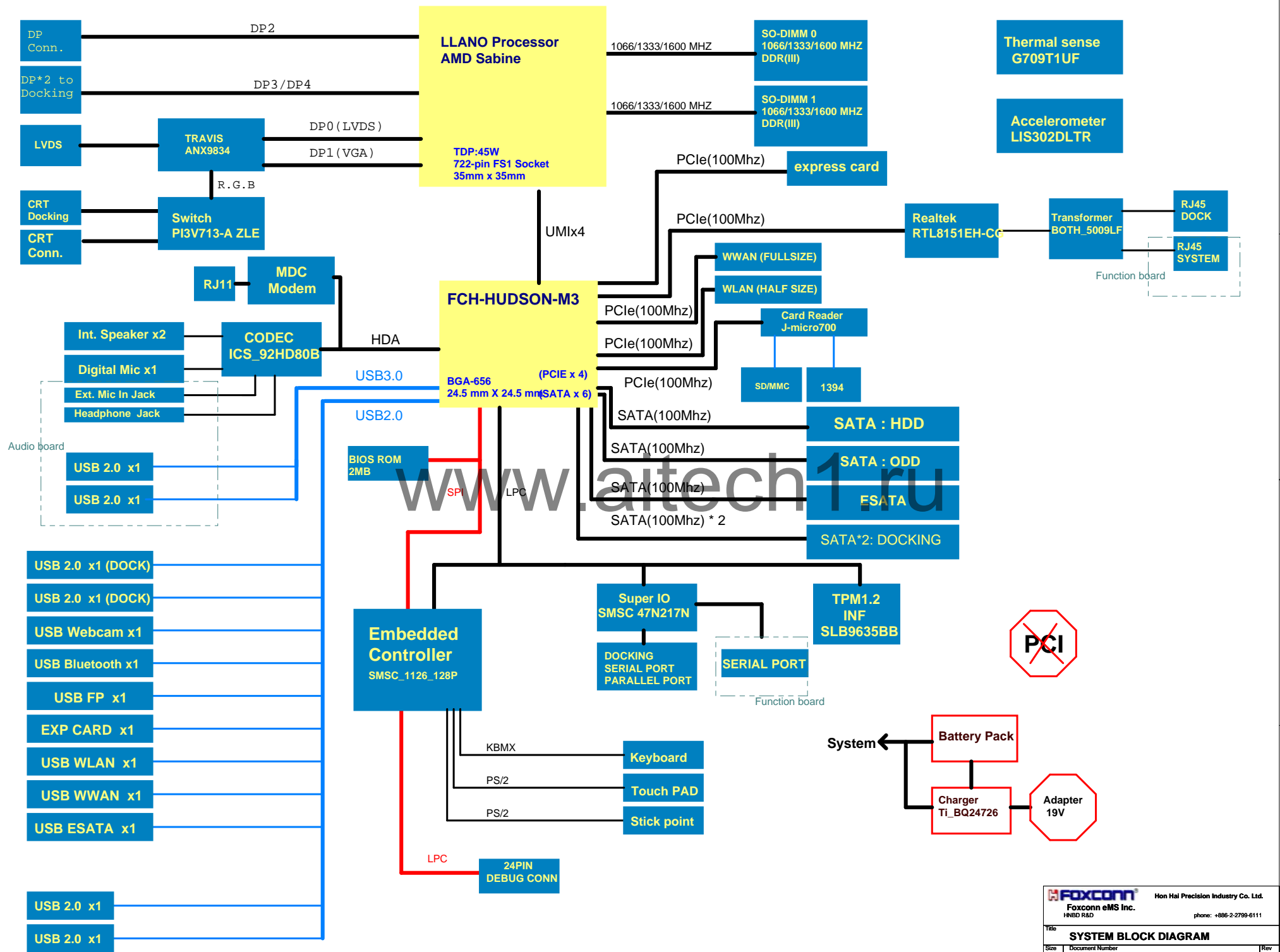


Toto MV Schematics

01 -- COVER SHEET	24 -- Card Reader /1394
02 -- SYSTEM BLOCK DIAGRAM	25 -- LAN (RTL8151EH-CG)
03 -- CLOCK MAP	26 -- DOCKING CONN
04 -- POWER DELIVERY CHART	27 -- SUPER IO/TPM
05 -- POWER SEQUENCY DIAGRAM)	28 -- N/A
06 -- POWER SEQUENCE CHART	29 -- ESATA/HDD/ODD/NEWCARD
07 -- SMBUS & I2C MAP	30 -- DP/USB/USB CHARGING PORT
08 -- FS1 PCIE & UMI-LINK	31 -- DCIN/Battery CONN
09 -- FS1 DDRIII MEMORY I/F	32 -- PWR_Charger
10 -- FS1 DP	33 -- 5V/3.3V
11 -- FS1 Power	34 -- Vcore OZ8384LN
12 -- FCH UMI/PCIE/CLKGEN	35 -- APU_VDDA(2.5V)/VDDP(1.2V)
13 -- FCH GPIO/USB	36 -- 1.5VDDR3/0.75V
14 -- FCH SATA/VGA/SPI ROM	37 -- APU_VDDNB_RUN/+V1.1A
15 -- FCH Power	38 -- PWR_OTHER Power
16 -- TRAVIS	39 -- SEQUENCE
17 -- DDR3(SO-DIMM_0/1)	40 -- Mounting Hole
18 -- WLAN/WWAN/FAN/MDC/BT	41 -- RF Capacitors 1/2
19 -- LVDS/Webcam	42 -- RF Capacitors 2/2
20 -- CRT	
21 -- ACEL/BT/FPR/LED/LIDSW/PWRBUT	
22 -- CODEC/AUDIO/B2B(30pins)	
23 -- EC+KBC(SMSC1126)	



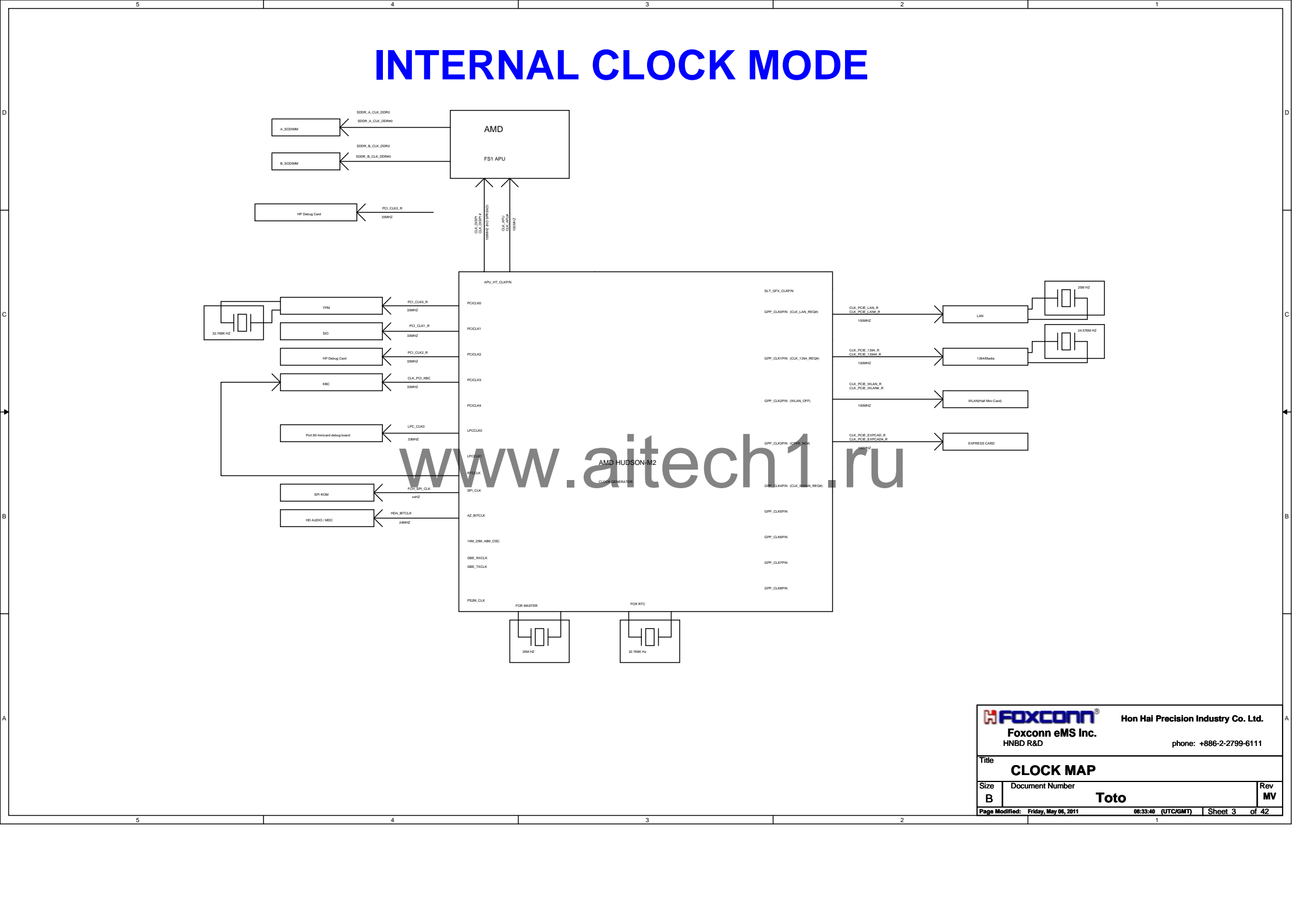
INTERNAL CLOCK MODE

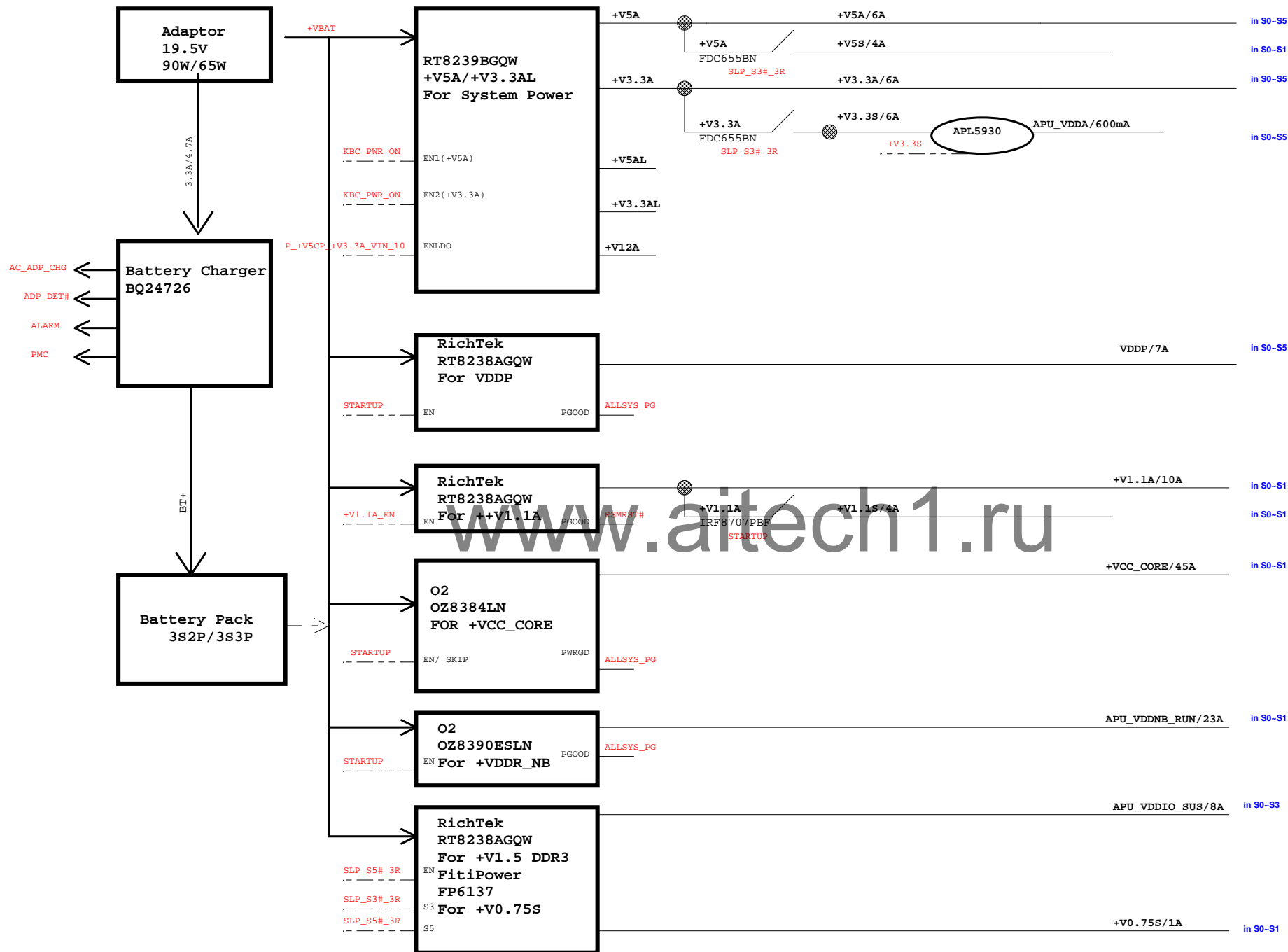
The diagram illustrates the internal clock mode for the AMD FS1 APU. The central component is the AMD FS1 APU, which provides various clock signals to different parts of the system. The diagram is divided into several sections:

- Top Section:** Shows the connection to the AMD FS1 APU. The APU provides clock signals to the A, B, and C memory modules (A, B, C) and the HP Design Card. The APU also provides clock signals to the APU_HY_CLKIN and APU_HY_CLKOUT pins.
- Left Section:** Shows the connection to the HP Design Card. The APU provides clock signals to the HP Design Card via the APU_HY_CLKIN and APU_HY_CLKOUT pins.
- Right Section:** Shows the connection to the HP Design Card. The APU provides clock signals to the HP Design Card via the APU_HY_CLKIN and APU_HY_CLKOUT pins.
- Bottom Section:** Shows the connection to the HP Design Card. The APU provides clock signals to the HP Design Card via the APU_HY_CLKIN and APU_HY_CLKOUT pins.

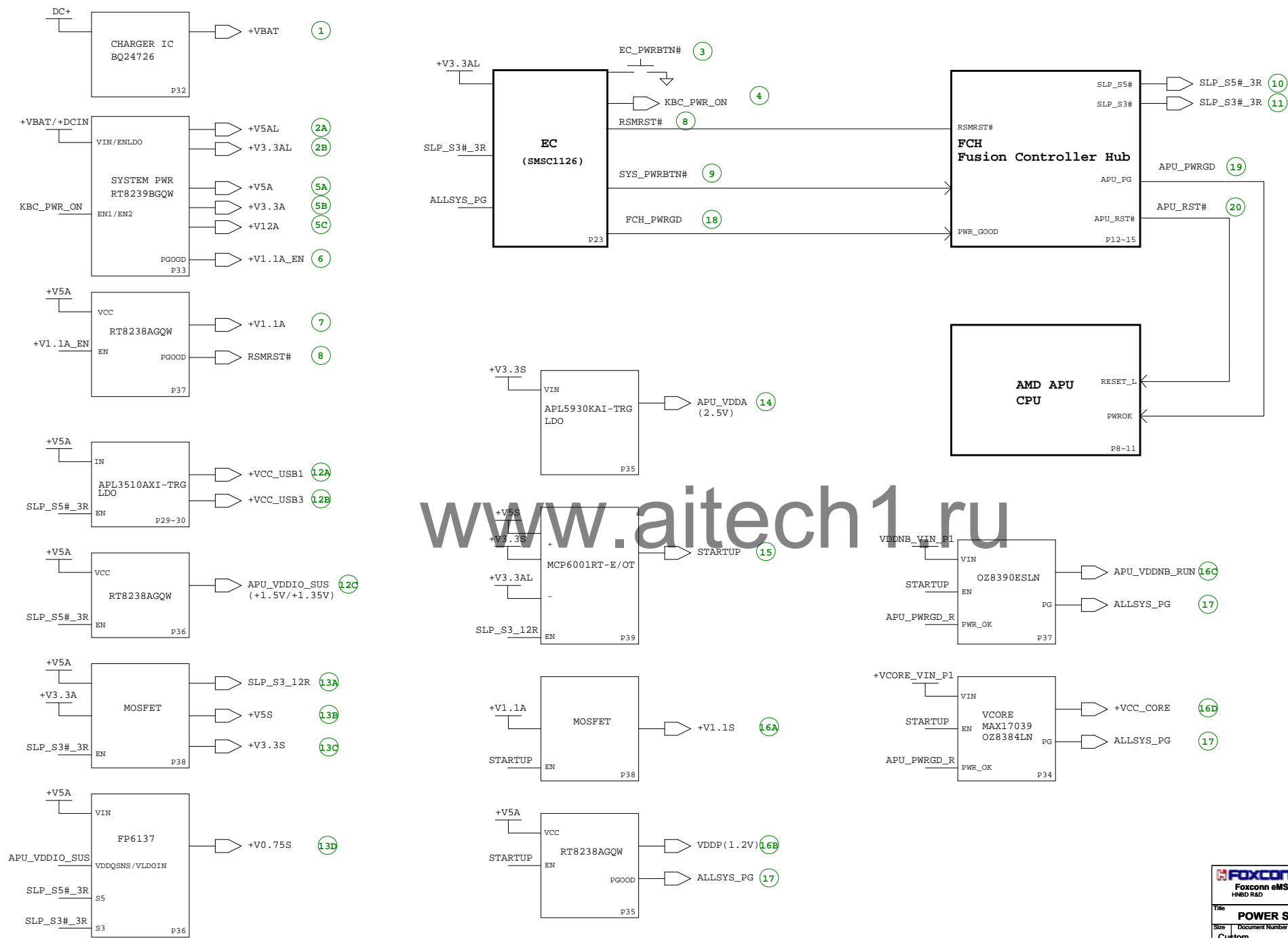
The diagram also includes a large watermark reading "www.aitech1.ru" across the center.

