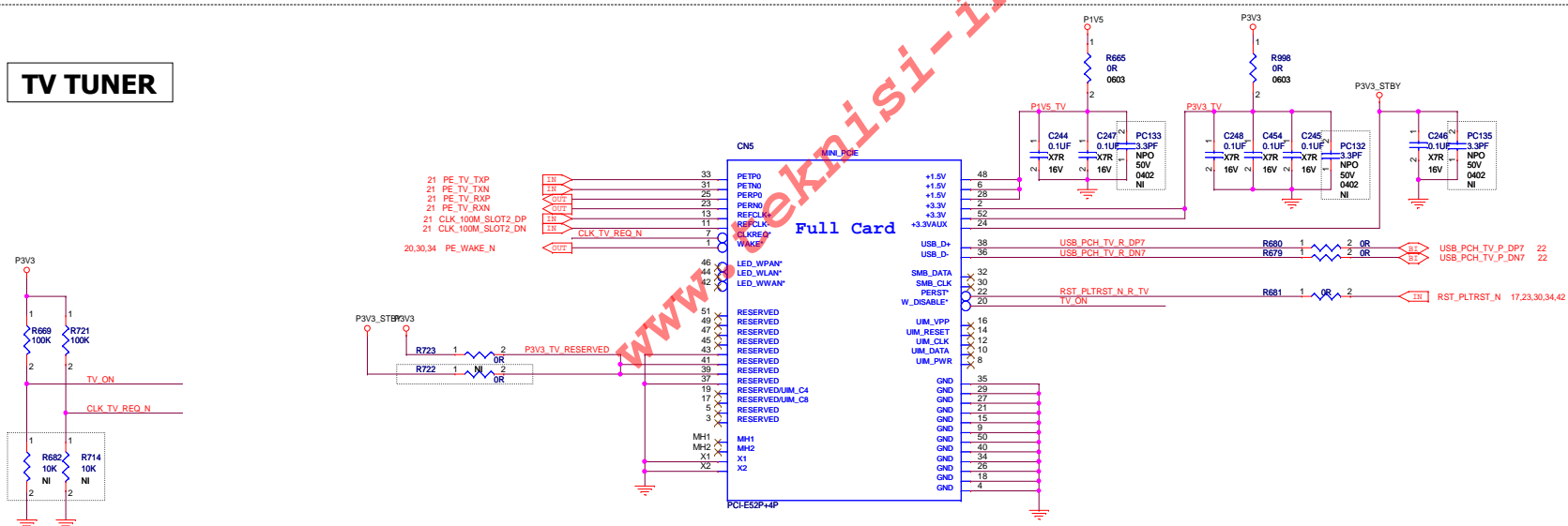
FLEX Computing

Title			
CONVERTER CONN			
Size	Document Number	Rev	
C	MP-0008285-004-AK	A01	
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WLAN



TV TUNER



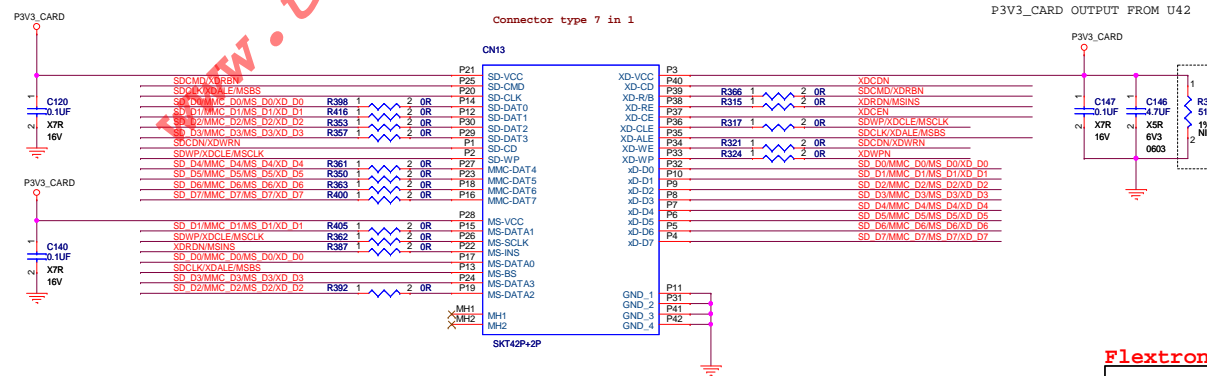
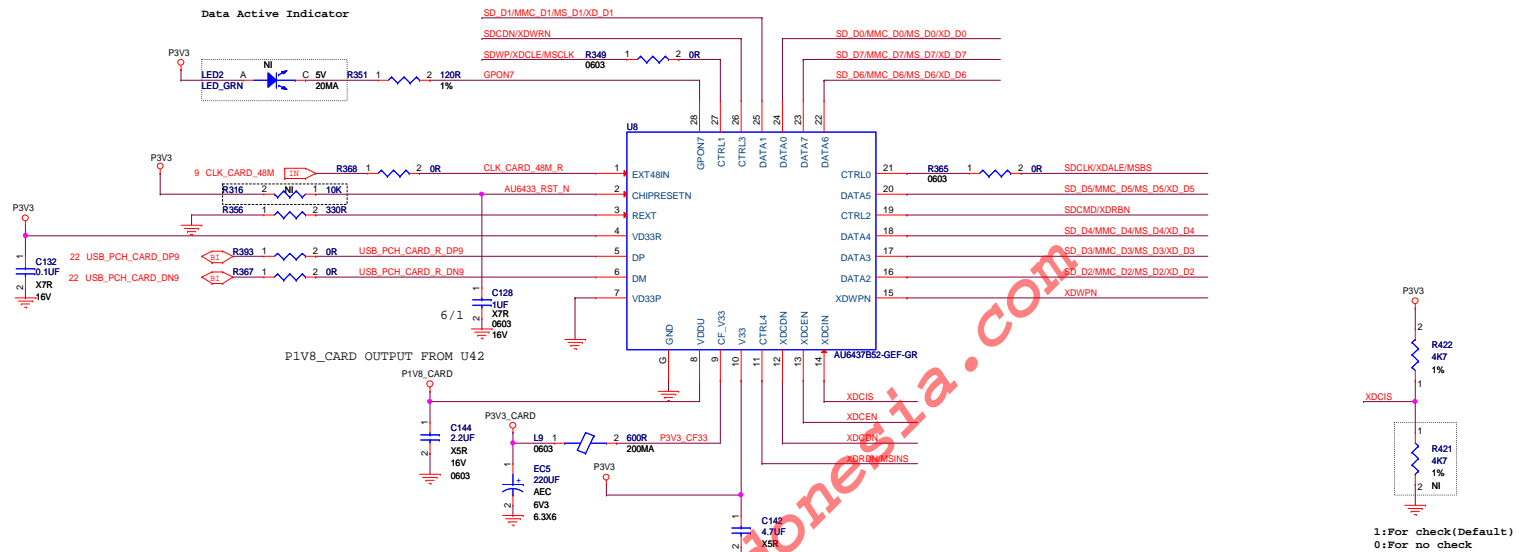
mini-PCIe	Peak/Normal
3.3V	1A/750mA
3.3Vaux	330mA/250mA
1.5V	500mA/250mA

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FLEX Computing

Title			
MINI PCIe SLOT X2 TV/ WLAN			
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C	MP-00008285-004-AK	A0	
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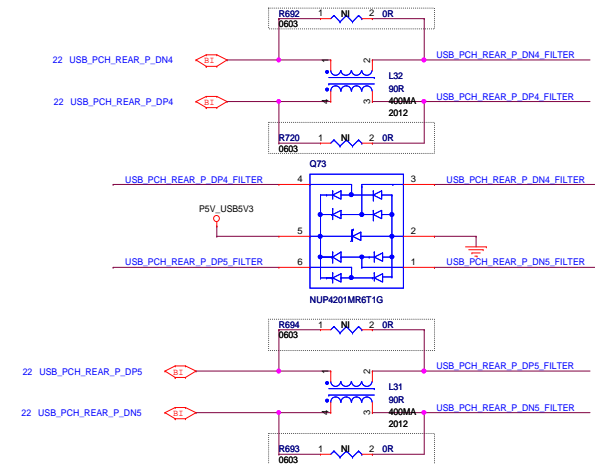
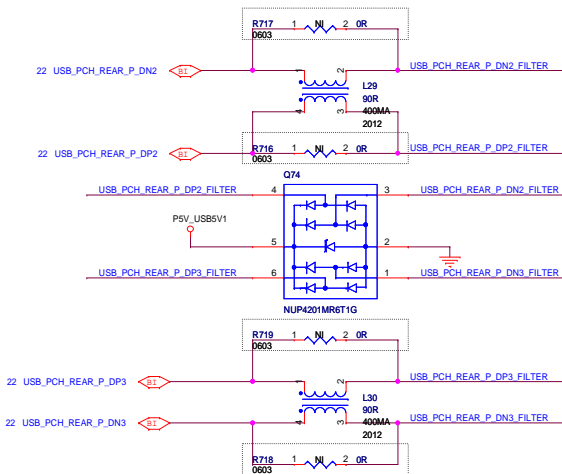
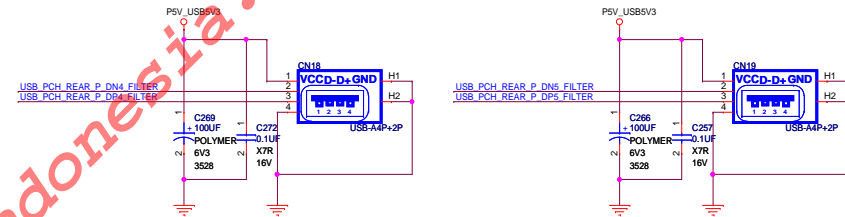
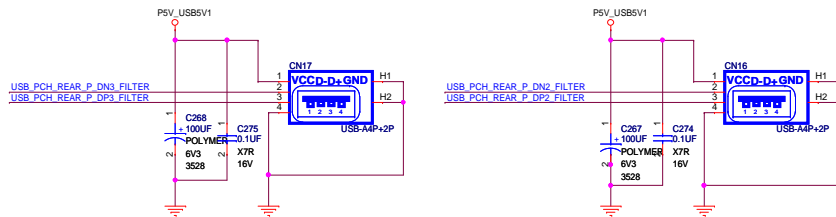
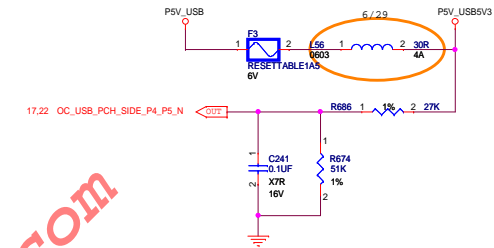
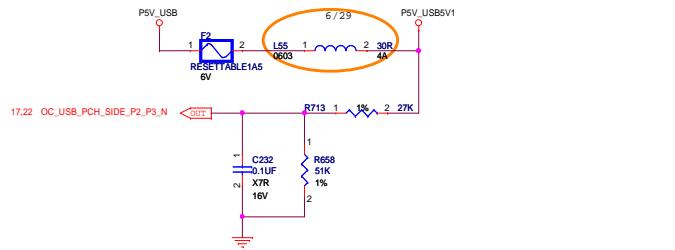
7 in 1 CARD Reader



