| P. Leader | Check by | Design by |
|---|---|---|
| | | |


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Title: **Index Page**

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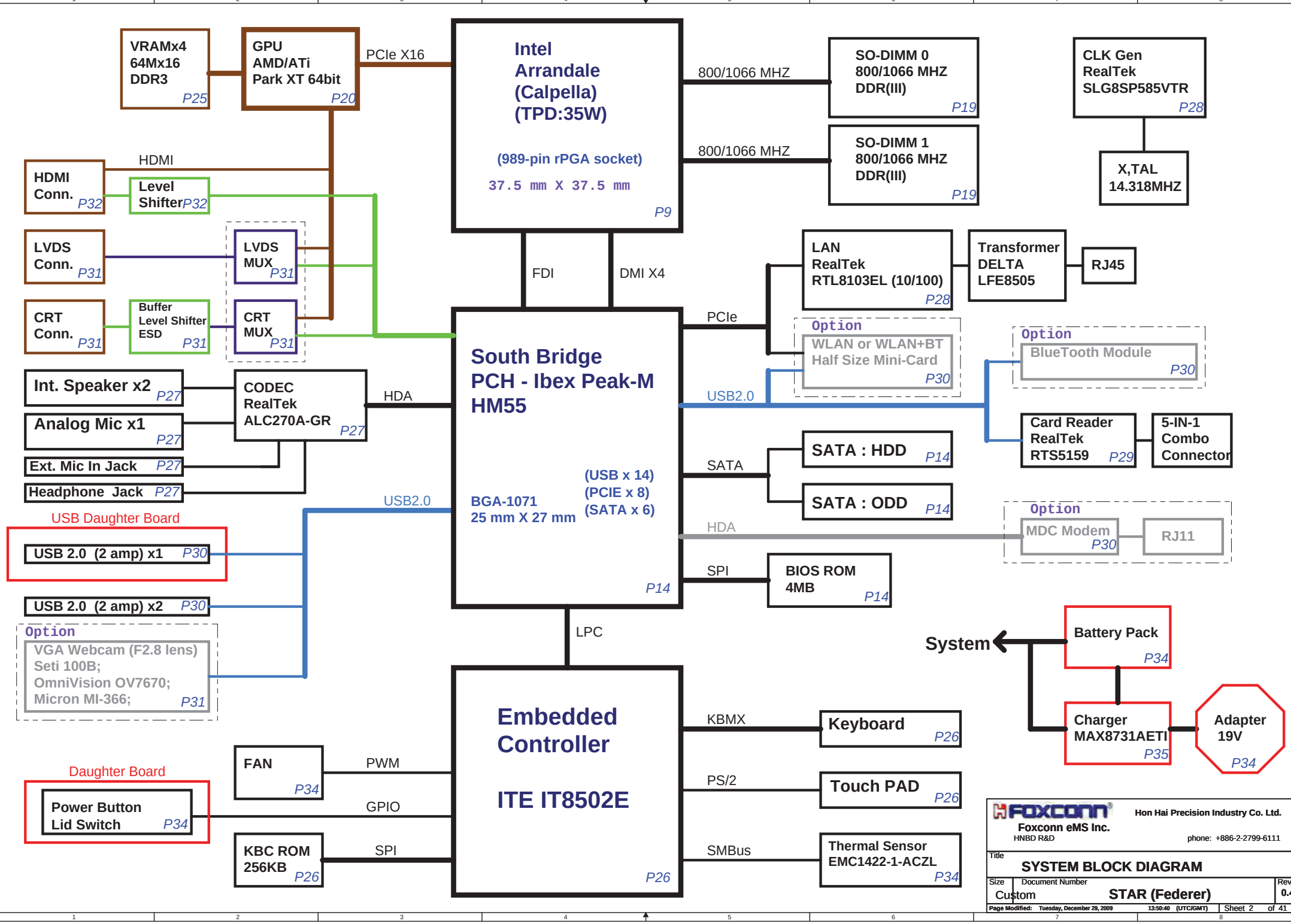
VRAMx4
64Mx16
DDR3
P25
GPU
AMD/ATi
Park XT 64bit
P20
PCIe X16
Intel
Arrandale
(Calpella)
(TPD:35W)
(989-pin rPGA socket)
37.5 mm X 37.5 mm
P9
800/1066 MHZ
SO-DIMM 0
800/1066 MHZ
DDR(III)
P19
800/1066 MHZ
SO-DIMM 1
800/1066 MHZ
DDR(III)
P19
CLK Gen
RealTek
SLG8SP585VTR
P28
X,TAL
14.318MHZ
HDMI
HDMI
Conn.
P32
HDMI
Level
ShifterP32
LVDS
Conn.
P31
LVDS
MUX
P31
CRT
Conn.
P31
Buffer
Level Shifter
ESD
P31
CRT
MUX
P31
FDI
DMI X4
LAN
RealTek
RTL8103EL (10/100)
P28
Transformer
DELTA
LFE8505
RJ45
PCIe
Option
WLAN or WLAN+BT
Half Size Mini-Card
P30
Option
BlueTooth Module
P30
South Bridge
PCH - Ibex Peak-M
HM55
BGA-1071
25 mm X 27 mm
(USB x 14)
(PCIE x 8)
(SATA x 6)
P14
USB2.0
Card Reader
RealTek
RTS5159
P29
5-IN-1
Combo
Connector
Int. Speaker x2
P27
Analog Mic x1
P27
Ext. Mic In Jack
P27
Headphone Jack
P27
CODEC
RealTek
ALC270A-GR
P27
HDA
SATA
SATA : HDD
P14
SATA : ODD
P14
HDA
Option
MDC Modem
P30
RJ11
USB Daughter Board
USB 2.0 (2 amp) x1
P30
USB2.0
USB 2.0 (2 amp) x2
P30
Option
VGA Webcam (F2.8 lens)
Seti 100B;
OmniVision OV7670;
Micron MI-366;
P31
SPI
BIOS ROM
4MB
P14
LPC
System
Battery Pack
P34
Charger
MAX8731AETI
P35
Adapter
19V
P34
Embedded
Controller
ITE IT8502E
P26
KBMX
Keyboard
P26
PS/2
Touch PAD
P26
SMBus
Thermal Sensor
EMC1422-1-ACZL
P34
Daughter Board
Power Button
Lid Switch
P34
FAN
P34
PWM
GPIO
KBC ROM
256KB
P26
SPI
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Size
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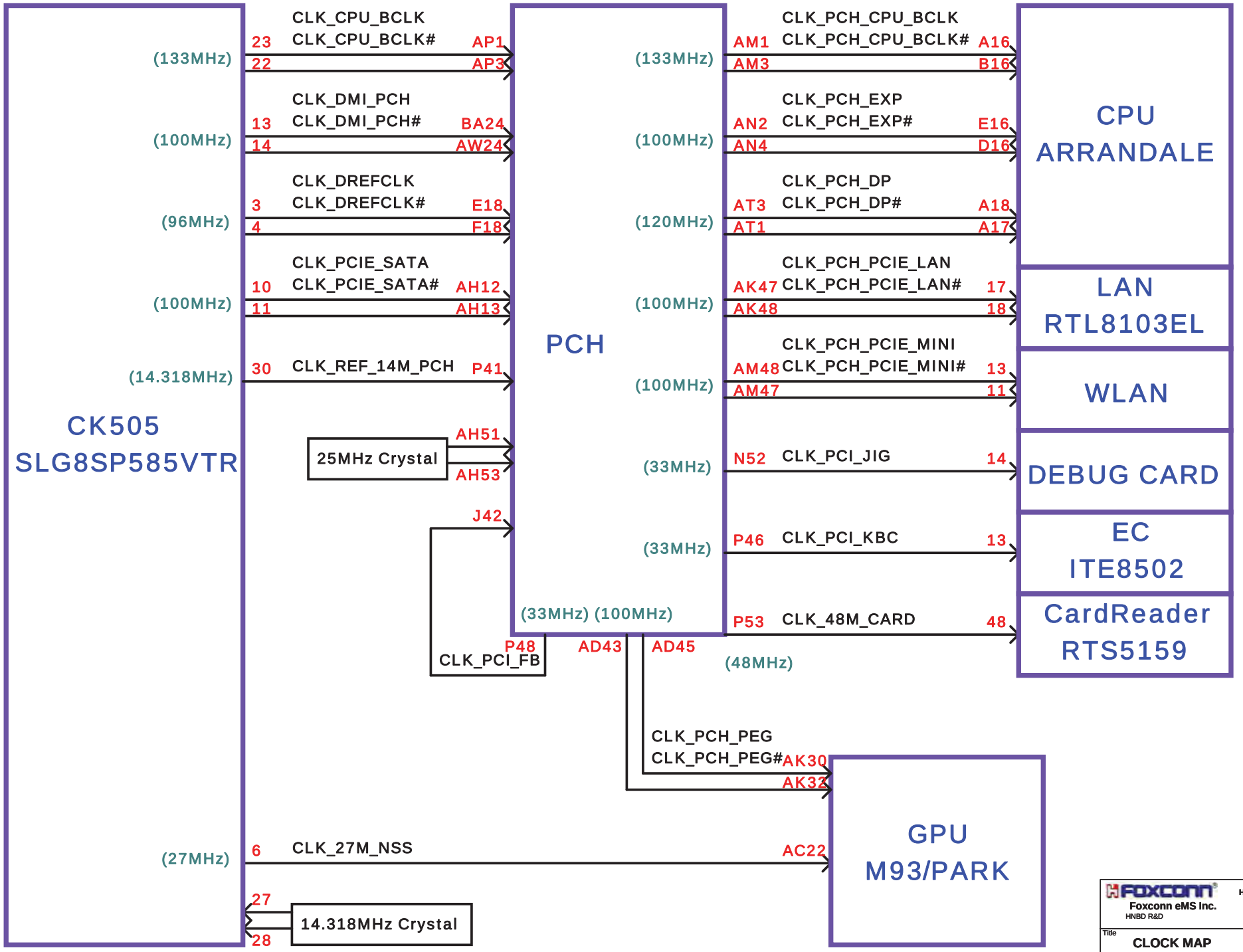


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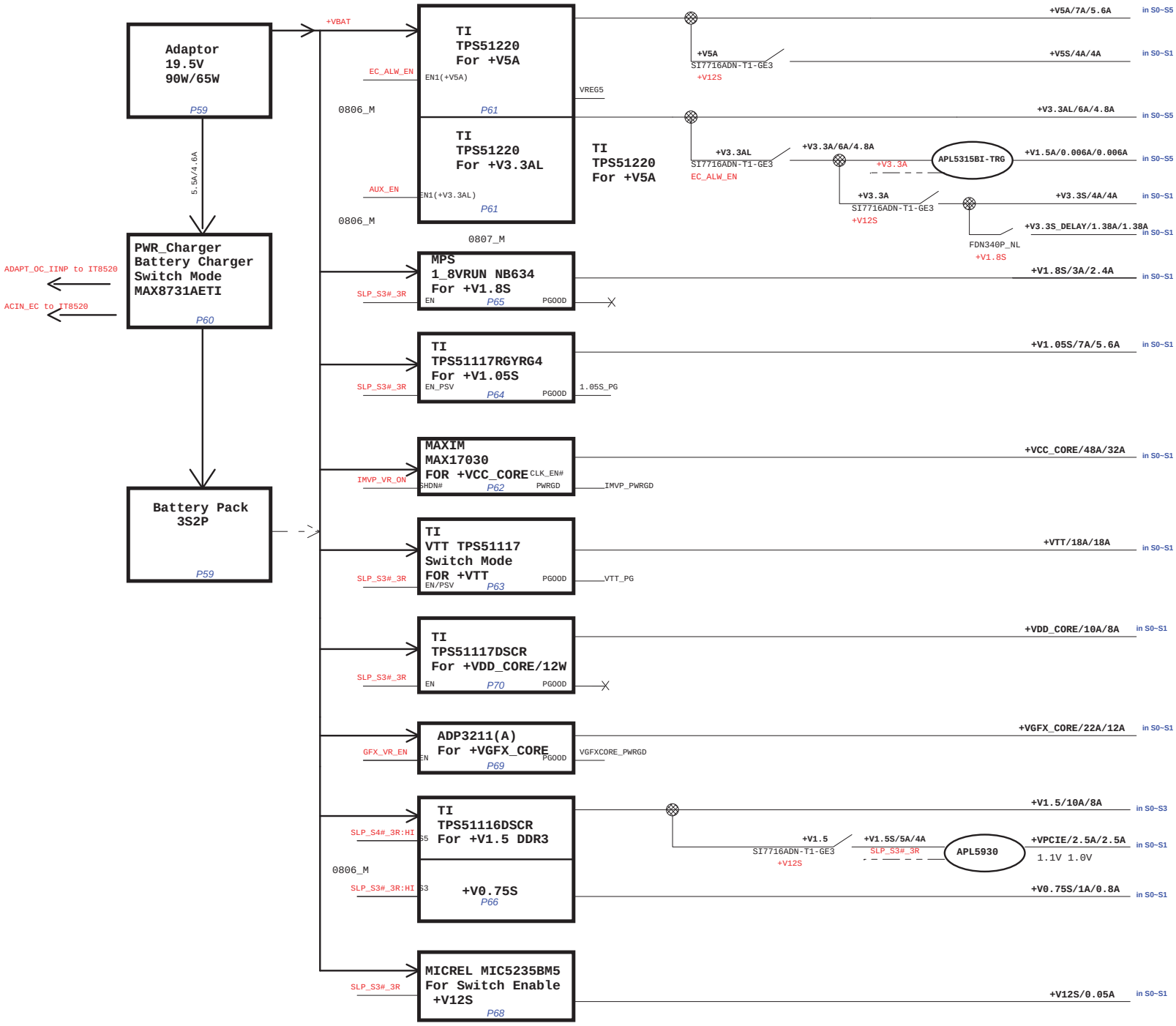


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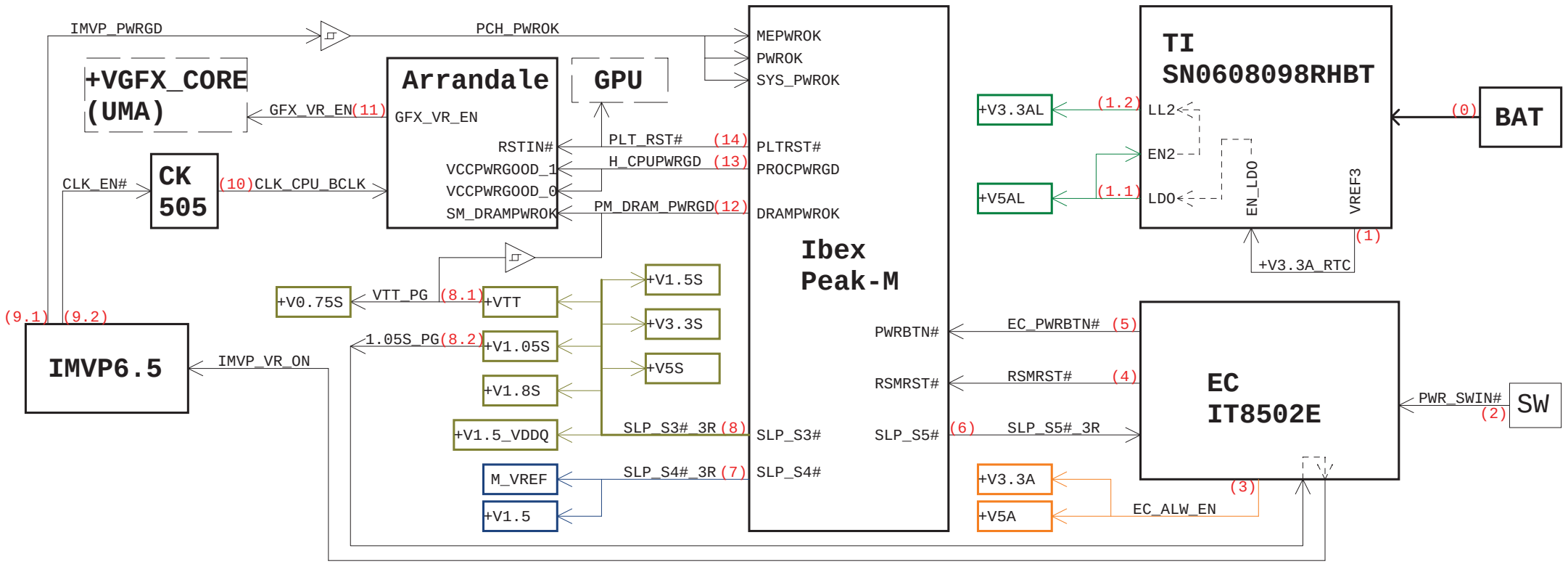
# POWER SEQUENCY DIAGRAM




| | Source Rail | EN | PG | Power Status | | | | Remark |
|---|---|---|---|---|---|---|---|---|
| | | | | S0 | S3 | AC S4/S5 | DC S4/S5 | |
| +VBAT | | | | V | V | V | V | |
| +V5AL | +VBAT | +V3.3A_RTC | | V | V | V | V | |
| +V3.3AL | +VBAT | +V5AL | | V | V | V | V | |
| +V5A | +VBAT | EC_ALW_EN | | V | V | V | | |
| +V3.3A | +V3.3AL | EC_ALW_EN | | V | V | V | | |
| +V1.5 | +VBAT | SLP_S4#_3R | | V | V | | | |
| +V0.75S | +V1.5 | VTT_PG | | V | | | | |
| +V1.5S | +V1.5 | RUN_ON_LOAD | | V | | | | |
| +V1.5_VDDQ | +V1.5 | RUN_ON_LOAD | | V | | | | |
| +VCC_CORE | +VBAT | IMVP_VR_ON | IMVP_PWRGD | V | | | | |
| +VTT | +VBAT | SLP_S3#_3R | VTT_PG | V | | | | |
| +VGFX_CORE | +VBAT | GFX_VR_EN | | V | | | | |
| +V1.8S | +VBAT | SLP_S3#_3R | | V | | | | |
| +V1.05S | +VBAT | SLP_S3#_3R | 1.05S_PG | V | | | | |
| +V5S | +V5A | RUN_ON_LOAD | | V | | | | |
| +V3.3S | +V3.3A | RUN_ON_LOAD | | V | | | | |
| +VDD_CORE | +VBAT | SLP_S3#_3R | | V | | | | |
| +V3.3S_Delay | +V3.3S | +V1.8S | | V | | | | |
| +VPCIE | +V1.5S | SLP_S3#_3R | | V | | | | |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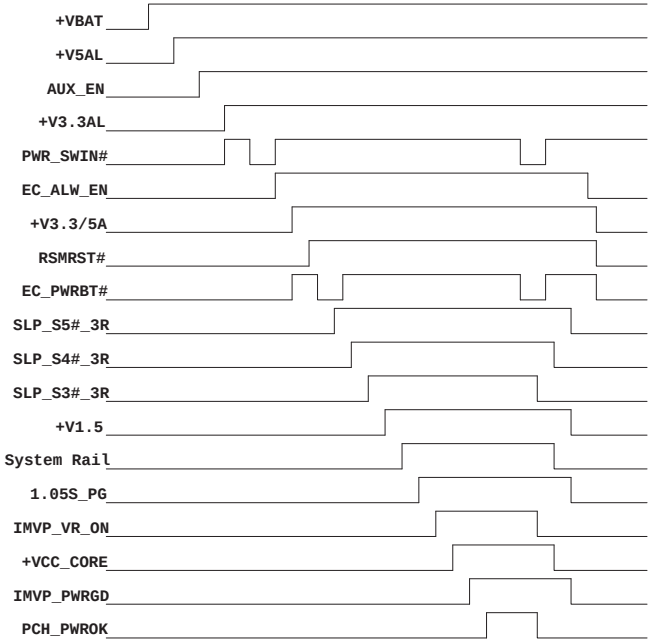
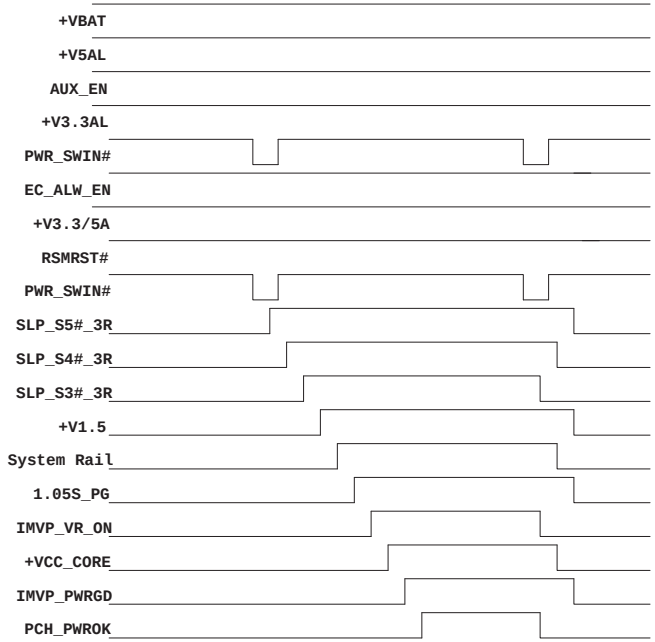
# POWER SEQUENCE TIMING

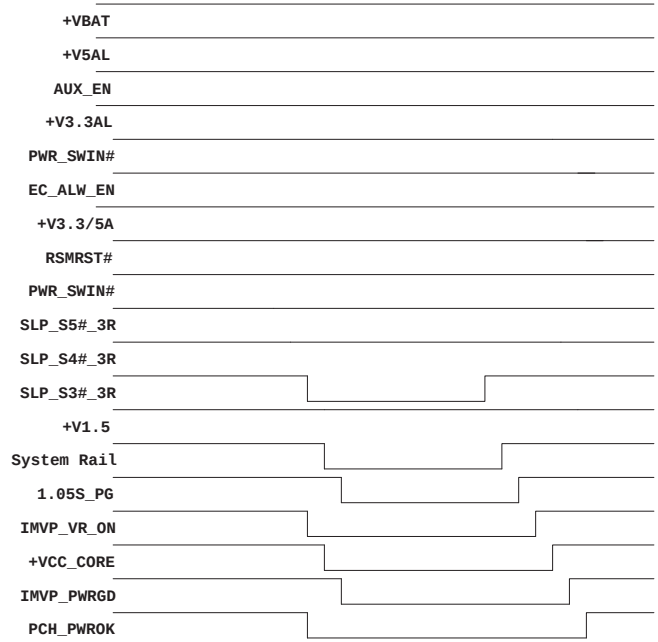
## G3(OFF)->S0->S5



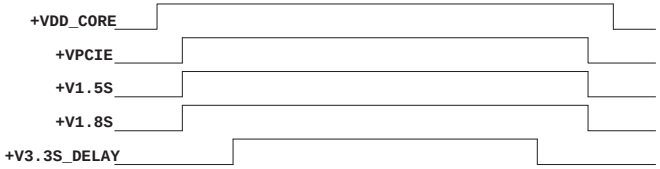

## S5->S0->S5



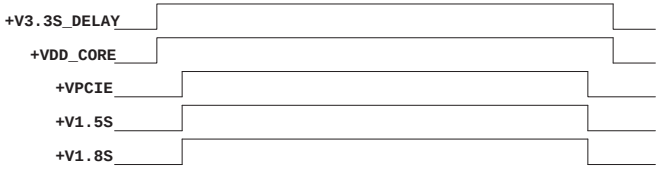

## S0->S3->S0




## M93 Sequence




## Park Sequence





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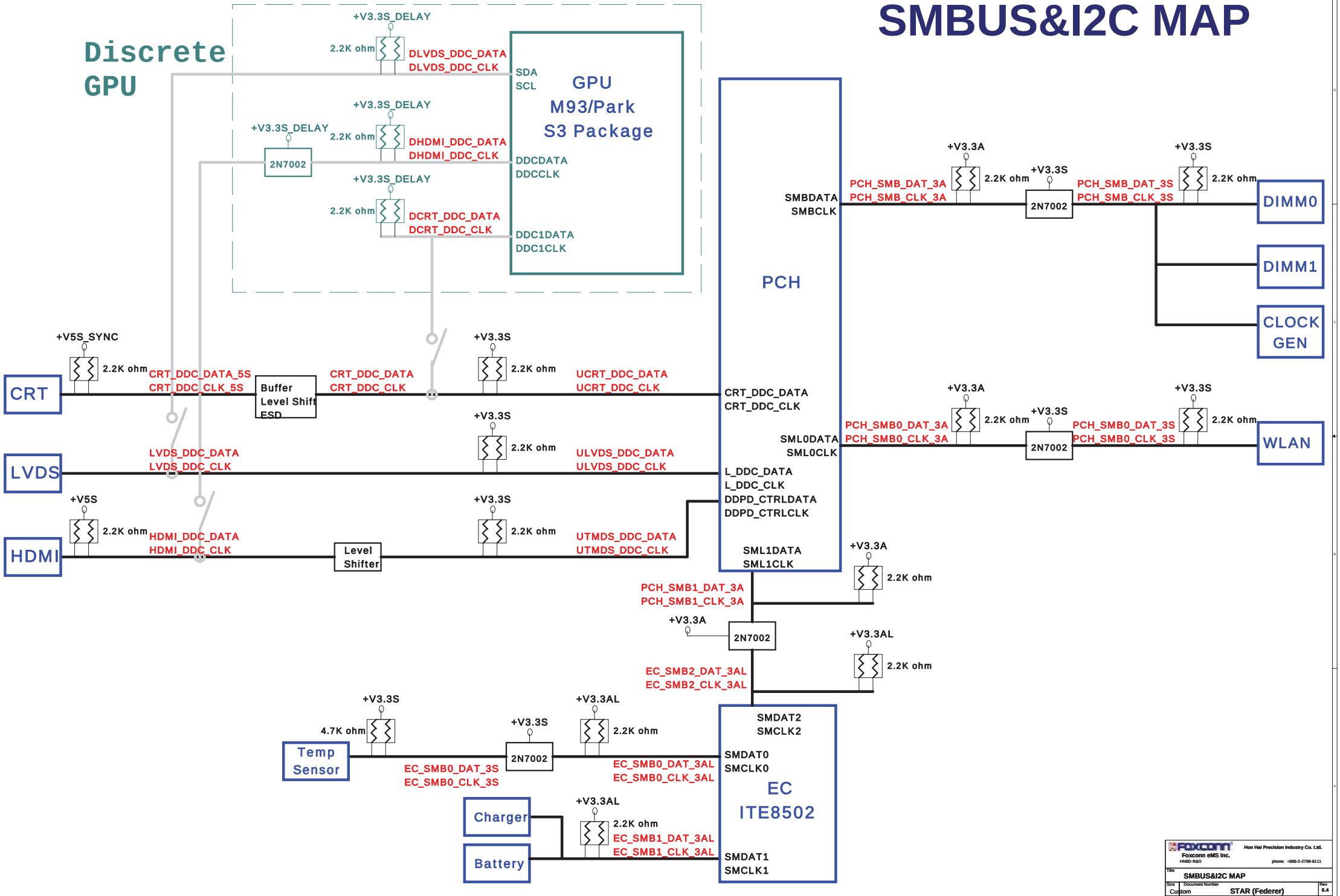
# SMBUS&I2C MAP

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# RESET SIGNAL MAP

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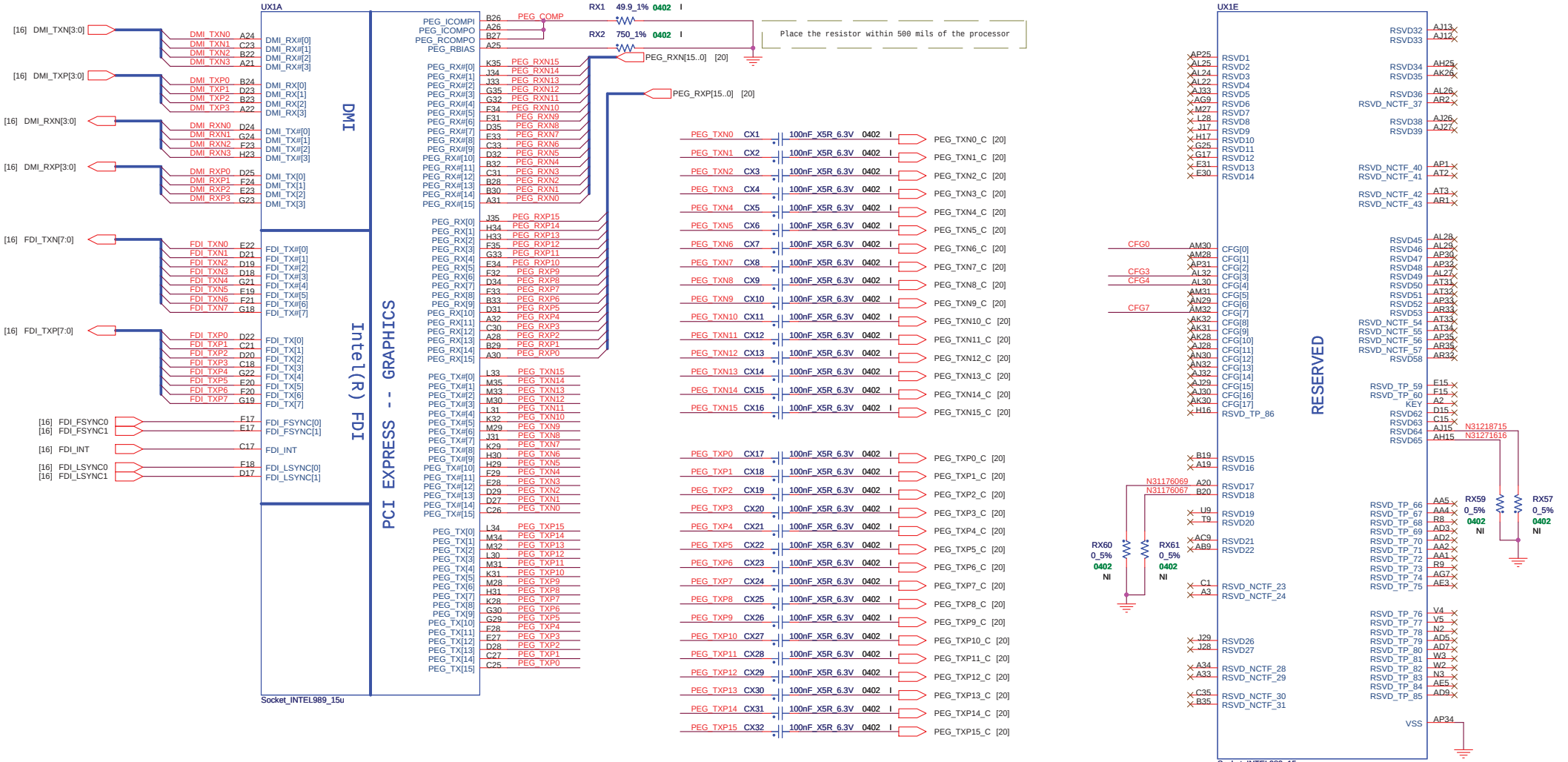
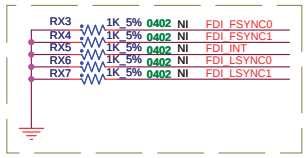



**Discrete GPU: Install**
**UMA: Not Install**



CFG4 Display Port Presence
CFG4 1 : Disabled ; No Physical Display Port attached to Embedded Display Port
0 : Enable ; An external Display Poert device is connected to the Embedded Display Port

CFG7 Reserved - Temporarily used for early Clarksfield samples.
CFG7 Clarksfield (only for early samples pre-ES1) - Connect to GND with 3.01K Ohm/5% resistor

PCI Express Configuration Select
CFG0 1 : Single PEG
0 : Bifurcation enabled

CFG3 PCI Express Static Lane Reversal
CFG3 1 : Normal Operation
0 : Lane Numbers Reversed
15 ->0 , 14-> 1 , ...