FOXCONN Foxconn eMS Inc. HNBD R&D		Hon Hai Precision Industry Co. Ltd. phone: +886-2-2799-6111	
Title CLOCK MAP			
Size B	Document Number Toto		Rev MV
Page Modified: Friday, May 05, 2011		08:33:40 (UTC+GMT)	Sheet 3 of 42





www.aitech1.ru



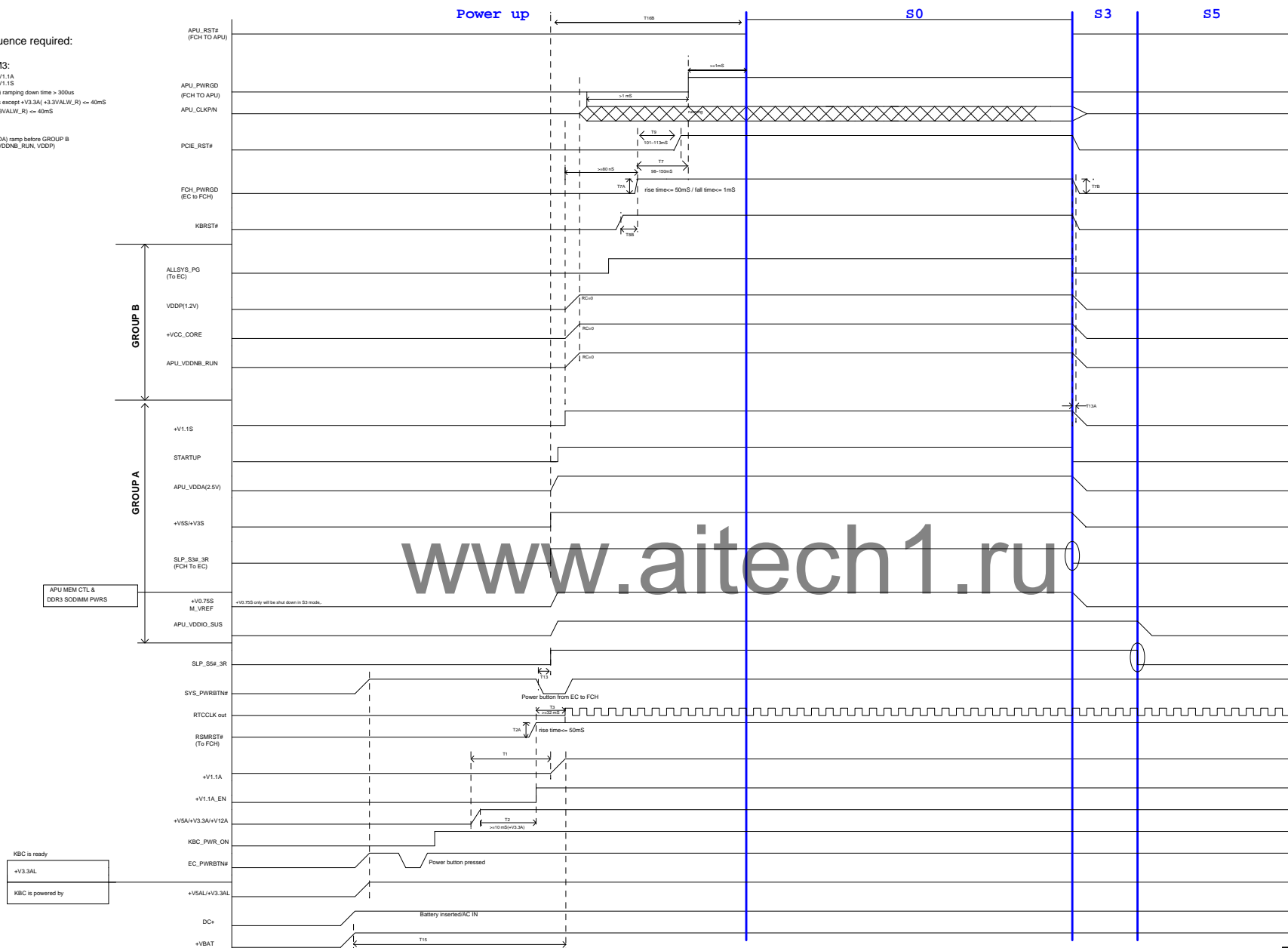
Power on Sequence required:

HUDSON-M2/M3:

1. +V3.3A ramp before +V1.1A
2. +V3.3S ramp before +V1.1S
3. +V3.3A (+3.3VALW_R) ramping down time > 300us
4. 50us <= All power rails except +V3.3A (+3.3VALW_R) <= 40mS
5. 100us <= +V3.3A (+3.3VALW_R) <= 40mS

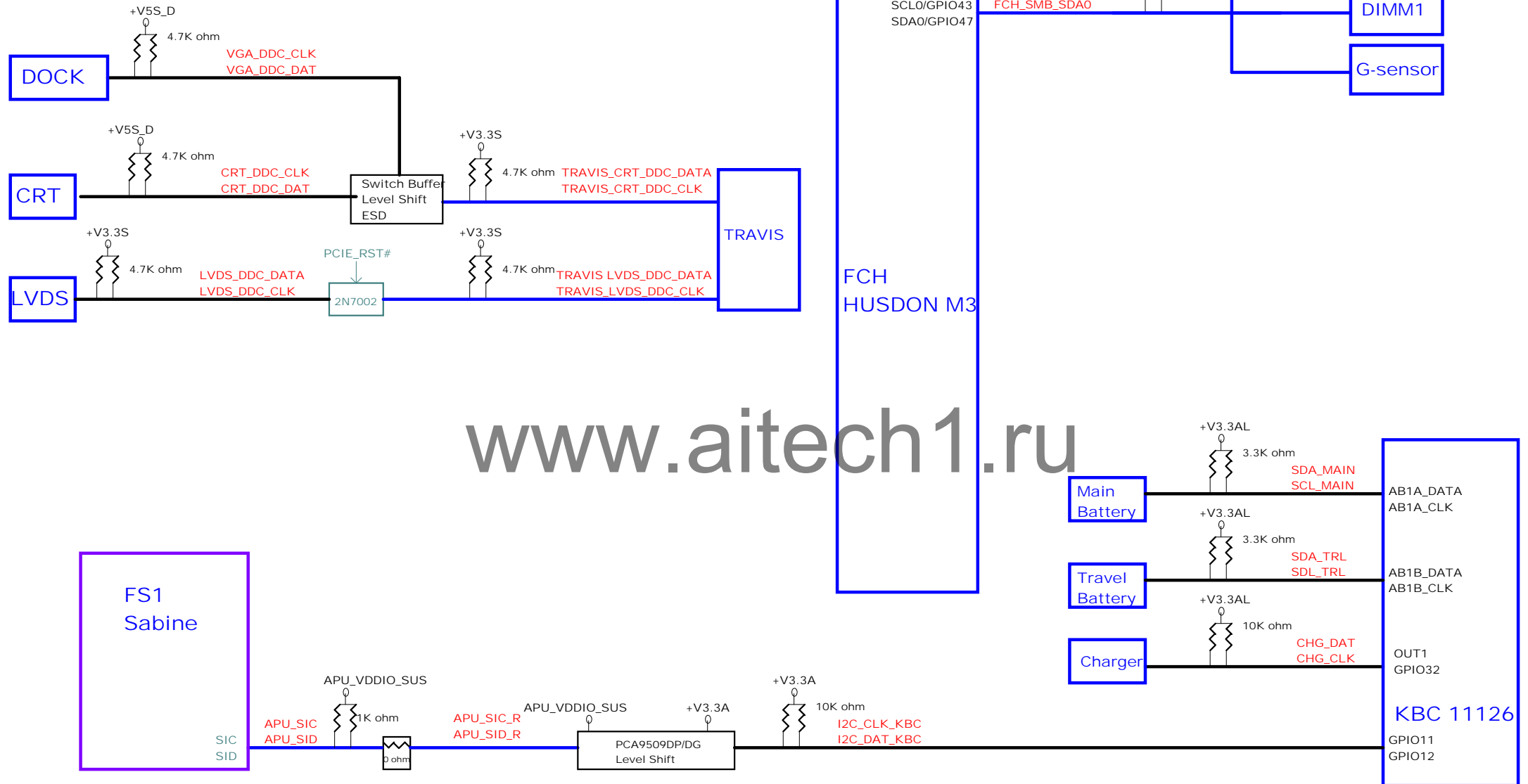
APU:

1. GROUP A(VDDIO,VDDA) ramp before GROUP B (+VCC_CORE, APU_VDDNB_RUN, VDDP)

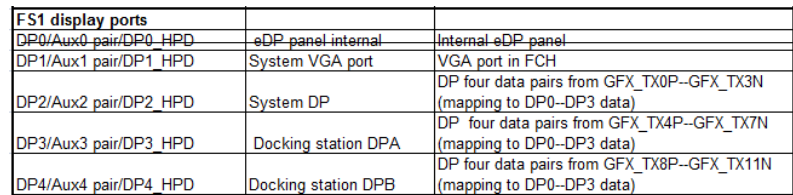
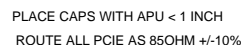


www.aitech1.ru

SMBUS&I2C MAP

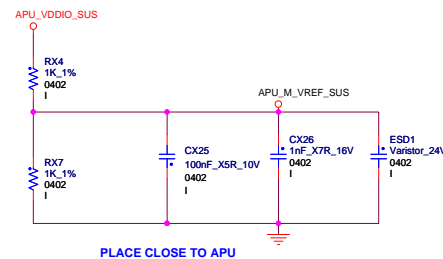
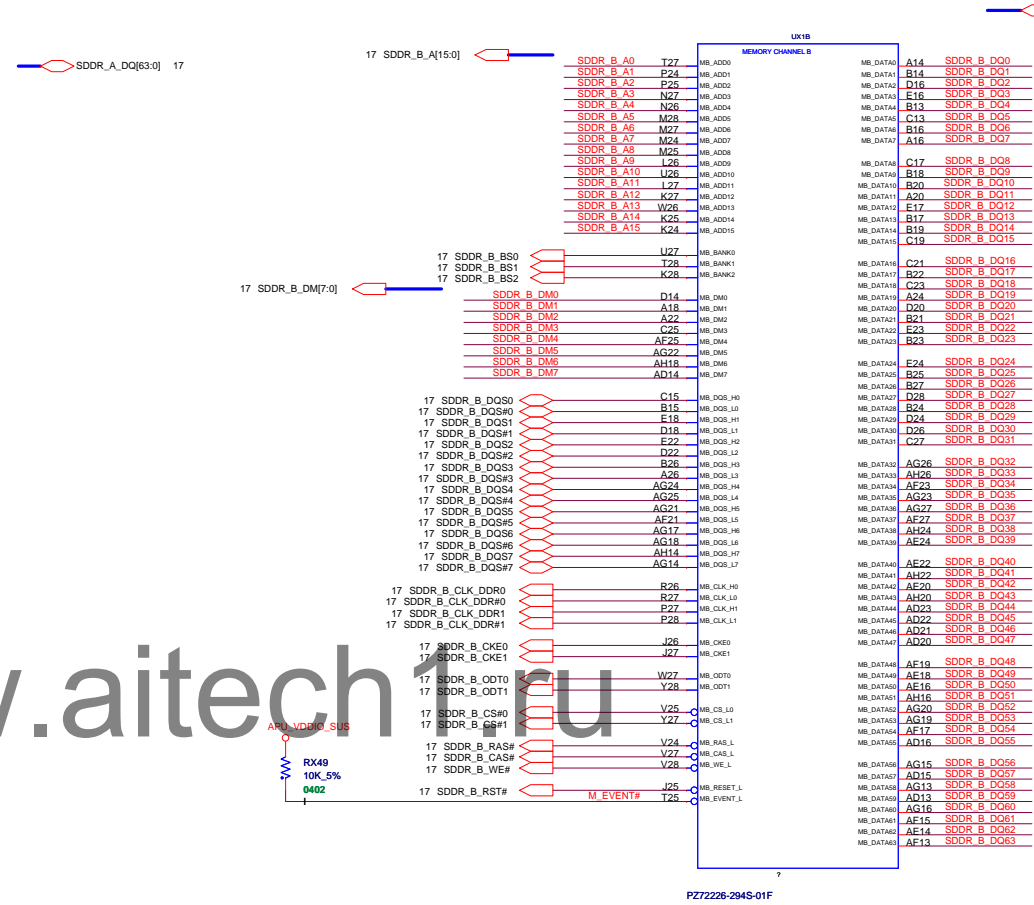
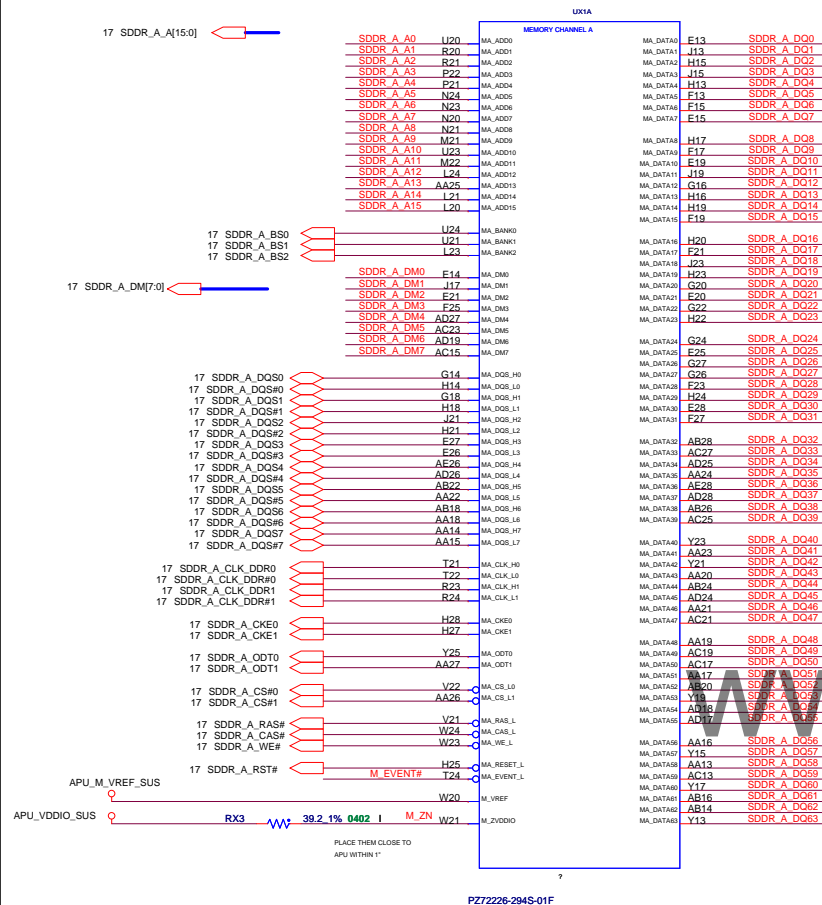


