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MS-7562 UATX Version: 1.1

CPU: Intel Pentium 4, Pentium D, Core2 Duo, Wolfdale, Yorkfield processors in LGA775 Package.

System Chipset:

Intel Eaglelake - Q45 (North Bridge)
Intel ICH10DO (South Bridge)

On Board Device:

CLOCK Gen -- ICS9LPRS113A
LPC Super I/O -- Fintek F71882F
LAN -- LAN Intel 82567
JMB368 IDEX1
JMB381-1394
HD Audio Codec -- ALC888
PCIE to DVI Interface
PCIE to Display port Interface


Main Memory:

Dual-channel DDR-II * 4

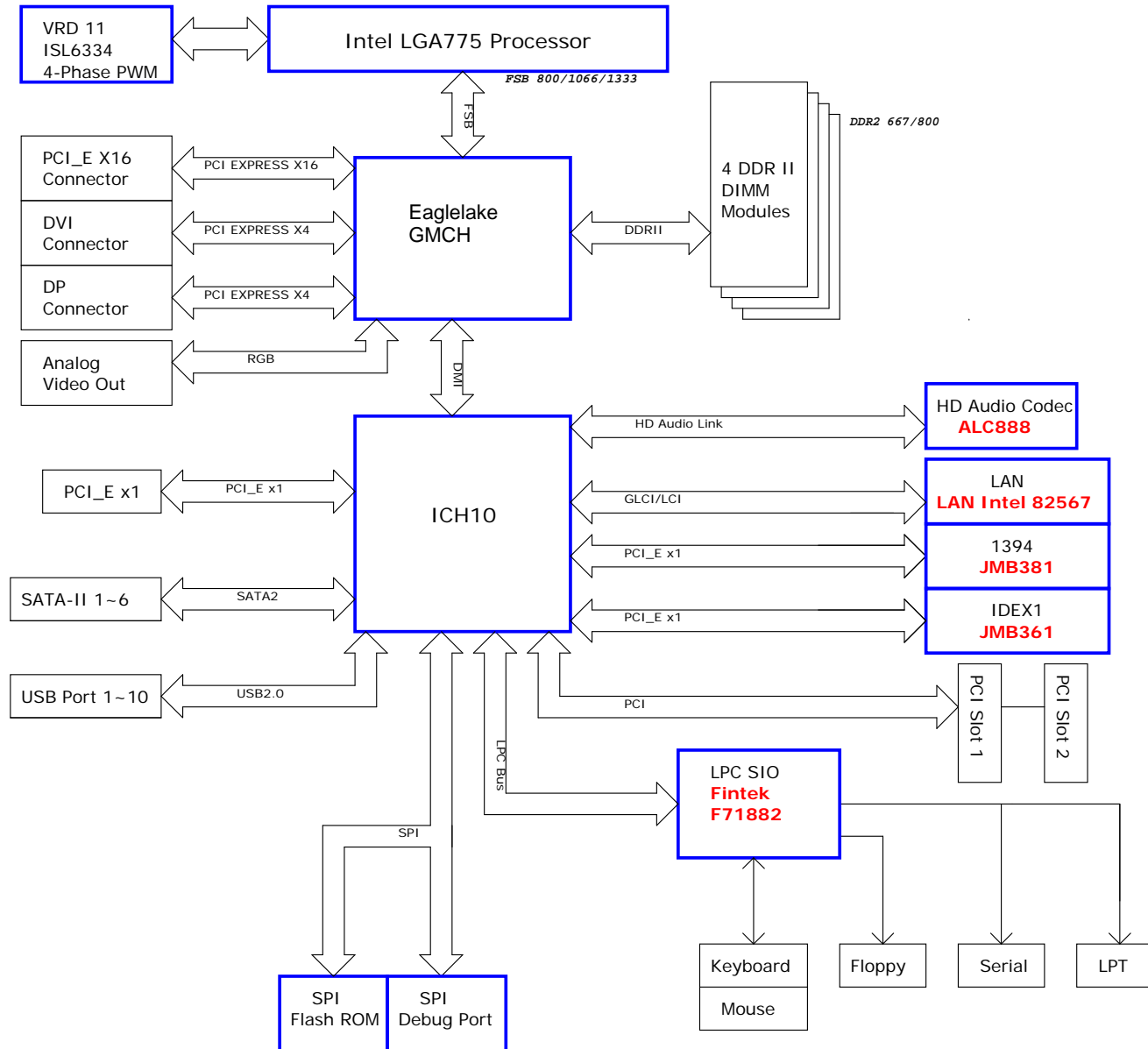
Expansion Slots:

PCI EXPRESS X16 SLOT *1
PCI EXPRESS X4 share to DVI
PCI EXPRESS X4 share to Display port
PCI EXPRESS X1 SLOT * 1
PCI SLOT * 2

PWM: ISL6334 4Phase

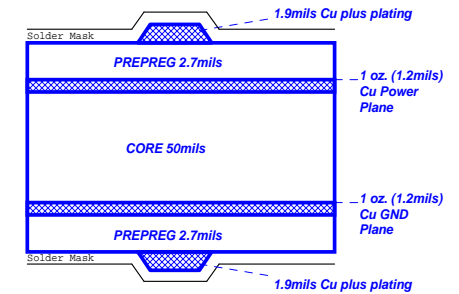
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Block Diagram



Board Stack-up

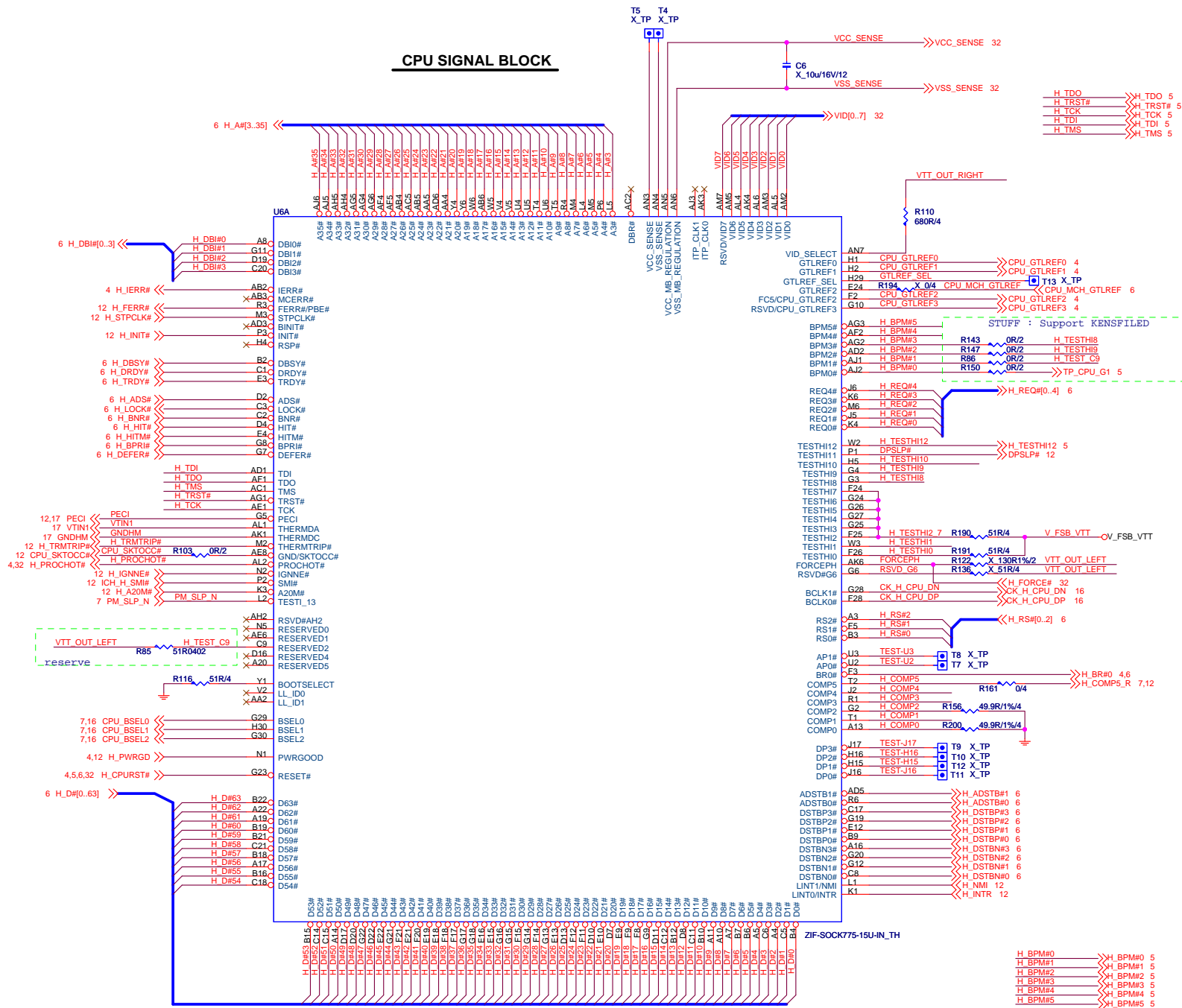
(1080 Prepreg Considerations)



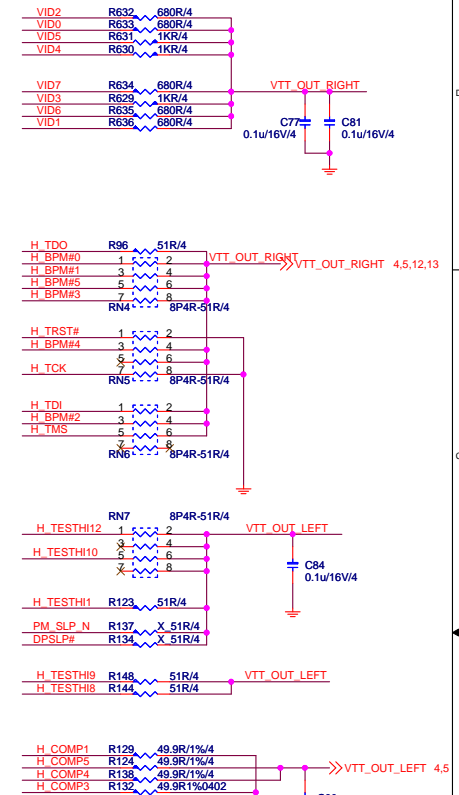
Single End 50ohm Top/Bottom : 4mils
 USB2.0 - 90ohm : 15/4.5/7.5/4.5/15
 SATA - 95ohm : 15/4/8/4/15
 LAN - 100ohm : 15/4/8/4/15
 PCIE - 95ohm : 15/4/8/4/15

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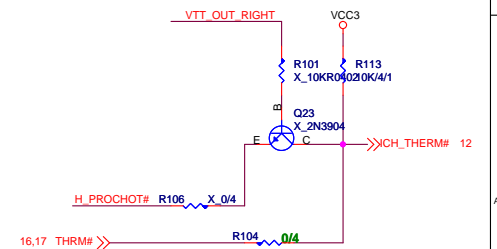
CPU SIGNAL BLOCK



PULL HIGHT PULL DOWN



Thermal TRIP

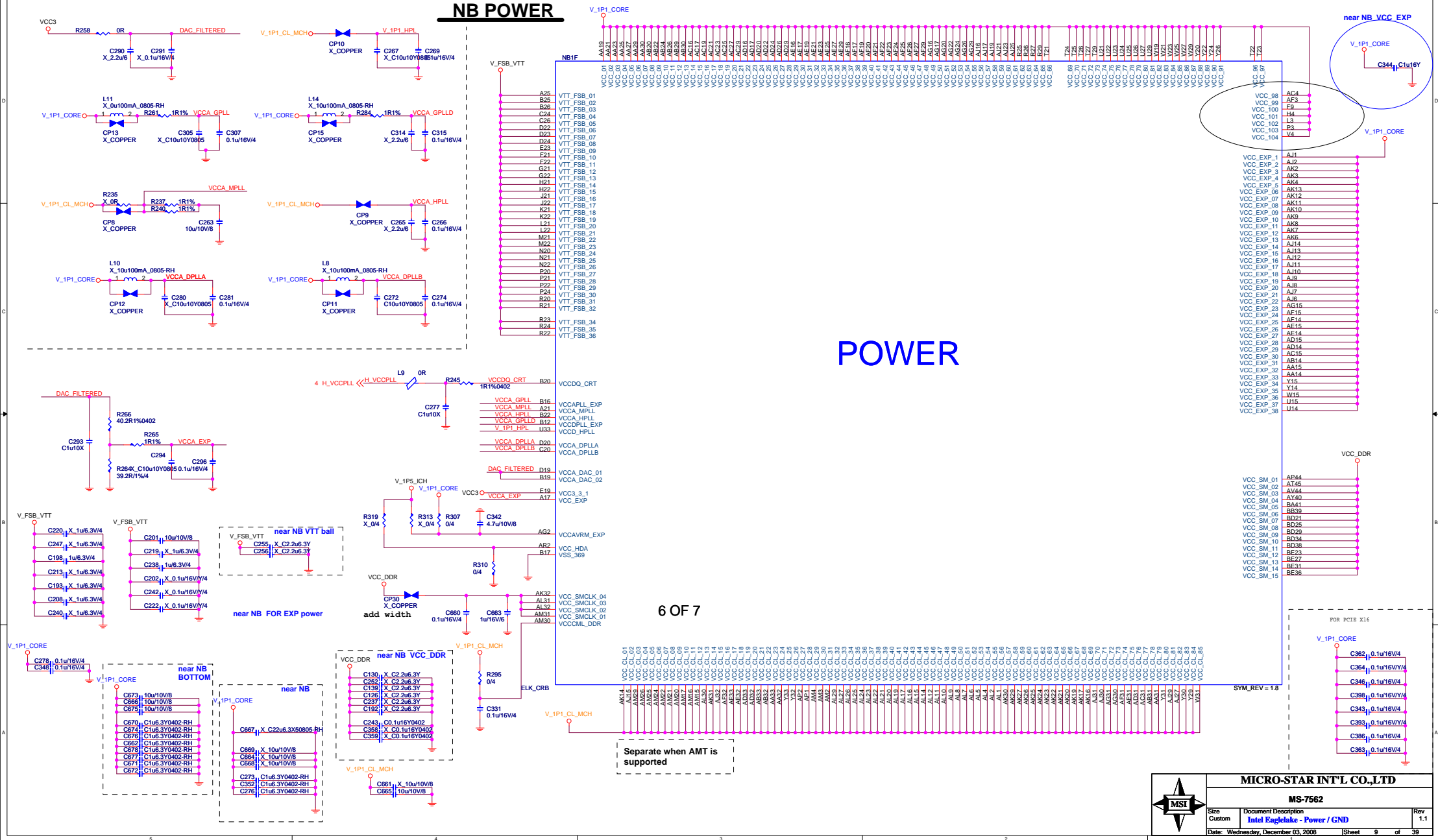


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NB POWER

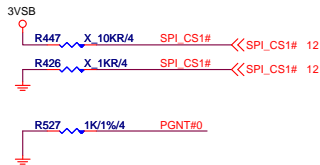


GND

70F 7

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SB STRAPPING RESISTOR

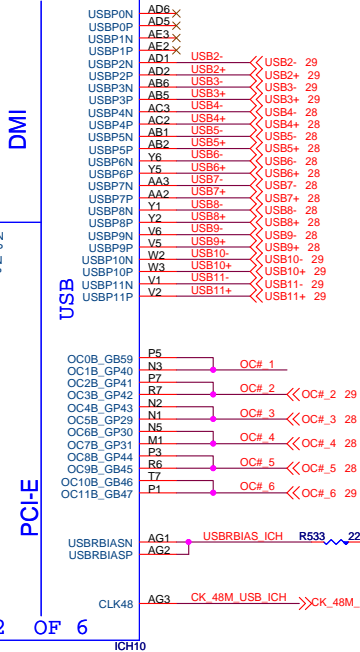
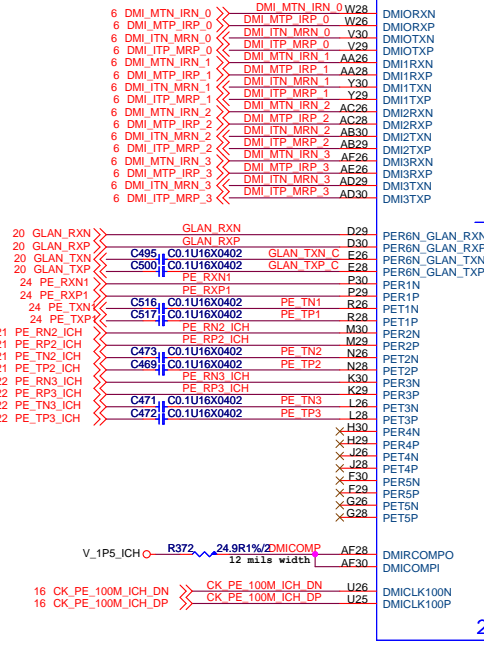
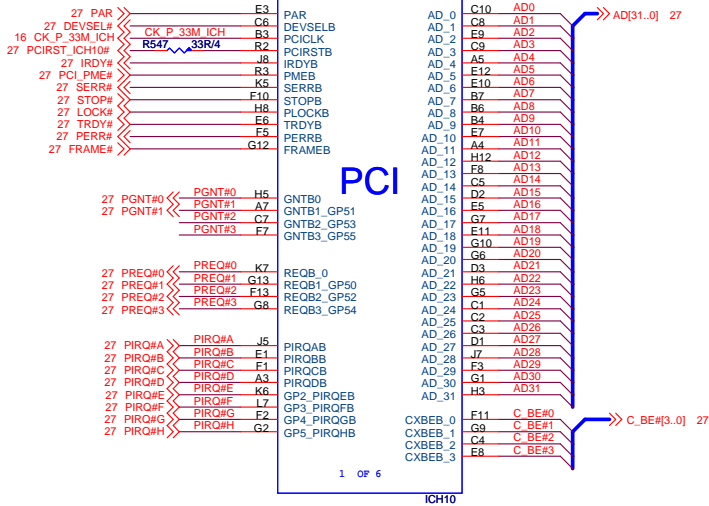


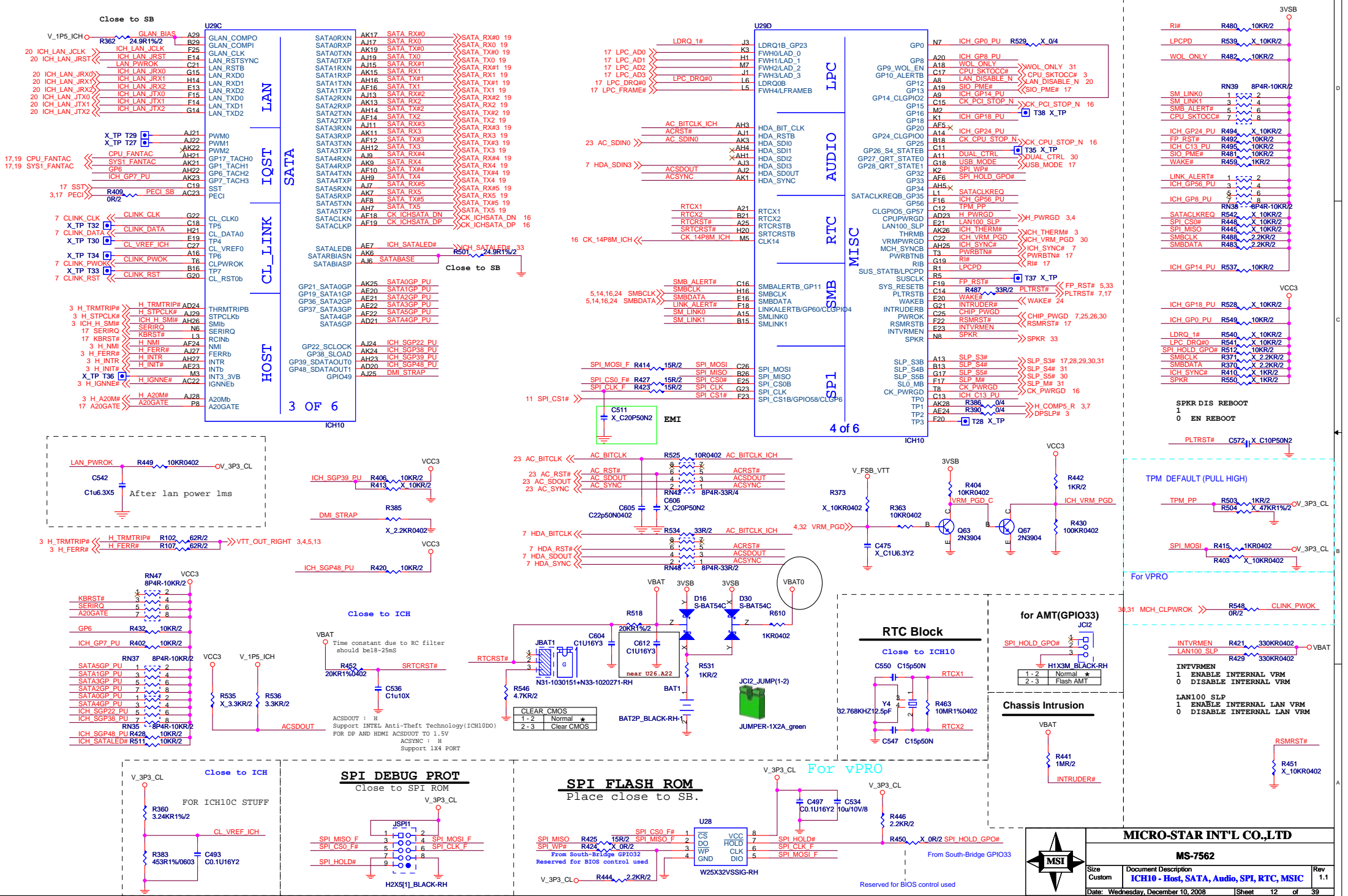
PGNT#[3:0] Internal Pull-up

SIGNAL	H	L	DES.
GNT3	DIS	EN	A16 OVERRIDE
GNT2	N/A	SET BIT	PCIE PORT CONFIG 2 BIT 0 (5-6)

