

LCFC Confidential

DY512 M/B Schematics Document

Intel Kabylake H-Processor with DDR4 + NV N17P-G0/G1 GPU

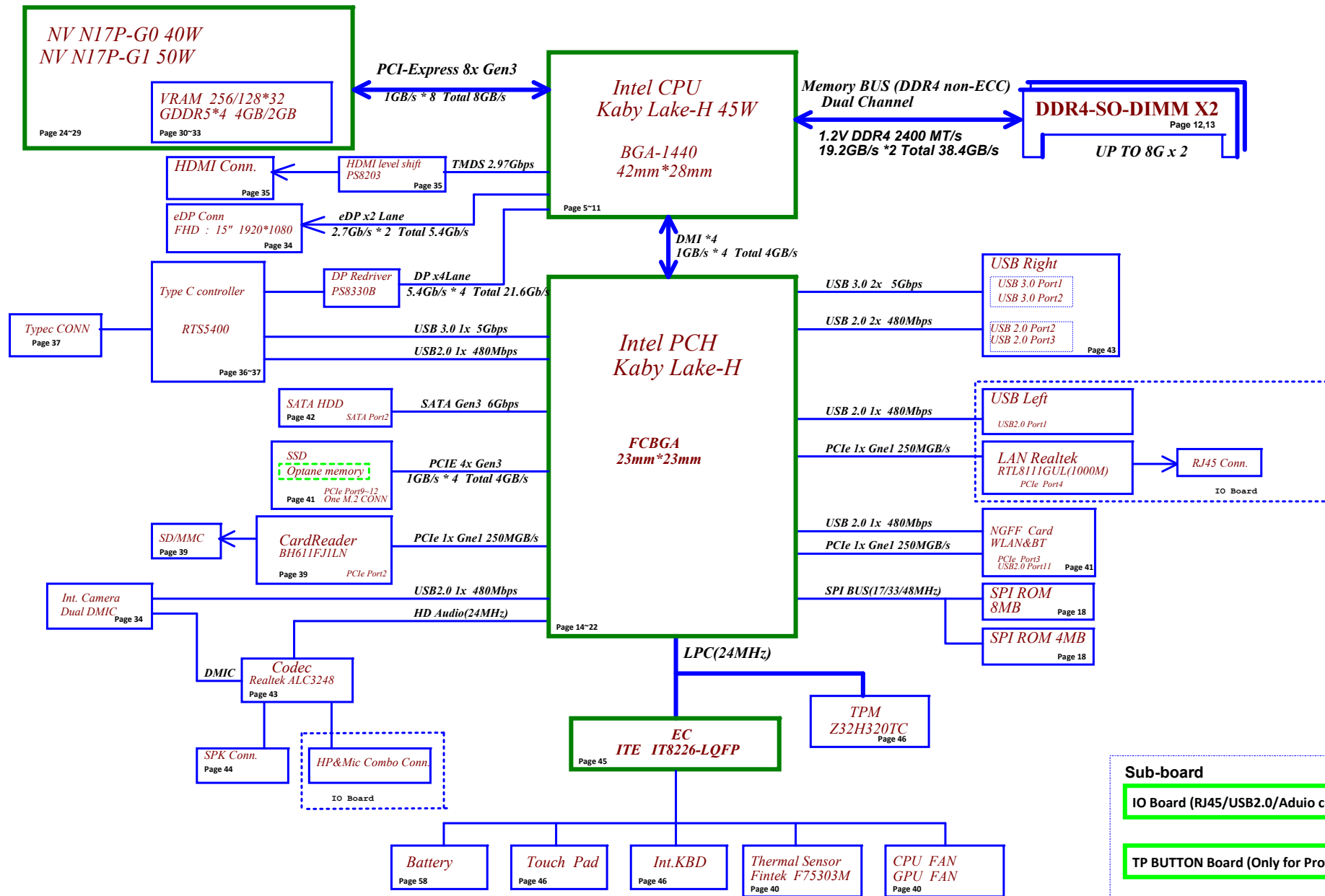
MB NM-B191

2016-11-25

REV:1.0

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|--|------------|------------------------------|------------|---------------------------------|---------------------------------|
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| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 | Cover Page | |
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| | | | | Date: Friday, November 25, 2016 | Sheet 1 of 75 Rev 1.0 |



Sub-board

- IO Board (RJ45/USB2.0/Audio combo jack)**
- TP BUTTON Board (Only for Provence-5R)**

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| Size C | Document Number | DY512 | Rev 1.0 |
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| Power Plane / State | B+ | +3VALW +5VALW +1.0VALW | +3VALW_PCH | +2.5V +1.2V VCCST | +5VS +3VS VCCIO VCCSTG +0.6VS CPU_CORE GFX VCCSA +1.8V_AON +1.8V_MAIN NVVDD NVVDDS +0.95VGS +1.35VGS |
|--------------------------------------|----|--------------------------------------|------------|---------------------------------|---|
| S0 | O | O | O | O | O |
| S3 | O | O | O | O | X |
| S3 Battery only | O | O | O | O | X |
| S5 S4/AC Only | O | O | O | X | X |
| S5 S4 Battery only | O | X | X | X | X |
| S5 S4 AC & Battery don't exist | X | X | X | X | X |

| Port | Function |
|------|------------|
| 1 | Right USB2 |
| 2 | Left USB3 |
| 3 | Left USB3 |
| 4 | TypeC USB2 |
| 5 | |
| 6 | Camera |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | BT |
| 12 | |
| 13 | |
| 14 | |



| STATE \ SIGNAL | SLP_S1# | SLP_S3# | SLP_S4# | SLP_S5# | +VALW | +V | +VS | Clock |
|-----------------------|---------|---------|---------|---------|-------|-----|-----|-------|
| Full ON | HIGH | HIGH | HIGH | HIGH | ON | ON | ON | ON |
| S1 (Power On Suspend) | LOW | HIGH | HIGH | HIGH | ON | ON | ON | LOW |
| S3 (Suspend to RAM) | LOW | LOW | HIGH | HIGH | ON | ON | OFF | OFF |
| S4 (Suspend to Disk) | LOW | LOW | LOW | HIGH | ON | OFF | OFF | OFF |
| S5 (Soft OFF) | LOW | LOW | LOW | LOW | ON | OFF | OFF | OFF |



[illegible]

| Port | Description | Function |
|------|------------------|----------------------------|
| 1 | USB3#1 | Left USB3 |
| 2 | USB3#2 | Left USB3 |
| 3 | USB3#3 | TypeC USB3 |
| 4 | USB3#4 | |
| 5 | USB3#5 | |
| 6 | USB3#6 | |
| 7 | USB3#7 / PCIE#1 | |
| 8 | USB3#8 / PCIE#2 | CarderReader(PCIE) |
| 9 | USB3#9 / PCIE#3 | WLAN(PCIE) |
| 10 | USB3#10 / PCIE#4 | LAN(PCIE) |
| 11 | PCIE#5 | |
| 12 | PCIE#6 | |
| 13 | PCIE#7 | |
| 14 | PCIE#8 | |
| 15 | PCIE#9 / SATA#0 | PCle x4 SSD |
| 16 | PCIE#10 / SATA#1 | |
| 17 | PCIE#11 | |
| 18 | PCIE#12 | |
| 19 | PCIE#13 / SATA#0 | |
| 20 | PCIE#14 / SATA#1 | |
| 21 | PCIE#15 / SATA#2 | HDD(SATA3.0) |
| 22 | PCIE#16 / SATA#3 | HDD cable(SATA3.0) Reserve |
| 23 | PCIE#17 / SATA#4 | |
| 24 | PCIE#18 / SATA#5 | |
| 25 | PCIE#19 / SATA#6 | |
| 26 | PCIE#20 / SATA#6 | |

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| | | | | Date: Friday, November 25, 2016 Sheet 3 of 75 | |

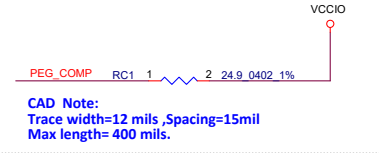
24 PCIE_CRX_GTX_N[0..7]  24
24 PCIE_CRX_GTX_P[0..7]  24

 PCIE_CTX_C_GRX_N[0..7] 24
 PCIE_CTX_C_GRX_P[0..7] 24

I7 : SA00007HB20
I5 : SA00007HS10

Change PEG from X16 to X8
HLZ SDV 20160510

Change PEG from X16 to X8
HLZ SDV 20160510



19 DMI_CRX_PTX_P0  DMI_CRX_PTX_P0 D8 DMI_RXP[0] DMI_TXP[0] B8 DMI_CTX_PRX_P0  DMI_CTX_PRX_P0 19
19 DMI_CRX_PTX_N0  DMI_CRX_PTX_N0 E8 DMI_RXN[0] DMI_TXN[0] A8 DMI_CTX_PRX_N0  DMI_CTX_PRX_N0 19

19 DMI_CRX_PTX_P1  DMI_CRX_PTX_P1 E6 DMI_RXP[1] DMI_TXP[1] C6 DMI_CTX_PRX_P1  DMI_CTX_PRX_P1 19
19 DMI_CRX_PTX_N1  DMI_CRX_PTX_N1 F6 DMI_RXN[1] DMI_TXN[1] B6 DMI_CTX_PRX_N1  DMI_CTX_PRX_N1 19

19 DMI_CRX_PTX_P2  DMI_CRX_PTX_P2 D5 DMI_RXP[2] DMI_TXP[2] B5 DMI_CTX_PRX_P2  DMI_CTX_PRX_P2 19
19 DMI_CRX_PTX_N2  DMI_CRX_PTX_N2 E5 DMI_RXN[2] DMI_TXN[2] A5 DMI_CTX_PRX_N2  DMI_CTX_PRX_N2 19

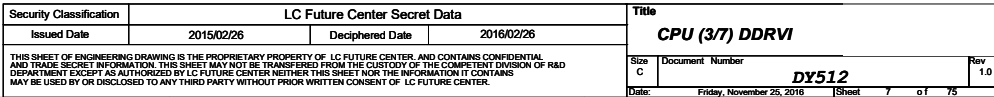
19 DMI_CRX_PTX_P3  DMI_CRX_PTX_P3 J8 DMI_RXP[3] DMI_TXP[3] D4 DMI_CTX_PRX_P3  DMI_CTX_PRX_P3 19
19 DMI_CRX_PTX_N3  DMI_CRX_PTX_N3 J9 DMI_RXN[3] DMI_TXN[3] B4 DMI_CTX_PRX_N3  DMI_CTX_PRX_N3 19

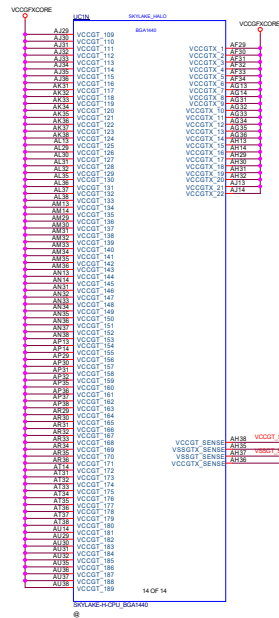
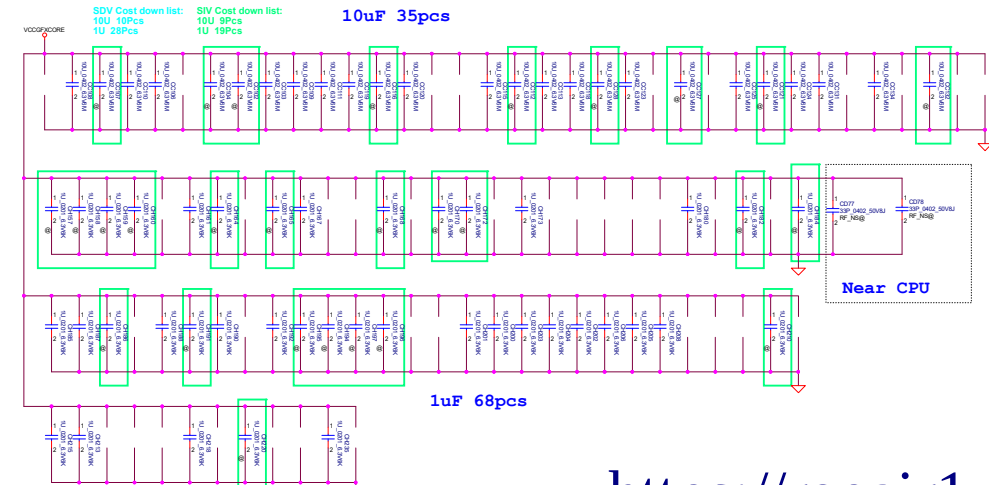
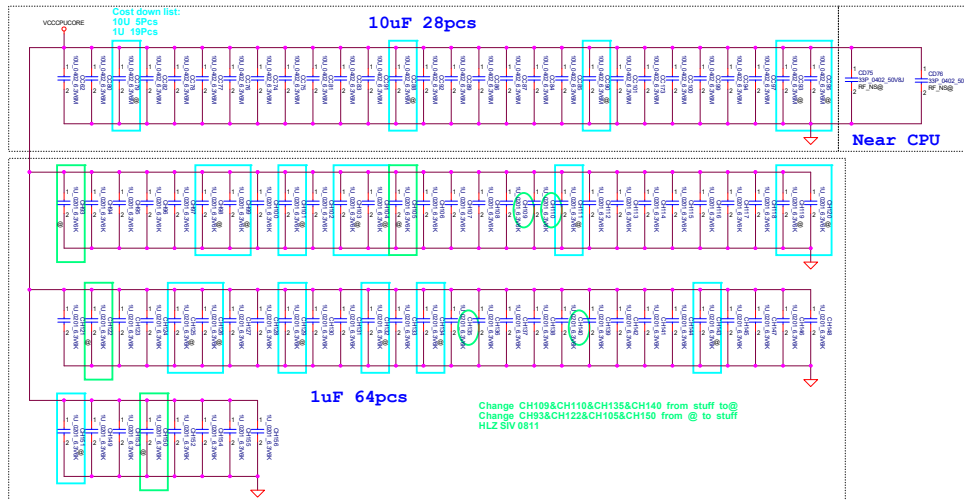
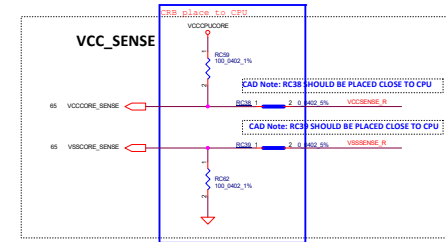
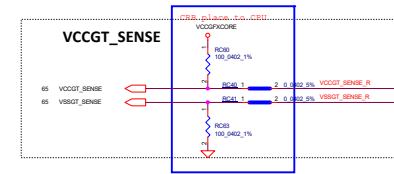
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SKYLAKE-H-CPU_BGA1440
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|---|--|------------------------------|-----------------|---------------|-------------------|
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| | | Custom DY512 | | 1.0 | |
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| Sheet | Document Number | Doc ID | Rev |
| 1 | | DY512 | 1.0 |
| Date | Expiry | Revision | By |
| | | | |

| UC1F | SKYLAKE_HALO | K1 |
|------|--------------|---------|
| Y38 | VSS_1 | VSS_78 |
| Y37 | VSS_2 | VSS_79 |
| Y14 | VSS_3 | VSS_80 |
| Y13 | VSS_4 | VSS_81 |
| Y11 | VSS_5 | VSS_82 |
| Y10 | VSS_6 | VSS_83 |
| Y0 | VSS_7 | VSS_84 |
| W8 | VSS_8 | VSS_85 |
| W4 | VSS_9 | VSS_86 |
| W33 | VSS_10 | VSS_87 |
| W12 | VSS_11 | VSS_88 |
| W5 | VSS_12 | VSS_89 |
| W4 | VSS_13 | VSS_90 |
| W3 | VSS_14 | VSS_91 |
| W2 | VSS_15 | VSS_92 |
| W1 | VSS_16 | VSS_93 |
| V29 | VSS_17 | VSS_94 |
| V12 | VSS_18 | VSS_95 |
| V6 | VSS_19 | VSS_96 |
| U38 | VSS_20 | VSS_97 |
| U37 | VSS_21 | VSS_98 |
| U36 | VSS_22 | VSS_99 |
| U35 | VSS_23 | VSS_100 |
| U34 | VSS_24 | VSS_101 |
| U33 | VSS_25 | VSS_102 |
| U32 | VSS_26 | VSS_103 |
| U31 | VSS_27 | VSS_104 |
| U30 | VSS_28 | VSS_105 |
| U29 | VSS_29 | VSS_106 |
| U28 | VSS_30 | VSS_107 |
| U27 | VSS_31 | VSS_108 |
| U26 | VSS_32 | VSS_109 |
| U25 | VSS_33 | VSS_110 |
| U24 | VSS_34 | VSS_111 |
| U23 | VSS_35 | VSS_112 |
| U22 | VSS_36 | VSS_113 |
| U21 | VSS_37 | VSS_114 |
| U20 | VSS_38 | VSS_115 |
| U19 | VSS_39 | VSS_116 |
| U18 | VSS_40 | VSS_117 |
| U17 | VSS_41 | VSS_118 |
| U16 | VSS_42 | VSS_119 |
| U15 | VSS_43 | VSS_120 |
| U14 | VSS_44 | VSS_121 |
| U13 | VSS_45 | VSS_122 |
| U12 | VSS_46 | VSS_123 |
| U11 | VSS_47 | VSS_124 |
| U10 | VSS_48 | VSS_125 |
| U9 | VSS_49 | VSS_126 |
| U8 | VSS_50 | VSS_127 |
| U7 | VSS_51 | VSS_128 |
| U6 | VSS_52 | VSS_129 |
| U5 | VSS_53 | VSS_130 |
| U4 | VSS_54 | VSS_131 |
| U3 | VSS_55 | VSS_132 |
| U2 | VSS_56 | VSS_133 |
| U1 | VSS_57 | VSS_134 |
| M13 | VSS_58 | VSS_135 |
| M12 | VSS_59 | VSS_136 |
| M11 | VSS_60 | VSS_137 |
| M10 | VSS_61 | VSS_138 |
| M9 | VSS_62 | VSS_139 |
| M8 | VSS_63 | VSS_140 |
| M7 | VSS_64 | VSS_141 |
| M6 | VSS_65 | VSS_142 |
| M5 | VSS_66 | VSS_143 |
| M4 | VSS_67 | VSS_144 |
| M3 | VSS_68 | VSS_145 |
| M2 | VSS_69 | VSS_146 |
| M1 | VSS_70 | VSS_147 |
| L34 | VSS_71 | VSS_148 |
| L33 | VSS_72 | VSS_149 |
| L32 | VSS_73 | VSS_150 |
| L31 | VSS_74 | VSS_151 |
| L30 | VSS_75 | VSS_152 |
| L29 | VSS_76 | VSS_153 |
| L28 | VSS_77 | VSS_154 |

SKYLAKE-H-CPU_BGA1440
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| UC1L | SKYLAKE_HALO | C25 |
|------|--------------|---------|
| C17 | VSS_154 | VSS_239 |
| C16 | VSS_155 | VSS_240 |
| C15 | VSS_156 | VSS_241 |
| C14 | VSS_157 | VSS_242 |
| C13 | VSS_158 | VSS_243 |
| C12 | VSS_159 | VSS_244 |
| C11 | VSS_160 | VSS_245 |
| C10 | VSS_161 | VSS_246 |
| C9 | VSS_162 | VSS_247 |
| C8 | VSS_163 | VSS_248 |
| C7 | VSS_164 | VSS_249 |
| C6 | VSS_165 | VSS_250 |
| C5 | VSS_166 | VSS_251 |
| C4 | VSS_167 | VSS_252 |
| C3 | VSS_168 | VSS_253 |
| C2 | VSS_169 | VSS_254 |
| C1 | VSS_170 | VSS_255 |
| B25 | VSS_171 | VSS_256 |
| B24 | VSS_172 | VSS_257 |
| B23 | VSS_173 | VSS_258 |
| B22 | VSS_174 | VSS_259 |
| B21 | VSS_175 | VSS_260 |
| B20 | VSS_176 | VSS_261 |
| B19 | VSS_177 | VSS_262 |
| B18 | VSS_178 | VSS_263 |
| B17 | VSS_179 | VSS_264 |
| B16 | VSS_180 | VSS_265 |
| B15 | VSS_181 | VSS_266 |
| B14 | VSS_182 | VSS_267 |
| B13 | VSS_183 | VSS_268 |
| B12 | VSS_184 | VSS_269 |
| B11 | VSS_185 | VSS_270 |
| B10 | VSS_186 | VSS_271 |
| B9 | VSS_187 | VSS_272 |
| B8 | VSS_188 | VSS_273 |
| B7 | VSS_189 | VSS_274 |
| B6 | VSS_190 | VSS_275 |
| B5 | VSS_191 | VSS_276 |
| B4 | VSS_192 | VSS_277 |
| B3 | VSS_193 | VSS_278 |
| B2 | VSS_194 | VSS_279 |
| B1 | VSS_195 | VSS_280 |
| A25 | VSS_196 | VSS_281 |
| A24 | VSS_197 | VSS_282 |
| A23 | VSS_198 | VSS_283 |
| A22 | VSS_199 | VSS_284 |
| A21 | VSS_200 | VSS_285 |
| A20 | VSS_201 | VSS_286 |
| A19 | VSS_202 | VSS_287 |
| A18 | VSS_203 | VSS_288 |
| A17 | VSS_204 | VSS_289 |
| A16 | VSS_205 | VSS_290 |
| A15 | VSS_206 | VSS_291 |
| A14 | VSS_207 | VSS_292 |
| A13 | VSS_208 | VSS_293 |
| A12 | VSS_209 | VSS_294 |
| A11 | VSS_210 | VSS_295 |
| A10 | VSS_211 | VSS_296 |
| A9 | VSS_212 | VSS_297 |
| A8 | VSS_213 | VSS_298 |
| A7 | VSS_214 | VSS_299 |
| A6 | VSS_215 | VSS_300 |
| A5 | VSS_216 | VSS_301 |
| A4 | VSS_217 | VSS_302 |
| A3 | VSS_218 | VSS_303 |
| A2 | VSS_219 | VSS_304 |
| A1 | VSS_220 | VSS_305 |
| BH12 | VSS_221 | VSS_306 |
| BH11 | VSS_222 | VSS_307 |
| BH10 | VSS_223 | VSS_308 |
| BH9 | VSS_224 | VSS_309 |
| BH8 | VSS_225 | VSS_310 |
| BH7 | VSS_226 | VSS_311 |
| BH6 | VSS_227 | VSS_312 |
| BH5 | VSS_228 | VSS_313 |
| BH4 | VSS_229 | VSS_314 |
| BH3 | VSS_230 | VSS_315 |
| BH2 | VSS_231 | VSS_316 |
| BH1 | VSS_232 | VSS_317 |
| BE26 | VSS_233 | VSS_318 |
| BE25 | VSS_234 | VSS_319 |
| BE24 | VSS_235 | VSS_320 |
| BE23 | VSS_236 | VSS_321 |
| BE22 | VSS_237 | VSS_322 |
| BE21 | VSS_238 | VSS_323 |