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FLEX Computing

Title			
7 IN 1 CARD READER			
Size	Document Number	Rev	
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Date:	Monday, July 12, 2010	Sheet	35 of 59

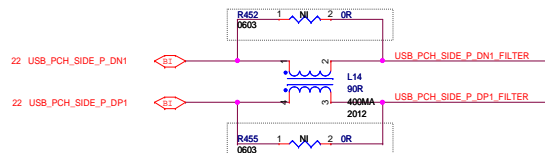
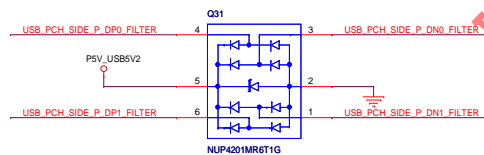
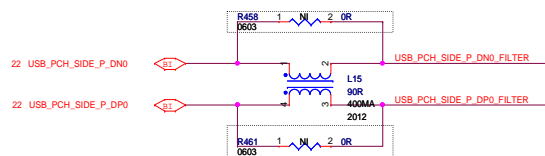
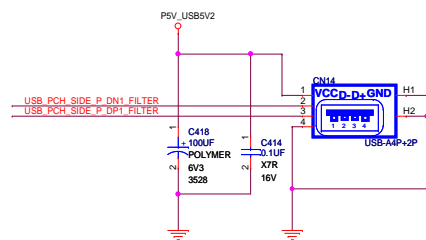
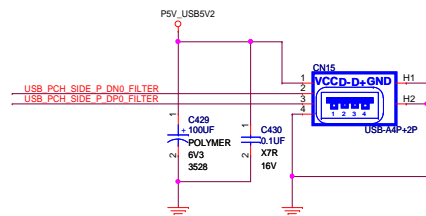
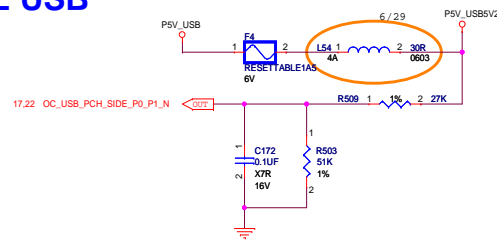
BACK USB



FLEX Computing

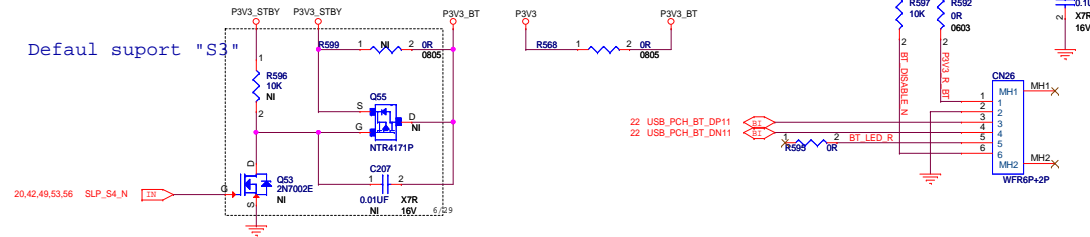
Title		
USB_BACK		
Size	Document Number	Rev
C	MP-00008285-004-AK	A01
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SIDE USB

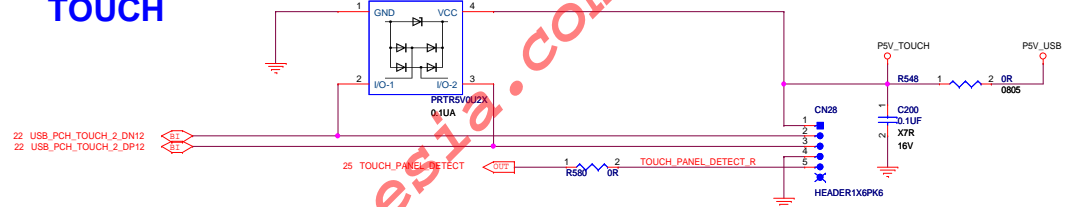


BLUE TOOTH

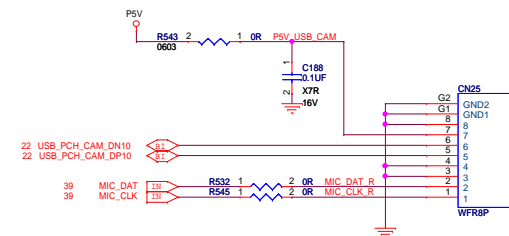
Default suport "S3"



TOUCH



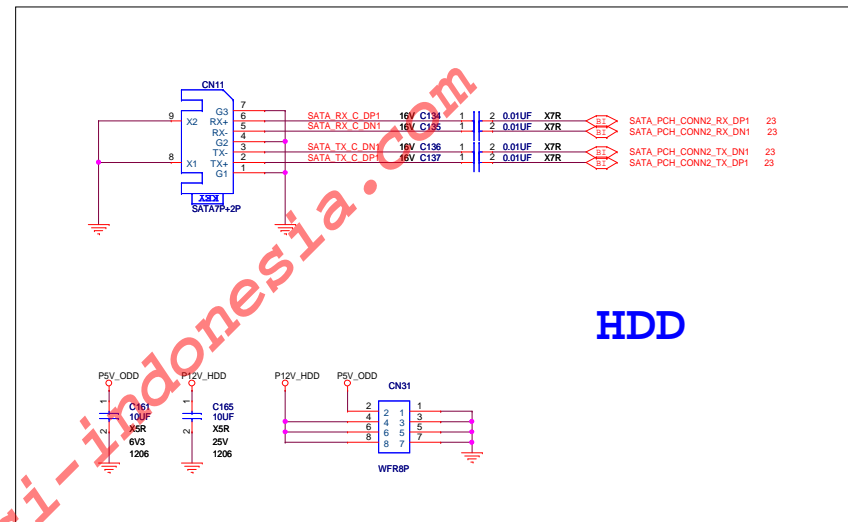
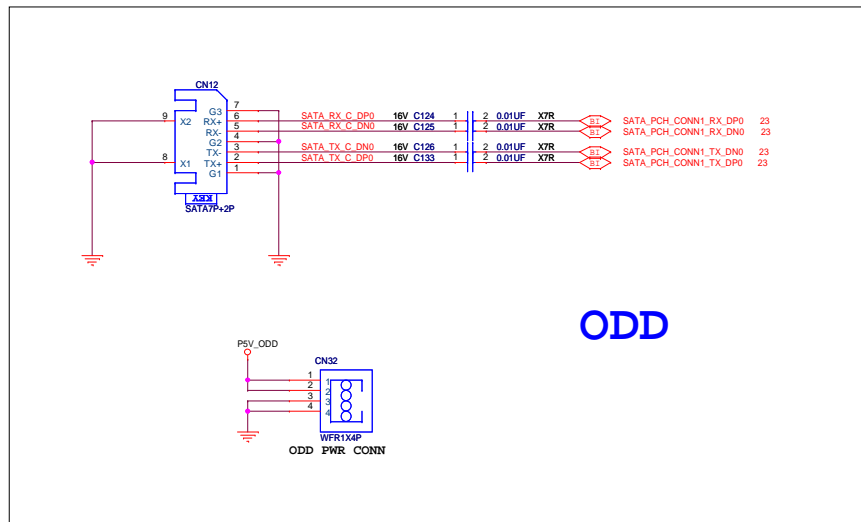
CAMERA MODULE



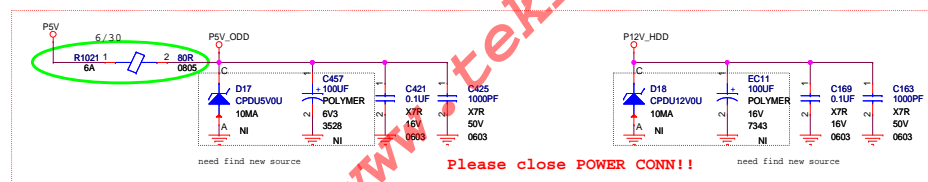
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FLEX Computing

Title		
USB_SIDE/TOUCH/CAMERA/RF		
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Need Add Zener Diode and bulk capacitor on 12V/ 5V