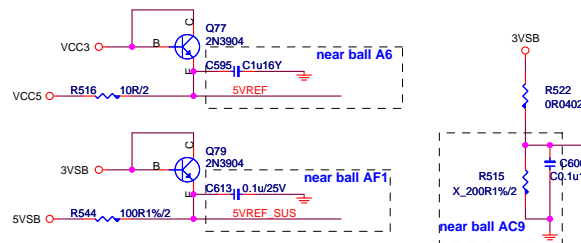
HDA_SDOUT/HDA_SYNC strap PCI_E port configuration bit[1:0]. Internal weak pull down.
00:1X/1X/1X/1X 11:0X/0X/4X

BOOT SELECT STRAPS		
BOOT DEVICE	GNT#0	SPI_CS1#
FWH	1	1
SPI	0	X
PCI	1	0

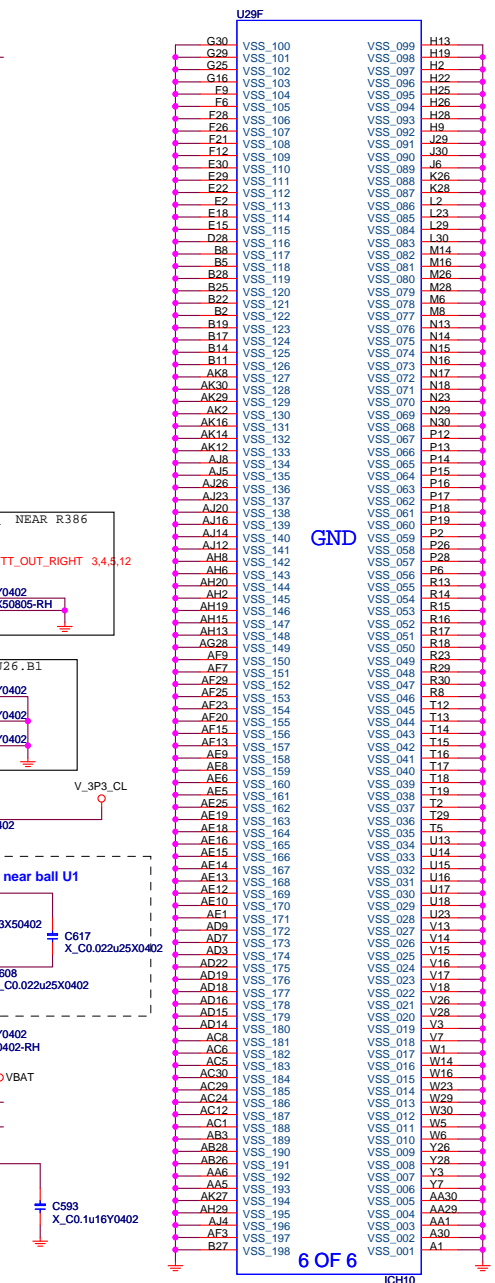
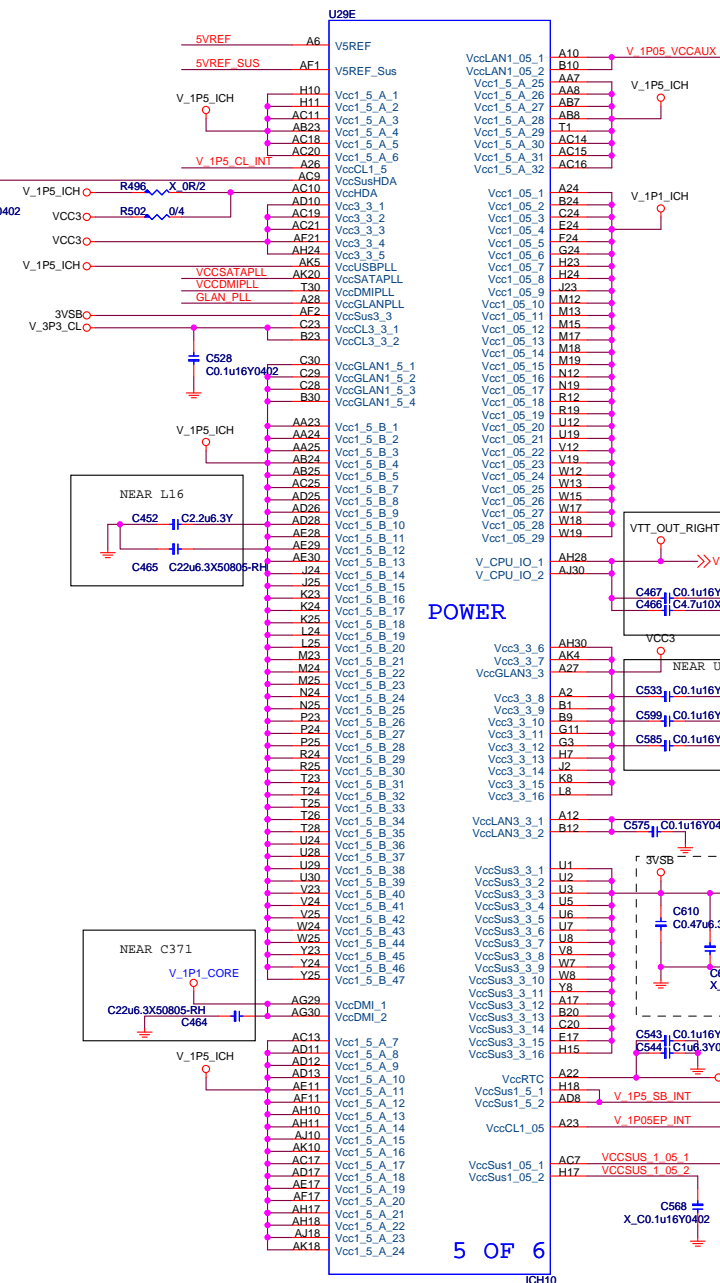
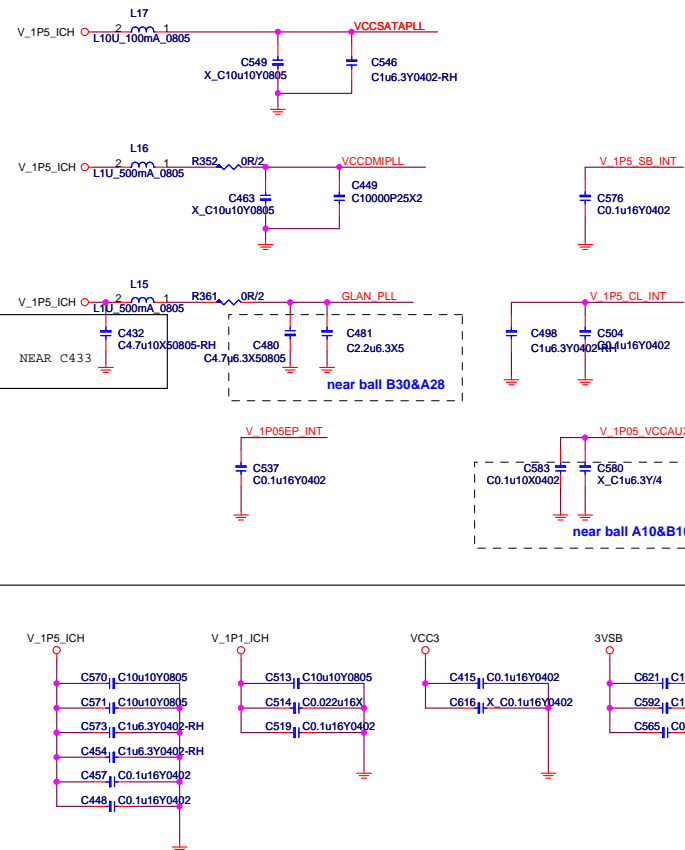




V5REF must be powered up before VCC3 or after VCC3 within 0.7V. Also, V5REF must power down after VCC3 or before VCC3 within 0.7V. This rule is also applies to V5REF_SUS and 3VSB. However, the 3VSB is derived from the 5VSB on the power supply thru a voltage regulator and therefore, they can satisfy the requirement.



FOR DP AND HDMI VCCHDA,VCCSUSHDA TO 1.5V



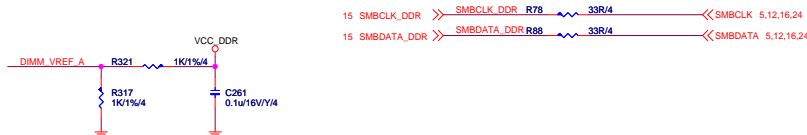
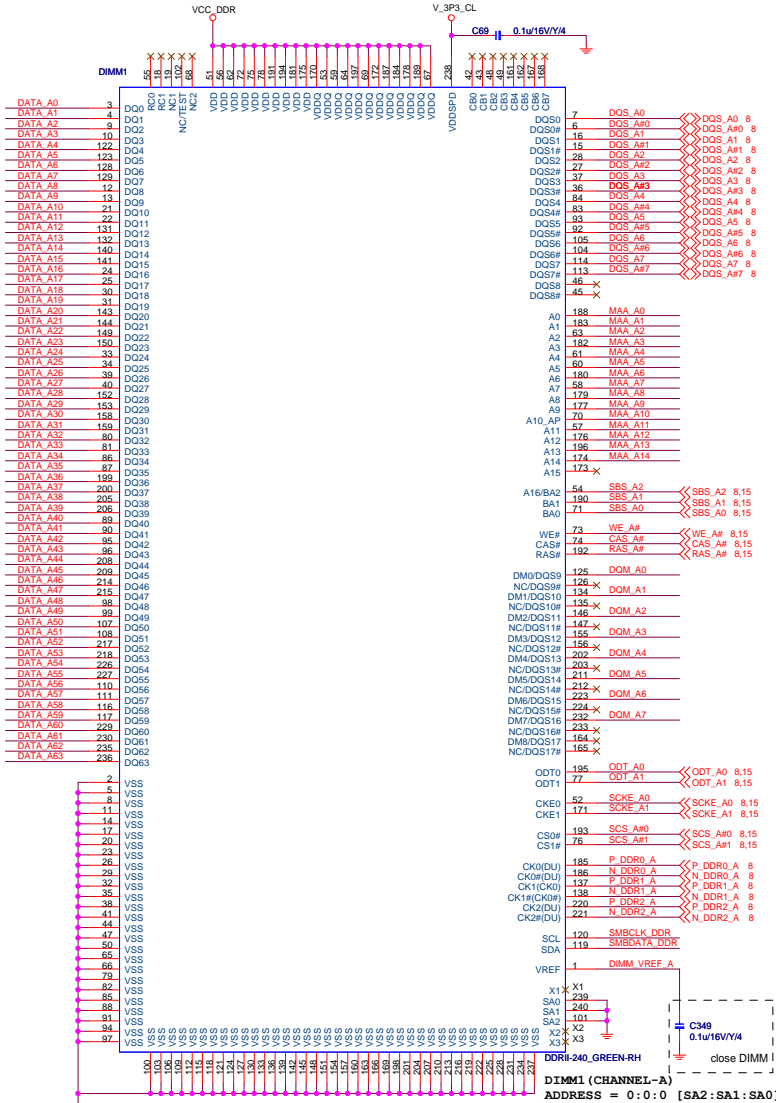
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DDRII DIMM_A1

DDRII DIMM_A2

8 DQM_A[0..7] >> DQM_A[0..7]
8,15 MAA_A[0..14] >> MAA_A[0..14]
8 DATA_A[0..63] >> DATA_A[0..63]

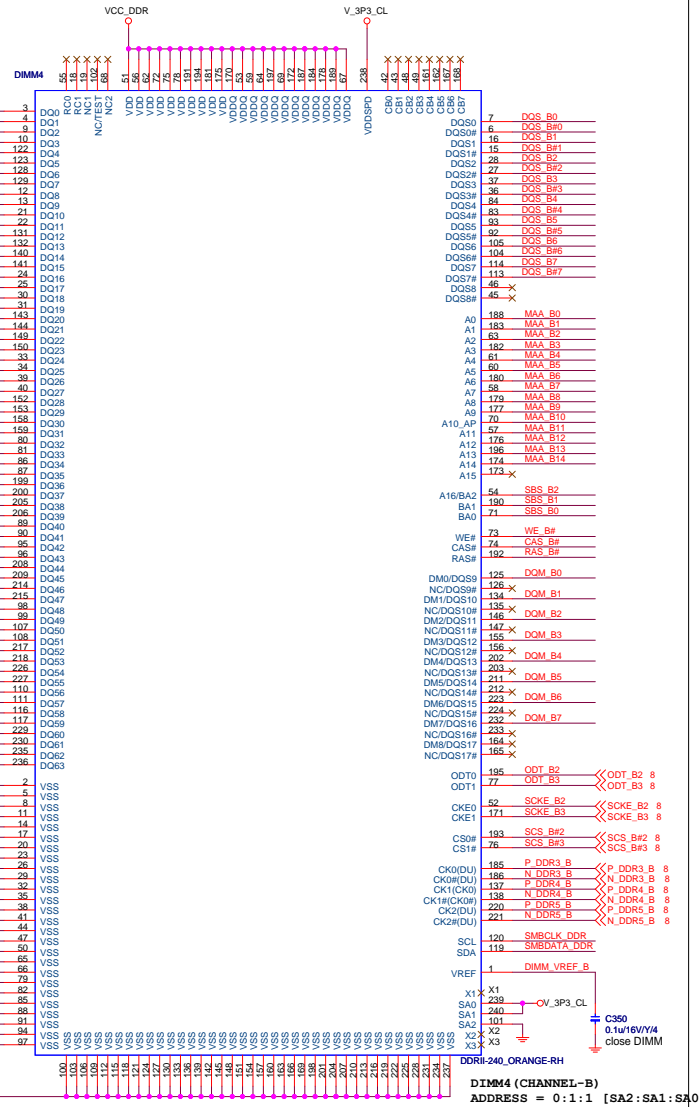


8 DATA_B[0..63] <<> DATA_B[0..63]
8 MAA_B[0..14] <<> MAA_B[0..14]
8 DOM_B[0..7] <<> DOM_B[0..7]

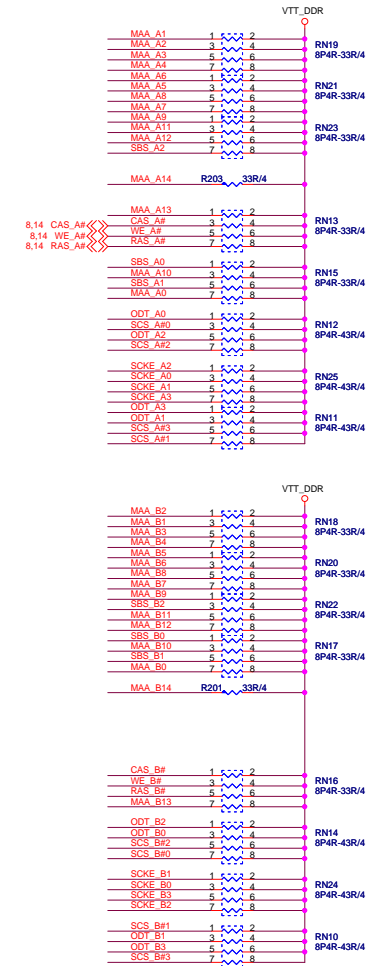
DDR2 DIMM_B1



DDR2 DIMM_B2



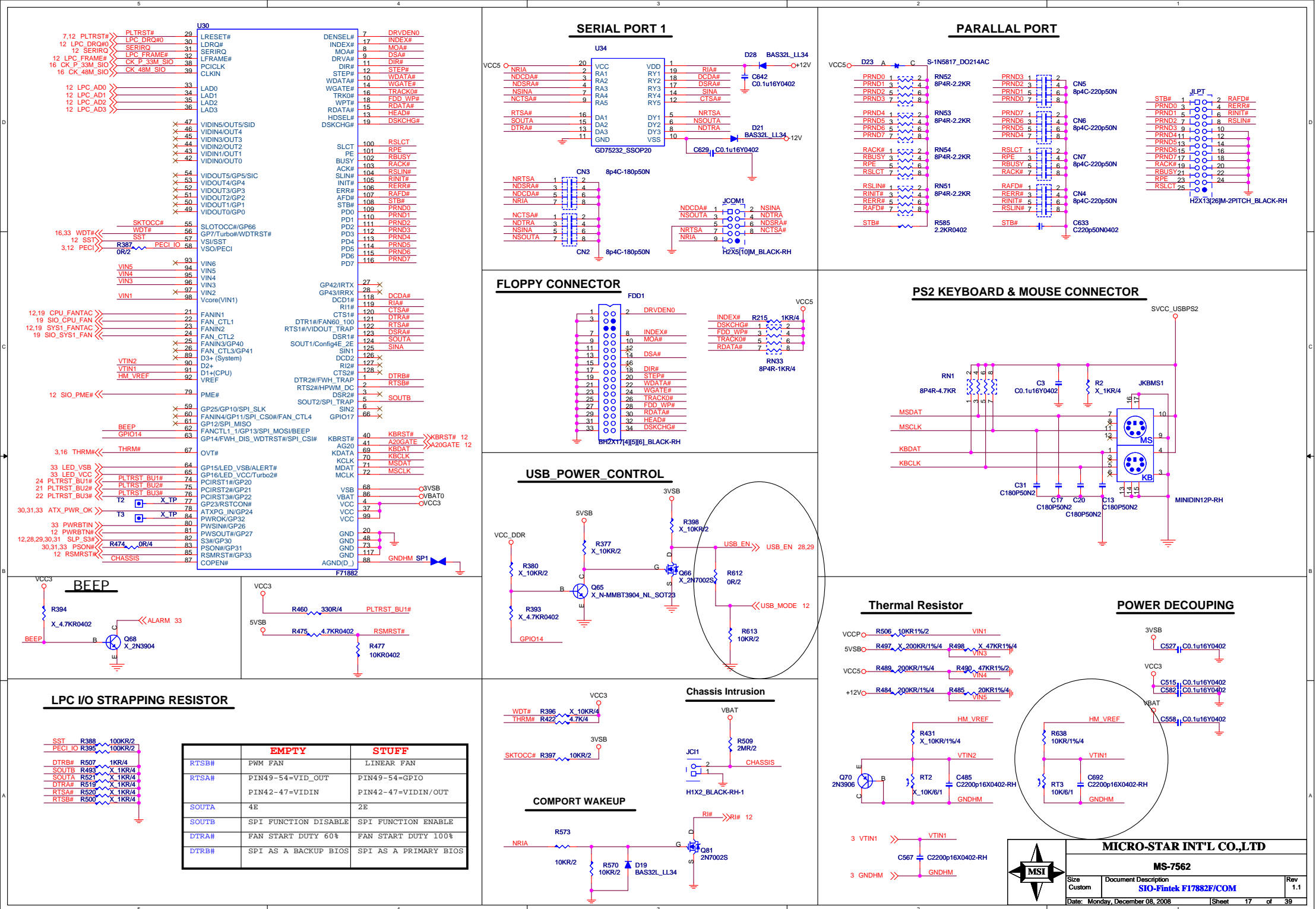
8.14 MAA_A[0..14] <<> MAA_A[0..14]
8.14 SBS_A[0..2] <<> SBS_A[0..2]
8.14 SCS_A[0..3] <<> SCS_A[0..3]
8.14 SCKE_A[0..3] <<> SCKE_A[0..3]
8.14 ODT_A[0..3] <<> ODT_A[0..3]



