

# COMPAL CONFIDENTIAL

MODEL NAME : **EDA70**

PCB NO : **LA-H281P**

BOM P/N : **451AG431L01**

GPIO MAP: **X10\_CFLH\_GPIO map Rev1.5\_20181224**

## WHITEHAVEN MLK 17

**Coffee Lake-R type (2 chip)**

**REV : 1.0(A00)**

**2019.4.10**

### Pop Component

**EMI@, RF@, ESD@ : EMI/ESD/RF part POP**

**CONN@ : Connector Component**

**XDP@ : Total debug Component (pop them until ST)**

**NDS3@ : non Deep sleep support**

**eSPI@ : eSPI interface**

**RTD3@ : TBT RTD3 support**

### @ : Nopop Component

**@EMI@, @RF@, @ESD@ : EMI/ESD/RF part nopop**

**DS3@ : Deep sleep support**

**LPC@ : LPC interface**

**NRTD3@ : non TBT RTD3 support**

Layout Dell logo



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REV: X00  
PWB: XXXXX  
DATE: 1707-03

PCB 26K LA-H281P REV0 MB AR 3

Part Number	Description
DA80004E000	PCB 26K LA-H281P REV0 MB AR 3

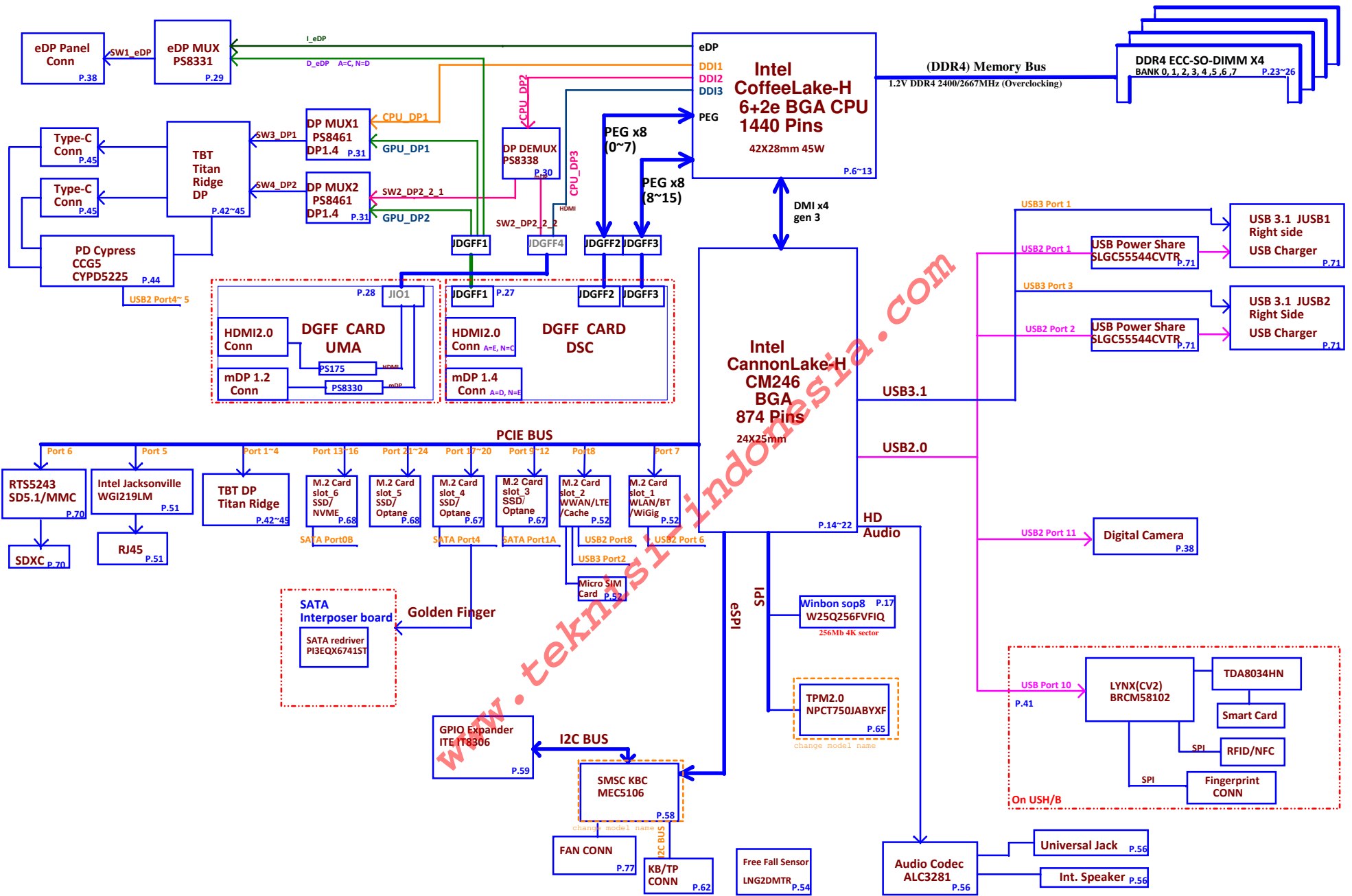
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Cover			
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## POWER STATES

Signal State	SLP S3#	SLP S4#	SLP S5#	S4 STATE#	ALWAYS PLANE	RUN PLANE	CLOCKS
S0 (Full ON) / M0	HIGH	HIGH	HIGH	HIGH	ON	ON	ON
S3 (Suspend to RAM) / M1	LOW	HIGH	HIGH	HIGH	ON	OFF	OFF
S4 (Suspend to DISK) / M1	LOW	LOW	HIGH	LOW	ON	OFF	OFF
S5 (SOFT OFF) / M1	LOW	LOW	LOW	LOW	ON	OFF	OFF
S3 (Suspend to RAM) / M-OFF	LOW	HIGH	HIGH	HIGH	ON	OFF	OFF
S4 (Suspend to DISK) / M-OFF	LOW	LOW	HIGH	LOW	ON	OFF	OFF
S5 (SOFT OFF) / M-OFF	LOW	LOW	LOW	LOW	ON	OFF	OFF

## PM TABLE

State	power plane	+PWR_SRC +5V_ALW +3.3V_ALW +3.3V_ALW2 +3.3V_ALW_DSW +3.3V_ALW_PCH +3.3V_RTC_LDO +1.8V_ALW +1.0V_PRIM +1.8V_PRIM	+3.3V_SUS +1.2V_MEM +2.5V_MEM +1.0V_VCCST	+5V_RUN +3.3V_RUN +1.2V_RUN +3.3V_DGFF +5V_DGFF +DGFF_PWR_SRC +0.675V_DDR_VTT	(M-OFF) +VCC_CORE +VCC_GT +VCC_IO +VCC_SA +1.0V_VCCSTG +1.8V_RUN
S0		ON	ON	ON	ON
S3		ON	ON	OFF	OFF
S5 S4/AC		ON	OFF	OFF	OFF
S5 S4/AC don't exist		OFF	OFF	OFF	OFF

Layer No.	Name	Er for polar	DF	Material	Thickness (Material SPEC.) Unit : mil	Thickness (Actuality) Unit : mil
	S/M	3.7	0.047	SolderMask	HF GA-HF-15	0.80
1	Top	3.7	0.018	Copper foil	Hoz+plating	1.55
				Prepreg	pp1086LR	2.55
2	GND/PWR	3.8	0.0153	Copper foil	1oz	1.30
				Core	4mil core	4.00
3	IN1	3.8	0.017	Copper foil	Hoz	0.65
				Prepreg	pp2116HR	4.70
4	GND/PWR	3.7	0.0186	Copper foil	Hoz	0.65
				Core	3mil core	3.00
5	IN2	3.8	0.017	Copper foil	Hoz	0.65
				Prepreg	pp2116HR	4.30
6	GND/PWR	3.7	0.0186	Copper foil	2oz	2.60
				Core	3mil core	3.00
7	GND/PWR	3.8	0.017	Copper foil	2oz	2.60
				Prepreg	pp2116HR	4.30
8	IN3	3.7	0.0186	Copper foil	Hoz	0.65
				Core	3mil core	3.00
9	GND/PWR	3.8	0.017	Copper foil	Hoz	0.65
				Prepreg	pp2116HR	4.70
10	IN4	3.8	0.0153	Copper foil	Hoz	0.65
				Core	4mil core	4.00
11	GND/PWR	3.7	0.018	Copper foil	1oz	1.30
				Prepreg	pp1086LR	2.55
12	Bottom	3.7	0.047	SolderMask	Hoz+plating	1.55
Overall Thickness (1.45mm ± 10%)						56.50000 1.4351

USB3.0	DESTINATION
Port 1	JUSB1
Port 2	M.2 Slot-2 (WWAN/LTE)
Port 3	JUSB2
Port 4	JUSB3
Port 5	NA
Port 6	NA

SATA	DESTINATION
SATA 0B	SLOT6 SSD
SATA 1A	SLOT3 SSD
SATA 2	NA
SATA 3	NA
SATA 4	SLOT4 SSD/HDD
SATA 5	NA

PCH	USB2 PORT#	DESTINATION
	1	JUSB1
	2	JUSB2
	3	JUSB3
	4	Cypress PD
	5	Cypress PD
	6	NA
	7	NA
	8	M.2 Slot-2 (WWAN/LTE)
	9	17" NA/ 15" Touch screen
	10	USH
	11	Camera
	12	NA
	13	NA
	14	M.2 Slot-1 (BT)
USH	0	BIO
	1	NA

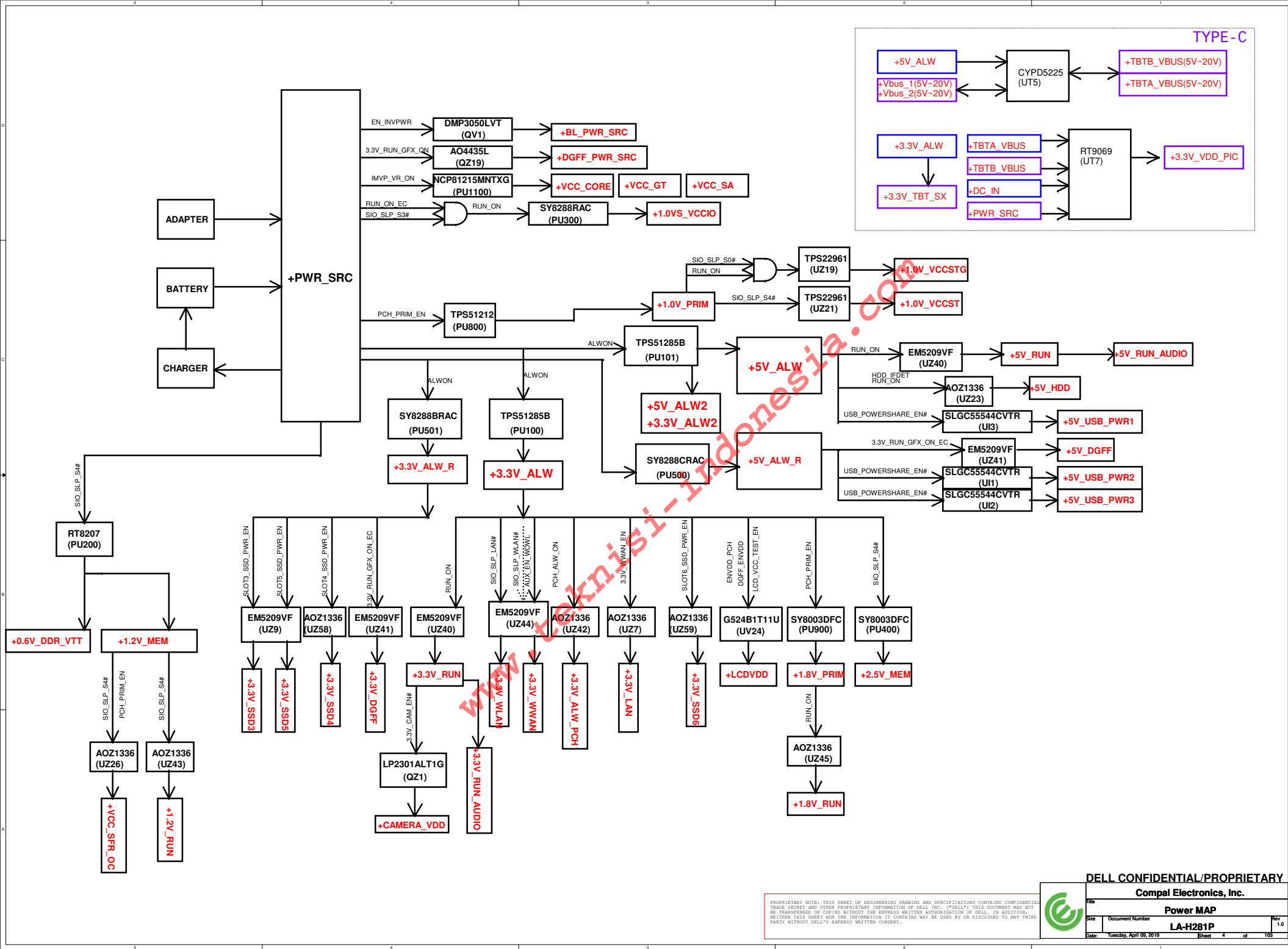
PCI EXPRESS	DESTINATION
PORT 1~4	TBT-Titan Ridge
PORT 5	10/100/1G LOM
PORT 6	MMI(Card reader)
PORT 7	M.2 Slot-1 (WLAN/Wigig)
PORT 8	M.2 Slot-2 (WWAN/LTE)
PORT9~12	SLOT3 SSD 2280/ Optane
PORT13~16	SLOT6 SSD 2280/NVME
PORT17~20	SLOT4 SSD 2280/ Optane
PORT21~24	SLOT5 PCIE only 2280/ Optane

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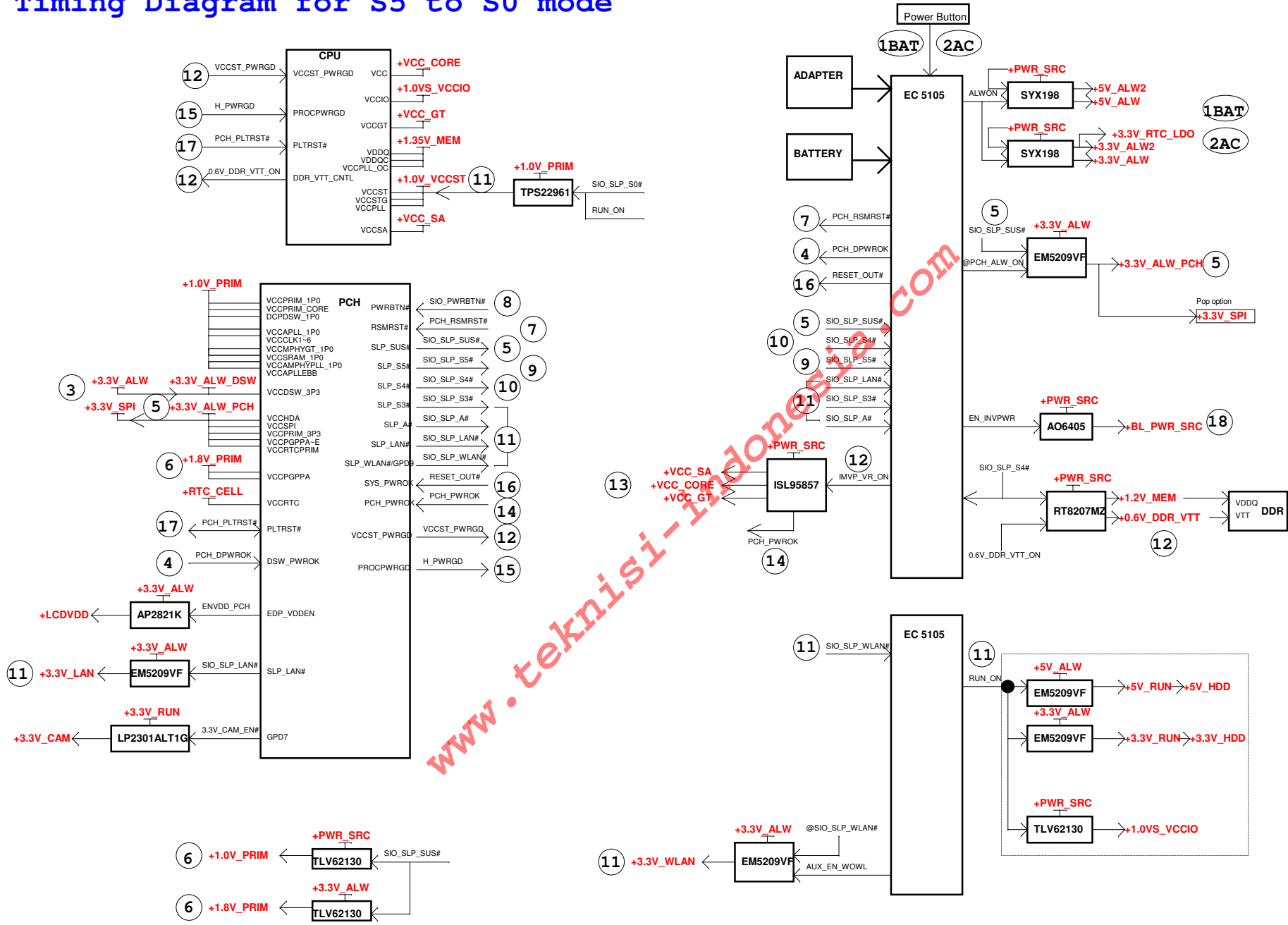
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Title		Power MAP	
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# Timing Diagram for S5 to S0 mode



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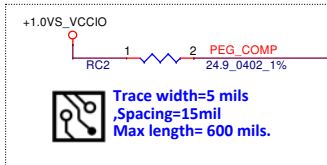
Power Sequence

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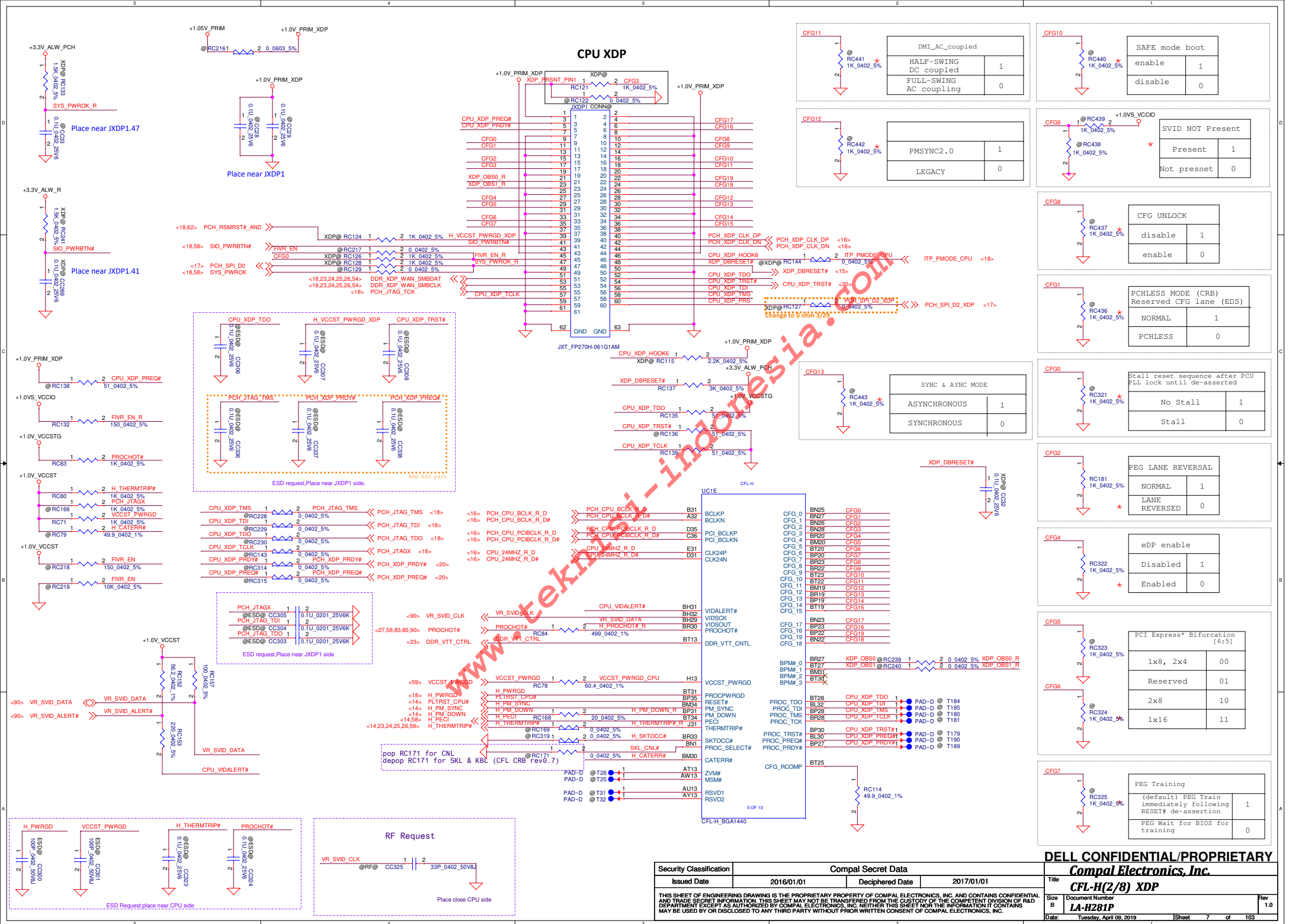
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PEG\_CTX\_C\_GRX\_P[0..15] >> PEG\_CTX\_C\_GRX\_P[0..15] <27>  
PEG\_CTX\_C\_GRX\_N[0..15] >> PEG\_CTX\_C\_GRX\_N[0..15] <27>



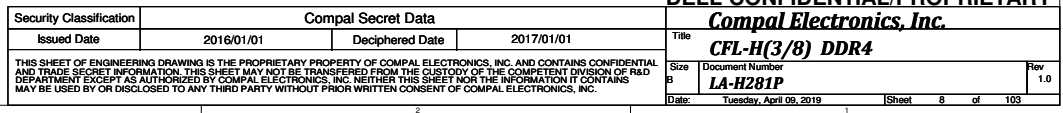
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<15> DMI\_CRX\_PTX\_N1 >> DMI\_CRX\_PTX\_N1 F6 DMI\_RXN\_1 DMI\_TXN\_1 B6 DMI\_CTX\_PRX\_N1 >> DMI\_CTX\_PRX\_N1 <15>  
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CFL-H\_BGA1440

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MUX PS8461

DEMUX PS8338

UMA DGFF

<31> CPU\_DP1\_P0  
<31> CPU\_DP1\_N0  
<31> CPU\_DP1\_P1  
<31> CPU\_DP1\_N1  
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CPU\_DP1\_N0 K37  
CPU\_DP1\_P1 J35  
CPU\_DP1\_N1 J34  
CPU\_DP1\_P2 H37  
CPU\_DP1\_N2 H36  
CPU\_DP1\_P3 J37  
CPU\_DP1\_N3 J38  
  
CPU\_DP1\_AUXP D27  
CPU\_DP1\_AUXN E27  
  
CPU\_DP2\_P0 H34  
CPU\_DP2\_N0 H33  
CPU\_DP2\_P1 F37  
CPU\_DP2\_N1 G38  
CPU\_DP2\_P2 F34  
CPU\_DP2\_N2 F35  
CPU\_DP2\_P3 E37  
CPU\_DP2\_N3 E36  
  
CPU\_DP2\_AUXP F26  
CPU\_DP2\_AUXN E26  
  
CPU\_DP3\_P0 C34  
CPU\_DP3\_N0 D34  
CPU\_DP3\_P1 B36  
CPU\_DP3\_N1 B34  
CPU\_DP3\_P2 F33  
CPU\_DP3\_N2 E33  
CPU\_DP3\_P3 C33  
CPU\_DP3\_N3 B33  
  
CPU\_DP3\_AUXP A27  
CPU\_DP3\_AUXN B27

UC1D

DDI1\_TXP\_0  
DDI1\_TXN\_0  
DDI1\_TXP\_1  
DDI1\_TXN\_1  
DDI1\_TXP\_2  
DDI1\_TXN\_2  
DDI1\_TXP\_3  
DDI1\_TXN\_3  
  
DDI1\_AUXP  
DDI1\_AUXN  
  
DDI2\_TXP\_0  
DDI2\_TXN\_0  
DDI2\_TXP\_1  
DDI2\_TXN\_1  
DDI2\_TXP\_2  
DDI2\_TXN\_2  
DDI2\_TXP\_3  
DDI2\_TXN\_3  
  
DDI2\_AUXP  
DDI2\_AUXN  
  
DDI3\_TXP\_0  
DDI3\_TXN\_0  
DDI3\_TXP\_1  
DDI3\_TXN\_1  
DDI3\_TXP\_2  
DDI3\_TXN\_2  
DDI3\_TXP\_3  
DDI3\_TXN\_3  
  
DDI3\_AUXP  
DDI3\_AUXN

CFL-H

EDP\_TXP\_0  
EDP\_TXN\_0  
EDP\_TXP\_1  
EDP\_TXN\_1  
EDP\_TXP\_2  
EDP\_TXN\_2  
EDP\_TXP\_3  
EDP\_TXN\_3  
  
EDP\_AUXP  
EDP\_AUXN

EDP\_DISP\_UTIL  
DISP\_RCOMP

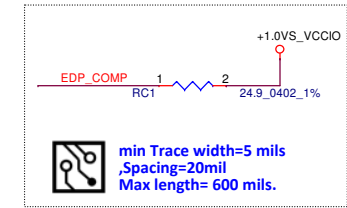
D29 EDP\_TXP0  
E29 EDP\_TXN0  
F28 EDP\_TXP1  
E28 EDP\_TXN1  
A29 EDP\_TXP2  
B29 EDP\_TXN2  
C28 EDP\_TXP3  
B28 EDP\_TXN3

A33 PAD-D @ T194  
D37 EDP\_COMP

G27 AUD\_AZACPU\_SCLK  
G28 AUD\_AZACPU\_SDO  
G29 AUD\_AZACPU\_SDI  
4 of 4 PROC\_AUDIO\_SDO

AUD\_AZACPU\_SDI 1 RC66 2 AUD\_AZACPU\_SDI\_R 20\_0402\_5% AUD\_AZACPU\_SDI\_R <18>

MUX PS8331



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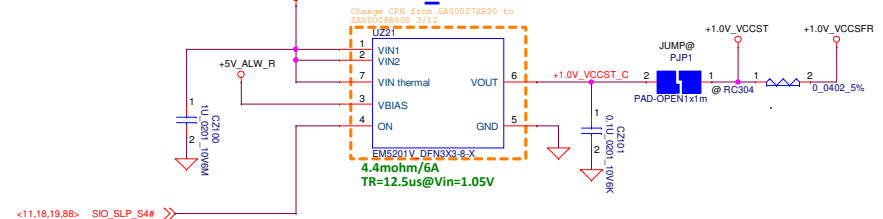
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CFL-H(4/8) DDI,eDP