www.aitech1.ru

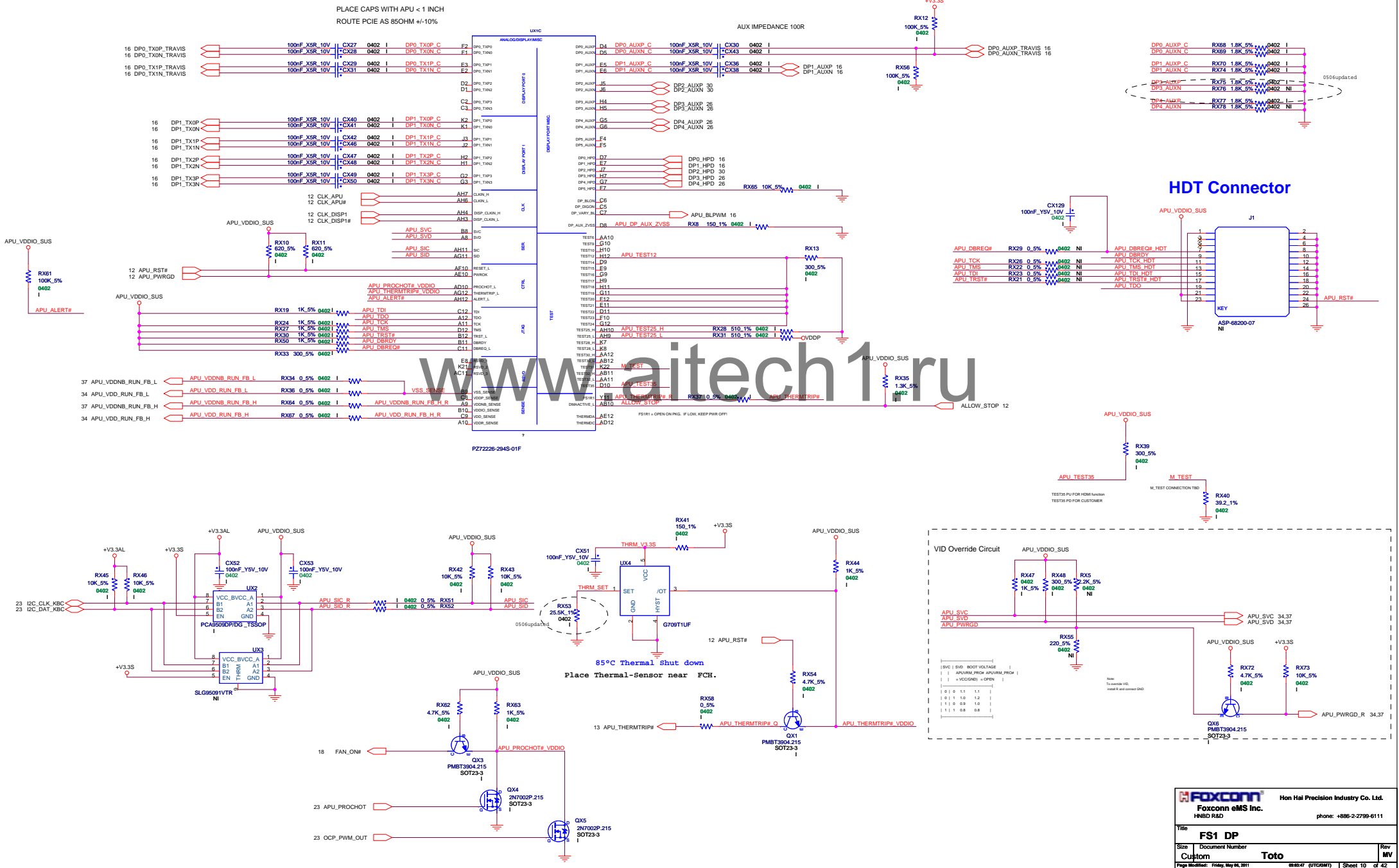


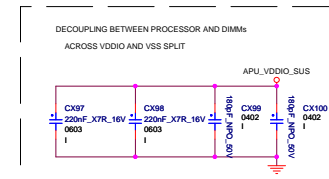
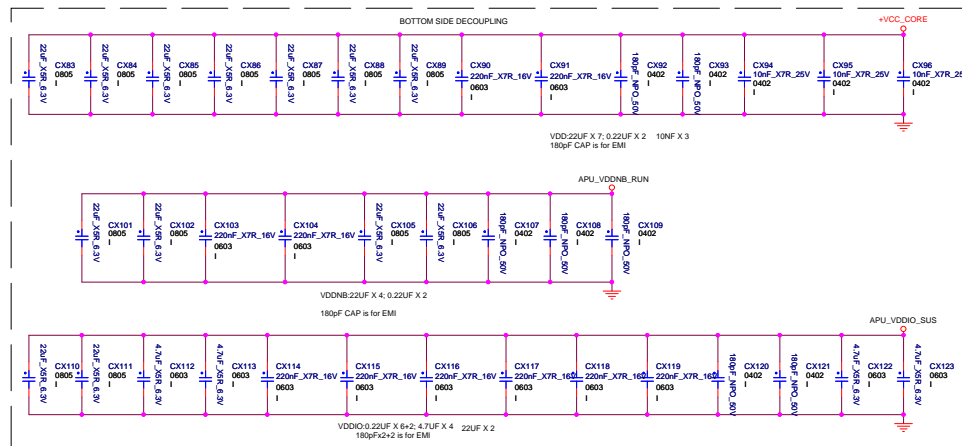
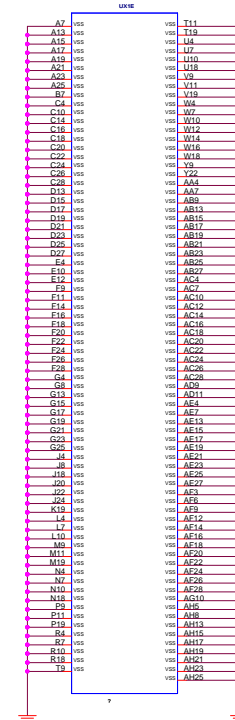
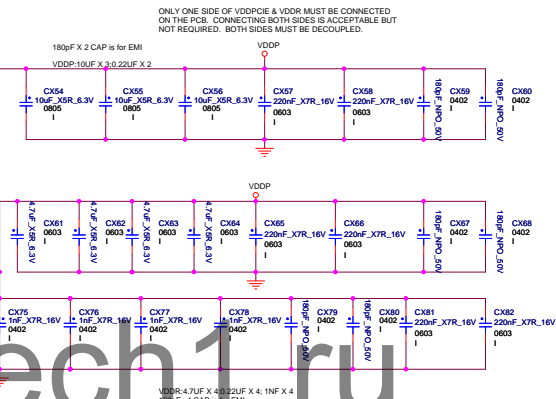
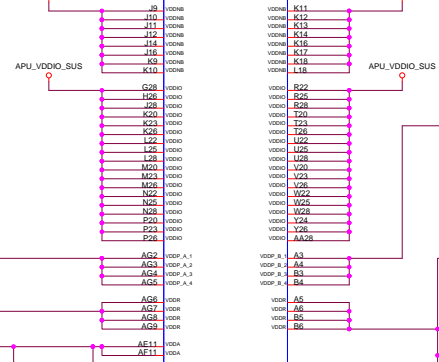
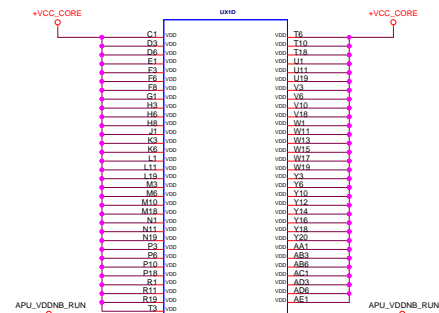
FS1 PCIe channel		
Channel 0	On-board NIC	Use GPP0 PCIe clock-> CLK_REQ0
Channel 1	Media/1394 device on board	Use GPP1 PCIe clock->CLK_REQ1
Channel 2	WLAN slot	Use GPP4 PCIe clock->CLK_REQ4
Channel 3	WLAN slot	Use GPP2 PCIe clock-> CLK_REQ2

Note: Open the sodlermask for Vias on I/F



FS1 display ports		
DP0/Aux0 pair/DP0 HPD	eDP panel internal	internal eDP panel
DP1/Aux1 pair/DP1 HPD	System VGA port	VGA port in FCH
DP2/Aux2 pair/DP2 HPD	System DP	DP four data pairs from GFX_TX0P~GFX_TX3N (mapping to DP0~DP3 data)
DP3/Aux3 pair/DP3 HPD	Docking station DPA	DP four data pairs from GFX_TX4P~GFX_TX7N (mapping to DP0~DP3 data)
DP4/Aux4 pair/DP4 HPD	Docking station DPB	DP four data pairs from GFX_TX8P~GFX_TX11N (mapping to DP0~DP3 data)

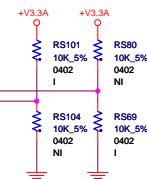






USB 3.0 port		
SS port 0	unused	
SS port 1	unused	
SS port 2	Used as system USB 3.0 port (walkup port)	USB3.0 traces bring out without Vias from FCH
SS port 3	Used as system USB 3.0 port (walkup port)	USB3.0 traces bring out without Vias from FCH

USB3.0 < 10 inch



FCH M2/M3 Board ID0

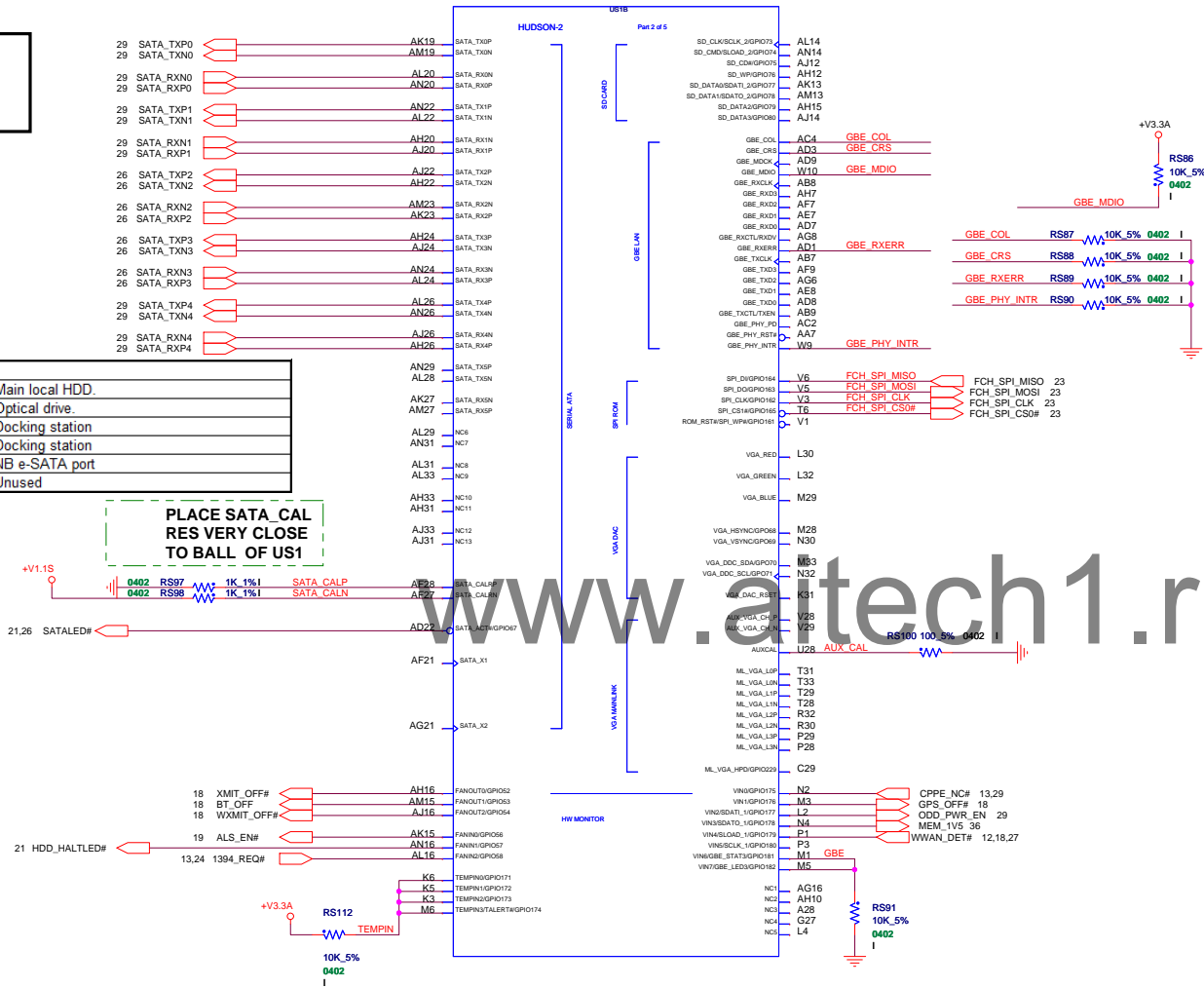
M3 (Low) : Install RS69, NOT Install RS80
M2 (High) : Install RS80, NOT Install RS69

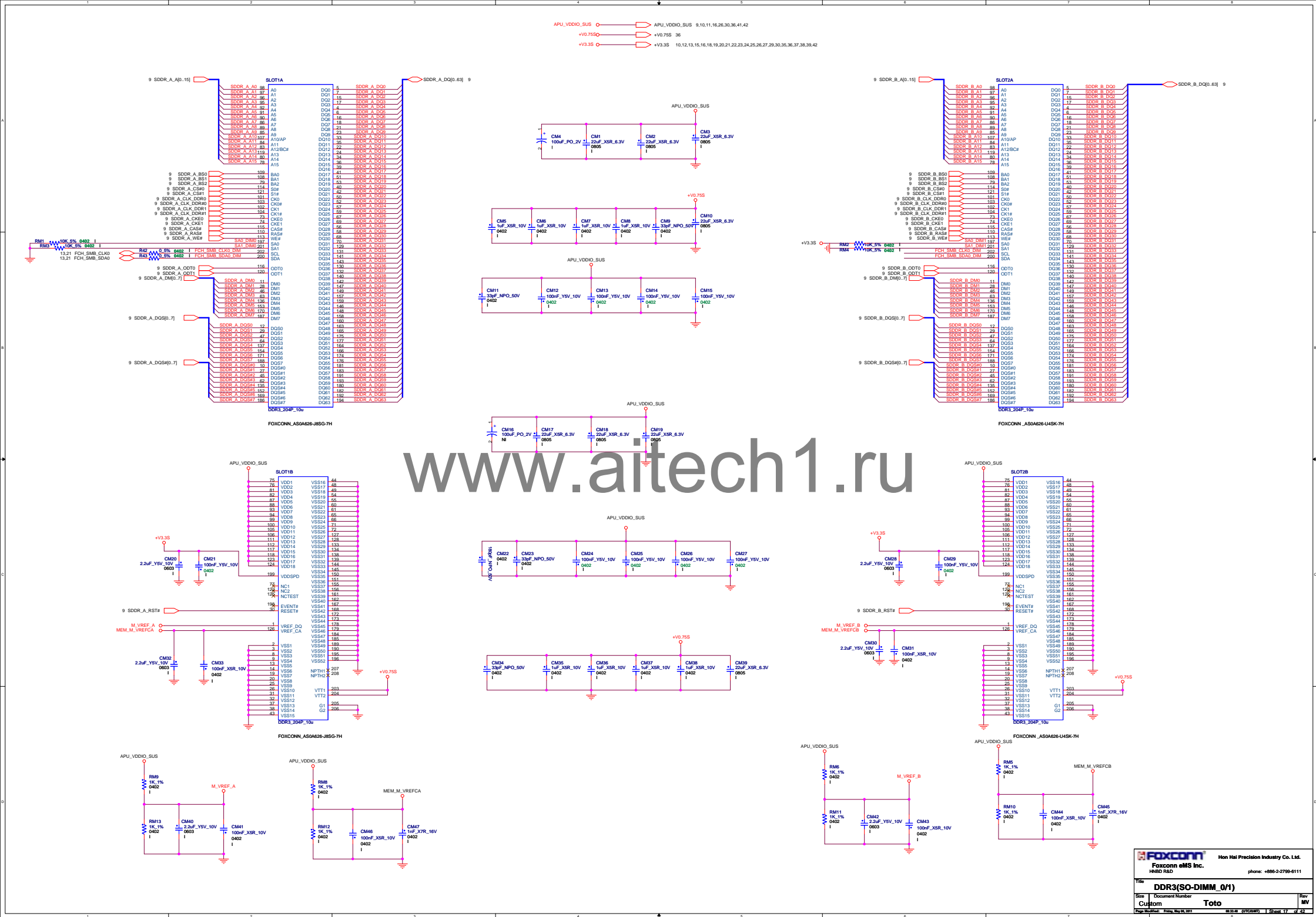
FS1 PCIe channel		
Channel 0	On-board NIC	Use GPP0 PCIe clock-> CLK_REQ0
Channel 1	Media/1394 device on board	Use GPP1 PCIe clock->CLK_REQ1
Channel 2	WWAN slot	Use GPP4 PCIe clock->CLK_REQ4
Channel 3	WLAN slot	Use GPP2 PCIe clock-> CLK_REQ2