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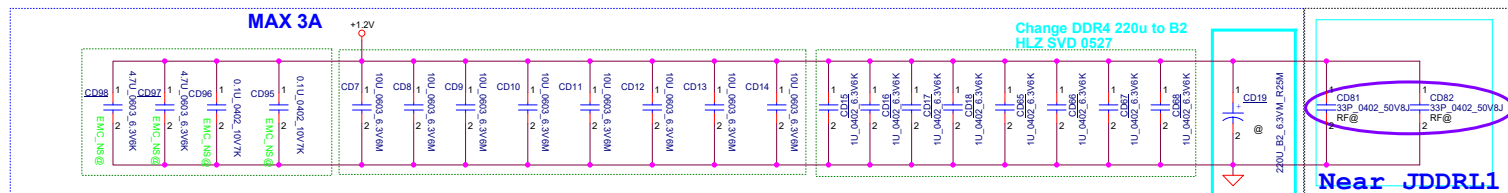
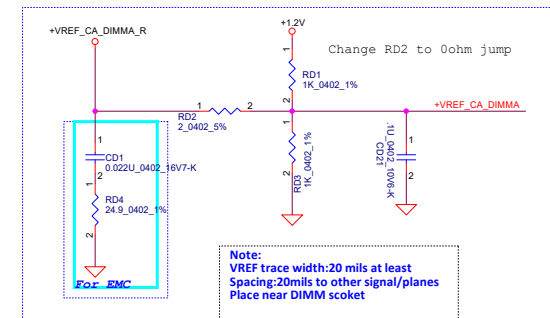
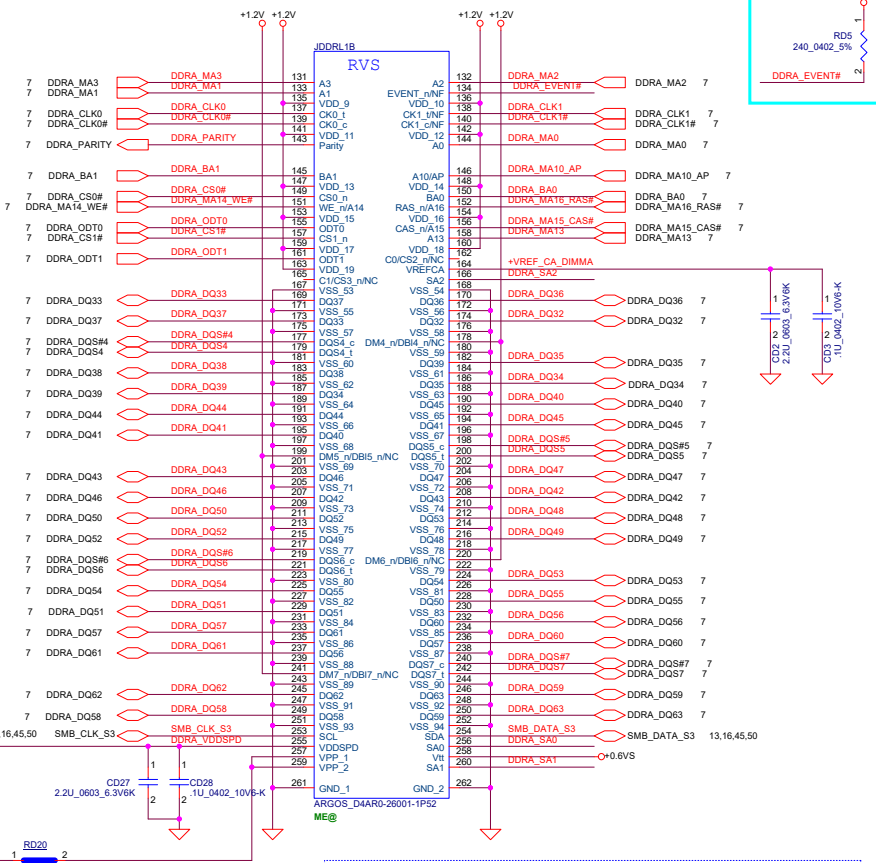
| UC1M | SKYLAKE_HALO | AK30 |
|------|--------------|---------|
| B84 | VSS_300 | VSS_378 |
| B83 | VSS_301 | VSS_379 |
| B82 | VSS_302 | VSS_380 |
| B81 | VSS_303 | VSS_381 |
| B80 | VSS_304 | VSS_382 |
| B79 | VSS_305 | VSS_383 |
| B78 | VSS_306 | VSS_384 |
| B77 | VSS_307 | VSS_385 |
| B76 | VSS_308 | VSS_386 |
| B75 | VSS_309 | VSS_387 |
| B74 | VSS_310 | VSS_388 |
| B73 | VSS_311 | VSS_389 |
| B72 | VSS_312 | VSS_390 |
| B71 | VSS_313 | VSS_391 |
| B70 | VSS_314 | VSS_392 |
| B69 | VSS_315 | VSS_393 |
| B68 | VSS_316 | VSS_394 |
| B67 | VSS_317 | VSS_395 |
| B66 | VSS_318 | VSS_396 |
| B65 | VSS_319 | VSS_397 |
| B64 | VSS_320 | VSS_398 |
| B63 | VSS_321 | VSS_399 |
| B62 | VSS_322 | VSS_400 |
| B61 | VSS_323 | VSS_401 |
| B60 | VSS_324 | VSS_402 |
| B59 | VSS_325 | VSS_403 |
| B58 | VSS_326 | VSS_404 |
| B57 | VSS_327 | VSS_405 |
| B56 | VSS_328 | VSS_406 |
| B55 | VSS_329 | VSS_407 |
| B54 | VSS_330 | VSS_408 |
| B53 | VSS_331 | VSS_409 |
| B52 | VSS_332 | VSS_410 |
| B51 | VSS_333 | VSS_411 |
| B50 | VSS_334 | VSS_412 |
| B49 | VSS_335 | VSS_413 |
| B48 | VSS_336 | VSS_414 |
| B47 | VSS_337 | VSS_415 |
| B46 | VSS_338 | VSS_416 |
| B45 | VSS_339 | VSS_417 |
| B44 | VSS_340 | VSS_418 |
| B43 | VSS_341 | VSS_419 |
| B42 | VSS_342 | VSS_420 |
| B41 | VSS_343 | VSS_421 |
| B40 | VSS_344 | VSS_422 |
| B39 | VSS_345 | VSS_423 |
| B38 | VSS_346 | VSS_424 |
| B37 | VSS_347 | VSS_425 |
| B36 | VSS_348 | VSS_426 |
| B35 | VSS_349 | VSS_427 |
| B34 | VSS_350 | VSS_428 |
| B33 | VSS_351 | VSS_429 |
| B32 | VSS_352 | VSS_430 |
| B31 | VSS_353 | VSS_431 |
| B30 | VSS_354 | VSS_432 |
| B29 | VSS_355 | VSS_433 |
| B28 | VSS_356 | VSS_434 |
| B27 | VSS_357 | VSS_435 |
| B26 | VSS_358 | VSS_436 |
| B25 | VSS_359 | VSS_437 |
| B24 | VSS_360 | VSS_438 |
| B23 | VSS_361 | VSS_439 |
| B22 | VSS_362 | VSS_440 |
| B21 | VSS_363 | VSS_441 |
| B20 | VSS_364 | VSS_442 |
| B19 | VSS_365 | VSS_443 |
| B18 | VSS_366 | VSS_444 |
| B17 | VSS_367 | VSS_445 |
| B16 | VSS_368 | VSS_446 |
| B15 | VSS_369 | VSS_447 |
| B14 | VSS_370 | VSS_448 |
| B13 | VSS_371 | VSS_449 |
| B12 | VSS_372 | VSS_450 |
| B11 | VSS_373 | VSS_451 |
| B10 | VSS_374 | VSS_452 |
| B9 | VSS_375 | VSS_453 |
| B8 | VSS_376 | VSS_454 |
| B7 | VSS_377 | VSS_455 |

SKYLAKE-H-CPU_BGA1440
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| Size | C | Document Number | DY512 | |
| Date: | Friday, November 25, 2016 | Sheet | 11 | of 75 |

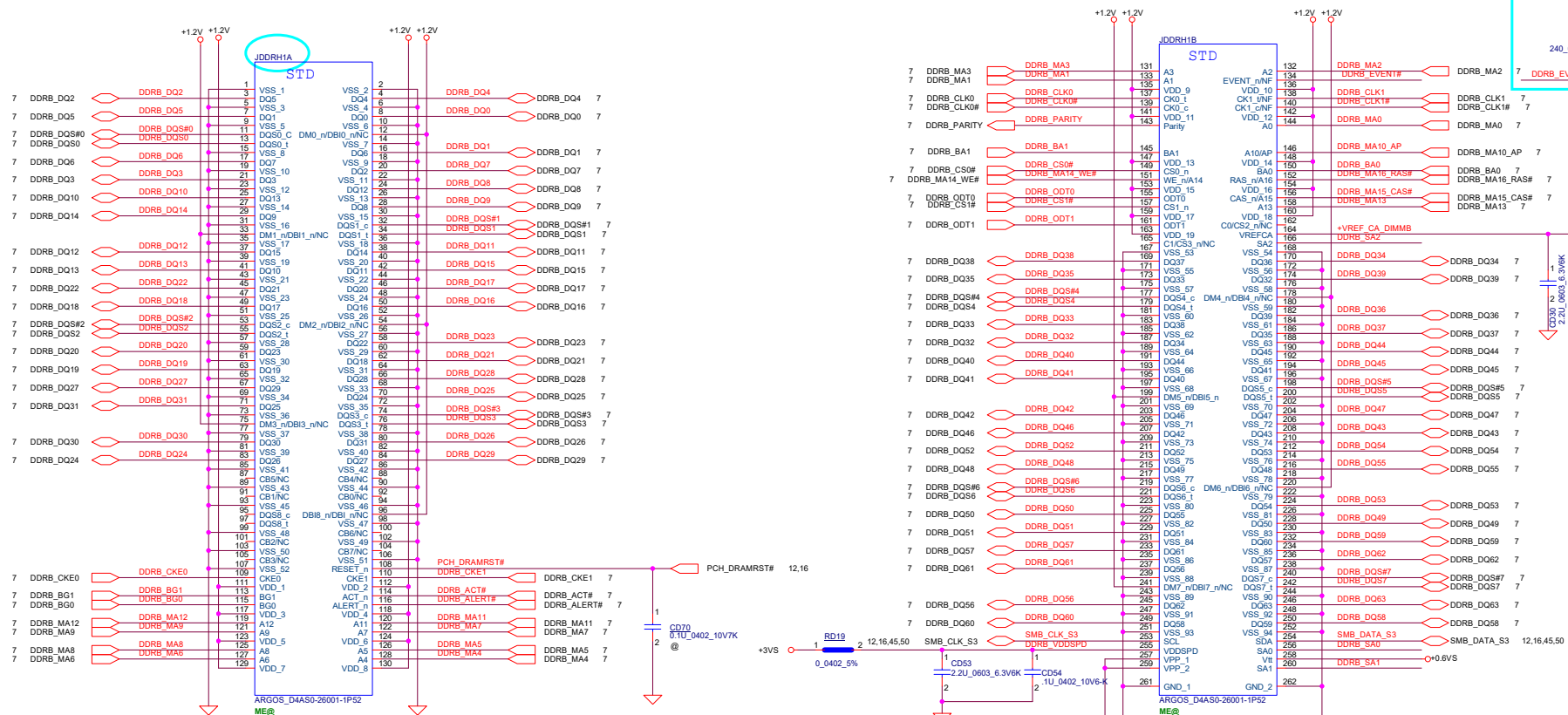
Change JDDR1 from Foxconn to ARGOSY
HLZ SDV 20160510



Change CD81 & CD82 from @ to stuff based on RF requirement
HLZ SIT 0924

<https://repair1.ru/>

| | | | | |
|---|------------------------------|-----------------|----------------|--|
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| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 | DDRV1 SO-DIMM A |
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| Date: | Friday, November 25, 2016 | | Sheet 12 of 75 | |

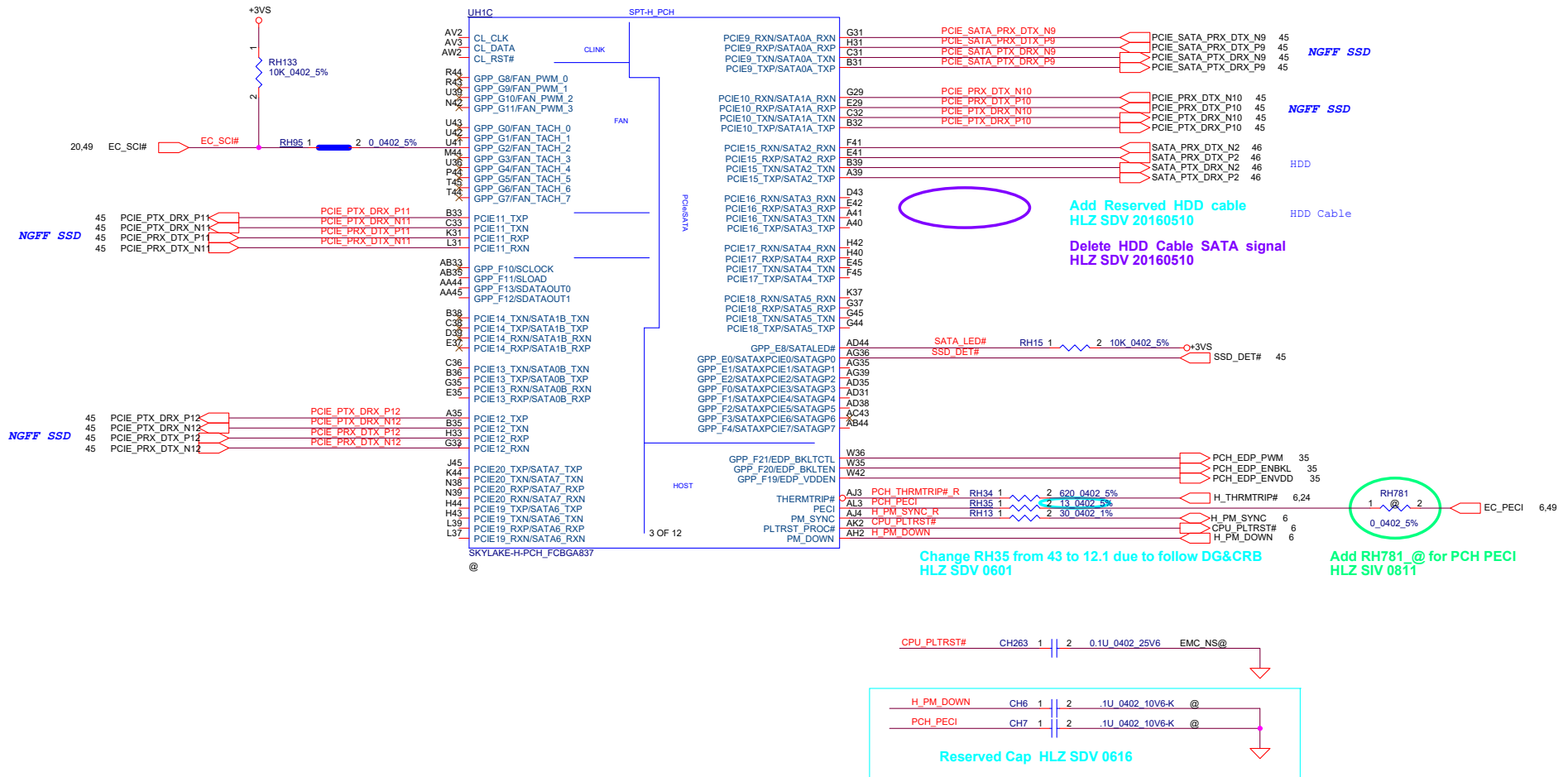


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| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 | Size | Document Number |
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| Date: | Friday, November 25, 2016 | Sheet | 13 | of | 75 |

DDRVI SO-DIMM B

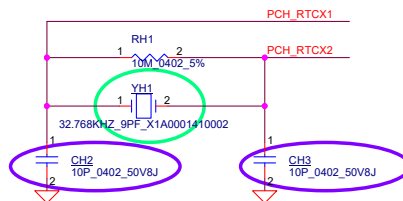
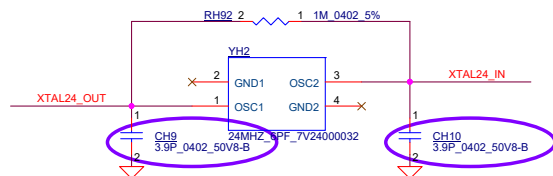
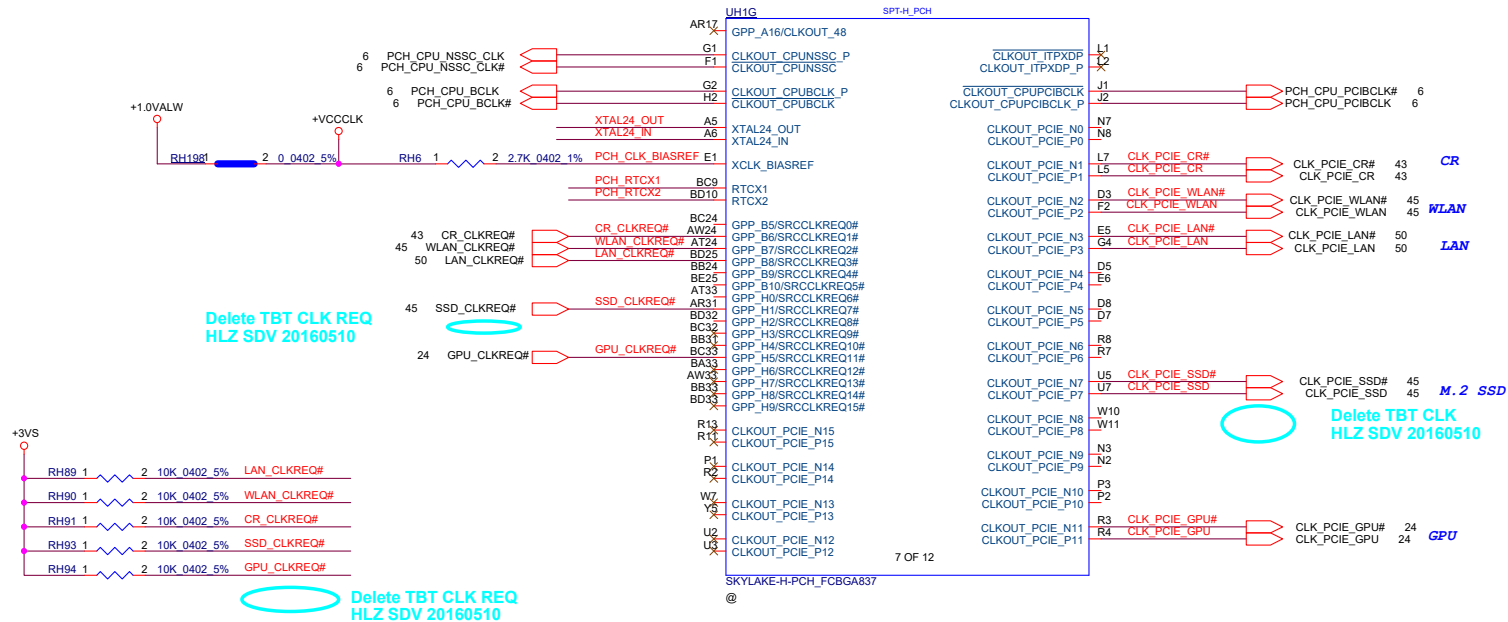
DY512



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| Date: Friday, November 26, 2015 | | | Sheet 16 of 75 Rev 1.0 |



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| Size | Document Number | Rev | | |
| Custom | DY512 | 1.0 | | |
| Date: | Friday, November 25, 2016 | Sheet | 17 | of 75 |

5

4

3

2

1

5

4

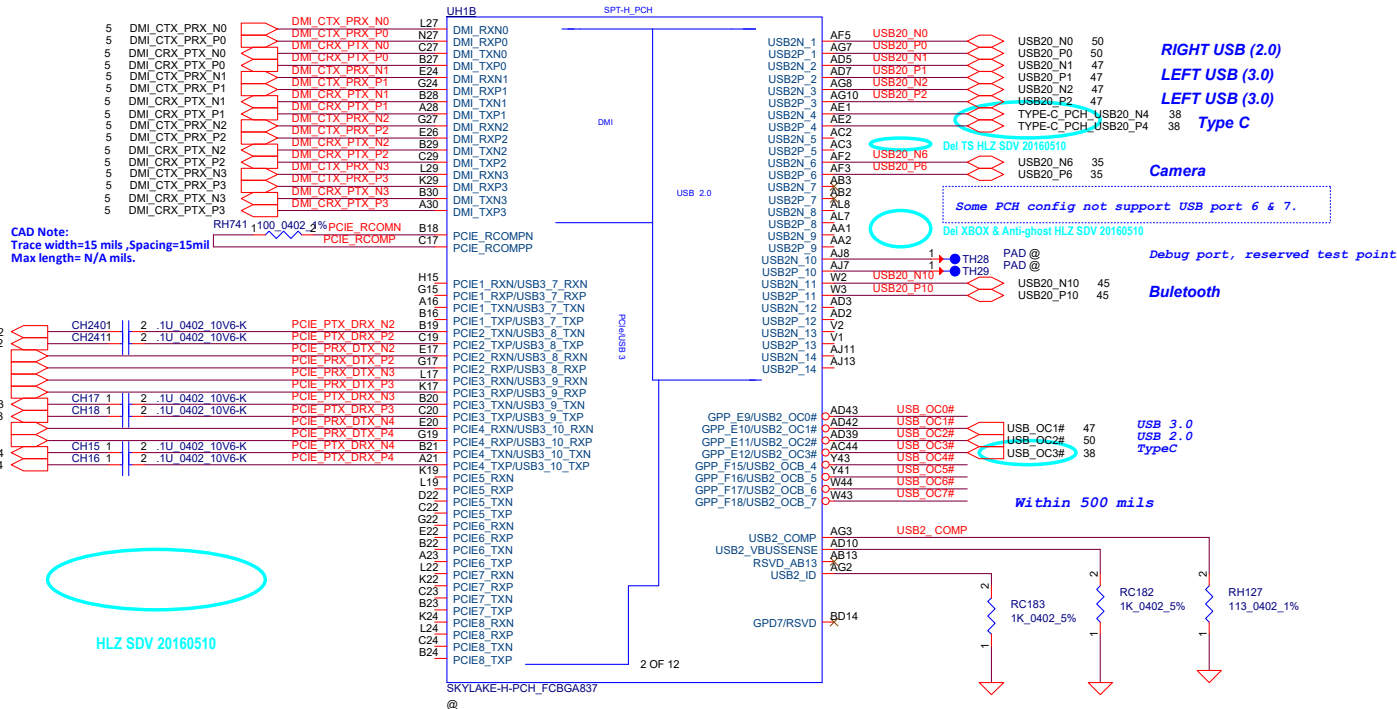
3

2

1

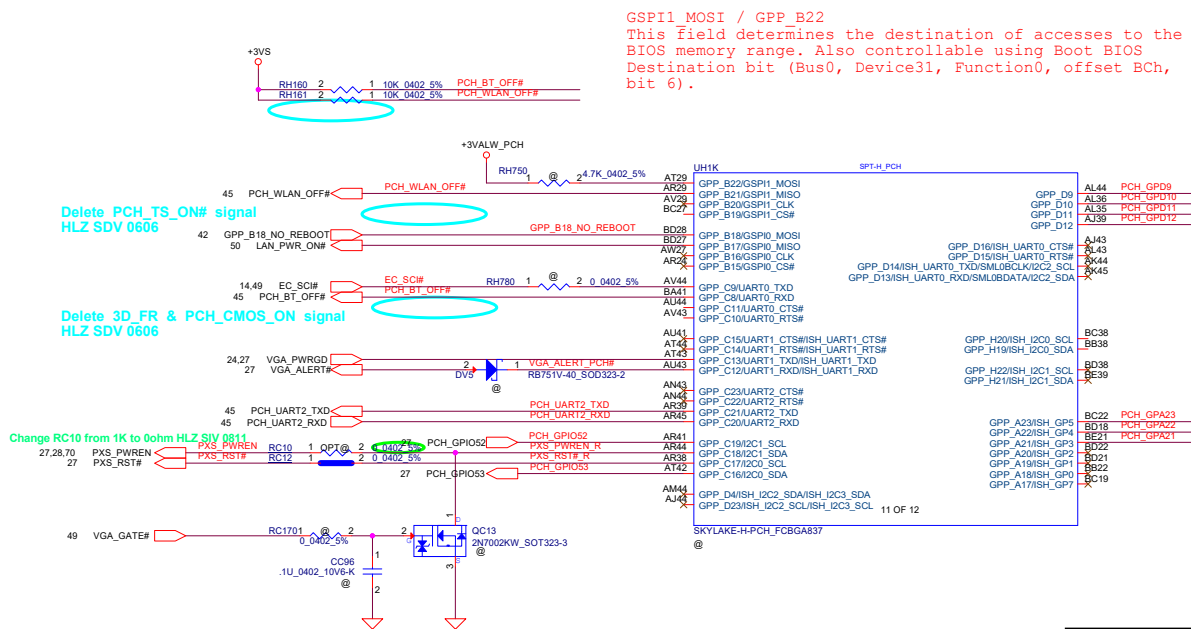
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WLAN
LAN

Thunderbolt
x 4

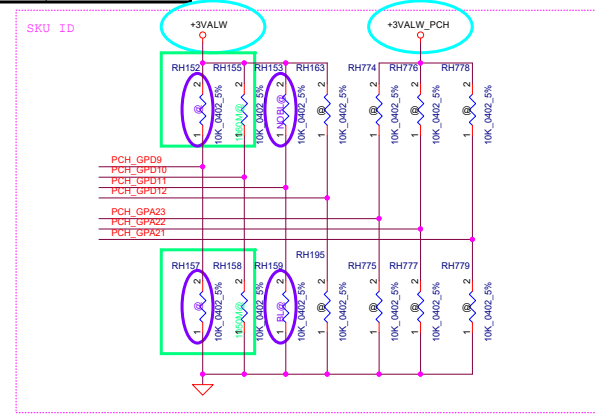


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|---|------------|------------------------------|------------|----------------------------------|---------------------------|----------------|
| Security Classification | | LC Future Center Secret Data | | Title | | |
| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 | PCH (5/9) DMI, PCIe, USB2, GPPEF | | |
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| | | | | Custom | DY512 | 1.0 |
| | | | | Date: | Friday, November 25, 2016 | Sheet 19 of 75 |



