

Project Name :PF4WN3F

Platform : WSL-U+N17S/N16S

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26. DDR4 SODIMM-A

27. DDR4 SODIMM-B

28. EDP

29. HDMI

30. EC IT8528E/BIOS/KB CONN
31. PSW/HIGH-SPEED

32. HDD/ODD /MINI CARD

33. LAN RTL8118AG

34. CODEC(ALC269Q)/INT MIC/SPKR

35. EXT_MIC/USB/FAN/G-sen

36. BATT IN/CHARGER(OZ8690)

37. DC IN/TPM/D-Resis/HOLE

38. +5VA/+3.3VA

39. +1.0VA_PCH/VCCIO

40. VCC SW

41. +1.2VS/+2.5VS

42. VCCGT / VCORE

43. VCCSA

44. TP/LED/WEBCAM/USB

45. Intel Lan(I217)

46. GFX-PCIE

47. FrameBuffer A

48. FrameBuffer A_VRAM

49. FrameBuffer A_VRAM

50. Frame Buffer B

51. Frame Buffer B-VRAM

52. Frame Buffer B-VRAM

53. PEX_VDD/3V3_ON

54. GFX NVDD FBVDDQ_MEM

55. Decoupling capacitor

56. Unused IPFA_B_C_D_E_F

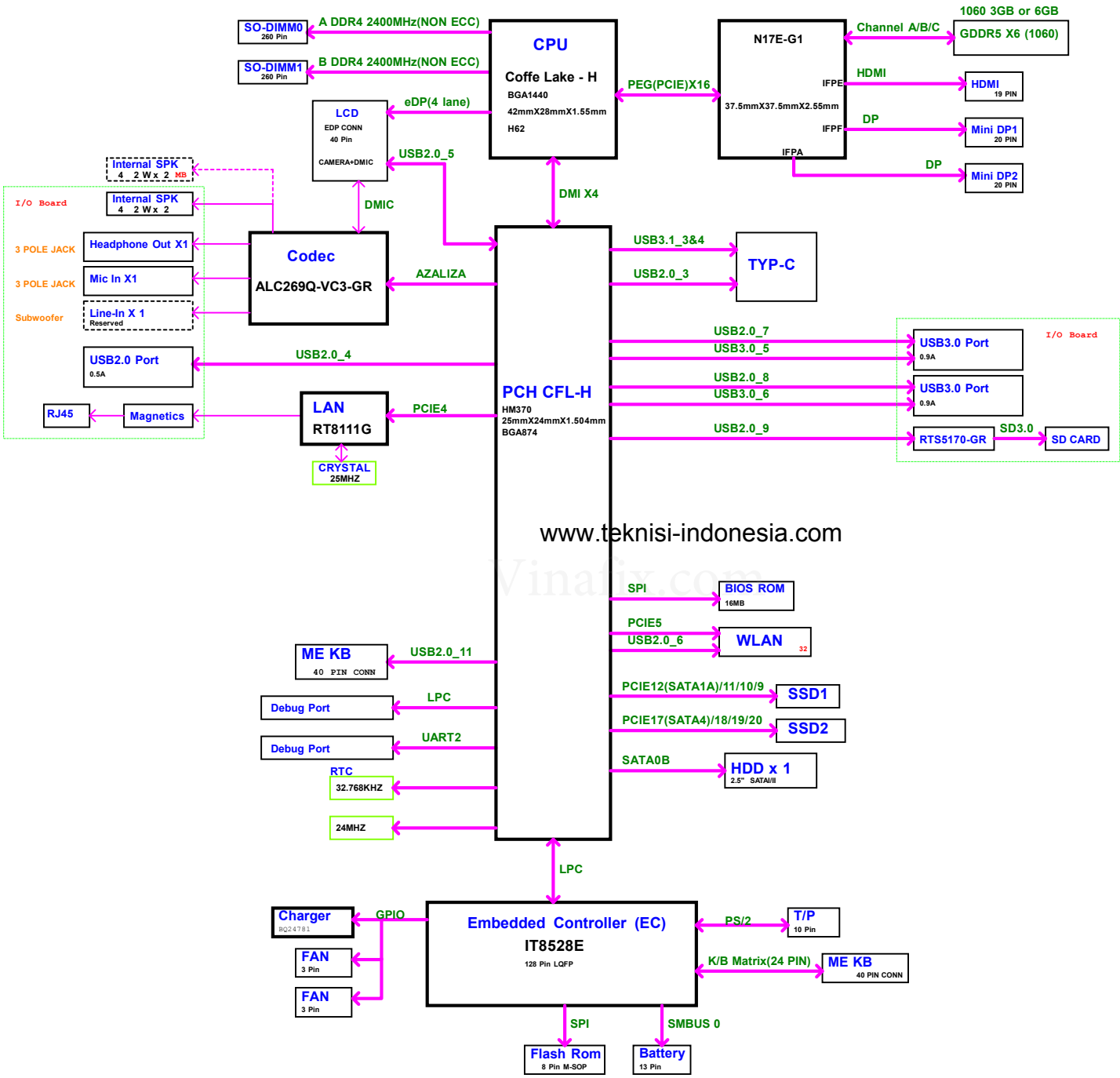
M/B Schematic Version Change List

Release Date	Version	PCB P/N	PCB Description	PCBA P/N	Note

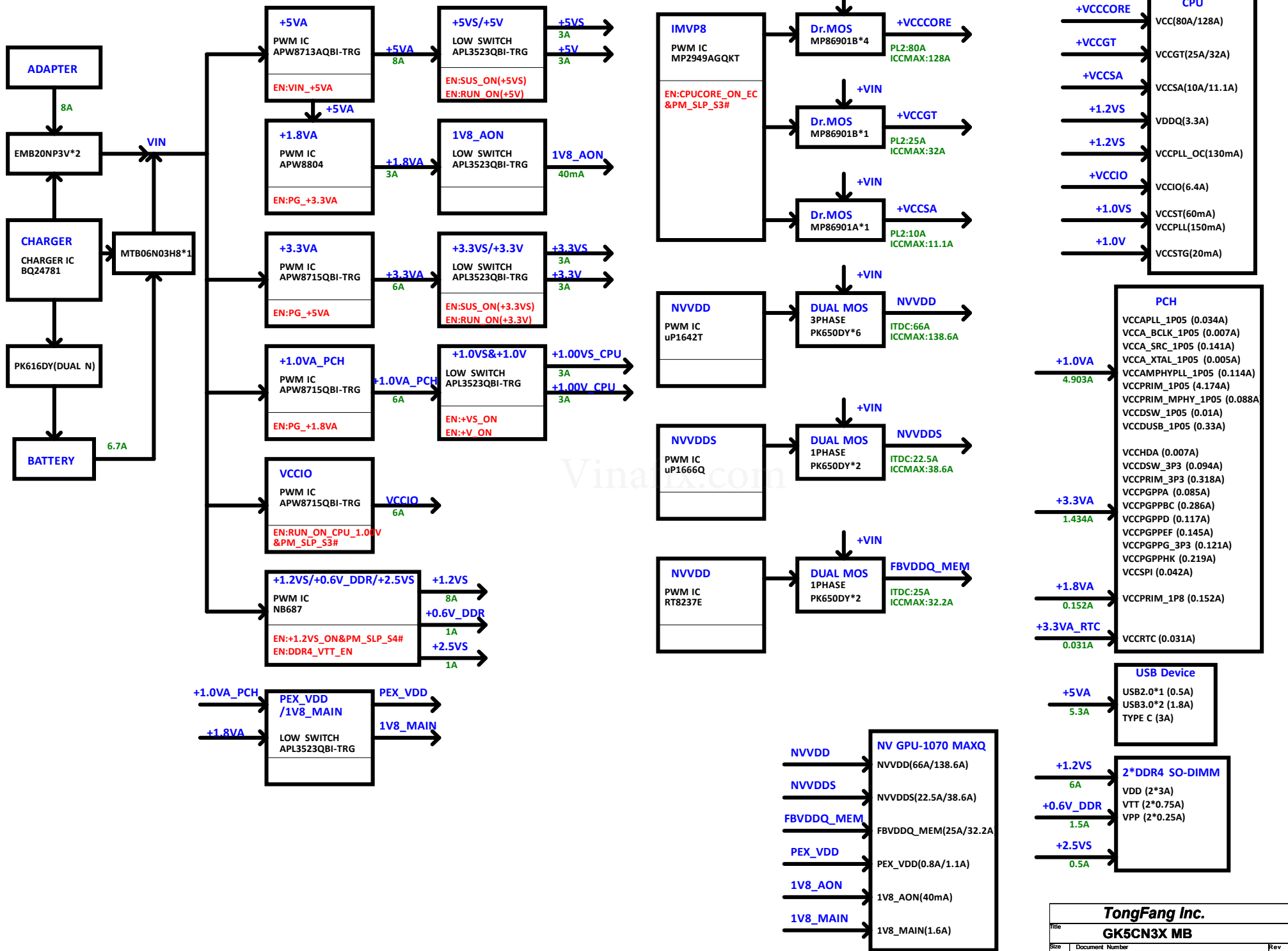
Daughter Board Schematic Version Change List

Release Date	Version	PCB P/N	PCB Description	PCBA P/N	Note

SYSTEM BLOCK DIAGRAM



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POWER ON SEQUENCE

tPCH34
All PCH Primary Rails
should ramp up within 20ms.



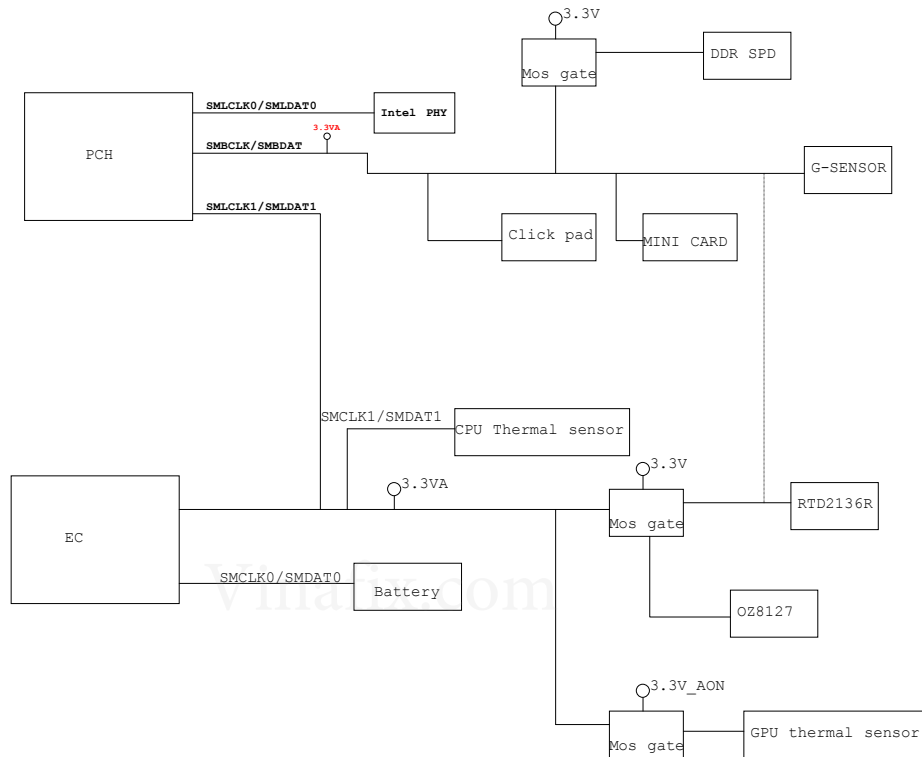
GK5KN3Z

ITE8528		Default
GPIO		Pull/Mode
GPA0	CHG_G_LED	UP / GPIO
GPA1	LS_RED_PWM	UP / GPIO
GPA2	FAN_PWM_CTRL	UP / GPIO
GPA3	LB_GREEN_PWM	UP / GPIO
GPA4	CHG_O_LED#	UP / GPIO
GPA5	PWR_LED#	UP / GPIO
GPA6	LB_BLUE_PWM	UP / GPIO
GPA7	Board_ID	UP / GPIO
GPB0	PM_SLP_S4#	UP / GPIO
GPB1	PM_SLP_S3#	UP / GPIO
GPB2	GPU_Adaptor_In	DN / GPIO
GPB3	BAT_SMBCLK	Z / GPIO
GPB4	BAT_SMBDAT	Z / GPIO
GPB5	H_A2OGATE	Z / GPIO
GPB6	H_ACIN#	UP / GPIO
GPB7	SAFTY_PROTECT	DN / GPIO
GPC0	LAN_PWR	DN / GPIO
GPC1	SMBCLK_EC	Z / GPIO
GPC2	SMBDAT_EC	Z / GPIO
GPC3	SENBAT_V	DN / GPIO
GPC4	FE_VCORE_FW	DN / GPIO
GPC5	SYS_PWROK	DN / GPIO
GPC6	WEBSCAN_ON	DN / GPIO
GPC7	EC_OVERT_GPU#	UP / GPIO
GPC8	ADAP_IN	UP / GPIO
GPC9	PWRBTN#	UP / GPIO
GPC10	PLT_RST#	UP / GPIO
GPC11	HDMI_HPD	UP / GPIO
GPC12	EC_EXTSMI#	UP / GPIO
GPC13	ME_WE#	UP / GPIO
GPC14	FAN0_detect	DN / GPIO
GPC15	FAN1_detect	DN / GPIO
GPC16	LID#	DN / GPIO
GPC17	THICKNESS_ID_DET	
GPC18	PWR_USB#	
GPC19	VCCIO_ON	
GPC20	PWRSW	UP / GPIO
GPC21	LVDS_VIN	DN / GPIO
GPC22	WLAN_ON	DN / GPIO
GPC23	AMP_MUTE#	UP / GPIO
GPC24	QKEY1#	UP / GPIO
GPC25	PCB_PWROK	UP / GPIO
GPC26	BT_ON	UP / GPIO
GPC27	QKEY2#	UP / GPIO
GPC28	TP_STATUS	UP / GPIO
GPC29	TP_LID#	UP / GPIO
GPC30	EC_PECI	UP / GPIO
GPC31	RUN_ON	UP / GPIO
GPC32	PANEL_3.3V_ON	Z / GPIO
GPC33	AC_REMOVAL	DN/GPIO/IO#
GPC34	CPUCORE_ON_EC	Z / GPIO
GPC35	SUS_ON	Z / GPIO
GPC36	PM_CLKRUN#	DN/GPIO/IO#
GPC37	PCB_BL_EN	DN/GPIO/IO#
GPC38	QKEY0#	DN/GPIO/IO#
GPC39	FAN_BOOST_WLAN_LED	DN/GPIO/IO#
GPC40	FAN_BOOST#	DN/GPIO/IO#
GPC41	HYB_ON#	DN/GPIO/IO#
GPC42	Clear_CMOS	DN/GPIO/IO#
GPC43	PM_RSMRST#	/GPIO/S
GPC44	SYS_TEMP_EC	/GPIO/S
GPC45	VR_READY	/GPIO/S
GPC46	ME_KB_ID	/GPIO/S
GPC47	BAT_I	/GPIO/S
GPC48	BATT_TEMP	/GPIO/S
GPC49	Iadapter_I_bat	/GPIO/S
GPC50	BAT_V	/GPIO/S
GPC51	EC_BL_ON	/GPIO/S
GPC52	EC_PROCHOT	/GPIO/S
GPC53	DGPU_RST_EC#	/GPIO/S
GPC54	BATT_VA_OFF#	/GPIO/S
GPC55	MERB_ON	/GPIO/S
GPC56	CHG_REF	/GPIO/S
GPC57	LPC_AD0	/GPIO/S
GPC58	LPC_AD1	/GPIO/S
GPC59	LPC_AD2	/GPIO/S
GPC60	LPC_AD3	/GPIO/S
GPC61	CLK_EC_LPC	/GPIO/S
GPC62	LPC_FRAME#	/GPIO/S
GPC63	INT_SERIRQ	/GPIO/S