SATA < 6 inch

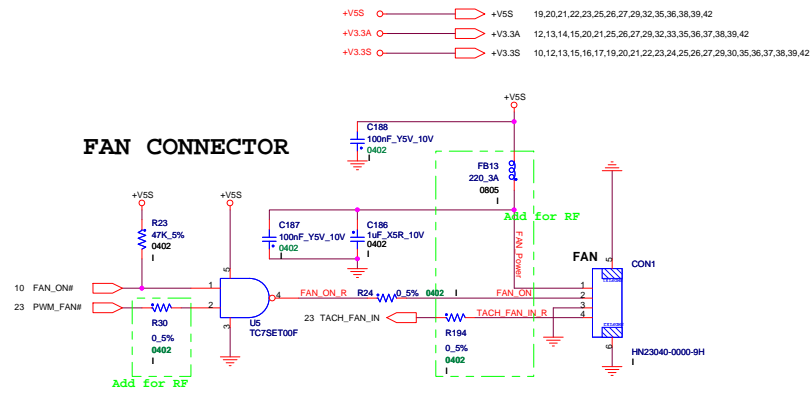
SATA Channel	
Channel 0	Main local HDD.
Channel 1	Optical drive.
Channel 2	Docking station
Channel 3	Docking station
Channel 4	NB e-SATA port
Channel 5	Unused

PLACE SATA_CAL
RES VERY CLOSE
TO BALL OF US1

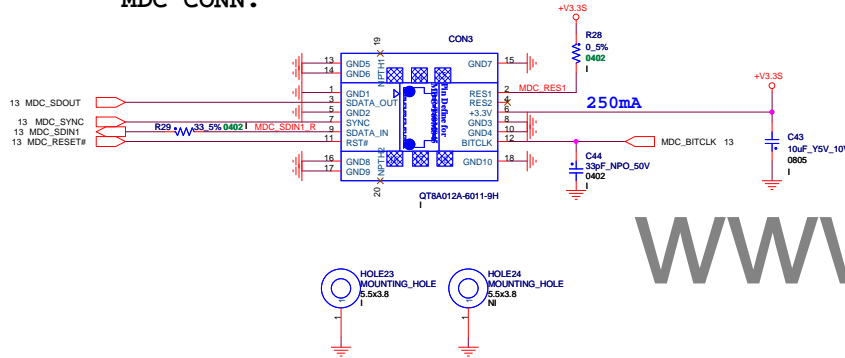




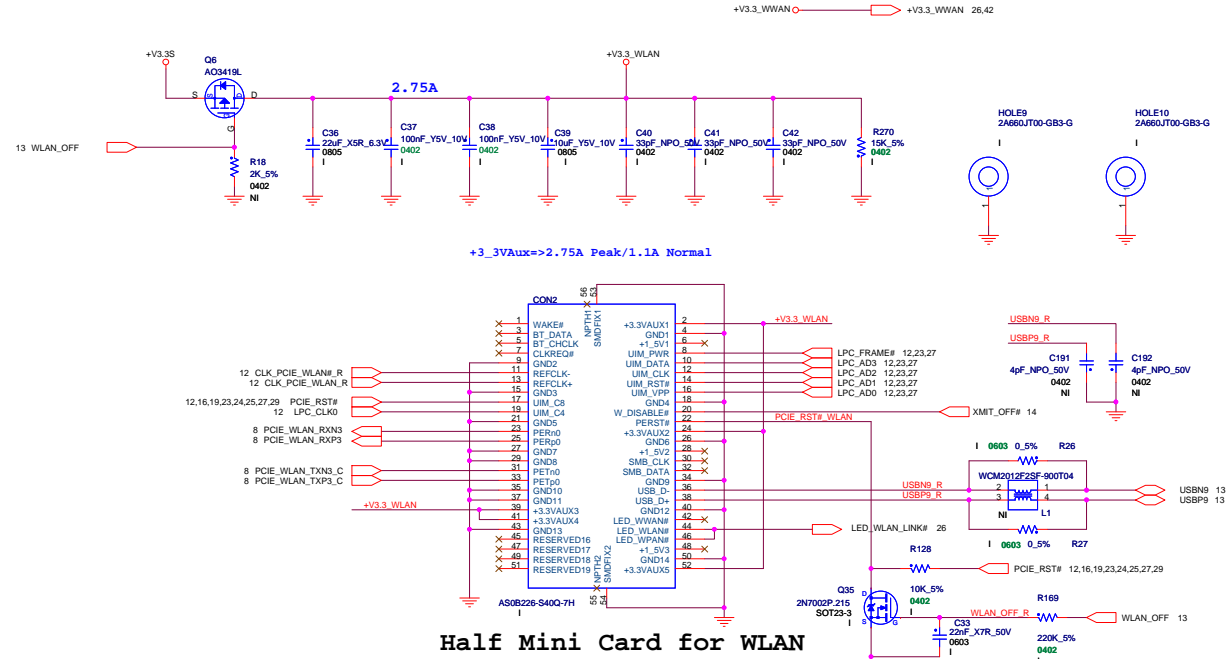
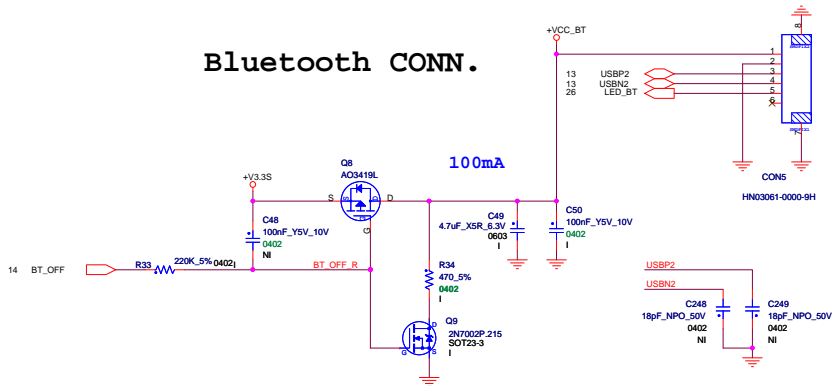
FAN CONNECTOR



MDC CONN.

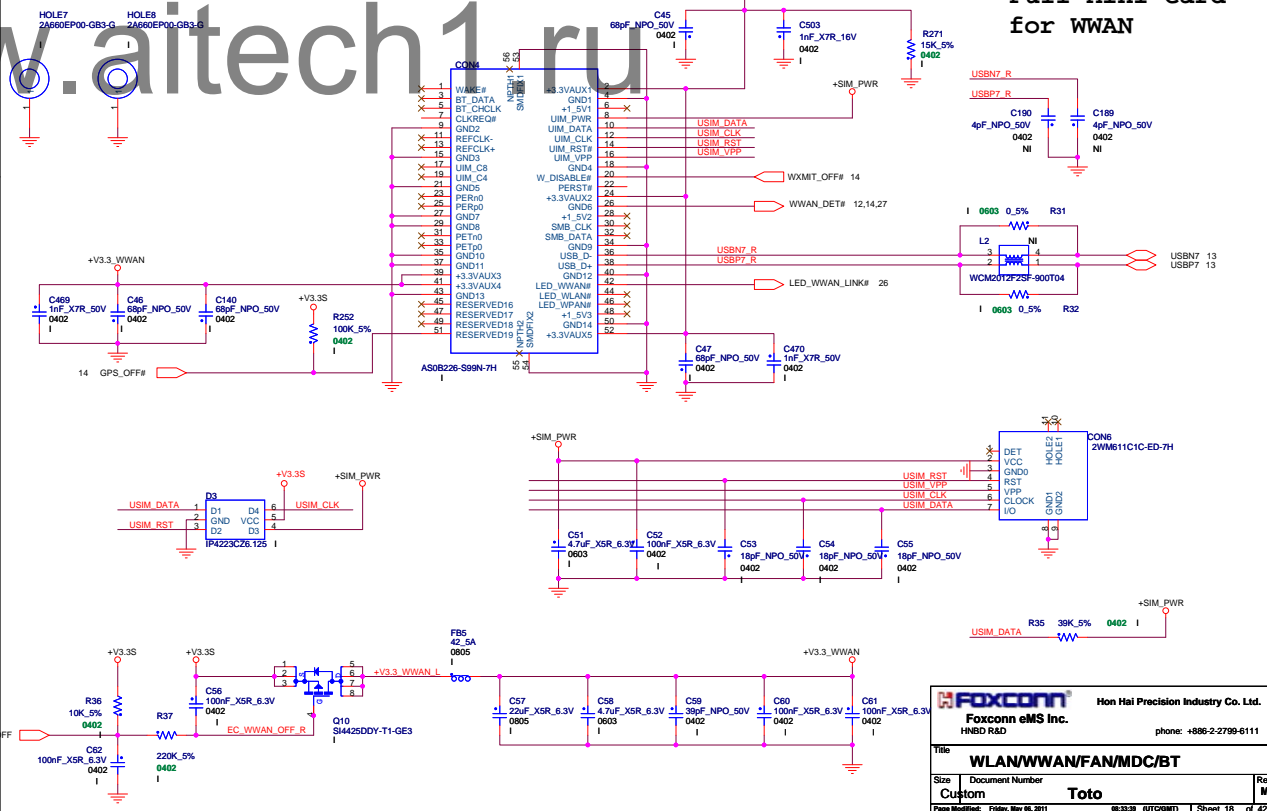


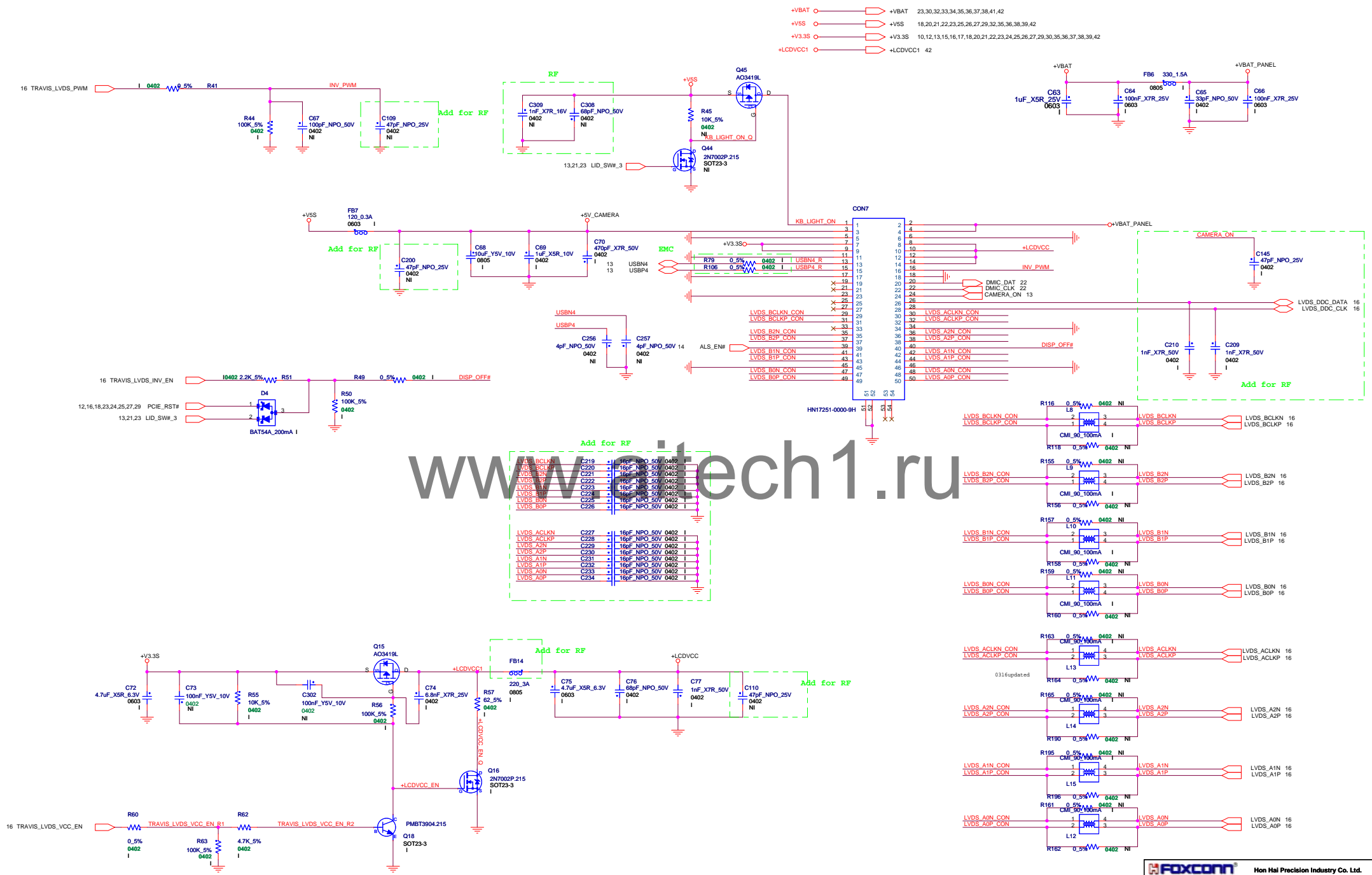
Bluetooth CONN.