8 MAA_B[0..14] <<> MAA_B[0..14]
8 SBS_B[0..2] <<> SBS_B[0..2]
8 SCS_B[0..3] <<> SCS_B[0..3]
8 SCKE_B[0..3] <<> SCKE_B[0..3]
8 ODT_B[0..3] <<> ODT_B[0..3]

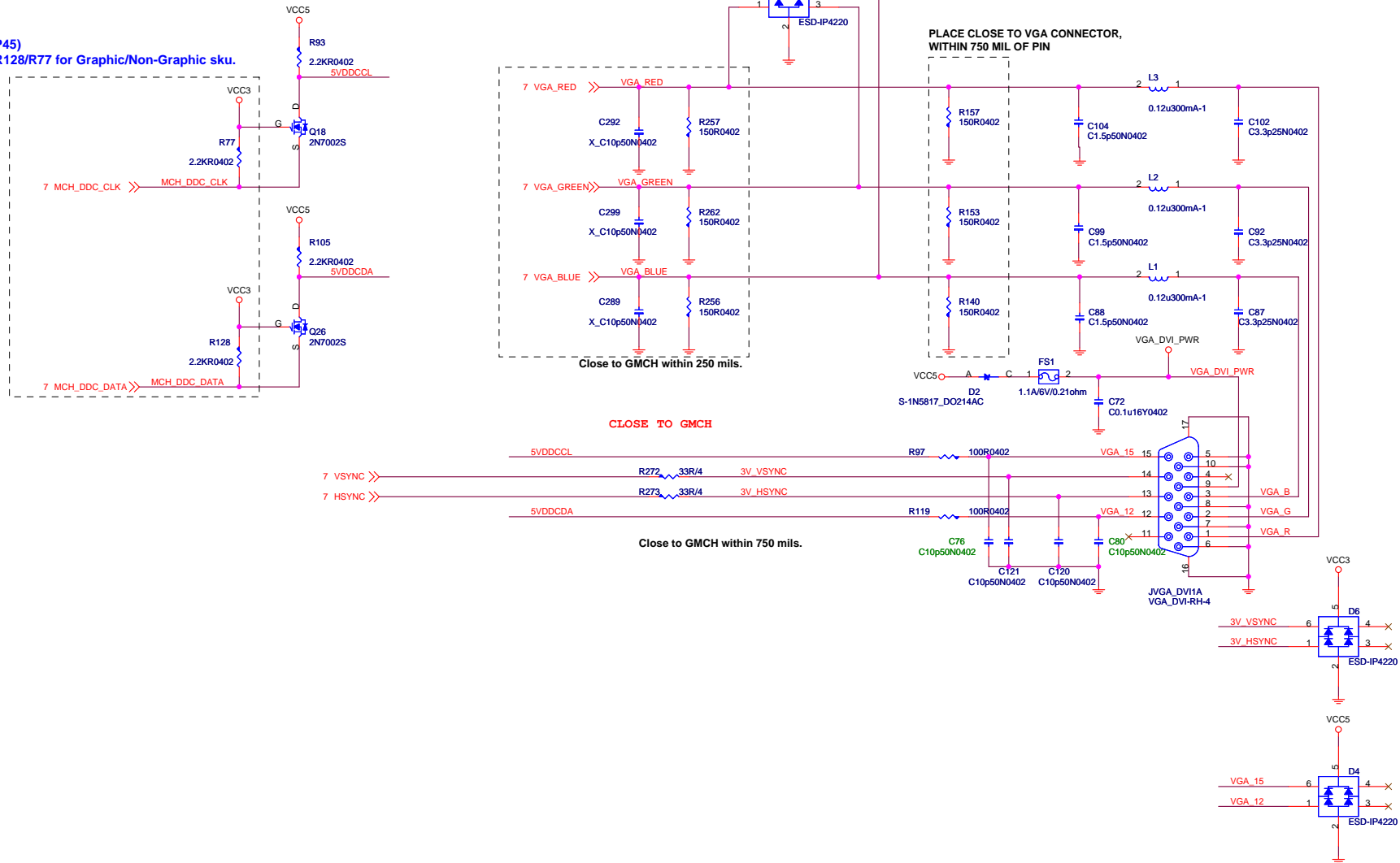



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Video Connector

FOR V10 (NB:P45)
Always Stuff R128/R77 for Graphic/Non-Graphic sku.



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SATA 1- 6 PORT

SATA1_3

12 SATA_TX0<< SATA_TX0 C10000P25X2 C434 ST_TX0 1 8 GND GND 9 HT+1 HT+2 10 HT-1 HT-2 11 GND GND 12 HR-1 HR-2 13 HR+1 HR+2 14 MEC1MEC2 15 16 X

12 SATA_TX#0<< SATA_TX#0 C10000P25X2 C442 ST_TX#0 2 9 HT+1 HT+2 10 HT-1 HT-2 11 GND GND 12 HR-1 HR-2 13 HR+1 HR+2 14 MEC1MEC2 15 16 X

12 SATA_RX#0<< SATA_RX#0 C10000P25X2 C499 ST_RX#0 3 10 HT+1 HT+2 10 HT-1 HT-2 11 GND GND 12 HR-1 HR-2 13 HR+1 HR+2 14 MEC1MEC2 15 16 X

12 SATA_RX0<< SATA_RX0 C10000P25X2 C505 ST_RX0 4 11 HT+1 HT+2 10 HT-1 HT-2 11 GND GND 12 HR-1 HR-2 13 HR+1 HR+2 14 MEC1MEC2 15 16 X

SATA2_4

12 SATA_TX1<< SATA_TX1 C10000P25X2 C523 ST_TX1 1 8 GND GND 9 HT+1 HT+2 10 HT-1 HT-2 11 GND GND 12 HR-1 HR-2 13 HR+1 HR+2 14 MEC1MEC2 15 16 X

12 SATA_TX#1<< SATA_TX#1 C10000P25X2 C532 ST_TX#1 2 9 HT+1 HT+2 10 HT-1 HT-2 11 GND GND 12 HR-1 HR-2 13 HR+1 HR+2 14 MEC1MEC2 15 16 X

12 SATA_RX#1<< SATA_RX#1 C10000P25X2 C566 ST_RX#1 3 10 HT+1 HT+2 10 HT-1 HT-2 11 GND GND 12 HR-1 HR-2 13 HR+1 HR+2 14 MEC1MEC2 15 16 X

12 SATA_RX1<< SATA_RX1 C10000P25X2 C569 ST_RX1 4 11 HT+1 HT+2 10 HT-1 HT-2 11 GND GND 12 HR-1 HR-2 13 HR+1 HR+2 14 MEC1MEC2 15 16 X

SATA5_6

12 SATA_TX4<< SATA_TX4 C10000P25X2 C587 ST_TX4 1 8 GND GND 9 HT+1 HT+2 10 HT-1 HT-2 11 GND GND 12 HR-1 HR-2 13 HR+1 HR+2 14 MEC1MEC2 15 16 X

12 SATA_TX#4<< SATA_TX#4 C10000P25X2 C590 ST_TX#4 2 9 HT+1 HT+2 10 HT-1 HT-2 11 GND GND 12 HR-1 HR-2 13 HR+1 HR+2 14 MEC1MEC2 15 16 X

12 SATA_RX#4<< SATA_RX#4 C10000P25X2 C618 ST_RX#4 3 10 HT+1 HT+2 10 HT-1 HT-2 11 GND GND 12 HR-1 HR-2 13 HR+1 HR+2 14 MEC1MEC2 15 16 X

12 SATA_RX4<< SATA_RX4 C10000P25X2 C622 ST_RX4 4 11 HT+1 HT+2 10 HT-1 HT-2 11 GND GND 12 HR-1 HR-2 13 HR+1 HR+2 14 MEC1MEC2 15 16 X

FAN-CONTROL CIRCUIT

17 SIO_CPU_FAN<< 12,17 CPU_FANTAC<< R65 2.2K/2 R45 4.7K/4 D1 1N4148S CPUFAN1 4 3 2 1 BH1X48F EC1 CD100u16EL5-RH

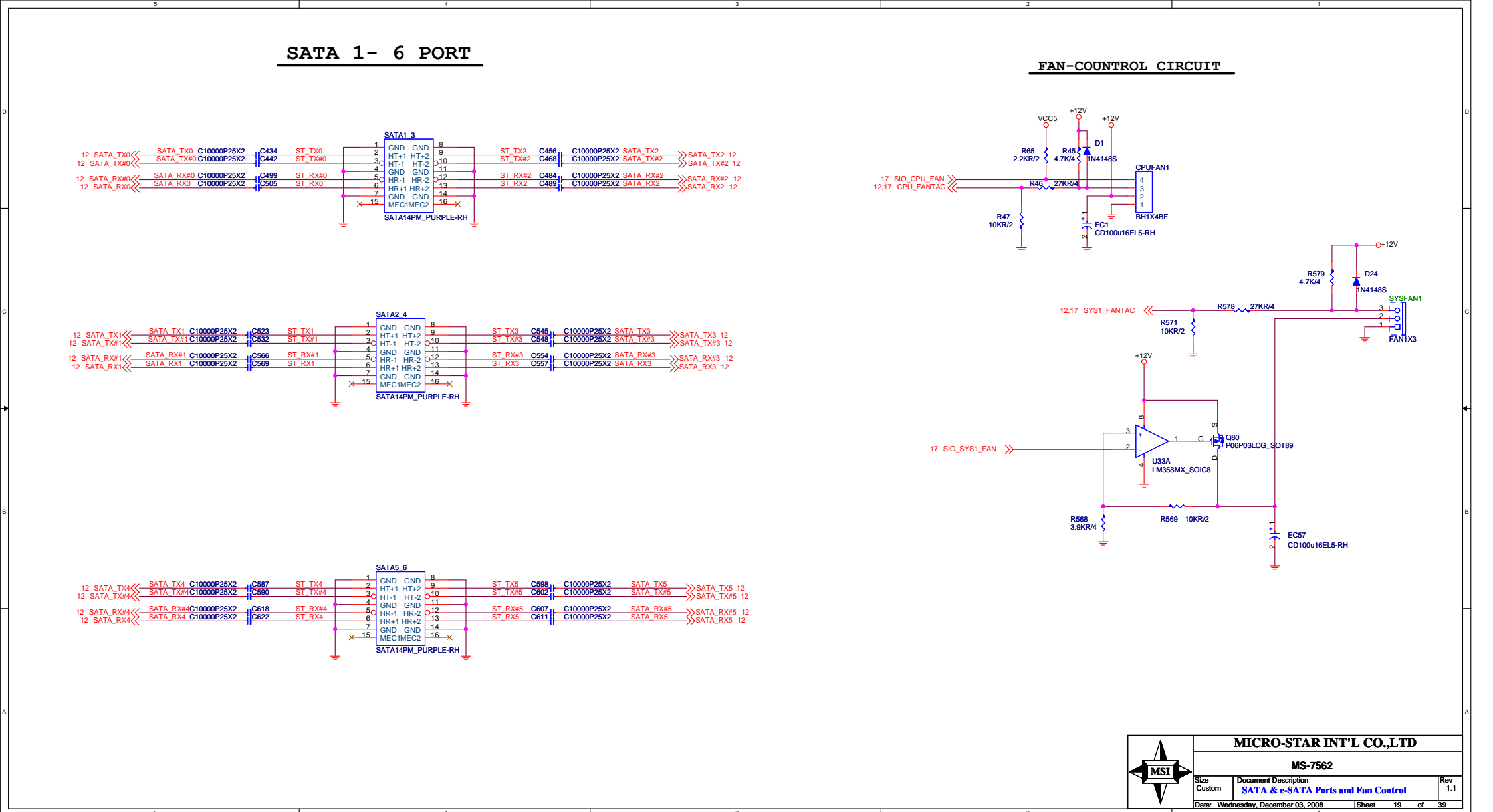
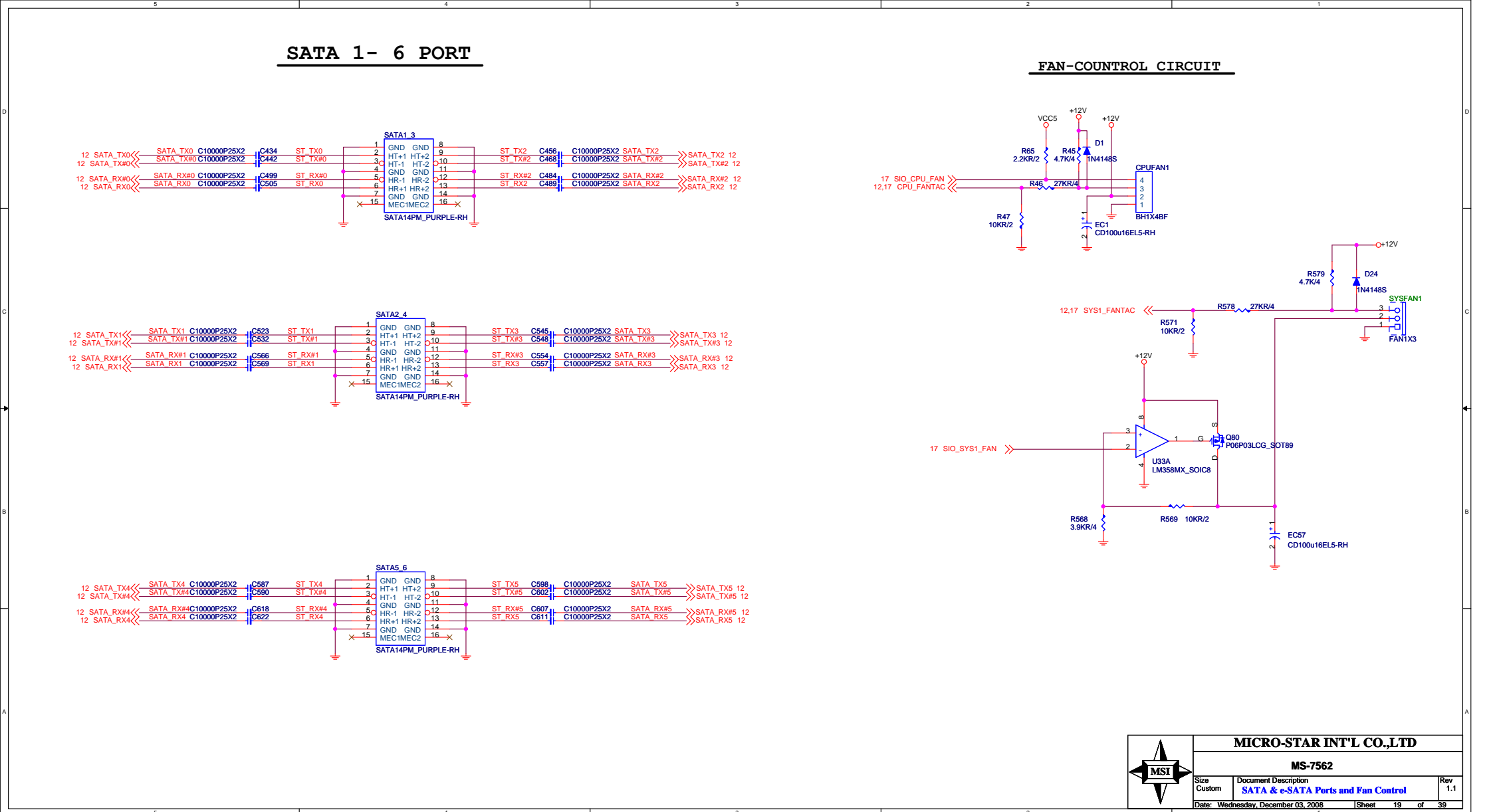
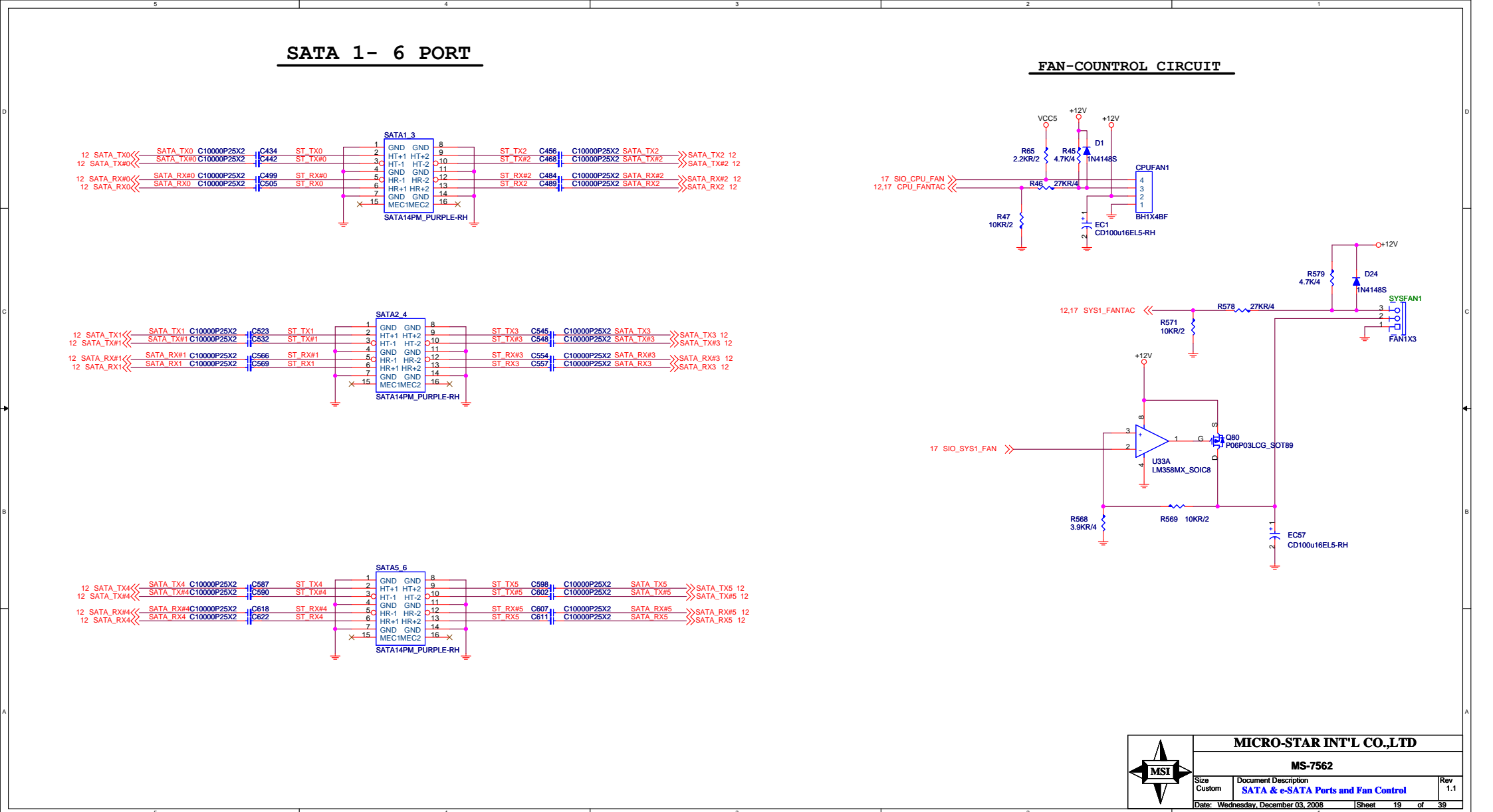
17 SIO_SYS1_FAN<< 12,17 SYS1_FANTAC<< R578 27K/4 R579 4.7K/4 D24 1N4148S SYSFAN1 3 2 1 FAN1X3 EC57 CD100u16EL5-RH

