

Schematics Page Index (Title / Revision / Change Date)

Page	Title of Schematics Page	Rev.	Date	Page	Title of Schematics Page	Rev.	Date
00	Title	A	050222	25	PCI7420B(iLink,MS)/MDC	A	050222
01	BLOCK DIAGRAM	A	050222	26	SCREW HOLE & PAD	A	050222
02	Dothan(HOST BUS) 1/2	A	050222	27	MINI-PCI	A	050222
03	Dothan(Power/Gnd) 2/2	A	050222	28	LAN (82562ET)	A	050222
04	CLOCK GEN(CK-410M)	A	050222	29	AZALIA CODEC	A	050222
05	Alviso (HOST) 1/5	A	050222	30	KB3910 KBC	A	050222
06	Alviso (VGA,DMI) 2/5	A	050222	31	Power design diagram	A	050222
07	Alviso (DDR) 3/5	A	050222	32	DCIN&Charger	A	050222
08	Alviso (POWER) 4/5	A	050222	33	D/D Power	A	050222
09	Alviso (VSS,NCTF) 5/5	A	050222	34	2.5V/1.25V_1.5V/1.05V	A	050222
10	VGA(nVIDIA NV44M) 1/5	A	050222	35	CPU Vcore	A	050222
11	VGA(nVIDIA NV44M) 2/5	A	050222	36	other power plan	A	050222
12	VGA(nVIDIA NV44M) 3/5	A	050222	37	OVP protection	A	050222
13	VGA(nVIDIA NV44M) 4/5	A	050222	38	STEP-UP	A	050222
14	VGA(nVIDIA NV44M) 5/5	A	050222	39	History(1)	A	050222
15	NV44M(DDR F_A B_1)	A	050222	40	History(2)	A	050222
16	NV44M - PWR CON.	A	050222	41	History(3)	A	050222
17	DDR(I)SO-DIMM	A	050222	42	Revision History	A	050222
18	DDR(I)Termination	A	050222	43			
19	ICH6-M(CPU,PCI,IDE)	A	050222	44			
20	ICH6-M(USB,HUB,LPC)	A	050222				
21	ICH6-M(POWER&GND)	A	050222				
22	IDE (HDD&CD_ROM)	A	050222				
23	USB2.0/FAN/DOCKING	A	050222				
24	PCI7420B(PCMCIA)	A	050222				

Project Code & Schematics Subject: MS02 M/B-FUBAI

PCB P/N: 1P-0052100-8010

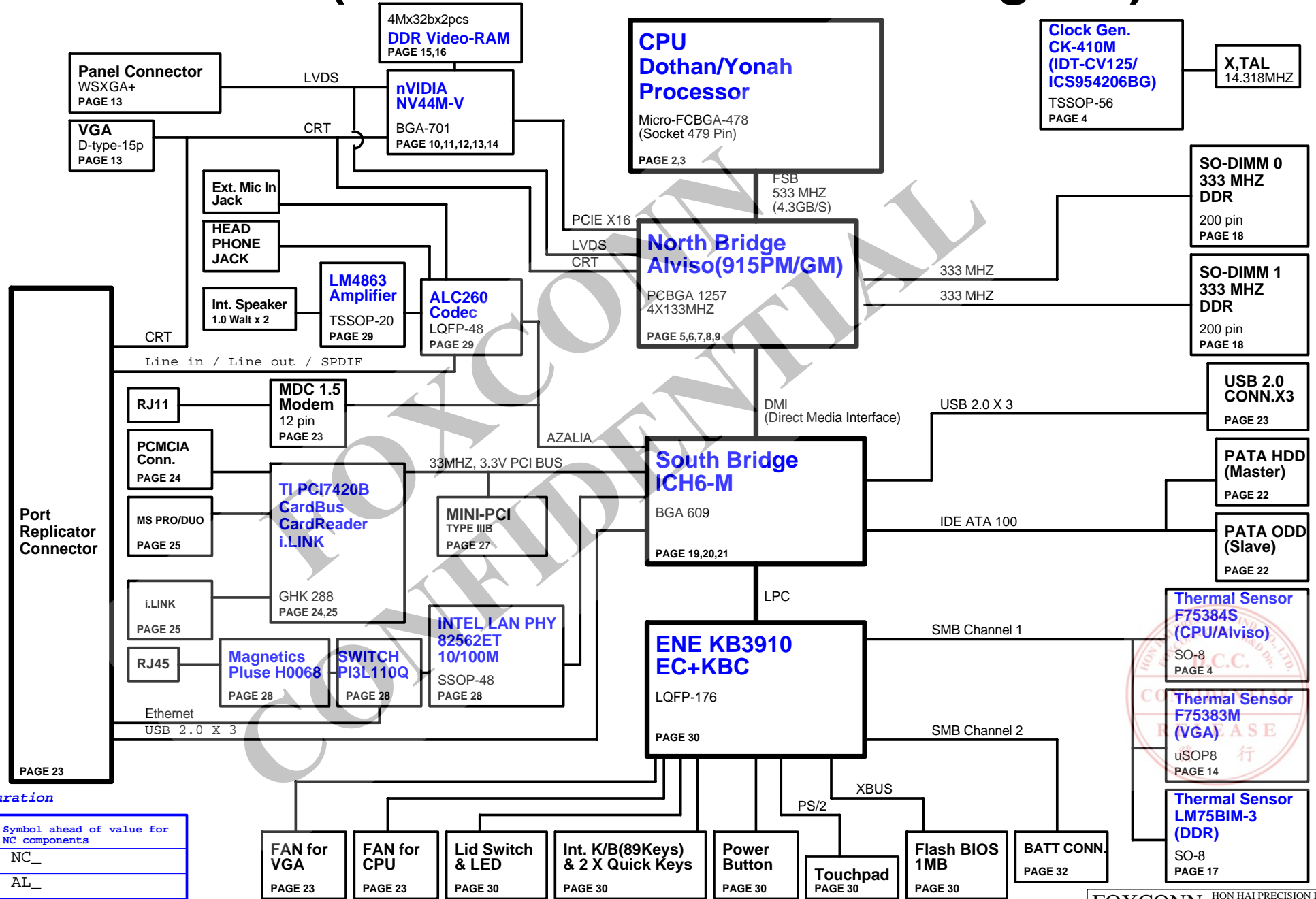
Project Code & Schematics Subject: MS02 M/B-NAN YA

PCB P/N: 1P-0052200-8010



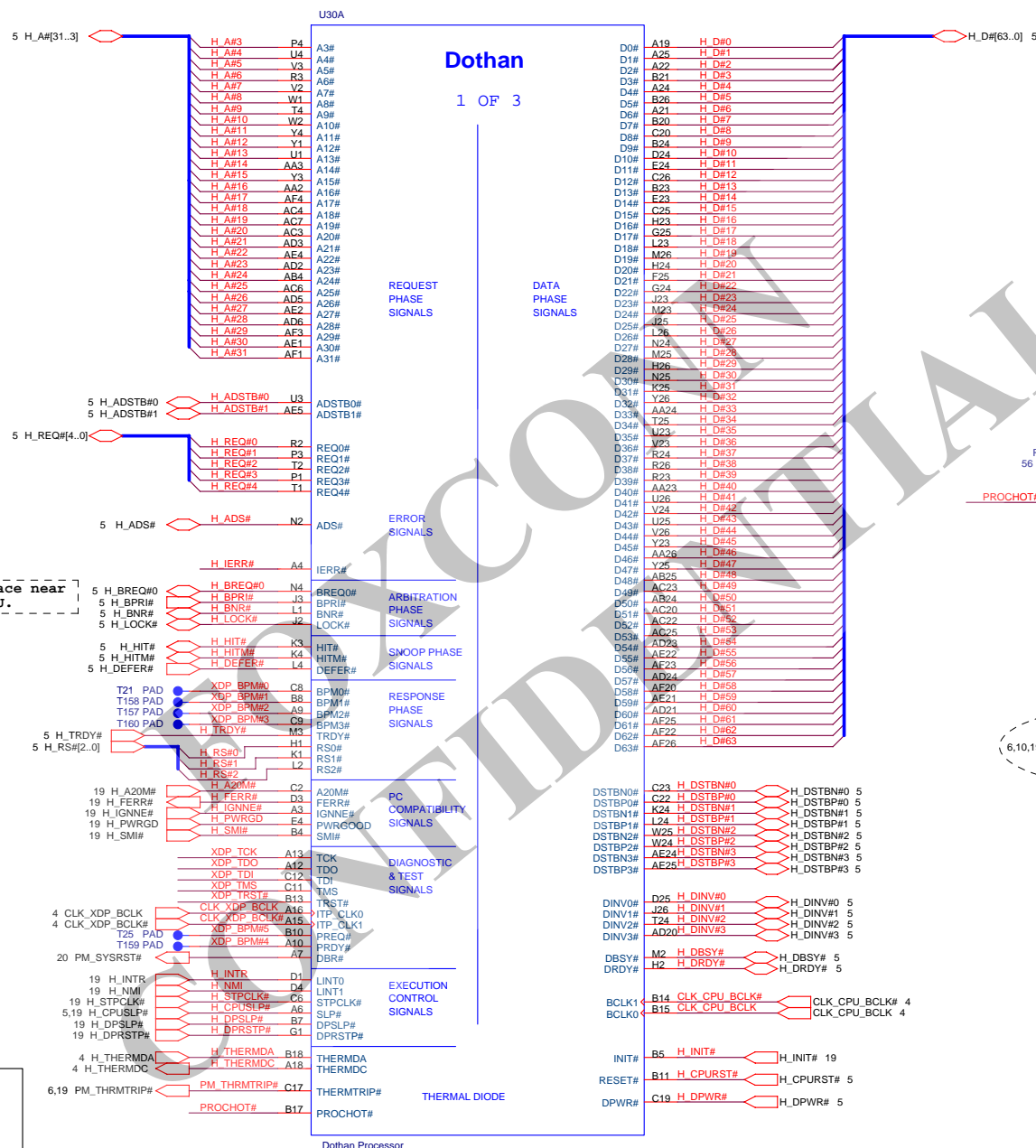
P. Leader	Appr. by	Check by	Design by
			Leon
FOXCONN HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division			
Title	MS02 M/B		
Size	Document Number	Rev	
A4	MS02-1-01	A	
Date:	Tuesday, February 22, 2005	Sheet	00 of 43

MS02(915PM/GM+Gfx Block Diagram)

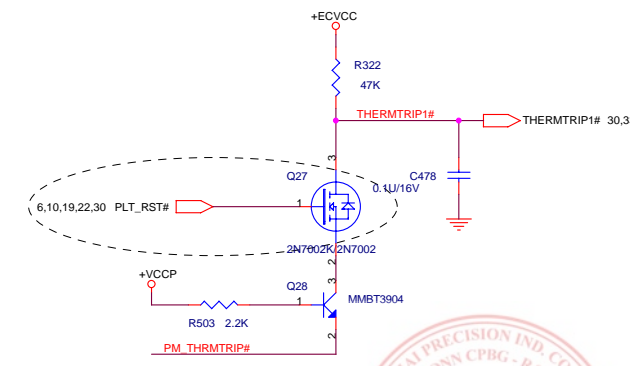
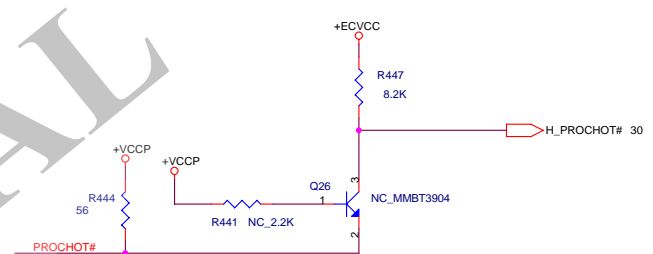


BOM configuration

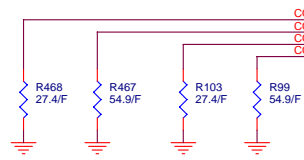
	Symbol ahead of value for NC components
BOTH	NC_
915GM + NV44M	AL_
915GM	NV_
Hynix	H_NV_
Samsung	S_NV_



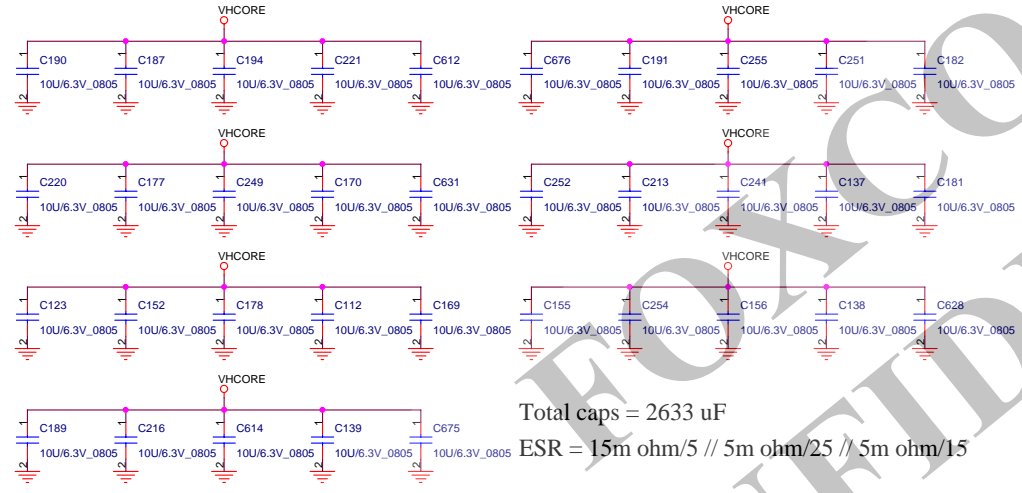
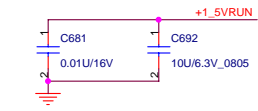
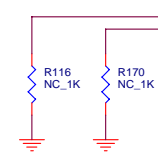
Dothan
1 OF 3



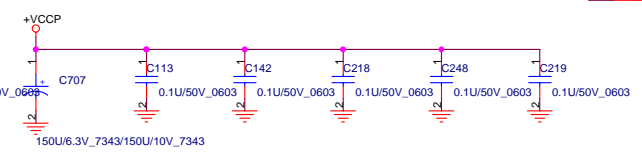
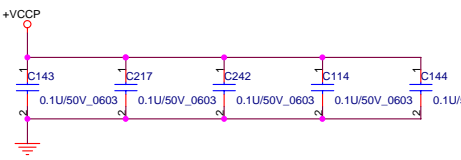
PM_THRMTRIP#
should connect to
ICH6-M and ALVISO
without T-ing (No
stub)



Place pull-down resistors within 0.5" of COMP pins



Total caps = 2633 uF
ESR = 15m ohm/5 // 5m ohm/25 // 5m ohm/15

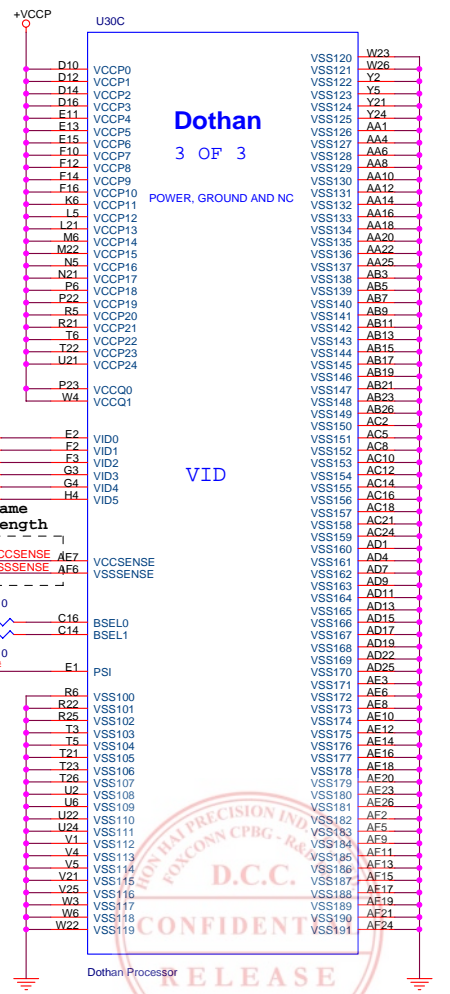


COMP0	P25	COMP0	A2
COMP1	P26	COMP1	A5
COMP2	AB2	COMP2	A8
COMP3	AB1	COMP3	A11
			A14
			A17
			A20
			A23
			A26
			B3
			B6
			B9
			B12
			B15
			B18
			B21
			B24
			C4
			C7
			C10
			C13
			C15
			C18
			C21
			C24
			D2
			D5
			D7
			D9
			D11
			D13
			D15
			D17
			D19
			D21
			D22
			D26
			E3
			E6
			E8
			E10
			E12
			E14
			E16
			E18
			E20
			E22
			E25
			F1
			F4
			F5
			F7
			F9
			F11
			F13
			F15
			F17
			F19
			F21
			F24
			G2
			G6
			G22
			G23
			G26
			H3
			H5
			H21
			H25
			J1
			J4
			J6
			J22
			J4
			J2
			J24
			K5
			K21
			K23
			K26
			L3
			L6
			L22
			L25
			M1
			M4
			M5
			M21
			M24
			N3
			N6
			N22
			N23
			N26
			P2
			P5
			P21
			P24
			R1
			R4
			VSS00
			VSS01
			VSS02
			VSS03
			VSS04
			VSS05
			VSS06
			VSS07
			VSS08
			VSS09
			VSS10
			VSS11
			VSS12
			VSS13
			VSS14
			VSS15
			VSS16
			VSS17
			VSS18
			VSS19
			VSS20
			VSS21
			VSS22
			VSS23
			VSS24
			VSS25
			VSS26
			VSS27
			VSS28
			VSS29
			VSS30
			VSS31
			VSS32
			VSS33
			VSS34
			VSS35
			VSS36
			VSS37
			VSS38
			VSS39
			VSS40
			VSS41
			VSS42
			VSS43
			VSS44
			VSS45
			VSS46
			VSS47
			VSS48
			VSS49
			VSS50
			VSS51
			VSS52
			VSS53
			VSS54
			VSS55
			VSS56
			VSS57
			VSS58
			VSS59
			VSS60
			VSS61
			VSS62
			VSS63
			VSS64
			VSS65
			VSS66
			VSS67
			VSS68
			VSS69
			VSS70
			VSS71
			VSS72
			VSS73
			VSS74
			VSS75
			VSS76
			VSS77
			VSS78
			VSS79
			VSS80
			VSS81
			VSS82
			VSS83
			VSS84
			VSS85
			VSS86
			VSS87
			VSS88
			VSS89
			VSS90
			VSS91
			VSS92
			VSS93
			VSS94
			VSS95
			VSS96
			VSS97
			VSS98
			VSS99

Dothan
2 OF 3

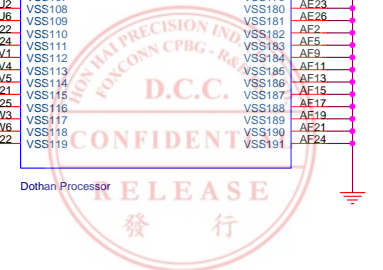
POWER,
GROUND,
RESERVED
SIGNALS

Dothan Processor



Dothan
3 OF 3

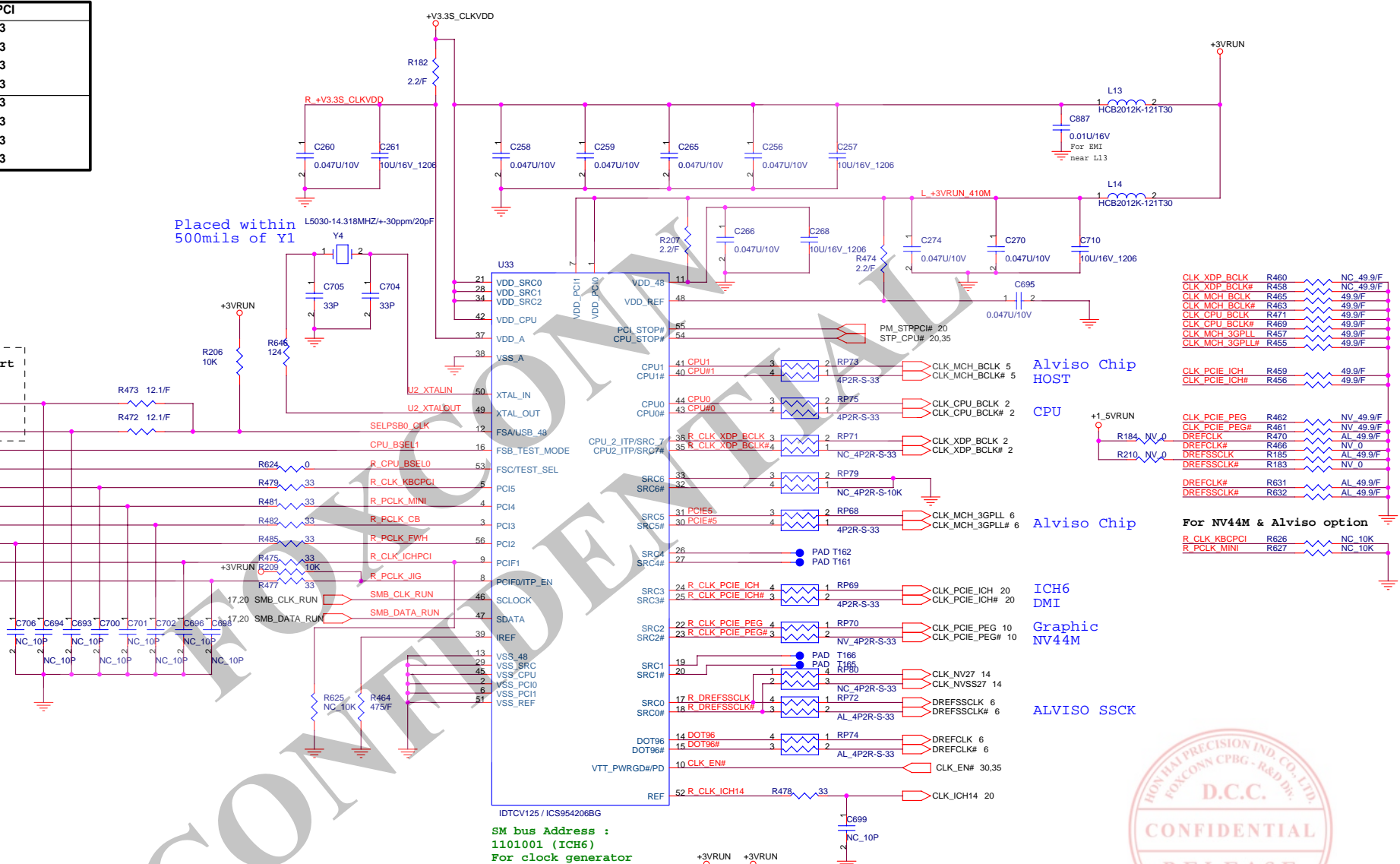
VID



FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	RSVD	100	33

Length as short as possible.

