
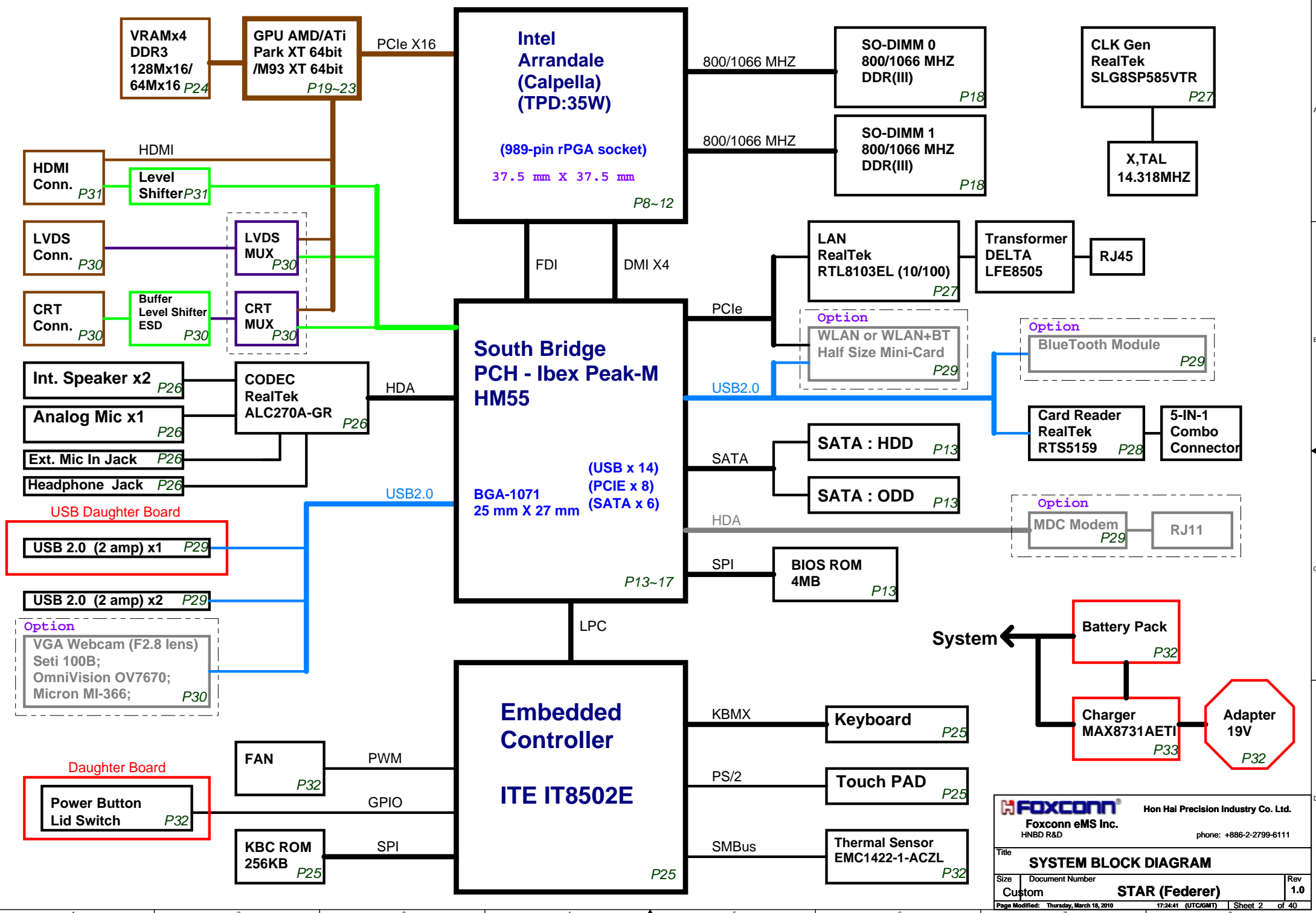


01 -- COVER SHEET	21 -- VGA_S3 (DDR3) 3/5
02 -- SYSTEM BLOCK DIAGRAM	22 -- VGA_S3 (DP) 4/5
03 -- CLOCK MAP	23 -- VGA_S3 (POWER) 5/5
04 -- POWER MAP	24 -- VRAM (DDR3)
05 -- POWER SEQUENCY DIAGRAM	25 -- EC+KBC (IT8502E)
06 -- POWER SEQUENCY TIMING	26 -- CODEC/JACK/SPEAKER/MIC
07 -- SMBUS MAP	27 -- LAN (RTL8103EL)/CLOCK GEN
08 -- Calpella (DMI,PEG,FDI)	28 -- Card Reader
09 -- Calpella (CLK,MISC,JTAG)	29 -- WLAN/BT/MDC/USB/MOUNTING
10 -- Calpella (DDR3)	30 -- LVDS/CRT/Webcam
11 -- Calpella (POWER/GND)	31 -- HDMI
12 -- Calpella (GRAPHIC POWER)	32 -- DCIN/Battery/OCP/FAN
13 -- PCH (HDA,JTAG,SATA)	33 -- PWR Charger MAX8731AETI
14 -- PCH (PCI-E,SMBUS,CLK)	34 -- 5V/3.3V SN0608098RHBT
15 -- PCH (DMI,FDI,GPIO,LVDS)	35 -- Vcore MAX17030
16 -- PCH (PCI,USB,NVRAM,GPIO)	36 -- 1.1V VTT/+V1.05RUN
17 -- PCH (POWER)	37 -- 1.5VDDR3+0.75V+V1.8RUN
18 -- DDR3(SO-DIMM_0&1)	38 -- PWR_Others power plane
19 -- VGA (PCI-E/STRAP) 1/5	39 -- CPU_VREG & Decoupling
20 -- VGA_S3 (IO) 2/5	40 -- ATVDD/+VPCIE

P. Leader	Check by	Design by

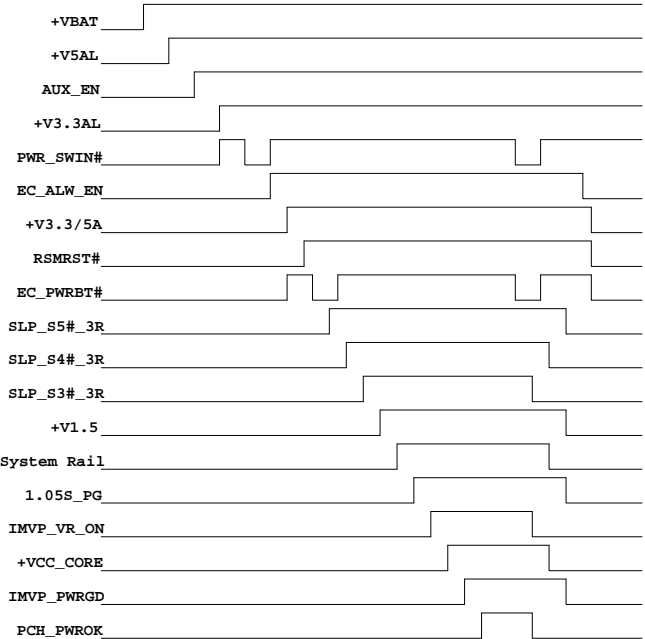
 Hon Hai Precision Industry Co. Ltd. Foxconn eMS Inc. HNBD R&D		phone: +886-2-2799-6111
Title Index Page		
Size Custom	Document Number STAR (Federer)	Rev 1.0
Page Modified: Thursday, March 18, 2010 17:24:40 (UTC+GMT) Sheet 1 of 40		



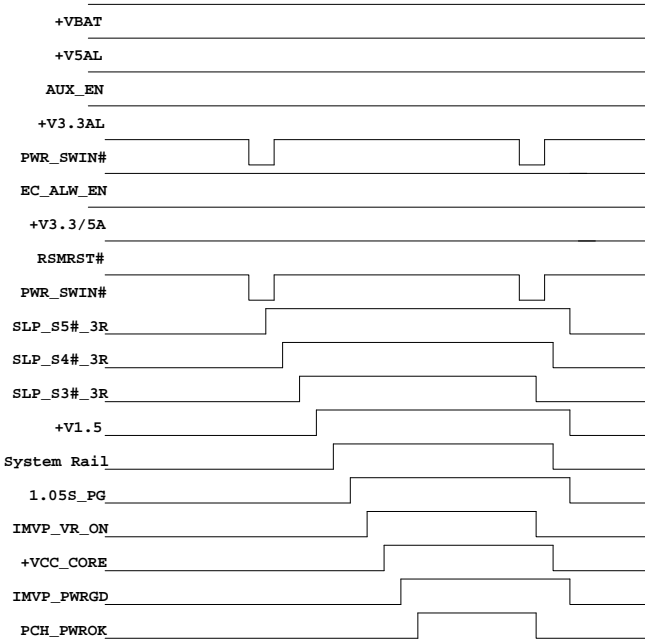
SCH Page	Change Request Description	Notes
25,33~40	modify the power short pad to "POWER_OPENPAD_1P9X2P4"	SMD performance issue
15	Add RS74,RS77,RS79 for all SG sku	Fix VGA port auto detect function
39	Change PR944 from 1K to 1.5K	Fix power load line test issue
13	Del PCH SPI ROM connector circuitry	Del unnecessary functon parts
25	Del EC SPI ROM connector circuitry	Del unnecessary functon parts
25	Del debug connector	Del unnecessary functon part
25	SKU ID modify to MV phase	MV Phase ID
13	32.768KHZ crystal change to CL:7PF	RTC Clock tuning
25	32.768KHZ crystal change to CL:7PF	RTC Clock tuning
30	VGA connector change part number to halide free type	ROHS issue
29	MDC connector change part number to halide free type	ROHS issue
29	Mini-PCIE connector change part number to halide free type	ROHS issue
30	LVDS connector change part number to halide free type	ROHS issue
13	SATA connector change part number to halide free type	ROHS issue
30	Modify backlight PWM control path	Del unnecessary parts
18	Modify the DDR3 footprint	Co-lay for DDR3 connector
25	Del D110	Del unnecessary functon parts
25,30	Del RB28 and Add RI54	For 17" keyboard num lock LED
38	add PC775	Add for GPU M93 platform
38	add PC776	Add for VGA wave issue
35	Change VCORE VDD power source from +V5A to +V5S	Modify for V-BOOT
38	Change PR769 pull high power source from +12A to +V5A	Modify for GPU power sequence
29	Modify the HOLE1006 footprint	update footprint
40	modify all VDDCORE circuitry	modify VDDCORE circuitry
26	modify UA3 pin2 Analogy GND to Digital GND	Analogy GND change to Digital GND
32	add 2 pcs 2N7002 and swap EC_CHAR_LED#_A & EC_AC_LED#_W	Modify LED control and brightness
32	modify HEADER10 pin1 power source from +V5A to +V3.3AL	modify LED control and brightness
33~37	PC547 22uF_X5R_25V to 10uF_X5R_25V*2	modify for acoustic
	PC504 4.7uF_X5R_25V to 10uF_X5R_25V	
	PC813 4.7uF_X5R_25V to 10uF_X5R_25V	
	PC825, PC812 to 10uF_X5R_25V (NI)	
	PC826 to 10uF_X5R_25V (NI)	
	PC824, PC828, PC829 4.7uF_X5R_25V to 10uF_X5R_25V"	
32	RH1002 change to 1.3Kohm	modify LED control and brightness
27	RL13 change to 2.7Kohm"	modify LED control and brightness
32	ADD QB11	Thermal shutdown
19	ADD RG457,RG458	Add for power leakage issue
35	Del DB14	Thermal shutdown issue