GK5KN

ITE8528		Default
GPIO		Pull/Mode
GPA0	PWM_KB_GREEN	UP / GPIO
GPA1	Z/F_LED_PWM	UP / GPIO
GPA2	PWM_KB_BLUE	UP / GPIO
GPA3	PWM_KB_RED	UP / GPIO
GPA4	PID_1_CHG_R_LED	UP / GPIO
GPA5	PID_2_PWR_LED	UP / GPIO
GPA6	PM_RSMRST#	UP / GPIO
GPA7	Board_ID	UP / GPIO
GPB0	PM_SLP_S4#	UP / GPIO
GPB1	PM_SLP_S3#	UP / GPIO
GPB2	GPU_Adaptor_In	DN / GPIO
GPB3	BAT_SMBCLK	Z / GPIO
GPB4	BAT_SMBDAT	Z / GPIO
GPB5	H_A2OGATE	Z / GPIO
GPB6	H_ACIN#	UP / GPIO
GPB7	SAFTY_PROTECT	DN / GPIO
GPC0	LAN_PWR	DN / GPIO
GPC1	SMBCLK_EC	Z / GPIO
GPC2	SMBDAT_EC	Z / GPIO
GPC3	SENBAT_V	DN / GPIO
GPC4	FAN_enable0	DN / GPIO
GPC5	SYS_PWROK	DN / GPIO
GPC6	Boost_FAN_EN1	DN / GPIO
GPC7	+2.5VS_ON	UP / GPIO
GPC8	ADAP_IN	UP / GPIO
GPC9	PWRBTN#	UP / GPIO
GPC10	PLT_RST#	UP / GPIO
GPC11	HDMI_HPD	UP / GPIO
GPC12	EC_EXTSMI#	UP / GPIO
GPC13	ME_WE#	UP / GPIO
GPC14	FAN0_detect	DN / GPIO
GPC15	FAN1_detect	DN / GPIO
GPC16	LID#	DN / GPIO
GPC17	PL2_VS_ON	DN / GPIO
GPC18	PWR_USB#	DN / GPIO
GPC19	EXT_WIFI_ON	DN / GPIO
GPC20	PWRSW	UP / GPIO
GPC21	LVDS_VIN	DN / GPIO
GPC22	WLAN_ON	DN / GPIO
GPC23	AMP_MUTE#	UP / GPIO
GPC24	DGPU_EN_EC	UP / GPIO
GPC25	PCB_PWROK	UP / GPIO
GPC26	BT_ON	UP / GPIO
GPC27	Q_key1	UP / GPIO
GPC28	TP_CLK	UP / GPIO
GPC29	TP_DATA	UP / GPIO
GPC30	EC_PECI	UP / GPIO
GPC31	RUN_ON	UP / GPIO
GPC32	PANEL_3.3V_ON	Z / GPIO
GPC33	Reserved for AC rem	DN/GPIO/IO#
GPC34	CPUCORE_ON	Z / GPIO
GPC35	WEBSCAN_ON/SUS_ON	Z / GPIO
GPC36	PM_CLKRUN#	DN/GPIO/IO#
GPC37	PCB_BL_EN	DN/GPIO/IO#
GPC38	ID_DET	DN/GPIO/IO#
GPC39	DGPU_EN_EC_Keep	DN/GPIO/IO#
GPC40	Dgpu_RST_EC#	DN/GPIO/IO#
GPC41	HYB_ON#	DN/GPIO/IO#
GPC42	Clear_CMOS	DN/GPIO/IO#
GPC43	Boost_FAN_EN	/GPIO/S
GPC44	EC_OVERT_WWVDD#	/GPIO/S
GPC45	PCIE_WAKE#/Dgpu_RST	/GPIO/S
GPC46	FAN_enable1	/GPIO/S
GPC47	BAT_I	/GPIO/S
GPC48	BATT_TEMP	/GPIO/S
GPC49	Iadapter_I_bat	/GPIO/S
GPC50	BAT_V	/GPIO/S
GPC51	EC_BL_ON	/GPIO/S
GPC52	EC_PROCHOT	/GPIO/S
GPC53	FAN_CTRL0	/GPIO/S
GPC54	BATT_VA_OFF#	/GPIO/S
GPC55	FAN_CTRL1	/GPIO/S
GPC56	CHG_REF	/GPIO/S
GPC57	LPC_AD0	/GPIO/S
GPC58	LPC_AD1	/GPIO/S
GPC59	LPC_AD2	/GPIO/S
GPC60	LPC_AD3	/GPIO/S
GPC61	CLK_EC_LPC	/GPIO/S
GPC62	LPC_FRAME#	/GPIO/S
GPC63	INT_SERIRQ	/GPIO/S

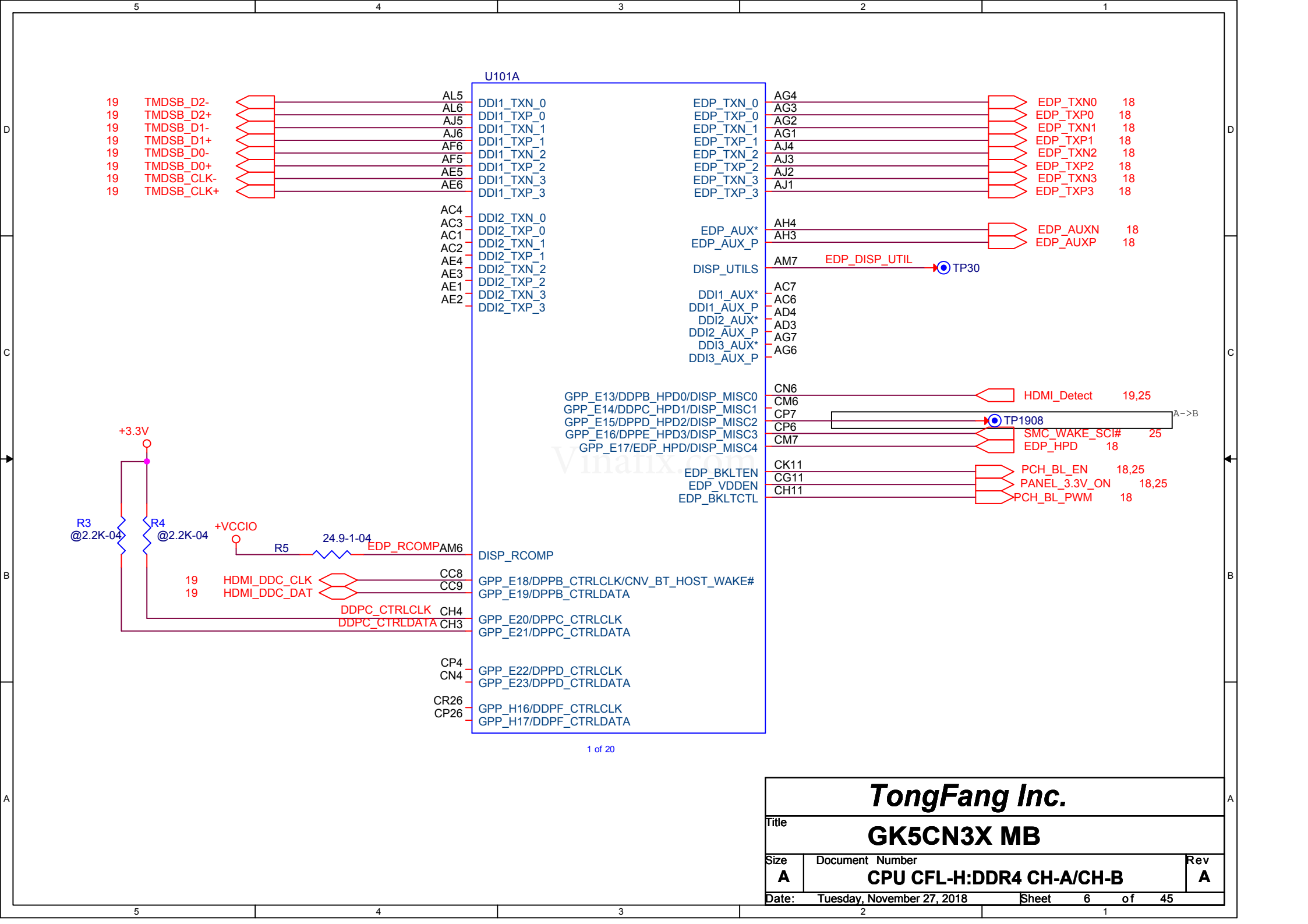
SMBUS BLOCK

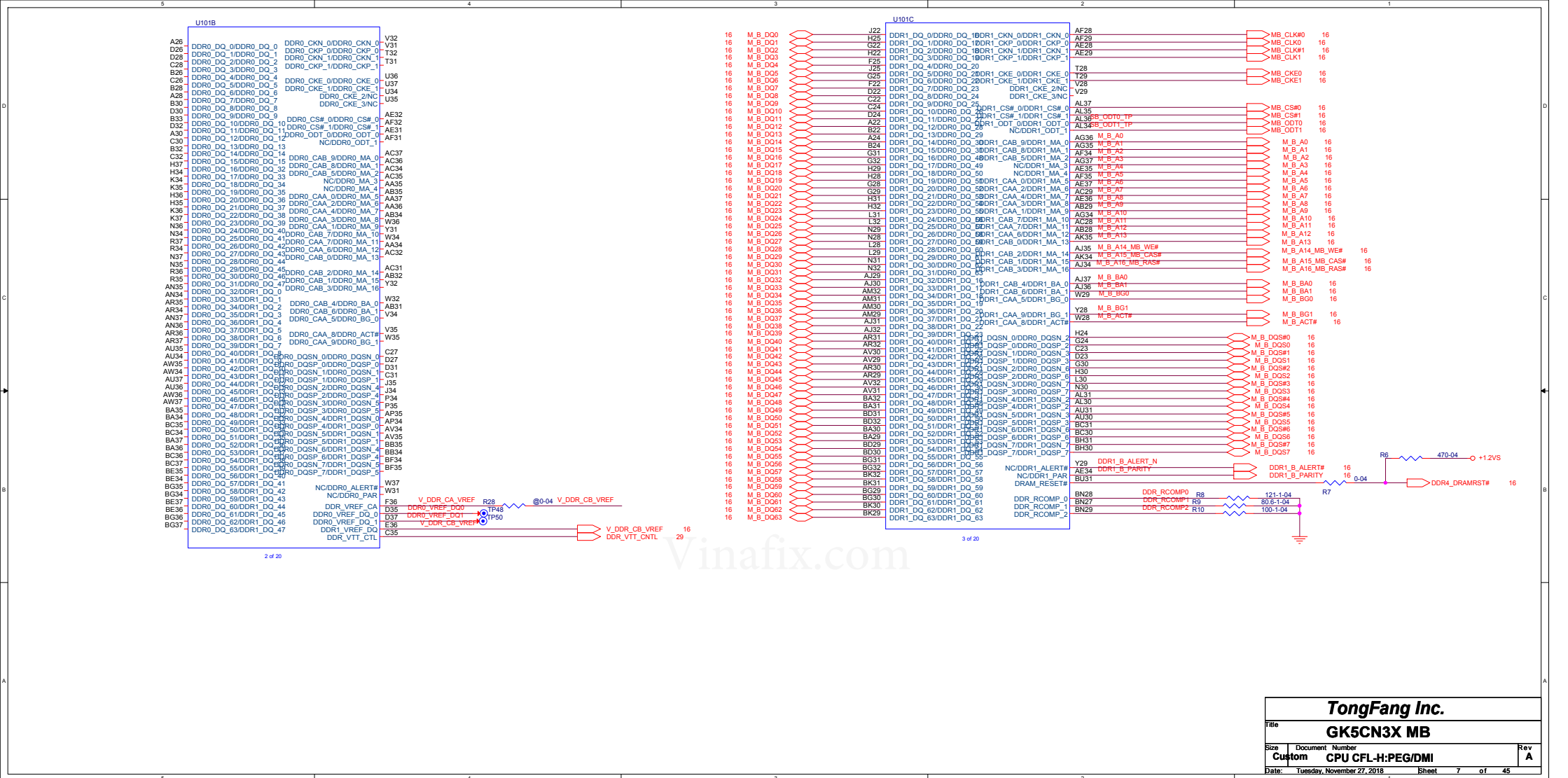


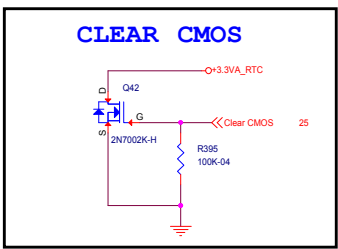
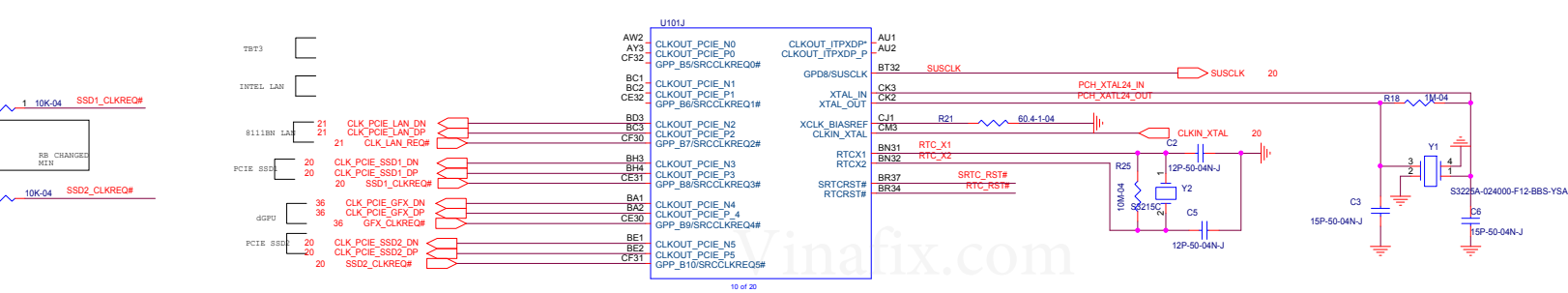
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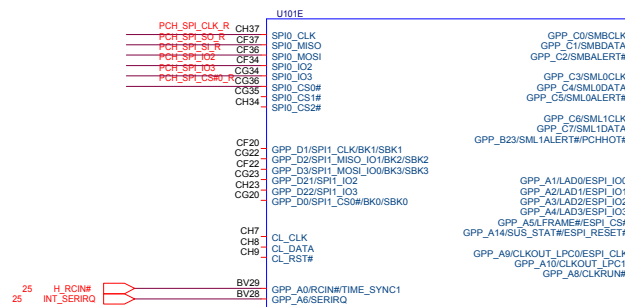
GK5CN3X MB

Doc	Docname	Version	Rev
Custom	GPIO&SMBUS Block		A
Date: 2023.07.27			









SMBALERT# R300 @4.7K-04
SMBALERT# R300 @4.7K-04
SMBALERT# R300 @4.7K-04

PHY_SMBCLK0 R44 1 2 @2.2K-04
PHY_SMBDATA R45 1 2 @2.2K-04
PCH_SMBCLK R46 1 2 @2.2K-04
PCH_SMBDATA R46 1 2 @2.2K-04

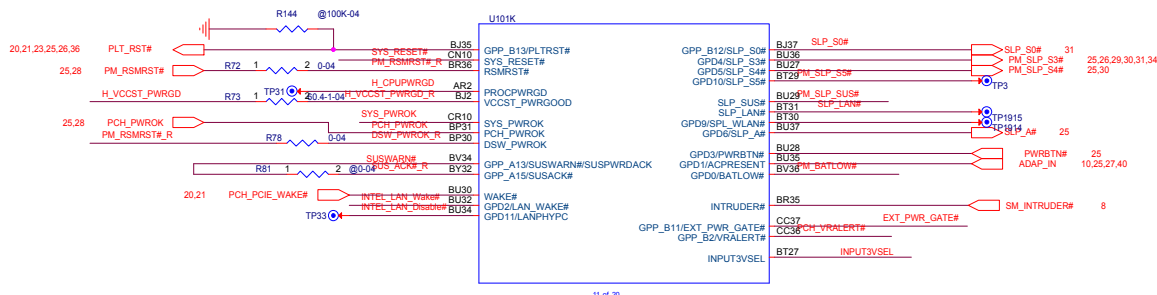
SMBALERT# (C2)	TPS Confidentiality
0	disable(default)
1	enable