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Layout Note:
Comp0,2 connect with Zo=27.4 ohm,
make trace length shorter then
0.5".
Width=20mil(MS)
Comp1,3 connect with Zo=55 ohm,
make trace length shorter then
0.5".
Width=5mil(MS)

Place close to chip

+V1.5_VDDQ [13,18,28,30,39]
+V3.3S [14,15,16,17,18,19,20,26,27,28,29,30,31,32,33,36,37,38,39,40,41]
+VTT [12,13,17,18,28,36,37,40]
+V1.5 [19,38,39]
+V3.3A [14,15,16,17,18,26,28,30,33,34,38,39]

UX1B
Socket_INTEL989_15u

MISC
COMP3 AT23 RX8 20_1% 0402 COMP3
COMP2 AT24 RX9 20_1% 0402 COMP2
COMP1 G16 RX10 49.9_1% 0402 COMP1
COMP0 AT26 RX11 49.9_1% 0402 COMP0
SKTOCC# AH24

THERMAL
CATERR# AK14 H_CATERR#
PECI AT15 [17] H_PECI
PROCHOT# AN26 [36] PROCHOT#
THERMTRIP# AK15 [17,33] PM_THRMTRIP#
RX46 68_5% 0402
RX39 49.9_1% 0402
+VTT

CLOCKS
BCLK A16 BCLK# B16 → CLK_PCH_CPU_CLK [17] CLK_PCH_CPU_CLK# [17] (133MHz)
BCLK_ITP AR30 BCLK_ITP_P BCLK_ITP# AT30 BCLK_ITP_N
PEG_CLK E16 CLK_PCH_EXP_R PEG_CLK# D16 CLK_PCH_EXP#_R → CLK_PCH_EXP [15] CLK_PCH_EXP# [15] (100MHz)
DPLL_REF_SSCLK A18 CLK_PCH_DP_R DPLL_REF_SSCLK# A17 CLK_PCH_DP#_R → CLK_PCH_DP [15] (120MHz)
RX12 0_5% 0402
RX13 0_5% 0402
RX14 0_5% 0402 NI
RX15 0_5% 0402
RX16 0_5% 0402
RX17 0_5% 0402 NI
CLK_PCH_DP# [15]

Discrete :RX14,RX17 Not Install and RX15,RX16 0 ohm
UMA: RX14,RX17 0 ohm and RX15,RX16 Not Install

DDR3 MISC
SM_DRAMRST# F6 → DDR3_DRAMRST# [19]
SM_RCOMP[0] AL1 SM_RCOMP0 RX18 100_1% 0402
SM_RCOMP[1] AM1 SM_RCOMP1 RX21 24.9_1% 0402
SM_RCOMP[2] AN1 SM_RCOMP2 RX22 130_1% 0402
PM_EXT_TS#[0] AN15
PM_EXT_TS#[1] AP15
PM_EXTTS#0
RX19 10K_5% 0402
RX20 10K_5% 0402
PM_EXTTS#1 [19]
RX24 12.4K_1% 0402 NI
DDR module w/o this function
RX72 0_5% 0402 NI
RX73 1K_5% 0402
QX3 2N7002 SOT23-3
RX74 100K_5% 0402
PCH_DDR_RST# [17]
CX43 47nF_X7R_16V 0402

JTAG & BPM
PRDY# AT28 XDP_PRDY#
PREQ# AP27 XDP_PREQ#
TCK AN28 XDP_TCK
TMS AP28 XDP_TMS
TRST# AT27 XDP_TRST#
TDI AT29 XDP_TDI
TDO AR27 XDP_TDO
TDI_M AR29 XDP_TDI_M
TDO_M AP29 XDP_TDO_M
DBR# AN25 SB_RST# [16,26]
RX42 0_5% 0402
BPM#[0] AJ22 XDP_OBS0
BPM#[1] AK22 XDP_OBS1
BPM#[2] AK24 XDP_OBS2
BPM#[3] AJ24 XDP_OBS3
BPM#[4] AJ25 XDP_OBS4
BPM#[5] AH22 XDP_OBS5
BPM#[6] AK23 XDP_OBS6
BPM#[7] AH23 XDP_OBS7

PWR MANAGEMENT
RESET_OBS# AP26 H_CPURST# ← RX71 1K_5% 0402 ← XDP_RST#_R
PM_SYNC AL15 [16] H_PM_SYNC
VCCPWRGOOD_1 AN14 CPUPWRGD1 ← RX25 0_5% 0402 [17] H_CPUPWRGD
VCCPWRGOOD_0 AN27 CPUPWRGD0 ← RX26 0_5% 0402
SM_DRAMPWROK AK13 DRAM_PWRGD ← RX28 0_5% 0402 [16] PM_DRAM_PWRGD
VTTPWRGOOD AM15
TAPPWRGOOD AM26 H_PWRGD_XDP
RSTIN# AL14
RX75 1.1K_1% 0402 NI
+V1.5_VDDQ
+V3.3A
CX80 100nF_X5R_6.3V 0402
RX79 1.5K_1% 0402
RX78 750_1% 0402
UX5 74LVC1G17GW
Modify for reduce S3 power consumption on 0908
[33,37,38] VTT_PG RX77 0_5% 0402
[16,26,33,37,38,39,41] SLP_S3#_3R RX76 0_5% 0402 NI
[17,20] PLT_RST# RX30 1.5K_1%
RX31 750_1% 0402

Clarksfield: 1.1V(RX30=1.5K 1%; RX31=750 1%)
Arrandale : 1.05V(RX30=1.5K 1% ; RX31=698 1%)

TCK 50 PD
TMS 2k~5k PU
TRST 2k~5k PU
TDI 50 PU
TDO unconnect
TDI_M 50 PU
TDO_M unconnect

+VTT
0402 51_5% RX32 XDP_TDO
NI 0402 51_5% RX33 XDP_TMS
NI 0402 51_5% RX34 XDP_TDI
NI 0402 51_5% RX35 XDP_PREQ#
NI 0402 51_5% RX36 XDP_TCLK
0402 51_5% RX37 XDP_TRST#

Change to "NI"
CON18
BSH-030-01-L-D-A-TR NI
XDP_PREQ# XDP_PRDY# XDP_OBS0 XDP_OBS1 XDP_OBS2 XDP_OBS3 XDP_OBS4 XDP_OBS5 XDP_OBS6 XDP_OBS7 XDP_TCLK
BCLK_ITP_P BCLK_ITP_N XDP_RST#_R SB_RST# XDP_TDO XDP_TRST# XDP_TDI XDP_TMS +VTT

H_CPUPWRGD RX70 1K_5% 0402 H_CPUPWRGD_XDP
[16,26] EC_PWRBTN# +VTT
H_PWRGD_XDP

+V1.5
RX38 1.1K_1% 0402 NI
DRAM_PWRGD
RX43 3K_1% 0402 NI

+V3.3S
RX45 0_5% 0402 NI
[33,37,38] VTT_PG
[33,37] 1.05S_PG
RX40 0_5% 0402
UX2 74LVC1G17GW
CX33 100nF_X5R_6.3V 0402
RX41 2K_1% 0402
RX44 1K_1% 0402
VTTPWRGOOD

Clarksfield: 1.1V(RX38=1.1K 1%; RX43=3.01K 1%)
Arrandale : 1.05V(RX38=1.1K 1% ; Rx43=2.61K 1%)

Clarksfield: 1.1V(RX41=2K 1%; RX44=1K 1%)
Arrandale : 1.05V(RX41=2K 1% ; R44=931ohm 1%)

[33,36] IMVP_PWRGD
RX29 2M_5% 0402
A0205
QX1 2N7002 SOT23-3
QX2 PDTC144EU
[36] PROCHOT#
PCH_PROCHOT# [17,33]

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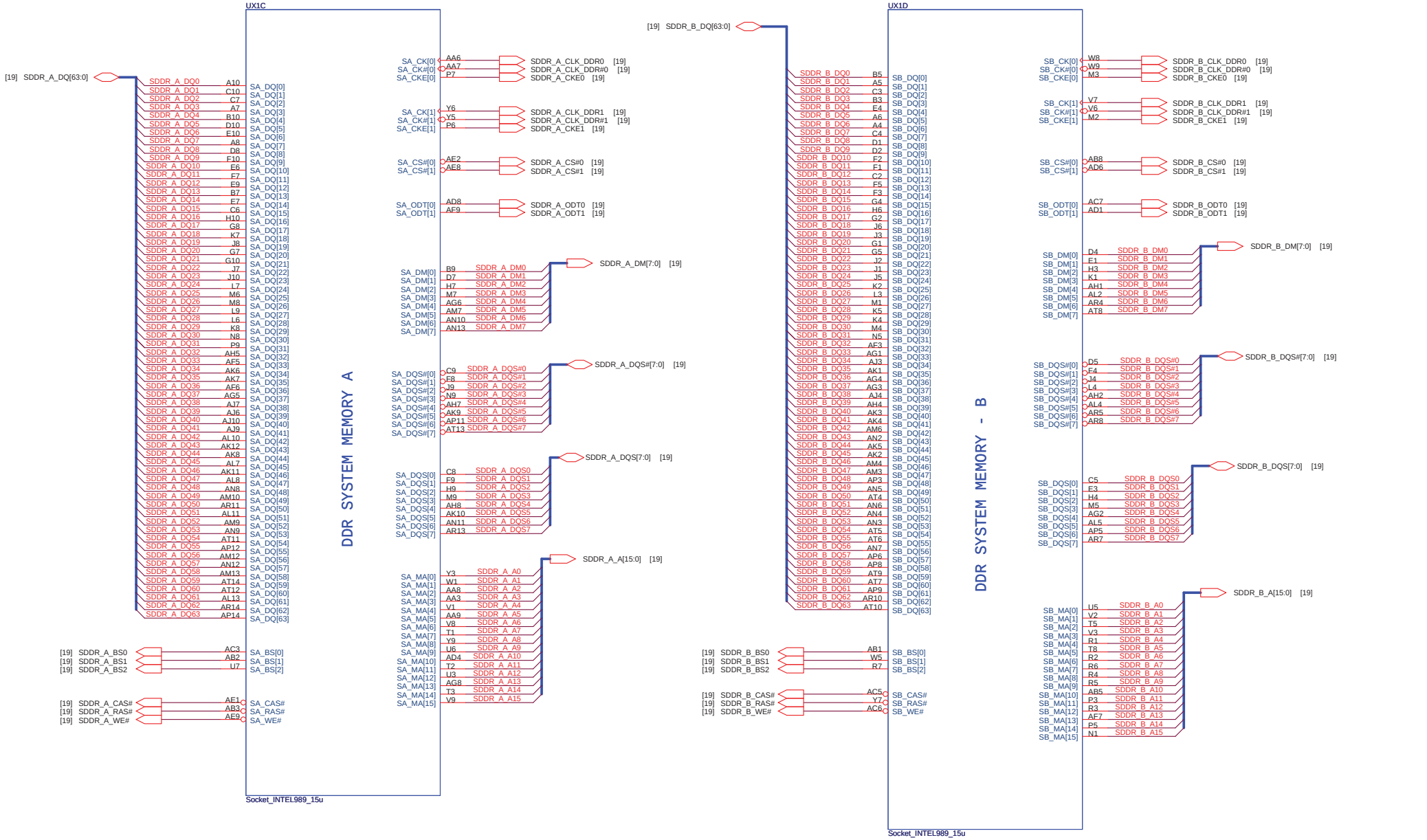


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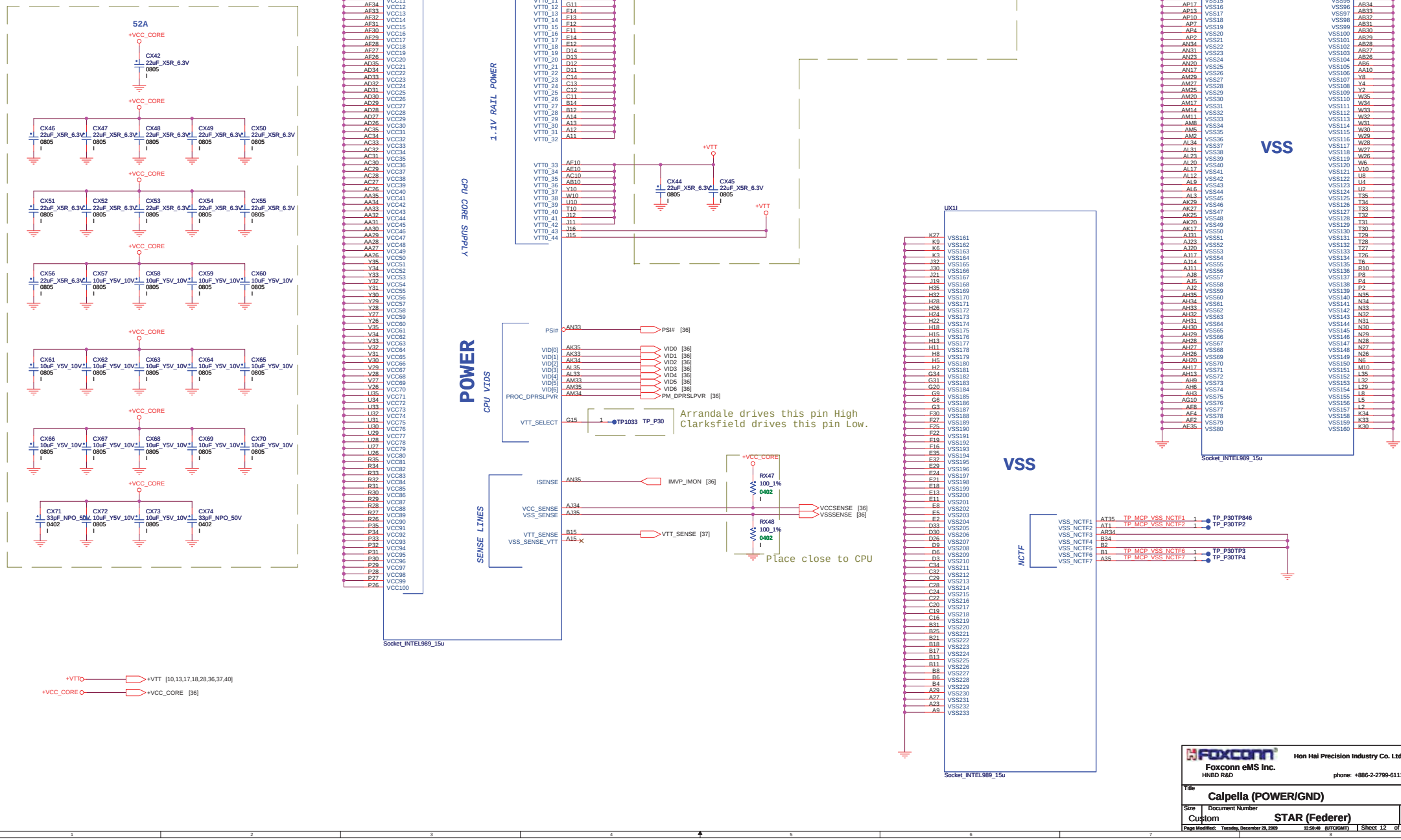
FOR VCC:
12x 0805 22 µF inside cavity,
7x 0805 10 µF under cavity and 9 x 0805 10 µF
between inductor and socket on top layer

FOR VTT:
7x 0805 22 µF under cavity
8x 0805 10 µF edge caps

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+VTT [10,12,17,18,28,36,37,40]
+VGFX_CORE [40]
+V1.5_VDDQ [10,18,28,30,39]
+V1.8S [18,38,39]

Max Current for Integrated Graphics Rail CCMAX_VAXG----22A

+VGFX_CORE
RX49 0_5% 0402 NI
CX75 22uF_X5R_6.3V 0805
CX76 22uF_X5R_6.3V 0805
CX77 10uF_Y5V_10V 0805
CX78 10uF_Y5V_10V 0805
2x 0805 22 µF
2x 0603 10 µF edge caps
Discrete GPU: Install
UMA: Not Install
CX79 330uF_TA_2.5V 7.3X4.3
Discrete GPU: Not Install
UMA: Install

UX1G
GRAPHICS POWER
SENSE LINES
GRAPHICS VIDS
DDR3 - 1.5V RAILS
FDI
PEG & DMI
1.1V
1.8V
VAXG1 VAXG2 VAXG3 VAXG4 VAXG5 VAXG6 VAXG7 VAXG8 VAXG9 VAXG10 VAXG11 VAXG12 VAXG13 VAXG14 VAXG15 VAXG16 VAXG17 VAXG18 VAXG19 VAXG20 VAXG21 VAXG22 VAXG23 VAXG24 VAXG25 VAXG26 VAXG27 VAXG28 VAXG29 VAXG30 VAXG31 VAXG32 VAXG33 VAXG34 VAXG35 VAXG36
AT21 AT19 AT18 AT16 AR21 AR19 AR18 AR16 AP21 AP19 AP18 AP16 AN21 AN19 AN18 AN16 AM21 AM19 AM18 AM16 AL21 AL19 AL18 AL16 AK21 AK19 AK18 AK16 AJ21 AJ19 AJ18 AJ16 AH21 AH19 AH18 AH16
VAXG_SENSE VSSAXG_SENSE
AR22 AT22
RX50 0_5% 0402
RX51 0_5% 0402
GFX_VCC_SENSE [40]
GFX_VSS_SENSE [40]
Discrete GPU: Not Install
UMA: Install
GFX_VID[0] GFX_VID[1] GFX_VID[2] GFX_VID[3] GFX_VID[4] GFX_VID[5] GFX_VID[6]
AM22 AP22 AN22 AP23 AM23 AP24 AN24
GFX_VID0 [40] GFX_VID1 [40] GFX_VID2 [40] GFX_VID3 [40] GFX_VID4 [40] GFX_VID5 [40] GFX_VID6 [40]
GFX_VR_EN GFX_DPRSLPVR GFX_IMON
AR25 AT25 AM24
GFX_DPRSLPVR [40]
GFX_IMON [40]
GFX_VR_EN [40]
RX63 4.7K_5% 0402
Discrete GPU: Not Install
UMA: Install
GFX_IMON
RX52 1K_5% 0402 NI
Discrete GPU: Install
UMA: Not Install
VDDQ1 VDDQ2 VDDQ3 VDDQ4 VDDQ5 VDDQ6 VDDQ7 VDDQ8 VDDQ9 VDDQ10 VDDQ11 VDDQ12 VDDQ13 VDDQ14 VDDQ15 VDDQ16 VDDQ17 VDDQ18
AJ1 AF1 AE7 AE4 AC1 AB7 AB4 Y1 W7 W4 U1 T7 T4 P1 N7 N4 L1 H1
+V1.5_VDDQ
CX81 1uF_Y5V_6.3V 0402
CX82 1uF_Y5V_6.3V 0402
CX83 1uF_Y5V_6.3V 0402
CX84 1uF_Y5V_6.3V 0402
CX85 1uF_Y5V_6.3V 0402
CX86 22uF_X5R_6.3V 0805
CX87 22uF_X5R_6.3V 0805
CX88 330uF_TA_2.5V 7.3X4.3
CX89 33pF_NPO_50V 0402
FOR DDR3:
5x 0402 1 µF
2x 0805 22 µF
+VTT
CX90 22uF_X5R_6.3V 0805
VTT1_45 VTT1_46 VTT1_47
J24 J23 H25
VTT0_59 VTT0_60 VTT0_61 VTT0_62
P10 N10 L10 K10
CX91 22uF_X5R_6.3V 0805
VTT1_63 VTT1_64 VTT1_65 VTT1_66 VTT1_67 VTT1_68
J22 J20 J18 H21 H20 H19
CX92 22uF_X5R_6.3V 0805
CX94 22uF_X5R_6.3V 0805
CX95 22uF_X5R_6.3V 0805
VTT1_48 VTT1_49 VTT1_50 VTT1_51 VTT1_52 VTT1_53 VTT1_54 VTT1_55 VTT1_56 VTT1_57 VTT1_58
K26 J27 J26 J25 H27 G28 G27 G26 F26 E26 E25
VCCPLL1 VCCPLL2 VCCPLL3
L26 L27 M26
+V1.8S
Max Current for VCCPLL Rail 1.35A
CX96 1uF_Y5V_6.3V 0402
CX97 1uF_Y5V_6.3V 0402
CX98 2.2uF_X5R_10V 0603
CX99 4.7uF_X5R_6.3V 0603
CX100 22uF_X5R_6.3V 0805
CX101 33pF_NPO_50V 0402
FOR VCCPLL:
1x 0805 2.2 µF
2x 0805 1 µF
1x 0805 22 µF
1x 0603 4.7µF
Socket_INTEL989_15u