POWER SEQUENCE TIMING

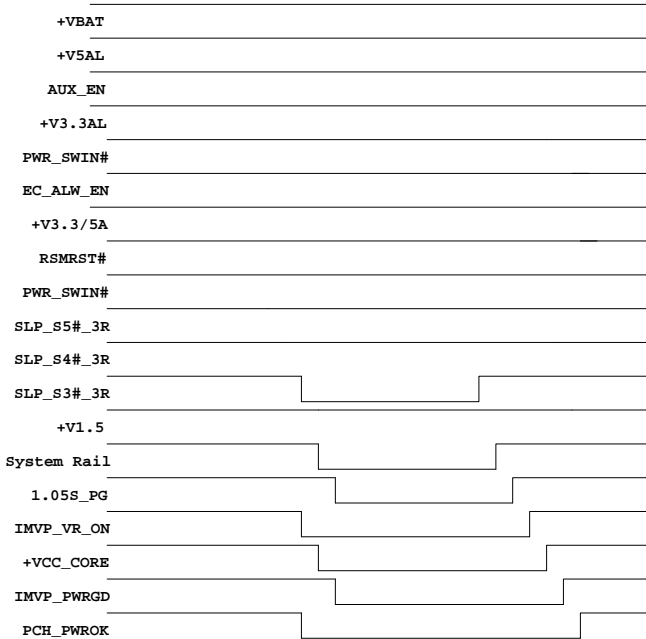
G3(OFF)->S0->S5



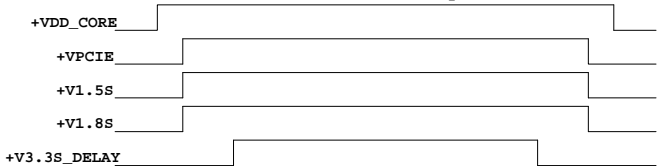
S5->S0->S5



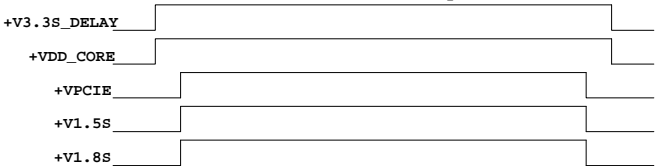
S0->S3->S0



GPU_M93 Sequence



GPU_Park Sequence



Switchable GPU

GPU
Park_XT

PCH

EC
ITE8502

CRT

LVDS

HDMI

Temp
Sensor

Charger

Battery

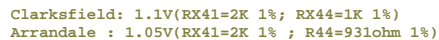
DIMM0

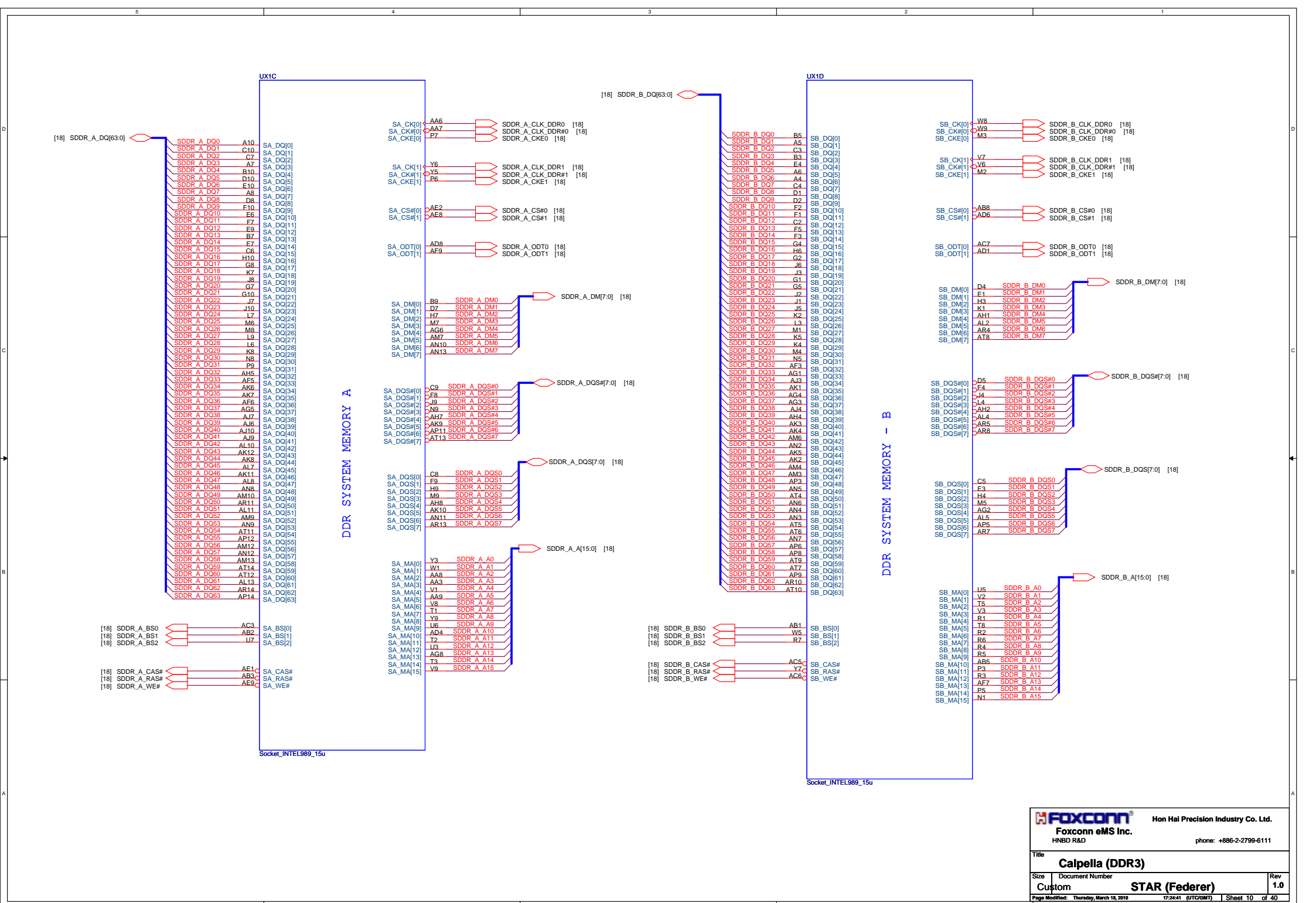
DIMM1

CLOCK
GEN

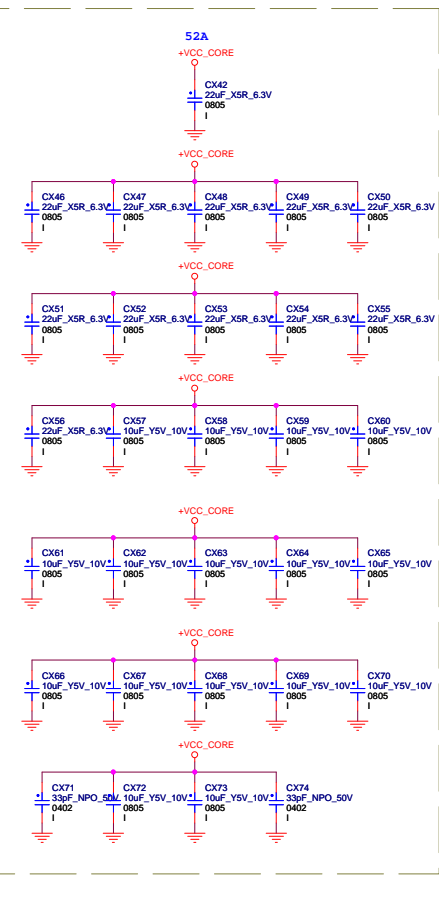
WLAN

Place close to chip



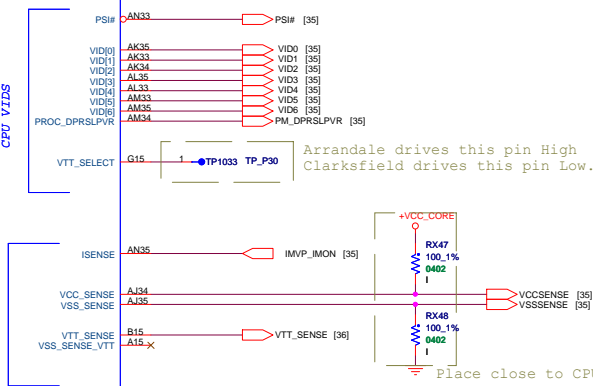
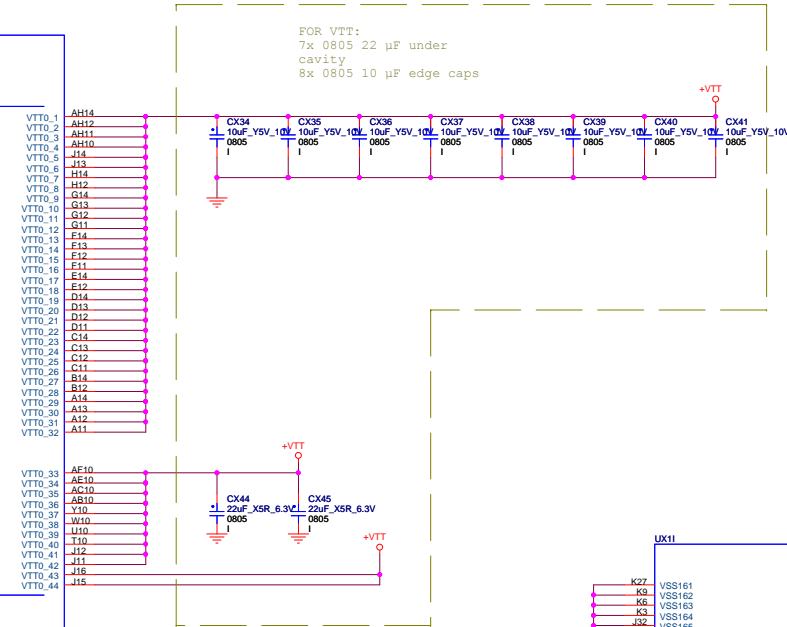


FOR VCC:
12x 0805 22 μ F inside cavity,
7x 0805 10 μ F under cavity and 9 x 0805 10
 μ F
between inductor and socket on top layer

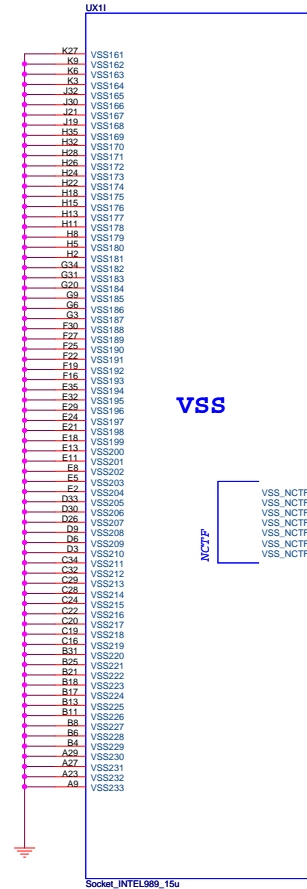


Socket_INTEL989_15u

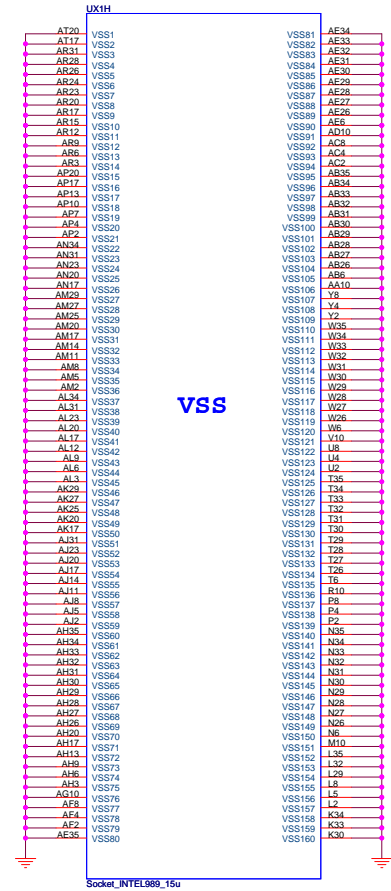
FOR VTT:
7x 0805 22 μ F under
cavity
8x 0805 10 μ F edge caps