SMBALERT# (C5)	eSPI or LPC
0	LPC(default)
1	eSPI

SMBALERT# (B23)	DCI-00B
0	disable(default)
1	enable

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INTEL_LAN_Wake# R71 @10K-04
PCH_PCIE_Wake# R71 @10K-04
PCH_PCIE_Wake# R71 @10K-04

PM_BATLOW# R76 @100K-04

EXT_PWR_GATE# R83 @100K-04

SUS_ACK#_R R85 @10K-04

PCH_VRALERT# R86 @10K-04

SLP_S0# R91 @100K-04

PM_SLP_S3# R92 @100K-04

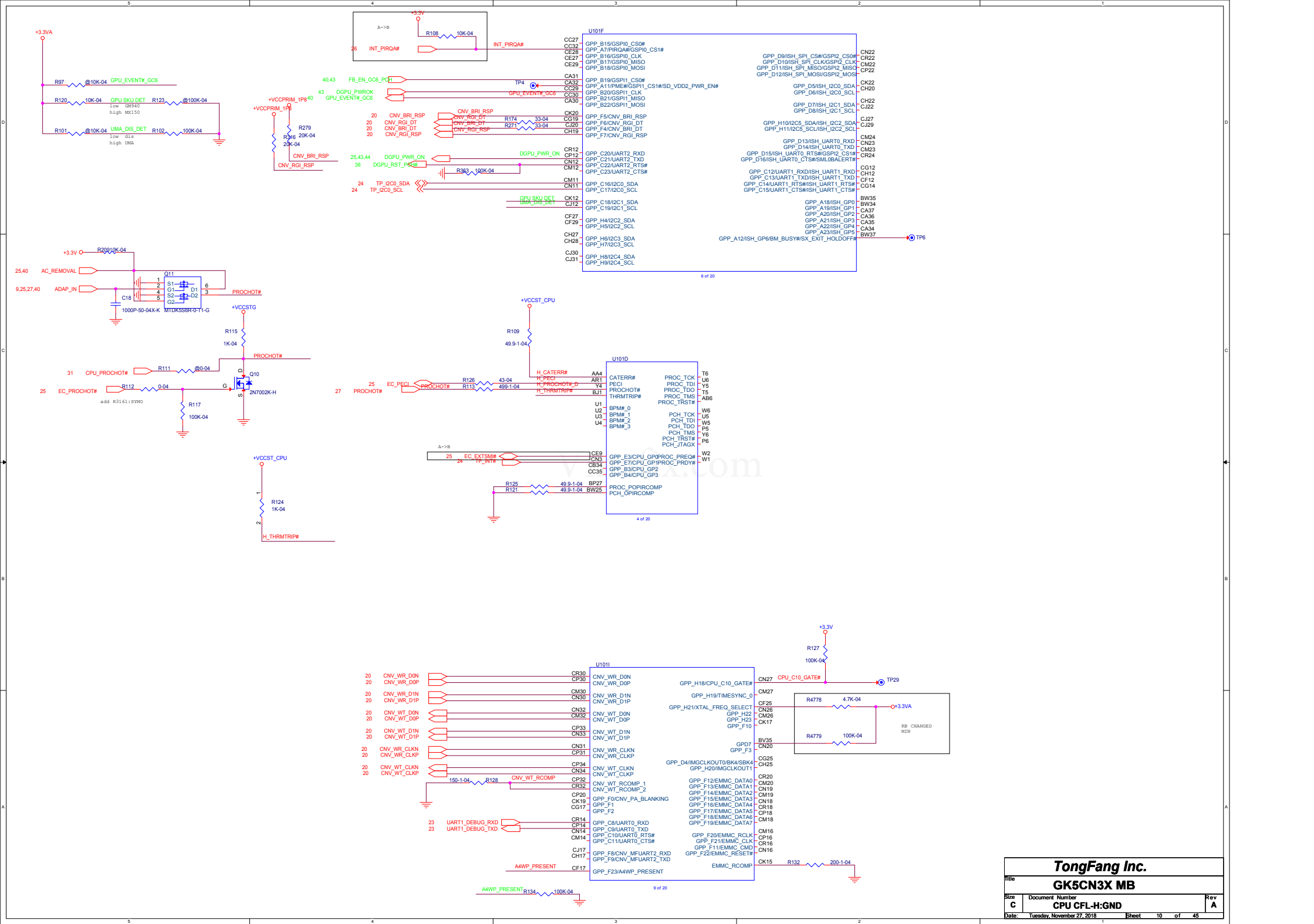
PM_SLP_S4# R93 @100K-04

PM_SLP_S5# R94 @100K-04

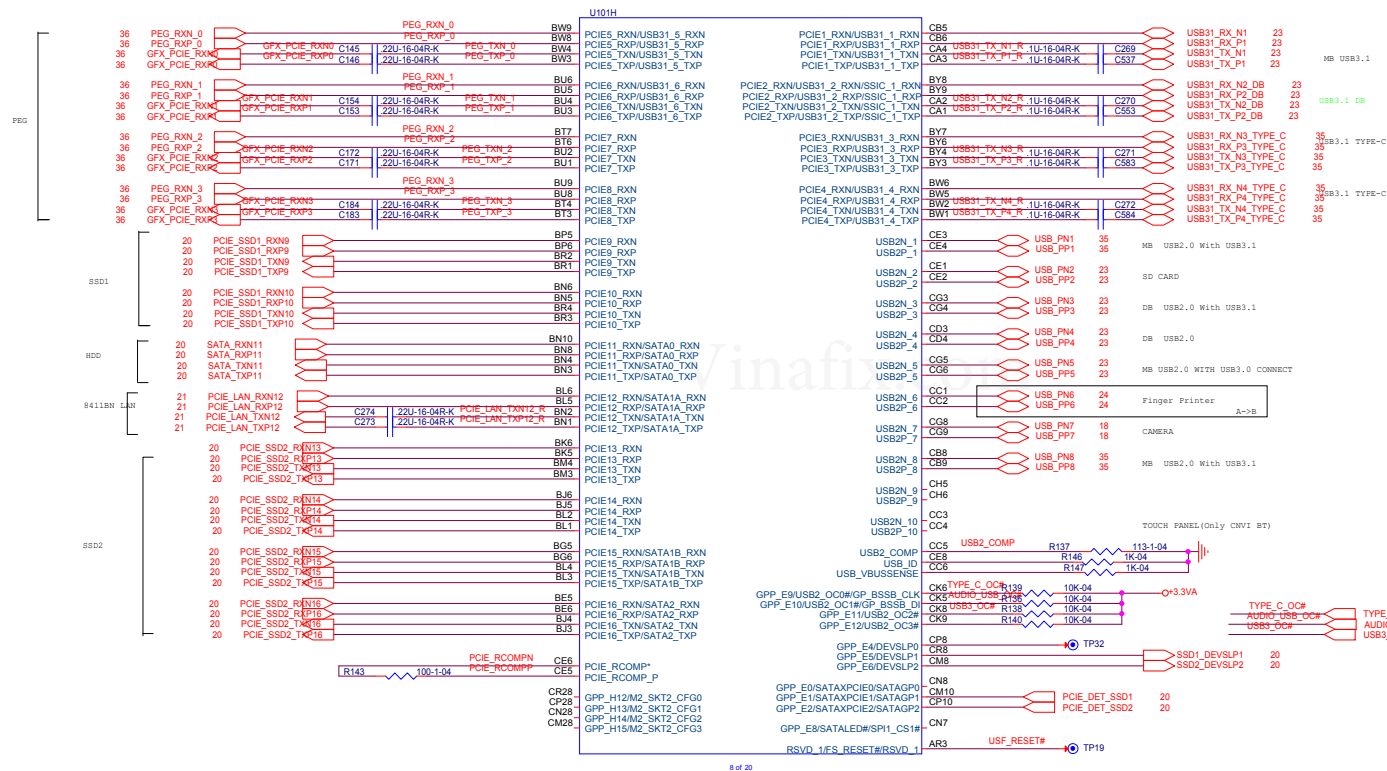
INPUT3VSEL R88 4.7K-04

SLP_A# R173 @100K-04

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GK5CN3X MB			
File	Document Number	Rev	
C	CPU CFL-H:MISC/CLK/JTAG/CFG	A	
Date:	Tuesday, November 27, 2018	Sheet	9 of 45



If the wireless solution is discrete Whiskey Lake PCH-LP USB 2.0 port 10 can be used for USB functionality.



U101T		
N6	VSS_66	VSS_99
B37	VSS_73	VSS_106
CB3	VSS_79	VSS_115
P10	VSS_84	VSS_126
B5	VSS_89	VSS_139
CB33	VSS_95	VSS_8
P3	VSS_102	VSS_19
B7	VSS_110	VSS_29
CB4	VSS_120	VSS_83
P33	VSS_132	VSS_87
B9	VSS_145	VSS_92
CB7	VSS_14	VSS_98
P36	VSS_25	VSS_105
BA10	VSS_35	VSS_114
CC11	VSS_44	VSS_125
P4	VSS_52	VSS_138
BA28	VSS_59	VSS_7
P7	VSS_65	VSS_18
BA3	VSS_78	VSS_77
CC20	VSS_88	VSS_82
R27	VSS_131	VSS_86
BB3	VSS_144	VSS_91
CC25	VSS_13	VSS_97
R28	VSS_24	VSS_104
BB33	VSS_34	VSS_113
CC28	VSS_43	VSS_124
R29	VSS_51	VSS_137
BB36	VSS_58	VSS_6
CC31	VSS_64	VSS_70
R30	VSS_71	VSS_76
BB4	VSS_119	VSS_81
CC7	VSS_130	VSS_85
R31	VSS_143	VSS_90
BC25	VSS_12	VSS_96
CD11	VSS_23	VSS_103
T27	VSS_33	VSS_112
CD12	VSS_42	VSS_123
T30	VSS_50	VSS_136
BC29	VSS_57	VSS_5
CD14	VSS_63	VSS_17
T33	VSS_109	VSS_28
T35	VSS_118	VSS_38
BC32	VSS_129	VSS_47
CD24	VSS_142	VSS_55
T36	VSS_11	VSS_62
CD25	VSS_22	VSS_69
T7	VSS_32	VSS_75
BC8	VSS_41	VSS_80
CE33	VSS_49	VSS_135
U26	VSS_56	VSS_4
BD28	VSS_101	VSS_16
CE35	VSS_108	VSS_27
U7	VSS_117	VSS_37
BD33	VSS_128	VSS_46
CE36	VSS_141	VSS_54
V26	VSS_10	VSS_61
BD35	VSS_21	VSS_68
CE7	VSS_31	VSS_74
V27	VSS_40	VSS_122
BD36	VSS_48	VSS_134
CF11	VSS_94	VSS_3
V3	VSS_100	VSS_15
BE10	VSS_107	VSS_26
CF14	VSS_116	VSS_36
V30	VSS_127	VSS_45
BE28	VSS_140	VSS_53
CF19	VSS_9	VSS_60
V33	VSS_20	VSS_67
BE29	VSS_30	VSS_111
CF2	VSS_39	VSS_121
V36	VSS_88	VSS_133
BE3	VSS_93	VSS_2

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U101S		
BT35	VSS_277	VSS_180
D6	VSS_290	VSS_183
AL32	VSS_156	VSS_186
BT36	VSS_165	VSS_245
D8	VSS_172	VSS_257
AL7	VSS_208	VSS_270
D9	VSS_217	VSS_284
AM10	VSS_227	VSS_151
BU11	VSS_238	VSS_161
E23	VSS_250	VSS_169
AM28	VSS_263	VSS_175
E37	VSS_276	VSS_179
AM33	VSS_289	VSS_182
BU23	VSS_155	VSS_233
E29	VSS_164	VSS_244
AM35	VSS_200	VSS_256
BU24	VSS_207	VSS_269
E31	VSS_216	VSS_283
BU25	VSS_226	VSS_150
E33	VSS_237	VSS_160
AN25	VSS_249	VSS_168
BU7	VSS_262	VSS_174
E9	VSS_275	VSS_178
AN28	VSS_288	VSS_222
BV11	VSS_154	VSS_232
F12	VSS_194	VSS_243
AN29	VSS_199	VSS_255
F15	VSS_206	VSS_268
AN30	VSS_215	VSS_282
F18	VSS_225	VSS_149
AN31	VSS_236	VSS_159
BV3	VSS_248	VSS_167
F2	VSS_261	VSS_173
AN7	VSS_274	VSS_212
BV31	VSS_287	VSS_221
F21	VSS_189	VSS_231
AN8	VSS_193	VSS_242
BV33	VSS_198	VSS_254
F24	VSS_205	VSS_267
BV4	VSS_214	VSS_281
F3	VSS_224	VSS_148
AP3	VSS_235	VSS_158
BW11	VSS_247	VSS_166
F4	VSS_260	VSS_203
AP33	VSS_273	VSS_211
BW15	VSS_185	VSS_220
G21	VSS_188	VSS_230
AP36	VSS_192	VSS_241
G27	VSS_197	VSS_253
AP4	VSS_204	VSS_266
G33	VSS_213	VSS_280
AR28	VSS_223	VSS_147
G35	VSS_234	VSS_157
G36	VSS_246	VSS_196
AT33	VSS_259	VSS_202
BW24	VSS_272	VSS_210
G9	VSS_286	VSS_219
AT35	VSS_153	VSS_229
H21	VSS_163	VSS_240
AT36	VSS_171	VSS_252
BW7	VSS_177	VSS_265
H27	VSS_181	VSS_279
AT4	VSS_184	VSS_146
BY11	VSS_187	VSS_190
AU10	VSS_191	VSS_195
BY15	VSS_258	VSS_201
H9	VSS_271	VSS_209
AU28	VSS_285	VSS_218
BY22	VSS_152	VSS_228
J12	VSS_162	VSS_239
AU29	VSS_170	VSS_251
J15	VSS_176	VSS_264
		VSS_278