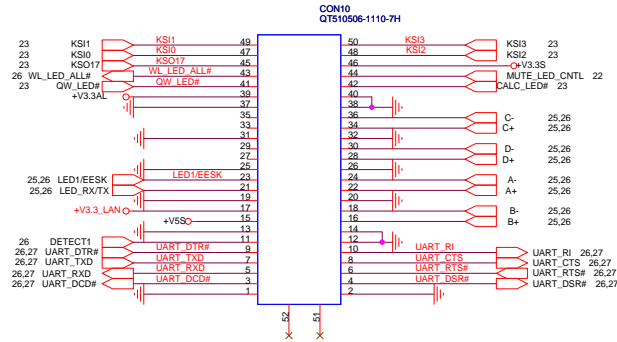
Half Mini Card for WLAN

Full Mini Card for WWAN

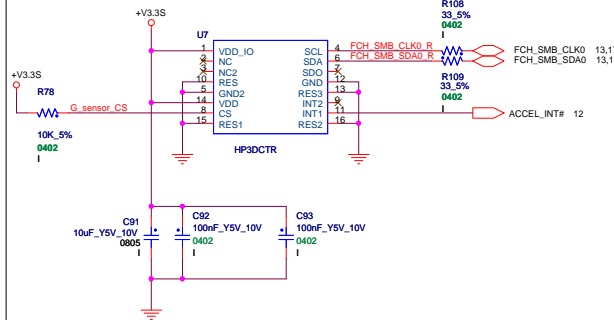




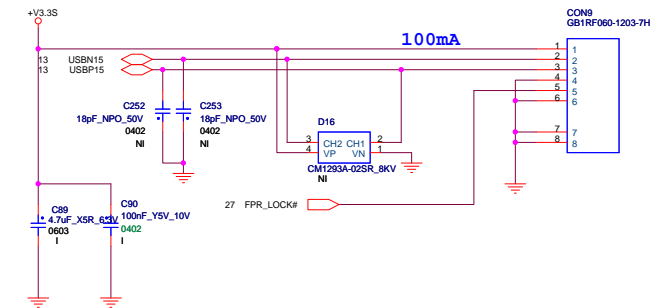
MB B2B CONN. (PWR/LAN/RS232)



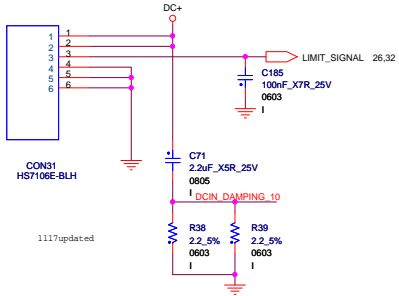
ACCELEMENTOR



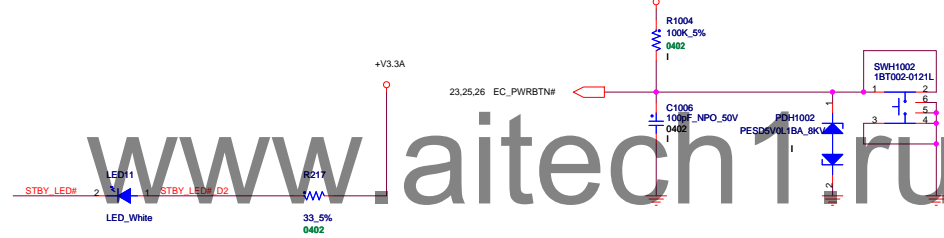
FINGER PRINT CONN.



DC IN

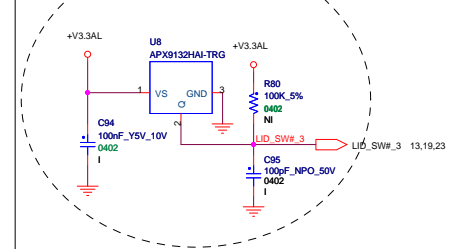


Standby LED near the Power Button

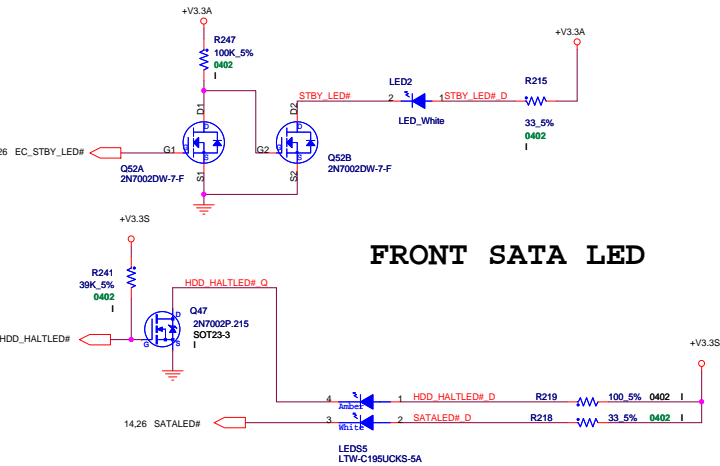


POWER BUTTON

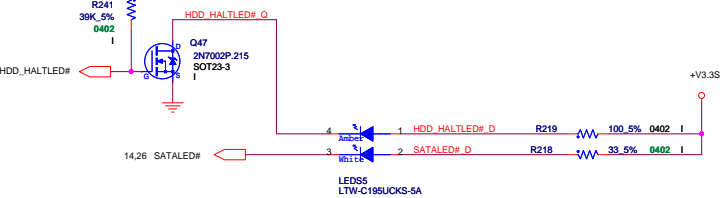
LID Switch



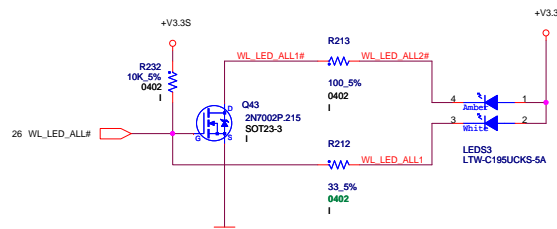
FRONT STAND BY LED



FRONT SATA LED



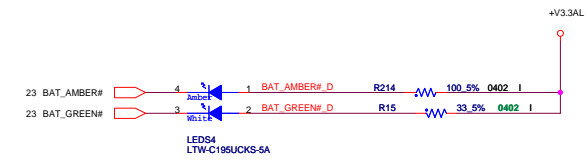
FRONT WIRELESS LED



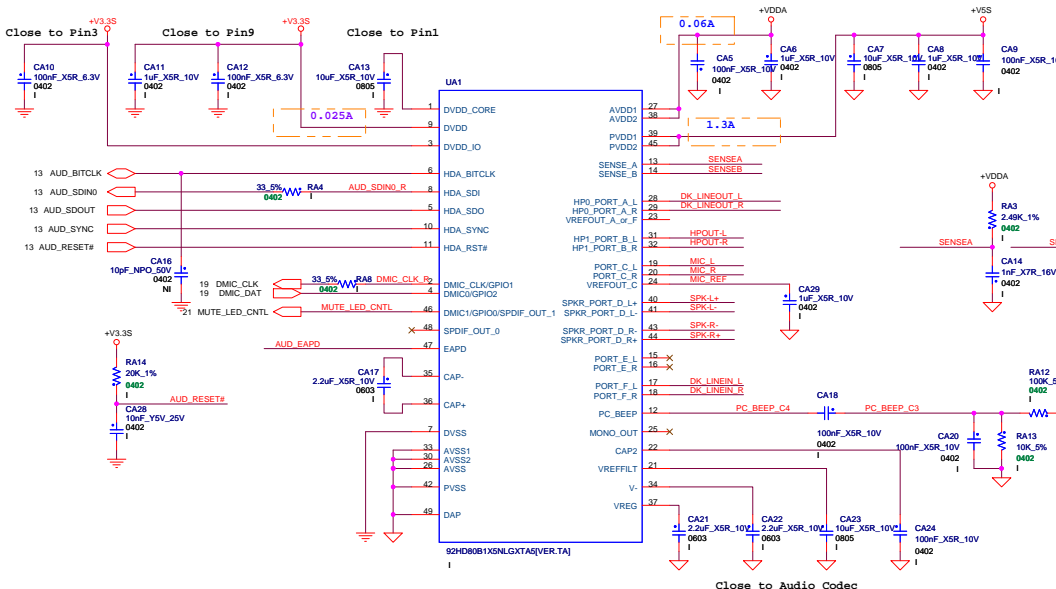
WIRELESS LED:

*On State = White
 *Off State = Amber
 *Backlite = White
 *Standby Mode = Pulse
 BATTERY LED:
 On Charge = Amber
 90% Charge = White
 HDD & MULTI-BAY LED:
 HDD Activity = White
 Safe Mode = Amber

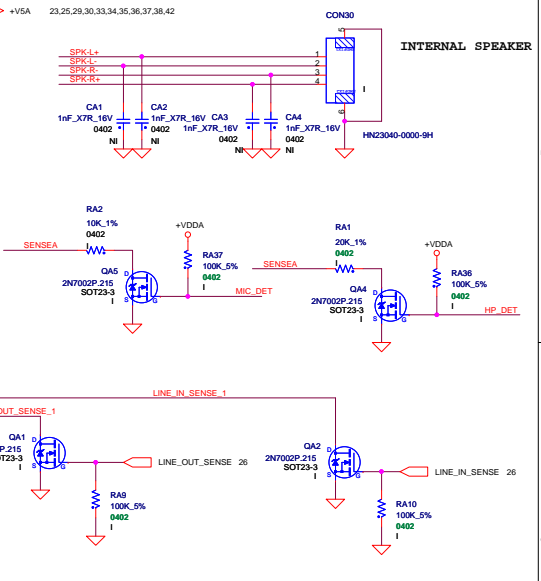
FRONT BATTERY CHARGE LED



LED POWER RAIL



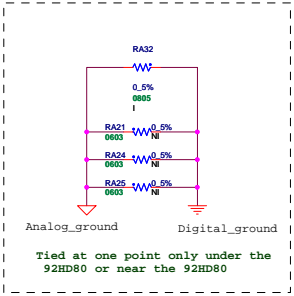
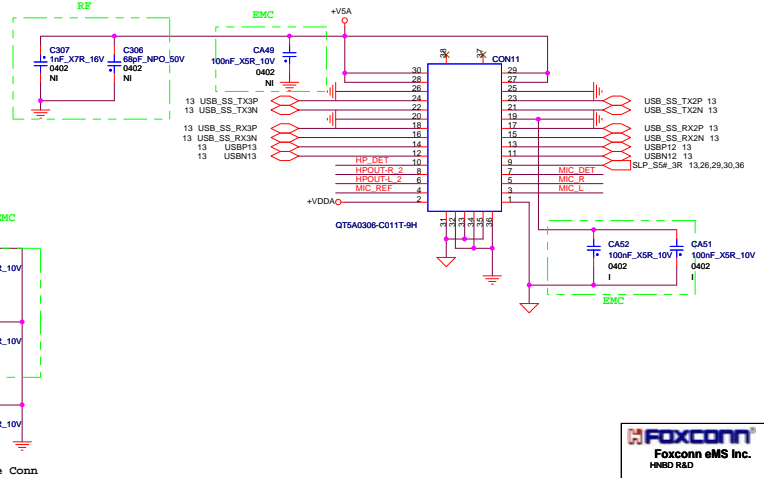
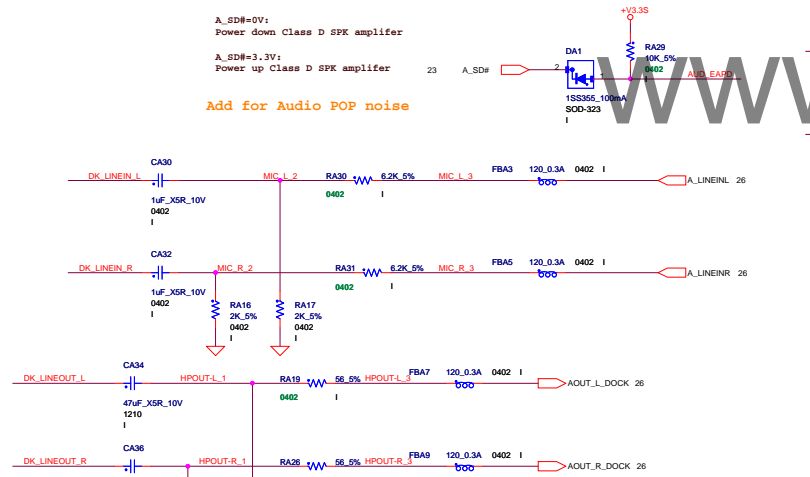
PORT	Discription	Sense
A	Docking HP	SENSE_A
B	Headphone	SENSE_A
C	MIC JACK	SENSE_A
D	SPKR	
E	NO USE	
F	Docking MIC	SENSE_B