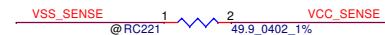
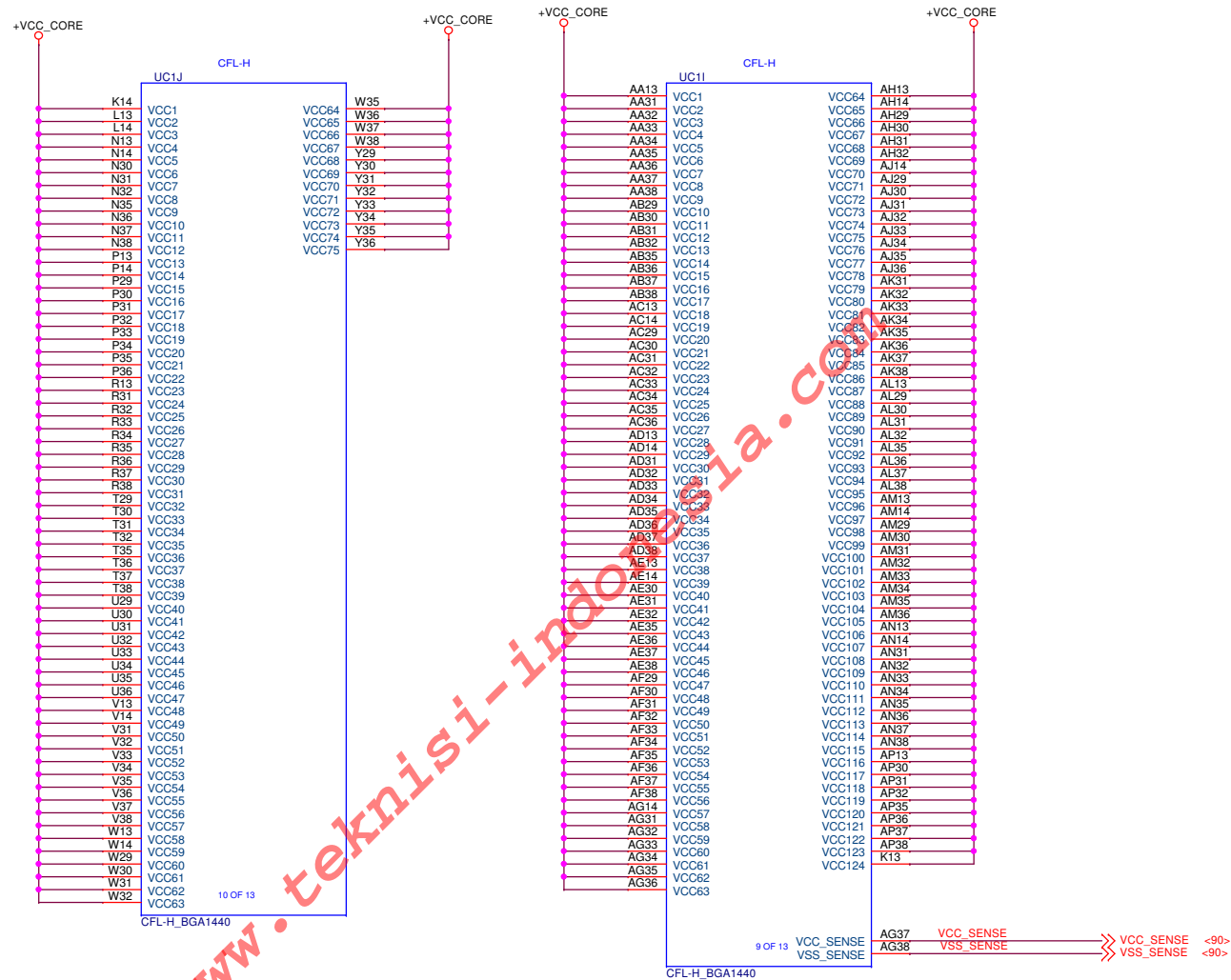
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CFL-H		
UC1F		
A10	VSS_1	VSS_82
A16	VSS_2	VSS_83
A18	VSS_3	VSS_84
A20	VSS_4	VSS_85
A22	VSS_5	VSS_86
A24	VSS_6	VSS_87
A26	VSS_7	VSS_88
A28	VSS_8	VSS_89
A30	VSS_9	VSS_90
A6	VSS_10	VSS_91
A9	VSS_11	VSS_92
AA12	VSS_12	VSS_93
AA29	VSS_13	VSS_94
AA30	VSS_14	VSS_95
AB33	VSS_15	VSS_96
AB34	VSS_16	VSS_97
AB6	VSS_17	VSS_98
AC1	VSS_18	VSS_99
AC12	VSS_19	VSS_100
AC2	VSS_20	VSS_101
AC3	VSS_21	VSS_102
AC37	VSS_22	VSS_103
AC38	VSS_23	VSS_104
AC4	VSS_24	VSS_105
AC5	VSS_25	VSS_106
AC6	VSS_26	VSS_107
AD10	VSS_27	VSS_108
AD11	VSS_28	VSS_109
AD12	VSS_29	VSS_110
AD29	VSS_30	VSS_111
AD30	VSS_31	VSS_112
AD6	VSS_32	VSS_113
AD8	VSS_33	VSS_114
AD9	VSS_34	VSS_115
AE33	VSS_35	VSS_116
AE34	VSS_36	VSS_117
AE6	VSS_37	VSS_118
AF1	VSS_38	VSS_119
AF12	VSS_39	VSS_120
AF13	VSS_40	VSS_121
AF14	VSS_41	VSS_122
AF2	VSS_42	VSS_123
AF3	VSS_43	VSS_124
AF4	VSS_44	VSS_125
AG10	VSS_45	VSS_126
AG11	VSS_46	VSS_127
AG13	VSS_47	VSS_128
AG29	VSS_48	VSS_129
AG30	VSS_49	VSS_130
AG6	VSS_50	VSS_131
AG7	VSS_51	VSS_132
AG8	VSS_52	VSS_133
AH12	VSS_53	VSS_134
AH33	VSS_54	VSS_135
AH34	VSS_55	VSS_136
AH35	VSS_56	VSS_137
AH36	VSS_57	VSS_138
AH6	VSS_58	VSS_139
AJ1	VSS_59	VSS_140
AJ13	VSS_60	VSS_141
AJ2	VSS_61	VSS_142
AJ3	VSS_62	VSS_143
AJ37	VSS_63	VSS_144
AJ38	VSS_64	VSS_145
AJ4	VSS_65	VSS_146
AJ5	VSS_66	VSS_147
AJ6	VSS_67	VSS_148
W4	VSS_68	VSS_149
W5	VSS_69	VSS_150
Y10	VSS_70	VSS_151
Y11	VSS_71	VSS_152
Y13	VSS_72	VSS_153
Y14	VSS_73	VSS_154
Y37	VSS_74	VSS_155
Y38	VSS_75	VSS_156
Y7	VSS_76	VSS_157
Y8	VSS_77	VSS_158
Y9	VSS_78	VSS_159
AK29	VSS_79	VSS_160
AK30	VSS_80	VSS_161
	VSS_81	VSS_162

CFL-H\_BGA1440

CFL-H		
UC1G		
AW5	VSS_163	VSS_244
AY12	VSS_164	VSS_245
AY33	VSS_165	VSS_246
AY34	VSS_166	VSS_247
B9	VSS_167	VSS_248
BA10	VSS_168	VSS_249
BA11	VSS_169	VSS_250
BA12	VSS_170	VSS_251
BA37	VSS_171	VSS_252
BA38	VSS_172	VSS_253
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BA8	VSS_175	VSS_256
BA9	VSS_176	VSS_257
BB1	VSS_177	VSS_258
BB12	VSS_178	VSS_259
BB2	VSS_179	VSS_260
BB29	VSS_180	VSS_261
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BC34	VSS_190	VSS_271
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BD12	VSS_194	VSS_275
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BF34	VSS_210	VSS_291
BF6	VSS_211	VSS_292
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BG14	VSS_214	VSS_295
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BG38	VSS_216	VSS_297
BG6	VSS_217	VSS_298
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BH10	VSS_219	VSS_300
BH11	VSS_220	VSS_301
BH12	VSS_221	VSS_302
BH14	VSS_222	VSS_303
BH2	VSS_223	VSS_304
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BH4	VSS_225	VSS_306
BH5	VSS_226	VSS_307
BH6	VSS_227	VSS_308
BH7	VSS_228	VSS_309
BH8	VSS_229	VSS_310
BH9	VSS_230	VSS_311
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I3	VSS_232	VSS_313
I33	VSS_233	VSS_314
I34	VSS_234	VSS_315
T4	VSS_235	VSS_316
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T7	VSS_237	VSS_318
T8	VSS_238	VSS_319
T9	VSS_239	VSS_320
U37	VSS_240	VSS_321
U38	VSS_241	VSS_322
BU12	VSS_242	VSS_323
BU14	VSS_243	VSS_324

CFL-H\_BGA1440

CFL-H		
UC1H		
BN4	VSS_325	VSS_409
BN7	VSS_326	VSS_410
BP12	VSS_327	VSS_411
BP14	VSS_328	VSS_412
BP18	VSS_329	VSS_413
BP21	VSS_330	VSS_414
BP24	VSS_331	VSS_415
BP25	VSS_332	VSS_416
BP26	VSS_333	VSS_417
BP29	VSS_334	VSS_418
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BP34	VSS_336	VSS_420
BP7	VSS_337	VSS_421
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BR36	VSS_347	VSS_431
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BT26	VSS_354	VSS_438
BT29	VSS_355	VSS_439
BT32	VSS_356	VSS_440
BT5	VSS_357	VSS_441
C11	VSS_358	VSS_442
C13	VSS_359	VSS_443
C15	VSS_360	VSS_444
C17	VSS_361	VSS_445
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C5	VSS_370	VSS_454
C8	VSS_371	VSS_455
C9	VSS_372	VSS_456
D10	VSS_373	VSS_457
D12	VSS_374	VSS_458
D14	VSS_375	VSS_459
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D26	VSS_381	VSS_465
D28	VSS_382	VSS_466
D3	VSS_383	VSS_467
D30	VSS_384	VSS_468
D33	VSS_385	VSS_469
D6	VSS_386	VSS_470
D9	VSS_387	VSS_471
E34	VSS_388	VSS_472
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E4	VSS_391	VSS_475
E9	VSS_392	VSS_476
N3	VSS_393	VSS_477
N33	VSS_394	VSS_478
N34	VSS_395	VSS_479
N4	VSS_396	
N5	VSS_397	VSS_A3
N6	VSS_398	VSS_A34
N7	VSS_399	VSS_A4
N8	VSS_400	VSS_B3
N9	VSS_401	VSS_B37
P12	VSS_402	VSS_BR38
P37	VSS_403	VSS_BT3
M14	VSS_404	VSS_BT35
M6	VSS_405	VSS_BT36
N1	VSS_406	VSS_BT4
F11	VSS_407	VSS_C2
F13	VSS_408	VSS_D38

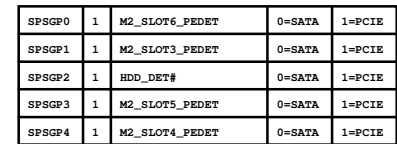
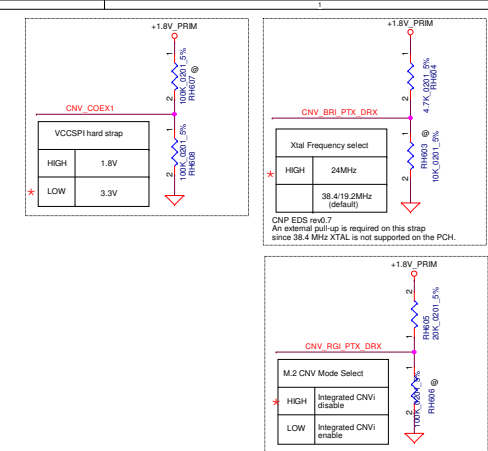
CFL-H\_BGA1440

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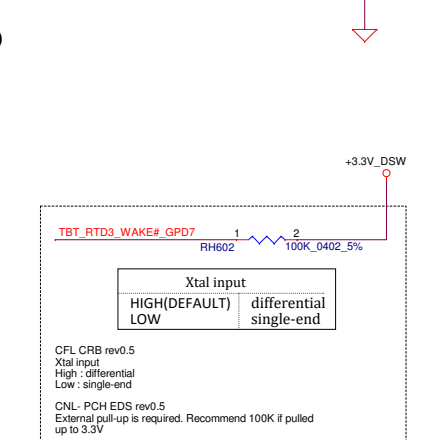
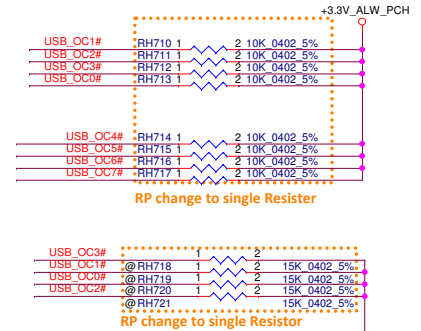
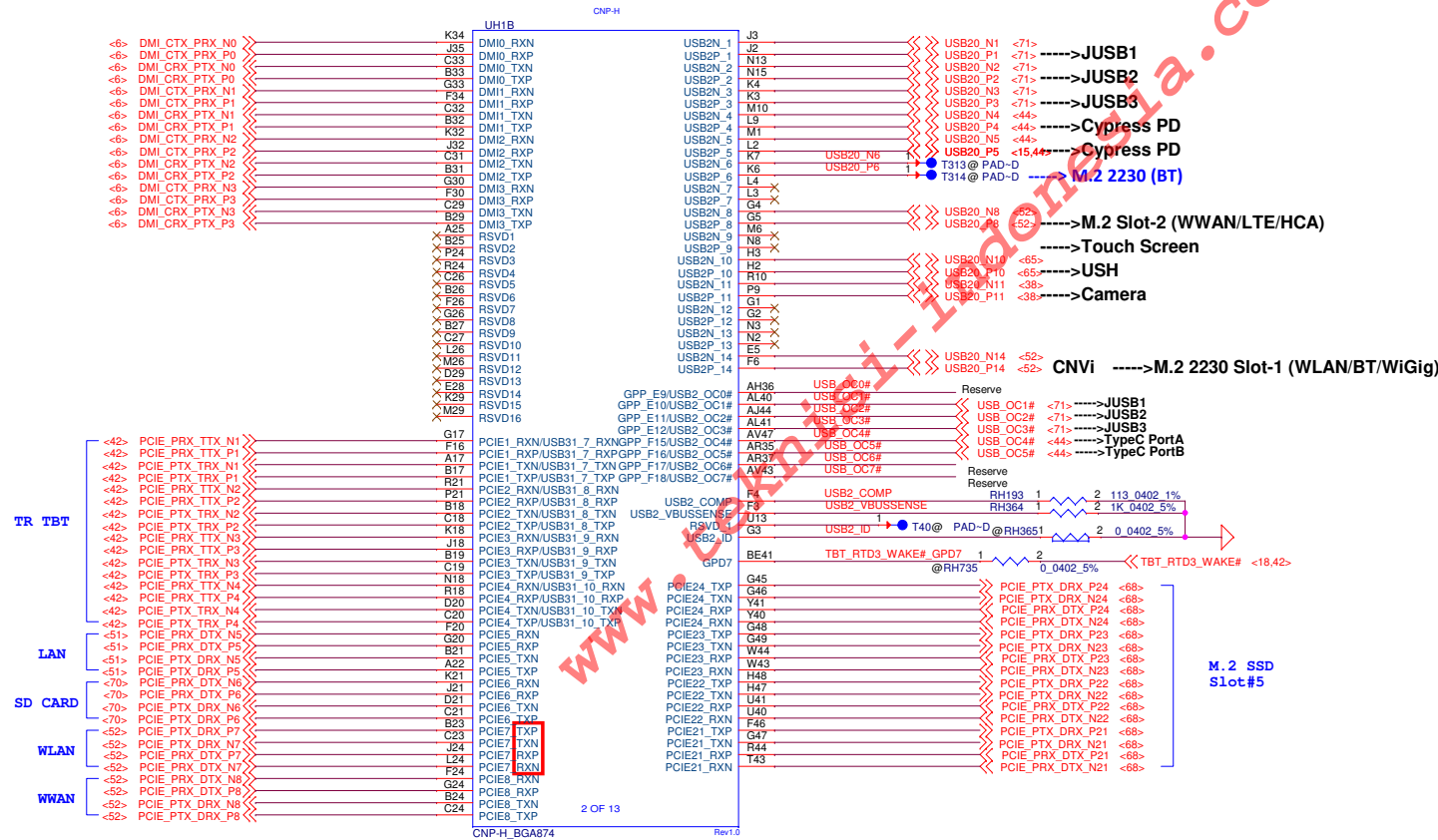
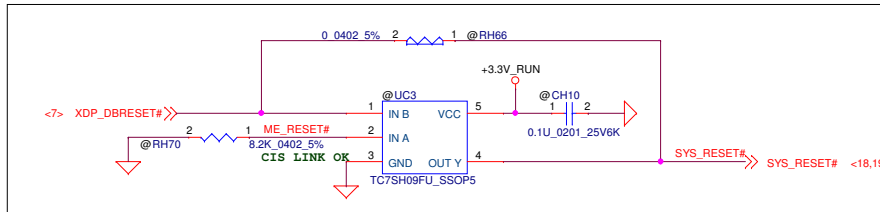
Compal Electronics, Inc.

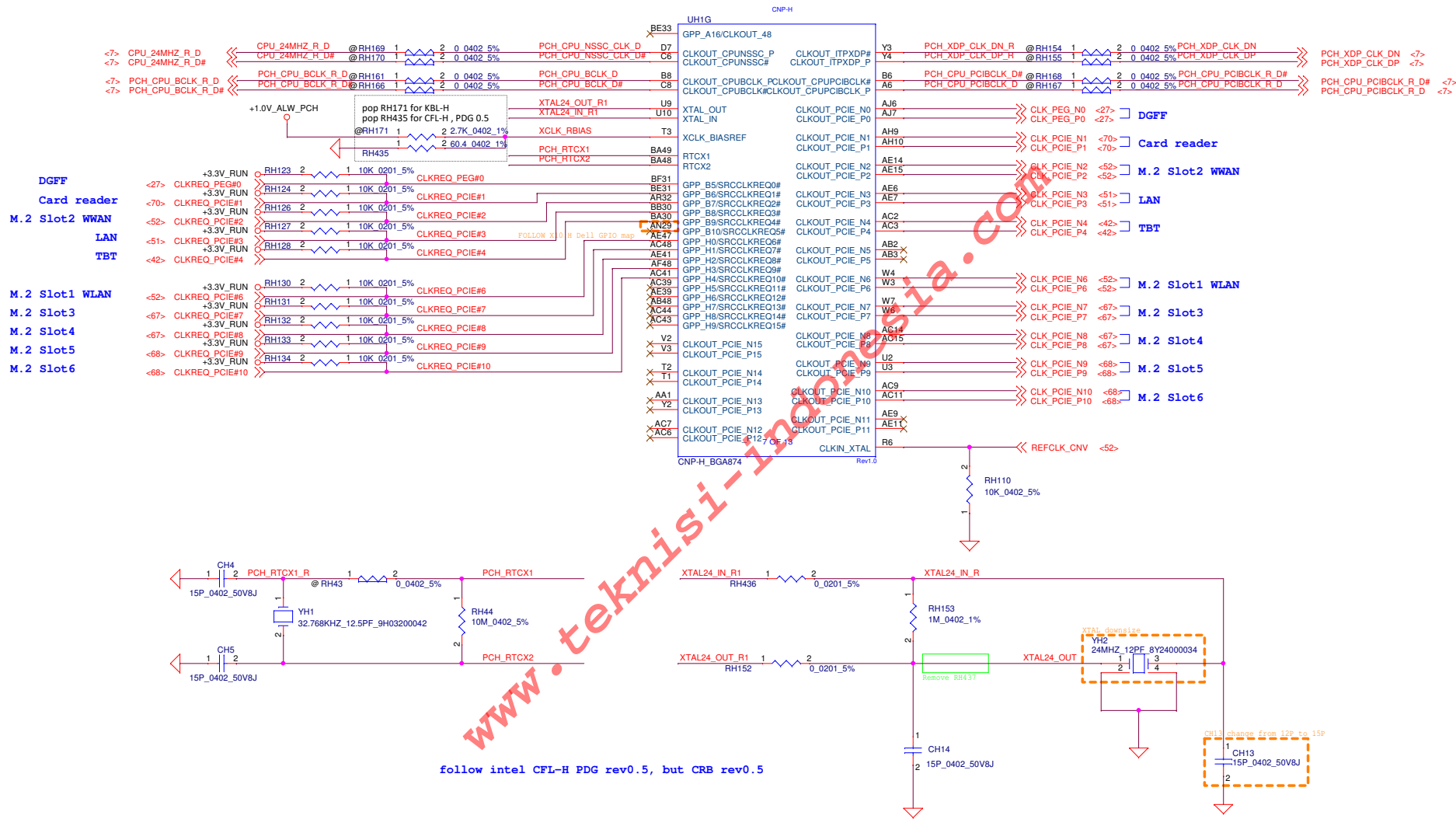
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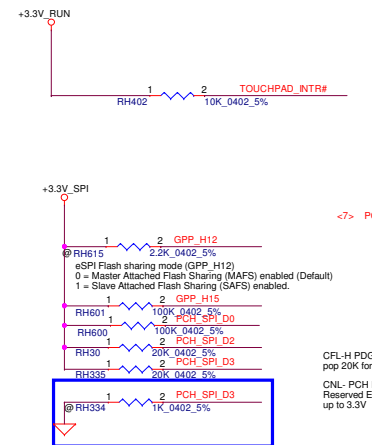
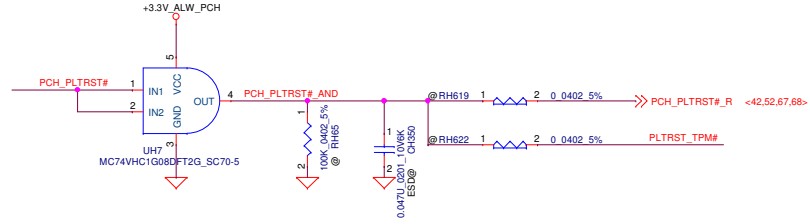
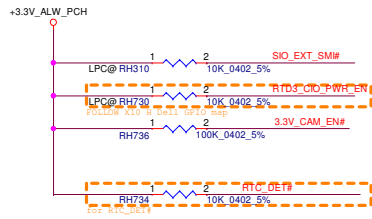
Security Classification		Compal Secret Data		Title <b>Compal Electronics, Inc.</b> <b>CFL-H(8/8) GND</b>
Issued Date	2016/01/01	Deciphered Date	2017/01/01	
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Size Custom	Document Number <b>LA-H281P</b>			Rev 1.0
Date:	Tuesday, April 09, 2019	Sheet	13	of 103







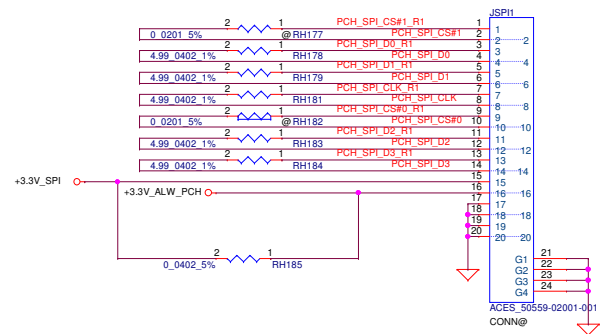
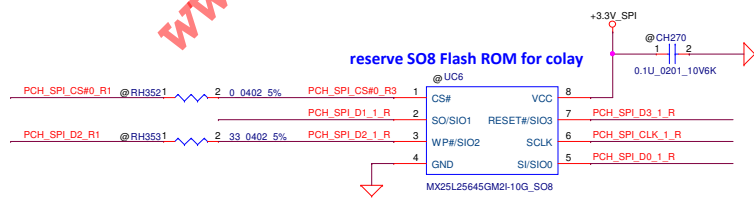
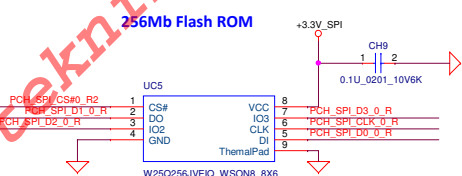
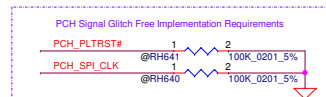
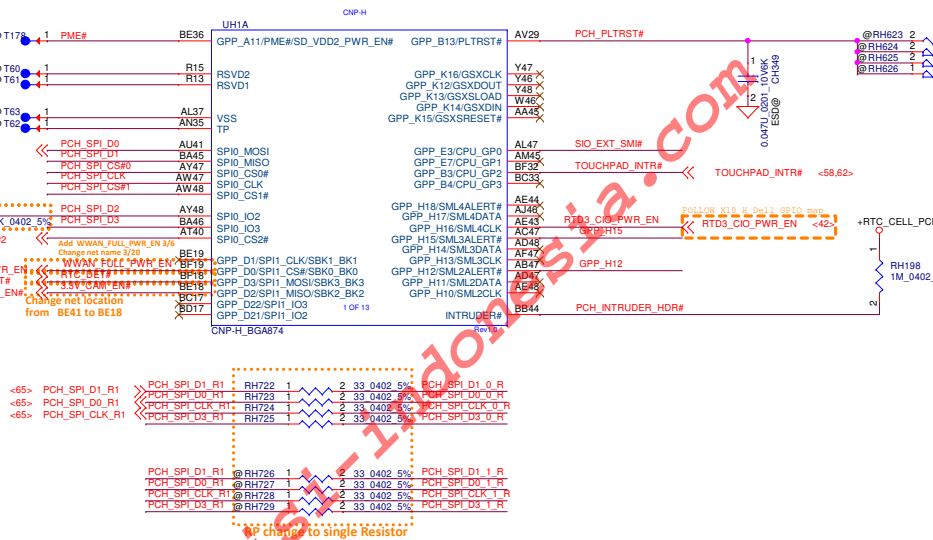
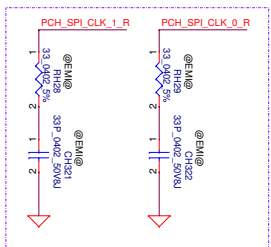