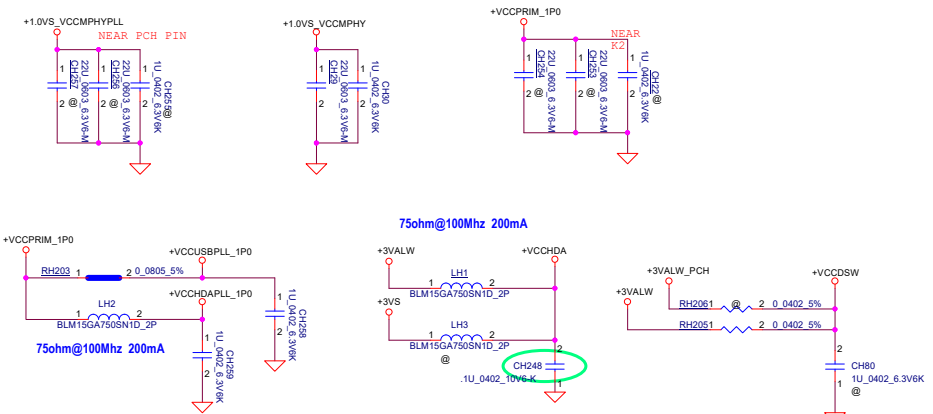
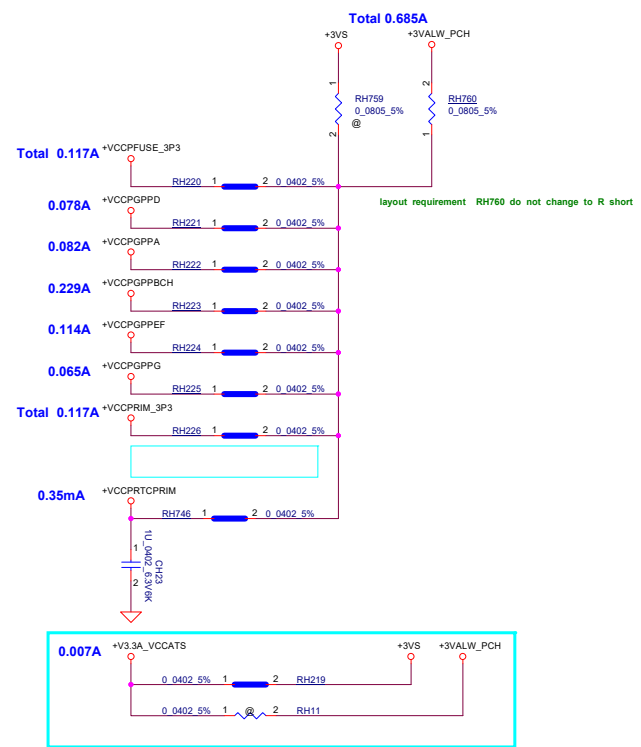
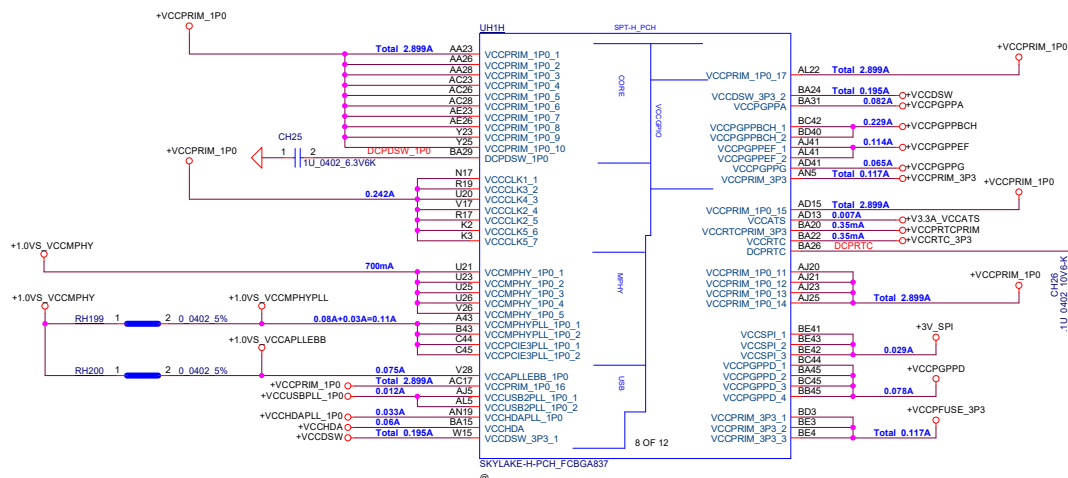
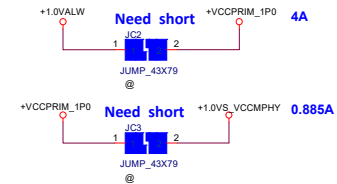
| Bit 6 | Boot BIOS Destination |
|-------|-----------------------|
| 0 | SPI (Default) |
| 1 | LPC |



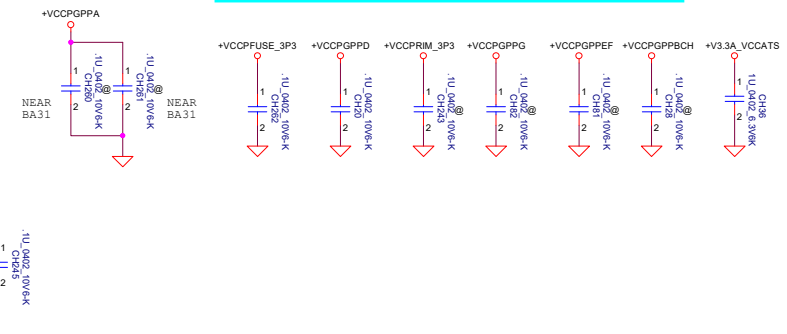
| Function | PCH_GPD9 | PCH_GPD10 | PCH_GPD11 | PCH_GPD12 | PCH_GPD21 | PCH_GPD22 | PCH_GPD23 |
|---------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| DY512 | X | X | X | X | X | X | X |
| DZ510 | X | X | X | X | X | X | X |
| NV 1050M | X | 0 | X | X | X | X | X |
| NV 1060M | X | 1 | X | X | X | X | X |
| KB BL | X | X | 0 | X | X | X | X |
| No KB BL | X | X | 1 | X | X | X | X |
| PCIE SSD | X | X | X | 0 | X | X | X |
| Optane memory | X | X | X | 1 | X | X | X |
| RSV | X | X | X | X | X | X | X |
| RSV | X | X | X | X | X | X | X |

<https://repair1.ru/>

+1.0VALW 4A
+3VALW 0.225A
+3VALW_PCH 1.222A

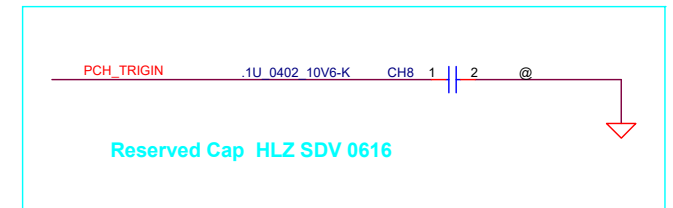
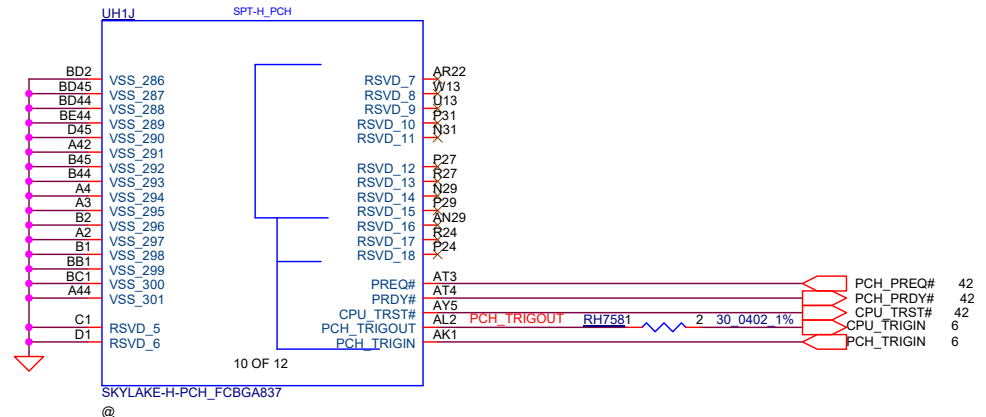
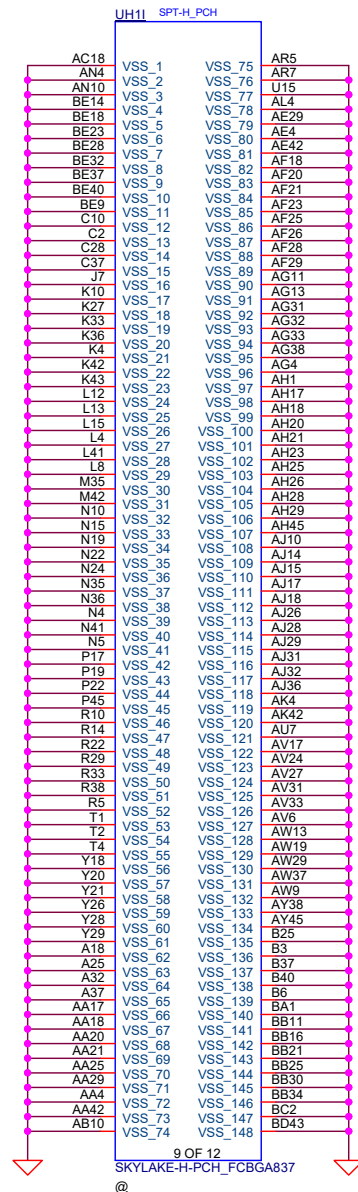
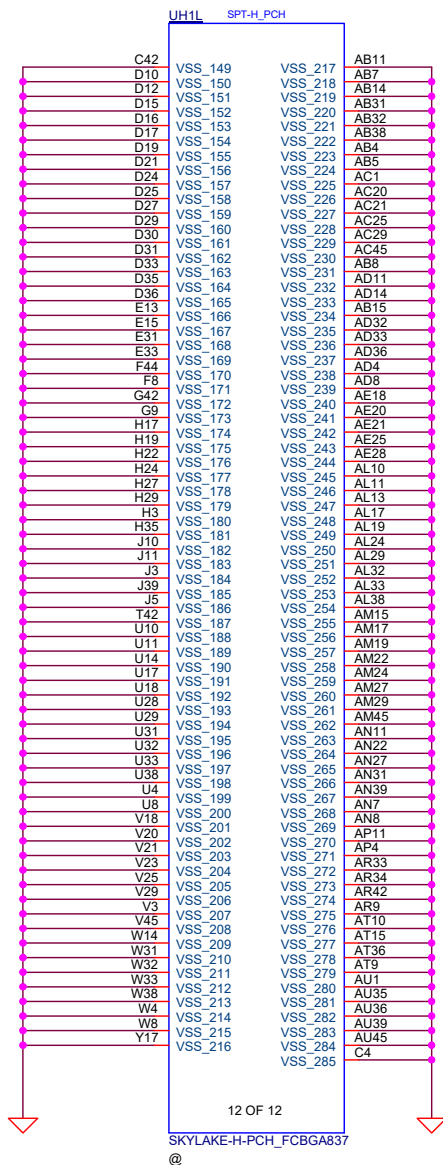


Change CH248 from @ to stuff due to power noise test fail HLZ SIV 0811



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| | | | |
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| C | DY512 | 1.0 | |
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| | | | | Size B | Document Number | Rev 1.0 | |
| | | | | DY512 | | | |
| | | | | Date: | Friday, November 25, 2016 | Sheet | 22 of 75 |

N17P-G1 GPIO

| GPIO | I/O | ACTIVE | Function Description | I/O Termination |
|--------|-----|--------|--|-----------------|
| GPIO0 | OUT | - | PWM Output to control NVVDD | |
| GPIO1 | OUT | - | FB Enable for GC6 2.1 | |
| GPIO2 | IN | - | GPU wake signal for GC6 2.1 | |
| GPIO3 | OUT | - | PWM Output to control the SRAM power supply | |
| GPIO4 | OUT | - | GPU power sequencing for GC6 2.1 --- 1V8_MAIN_EN | |
| GPIO5 | IN | N/A | Active low Frame Lock | |
| GPIO6 | OUT | - | Phase Shedding, NVVDD_PSI | |
| GPIO7 | OUT | N/A | Panel Backlight enable | |
| GPIO8 | OUT | - | Memory voltage Control | |
| GPIO9 | I/O | - | Active Low Thermal Alert | |
| GPIO10 | OUT | - | Memory VREF Control (100K pull Down) | |
| GPIO11 | OUT | - | Panel Power enable | |
| GPIO12 | IN | - | AC power detect or power supply overdraw input | (10K pull High) |
| GPIO13 | OUT | N/A | LCD Panel Backlight Enable | |
| GPIO14 | IN | N/A | Hot Plug Detect for IFPA | |
| GPIO15 | IN | N/A | Hot Plug Detect for IFPB | |
| GPIO16 | OUT | - | System side PCIe reset monitor | |
| GPIO17 | IN | N/A | Hot Plug Detect for IFPD | |
| GPIO18 | IN | N/A | Hot Plug Detect for IFPE | |
| GPIO19 | OUT | N/A | 3D Vision L/R Signal | |
| GPIO20 | | N/A | GC5_MODE | |
| GPIO21 | I/O | N/A | UNUSED | |
| GPIO22 | I/O | N/A | UNUSED | |
| GPIO23 | OUT | - | GPU PCIe self-reset control | |
| GPIO24 | IN | N/A | Hot Plug Detect for IFPF | |
| GPIO25 | | N/A | UNUSED | |
| GPIO26 | | N/A | UNUSED | |
| GPIO27 | IN | N/A | Hot Plug Detect for IFPC | |

| STRAP2 | STRAP1 | STRAP0 | RAMCFG[4:0] |
|--------|--------|--------|-------------|
| L | L | L | 00000 |
| L | H | L | 00010 |
| L | H | H | 00011 |
| H | H | L | 00110 |
| H | H | H | 00111 |

H=High: Tied to 1.8V
M=Middle: Tied to 0.9V
L=Low: Tied to 0V

| ROM_SO | ROM_SI | ROM_SCLK | SOR_EXPOSED[3:0] |
|--------|--------|----------|------------------|
| L | L | L | 1111 DEFAULT |
| L | L | H | 1110 |
| L | H | L | 1101 |
| L | H | H | 1100 |
| H | L | L | 1011 |
| H | L | H | 1010 |
| H | H | L | 1001 |
| H | H | H | 1000 |
| L | L | M | 0111 |
| L | M | L | 0110 |
| L | M | H | 0101 |
| L | H | M | 0100 |
| H | L | M | 0011 |
| H | M | L | 0010 |
| H | M | H | 0001 |
| H | H | M | 0000 |

1:ENABLE 0:DISABLE
SOR0/1/2/3 ENABLE

| STRAP5 | STRAP4 | STRAP3 | SMB_ALT_ADDR | DEVID_SEL | PCIE_CFG | VGA_DEVICE |
|--------|--------|--------|--------------|-----------|----------|------------|
| M | H | H | 1 | 1 | 1 | 1 |
| M | H | L | 1 | 1 | 1 | 0 |
| M | L | H | 1 | 1 | 0 | 1 |
| M | L | L | 1 | 1 | 0 | 0 |
| L | H | M | 1 | 0 | 1 | 1 |
| L | M | H | 1 | 0 | 1 | 0 |
| L | M | L | 1 | 0 | 0 | 1 |
| L | L | M | 1 | 0 | 0 | 0 |
| H | H | H | 0 | 1 | 1 | 1 |
| H | H | L | 0 | 1 | 1 | 0 |
| H | L | H | 0 | 1 | 0 | 1 |
| H | L | L | 0 | 1 | 0 | 0 |
| L | H | H | 0 | 0 | 1 | 1 |
| L | H | L | 0 | 0 | 1 | 0 |
| L | L | H | 0 | 0 | 0 | 1 DEFAULT |
| L | L | L | 0 | 0 | 0 | 0 |

1:SMB_ALT_ADDR ENABLE
0:SMB_ALT_ADDR DISABLE

1:DEVID_SEL REBRAND
0:DEVID_SEL ORIGINAL

1:PCIE_CFG LOW POWER
0:PCIE_CFG HIGH POWER

1:VGA_DEVICE ENABLE
0:VGA_DEVICE DISABLE

N17P-G1 Power Sequence



1. All power rail ramp up time should be larger than 40us and is recommended to be less than 2ms.

2. T (from 1V8_MAIN_EN to PEX_DVDD/NVVDD_Pgood) must NOT exceed 4ms.

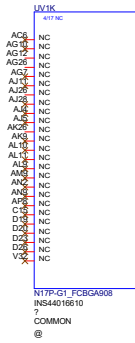
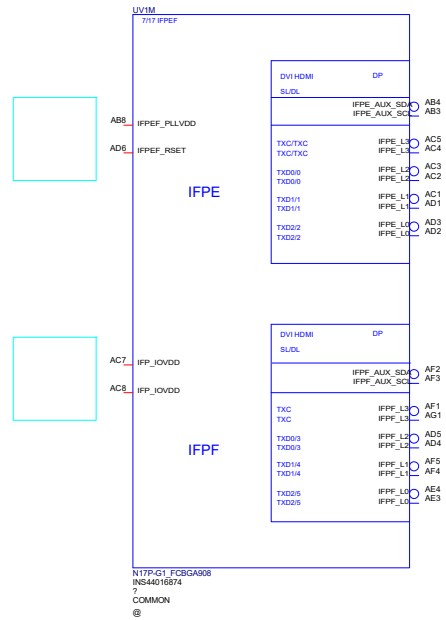
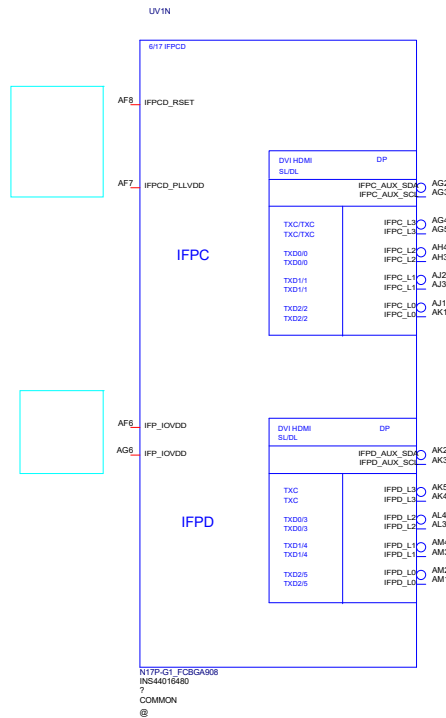
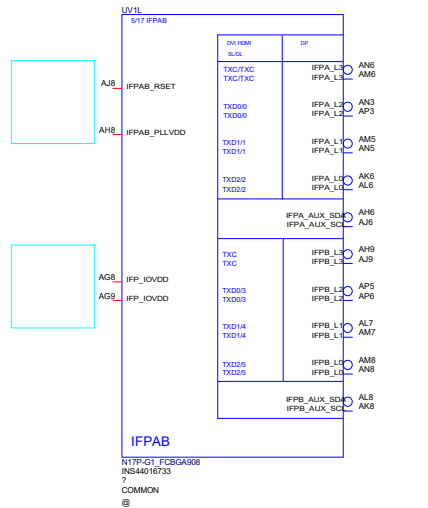
3. All 3.3V devices that connect to the GPU must be powered after 1V8_AON; GPU can NOT have any 3.3V leakage path before 1V8_AON present.

4. The previous power rail must ramp up to 90% before the next power rail can start ramping up.
1. NVVDDS/PEX_DVDD must ramp down before NVVDD, all other power rails can ramp down together with NVVDD.

2. All 3.3V devices that connect to the GPU must be ramp down before 1V8_AON; GPU can NOT have any 3.3V leakage path after 1V8_AON and 1.8V_MAIN power down.

3. The previous power rail must ramp down to 10% before the next power rail can start ramping down.

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<https://repair1.ru/>

| | | | | | |
|--|--|------------------------------|--|------------------------|--|
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| Size | | Document Number | | | |
| Custian | | DY512 | | | |
| Date: | | Friday, November 25, 2016 | | Sheet 26 of 75 | |

VGA_MAIN 1.05V 1.8V

300ohms (ESR=0.01) Bead
P/N: SMD10007W00

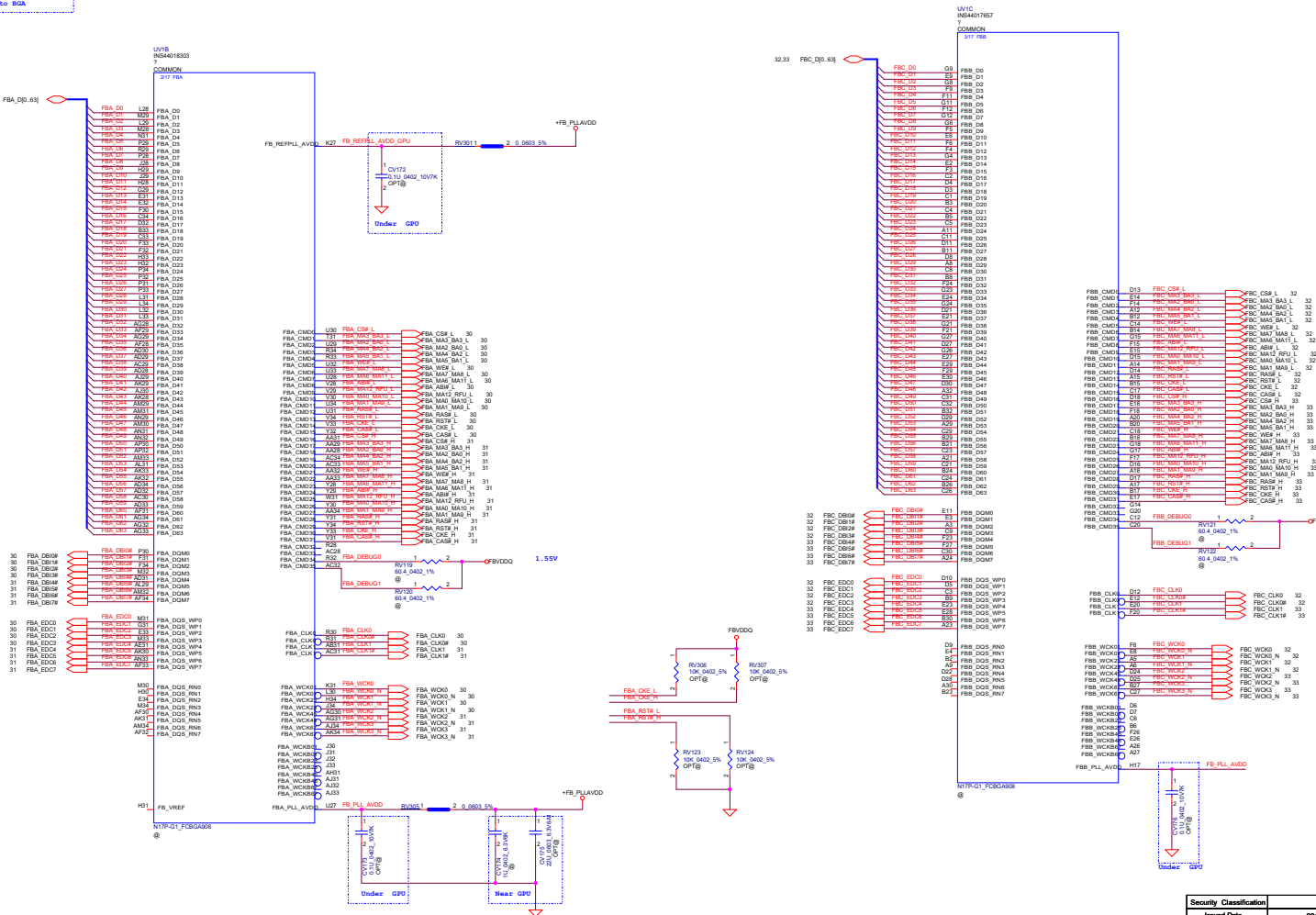
200mA

+FB_PLLAVDD

L17
30K100B02T-300Y-N
OPT@

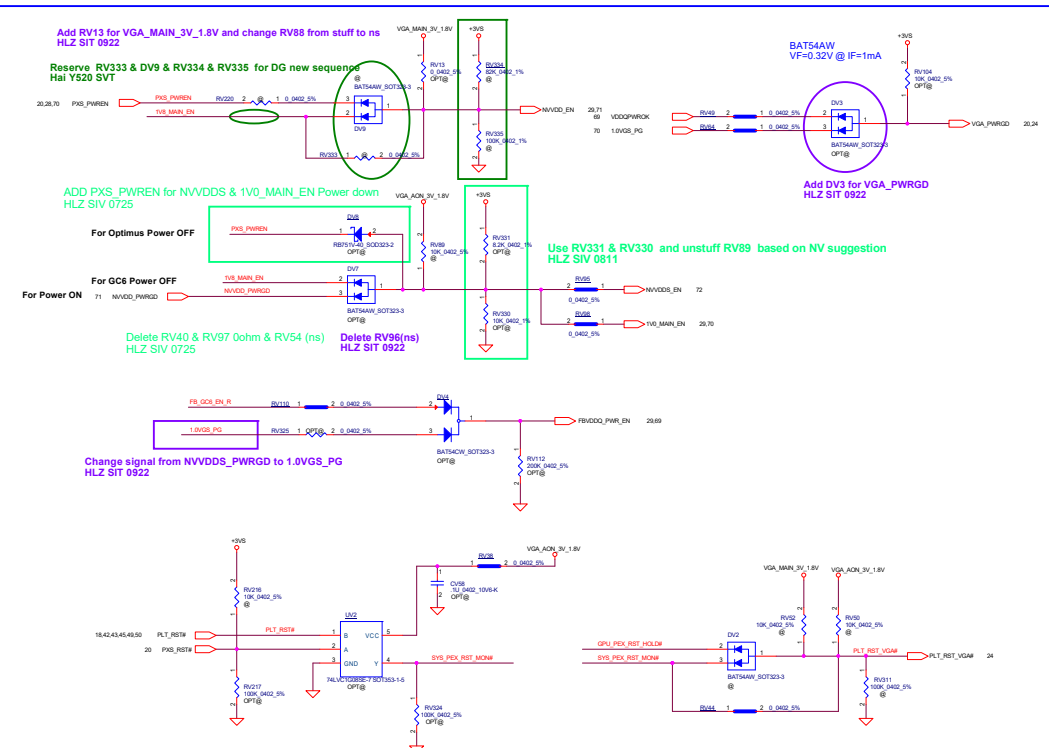
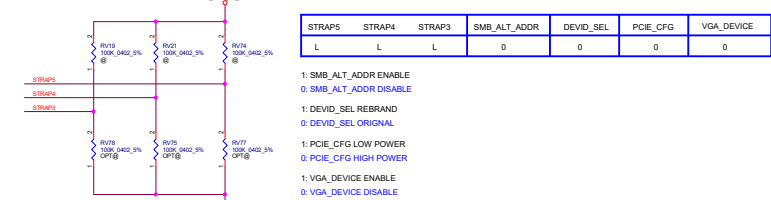
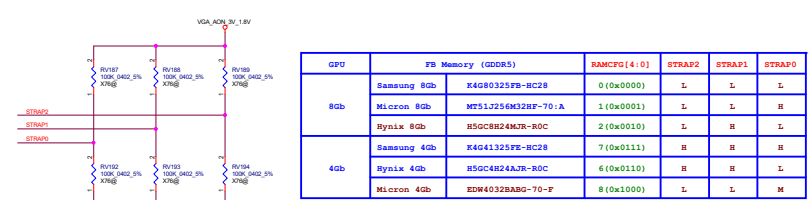
Place close to BGA