17 SIO_SYS1_FAN<< U33A LM358MX_SOIC8 Q80 P06P03LCG_SOT89 R568 3.9K/4 R569 10K/2

SATA 1- 6 PORT

SATA1_3

12 SATA_TX0<< SATA_TX0 C10000P25X2 C434 ST_TX0 1 8 GND GND 9 10 HT+1 HT+2 11 12 HT-1 HT-2 13 14 GND GND 15 16 ST_TX#0 C10000P25X2 C442 ST_TX#0 2 3 HT+1 HT+2 4 5 HT-1 HT-2 6 7 GND GND 8 9 ST_RX#0 C10000P25X2 C499 ST_RX#0 10 11 HT+1 HT+2 12 13 HT-1 HT-2 14 15 GND GND 16 17 ST_RX#0 C10000P25X2 C505 ST_RX#0 18 19 HT+1 HT+2 20 21 HT-1 HT-2 22 23 GND GND 24 25 ST_RX#0 C10000P25X2 C505 ST_RX#0 26 27 HT+1 HT+2 28 29 HT-1 HT-2 30 31 GND GND 32 33 ST_RX#0 C10000P25X2 C505 ST_RX#0 34 35 HT+1 HT+2 36 37 HT-1 HT-2 38 39 GND GND 40 41 ST_RX#0 C10000P25X2 C505 ST_RX#0 42 43 HT+1 HT+2 44 45 HT-1 HT-2 46 47 GND GND 48 49 ST_RX#0 C10000P25X2 C505 ST_RX#0 50 51 HT+1 HT+2 52 53 HT-1 HT-2 54 55 GND GND 56 57 ST_RX#0 C10000P25X2 C505 ST_RX#0 58 59 HT+1 HT+2 60 61 HT-1 HT-2 62 63 GND GND 64 65 ST_RX#0 C10000P25X2 C505 ST_RX#0 66 67 HT+1 HT+2 68 69 HT-1 HT-2 70 71 GND GND 72 73 ST_RX#0 C10000P25X2 C505 ST_RX#0 74 75 HT+1 HT+2 76 77 HT-1 HT-2 78 79 GND GND 80 81 ST_RX#0 C10000P25X2 C505 ST_RX#0 82 83 HT+1 HT+2 84 85 HT-1 HT-2 86 87 GND GND 88 89 ST_RX#0 C10000P25X2 C505 ST_RX#0 90 91 HT+1 HT+2 92 93 HT-1 HT-2 94 95 GND GND 96 97 ST_RX#0 C10000P25X2 C505 ST_RX#0 98 99 HT+1 HT+2 100 101 HT-1 HT-2 102 103 GND GND 104 105 ST_RX#0 C10000P25X2 C505 ST_RX#0 106 107 HT+1 HT+2 108 109 HT-1 HT-2 110 111 GND GND 112 113 ST_RX#0 C10000P25X2 C505 ST_RX#0 114 115 HT+1 HT+2 116 117 HT-1 HT-2 118 119 GND GND 120 121 ST_RX#0 C10000P25X2 C505 ST_RX#0 122 123 HT+1 HT+2 124 125 HT-1 HT-2 126 127 GND GND 128 129 ST_RX#0 C10000P25X2 C505 ST_RX#0 130 131 HT+1 HT+2 132 133 HT-1 HT-2 134 135 GND GND 136 137 ST_RX#0 C10000P25X2 C505 ST_RX#0 138 139 HT+1 HT+2 140 141 HT-1 HT-2 142 143 GND GND 144 145 ST_RX#0 C10000P25X2 C505 ST_RX#0 146 147 HT+1 HT+2 148 149 HT-1 HT-2 150 151 GND GND 152 153 ST_RX#0 C10000P25X2 C505 ST_RX#0 154 155 HT+1 HT+2 156 157 HT-1 HT-2 158 159 GND GND 160 161 ST_RX#0 C10000P25X2 C505 ST_RX#0 162 163 HT+1 HT+2 164 165 HT-1 HT-2 166 167 GND GND 168 169 ST_RX#0 C10000P25X2 C505 ST_RX#0 170 171 HT+1 HT+2 172 173 HT-1 HT-2 174 175 GND GND 176 177 ST_RX#0 C10000P25X2 C505 ST_RX#0 178 179 HT+1 HT+2 180 181 HT-1 HT-2 182 183 GND GND 184 185 ST_RX#0 C10000P25X2 C505 ST_RX#0 186 187 HT+1 HT+2 188 189 HT-1 HT-2 190 191 GND GND 192 193 ST_RX#0 C10000P25X2 C505 ST_RX#0 194 195 HT+1 HT+2 196 197 HT-1 HT-2 198 199 GND GND 200 201 ST_RX#0 C10000P25X2 C505 ST_RX#0 202 203 HT+1 HT+2 204 205 HT-1 HT-2 206 207 GND GND 208 209 ST_RX#0 C10000P25X2 C505 ST_RX#0 210 211 HT+1 HT+2 212 213 HT-1 HT-2 214 215 GND GND 216 217 ST_RX#0 C10000P25X2 C505 ST_RX#0 218 219 HT+1 HT+2 220 221 HT-1 HT-2 222 223 GND GND 224 225 ST_RX#0 C10000P25X2 C505 ST_RX#0 226 227 HT+1 HT+2 228 229 HT-1 HT-2 230 231 GND GND 232 233 ST_RX#0 C10000P25X2 C505 ST_RX#0 234 235 HT+1 HT+2 236 237 HT-1 HT-2 238 239 GND GND 240 241 ST_RX#0 C10000P25X2 C505 ST_RX#0 242 243 HT+1 HT+2 244 245 HT-1 HT-2 246 247 GND GND 248 249 ST_RX#0 C10000P25X2 C505 ST_RX#0 250 251 HT+1 HT+2 252 253 HT-1 HT-2 254 255 GND GND 256 257 ST_RX#0 C10000P25X2 C505 ST_RX#0 258 259 HT+1 HT+2 260 261 HT-1 HT-2 262 263 GND GND 264 265 ST_RX#0 C10000P25X2 C505 ST_RX#0 266 267 HT+1 HT+2 268 269 HT-1 HT-2 270 271 GND GND 272 273 ST_RX#0 C10000P25X2 C505 ST_RX#0 274 275 HT+1 HT+2 276 277 HT-1 HT-2 278 279 GND GND 280 281 ST_RX#0 C10000P25X2 C505 ST_RX#0 282 283 HT+1 HT+2 284 285 HT-1 HT-2 286 287 GND GND 288 289 ST_RX#0 C10000P25X2 C505 ST_RX#0 290 291 HT+1 HT+2 292 293 HT-1 HT-2 294 295 GND GND 296 297 ST_RX#0 C10000P25X2 C505 ST_RX#0 298 299 HT+1 HT+2 300 301 HT-1 HT-2 302 303 GND GND 304 305 ST_RX#0 C10000P25X2 C505 ST_RX#0 306 307 HT+1 HT+2 308 309 HT-1 HT-2 310 311 GND GND 312 313 ST_RX#0 C10000P25X2 C505 ST_RX#0 314 315 HT+1 HT+2 316 317 HT-1 HT-2 318 319 GND GND 320 321 ST_RX#0 C10000P25X2 C505 ST_RX#0 322 323 HT+1 HT+2 324 325 HT-1 HT-2 326 327 GND GND 328 329 ST_RX#0 C10000P25X2 C505 ST_RX#0 330 331 HT+1 HT+2 332 333 HT-1 HT-2 334 335 GND GND 336 337 ST_RX#0 C10000P25X2 C505 ST_RX#0 338 339 HT+1 HT+2 340 341 HT-1 HT-2 342 343 GND GND 344 345 ST_RX#0 C10000P25X2 C505 ST_RX#0 346 347 HT+1 HT+2 348 349 HT-1 HT-2 350 351 GND GND 352 353 ST_RX#0 C10000P25X2 C505 ST_RX#0 354 355 HT+1 HT+2 356 357 HT-1 HT-2 358 359 GND GND 360 361 ST_RX#0 C10000P25X2 C505 ST_RX#0 362 363 HT+1 HT+2 364 365 HT-1 HT-2 366 367 GND GND 368 369 ST_RX#0 C10000P25X2 C505 ST_RX#0 370 371 HT+1 HT+2 372 373 HT-1 HT-2 374 375 GND GND 376 377 ST_RX#0 C10000P25X2 C505 ST_RX#0 378 379 HT+1 HT+2 380 381 HT-1 HT-2 382 383 GND GND 384 385 ST_RX#0 C10000P25X2 C505 ST_RX#0 386 387 HT+1 HT+2 388 389 HT-1 HT-2 390 391 GND GND 392 393 ST_RX#0 C10000P25X2 C505 ST_RX#0 394 395 HT+1 HT+2 396 397 HT-1 HT-2 398 399 GND GND 400 401 ST_RX#0 C10000P25X2 C505 ST_RX#0 402 403 HT+1 HT+2 404 405 HT-1 HT-2 406 407 GND GND 408 409 ST_RX#0 C10000P25X2 C505 ST_RX#0 410 411 HT+1 HT+2 412 413 HT-1 HT-2 414 415 GND GND 416 417 ST_RX#0 C10000P25X2 C505 ST_RX#0 418 419 HT+1 HT+2 420 421 HT-1 HT-2 422 423 GND GND 424 425 ST_RX#0 C10000P25X2 C505 ST_RX#0 426 427 HT+1 HT+2 428 429 HT-1 HT-2 430 431 GND GND 432 433 ST_RX#0 C10000P25X2 C505 ST_RX#0 434 435 HT+1 HT+2 436 437 HT-1 HT-2 438 439 GND GND 44

[illegible]

SATA 1- 6 PORT

SATA1_3

12 SATA_TX0<< SATA_TX0 C10000P25X2 C434 ST_TX0 1 8 GND GND 9 12 SATA_TX#0<< SATA_TX#0 C10000P25X2 C442 ST_TX#0 2 10 HT+1 HT+2 3 11 HT-1 HT-2 4 12 GND GND 5 13 HR-1 HR-2 6 14 HR+1 HR+2 7 15 MEC1MEC2 16 X

SATA2_4

12 SATA_TX1<< SATA_TX1 C10000P25X2 C523 ST_TX1 1 8 GND GND 9 12 SATA_TX#1<< SATA_TX#1 C10000P25X2 C532 ST_TX#1 2 10 HT+1 HT+2 3 11 HT-1 HT-2 4 12 GND GND 5 13 HR-1 HR-2 6 14 HR+1 HR+2 7 15 MEC1MEC2 16 X

SATA5_6

12 SATA_TX4<< SATA_TX4 C10000P25X2 C587 ST_TX4 1 8 GND GND 9 12 SATA_TX#4<< SATA_TX#4 C10000P25X2 C590 ST_TX#4 2 10 HT+1 HT+2 3 11 HT-1 HT-2 4 12 GND GND 5 13 HR-1 HR-2 6 14 HR+1 HR+2 7 15 MEC1MEC2 16 X

FAN-CONTROL CIRCUIT

17 SIO_CPU_FAN 12,17 CPU_FANTAC R46 27KR/4 R47 10KR/2 R45 4.7K/4 D1 1N4148S C10000P25X2 SATA_TX2 C456 C10000P25X2 SATA_TX#2 C468 C10000P25X2 SATA_RX2 C484 C10000P25X2 SATA_RX#2 C489 C10000P25X2 SATA_TX3 C455 C10000P25X2 SATA_TX#3 C468 C10000P25X2 SATA_RX3 C554 C10000P25X2 SATA_TX4 C587 C10000P25X2 SATA_TX#4 C590 C10000P25X2 SATA_RX4 C611 C10000P25X2 SATA_TX5 C598 C10000P25X2 SATA_TX#5 C602 C10000P25X2 SATA_RX5 C607 C10000P25X2 SATA_TX#6 C611 C10000P25X2 SATA_RX#6 C611 C10000P25X2 SATA_TX#7 C611 C10000P25X2 SATA_RX#7 C611 C10000P25X2 SATA_TX#8 C611 C10000P25X2 SATA_RX#8 C611 C10000P25X2 SATA_TX#9 C611 C10000P25X2 SATA_RX#9 C611 C10000P25X2 SATA_TX#10 C611 C10000P25X2 SATA_RX#10 C611 C10000P25X2 SATA_TX#11 C611 C10000P25X2 SATA_RX#11 C611 C10000P25X2 SATA_TX#12 C611 C10000P25X2 SATA_RX#12 C611 C10000P25X2 SATA_TX#13 C611 C10000P25X2 SATA_RX#13 C611 C10000P25X2 SATA_TX#14 C611 C10000P25X2 SATA_RX#14 C611 C10000P25X2 SATA_TX#15 C611 C10000P25X2 SATA_RX#15 C611 C10000P25X2 SATA_TX#16 C611 C10000P25X2 SATA_RX#16 C611 C10000P25X2 SATA_TX#17 C611 C10000P25X2 SATA_RX#17 C611 C10000P25X2 SATA_TX#18 C611 C10000P25X2 SATA_RX#18 C611 C10000P25X2 SATA_TX#19 C611 C10000P25X2 SATA_RX#19 C611 C10000P25X2 SATA_TX#20 C611 C10000P25X2 SATA_RX#20 C611 C10000P25X2 SATA_TX#21 C611 C10000P25X2 SATA_RX#21 C611 C10000P25X2 SATA_TX#22 C611 C10000P25X2 SATA_RX#22 C611 C10000P25X2 SATA_TX#23 C611 C10000P25X2 SATA_RX#23 C611 C10000P25X2 SATA_TX#24 C611 C10000P25X2 SATA_RX#24 C611 C10000P25X2 SATA_TX#25 C611 C10000P25X2 SATA_RX#25 C611 C10000P25X2 SATA_TX#26 C611 C10000P25X2 SATA_RX#26 C611 C10000P25X2 SATA_TX#27 C611 C10000P25X2 SATA_RX#27 C611 C10000P25X2 SATA_TX#28 C611 C10000P25X2 SATA_RX#28 C611 C10000P25X2 SATA_TX#29 C611 C10000P25X2 SATA_RX#29 C611 C10000P25X2 SATA_TX#30 C611 C10000P25X2 SATA_RX#30 C611 C10000P25X2 SATA_TX#31 C611 C10000P25X2 SATA_RX#31 C611 C10000P25X2 SATA_TX#32 C611 C10000P25X2 SATA_RX#32 C611 C10000P25X2 SATA_TX#33 C611 C10000P25X2 SATA_RX#33 C611 C10000P25X2 SATA_TX#34 C611 C10000P25X2 SATA_RX#34 C611 C10000P25X2 SATA_TX#35 C611 C10000P25X2 SATA_RX#35 C611 C10000P25X2 SATA_TX#36 C611 C10000P25X2 SATA_RX#36 C611 C10000P25X2 SATA_TX#37 C611 C10000P25X2 SATA_RX#37 C611 C10000P25X2 SATA_TX#38 C611 C10000P25X2 SATA_RX#38 C611 C10000P25X2 SATA_TX#39 C611 C10000P25X2 SATA_RX#39 C611 C10000P25X2 SATA_TX#40 C611 C10000P25X2 SATA_RX#40 C611 C10000P25X2 SATA_TX#41 C611 C10000P25X2 SATA_RX#41 C611 C10000P25X2 SATA_TX#42 C611 C10000P25X2 SATA_RX#42 C611 C10000P25X2 SATA_TX#43 C611 C10000P25X2 SATA_RX#43 C611 C10000P25X2 SATA_TX#44 C611 C10000P25X2 SATA_RX#44 C611 C10000P25X2 SATA_TX#45 C611 C10000P25X2 SATA_RX#45 C611 C10000P25X2 SATA_TX#46 C611 C10000P25X2 SATA_RX#46 C611 C10000P25X2 SATA_TX#47 C611 C10000P25X2 SATA_RX#47 C611 C10000P25X2 SATA_TX#48 C611 C10000P25X2 SATA_RX#48 C611 C10000P25X2 SATA_TX#49 C611 C10000P25X2 SATA_RX#49 C611 C10000P25X2 SATA_TX#50 C611 C10000P25X2 SATA_RX#50 C611 C10000P25X2 SATA_TX#51 C611 C10000P25X2 SATA_RX#51 C611 C10000P25X2 SATA_TX#52 C611 C10000P25X2 SATA_RX#52 C611 C10000P25X2 SATA_TX#53 C611 C10000P25X2 SATA_RX#53 C611 C10000P25X2 SATA_TX#54 C611 C10000P25X2 SATA_RX#54 C611 C10000P25X2 SATA_TX#55 C611 C10000P25X2 SATA_RX#55 C611 C10000P25X2 SATA_TX#56 C611 C10000P25X2 SATA_RX#56 C611 C10000P25X2 SATA_TX#57 C611 C10000P25X2 SATA_RX#57 C611 C10000P25X2 SATA_TX#58 C611 C10000P25X2 SATA_RX#58 C611 C10000P25X2 SATA_TX#59 C611 C10000P25X2 SATA_RX#59 C611 C10000P25X2 SATA_TX#60 C611 C10000P25X2 SATA_RX#60 C611 C10000P25X2 SATA_TX#61 C611 C10000P25X2 SATA_RX#61 C611 C10000P25X2 SATA_TX#62 C611 C10000P25X2 SATA_RX#62 C611 C10000P25X2 SATA_TX#63 C611 C10000P25X2 SATA_RX#63 C611 C10000P25X2 SATA_TX

SATA 1- 6 PORT

SATA1_3

12 SATA_TX0<< SATA_TX0 C10000P25X2 C434 ST_TX0 1 8 GND GND 9 10 HT+1 HT+2 11 12 HT-1 HT-2 13 14 GND GND 15 16 ST_TX#0 17 ST_TX#2 18 ST_TX#2 19 C10000P25X2 SATA_TX2 20 C10000P25X2 SATA_TX#2 21 >>SATA_TX#2 12

12 SATA_RX#0<< SATA_RX#0 C10000P25X2 C499 ST_RX#0 2 5 GND GND 6 7 ST_RX#2 8 C10000P25X2 SATA_RX#2 9 C10000P25X2 SATA_RX2 10 >>SATA_RX#2 12

12 SATA_RX0<< SATA_RX0 C10000P25X2 C505 ST_RX0 3 4 GND GND 5 6 ST_RX2 7 C10000P25X2 SATA_RX2 8 C10000P25X2 SATA_RX2 9 >>SATA_RX2 12

SATA14PM_PURPLE-RH

SATA2_4

12 SATA_TX1<< SATA_TX1 C10000P25X2 C523 ST_TX1 1 8 GND GND 9 10 HT+1 HT+2 11 12 HT-1 HT-2 13 14 GND GND 15 16 ST_TX#1 17 ST_TX#3 18 ST_TX#3 19 C10000P25X2 SATA_TX3 20 C10000P25X2 SATA_TX#3 21 >>SATA_TX3 12

12 SATA_TX#1<< SATA_TX#1 C10000P25X2 C532 ST_TX#1 2 5 GND GND 6 7 ST_TX#3 8 C10000P25X2 SATA_TX#3 9 C10000P25X2 SATA_TX3 10 >>SATA_TX#3 12

12 SATA_RX#1<< SATA_RX#1 C10000P25X2 C566 ST_RX#1 3 4 GND GND 5 6 ST_RX#3 7 C10000P25X2 SATA_RX#3 8 C10000P25X2 SATA_RX3 9 >>SATA_RX#3 12

12 SATA_RX1<< SATA_RX1 C10000P25X2 C569 ST_RX1 4 5 GND GND 6 7 ST_RX3 8 C10000P25X2 SATA_RX3 9 C10000P25X2 SATA_RX3 10 >>SATA_RX3 12

SATA14PM_PURPLE-RH

SATA5_6

12 SATA_TX4<< SATA_TX4 C10000P25X2 C587 ST_TX4 1 8 GND GND 9 10 HT+1 HT+2 11 12 HT-1 HT-2 13 14 GND GND 15 16 ST_TX#4 17 ST_TX#5 18 ST_TX#5 19 C10000P25X2 SATA_TX5 20 C10000P25X2 SATA_TX#5 21 >>SATA_TX5 12

12 SATA_TX#4<< SATA_TX#4 C10000P25X2 C590 ST_TX#4 2 5 GND GND 6 7 ST_TX#5 8 C10000P25X2 SATA_TX#5 9 C10000P25X2 SATA_TX5 10 >>SATA_TX#4 12

12 SATA_RX#4<< SATA_RX#4 C10000P25X2 C618 ST_RX#4 3 4 GND GND 5 6 ST_RX#5 7 C10000P25X2 SATA_RX#5 8 C10000P25X2 SATA_RX5 9 >>SATA_RX#4 12

12 SATA_RX4<< SATA_RX4 C10000P25X2 C622 ST_RX4 4 5 GND GND 6 7 ST_RX5 8 C10000P25X2 SATA_RX5 9 C10000P25X2 SATA_RX5 10 >>SATA_RX4 12