CFL-H PDG rev0.7  
pop 20K for SPD\_IO2/3  
CNL: PCH EDS rev0.5  
Reserved External pull-up is required. Recommend 100K if pulled up to 3.3V

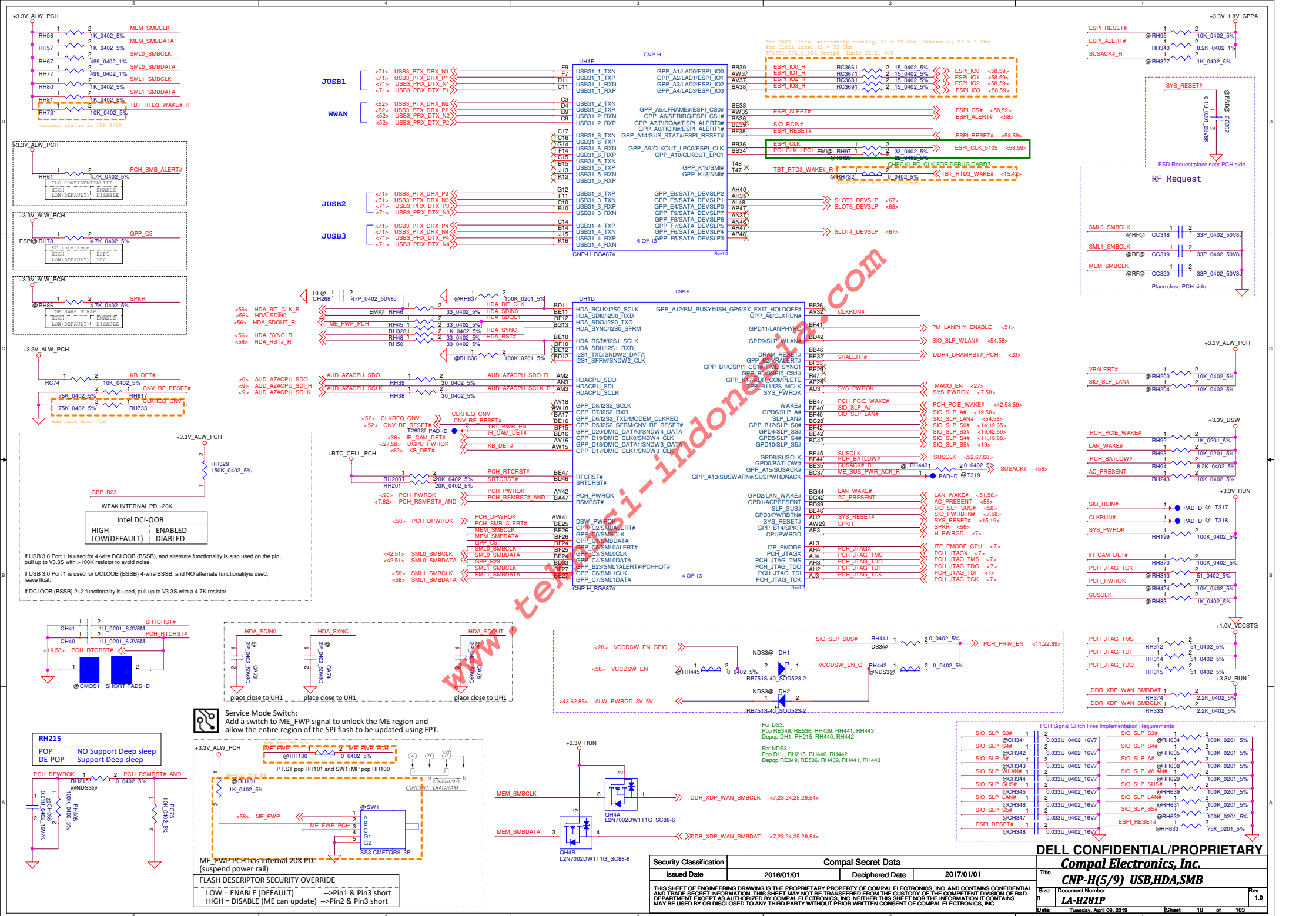
9/5 MOW  
Option 1: Implement a 1 kOhm pull-down resistor on the signal and de-populate the required 1 kOhm pull-up resistor. In this case, customers must ensure that the SPI flash device on the platform has HOLD functionality disabled by default.  
Note that the pull down resistor on SPD\_IO3 is only needed for SKL U/Y platforms with ES and SKL S/H platforms with pre-ES1/ES1 samples.

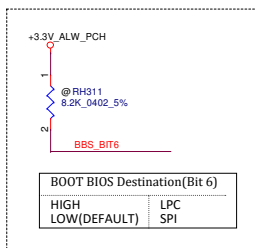
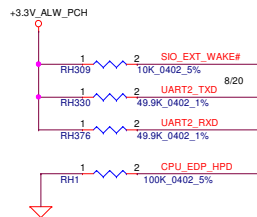
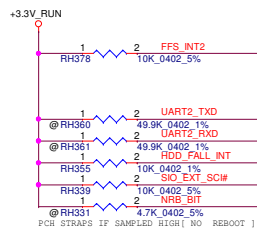
	ESPI	LPC
RH351	33 ohm	15 ohm
RPC1	33 ohm	15 ohm
RH178, RH179, RH181, RH182, RH183, RH184	0 ohm	25 ohm



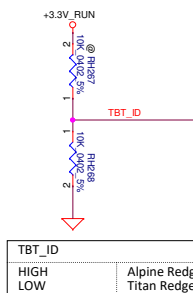
**DELL CONFIDENTIAL/PROPRIETARY**  
**Compal Electronics, Inc.**  
**CNP-H(4/9) SPI,PLTRST**

Security Classification	Compal Secret Data		Title
Issued Date	2016/01/01	Deciphered Date	2017/01/01
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			Document Number
			LA-H281P
			Rev 1.0
			Date: Tuesday, April 09, 2019
			Sheet 17 of 103

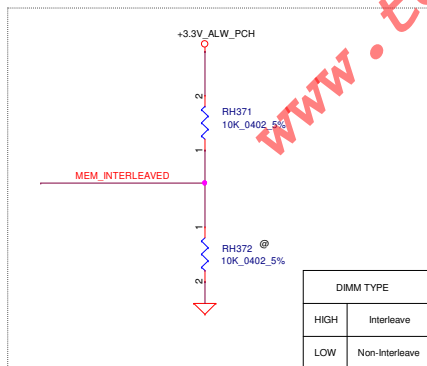




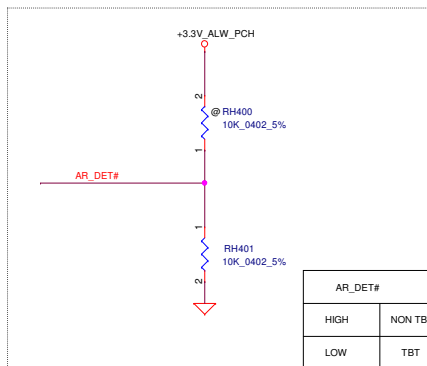
BOOT BIOS Destination(Bit 6)	
HIGH	LPC
LOW(DEFAULT)	SPI



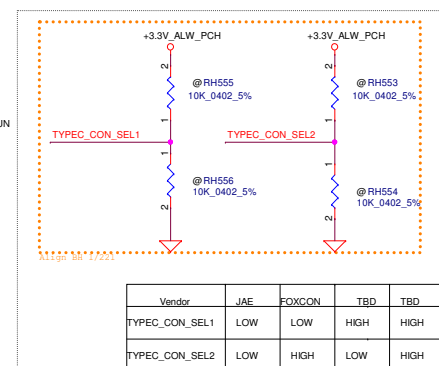
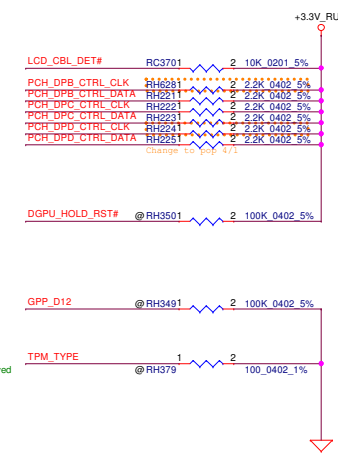
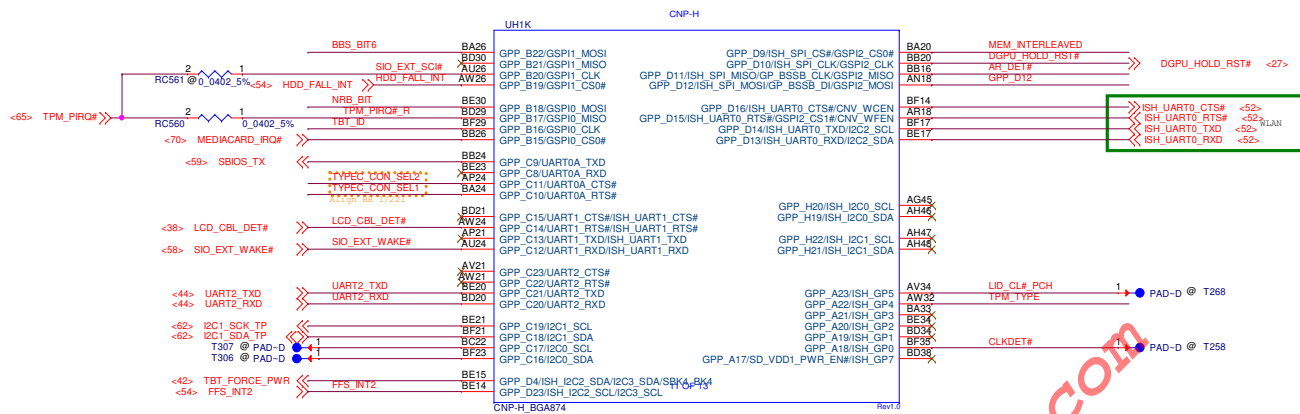
TBT_ID	
HIGH	Alpine Redge
LOW	Titan Redge



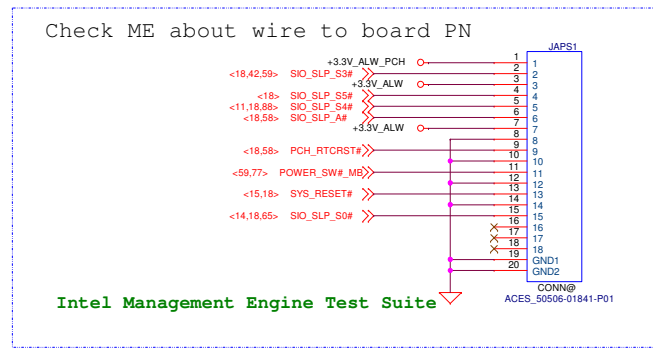
DIMM TYPE	
HIGH	Interleave
LOW	Non-Interleave



AR_DET#	
HIGH	NON TBT
LOW	TBT



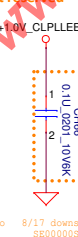
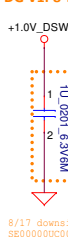
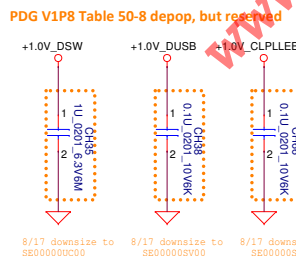
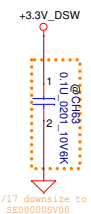
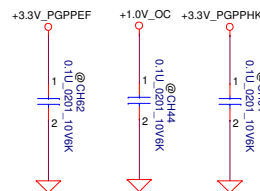
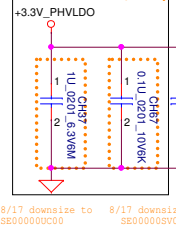
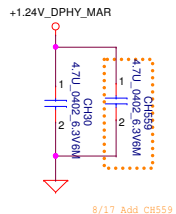
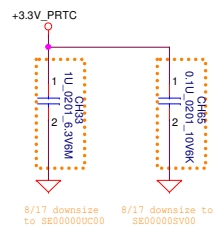
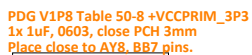
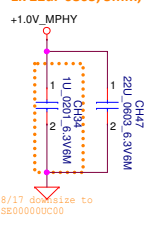
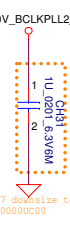
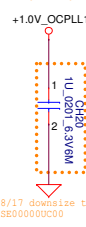
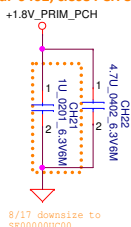
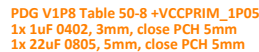
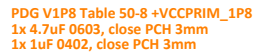
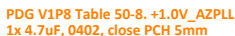
Vendor	JAE	FOXCON	TBD	TBD
TYPECON_SEL1	LOW	LOW	HIGH	HIGH
TYPECON_SEL2	LOW	HIGH	LOW	HIGH



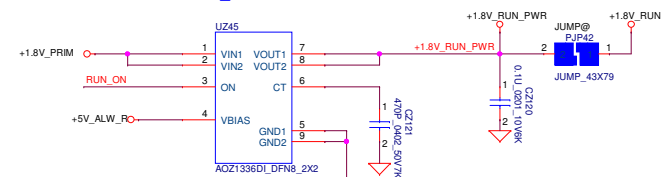
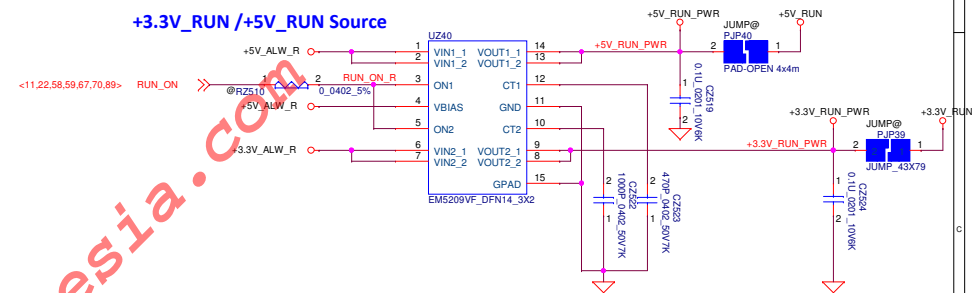
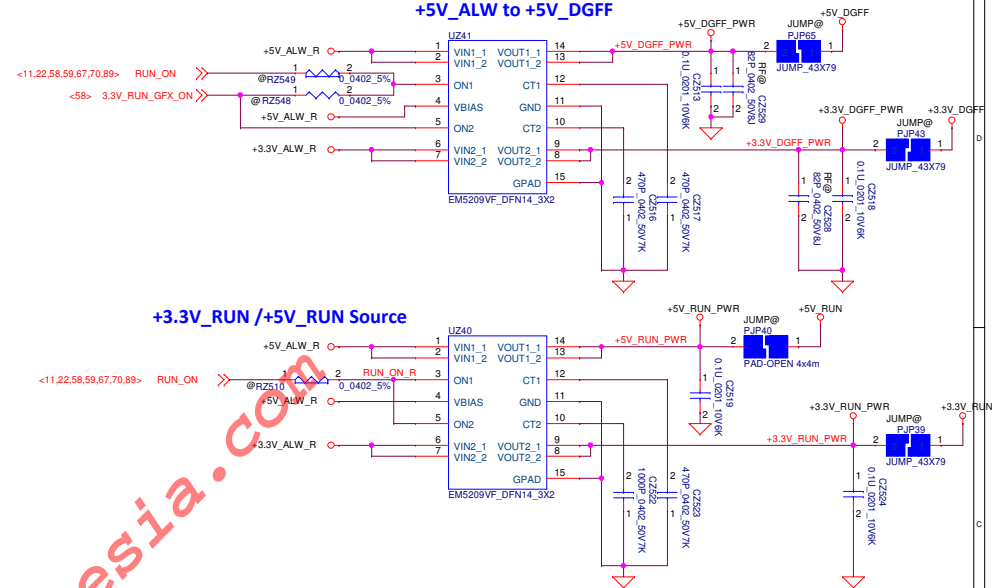
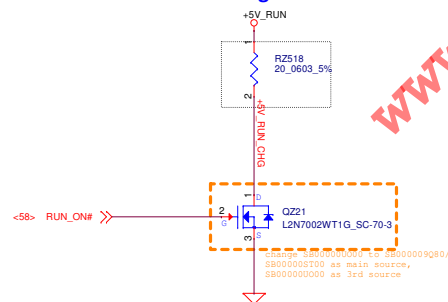
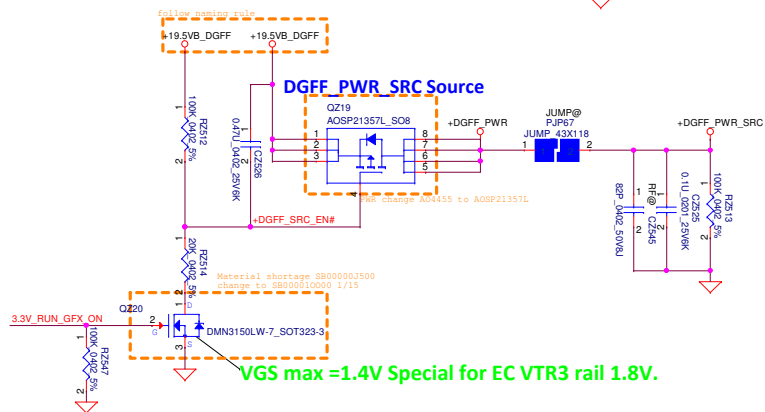
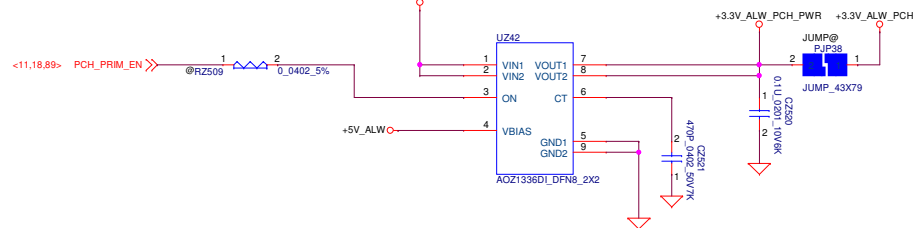
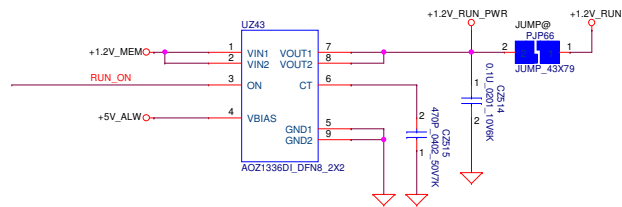






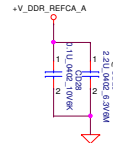
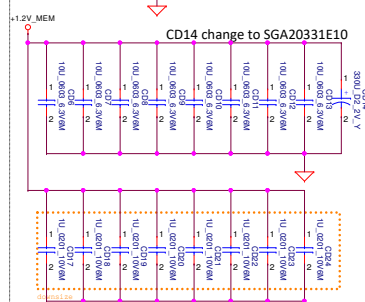


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UHL1			UHL1		
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A28	VSS2	VSS74	AL17	BG33	M32
A3	VSS3	VSS75	AL21	BG37	M34
A33	VSS4	VSS76	AL24	BG4	M38
A37	VSS5	VSS77	AL26	BG48	M49
A4	VSS6	VSS78	AL29	B48	M5
A45	VSS7	AL33	C12	VSS149	VSS200
A46	VSS7	VSS79	AL38	C25	VSS201
A47	VSS8	VSS80	AM1	C30	VSS202
A48	VSS9	VSS81	AM18	VSS152	VSS203
A5	VSS10	VSS82	AM32	C4	VSS204
A8	VSS11	VSS83	AM49	C5	VSS205
AA19	VSS12	VSS84	AN12	VSS155	VSS206
AA20	VSS13	VSS85	AN16	VSS156	VSS207
AA25	VSS14	VSS86	AN34	D16	VSS208
AA27	VSS15	VSS87	AN38	D17	P29
AA28	VSS16	VSS88	AP4	D30	P4
AA30	VSS17	VSS89	AP46	D33	VSS219
AA31	VSS18	VSS90	AR16	D8	VSS211
AA49	VSS19	VSS91	AR16	E10	VSS212
AA5	VSS20	VSS92	AR34	E13	VSS213
AB19	VSS21	VSS93	AR38	E15	VSS214
AB25	VSS22	VSS94	AT1	E17	VSS215
AB31	VSS23	VSS95	AT16	E19	VSS216
AC12	VSS24	VSS96	AT18	E22	VSS217
AC17	VSS25	VSS97	AT21	E24	VSS218
AC33	VSS26	VSS98	AT24	E26	VSS219
AC38	VSS27	VSS99	AT26	E31	VSS220
AC4	VSS28	VSS100	AT29	E33	VSS221
AC46	VSS29	VSS101	AT32	E35	VSS222
AD1	VSS30	VSS102	A40	VSS172	VSS223
AD16	VSS31	VSS103	A42	VSS173	T5
AD19	VSS32	VSS104	AT45	E40	VSS224
AD2	VSS33	VSS105	AV11	E8	VSS225
AD22	VSS34	VSS106	AW10	F43	VSS227
AD25	VSS35	VSS107	AW4	F47	VSS228
AD49	VSS36	VSS108	AW40	G44	VSS229
AE12	VSS37	VSS109	AW46	H8	VSS230
AE33	VSS38	VSS110	B47	J10	VSS231
AE4	VSS39	VSS111	B48	VSS181	VSS232
AE46	VSS40	VSS112	B49	VSS182	VSS233
AF24	VSS41	VSS113	BA12	VSS183	VSS234
AF25	VSS42	VSS114	BA14	J4	VSS235
AF28	VSS43	VSS115	BA44	J40	VSS236
AG1	VSS44	VSS116	BA5	VSS185	VSS237
AG22	VSS45	VSS117	BA5	J46	VSS238
AG23	VSS46	VSS118	BB41	J47	VSS239
AG25	VSS47	VSS119	BB43	J9	VSS240
AG27	VSS48	VSS120	BB9	K11	VSS241
AG28	VSS49	VSS121	BC10	K39	VSS242
AG30	VSS50	VSS122	BC13	M16	VSS243
AG49	VSS51	VSS123	BC15	M18	VSS244
AH12	VSS52	VSS124	BC19	M21	VSS245
AH17	VSS53	VSS125	BC19	M21	VSS246
AH33	VSS54	VSS126	BC26	M18	VSS247
AH38	VSS55	VSS127	BC31	BC24	Y8
AJ19	VSS56	VSS128	BC35	BC24	Y8
AJ20	VSS57	VSS129	BC40	BC24	Y8
AJ25	VSS58	VSS130	BC45	BC24	Y8
AJ27	VSS59	VSS131	BC8	BC24	Y8
AJ28	VSS60	VSS132	BD43	BC24	Y8
AJ30	VSS61	VSS133	BE44	BC24	Y8
AJ31	VSS62	VSS134	BF1	BC24	Y8
AK19	VSS63	VSS135	BF2	BC24	Y8
AK20	VSS64	VSS136	BF3	BC24	Y8
AK25	VSS65	VSS137	BF48	BC24	Y8
AK27	VSS66	VSS138	BF49	BC24	Y8
AK28	VSS67	VSS139	BG17	BC24	Y8
AK30	VSS68	VSS140	BG2	BC24	Y8
AK31	VSS69	VSS141	BG22	BC24	Y8
AK4	VSS70	VSS142	BG25	BC24	Y8
AK46	VSS71	VSS143	BG28	BC24	Y8
	VSS72	VSS144		BC24	Y8



Date: Tuesday, April 09, 2019		Sheet 22 of 103	
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<8.24> DDR\_A\_CB[0..7] <<>  
 <8.24> DDR\_A\_DQS[0..3] <<>  
 <8.24> DDR\_A\_DQS[0..3] <<>  
 <8.24> DDR\_A\_DQS[4..7] <<>  
 <8.24> DDR\_A\_DQS[4..7] <<>  
 <8.24> DDR\_A\_D[0..63] <<>  
 <8.24> DDR\_A\_MA[0..13] >>



	SA0	SA1	SA2
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DIMM4	0	1	0
DIMM1	1	0	0
DIMM3	1	1	0



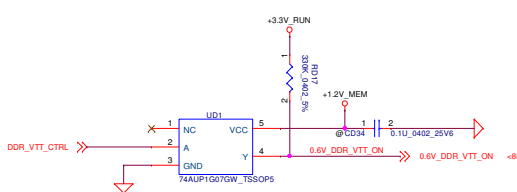
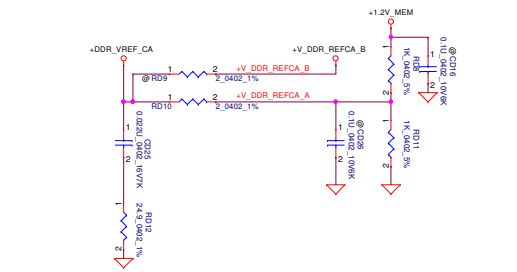
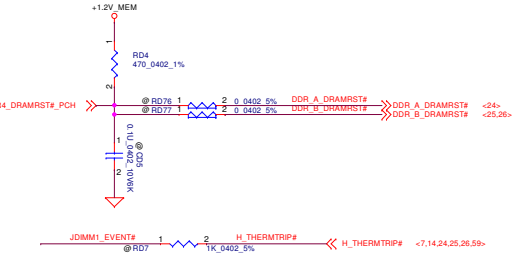
Pin 253 is connected to VSS93. Pin 254 is connected to VSS94. The diagram shows the internal connections for these pins, including the VSS93 and VSS94 labels and the pin numbers 253 and 254.