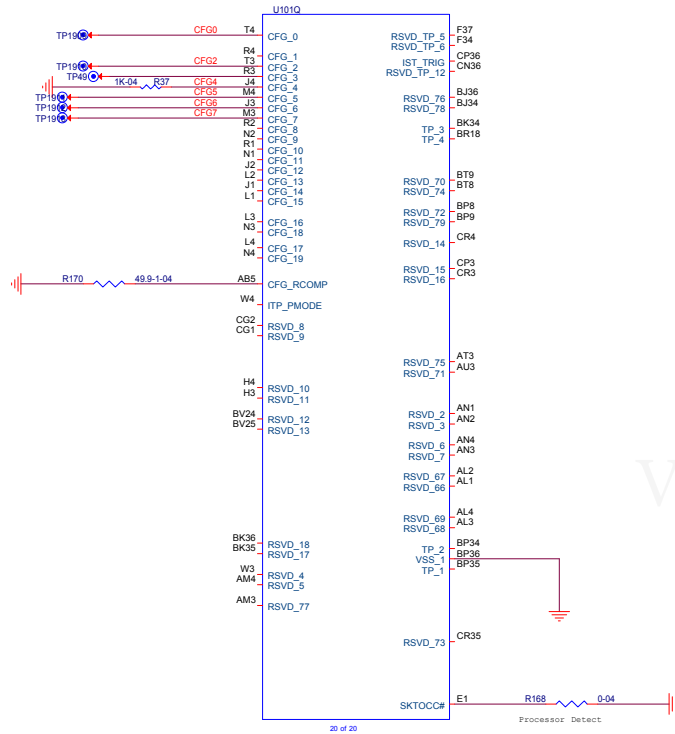
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U101R		
CR34	VSS_342	VSS_330
BT5	VSS_351	VSS_337
BY5	VSS_361	VSS_345
CP35	VSS_371	VSS_354
CM37	VSS_381	VSS_364
CM37	VSS_391	VSS_374
AW1	VSS_401	VSS_384
CM1	VSS_411	VSS_392
BD6	VSS_421	VSS_398
AY4	VSS_360	VSS_315
B34	VSS_370	VSS_322
E35	VSS_380	VSS_329
A4	VSS_390	VSS_336
AE24	VSS_400	VSS_344
AE26	VSS_410	VSS_353
AF25	VSS_420	VSS_363
AG24	VSS_428	VSS_373
AG26	VSS_434	VSS_295
AH24	VSS_296	VSS_301
AH25	VSS_350	VSS_307
B2	VSS_359	VSS_314
B36	VSS_369	VSS_321
C36	VSS_379	VSS_328
C37	VSS_389	VSS_335
CN1	VSS_399	VSS_343
CN2	VSS_409	VSS_352
CN37	VSS_419	VSS_362
CP2	VSS_427	VSS_416
D1	VSS_433	VSS_425
A32	VSS_341	VSS_432
F33	VSS_349	VSS_294
A3	VSS_358	VSS_300
BJ7	VSS_368	VSS_306
CJ36	VSS_378	VSS_313
A36	VSS_388	VSS_320
BK10	VSS_398	VSS_327
CJ4	VSS_408	VSS_334
AB27	VSS_418	VSS_405
BK2	VSS_428	VSS_415
CK1	VSS_333	VSS_424
AB3	VSS_340	VSS_431
BK28	VSS_348	VSS_293
AB30	VSS_357	VSS_299
BK3	VSS_367	VSS_305
CK4	VSS_377	VSS_312
AB33	VSS_387	VSS_319
BK33	VSS_397	VSS_326
CK7	VSS_407	VSS_394
AB36	VSS_417	VSS_404
BK4	VSS_325	VSS_414
CL2	VSS_332	VSS_423
AB4	VSS_339	VSS_430
BK7	VSS_347	VSS_292
CM13	VSS_356	VSS_298
AB7	VSS_366	VSS_304
BL25	VSS_376	VSS_311
CM117	VSS_386	VSS_318
AC10	VSS_396	VSS_383
BL28	VSS_406	VSS_393
CM21	VSS_317	VSS_403
AC27	VSS_324	VSS_413
BL29	VSS_331	VSS_422
CM25	VSS_338	VSS_429
AC30	VSS_346	VSS_291
BL30	VSS_355	VSS_297
CM29	VSS_365	VSS_303
BL31	VSS_375	VSS_310
CM31	VSS_385	VSS_372
AD33	VSS_395	VSS_382
BL32	VSS_309	VSS_392
CM33	VSS_316	VSS_402
AD35	VSS_323	VSS_412

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Title		
GK5CN3X MB		
Size	Document Number	Rev
B	CPU CFL-H:TRIG/RSVD	A
Date:	Tuesday, November 27, 2018	Sheet 14 of 45

CFG[4]	EDP Interface
0	Enable
1	Disable



Configuration Signals: The CFG signals have a default value of '1' if not terminated on the board. Refer to the appropriate platform design guide for pull-down recommendations when a logic low is desired.

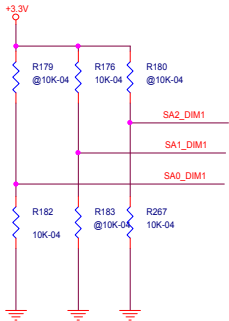
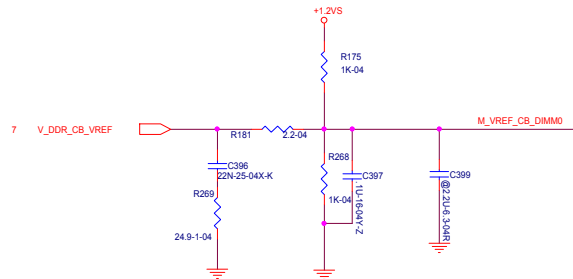
Intel recommends placing test points on the board for CFG pins.

- **CFG[0]:** Stall reset sequence after PCU PLL lock until de-asserted:
 - 1 = (Default) Normal Operation; No stall.
 - 0 = Stall.
- **CFG[1]:** Reserved configuration lane.
- **CFG[2]:** PCI Express* Static x16 Lane Numbering Reversal.
 - 1 = Normal operation
 - 0 = Lane numbers reversed.
- **CFG[3]:** Reserved configuration lane.
- **CFG[4]:** eDP enable:
 - 1 = Disabled.
 - 0 = Enabled.
- **CFG[6:5]:** PCI Express* Bifurcation
 - 00 = 1 x8, 2 x4 PCI Express*
 - 01 = reserved
 - 10 = 2 x8 PCI Express*
 - 11 = 1 x16 PCI Express*
- **CFG[7]:** PEG Training:
 - 1 = (default) PEG Train immediately following RESET# de assertion.
 - 0 = PEG Wait for BIOS for training.
- **CFG[19:8]:** Reserved configuration lanes.

GTL

SE

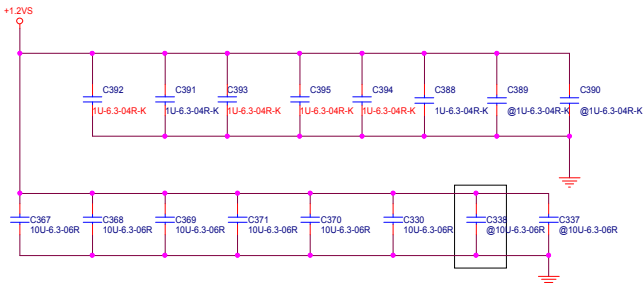
U - Processor Lines.
CFG[2], CFG[6:5] and
CFG[7] are not
relevant for U
Processor Lines.



10UF-6.3V * 7
1UF-10V * 6

SPEC:
10UF-6.3V * 16
1UF-10V * 16
330UF * 1

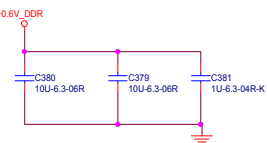
RB DEL:
10UF * 1



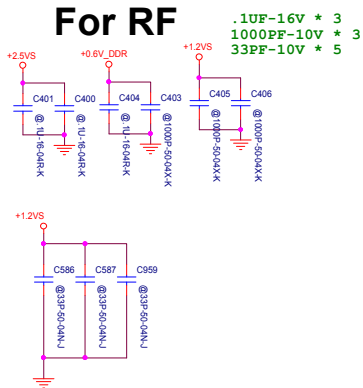
10UF-6.3V * 2
1UF-10V * 2

SPEC:
10UF-6.3V * 2
1UF-10V * 2

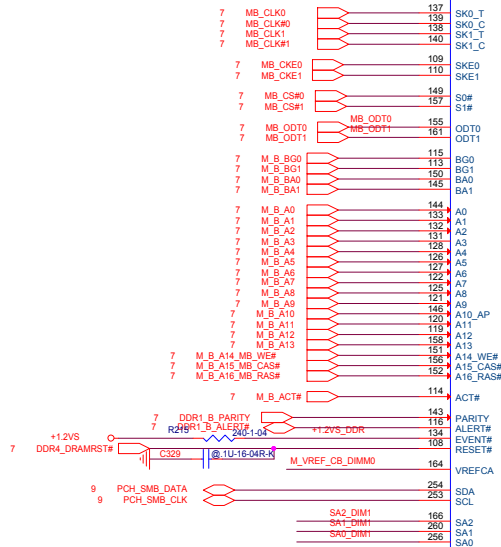
RB DEL:
10UF * 1
1UF * 1



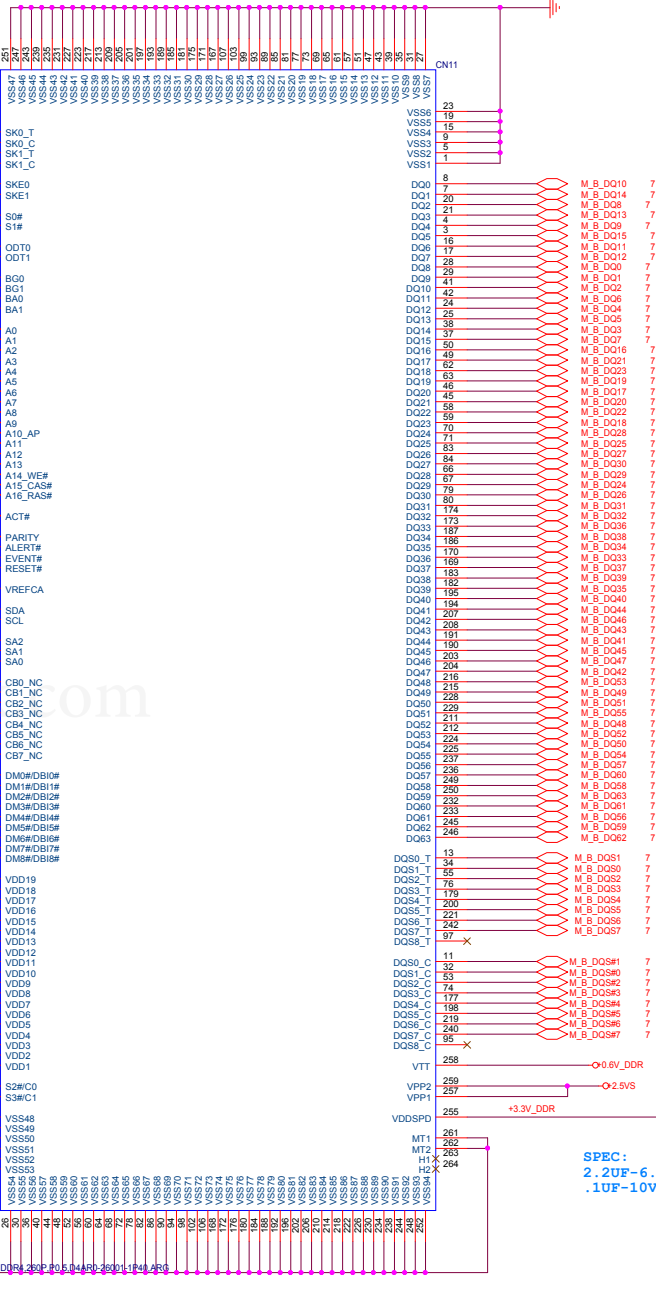
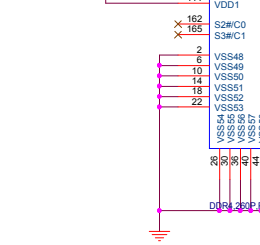
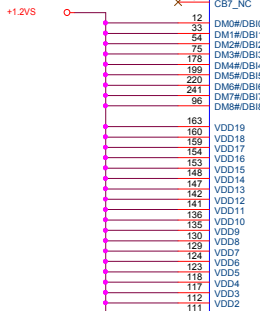
For RF



1UF-16V * 3
1000PF-10V * 3
33PF-10V * 5



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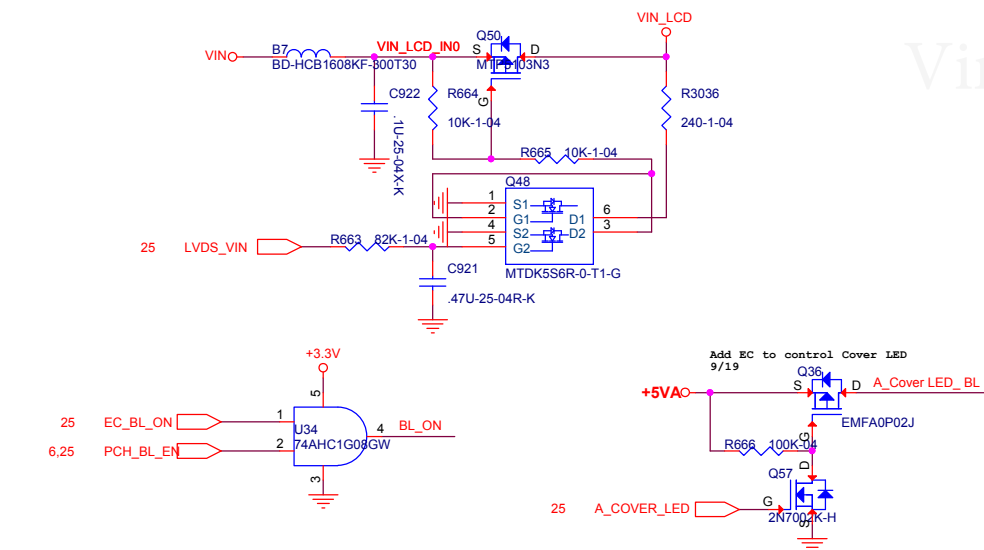
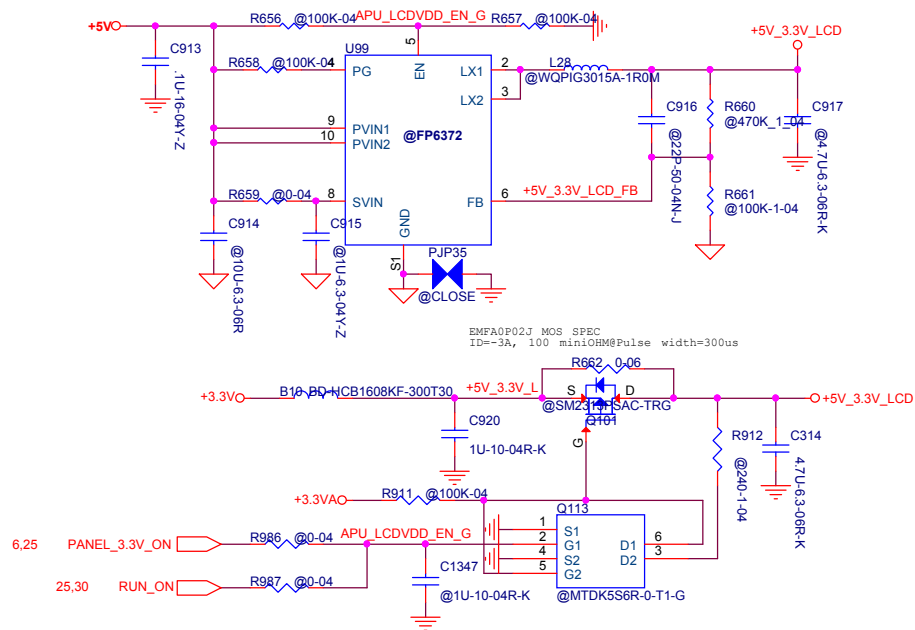


BLANK

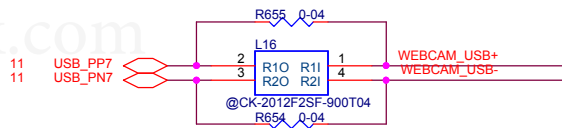
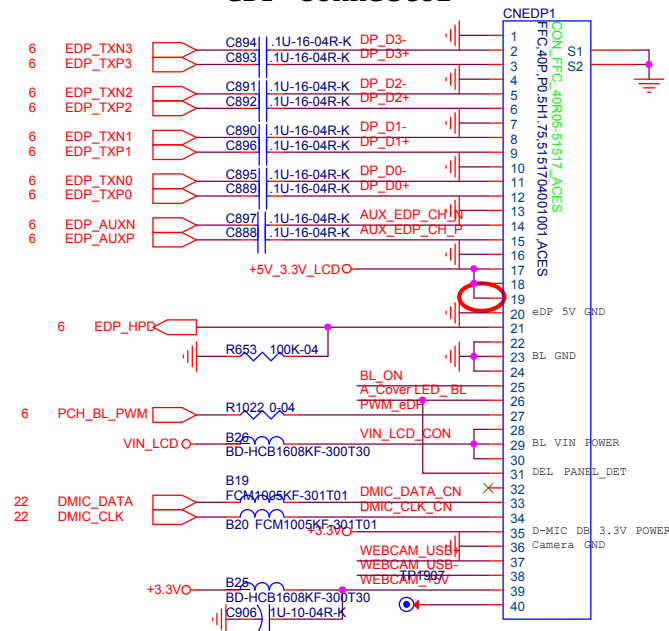
Vinafix.com