Placed within 500mils of Y1



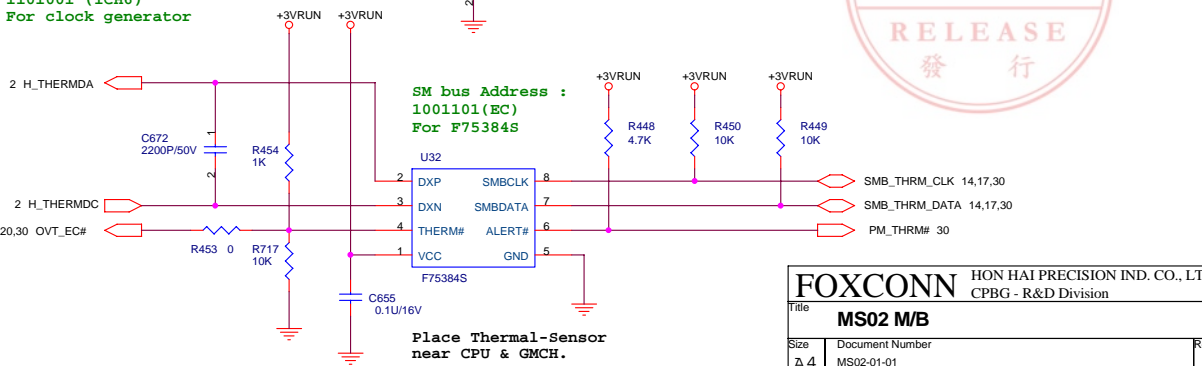
CLK_XDP_BCLK#	R460	NC	49.9/F
CLK_XDP_BCLK#	R458	NC	49.9/F
CLK_MCH_BCLK#	R465	NC	49.9/F
CLK_MCH_BCLK#	R463	NC	49.9/F
CLK_CPU_BCLK#	R471	NC	49.9/F
CLK_CPU_BCLK#	R469	NC	49.9/F
CLK_MCH_3GPLL	R457	NC	49.9/F
CLK_MCH_3GPLL#	R455	NC	49.9/F
CLK_PCIE_ICH	R459	NC	49.9/F
CLK_PCIE_ICH#	R456	NC	49.9/F

CLK_PCIE_PEG	R462	NV	49.9/F
CLK_PCIE_PEG#	R461	NV	49.9/F
DREFCLK#	R470	AL	49.9/F
DREFSCLK#	R466	NV	0
DREFSCLK#	R185	AL	49.9/F
DREFSCLK#	R183	NV	0
DREFCLK#	R631	AL	49.9/F
DREFSCLK#	R632	AL	49.9/F

For NV44M & Alviso option
 R_CLK_KBCPCI R626 NC_10K
 R_PCLK_MINI R627 NC_10K

SM bus Address :
 1101001 (ICH6)
 For clock generator

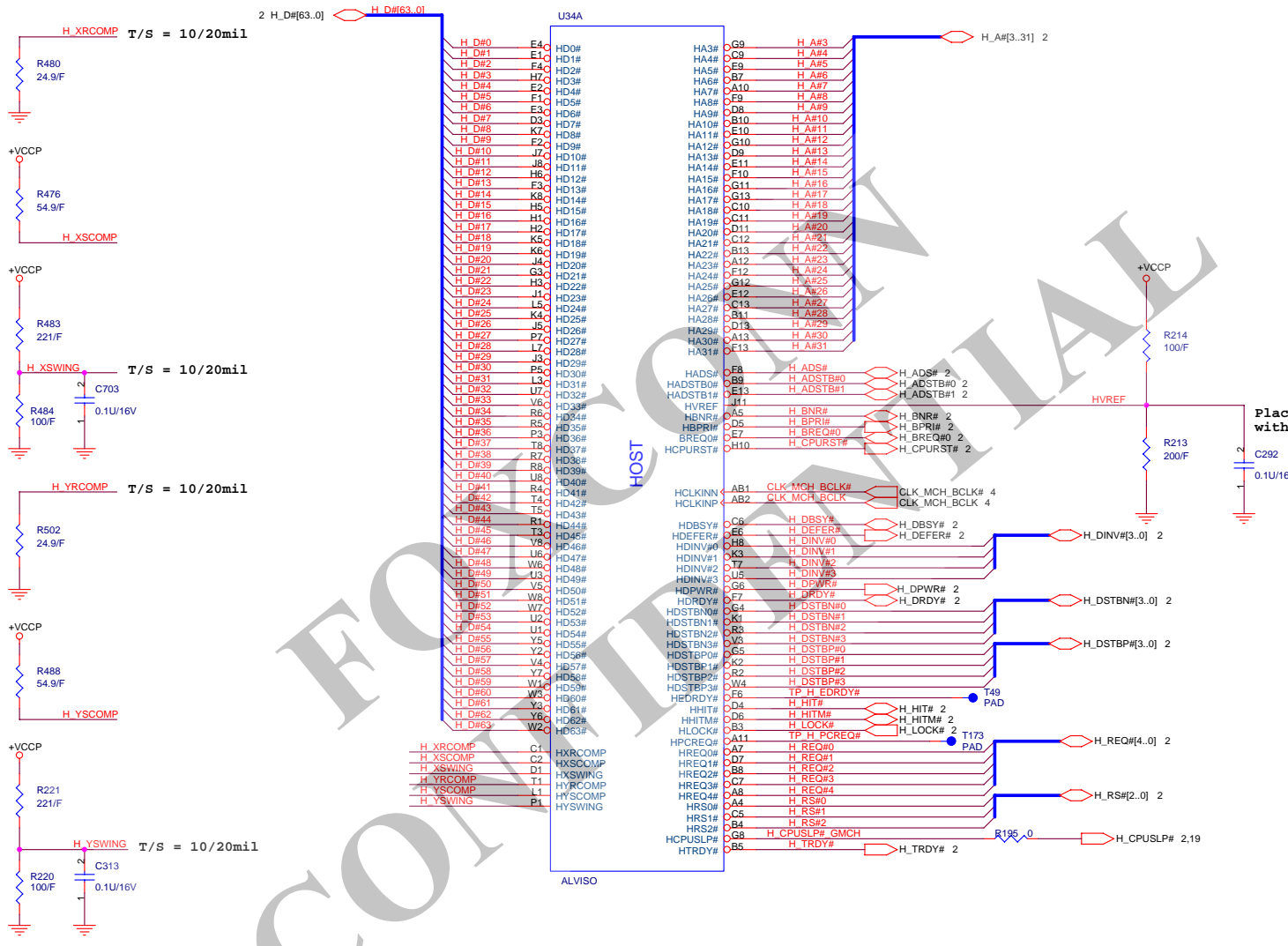
SM bus Address :
 1001101 (EC)
 For F75384S



Place Thermal-Sensor near CPU & GMCH.

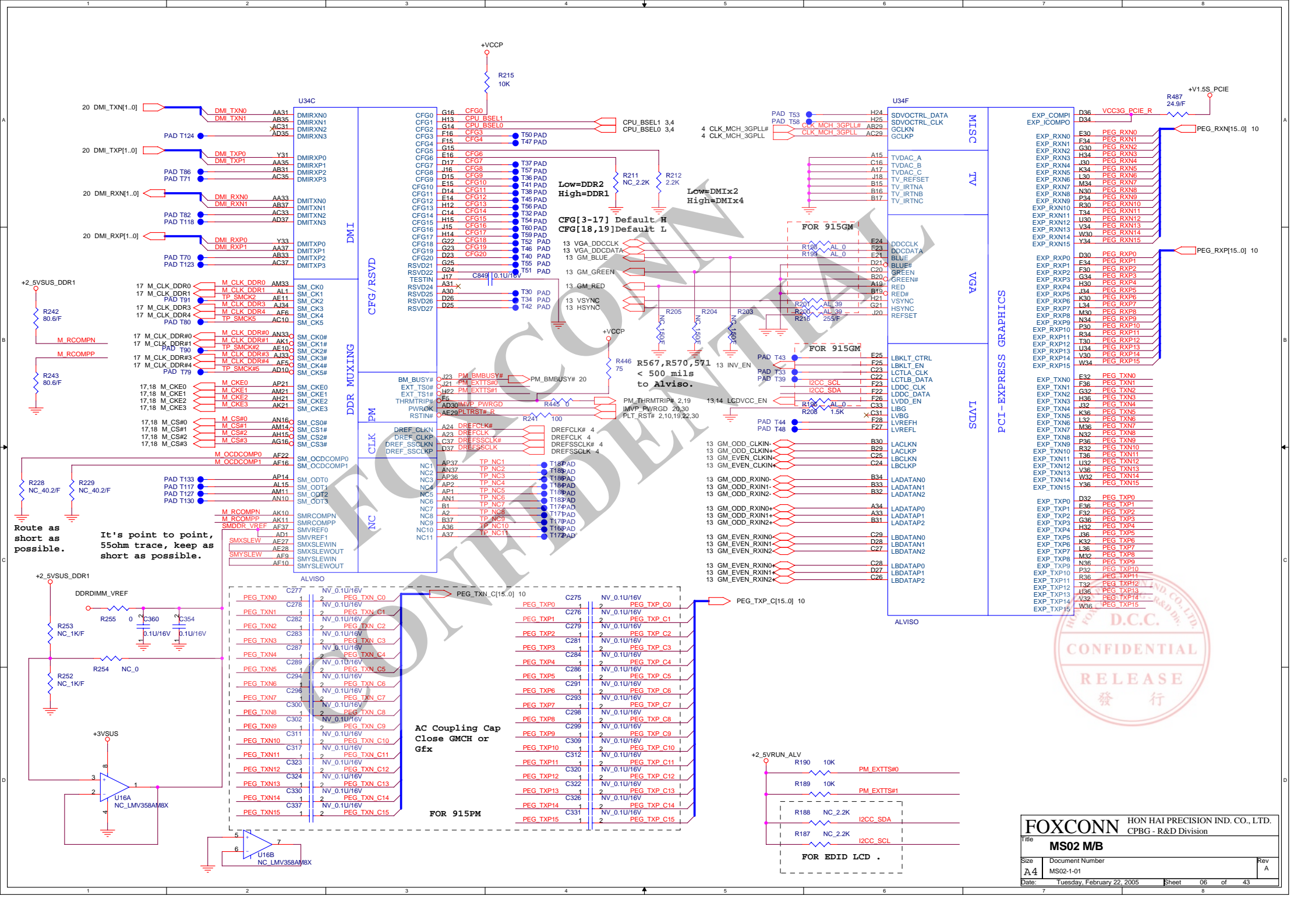


FOXCONN HON HAI PRECISION IND. CO., LTD.	
CPBG - R&D Division	
File	MS02 M/B
Size	Document Number
A4	MS02-01-01
Date:	Tuesday, February 22, 2005
Sheet	04 of 43
Rev	A



Place Cap. near GMCH
within 100 mils.





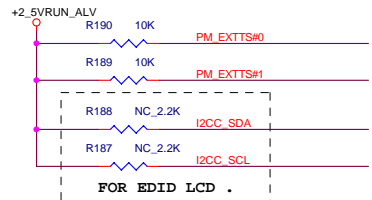
Route as short as possible.
It's point to point, 55ohm trace, keep as short as possible.

ALVISO

PEG_TXN0	C277	NV_0.1U/16V	2	PEG_TXN_C0	275	NV_0.1U/16V	1	PEG_TXP_C0
PEG_TXN1	C278	NV_0.1U/16V	1	PEG_TXN_C1	276	NV_0.1U/16V	2	PEG_TXP_C1
PEG_TXN2	C282	NV_0.1U/16V	4	PEG_TXN_C2	279	NV_0.1U/16V	2	PEG_TXP_C2
PEG_TXN3	C283	NV_0.1U/16V	1	PEG_TXN_C3	281	NV_0.1U/16V	2	PEG_TXP_C3
PEG_TXN4	C287	NV_0.1U/16V	1	PEG_TXN_C4	284	NV_0.1U/16V	1	PEG_TXP_C4
PEG_TXN5	C289	NV_0.1U/16V	1	PEG_TXN_C5	286	NV_0.1U/16V	1	PEG_TXP_C5
PEG_TXN6	C294	NV_0.1U/16V	1	PEG_TXN_C6	291	NV_0.1U/16V	2	PEG_TXP_C6
PEG_TXN7	C296	NV_0.1U/16V	1	PEG_TXN_C7	293	NV_0.1U/16V	1	PEG_TXP_C7
PEG_TXN8	C300	NV_0.1U/16V	1	PEG_TXN_C8	298	NV_0.1U/16V	2	PEG_TXP_C8
PEG_TXN9	C302	NV_0.1U/16V	2	PEG_TXN_C9	299	NV_0.1U/16V	1	PEG_TXP_C9
PEG_TXN10	C311	NV_0.1U/16V	1	PEG_TXN_C10	309	NV_0.1U/16V	1	PEG_TXP_C10
PEG_TXN11	C317	NV_0.1U/16V	1	PEG_TXN_C11	312	NV_0.1U/16V	2	PEG_TXP_C11
PEG_TXN12	C323	NV_0.1U/16V	1	PEG_TXN_C12	320	NV_0.1U/16V	1	PEG_TXP_C12
PEG_TXN13	C324	NV_0.1U/16V	2	PEG_TXN_C13	322	NV_0.1U/16V	1	PEG_TXP_C13
PEG_TXN14	C330	NV_0.1U/16V	1	PEG_TXN_C14	326	NV_0.1U/16V	1	PEG_TXP_C14
PEG_TXN15	C337	NV_0.1U/16V	1	PEG_TXN_C15	331	NV_0.1U/16V	1	PEG_TXP_C15

FOR 915PM

AC Coupling Cap
Close GMCH or Gfx



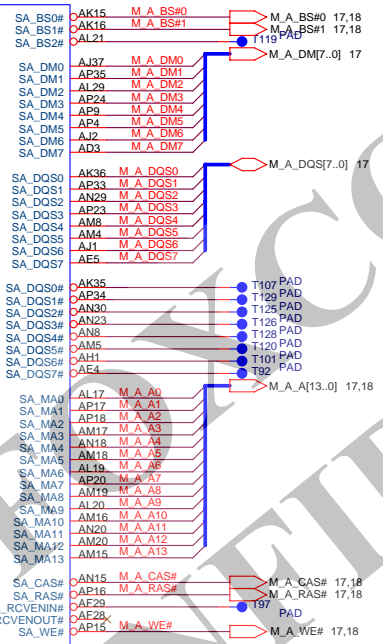
17 M_A_DQ[63..0]



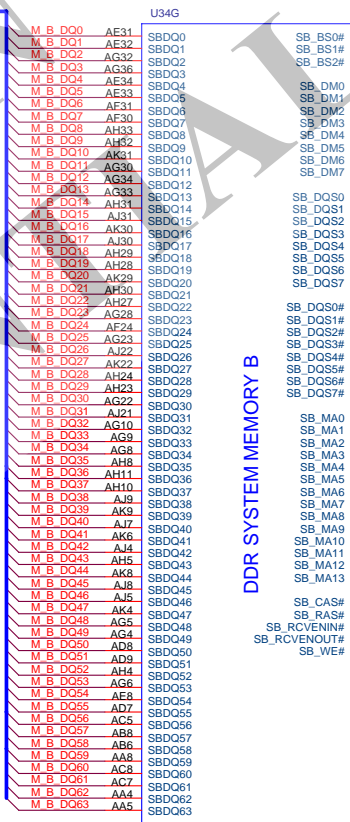
U34B

DDR SYSTEM MEMORY A

ALVISO



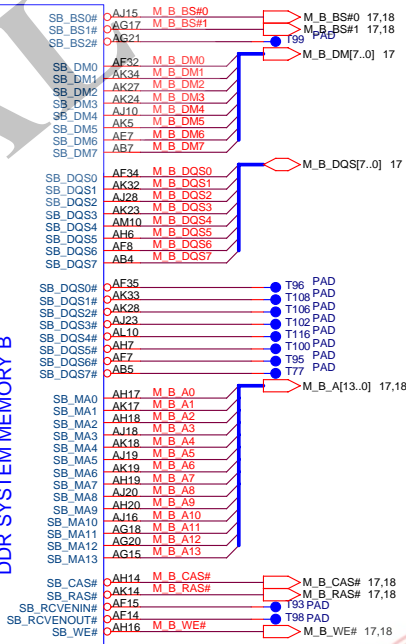
17 M_B_DQ[63..0]

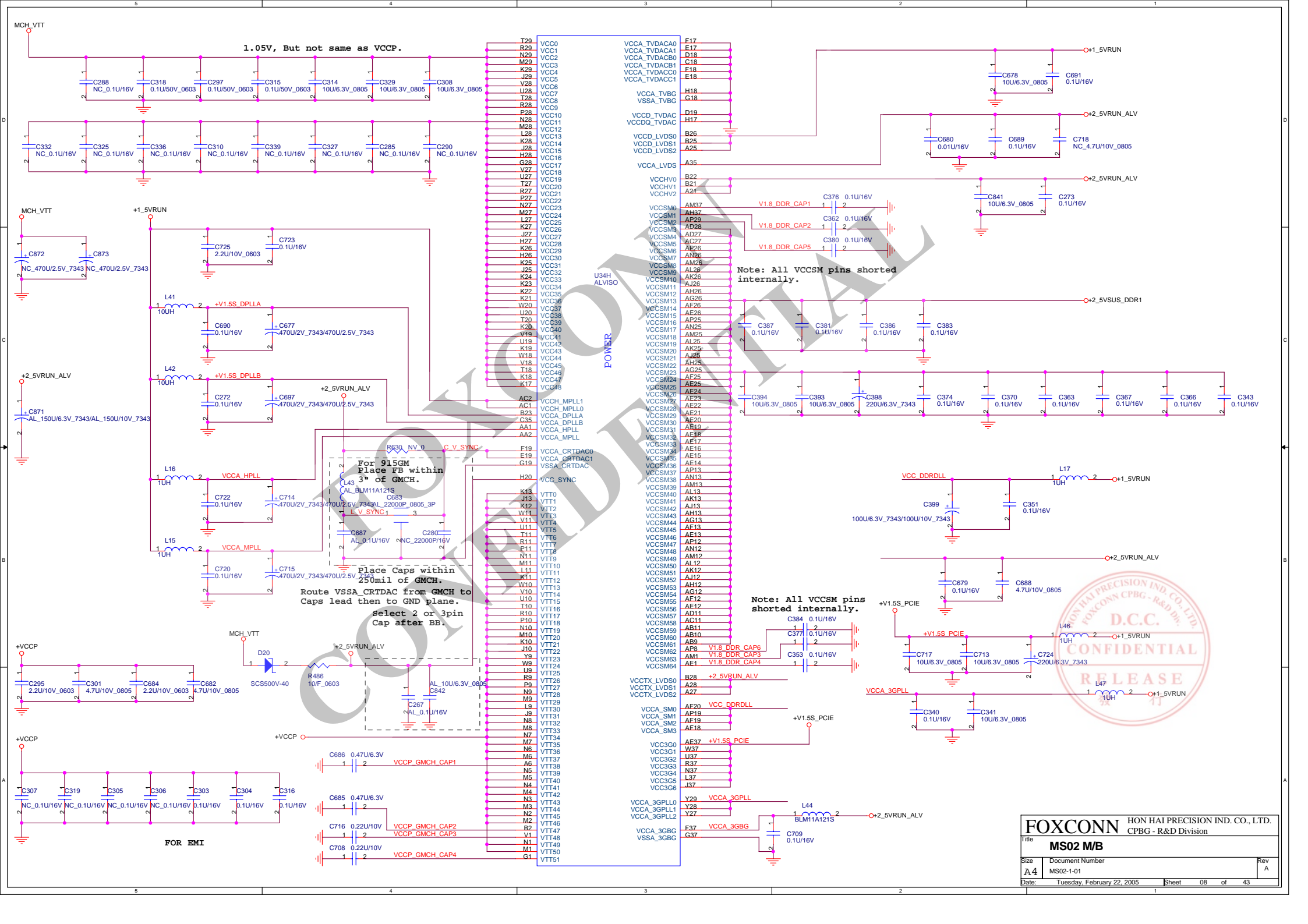


U34G

DDR SYSTEM MEMORY B

ALVISO





1.05V, But not same as VCCP.

Note: All VCCSM pins shorted internally.

Note: All VCCSM pins shorted internally.

Place Caps within 250mil of GMCH. Route VSSA_CRTDAC from GMCH to Caps lead then to GND plane. Select 2 or 3pin Cap after BB.

For 915GM Place FB within 3" of GMCH. CAL BLM11A121S C883 C883 L V SYNC 1 3

FOR EMI

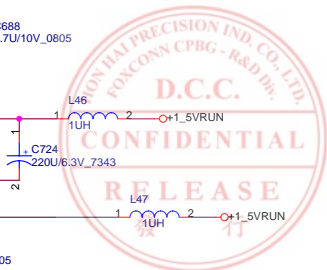
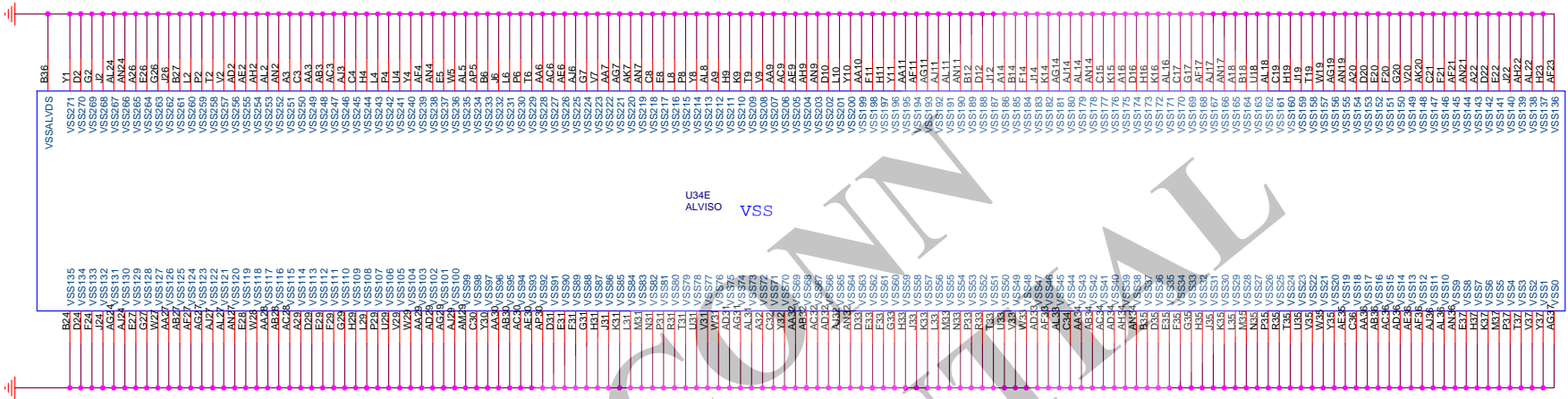
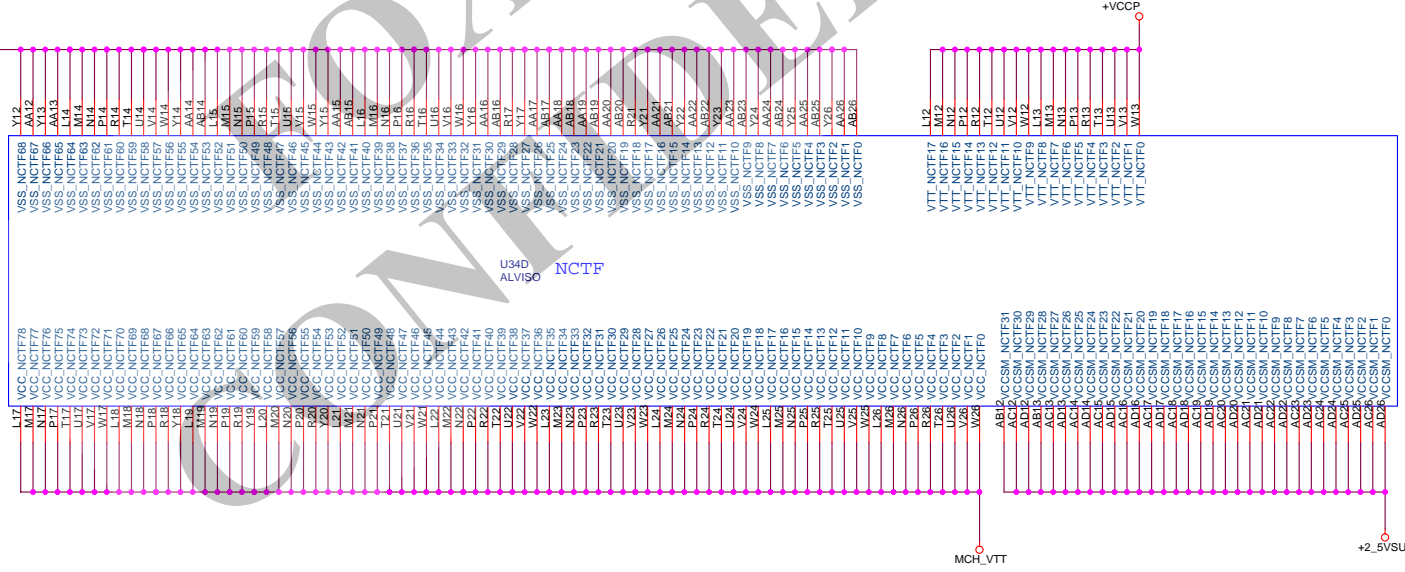


Table with 2 columns: File (MS02 M/B), Size (A4), Document Number (MS02-1-01), Date (Tuesday, February 22, 2005), Sheet (08 of 43), Rev (A).