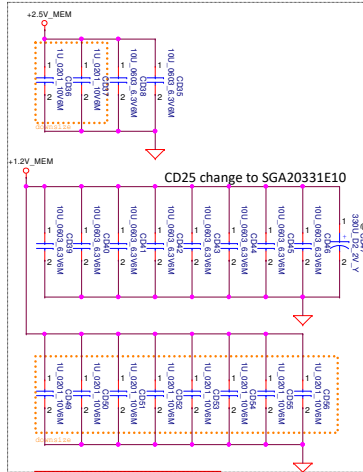
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Figure 1-12. DMM1

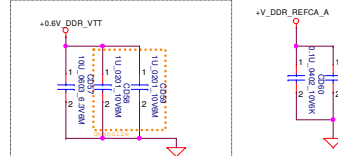
Figure 1-12 shows the pin connections for the DMM1 module. The diagram is organized into two main sections: DDR\_A (left) and DDR\_D (right). The DDR\_A section includes pins for DDR\_A D4, D0, DQ0#0, DQ0#1, D7, D3, D13, D12, D15, D14, D21, D20, DQ0#2, DQ0#3, D22, D18, D29, D28, D\_C80, D\_C85, DQ0#4, DQ0#5, D\_C83, D\_C82, D\_CKE2, D\_BG1, D\_BG0, D\_MA12, D\_MA11, D\_MA8, D\_MA5, D\_MA3, D\_MA2, D\_MA1, D\_CK2, D\_CK#2, D\_CK#2\_P, D\_BA1, D\_C82, D\_MA11, D\_O0T2, D\_C83, D\_O0T3, PAD-D, D\_D33, D\_D37, DQ0#4, DQ0#5, D\_D39, D\_D38, D\_D37, D\_D36, D\_D35, D\_D34, D\_D33, D\_D32, D\_D31, D\_D30, D\_D29, D\_D28, D\_D27, D\_D26, D\_D25, D\_D24, D\_D23, D\_D22, D\_D21, D\_D20, D\_D19, D\_D18, D\_D17, D\_D16, D\_D15, D\_D14, D\_D13, D\_D12, D\_D11, D\_D10, D\_D09, D\_D08, D\_D07, D\_D06, D\_D05, D\_D04, D\_D03, D\_D02, D\_D01, D\_D00, D\_DQ0#0, D\_DQ0#1, D\_DQ0#2, D\_DQ0#3, D\_DQ0#4, D\_DQ0#5, D\_DQ0#6, D\_DQ0#7, D\_DQ0#8, D\_DQ0#9, D\_DQ0#10, D\_DQ0#11, D\_DQ0#12, D\_DQ0#13, D\_DQ0#14, D\_DQ0#15, D\_DQ0#16, D\_DQ0#17, D\_DQ0#18, D\_DQ0#19, D\_DQ0#20, D\_DQ0#21, D\_DQ0#22, D\_DQ0#23, D\_DQ0#24, D\_DQ0#25, D\_DQ0#26, 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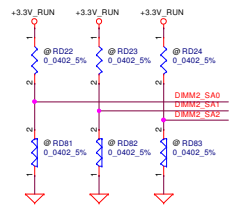


Layout Note:  
Place near JDIMM2.258



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DIMM4	0	1	0
DIMM1	1	0	0
DIMM3	1	1	0



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+2.5V\_MEM

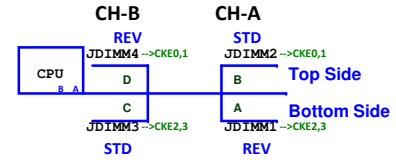
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BELLW\_80888-2021

CONN00

SP07001GA0L



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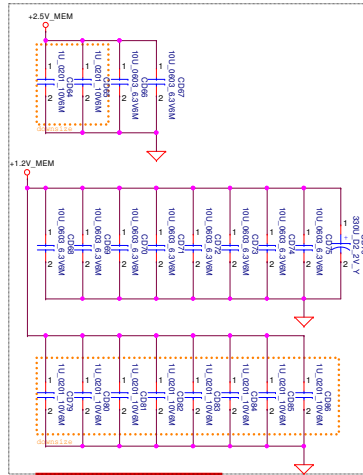
Compal Electronics, Inc.

DDR4\_DIMM2

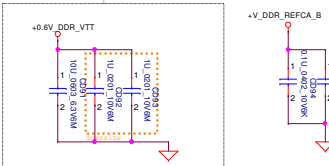
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Issued Date	2016/01/01
Deciphered Date	2017/01/01

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Date:	Tuesday, April 05, 2016	Sheet 24 of 103

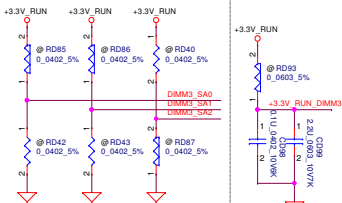


Layout Note:  
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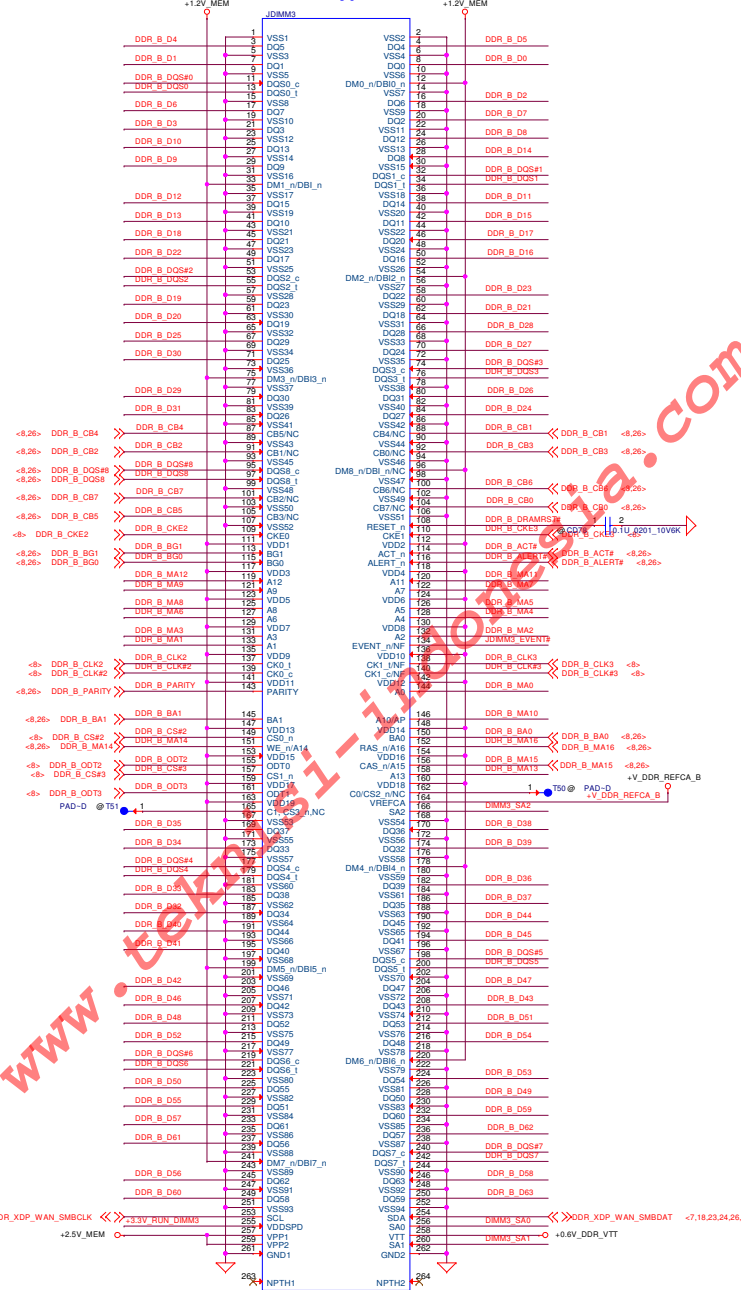
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DIMM1	1	0	0
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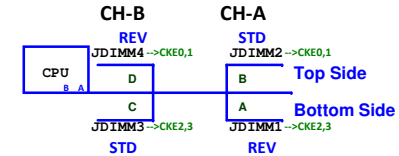


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### JDIMM3 STD Type H=5.2

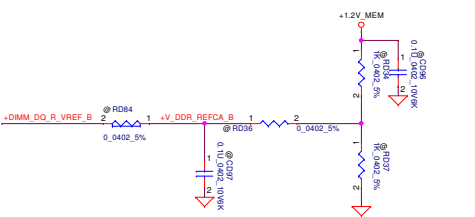
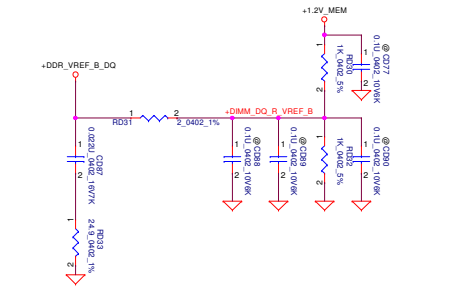


SP07001GT0L



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Compal Electronics, Inc.

DDR4\_DIMM3

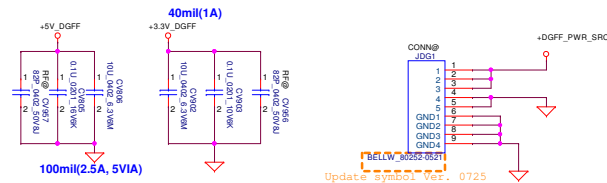
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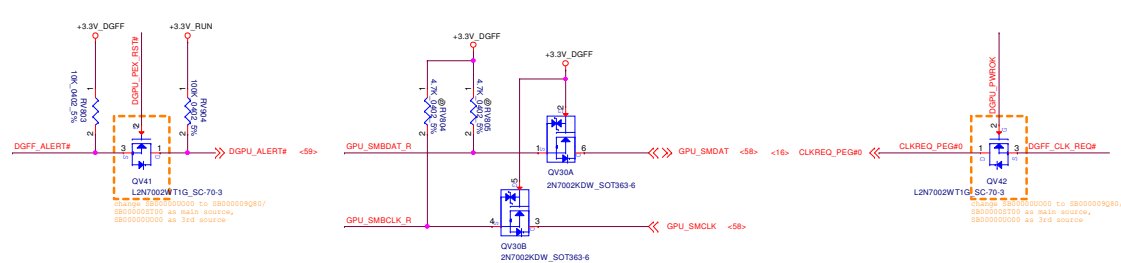
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Date:	Tuesday, April 05, 2016
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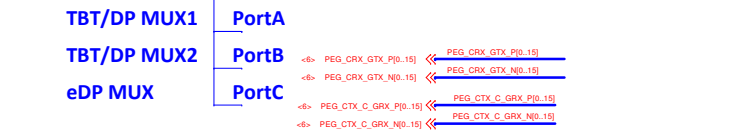
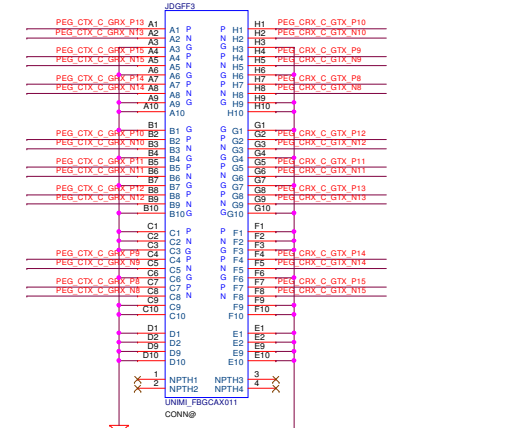
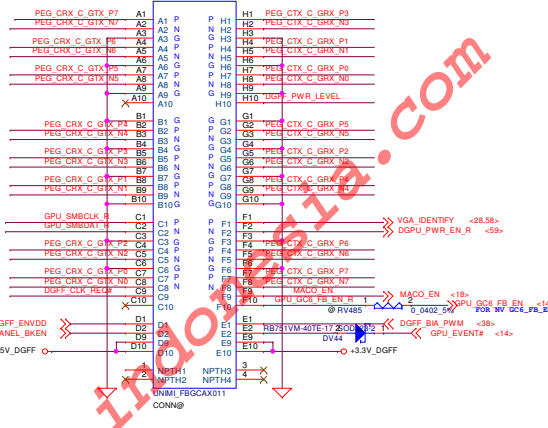
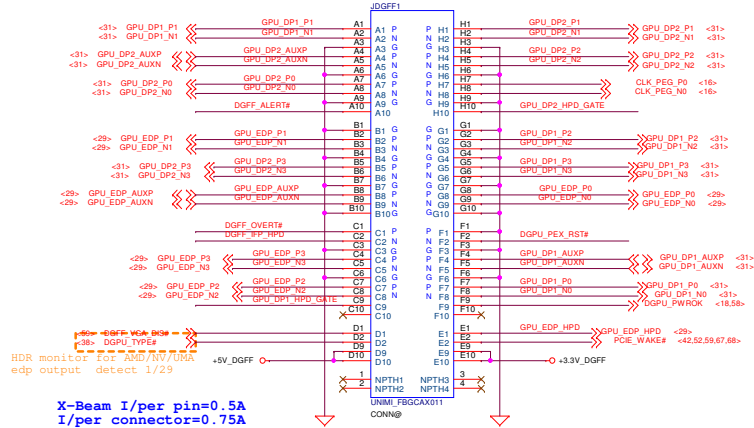


2 DP channels from GPU  
( A & B & EDP)

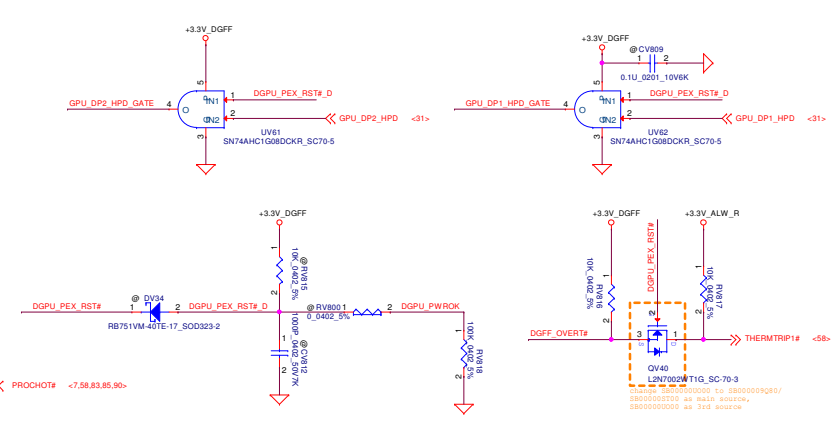
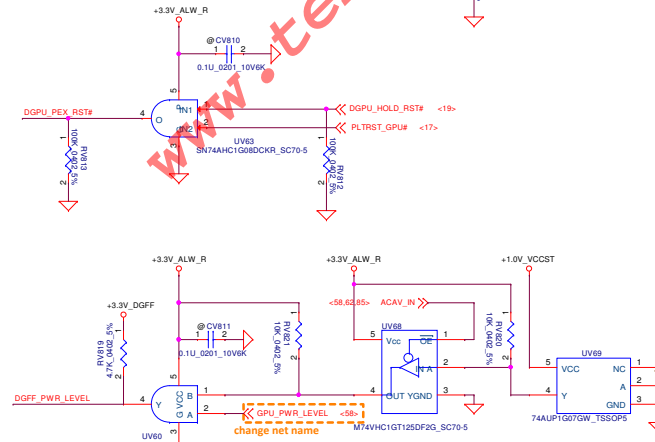


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PCIe x8 Lanes 8-15



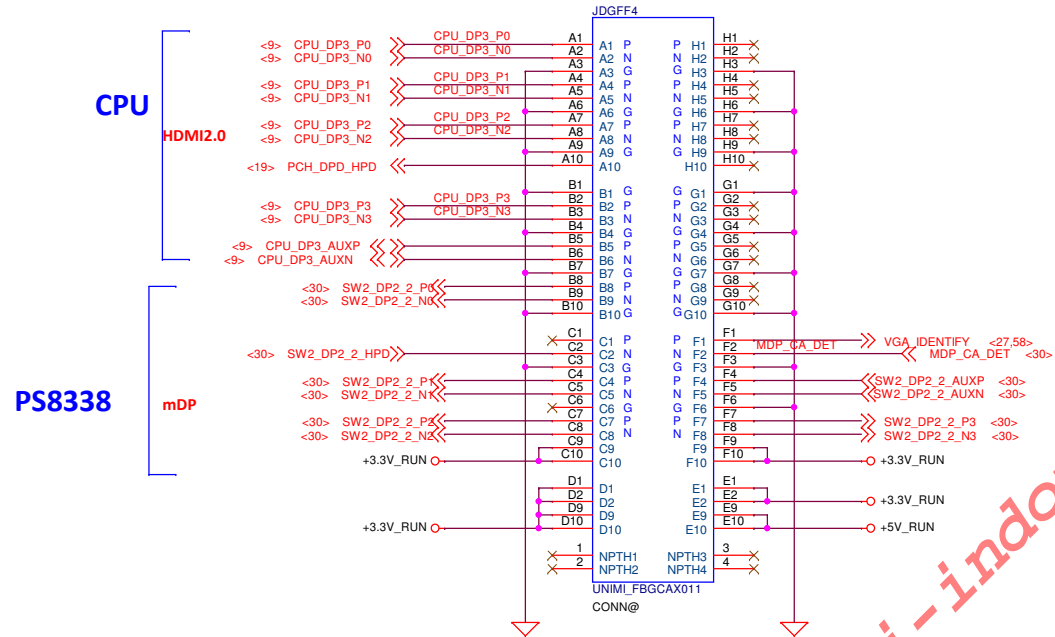
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PEG CRX GTX N9	CV446	2	1	0.22u 0201 6.3V6K	PEG CRX C GTX N9
PEG CRX GTX P10	CV447	2	1	0.22u 0201 6.3V6K	PEG CRX C GTX P10
PEG CRX GTX N10	CV448	2	1	0.22u 0201 6.3V6K	PEG CRX C GTX N10
PEG CRX GTX P11	CV449	2	1	0.22u 0201 6.3V6K	PEG CRX C GTX P11
PEG CRX GTX N11	CV450	2	1	0.22u 0201 6.3V6K	PEG CRX C GTX N11
PEG CRX GTX P12	CV451	2	1	0.22u 0201 6.3V6K	PEG CRX C GTX P12
PEG CRX GTX N12	CV452	2	1	0.22u 0201 6.3V6K	PEG CRX C GTX N12
PEG CRX GTX P13	CV453	2	1	0.22u 0201 6.3V6K	PEG CRX C GTX P13
PEG CRX GTX N13	CV454	2	1	0.22u 0201 6.3V6K	PEG CRX C GTX N13
PEG CRX GTX P14	CV455	2	1	0.22u 0201 6.3V6K	PEG CRX C GTX P14
PEG CRX GTX N14	CV456	2	1	0.22u 0201 6.3V6K	PEG CRX C GTX N14
PEG CRX GTX P15	CV457	2	1	0.22u 0201 6.3V6K	PEG CRX C GTX P15
PEG CRX GTX N15	CV458	2	1	0.22u 0201 6.3V6K	PEG CRX C GTX N15



FUNCTION TABLE		
A Input	OE Input	Y Output
0	0	0
0	1	1
1	0	0
1	1	1

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DSC DGFF

CPU

MUX1

TBT/DP

SW	DP1_GPU_SEL#
0	DGFF
1 (Default)	CPU

[IN\_YEQ1/IN\_YEQ0] =

LL: Compensate channel loss up to 8 dB @ HBR3  
 LM: Compensate channel loss up to 11 dB @ HBR3  
 LH: Compensate channel loss up to 14 dB @ HBR3  
 ML: Compensate channel loss up to 16 dB @ HBR3  
 MM: Compensate channel loss up to 17 dB @ HBR3  
 MH: Compensate channel loss up to 18 dB @ HBR3  
 HL: Compensate channel loss up to 19 dB @ HBR3  
 HM: Compensate channel loss up to 20 dB @ HBR3  
 HH: Compensate channel loss up to 21 dB @ HBR3

DSC DGFF

DEMUX

MUX2

TBT/DP

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MUS PS8461

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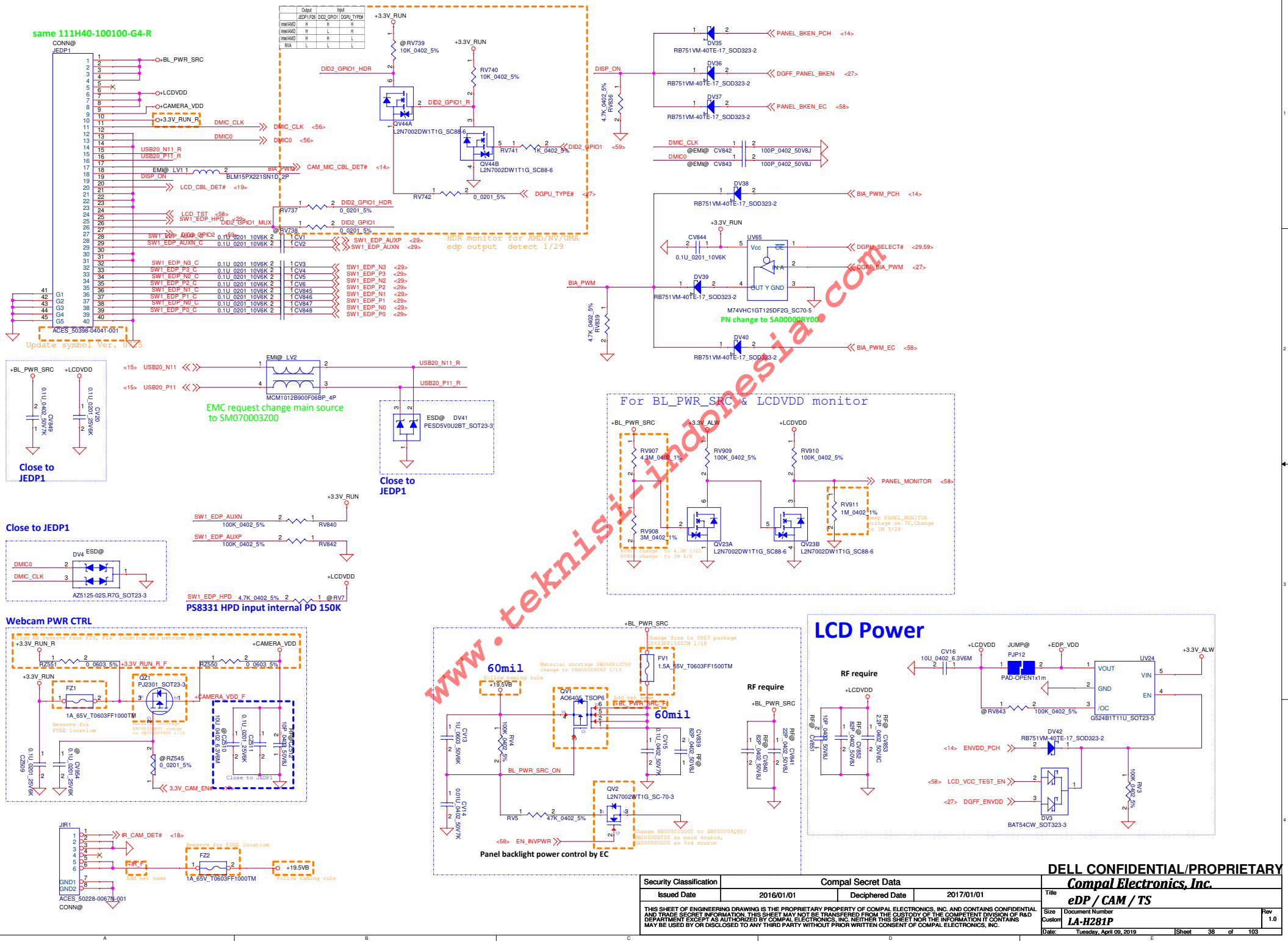
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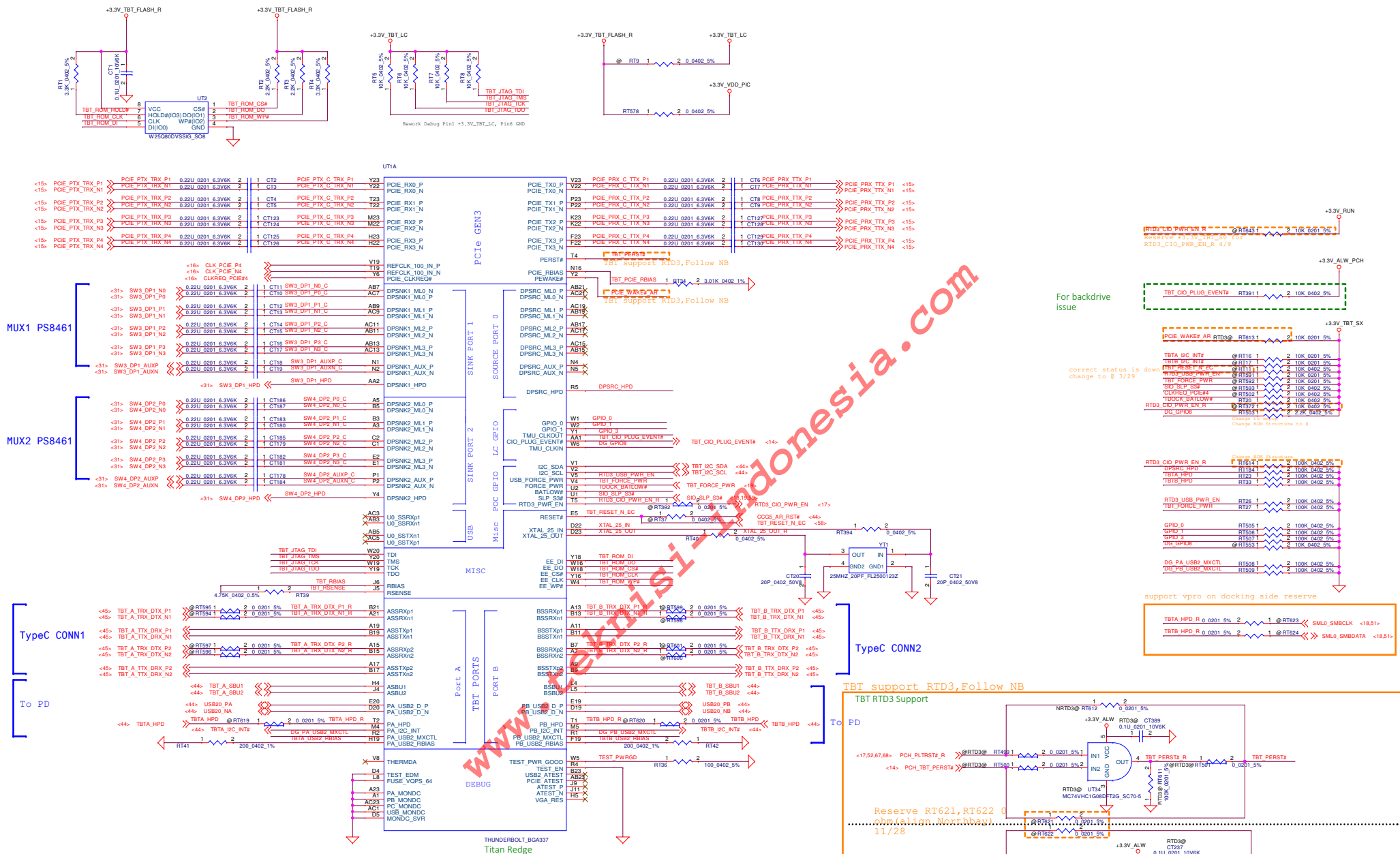
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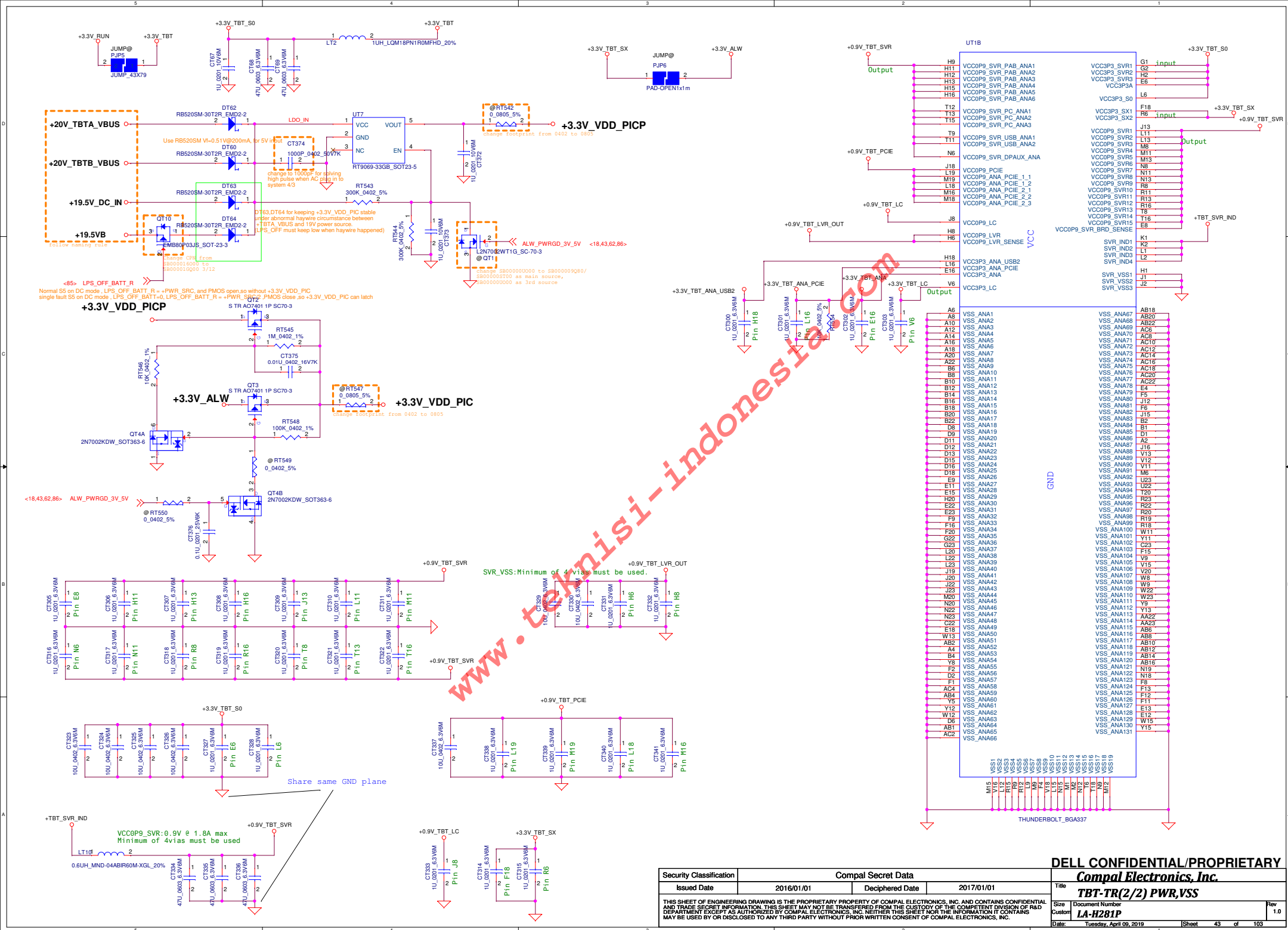
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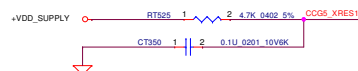
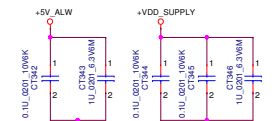
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To configure CC05 I2C address