| DATA Bus | | |
|-----------|---------|---------|
| Address | 0...31 | 32...63 |
| FRX_CMD0 | CS# | |
| FRX_CMD1 | A3_BA3 | |
| FRX_CMD2 | A2_BA0 | |
| FRX_CMD3 | A4_BA2 | |
| FRX_CMD4 | A5_BA1 | |
| FRX_CMD5 | WE# | |
| FRX_CMD6 | A7_A5 | |
| FRX_CMD7 | A6_A11 | |
| FRX_CMD8 | AB# | |
| FRX_CMD9 | A12_RFU | |
| FRX_CMD10 | A0_A10 | |
| FRX_CMD11 | A1_A9 | |
| FRX_CMD12 | RAS# | |
| FRX_CMD13 | RST# | |
| FRX_CMD14 | CKE# | |
| FRX_CMD15 | CAS# | |
| FRX_CMD16 | | CS# |
| FRX_CMD17 | | A3_BA3 |
| FRX_CMD18 | | A2_BA0 |
| FRX_CMD19 | | A4_BA2 |
| FRX_CMD20 | | A5_BA1 |
| FRX_CMD21 | | WE# |
| FRX_CMD22 | | A7_A5 |
| FRX_CMD23 | | A6_A11 |
| FRX_CMD24 | | AB# |
| FRX_CMD25 | | A12_RFU |
| FRX_CMD26 | | A0_A10 |
| FRX_CMD27 | | A1_A9 |
| FRX_CMD28 | | RAS# |
| FRX_CMD29 | | RST# |
| FRX_CMD30 | | CKE# |
| FRX_CMD31 | | CAS# |

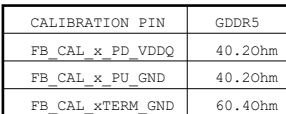


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| | | | | Quota | DY512 |
| | | | | Date | Friday, November 25, 2016 |
| | | | | Sheet | 26 of 75 |



5A Peak 8A

Delete CV300 330U
HLZ SDV 0610

PLACE MIDWAY BETWEEN FBA AND FBI

OSCAP

Under GPU

<https://repair1.ru/>



HLZ SIT 0923

2A

HLZ SIT 0928

1.5A

| | |
|-------------------------|------------------------------|
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|-------------------------|------------------------------|

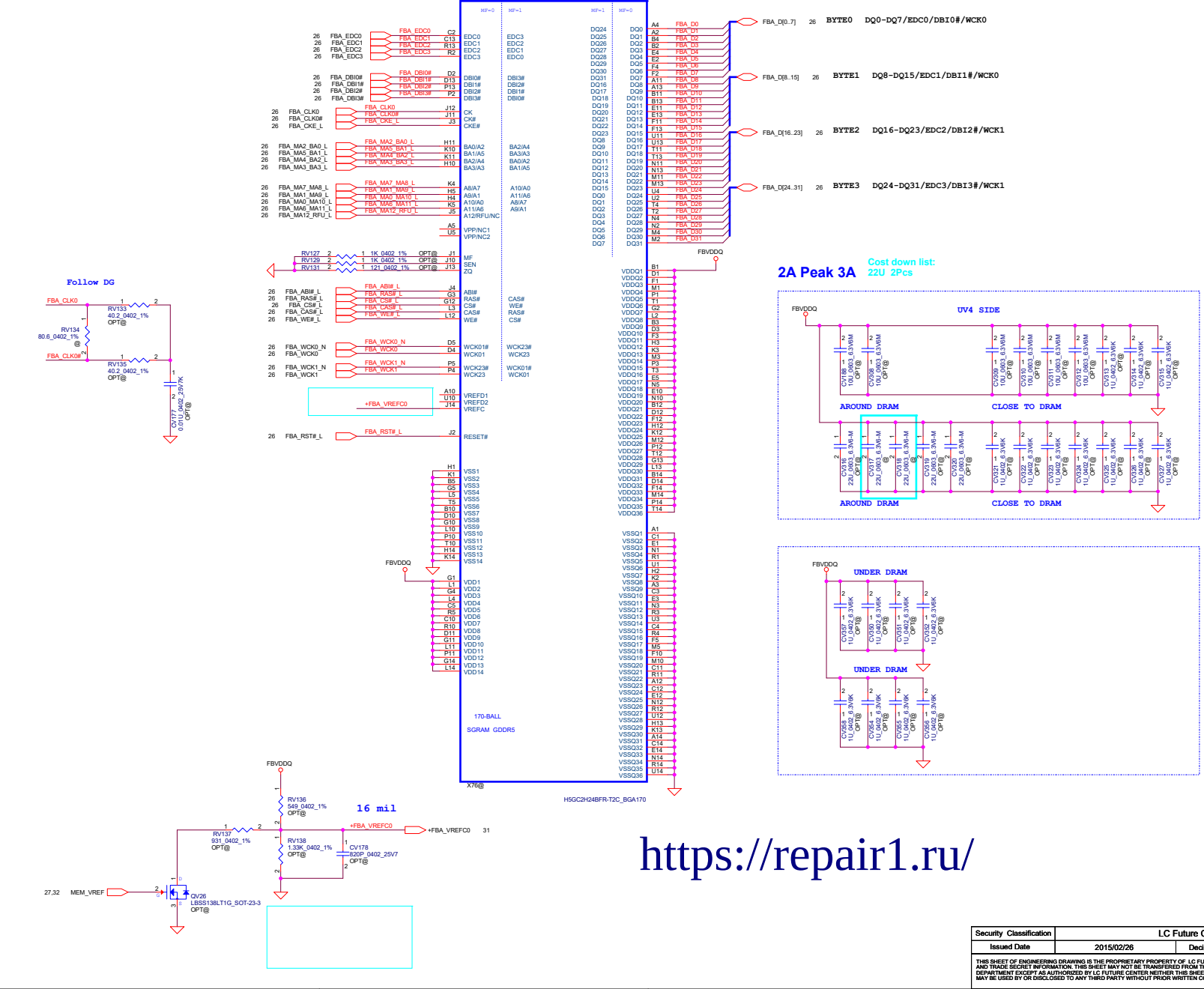
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| Title | |
|--------------|--|

| | | |
|----------------|---------------------------------|----------------|
| Size Custom | Document Number DY512 | Rev 1 |
| Date: | Friday, November 25, 2016 | Sheet 28 of 75 |



Memory Partition A - Lower 64 bits(MF=0)



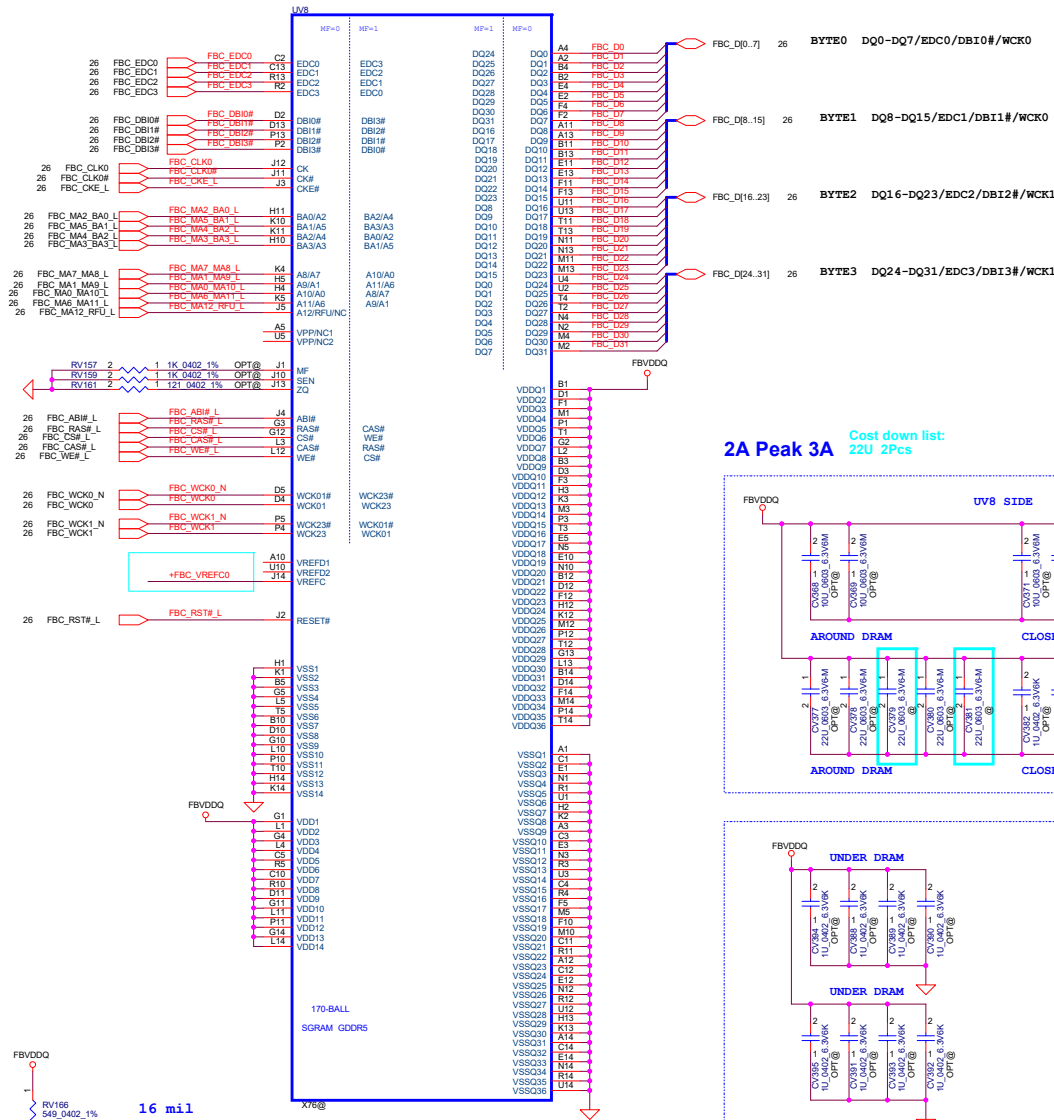
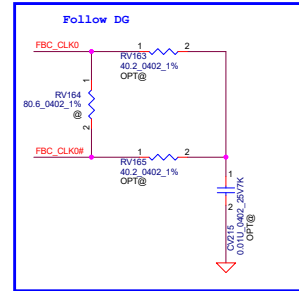
<https://repair1.ru/>

GDDR5
Mode H - Mirror Mode Mapping

| DATA Bus | | |
|-----------|---------|---------|
| Address | 0..31 | 32..63 |
| FbX_CMD0 | CS# | |
| FbX_CMD1 | A3_BA3 | |
| FbX_CMD2 | A2_BA0 | |
| FbX_CMD3 | A4_BA2 | |
| FbX_CMD4 | A5_BA1 | |
| FbX_CMD5 | WE# | |
| FbX_CMD6 | A7_A8 | |
| FbX_CMD7 | A6_A11 | |
| FbX_CMD8 | ABI# | |
| FbX_CMD9 | A12_RFU | |
| FbX_CMD10 | A0_A10 | |
| FbX_CMD11 | A1_A9 | |
| FbX_CMD12 | RAS# | |
| FbX_CMD13 | RST# | |
| FbX_CMD14 | CKE# | |
| FbX_CMD15 | CAS# | |
| FbX_CMD16 | | CS# |
| FbX_CMD17 | | A3_BA3 |
| FbX_CMD18 | | A2_BA0 |
| FbX_CMD19 | | A4_BA2 |
| FbX_CMD20 | | A5_BA1 |
| FbX_CMD21 | | WE# |
| FbX_CMD22 | | A7_A8 |
| FbX_CMD23 | | A6_A11 |
| FbX_CMD24 | | ABI# |
| FbX_CMD25 | | A12_RFU |
| FbX_CMD26 | | A0_A10 |
| FbX_CMD27 | | A1_A9 |
| FbX_CMD28 | | RAS# |
| FbX_CMD29 | | RST# |
| FbX_CMD30 | | CKE# |
| FbX_CMD31 | | CAS# |

| | | | | | |
|---|------------|------------------------------|------------|----------------------|---------------------------------|
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| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 | N17P-G1_VRAM A Lower | |
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| | | | | Rev | 1.0 |
| Date: | | Friday, November 25, 2016 | | Sheet | 30 of 75 |

Memory Partition B - Lower 32 bits (MF=0)

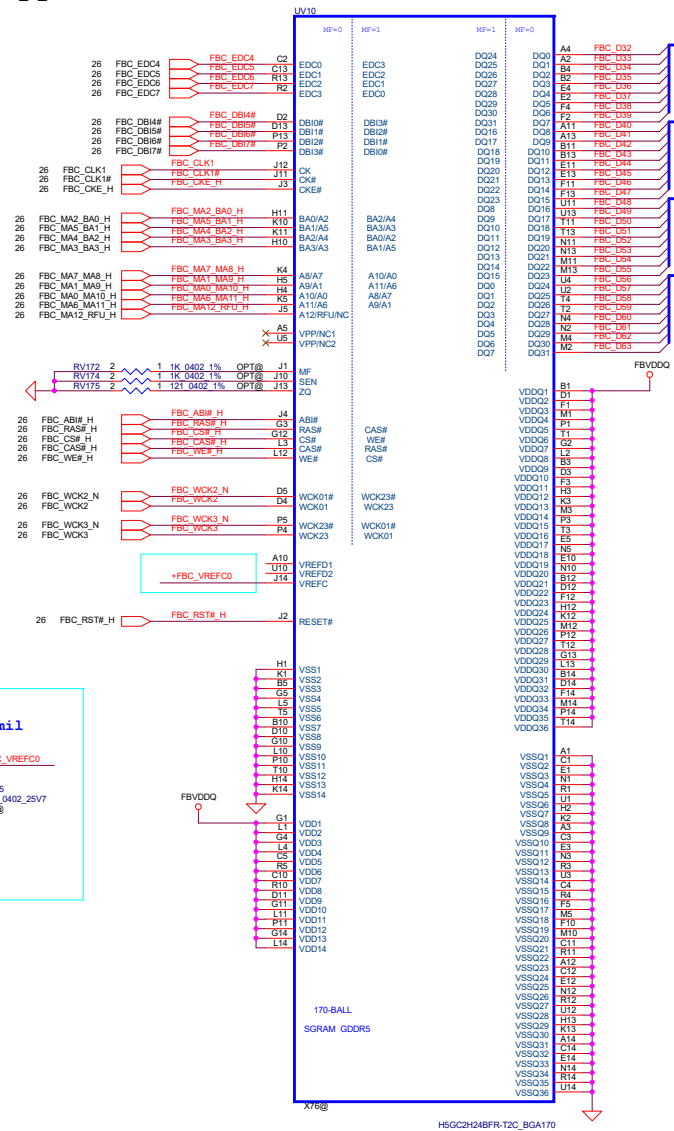
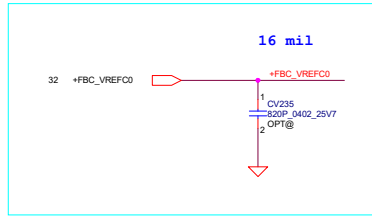
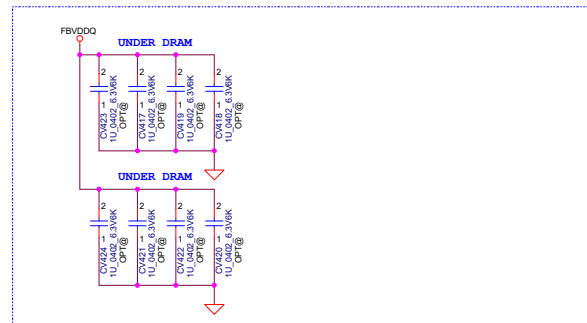


<https://repair1.ru/>

GDDR5
Mode H - Mirror Mode Mapping

| | DATA Bus | |
|-----------|----------|---------|
| Address | 0..31 | 32..63 |
| FBx_CMD0 | CS# | |
| FBx_CMD1 | A3_BA3 | |
| FBx_CMD2 | A2_BA0 | |
| FBx_CMD3 | A4_BA2 | |
| FBx_CMD4 | A5_BA1 | |
| FBx_CMD5 | WE# | |
| FBx_CMD6 | A7_A8 | |
| FBx_CMD7 | A6_A11 | |
| FBx_CMD8 | AB1# | |
| FBx_CMD9 | A12_RFU | |
| FBx_CMD10 | A0_A10 | |
| FBx_CMD11 | A1_A9 | |
| FBx_CMD12 | RAS# | |
| FBx_CMD13 | RST# | |
| FBx_CMD14 | CKE# | |
| FBx_CMD15 | CAS# | |
| FBx_CMD16 | | CS# |
| FBx_CMD17 | | A3_BA3 |
| FBx_CMD18 | | A2_BA0 |
| FBx_CMD19 | | A4_BA2 |
| FBx_CMD20 | | A5_BA1 |
| FBx_CMD21 | | WE# |
| FBx_CMD22 | | A7_A8 |
| FBx_CMD23 | | A6_A11 |
| FBx_CMD24 | | AB1# |
| FBx_CMD25 | | A12_RFU |
| FBx_CMD26 | | A0_A10 |
| FBx_CMD27 | | A1_A9 |
| FBx_CMD28 | | RAS# |
| FBx_CMD29 | | RST# |
| FBx_CMD30 | | CKE# |
| FBx_CMD31 | | CAS# |

| | | | | | | |
|---|------------------------------|-----------------|------------|--|-------|----------|
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| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 | N7P-G1_VRAM B Lower | | |
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| Date | | | | Friday, November 25, 2016 | Sheet | 32 of 75 |

[illegible]

| DATA Bus | | |
|-----------|---------|---------|
| Address | 0..31 | 32..63 |
| FBX_CMD0 | CS# | |
| FBX_CMD1 | A3_BA3 | |
| FBX_CMD2 | A2_BA0 | |
| FBX_CMD3 | A4_BA2 | |
| FBX_CMD4 | A5_BA1 | |
| FBX_CMD5 | WE# | |
| FBX_CMD6 | A7_A8 | |
| FBX_CMD7 | A6_A11 | |
| FBX_CMD8 | ABI# | |
| FBX_CMD9 | A12_RFU | |
| FBX_CMD10 | A0_A10 | |
| FBX_CMD11 | A1_A9 | |
| FBX_CMD12 | RAS# | |
| FBX_CMD13 | RST# | |
| FBX_CMD14 | CKE# | |
| FBX_CMD15 | CAS# | |
| FBX_CMD16 | | CS# |
| FBX_CMD17 | | A3_BA3 |
| FBX_CMD18 | | A2_BA0 |
| FBX_CMD19 | | A4_BA2 |
| FBX_CMD20 | | A5_BA1 |
| FBX_CMD21 | | WE# |
| FBX_CMD22 | | A7_A8 |
| FBX_CMD23 | | A6_A11 |
| FBX_CMD24 | | ABI# |
| FBX_CMD25 | | A12_RFU |
| FBX_CMD26 | | A0_A10 |
| FBX_CMD27 | | A1_A9 |
| FBX_CMD28 | | RAS# |
| FBX_CMD29 | | RST# |
| FBX_CMD30 | | CKE# |
| FBX_CMD31 | | CAS# |

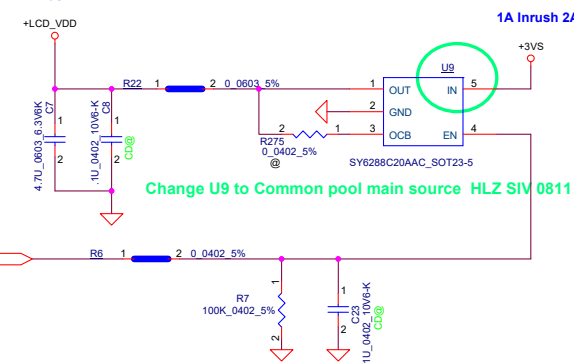
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| Date: | Friday, November 25, 2016 | Sheet | 33 of 75 |

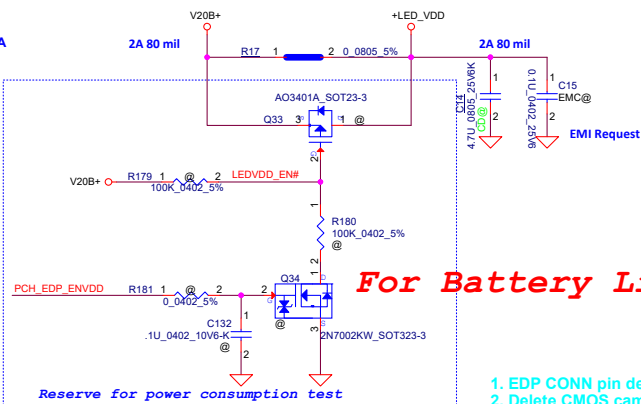
| | | | | | |
|--|--|------------------------------|--|-----------------|--|
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| Issued Date | | Deciphered Date | | Blank | |
| 2016/02/26 | | 2016/02/26 | | | |
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| Rev | | D | | Document Number | |
| | | | | DY512 | |
| Date | | Friday, November 25, 2016 | | Sheet 25 of 75 | |

LCD POWER CIRCUIT

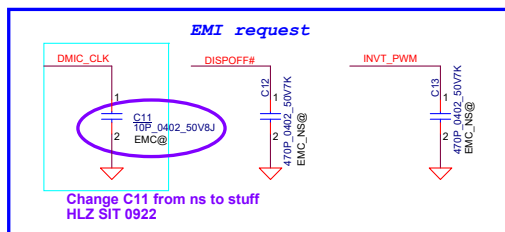
1A Inrush 2A



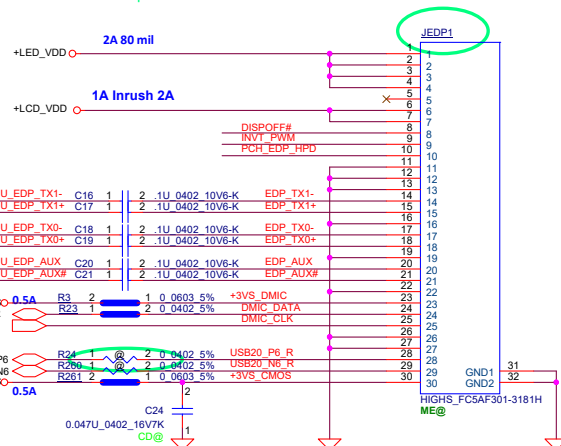
1A Inrush 2A

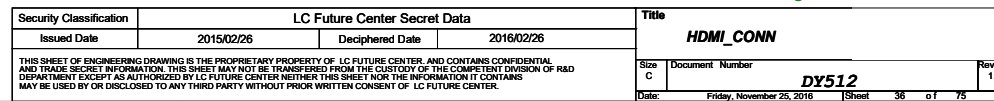


1. EDP CONN pin define change
 2. Delete CMOS camera CONN
- HLZ SDV 20160510

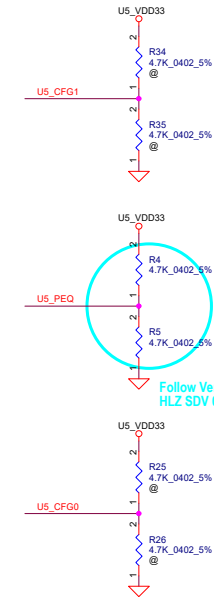


Update eDP CONN based on ME CONN list
Update eDP CONN based on ME CONN list HLZ SIV 07/26