TongFang Inc.		
Title		
GK5CN3X MB		
Size	Document Number	Rev
B	PCH CFL-H:SATA/PCIE	A
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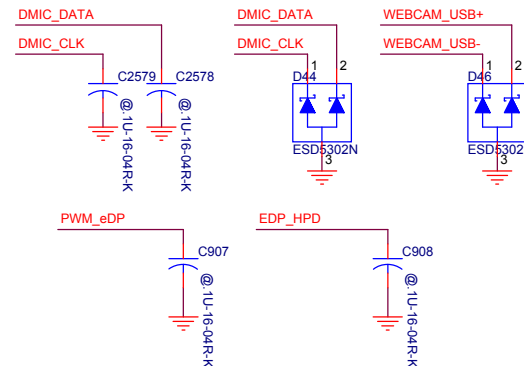
Power Control



eDP Connector

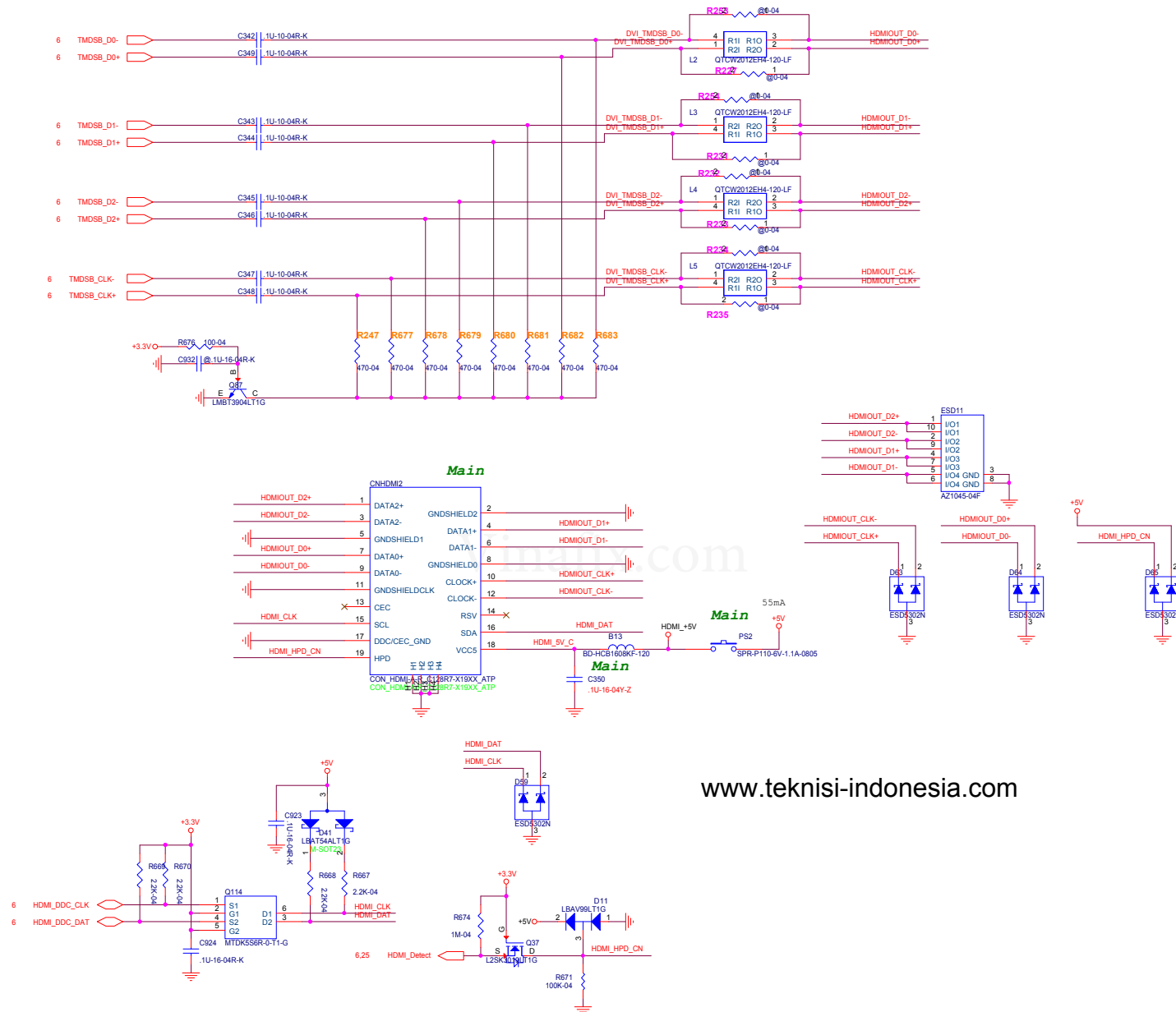


FOR EMI solution



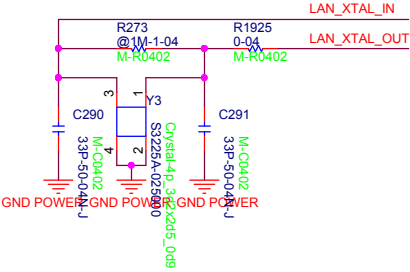
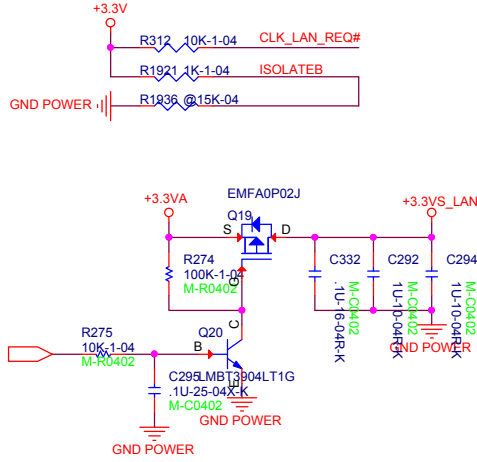
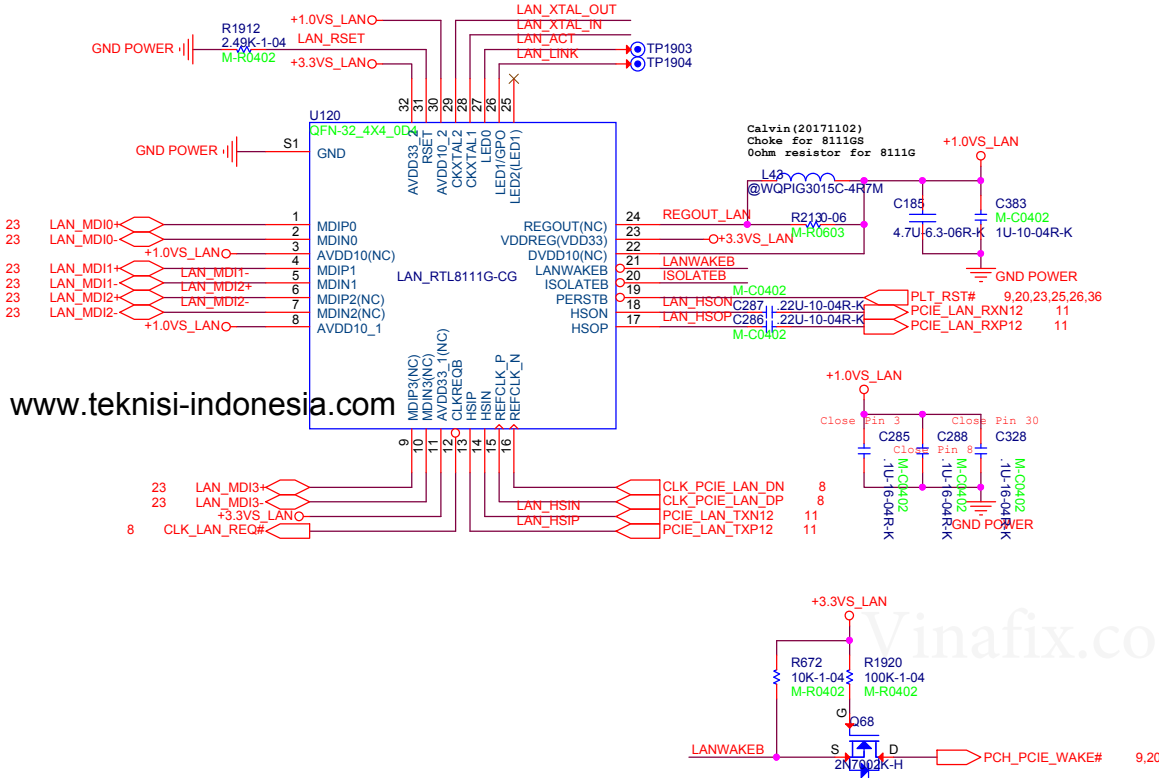
TongFang Inc.			
Title			
GK5CN3X MB			
Size	Document Number	Rev	
B	PCH CFL-H : HDA/SMBUS/PM/JTG	A	
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HDMI CONN



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RTL8111G

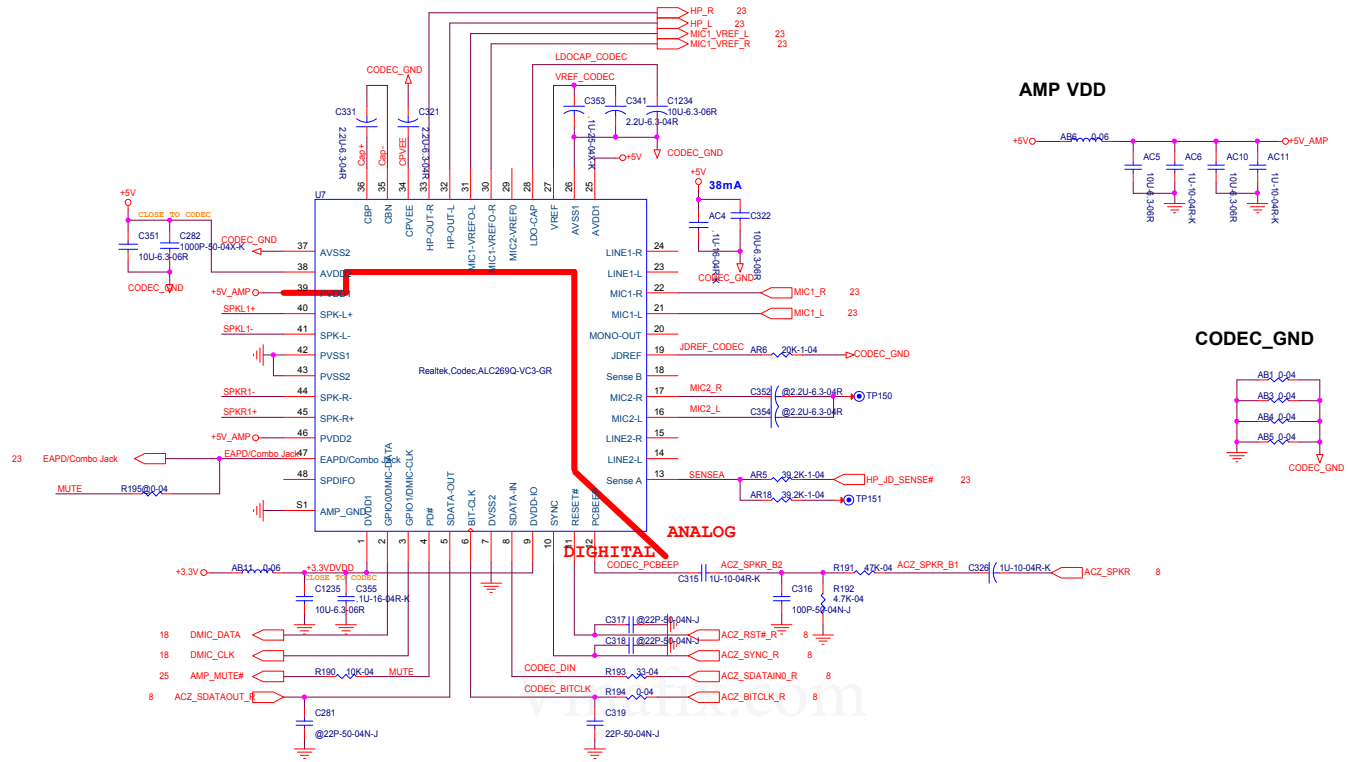


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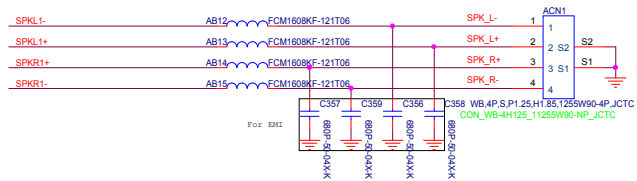
Vinafix.com

TongFang Inc.			
Title			
GK5CN3X MB			
Size	Document Number	Rev	
B	PCH CFL-H:CLK	A	
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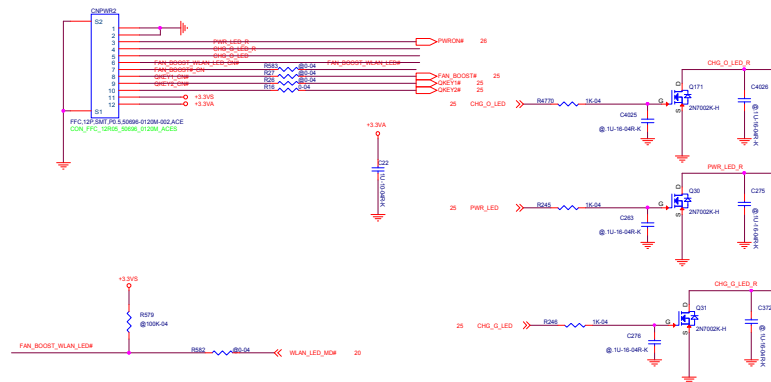
ALC269Q



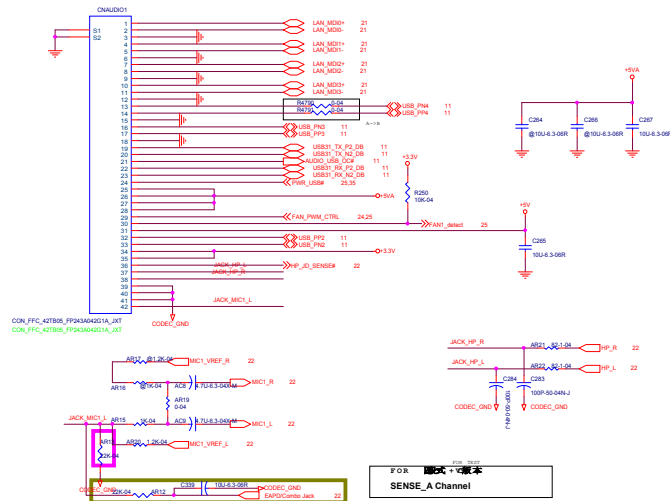
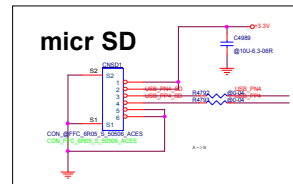
INT_SPEAKER



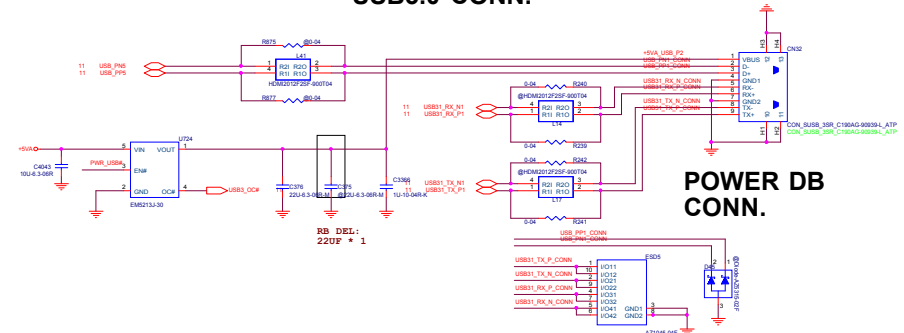
POWER DB CONN.



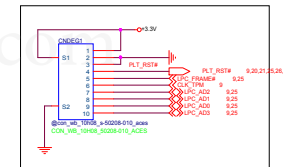
Audio&LAN DB CONN.