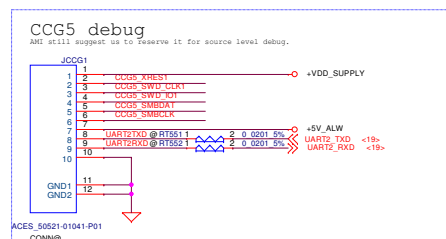


+VDD\_SUPPLY

RT526 2 1K 0402 5% CC05\_SWD\_CLK1

RT527 2 1K 0402 5%

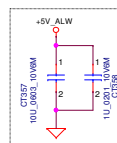
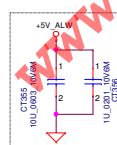
To configure CC05 I2C address  
Don't mount RT124 and RT127 for the I2C address 0x08. This is the default one.  
Mount RT127 for the I2C address 0x12.  
Mount RT126 for the I2C address 0x42.



The image contains two circuit diagrams for USB Type-C port power sharing. Both diagrams show a USB Type-C connector (UT1) connected to a USB Type-C to USB-A adapter (UT2) and a USB Type-C to USB-B adapter (UT3). The diagrams show the connection of the USB Type-C connector pins to the USB Type-C to USB-A adapter pins, and the connection of the USB Type-C to USB-B adapter pins to the USB Type-C to USB-B adapter pins. The diagrams also show the connection of the USB Type-C connector pins to the USB Type-C to USB-B adapter pins. The diagrams are labeled 'Type-C port2 USB2 Power Share'.

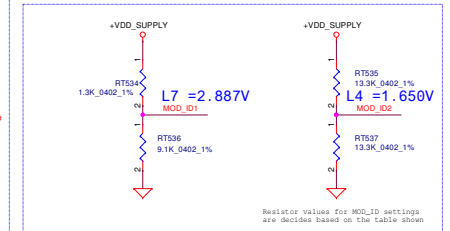
**Top Diagram: USB\_OC#1**

- USB Type-C Connector (UT1):**
  - Pin 1 (GND) to Pin 1 (GND)
  - Pin 2 (D+) to Pin 2 (D+)
  - Pin 3 (D-) to Pin 3 (D-)
  - Pin 4 (GND) to Pin 4 (GND)
  - Pin 5 (VCC) to Pin 5 (VCC)
  - Pin 6 (D+) to Pin 6 (D+)
  - Pin 7 (D-) to Pin 7 (D-)
  - Pin 8 (GND) to Pin 8 (GND)
  - Pin 9 (VCC) to Pin 9 (VCC)
  - Pin 10 (D+) to Pin 10 (D+)
  - Pin 11 (D-) to Pin 11 (D-)
  - Pin 12 (GND) to Pin 12 (GND)
  - Pin 13 (VCC) to Pin 13 (VCC)
  - Pin 14 (D+) to Pin 14 (D+)
  - Pin 15 (D-) to Pin 15 (D-)
  - Pin 16 (GND) to Pin 16 (GND)
  - Pin 17 (VCC) to Pin 17 (VCC)
  - Pin 18 (D+) to Pin 18 (D+)
  - Pin 19 (D-) to Pin 19 (D-)
  - Pin 20 (GND) to Pin 20 (GND)
  - Pin 21 (VCC) to Pin 21 (VCC)
  - Pin 22 (D+) to Pin 22 (D+)
  - Pin 23 (D-) to Pin 23 (D-)
  - Pin 24 (GND) to Pin 24 (GND)
  - Pin 25 (VCC) to Pin 25 (VCC)
  - Pin 26 (D+) to Pin 26 (D+)
  - Pin 27 (D-) to Pin 27 (D-)
  - Pin 28 (GND) to Pin 28 (GND)
  - Pin 29 (VCC) to Pin 29 (VCC)
  - Pin 30 (D+) to Pin 30 (D+)
  - Pin 31 (D-) to Pin 31 (D-)
  - Pin 32 (GND) to Pin 32 (GND)
  - Pin 33 (VCC) to Pin 33 (VCC)
  - Pin 34 (D+) to Pin 34 (D+)
  - Pin 35 (D-) to Pin 35 (D-)
  - Pin 36 (GND) to Pin 36 (GND)
  - Pin 37 (VCC) to Pin 37 (VCC)
  - Pin 38 (D+) to Pin 38 (D+)
  - Pin 39 (D-) to Pin 39 (D-)
  - Pin 40 (GND) to Pin 40 (GND)
  - Pin 41 (VCC) to Pin 41 (VCC)
  - Pin 42 (D+) to Pin 42 (D+)
  - Pin 43 (D-) to Pin 43 (D-)
  - Pin 44 (GND) to Pin 44 (GND)
  - Pin 45 (VCC) to Pin 45 (VCC)
  - Pin 46 (D+) to Pin 46 (D+)
  - Pin 47 (D-) to Pin 47 (D-)
  - Pin 48 (GND) to Pin 48 (GND)
  - Pin 49 (VCC) to Pin 49 (VCC)
  - Pin 50 (D+) to Pin 50 (D+)
  - Pin 51 (D-) to Pin 51 (D-)
  - Pin 52 (GND) to Pin 52 (GND)
  - Pin 53 (VCC) to Pin 53 (VCC)
  - Pin 54 (D+) to Pin 54 (D+)
  - Pin 55 (D-) to Pin 55 (D-)
  - Pin 56 (GND) to Pin 56 (GND)
  - Pin 57 (VCC) to Pin 57 (VCC)
  - Pin 58 (D+) to Pin 58 (D+)
  - Pin 59 (D-) to Pin 59 (D-)
  - Pin 60 (GND) to Pin 60 (GND)
  - Pin 61 (VCC) to Pin 61 (VCC)
  - Pin 62 (D+) to Pin 62 (D+)
  - Pin 63 (D-) to Pin 63 (D-)
  - Pin 64 (GND) to Pin 64 (GND)
  - Pin 65 (VCC) to Pin 65 (VCC)
  - Pin 66 (D+) to Pin 66 (D+)
  - Pin 67 (D-) to Pin 67 (D-)
  - Pin 68 (GND) to Pin 68 (GND)
  - Pin 69 (VCC) to Pin 69 (VCC)
  - Pin 70 (D+) to Pin 70 (D+)
  - Pin 71 (D-) to Pin 71 (D-)
  - Pin 72 (GND) to Pin 72 (GND)
  - Pin 73 (VCC) to Pin 73 (VCC)
  - Pin 74 (D+) to Pin 74 (D+)
  - Pin 75 (D-) to Pin 75 (D-)
  - Pin 76 (GND) to Pin 76 (GND)
  - Pin 77 (VCC) to Pin 77 (VCC)
  - Pin 78 (D+) to Pin 78 (D+)
  - Pin 79 (D-) to Pin 79 (D-)
  - Pin 80 (GND) to Pin 80 (GND)
  - Pin 81 (VCC) to Pin 81 (VCC)
  - Pin 82 (D+) to Pin 82 (D+)
  - Pin 83 (D-) to Pin 83 (D-)
  - Pin 84 (GND) to Pin 84 (GND)
  - Pin 85 (VCC) to Pin 85 (VCC)
  - Pin 86 (D+) to Pin 86 (D+)
  - Pin 87 (D-) to Pin 87 (D-)
  - Pin 88 (GND) to Pin 88 (GND)
  - Pin 89 (VCC) to Pin 89 (VCC)
  - Pin 90 (D+) to Pin 90 (D+)
  - Pin 91 (D-) to Pin 91 (D-)
  - Pin 92 (GND) to Pin 92 (GND)
  - Pin 93 (VCC) to Pin 93 (VCC)
  - Pin 94 (D+) to Pin 94 (D+)
  - Pin 95 (D-) to Pin 95 (D-)
  - Pin 96 (GND) to Pin 96 (GND)
  - Pin 97 (VCC) to Pin 97 (VCC)
  - Pin 98 (D+) to Pin 98 (D+)
  - Pin 99 (D-) to Pin 99 (D-)
  - Pin 100 (GND) to Pin 100 (GND)
- USB Type-C to USB-A Adapter (UT2):**
  - Pin 1 (GND) to Pin 1 (GND)
  - Pin 2 (D+) to Pin 2 (D+)
  - Pin 3 (D-) to Pin 3 (D-)
  - Pin 4 (GND) to Pin 4 (GND)
  - Pin 5 (VCC) to Pin 5 (VCC)
  - Pin 6 (D+) to Pin 6 (D+)
  - Pin 7 (D-) to Pin 7 (D-)
  - Pin 8 (GND) to Pin 8 (GND)
  - Pin 9 (VCC) to Pin 9 (VCC)
  - Pin 10 (D+) to Pin 10 (D+)
  - Pin 11 (D-) to Pin 11 (D-)
  - Pin 12 (GND) to Pin 12 (GND)
  - Pin 13 (VCC) to Pin 13 (VCC)
  - Pin 14 (D+) to Pin 14 (D+)
  - Pin 15 (D-) to Pin 15 (D-)
  - Pin 16 (GND) to Pin 16 (GND)
  - Pin 17 (VCC) to Pin 17 (VCC)
  - Pin 18 (D+) to Pin 18 (D+)
  - Pin 19 (D-) to Pin 19 (D-)
  - Pin 20 (GND) to Pin 20 (GND)
  - Pin 21 (VCC) to Pin 21 (VCC)
  - Pin 22 (D+) to Pin 22 (D+)
  - Pin 23 (D-) to Pin 23 (D-)
  - Pin 24 (GND) to Pin 24 (GND)
  - Pin 25 (VCC) to Pin 25 (VCC)
  - Pin 26 (D+) to Pin 26 (D+)
  - Pin 27 (D-) to Pin 27 (D-)
  - Pin 28 (GND) to Pin 28 (GND)
  - Pin 29 (VCC) to Pin 29 (VCC)
  - Pin 30 (D+) to Pin 30 (D+)
  - Pin 31 (D-) to Pin 31 (D-)
  - Pin 32 (GND) to Pin 32 (GND)
  - Pin 33 (VCC) to Pin 33 (VCC)
  - Pin 34 (D+) to Pin 34 (D+)
  - Pin 35 (D-) to Pin 35 (D-)
  - Pin 36 (GND) to Pin 36 (GND)
  - Pin 37 (VCC) to Pin 37 (VCC)
  - Pin 38 (D+) to Pin 38 (D+)
  - Pin 39 (D-) to Pin 39 (D-)
  - Pin 40 (GND) to Pin 40 (GND)
  - Pin 41 (VCC) to Pin 41 (VCC)
  - Pin 42 (D+) to Pin 42 (D+)
  - Pin 43 (D-) to Pin 43 (D-)
  - Pin 44 (GND) to Pin 44 (GND)
  - Pin 45 (VCC) to Pin 45 (VCC)
  - Pin 46 (D+) to Pin 46 (D+)
  - Pin 47 (D-) to Pin 47 (D-)
  - Pin 48 (GND) to Pin 48 (GND)
  - Pin 49 (VCC) to Pin 49 (VCC)
  - Pin 50 (D+) to Pin 50 (D+)
  - Pin 51 (D-) to Pin 51 (D-)
  - Pin 52 (GND) to Pin 52 (GND)
  - Pin 53 (VCC) to Pin 53 (VCC)
  - Pin 54 (D+) to Pin 54 (D+)
  - Pin 55 (D-) to Pin 55 (D-)
  - Pin 56 (GND) to Pin 56 (GND)
  - Pin 57 (VCC) to Pin 57 (VCC)
  - Pin 58 (D+) to Pin 58 (D+)
  - Pin 59 (D-) to Pin 59 (D-)
  - Pin 60 (GND) to Pin 60 (GND)
  - Pin 61 (VCC) to Pin 61 (VCC)
  - Pin 62 (D+) to Pin 62 (D+)
  - Pin 63 (D-) to Pin 63 (D-)
  - Pin 64 (GND) to Pin 64 (GND)
  - Pin 65 (VCC) to Pin 65 (VCC)
  - Pin 66 (D+) to Pin 66 (D+)
  - Pin 67 (D-) to Pin 67 (D-)
  - Pin 68 (GND) to Pin 68 (GND)
  - Pin 69 (VCC) to Pin 69 (VCC)
  - Pin 70 (D+) to Pin 70 (D+)
  - Pin 71 (D-) to Pin 71 (D-)
  - Pin 72 (GND) to Pin 72 (GND)
  - Pin 73 (VCC) to Pin 73 (VCC)
  - Pin 74 (D+) to Pin 74 (D+)
  - Pin 75 (D-) to Pin 75 (D-)

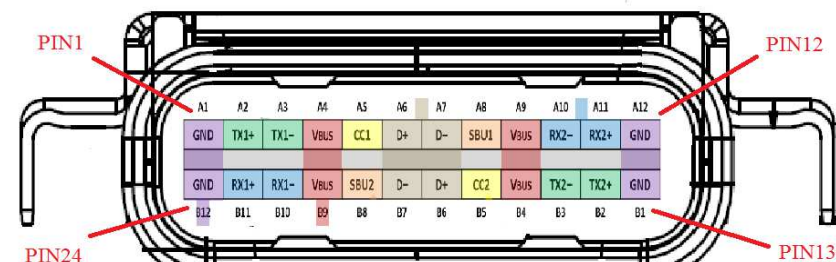
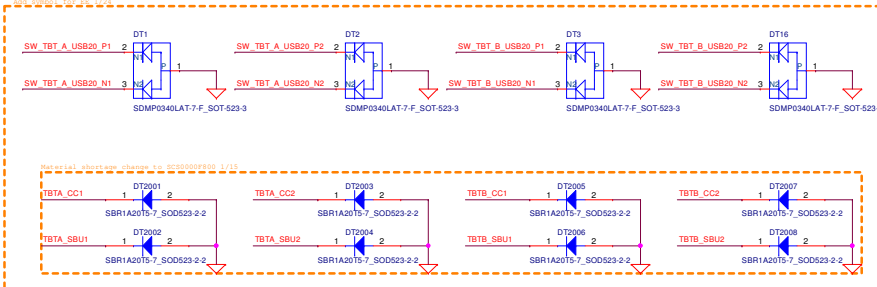
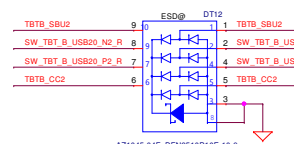
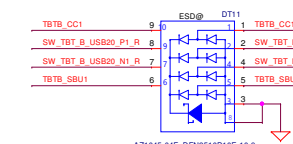
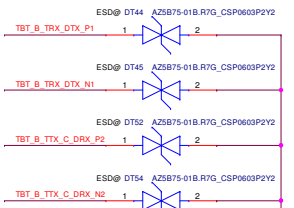
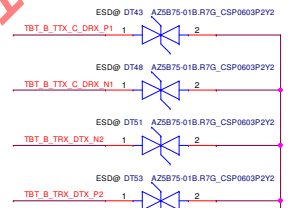
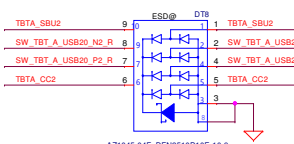
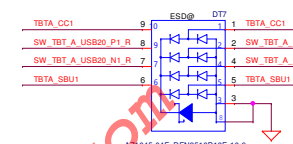
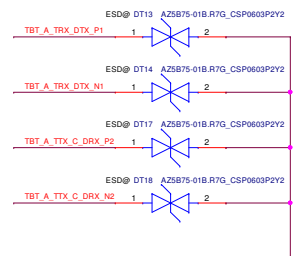
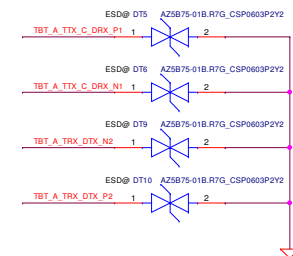
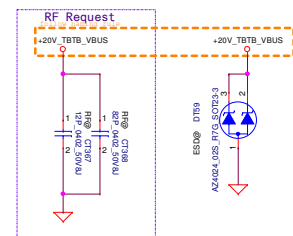
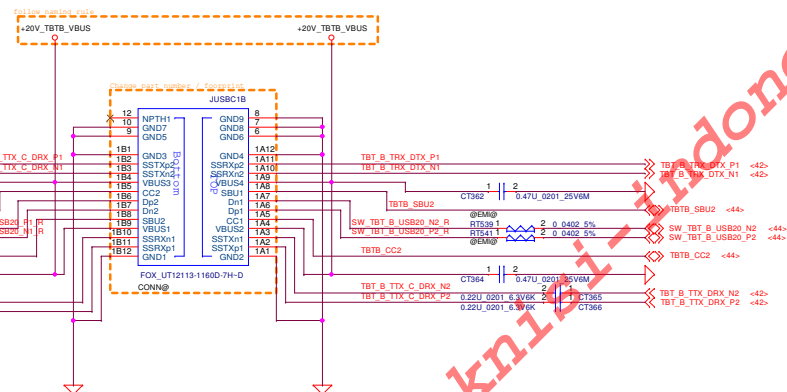
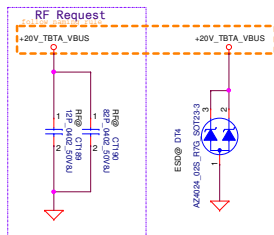
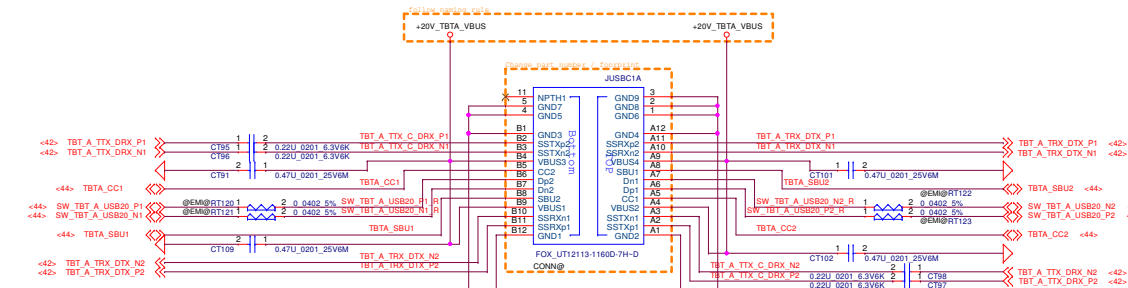


	MOD_ID1	MOD_ID2	Voltage level	Voltage value
			L0	0V
			L1	3.3V/8
			L2	2*3.3V/8
			L3	3*3.3V/8
			L4	4*3.3V/8
TR+CGGS(DV/T)	L7	L4	L5	5*3.3V/8
TR+CGGS(EV/T)	L7	L6	L6	6*3.3V/8
AR+CGGS	L7	L5	L7	7*3.3V/8

MOD\_ID1=L7,MOD\_ID2=L4, the Dedicated ID for Whitehaven DVT TR+CCG5.