SATA14PM_PURPLE-RH

FAN-CONTROL CIRCUIT

CPU FAN

17 SIO_CPU_FAN<< 12,17 CPU_FANTAC<< R65 2.2K/2 R45 4.7K/4 D1 1N4148S CPUFAN1 4 3 2 1 BH1X48F EC1 CD100u16EL5-RH

SYSTEM FAN

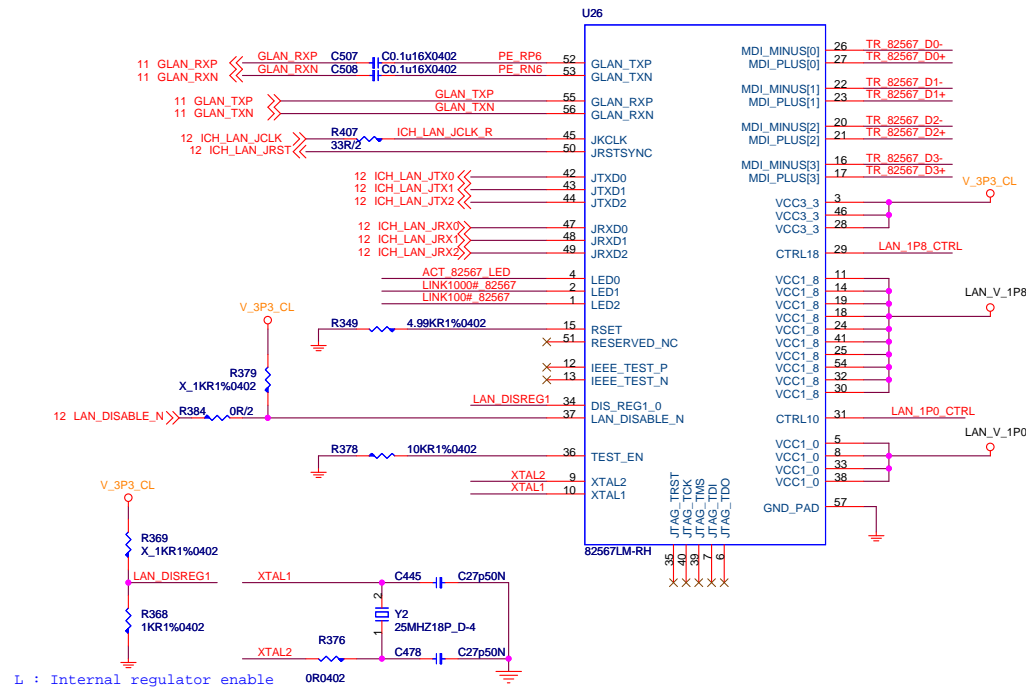
12,17 SYS1_FANTAC<< R579 4.7K/4 D24 1N4148S SYSFAN1 3 2 1 FAN1X3 R578 27K/4 R571 10K/2 EC57 CD100u16EL5-RH

17 SIO_SYS1_FAN<< U33A LM358MX_SOIC8 Q80 P06P03LCG_SOT89 R568 3.9K/4 R569 10K/2

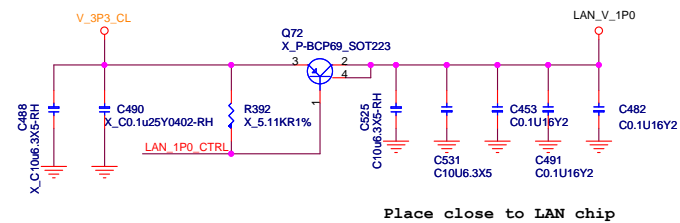
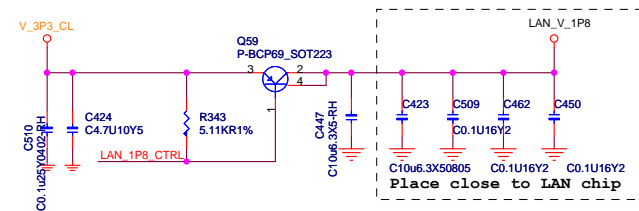
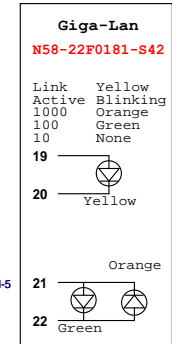
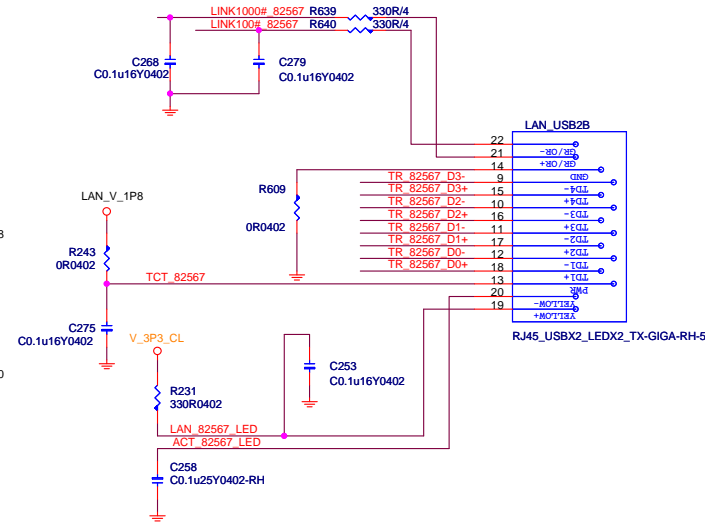
Size	Document Description	Rev
Custom	SATA & eSATA Ports and Fan Control	1.1

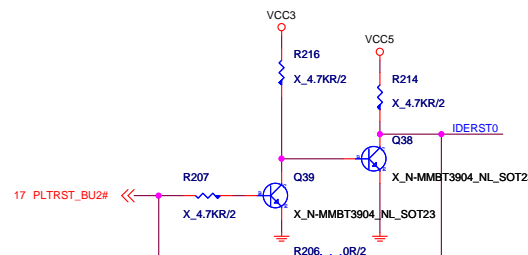
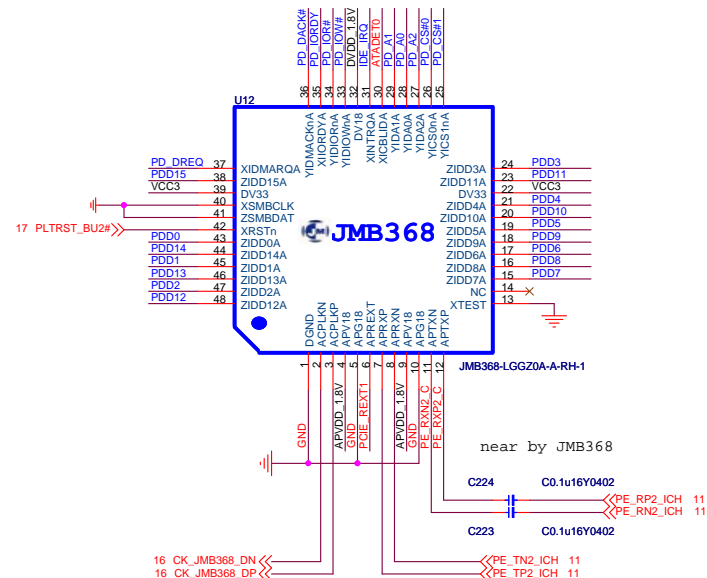
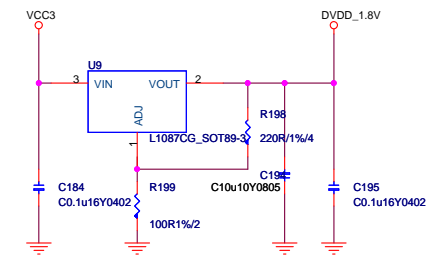
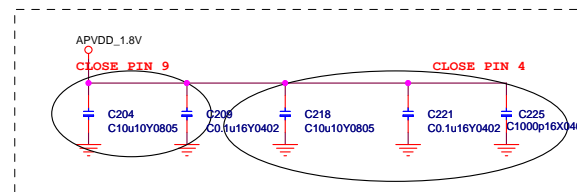
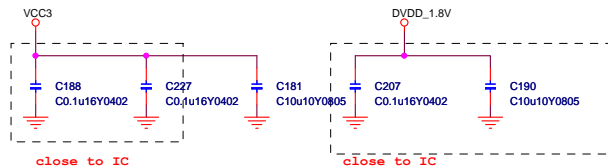
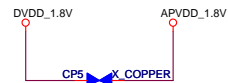
Date: Wednesday, December 03, 2008 Sheet 19 of 39

FOR V10 (NB:P45)
LAN_USB1B ==> N53-08M0171-K06

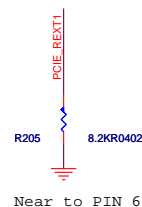
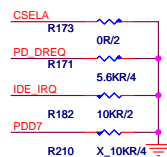
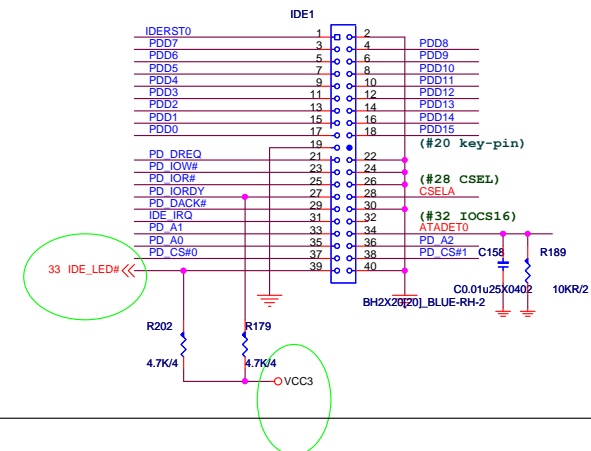


EMI Solution





IDE Connector



MICRO-START INT'L CO.,LTD.		
Title: JMB-363 e-SATA X2/IDE X1		
Size: Custom	Document Number: MS-7562	Rev: 1.1
Date: Monday, December 08, 2008	Sheet: 21	of 39

1394 CONTROLLER

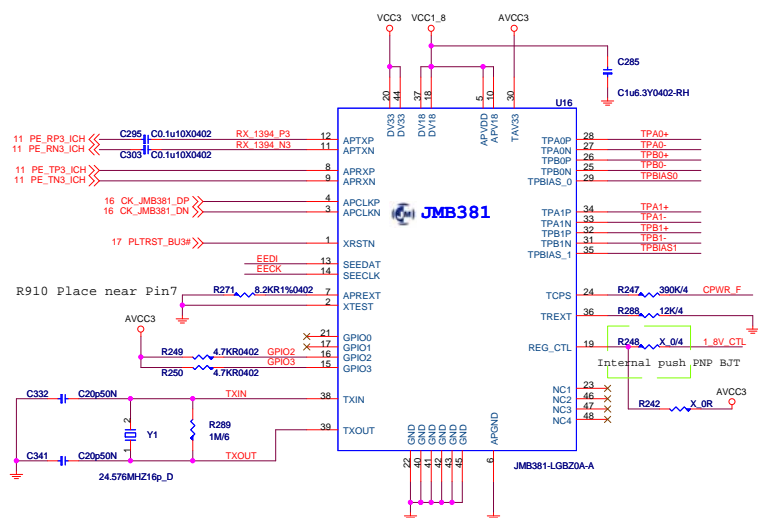
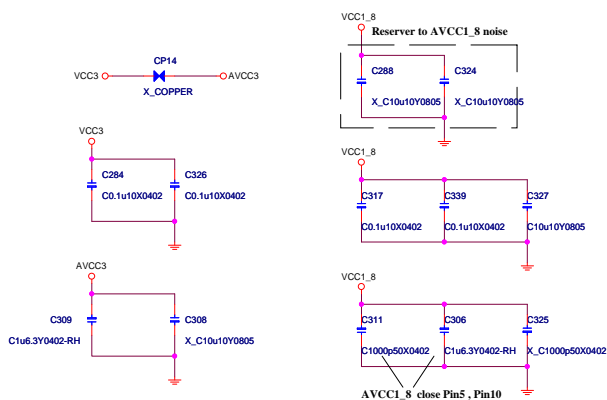
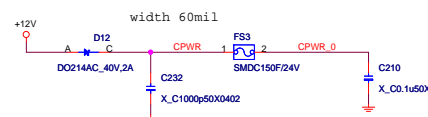
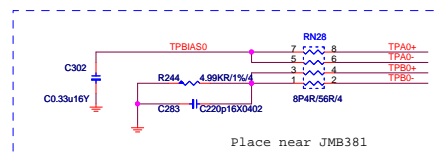
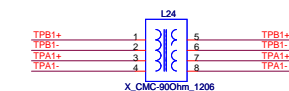
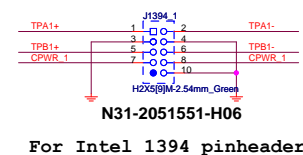
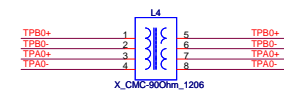
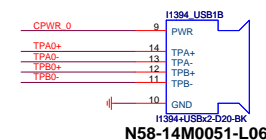
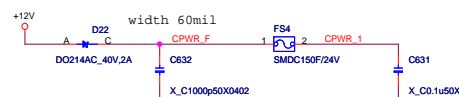
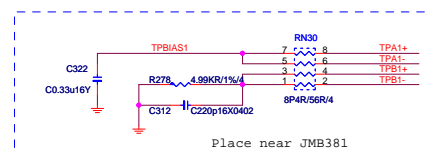


Table 5.1 JMB381 Operating Modes

	Normal	IDDQ	BIST/FL	Nandtree
XTEST	0	1	1	1
GPIO2	x	0	0	1
GPIO3	x	0	1	1

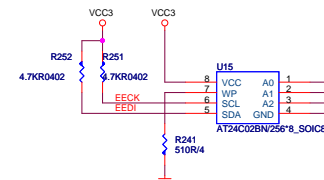
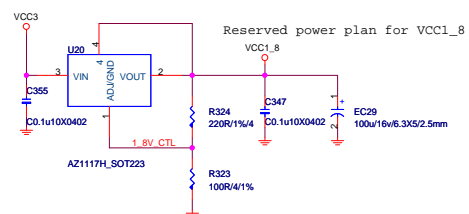
Rear 1394 port

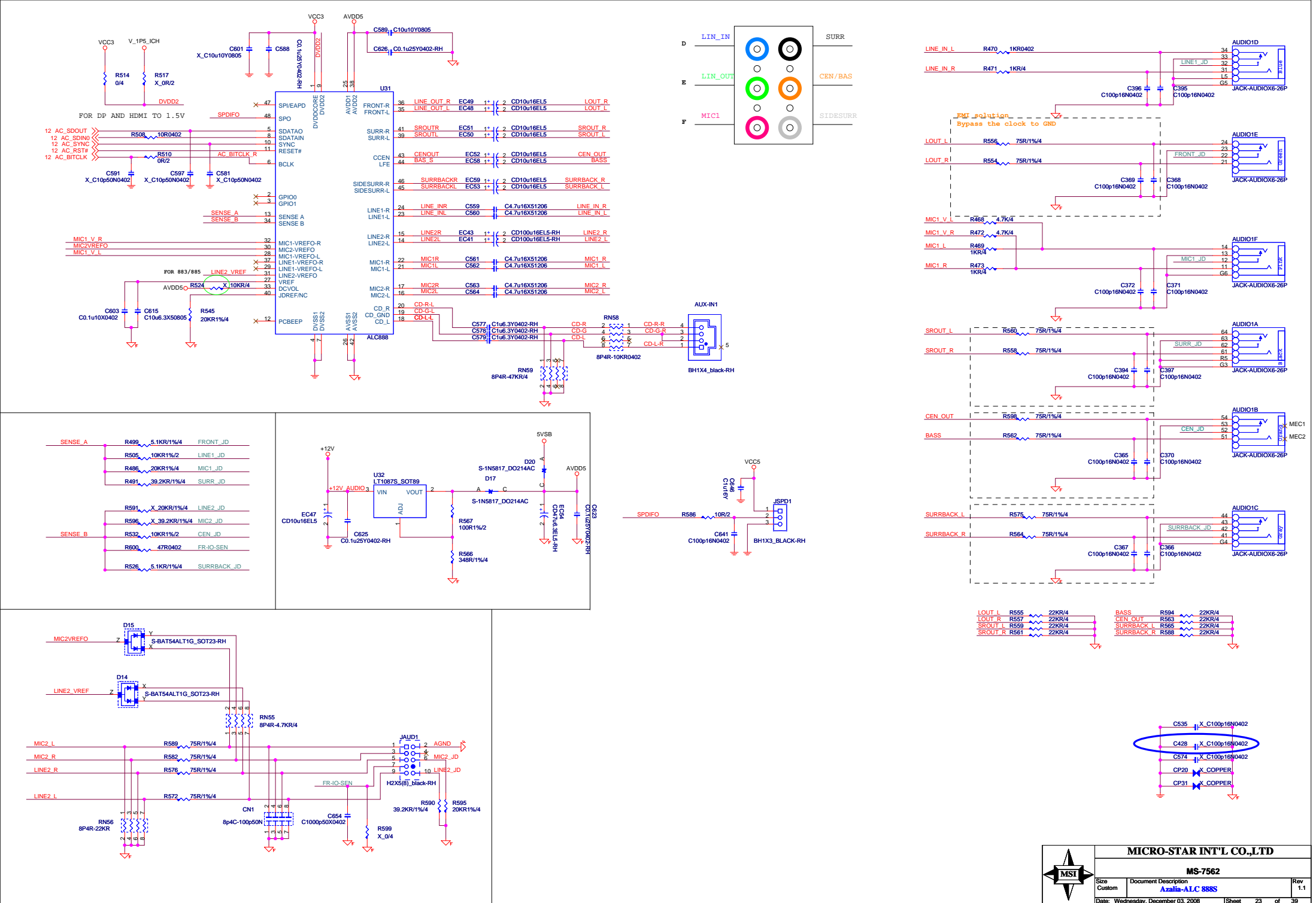
Front 1394 pin header



EMI request 11/28

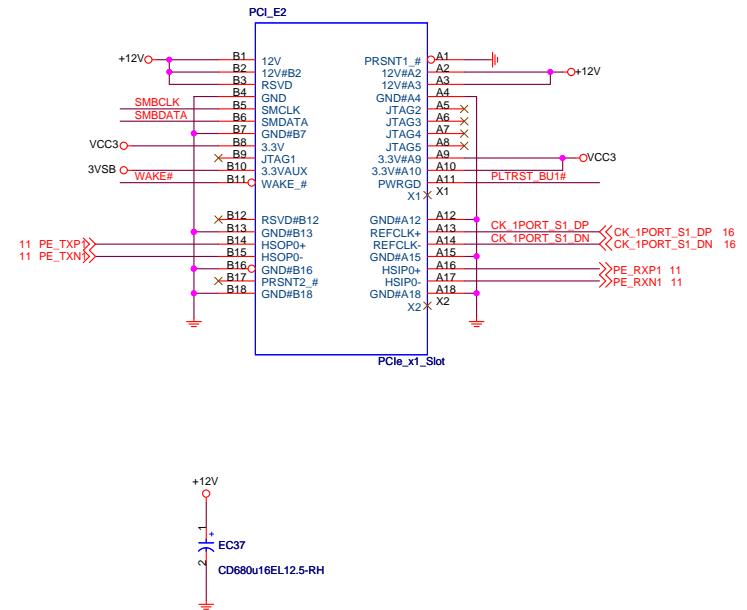
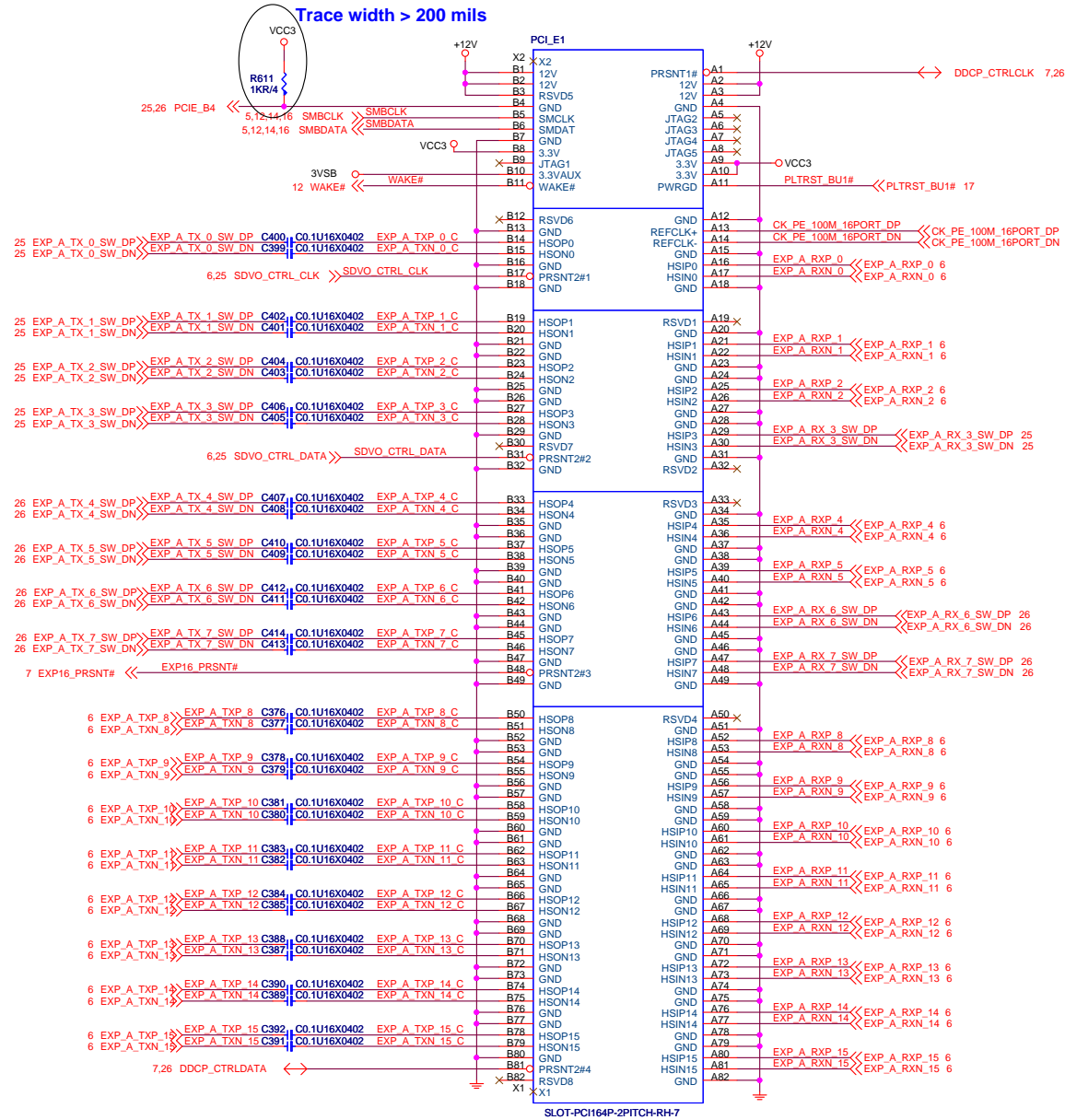
A1117 CO-LAY SOT223 (TO_261) PNP BJT