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Title: Calpella (GRAPHICS POWER)
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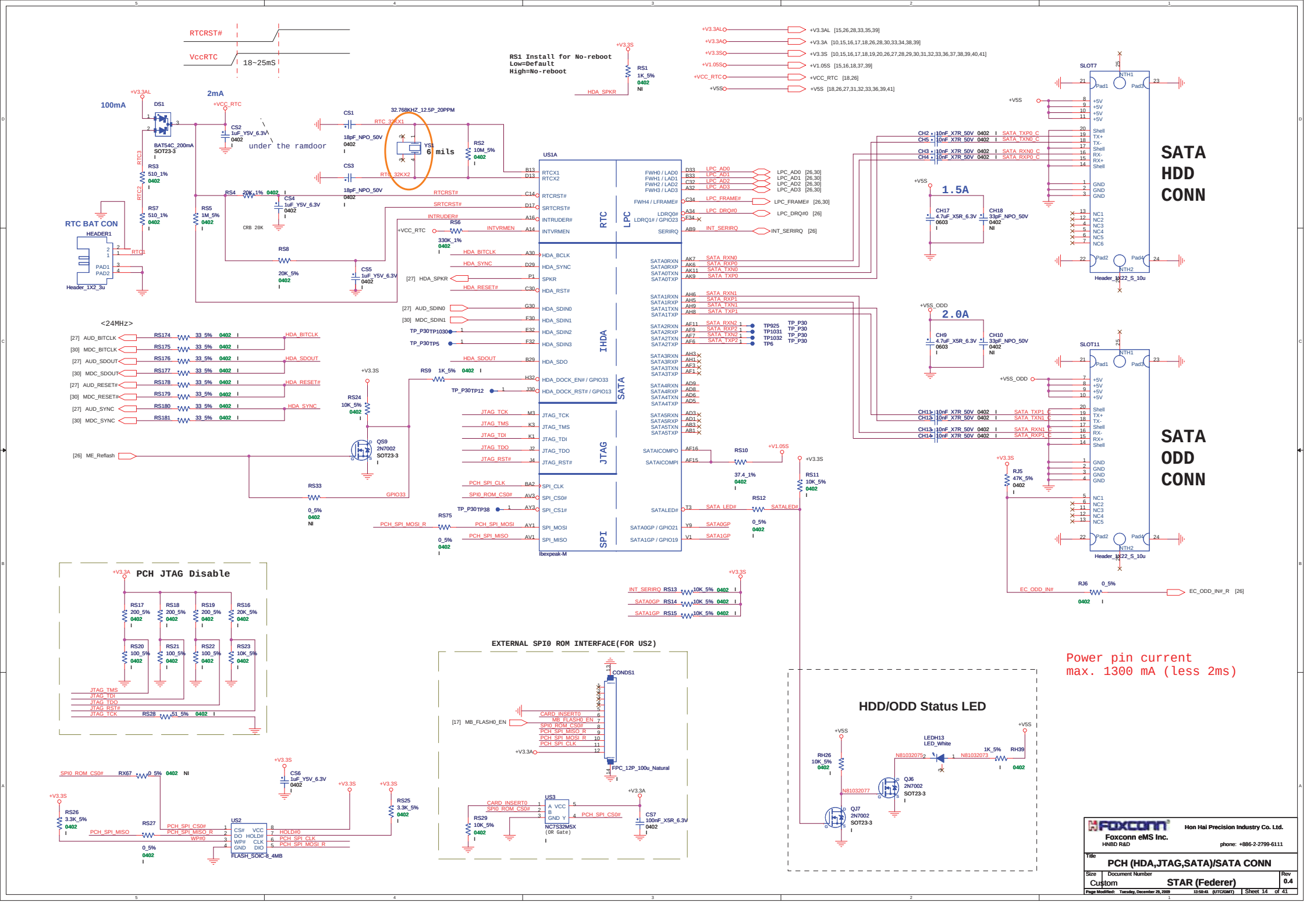
RTCRST#
VccRTC
18~25mS
RS1 Install for No-reboot
Low=Default
High=No-reboot
RS1
1K_5%
0402
NI
HDA_SPKR
+V3.3AL [15,26,28,33,35,39]
+V3.3A [10,15,16,17,18,26,28,30,33,34,38,39]
+V3.3S [10,15,16,17,18,19,20,26,27,28,29,30,31,32,33,36,37,38,39,40,41]
+V1.05S [15,16,18,37,39]
+VCC_RTC [18,26]
+V5S [18,26,27,31,32,33,36,39,41]
100mA
2mA
DS1
BAT54C_200mA
SOT23-3
+VCC_RTC
CS2
1uF_Y5V_6.3V
0402
under the ramdoor
32.768KHZ_12.5P_20PPM
YS1
6 mils
CS1
18pF_NPO_50V
0402
CS3
18pF_NPO_50V
0402
RS2
10M_5%
0402
RTC_32KX1
RTC_32KX2
RS3
510_1%
0402
RS7
510_1%
0402
RS4
20K_1%
0402
RS5
1M_5%
0402
CS4
1uF_Y5V_6.3V
0402
CRB 20K
RS6
330K_1%
0402
RS8
20K_5%
0402
CS5
1uF_Y5V_6.3V
0402
RTC BAT CON
HEADER1
Header_1X2_3u
RTC1
US1A
RTCX1
RTCX2
RTCRST#
SRTCRST#
INTRUDER#
INTVRMEN
HDA_BITCLK
HDA_SYNC
SPKR
HDA_RST#
HDA_SDIN0
HDA_SDIN1
HDA_SDIN2
HDA_SDIN3
HDA_SDO
HDA_DOCK_EN# / GPIO33
HDA_DOCK_RST# / GPIO13
JTAG_TCK
JTAG_TMS
JTAG_TDI
JTAG_TDO
JTAG_RST#
SPI_CLK
SPI_CS0#
SPI_CS1#
SPI_MOSI
SPI_MISO
RTC
LPC
IHDA
SATA
JTAG
SPI
FWH0 / LAD0
FWH1 / LAD1
FWH2 / LAD2
FWH3 / LAD3
FWH4 / LFRAME#
LDRQ0#
LDRQ1# / GPIO23
SERIRQ
LPC_AD0
LPC_AD1
LPC_AD2
LPC_AD3
LPC_FRAME#
LPC_DRQ#0
INT_SERIRQ
SATA0RXN
SATA0RXP
SATA0TXN
SATA0TXP
SATA1RXN
SATA1RXP
SATA1TXN
SATA1TXP
SATA2RXN
SATA2RXP
SATA2TXN
SATA2TXP
SATA3RXN
SATA3RXP
SATA3TXN
SATA3TXP
SATA4RXN
SATA4RXP
SATA4TXN
SATA4TXP
SATA5RXN
SATA5RXP
SATA5TXN
SATA5TXP
SATAICOMPO
SATAICOMPI
SATALED#
SATA0GP / GPIO21
SATA1GP / GPIO19
Ibexpeak-M
SATA HDD CONN
SLOT7
Header_1X22_S_10u
CH2 10nF_X7R_50V 0402 SATA_TXP0_C
CH5 10nF_X7R_50V 0402 SATA_TXN0_C
CH3 10nF_X7R_50V 0402 SATA_RXN0_C
CH4 10nF_X7R_50V 0402 SATA_RXP0_C
1.5A
CH17
4.7uF_X5R_6.3V
0603
CH18
33pF_NPO_50V
0402
NI
SATA ODD CONN
SLOT11
+V5S_ODD
2.0A
CH9
4.7uF_X5R_6.3V
0603
CH10
33pF_NPO_50V
0402
NI
CH11 10nF_X7R_50V 0402 SATA_TXP1_C
CH12 10nF_X7R_50V 0402 SATA_TXN1_C
CH13 10nF_X7R_50V 0402 SATA_RXN1_C
CH14 10nF_X7R_50V 0402 SATA_RXP1_C
RJ5
47K_5%
0402
RJ6
0_5%
0402
EC_ODD_IN#
EC_ODD_IN#_R [26]
<24MHz>
AUD_BITCLK
MDC_BITCLK
AUD_SDOUT
MDC_SDOUT
AUD_RESET#
MDC_RESET#
AUD_SYNC
MDC_SYNC
RS174 33_5% 0402
RS175 33_5% 0402
RS176 33_5% 0402
RS177 33_5% 0402
RS178 33_5% 0402
RS179 33_5% 0402
RS180 33_5% 0402
RS181 33_5% 0402
ME_Reflash
QS9
2N7002
SOT23-3
RS24
10K_5%
0402
RS9
1K_5%
0402
RS33
0_5%
0402
NI
GPIO33
RS10
37.4_1%
0402
RS11
10K_5%
0402
RS12
0_5%
0402
RS75
0_5%
0402
TP_P30TP1030
TP_P30TP5
TP_P30TP12
TP_P30TP38
TP925
TP1031
TP1032
TP6
TP_P30
PCH JTAG Disable
RS17 200_5% 0402
RS18 200_5% 0402
RS19 200_5% 0402
RS16 20K_5% 0402
RS20 100_5% 0402
RS21 100_5% 0402
RS22 100_5% 0402
RS23 10K_5% 0402
RS28 51_5% 0402
EXTERNAL SPI0 ROM INTERFACE(FOR US2)
CONDS1
FPC_12P_100u_Natural
CARD_INSERT0
MB_FLASH0_EN
SPI0_ROM_CS0#
PCH_SPI_MISO_R
PCH_SPI_MOSI_R
PCH_SPI_CLK
[17] MB_FLASH0_EN
US3
NC7S32M5X
(OR Gate)
RS29
10K_5%
0402
CS7
100nF_X5R_6.3V
0402
RX67 0_5% 0402 NI
RS26
3.3K_5%
0402
RS27
0_5%
0402
CS6
1uF_Y5V_6.3V
0402
RS25
3.3K_5%
0402
US2
FLASH_SOIC-8_4MB
HDD/ODD Status LED
LEDH13
LED_White
RH26
10K_5%
0402
RH39
1K_5%
0402
QJ6
2N7002
SOT23-3
QJ7
2N7002
SOT23-3
N81032075
N81032073
N81032077
INT_SERIRQ RS13 10K_5% 0402
SATA0GP RS14 10K_5% 0402
SATA1GP RS15 10K_5% 0402
Power pin current
max. 1300 mA (less 2ms)
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Title
PCH (HDA,JTAG,SATA)/SATA CONN
Size
Custom
Document Number
STAR (Federer)
Rev
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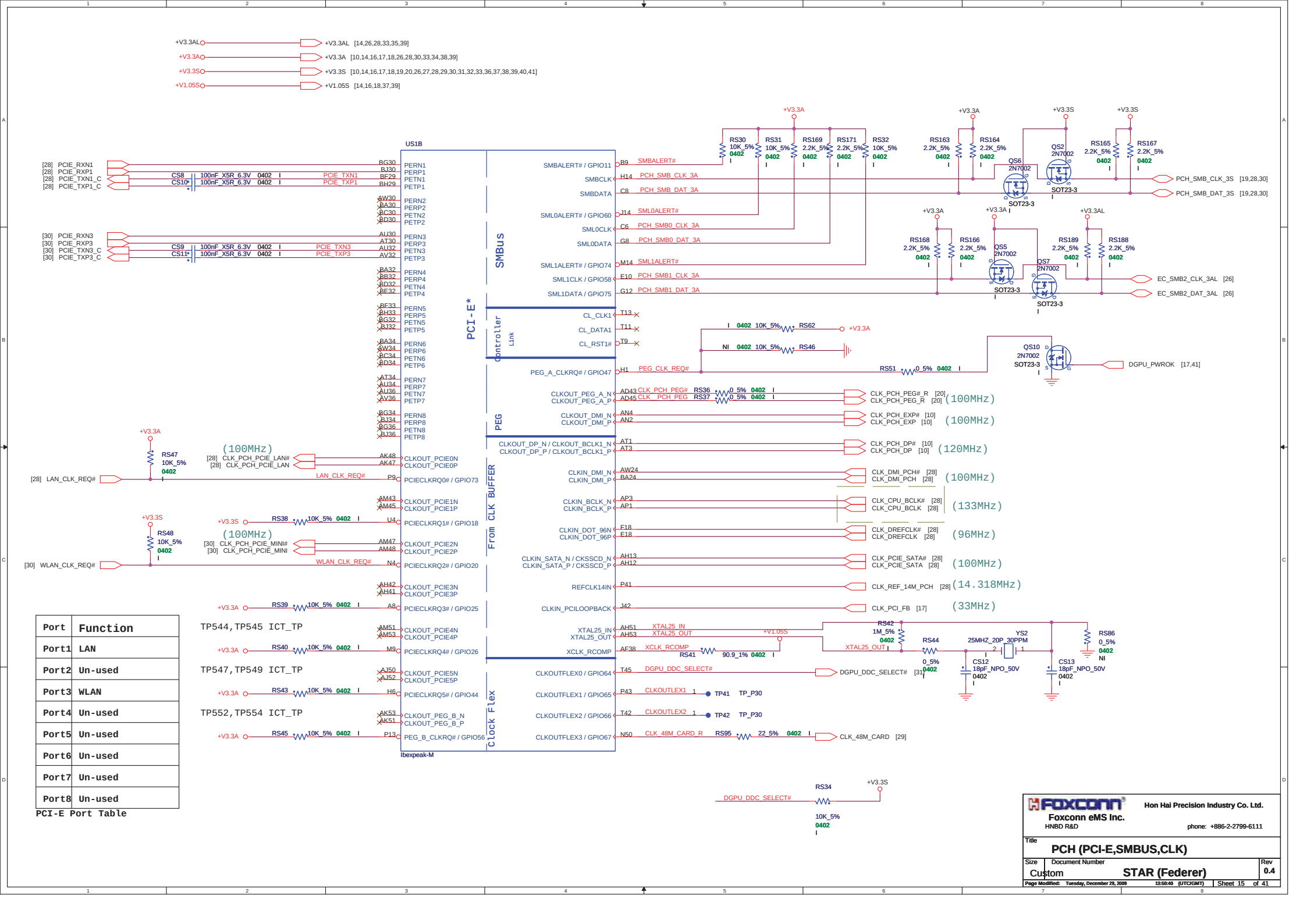


| Port | Function |
|---|---|
| Port1 | LAN |
| Port2 | Un-used |
| Port3 | WLAN |
| Port4 | Un-used |
| Port5 | Un-used |
| Port6 | Un-used |
| Port7 | Un-used |
| Port8 | Un-used |

PCI-E Port Table

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Title: PCH (PCI-E,SMBUS,CLK)

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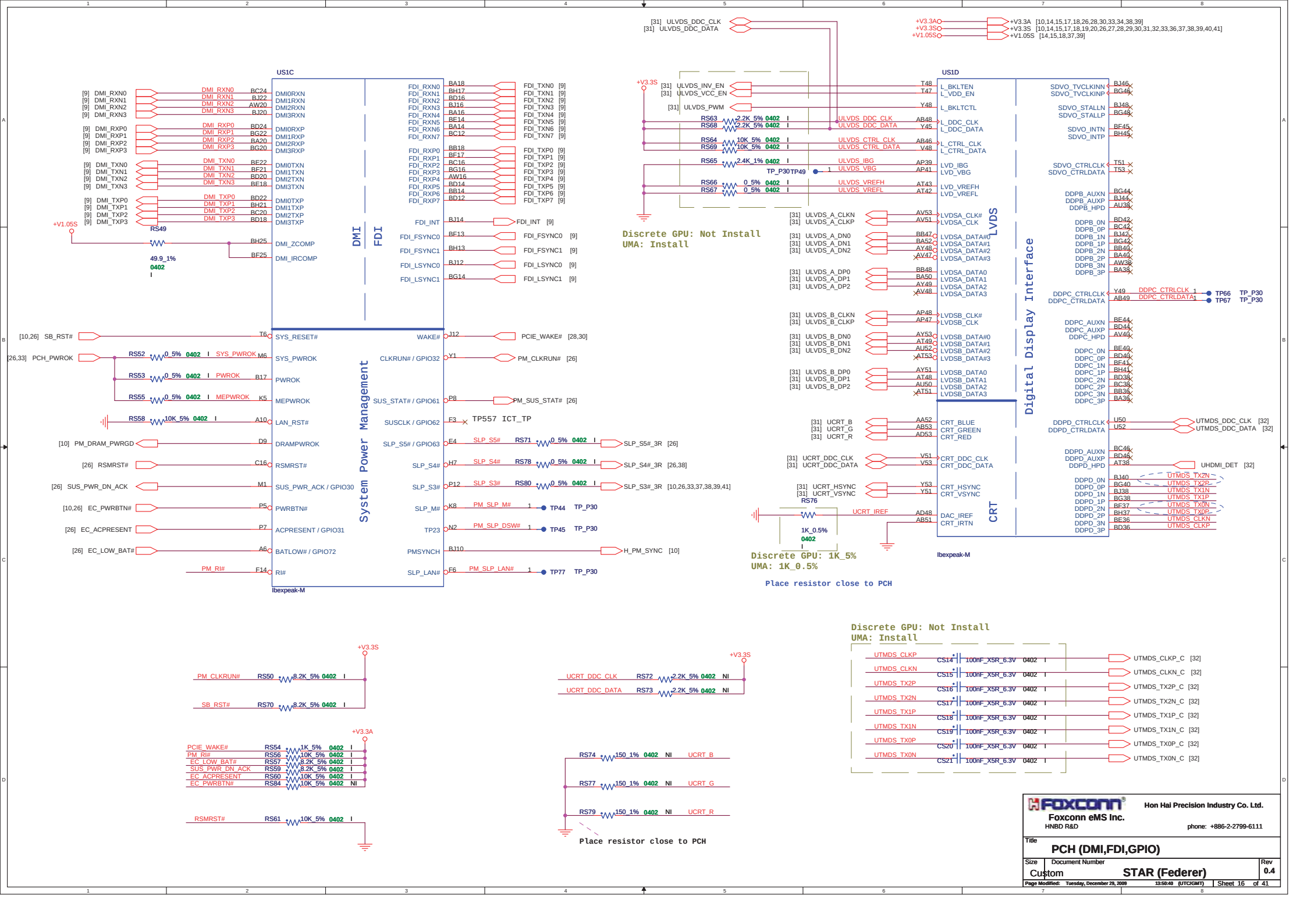
US1C
DMI
FDI
System Power Management
SYS_RESET#
SYS_PWROK
PWROK
MEPWROK
LAN_RST#
DRAMPWROK
RSMRST#
SUS_PWR_ACK / GPIO30
PWRBTN#
ACPRESENT / GPIO31
BATLOW# / GPIO72
RI#
WAKE#
CLKRUN# / GPIO32
SUS_STAT# / GPIO61
SUSCLK / GPIO62
SLP_S5# / GPIO63
SLP_S4#
SLP_S3#
SLP_M#
TP23
PMSYNCH
SLP_LAN#
DMI_ZCOMP
DMI_IRCOMP
FDI_INT
FDI_FSYNC0
FDI_FSYNC1
FDI_LSYNC0
FDI_LSYNC1
Ibexpeak-M
US1D
Digital Display Interface
LVDS
CRT
L_BKLTEN
L_VDD_EN
L_BKLTCTL
L_DDC_CLK
L_DDC_DATA
L_CTRL_CLK
L_CTRL_DATA
LVD_IBG
LVD_VBG
LVD_VREFH
LVD_VREFL
LVDSA_CLK#
LVDSA_CLK
LVDSA_DATA#0
LVDSA_DATA#1
LVDSA_DATA#2
LVDSA_DATA#3
LVDSA_DATA0
LVDSA_DATA1
LVDSA_DATA2
LVDSA_DATA3
LVDSB_CLK#
LVDSB_CLK
LVDSB_DATA#0
LVDSB_DATA#1
LVDSB_DATA#2
LVDSB_DATA#3
LVDSB_DATA0
LVDSB_DATA1
LVDSB_DATA2
LVDSB_DATA3
CRT_BLUE
CRT_GREEN
CRT_RED
CRT_DDC_CLK
CRT_DDC_DATA
CRT_HSYNC
CRT_VSYNC
DAC_IREF
CRT_IRTN
SDVO_TVCLKINN
SDVO_TVCLKINP
SDVO_STALLN
SDVO_STALLP
SDVO_INTN
SDVO_INTP
SDVO_CTRLCLK
SDVO_CTRLDATA
DDPB_AUXN
DDPB_AUXP
DDPB_HPD
DDPB_0N
DDPB_0P
DDPB_1N
DDPB_1P
DDPB_2N
DDPB_2P
DDPB_3N
DDPB_3P
DDPC_CTRLCLK
DDPC_CTRLDATA
DDPC_AUXN
DDPC_AUXP
DDPC_HPD
DDPC_0N
DDPC_0P
DDPC_1N
DDPC_1P
DDPC_2N
DDPC_2P
DDPC_3N
DDPC_3P
DDPD_CTRLCLK
DDPD_CTRLDATA
DDPD_AUXN
DDPD_AUXP
DDPD_HPD
DDPD_0N
DDPD_0P
DDPD_1N
DDPD_1P
DDPD_2N
DDPD_2P
DDPD_3N
DDPD_3P
UTMDS_DDC_CLK
UTMDS_DDC_DATA
UHDMI_DET
UTMDS_TX2N
UTMDS_TX2P
UTMDS_TX1N
UTMDS_TX1P
UTMDS_TX0N
UTMDS_TX0P
UTMDS_CLKN
UTMDS_CLKP
Ibexpeak-M
Discrete GPU: Not Install
UMA: Install
Discrete GPU: 1K_5%
UMA: 1K_0.5%
Place resistor close to PCH
Discrete GPU: Not Install
UMA: Install
Place resistor close to PCH
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PCH (DMI,FDI,GPIO)
Custom
STAR (Federer)
0.4
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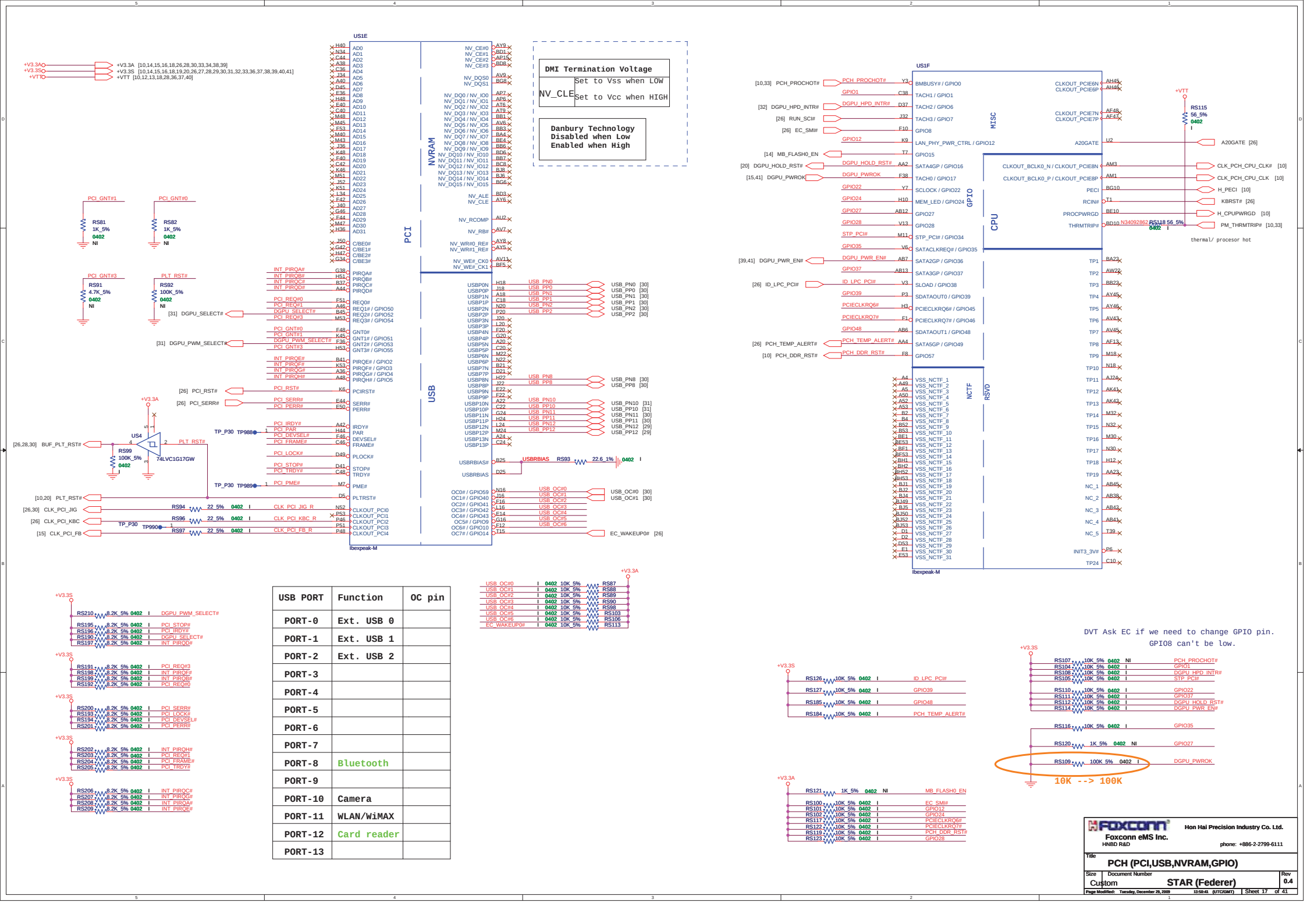


| USB PORT | Function | OC pin |
|---|---|---|
| PORT-0 | Ext. USB 0 | |
| PORT-1 | Ext. USB 1 | |
| PORT-2 | Ext. USB 2 | |
| PORT-3 | | |
| PORT-4 | | |
| PORT-5 | | |
| PORT-6 | | |
| PORT-7 | | |
| PORT-8 | Bluetooth | |
| PORT-9 | | |
| PORT-10 | Camera | |
| PORT-11 | WLAN/WiMAX | |
| PORT-12 | Card reader | |
| PORT-13 | | |


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Title: PCH (PCI,USB,NVRAM,GPIO)