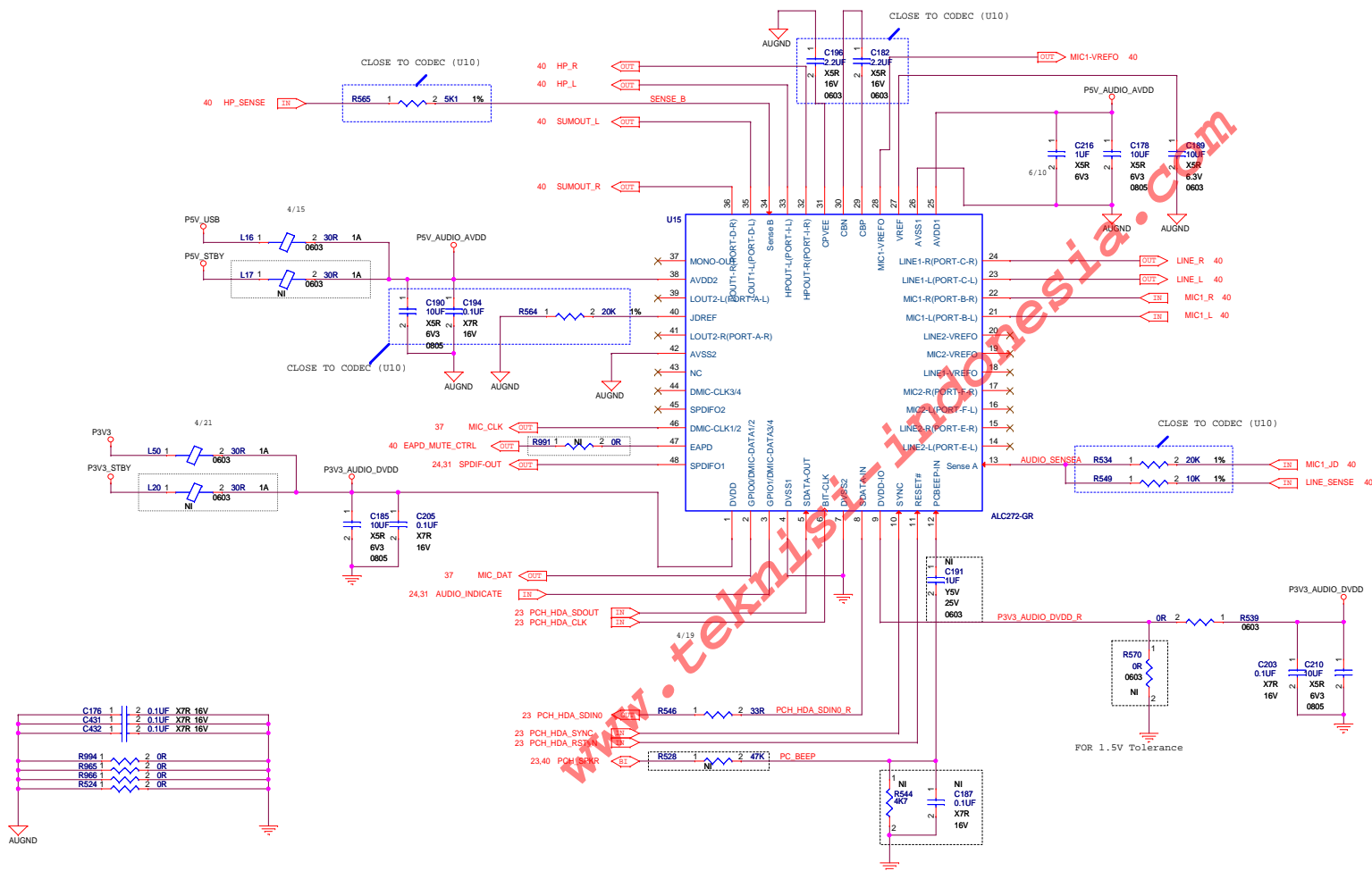
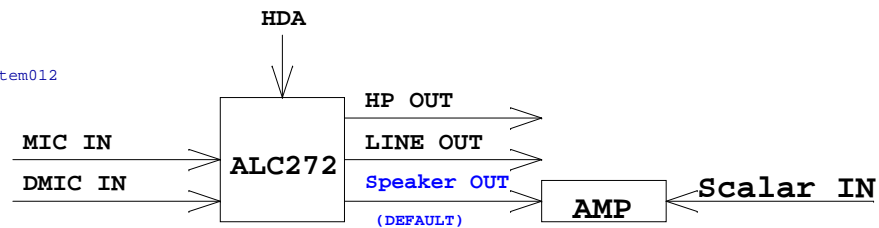


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FLEX Computing

Title		
SATA CONN X2		
Size	Document Number	Rev
C	MP-00008285-004-AK	A01
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VER:X01 item012

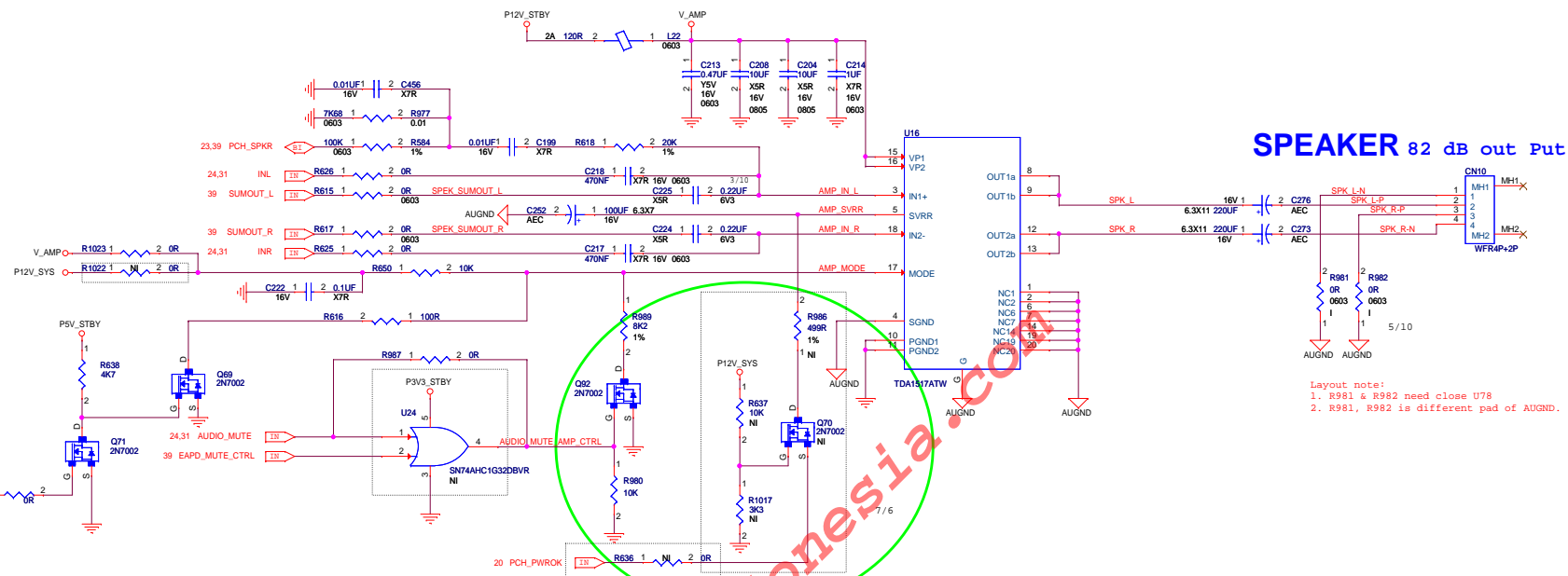
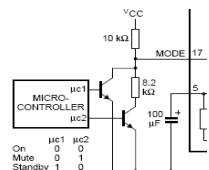


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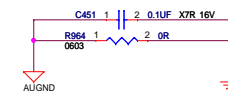
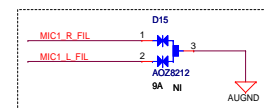
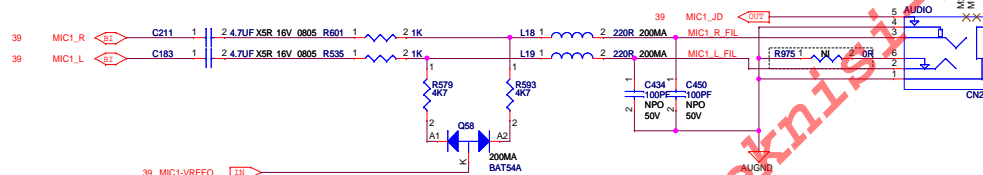
FLEX Computing

Title		AUDIO ALC888	
Size	Document Number	Rev	AO
C	MP-0008285-004-AK		
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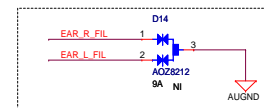
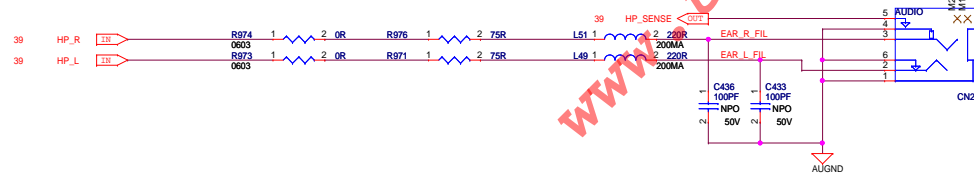
Audio AMP / SPKR



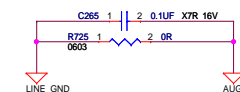
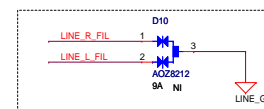
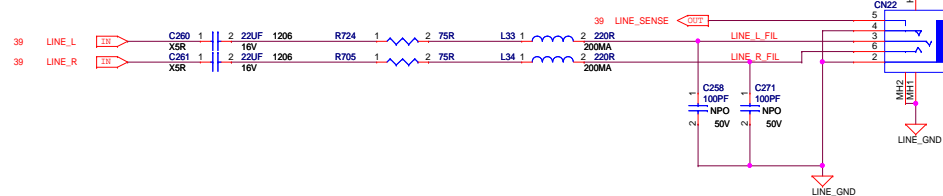
MIC PHONE JACK



HP Jack



Line-out JACK



FLEX Computing

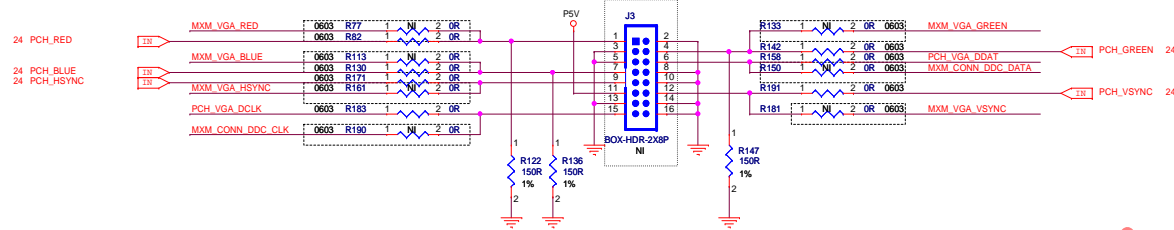
Title			
AUDIO CONN/ AMP			
Size	Document Number	Rev	
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MXM/PCH VGA PORT -- Debug only