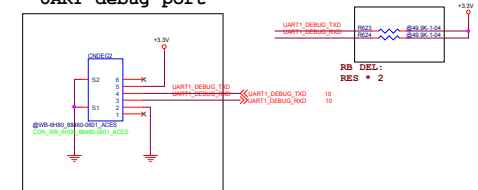
USB3.0 CONN.



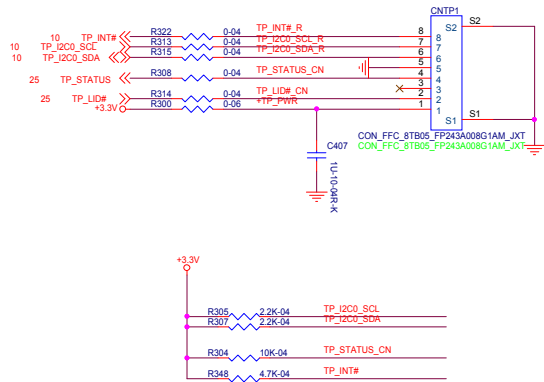
LPC debug port



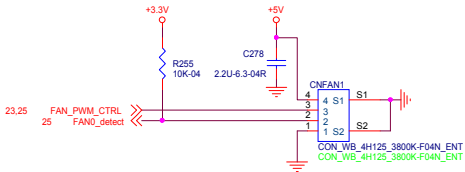
UART debug port



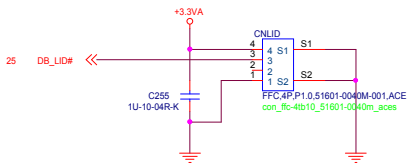
Touch Pad CONN



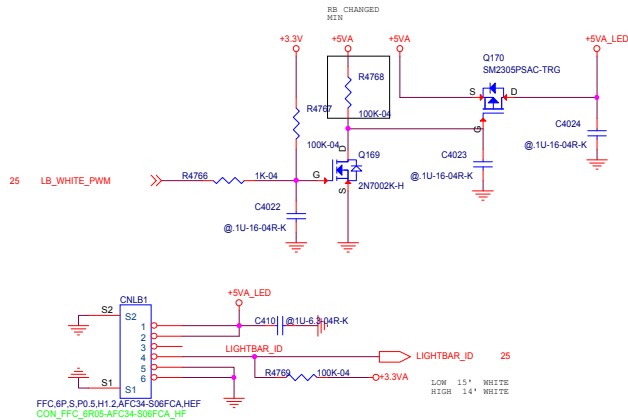
FAN CONNECT



LID Switch CONN

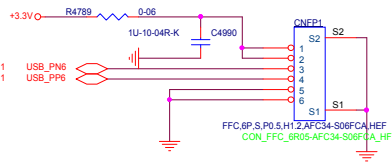


Light bar Control CON

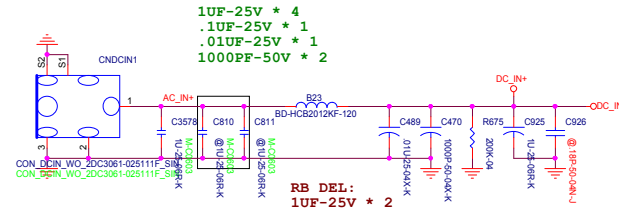


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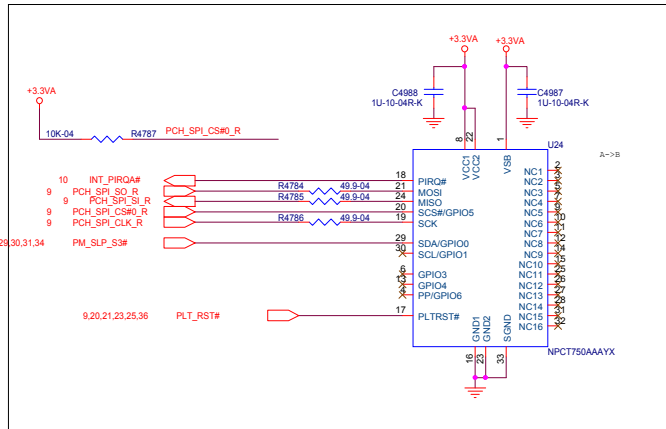
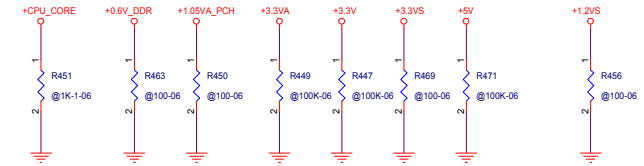
Touch Pad&Finger Print



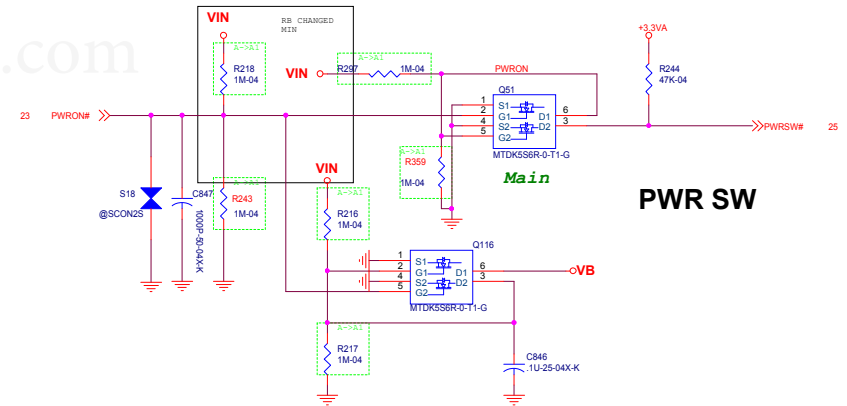
DC IN



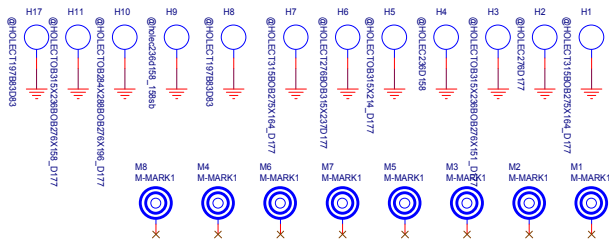
Discharge Resistor



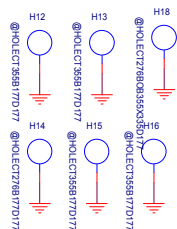
POWER SW



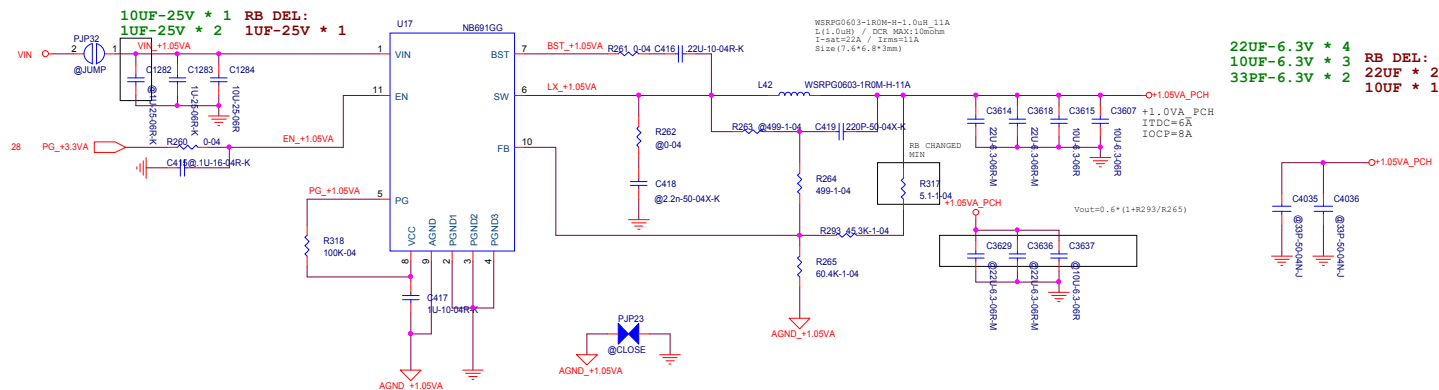
PCB HOLE



THERMAL HOLE

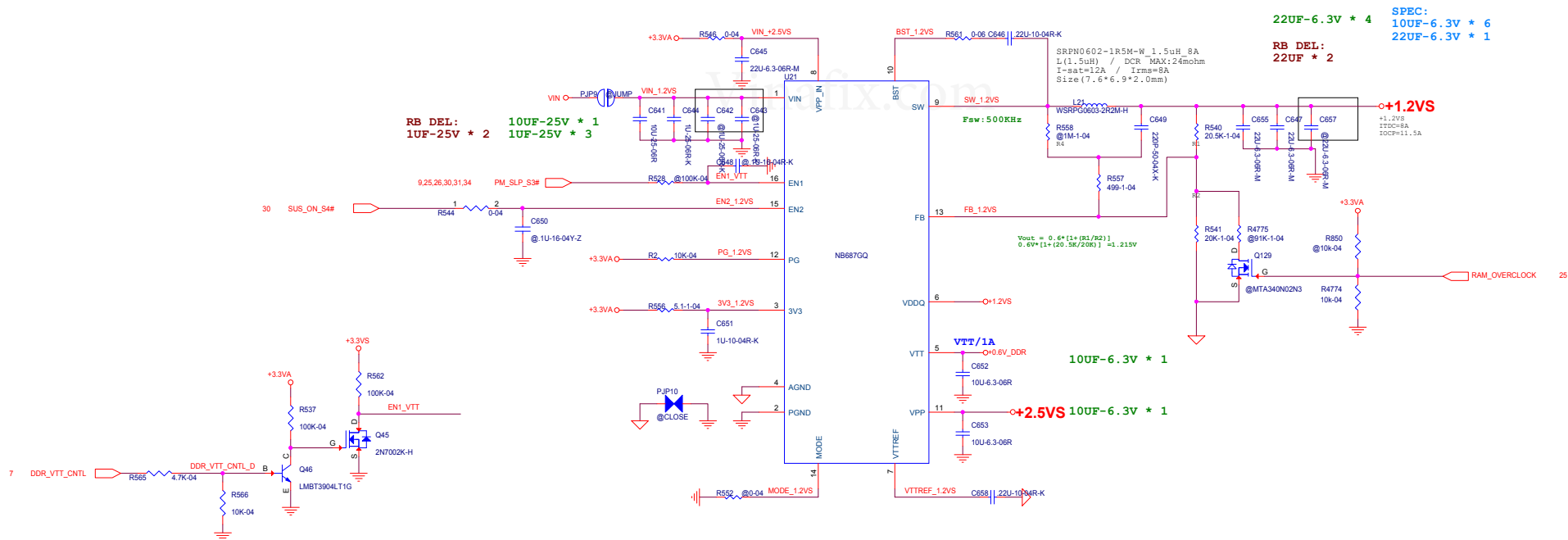



```
CFL U43e is 1.05V
1.05V &VCCIO&VCCPRIM is Merage
ICCMAX=8.2A
NB671LA MAX=9A ,TDC=6A
```

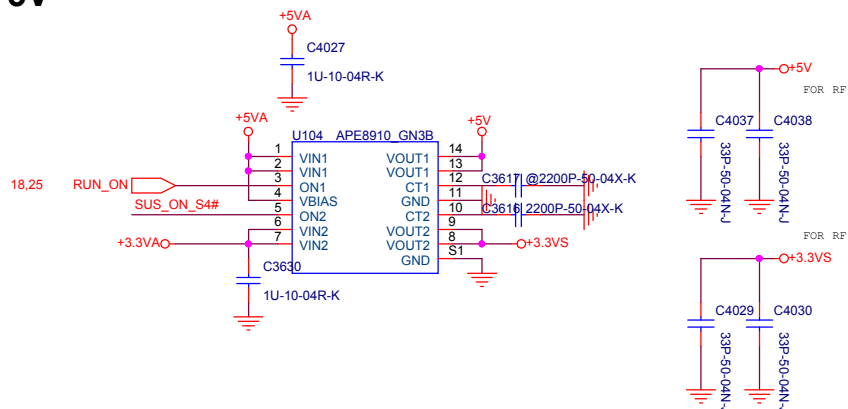


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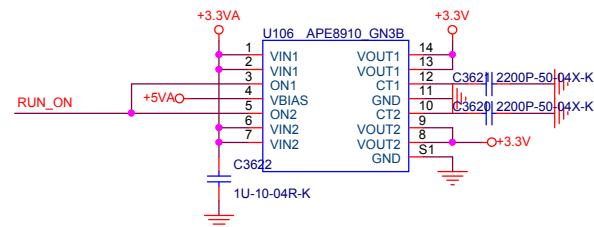
VDDQ(+1.2VS)



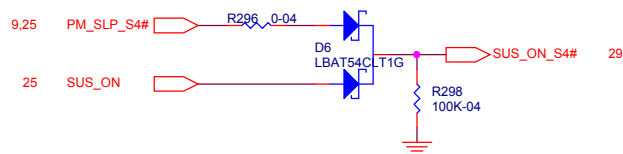
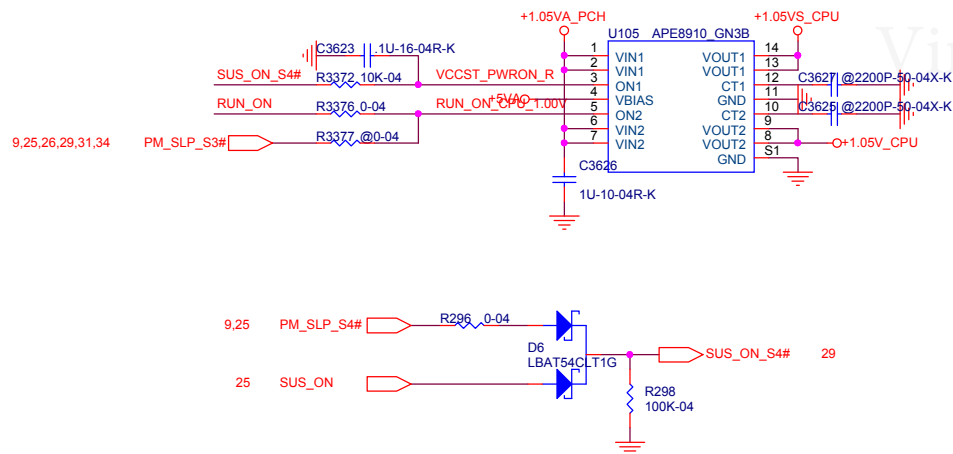
+3.3VS/+5V



+3.3V



+1.05VS_CPU +1.05V_CPU



TongFang Inc.