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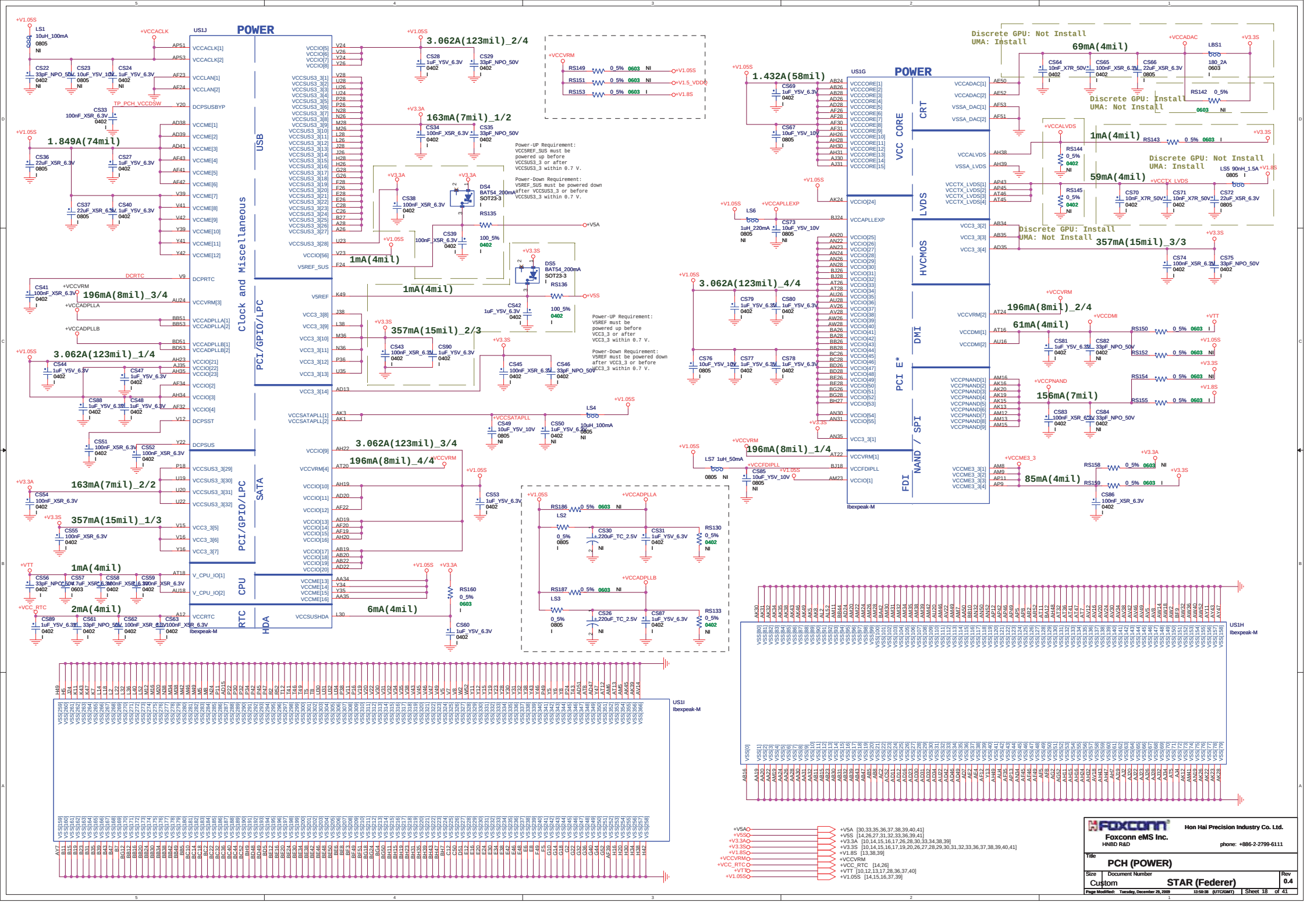
POWER
Clock and Miscellaneous
USB
PCI/GPIO/LPC
SATA
CPU
RTC
HDA
VCC CORE
CRT
LVDS
HVCMOS
DMI
PCI E*
FDI
NAND / SPI
1.849A(74mil)
3.062A(123mil)_1/4
163mA(7mil)_2/2
357mA(15mil)_1/3
1mA(4mil)
2mA(4mil)
3.062A(123mil)_2/4
163mA(7mil)_1/2
1mA(4mil)
357mA(15mil)_2/3
3.062A(123mil)_3/4
196mA(8mil)_4/4
6mA(4mil)
1.432A(58mil)
3.062A(123mil)_4/4
196mA(8mil)_1/4
Discrete GPU: Not Install
UMA: Install
69mA(4mil)
Discrete GPU: Install
UMA: Not Install
1mA(4mil)
59mA(4mil)
Discrete GPU: Not Install
UMA: Install
357mA(15mil)_3/3
196mA(8mil)_2/4
61mA(4mil)
156mA(7mil)
85mA(4mil)
US1J
US1G
US1I
US1H
Ibexpeak-M
Power-UP Requirement:
VCC5REF_SUS must be powered up before VCCSUS3_3 or after VCCSUS3_3 within 0.7 V.
Power-Down Requirement:
V5REF_SUS must be powered down after VCCSUS3_3 or before VCCSUS3_3 within 0.7 V.
Power-UP Requirement:
V5REF must be powered up before VCC3_3 or after VCC3_3 within 0.7 V.
Power-Down Requirement:
V5REF must be powered down after VCC3_3 or before VCC3_3 within 0.7 V.
+V5A [30,33,35,36,37,38,39,40,41]
+V5S [14,26,27,31,32,33,36,39,41]
+V3.3A [10,14,15,16,17,26,28,30,33,34,38,39]
+V3.3S [10,14,15,16,17,19,20,26,27,28,29,30,31,32,33,36,37,38,39,40,41]
+V1.8S [13,38,39]
+VCCVRM
+VCC_RTC [14,26]
+VTT [10,12,13,17,28,36,37,40]
+V1.05S [14,15,16,37,39]
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PCH (POWER)
Size: Custom
Document Number: STAR (Federer)
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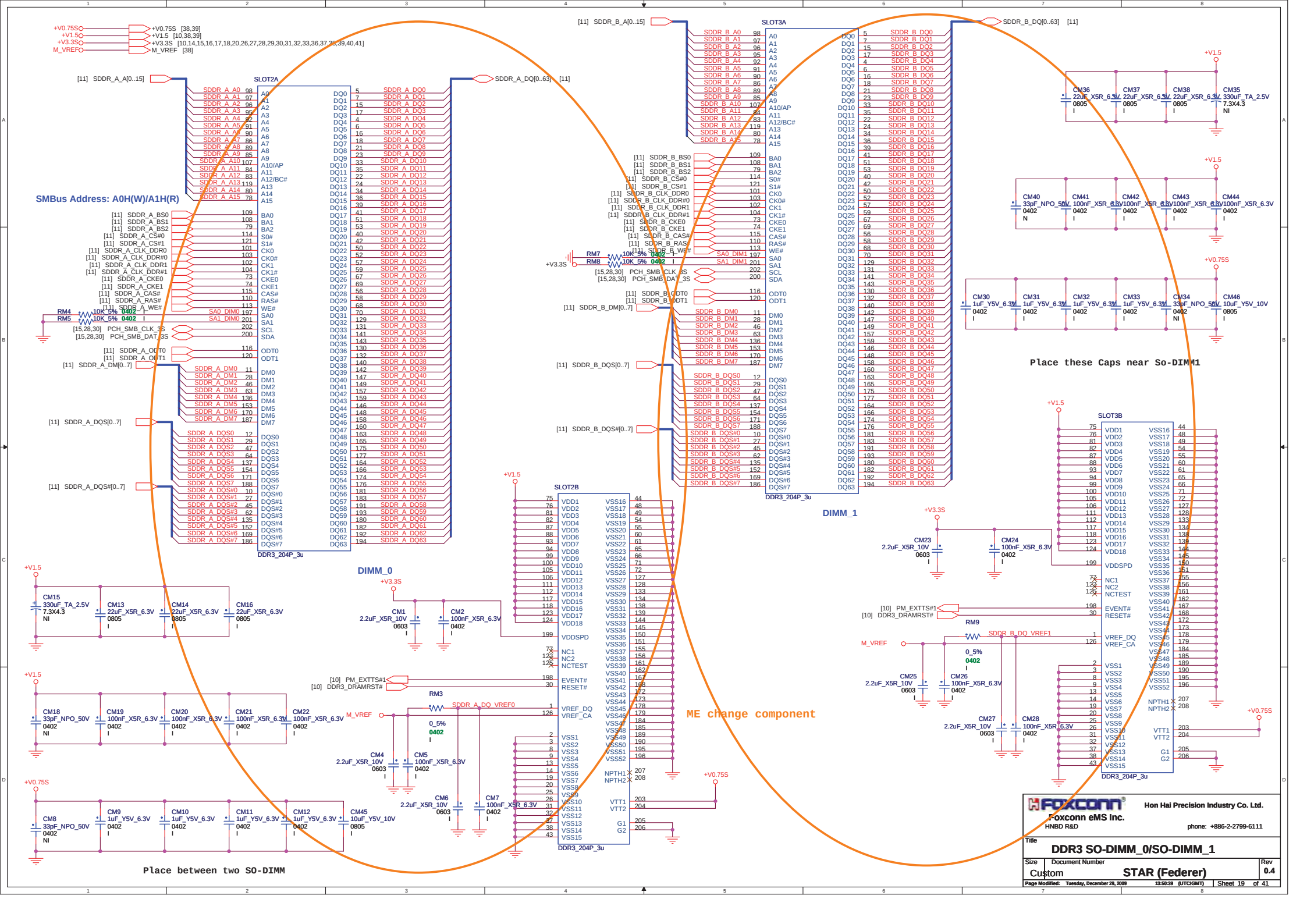
SMBus Address: A0H(W)/A1H(R)
SLOT2A
SLOT3A
SLOT2B
SLOT3B
DDR3_204P_3u
DIMM_0
DIMM_1
ME change component
Place these Caps near So-DIMM1
Place between two SO-DIMM
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DDR3 SO-DIMM_0/SO-DIMM_1
Custom
STAR (Federer)
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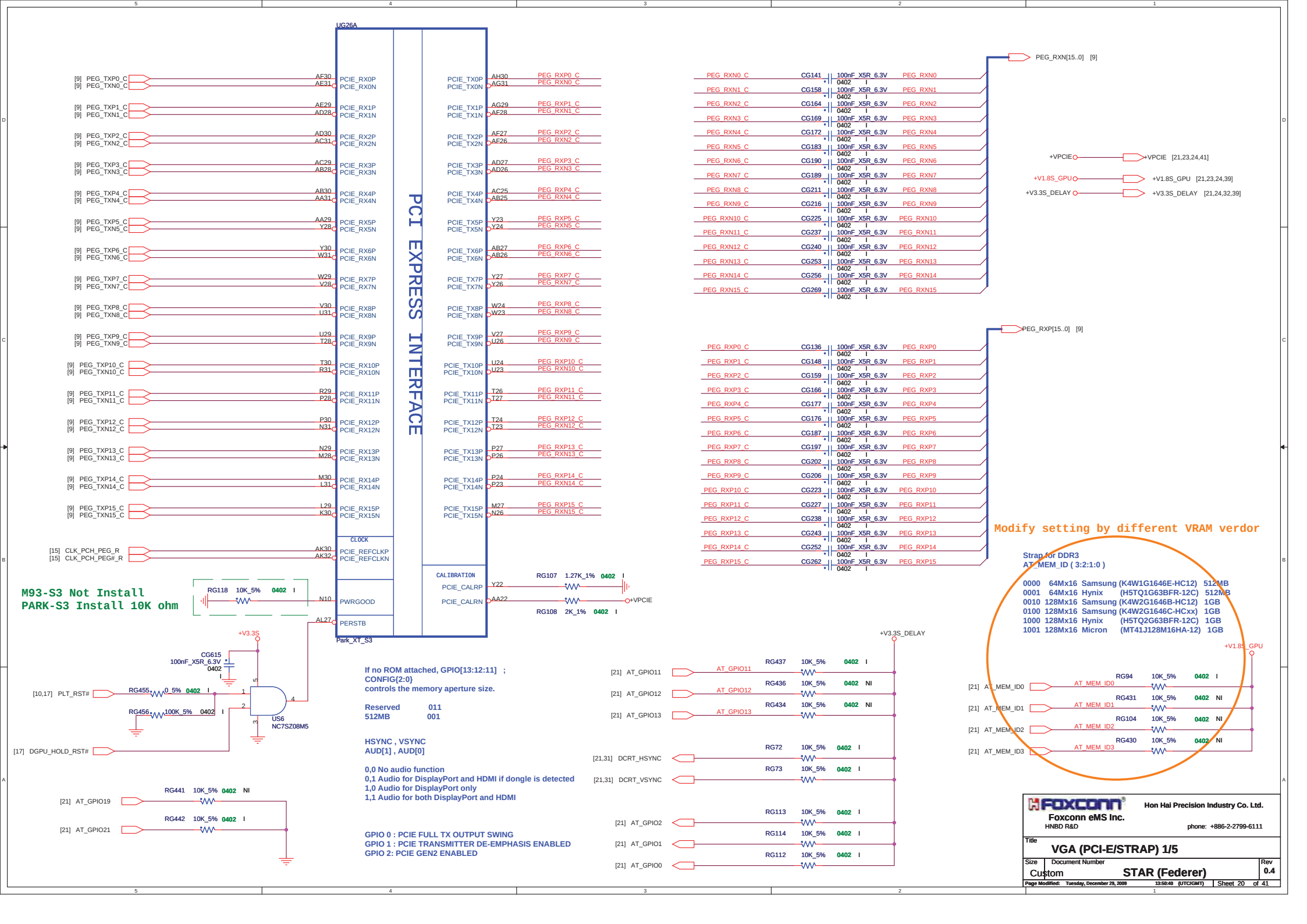
UG26A
PCI EXPRESS INTERFACE
[9] PEG_TXP0_C
[9] PEG_TXN0_C
AF30
AE31
PCIE_RX0P
PCIE_RX0N
PCIE_TX0P
PCIE_TX0N
AH30
AG31
PEG_RXP0_C
PEG_RXN0_C
[9] PEG_TXP1_C
[9] PEG_TXN1_C
AE29
AD28
PCIE_RX1P
PCIE_RX1N
PCIE_TX1P
PCIE_TX1N
AG29
AE28
PEG_RXP1_C
PEG_RXN1_C
[9] PEG_TXP2_C
[9] PEG_TXN2_C
AD30
AC31
PCIE_RX2P
PCIE_RX2N
PCIE_TX2P
PCIE_TX2N
AF27
AE26
PEG_RXP2_C
PEG_RXN2_C
[9] PEG_TXP3_C
[9] PEG_TXN3_C
AC29
AB28
PCIE_RX3P
PCIE_RX3N
PCIE_TX3P
PCIE_TX3N
AD27
AD26
PEG_RXP3_C
PEG_RXN3_C
[9] PEG_TXP4_C
[9] PEG_TXN4_C
AB30
AA31
PCIE_RX4P
PCIE_RX4N
PCIE_TX4P
PCIE_TX4N
AC25
AB25
PEG_RXP4_C
PEG_RXN4_C
[9] PEG_TXP5_C
[9] PEG_TXN5_C
AA29
Y28
PCIE_RX5P
PCIE_RX5N
PCIE_TX5P
PCIE_TX5N
Y23
Y24
PEG_RXP5_C
PEG_RXN5_C
[9] PEG_TXP6_C
[9] PEG_TXN6_C
Y30
W31
PCIE_RX6P
PCIE_RX6N
PCIE_TX6P
PCIE_TX6N
AB27
AB26
PEG_RXP6_C
PEG_RXN6_C
[9] PEG_TXP7_C
[9] PEG_TXN7_C
W29
V28
PCIE_RX7P
PCIE_RX7N
PCIE_TX7P
PCIE_TX7N
Y27
Y26
PEG_RXP7_C
PEG_RXN7_C
[9] PEG_TXP8_C
[9] PEG_TXN8_C
V30
U31
PCIE_RX8P
PCIE_RX8N
PCIE_TX8P
PCIE_TX8N
W24
W23
PEG_RXP8_C
PEG_RXN8_C
[9] PEG_TXP9_C
[9] PEG_TXN9_C
U29
T28
PCIE_RX9P
PCIE_RX9N
PCIE_TX9P
PCIE_TX9N
V27
U26
PEG_RXP9_C
PEG_RXN9_C
[9] PEG_TXP10_C
[9] PEG_TXN10_C
T30
R31
PCIE_RX10P
PCIE_RX10N
PCIE_TX10P
PCIE_TX10N
U24
U23
PEG_RXP10_C
PEG_RXN10_C
[9] PEG_TXP11_C
[9] PEG_TXN11_C
R29
P28
PCIE_RX11P
PCIE_RX11N
PCIE_TX11P
PCIE_TX11N
T26
T27
PEG_RXP11_C
PEG_RXN11_C
[9] PEG_TXP12_C
[9] PEG_TXN12_C
P30
N31
PCIE_RX12P
PCIE_RX12N
PCIE_TX12P
PCIE_TX12N
T24
T23
PEG_RXP12_C
PEG_RXN12_C
[9] PEG_TXP13_C
[9] PEG_TXN13_C
N29
M28
PCIE_RX13P
PCIE_RX13N
PCIE_TX13P
PCIE_TX13N
P27
P26
PEG_RXP13_C
PEG_RXN13_C
[9] PEG_TXP14_C
[9] PEG_TXN14_C
M30
L31
PCIE_RX14P
PCIE_RX14N
PCIE_TX14P
PCIE_TX14N
P24
P23
PEG_RXP14_C
PEG_RXN14_C
[9] PEG_TXP15_C
[9] PEG_TXN15_C
L29
K30
PCIE_RX15P
PCIE_RX15N
PCIE_TX15P
PCIE_TX15N
M27
N26
PEG_RXP15_C
PEG_RXN15_C
CLOCK
[15] CLK_PCH_PEG_R
[15] CLK_PCH_PEG#_R
AK30
AK32
PCIE_REFCLKP
PCIE_REFCLKN
CALIBRATION
PCIE_CALRP
PCIE_CALRN
Y22
AA22
RG107 1.27K_1% 0402
RG108 2K_1% 0402
+VPCIE
RG118 10K_5% 0402
N10
PWRGOOD
AL27
PERSTB
Park_XT_S3
PEG_RXN[15..0] [9]
PEG_RXP[15..0] [9]
CG141 100nF_X5R_6.3V 0402
CG158 100nF_X5R_6.3V 0402
CG164 100nF_X5R_6.3V 0402
CG169 100nF_X5R_6.3V 0402
CG172 100nF_X5R_6.3V 0402
CG183 100nF_X5R_6.3V 0402
CG190 100nF_X5R_6.3V 0402
CG189 100nF_X5R_6.3V 0402
CG211 100nF_X5R_6.3V 0402
CG216 100nF_X5R_6.3V 0402
CG225 100nF_X5R_6.3V 0402
CG237 100nF_X5R_6.3V 0402
CG240 100nF_X5R_6.3V 0402
CG253 100nF_X5R_6.3V 0402
CG256 100nF_X5R_6.3V 0402
CG269 100nF_X5R_6.3V 0402
+VPCIE [21,23,24,41]
+V1.8S_GPU [21,23,24,39]
+V3.3S_DELAY [21,24,32,39]
CG136 100nF_X5R_6.3V 0402
CG148 100nF_X5R_6.3V 0402
CG159 100nF_X5R_6.3V 0402
CG166 100nF_X5R_6.3V 0402
CG177 100nF_X5R_6.3V 0402
CG176 100nF_X5R_6.3V 0402
CG187 100nF_X5R_6.3V 0402
CG197 100nF_X5R_6.3V 0402
CG202 100nF_X5R_6.3V 0402
CG206 100nF_X5R_6.3V 0402
CG223 100nF_X5R_6.3V 0402
CG227 100nF_X5R_6.3V 0402
CG238 100nF_X5R_6.3V 0402
CG243 100nF_X5R_6.3V 0402
CG252 100nF_X5R_6.3V 0402
CG262 100nF_X5R_6.3V 0402
Modify setting by different VRAM verdor
Strap for DDR3
AT_MEM_ID ( 3:2:1:0 )
0000 64Mx16 Samsung (K4W1G1646E-HC12) 512MB
0001 64Mx16 Hynix (H5TQ1G63BFR-12C) 512MB
0010 128Mx16 Samsung (K4W2G1646B-HC12) 1GB
0100 128Mx16 Samsung (K4W2G1646C-HCxx) 1GB
1000 128Mx16 Hynix (H5TQ2G63BFR-12C) 1GB
1001 128Mx16 Micron (MT41J128M16HA-12) 1GB
M93-S3 Not Install
PARK-S3 Install 10K ohm
+V3.3S
CG615 100nF_X5R_6.3V 0402
[10,17] PLT_RST#
RG455 0_5% 0402
RG456 100K_5% 0402
US6 NC7SZ08M5
[17] DGPU_HOLD_RST#
If no ROM attached, GPIO[13:12:11] ; CONFIG{2:0}
controls the memory aperture size.
Reserved 011
512MB 001
HSYNC , VSYNC
AUD[1] , AUD[0]
0,0 No audio function
0,1 Audio for DisplayPort and HDMI if dongle is detected
1,0 Audio for DisplayPort only
1,1 Audio for both DisplayPort and HDMI
GPIO 0 : PCIE FULL TX OUTPUT SWING
GPIO 1 : PCIE TRANSMITTER DE-EMPHASIS ENABLED
GPIO 2: PCIE GEN2 ENABLED
RG441 10K_5% 0402 NI
[21] AT_GPIO19
RG442 10K_5% 0402
[21] AT_GPIO21
+V3.3S_DELAY
[21] AT_GPIO11
[21] AT_GPIO12
[21] AT_GPIO13
RG437 10K_5% 0402
RG436 10K_5% 0402 NI
RG434 10K_5% 0402 NI
[21,31] DCRT_HSYNC
[21,31] DCRT_VSYNC
RG72 10K_5% 0402
RG73 10K_5% 0402
[21] AT_GPIO2
[21] AT_GPIO1
[21] AT_GPIO0
RG113 10K_5% 0402
RG114 10K_5% 0402
RG112 10K_5% 0402
+V1.8S_GPU
[21] AT_MEM_ID0
[21] AT_MEM_ID1
[21] AT_MEM_ID2
[21] AT_MEM_ID3
RG94 10K_5% 0402
RG431 10K_5% 0402 NI
RG104 10K_5% 0402 NI
RG430 10K_5% 0402 NI
Hon Hai Precision Industry Co. Ltd.
Foxconn eMS Inc.
HNBD R&D
phone: +886-2-2799-6111
Title
VGA (PCI-E/STRAP) 1/5
Size
Custom
Document Number
STAR (Federer)
Rev
0.4
Page Modified: Tuesday, December 29, 2009 13:50:40 (UTC/GMT)
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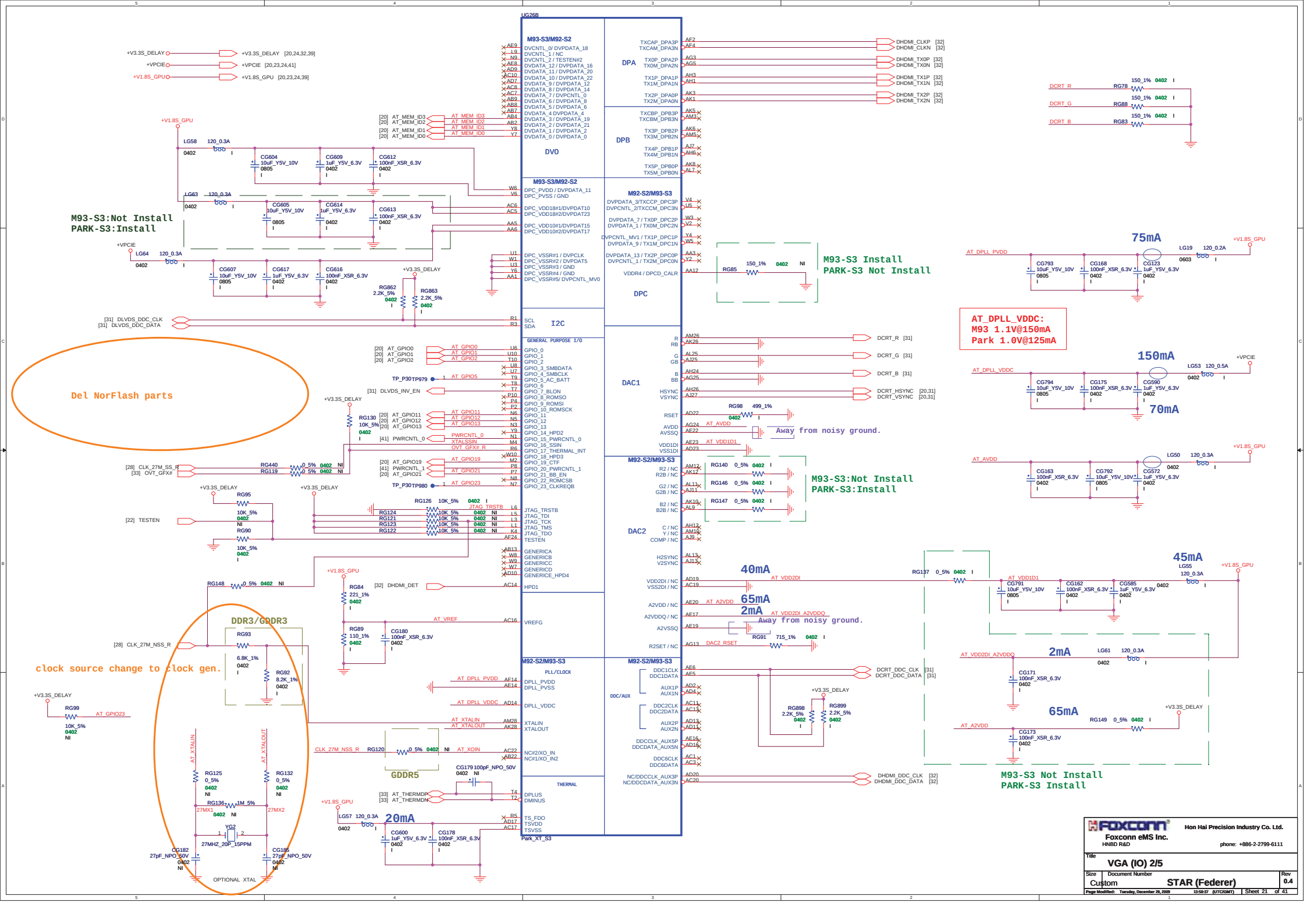
UG26B
M93-S3/M92-S2
DVCNTL_0/ DVPDATA_18
DVCNTL_1 / NC
DVCNTL_2 / TESTEN#2
DVDATA_12 / DVPDATA_16
DVDATA_11 / DVPDATA_20
DVDATA_10 / DVPDATA_22
DVDATA_9 / DVPDATA_12
DVDATA_8 / DVPDATA_14
DVDATA_7 / DVPCNTL_0
DVDATA_6 / DVPDATA_8
DVDATA_5 / DVPDATA_6
DVDATA_4 DVPDATA_4
DVDATA_3 / DVPDATA_19
DVDATA_2 / DVPDATA_21
DVDATA_1 / DVPDATA_2
DVDATA_0 / DVPDATA_0
DVO
DPA
DPB
DPC
I2C
SCL
SDA
GENERAL PURPOSE I/O
JTAG_TRSTB
JTAG_TDI
JTAG_TCK
JTAG_TMS
JTAG_TDO
TESTEN
GENERICA
GENERICB
GENERICC
GENERICD
GENERICE_HPD4
HPD1
VREFG
PLL/CLOCK
DPLL_PVDD
DPLL_PVSS
DPLL_VDDC
XTALIN
XTALOUT
NC#2/XO_IN
NC#1/XO_IN2
THERMAL
DPLUS
DMINUS
TS_FDO
TSVDD
TSVSS
Park_XT_S3
M92-S2/M93-S3
DPC_PVDD / DVPDATA_11
DPC_PVSS / GND
DPC_VDD18#1/DVPDAT10
DPC_VDD18#2/DVPDAT23
DPC_VDD10#1/DVPDAT15
DPC_VDD10#2/DVPDAT17
DPC_VSSR#1 / DVPCLK
DPC_VSSR#2 / DVPDAT5
DPC_VSSR#3 / GND
DPC_VSSR#4 / GND
DPC_VSSR#5/ DVPCNTL_MV0
M92-S2/M93-S3
DVPDATA_3/TXCCP_DPC3P
DVPCNTL_2/TXCCM_DPC3N
DVPDATA_7 / TX0P_DPC2P
DVPDATA_1 / TX0M_DPC2N
DVPCNTL_MV1 / TX1P_DPC1P
DVPDATA_9 / TX1M_DPC1N
DVPDATA_13 / TX2P_DPC0P
DVPCNTL_1 / TX2M_DPC0N
VDDR4 / DPCD_CALR
M92-S2/M93-S3
R2 / NC
R2B / NC
G2 / NC
G2B / NC
B2 / NC
B2B / NC
C / NC
Y / NC
COMP / NC
H2SYNC
V2SYNC
VDD2DI / NC
VSS2DI / NC
A2VDD / NC
A2VDDQ / NC
A2VSSQ
R2SET / NC
M92-S2/M93-S3
DDC1CLK
DDC1DATA
AUX1P
AUX1N
DDC2CLK
DDC2DATA
AUX2P
AUX2N
DDCCLK_AUX5P
DDCDATA_AUX5N
DDC6CLK
DDC6DATA
NC/DDCCLK_AUX3P
NC/DDCDATA_AUX3N
DDC/AUX
DAC1
R
RB
G
GB
B
BB
HSYNC
VSYNC
RSET
AVDD
AVSSQ
VDD1DI
VSS1DI
DAC2
DCRT_R [31]
DCRT_G [31]
DCRT_B [31]
DCRT_HSYNC [20,31]
DCRT_VSYNC [20,31]
TXCAP_DPA3P
TXCAM_DPA3N
TX0P_DPA2P
TX0M_DPA2N
TX1P_DPA1P
TX1M_DPA1N
TX2P_DPA0P
TX2M_DPA0N
DHDMI_CLKP [32]
DHDMI_CLKN [32]
DHDMI_TX0P [32]
DHDMI_TX0N [32]
DHDMI_TX1P [32]
DHDMI_TX1N [32]
DHDMI_TX2P [32]
DHDMI_TX2N [32]
TXCBP_DPB3P
TXCBM_DPB3N
TX3P_DPB2P
TX3M_DPB2N
TX4P_DPB1P
TX4M_DPB1N
TX5P_DPB0P
TX5M_DPB0N
DCRT_DDC_CLK [31]
DCRT_DDC_DATA [31]
DHDMI_DDC_CLK [32]
DHDMI_DDC_DATA [32]
+V3.3S_DELAY [20,24,32,39]
+VPCIE [20,23,24,41]
+V1.8S_GPU [20,23,24,39]
DCRT_R
DCRT_G
DCRT_B
RG78 150_1% 0402
RG88 150_1% 0402
RG83 150_1% 0402
M93-S3:Not Install
PARK-S3:Install
LG58 120_0.3A 0402
LG63 120_0.3A 0402
LG64 120_0.3A 0402
CG604 10uF_Y5V_10V 0805
CG609 1uF_Y5V_6.3V 0402
CG612 100nF_X5R_6.3V 0402
CG605 10uF_Y5V_10V 0805
CG614 1uF_Y5V_6.3V 0402
CG613 100nF_X5R_6.3V 0402
CG607 10uF_Y5V_10V 0805
CG617 1uF_Y5V_6.3V 0402
CG616 100nF_X5R_6.3V 0402
RG862 2.2K_5% 0402
RG863 2.2K_5% 0402
[31] DLVDS_DDC_CLK
[31] DLVDS_DDC_DATA
M93-S3 Install
PARK-S3 Not Install
RG85 150_1% 0402 NI
75mA
LG19 120_0.2A 0603
AT_DPLL_PVDD
CG793 10uF_Y5V_10V 0805
CG168 100nF_X5R_6.3V 0402
CG123 1uF_Y5V_6.3V 0402
AT_DPLL_VDDC:
M93 1.1V@150mA
Park 1.0V@125mA
150mA
LG53 120_0.5A 0402
CG794 10uF_Y5V_10V 0805
CG175 100nF_X5R_6.3V 0402
CG590 1uF_Y5V_6.3V 0402
70mA
AT_AVDD
LG50 120_0.3A 0402
CG163 100nF_X5R_6.3V 0402
CG792 10uF_Y5V_10V 0805
CG572 1uF_Y5V_6.3V 0402
Del NorFlash parts
RG130 10K_5% 0402
RG440 0_5% 0402 NI
RG119 0_5% 0402 NI
[28] CLK_27M_SS_R
[33] OVT_GFX#
[41] PWRCNTL_0
[31] DLVDS_INV_EN
TP_P30 TP979
TP_P30 TP980
RG95 10K_5% 0402 NI
RG90 10K_5% 0402
[22] TESTEN
RG126 10K_5% 0402
RG124 10K_5% 0402 NI
RG121 10K_5% 0402 NI
RG123 10K_5% 0402 NI
RG122 10K_5% 0402 NI
RG148 0_5% 0402 NI
RG84 221_1% 0402
[32] DHDMI_DET
RG89 110_1% 0402
CG180 100nF_X5R_6.3V 0402
AT_VREF
DDR3/GDDR3
RG93 6.8K_1% 0402
RG92 8.2K_1% 0402
[28] CLK_27M_NSS_R
clock source change to clock gen.
RG99 10K_5% 0402 NI
AT_GPIO23
AT_DPLL_PVDD
AT_DPLL_VDDC
AT_XTALIN
AT_XTALOUT
CLK_27M_NSS_R RG120 0_5% 0402 NI AT_XOIN
GDDR5
CG179 100pF_NPO_50V 0402 NI
RG125 0_5% 0402 NI
RG132 0_5% 0402 NI
RG136 1M_5% 0402 NI
27MX1
27MX2
YG2
27MHZ_20P_15PPM
CG182 27pF_NPO_50V 0402 NI
CG185 27pF_NPO_50V 0402 NI
OPTIONAL XTAL
[33] AT_THERMDP
[33] AT_THERMDN
LG57 120_0.3A 0402
20mA
CG600 1uF_Y5V_6.3V 0402
CG178 100nF_X5R_6.3V 0402
AT_GPIO0
AT_GPIO1
AT_GPIO2
AT_GPIO5
AT_GPIO11
AT_GPIO12
AT_GPIO13
PWRCNTL_0
XTALSSIN
OVT_GFX# R
AT_GPIO19
AT_GPIO21
AT_GPIO23
JTAG_TRSTB
RG98 499_1% 0402
AT_AVDD
Away from noisy ground.
AT_VDD1D1
M93-S3:Not Install
PARK-S3:Install
RG140 0_5% 0402
RG146 0_5% 0402
RG147 0_5% 0402
40mA
AT_VDD2DI
65mA
2mA
AT_A2VDD
AT_VDD2DI_A2VDDQ
Away from noisy ground.
RG91 715_1% 0402
DAC2_RSET
RG137 0_5% 0402
45mA
LG55 120_0.3A
CG791 10uF_Y5V_10V 0805
CG162 100nF_X5R_6.3V 0402
CG585 1uF_Y5V_6.3V 0402
AT_VDD2DI_A2VDDQ
2mA
LG61 120_0.3A 0402
CG171 100nF_X5R_6.3V 0402
65mA
RG149 0_5% 0402
CG173 100nF_X5R_6.3V 0402
RG898 2.2K_5% 0402
RG899 2.2K_5% 0402
M93-S3 Not Install
PARK-S3 Install
Foxconn eMS Inc.
HNBD R&D
Hon Hai Precision Industry Co. Ltd.
phone: +886-2-2799-6111
Title
VGA (IO) 2/5
Size
Custom
Document Number
STAR (Federer)
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0.4
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+V1.5S → +V1.5S [24,25,39,41]