VGA DEBUG PORT

MXM VGA

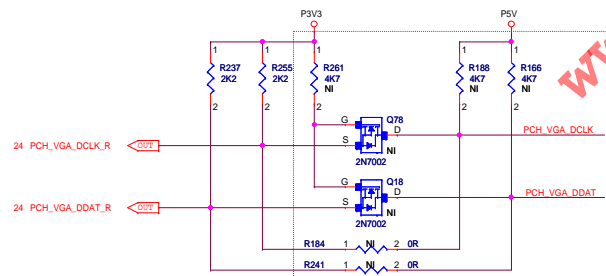
PCH VGA



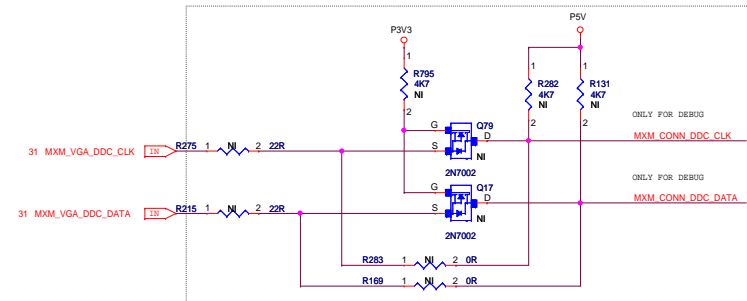
ONLY FOR DEBUG MODULE ALREADY IMPLEMENT 150 OHM



Defense Design



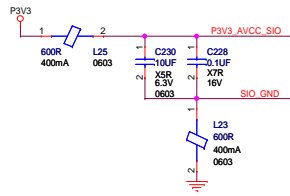
Defense Design



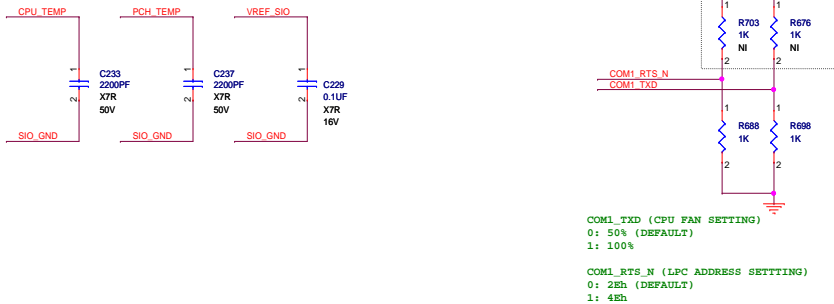
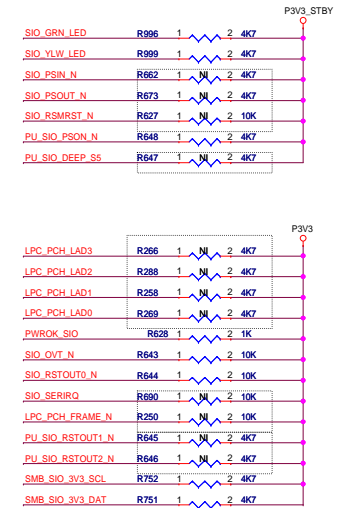
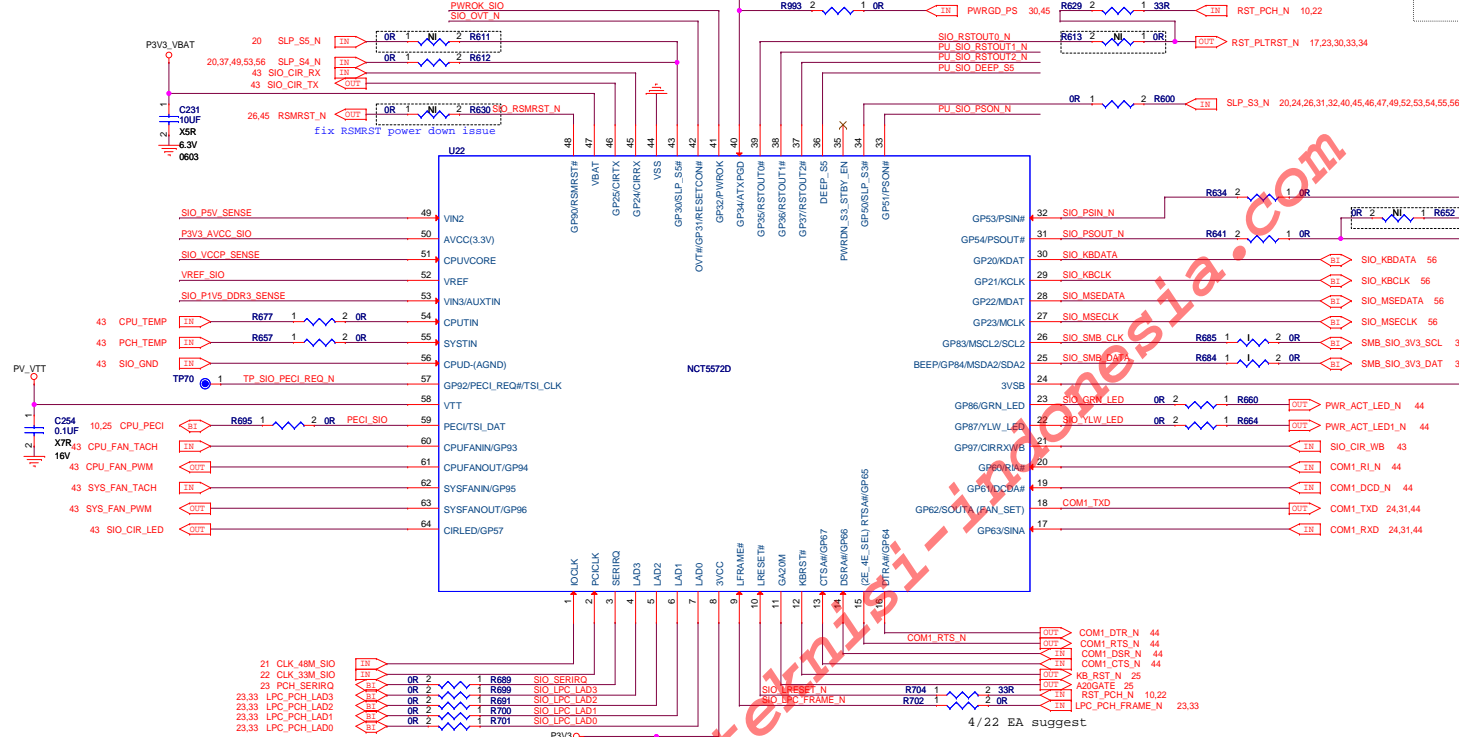
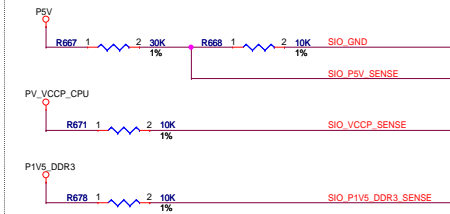
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FLEX Computing

Title VGA OUT/ DEBUG PORT		
Size C	Document Number MP-00008285-004-AK	Rev A01
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Voltage Sensing

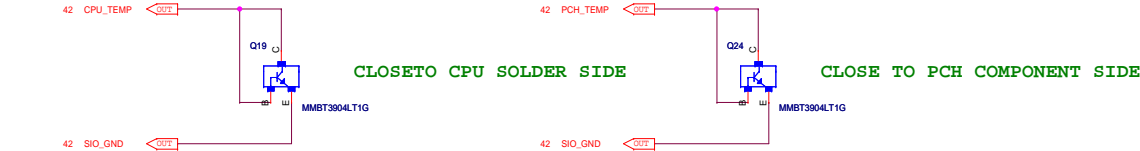
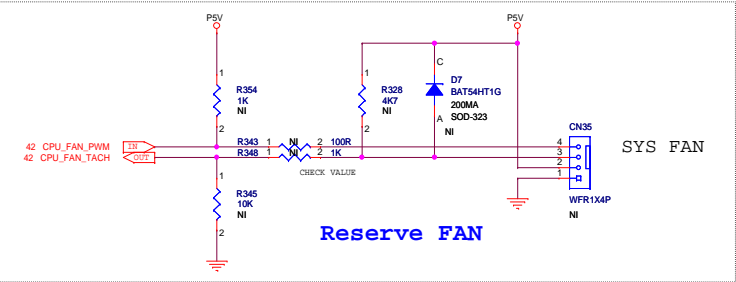


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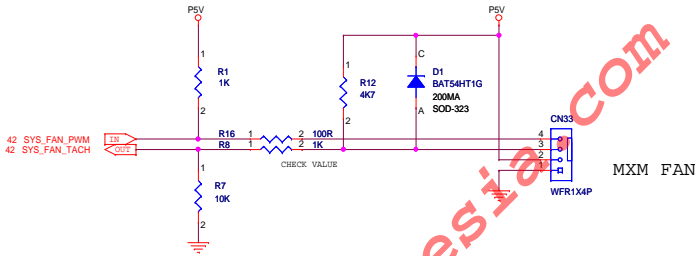
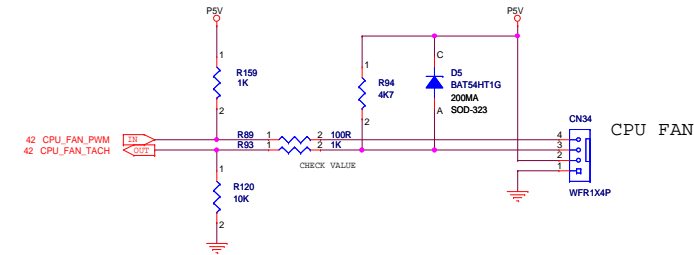
FLEX Computing