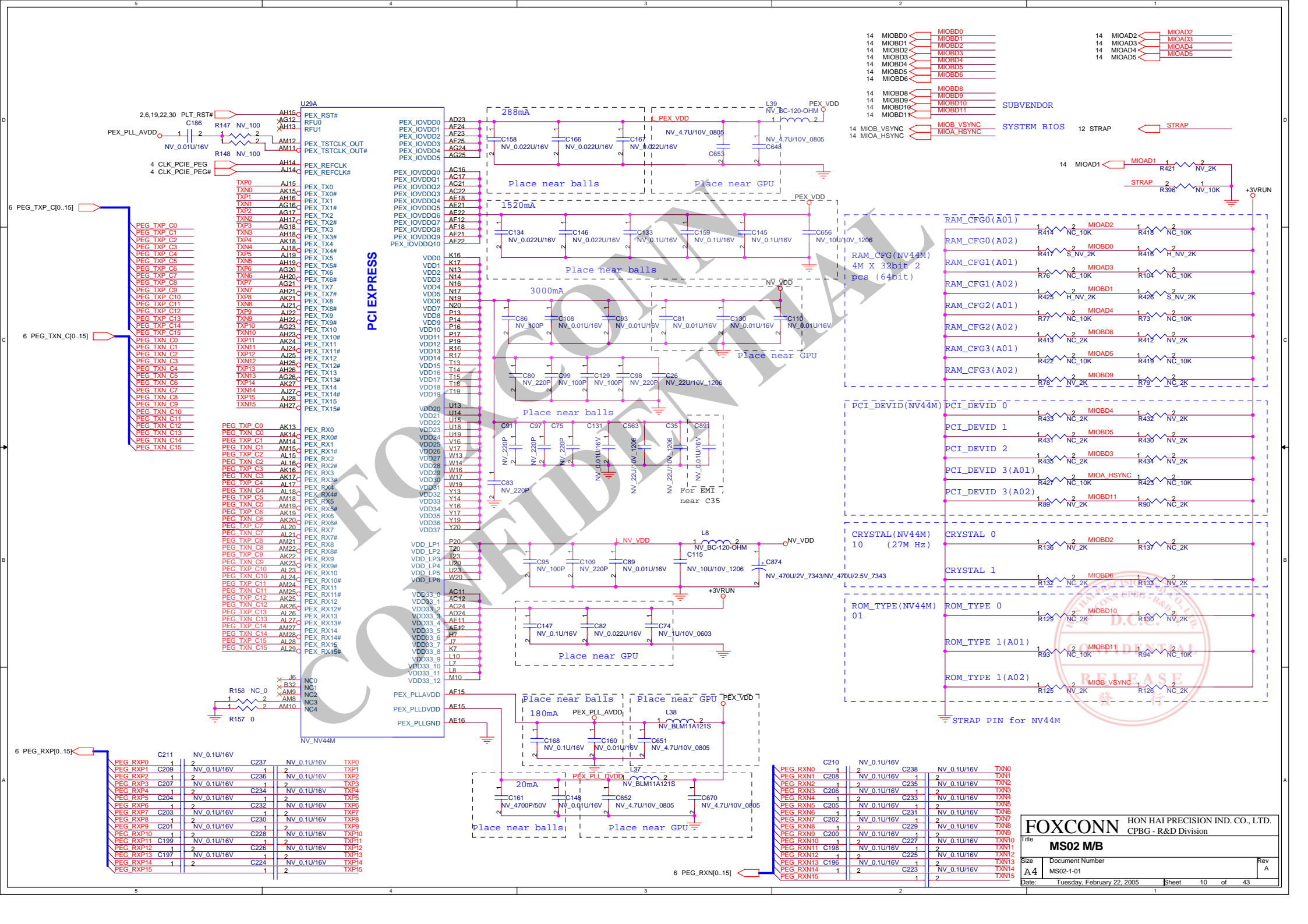


U34E
ALVISO VSS



U34D
ALVISO NCTF





PCI EXPRESS

SUBVENDOR

SYSTEM BIOS

STRAP

RAM_CFG0(A01)

RAM_CFG0(A02)

RAM_CFG1(A01)

RAM_CFG1(A02)

RAM_CFG2(A01)

RAM_CFG2(A02)

RAM_CFG3(A01)

RAM_CFG3(A02)

PCI_DEVID(NV44M)

PCI_DEVID 0

PCI_DEVID 1

PCI_DEVID 2

PCI_DEVID 3(A01)

PCI_DEVID 3(A02)

CRYSTAL(NV44M)

CRYSTAL 0

CRYSTAL 1

ROM_TYPE(NV44M)

ROM_TYPE 0

ROM_TYPE 1(A01)

ROM_TYPE 1(A02)

STRAP PIN for NV44M

FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

File	MS02 M/B	Rev	A
Size	Document Number		
A4	MS02-1-01		
Date:	Tuesday, February 22, 2005	Sheet	10 of 43

Table of pins for U29D, listing pin numbers and their corresponding functions or labels.

Table of pins for U29B, listing pin numbers and their corresponding functions or labels.

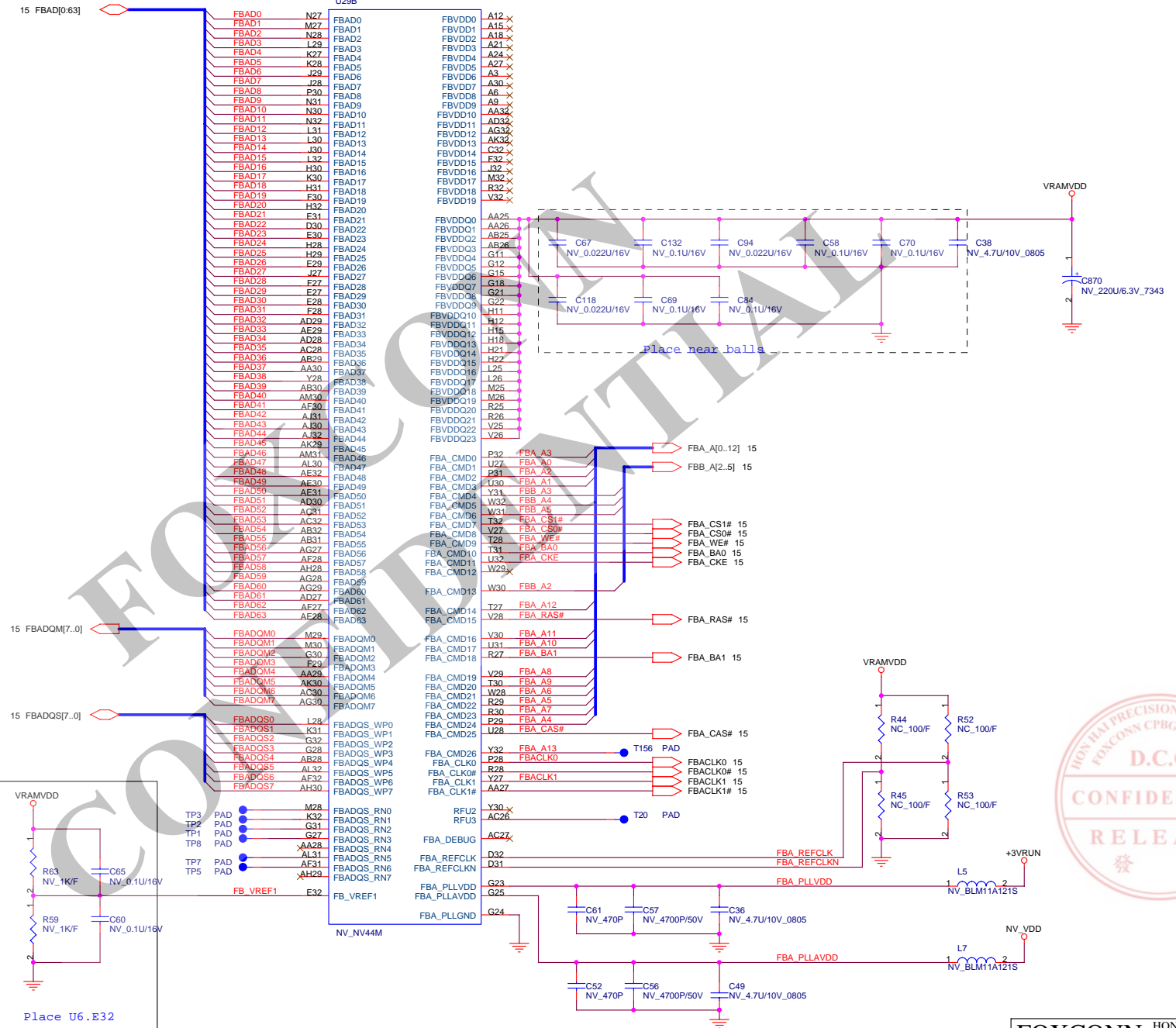
Table of pins for U29C, listing pin numbers and their corresponding functions or labels.

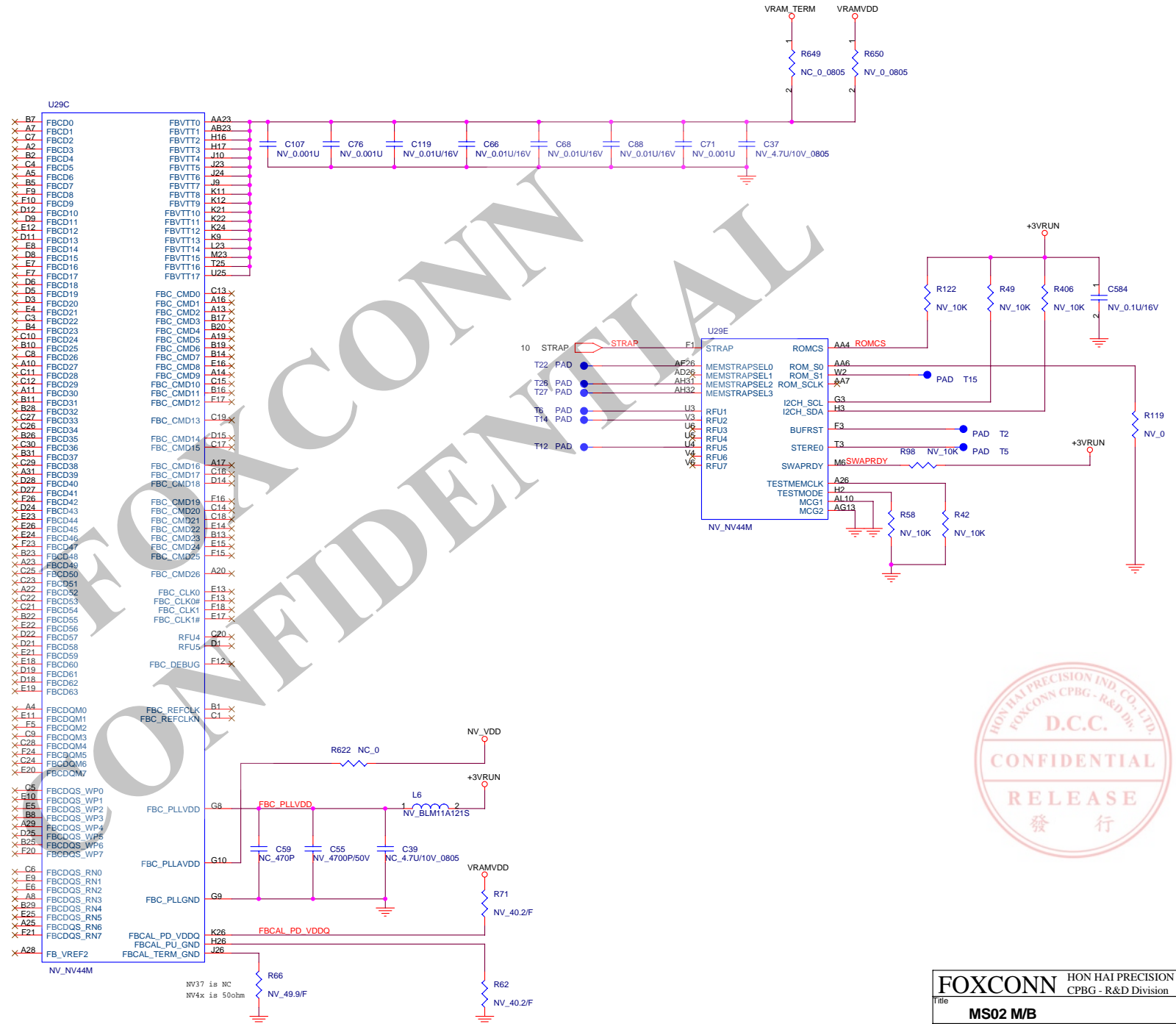
Table of pins for U29D, listing pin numbers and their corresponding functions or labels.

Table of pins for U29E, listing pin numbers and their corresponding functions or labels.

Table of pins for U29F, listing pin numbers and their corresponding functions or labels.

Table of pins for U29G, listing pin numbers and their corresponding functions or labels.

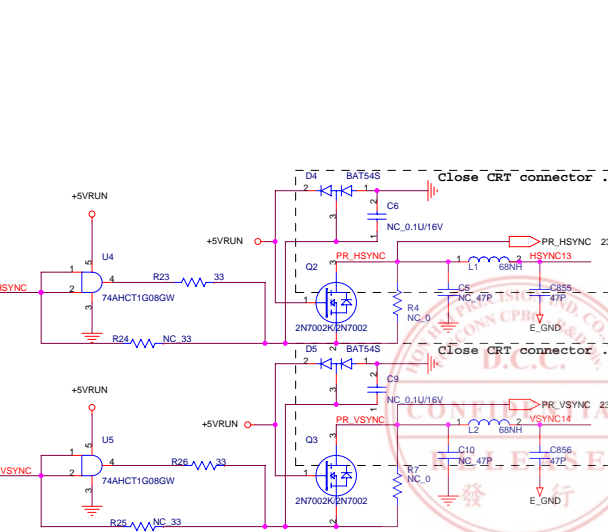
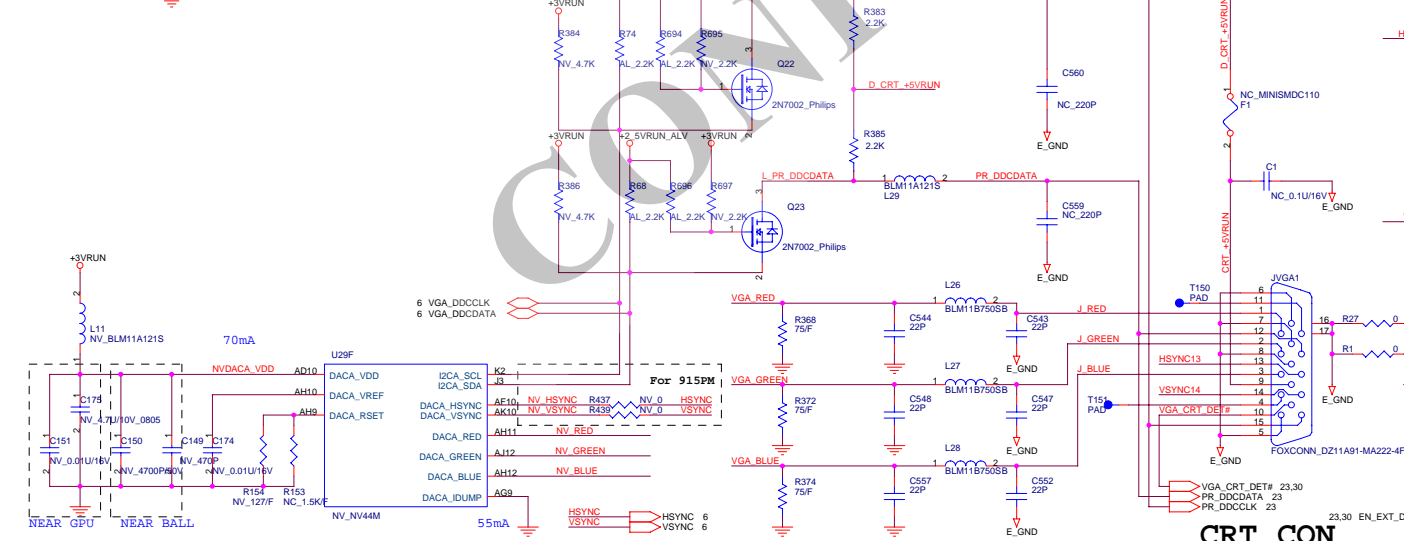
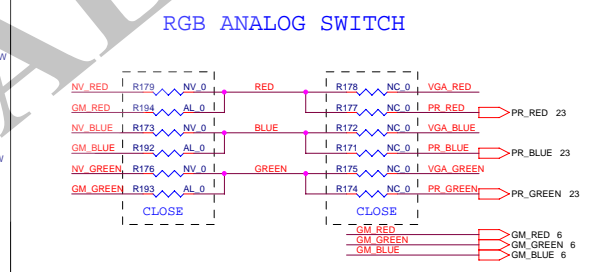
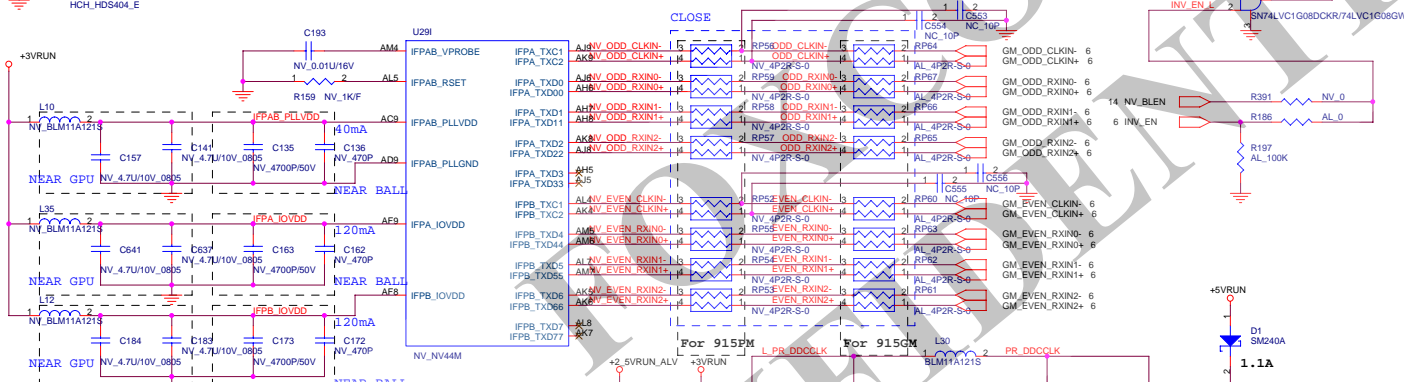
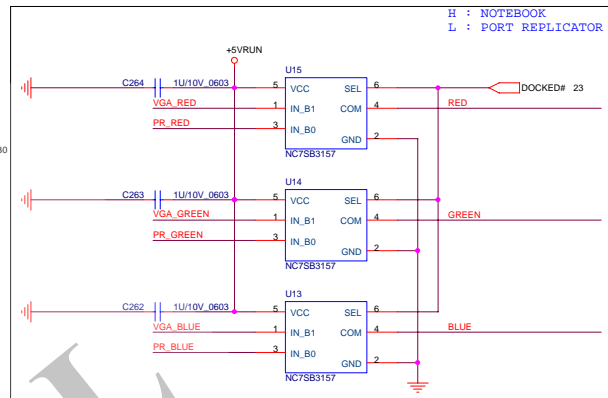
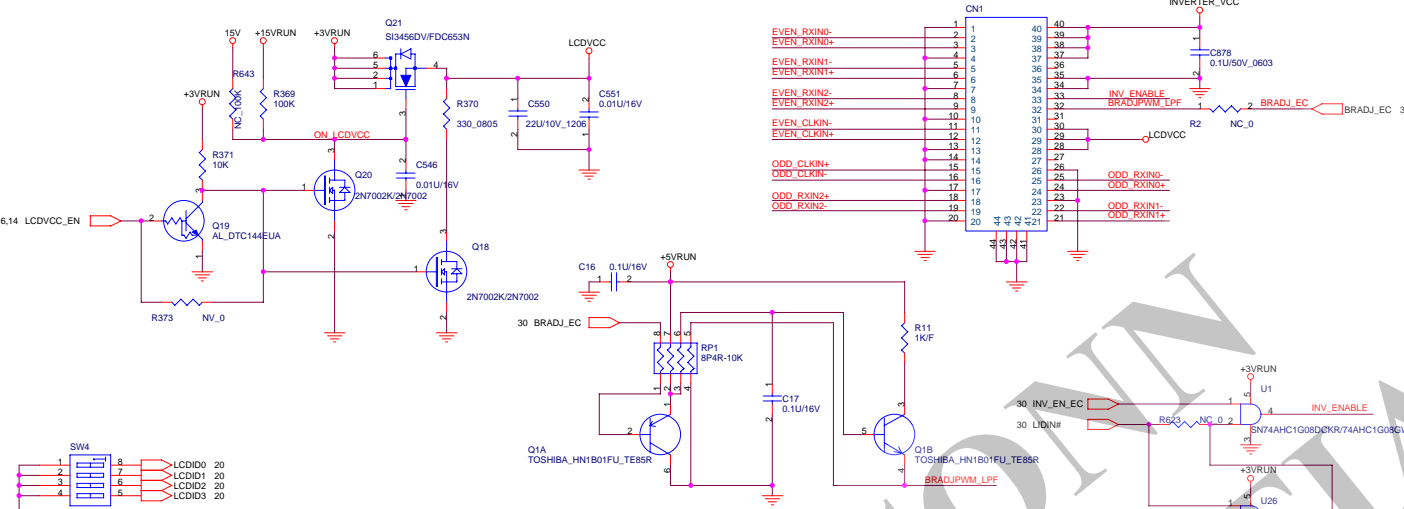