UG26F — LVDS CONTROL

| | | |
|---|---|---|
| VARY_BL | AB11 | DLVDS_PWM [31] |
| DIGON | AB12 | DLVDS_VCC_EN [31] |
| TXCLK_UP_DPF3P | AH20 | DLVDS_U_CLKP [31] |
| TXCLK_UN_DPF3N | AJ19 | DLVDS_U_CLKN [31] |
| TXOUT_U0P_DPF2P | AL21 | DLVDS_U_DP0 [31] |
| TXOUT_U0N_DPF2N | AK20 | DLVDS_U_DN0 [31] |
| TXOUT_U1P_DPF1P | AH22 | DLVDS_U_DP1 [31] |
| TXOUT_U1N_DPF1N | AJ21 | DLVDS_U_DN1 [31] |
| TXOUT_U2P_DPF0P | AL23 | DLVDS_U_DP2 [31] |
| TXOUT_U2N_DPF0N | AK22 | DLVDS_U_DN2 [31] |
| TXOUT_U3P | AK24 | |
| TXOUT_U3N | AJ23 | |

LVTMDP

| | | |
|---|---|---|
| TXCLK_LP_DPE3P | AL15 | DLVDS_L_CLKP [31] |
| TXCLK_LN_DPE3N | AK14 | DLVDS_L_CLKN [31] |
| TXOUT_L0P_DPE2P | AH16 | DLVDS_L_DP0 [31] |
| TXOUT_L0N_DPE2N | AJ15 | DLVDS_L_DN0 [31] |
| TXOUT_L1P_DPE1P | AL17 | DLVDS_L_DP1 [31] |
| TXOUT_L1N_DPE1N | AK16 | DLVDS_L_DN1 [31] |
| TXOUT_L2P_DPE0P | AH18 | DLVDS_L_DP2 [31] |
| TXOUT_L2N_DPE0N | AJ17 | DLVDS_L_DN2 [31] |
| TXOUT_L3P | AL19 | |
| TXOUT_L3N | AK18 | |

Park_XT_S3

CLKTESTA
CLKTESTB
CG273 100nF_X5R_6.3V 0402 NI
CG280 100nF_X5R_6.3V 0402 NI
RG127 51_5% 0402 NI
RG134 51_5% 0402 NI

+V1.5S
RG145 2.2K_5% 0402 NI
[25] MEM_RST
RG142 680_5% 0402 I
CG781 68pF_NPO_50V 0402 I
RG141 10K_5% 0402 I

| | M93-S3 | PARK-S3 |
|---|---|---|
| RG141 | DNI | 10K |
| RG142 | 0R | 680R |
| RG145 | 2.2K | DNI |
| CG781 | 2.2nF | 68pF |

PLACE MVREF DIVIDERS AND CAPS CLOSE TO ASIC

+V1.5S
RG139 40.2_1% 0402 I
MVREFD
RG135 100_1% 0402 I
CG274 100nF_X5R_6.3V 0402 I

+V1.5S
RG143 40.2_1% 0402 I
MVREFS
RG133 100_1% 0402 I
CG302 100nF_X5R_6.3V 0402 I

+V1.5S
RG128 240_1% 0402 I
M93-S3 No Install
PARK-S3 Install
[21] TESTEN
RG188 0_5% 0402 I

CLKTESTA
CLKTESTB
RG131 4.7K_5% 0402 NI
RG129 4.7K_5% 0402 NI
RG144 240_1% 0402 I
RG138 150_1% 0402 I

M93-S3 Install
PARK-S3 Not Install

M93-S3 Not Install
PARK-S3 Install

M93-S3 Install 240 ohm
PARK-S3 Install 150 ohm

UG26C — MEMORY INTERFACE

[25] GDDR_A_DQ[63:0]

| | | |
|---|---|---|
| GDDR_A_DQ0 | K27 | DQA_0 |
| GDDR_A_DQ1 | J29 | DQA_1 |
| GDDR_A_DQ2 | H30 | DQA_2 |
| GDDR_A_DQ3 | H32 | DQA_3 |
| GDDR_A_DQ4 | G29 | DQA_4 |
| GDDR_A_DQ5 | F28 | DQA_5 |
| GDDR_A_DQ6 | F32 | DQA_6 |
| GDDR_A_DQ7 | F30 | DQA_7 |
| GDDR_A_DQ8 | C30 | DQA_8 |
| GDDR_A_DQ9 | F27 | DQA_9 |
| GDDR_A_DQ10 | A28 | DQA_10 |
| GDDR_A_DQ11 | C28 | DQA_11 |
| GDDR_A_DQ12 | E27 | DQA_12 |
| GDDR_A_DQ13 | G26 | DQA_13 |
| GDDR_A_DQ14 | D26 | DQA_14 |
| GDDR_A_DQ15 | F25 | DQA_15 |
| GDDR_A_DQ16 | A25 | DQA_16 |
| GDDR_A_DQ17 | C25 | DQA_17 |
| GDDR_A_DQ18 | E25 | DQA_18 |
| GDDR_A_DQ19 | D24 | DQA_19 |
| GDDR_A_DQ20 | F23 | DQA_20 |
| GDDR_A_DQ21 | F23 | DQA_21 |
| GDDR_A_DQ22 | D22 | DQA_22 |
| GDDR_A_DQ23 | F21 | DQA_23 |
| GDDR_A_DQ24 | E21 | DQA_24 |
| GDDR_A_DQ25 | D20 | DQA_25 |
| GDDR_A_DQ26 | F19 | DQA_26 |
| GDDR_A_DQ27 | A19 | DQA_27 |
| GDDR_A_DQ28 | D18 | DQA_28 |
| GDDR_A_DQ29 | F17 | DQA_29 |
| GDDR_A_DQ30 | A17 | DQA_30 |
| GDDR_A_DQ31 | C17 | DQA_31 |
| GDDR_A_DQ32 | E17 | DQA_32 |
| GDDR_A_DQ33 | D16 | DQA_33 |
| GDDR_A_DQ34 | F15 | DQA_34 |
| GDDR_A_DQ35 | A15 | DQA_35 |
| GDDR_A_DQ36 | D14 | DQA_36 |
| GDDR_A_DQ37 | F13 | DQA_37 |
| GDDR_A_DQ38 | A13 | DQA_38 |
| GDDR_A_DQ39 | C13 | DQA_39 |
| GDDR_A_DQ40 | E11 | DQA_40 |
| GDDR_A_DQ41 | A11 | DQA_41 |
| GDDR_A_DQ42 | C11 | DQA_42 |
| GDDR_A_DQ43 | F11 | DQA_43 |
| GDDR_A_DQ44 | A9 | DQA_44 |
| GDDR_A_DQ45 | C9 | DQA_45 |
| GDDR_A_DQ46 | F9 | DQA_46 |
| GDDR_A_DQ47 | D8 | DQA_47 |
| GDDR_A_DQ48 | E7 | DQA_48 |
| GDDR_A_DQ49 | A7 | DQA_49 |
| GDDR_A_DQ50 | C7 | DQA_50 |
| GDDR_A_DQ51 | F7 | DQA_51 |
| GDDR_A_DQ52 | A5 | DQA_52 |
| GDDR_A_DQ53 | E5 | DQA_53 |
| GDDR_A_DQ54 | C3 | DQA_54 |
| GDDR_A_DQ55 | E1 | DQA_55 |
| GDDR_A_DQ56 | G7 | DQA_56 |
| GDDR_A_DQ57 | G6 | DQA_57 |
| GDDR_A_DQ58 | G1 | DQA_58 |
| GDDR_A_DQ59 | G3 | DQA_59 |
| GDDR_A_DQ60 | J6 | DQA_60 |
| GDDR_A_DQ61 | J1 | DQA_61 |
| GDDR_A_DQ62 | J3 | DQA_62 |
| GDDR_A_DQ63 | J5 | DQA_63 |
| MVREFD | K26 | MVREFDA |
| MVREFS | J26 | MVREFSA |
| | J25 | MEM_CALRN0 |
| | K7 | NC/TESTEN#2 |
| | J8 | MEM_CALRP1/DPC_CALR |
| | K25 | MEM_CALRP0 |
| | L10 | DRAM_RST |
| CLKTESTA | K8 | CLKTESTA |
| CLKTESTB | L7 | CLKTESTB |

| | | |
|---|---|---|
| MAA_0 | K17 | GDDR_A_A0 |
| MAA_1 | J20 | GDDR_A_A1 |
| MAA_2 | H23 | GDDR_A_A2 |
| MAA_3 | G23 | GDDR_A_A3 |
| MAA_4 | G24 | GDDR_A_A4 |
| MAA_5 | H24 | GDDR_A_A5 |
| MAA_6 | J19 | GDDR_A_A6 |
| MAA_7 | K19 | GDDR_A_A7 |
| MAA_8 | J14 | GDDR_A_A8 |
| MAA_9 | K14 | GDDR_A_A9 |
| MAA_10 | J11 | GDDR_A_A10 |
| MAA_11 | J13 | GDDR_A_A11 |
| MAA_12 | H11 | GDDR_A_A12 |
| MAA_13/BA2 | G11 | GDDR_A_BA2 [25] |
| MAA_14/BA0 | J16 | GDDR_A_BA0 [25] |
| MAA_15/BA1 | L15 | GDDR_A_BA1 [25] |
| | | GDDR_A_DM[7:0] [25] |
| DQMA_0 | E32 | GDDR_A_DM0 |
| DQMA_1 | E30 | GDDR_A_DM1 |
| DQMA_2 | A21 | GDDR_A_DM2 |
| DQMA_3 | C21 | GDDR_A_DM3 |
| DQMA_4 | E13 | GDDR_A_DM4 |
| DQMA_5 | D12 | GDDR_A_DM5 |
| DQMA_6 | E3 | GDDR_A_DM6 |
| DQMA_7 | F4 | GDDR_A_DM7 |
| RDQSA_0 | H28 | GDDR_A_DQS0 |
| RDQSA_1 | C27 | GDDR_A_DQS1 |
| RDQSA_2 | A23 | GDDR_A_DQS2 |
| RDQSA_3 | E19 | GDDR_A_DQS3 |
| RDQSA_4 | E15 | GDDR_A_DQS4 |
| RDQSA_5 | D10 | GDDR_A_DQS5 |
| RDQSA_6 | D6 | GDDR_A_DQS6 |
| RDQSA_7 | G5 | GDDR_A_DQS7 |
| WDQSA_0 | H27 | GDDR_A_DQS#0 |
| WDQSA_1 | A27 | GDDR_A_DQS#1 |
| WDQSA_2 | C23 | GDDR_A_DQS#2 |
| WDQSA_3 | C19 | GDDR_A_DQS#3 |
| WDQSA_4 | C15 | GDDR_A_DQS#4 |
| WDQSA_5 | E9 | GDDR_A_DQS#5 |
| WDQSA_6 | C5 | GDDR_A_DQS#6 |
| WDQSA_7 | H4 | GDDR_A_DQS#7 |
| ODTA0 | L18 | GDDR_A_ODT0 |
| ODTA1 | K16 | GDDR_A_ODT1 |
| CLKA0 | H26 | GDDR_A_CLK0 |
| CLKA0B | H25 | GDDR_A_CLK#0 |
| CLKA1 | G9 | GDDR_A_CLK1 |
| CLKA1B | H9 | GDDR_A_CLK#1 |
| RASA0B | G22 | GDDR_A_RAS#0 |
| RASA1B | G17 | GDDR_A_RAS#1 |
| CASA0B | G19 | GDDR_A_CAS#0 |
| CASA1B | G16 | GDDR_A_CAS#1 |
| CSA0B_0 | H22 | GDDR_A_CS0_0# |
| CSA0B_1 | J22 | |
| CSA1B_0 | G13 | GDDR_A_CS1_0# |
| CSA1B_1 | K13 | |
| CKEA0 | K20 | GDDR_A_CKE0 |
| CKEA1 | J17 | GDDR_A_CKE1 |
| WEA0B | G25 | GDDR_A_WE#0 |
| WEA1B | H10 | GDDR_A_WE#1 |
| PX_EN | AB16 | |
| RSVD#2 | G14 | |
| RSVD#3 | G20 | GDDR_A_A13_R |

GDDR_A_A[12:0] [25]

GDDR_A_DQS0 [25] … GDDR_A_DQS7 [25]
GDDR_A_DQS#0 [25] … GDDR_A_DQS#7 [25]
GDDR_A_ODT0 [25] … GDDR_A_ODT1 [25]
GDDR_A_CLK0 [25] … GDDR_A_CLK#0 [25]
GDDR_A_CLK1 [25] … GDDR_A_CLK#1 [25]
GDDR_A_RAS#0 [25] … GDDR_A_RAS#1 [25]
GDDR_A_CAS#0 [25] … GDDR_A_CAS#1 [25]
GDDR_A_CS0_0# [25]
GDDR_A_CS1_0# [25]
GDDR_A_CKE0 [25] … GDDR_A_CKE1 [25]
GDDR_A_WE#0 [25] … GDDR_A_WE#1 [25]

RG187 0_5% 0402 I → GDDR_A_A13 [25]

M93-S3 No Install
PARK-S3 Install

Park_XT_S3


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Title: VGA (DDR3) 3/5

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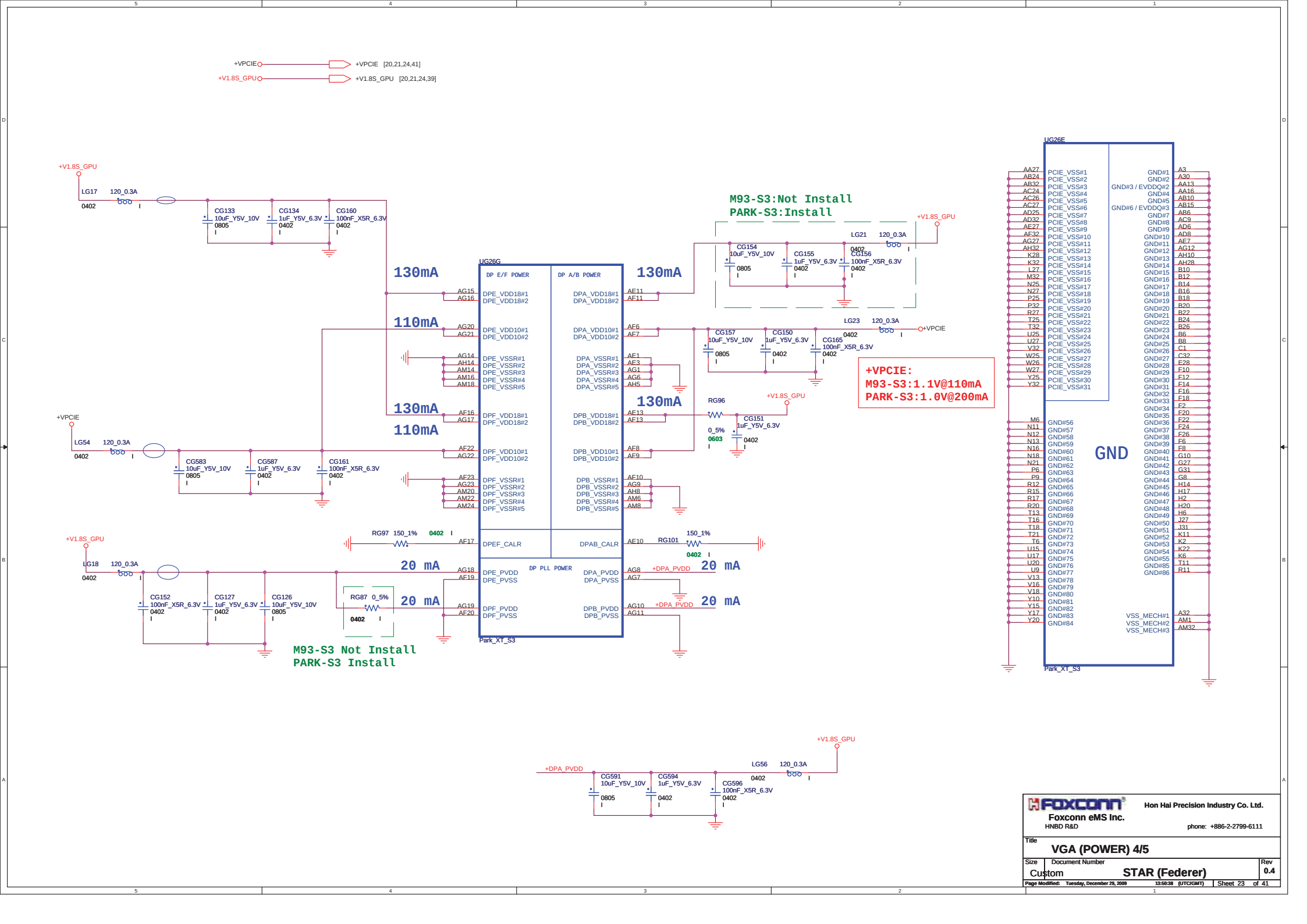
|---|---|---|
| Custom | STAR (Federer) | 0.4 |




| | |
|---|---|
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| Foxconn eMS Inc. | |
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| Rev | 0.4 |
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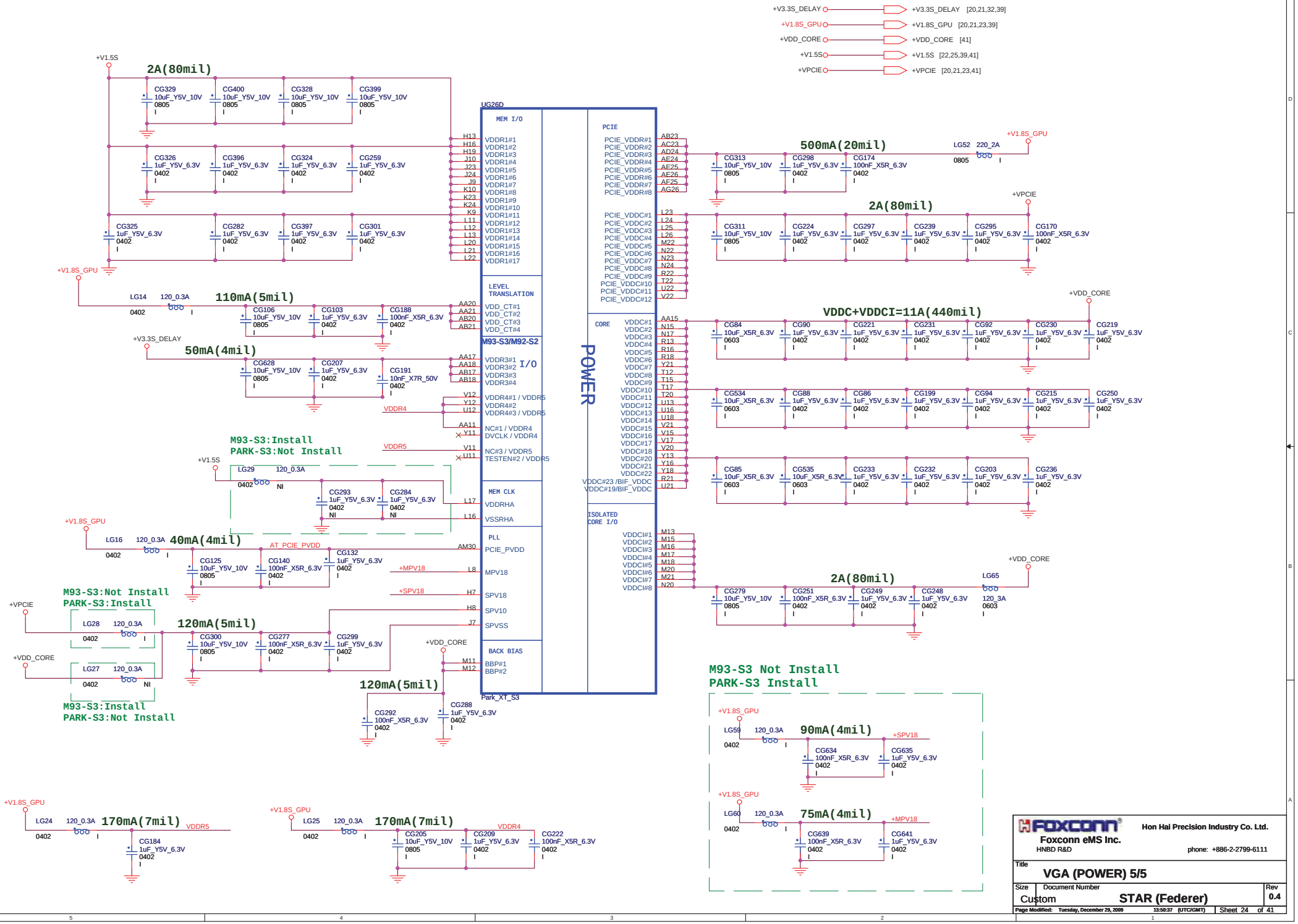
+V3.3S_DELAY +V3.3S_DELAY [20,21,32,39]
+V1.8S_GPU +V1.8S_GPU [20,21,23,39]
+VDD_CORE +VDD_CORE [41]
+V1.5S +V1.5S [22,25,39,41]
+VPCIE +VPCIE [20,21,23,41]
UG26D
MEM I/O
LEVEL TRANSLATION
M93-S3/M92-S2 I/O
MEM CLK
PLL
BACK BIAS
PCIE
CORE
ISOLATED CORE I/O
POWER
Park_XT_S3
2A(80mil)
500mA(20mil)
110mA(5mil)
50mA(4mil)
VDDC+VDDCI=11A(440mil)
M93-S3:Install
PARK-S3:Not Install
40mA(4mil)
M93-S3:Not Install
PARK-S3:Install
120mA(5mil)
M93-S3:Install
PARK-S3:Not Install
M93-S3 Not Install
PARK-S3 Install
90mA(4mil)
75mA(4mil)
170mA(7mil)
170mA(7mil)
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Size
Custom
Document Number
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Rev
0.4
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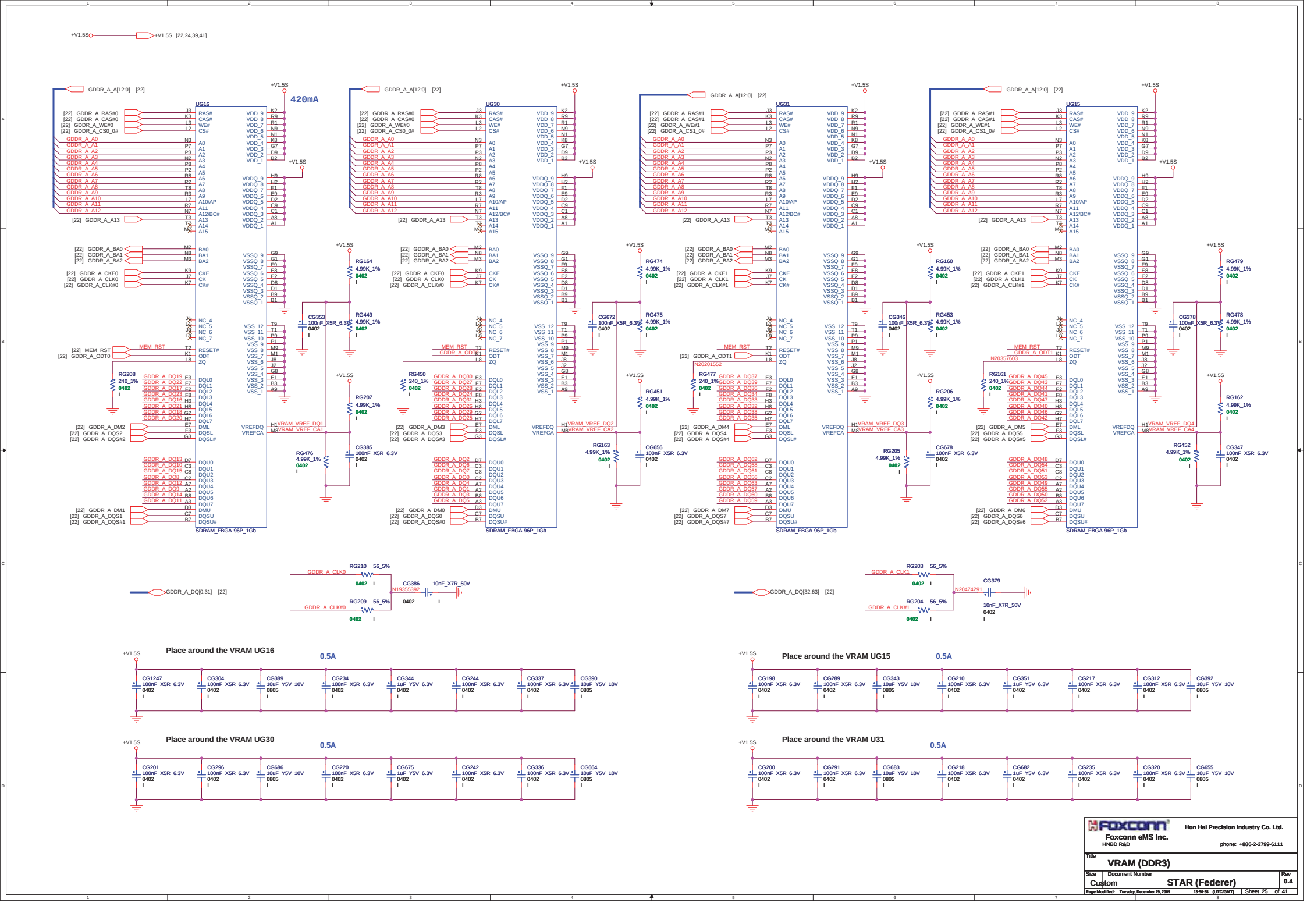
Sheet 24 of 41