File		
SIO_NCT5572D		
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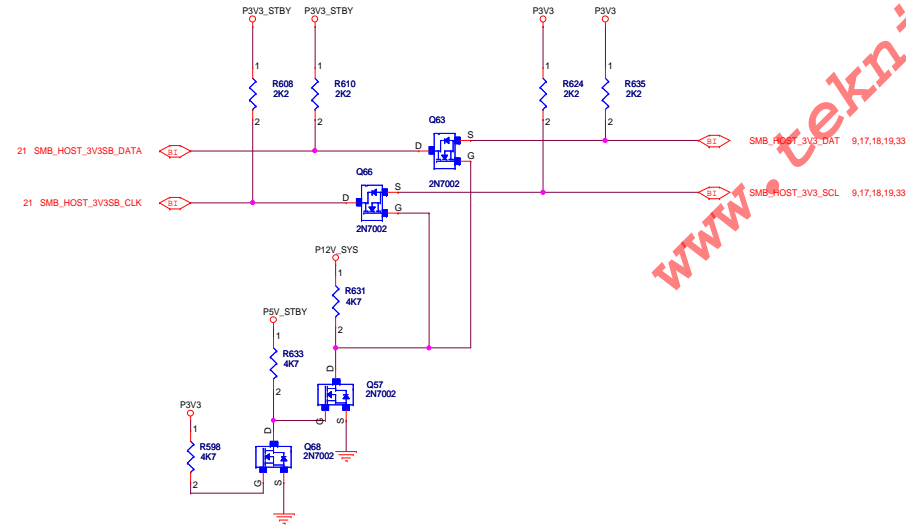
FAN



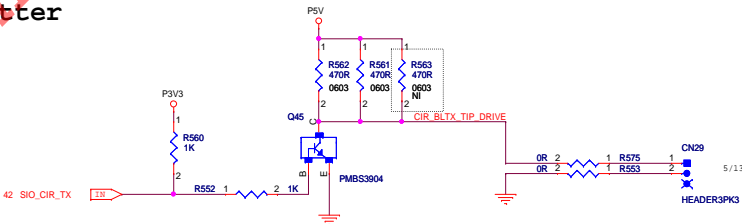
ROUTE THEM AS DIFFERENTIAL PAIRS



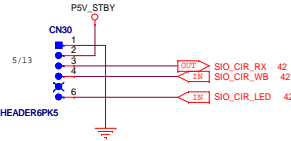
SMBUS SWITCH



CIR Emitter



CAM module CIR Receiver



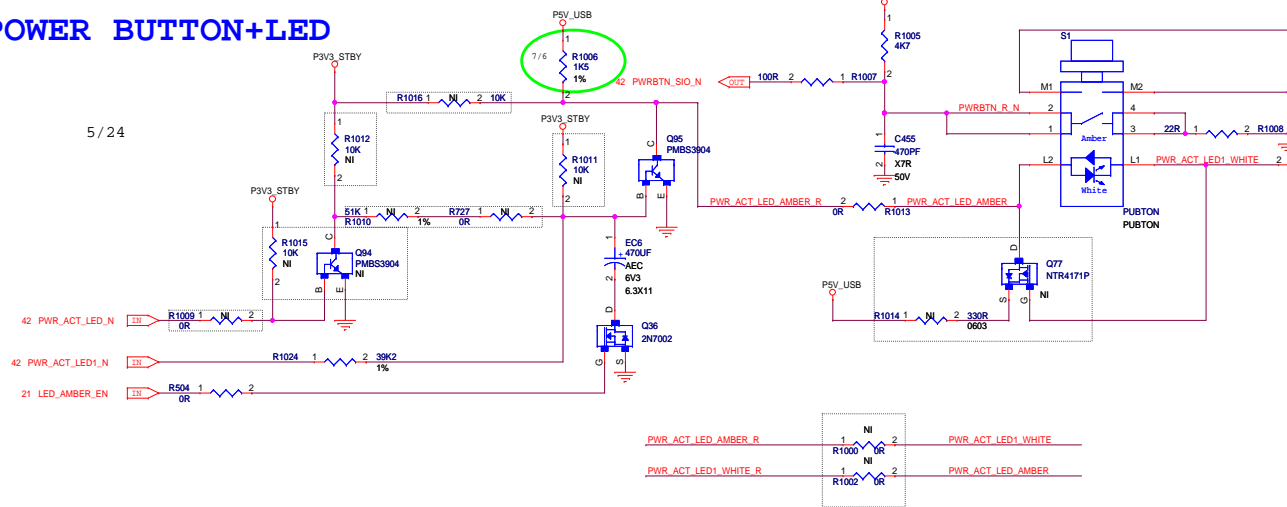
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FLEXComputing

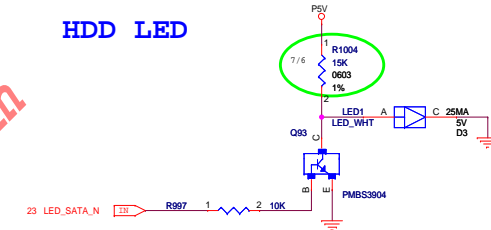
Title		
FAN CONN/TEMP SENSOR/ SMBUS		
Size	Document Number	Rev
C	MP-00008285-004-AK	A01
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POWER BUTTON+LED

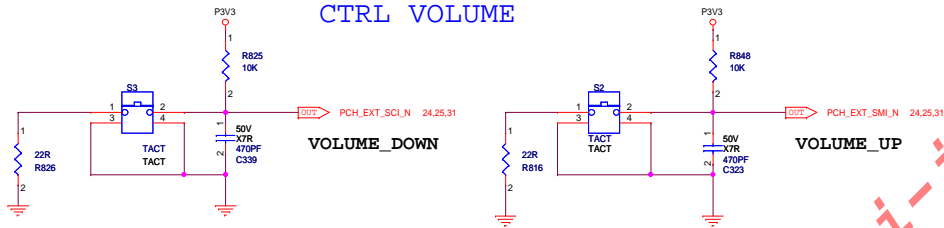
5/24



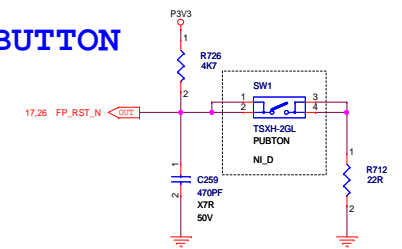
HDD LED



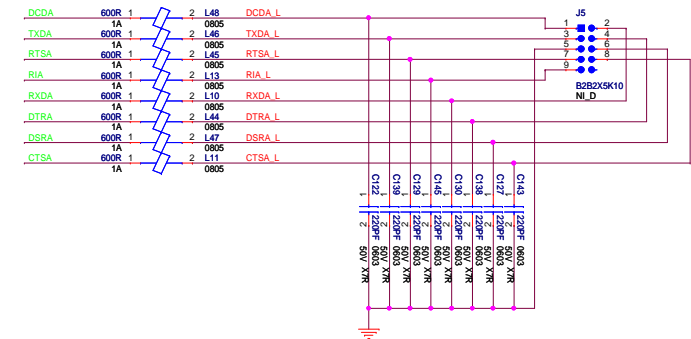
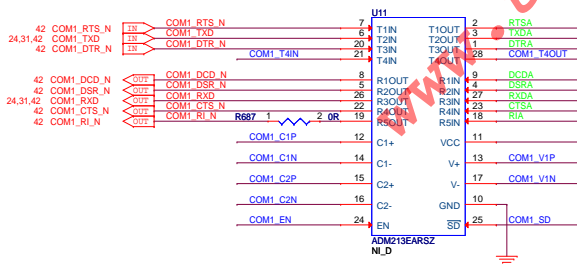
CTRL VOLUME



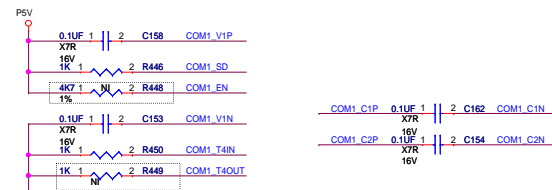
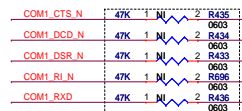
RESET_BUTTON