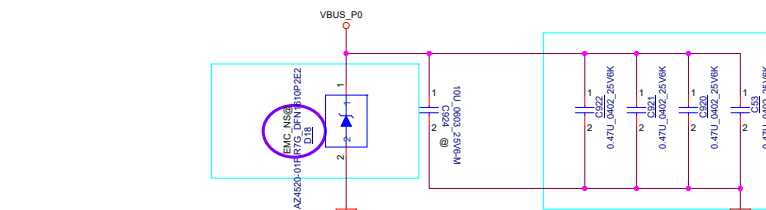
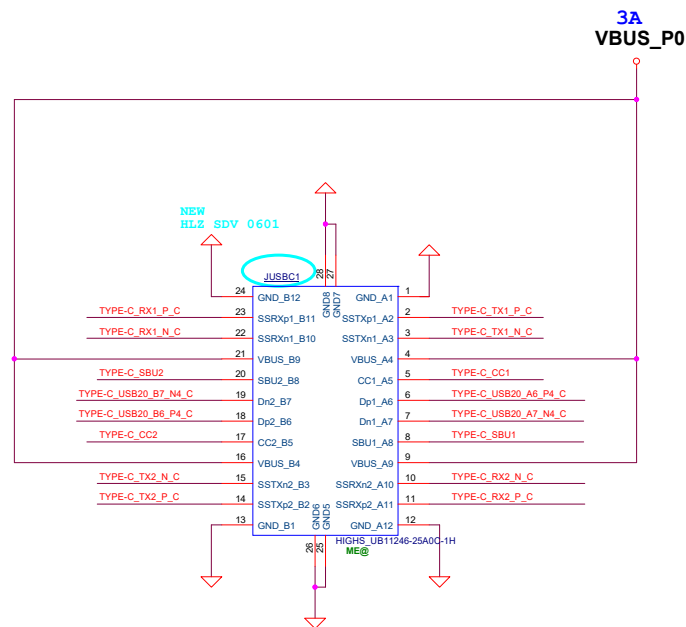
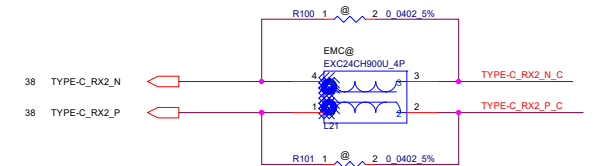
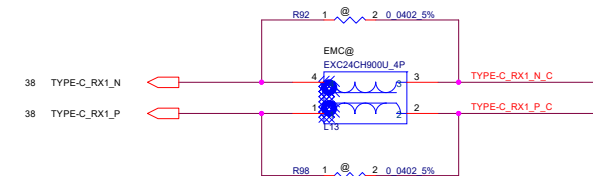
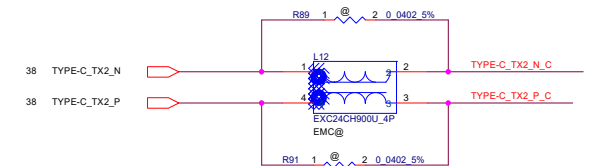
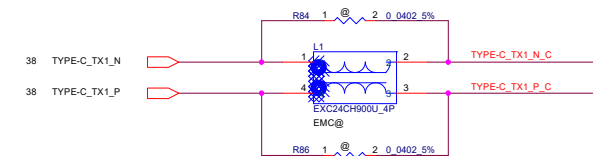
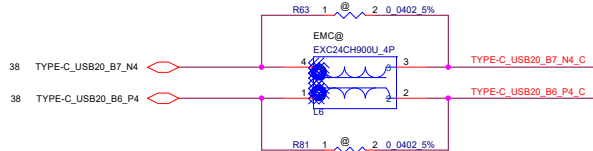
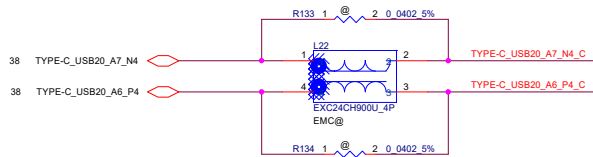


<https://repair1.ru/>

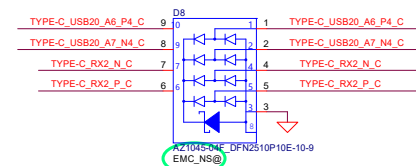
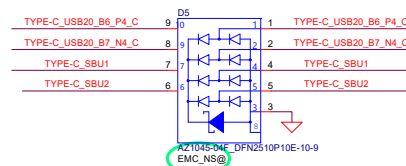


Follow Vendor suggestion to stuff R4 & R5
HLZ SDV 0601

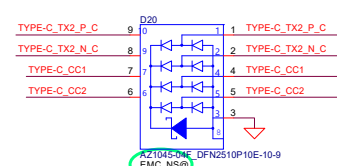
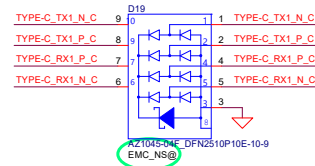
38 TYPE-C_CC1 TYPE-C_CC1
38 TYPE-C_CC2 TYPE-C_CC2
38 TYPE-C_SBU1 TYPE-C_SBU1
38 TYPE-C_SBU2 TYPE-C_SBU2



Change D18 from NXP to AZ H LZ SIT 0922
Change D18 from stuff to@ H LZ SIV 0811

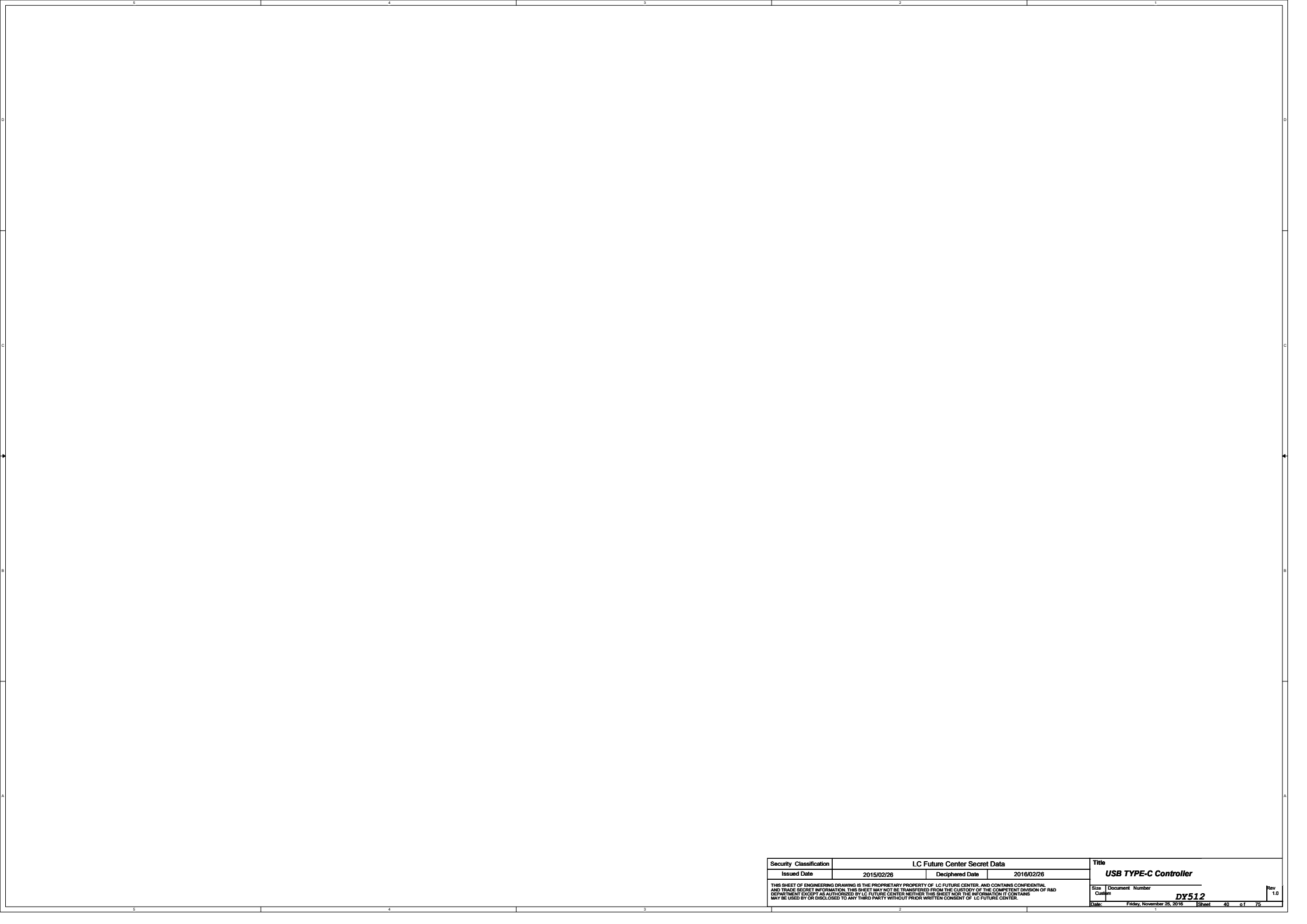


Change D5&D8&D19&D20 from stuff to@ H LZ SIV 0811

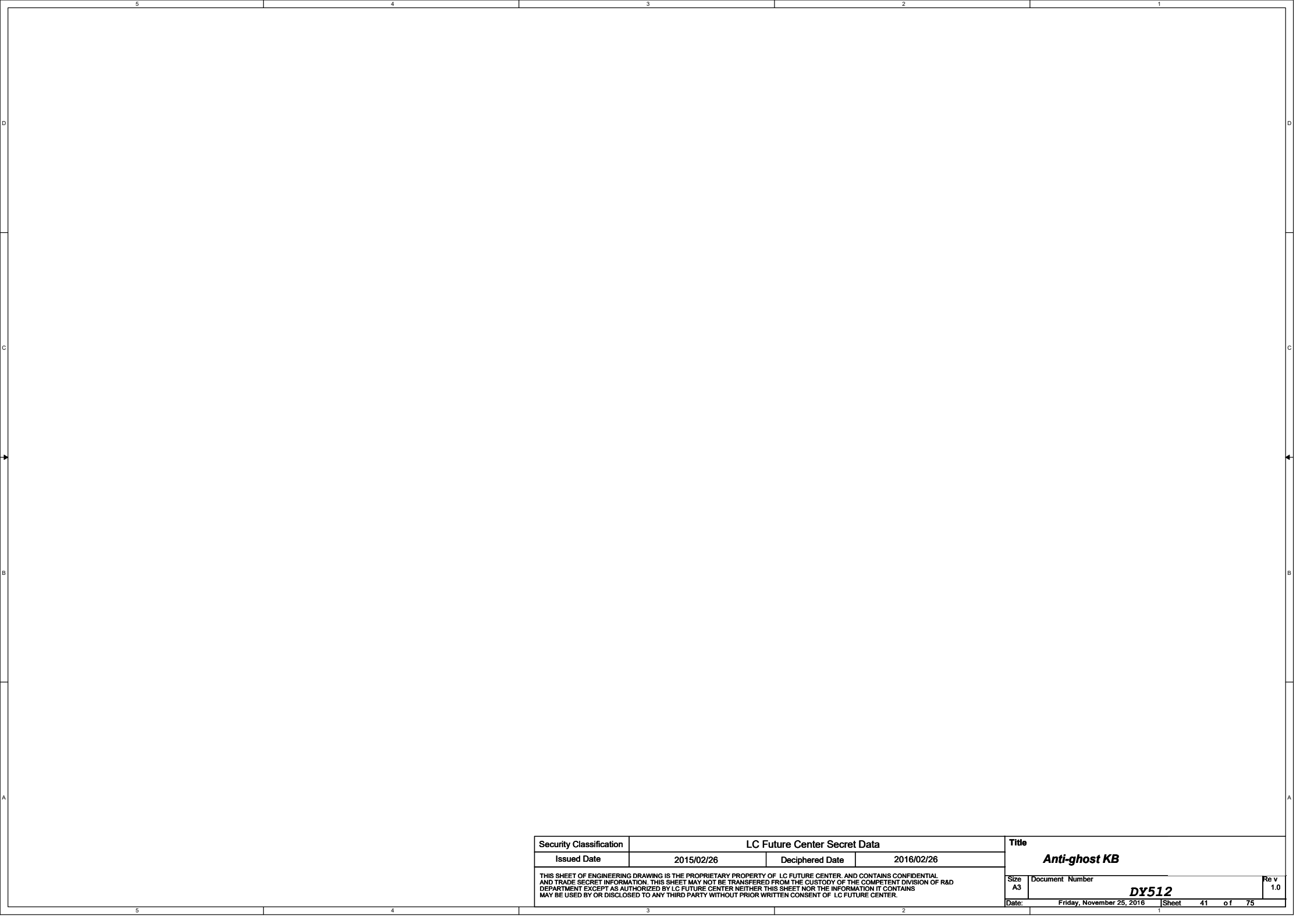


<https://repair1.ru/>

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| Size | Document Number | Rev | |
| C | DY512 | 1.0 | |
| Date: | Friday, November 25, 2016 | Sheet | 39 of 75 |



| | | | | |
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| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 | USB TYPE-C Controller |
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| | | | | Document Number DY512 |
| | | | | Date Friday, November 26, 2016 |
| | | | | Rev 1.0 |
| | | | | Sheet 40 of 75 |



| | | | | | |
|--|------------|------------------------------|------------|---------------|---------------------------------|
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| | | | | Date: | Friday, November 25, 2016 |
| | | | | Sheet | 41 of 75 |



TABLE : CPU ITP DEBUG REPORT

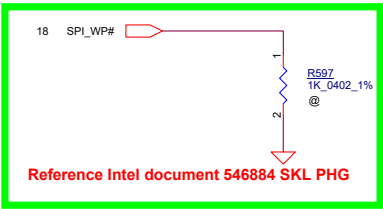
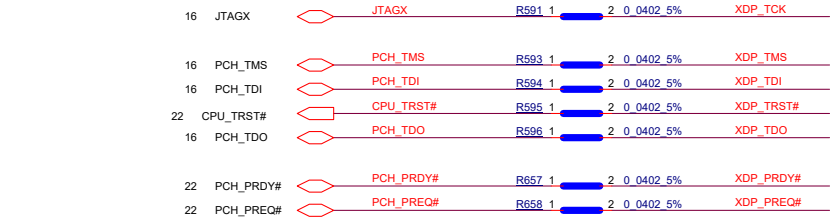
| | No use | Individual Port | DCI 2.0 w/o connector |
|-------|--------|-----------------|-----------------------|
| R591 | NO ASM | NO ASM | ASM |
| R593 | NO ASM | NO ASM | ASM |
| R594 | NO ASM | NO ASM | ASM |
| R595 | NO ASM | NO ASM | ASM |
| R596 | NO ASM | NO ASM | ASM |
| R657 | NO ASM | NO ASM | ASM |
| R658 | NO ASM | NO ASM | ASM |
| R102 | NO ASM | ASM | NO ASM |
| R597 | NO ASM | ASM | NO ASM |
| R9907 | NO ASM | ASM | ASM |
| JXDP1 | NO ASM | ASM | NO ASM |
| C70 | NO ASM | ASM | NO ASM |
| R96 | NO ASM | ASM | NO ASM |
| R101 | NO ASM | ASM | NO ASM |
| R9909 | NO ASM | ASM | ASM |
| R9910 | NO ASM | ASM | ASM |
| R9916 | NO ASM | ASM | ASM |
| R99 | NO ASM | ASM | ASM |
| R9912 | NO ASM | ASM | ASM |
| R9934 | NO ASM | ASM | ASM |
| R9930 | NO ASM | ASM | ASM |
| R9931 | NO ASM | ASM | ASM |
| R9932 | NO ASM | ASM | ASM |
| R9933 | NO ASM | ASM | ASM |

TABLE : PCH ITP DEBUG REPORT

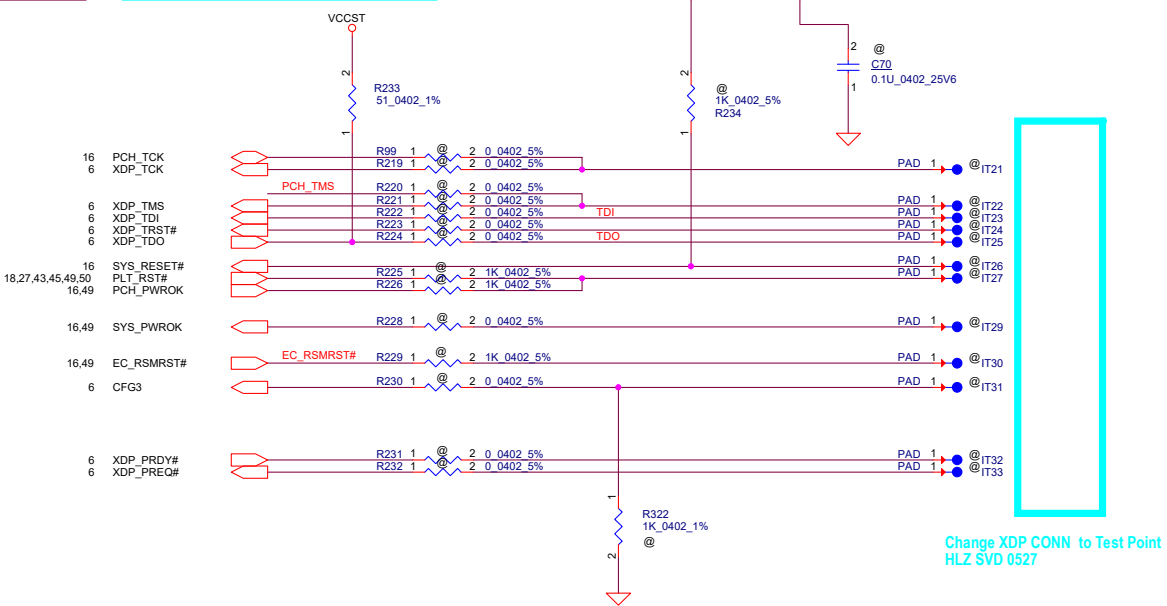
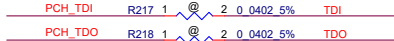
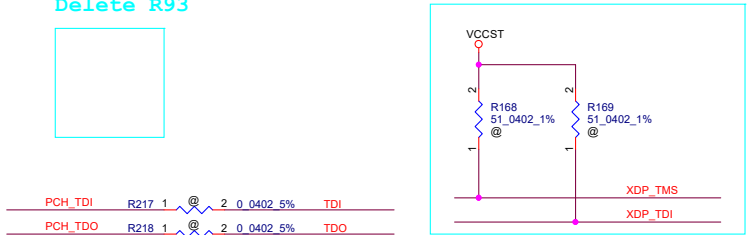
| | No use | Individual Port | DCI 2.0 w/o connector |
|-------|--------|-----------------|-----------------------|
| R93 | NO ASM | ASM | NO ASM |
| JXDP1 | NO ASM | ASM | NO ASM |
| R9917 | NO ASM | ASM | NO ASM |
| R101 | NO ASM | ASM | NO ASM |
| R9908 | NO ASM | ASM | NO ASM |
| R9911 | NO ASM | ASM | NO ASM |
| R9913 | NO ASM | ASM | NO ASM |
| R9915 | NO ASM | ASM | NO ASM |

TABLE : Functional Strap

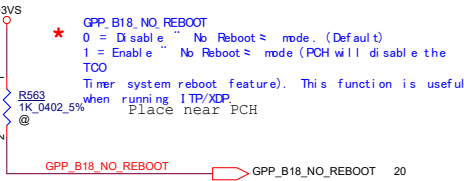
| | |
|---|--------|
| GPP_B18/GSPI0_MOSI (No Reboot) | R563 |
| HIGH Enable "No Reboot" Mode | ASM |
| LOW Disable "No Reboot" Mode (Default) | NO ASM |



Delete R93

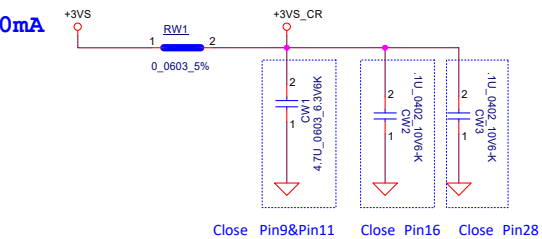
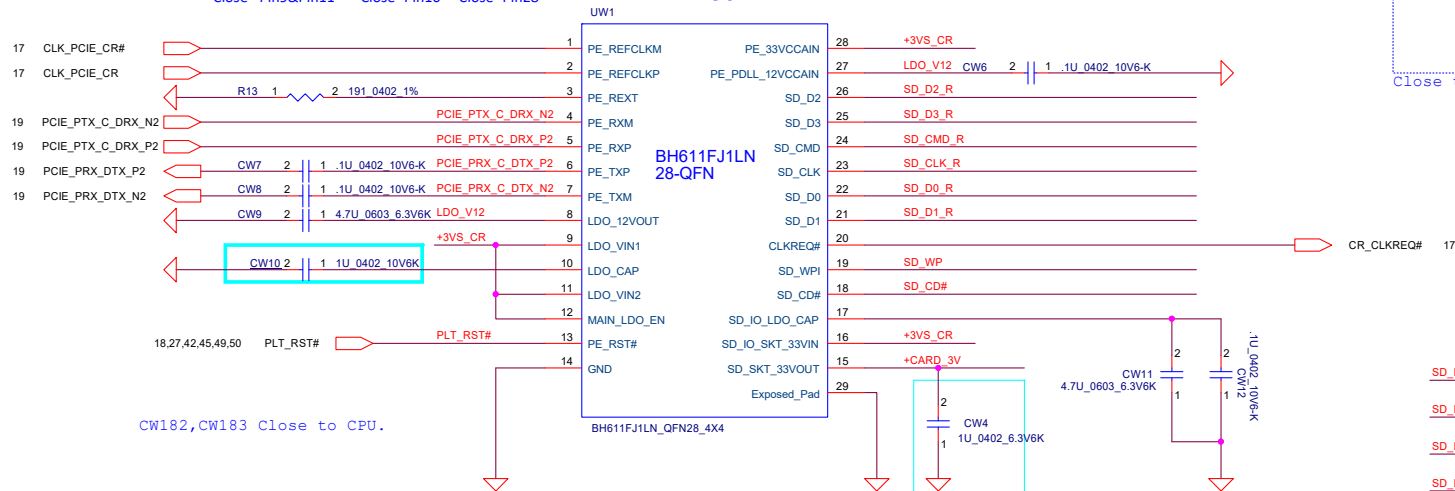


Change XDP CONN to Test Point HLZ SVD 0527



<https://repair1.ru/>

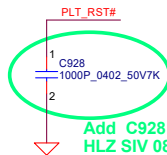
500mA

VID:1217
DID:8621

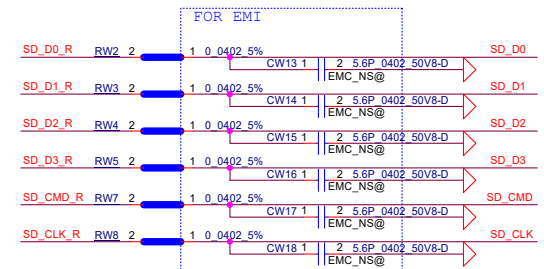
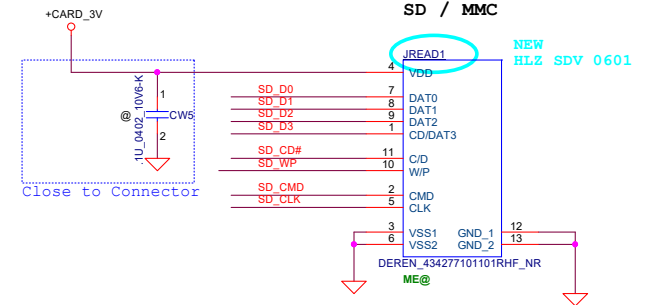
CW182,CW183 Close to CPU.