+V1.5S
+V1.5S [22,24,39,41]
GDDR_A_A[12:0] [22]
UG16
UG30
UG31
UG15
420mA
SDRAM_FBGA-96P-1Gb
MEM_RST
GDDR_A_ODT0
GDDR_A_ODT1
N20357603
N20201552
GDDR_A_CLK0
GDDR_A_CLK#0
GDDR_A_CLK1
GDDR_A_CLK#1
N19355392
N20474291
GDDR_A_DQ[0:31] [22]
GDDR_A_DQ[32:63] [22]
Place around the VRAM UG16
Place around the VRAM UG15
Place around the VRAM UG30
Place around the VRAM UG31
0.5A
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VRAM (DDR3)
Custom
STAR (Federer)
0.4
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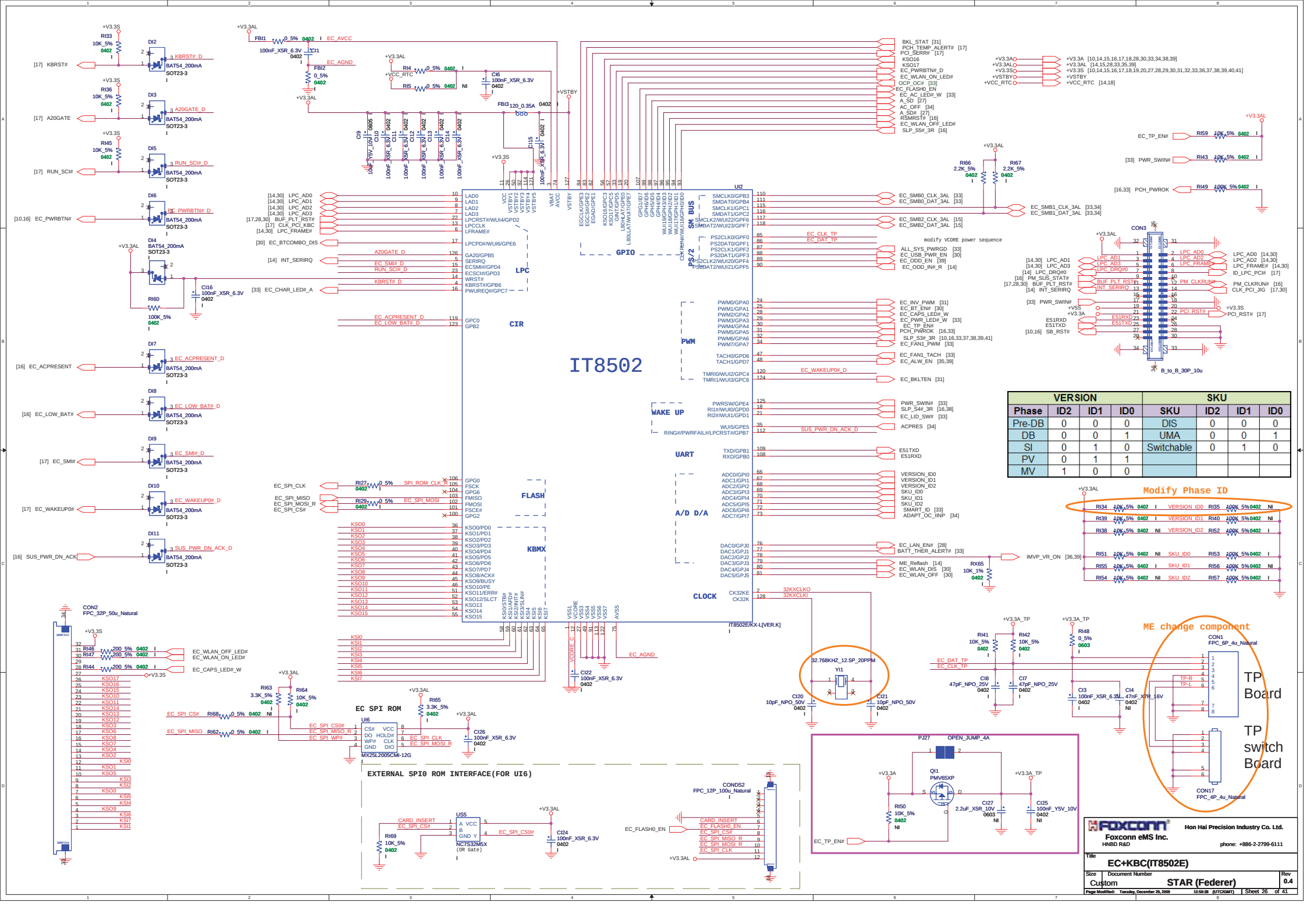
IT8502
LPC
CIR
FLASH
KBMX
SM BUS
PS/2
GPIO
PWM
WAKE UP
UART
A/D D/A
CLOCK
IT8502E/KX-L[VER.K]
EC SPI ROM
MX25L2005CMI-12G
EXTERNAL SPI0 ROM INTERFACE(FOR UI6)
NC7S32M5X
(OR Gate)
32.768KHZ_12.5P_20PPM
PJ27 OPEN_JUMP_4A
PMV65XP
Modify Phase ID
ME change component
TP Board
TP switch Board
VERSION
SKU
Phase ID2 ID1 ID0
Pre-DB 0 0 0
DB 0 0 1
SI 0 1 0
PV 0 1 1
MV 1 0 0
SKU ID2 ID1 ID0
DIS 0 0 0
UMA 0 0 1
Switchable 0 1 0
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EC+KBC(IT8502E)
Custom
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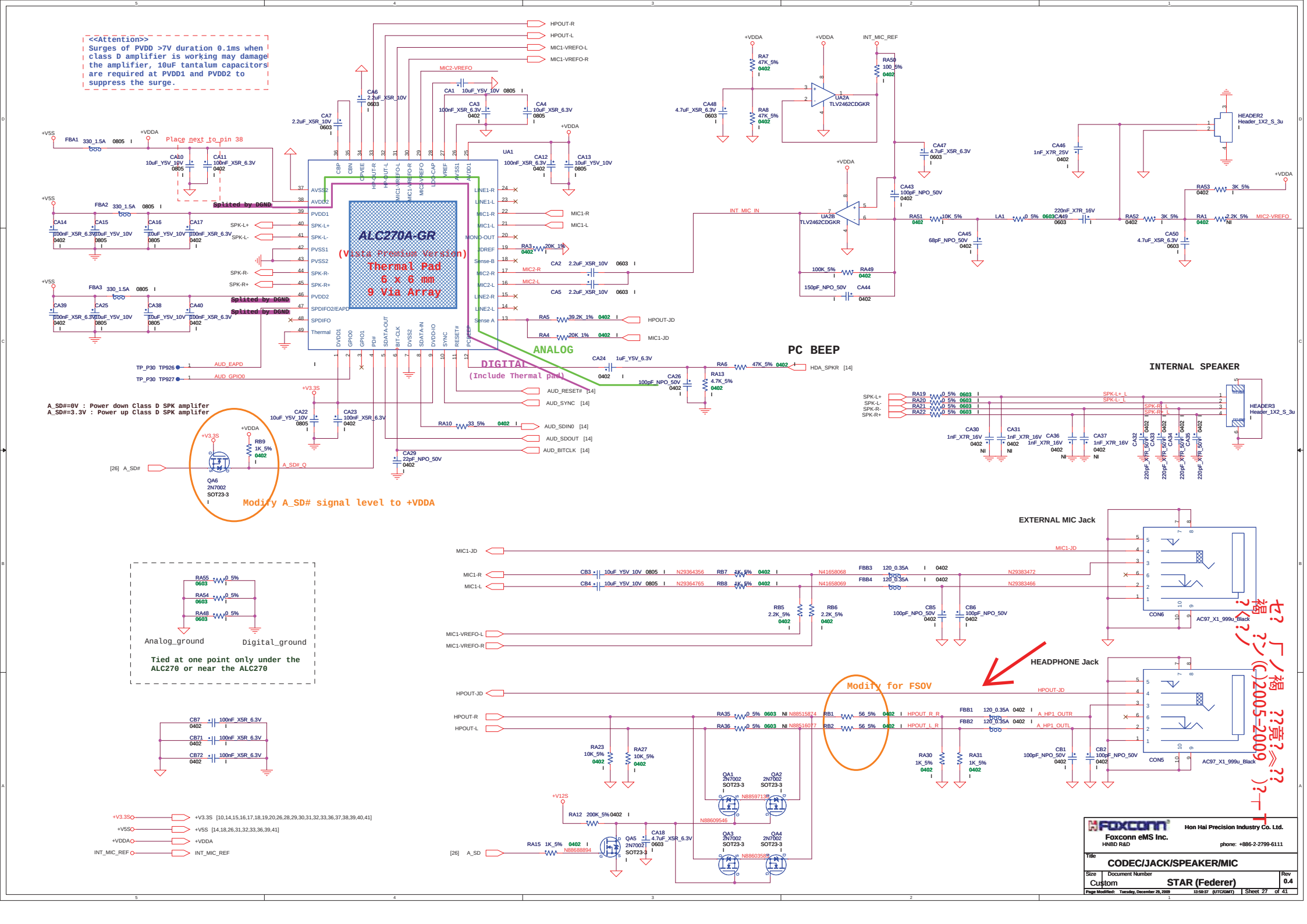
Rev 0.4
Sheet 26 of 41


<<Attention>>
Surges of PVDD >7V duration 0.1ms when class D amplifier is working may damage the amplifier, 10uF tantalum capacitors are required at PVDD1 and PVDD2 to suppress the surge.
ALC270A-GR
(Vista Premium Version)
Thermal Pad
6 x 6 mm
9 Via Array
ANALOG
DIGITAL
(Include Thermal pad)
PC BEEP
INTERNAL SPEAKER
EXTERNAL MIC Jack
HEADPHONE Jack
Modify A_SD# signal level to +VDDA
Modify for FSOV
Place next to pin 38
Splited by DGND
A_SD#=0V : Power down Class D SPK amplifer
A_SD#=3.3V : Power up Class D SPK amplifer
Analog_ground
Digital_ground
Tied at one point only under the ALC270 or near the ALC270
HPOUT-R
HPOUT-L
MIC1-VREFO-L
MIC1-VREFO-R
MIC2-VREFO
MIC1-R
MIC1-L
HPOUT-JD
MIC1-JD
MIC2-R
MIC2-L
INT_MIC_IN
INT_MIC_REF
AUD_EAPD
AUD_GPIO0
AUD_RESET# [14]
AUD_SYNC [14]
AUD_SDIN0 [14]
AUD_SDOUT [14]
AUD_BITCLK [14]
HDA_SPKR [14]
A_SD# [26]
A_SD# Q
SPK-L+
SPK-L-
SPK-R-
SPK-R+
+V3.3S [10,14,15,16,17,18,19,20,26,28,29,30,31,32,33,36,37,38,39,40,41]
+VSS [14,18,26,31,32,33,36,39,41]
+VDDA
INT_MIC_REF
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CODEC/JACK/SPEAKER/MIC
Custom
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Rev 0.4
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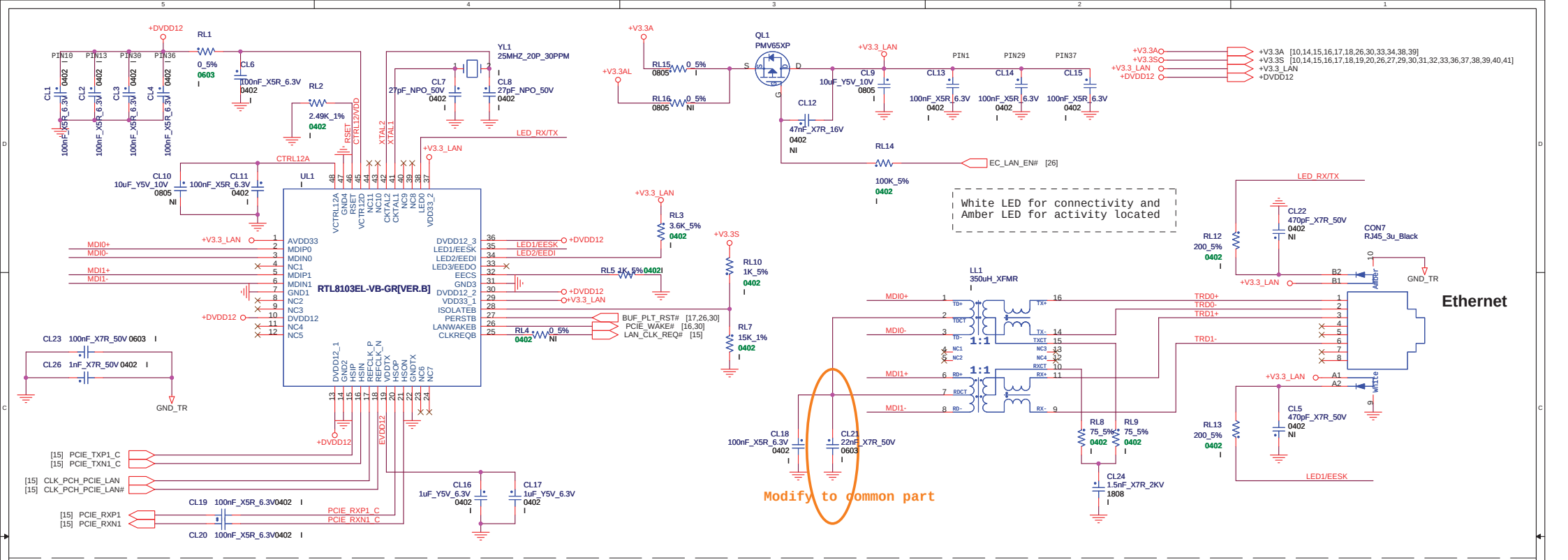


## FSP Table

| FS | CPU (PCH-->CPU) | Power On | SRC(DMI) (PCH-->CPU) | SATA (PCH) | DOT96 (PCH) | 27MHz (GPU) | REF |
|---|---|---|---|---|---|---|---|
| 0 | 133MHz | Default | 100MHz | 100MHz | 96MHz | 27MHz | 14.318MHz |
| 1 | 100MHz | | | | | | |

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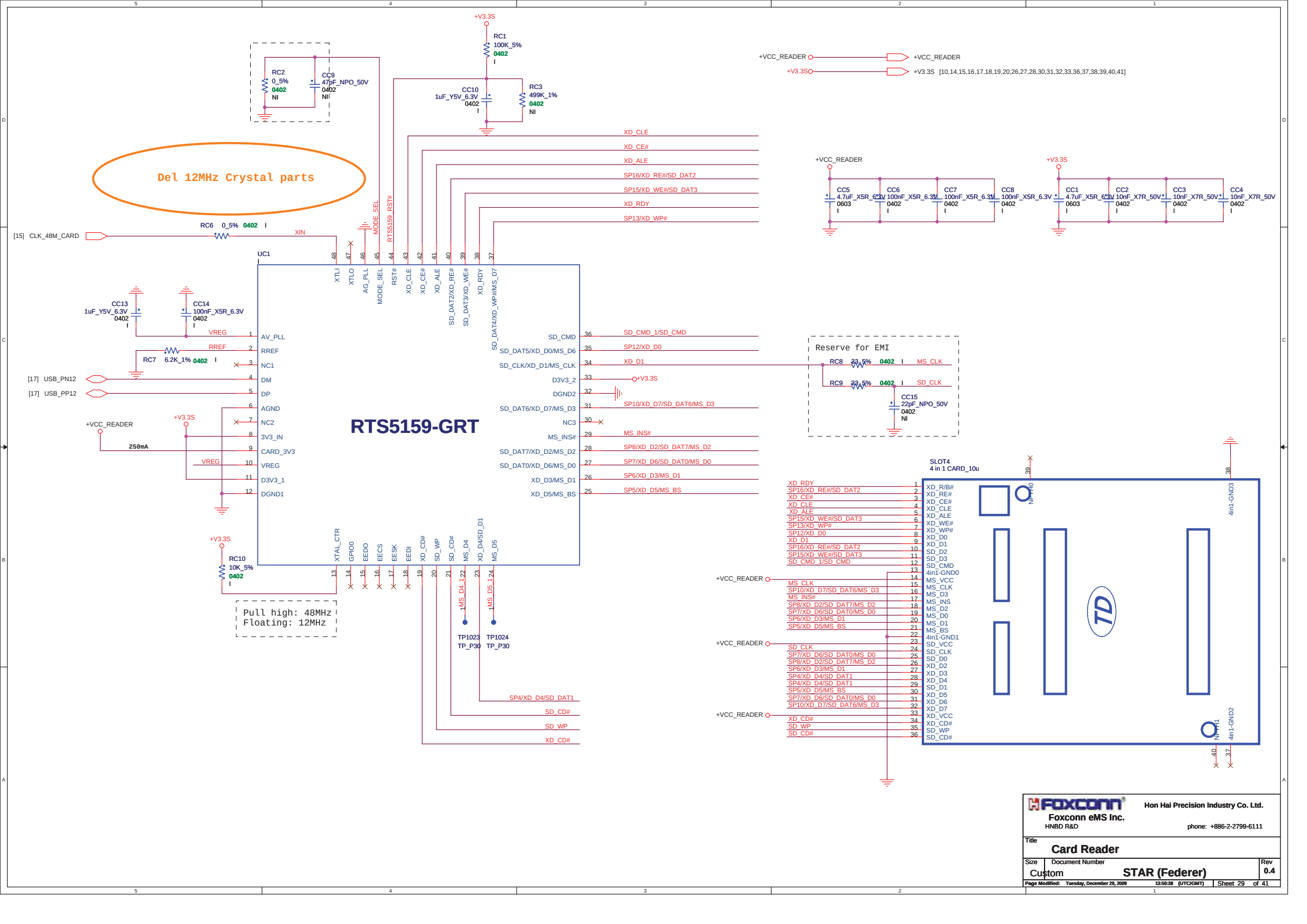
Del 12MHz Crystal parts
RTS5159-GRT
UC1
Reserve for EMI
Pull high: 48MHz
Floating: 12MHz
SLOT4
4 in 1 CARD_10u
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Card Reader
Custom
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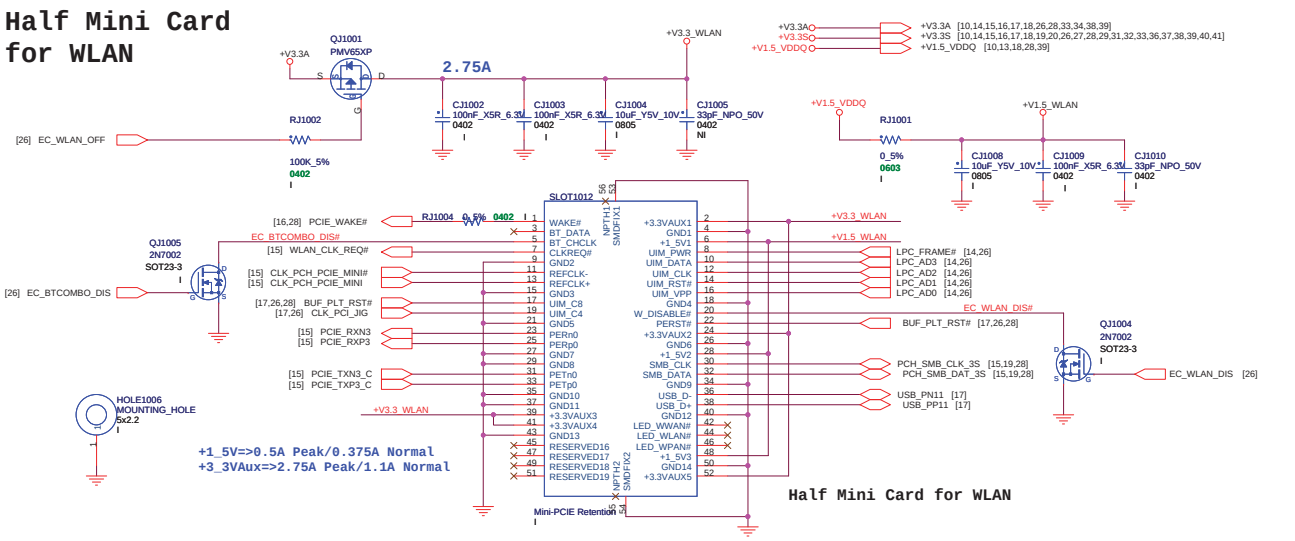
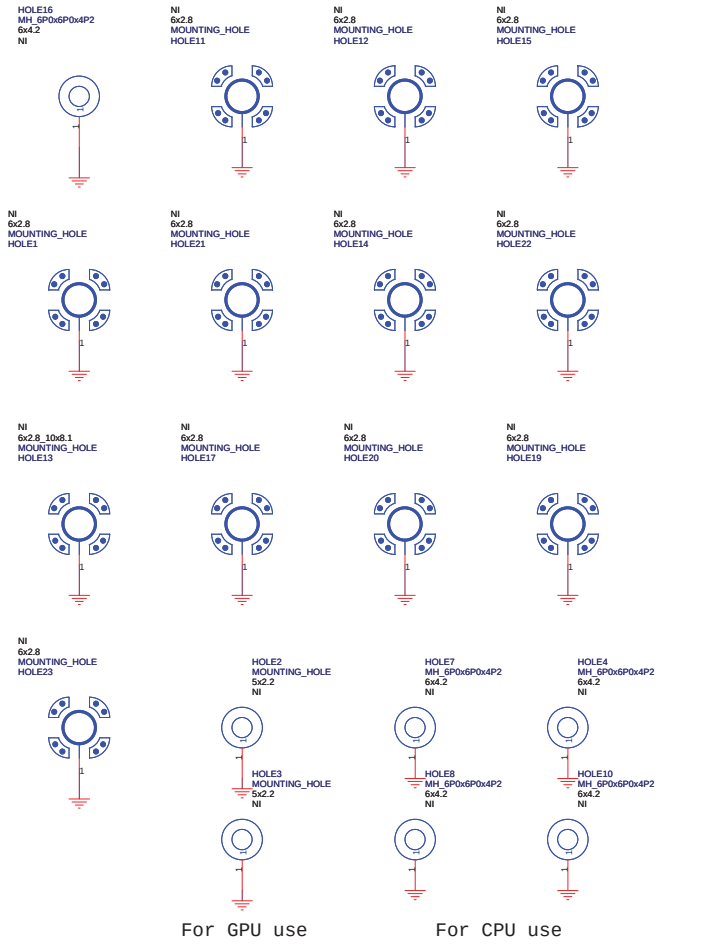
# Half Mini Card for WLAN