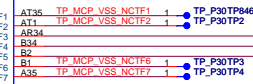
Place close to CPU

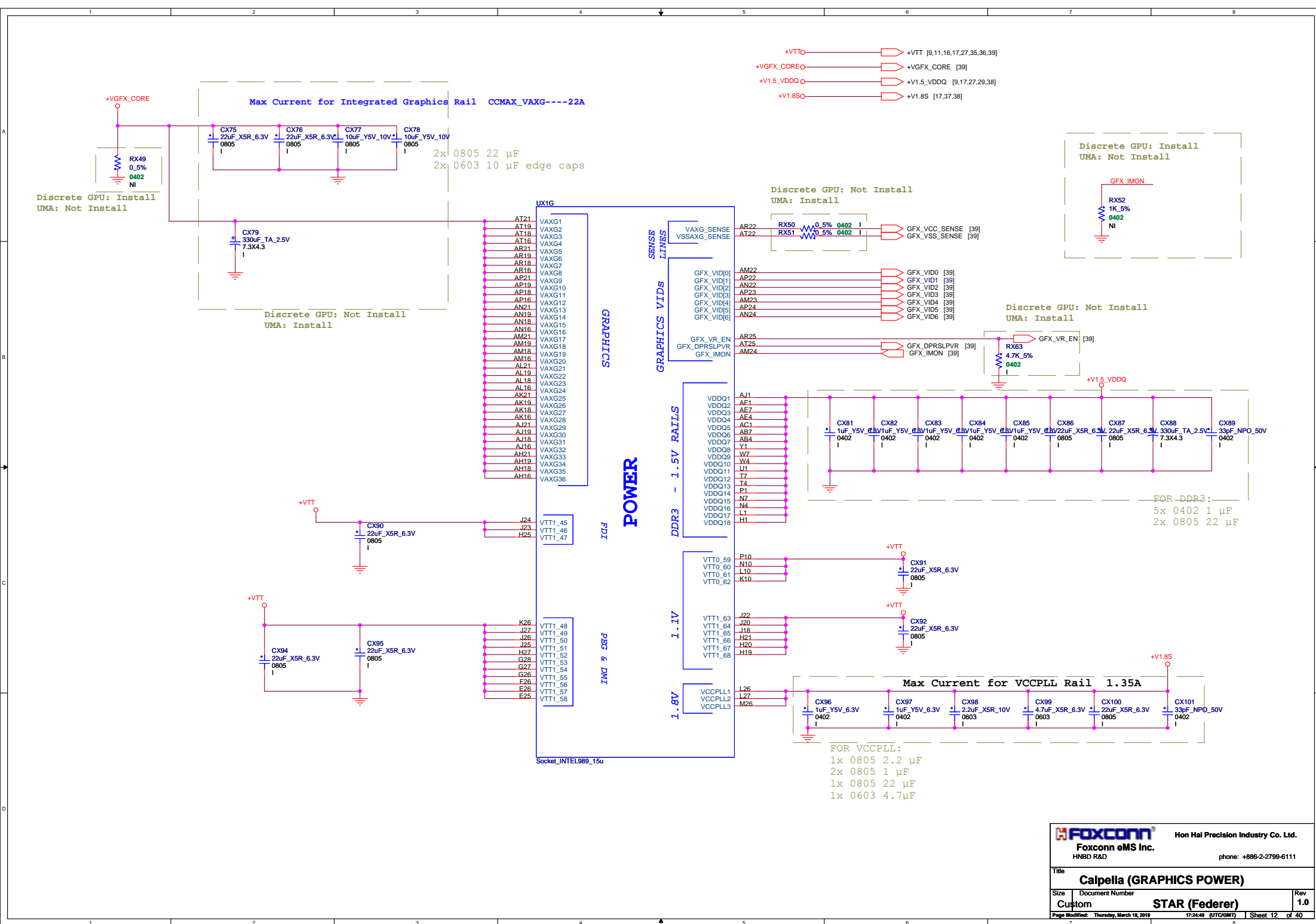


Socket_INTEL989_15



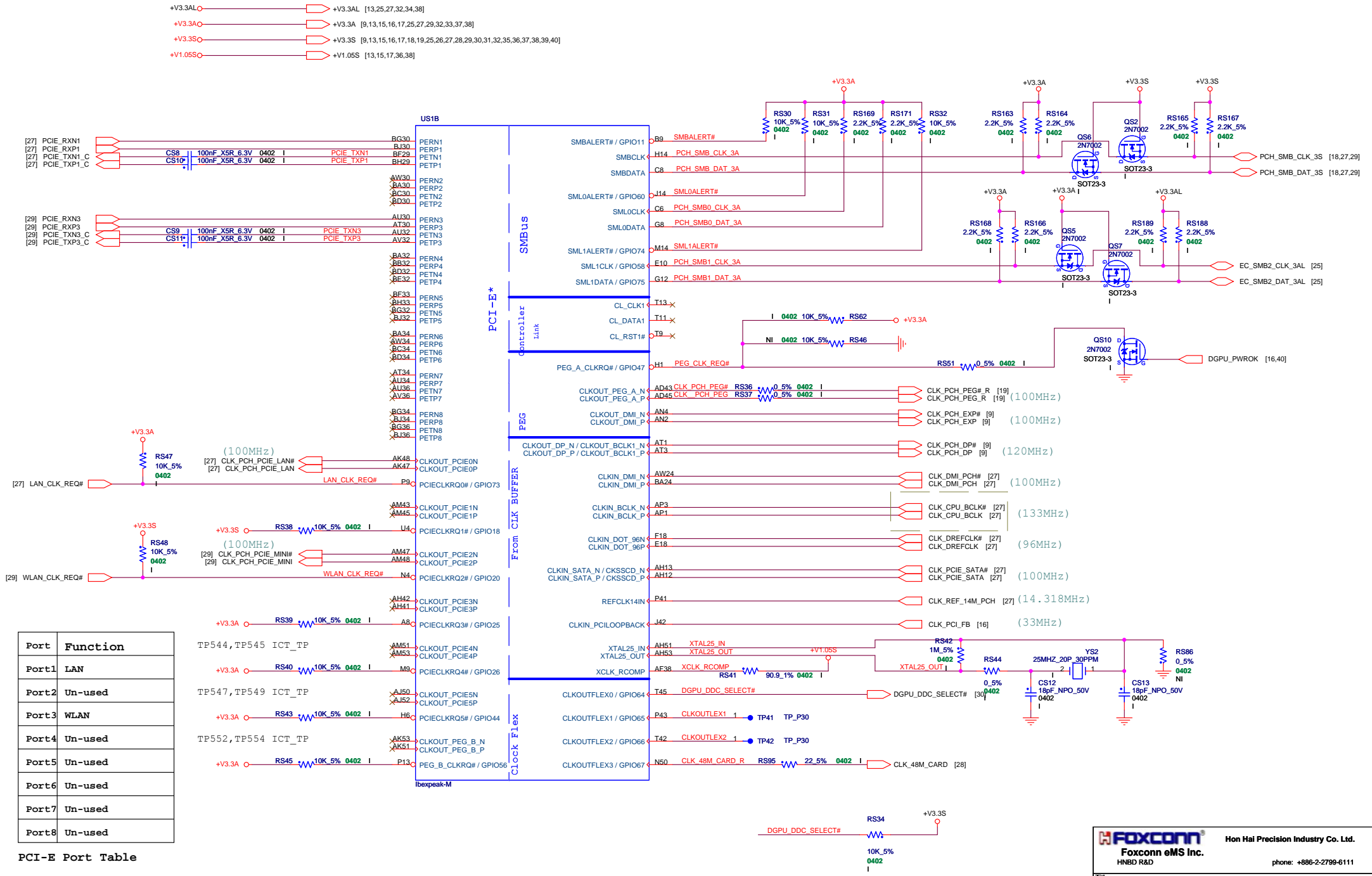
Socket_INTEL989_15u





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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phone: +886-2-2799-6111

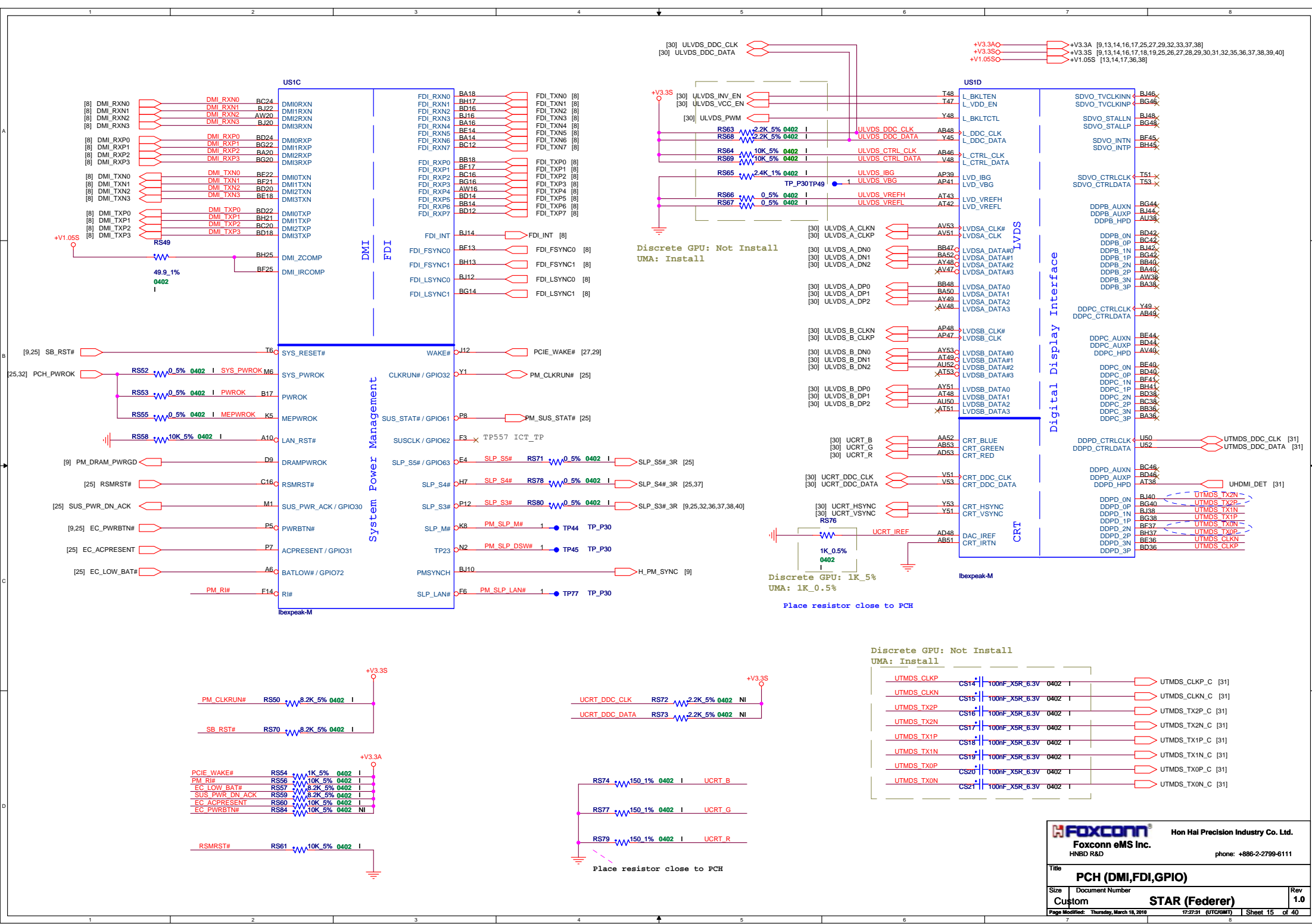
Title **PCH (PCI-E,SMBUS,CLK)**

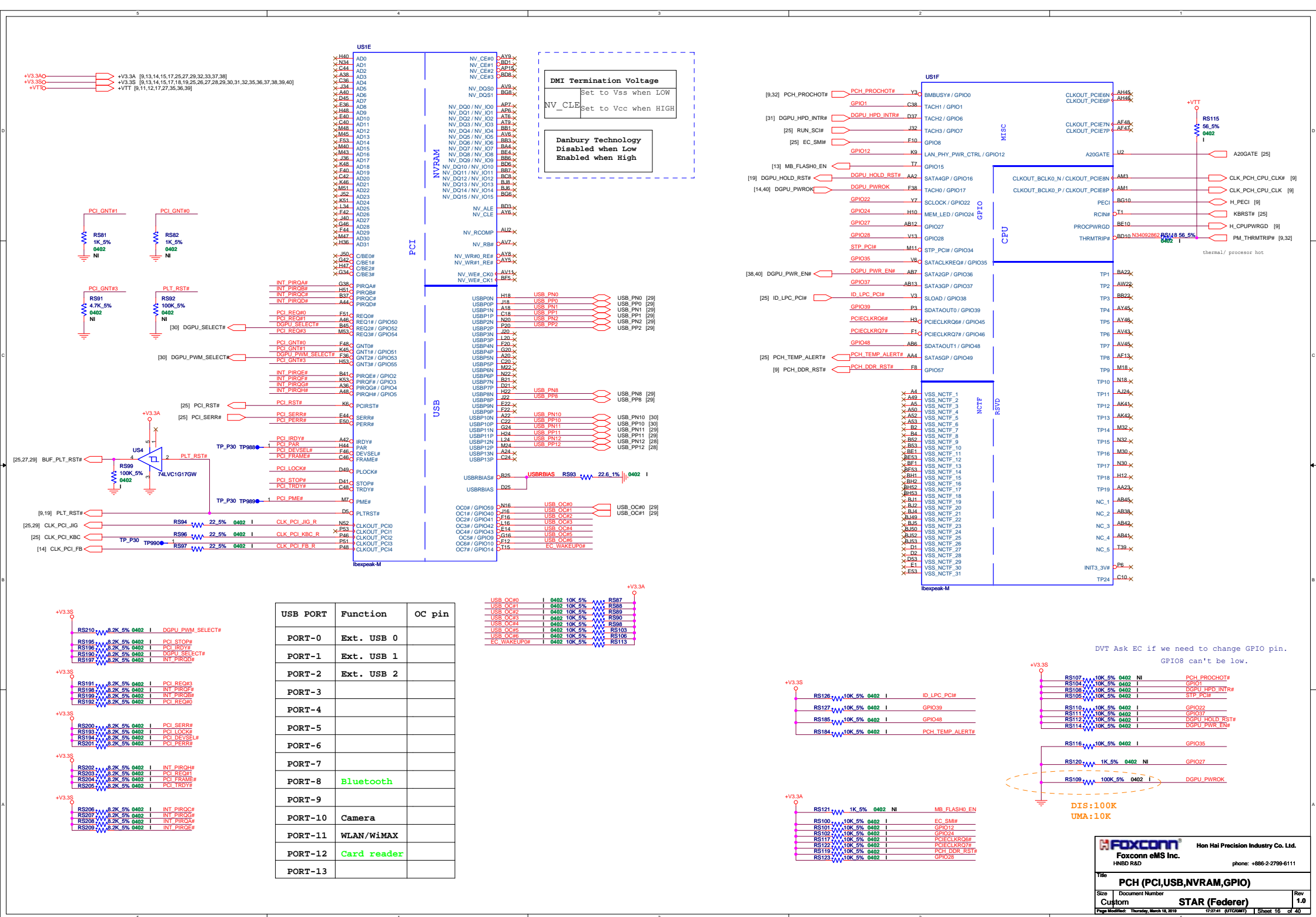
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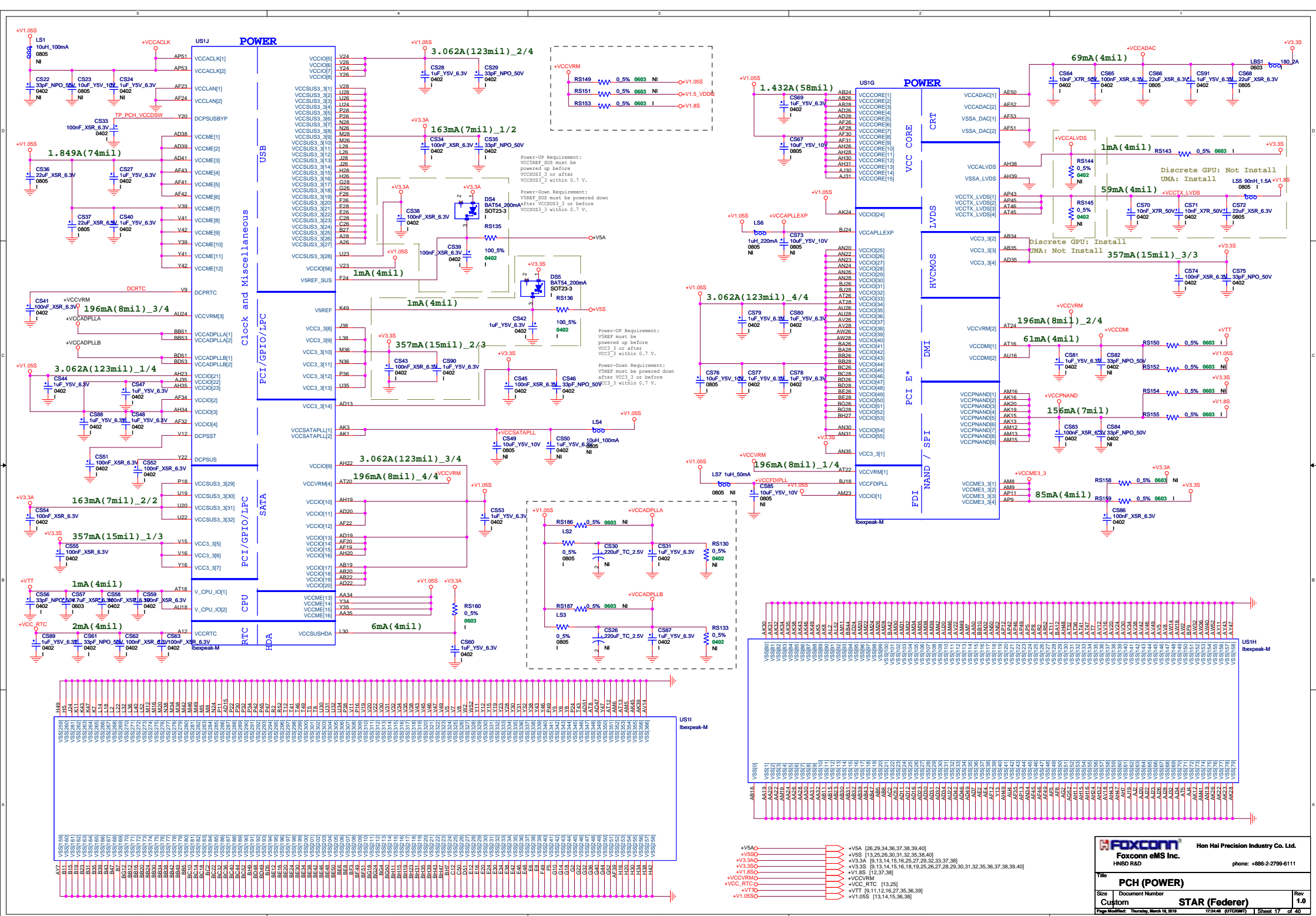
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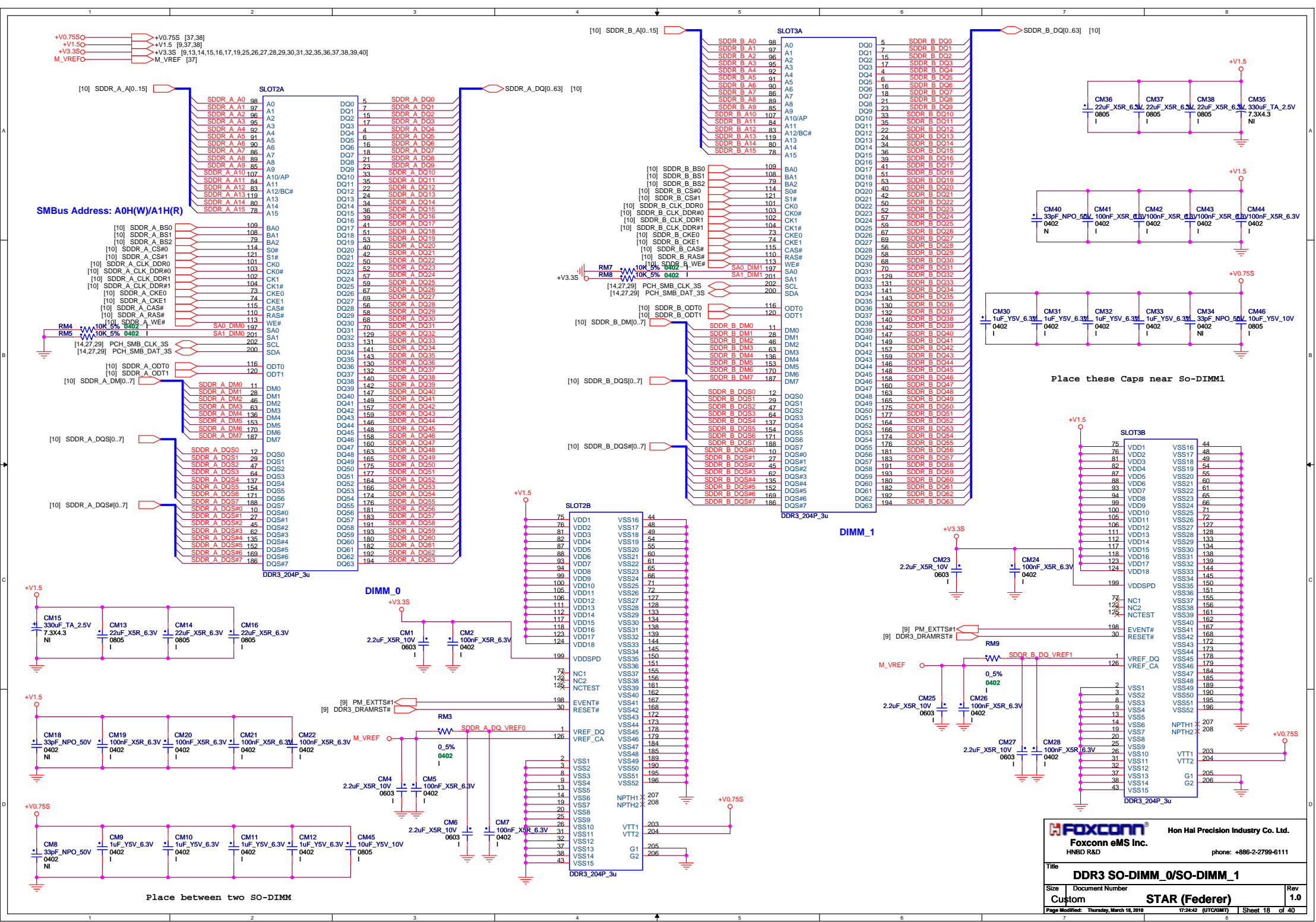
Rev **1.0**