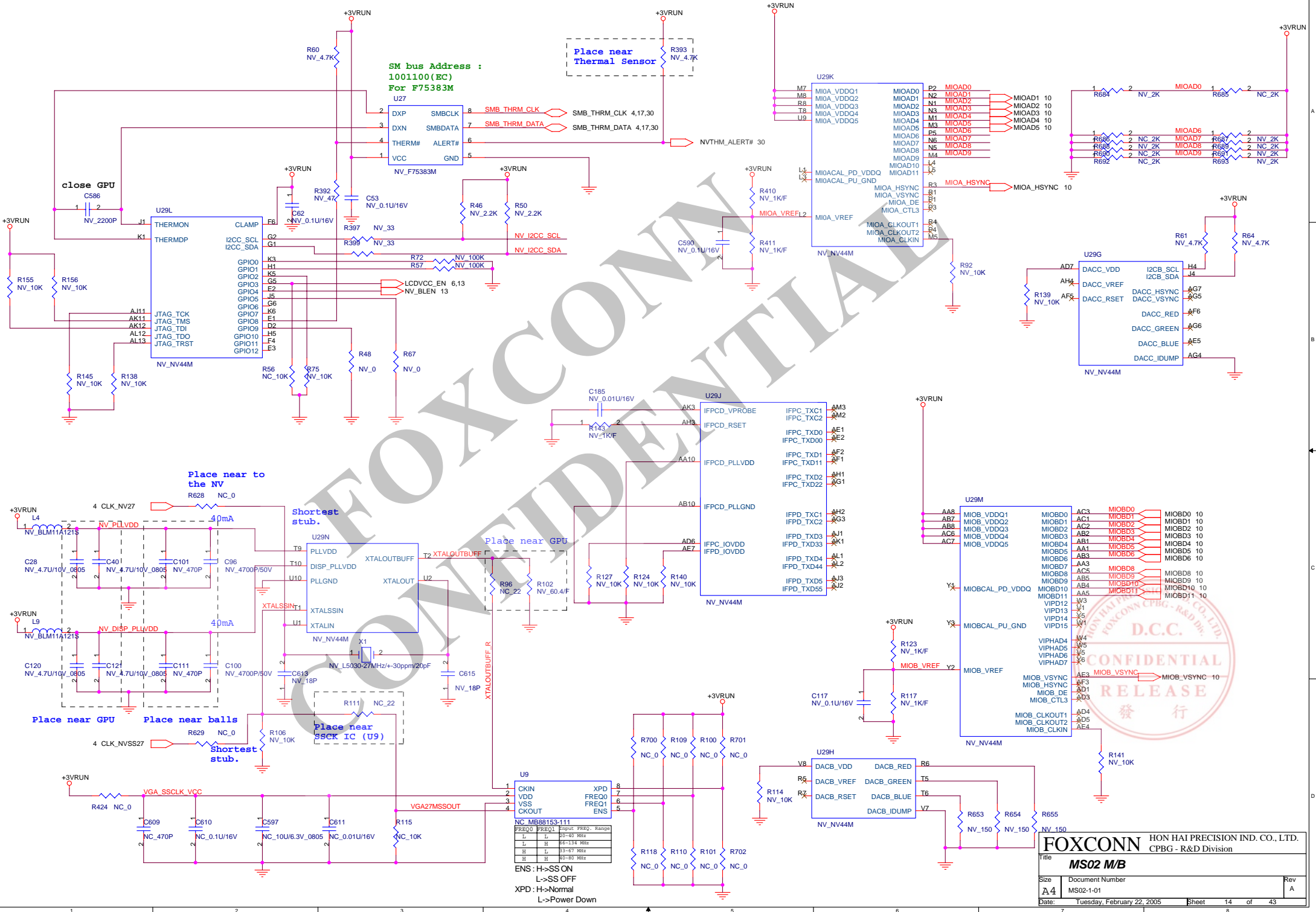


LVDS CONNECTOR

FOXCONN_GS12401_1011

H : NOTEBOOK
L : PORT REPLICATOR





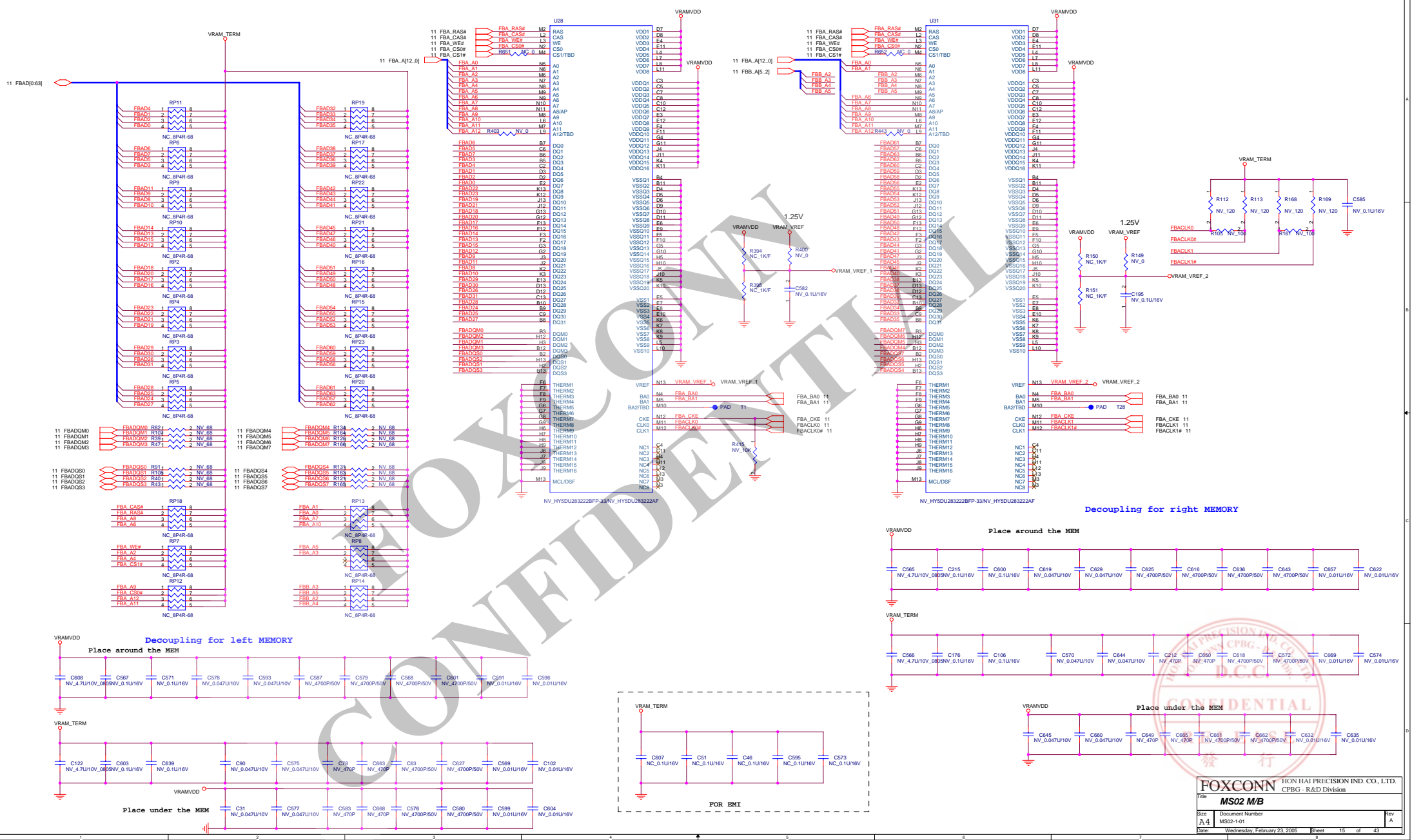
FOXCONN CONFIDENTIAL



U9

FRSQ	FREQ1	FREQ2	FRSQ	Range
L	L	L	L	20-40 KHz
L	H	L	L	65-134 KHz
H	L	L	L	83-87 KHz
H	H	L	L	80-82 KHz

ENS : H->SS ON
 L->SS OFF
 XPD : H->Normal
 L->Power Down



Decoupling for right MEMORY

Place around the MEM

Place under the MEM

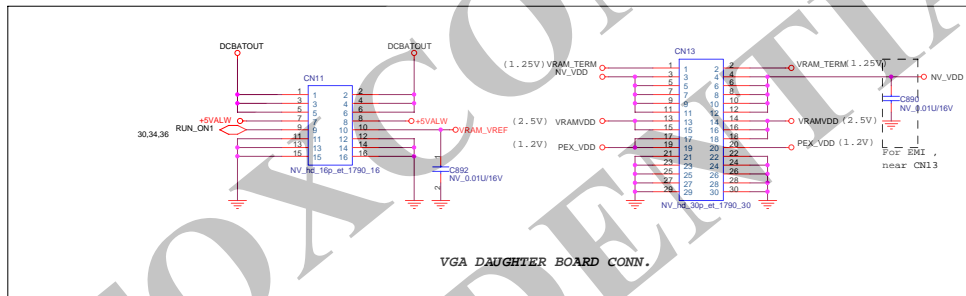
FOR EMI

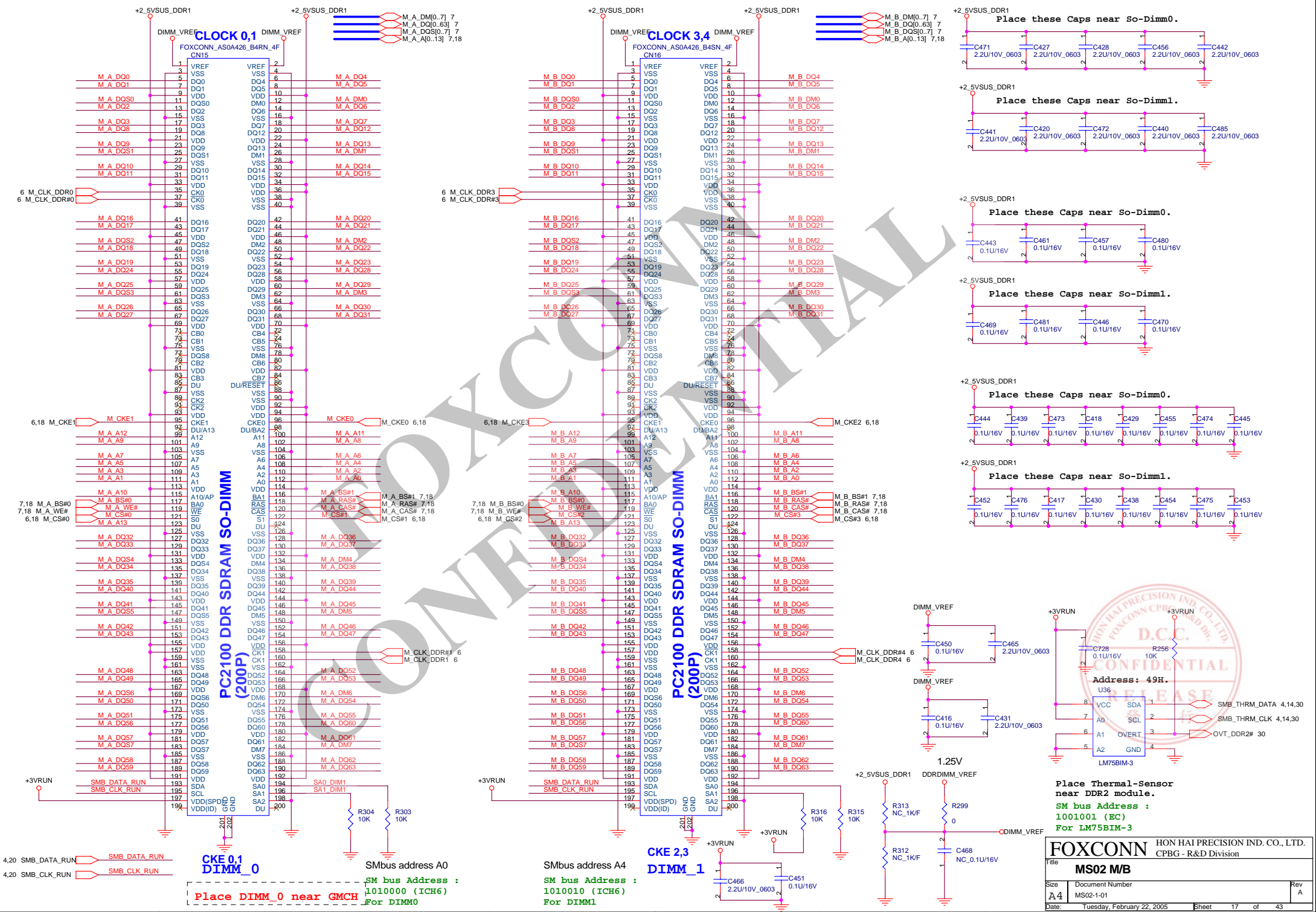
FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Part: **MS02 MB**

Rev: **A**

Date: Wednesday, February 23, 2005 Sheet 15 of 43



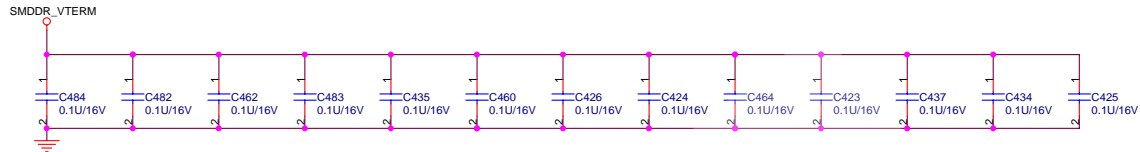
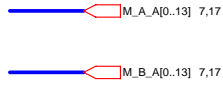


Address: 49H.
 U36
 VCC SDA 1 SMB_THRM_DATA 4,14,30
 A0 SCL 2 SMB_THRM_CLK 4,14,30
 A1 OVERT 3 OVT_DDR# 30
 A2 GND 4

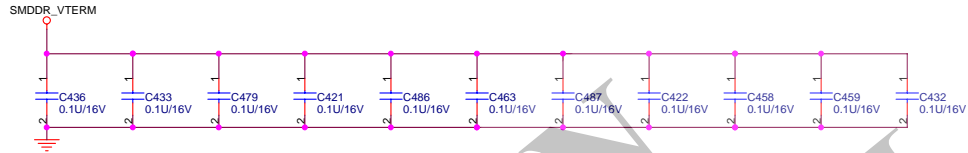
LM75BIM-3

Place Thermal-Sensor near DDR2 module.
SM bus Address : 1001001 (EC)
For LM75BIM-3

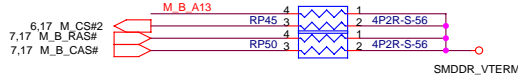
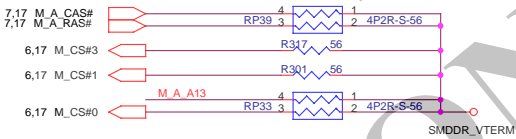
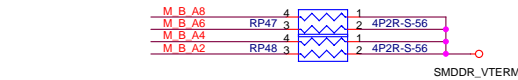
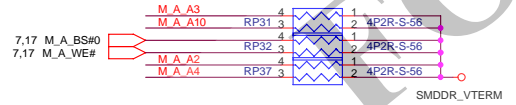
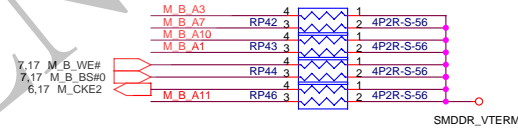
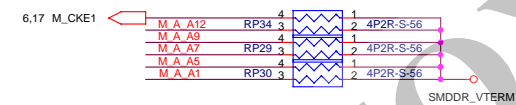
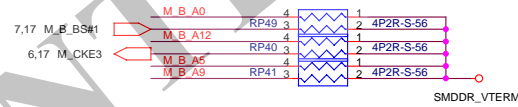
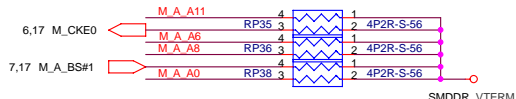
FOXCONN		HON HAI PRECISION IND. CO., LTD.	
		CPBG - R&D Division	
File	MS02 M/B		
Size	Document Number	Rev	
A4	MS02-1-01	A	
Date:	Tuesday, February 22, 2005	Sheet	17 of 43



Layout note: Place 1 cap close to every 1 R-pack terminated to SMDDR_VTERM.



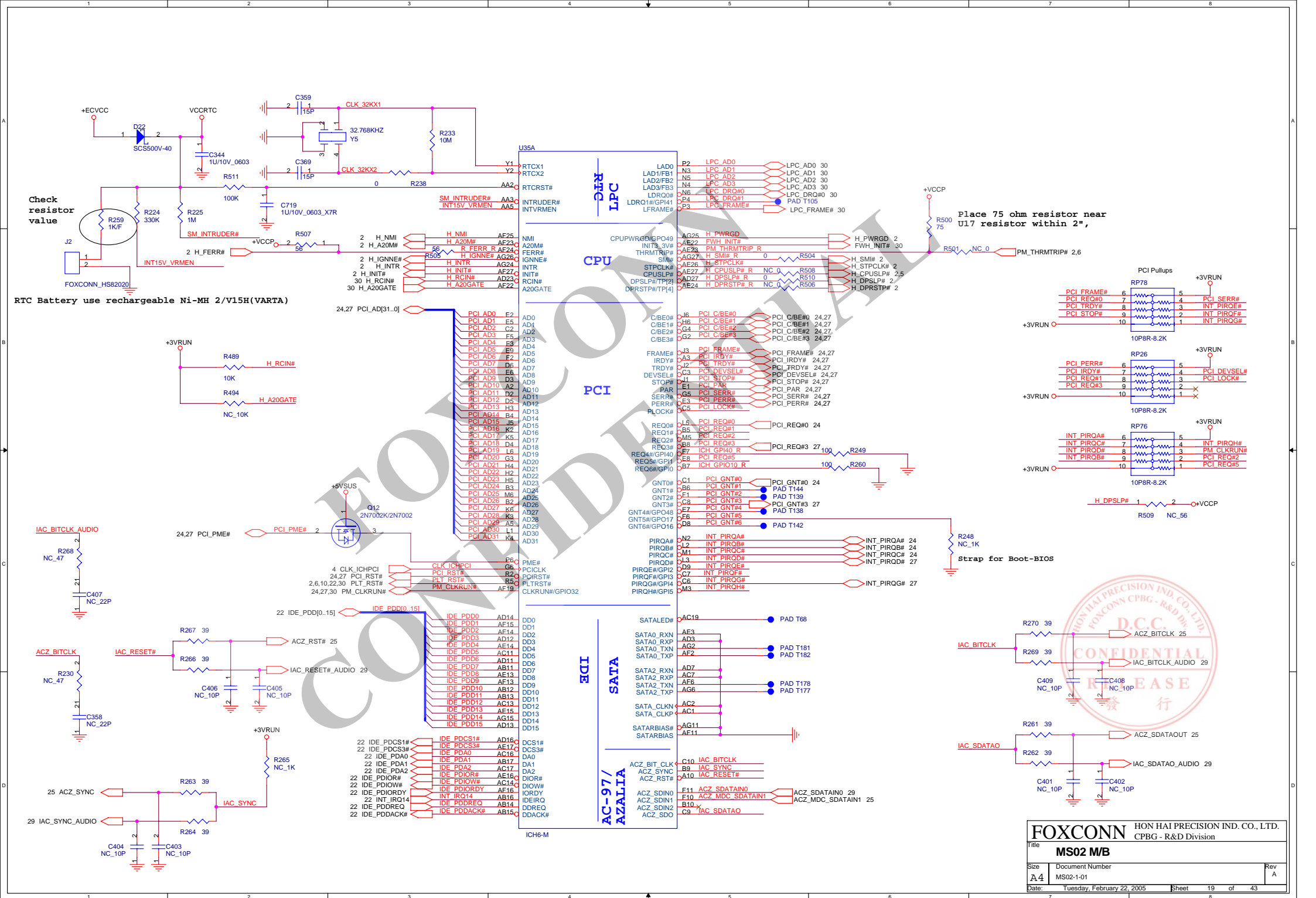
Layout note: Place 1 cap close to every 1 R-pack terminated to SMDDR_VTERM.



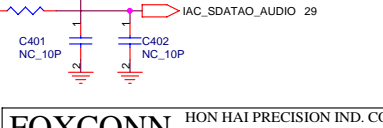
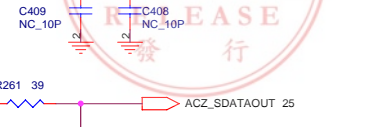
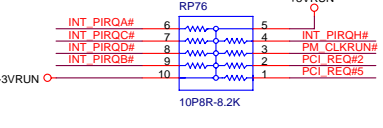
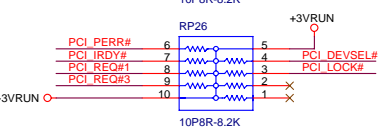
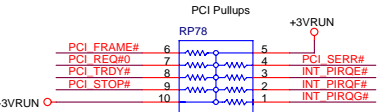
CONFIDENTIAL

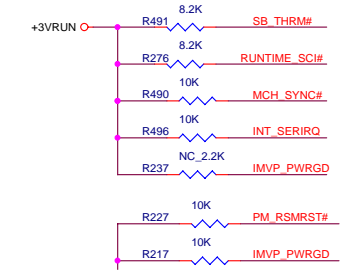
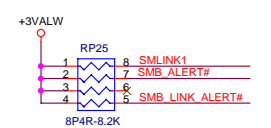
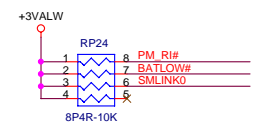
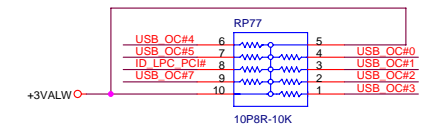
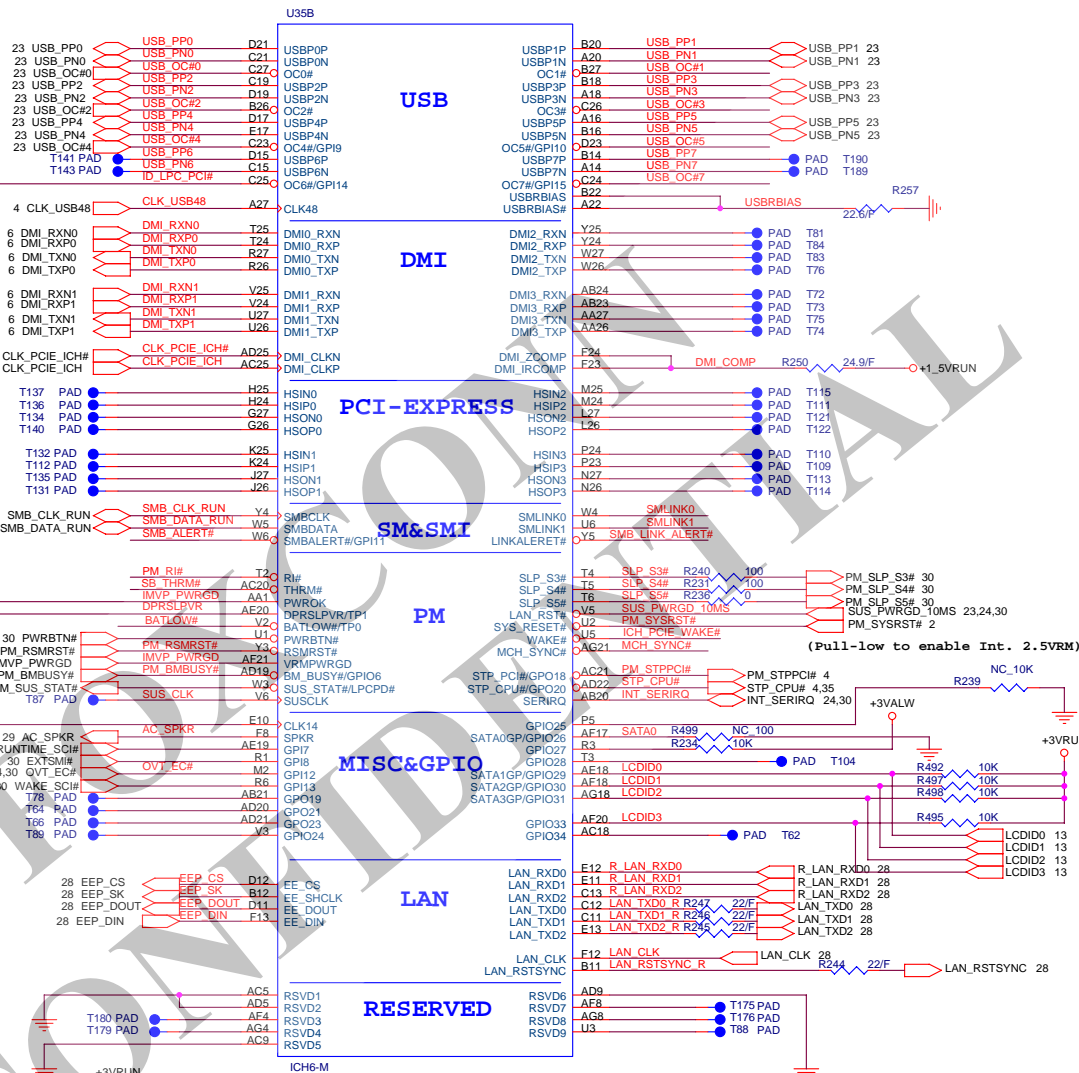


FOXCONN		HON HAI PRECISION IND. CO., LTD.	
		CPBG - R&D Division	
Title: MS02 M/B			
Size: A4	Document Number: MS02-1-01	Rev: A	
Date: Tuesday, February 22, 2005	Sheet: 18	of 43	

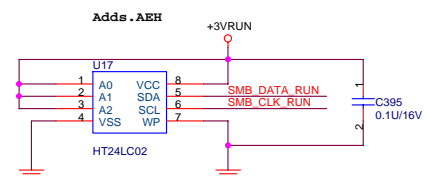
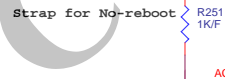
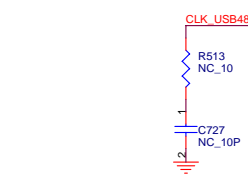
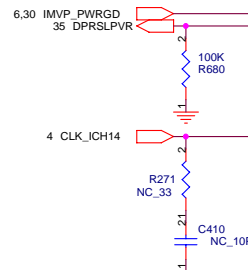


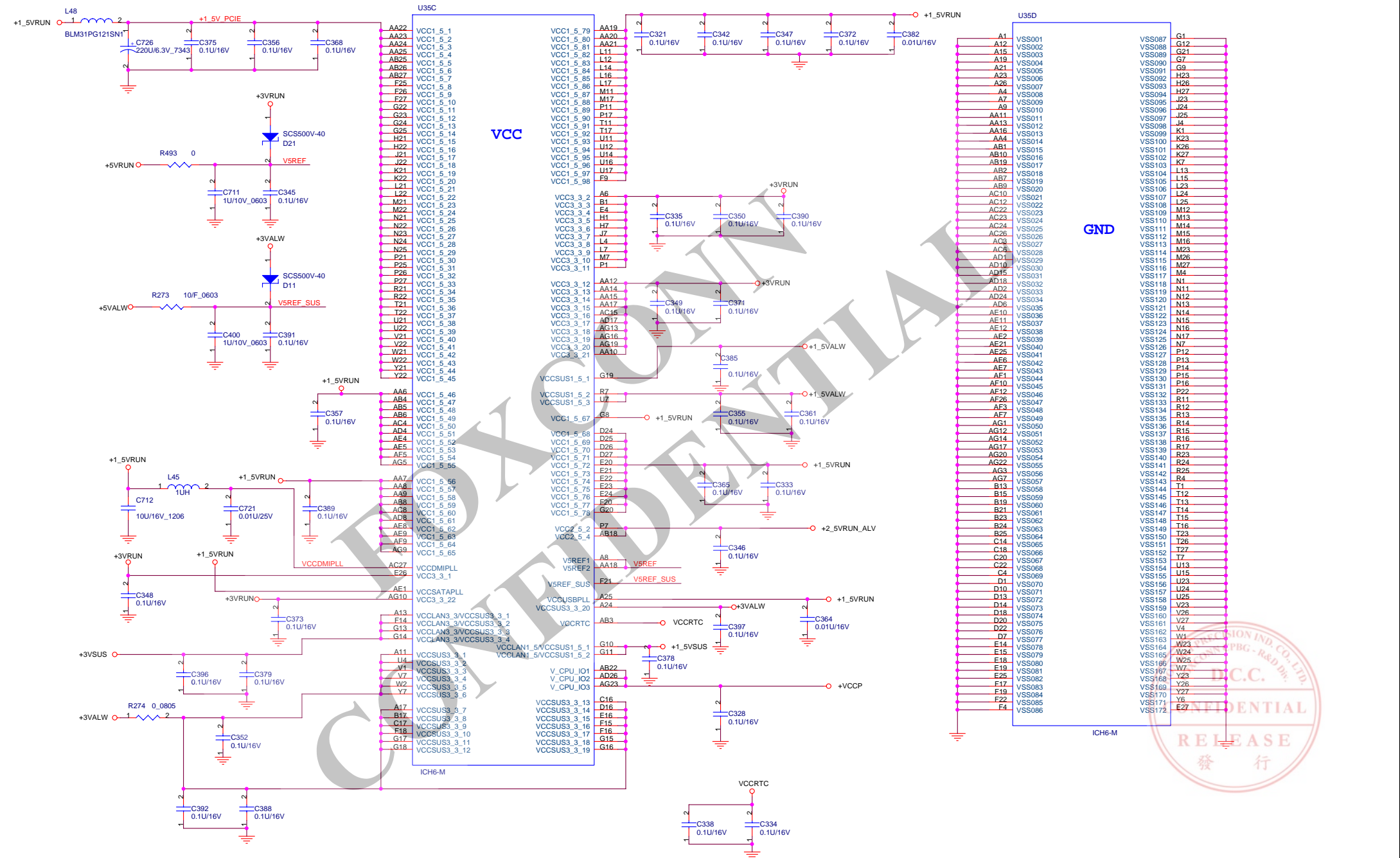
Place 75 ohm resistor near U17 resistor within 2",