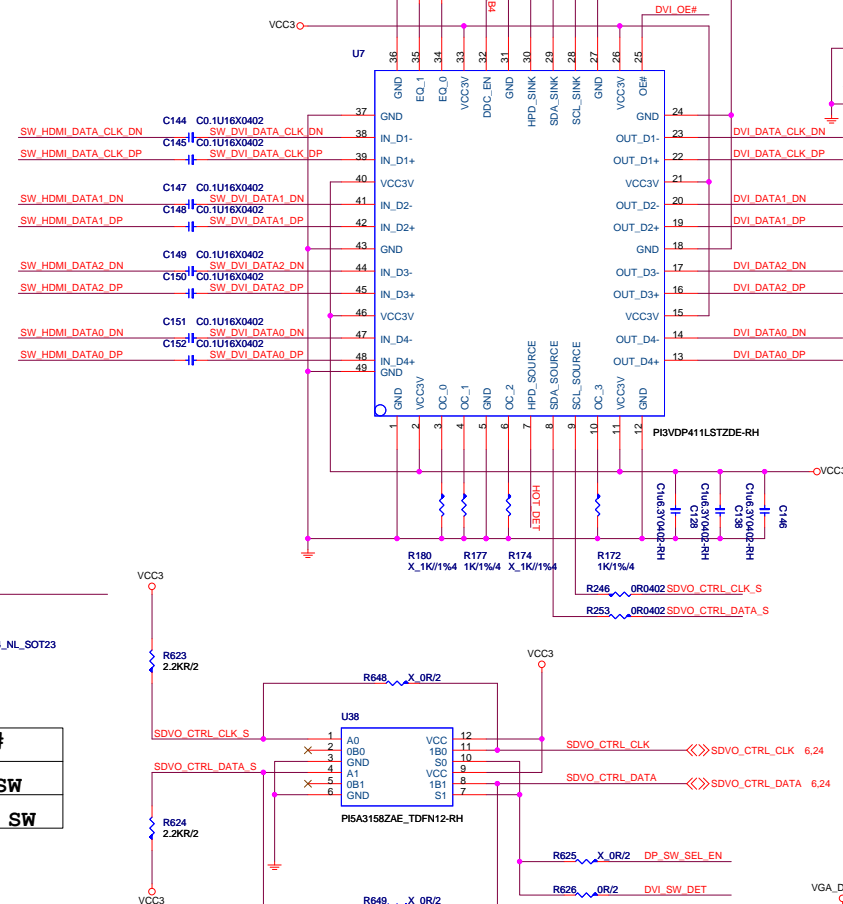
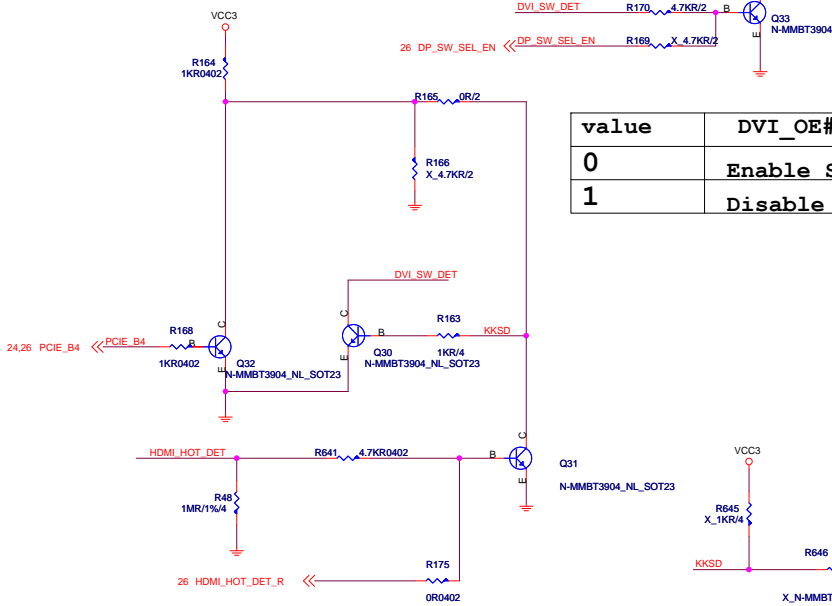
PCI Express X16 Slot

PCI Express X1 Slot



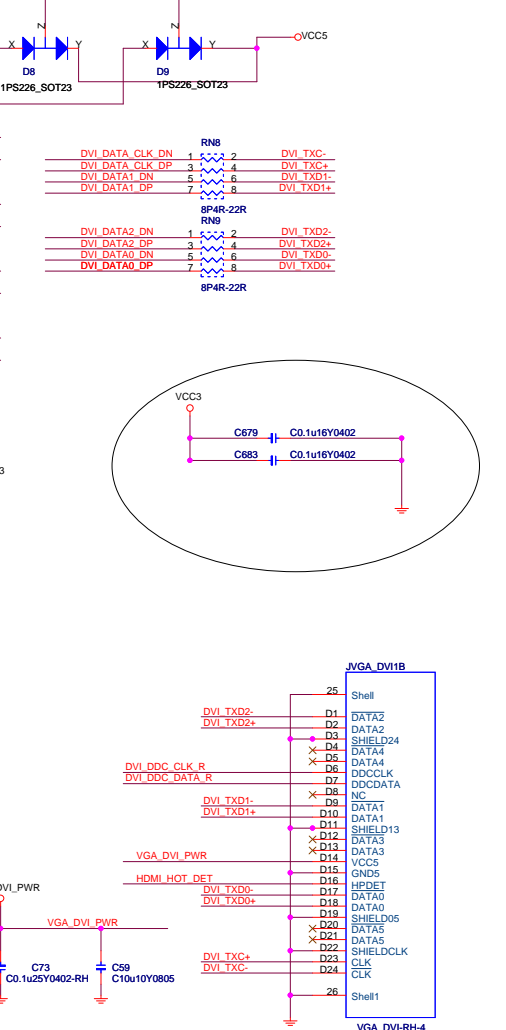
MICRO-STAR INT'L CO.,LTD			
MS-7562			
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Custom	PCIe x16, x1 & Bus Switch	1.1	
Date:	Monday, December 08, 2008	Sheet	24 of 39

(Share PCI_E x4 form PCI_E x16 Slots)



value	DVI_OE#
0	Enable SW
1	Disable SW

value (S1,S0)	Internal Link	DDC
0	AO==>0B0 A1==>0B1	N/A
1	AO==>1B0 A1==>1B1	DVI



Digital Switch SEL pin		SLI function	
SEL (DualX8_Enable)	Output	X8_SW	PCI-E_Slot 1/2
Low	B1	Low	X8 / X8
Hi	B2	Hi	X16

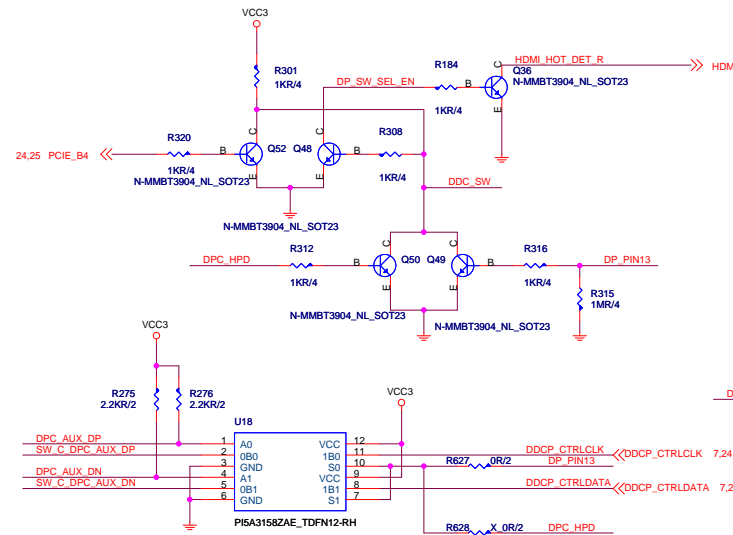
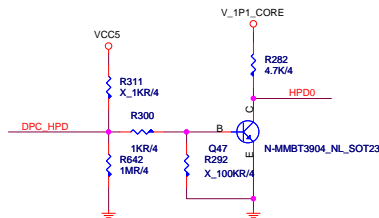
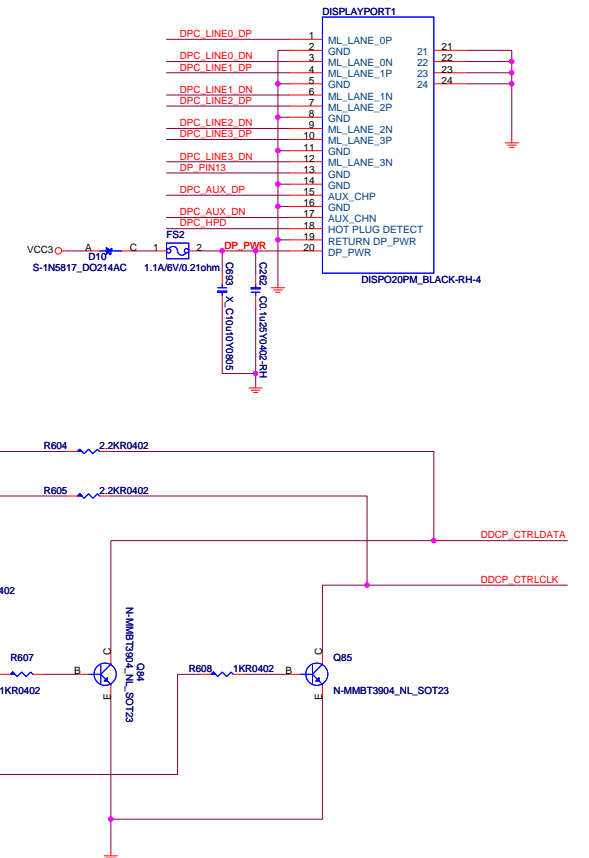
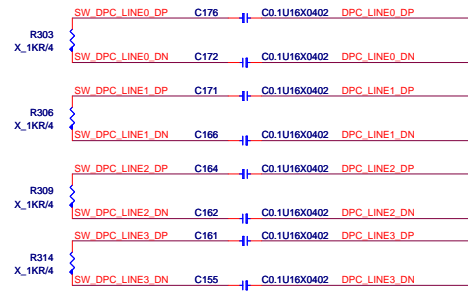


MICRO-STAR INT'L CO.,LTD

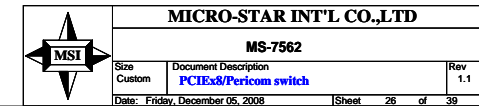
MS-7562

Size Custom	Document Description PCIEx8/Pericom switch	Rev 1.1
Date: Monday, December 08, 2008		Sheet 25 of 39

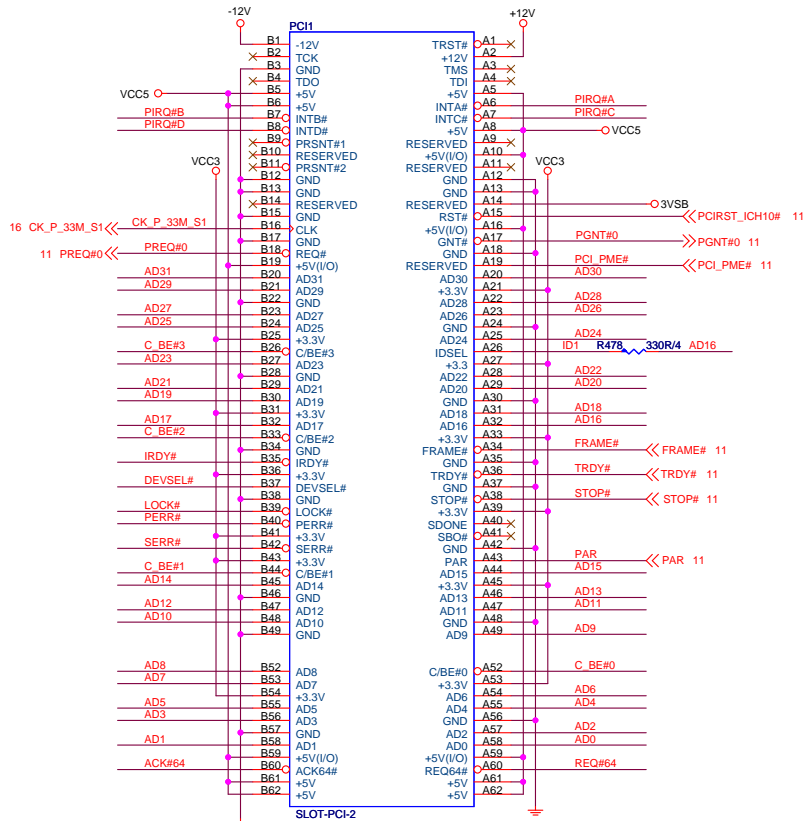
(Share PCI_E x4 form PCI_E x16 Slots)



value (S1,S0)	Internal Link	DDC
0	AO==>0B0 A1==>0B1	N/A
1	AO==>1B0 A1==>1B1	DP



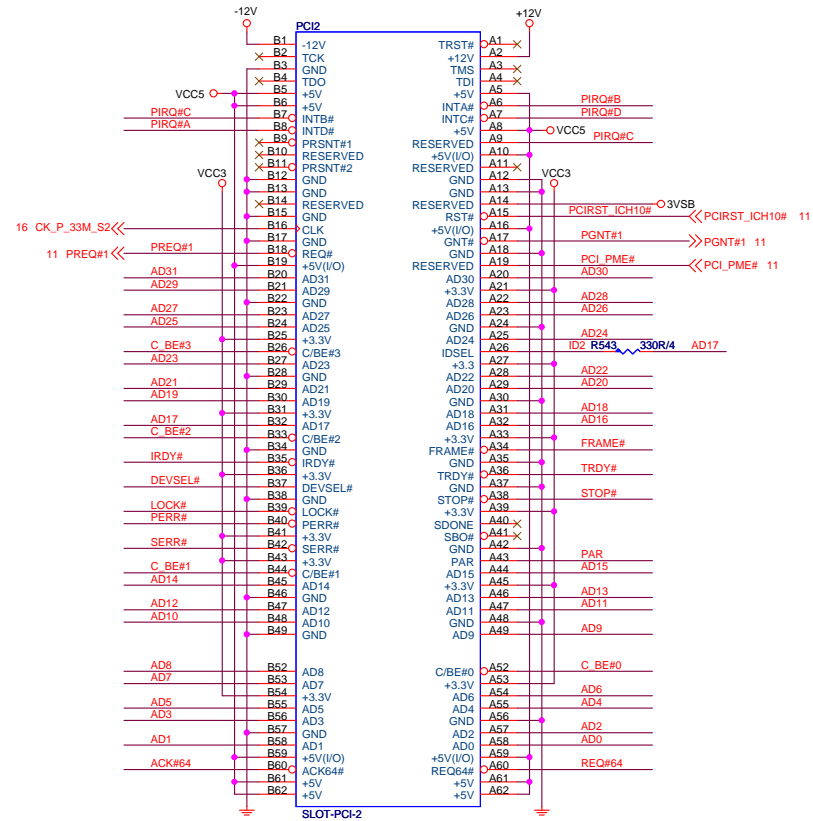
PCI SLOT 1 (PCI VER: 2.2 COMPLY)



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MASTER = PREQ#0
PIRQ#A

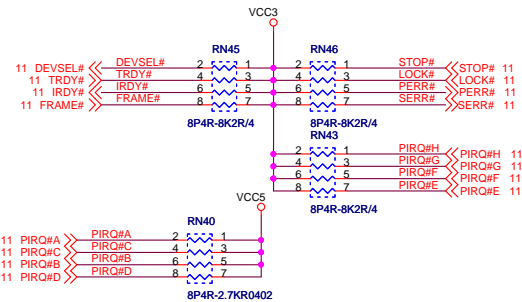
11 AD[31..0] << AD[31..0]
11 C_BE#[3..0] << C_BE#[3..0]

PCI SLOT 2 (PCI VER: 2.2 COMPLY)

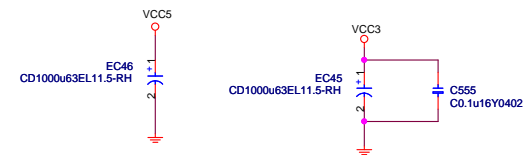


IDSEL = AD17
MASTER = PREQ#1
PIRQ#B

PCI PULL-UP / DOWN RESISTORS



PCI SLOT DECOUPLING CAPACITORS

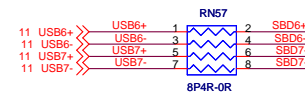
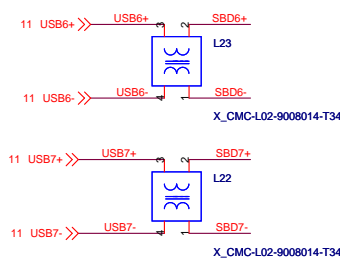
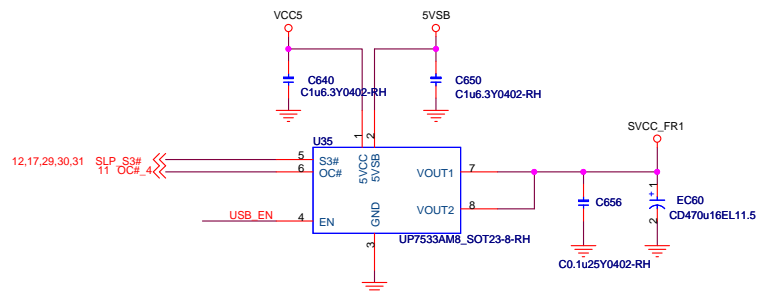


MICRO-STAR INT'L CO.,LTD

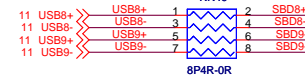
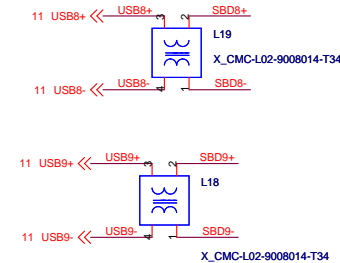
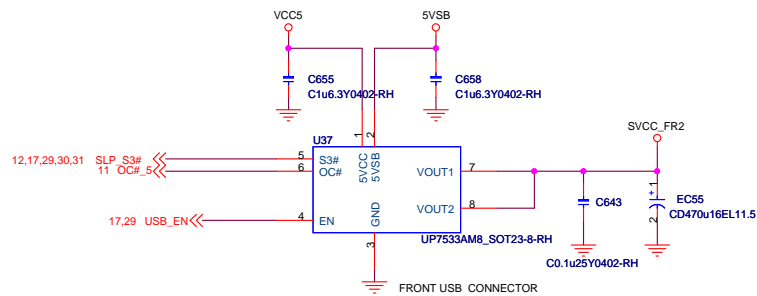
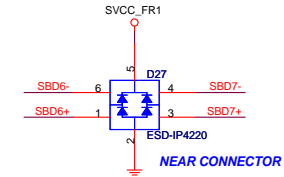
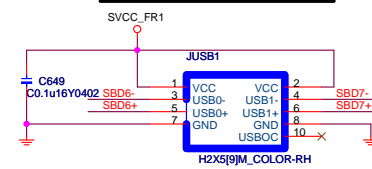
MS-7562

Size	Document Description	Rev
Custom	PCI Slot 1 & 2	1.1
Date: Monday, December 08, 2008	Sheet 27 of 39	