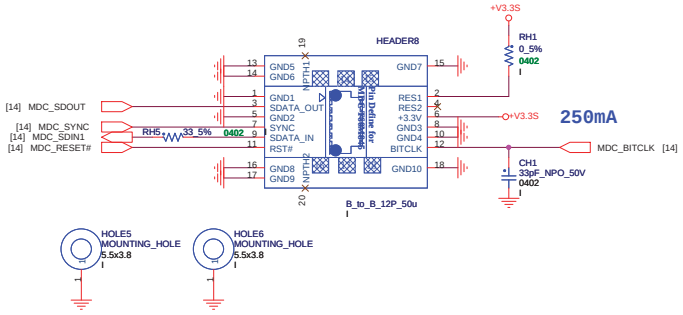



Half Mini Card for WLAN

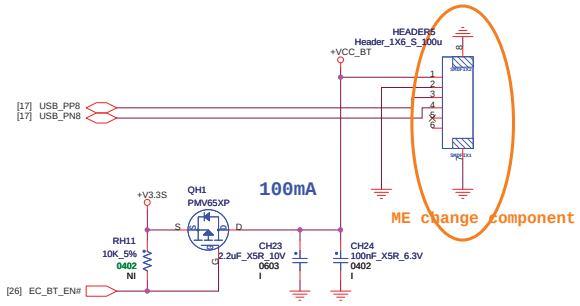
# MOUNTING HOLE



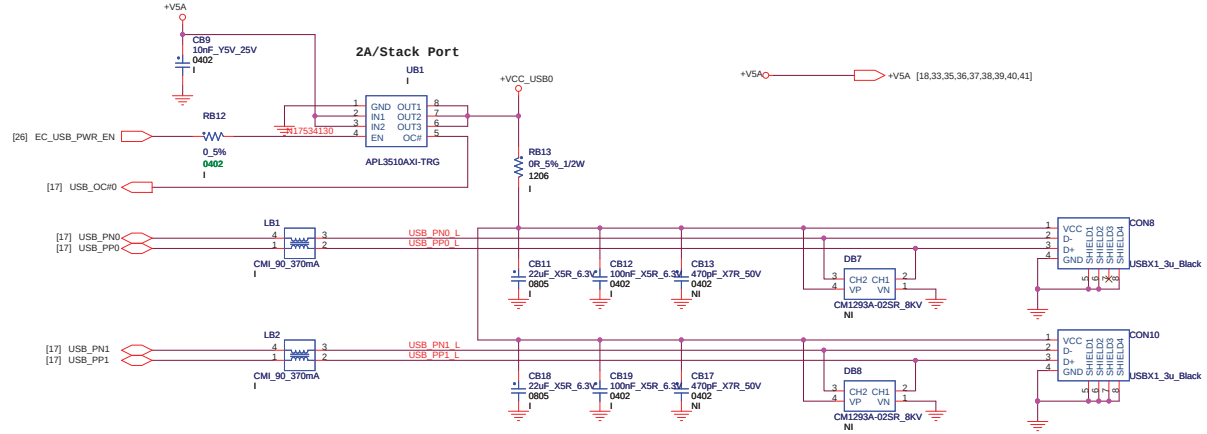

# MDC CONN.



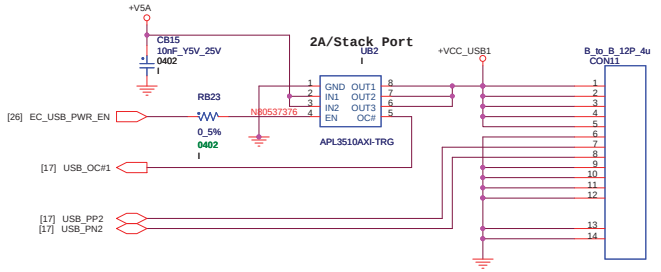

# Bluetooth CONN.




# USBX2 CONN.




# USBX1 CONN.




| | | |
|---|---|---|
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| Title: WLAN/BT/MDC/USB/MOUNTING HOLE | | |
| Size: Custom | Document Number: STAR (Federer) | Rev: 0.4 |
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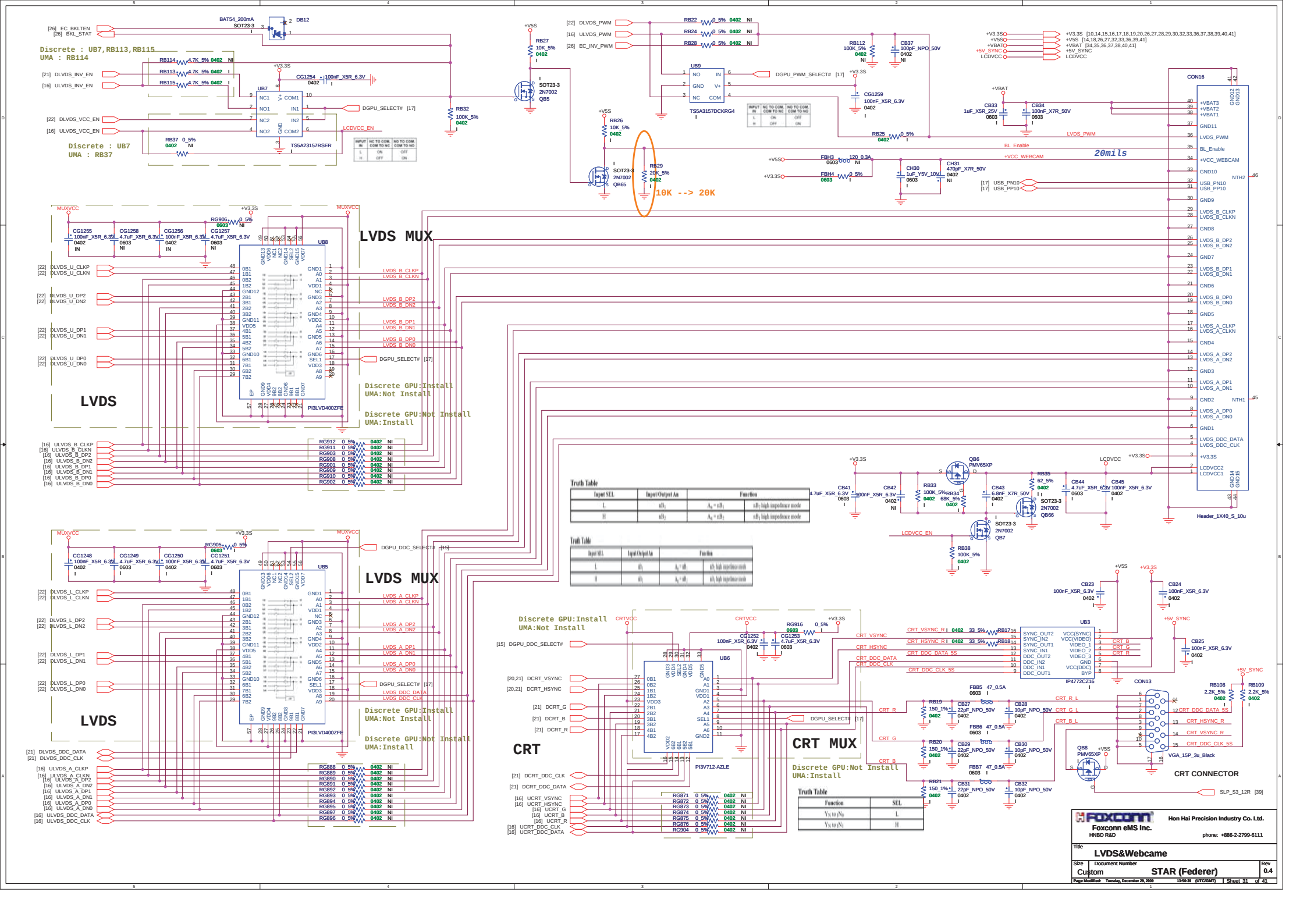
Discrete : UB7,RB113,RB115
UMA : RB114
Discrete : UB7
UMA : RB37
LVDS MUX
LVDS
Discrete GPU:Install
UMA:Not Install
Discrete GPU:Not Install
UMA:Install
10K --> 20K
20mils
CRT
CRT MUX
CRT CONNECTOR
Truth Table
Function
SEL
L
H
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LVDS&Webcame
Custom
STAR (Federer)
Rev
0.4
Sheet 31 of 41

## Discrete GPU: Install
## UMA: Not Install

+V3.3S_DELAY +V3.3S_DELAY

RB41 2.2K_5% 0402 I
RB42 2.2K_5% 0402 I

[21] DHDMI_DDC_DATA
[21] DHDMI_DDC_CLK

QB67 2N7002 SOT23-3 I
QB9 2N7002 SOT23-3 I

HDMI_DDC_DATA
HDMI_DDC_CLK

+V5S

DB13 BAT54_200mA SOT23-3 I

RB43 2.2K_5% 0402 I
RB44 2.2K_5% 0402 I

[17] DGPU_HPD_INTR#

QB10 2N7002 SOT23-3 I

+V3.3S_DELAY

QB2 MMBT3904_NL SOT23-3 I

HDMI_DET_5_R

RB45 200K_1% 0402 I

HDMI_DET_5

[21] DHDMI_DET

RB83 0_5% 0402 I

RB39 10K_5% 0402 I

+V5S [14,18,26,27,31,33,36,39,41]
+V3.3S [10,14,15,16,17,18,19,20,26,27,28,29,30,31,33,36,37,38,39,40,41]
+V3.3S_DELAY [20,21,24,39]
+V5S_HDMI
+V3.3S_HDMI

HDMI spec: +5V:4.7V min , 55mA max.

CON15
HDMI_R_19P_999u_Black

HDMI_TX2P HDMI_TX2N
HDMI_TX0P HDMI_TX0N
HDMI_CEC
HDMI_DDC_CLK
HDMI_DET_5

TP_P30 TP1025

DB22 PESD24VS1UL SOD882-2 NI

CB74 180pF_NPO_50V 0402 NI

HDMI_TX1P HDMI_TX1N
HDMI_CLKP HDMI_CLKN
HDMI_DDC_DATA

CB58 180pF_NPO_50V 0402 NI

+V5S_HDMI

CB57 100nF_X5R_6.3V 0402 I

+V5S

DB15 B340A-13-F_3A SOD123-2 I

[21] DHDMI_TX2P
[21] DHDMI_TX2N
CB63 0402 100nF_X5R_6.3V I HDMI_TX2P
CB64 0402 100nF_X5R_6.3V I HDMI_TX2N

[21] DHDMI_TX1P
[21] DHDMI_TX1N
CB65 0402 100nF_X5R_6.3V I HDMI_TX1P
CB66 0402 100nF_X5R_6.3V I HDMI_TX1N

[21] DHDMI_TX0P
[21] DHDMI_TX0N
CB67 0402 100nF_X5R_6.3V I HDMI_TX0P
CB68 0402 100nF_X5R_6.3V I HDMI_TX0N

[21] DHDMI_CLKP
[21] DHDMI_CLKN
CB69 0402 100nF_X5R_6.3V I HDMI_CLKP
CB70 0402 100nF_X5R_6.3V I HDMI_CLKN

RB84 499_1% 0402 I HDMI_TX2P
RB85 499_1% 0402 I HDMI_TX2N

RB88 499_1% 0402 I HDMI_TX1P
RB89 499_1% 0402 I HDMI_TX1N

RB92 499_1% 0402 I HDMI_TX0P
RB93 499_1% 0402 I HDMI_TX0N

RB97 499_1% 0402 I HDMI_CLKP
RB98 499_1% 0402 I HDMI_CLKN

QB63 2N7002 SOT23-3 I

+V5S

RB100 100K_5% 0402 I

## Discrete GPU:Not Install
## UMA:Install

+V3.3S

FBB9 0_5% 0603 NI

+V3.3S_HDMI

CB52 10nF_X7R_25V 0402 NI
CB53 10nF_X7R_25V 0402 NI
CB54 100nF_X5R_6.3V 0402 NI
CB55 100nF_X5R_6.3V 0402 NI

CB51 10uF_Y5V_10V 0805 NI
CB46 100nF_X5R_6.3V 0402 NI
CB47 100nF_X5R_6.3V 0402 NI
CB50 10nF_X7R_25V 0402 NI
CB56 100nF_X5R_6.3V 0402 NI

+V3.3S

+V3.3S_HDMI

RB53 2.2K_5% 0402 NI

HDMI_DET_5
HDMI_DDC_DATA
HDMI_DDC_CLK
OE#

UB4 PTN3360BBS

GND_8 NC_4 NC_3 VDD_6 DDC_EN DDC_SINK HPD_SINK SDA_SINK SCL_SINK GND_6 VDD_5 OE#
36 35 34 33 32 31 30 29 28 27 26 25

GND_9 IN_D1- IN_D1+ VDD_7 IN_D2- IN_D2+ GND_10 IN_D3- IN_D3+ VDD_8 IN_D4- IN_D4+ GND_11
37 38 39 40 41 42 43 44 45 46 47 48 49

GND_5 OUT_D1- OUT_D1+ VDD_4 OUT_D2- OUT_D2+ GND_4 OUT_D3- OUT_D3+ VDD_3 OUT_D4- OUT_D4+
24 23 22 21 20 19 18 17 16 15 14 13

GND_1 VDD_1 NC_0 NC_1 GND_2 RST_ HPD_SOURCE SDA_SOURCE SCL_SOURCE NC_2 VDD_2 GND_3
1 2 3 4 5 6 7 8 9 10 11 12

[16] UTMDS_TX2P_C
[16] UTMDS_TX2N_C
[16] UTMDS_TX1P_C
[16] UTMDS_TX1N_C
[16] UTMDS_TX0P_C
[16] UTMDS_TX0N_C
[16] UTMDS_CLKP_C
[16] UTMDS_CLKN_C

UHDMI_TX2P RB56 0_5% 0402 NI HDMI_TX2P
UHDMI_TX2N RB57 0_5% 0402 NI HDMI_TX2N
UHDMI_TX1P RB58 0_5% 0402 NI HDMI_TX1P
UHDMI_TX1N RB59 0_5% 0402 NI HDMI_TX1N
UHDMI_TX0P RB60 0_5% 0402 NI HDMI_TX0P
UHDMI_TX0N RB61 0_5% 0402 NI HDMI_TX0N
UHDMI_CLKP RB62 0_5% 0402 NI HDMI_CLKP
UHDMI_CLKN RB63 0_5% 0402 NI HDMI_CLKN

+V3.3S

RB46 10K_5% 0402 NI

QB64 2N7002 SOT23-3 NI

HDMI_DET_5_R

[16] UHDMI_DET

+V3.3S

RB73 2.2K_5% 0402 NI
RB71 2.2K_5% 0402 NI
RB106 100K_5% 0402 NI
RB77 10K_1% 0402 NI

[16] UTMDS_DDC_DATA
[16] UTMDS_DDC_CLK

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Title: HDMI

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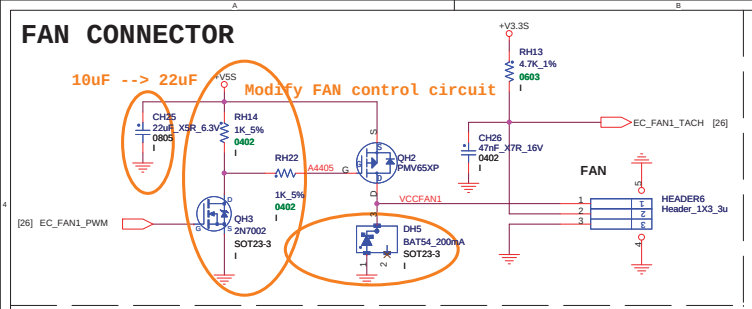
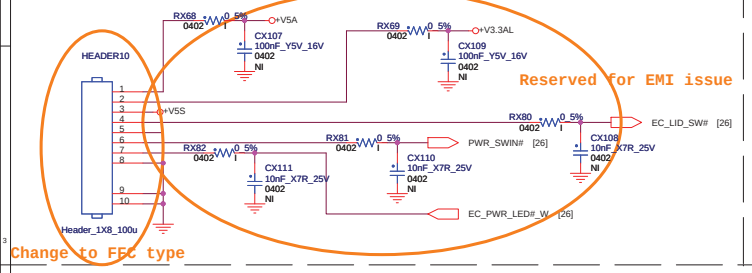
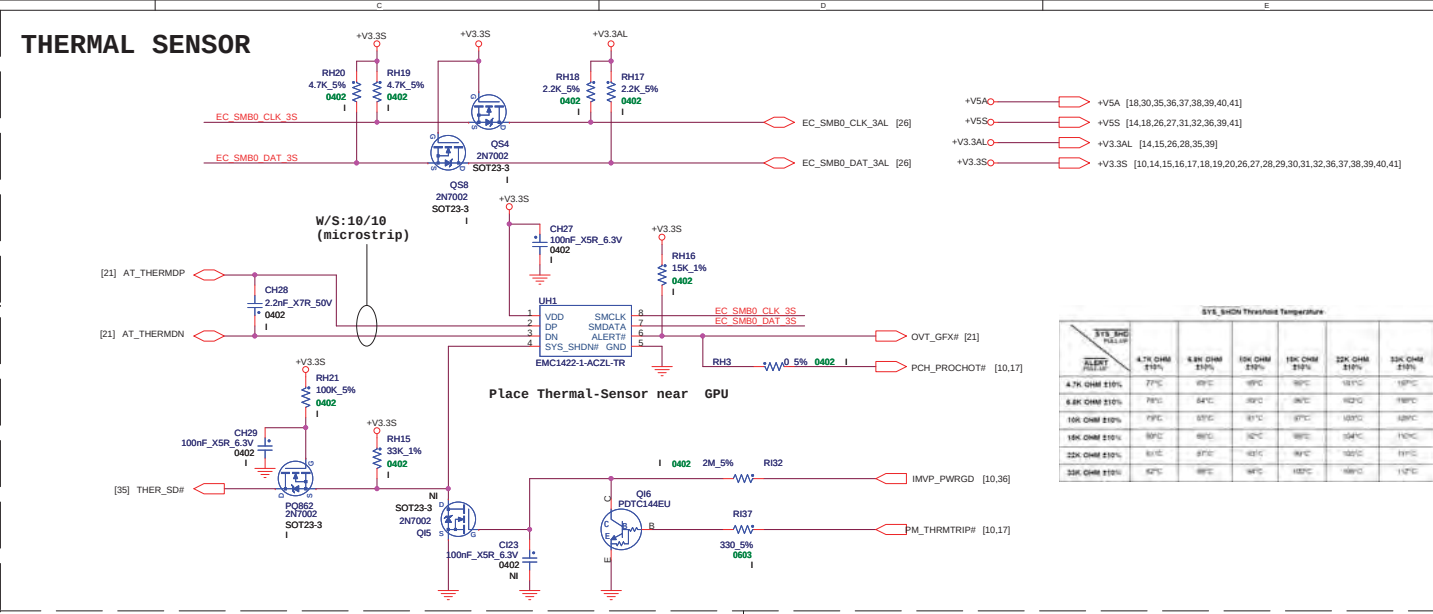
# FAN CONNECTOR




# POWER BUTTON BOARD CONNECTOR



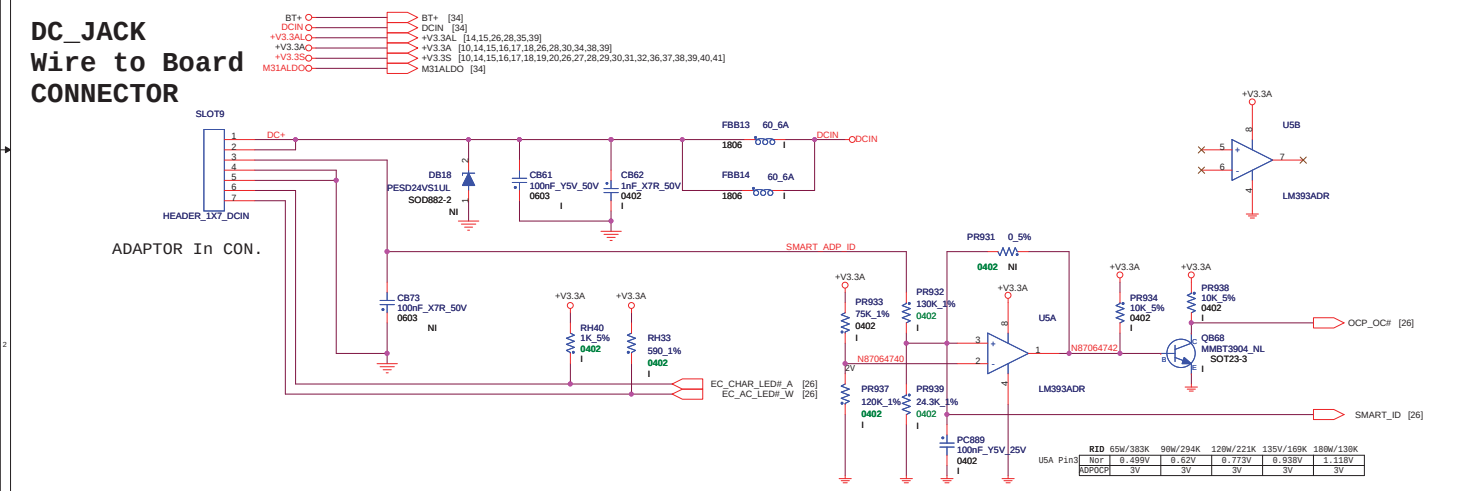

# THERMAL SENSOR




SYS_SHDN Threshold Temperature

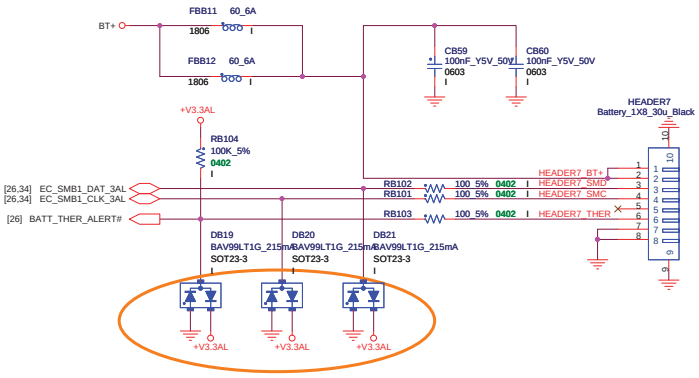
| SYS_SHDN PULL-UP / ALERT PULL-UP | 4.7K OHM ±10% | 6.8K OHM ±10% | 10K OHM ±10% | 15K OHM ±10% | 22K OHM ±10% | 33K OHM ±10% |
|---|---|---|---|---|---|---|
| 4.7K OHM ±10% | 77°C | 69°C | 69°C | 86°C | 101°C | 116°C |
| 6.8K OHM ±10% | 79°C | 84°C | 89°C | 96°C | 102°C | 118°C |
| 10K OHM ±10% | 79°C | 87°C | 91°C | 97°C | 103°C | 120°C |
| 15K OHM ±10% | 80°C | 88°C | 92°C | 98°C | 104°C | 112°C |
| 22K OHM ±10% | 81°C | 87°C | 93°C | 99°C | 102°C | 111°C |
| 33K OHM ±10% | 82°C | 88°C | 94°C | 102°C | 106°C | 112°C |

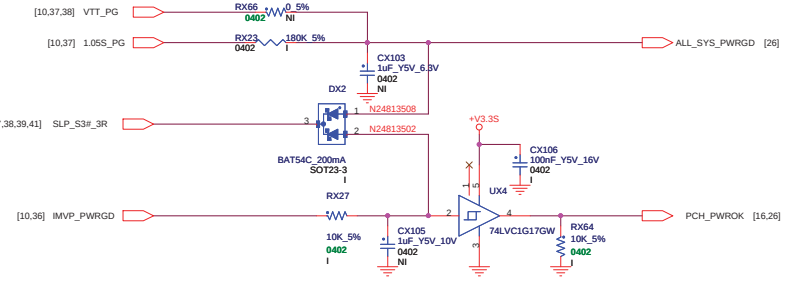
# DC_JACK Wire to Board CONNECTOR




| RID | 65W/383K | 90W/294K | 120W/221K | 135W/169K | 180W/130K |
|---|---|---|---|---|---|
| U5A Pin3 Nor | 0.499V | 0.62V | 0.773V | 0.938V | 1.118V |
| ADPOCP | 3V | 3V | 3V | 3V | 3V |

# BATTERY CONNECTOR




| Pin No. | Symbol | Comments |
|---|---|---|
| 1 | BATT+ | Batt+, Battery Positive Terminal. |
| 2 | BATT+ | Batt+, Battery Positive Terminal. |
| 3 | SMD | SMBus data interface I/O pin. |
| 4 | SMC | SMBus clock interface I/O pin. |
| 5 | ID | Open |
| 6 | B/I | Connect to thermistor (103AT2 equivalent) |
| 7 | GND | Batt-, Battery Negative Terminal |
| 8 | GND | Batt-, Battery Negative Terminal |

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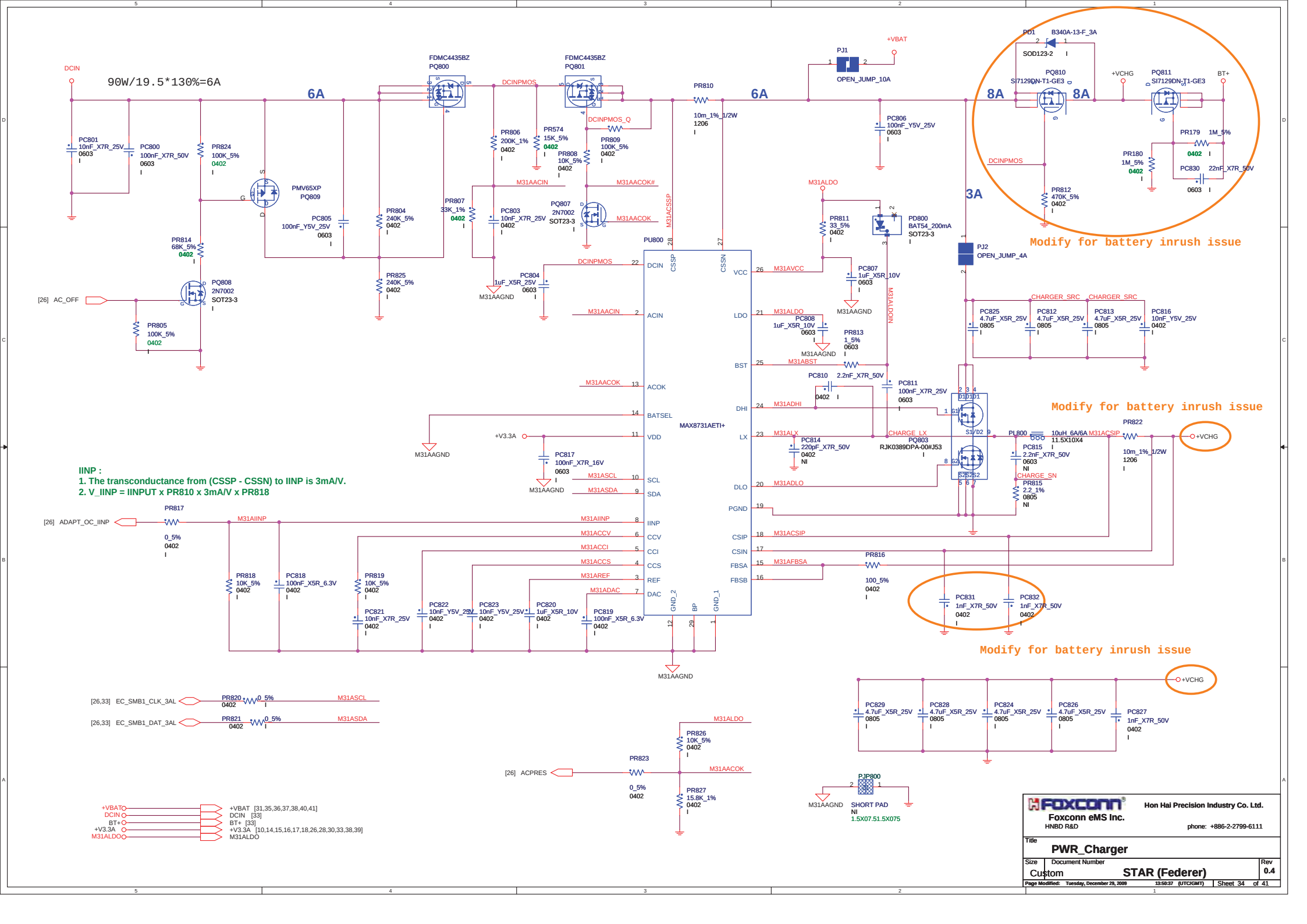


| | |
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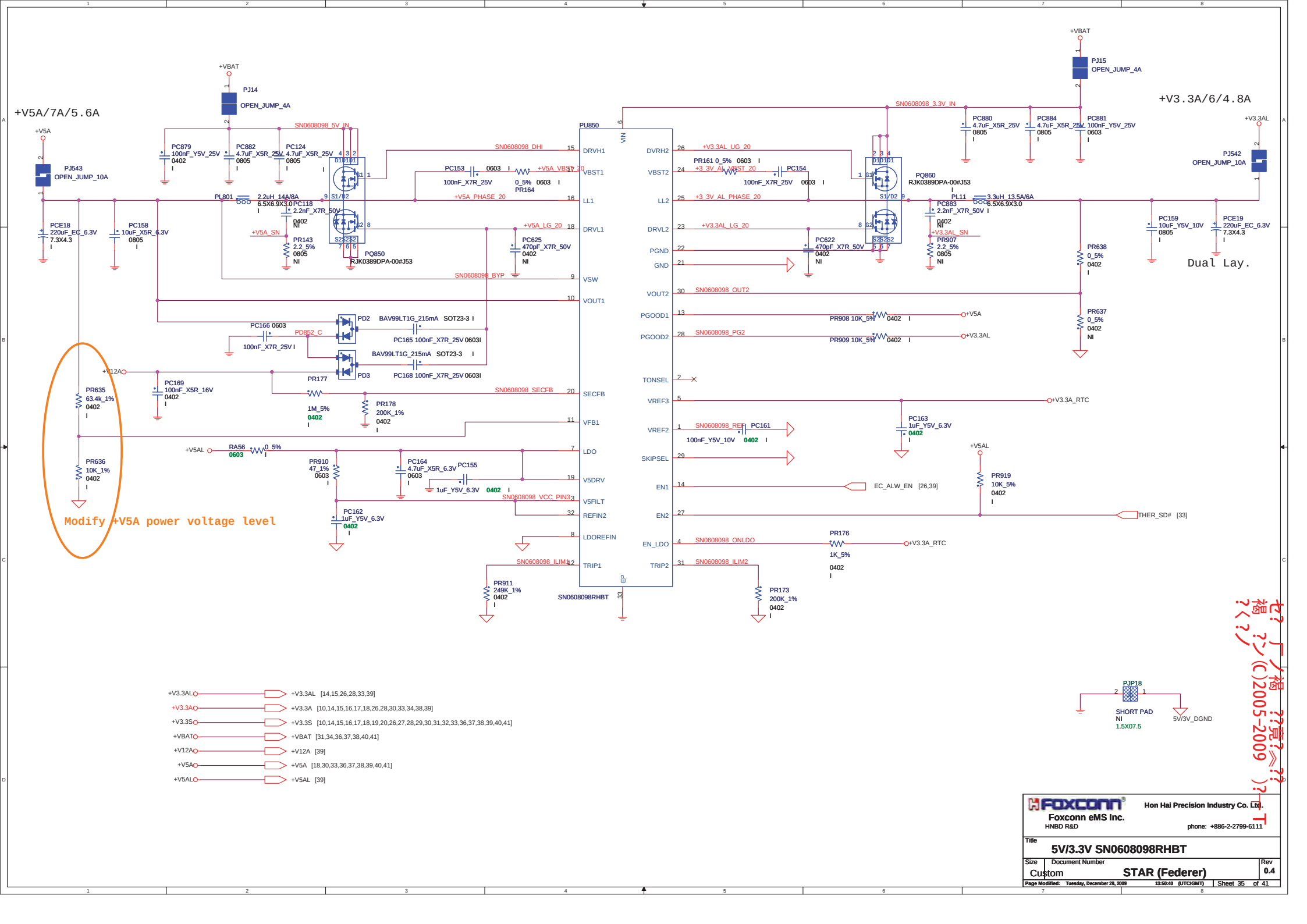