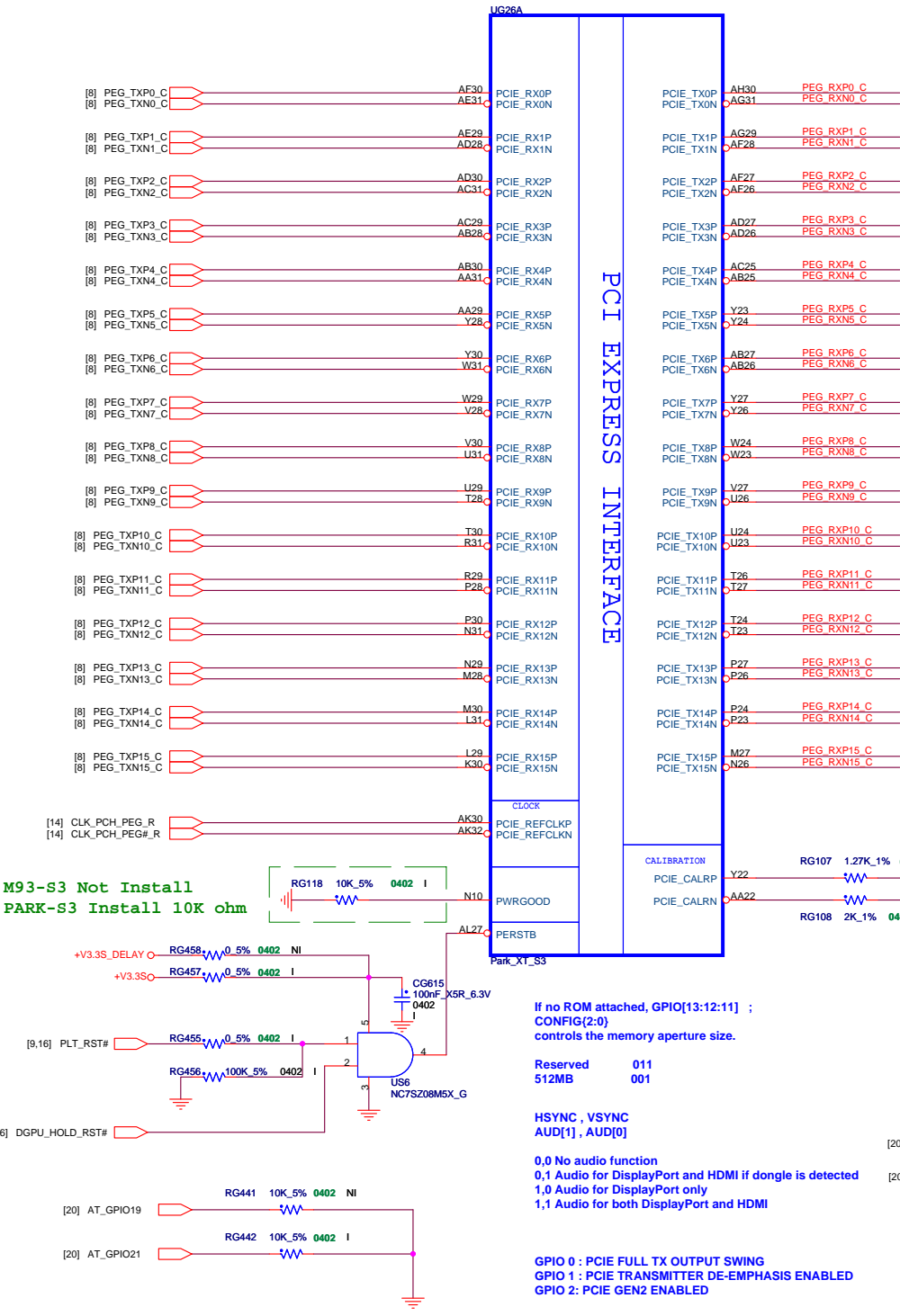
STAR (Federer)





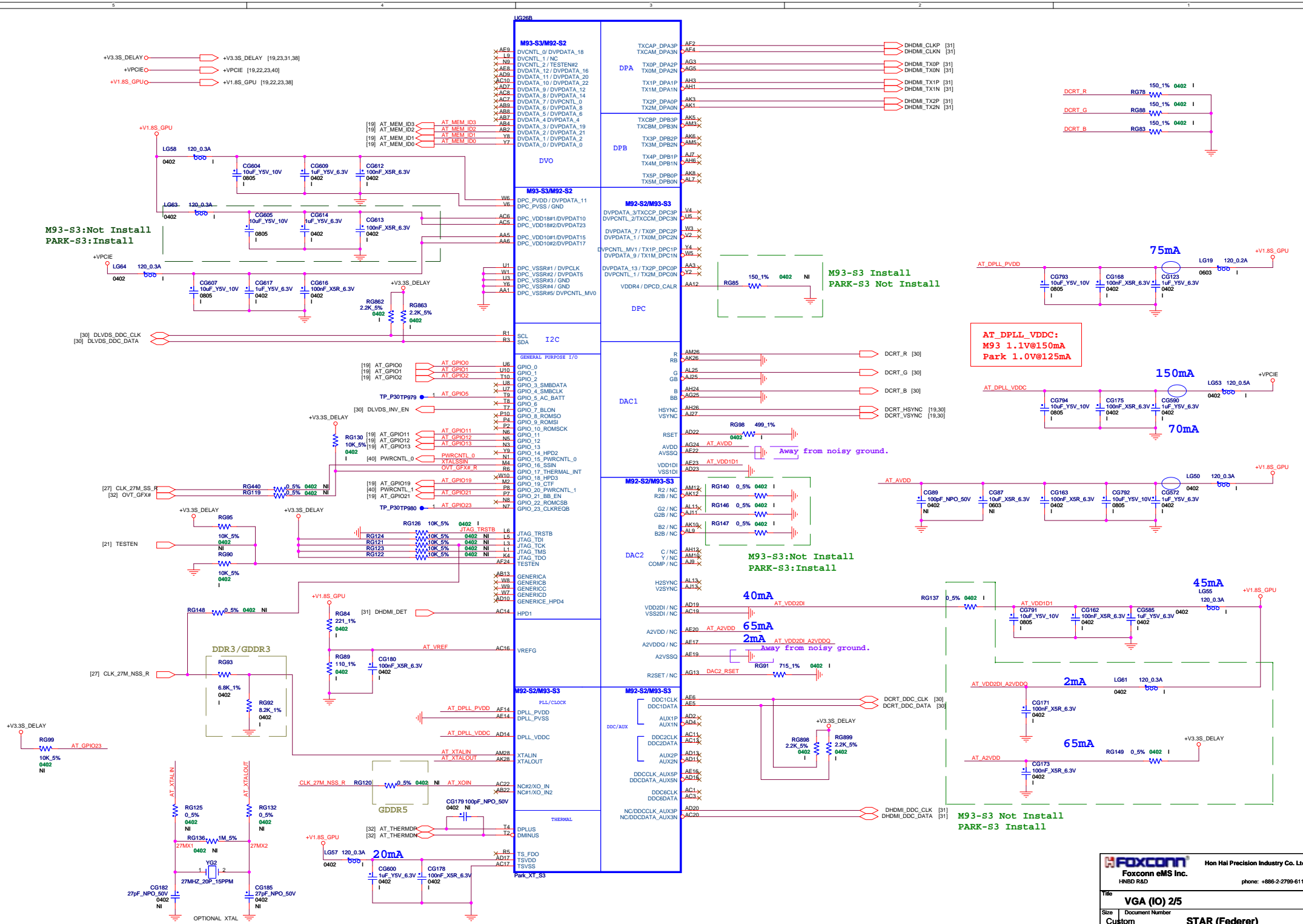






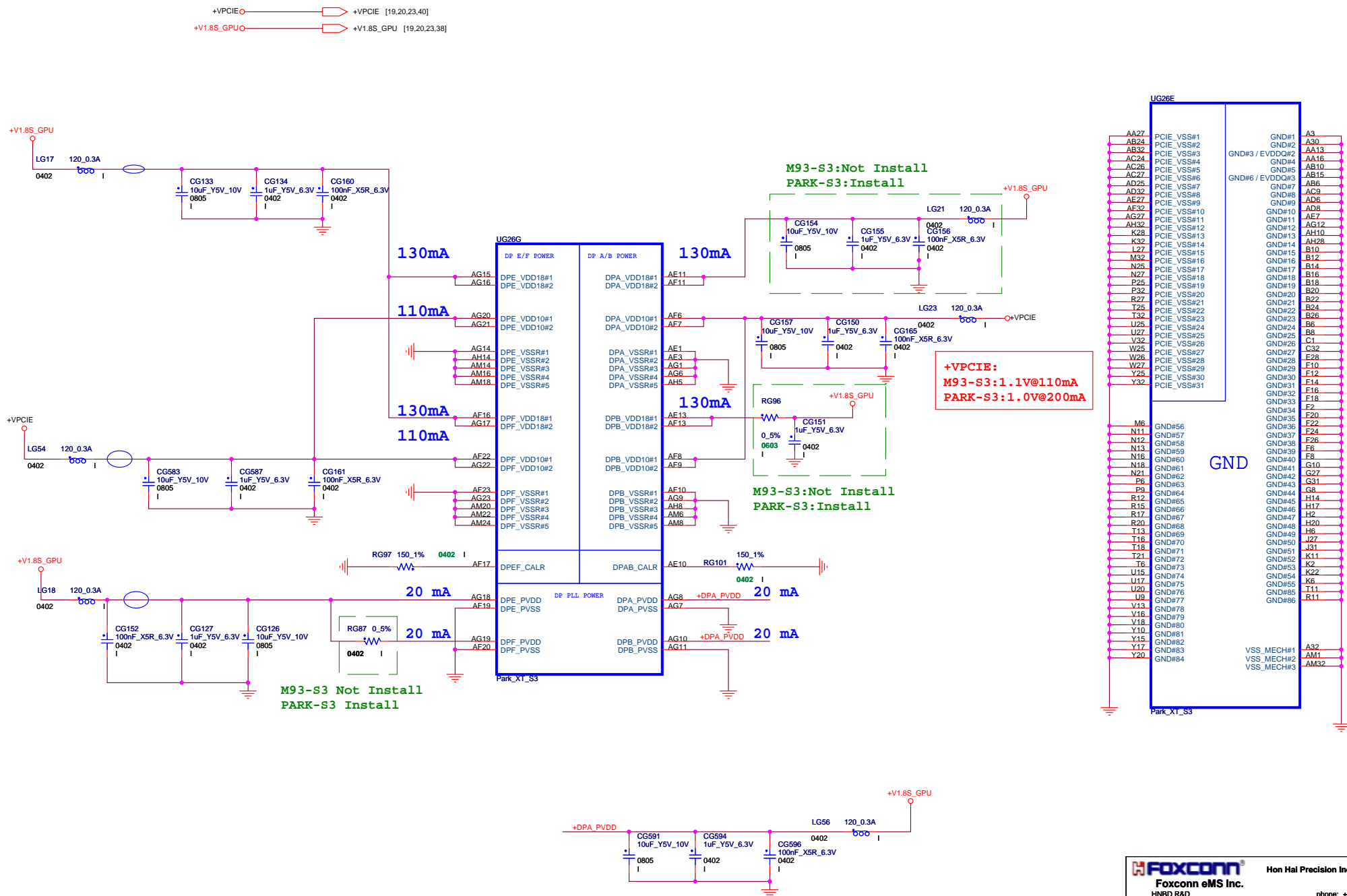
Strap for DDR3
AT_MEM_ID (3:2:1:0)

Part	Memory	Capacity
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-125GD)	1GB