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					TYPE-C.Port3-1		
					Size Custom	Document Number	Rev
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				Date:	
				Tuesday, April 09, 2019	
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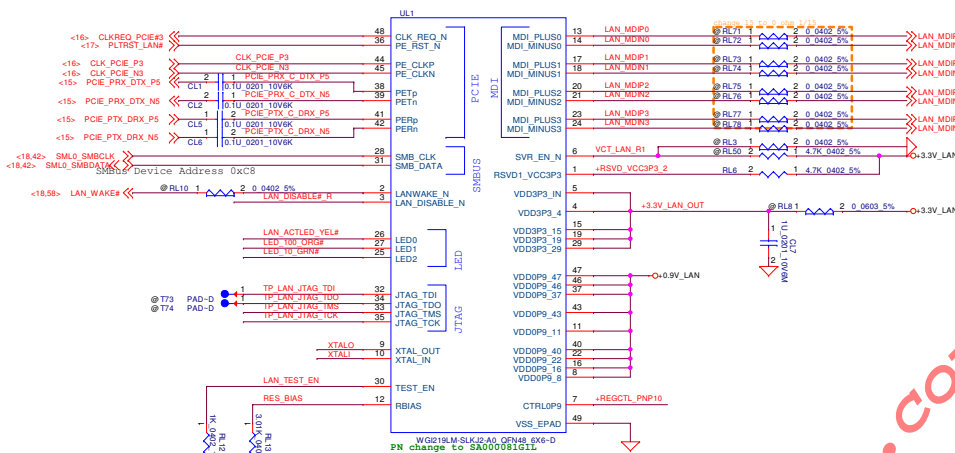
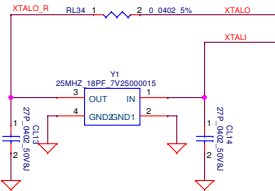
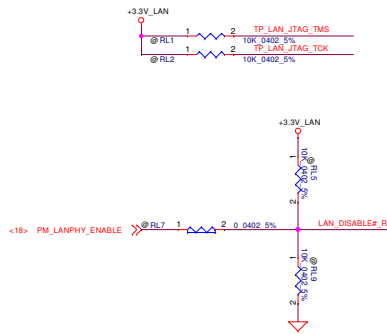
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TYPE-C\_PWR Path

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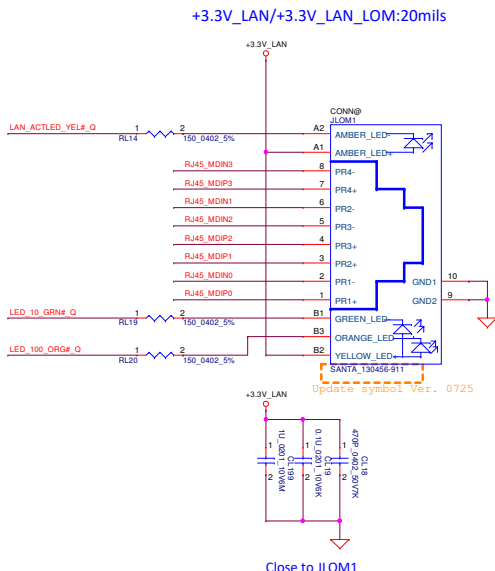
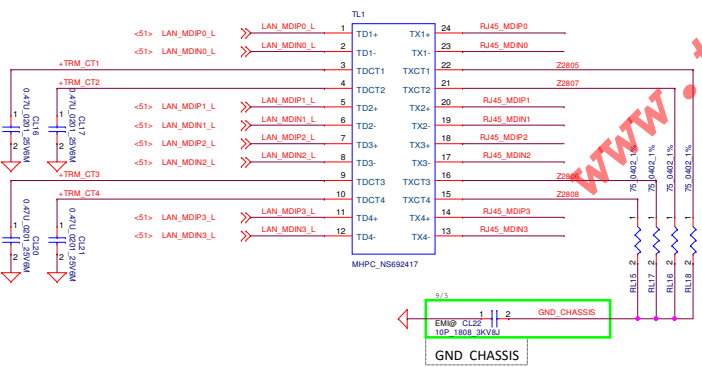
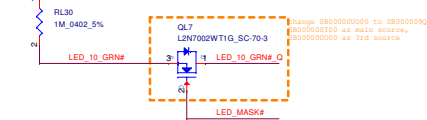
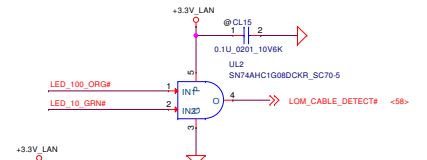
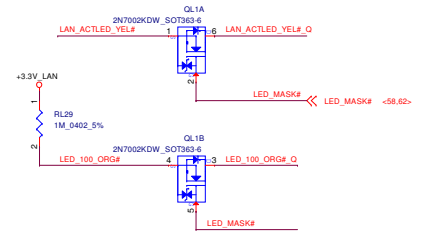
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Note: +1.0V\_LAN will work at 0.95V to 1.15V

Place C462, C463 and L29 close to U31



Close to J10M1

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## NGFF slot\_1 Key A



## NGFF slot\_2 Key B



STATE #	CONFIG_0	CONFIG_1	CONFIG_2	CONFIG_3	Module Type
0	0	0	0	0	SSD-SATA
8	1	0	0	0	WWAN
14	1	0	1	1	HCA-PCI-E
15	1	1	1	1	Cache

**Compal Electronics, Inc.**

**WLAN (w/ CNVi) / WWAN**

Size	Document Number	Re
5.5 x 3.5 x 1.5		

Custom **LA-H281P**

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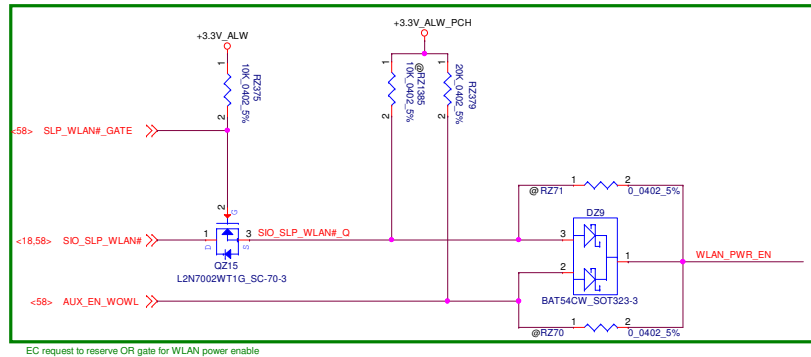
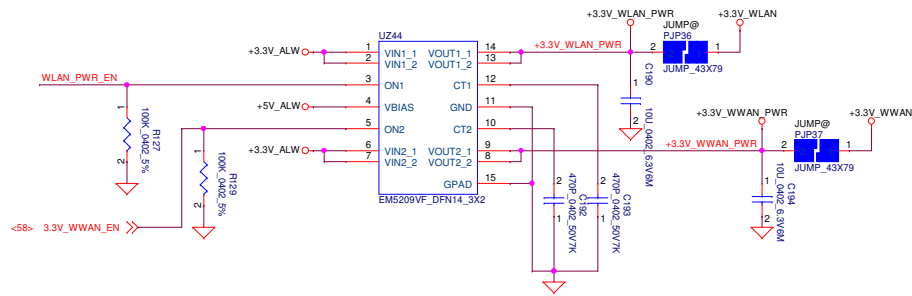
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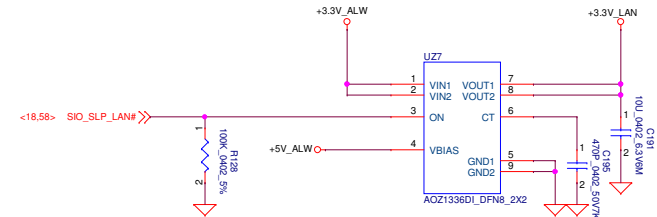
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							Size	Document Number
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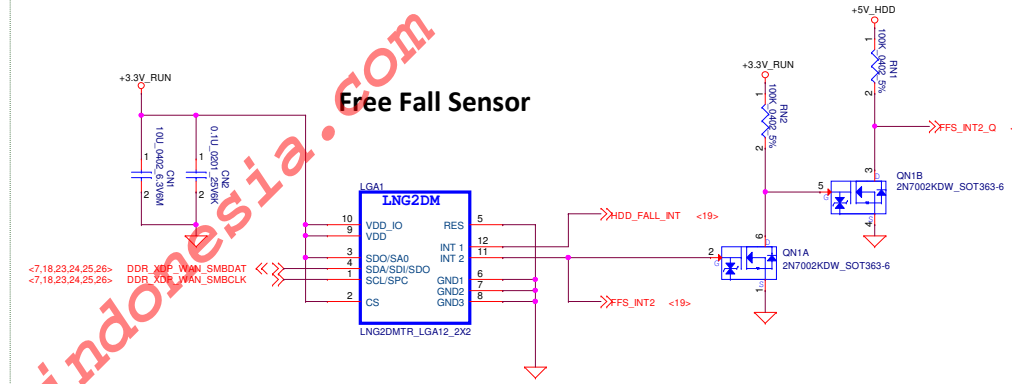
## Power Control for WLAN &WWAN



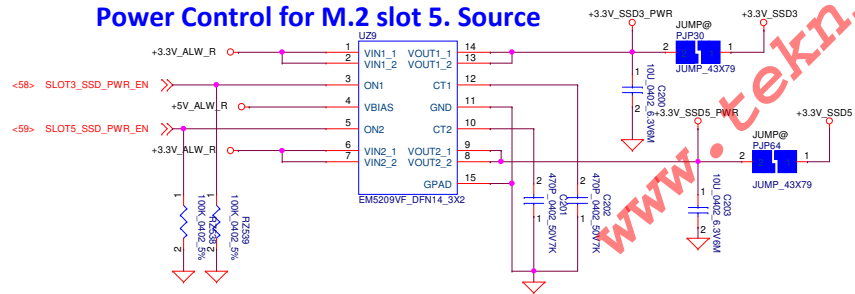
## Power Control for LAN



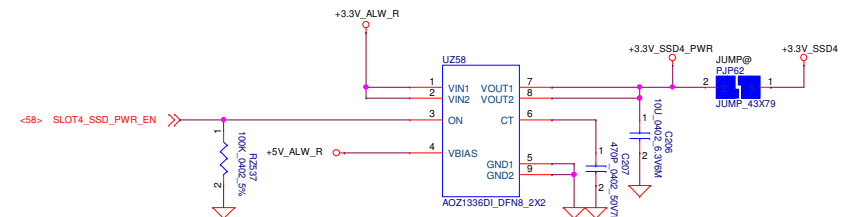
## Free Fall Sensor



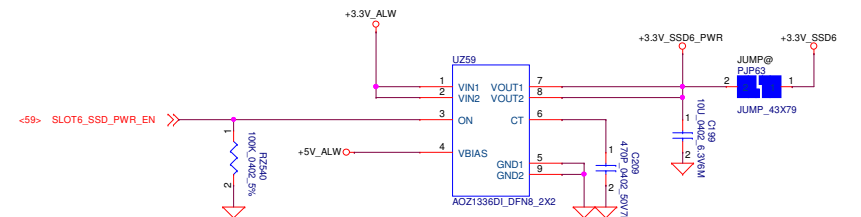
## Power Control for M.2 slot 3. Source Power Control for M.2 slot 5. Source



## Power Control for M.2 slot 4. Source



## Power Control for M.2 slot 6. Source



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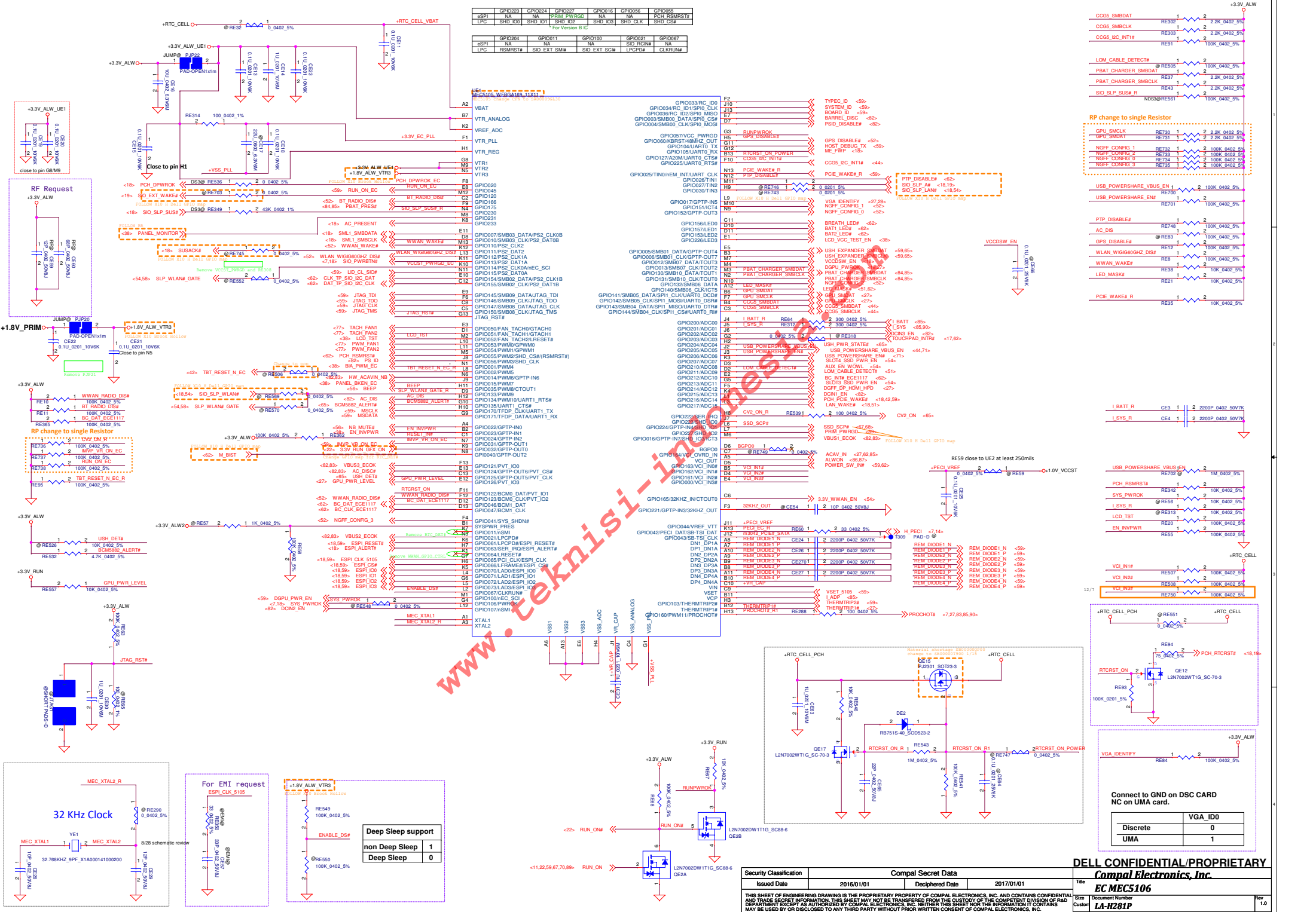
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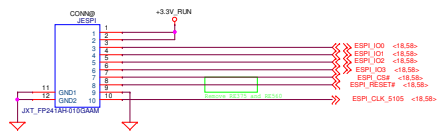
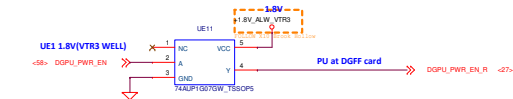
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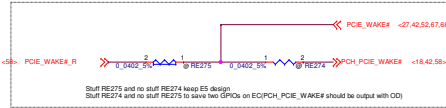
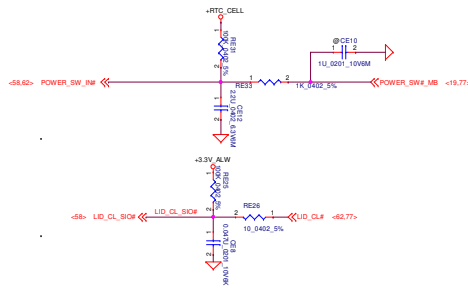
Audio Ampfilter

LA-H281P





LPC 80Port Debug	LPC	ESPI
1	+3.3V_RUN	+3.3V_RUN
2	+3.3V_RUN	+3.3V_RUN
3	LPC_LAD0	ESPI_I00
4	LPC_LAD1	ESPI_I01
5	LPC_LAD2	ESPI_I02
6	LPC_LAD3	ESPI_I03
7	LPC_FRAME	ESPI_CS#
8	PCH_PLTRST#	NA
9	GND	GND
10	LPC_CLOCK	ESPI_CLK



RE343	CE62	REV
240K	4700p	Single Port ACE w/AR
130K	4700p	Single Port ACE w/AR
62K	4700p	Dual Port ACE w/AR
33K	4700p	Dual Port ACE w/AR
8.2K	4700p	Dual Port ACE (w/AR + w/o AR)
4.3K	4700p	Dual Port ACE (w/AR + w/o AR)
2K	4700p	A00
1K	4700p	A00

TypeG\_ID rise time is measured from 5%-68%

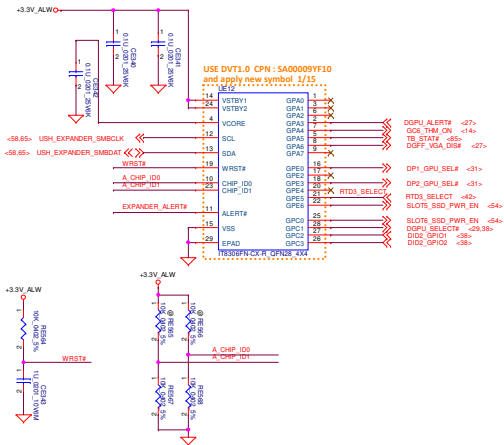
RE79	CE40	REV
240K	4700p	X01(DVT1.0)
130K	4700p	X01(DVT1.1)
62K	4700p	X02
33K	4700p	X02
8.2K	4700p	X03
4.3K	4700p	X00
2K	4700p	A00
1K	4700p	A00

BOARD\_ID rise time is measured from 5%-68%

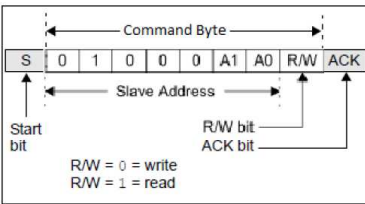
R3754	C1465	REV
240K	4700p	***
130K	4700p	***
62K	4700p	15"
33K	4700p	17"
8.2K	4700p	***
4.3K	4700p	***
2K	4700p	***
1K	4700p	***

PANEL\_ID rise time is measured from 5%-68%

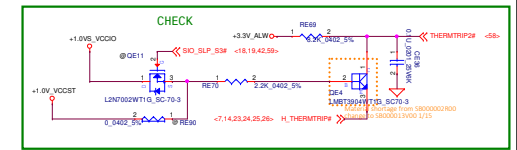
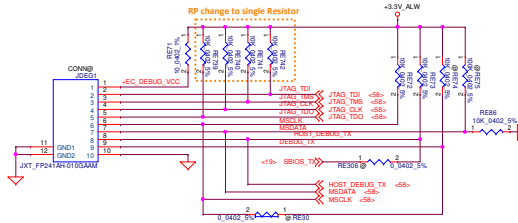
## SIO IT8306



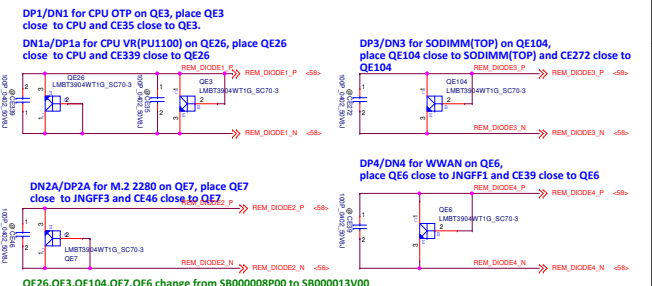
Command	SAD[7:3]	ID[1]	ID[0]	R/W	SAD+R/W
Read	01000	0	0	1	01000001 (41h)
Write	01000	0	0	0	01000000 (40h)
Read	01000	0	1	1	01000011 (43h)
Write	01000	0	1	0	01000010 (42h)
Read	01000	1	0	1	01000101 (45h)
Write	01000	1	0	0	01000100 (44h)
Read	01000	1	1	1	01000111 (47h)
Write	01000	1	1	0	01000110 (46h)



Rest=1.58k, Tp=96 degree



Channel	Location
DP1/DN1	CPU OTP
DP1A/DN1A	CPU VR
DP2A/DN2A	M.2 2280
DP3/DN3	DIMM(TOP)
DP4/DN4	WWAN



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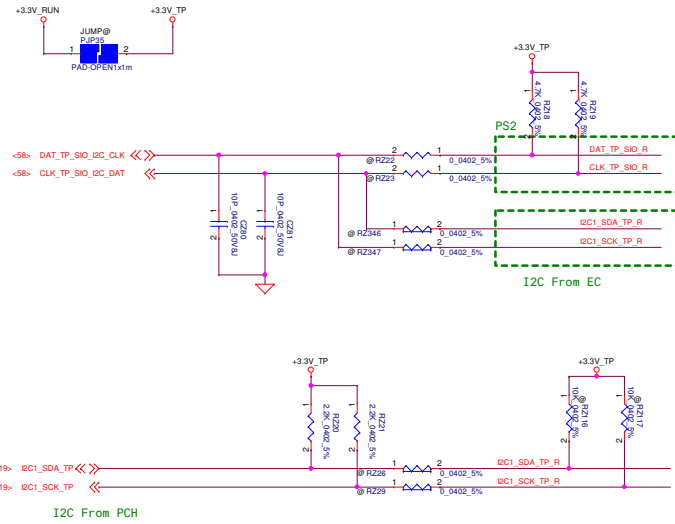
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				Secure & Reset IC	
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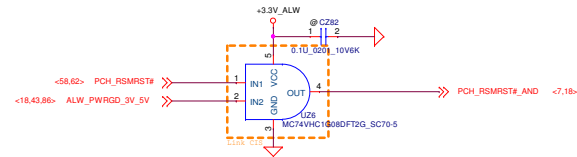
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## Touch Pad

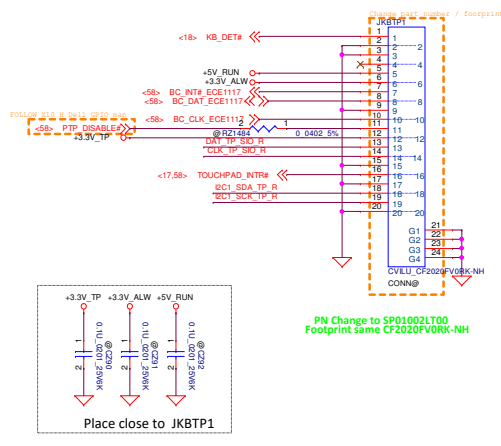


I2C From PCH

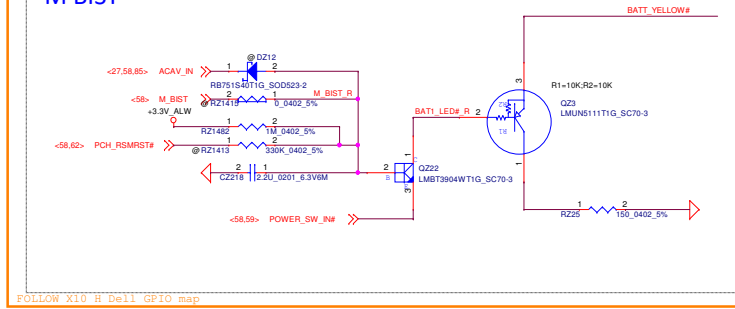
## RSMRST circuit



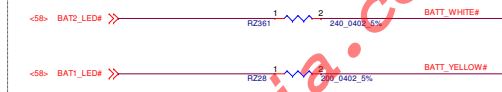
## Keyboard



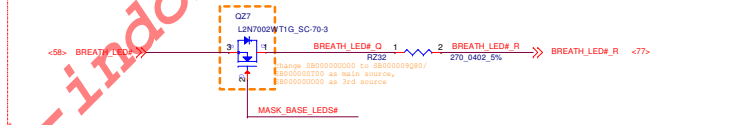
## M BIST



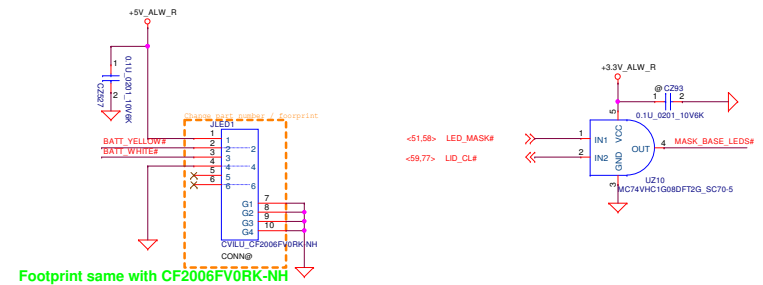
## Battery LED



## Breath LED



## To LED/B Conn



## LED Circuit Control Table

	LED_MASK#	LID_CL#
Mask All LEDs (Sniffer Function)	0	X
Mask Base MB LEDs (Lid Closed)	1	0
Do not Mask LEDs (Lid Opened)	1	1

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				LA-H281P	
Size		Document Number		Rev	
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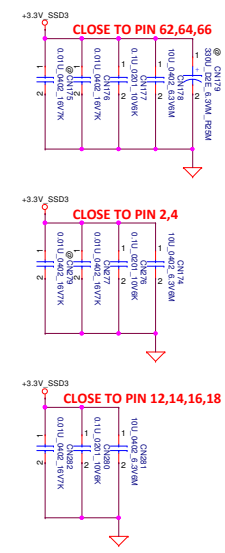
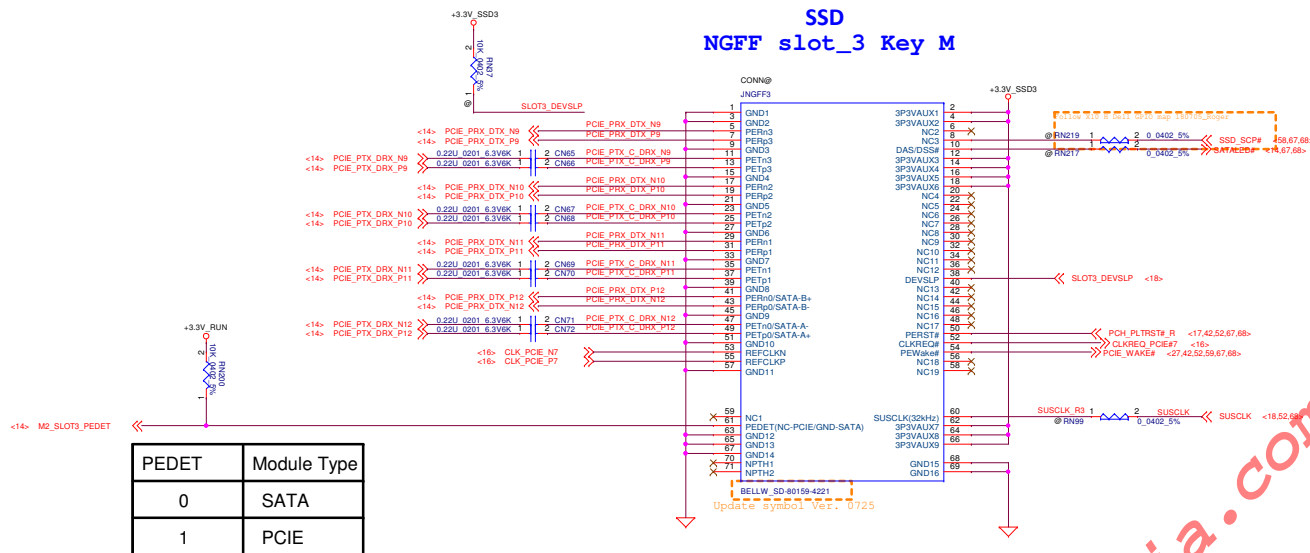
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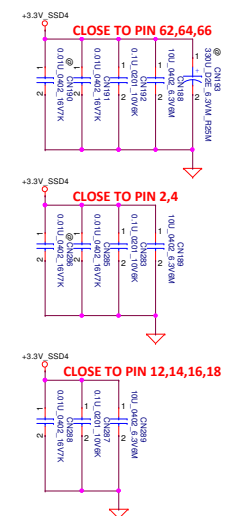
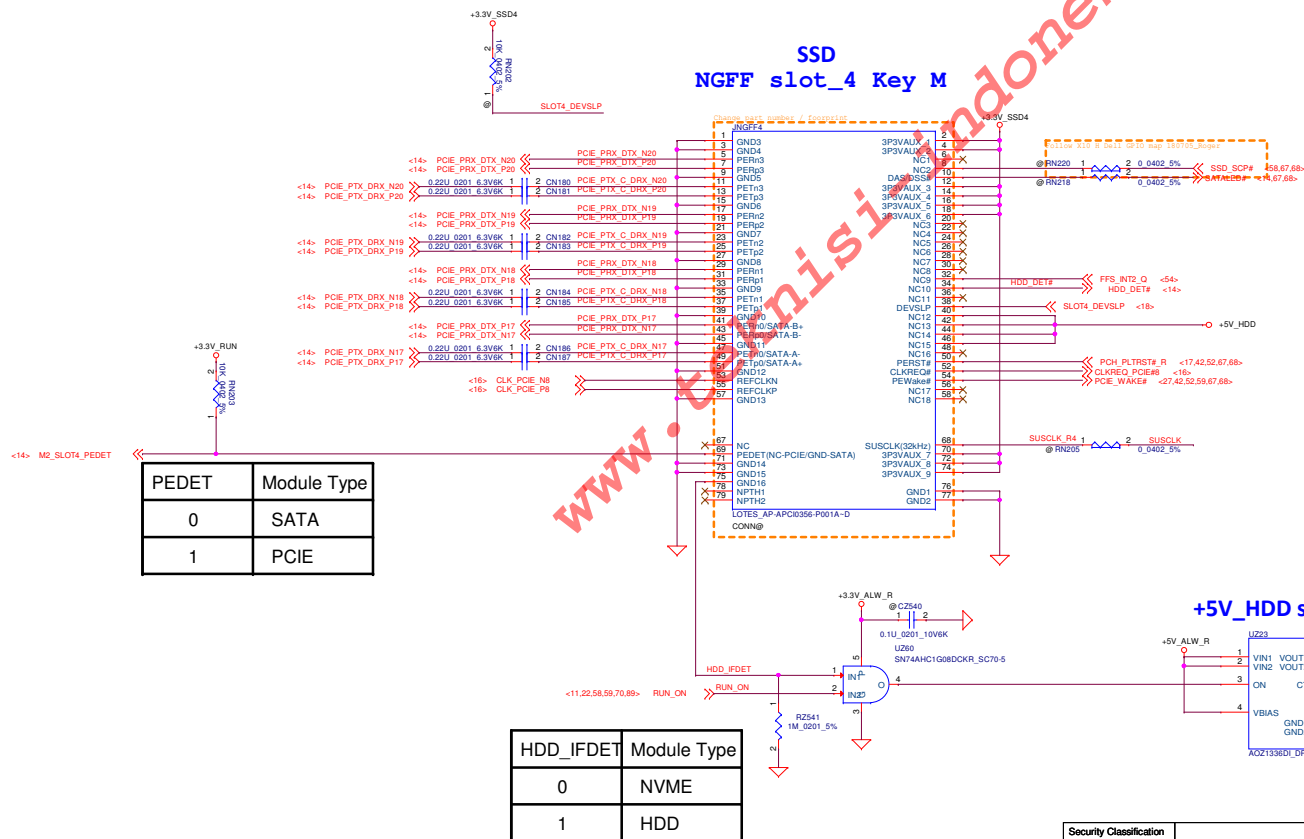
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2016/01/01		2017/01/01		Date: Tuesday, April 09, 2019	