Delete SD_WP & SD_CD# connect 0ohm
HLZ SVD 0527

For micro SD 插接 P signal

Add C928 due to signal waveform abnormal
HLZ SIV 0811

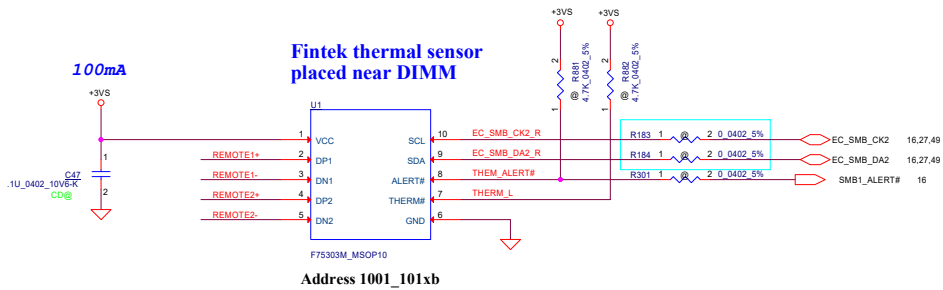
500mA



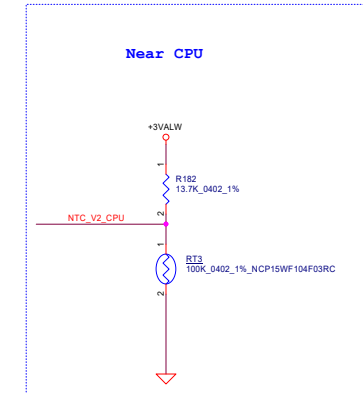
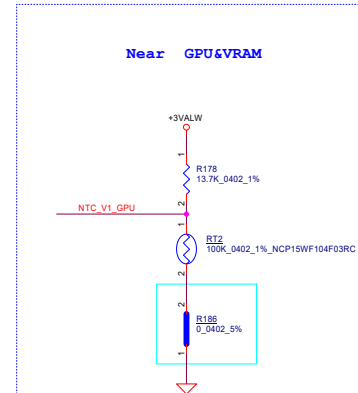
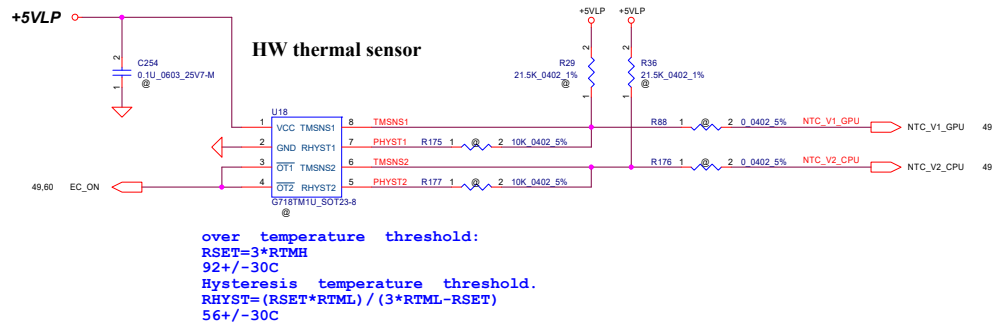
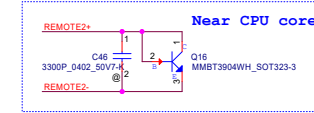
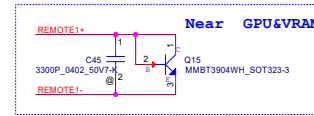
Close to UW1 Placement

<https://repair1.ru/>

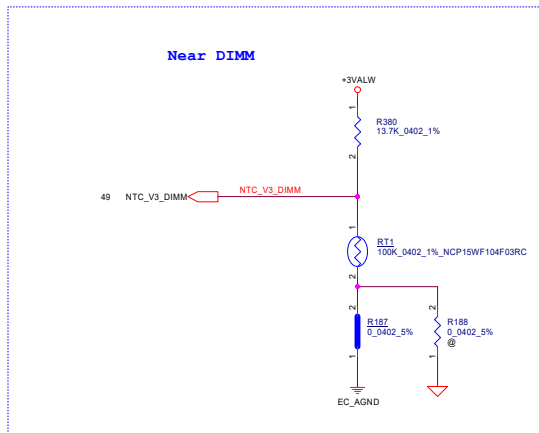
| Security Classification | | | | LC Future Center Secret Data | | | | Title | |
|--|--|--|--|------------------------------|--|-----------------|--|-------------|--|
| Issued Date | | | | 2013/08/08 | | Deciphered Date | | 2016/02/26 | |
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| Size | | | | Document | | Number | | Rev | |
| Custom | | | | | | DY512 | | 1.0 | |
| Date: | | | | Friday, November 25, 2016 | | Sheet | | 43 of 75 | |



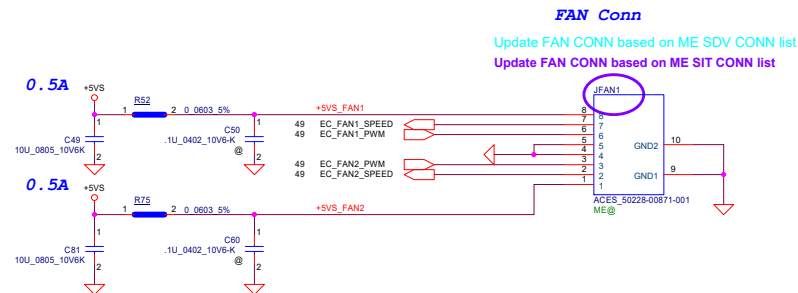
REMOTE+/- R, REMOTE1+/-, REMOTE2+/-:
Trace width/space:10/10 mil
Trace length:<8"



for layout optimized, change the EC_AGND to GND

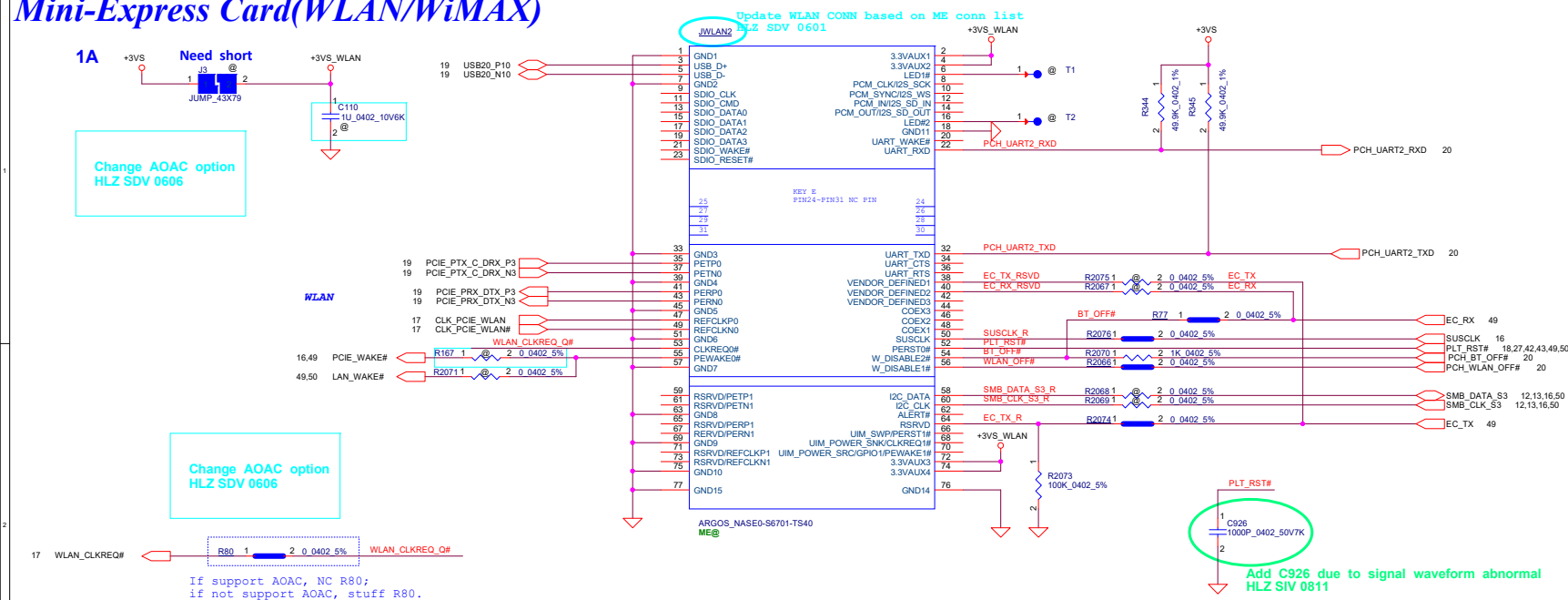


<https://repair1.ru/>

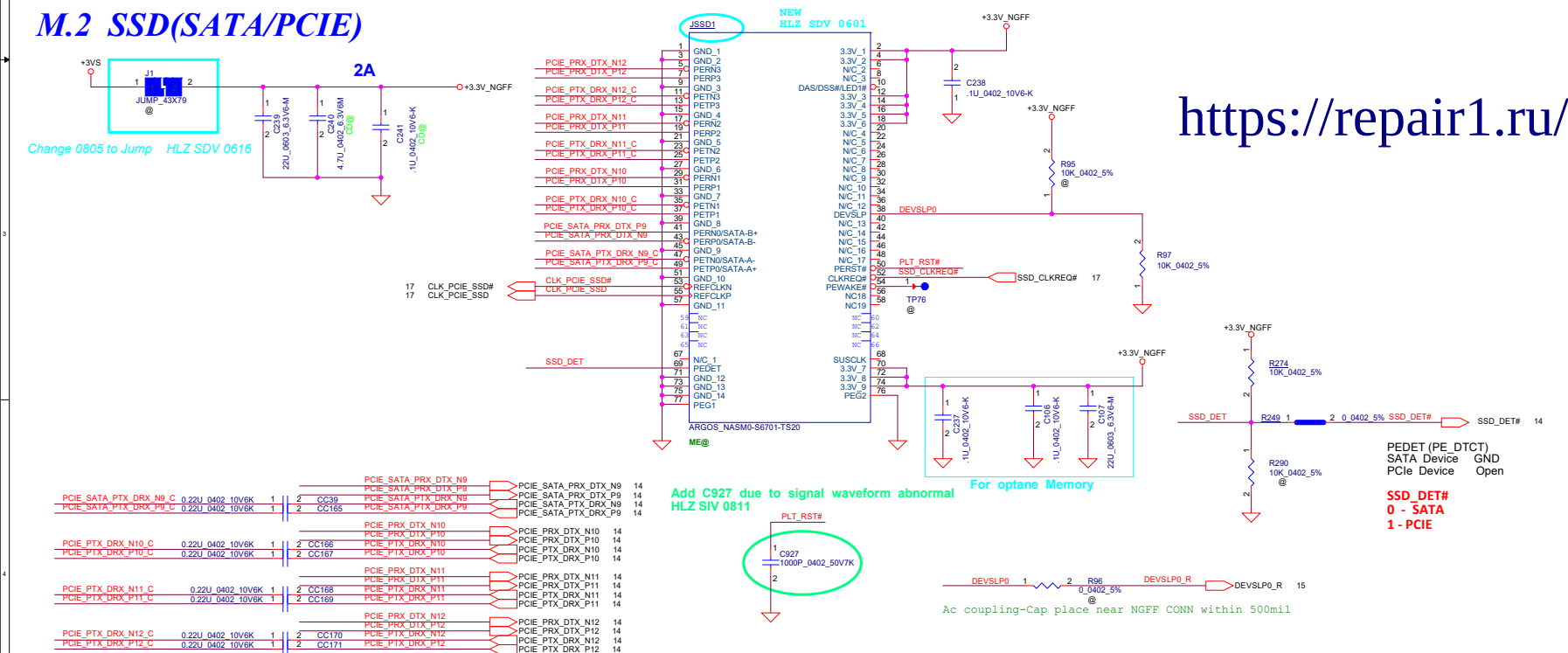


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| Security Classification | LC Future Center Secret Data | | Title |
| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 |
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| Size | Document Number | Rev | 1.0 |
| Custom | DY512 | | |
| Date: | Friday, November 25, 2016 | Sheet | 44 of 75 |

| A | B |
|--------------------------------------|---|
| <i>Mini-Express Card(WLAN/WiMAX)</i> | |



M.2 SSD(SATA/PCIE)

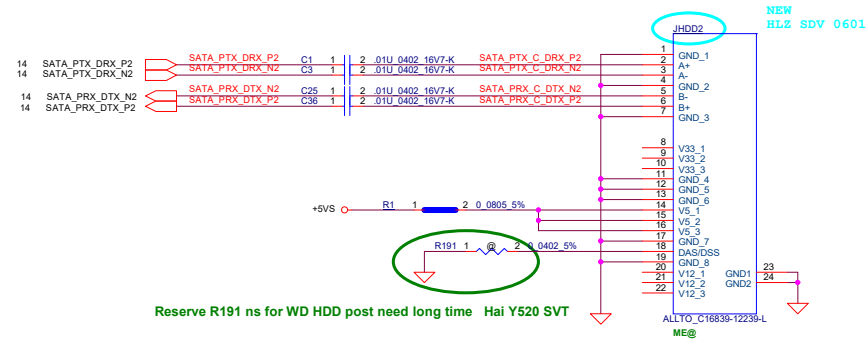
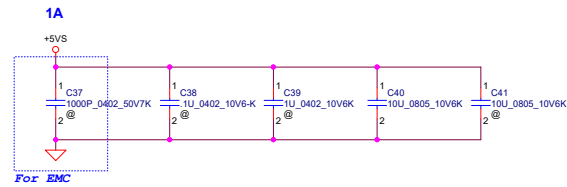


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|---|------------|------------------------------|------------|-----------|---------------------------|
| Security Classification | | LC Future Center Secret Data | | Title | |
| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 | NGFF WLAN | |
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| | | | | Custom | DY512 |
| | | | | Date: | Friday, November 25, 2016 |
| | | Sheet | 45 | of | 75 |

Delete C74&C75&C76&C77&C78
HLZ SIT 0922

Reserved
SATA HDD Cable

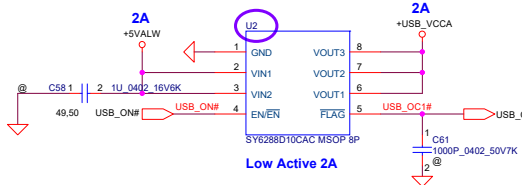
Delete C66&C67&C68&C69&R342&JHDD1
HLZ SIT 0922



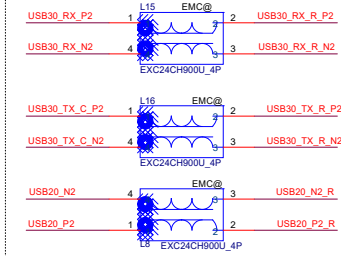
<https://repair1.ru/>

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|--|------------------------------|-----------------|------------|---------------------------------|
| Security Classification | LC Future Center Secret Data | | Title | |
| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 | HDD/XBOX CONN |
| THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER. | | | | Rev 1.0 |
| Size C | Document Number | DY512 | | Date: Friday, November 25, 2016 |
| Sheet 46 | | of 75 | | |

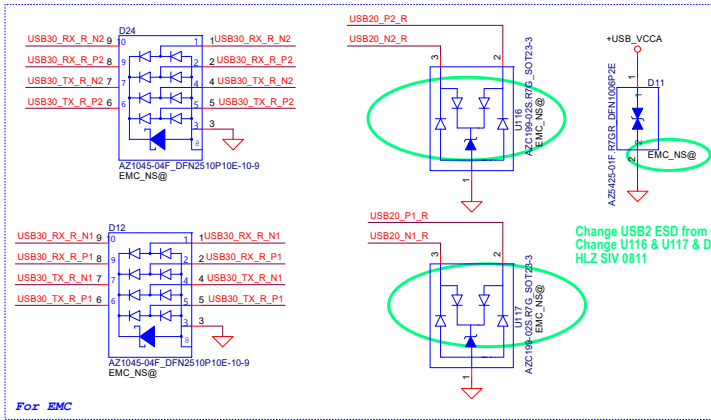
LEFT SIDE USB3.0 PORT X2



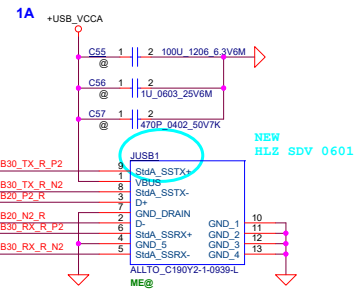
Change USB3.0 PWR SW from BCD to SILERGY due to BCD will EOL
HLZ SIT 0920



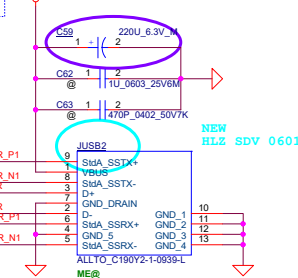
For EMC



For EMC

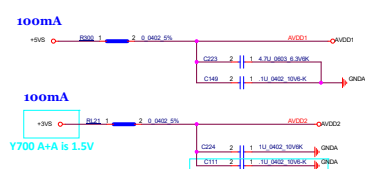
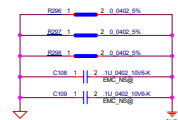
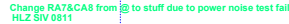


Change C59 from D2 to ShuiTong Cap
HLZ SIT 0926



<https://repair1.ru/>

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| Security Classification | LC Future Center Secret Data | | Title |
| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 |
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| Size | Document Number | Rev | 1.0 |
| Date: | Friday, November 25, 2016 | Sheet | 47 of 75 |

Delete MONO-OUT & CODEC_WF_MUTE# signal
HLZ SDV 0603Delete WF AMP
HLZ SDV 0603

STUFF for power consumption test
2015/07/06 ADD

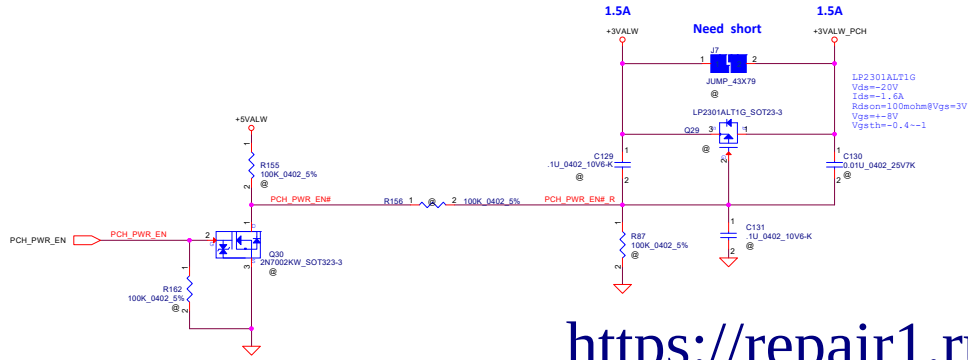
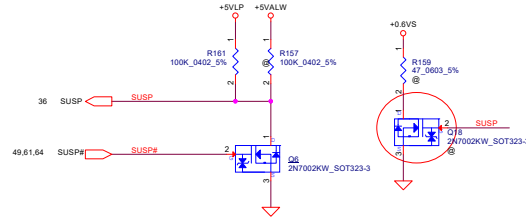
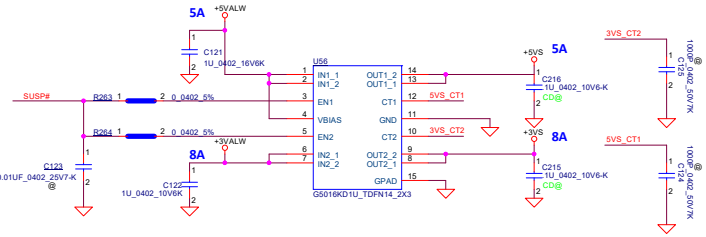
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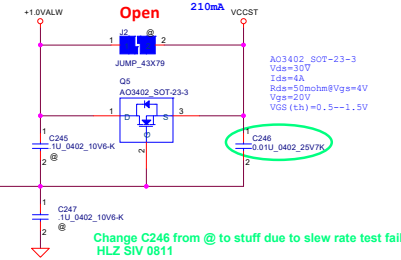
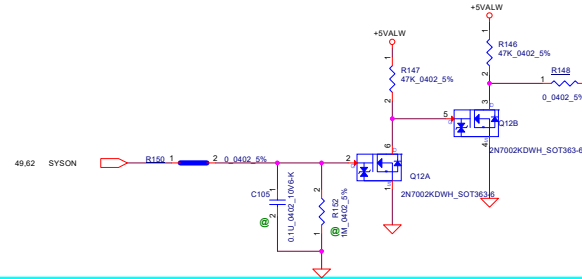


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|--|------------|------------------------------|------------|------------------|---------------------------------|
| Security Classification | | LC Future Center Secret Data | | Title | |
| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 | RGB KBD LED CONN | |
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| | | | | Date: | Friday, November 25, 2016 |
| | | | | Sheet | 52 of 75 |

+5VALW to +5VS



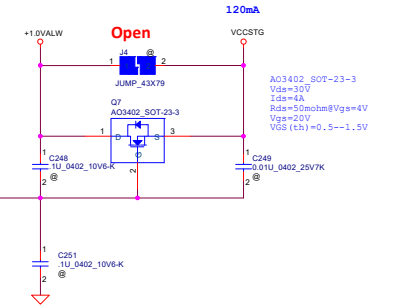
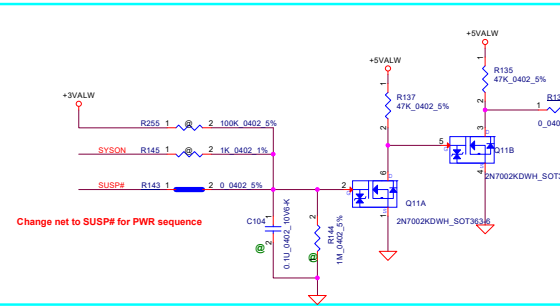
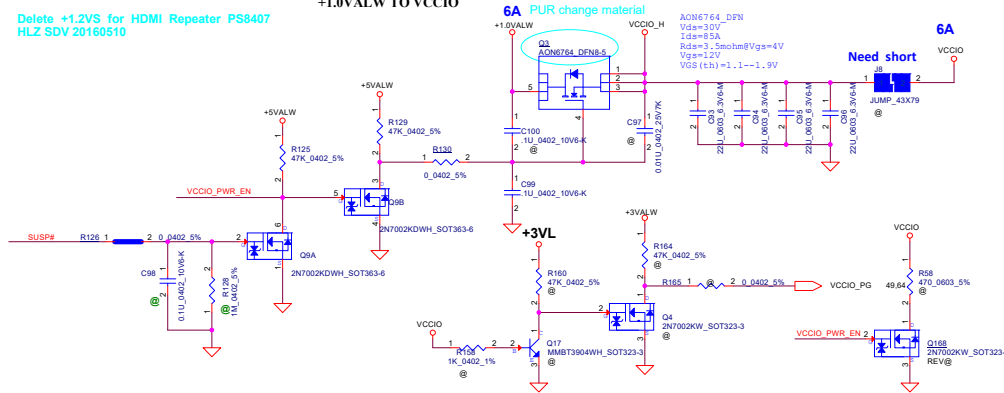
Add VCCST & VCCSTG Level shift
HLZ SDV 20160530



<https://repair1.ru/>

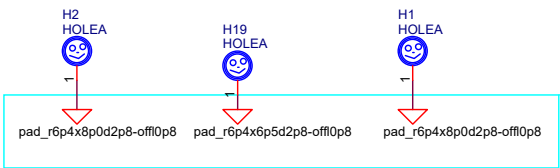
Delete +1.2VS for HDMI Repeater PS407
HLZ SDV 20160510

+1.0VALW TO VCCIO

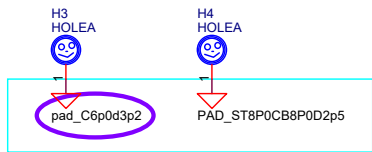


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| Security Classification | | LC Future Center Secret Data | | Title | |
| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 | DC V TO VS INTERFACE | |
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| Size | Document Number | | | | Rev |
| Custian | DL512 | | | | 1.0 |
| Date: | Friday, November 26, 2016 | Sheet | 83 | of | 75 |

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| | | Security Classification | | LC Future Center Secret Data | | Title | | | | | |
| | | Issued Date | | 2015/02/26 | | Deciphered Date | | 2016/02/26 | | Virtual symbol | |
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| | | | | Custom | | DZ510/DY512 | | 1.0 | | | |
| | | | | Date: | | Friday, November 25, 2016 | | Sheet | | 54 of 75 | |
| 5 | 4 | 3 | 2 | 1 | | | | | | | |