DDRMARGIN TEST && UEFI DEBUG



Prevent floating

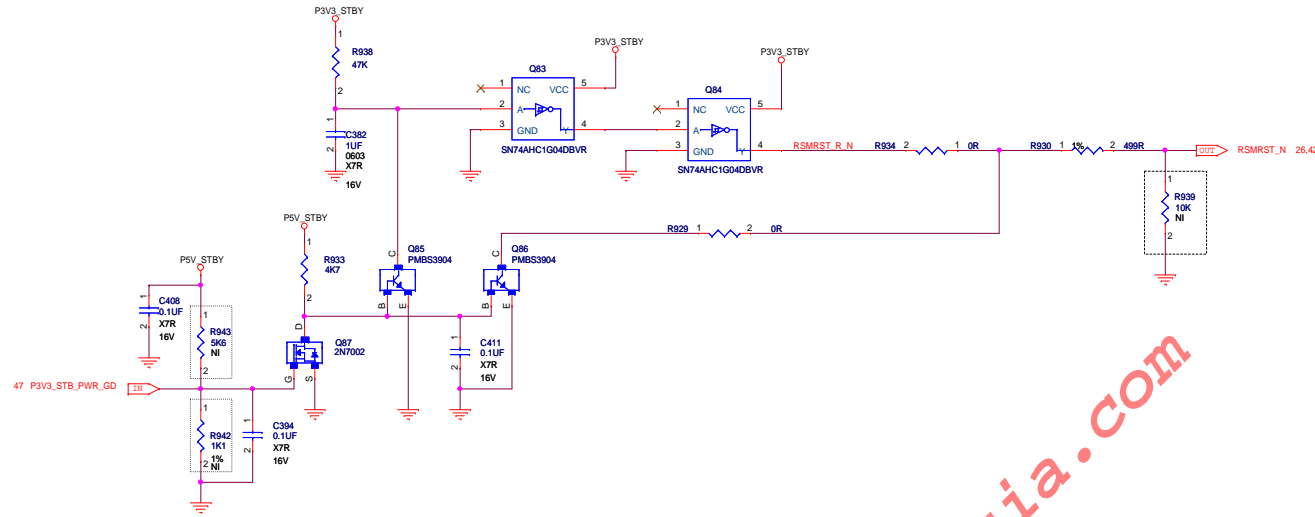


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FLEX Computing

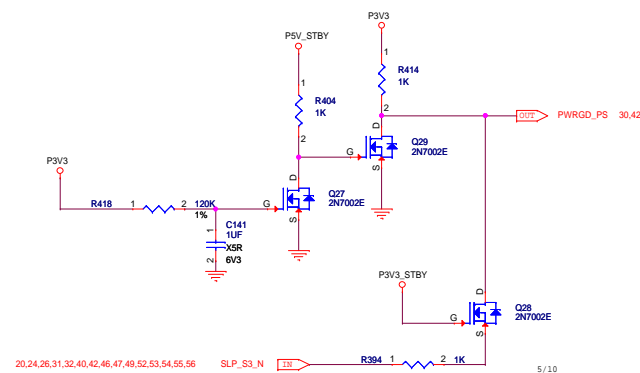
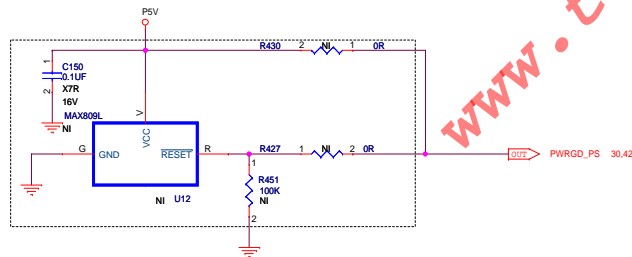
Title		
SIDE BUTTON/LED/ DISPLAY IN		
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RSM_RST



PWRGD_PS

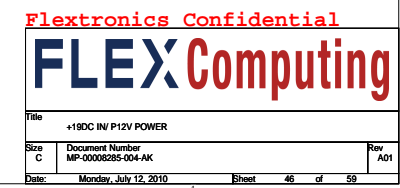
Check it... NI-U76 on EVT build



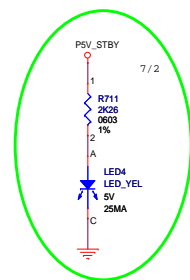
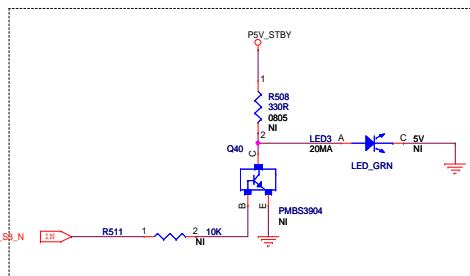
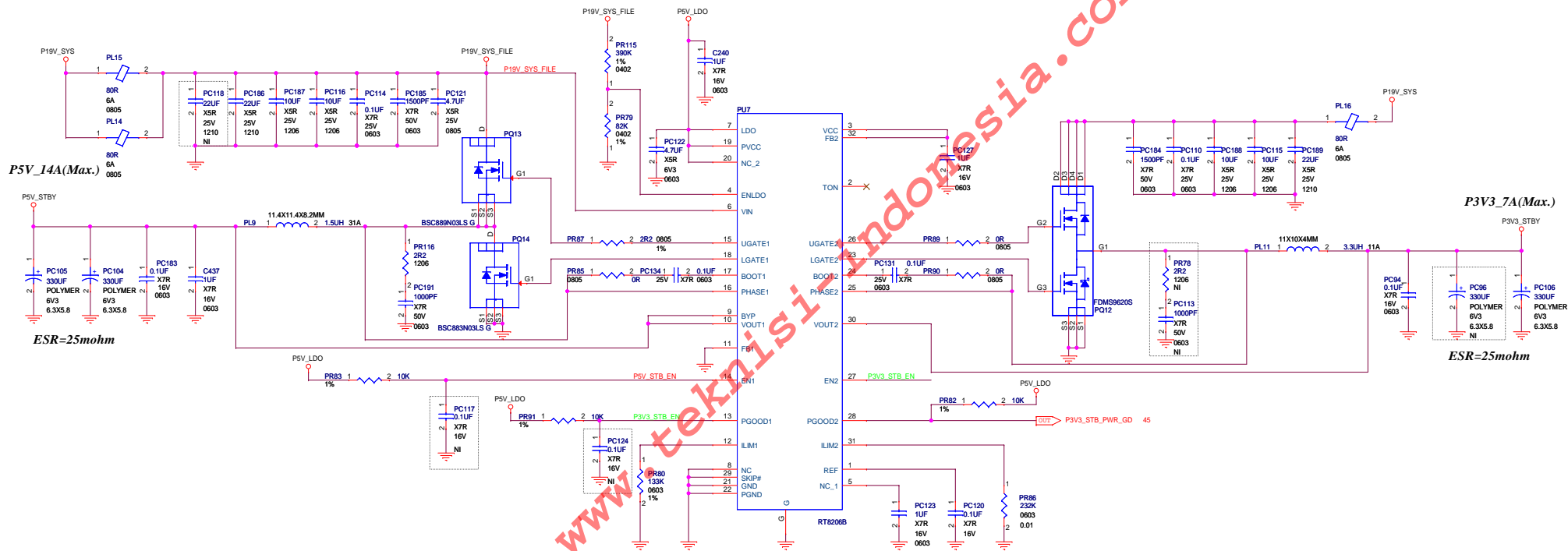
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Title GLUE LOGIC		
Size C	Document Number MP-00008285-004-AK	Rev A01
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P12V_STBY