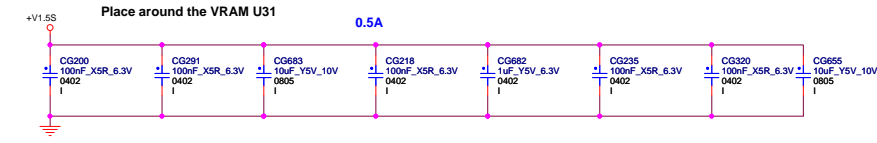
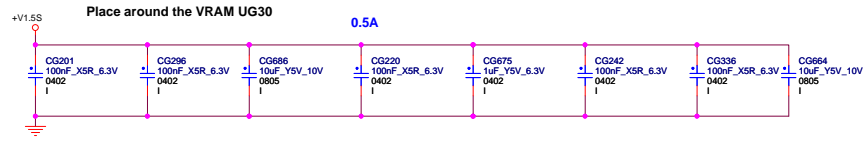
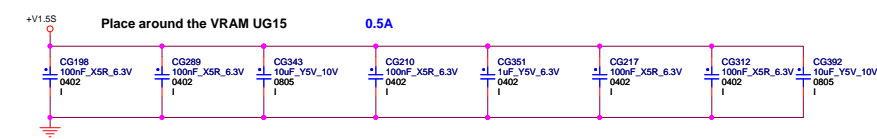
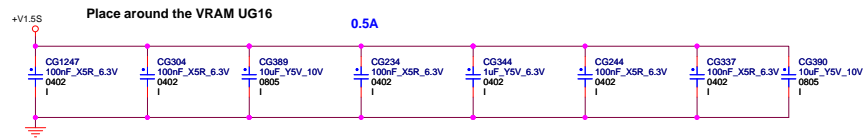
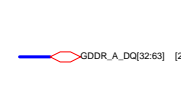
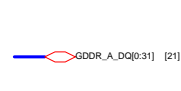
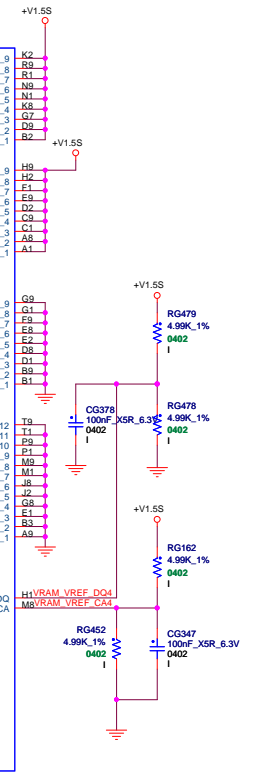
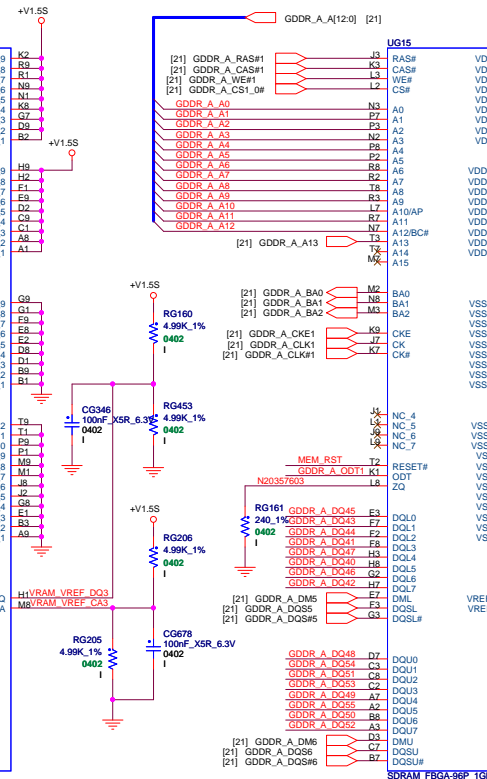
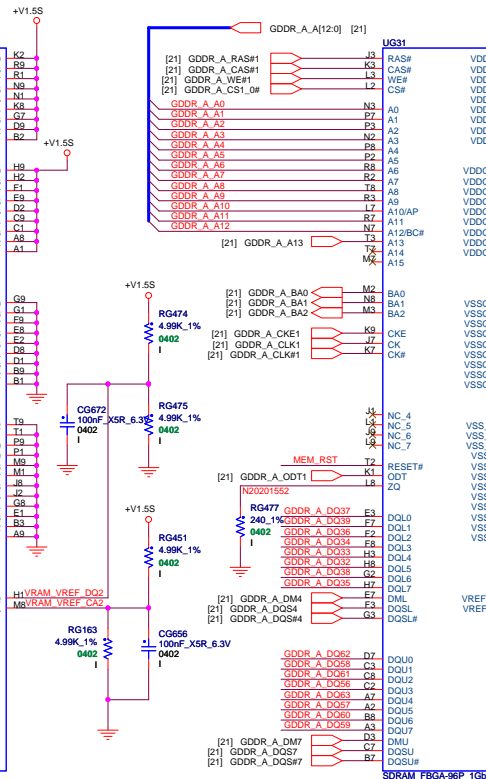
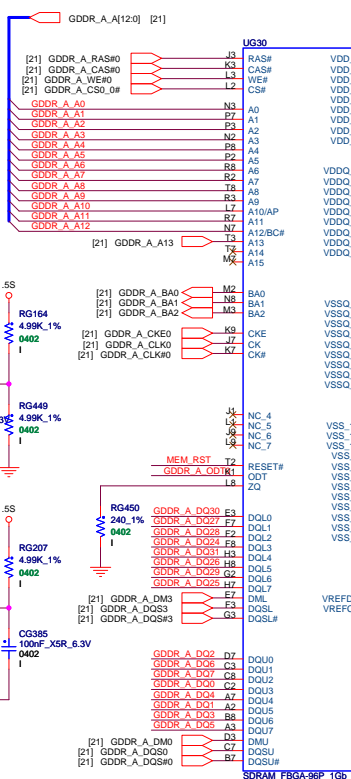
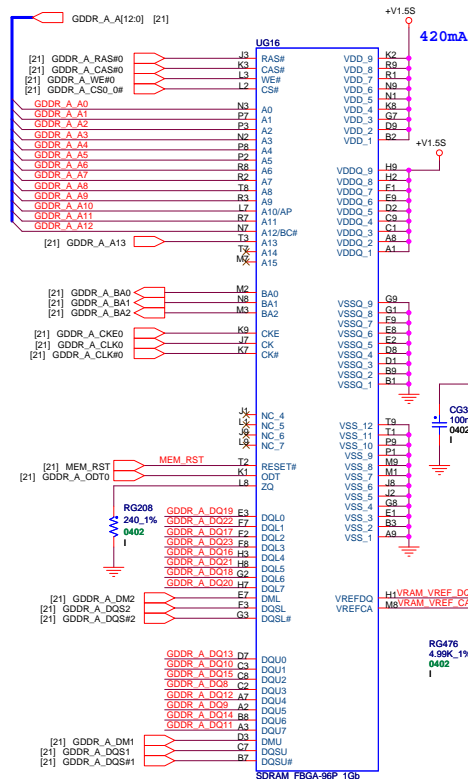


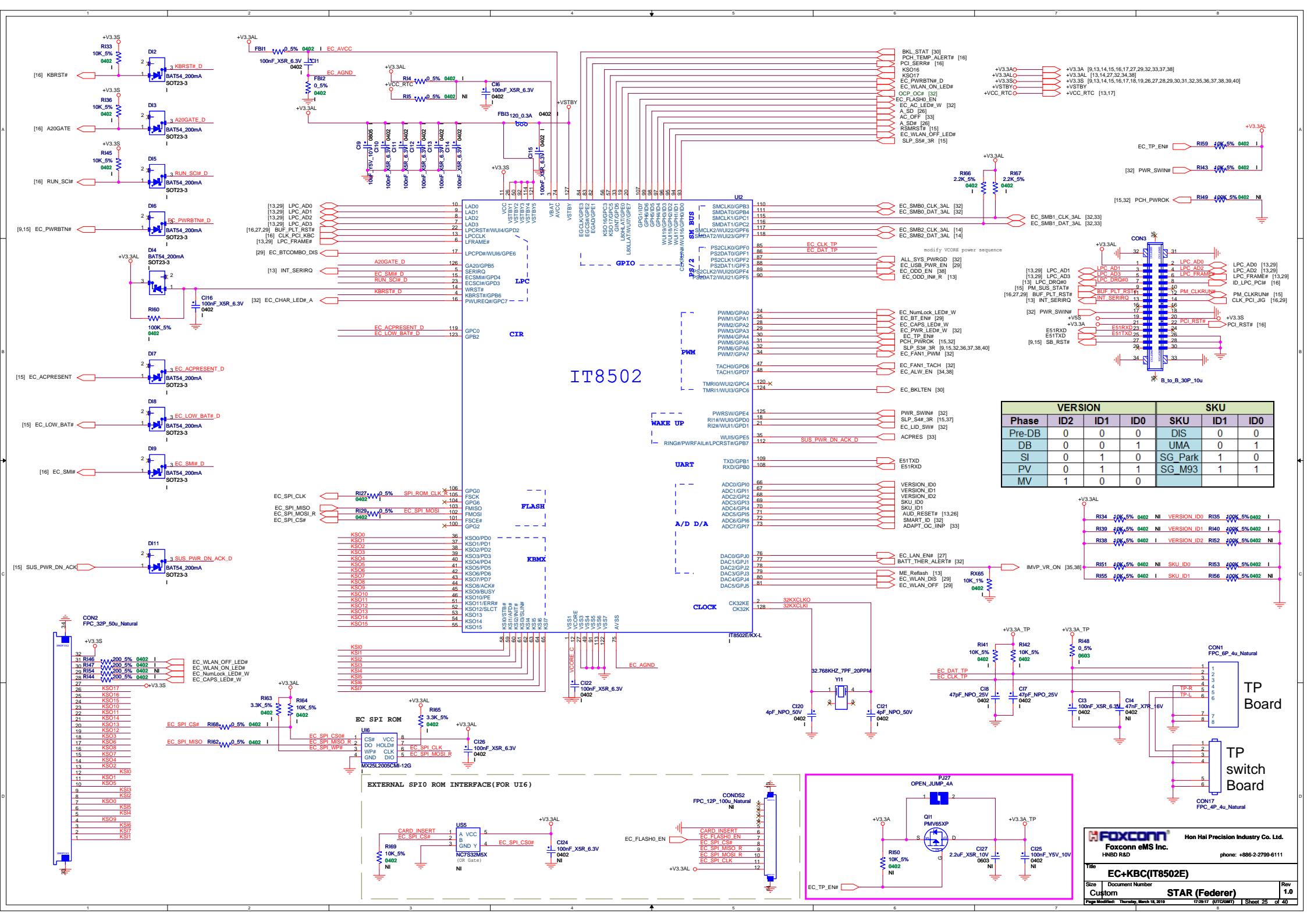


M93-S3 Install	M93-S3 Not Install	M93-S3 Install 240 ohm
PARK-S3 Not Install	PARK-S3 Install	PARK-S3 Install 150 ohm



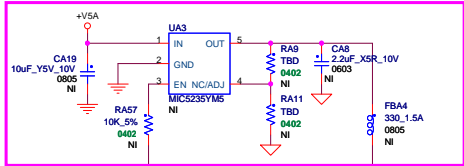
+V1.5S [21,23,38,40]



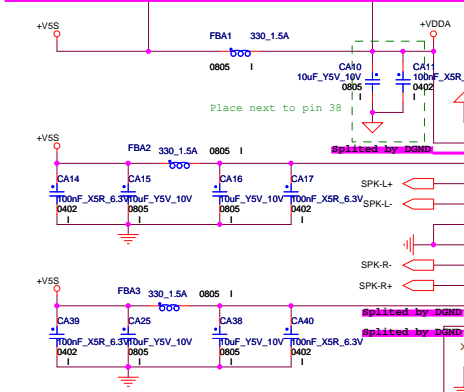


VERSION				SKU		
Phase	ID2	ID1	ID0	SKU	ID1	ID0
Pre-DB	0	0	0	DIS	0	0
DB	0	0	1	UMA	0	1
SI	0	1	0	SG Park	1	0
PV	0	1	1	SG M93	1	1
MV	1	0	0			

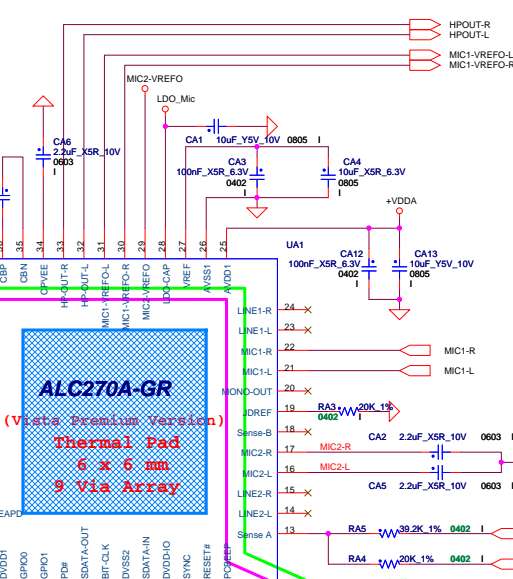
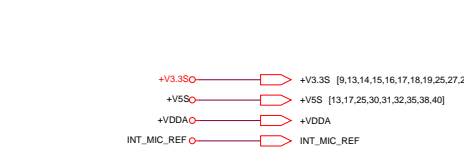
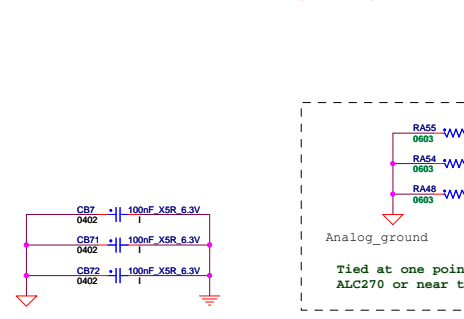
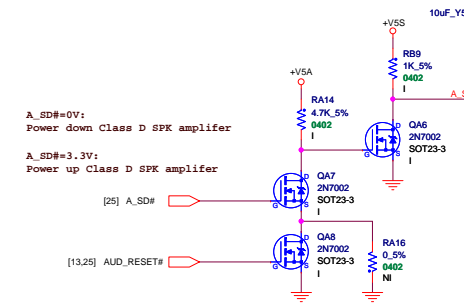
Reserved LDO circuitry for +VDDA power source