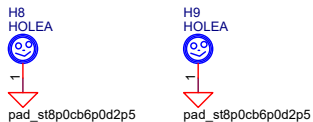


Update footprint name HLZ SDV 0615



Update H3 footprint name HLZ SIT 0923

Update footprint name HLZ SDV 0616

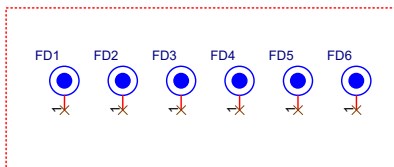


Delete H10 HLZ SDV 0618

Delete H11 HLZ SDV 0615



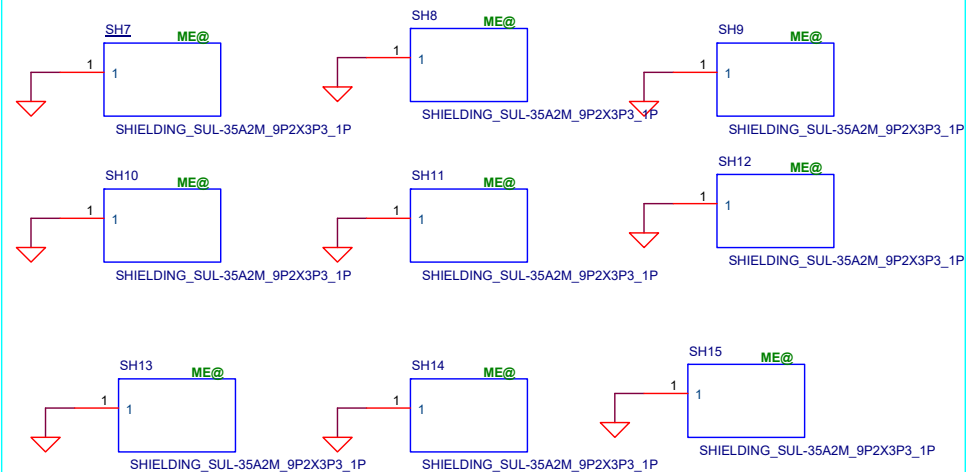
<https://repair1.ru/>



For USB3 shielding Clip

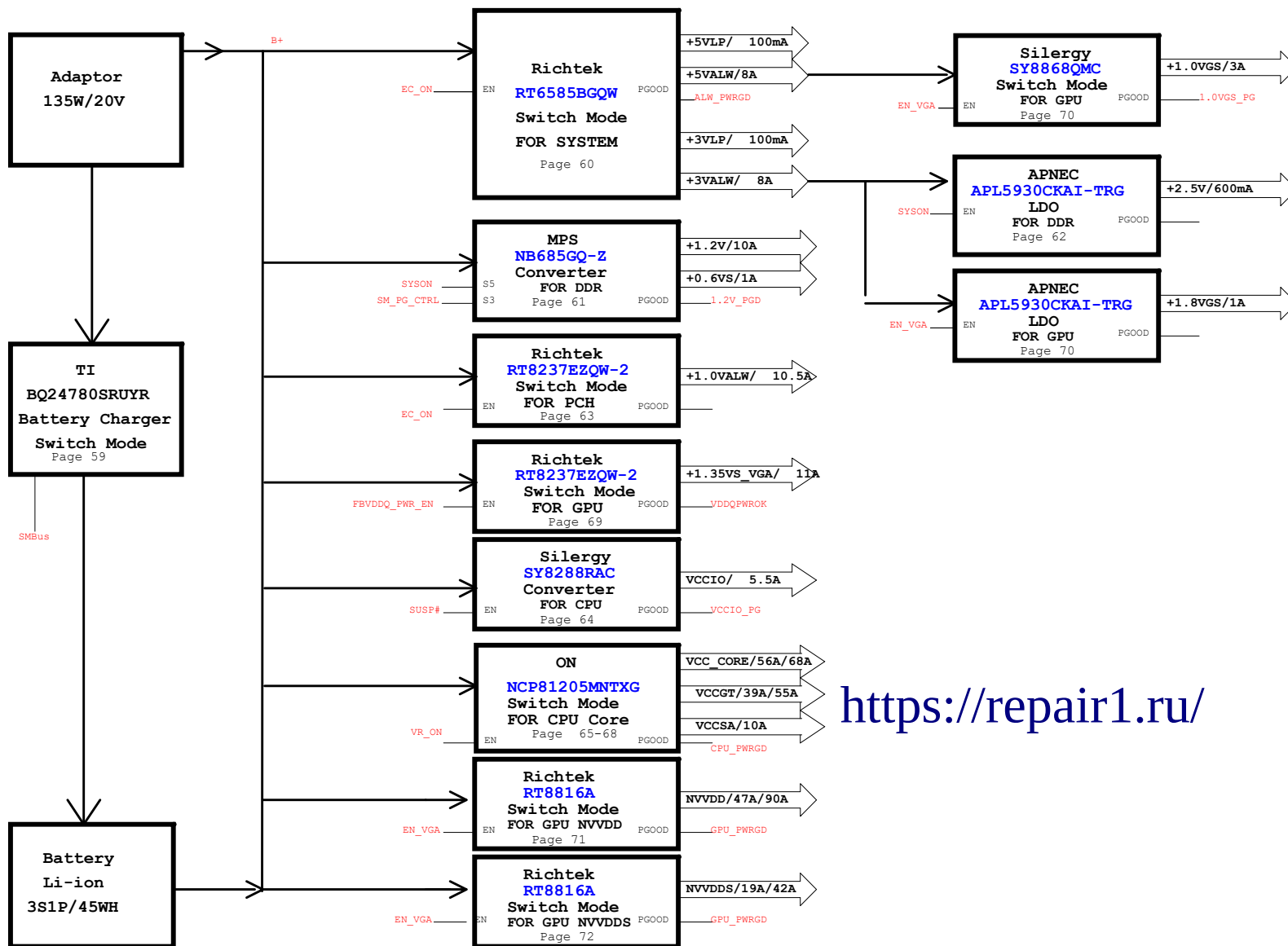
Delete SH1 SH2 SH3 SH4 SH5 SH6 0726

For DDR4 shielding Clip



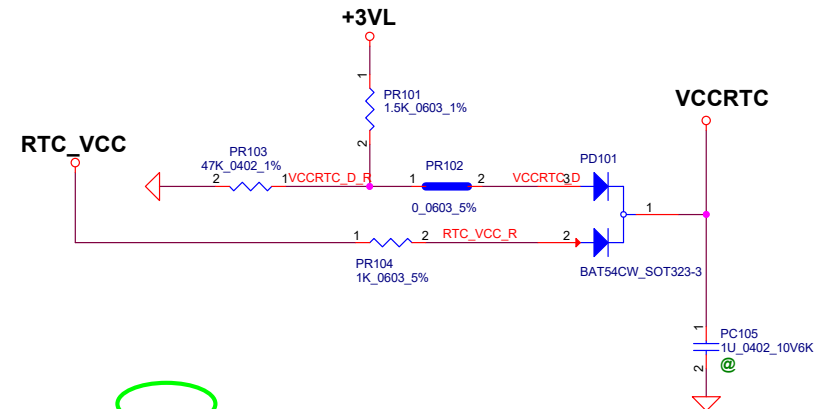
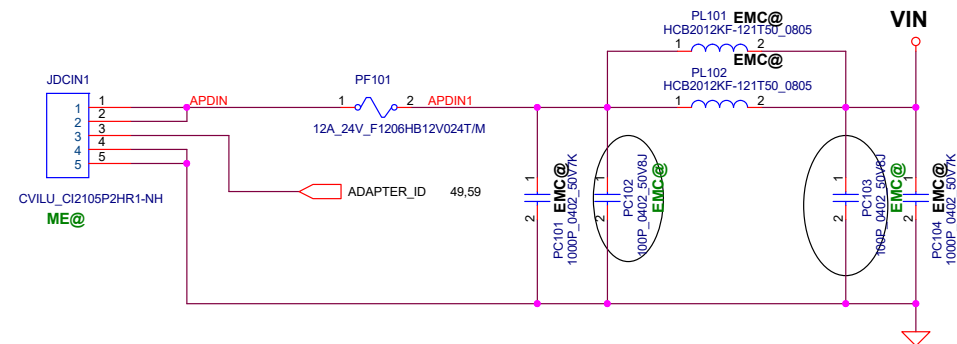
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| Security Classification | | LC Future Center Secret Data | | Title | |
| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 | Hole | |
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| | | | | | Rev 1.0 |
| Date: | | Friday, November 25, 2016 | | Sheet | 55 of 75 |

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| Security Classification | | LC Future Center Secret Data | | Title | |
| Issued Date | | Deciphered Date | | Blank | |
| 2016/02/26 | | 2016/02/26 | | | |
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| Name | | | | Document Number | |
| D | | | | DY512 | |
| Date | | | | Friday, November 25, 2016 | |
| | | | | Sheet 01 of 75 | |



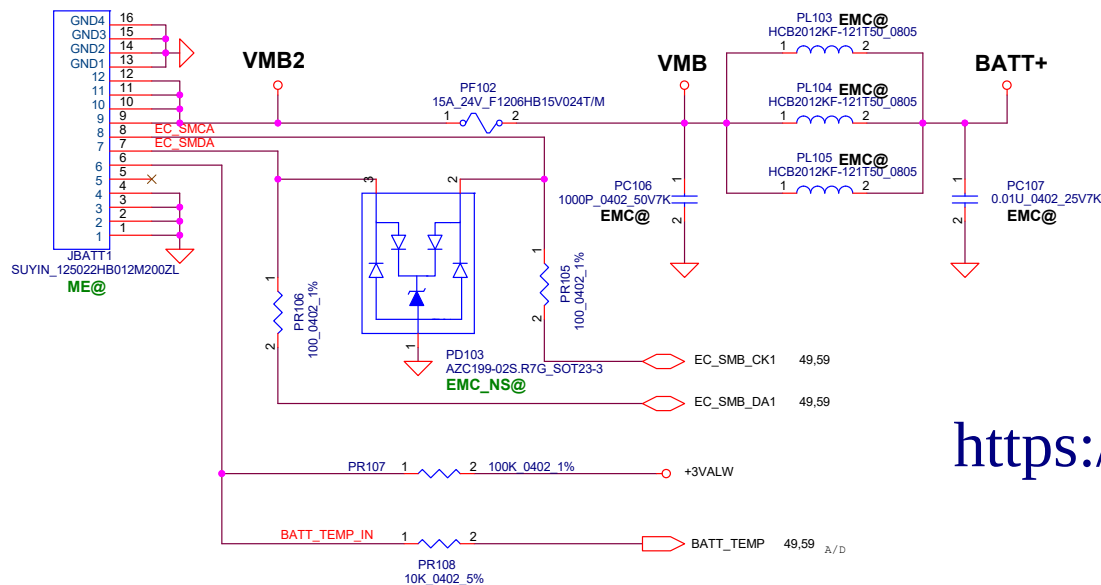
<https://repair1.ru/>

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| Security Classification | | LC Future Center Secret Data | | Title | |
| Issued Date | 2015/02/26 | Deciphered Date | 2016/02/26 | Power Diagram | |
| THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER. | | | | Size | Document Number |
| | | | | Custom | DZ510/DY512 |
| | | | | Date: | Friday, November 25, 2016 |
| | | | | Sheet | 57 of 78 |
| | | | | Rev | 1.0 |



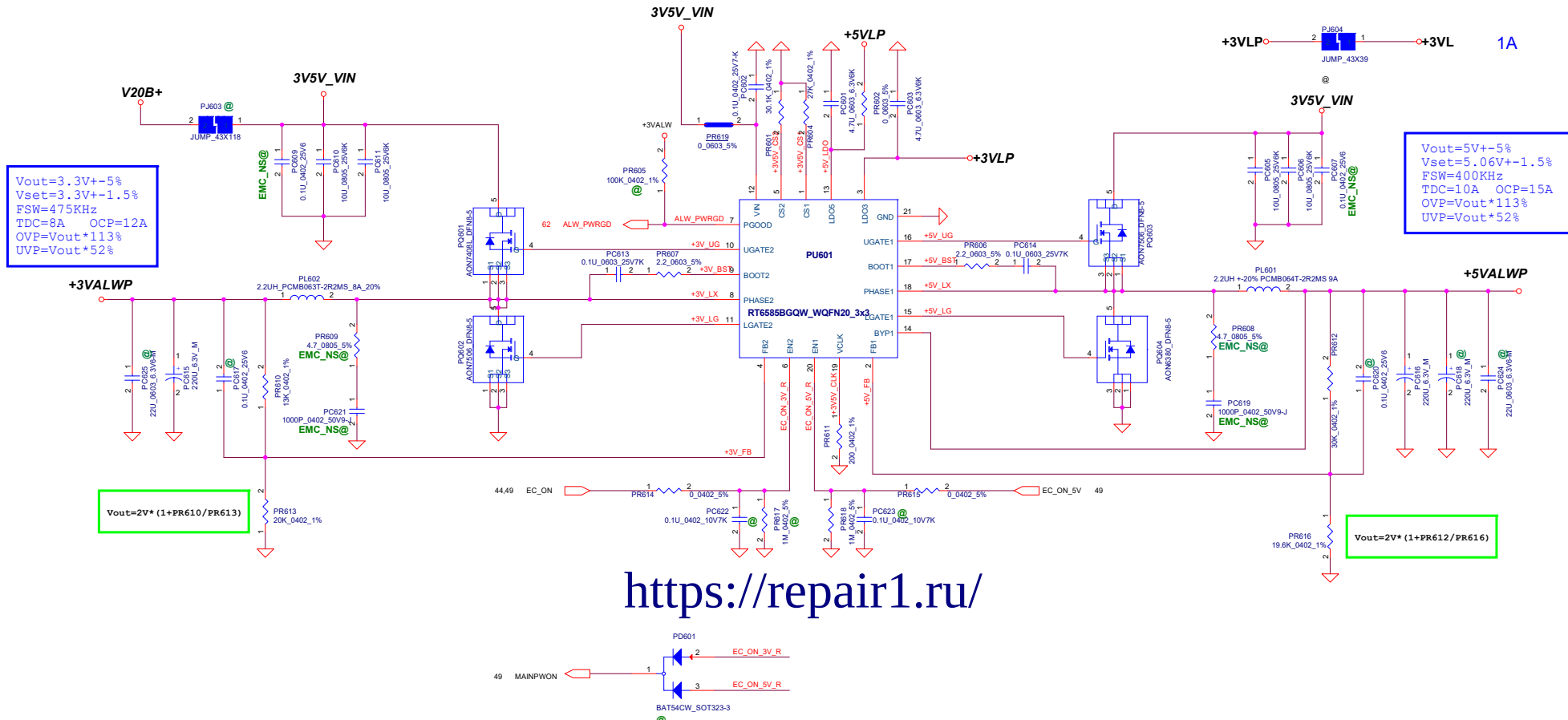
Change JRTC1 based on ME CONN list
HLZ SDV 0530

Chnage RTC battery from MB to DB HLZ SDV 0615



<https://repair1.ru/>

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| Security Classification | | LC Future Center Secret Data | | | | Title | | | | | | | | | | | | |
| Issued Date | | 2016/01/20 | | Deciphered Date | | 2016/01/20 | | PWR-DCIN/BATT/RTC | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | |

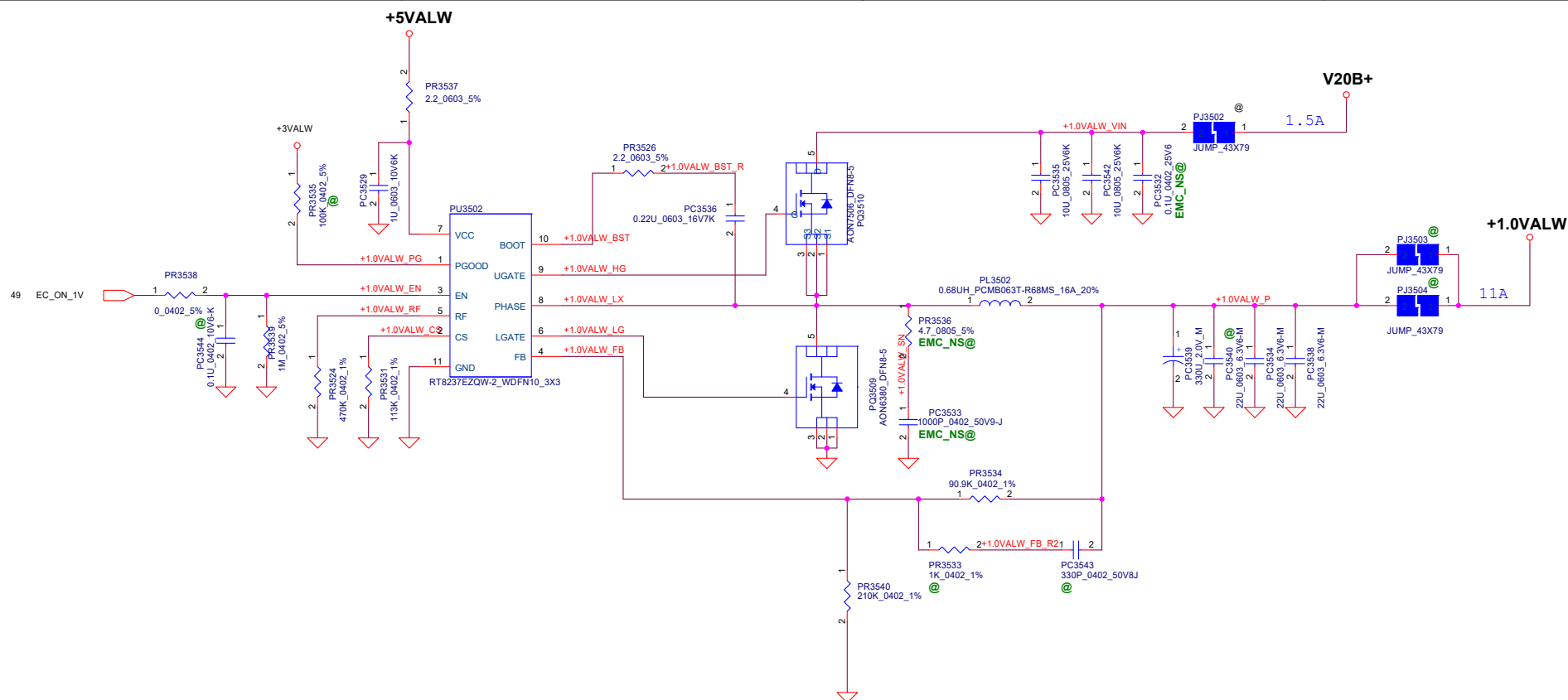


<https://repair1.ru/>

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| Security Classification | LC Future Center Secret Data | | Title |
| Issued Date | 2016/01/20 | Deciphered Date | 2016/01/20 |
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| | | | Document Number |
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| | | | Rev |
| | | | 1.0 |
| | | | Date |
| | | | Friday, November 25, 2016 |
| | | | Sheet |
| | | | 60 of 75 |

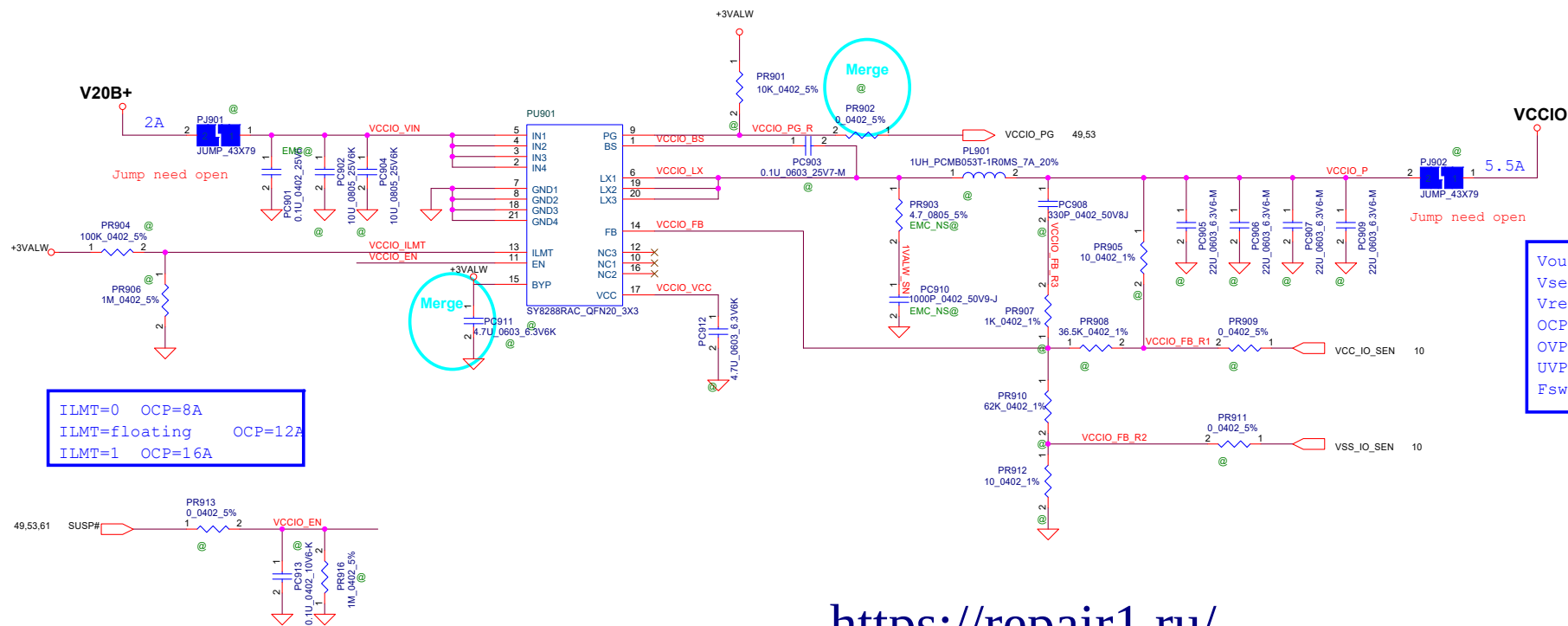


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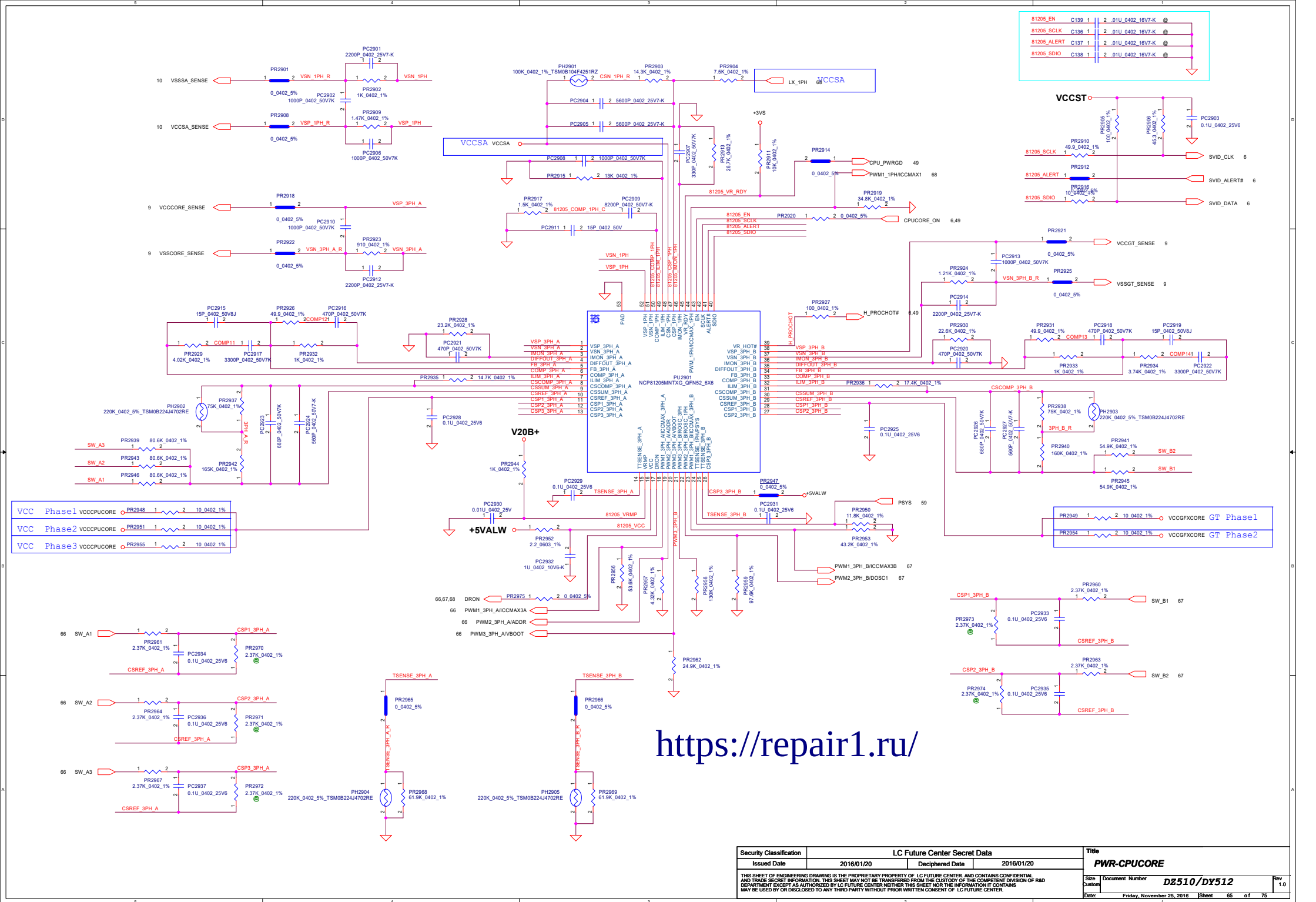
<https://repair1.ru/>