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Rev A

Core: Iccmax=70A, PL2=48A, LL=1.8mOhm
GT: Iccmax=31A, PL2=18A, LL=3.1mOhm
SA: Iccmax=6A, PL2=4A, LL=10.3mOhm
PHASE : 2+1+1



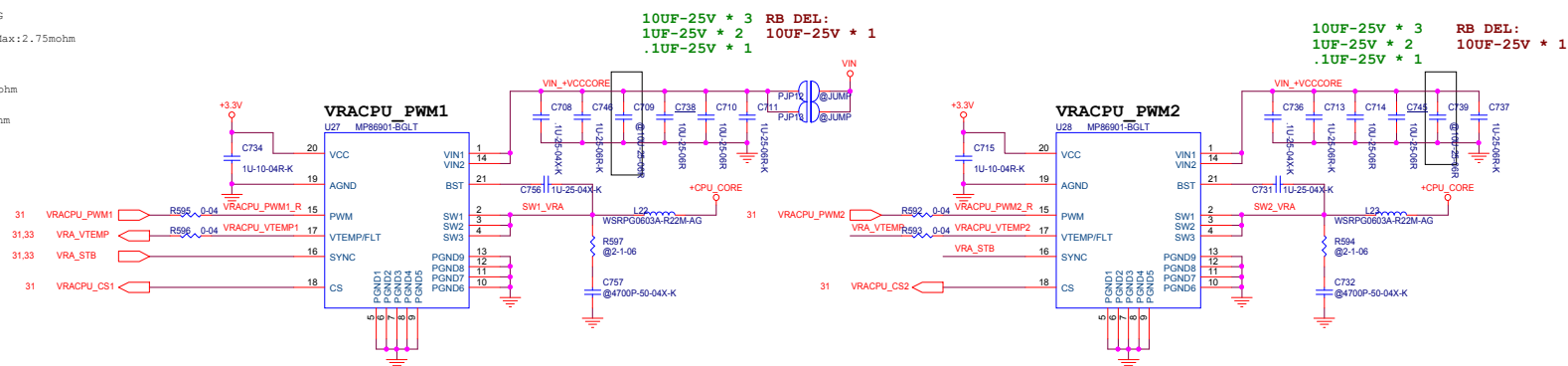
WHL-U42
Core: Iccmax=70A, PL2=48A, LL=1.9mOhm
GT: Iccmax=31A, PL2=18A, LL=3.1mOhm
SA: Iccmax=6A, PL2=4A, LL=10.3mOhm

WSRPG0603A-R22M-AG
L:0.22uH
DCR Typ:2.5mohm,Max:2.75mohm
Isat:40A,Irms:23A
Size:7.6*6.8*3mm

High side
Rds(on) TYP:10.5mohm

Low side
Rds(on) TYP:3.7mohm

MP86910B
ITDC:20A
ICCMAX:35A

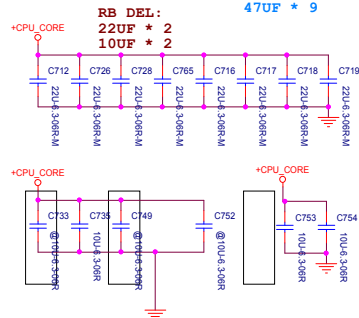


```

22UF-6.3 * 8      SPEC:
10UF-6.3 * 6      220UF * 4
330UF-PS * 1      10UF-6.3V * 8
PR DEL:           47UF * 9

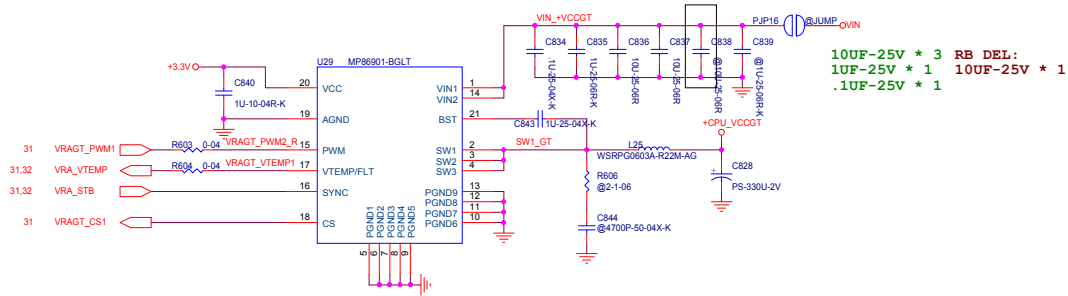
```

RB DEL:
22UF * 2
10UF * 2



VCCGT

MP86910B
ITDC:20A
ICCMAX:35A
High side
Rds(on) TYP:10.5mohm
Low side
Rds(on) TYP:3.7mohm
WSRPG0603A-R22M-AG
L:0.22uH
DCR Typ:2.5mohm,Max:2.75mohm
Isat:40A,Irms:23A
Size:7.6*6.8*3mm



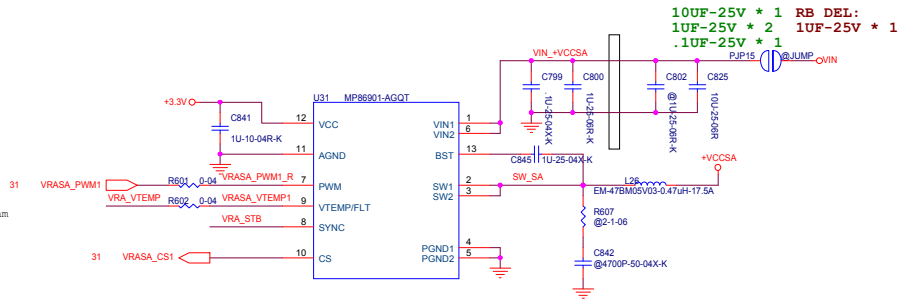
10UF-25V * 3 RB DEL:
1UF-25V * 1 10UF-25V * 1
.1UF-25V * 1

22UF-6.3 * 3 SPEC:
10UF-6.3 * 4 220UF * 2
330UF-PS * 1 22UF-6.3V * 15
RB DEL:
10UF * 1 47UF * 4

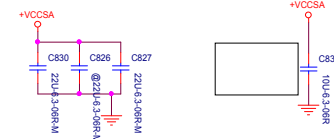
1000PF-50V * 2
.1UF-16V * 2
FOR EMI solution
C816 C817 C823
@1U-10-04R-K
@10UF-50-04X-K
@10UF-50-04X-K

VCCSA

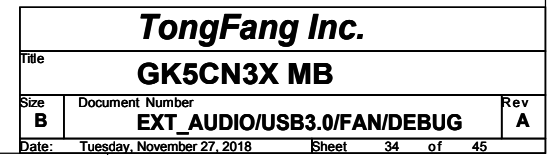
WHL-042
Core: ICCmax=70A, PL2=48A, LL=1.8mOhm
GT: ICCmax=31A, PL2=18A, LL=3.1mOhm
SA: ICCmax=6A, PL2=4A, LL=10.3mOhm
MP86901A
ITDC:12A
ICCMAX:25A
High side
Rds(on) TYP:19.5mohm
Low side
Rds(on) TYP:7.9mohm
WSRPG0603A-R22M-AG
L:0.22uH
DCR Typ:2.5mohm,Max:2.75mohm
Isat:40A,Irms:23A
Size:7.6*6.8*3mm



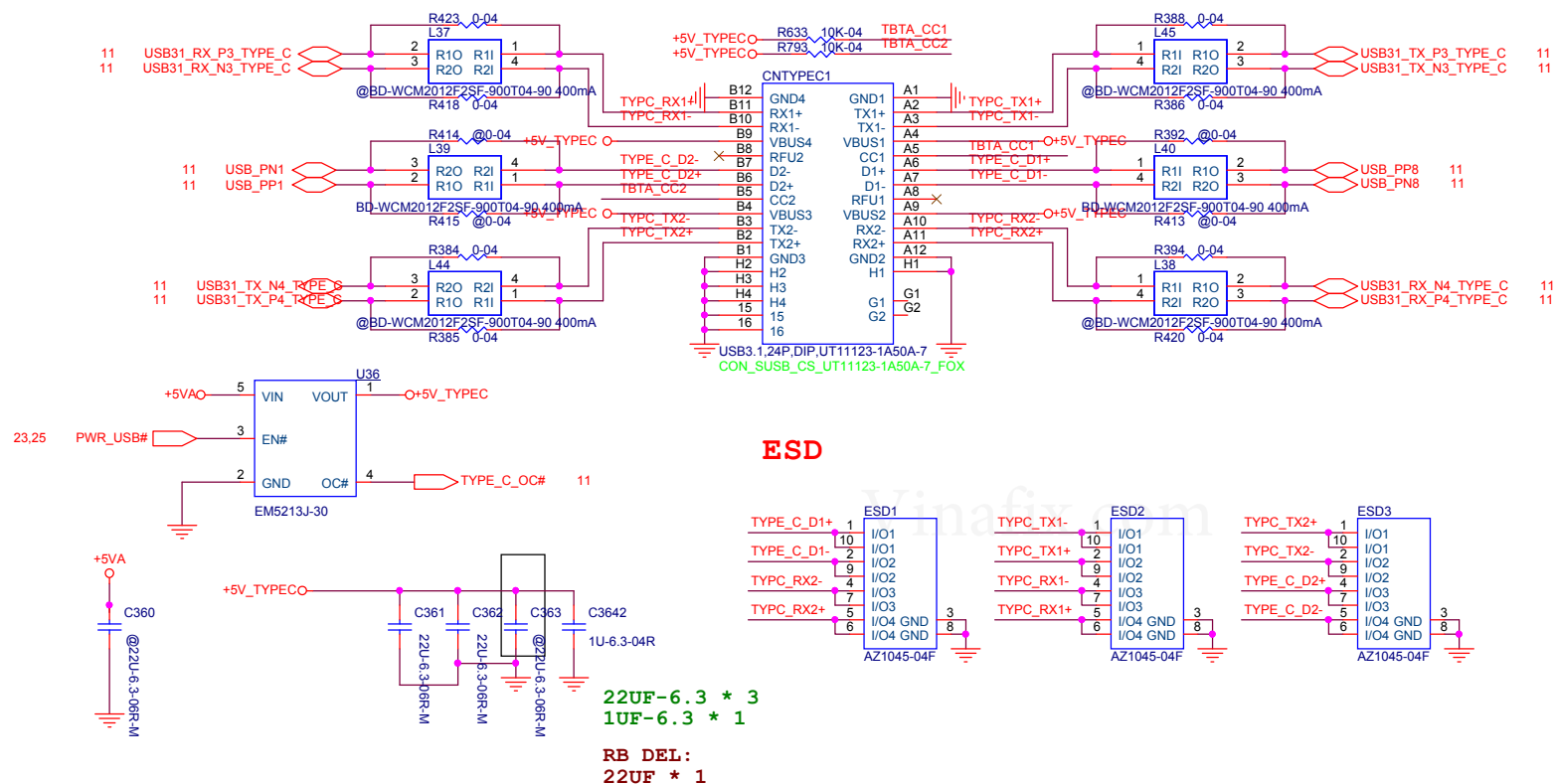
10UF-25V * 1 RB DEL:
1UF-25V * 2 1UF-25V * 1
.1UF-25V * 1
SPEC:
10UF-6.3V * 6
47UF * 2
22UF-6.3 * 2 RB DEL:
10UF-6.3 * 3 10UF * 2



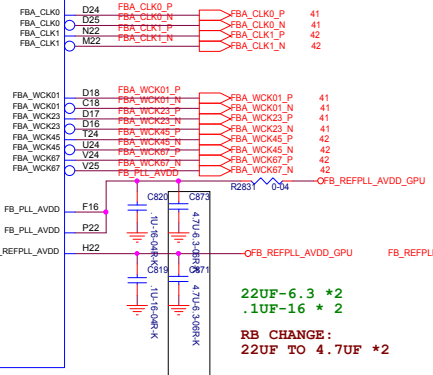
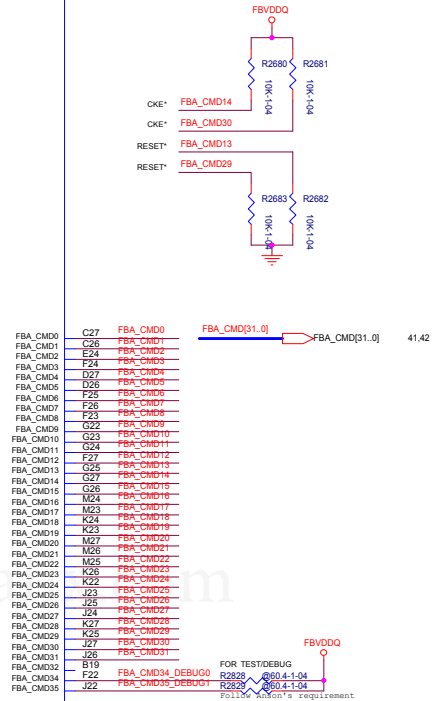
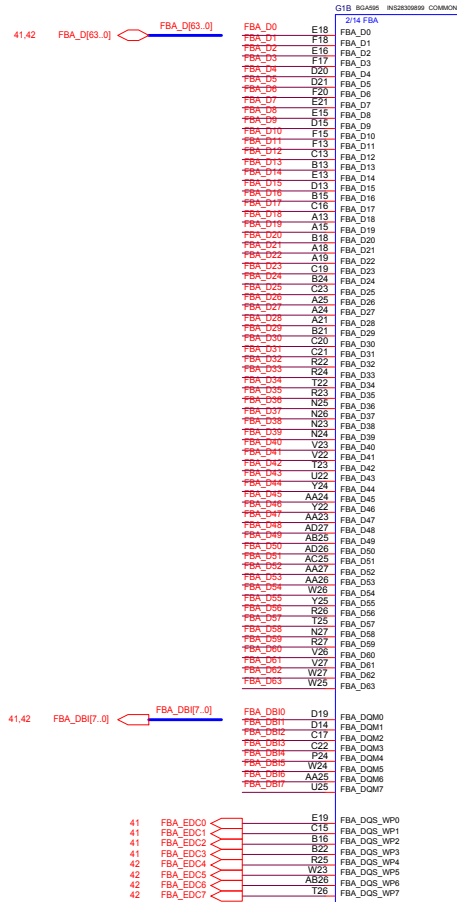
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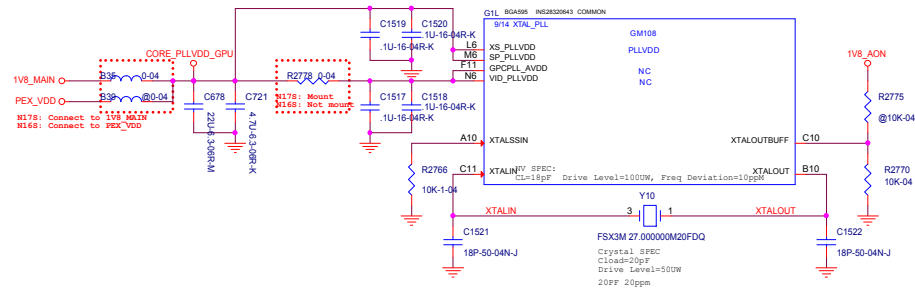


USB3.0 TYPE-C



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Title GK5CN3X MB			
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STRAP	PIN	ROM	SCL	STRAP0	STRAP1	STRAP2	STRAP3	STRAP4	STRAP5
N17S	HIGH LOW	100K 100K	100K 100K	Optional	Optional	Optional	100K NA	NA 100K	NA 100K
N16S	HIGH LOW	NA 4.99K	Optional 4.99K	49.9K NA	NA NA	NA NA	NA NA	NA NA	NA NA

GDDR5							
Density	Vendor	Part Number	Die	Strap	Strap2	Strap3	Strap4
4GB	Samsung	K4C803259F-HC28	B-die	0X0	L	L	L
4GB	Microc	MT51J256M32HF-70A	A-die	0X1	L	L	H
4GB	Hynix	H5GC8H24MR-ROC	M-die	0X2	L	H	L
8GB	Samsung	K4C413259F-HC28	E-die	0X7	H	H	H
2GB	Hynix	H5GC4H24AR-ROC	A-die	0X6	H	H	L
2GB	Microc	EW44032BA8G-70-F	A-die	0X8	L	L	M

	Voltage (V)		
LEVEL	Min	Normal	Max
H	1.5	1.8	1.854
M	0.5	0.9	1.3
L	0	0	0.3
Invalid	1.3V<pin voltage<1.5V		
	0.3V<pin voltage<0.5V		

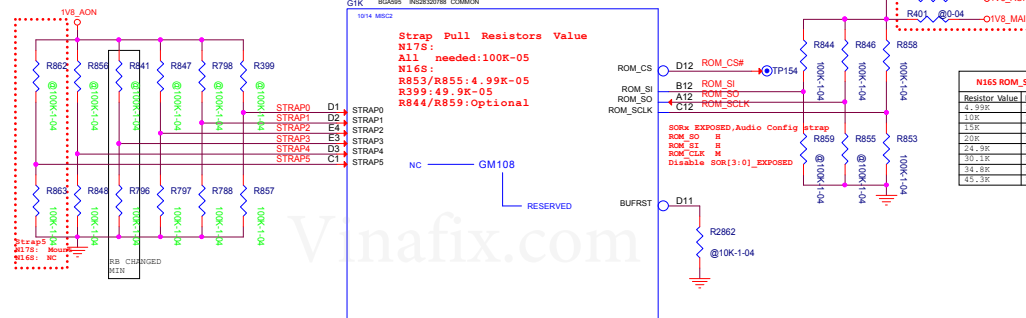
Strap5,4,3 LLH

```
1:SMB_ALT_ADDR  ENABLE
0:SMB_ALT_ADDR  DISABLE (Select)
```