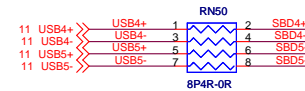
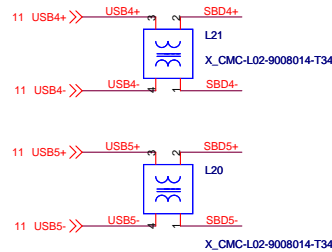
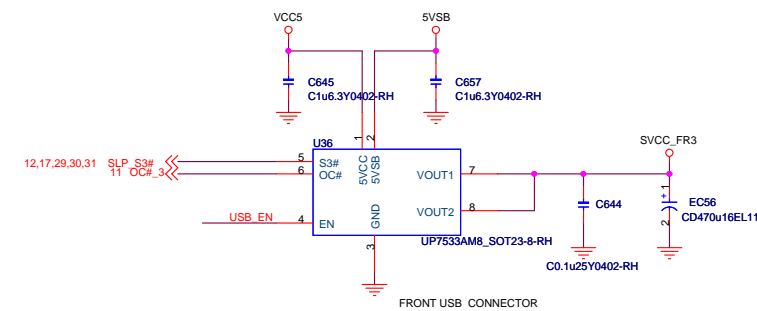
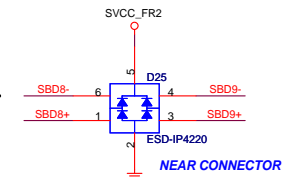
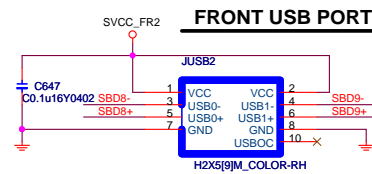
Front USB Connector



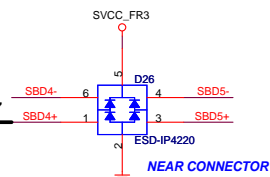
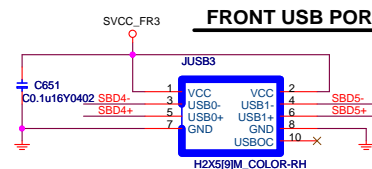
FRONT USB PORT2,3



FRONT USB PORT 8,9



FRONT USB PORT 6,7

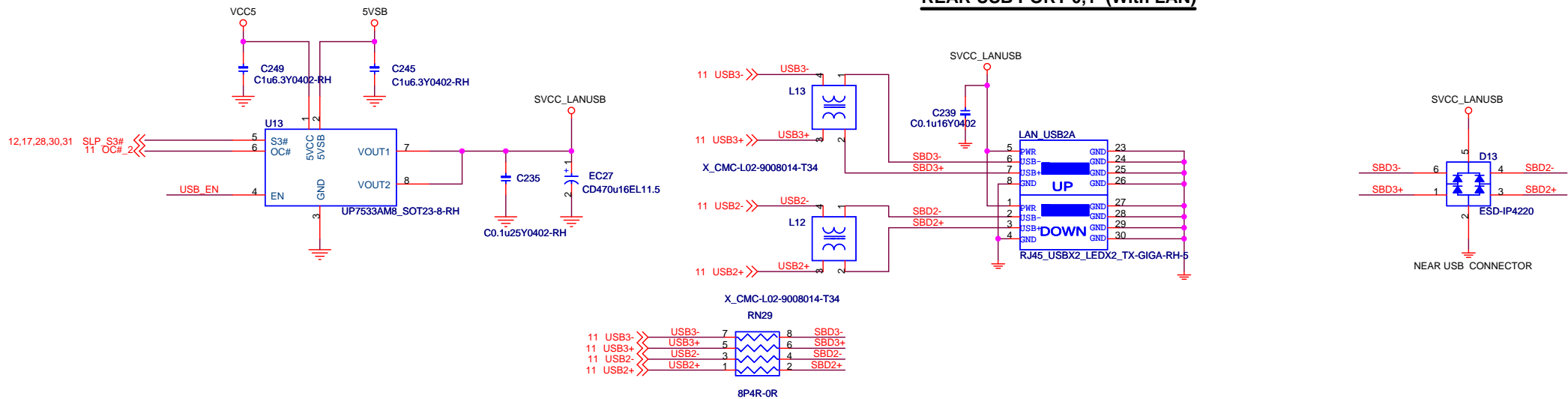
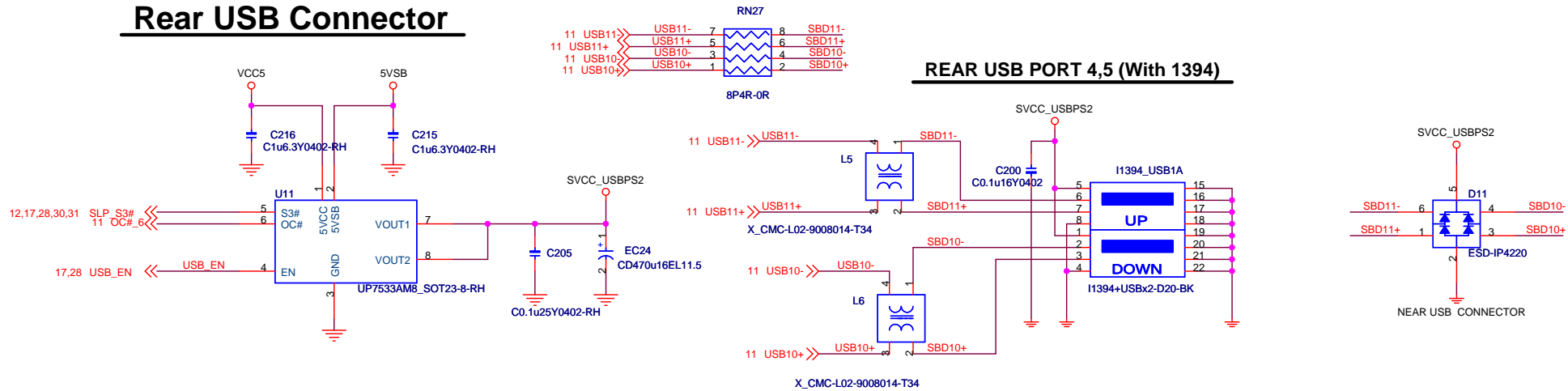



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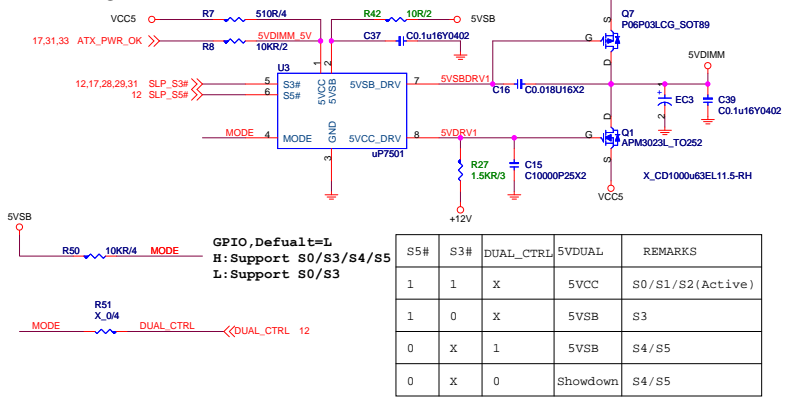
Size	Document Description	Rev
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Rear USB Connector

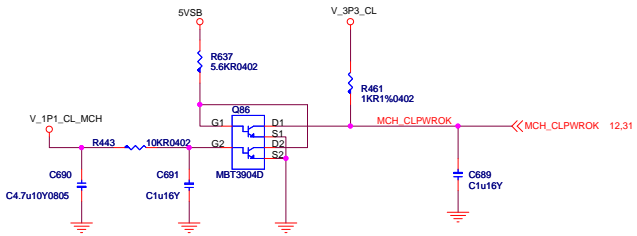


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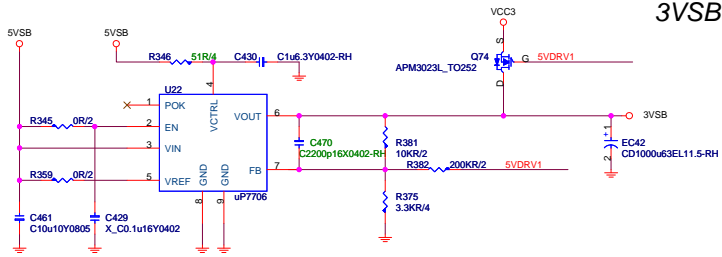
5VDIMM FOR DDR



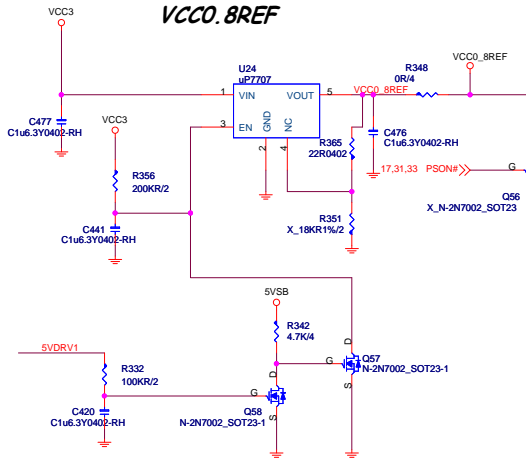
CL_PWROK



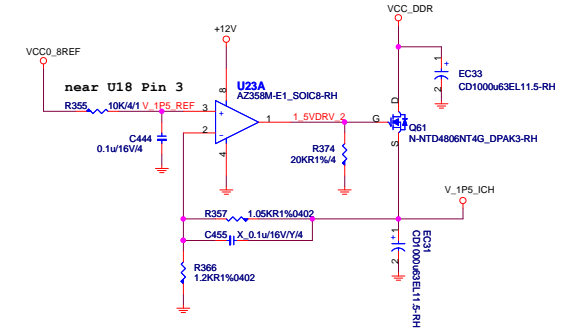
3VSB



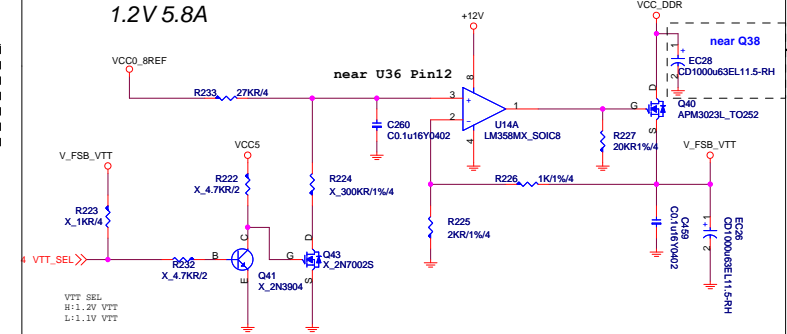
VCC0.8REF



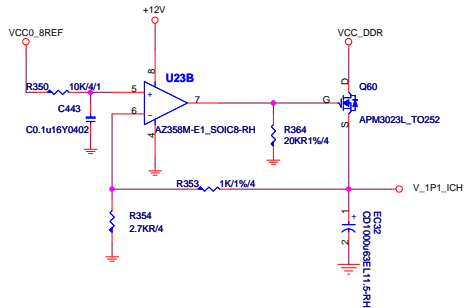
SB 1.5V 2.4A



1.2V 5.8A

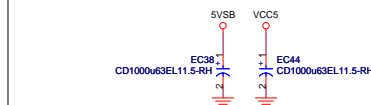


SB 1.1V 1.16A



For power 700W solution
The power supply VCC3 delay 12ms after VCC5 assert.
The chip U7501 5VDRV1 work when the VCC5 ready
(When VCC5 up to 4.2V and the 5VDRV1 delay 6ms assert), but
VCC3 not ready and let the 3VSB sequence fail.

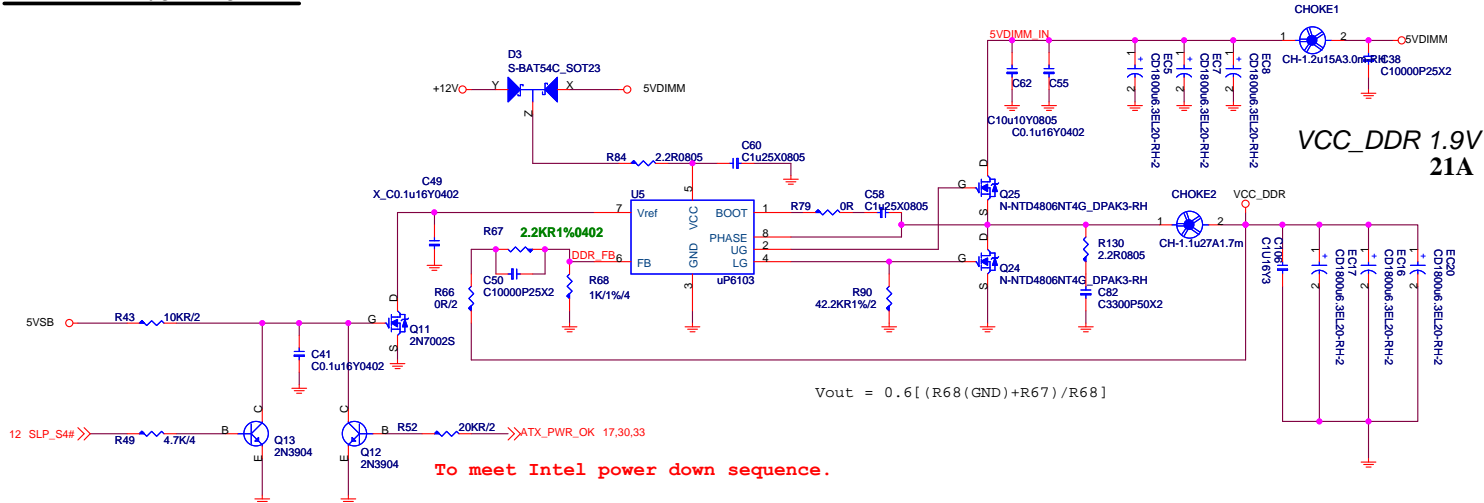
	S0	S3	S4	S5
DUAL_CTRL	X	X	0 1 1	0 1 1
5VSBDRV1	1	0	1 0 0	1 0 0
5VDRV1	1	0	0 0 0	0 0 0
5VSBDRV2	X	0	1 0 0	1 0 0
USB_MODE	X	1	X 1 0	X 1 0
5VDIMM	Y	Y	N Y Y	N Y Y
USB power	Y	Y	N Y N	N Y N



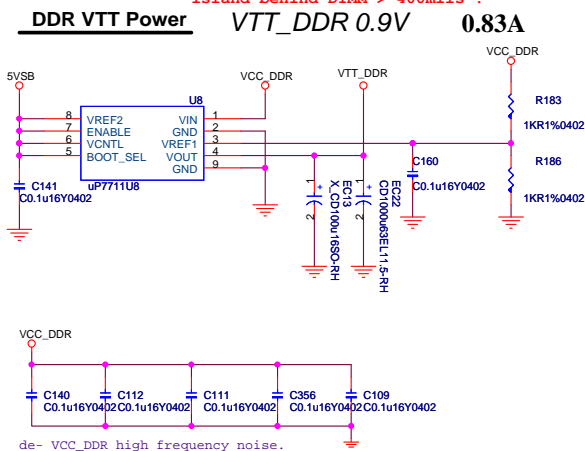
FIELD	OEM/ODM	CHANNEL
ADD	R26, R16, R30, R40, Q5	R6, R31
REMOVE	R6, R31	R26, R16, R30, R40, Q5
CHANGE	R5 => C5=0.1uF	C5=> R5=51Kohm

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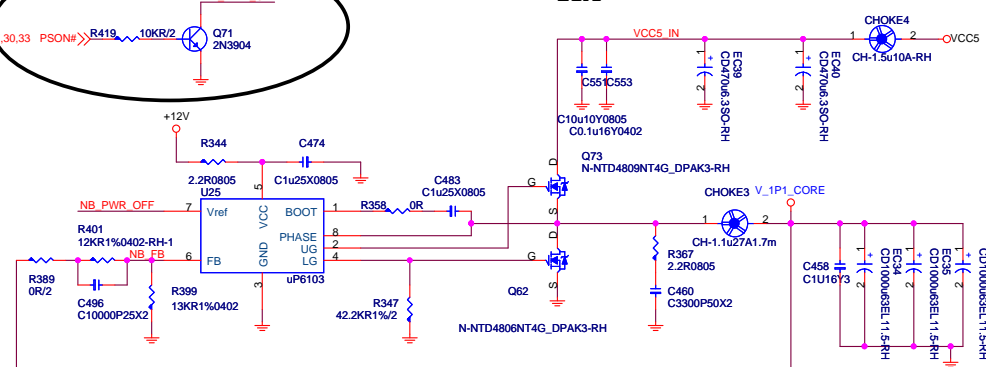
DDR II 1.9V POWER



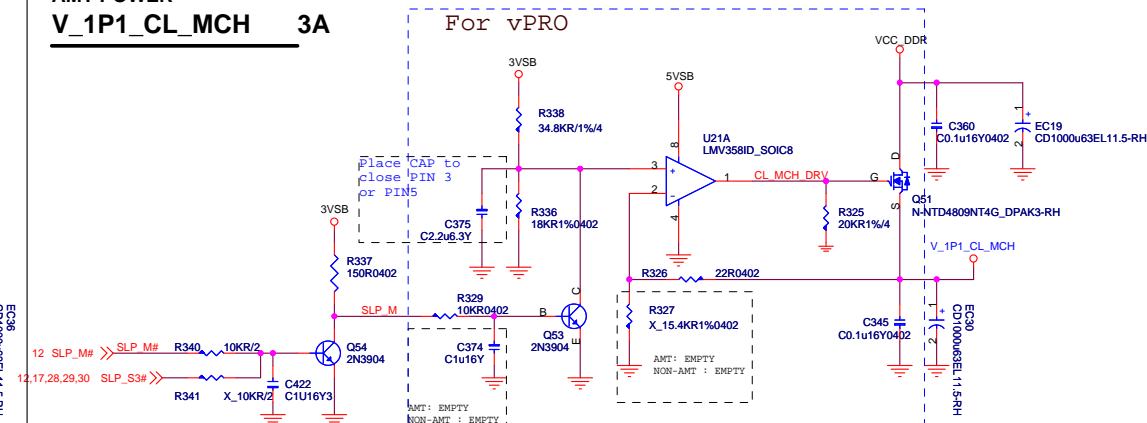
To CPU Copper trace width > 250mils, Fill island behind DIMM > 400mils.