P19V TO P5V_STBY/P3V3_STBY

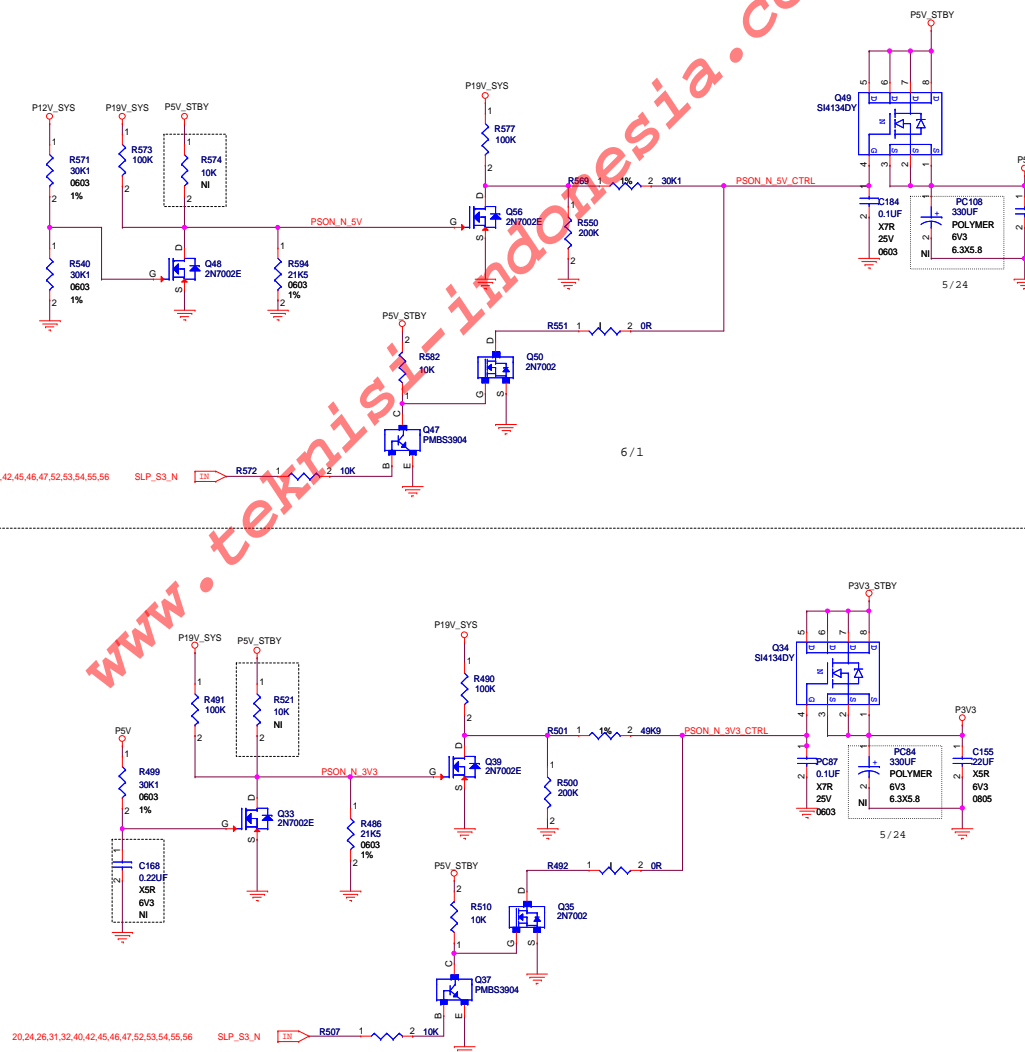


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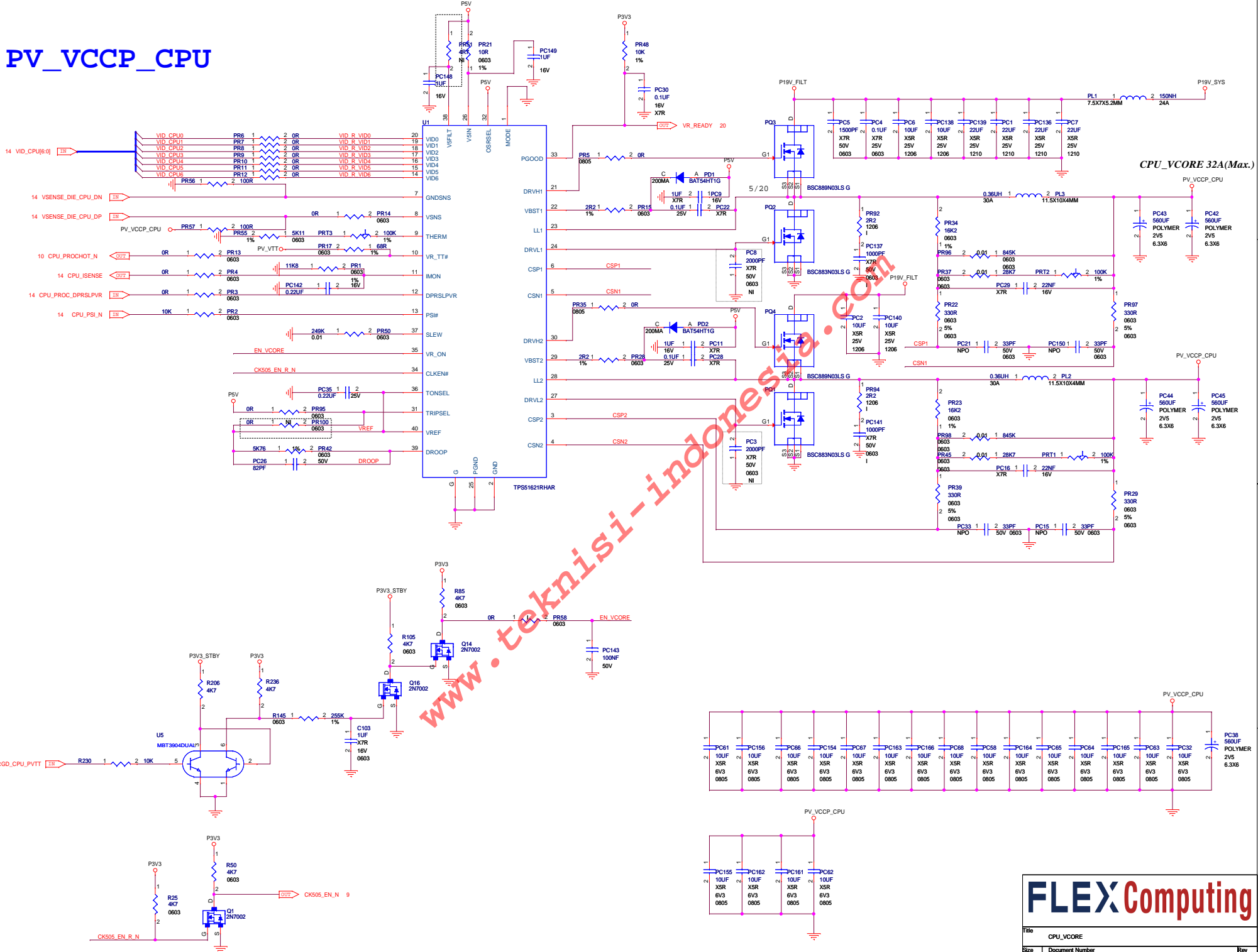
P5V (S0)



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Title			
P5V/ P5V_USB/ P3V3			
Size	Document Number	Rev	
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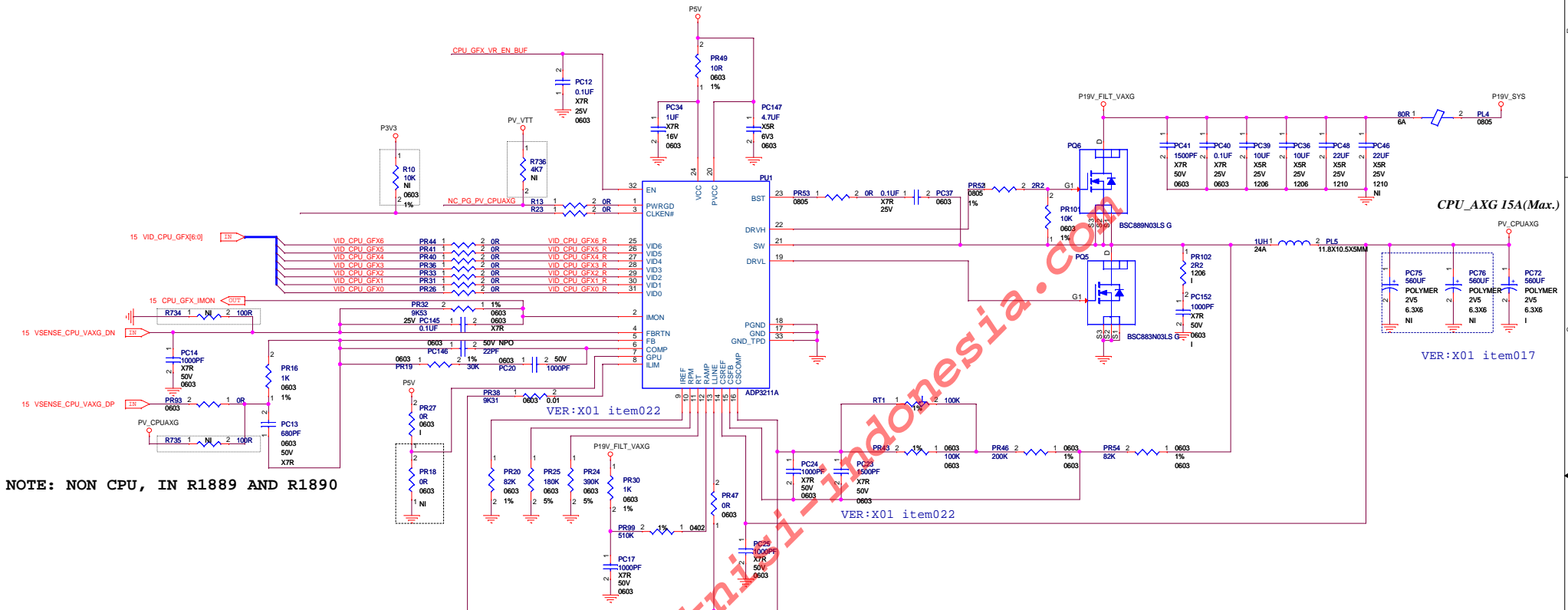
PV_VCCP_CPU



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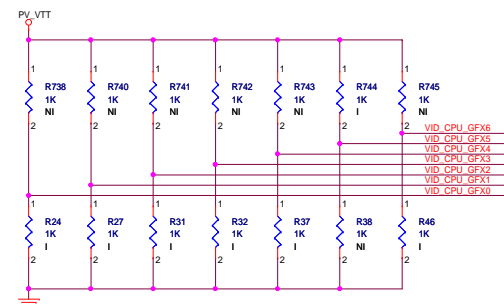
Title				
CPU_VCORE				
Size	Document Number			Rev
C	MP-00008285-004-AK			A01
Part	Sheet	EO	of	EO

PV_CPUAXG

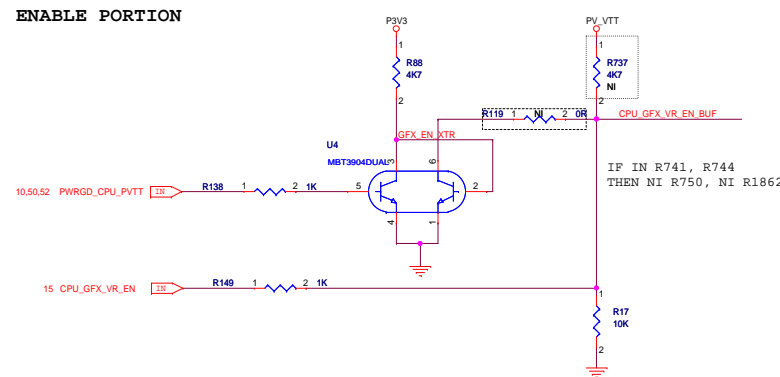


NOTE: NON CPU, IN R1889 AND R1890

```
RESERVED FOR BOOT
DEFAULT:1.1V
```



ENABLE PORTION



```
IF IN R741, R744
THEN NI R750, NI R1862
```

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Title		
CPU_AXG		
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PV_VTT