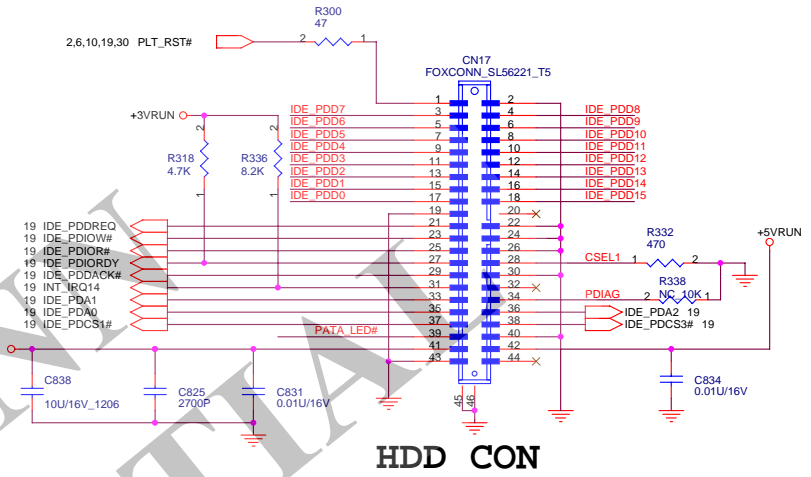


30 ID_LPC_PCI#
80 Port I/F:
H: LCP bus
L: PCI bus

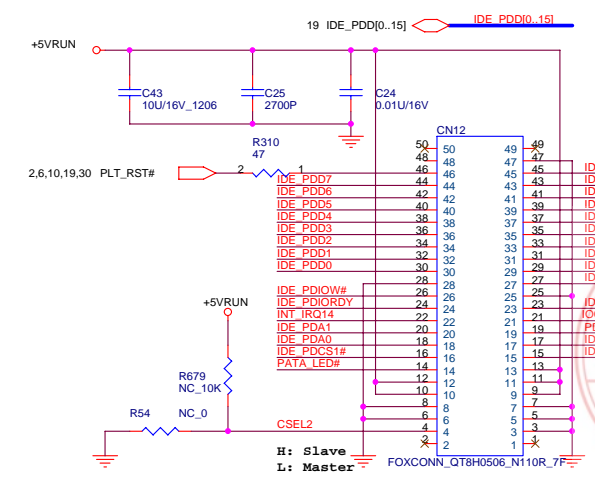




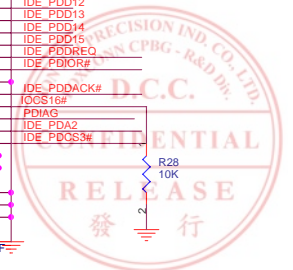
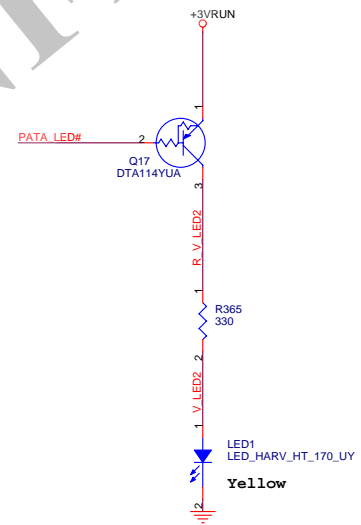
FOXC
CONFIDENTIAL



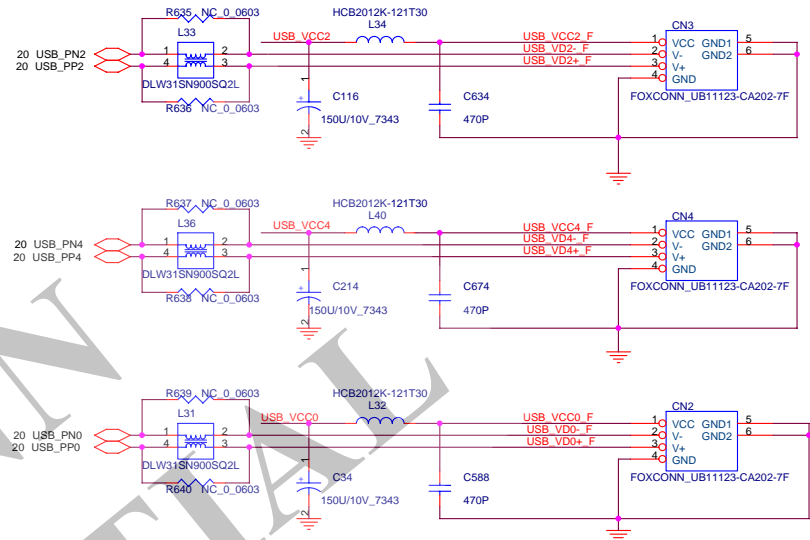
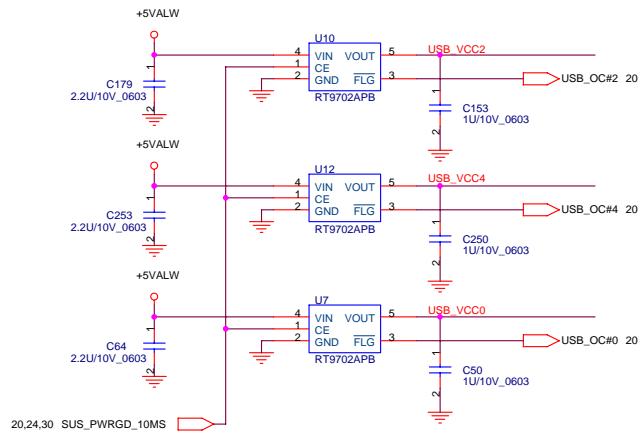
HDD CON



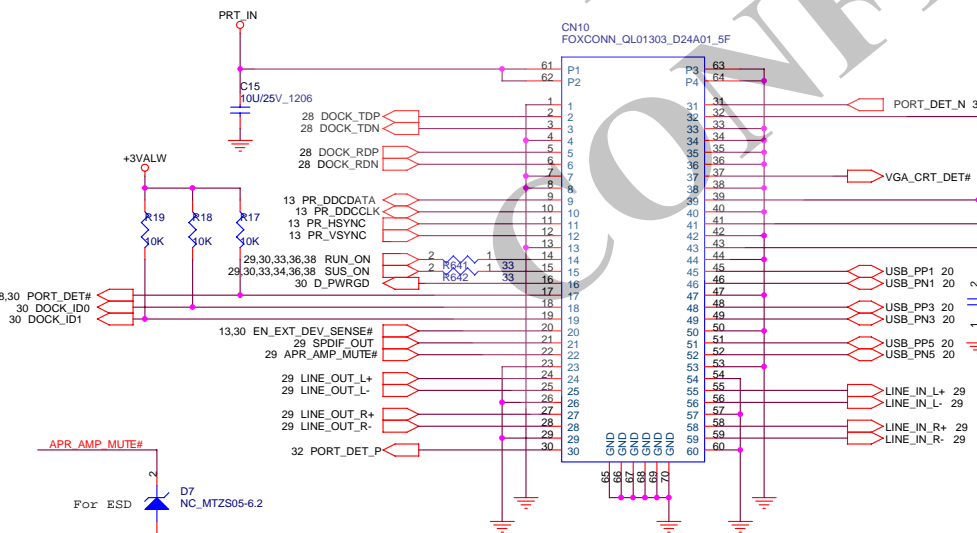
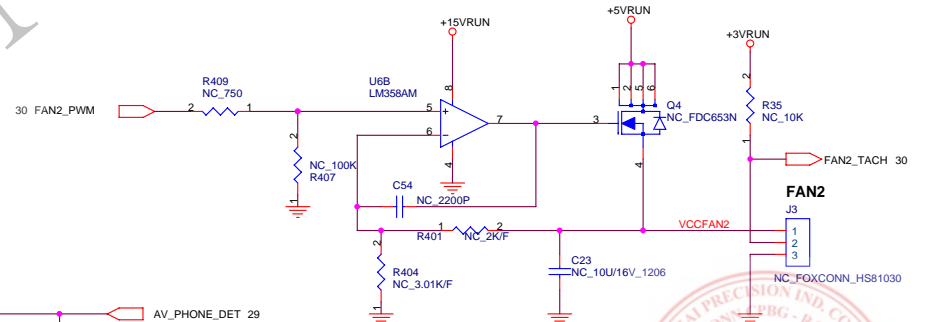
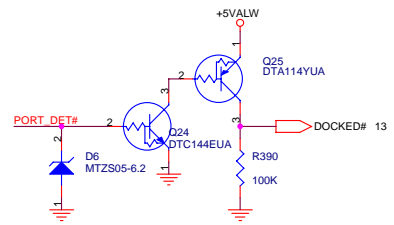
CD-ROM CON



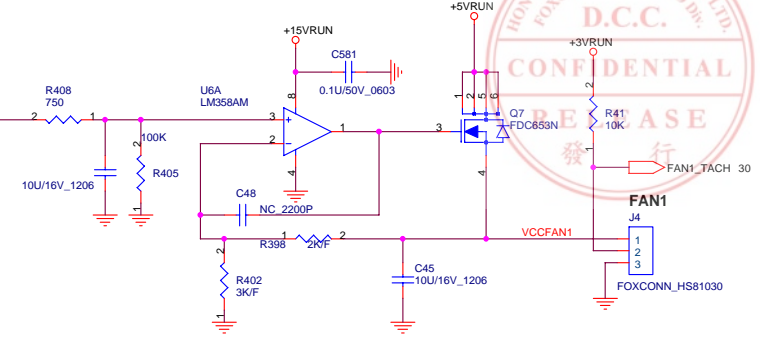
FOXCONN		HON HAI PRECISION IND. CO., LTD.	
File		CPBG - R&D Division	
Size		MS02 M/B	
Date		Document Number	
A4		MS02-1-01	
Date		Rev	
Tuesday, February 22, 2005		A	
Sheet		22 of 43	



USB2.0 X 3

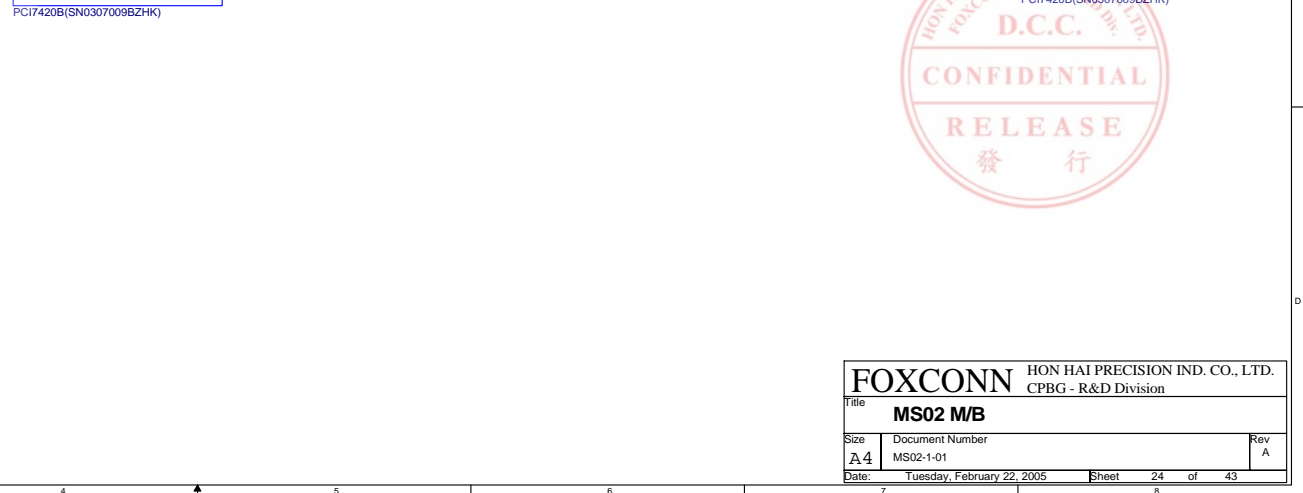
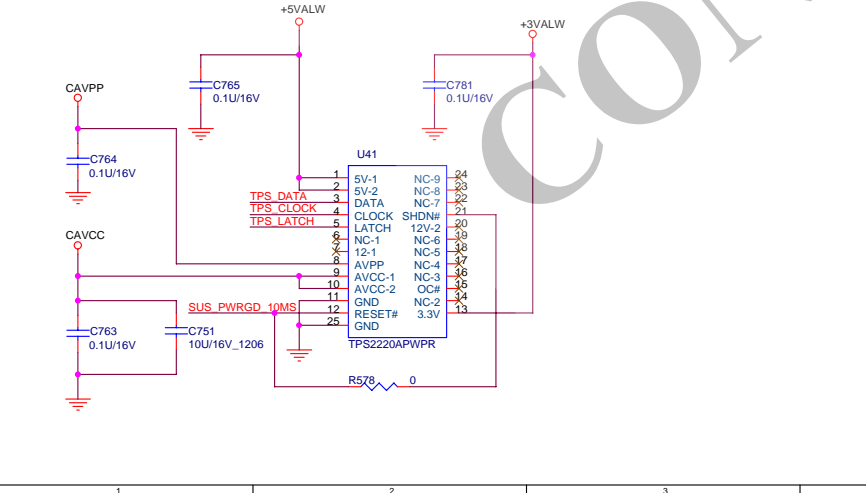
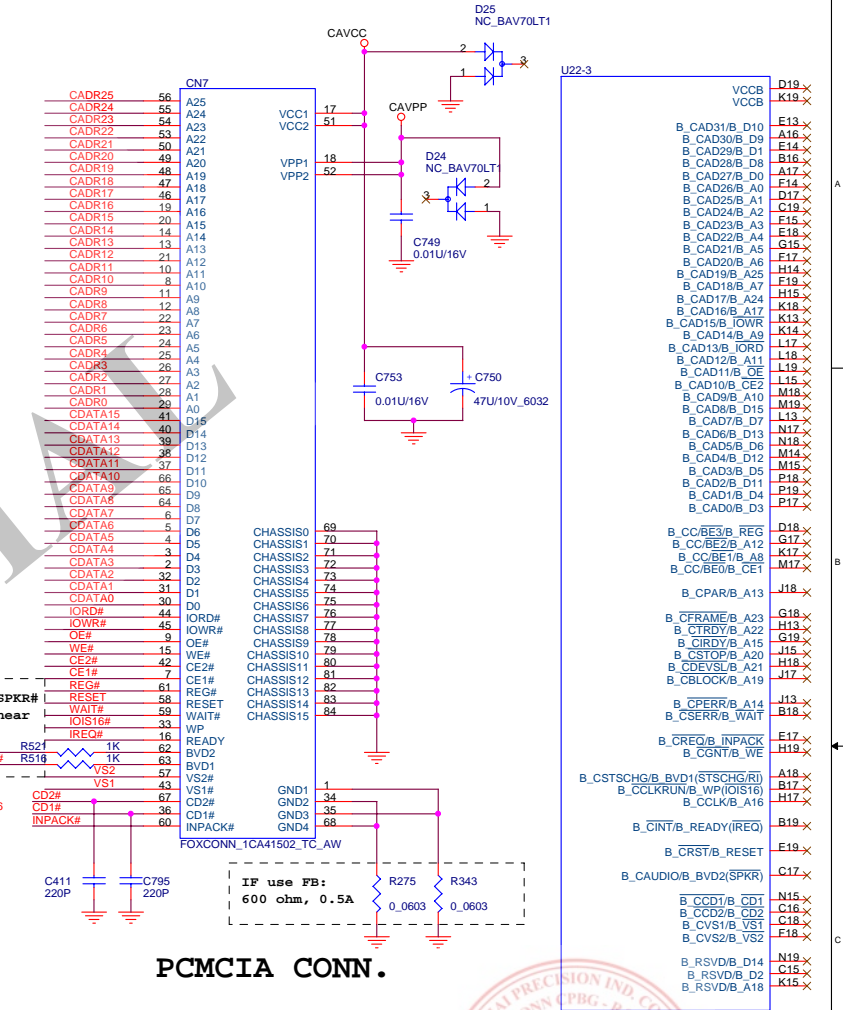
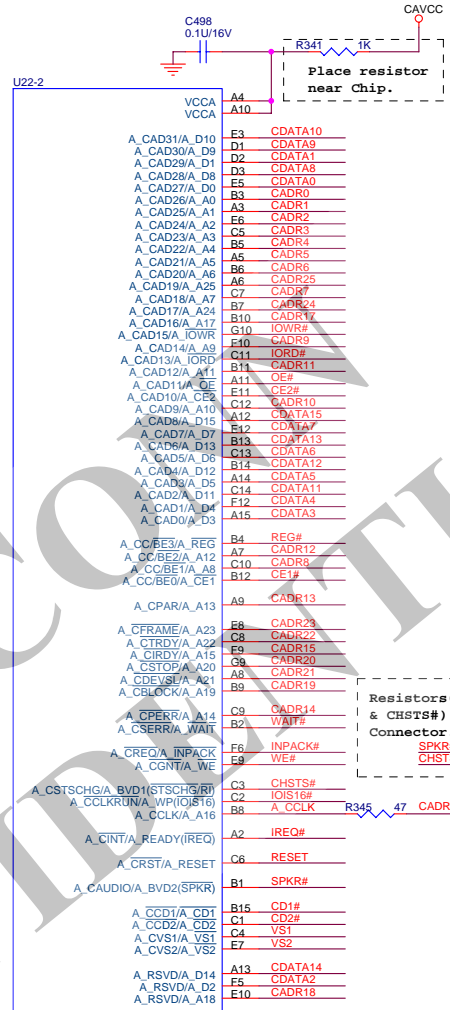
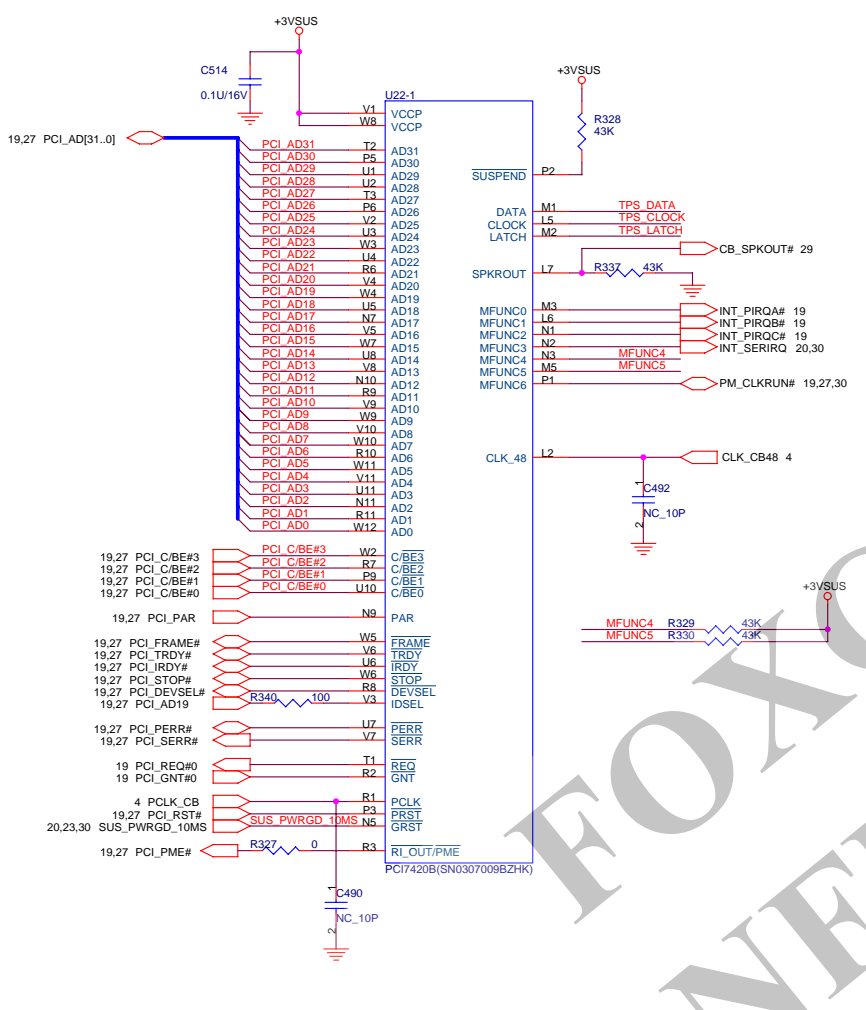


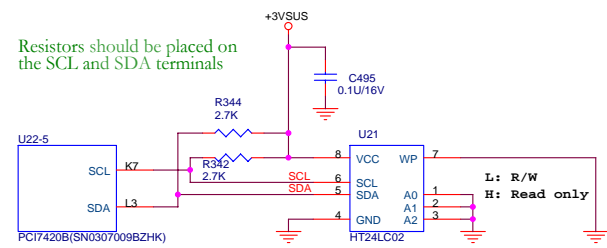
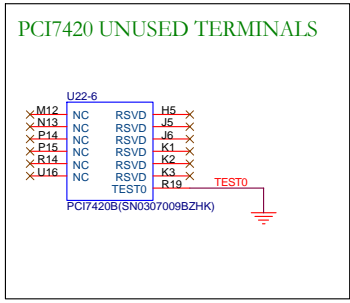
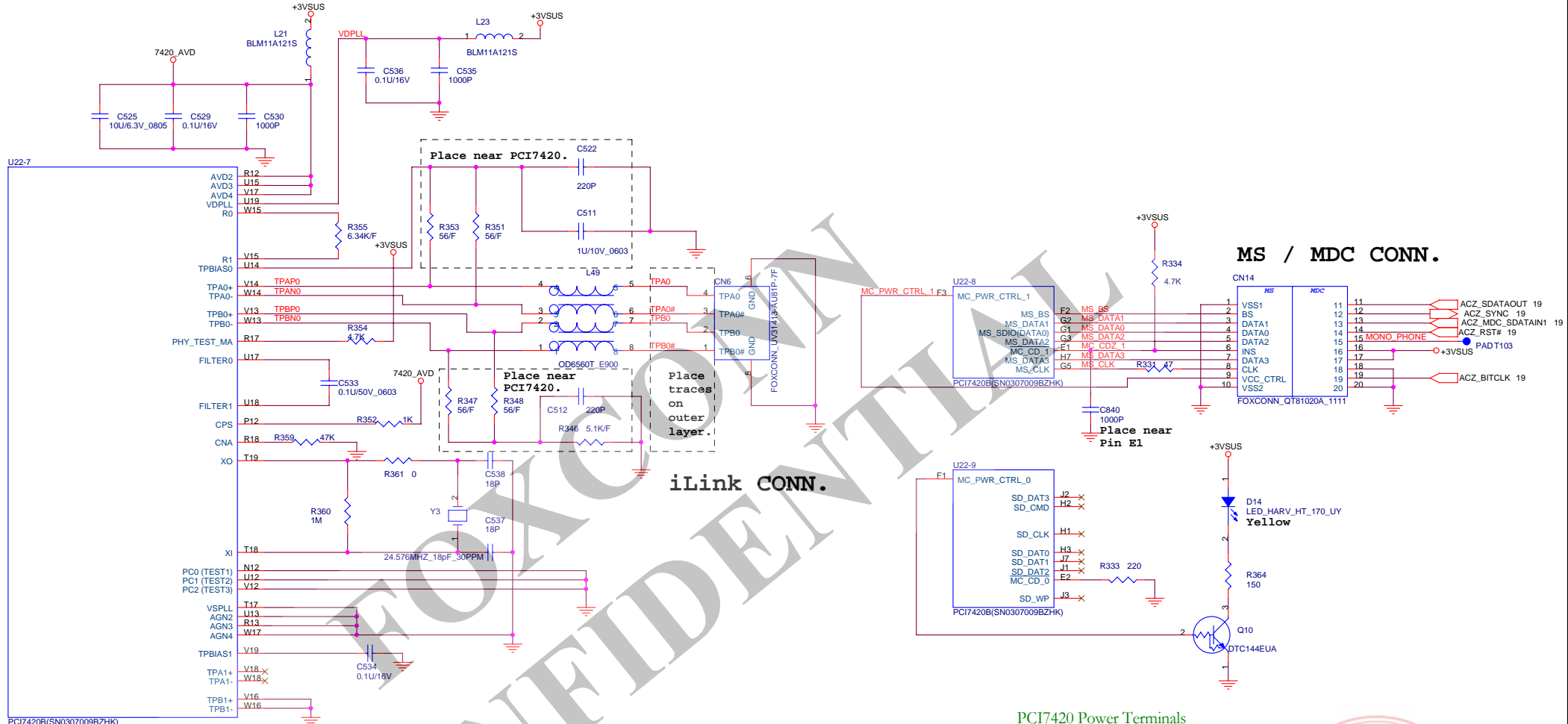
Replicator Port