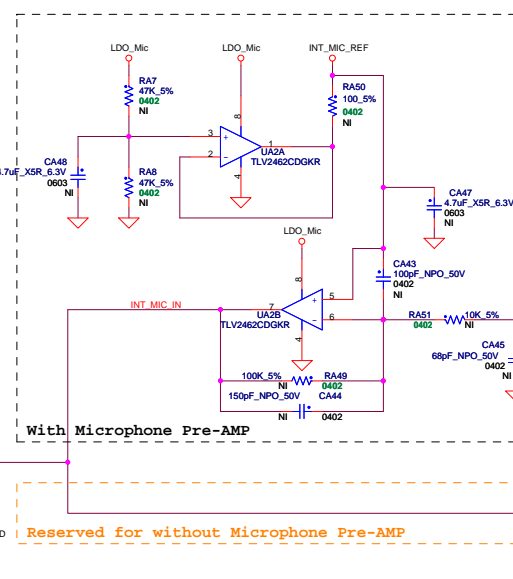
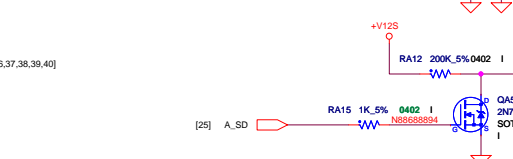
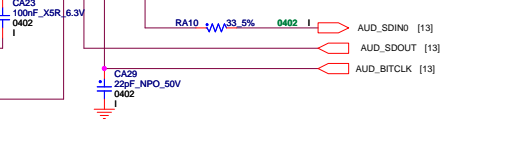
Place next to pin 38



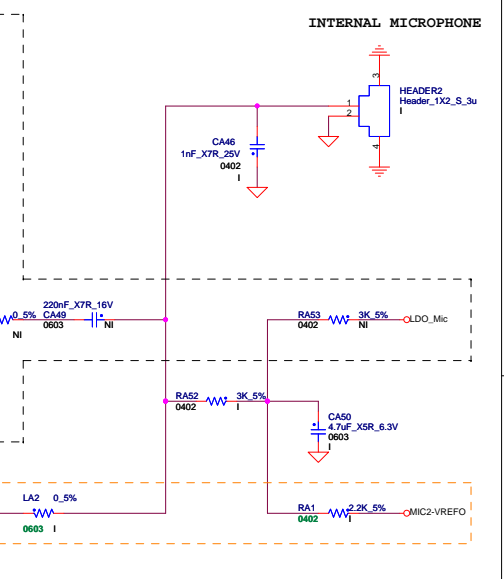
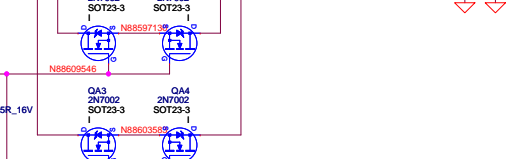
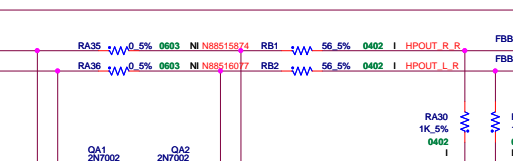
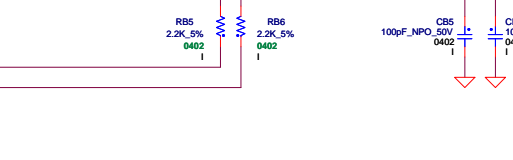
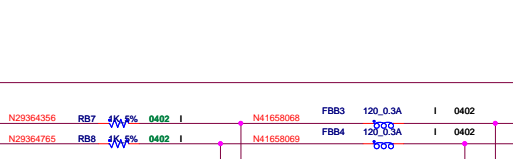
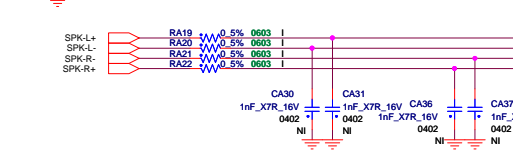
<<Attention>>
Surges of PVDD >7V duration 0.1ms when class D amplifier is working may damage the amplifier, 10uF tantalum capacitors are required at PVDD1 and PVDD2 to suppress the surge



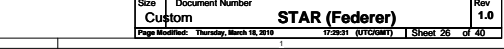
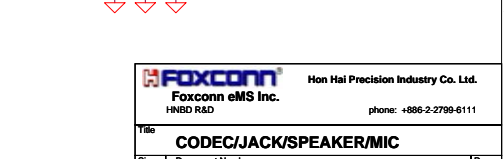
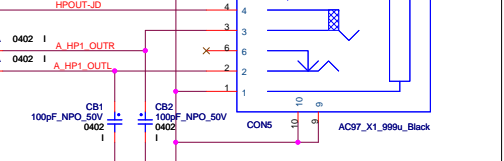
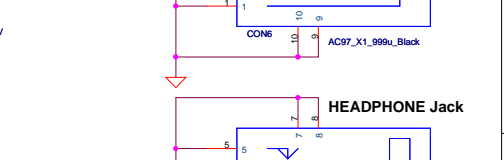
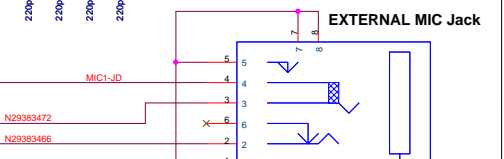
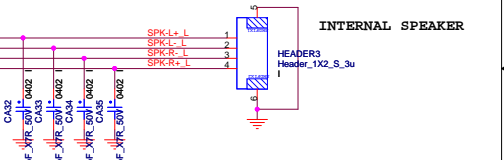
ALC270A-GR
(Vista Premium Version)
Thermal Pad
6 x 6 mm
9 Via Array

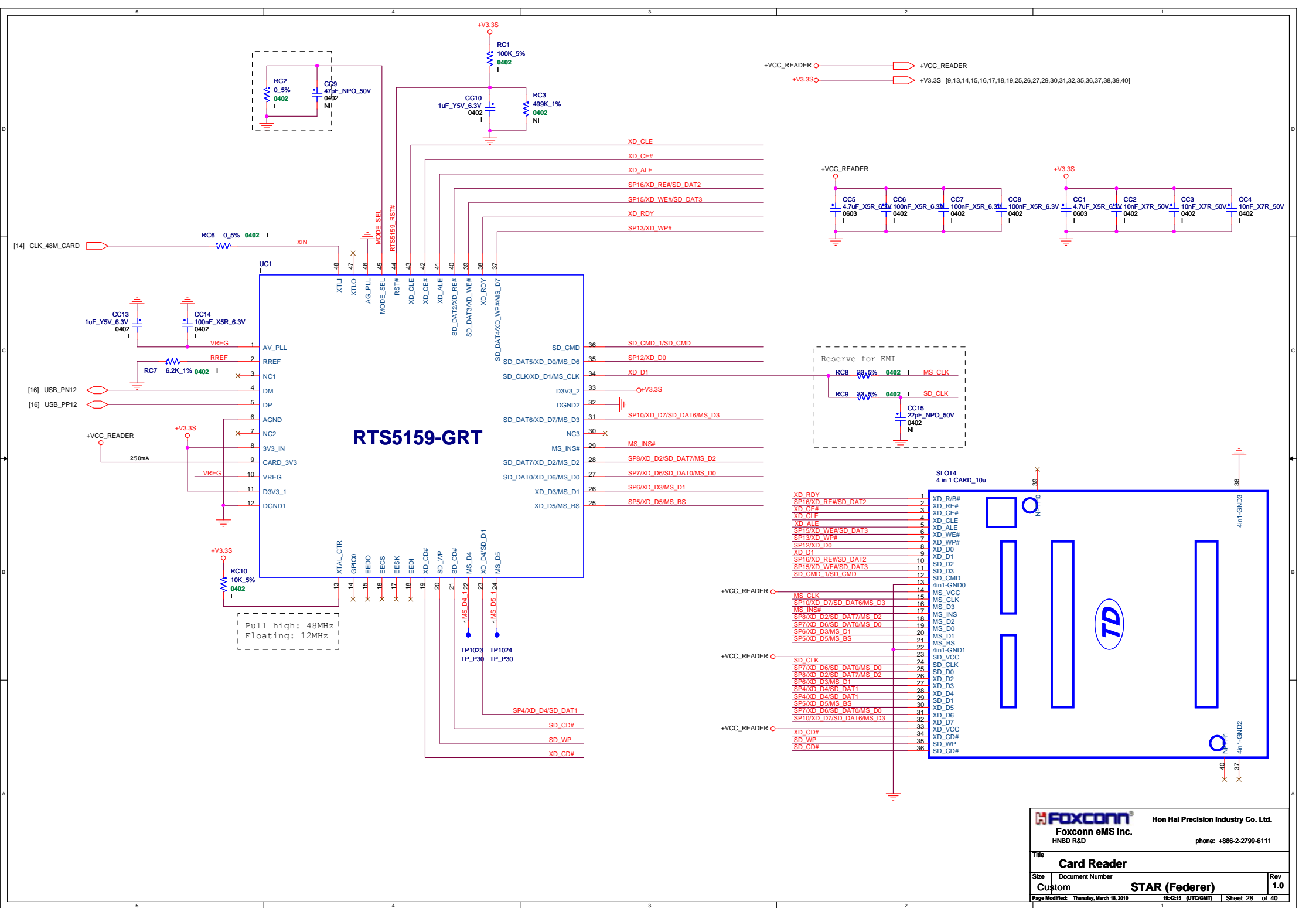


With Microphone Pre-AMP
Reserved for without Microphone Pre-AMP

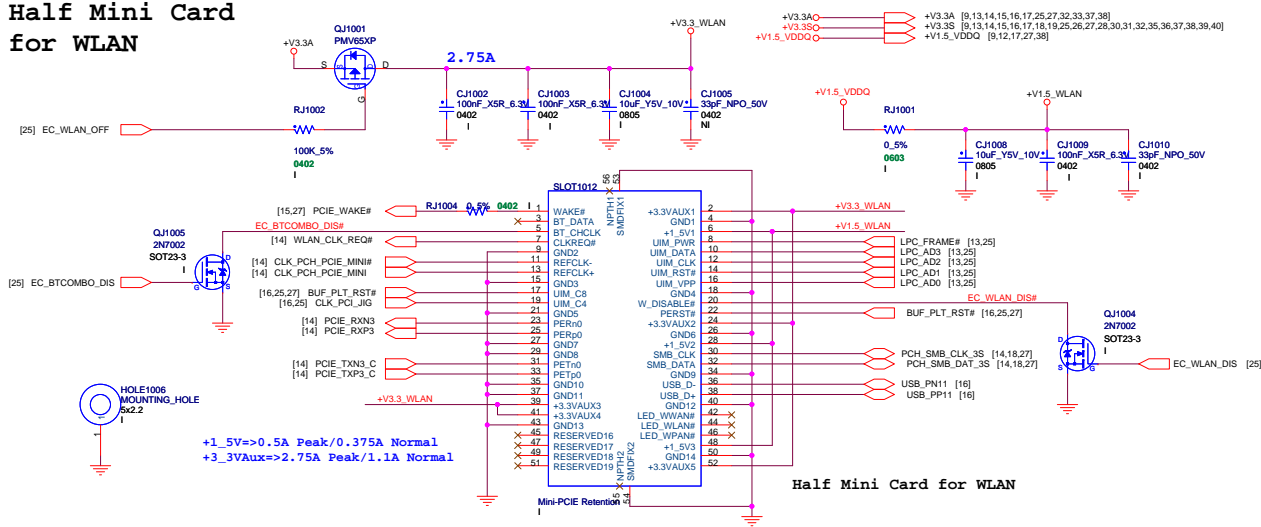


INTERNAL MICROPHONE
With Microphone Pre-AMP
Reserved for without Microphone Pre-AMP

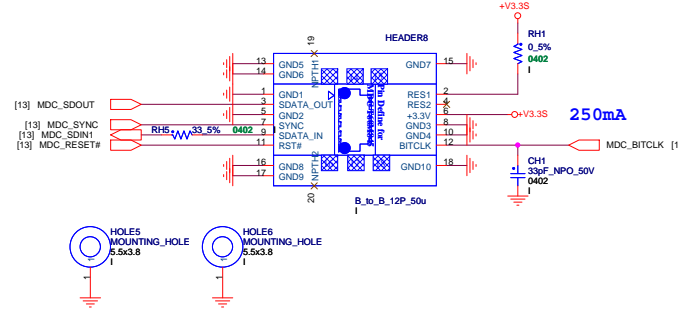




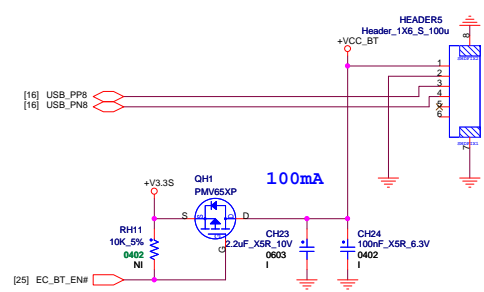
Half Mini Card for WLAN



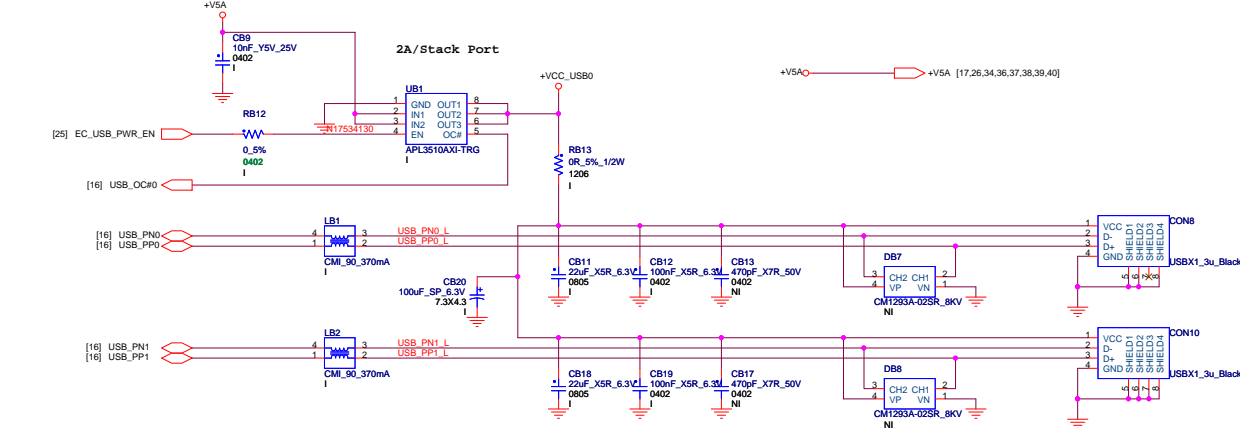
MDC CONN.