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| Date: | Friday, November 25, 2016 | Sheet | 63 | of | 75 |



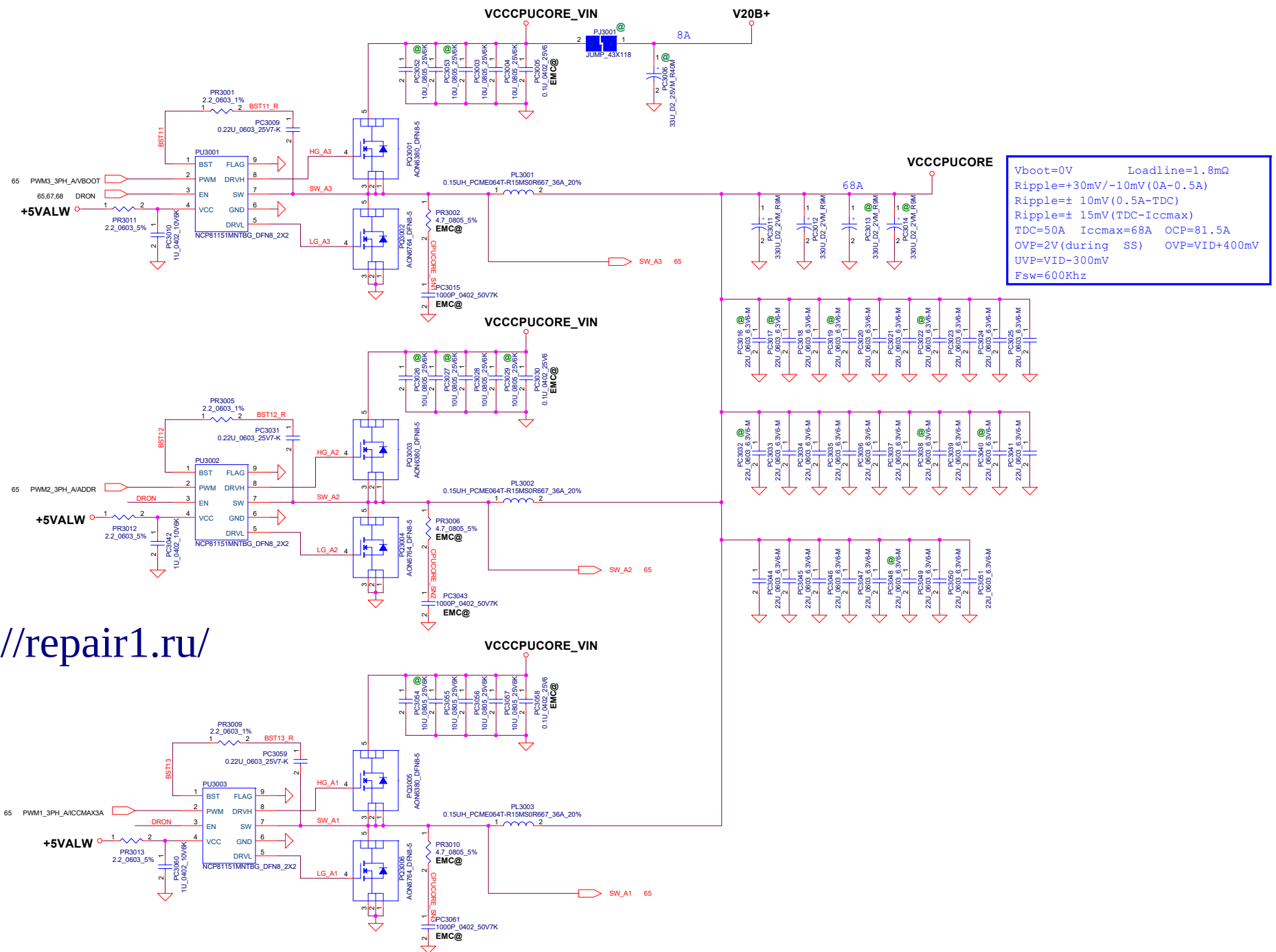
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| | | | | Rev | 1.0 |



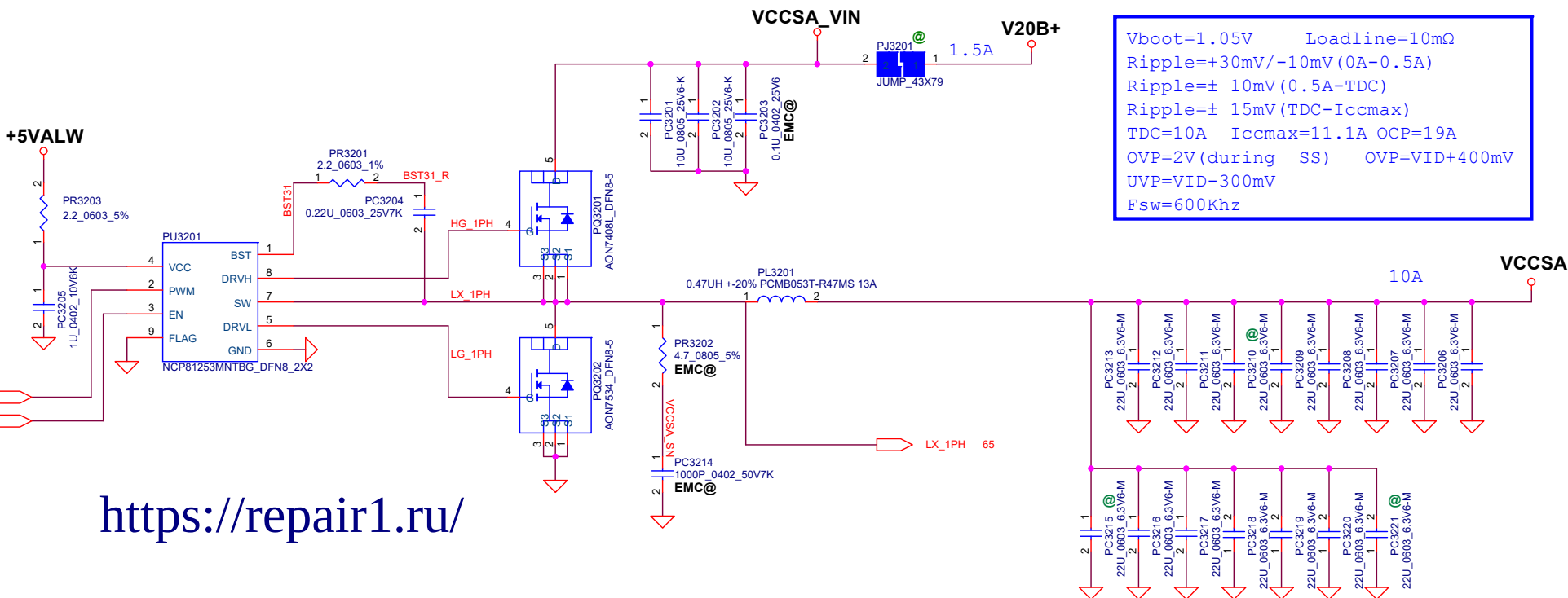
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| Issued Date | | 2016/01/20 | | Deciphered Date | | 2016/01/20 | | | |
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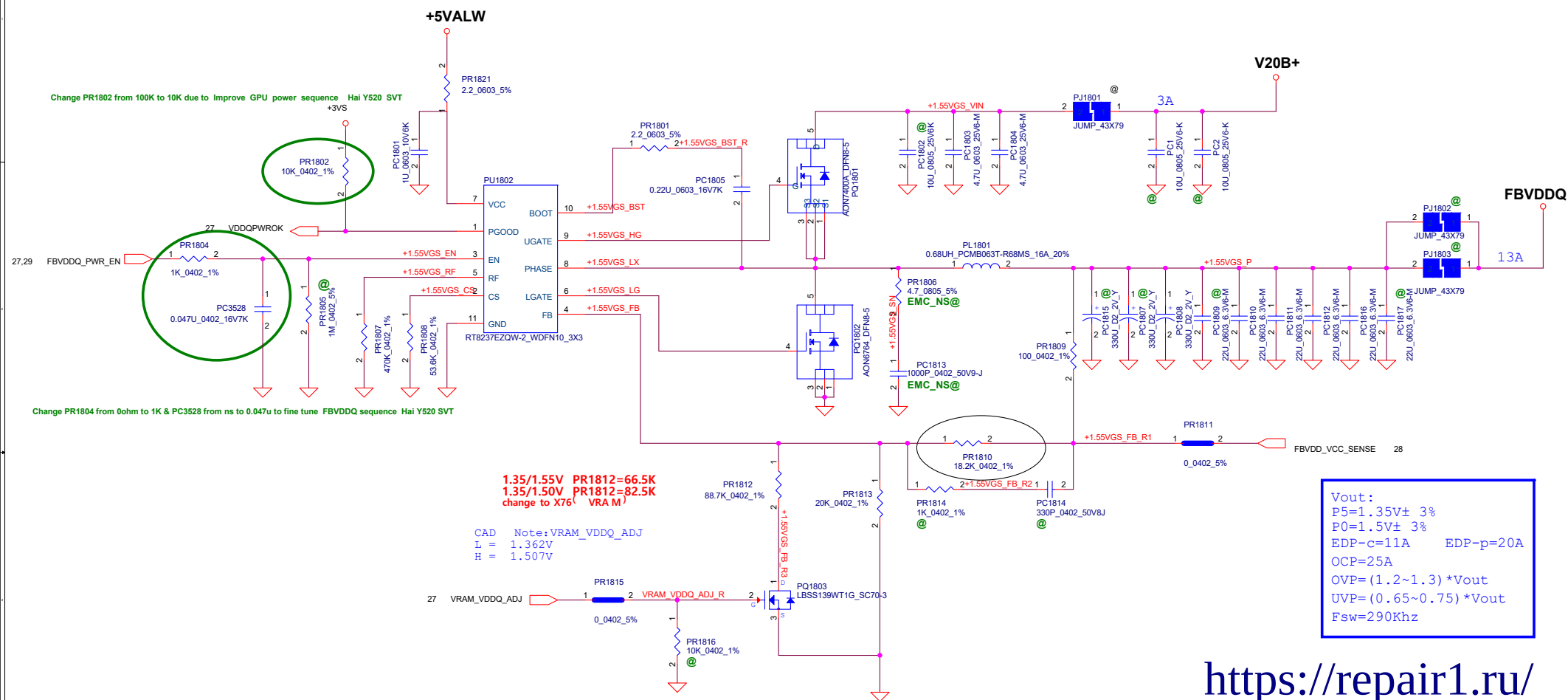


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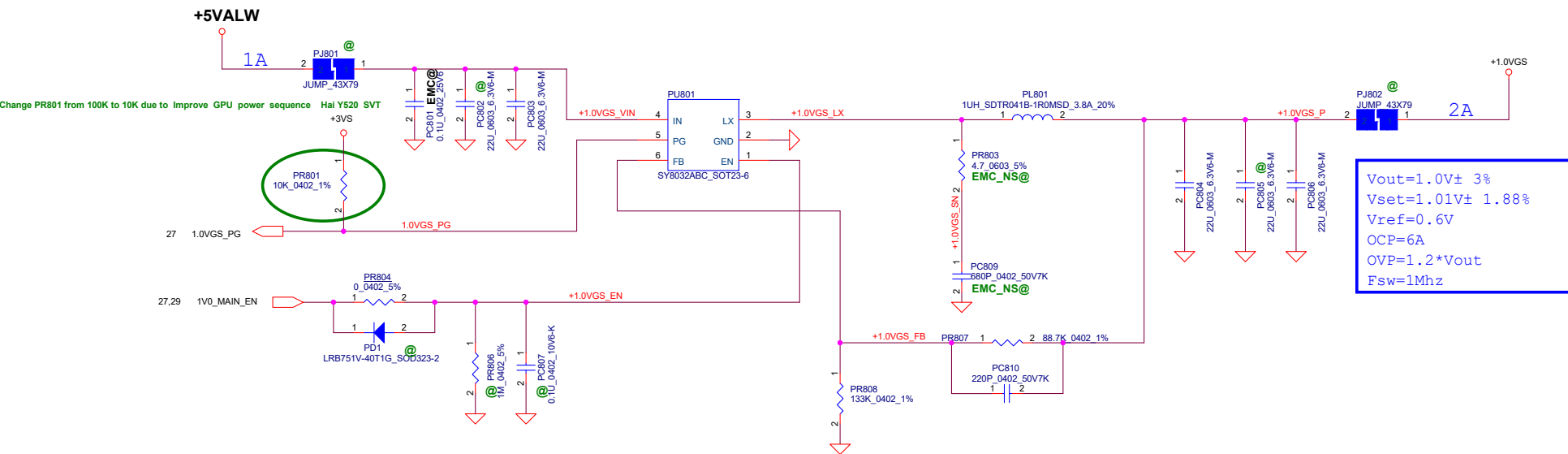


| RRF (KΩ) | Fsw (kHz) |
|----------|-----------|
| 470 | 290 |
| 200 | 340 |
| 100 | 380 |
| 39 | 430 |

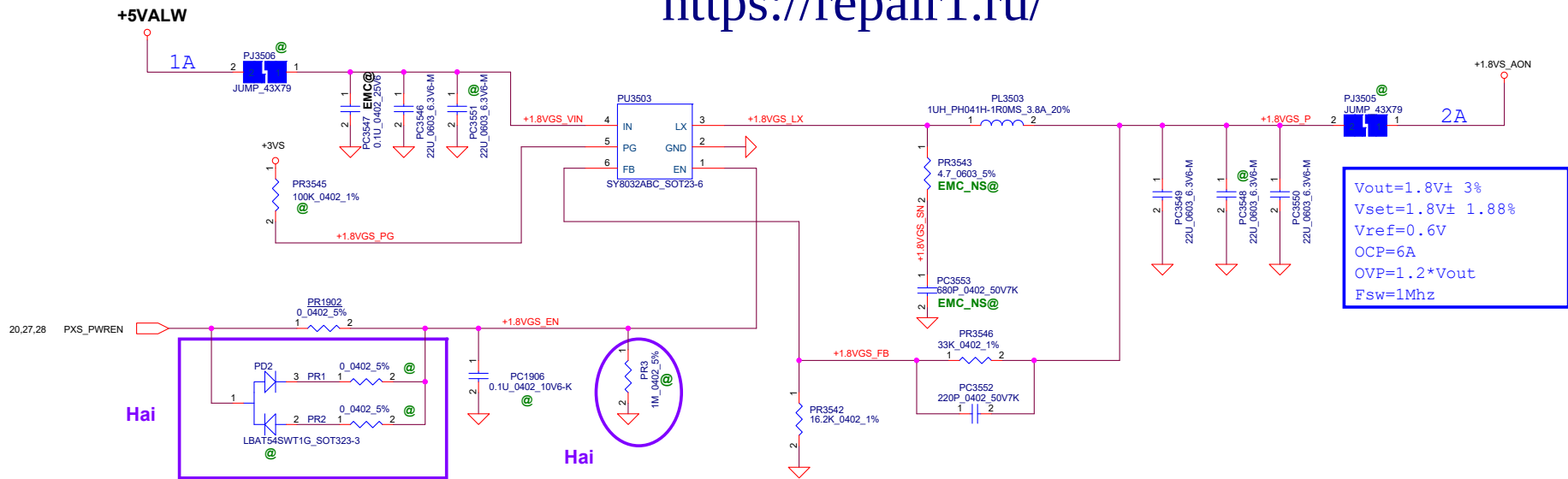
Note: DEM RRF to GND
CCM RRF to PGOOD

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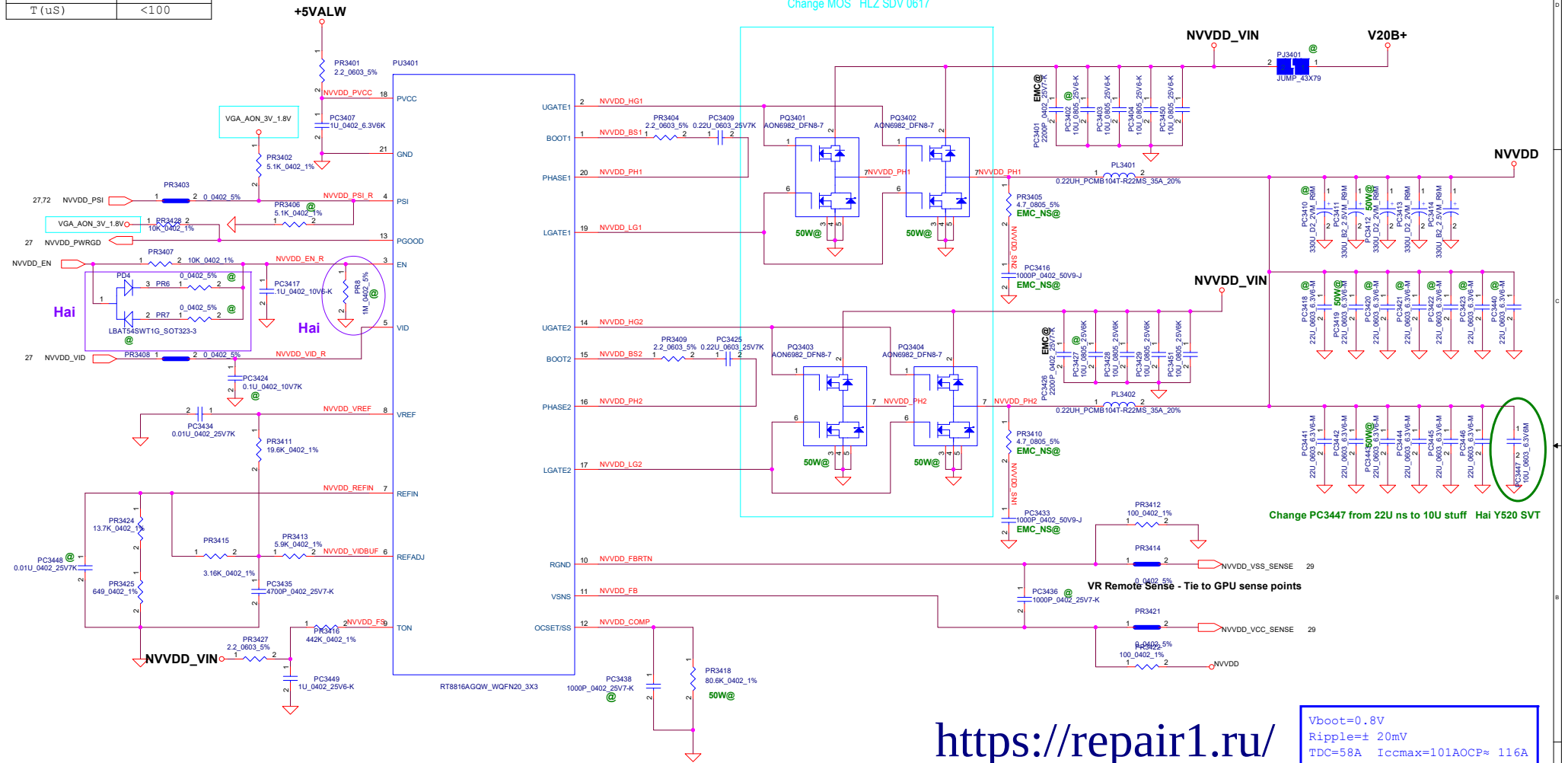
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| PWM-VID | Specification |
|------------|---------------|
| Vmin (V) | 0.3 |
| Vmax (V) | 1.3 |
| Vboot (V) | 0.8 |
| Vstep (mV) | 6.25 |
| N (level) | 160 |
| Fpwm (KHz) | 675 |
| Tdmin (nS) | 9.26 |
| T (uS) | <100 |

| Component | Value |
|------------------|--------------|
| R1 (K Ω) | PR9440 6.19 |
| R2 (K Ω) | PR9434 20.5 |
| R3 (K Ω) | PR9436 4.32 |
| R4 (K Ω) | PR9437 16.5 |
| R5 (K Ω) | PR9431 0.309 |
| C (nF) | PC1277 4.7 |

| PSI Level | Power Mode | Phase Configuration |
|-------------------|------------|---------------------|
| Connected to PVCC | PSH | 2Phase Auto CCM/DCM |
| High | PS0 | 2Phase FCCM |
| Intermediate | PS1 | 2Phase Auto CCM/DCM |
| Low | PS2 | 1Phase Auto CCM/DCM |

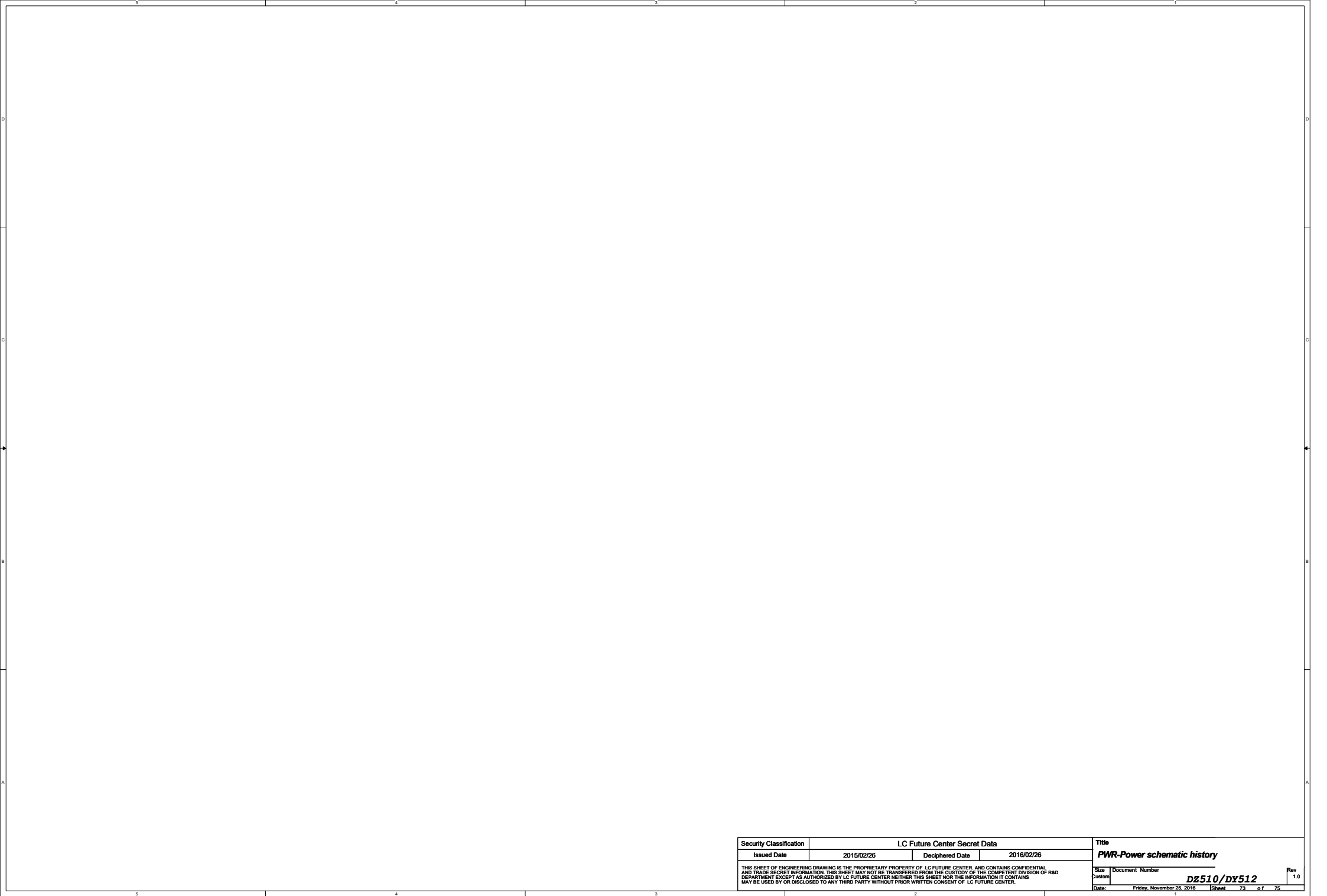
Change MOS HLZ SDV 0617



<https://repair1.ru/>

Vboot=0.8V
Ripple=± 20mV
TDC=58A Iccmax=101AOCp≈ 116A
Vref=2V
FUVp:Vfb=0.2V
SUVP:Vcomp=3V
OVP:Vfb=2V
Fsw=400KHz

| | | | | | |
|--|------------------------------|-----------------|------------|-------------|-----------------|
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| | | | Size Document Number Rev |
| | | | Custom <i>DZ510/DY512</i> 1.0 |
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