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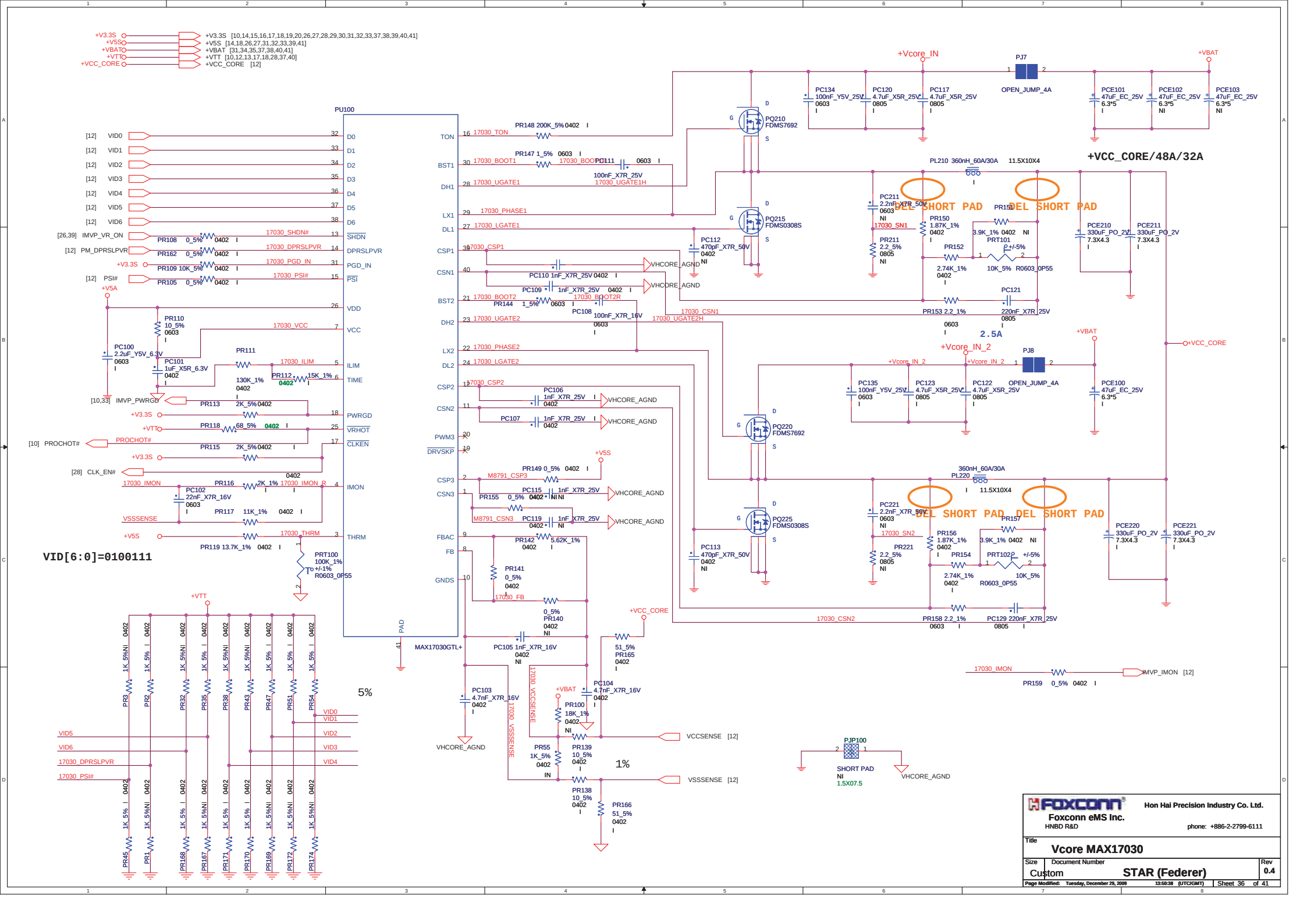
+V3.3S [10,14,15,16,17,18,19,20,26,27,28,29,30,31,32,33,37,38,39,40,41]
+V5S [14,18,26,27,31,32,33,39,41]
+VBAT [31,34,35,37,38,40,41]
+VTT [10,12,13,17,18,28,37,40]
+VCC_CORE [12]
PU100
MAX17030GTL+
VID[6:0]=0100111
+Vcore_IN
+VBAT
+VCC_CORE/48A/32A
DEL SHORT PAD
DEL SHORT PAD
DEL SHORT PAD
DEL SHORT PAD
+Vcore_IN_2
2.5A
5%
1%
VCCSENSE [12]
VSSSENSE [12]
IMVP_IMON [12]
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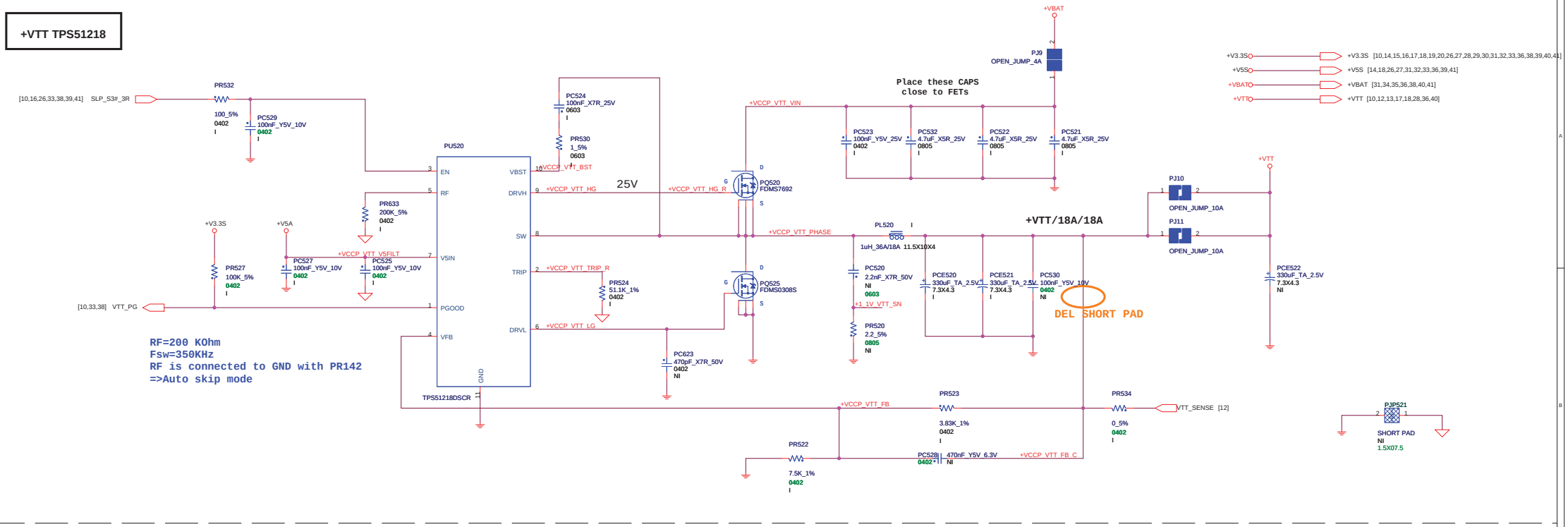
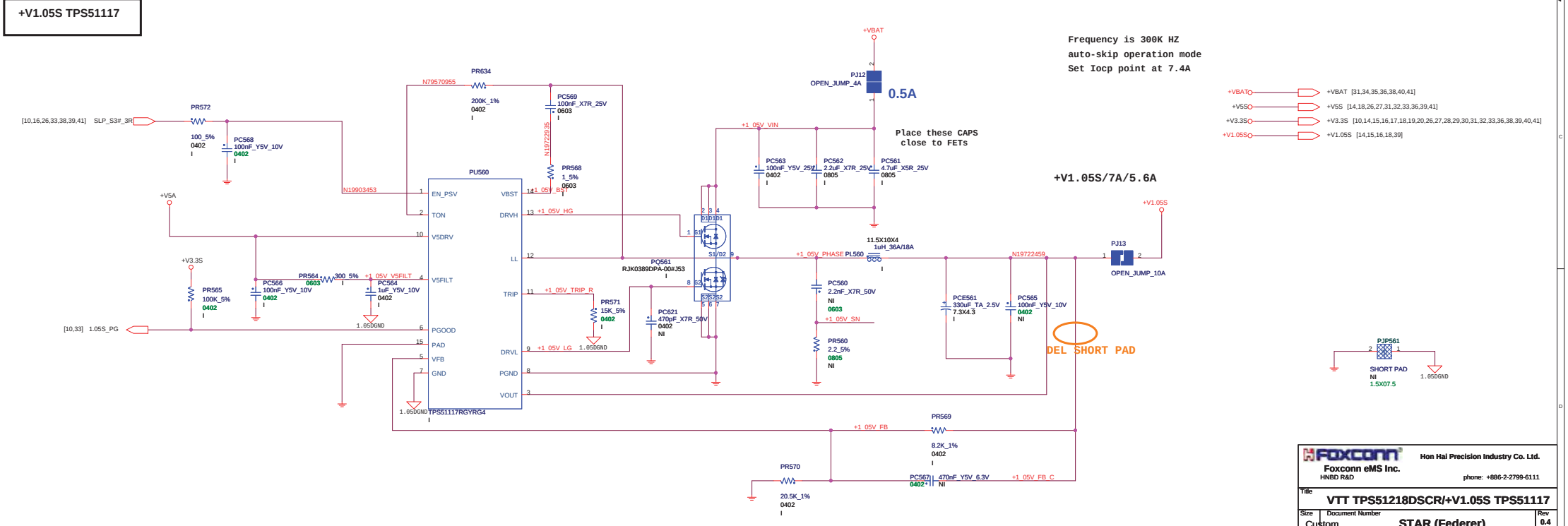
## +VTT TPS51218




## +V1.05S TPS51117




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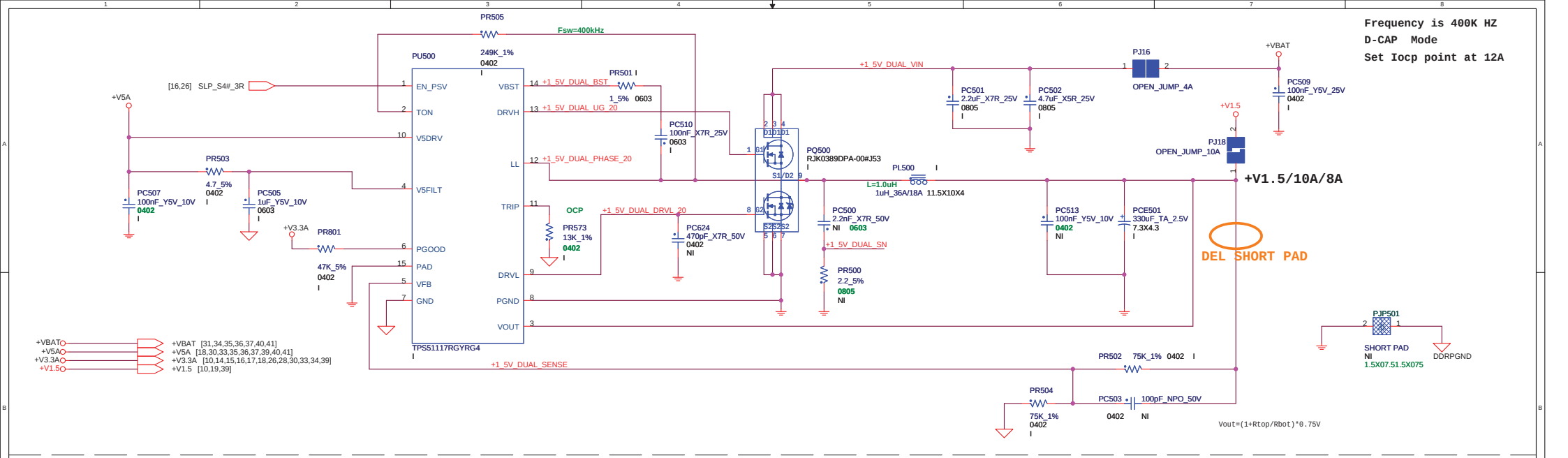


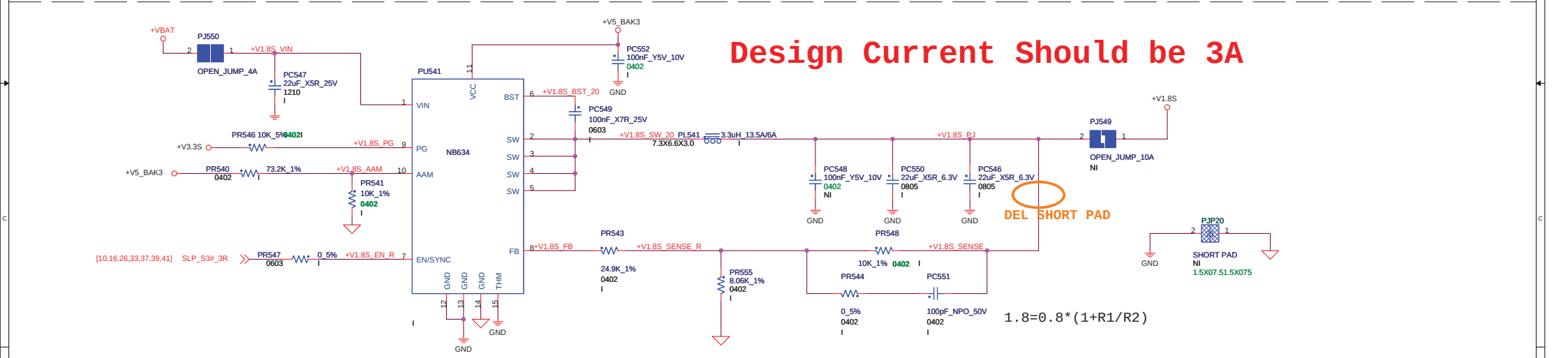


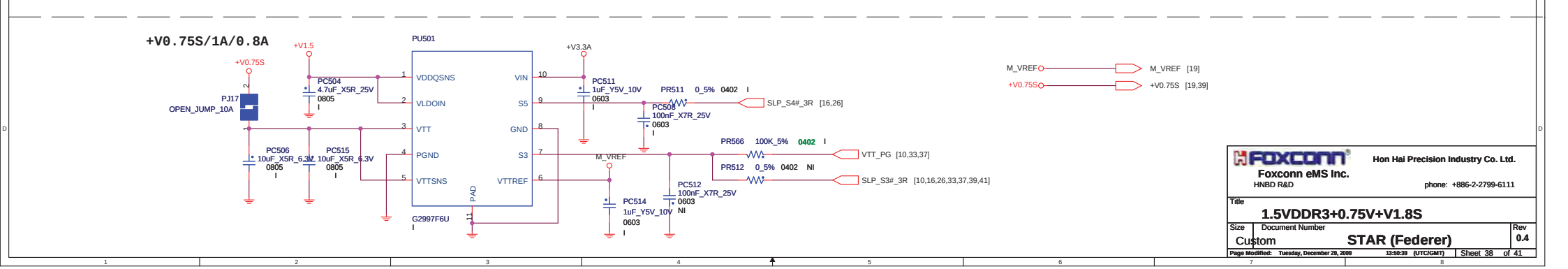


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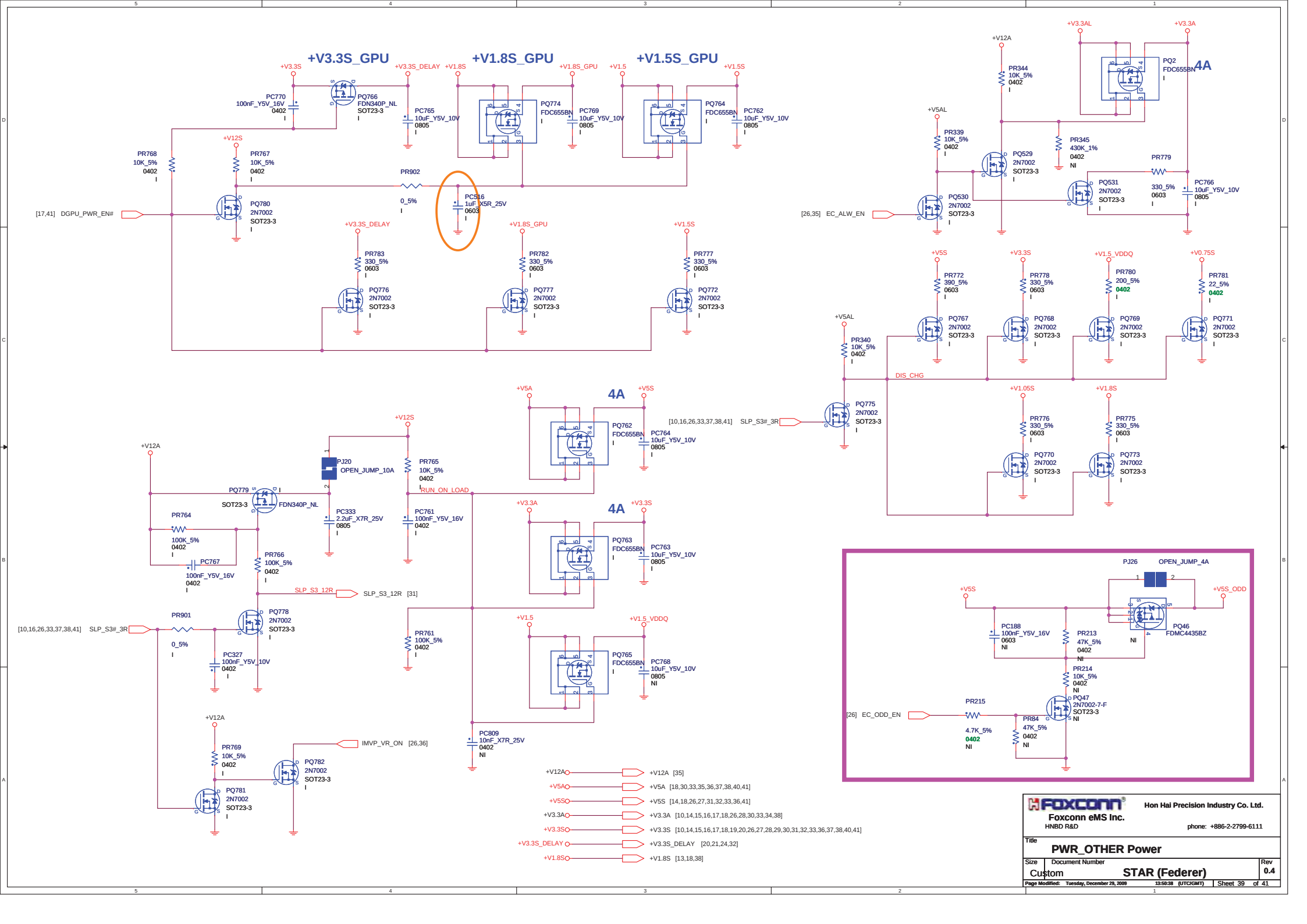


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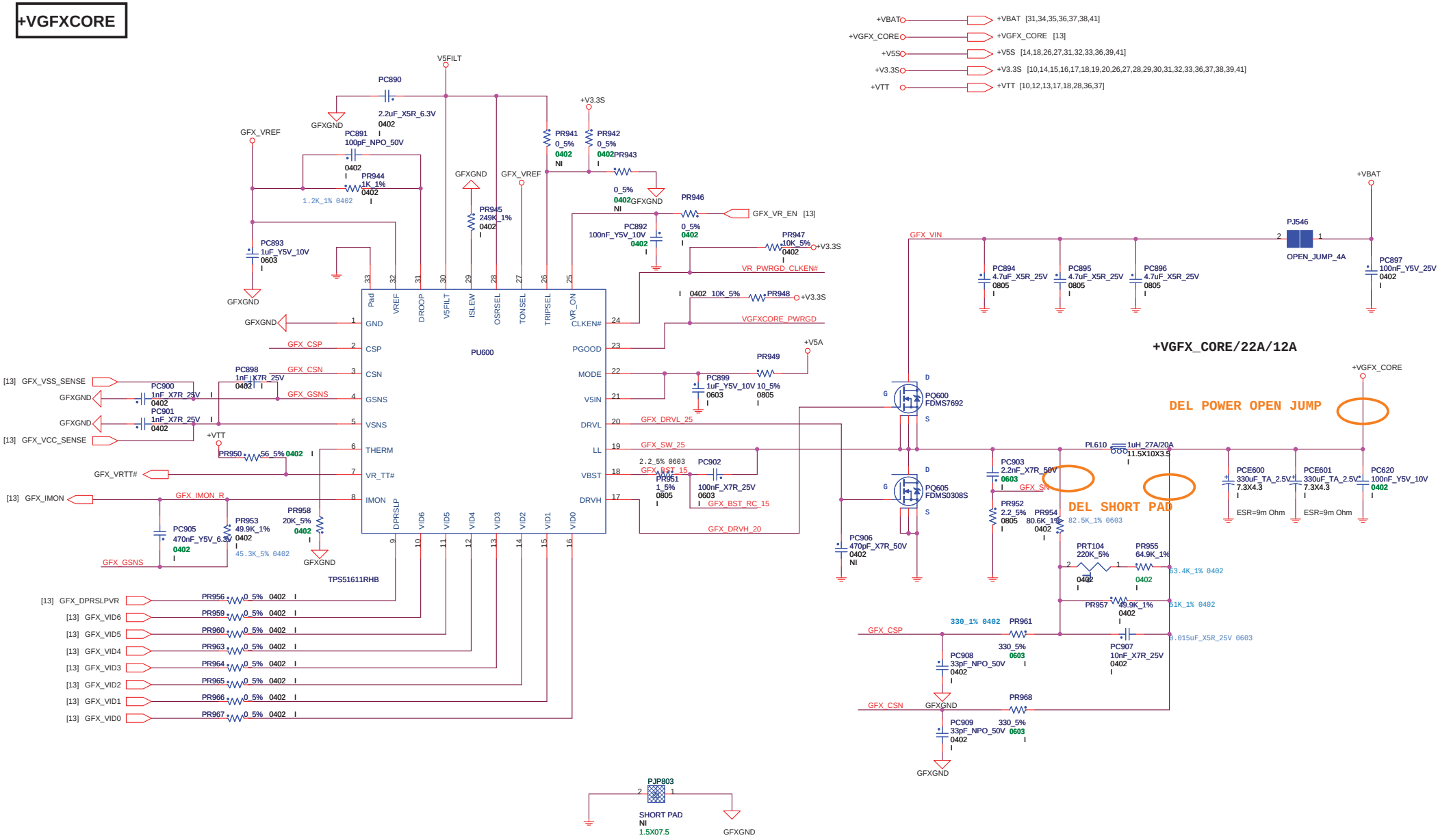
# +VGFXCORE




| | |
|---|---|
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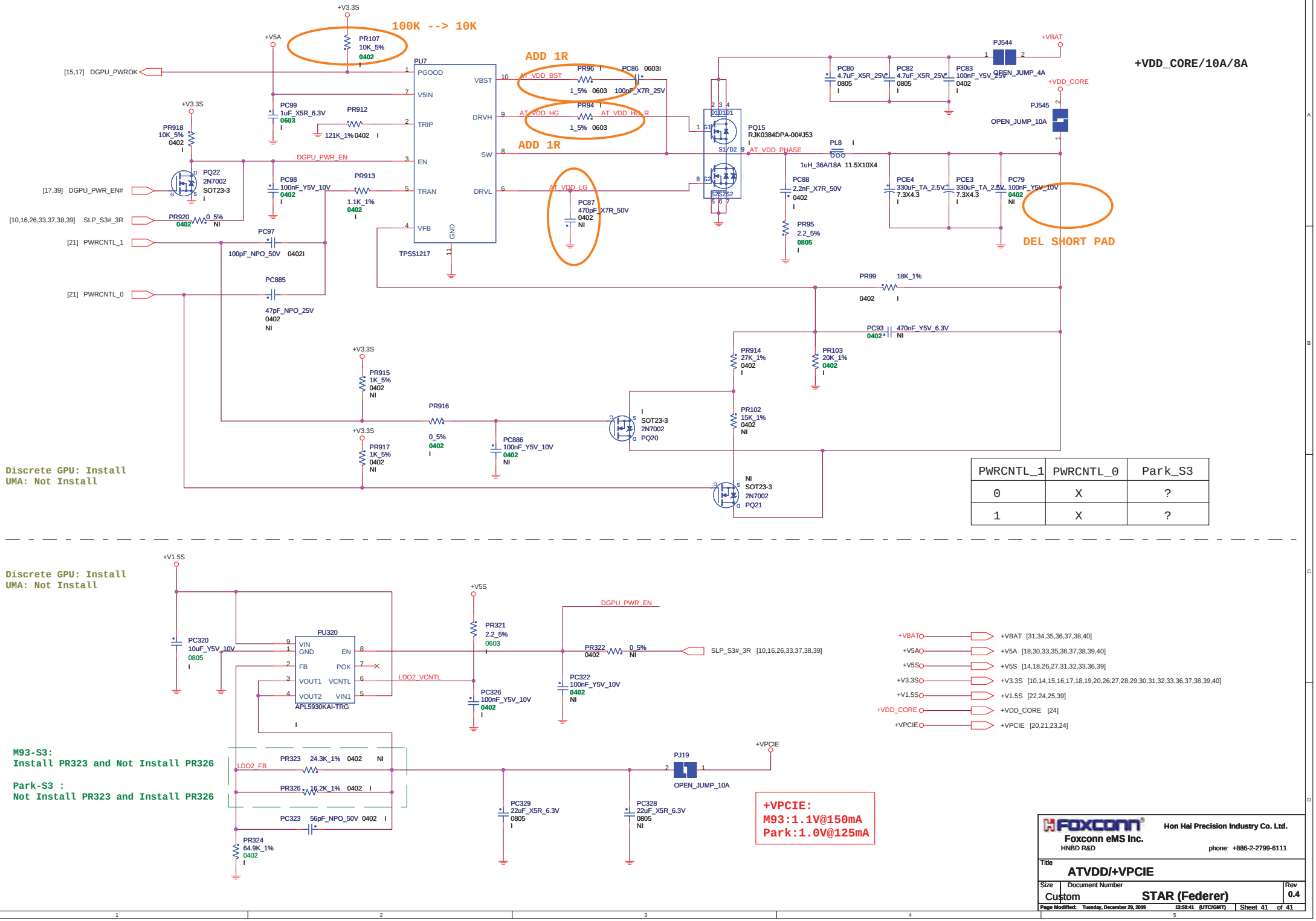
100K --> 10K
ADD 1R
ADD 1R
DEL SHORT PAD
+VDD_CORE/10A/8A
Discrete GPU: Install
UMA: Not Install
Discrete GPU: Install
UMA: Not Install
M93-S3:
Install PR323 and Not Install PR326
Park-S3 :
Not Install PR323 and Install PR326
+VPCIE:
M93:1.1V@150mA
Park:1.0V@125mA
PWRCNTL_1 | PWRCNTL_0 | Park_S3
0 | X | ?
1 | X | ?
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