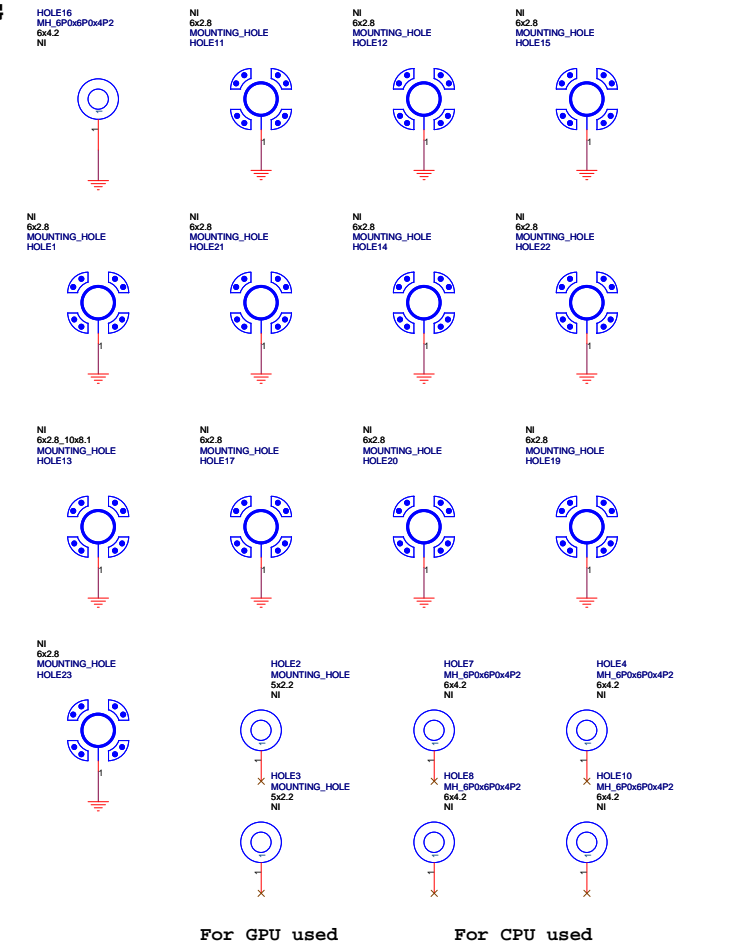
Bluetooth CONN.



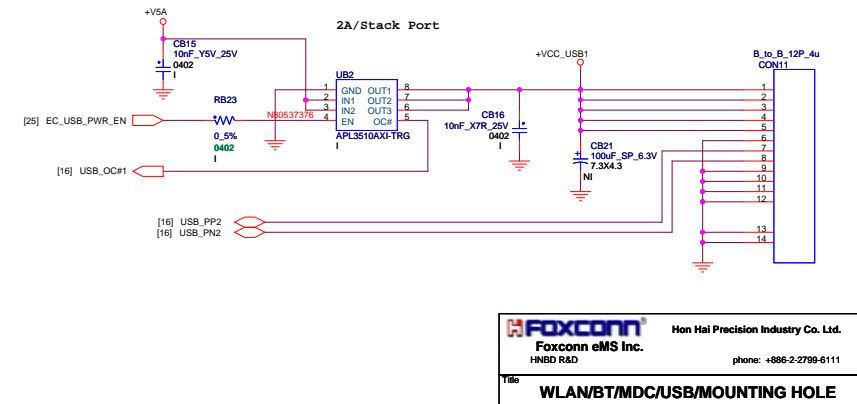
USBX2 CONN.

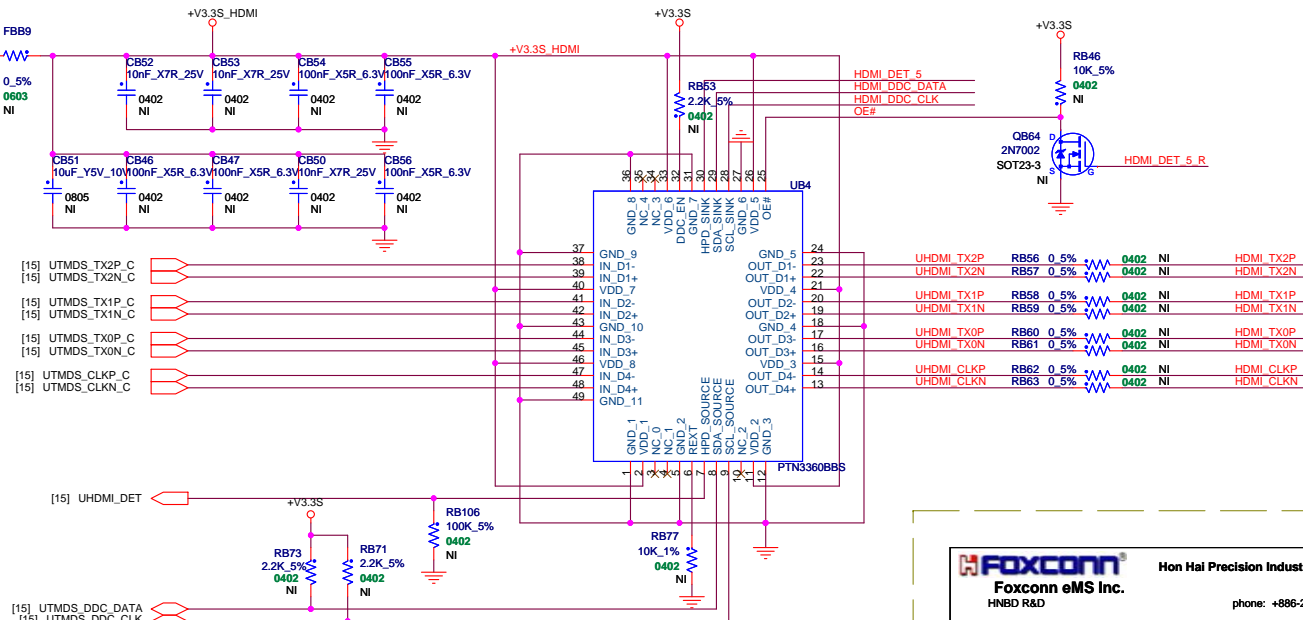
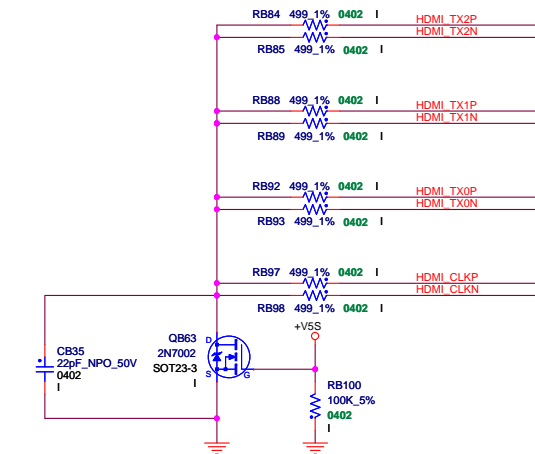
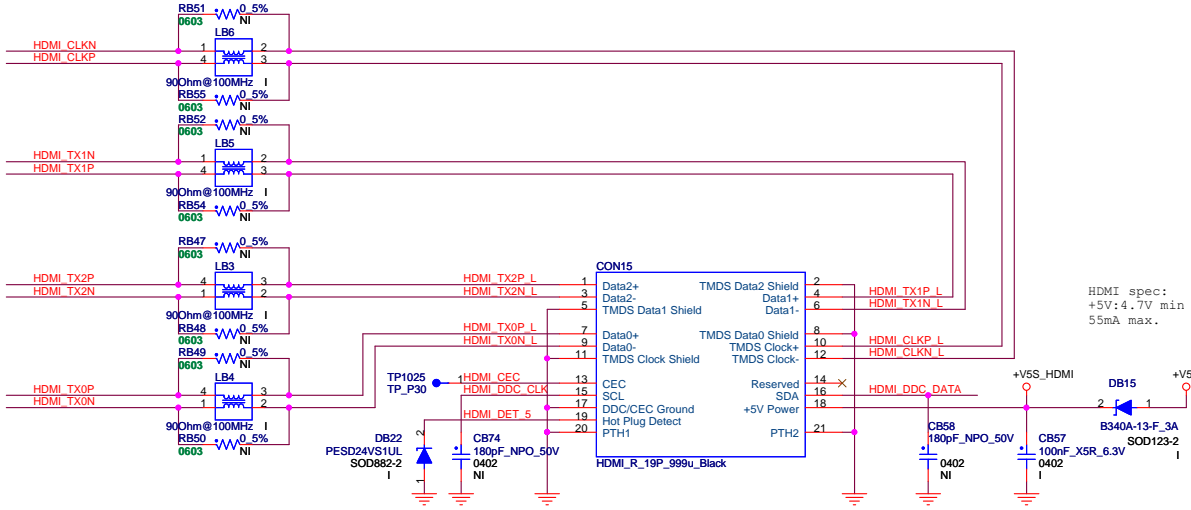


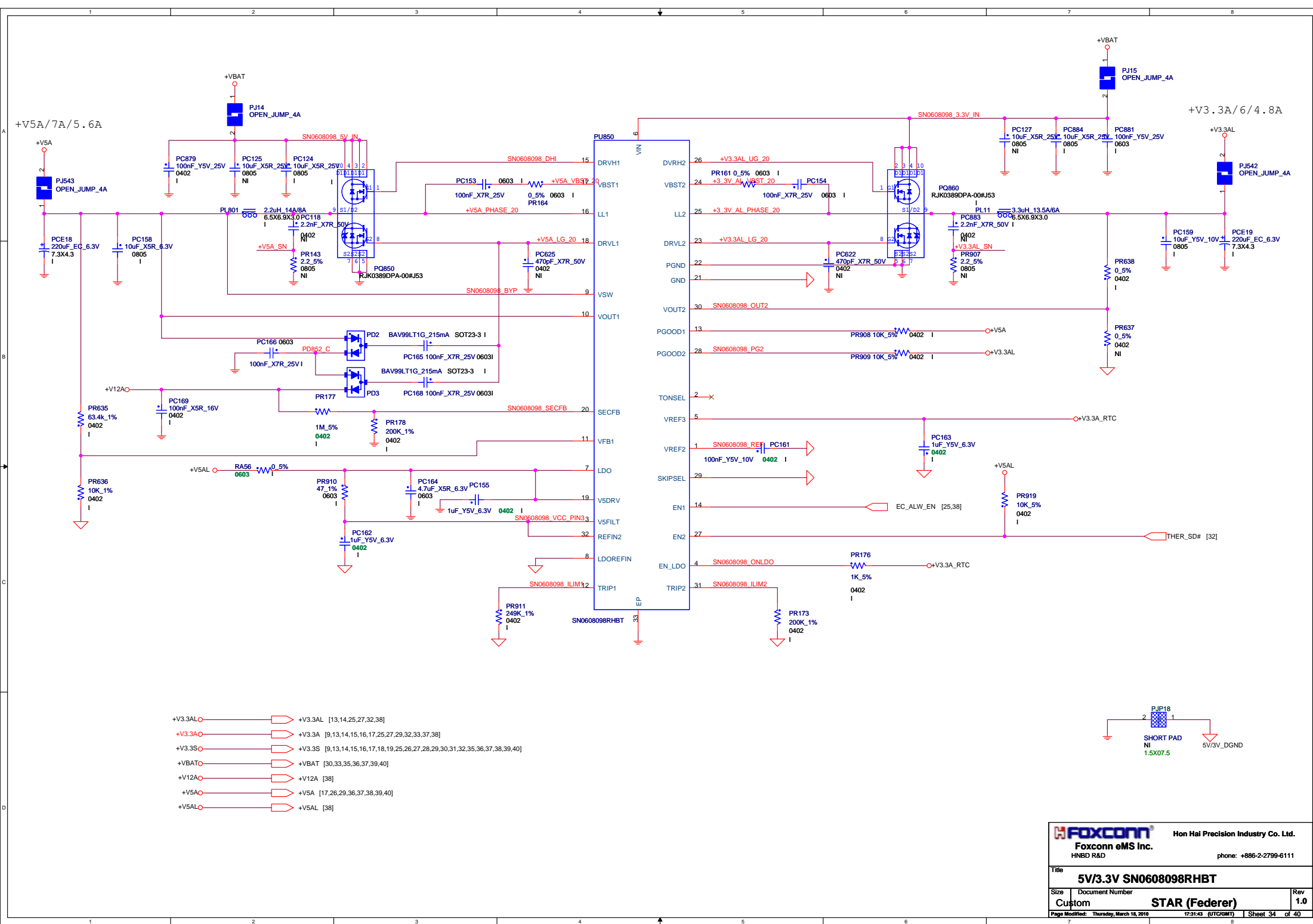
MOUNTING HOLE

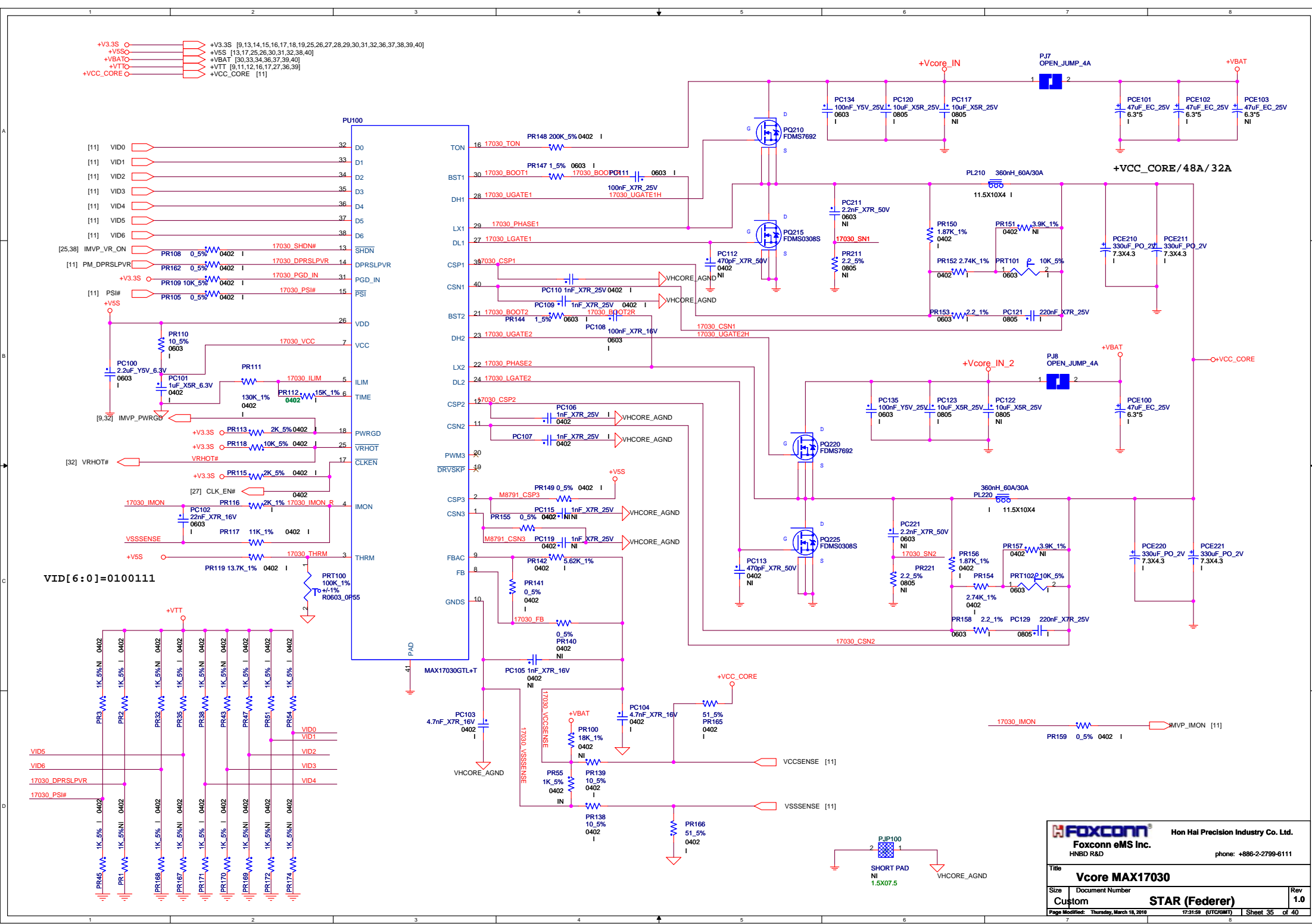


USBX1 CONN.