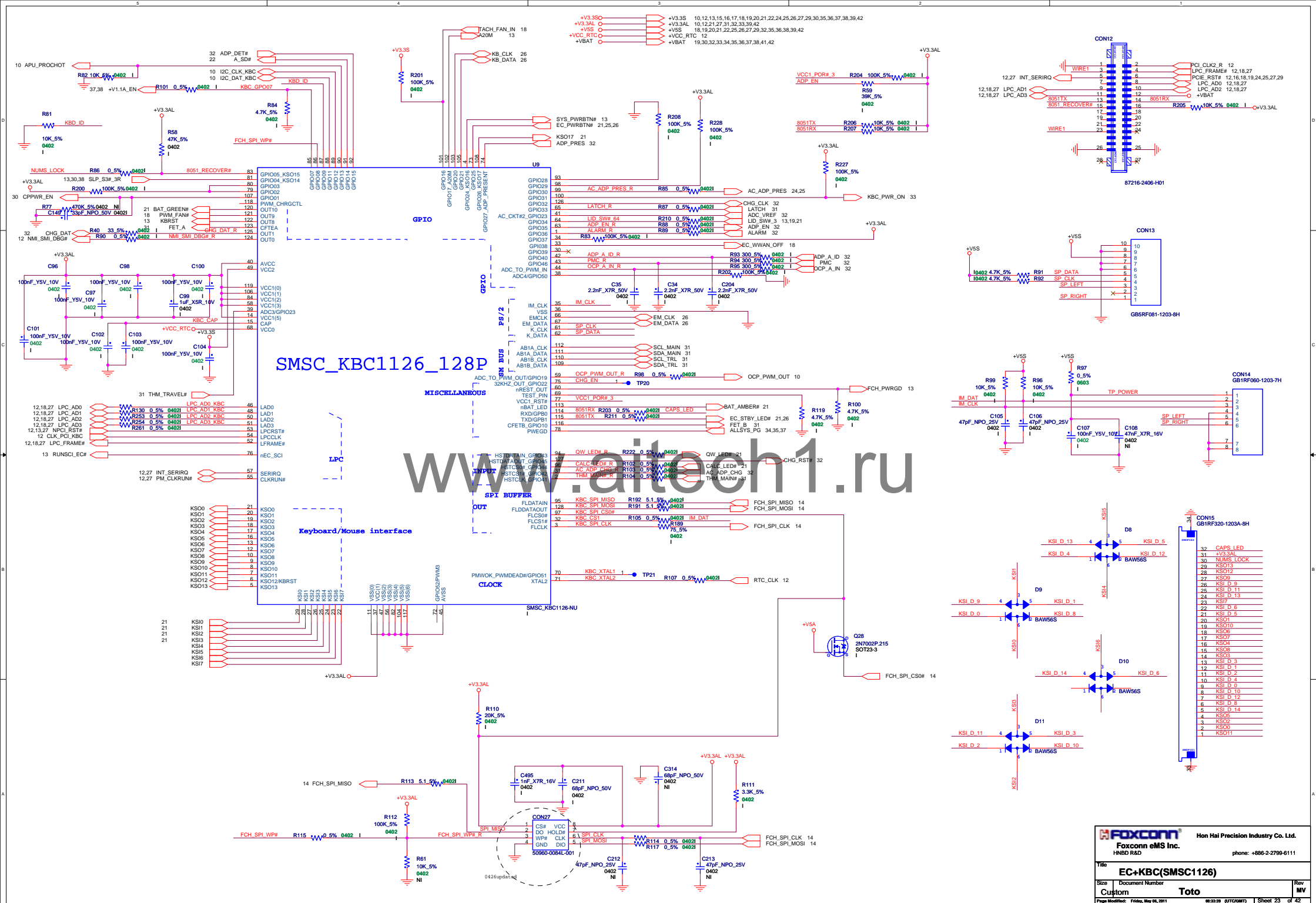


A_SD# = 0V:
Power down Class D SPK amplifier

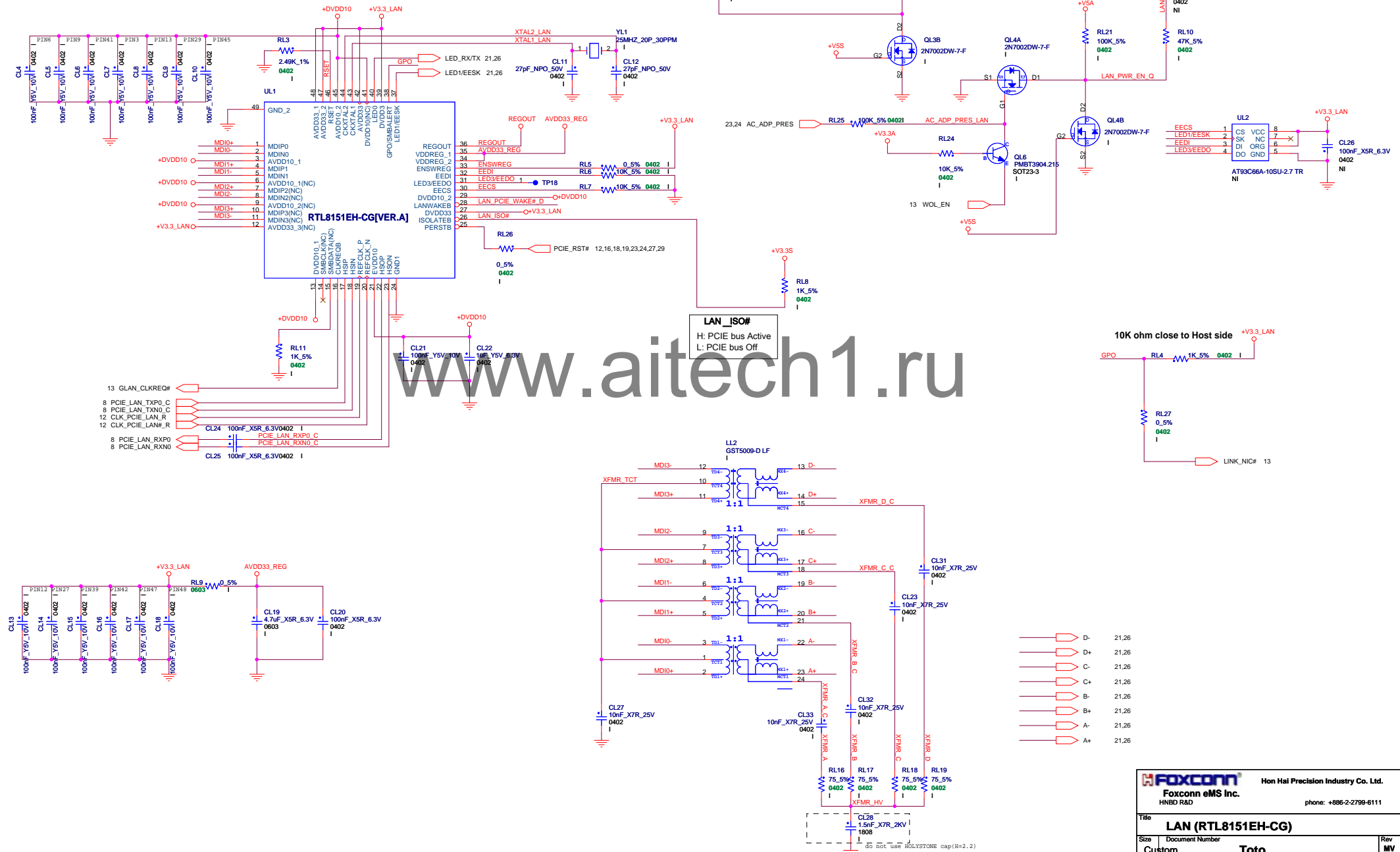
A_SD# = 3.3V:
Power up Class D SPK amplifier

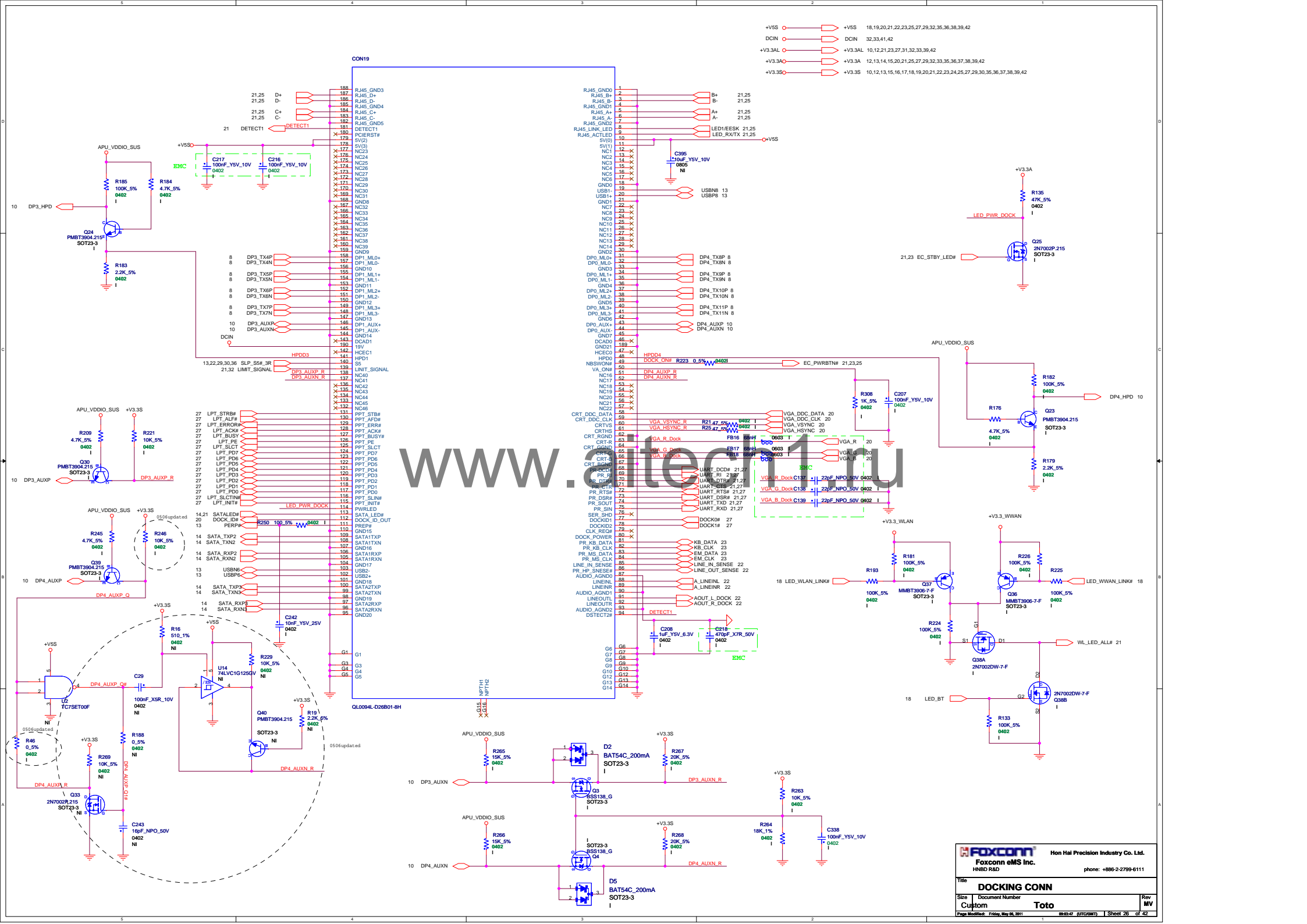
Add for Audio POP noise

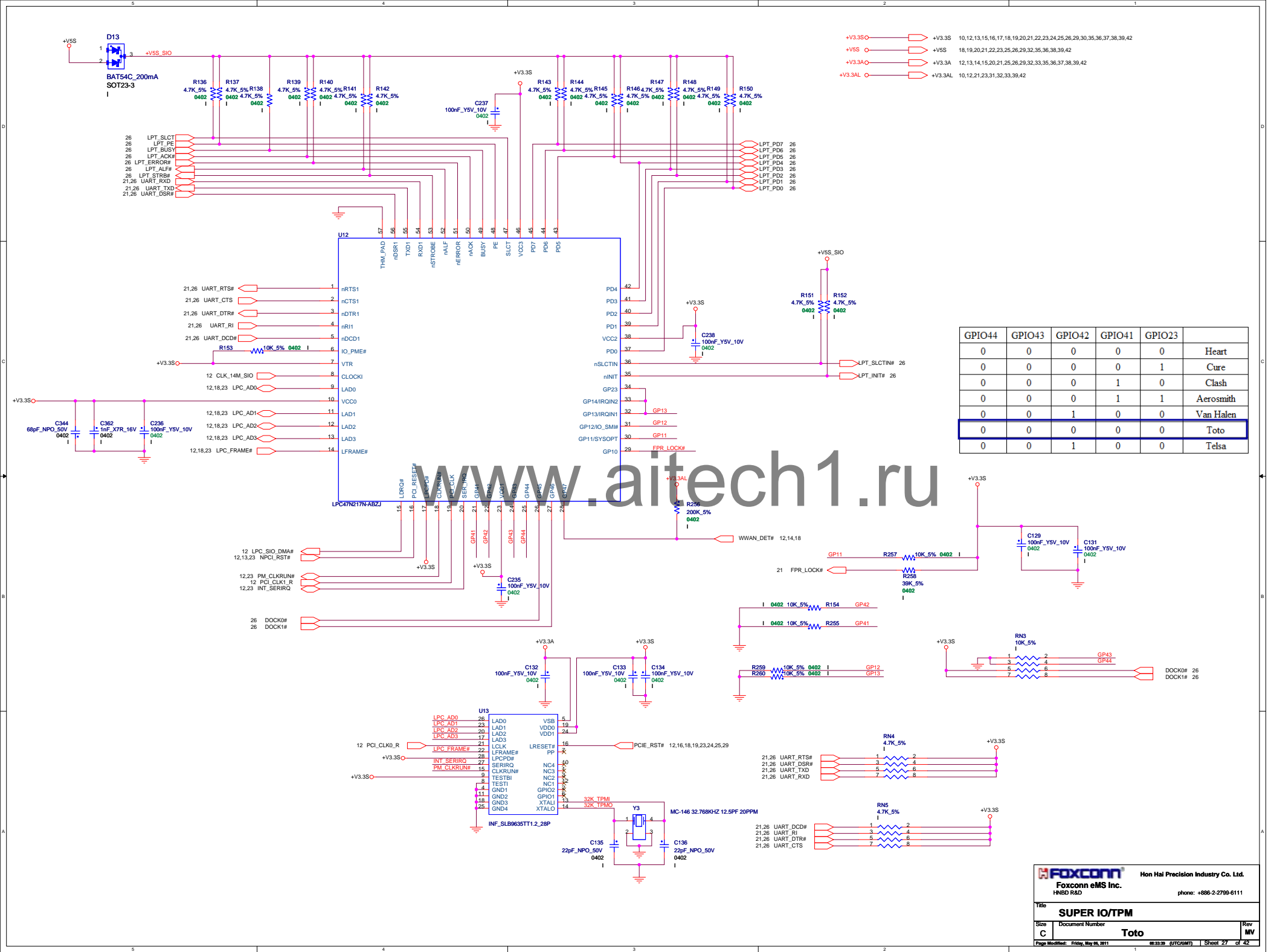




- 4.7uH
- $IDC \geq 600mA$
 (if spec has IDC1 and IDC2, the smaller value of IDC should $\geq 600mA$.)
- Tolerance $\leq 20\%$
- $RDC(or DCR) \leq 0.8ohms @ 1MHz$. (Usually its not 1Mhz...anyway, we check the value ≤ 0.8 at any freq.)
- Measure Efficiency $\geq 75\%$ @ GbE link speed. (Important, u can use demo board to confirm.)