FAN

FOXCONN HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
MS02 M/B	
Size A4	Document Number MS02-1-01
Date: Tuesday, February 22, 2005	Sheet 23 of 43





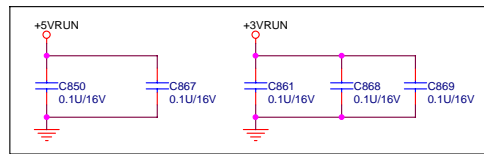
HON HAI PRECISION IND. CO., LTD.
FOXCONN CPBG - R&D DIV.
D.C.C.
CONFIDENTIAL
RELEASE
發行

FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

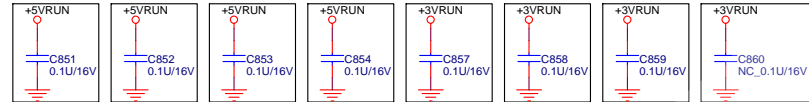
File: **MS02 M/B**

Size	Document Number	Rev
A4	MS02-1-01	A

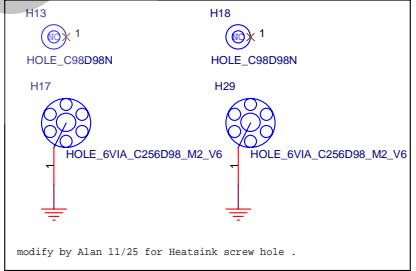
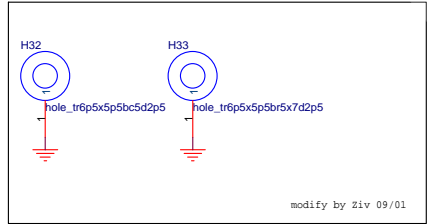
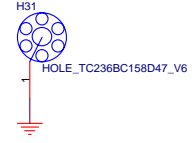
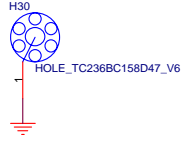
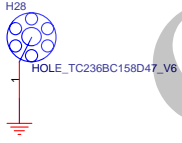
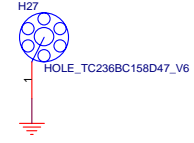
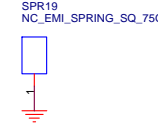
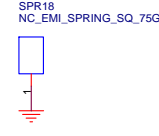
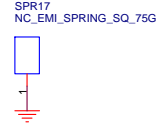
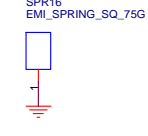
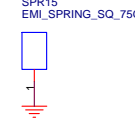
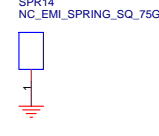
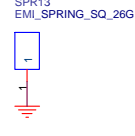
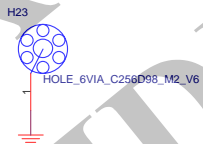
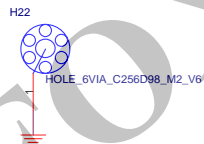
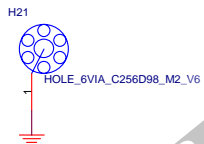
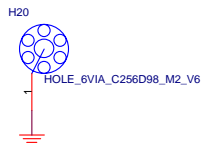
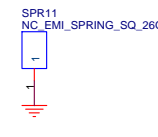
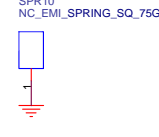
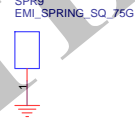
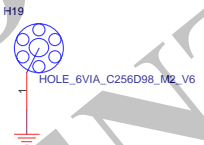
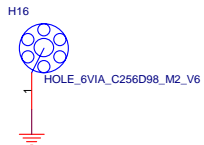
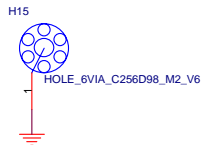
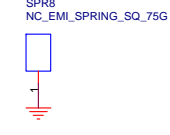
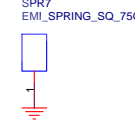
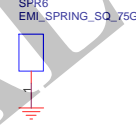
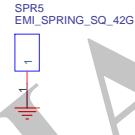
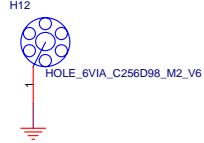
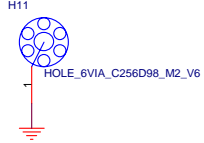
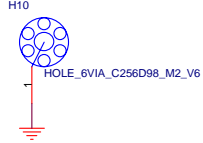
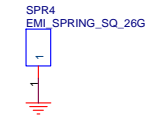
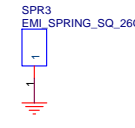
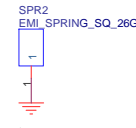
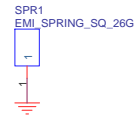
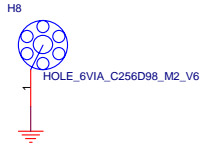
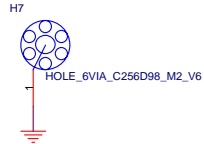
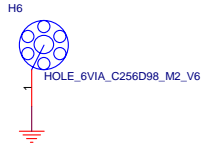
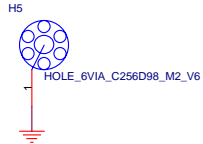
Date: Tuesday, February 22, 2005 Sheet 25 of 43



For EMI .



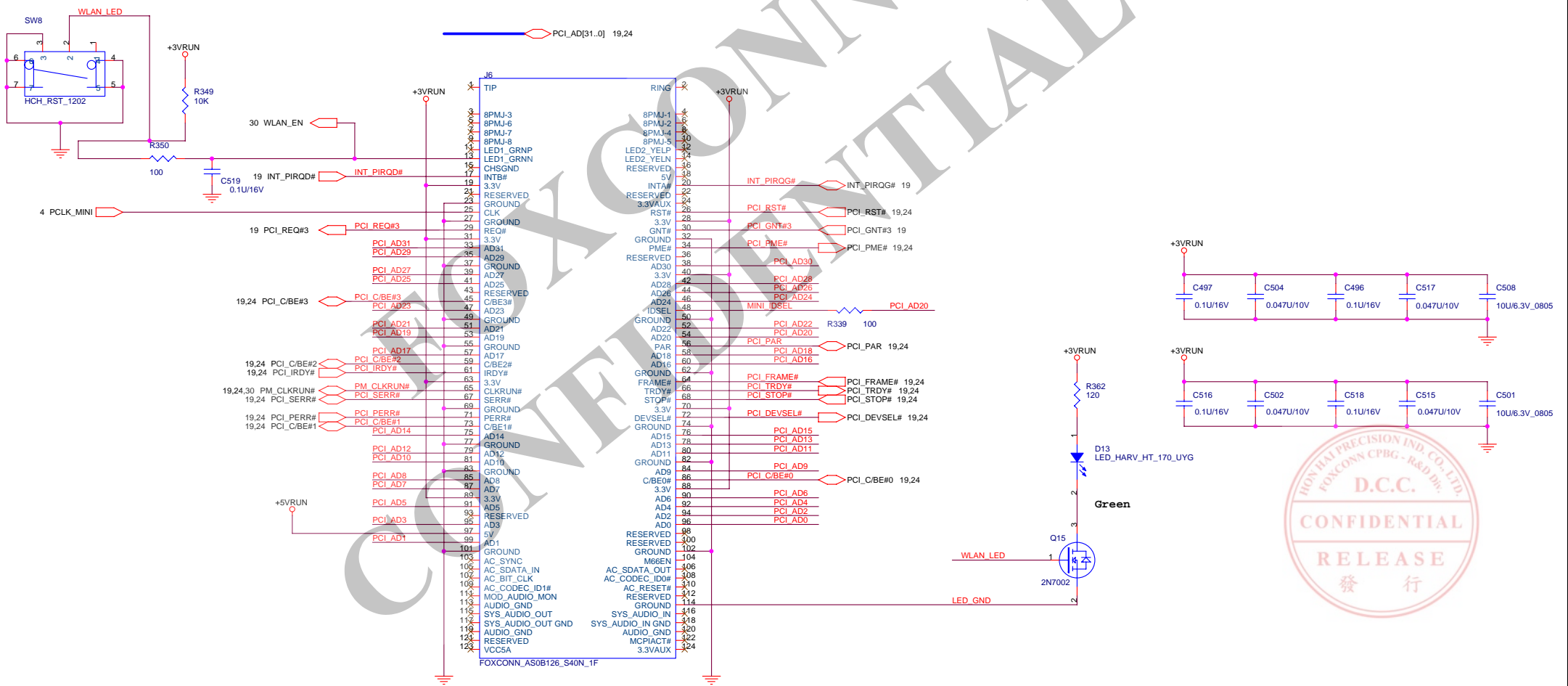
Near RP51 , for EMI .
 Near R607 , for EMI .
 Near Q7 , for EMI .
 Near Q4 , for EMI .
 Near U37 , for EMI .
 Near Q3 , for EMI .
 Near Q4 , for EMI .
 Near D8 , for EMI .



FOXCONN CONFIDENTIAL



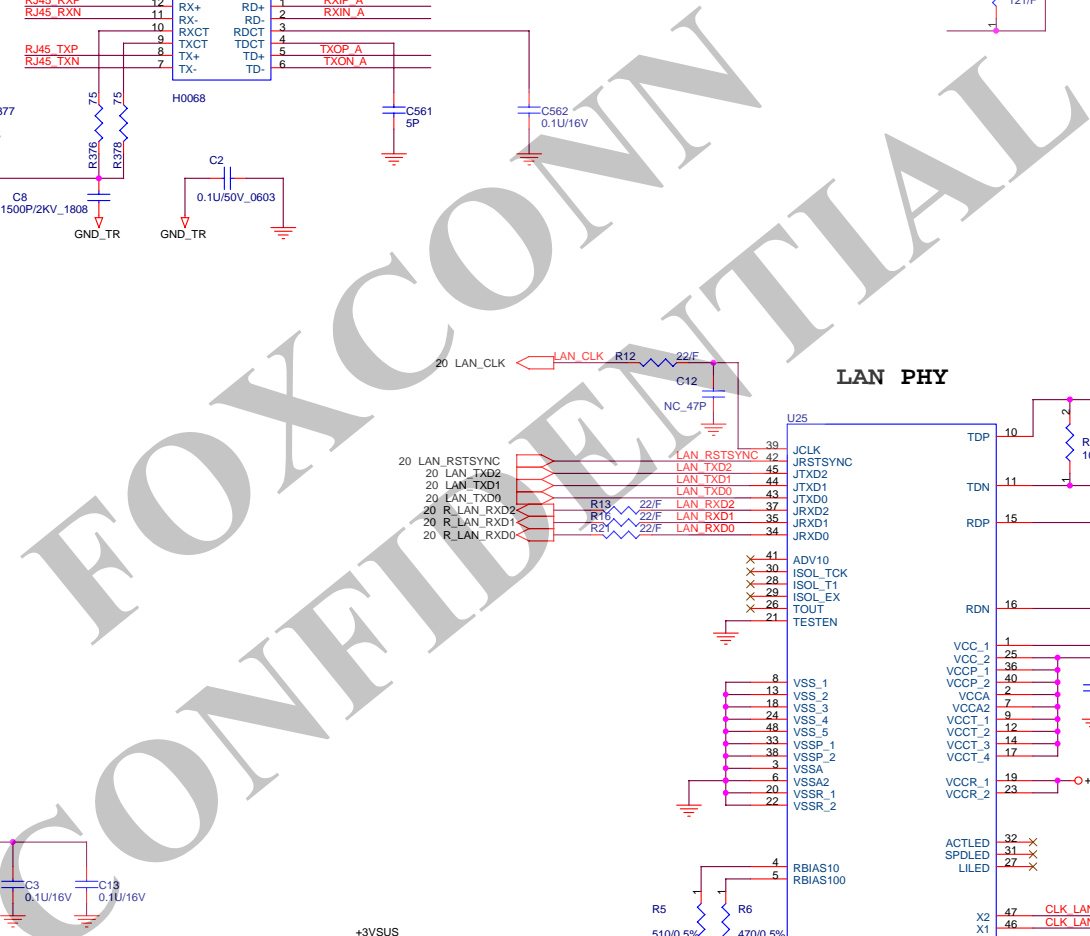
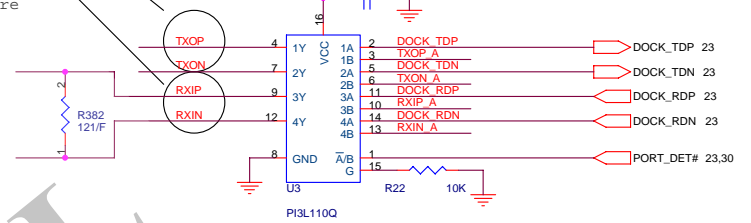
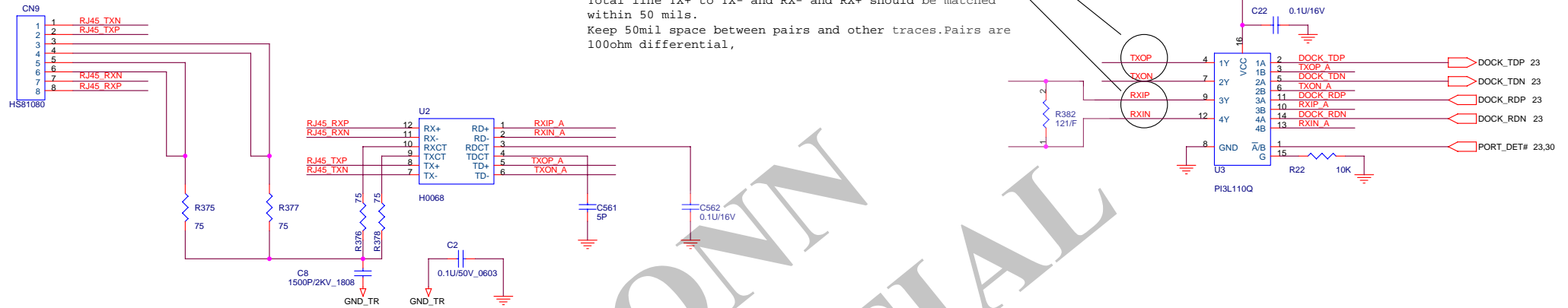
FOXCONN HON HAI PRECISION IND. CO., LTD.		
File		CPBG - R&D Division
MS02 M/B		
Size	Document Number	Rev
A4	MS02-1-01	A
Date:	Tuesday, February 22, 2005	Sheet 26 of 43



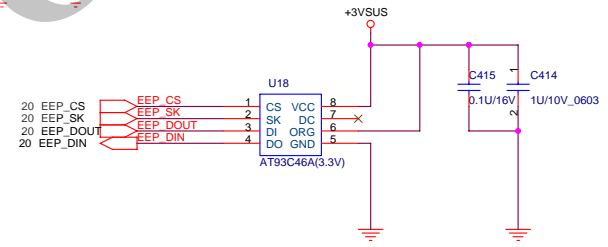
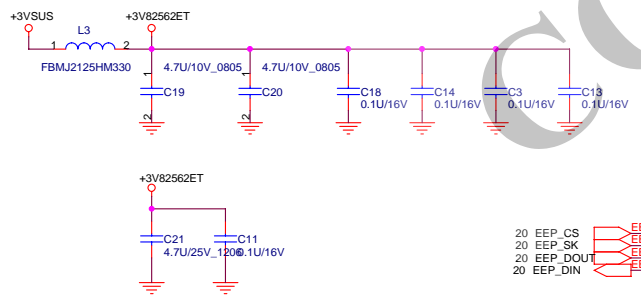
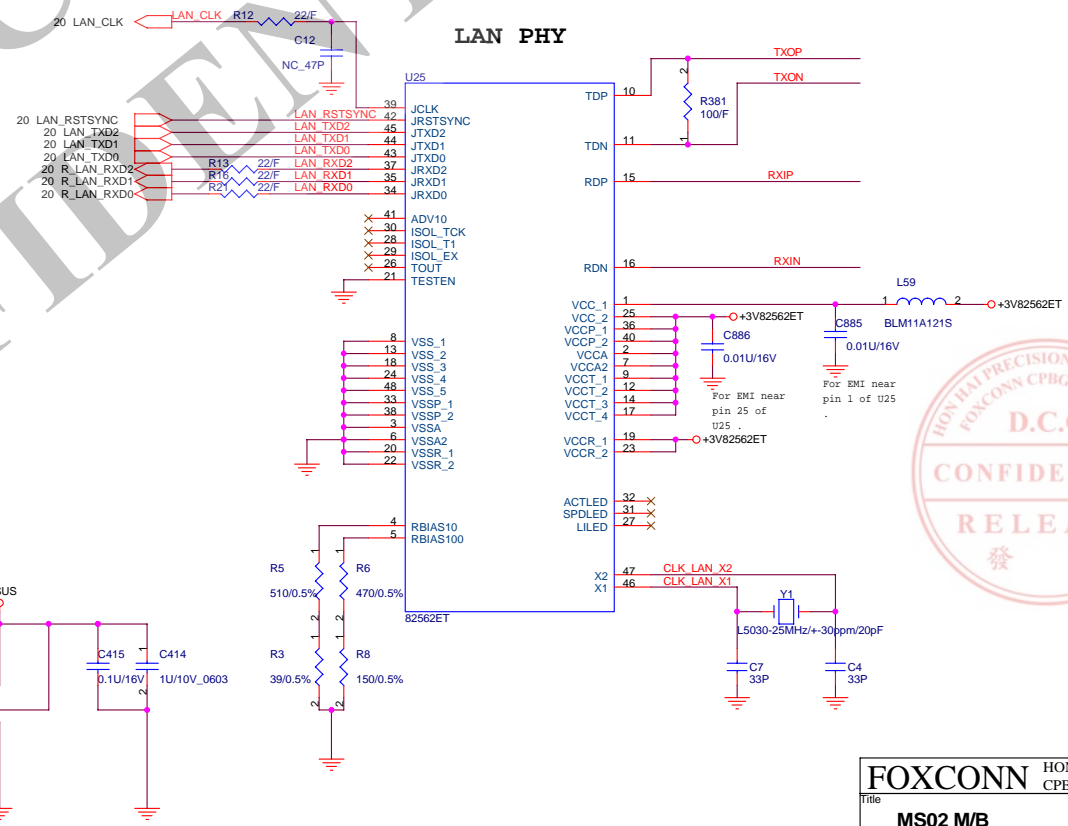
Match trace length

LAYOUT NOTES:

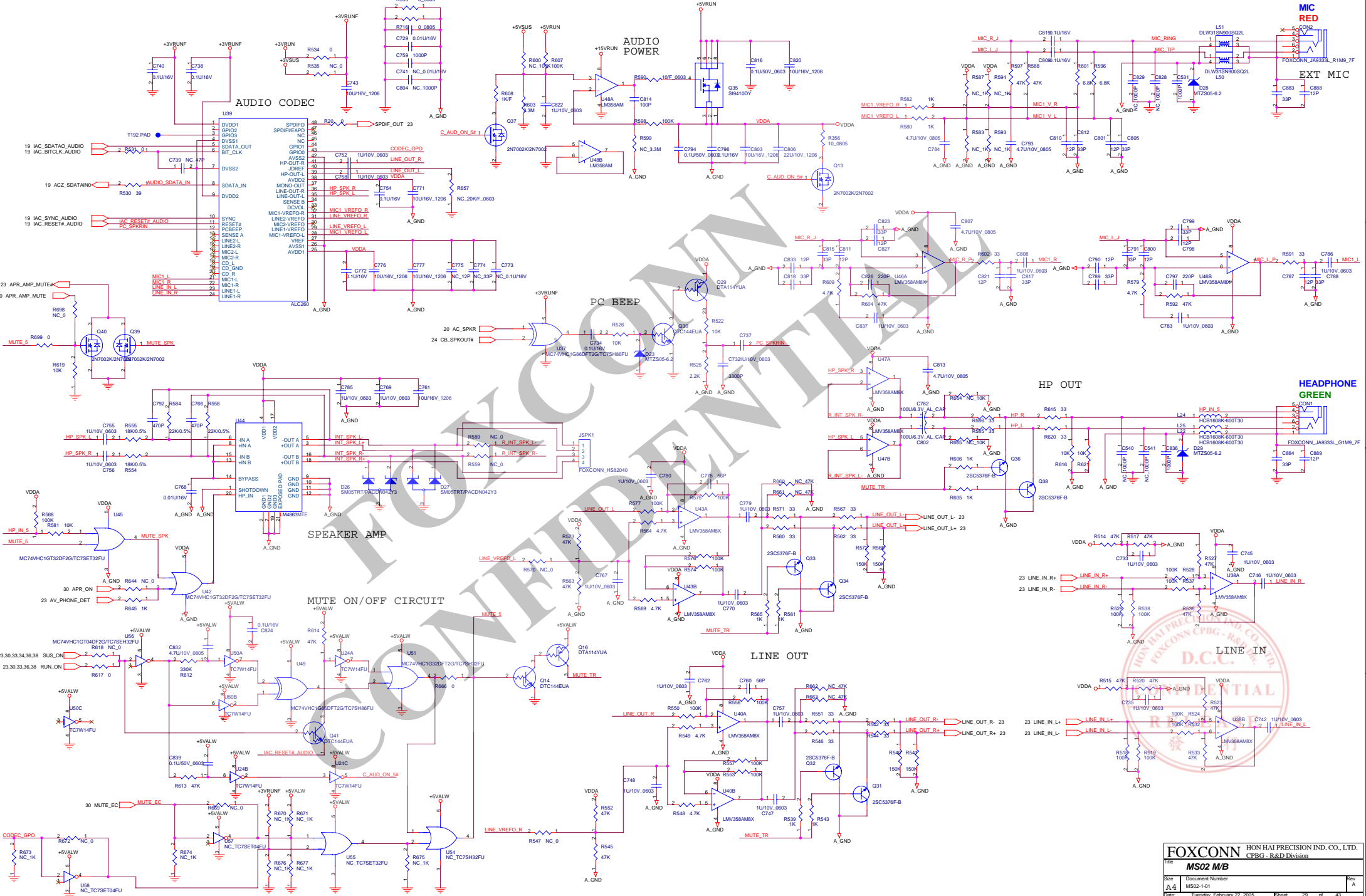
Match total length of chip side Rx and Tx pair traces +/-50mil
Match length of cable side Rx and Tx pair traces +/- 50 mil
Total line TX+ to TX- and RX- and RX+ should be matched within 50 mils.
Keep 50mil space between pairs and other traces.Pairs are 100ohm differential,