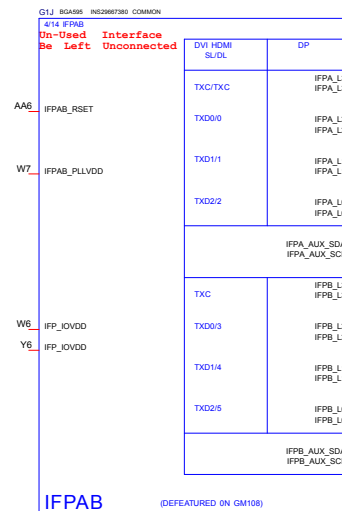
```
1:DEVID_SEL REBRAND
0:DEVID_SEL ORIGINAL(Select)
```

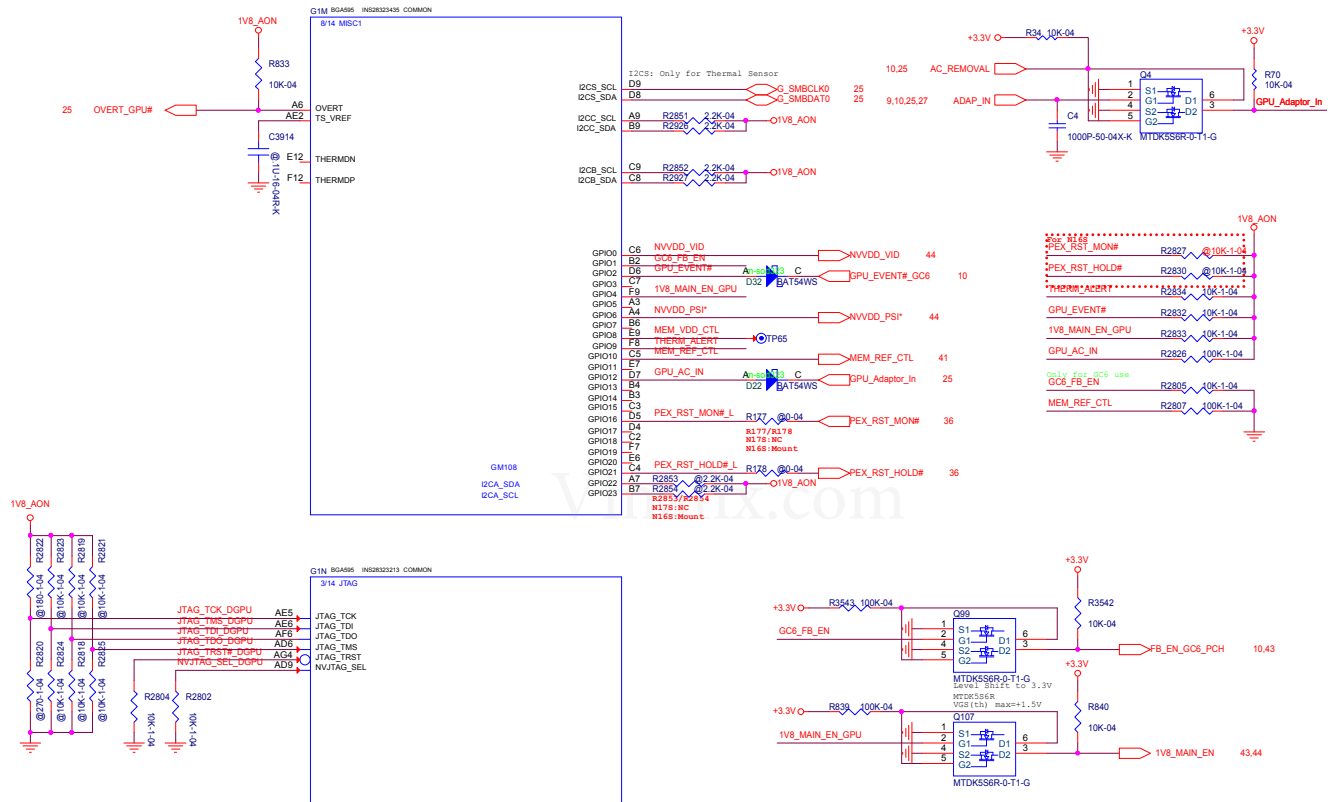
```
1:PCIE_CFG LOW POWER
0:PCIE_CFG HIGH POWER(Select)
```

```
1:VGA_DEVICE  ENABLE(Select)
0:VGA_DEVICE  DISABLE
```

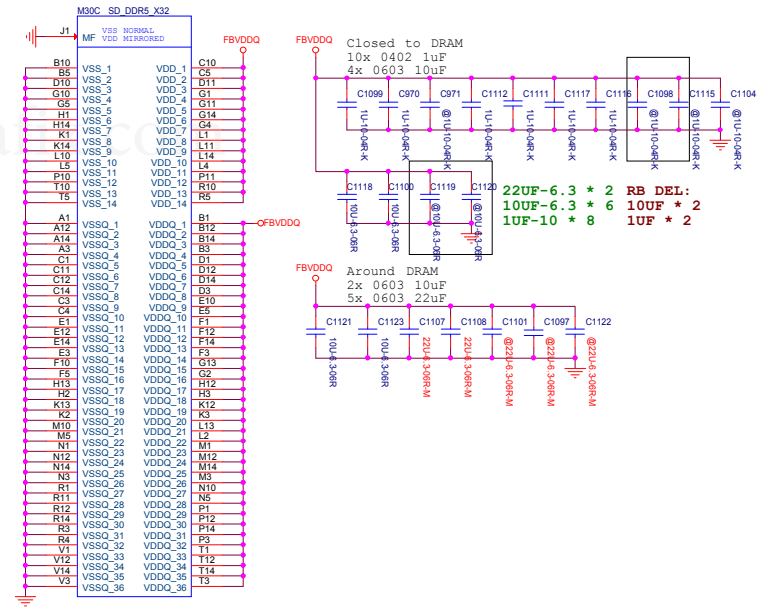
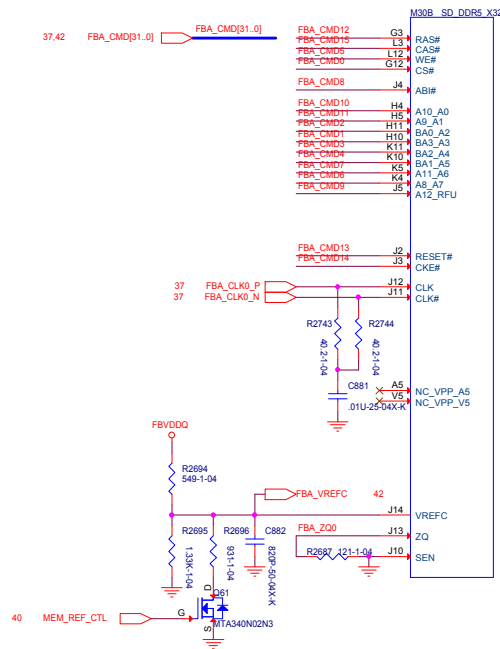
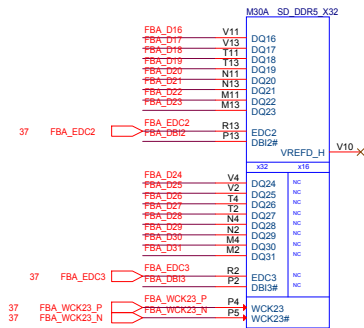
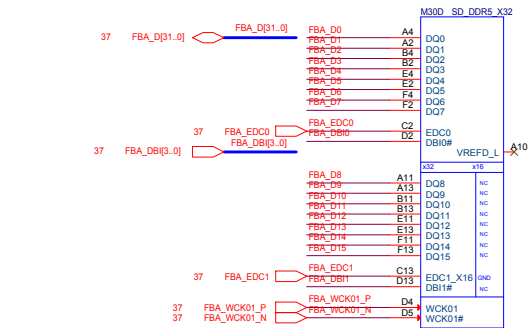


Resistor Value	Pull-Up to 3V3 AON	Pull-Down to 0V
4.99k	1000	0000
10k	1001	0001
15k	1010	0010
20k	1011	0011
24.9k	1100	0100
30.1k	1101	0101
34.8k	1110	0110
45.3k	1111	0111

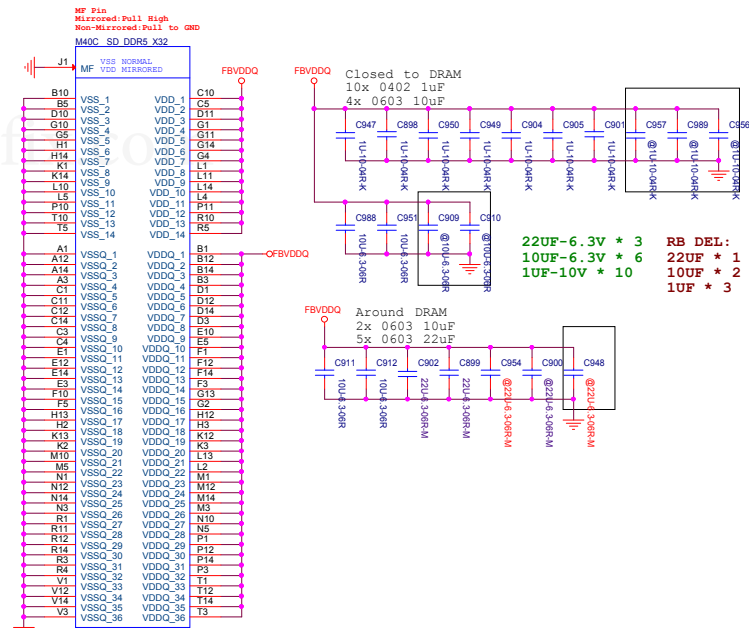
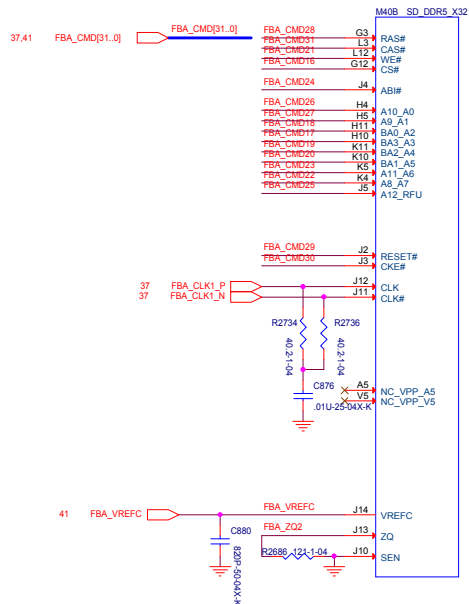
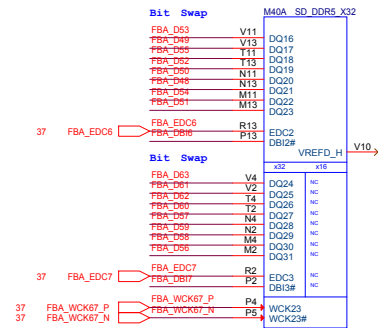
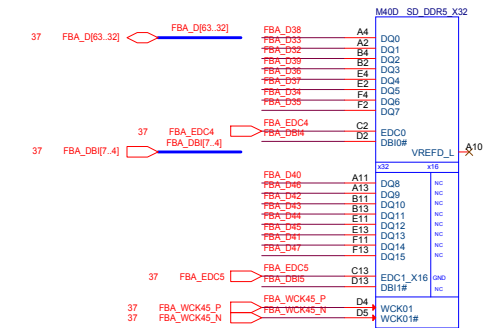


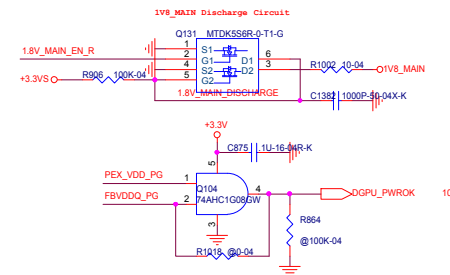


Maximum VRAM case Temp is 85 celsius degree

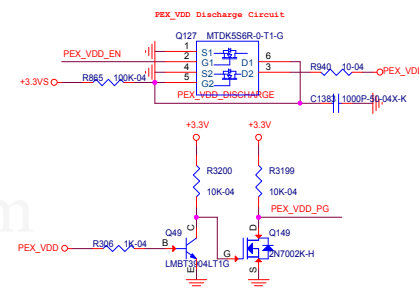
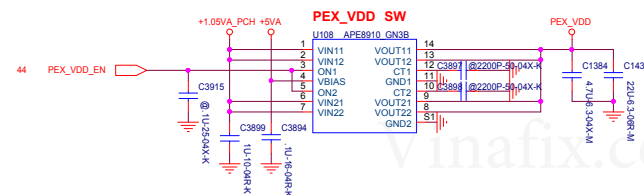


Maximum VRAM case Temp is 85 celcibus degree





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5V0 R861 2.2-06 RT8237E_VDD_G0DR U85
C664
1U-10-04R-K
FBVDDQ_PG
C3911 1U-18-04R-K R3638 10K-04
PEX_VDD_PG
10.40 FB_EN_G08_PCH
FBVDDQ_EN
D16 LBAT54CLT10 R870 200K-04 C670 01U-25-04X-K
RT8237E_RF_G0DR
R860 470K-04 C677 @2200P-50-04X-K
RT8237E_CS_G0DR
R845 52.5K-104 C672 @2200P-50-04X-K
RCS=Iocp*8=5.3 Iocp=30A
mOBM/10uA=79.2K=80K
uP1537PDDA
Low Side
Rds(on) Typ:3m Max:4m
ID@TA=1.6A
High Side
Rds(on) Typ:6.5m Max:9.5m
ID@TA=10.2A
FBVDDQ_VIN
C1298 1U-25-08R-K C1299 1U-25-08R-K C1302 10U-25-08R-K C1303 10U-25-08R-K C1304 10U-25-08R-K
PJP1
TOP-OPEN-20M
TOP-OPEN-20M
10UF-25V * 3 RB DEL:10UF-25V * 1
1UF-10 * 1
EM-47BM05V08
L(0.47uH) Size(7.4*6.9*3mm)
DCR Typ:3.8mohm Max:4.2mohm
I-sat:36A/ Irms:17.5A
FBVDDQ_MEM=1.35V/1.5V/1.55V
G1 ICC=11/20A
G0 ICC=11/20A
FBVDDQ
FSW:290KHz
Iocp 1.3*20=26A
22UF-6.3 * 2
1UF-10 * 1
1UF-16 * 1
HIGH-SPEED CAP
For RF solution
C1071 33P-50-04N-K C1067 33P-50-04N-K C1069 33P-50-04N-K C1065 33P-50-04N-K C1044 33P-50-04N-K C1066 33P-50-04N-K
33PF-50V * 6

HIGH-SPEED CAP

For RF solution

33PF-50V * 6

B PHASE CHANGE LIST

1	PAGE 10: R4778,R4779 pull up 3.3VA
2	PAGE 26: +VIN POWER CHANGE TO VIN
3	PAGE 8: R22 NO STUFF
4	PAGE 24: R4768 CHANGE TO 100K FROM 1K
5	PAGE 25: ADD R4777 PULL 3V3A
6	PAGE 29: R317 STUFF
7	PAGE 28: R220 CHANGE TO 200K,R221 CHANGE TO 100K
8	PAGE 27: R480 CHANGE TO 45.3K,R482 CHANGE TO 2K,R491 NO STUFF. PAGE 25: CHG_REF DEL
9	PAGE 35: U36 CHANGE TO EM5213
10	PAGE 25: DEL R286,RT10
11	PAGE 25: ADD DGPU_PWR_ON
12	PAGE 6 & 10: CHANGE SMI SIGNAL FORM GPP_E15 TO GPP_E3 PORT
13	PAGE 39: R796 STUFF,R841 NOSTUFF
14	PAGE 26 & 10: ADD TPM
15	PAGE 11 & 24: ADD FINGER PRINTER

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