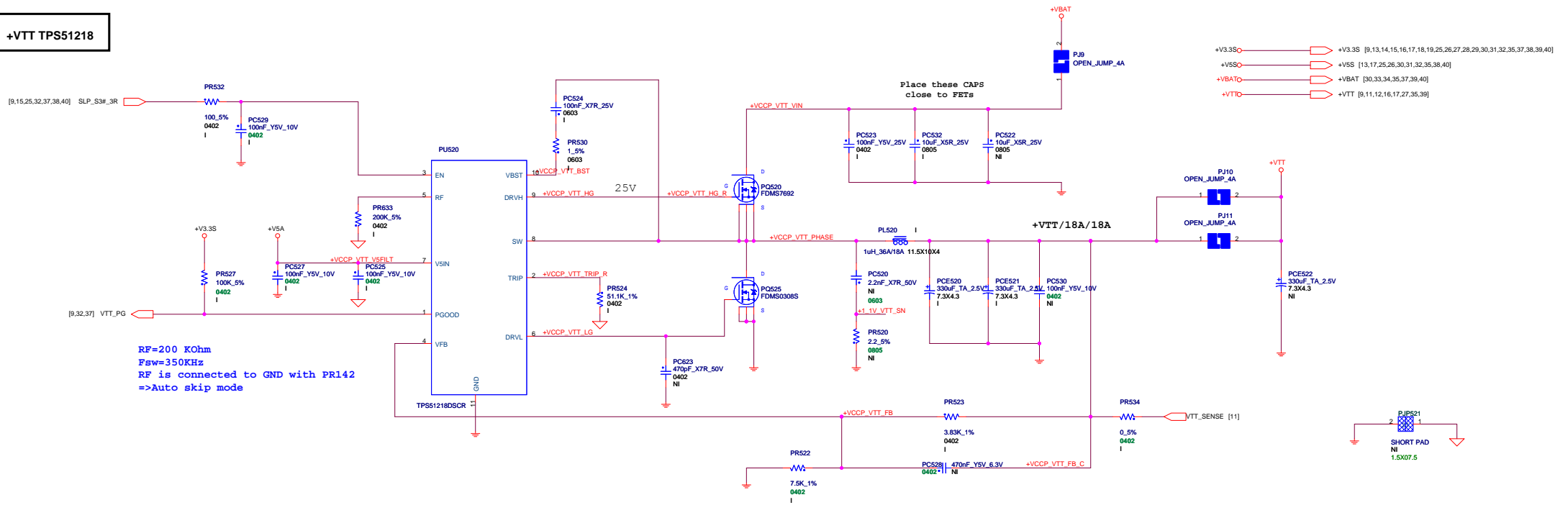




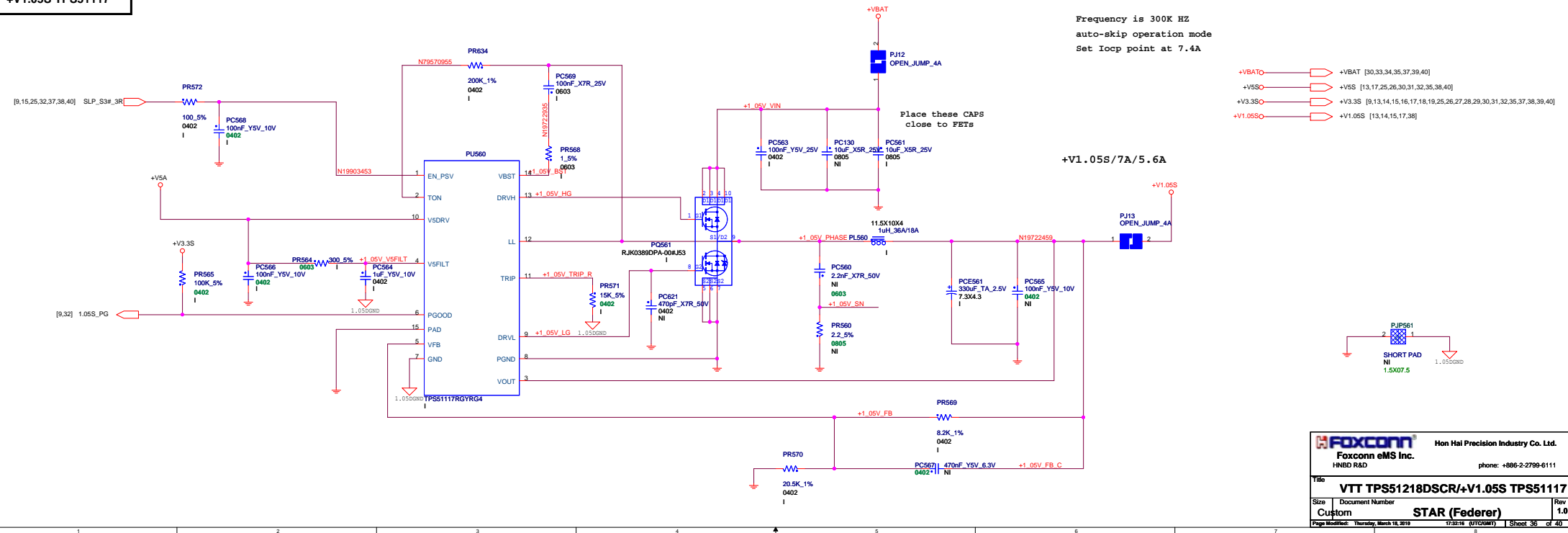


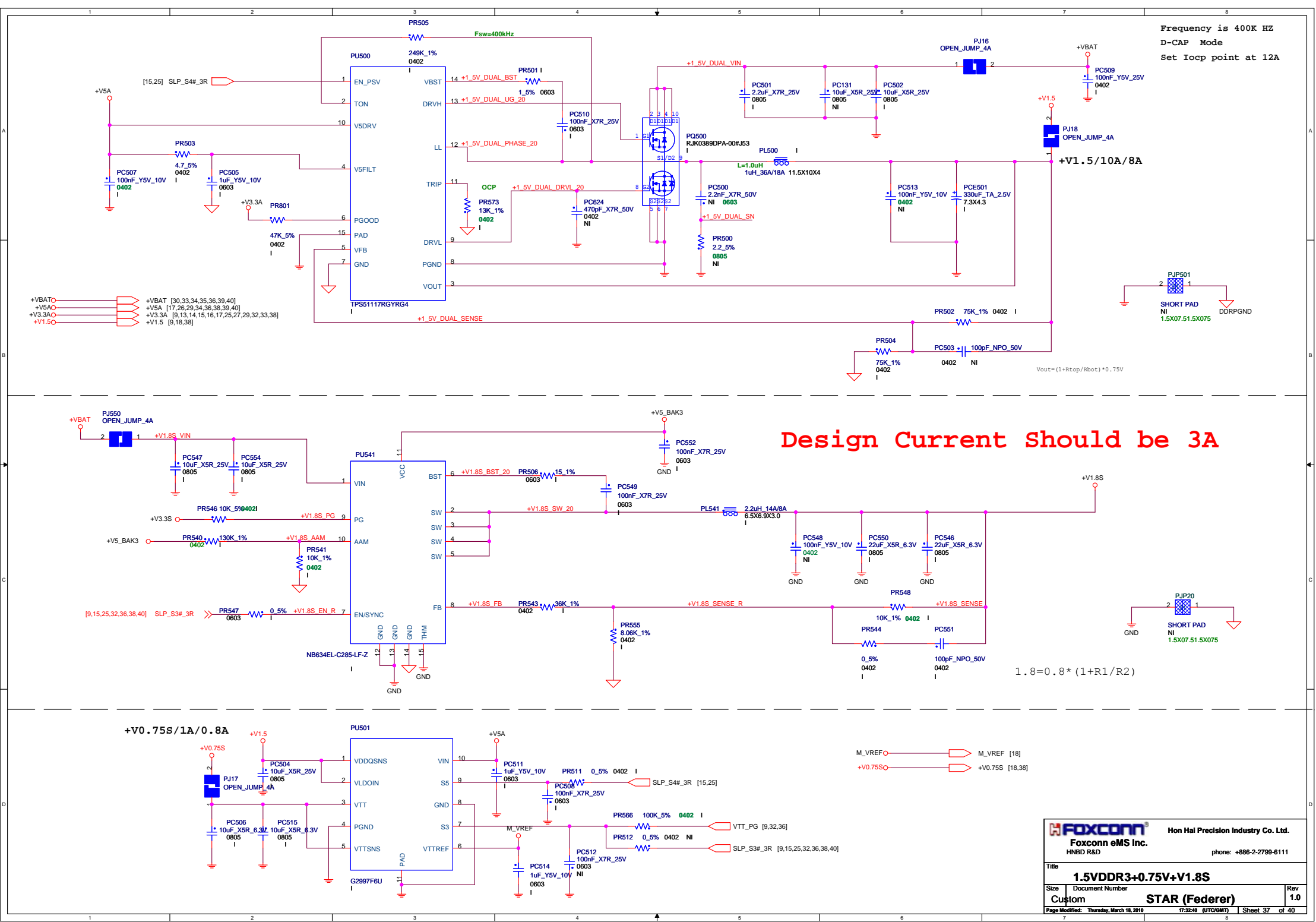


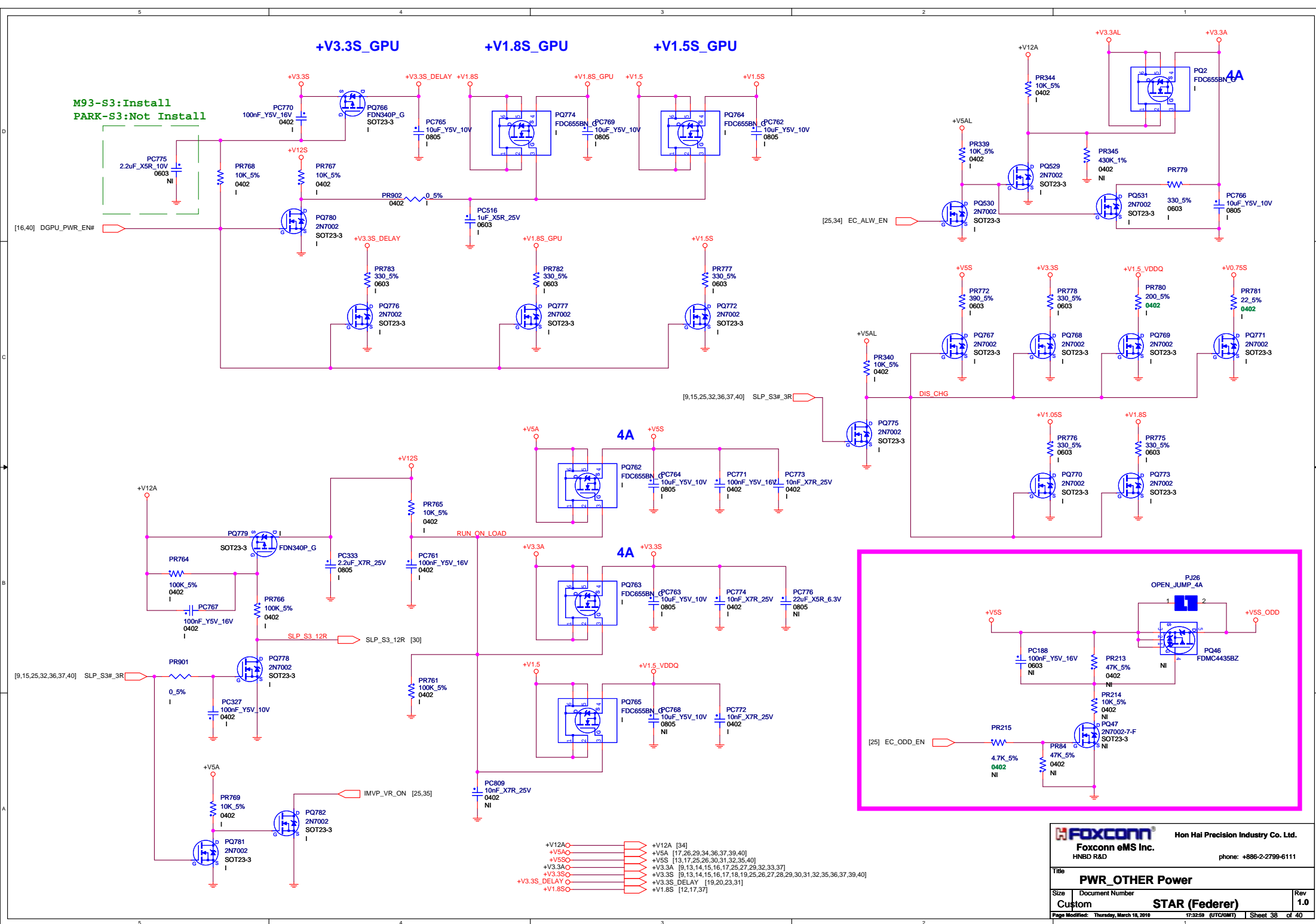
+VTT TPS51218



+V1.05S TPS51117







+VGFXCORE