S0: 1
S3: 0
S4/S5: 0

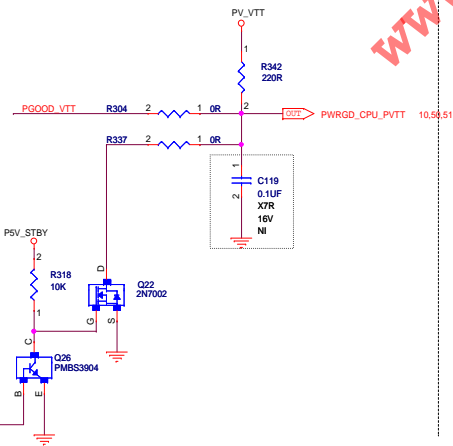
SLP_S3_N

VER:X01 item022

VTT_SELECT
1: 1.05V
0: 1.1V

14 PV_VTT_SELECT

PWRGOOD CIRCUIT



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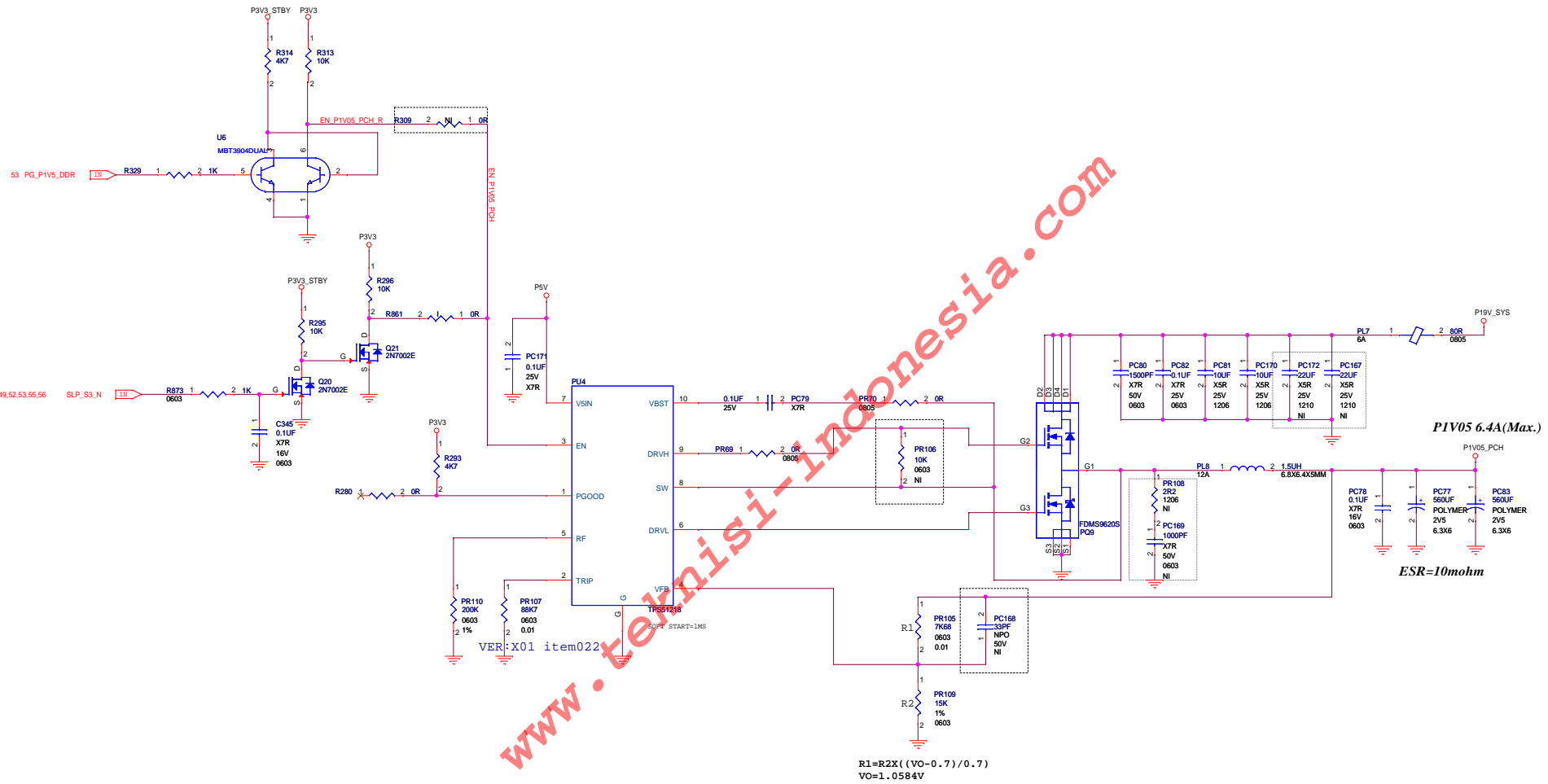
Title		
CPU VTT POWER		
Size	Document Number	Rev
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P0V75_VTT



Title				DDR3_P1V5/ VTT_0V75 POWER			
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PCH_P1V05

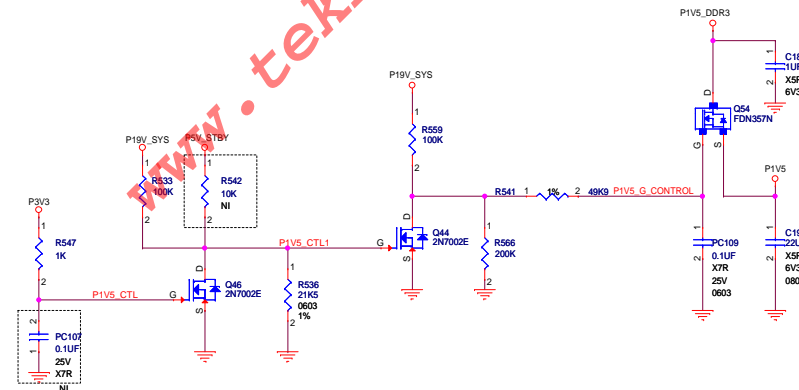


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Title			
PCH 1V05 POWER			
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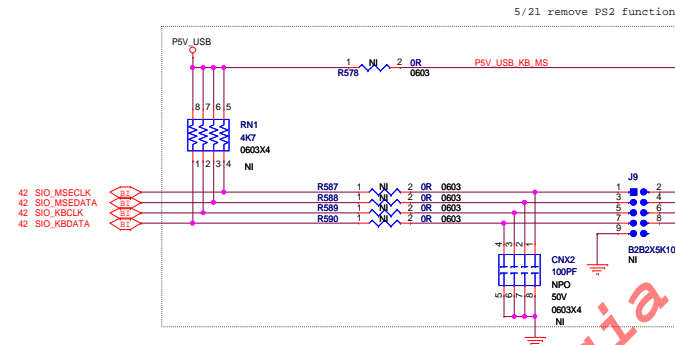
P1V5



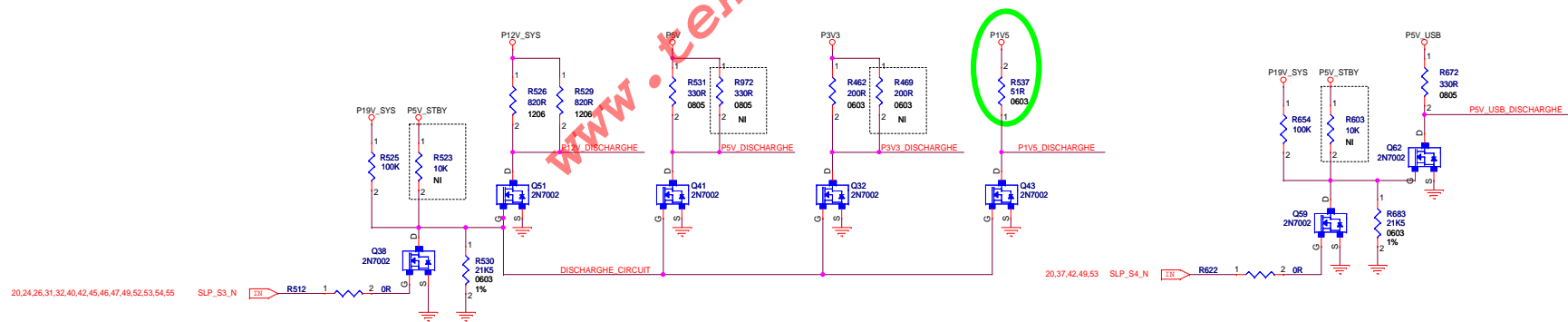
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Title			
P1V8_SFR/ P1V5			
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PS2 HEADER

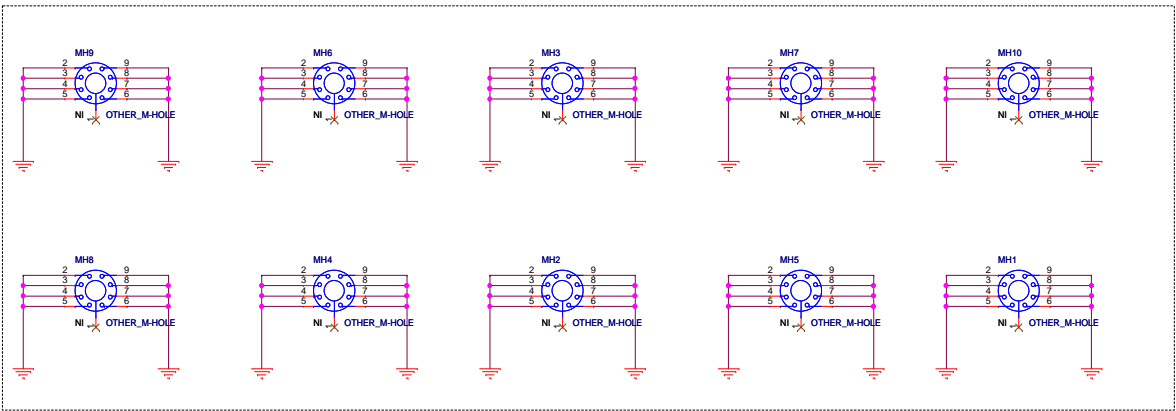


DISCHARGE CIRCUIT

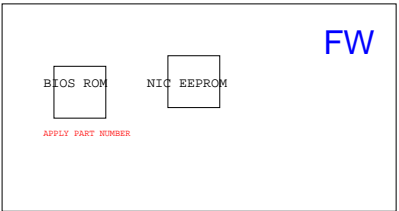


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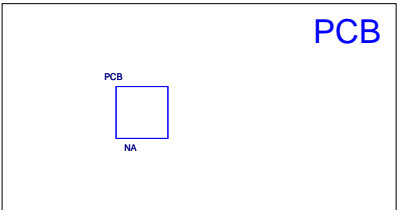
Title		
PS2 HEADER/ DISCHARGE CIRCUIT		
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Label

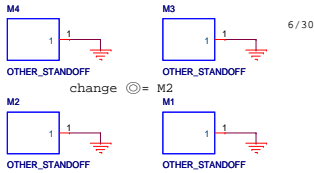


FW

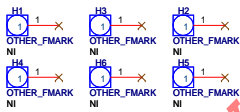


PCB

FOR BLOWER



6 / 30



PCH HEAT SINK

ADD SCREWTECH FOR HINTSINK 11/13

FLEXComputing

Title SCREW HOLE_LBL_HS		
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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_DDSP_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 DDPG 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 source issue
0010	BT & Touch	37	Add power control circuit for Bluetooth and Touch panel header power source	implement BT and touch pad support 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	cahng 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 change
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 VTPWRGD 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 PWM OCP issue.
0026	System VR	54	Change PR154 From 100K change to 88.7Kohm	For P1V5 PWM OCP issue.
0027	System VR	47	Change PR76 From 200K change to 232Kohm	For P3V3_STBY PWM OCP issue.
0028	CPU VR	52	Change PR127 From 100K change to 60.4Kohm	For P1V05_VTT PWM OCP issue.
0029	CPU VR	51	Change PR20 From 10K change to 9.31Kohm	For PV_CPUVXG PWM 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_CPUVXG Transient issue.(RC match)
0032	CPU VR	51	Change PC131, PC129 From 560UF chang to Non install	For PV_CPUVXG 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(SIO) enable control circuit, add 0626 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