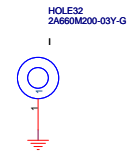


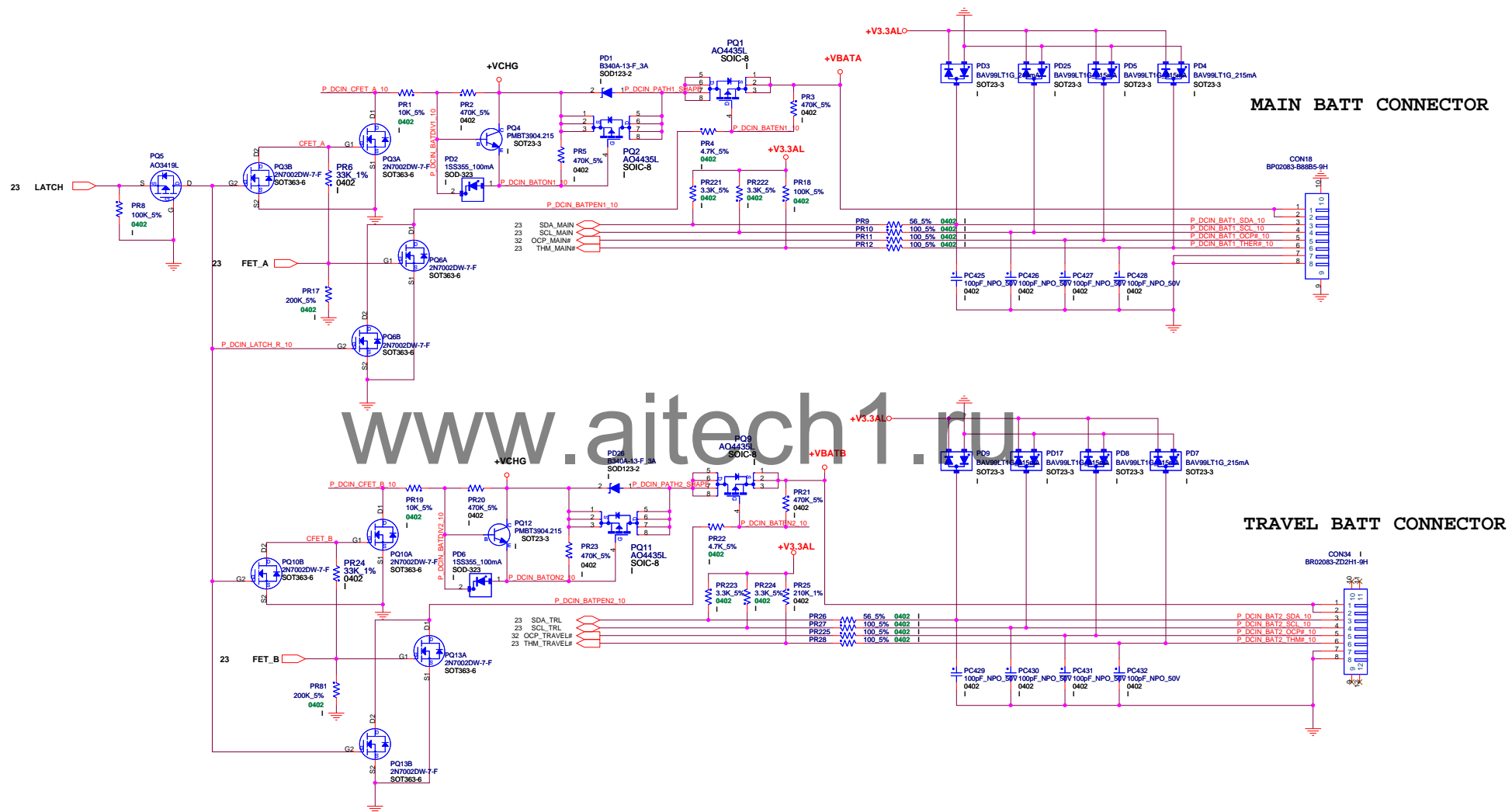


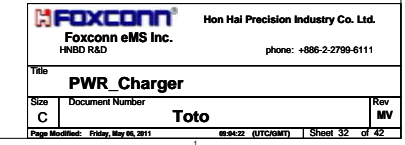


www.aitech1.ru

N/A



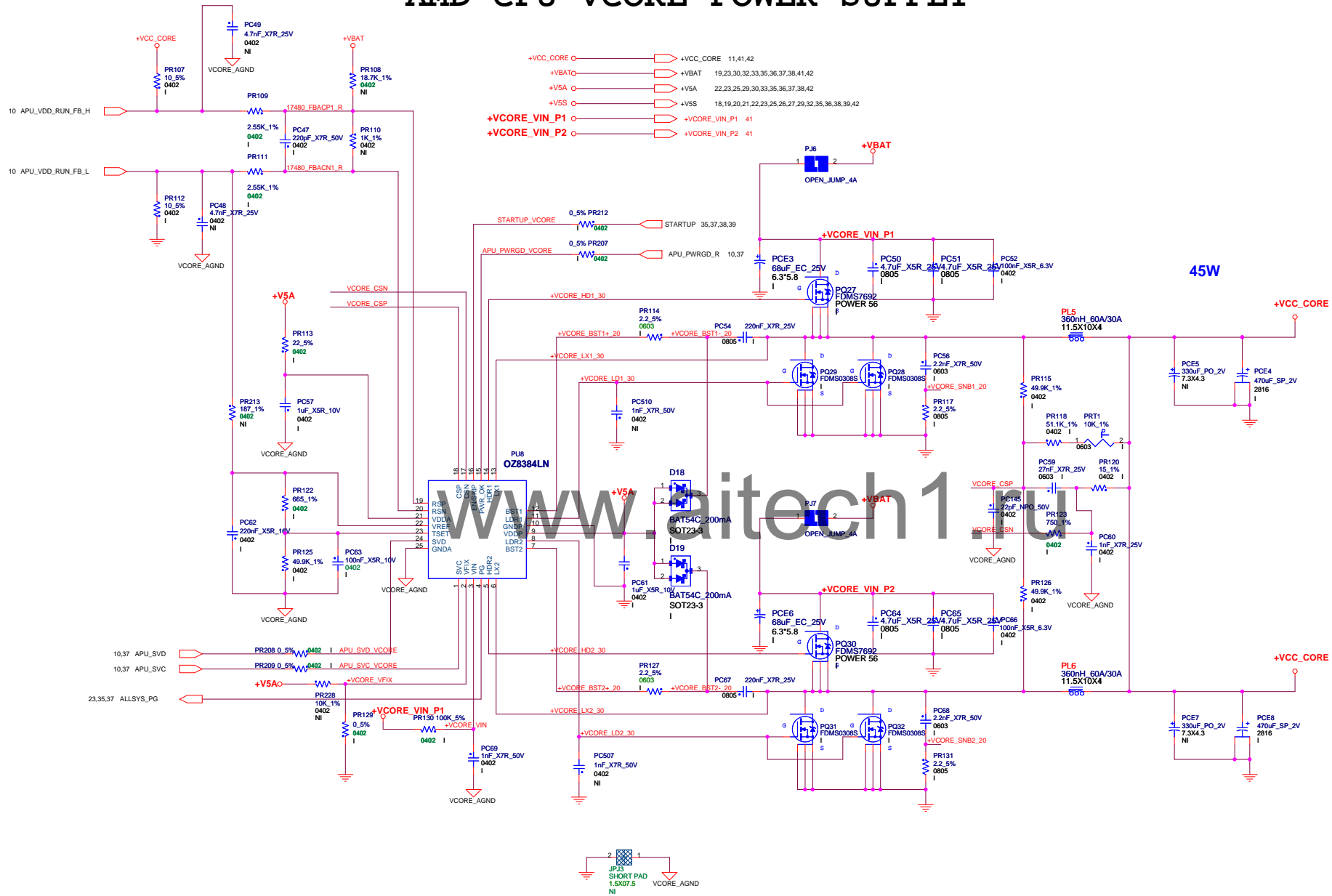




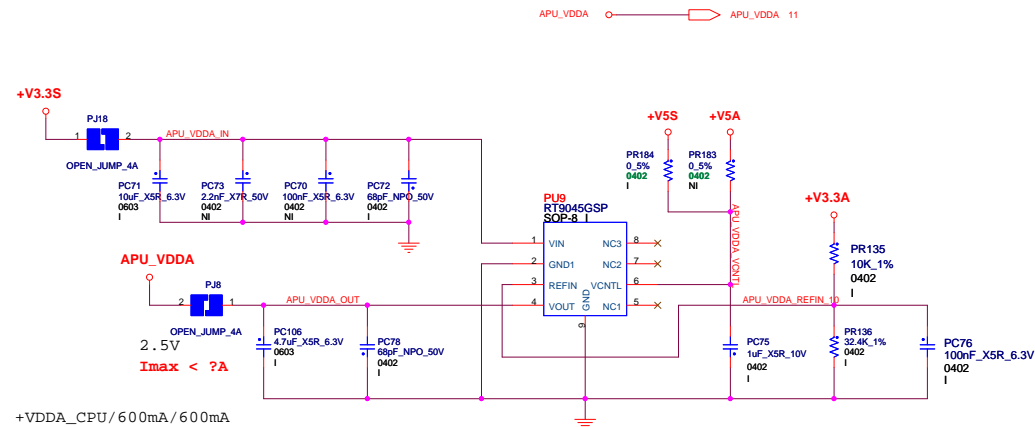
+V12A	38
+VBAT	19,23,30,32,34,35,36,37,38,41,42
+V3_3AL	10,12,21,23,27,31,32,39,42
+V5AL	32,38
+V3_3S	10,12,13,15,16,17,18,19,20,21,22,23,24,25,26,27,29,30,35,36,37,38,39,42
+V5A	22,23,25,29,30,34,35,36,37,38,42
+VBATA	31,41
+VBATB	31,41

Title			
5V/3.3V			
Size	Document Number		R
C	Toto		
Page Modified: Friday, May 05, 2011		08:55:05 (UTC/GMT)	Sheet 33 of 4

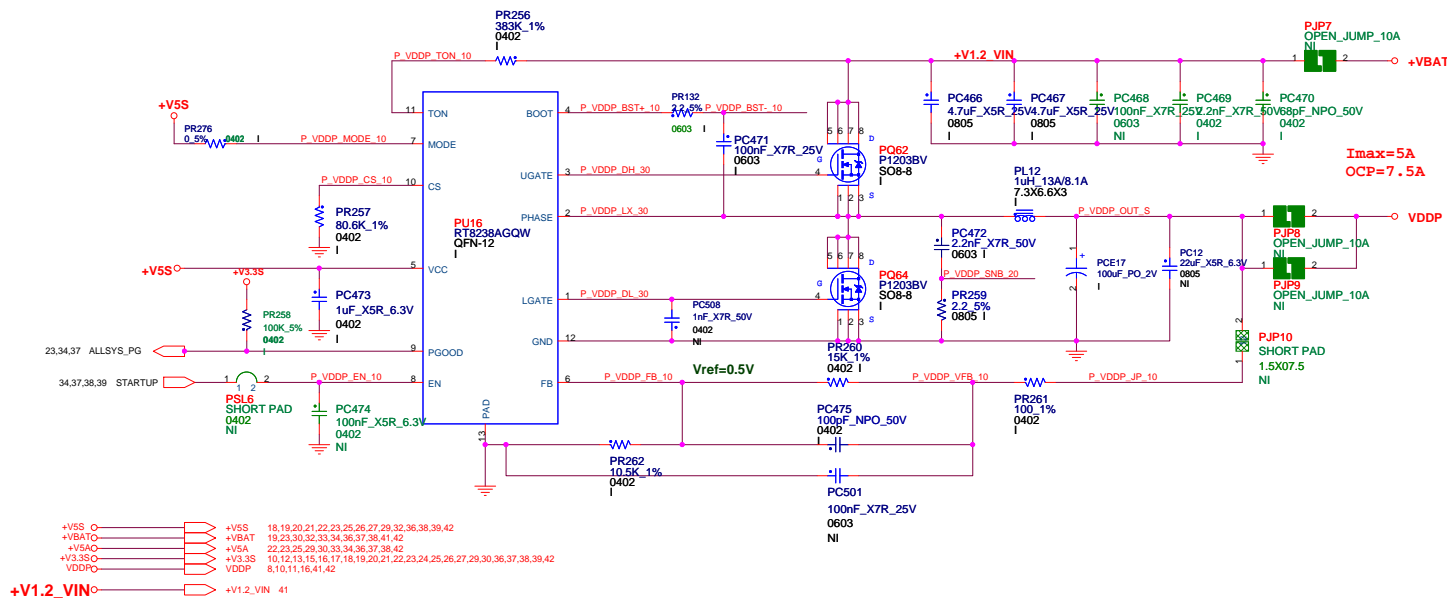
AMD CPU VCORE POWER SUPPLY



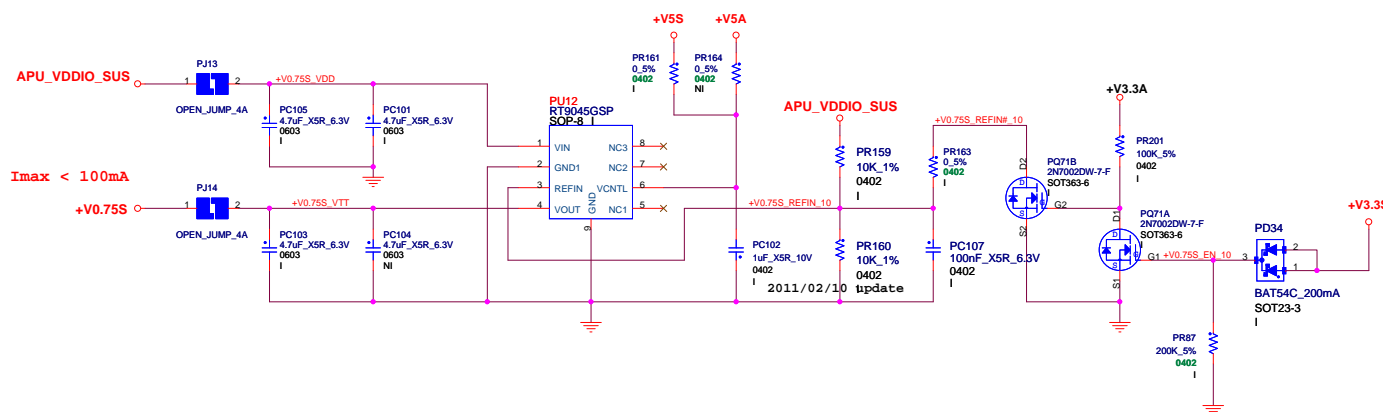
APU_VDDA (2.5V) POWER SUPPLY

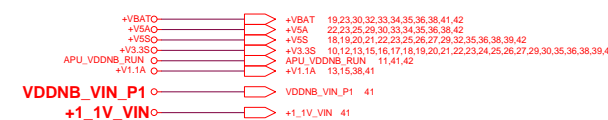


www.aitech1.ru
VDDP (1.2V) POWER SUPPLY

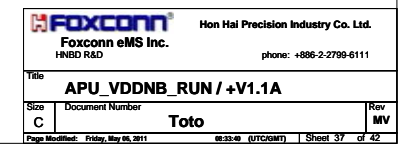


The schematic diagram illustrates the power management section of the PSoC 4002. It features the internal PMIC (P17, RT8238AGQW) and various external components including capacitors (e.g., PC481, PC482, PC483, PC484, PC485, PC486, PC487, PC488, PC489, PC490, PC491, PC492, PC493, PC494, PC495, PC496, PC497, PC498, PC499, PC500, PC501, PC502, PC503, PC504, PC505, PC506, PC507, PC508, PC509, PC510, PC511, PC512, PC513, PC514, PC515, PC516, PC517, PC518, PC519, PC520, PC521, PC522, PC523, PC524, PC525, PC526, PC527, PC528, PC529, PC530, PC531, PC532, PC533, PC534, PC535, PC536, PC537, PC538, PC539, PC540, PC541, PC542, PC543, PC544, PC545, PC546, PC547, PC548, PC549, PC550, PC551, PC552, PC553, PC554, PC555, PC556, PC557, PC558, PC559, PC560, PC561, PC562, PC563, PC564, PC565, PC566, PC567, PC568, PC569, PC570, PC571, PC572, PC573, PC574, PC575, PC576, PC577, PC578, PC579, PC580, PC581, PC582, PC583, PC584, PC585, PC586, PC587, PC588, PC589, PC590, PC591, PC592, PC593, PC594, PC595, PC596, PC597, PC598, PC599, PC600, PC601, PC602, PC603, PC604, PC605, PC606, PC607, PC608, PC609, PC610, PC611, PC612, PC613, PC614, PC615, PC616, PC617, PC618, PC619, PC620, PC621, PC622, PC623, PC624, PC625, PC626, PC627, PC628, PC629, PC630, PC631, PC632, PC633, PC634, PC635, PC636, PC637, PC638, PC639, PC640, PC641, PC642, PC643, PC644, PC645, PC646, PC647, PC648, PC649, PC650, PC651, PC652, PC653, PC654, PC655, PC656, PC657, PC658, PC659, PC660, PC661, PC662, PC663, PC664, PC665, PC666, PC667, PC668, PC669, PC670, PC671, PC672, PC673, PC674, PC675, PC676, PC677, PC678, PC679, PC680, PC681, PC682, PC683, PC684, PC685, PC686, PC687, PC688, PC689, PC690, PC691, PC692, PC693, PC694, PC695, PC696, PC697, PC698, PC699, PC700, PC701, PC702, PC703, PC704, PC705, PC706, PC707, PC708, PC709, PC710, PC711, PC712, PC713, PC714, PC715, PC716, PC717, PC718, PC719, PC720, PC721, PC722, PC723, PC724, PC725, PC726, PC727, PC728, PC729, PC730, PC731, PC732, PC733, PC734, PC735, PC736, PC737, PC738, PC739, PC740, PC741, PC742, PC743, PC744, PC745, PC746, PC747, PC748, PC749, PC750, PC751, PC752, PC753, PC754, PC755, PC756, PC757, PC758, PC759, PC760, PC761, PC762, PC763, PC764, PC765, PC766, PC767, PC768, PC769, PC770, PC771, PC772, PC773, PC774, PC775, PC776, PC777, PC778, PC779, PC780, PC781, PC782, PC783, PC784, PC785, PC786, PC787, PC788, PC789, PC790, PC791, PC792, PC793, PC794, PC795, PC796, PC797, PC798, PC799, PC800, PC801, PC802, PC803, PC804, PC805, PC806, PC807, PC808, PC809, PC810, PC811, PC812, PC813, PC814, PC815, PC816, PC817, PC818, PC819, PC820, PC821, PC822, PC823, PC824, PC825, PC826, PC827, PC828, PC829, PC830, PC831, PC832, PC833, PC834, PC835, PC836, PC837, PC838, PC839, PC840, PC841, PC842, PC843, PC844, PC845, PC846, PC847, PC848, PC849, PC850, PC851, PC852, PC853, PC854, PC855, PC856, PC857, PC858, PC859, PC860, PC861, PC862, PC863, PC864, PC865, PC866, PC867, PC868, PC869, PC870, PC871, PC872, PC873, PC874, PC875, PC876, PC877, PC878, PC879, PC880, PC881, PC882, PC883, PC884, PC885, PC886, PC887, PC888, PC889, PC890, PC891, PC892, PC893, PC894, PC895, PC896, PC897, PC898, PC899, PC900, PC901, PC902, PC903, PC904, PC905, PC906, PC907, PC908, PC909, PC910, PC911, PC912, PC913, PC914, PC915, PC916, PC917, PC918, PC919, PC920, PC921, PC922, PC923, PC924, PC925, PC926, PC927, PC928, PC929, PC930, PC931, PC932, PC933, PC934, PC935, PC936, PC937, PC938, PC939, PC940, PC941, PC942, PC943, PC944, PC945, PC946, PC947, PC948, PC949, PC950, PC951, PC952, PC953, PC954, PC955, PC956, PC957, PC958, PC959, PC960, PC961, PC962, PC963, PC964, PC965, PC966, PC967, PC968, PC969, PC970, PC971, PC972, PC973, PC974, PC975, PC976, PC977, PC978, PC979, PC980, PC981, PC982, PC983, PC984, PC985, PC986, PC987, PC988, PC989, PC990, PC991, PC992, PC993, PC994, PC995, PC996, PC997, PC998, PC999, PC1000, PC1001, PC1002, PC1003, PC1004, PC1005, PC1006, PC1007, PC1008, PC1009, PC1010, PC1011, PC1012, PC1013, PC1014, PC1015, PC1016, PC1017, PC1018, PC1019, PC1020, PC1021, PC1022, PC1023, PC1024, PC1025, PC1026, PC1027, PC1028, PC1029, PC1030, PC1031, PC1032, PC1033, PC1034, PC1035, PC1036, PC1037, PC1038, PC1039, PC1040, PC1041, PC1042, PC1043, PC1044, PC1045, PC1046, PC1047, PC1048, PC1049, PC1050, PC1051, PC1052, PC1053, PC1054, PC1055, PC1056, PC1057, PC1058, PC1059, PC1060, PC1061, PC1062, PC1063, PC1064, PC1065, PC1066, PC1067, PC1068, PC1069, PC1070, PC1071, PC1072, PC1073, PC1074, PC1075, PC1076, PC1077, PC1078, PC1079, PC1080, PC1081, PC1082, PC1083, PC1084, PC1085, PC1086, PC1087, PC1088, PC1089, PC1090, PC1091, PC1092, PC1093, PC1094, PC1095, PC1096, PC1097, PC1098, PC1099, PC1100, PC1101, PC1102, PC1103, PC1104, PC1105, PC1106, PC1107, PC1108, PC1109, PC1110, PC1111, PC1112, PC1113, PC1114, PC1115, PC1116, PC1117, PC1118, PC1119, PC1120, PC1121, PC1122, PC1123, PC1124, PC1125, PC1126, PC1127, PC1128, PC1129, PC1130, PC1131, PC1132, PC1133, PC1134, PC1135, PC1136, PC1137, PC1138, PC1139, PC1140, PC1141, PC1142, PC1143, PC1144, PC1145, PC1146, PC1147, PC1148, PC1149, PC1150, PC1151, PC1152, PC1153, PC1154, PC1155, PC1156, PC1157, PC1158, PC1159, PC1160, PC1161, PC1162, PC1163, PC1164, PC1165, PC1166, PC1167, PC1168, PC1169, PC1170, PC1171, PC1172, PC1173, PC1174, PC1175, PC1176, PC1177, PC1178, PC1179, PC1180, PC1181, PC1182, PC1183, PC1184, PC1185, PC1186, PC1187, PC1188, PC1189, PC1190, PC1191, PC1192, PC1193, PC1194, PC1195, PC1196, PC1197, PC1198, PC1199, PC1200, PC1201, PC1202, PC1203, PC1204, PC1205, PC1206, PC1207, PC1208, PC1209, PC1210, PC1211, PC1212, PC1213, PC1214, PC1215, PC1216, PC1217, PC1218, PC1219, PC1220, PC1221, PC1222, PC1223, PC1224, PC1225, PC1226, PC1227, PC1228, PC1229,