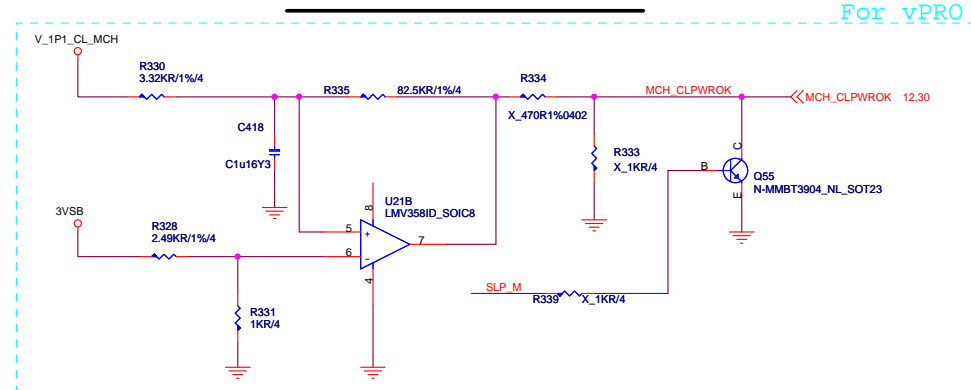
NB 1.1V POWER 21A



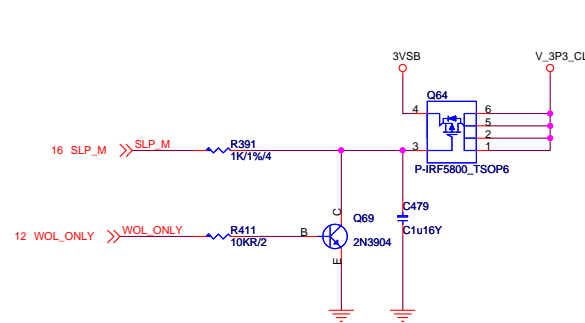
AMT POWER V_1P1_CL_MCH 3A



CLINK PWROK GENERATION For vPRO

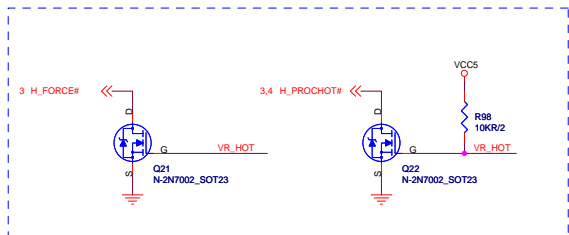
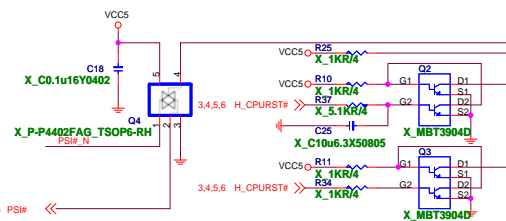
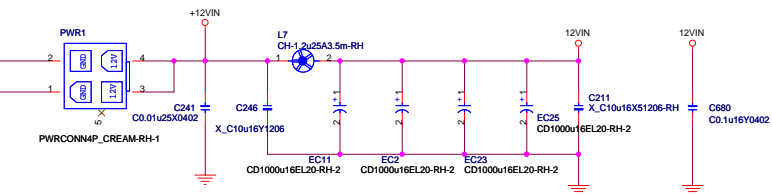
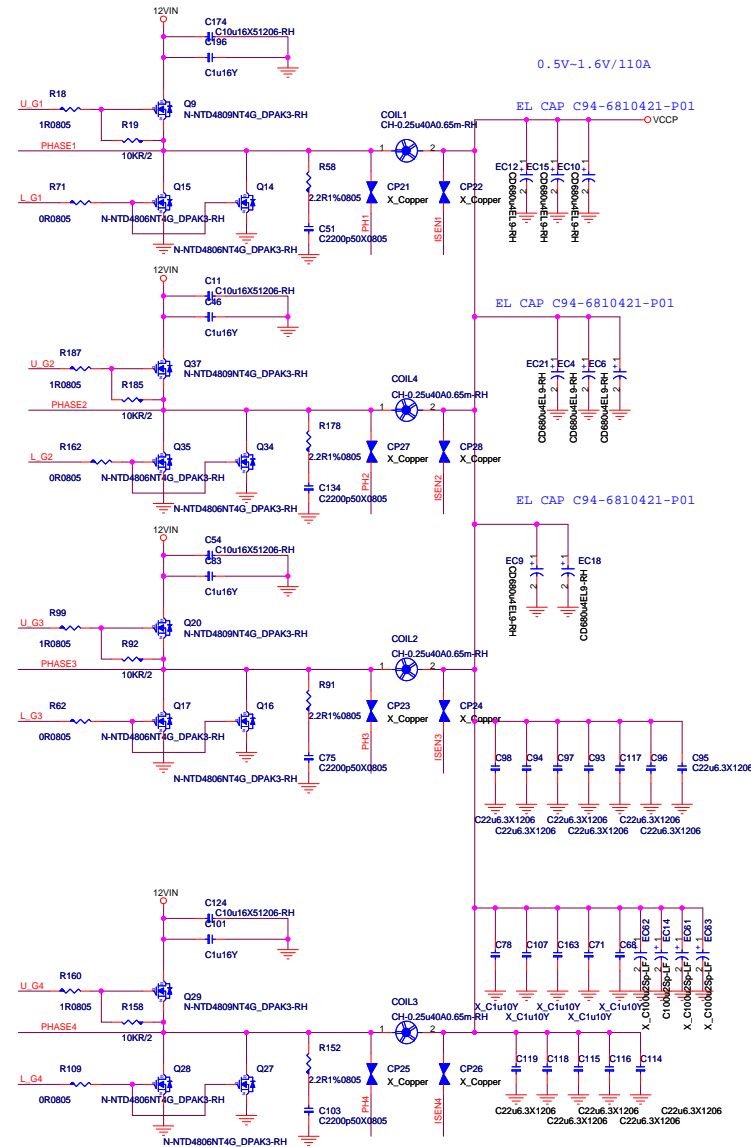
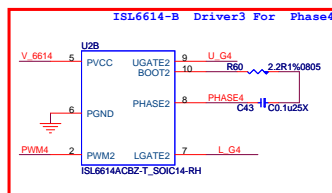
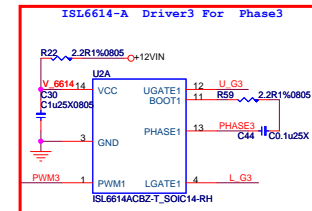
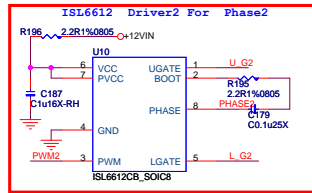
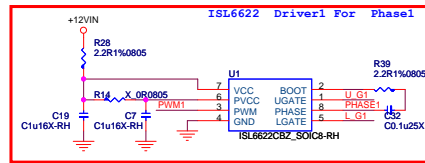
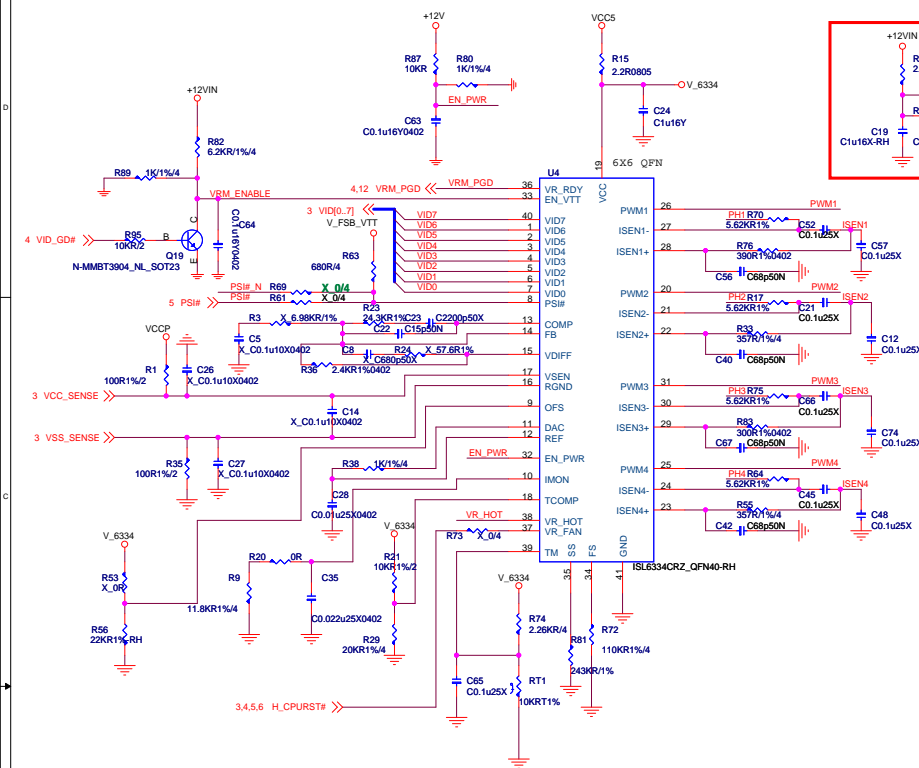


V_3P3_CL 711mA For vPRO

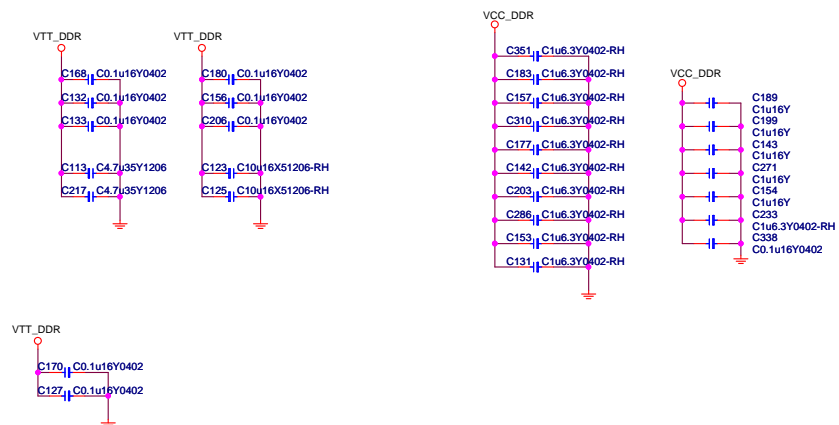
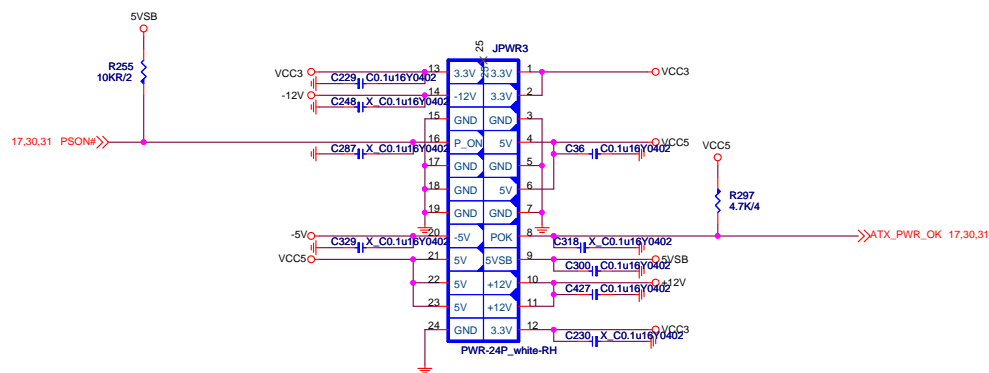


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Custom	NB Core Power & DDR Power	1.1	
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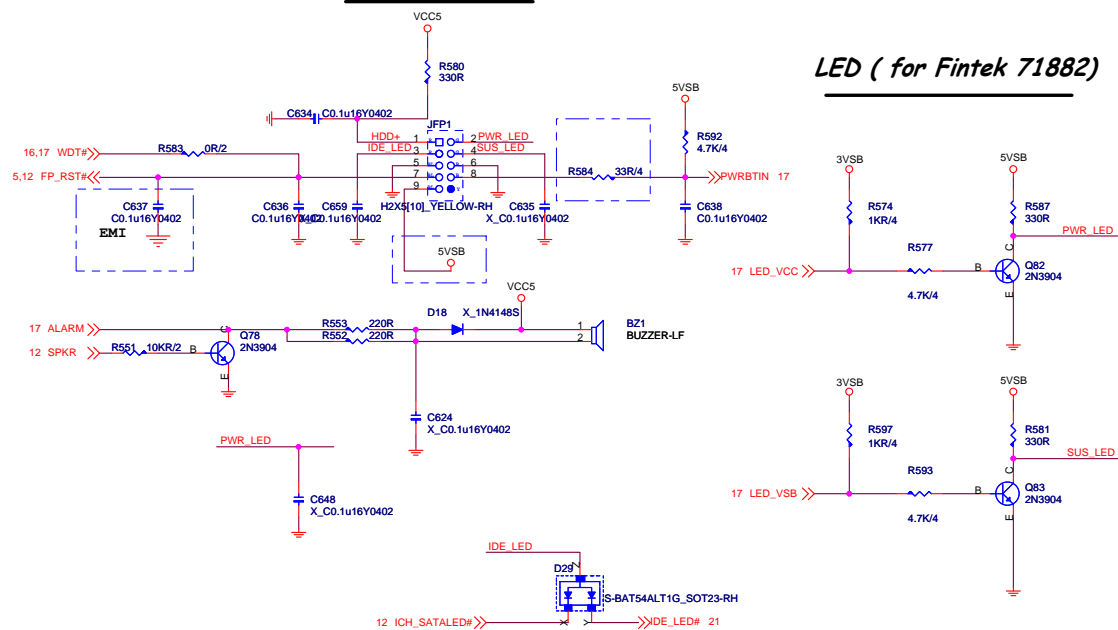
ISL6334 4Phase



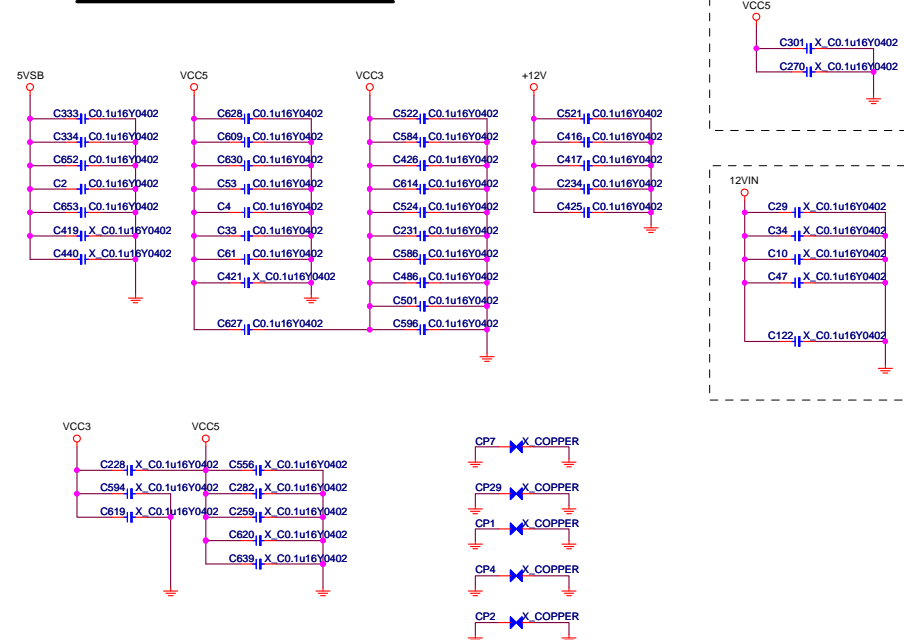
ATX POWER CONNECTOR



FRONT PANNEL



Cap. for EMI & Power



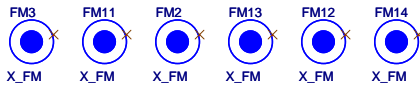
MICRO-STAR INT'L CO.,LTD

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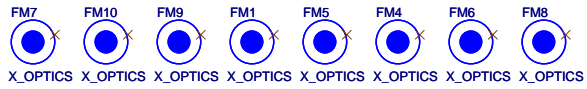
Size Custom	Document Description ATX PWR-Connector & Front Panel
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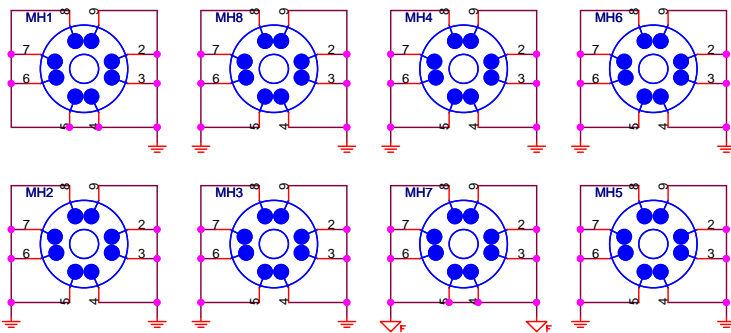
Optical Fiducial Marks-120



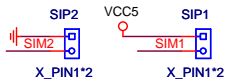
Optical Fiducial Marks-100



Mounting Holes



Simulation



JFP2(4-6)

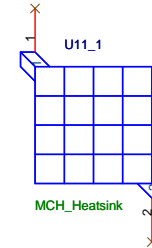
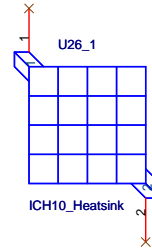


X_JUMPER-1X2A_green

BAT1_X



BATTERY-CR2032



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Size	Document Description	Rev
B	Manual Parts & Option Parts	1.1
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Ver.	Change List	Page
0B	1. VRM Modify	
	Change R12,16,26,32 =>6.98Kohm ,C16 =>15pF	30
	R22=>300ohm,R39=>2.49Kohm,R43=>20Kohm	
	Stuff EC3 EC9	
	2. Power team recommend	
	change C79=>10nF, EC31=>1000uF	
	replace Q32,34=>D03-0480600-O05	29
	change C328=>10nF,EC33,34 =>remove,EC37,39=>470uF,EC32,35,36=>820uF	
	ADD EC110 =>820uF	
	replace Q43=>D03-0903BDB-N03,Q42,73=>D03-75N022B-N03	29
	3. Add Q72,R362 NB power switch circuit turn off NB power	29
	4. follow demo circuit Add R870 Stuff for NON-Intel LAN	12
	5. For DVI stuff R717,R718,R719, change RN79,RN80 => 22R	24
	6. R133=>1.58K,R295=>10.7K for DDR, NB power margin	29
	7. For customer requests change R909,R910=> 0603	13
	8. Change R92=> 1k for chip_power_good level	28
	9. Improve V_1P5_ICH VR's MOS temperature	28
	remove R326,C383,R320,R608,C379,EC100.R374,Q47	
	stuff EC41	
	replace Q52 => D03-75N022B-N03 ,U18=> I71-LM35833-B28	
	10. VRM Modify Improve temperature	
	replace Q2,Q3,Q7,Q9,Q10,Q14,Q15,Q17=> D03-75N022B-N03	30
	11. Add EC33 for V_FSB_VTT	28
	12. For INTEL Design Review	
	Change C740 =>0.1u	08
	Add C980,C981,C982,C983 =>0.1u	
	for VREF_CA_A,VREF_CA_B,VREF_DQ_A,VREF_DQ_B	14,15
	Near SB ball U1 Add C984,C985 =>0.022u	13
	Near SB ball AC9 Add C986 =>0.1u	13
	For VccGLAN1_5 change C445=>4.7u/X5R ,C443=>2.2u/X5R	13
	For 5VREF ,5VREF_SUS change C571 ,C611=>1uF/X7R	13
	For VccRTC near the ball A22 C505 => 1uF/Y5V	13
	For V_1P05_VCCAUX Add C987=>0.1uF/X7R ,C561 => 1uF/Y5V	13
	For VCCA_EXP	
	remove L29 , Add R915=>1Ω ,L39 = 600 Ω (FB) ,C612=> 1uF	09
	For VCCA_DAC	
	Add L39 = 600 Ω (FB) , change R892 =>1Ω ,	09
	For VCCDQ_CRT	
	Add L40 = 600 Ω (FB) , change R702 =>1Ω ,C613=>1u	09
	C613 will be 1u for onbroad graphic	
	BOM Option will be 0 ohm for no onbroad graphic	
	For FSB_VTT require	
	Add C988 C989 C990=> 2.2uF	09
	For VCC_Core require backside caps 10uF x(3/4) and 1uF x(6/8)	09
	C300,C562,C767=> 10uF	
	change C307 C323 C382 C416 C884 C975 C977 C371 =>1u	
	VCC_Core require caps 22uF x3, 1uF x3 and 10uF x3	09
	Add C991,C992.C993 => 22uF Add C763 C765 C762 =>10uF	
	change C976 C302 C311 =>1uF	
	VCC_EXP require caps 2.2uF x3	09
	Add C994,C995.C996 => 22uF	
	VCCSM require caps 2.2uF x6	09
	change C262=2.2uF , ,Add C263,C264,C269,C268,C267 =>2.2uF	

Ver.	Change List	Page
0B	For SRTCST# Required	12
	change R456 => 20KΩ and C513=>1uF	
	For NB1.AR2 Required	09
	change R706 Empty R709 stuff	
	13. Reserve R578 Q47 R478 & Add R802 for Plug - in issue	30
	14. For INTEL Design Review change C262 to 2.2uF Add C250	09
	15. Change VGA DVI to new VGA DVI (N58-39F0031-SK7)	18,24
	16. COM1 change to JCOM1	17
	17. Add R872 & R873 for NB&DDR power layout	29
	18. Add U56,C997,C998,C999 ,EC108 for KB/MS power circuit	17
	19. change SVCC1,SVCC2 to SVCC_Real	26
	change SVCC3,SVCC4 ,SVCC4 to SVCC_Front	
	change SVCC6 to SVCC_MCR	27
	SWAP JUSBF & JUSBMRC	27
	20. ADD C674,C675C677,C680 For EMI	31
	21. change R780,R778,R777,R776 for audio Precision	22
	22. Reserve for Plug - in issue SWAP Q47 D,S	30
	23 Change Vaule Empty or Stuff state In Shm circuit For P45 + ICH10 SKU	
	24 follow intel demo Design change R227 to 150R	29
	25 No-stuff R514, Stuff R505 with 10Kohm	12

- Disable PSI# patch circuit.
Empty (-)R242,R253,R273,R247,C235,Q53 ,Q65 Stuff R652
- DDR3 Power Correction.
Change R133 1.58K1% to 1.5K1%
- Beep sound
Empty R75
- Replace USB connector.
N53-08M0171-K06 ==> N53-08M0191-F02
- Remove HDA Function.
Empty (-)R860,R861,R862,R863,R864,R865,R866,R867,R859 ,JHDA1
- LAN USB connector
Empty
- SIO related Issues.
Empty (-)R789 (+)R112

			
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