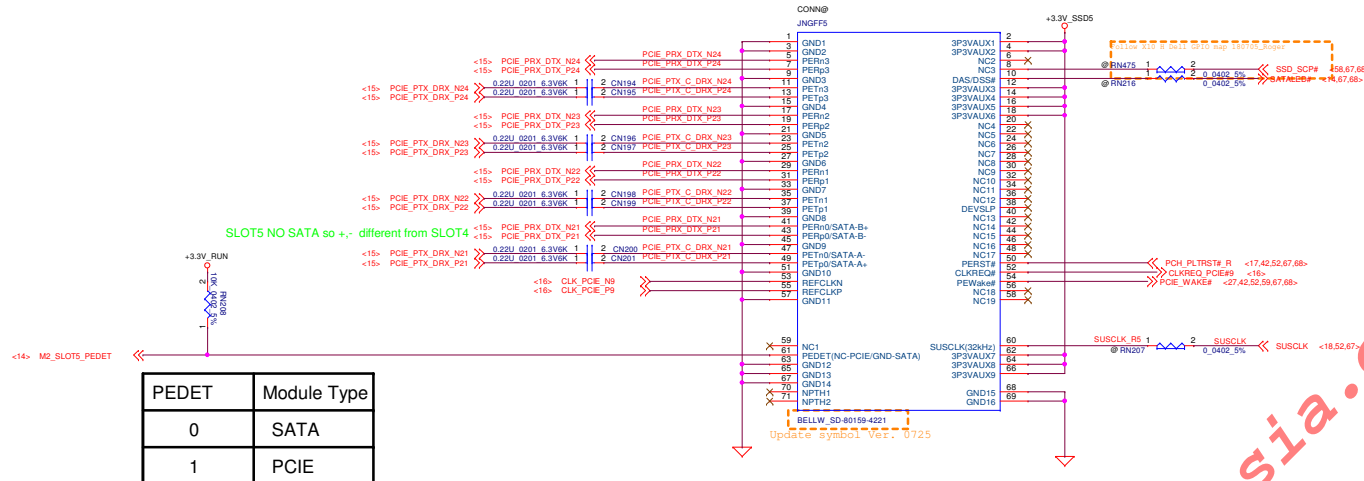
## SSD NGFF slot\_3 Key M



## SSD NGFF slot\_4 Key M



## SSD NGFF slot\_5 Key M

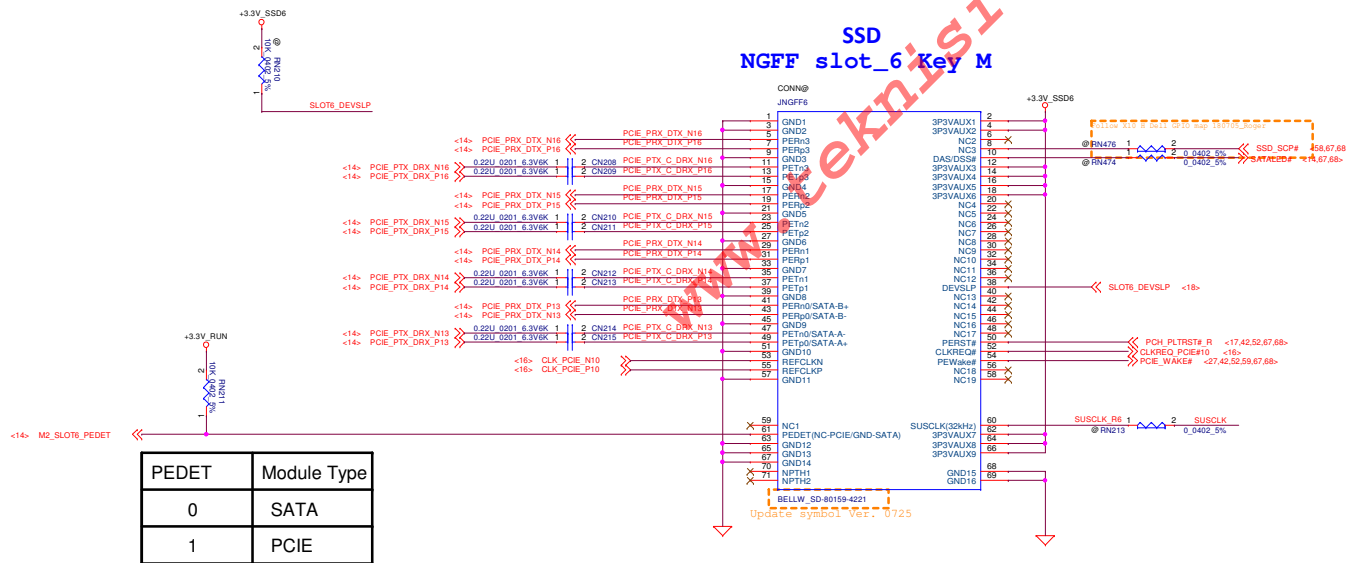


3.3V\_SS05  
CLOSE TO PIN 62,64,66

3.3V\_SS05  
CLOSE TO PIN 2,4

3.3V\_SS05  
CLOSE TO PIN 12,14,16,18

## SSD NGFF slot\_6 Key M



3.3V\_SS06  
CLOSE TO PIN 62,64,66

3.3V\_SS06  
CLOSE TO PIN 2,4

3.3V\_SS06  
CLOSE TO PIN 12,14,16,18

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SSD SLOTS / 6

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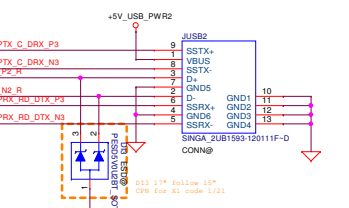
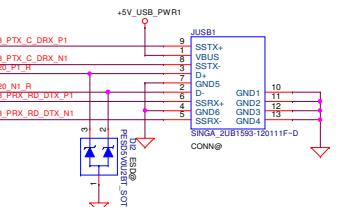
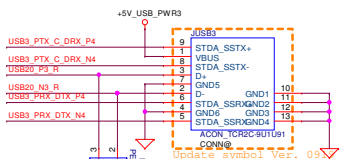
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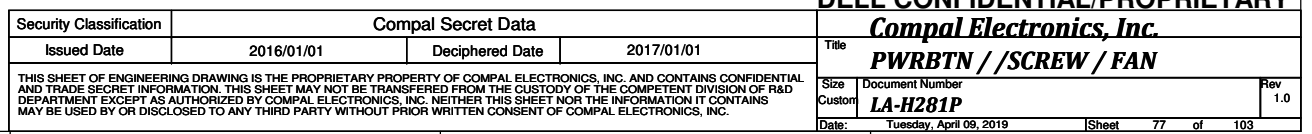
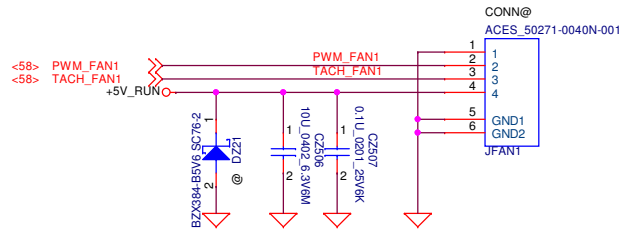
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2016/01/01		2017/01/01		LA-H281P	
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## CPU FAN



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				Custom	
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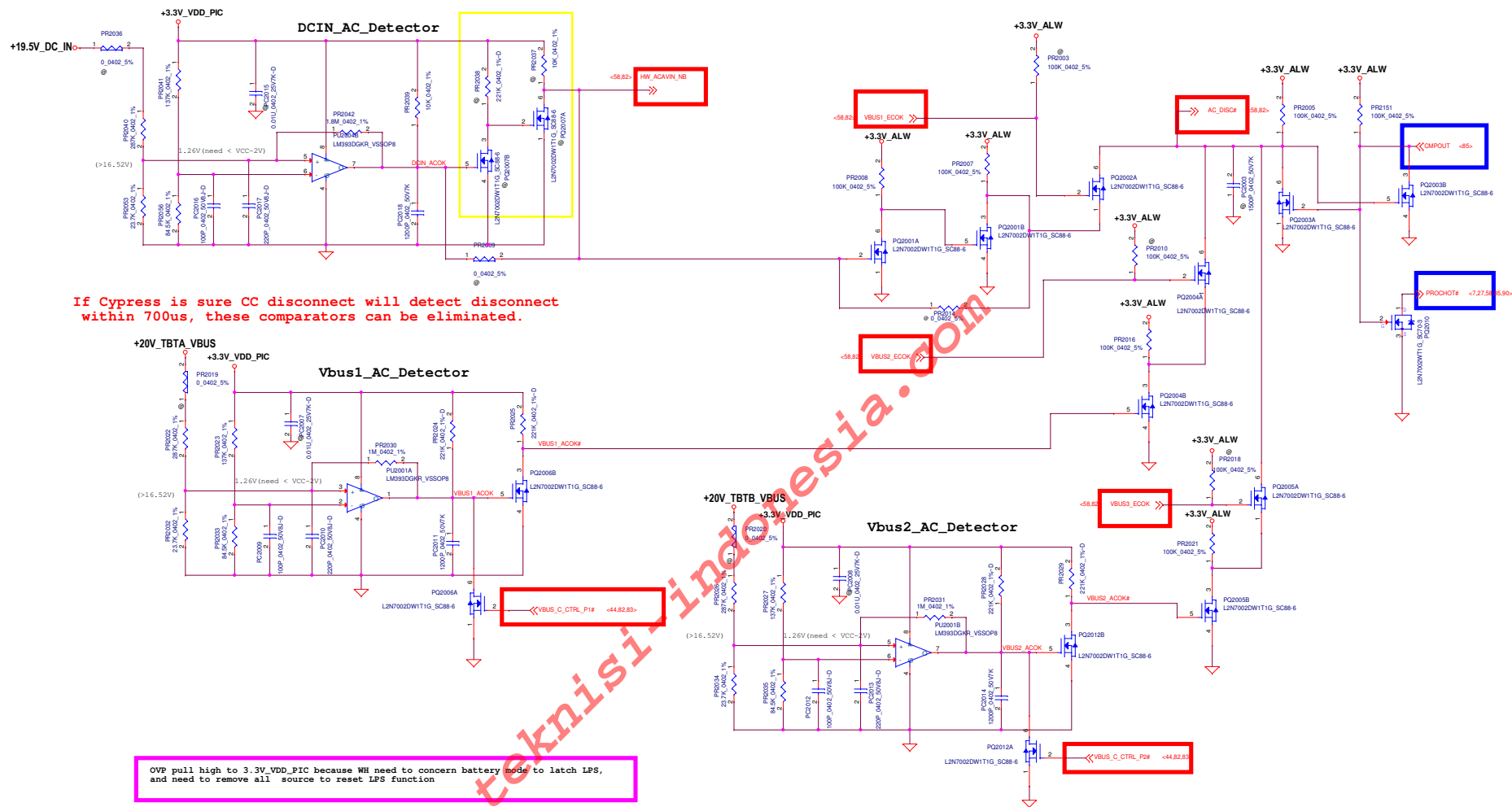


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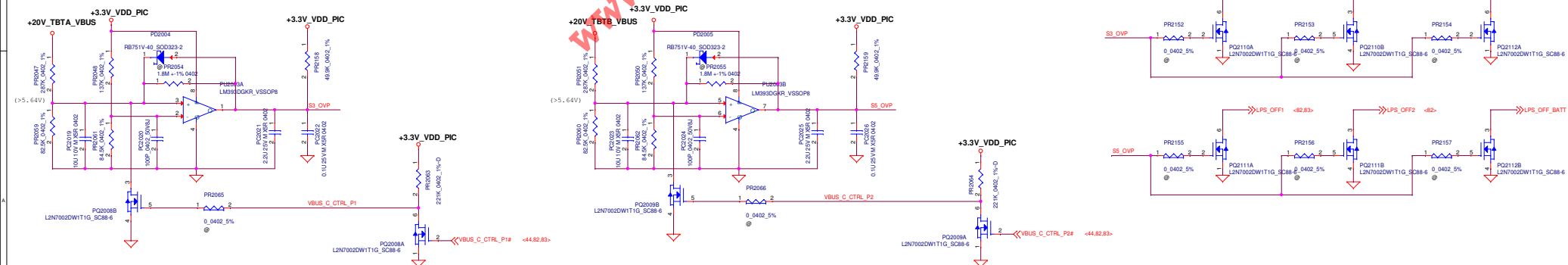
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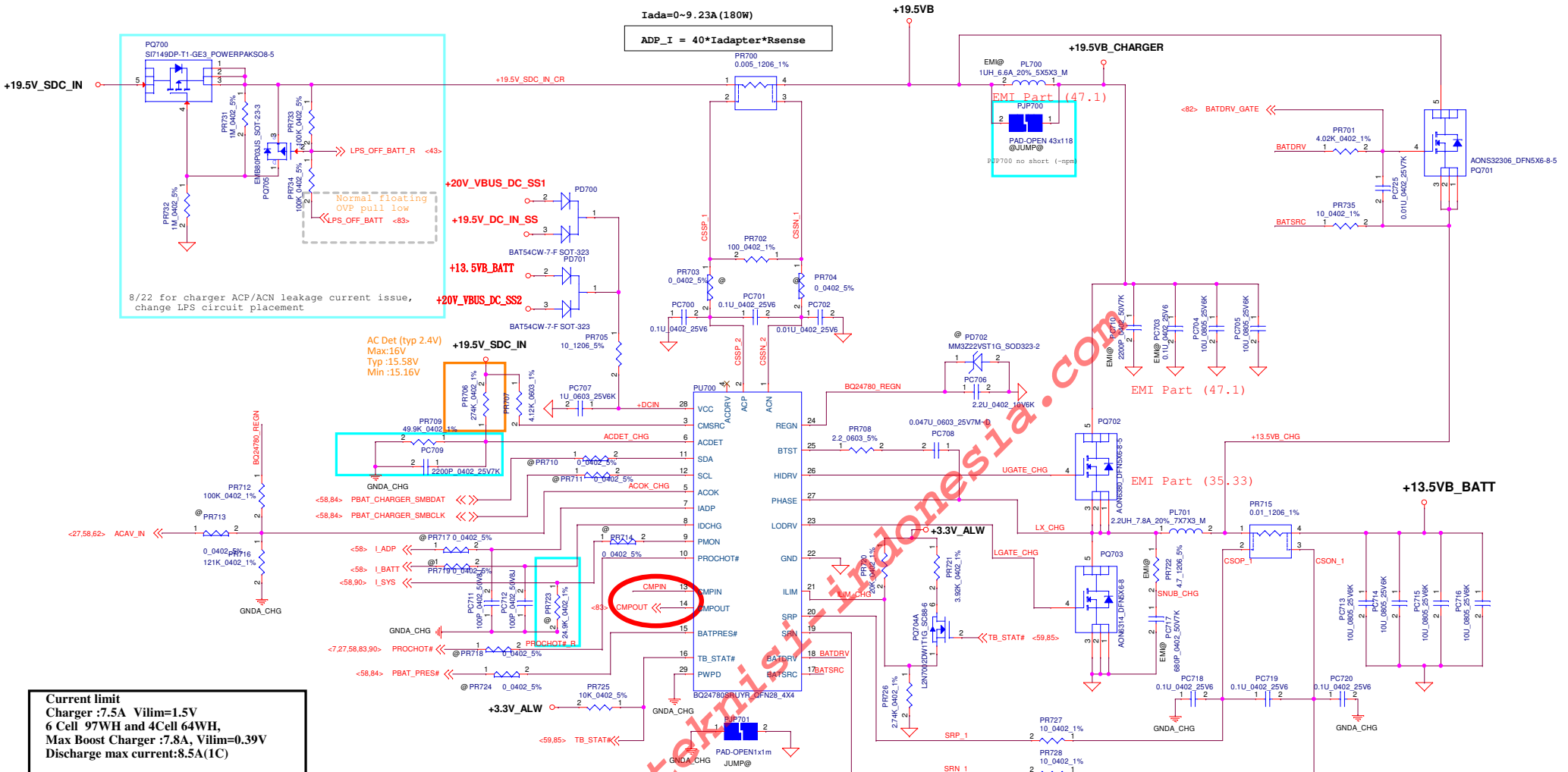


### S3 OVP

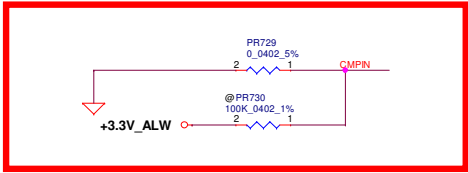
### S5 OVP







Current limit  
Charger :7.5A Vilim=1.5V  
6 Cell 97WH and 4Cell 64WH,  
Max Boost Charger :7.8A, Vilim=0.39V  
Discharge max current:8.5A(1C)



2016/7/22  
For Temp voltage test ,  
+DC\_IN setting for ACAVIN\_NB need less than 17.55V ,  
so change PR737 from SD034665380  
(S RES 1/16W 665K +-1% 0402) to  
SD034634380(S RES 1/16W 634K +-1% 0402)

CMP\_REF=2.3V  
+DC\_IN>17V then ACAVIN\_NB high  
for 3cell battery 13.05V

(CMP\_REF=2.3V  
+DC\_IN>17.6V then ACAVIN\_NB high  
for 4cell battery 17.4V[Miramar setting])

Crane and Miramar setting

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Charger			
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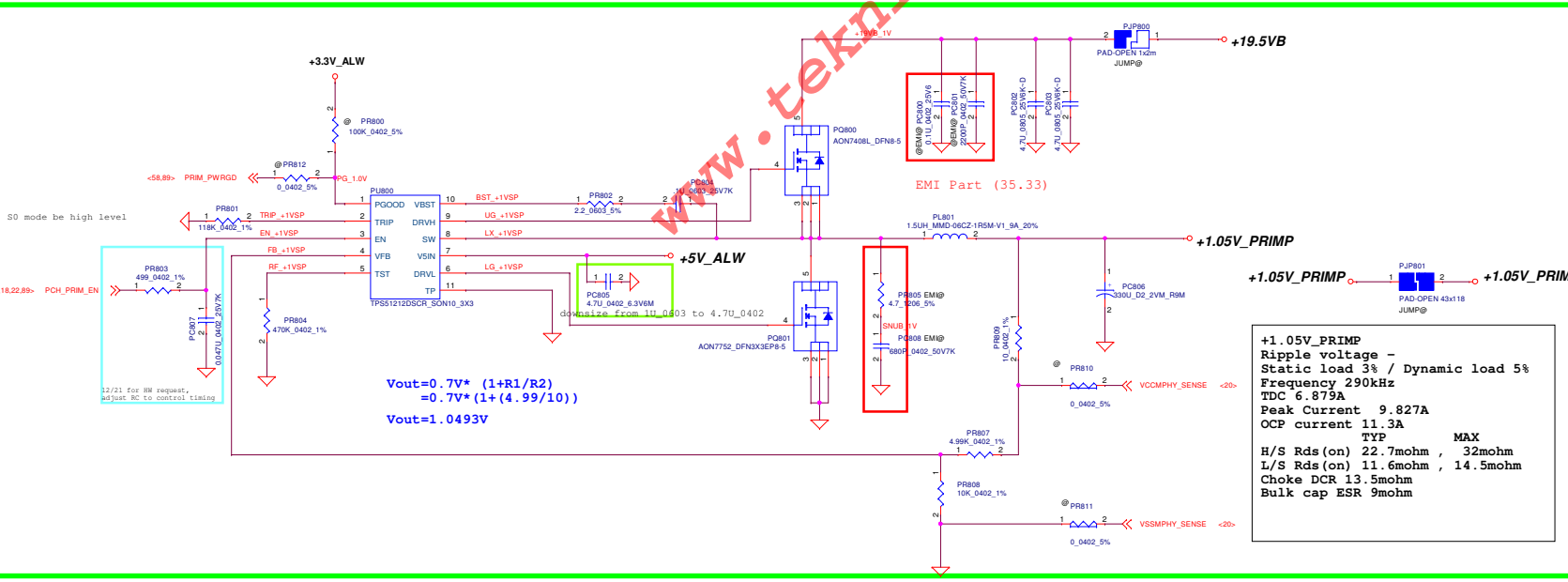
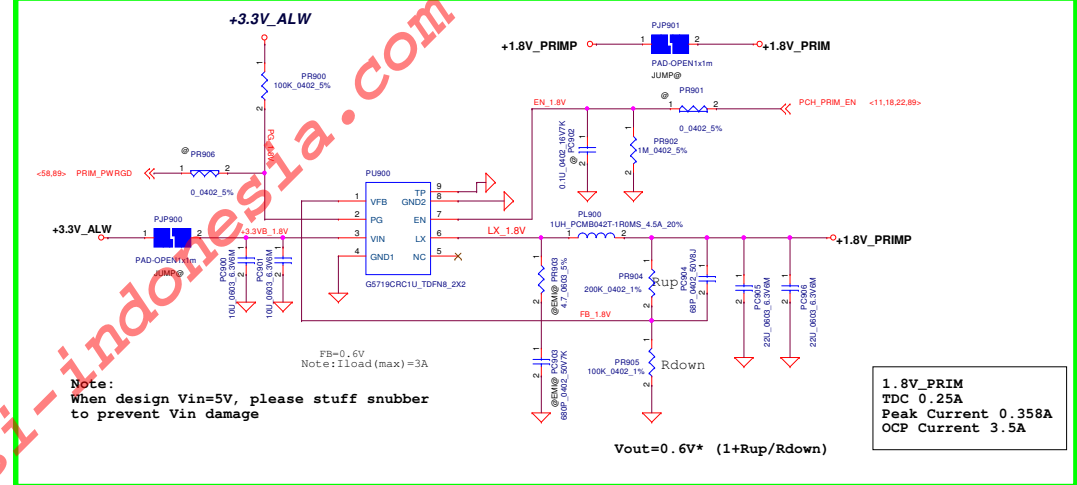
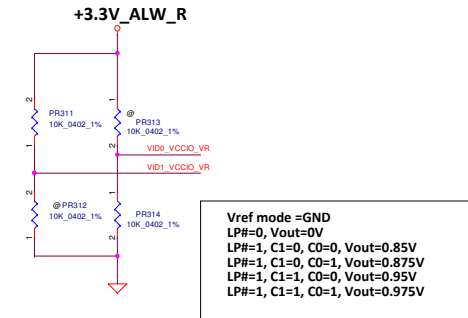
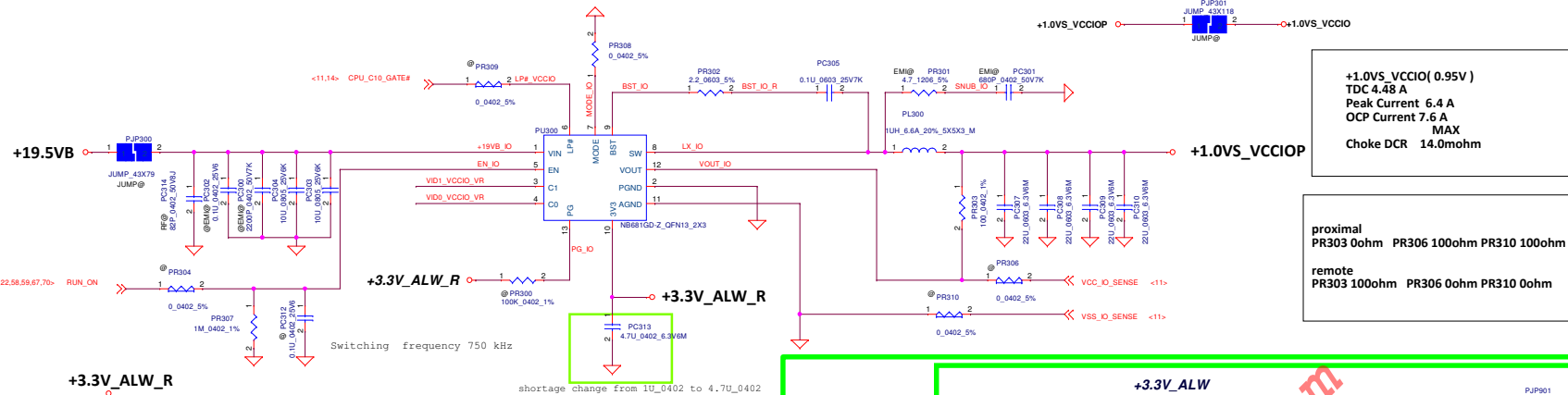
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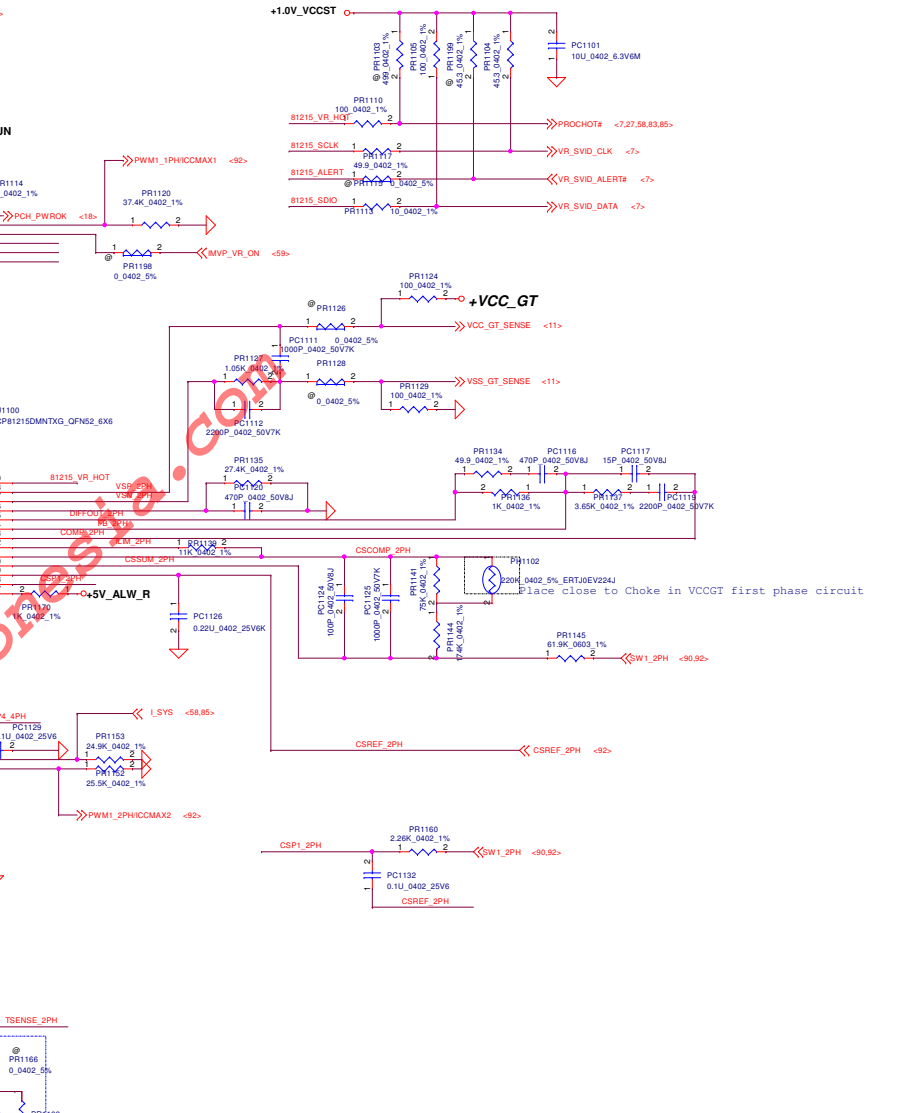
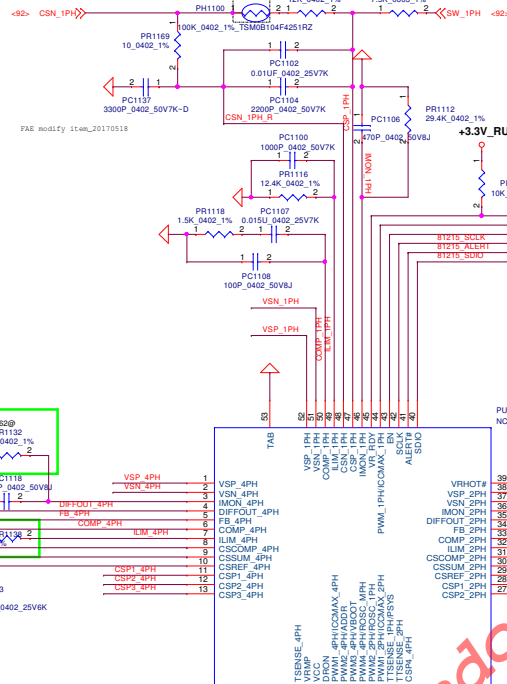