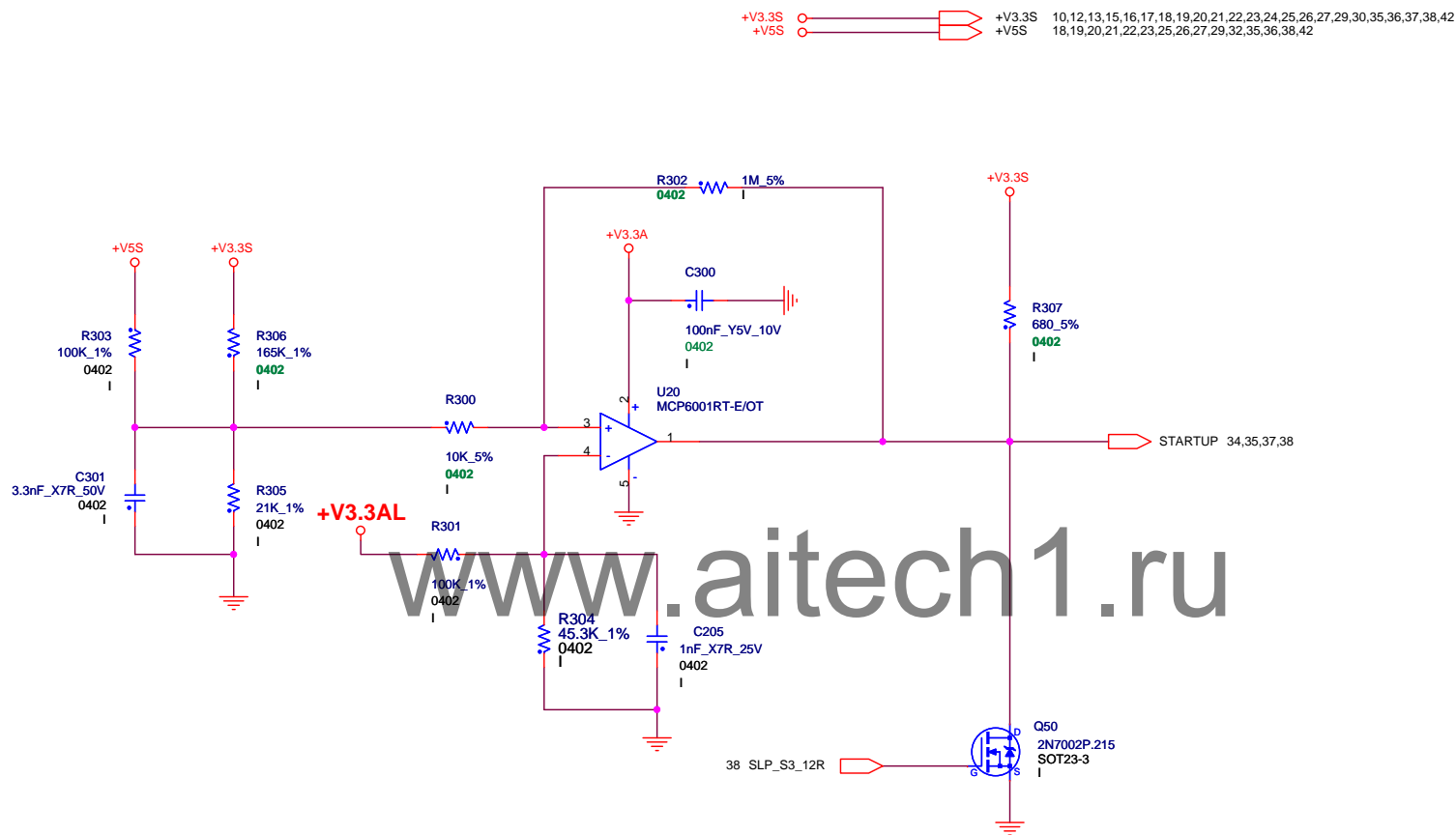
$I_{max}=5A$
 $OCP= 8A$



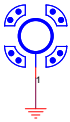
www.aitech1.ru



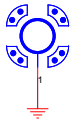
POWER SEQUENCE



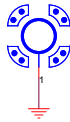
NI
<Package Size>
MOUNTING_HOLE
HOLE11



NI
<Package Size>
MOUNTING_HOLE
HOLE12



NI
<Package Size>
MOUNTING_HOLE
HOLE13



NI
<Package Size>
MOUNTING_HOLE
HOLE14



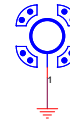
NI
<Package Size>
MOUNTING_HOLE
HOLE16



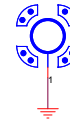
NI
<Package Size>
MOUNTING_HOLE
HOLE17



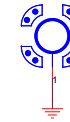
NI
<Package Size>
MOUNTING_HOLE
HOLE18



NI
<Package Size>
MOUNTING_HOLE
HOLE19



NI
<Package Size>
MOUNTING_HOLE
HOLE20



APU

HOLE3
MOUNTING_HOLE
<Package Size>
NI



HOLE4
MOUNTING_HOLE
<Package Size>
NI



HOLE5
MOUNTING_HOLE
<Package Size>
NI



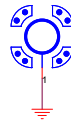
HOLE6
MOUNTING_HOLE
<Package Size>
NI



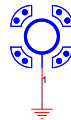
NI
<Package Size>
MOUNTING_HOLE
HOLE21



NI
<Package Size>
MOUNTING_HOLE
HOLE22



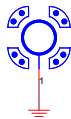
NI
<Package Size>
MOUNTING_HOLE
HOLE30



NI
<Package Size>
MOUNTING_HOLE
HOLE31



NI
<Package Size>
MOUNTING_HOLE
HOLE29



NI
<Package Size>
MOUNTING_HOLE
HOLE25



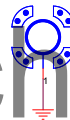
NI
<Package Size>
MOUNTING_HOLE
HOLE26



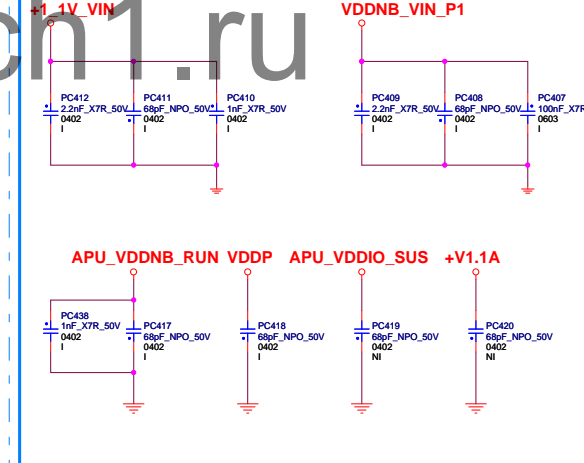
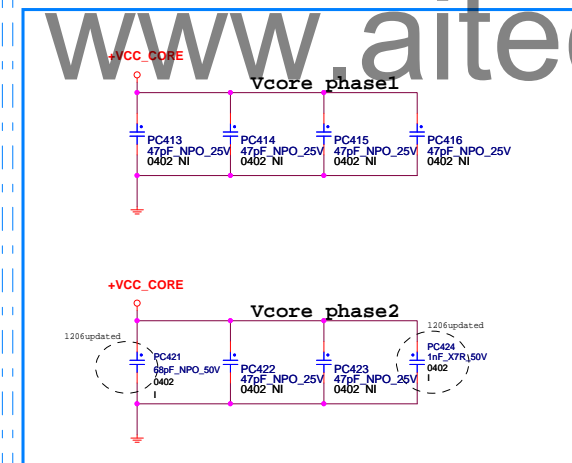
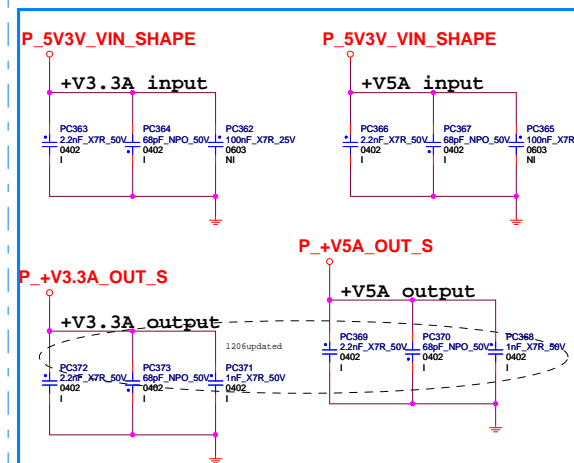
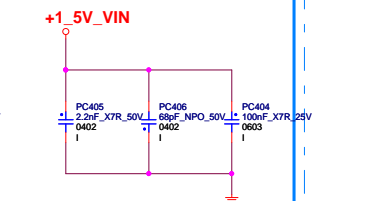
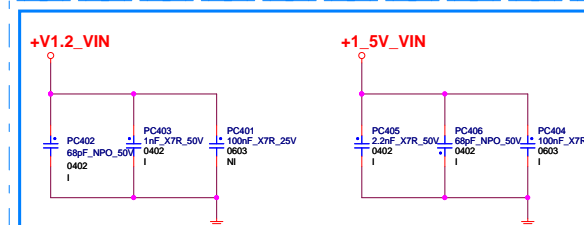
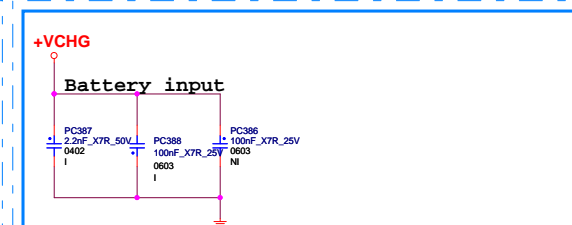
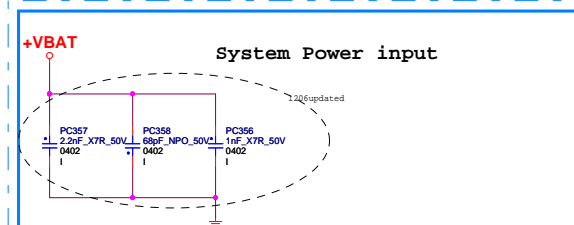
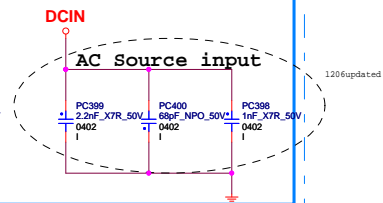
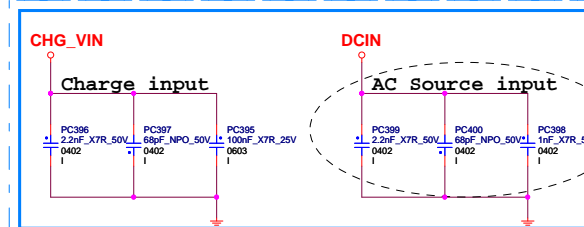
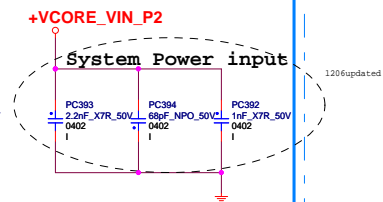
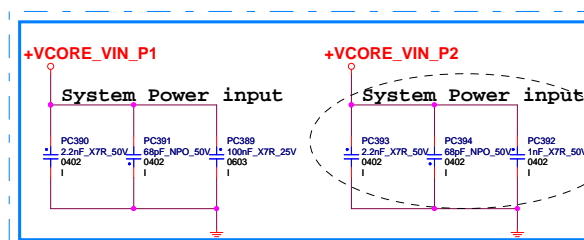
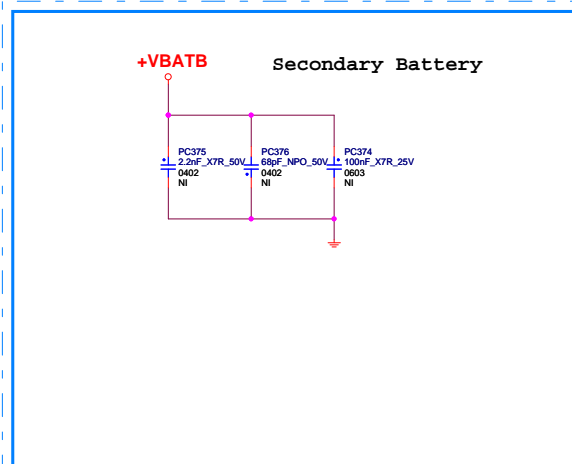
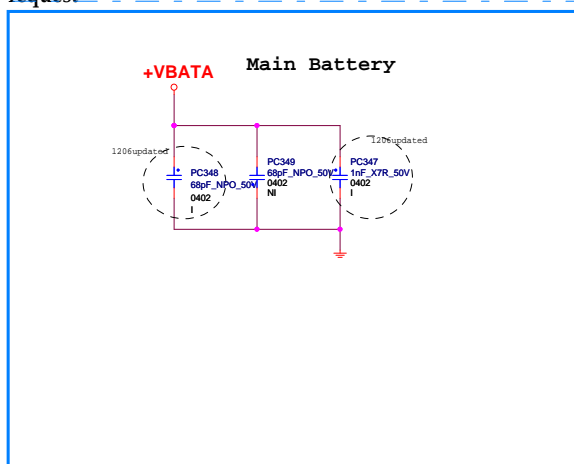
NI
<Package Size>
MOUNTING_HOLE
HOLE27



NI
<Package Size>
MOUNTING_HOLE
HOLE28



www.aitech1.ru



+1.5V_VIN → +1.5V_VIN 36
 DCIN → DCIN 26,32,33,42
 P_5V3V_VIN_SHAPE → P_5V3V_VIN_SHAPE 33
 +VBATA → +VBATA 31,33
 +VBATB → +VBATB 31,33
 +VCHG → +VCHG 31,32,42
 P_5V3V_VIN_SHAPE → P_5V3V_VIN_SHAPE 33
 +V1.1A → +V1.1A 13,15,37,38
 APU_VDDNB_RUN → APU_VDDNB_RUN 11,37,42
 VDDP → VDDP 8,10,11,16,35,42

+VCORE_VIN_P2 → +VCORE_VIN_P2 34
 +VCORE_VIN_P1 → +VCORE_VIN_P1 34
 CHG_VIN → CHG_VIN 32
 P_+V5A_OUT_S → P_+V5A_OUT_S 33
 APU_VDDIO_SUS → APU_VDDIO_SUS 9,10,11,16,17,26,30,36,42
 P_+V3.3A_OUT_S → P_+V3.3A_OUT_S 33
 +1.1V_VIN → +1.1V_VIN 37
 VDDNB_VIN_P1 → VDDNB_VIN_P1 37
 +V1.2_VIN → +V1.2_VIN 35
 +VCC_CORE → +VCC_CORE 11,34,42