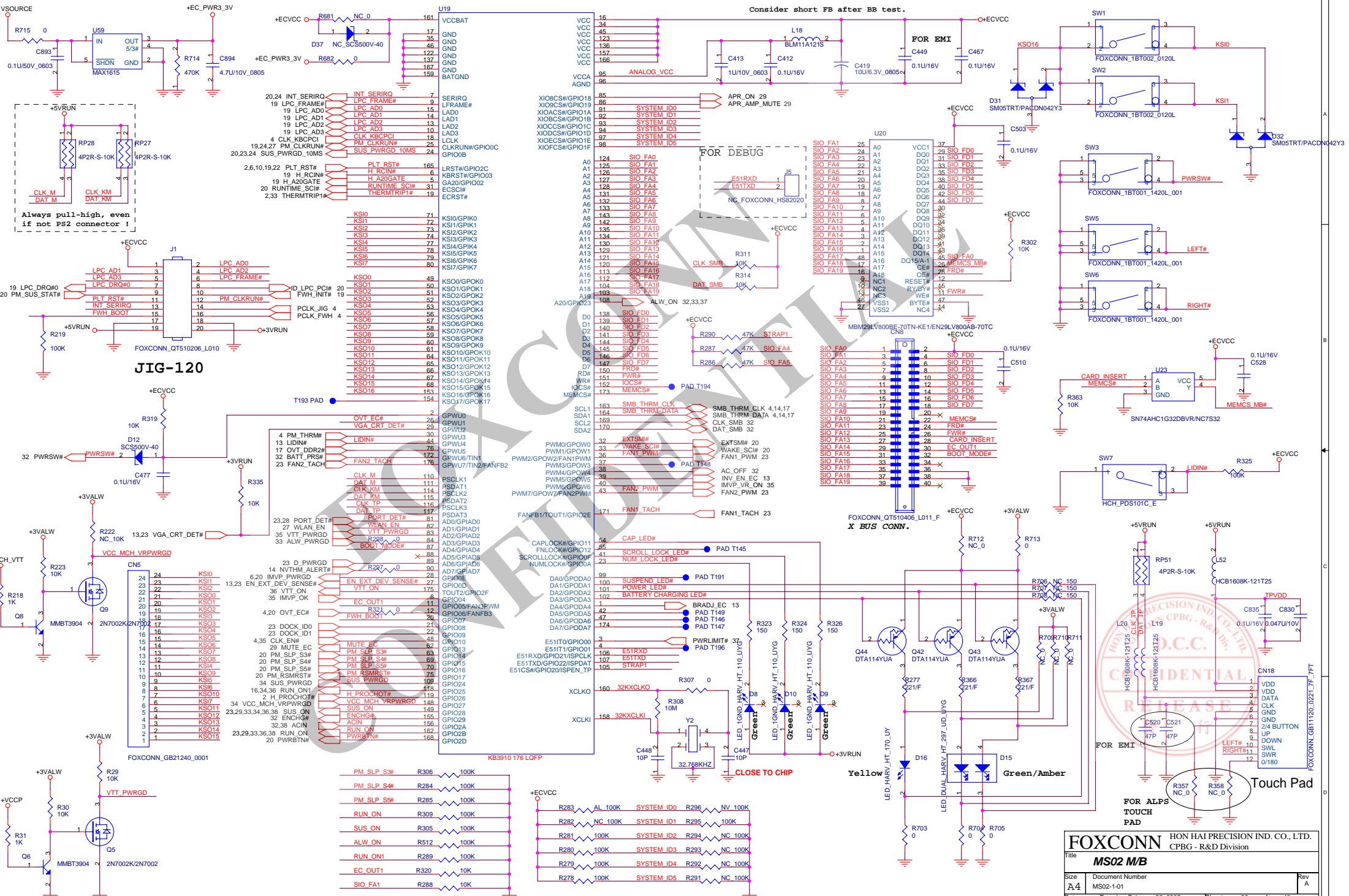


LAN PHY

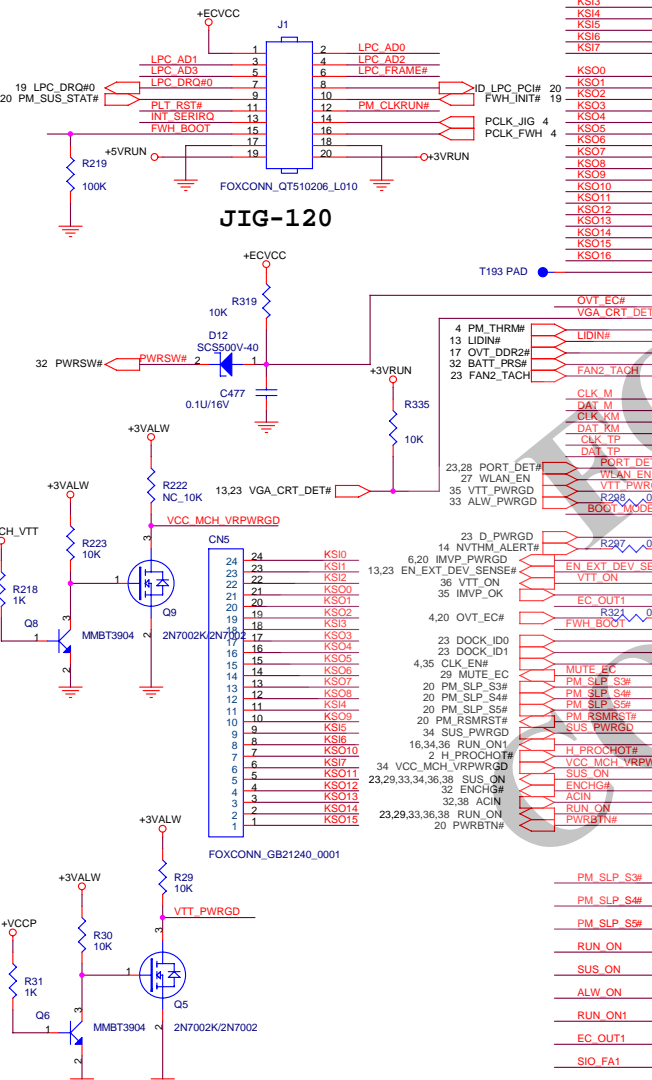


FOXCONN HON HAI PRECISION IND. CO., LTD.	
Title MS02 M/B	
Size A4	Document Number MS02-1-01
Date: Tuesday, February 22, 2005	Sheet 28 of 43





JIG-120



Pin	Signal	Pin	Signal
19	LPC_DR0#	21	INT_SERIRQ
20	PM_SUS_ST#0	22	LPC_AD0
1	INT_SERIRQ	23	LPC_AD1
2	LPC_FRAME#	24	LPC_AD2
3	LPC_AD0	25	LPC_AD3
4	LPC_AD1	26	CLK_KBCPCI
5	LPC_AD2	27	PM_CLKRUN#
6	LPC_AD3	28	SUS_PWRGD_10MS
7	CLK_KBCPCI	29	PLT_RST#
8	PM_CLKRUN#	30	H_RCIN#
9	SUS_PWRGD_10MS	31	H_A20GATE
10	PLT_RST#	32	RUNTIME_SC#
11	H_RCIN#	33	THERMTRIP#
12	H_A20GATE	34	
13	RUNTIME_SC#	35	
14	THERMTRIP#	36	

Pin	Signal	Pin	Signal
71	KSI0	122	SIO_F0
72	KSI1	123	SIO_F1
73	KSI2	124	SIO_F2
74	KSI3	125	SIO_F3
75	KSI4	126	SIO_F4
76	KSI5	127	SIO_F5
77	KSI6	128	SIO_F6
78	KSI7	129	SIO_F7
79	KSI8	130	SIO_F8
80	KSI9	131	SIO_F9

Pin	Signal	Pin	Signal
49	KSO0	132	SIO_F10
50	KSO1	133	SIO_F11
51	KSO2	134	SIO_F12
52	KSO3	135	SIO_F13
53	KSO4	136	SIO_F14
54	KSO5	137	SIO_F15
55	KSO6	138	SIO_F16
56	KSO7	139	SIO_F17
57	KSO8	140	SIO_F18
58	KSO9	141	SIO_F19

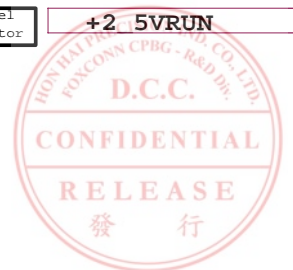
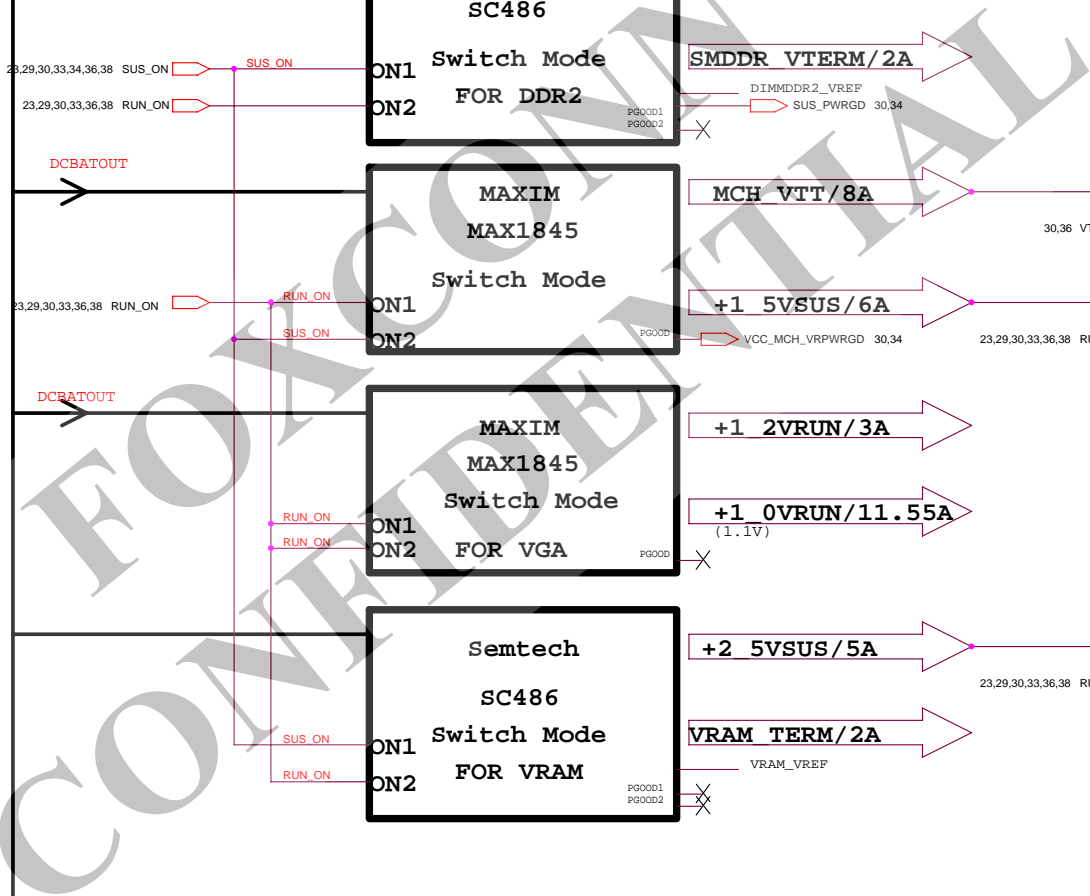
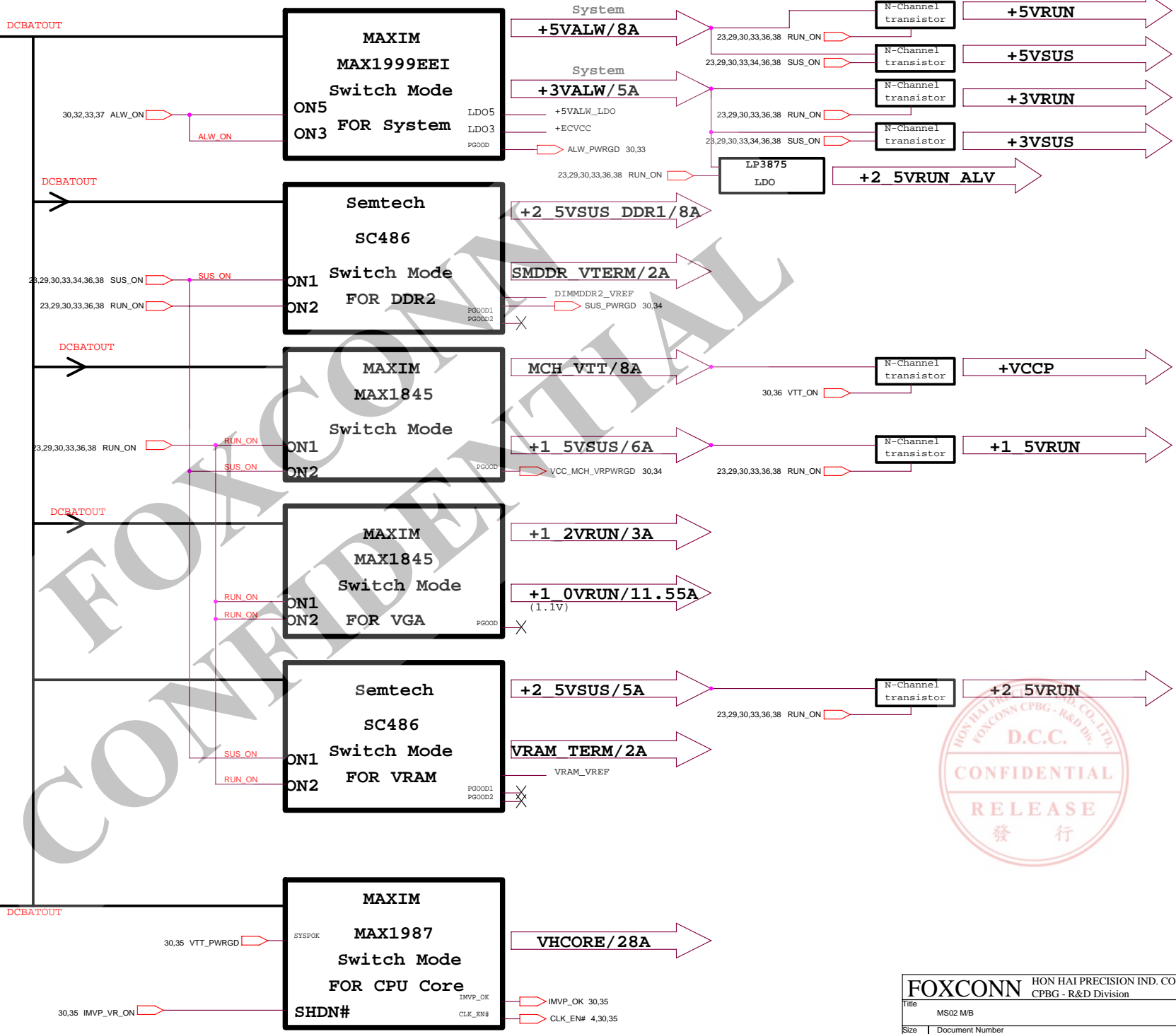
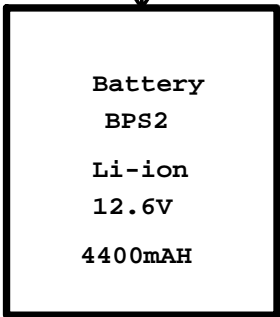
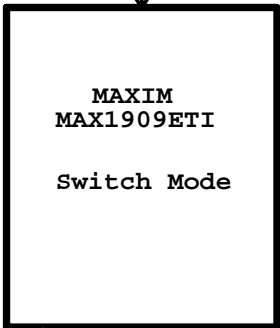
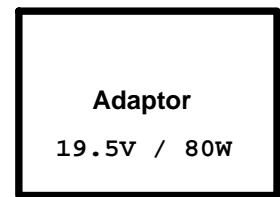
Pin	Signal	Pin	Signal
163	SMB_THRM_CLK	26	GPWU0
164	SMB_THRM_DATA	27	GPWU1
165	SMB_THRM_DATA	28	GPWU2
166	CLK_SMB 32	29	GPWU3
167	DAT_SMB 32	30	GPWU4

FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: **MS02 M/B**

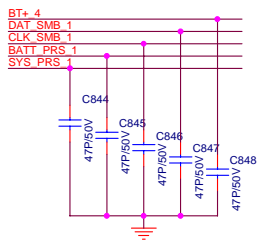
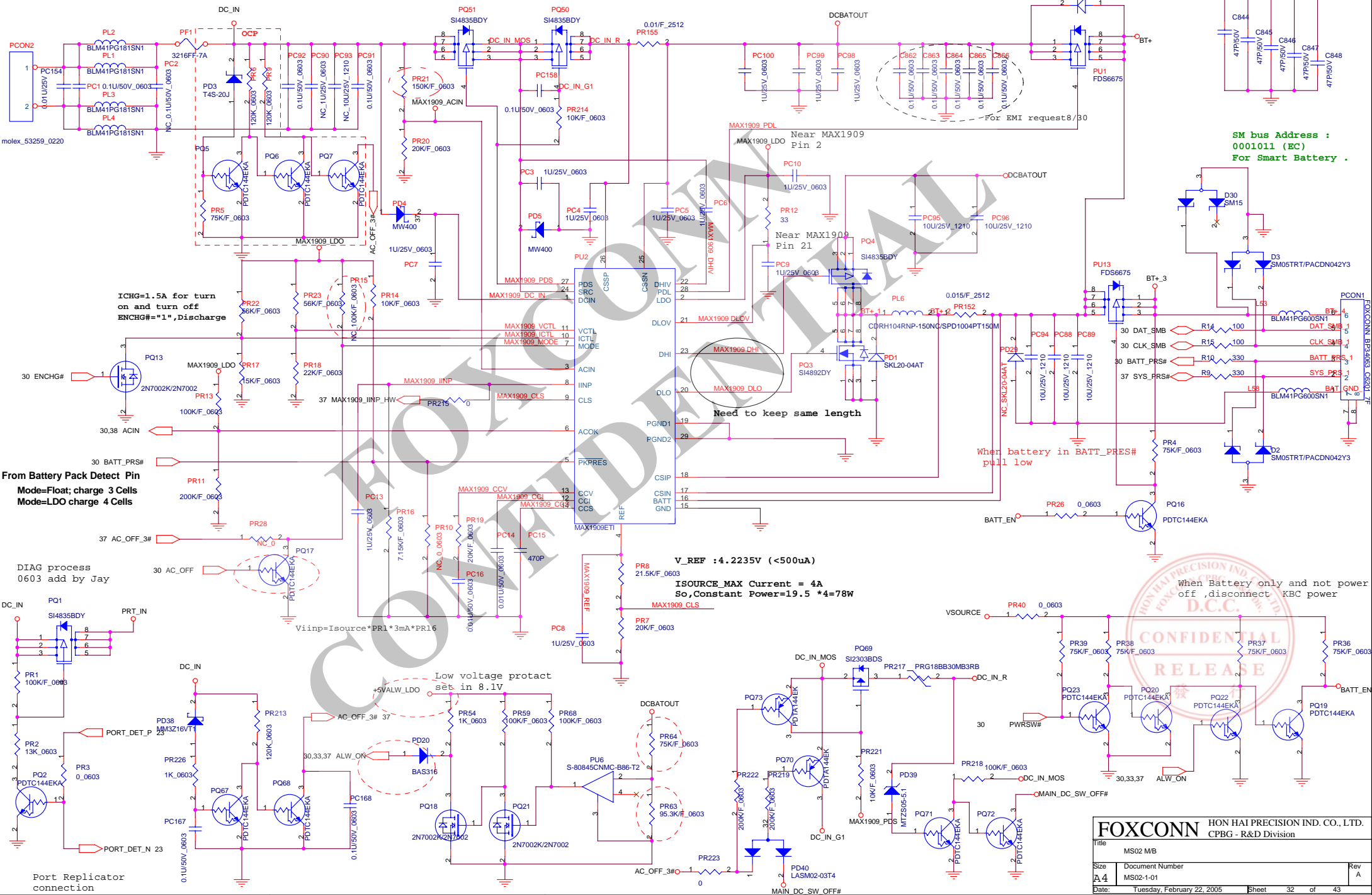
Size: A4 Document Number: MS02-101 Rev: A

Date: Tuesday, February 22, 2005 Sheet: 30 of 43



FOXCONN HON HAI PRECISION IND. CO., LTD.		
CPBG - R&D Division		
Title	MS02 MB	
Size	Document Number	Rev
A4	MS02-1-01	A
Date:	Tuesday, February 22, 2005	Sheet 31 of 43

DC_IN from port replicator
AC_IN Threshold 2.089V Max.
AC_IN > 2.089V --> AC DETECT



SM bus Address :
0001011 (EC)
For Smart Battery .

ICHG=1.5A for turn on and turn off
ENCHG#="1", Discharge

From Battery Pack Detect Pin
Mode=Float; charge 3 Cells
Mode=LDO charge 4 Cells

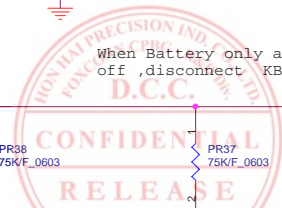
DIAG process
0603 add by Jay

Port Replicator connection

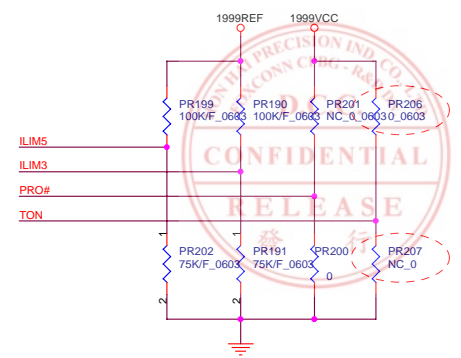
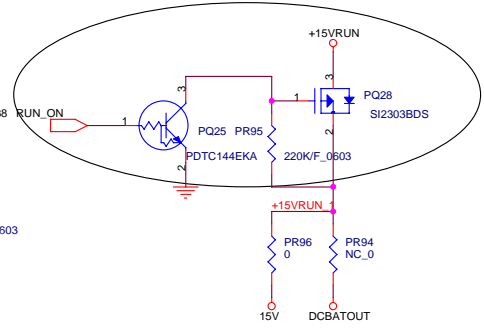
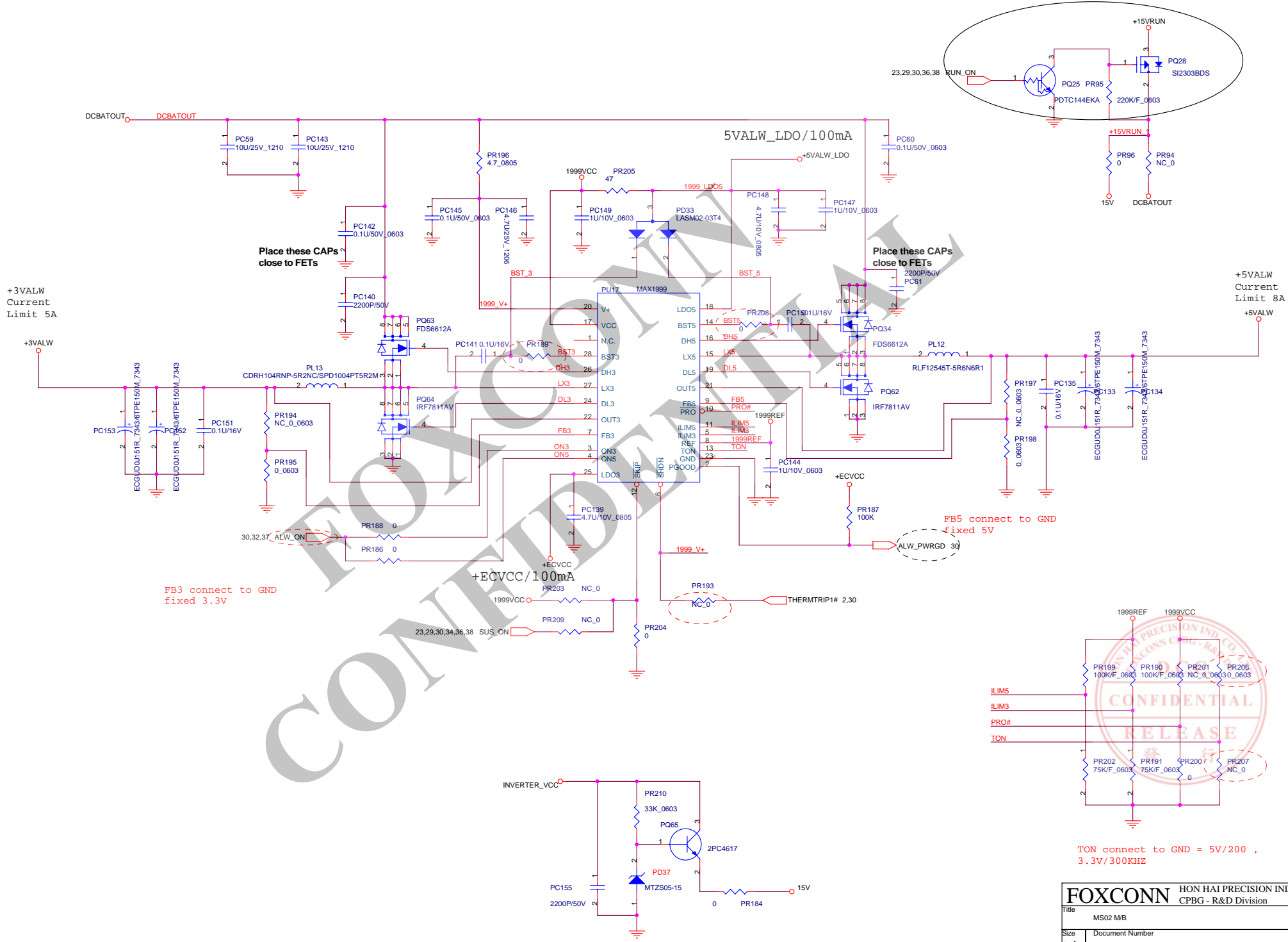
V_REF : 4.2235V (<500uA)
ISOURCE_MAX Current = 4A
So, Constant Power=19.5 *4=78W