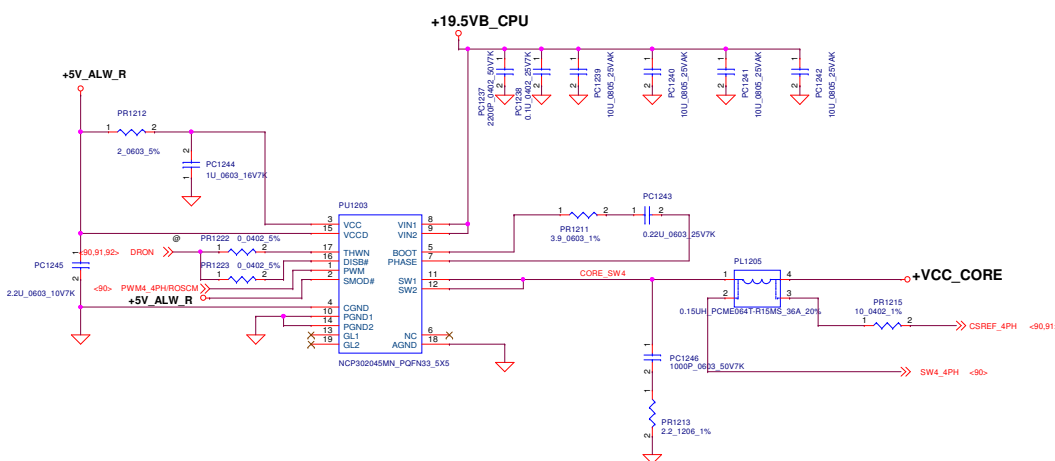
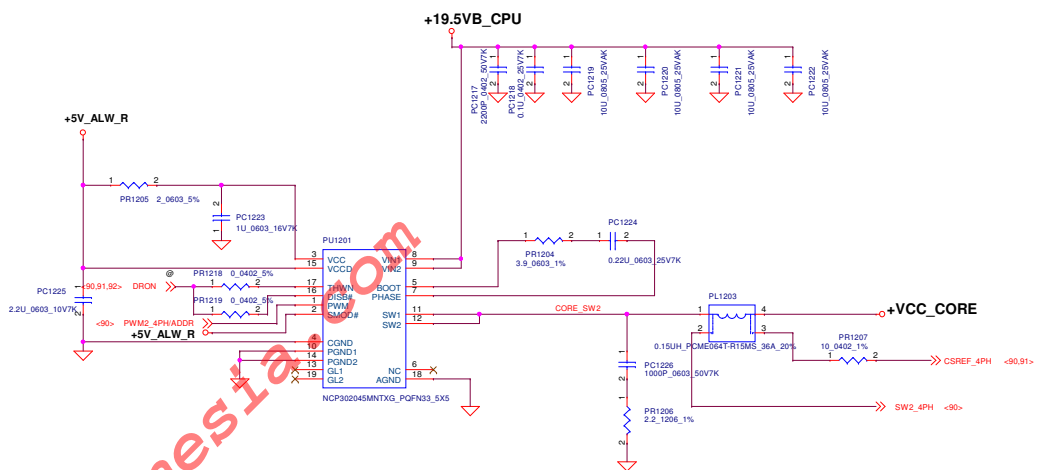




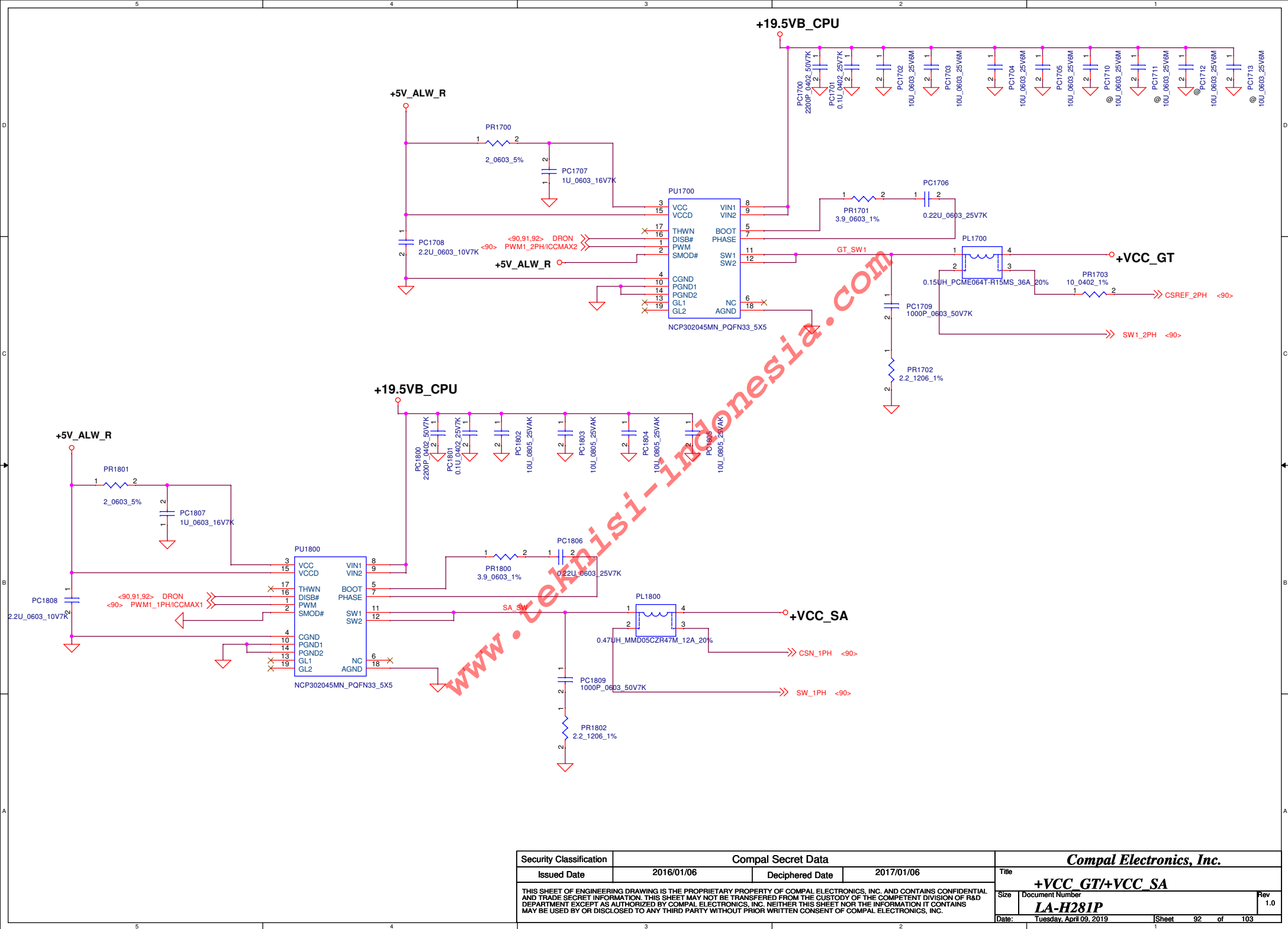




 COPRISID CONTEC INC.	<b>Compal Electronics, Inc.</b>			
	<b>VCORE controller</b>			
	Title			
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+VCC\_CORE

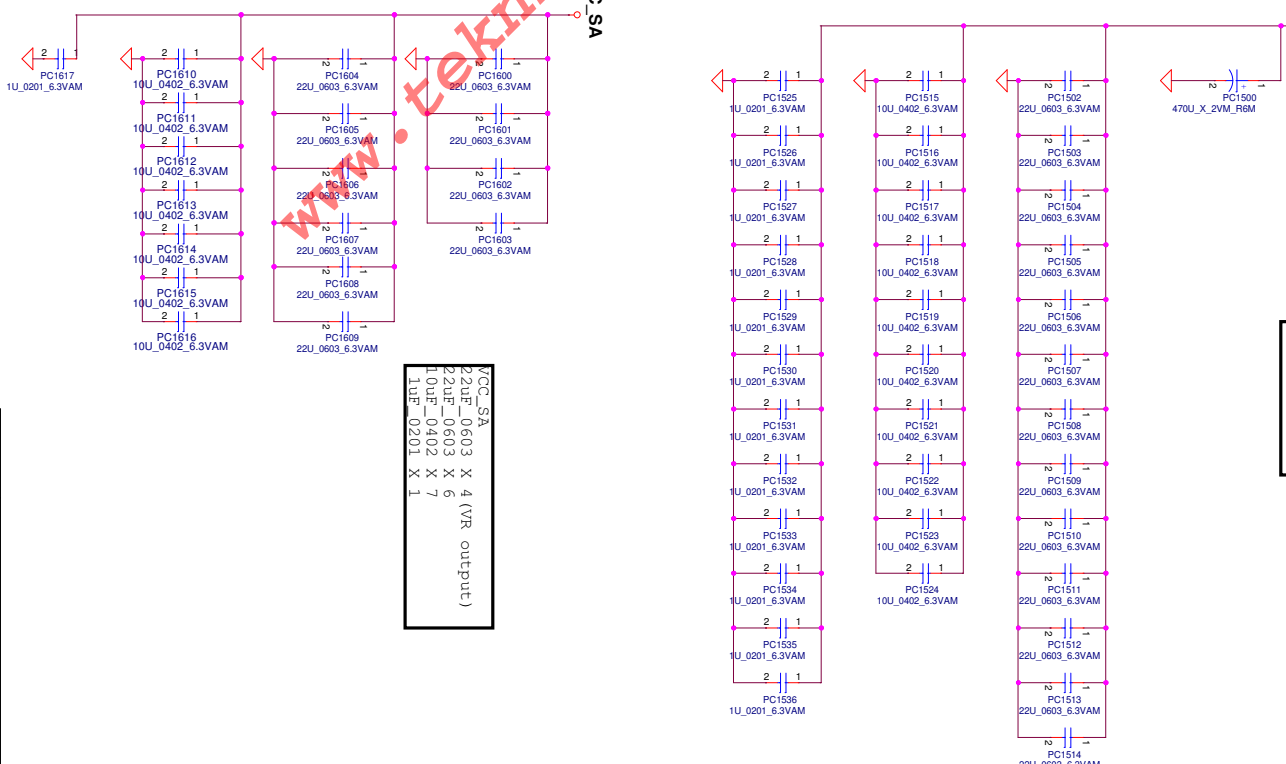


VCC\_CORE  
330uF X3  
22uF\_0603 X 22  
10uF\_0402 X 21  
1uF\_0201 X 48

VCC\_CORE (H82)  
330uF X3  
22uF\_0603 X 28  
10uF\_0402 X 42  
1uF\_0201 X 48

+VCC\_SA

+VCC\_GT



VCC\_GT  
470uF X1  
22uF\_0603 X 13  
10uF\_0402 X 10  
1uF\_0201 X 12

VCC\_SA  
22uF\_0603 X 4 (VR output)  
22uF\_0603 X 6  
10uF\_0402 X 7  
1uF\_0201 X 1

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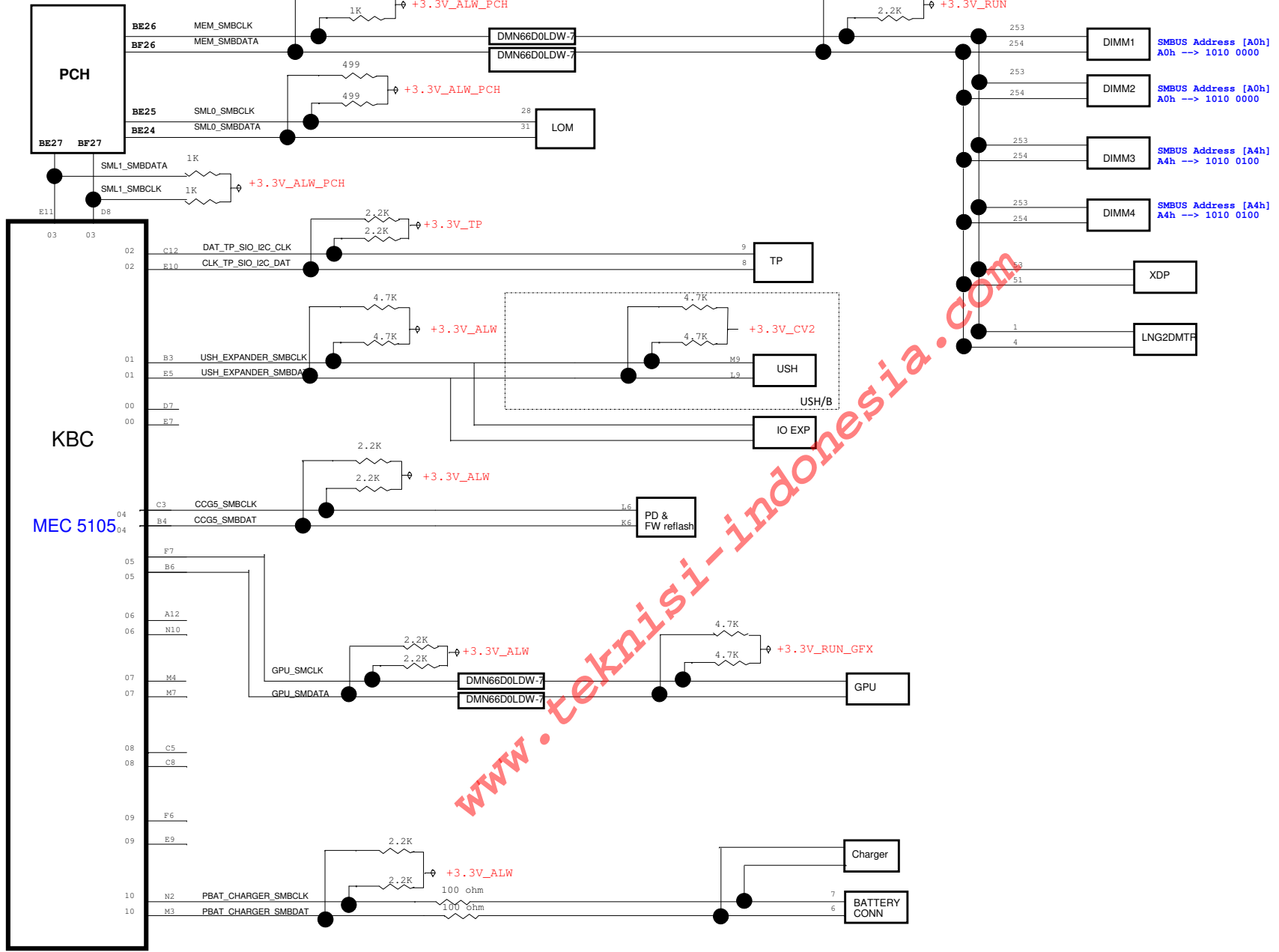
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SMBUS Address [0x9a]



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## Version Change List (P. I. R. List)

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Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	82	POWER	11/30	COMPAL	AC_DIS pull high when AC plug in to make system can't boot	Add pull down resister PR2163 to solve	0.2(X01)
2	86 87 88	POWER	11/30	COMPAL	MLCC downsize for shortage issue	PC205 change from SE000001120 to SE00000M000 PC109/PC126/PC527/PC512/PC210 change from SE025681K80 to SE074681K80	0.2(X01)
3	91	POWER	4/1	COMPAL	NCP302155 change to NCP302045 for all type CPU due to UIS package test	PU1200/PU1201/PU1202/PU1203 for H82 change from SA0000C8M00 to SA0000AOI00	1.0(A00)
4	82	POWER	4/8	COMPAL	For EMI test, need to add MLCC on +19VB path	add PC2103 SE00000G880 0.10_0402_25V6	1.0(A00)
5		POWER		COMPAL			
6		POWER		COMPAL			
7		POWER		COMPAL			
8		POWER		COMPAL			
9		POWER		COMPAL			
10		POWER		COMPAL			
11		POWER		COMPAL			
12		POWER		COMPAL			
13		POWER		COMPAL			
14		POWER		COMPAL			
15		POWER		COMPAL			

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## Version Change List ( P. I. R. List )

Item	Page#	Title	Date	Request	Owner	Issue Description	Solution Description	Rev.
1	56	EE	2018/10/2	Compal	Fix CA232 no function	CA29 and CA232 are parallel, and connector to UA1.23		0.2 (X01)
2	10	EE	2018/10/2	Compal	FOLLOW PDG V1P8 P.616 downsize from 0603 to 0402	CC185 change to 0402		0.2 (X01)
3	44	EE	2018/10/2	Compal	FRS_ON_P1 and FRS_ON_P2 have a spike to turn on 5V VBUS when CCG5 get power.	RT617,RT618 change to pop		0.2 (X01)
4	43	EE	2018/10/12	Compal	Correct downsize error	RT542,RT547 change footprint from 0402 to 0805		0.2 (X01)
5	31	EE	2018/10/12	Compal	PS8461QFN66GTR-A0 change to A4	UV66,UV67		0.2 (X01)
6	58	EE	2018/10/12	Compal	MEC5105 change CPN to SA00009GL30	UE1		0.2 (X01)
7	18,38,52,58	EE	2018/10/12	Compal	Change CPN from SB00000ZU00 to SB000000PV00	QE2,QH4,QV23,QZ17,QZ18		0.2 (X01)
8	77	EE	2018/10/12	Compal	Correct error	H20,H23 Change to NPTH		0.2 (X01)
9	42	EE	2018/11/27	Compal	Place holder for future VBUS-short fix (reduce current surge) (align Northbay)	Reserve RT621,RT622 0 ohm		0.2 (X01)
10	21	EE	2018/11/27	Compal	Align Northbay pop LH423,CH560,CH324	RH289 change LH423, CH324 change to pop, Add CH560		0.2 (X01)
11	77	EE	2018/11/27	Compal	Update JKBTP1,JLED1,JPB1 symbol	JKBTP1,JLED1,JPB1		0.2 (X01)
12	10	EE	2018/11/30	Compal	Change LC562 from 0_0603_5% to Beads Align BH	RC422 change to LC562		0.2 (X01)
13	45	EE	2018/12/4	Compal	Material Shortage.	DT2001~DT2008 change to SCS00000F200 from SCS000000X00		0.2 (X01)
14	42	EE	2018/12/5	Compal	Support vpro on docking side reserve	Add RT623,RT624		0.2 (X01)
15	58,59	EE	2018/12/7	Compal	Correct RTD3_SELECT to right GPIO	Change RTD3_SELECT to UE12.21 from UE1.E1.Add RE750 to UE1.E1 for UE1.E1 no use.		0.2 (X01)
16	38,59	EE	2018/12/7	Compal	Reserve GPIO pins for DID2.0 feature	Add Net "DID2_GPIO1,DID2_GPIO2"		0.2 (X01)
17	65	EE	2019/1/15	Compal	TPM ES Chip change to MP(QS) part(UZ12)	Change to SA00000AQ270		0.2 (X01)
18	77	EE	2019/1/15	Compal	CLIP1,CLIP2	Change to @RF@		0.2 (X01)
19	62	EE	2019/1/15	Compal	Board ID	Change to 62Kohm		0.2 (X01)
20	45	EE	2019/1/15	Compal	DT2001~DT2008 shortage	Change to SCS00000F800		0.2 (X01)
21	58	EE	2019/1/15	Compal	TBT_RESET_N_EC (RE506)	Change to pop		0.2 (X01)
22	59,22,20,58,38,22,38	EE	2019/1/15	Compal	Before DVT1.0,PPM feedback material shortage(RD check ok for install material) SB000002R00 change to SB000013V00 SB000000J500 change to SB000010O00 SB000000QP00 change to SB000000T900 SB000010C00 change to SB000008S80	QE4, QZ20, QH7, QE15, QV8, QZ1 QV1		0.2 (X01)
23	51	EE	2019/1/15	Compal	LAN IEEE EA change to 0ohm (RL71~RL78)	Change to SD028000080		0.2 (X01)
24	44	EE	2019/1/15	Compal	TYPE C AUX change to 0ohm (CT385~CT388)	Change to SD043000080		0.2 (X01)
25	59	EE	2019/1/15	Compal	UE12 USE DVT1.0 CPN : SA00009YF10 and apply new symbol	Change to SA00009YF10		0.2 (X01)
26	56	EE	2019/1/21	Compal	Change BOM Structure to EMI@	CA224 CA225		0.2 (X01)
27	59	EE	2019/1/18	Compal	Board ID(DVT1.1) (RE79)	Change to 33Kohm		0.3 (X02)
28	38	EE	2019/1/18	Compal	Fuse change to one time used (FV1)	T0603FF1500TM (17")		0.3 (X02)
29	38	EE	2019/1/21	Compal	BL_PWR_SRC & LCDVDD monitor	RV907 change to 4.3M, RV908 change to 1.2M		0.3 (X02)
30	71	EE	2019/1/21	Compal	DI3 17" follow 15" CPN for X1 code	Change to SCA00000T00		0.3 (X02)
31	38	EE	2019/1/21	Compal	Align NB reserve fuse FZ3, FZ4 and netname	Change to T0603FF1000TM		0.3 (X02)
32	19	EE	2019/1/21	Compal	Align BH GPIO TYPEC_CON_SEL1 / TYPEC_CON_SEL2	RH553~RH556		0.3 (X02)
33	38	EE	2019/1/24	Compal	Add RV911 for pull down float voltage	RV911		0.3 (X02)
34	45	EE	2019/1/24	Compal	Change BOM Structure to EE	DT1, DT2, DT3,DT16, DT2001~DT2008		0.3 (X02)
35	59	EE	2019/1/25	Compal	DI6 change CPN	Change to SC300001Y00		0.3 (X02)
36	38	EE	2019/1/29	Compal	Update UE12 symbol	Change to SA00009YF10		0.3 (X02)
37	27,38	EE	2019/1/29	Compal	HDR monitor for AMD/NV/UMA edp output detect	RV737~742, QV44		0.3 (X02)
38	38	EE	2019/1/30	Compal	Change the power rail to +3.3V_RUN	RV739,RV740		0.3 (X02)
39	38	EE	2019/1/31	Compal	Change net name from +CAMERA_VDD_F to +CAMERA_VDD	CZ510, CZ511, CZ512		0.3 (X02)
40	42	EE	2019/2/12	Compal	Change to depop, Change BOM Structure to @	RT372		0.3 (X02)
41	42	EE	2019/2/12	Compal	Change BOM Structure	RT614		0.3 (X02)
42	27	EE	2019/2/21	Compal	Cancel double pull high	RV806		0.3 (X02)

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