When battery in BATT_PRES# pull low

When Battery only and not power off, disconnect KBC power

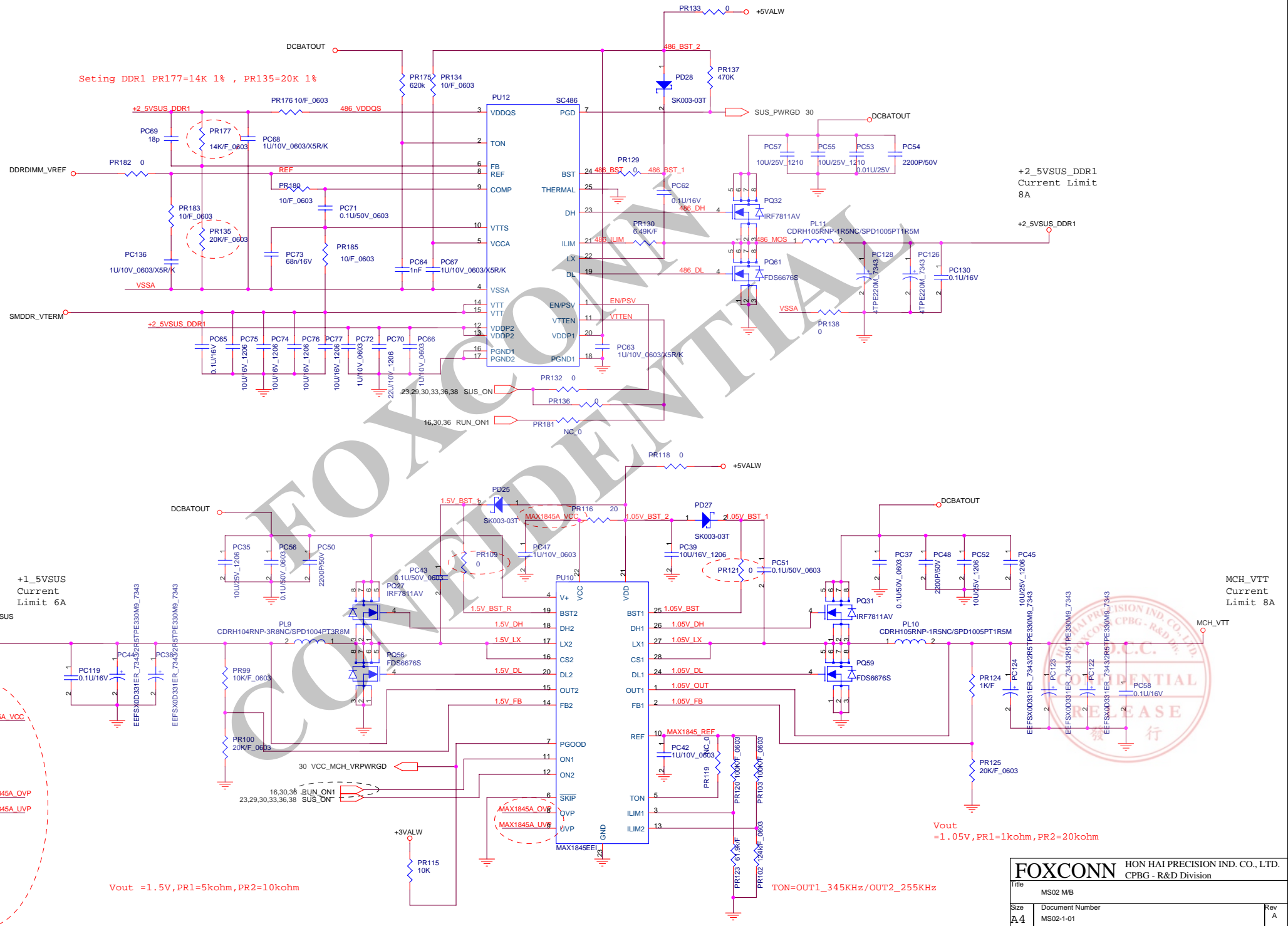


FOXCONN HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division		
Title	MS02 MB	
Size	Document Number	Rev
A4	MS02-01	A
Date:	Tuesday, February 22, 2005	Sheet 32 of 43



TON connect to GND = 5V/200 , 3.3V/300KHZ

FOXCONN HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	MS02 M/B
Size	Document Number
A4	MS02-1-01
Date:	Tuesday, February 22, 2005
Sheet	33 of 43
Rev	A



Setting DDR1 PR177=14K 1%, PR135=20K 1%

+2_5VSUS_DDR1
Current Limit
8A

+1_5VSUS
Current
Limit 6A

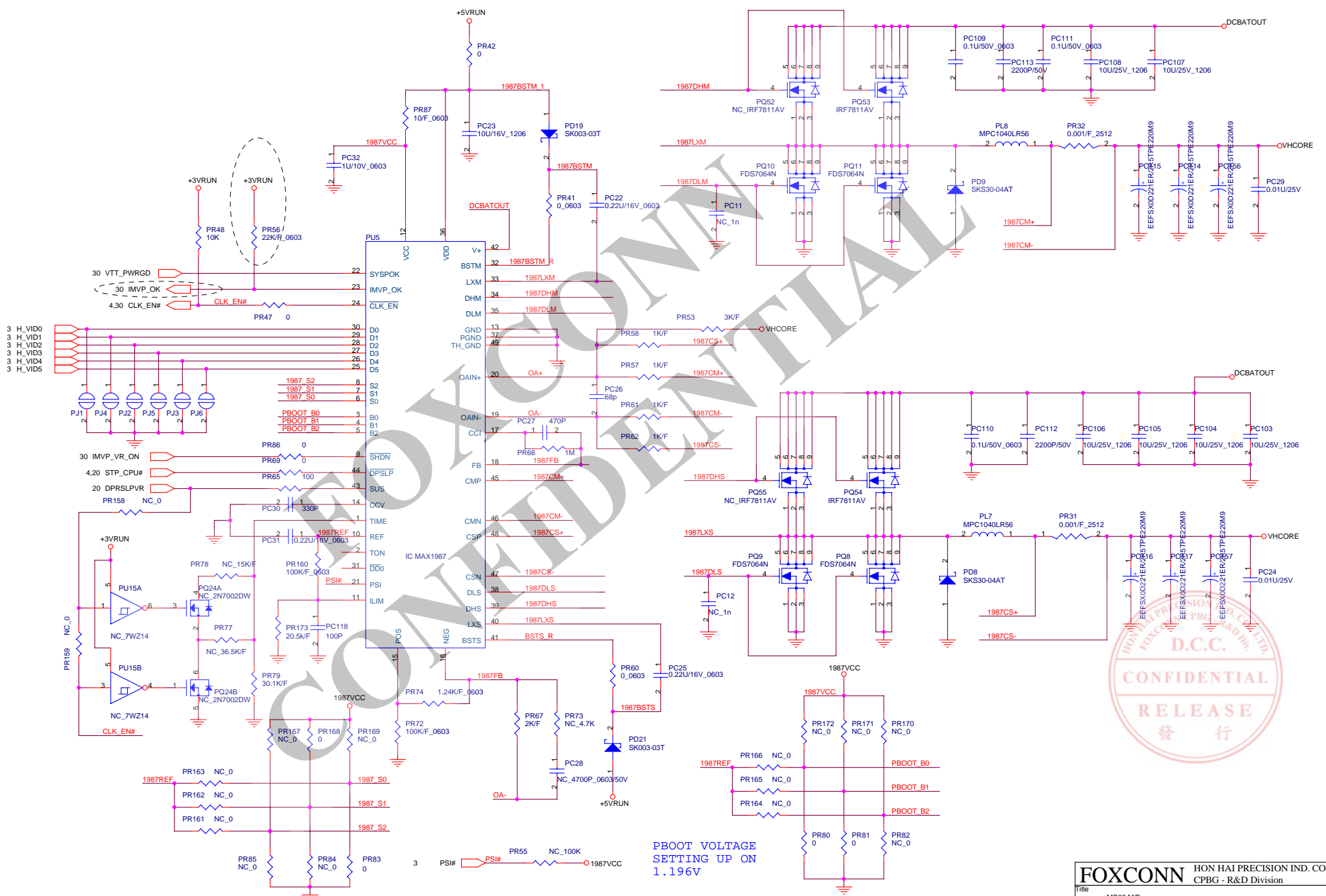
MCH_VTT
Current
Limit 8A

Vout = 1.5V, PR1=5kohm, PR2=10kohm

Vout = 1.05V, PR1=1kohm, PR2=20kohm

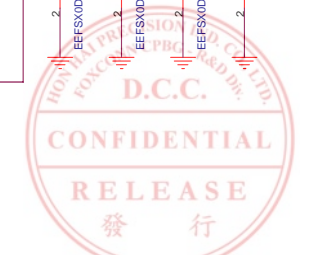
TON=OUT1_345KHz/OUT2_255KHz

FOXCONN HON HAI PRECISION IND. CO., LTD.	
CPBG - R&D Division	
Title	MS02 MB
Size	Document Number
A4	MS02-1-01
Date:	Tuesday, February 22, 2005
Sheet	34 of 43
Rev	A

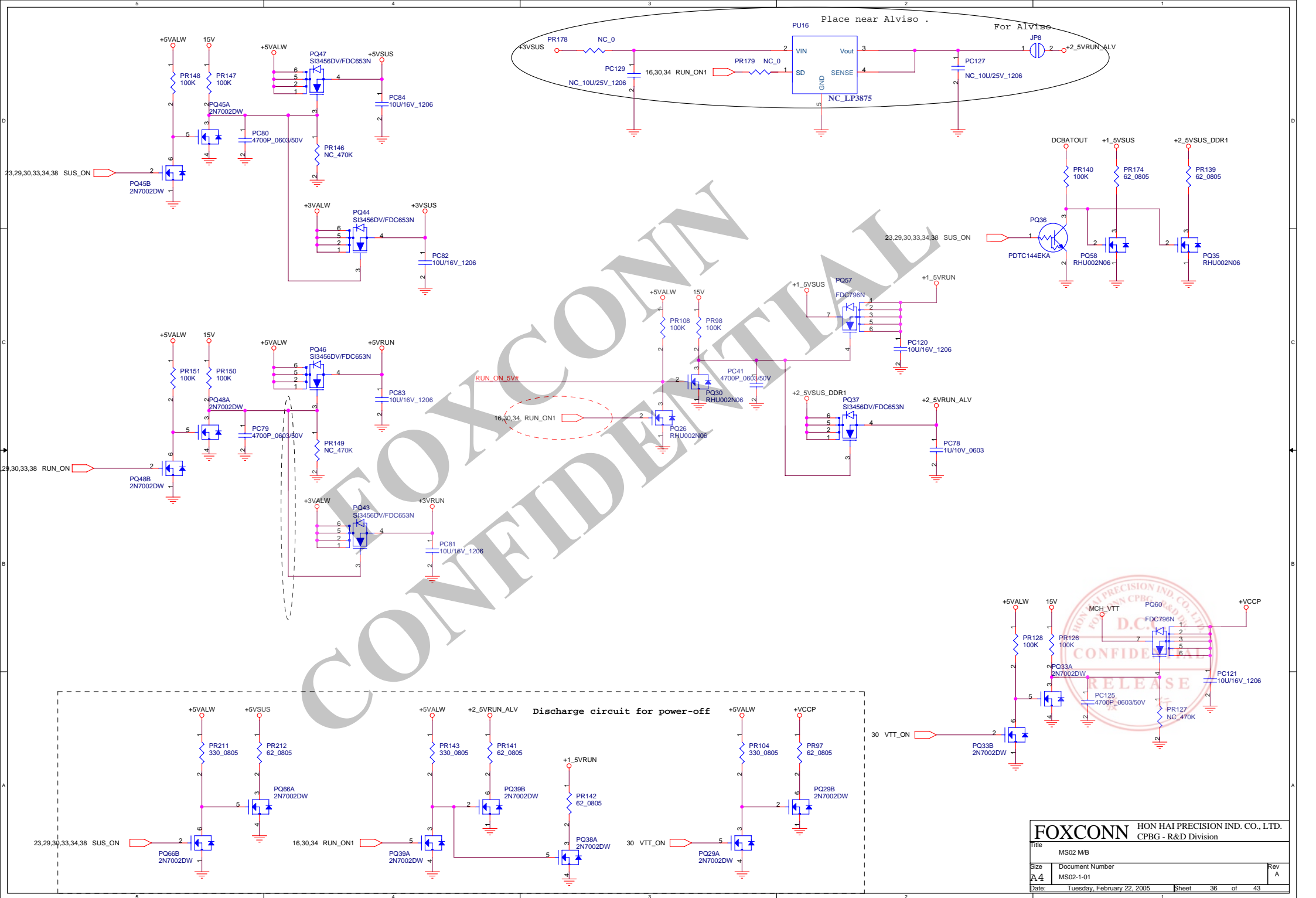


The C4 mode voltage is 0.748V TON = 300KHZ

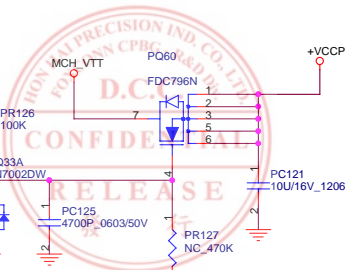
PBOOT VOLTAGE
SETTING UP ON
1.196V



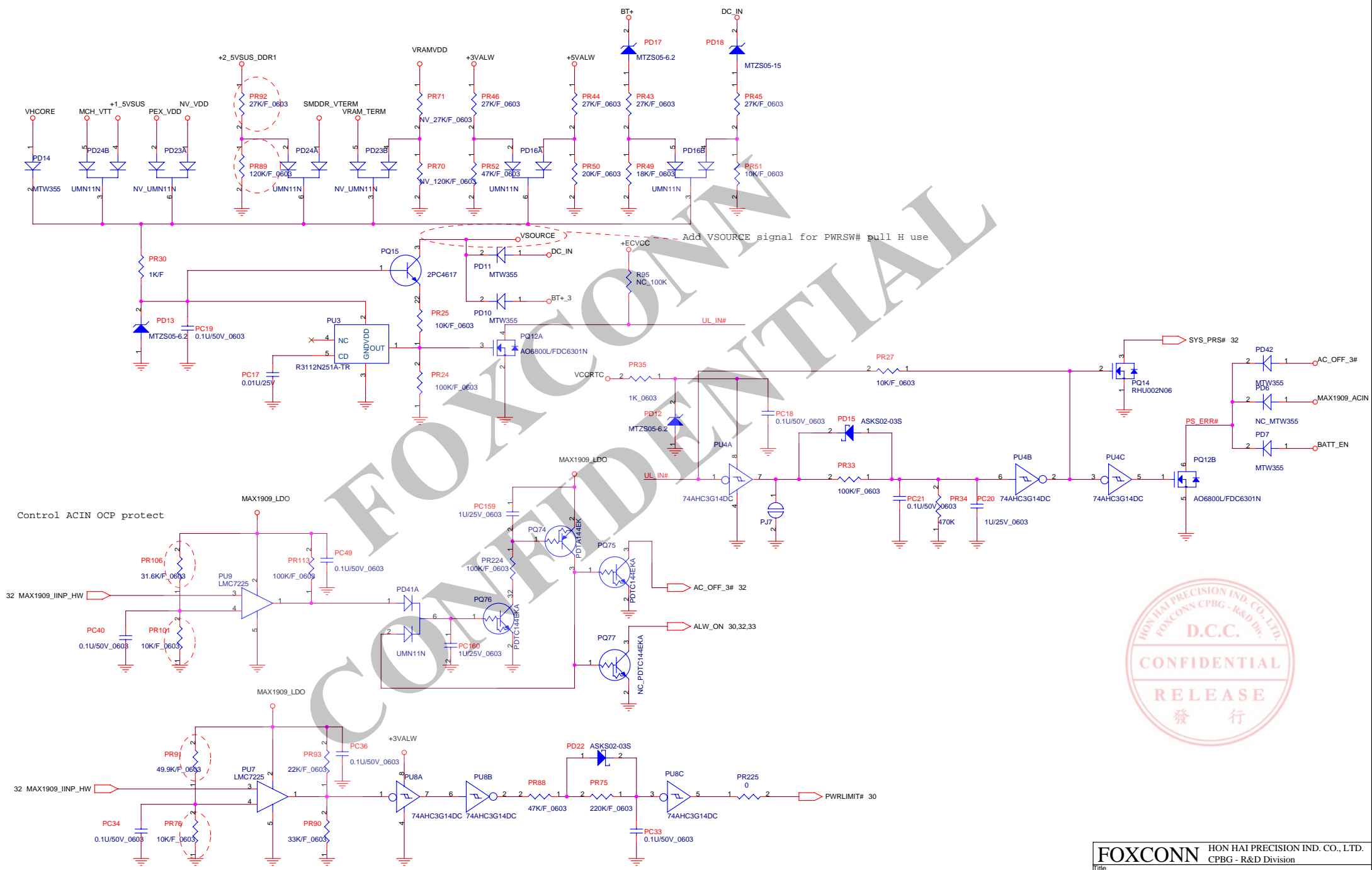
FOXCONN HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	MS02 M/B
Size	Document Number
A4	MS02-1-01
Date:	Tuesday, February 22, 2005
Sheet	35 of 43
Rev	A



CONFIDENTIAL



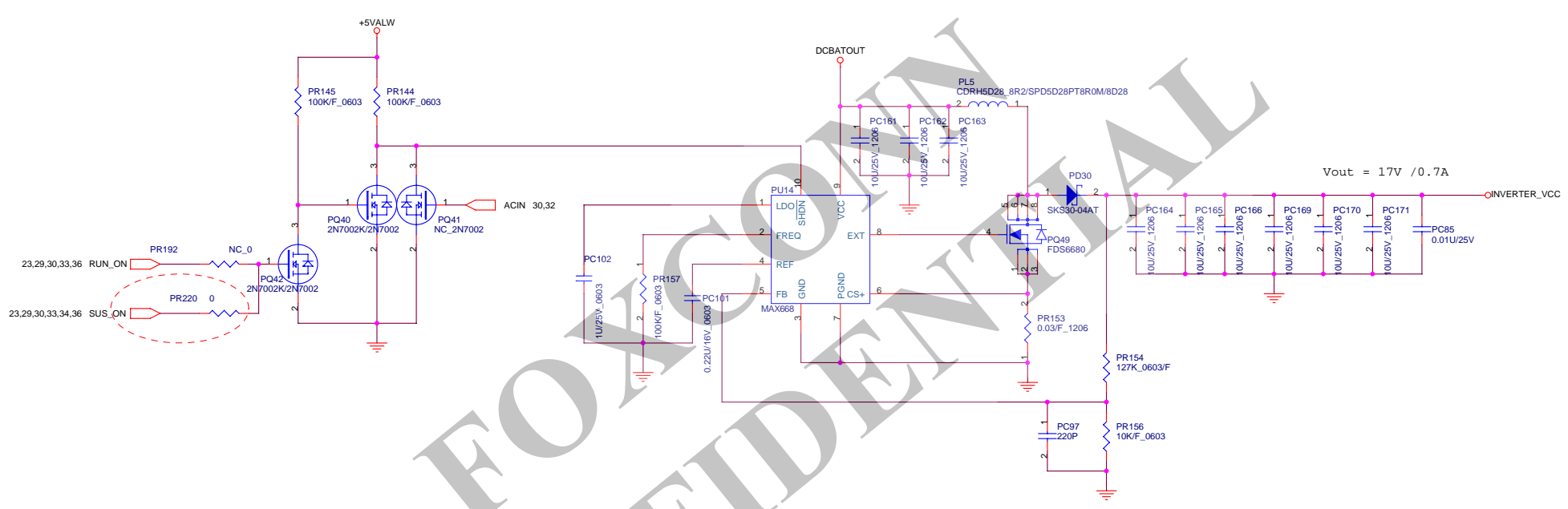
FOXCONN		HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title		MS02 M/B	
Size	Document Number		Rev
A4	MS02-1-01		A
Date:	Tuesday, February 22, 2005	Sheet	36 of 43



FOXCONN CONFIDENTIAL



FOXCONN HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	MS02 MB
Size	Document Number
A4	MS02-1-01
Date	Tuesday, February 22, 2005
Sheet	37 of 43
Rev	A



FOXC
CONFIDENTIAL



FOXCONN HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division		
Title	MS02 M/B	
Size	Document Number	Rev
A4	MS02-1-01	A
Date:	Tuesday, February 22, 2005	Sheet 38 of 43

HISTORY
(2005/01/06)

- P.29 Change value;L50,L51 CM-CHOKE to DLW31SN900SQ2L
- P.29 Change R550.R553.R556.R557.R574.R575.R576.R577,R518.R519.R529.R538 from 10K to 100K of audio for RS01
- P.29 Change R540.R541.R566.R572 from 47K to 150K of audio for RS01
- P.29 Change C760,C778 from 470P to 56P of audio for RS01
- P.29 Delete C730.C731.C736.C744 of audio for RS01

(2005/01/09)

- P.32 Change footprint;PD1 DIODE_2P_138_185X95 to diode_2p_177_185x95

(2005/01/10)

- P.30 Change R282 100K to NC_100K,R295 NC_100K to 100K,of system ID

(2005/01/17)

- P.30 Change value;U20 EN29LV800AB-70TC to MBM29LV800BE-70TN-KE1
- P.15 Change value;U28,U31 NV_HY5DU283222AF to HY5DU283222BFP-33
- P.32 Changevalue;D2,D3,D26,D27,D31,D32PACDN042Y3 to SM05TRT
- P.13 Change value; U1 74AHC1G08GW to SN74AHC1G08DCKR
- P.13 Change value; U26 74LVCI1G08GW to SN74LVCI1G08DCKR
- P.29 Change value; U56 TC7SET04FU to MC74VHC1GT04DF2G
- P.29 Change value; U42,U45 TC7SET32FU to MC74VHC1GT32DF2G
- P.29 Change value; U51 TC7SH32FU to MC74VHC1G32DFT2G
- P.29 Change value; U37,U49 TC7SH86FU to MC74VHC1G86DFT2G
- P.30 Change value; U23 NC7S32 to SN74AHC1G32DBVR
- P.22 Change value; C399 100U/10V_7343 to 100U/6.3V_7343
- P.23 Change value; C34,C116,C214 150U/10V_7343 to 150U/6.3V_7343
- P.03 Change value; C707 150U/10V_7343 to 150U/6.3V_7343
- P.08 Change value; C871 AL_150U/10V_7343 to 150U/6.3V_7343
- P.33 Change value; PC152,PC153,PC133,PC134 6TPE150M_7343 to ECGUD0J151R_7343
- P.35 Change value; PC114,PC115,PC116,PC117,PC156,PC157 2R5TPE220M9 to EEFSX0D221ER
- P.34 Change value; PC38,PC44,PC122,PC123,PC124 2R5TPE330M9_7343 to EEFSX0D331ER_7343
- P.08 Change value; C677,C697,C714,C715 470U/2.5V_7343 to 470U/2V_7343
- P.10 Change value; C874 NV_470U/2.5V_7343 to NV_470U/2V_7343
- P.32 Change value; PQ69,PQ28 IRLML5103 to SI2303BDS
- P.02 Change value; Q27 2N7002 to 2N7002E
- P.13 Change value; Q2,Q3,Q18,Q20 2N7002 to 2N7002E
- P.19 Change value; Q12 2N7002 to 2N7002E
- P.27 Change value; Q15 2N7002 to 2N7002E
- P.29 Change value; Q13,Q37,Q39,Q40 2N7002 to 2N7002E
- P.30 Change value; Q5,Q9 2N7002 to 2N7002E
- P.32 Change value; PQ13,PQ18,PQ21 2N7002 to 2N7002E
- P.38 Change value; PQ40,PQ42 2N7002 to 2N7002E
- P.37 Change value; PQ12 FDC6301N to AO6800L
- P.36 Change value; PQ37,PQ43,PQ44,PQ46,PQ47 FDC653N to SI3456DV
- P.23 Change value; Q7 FDC653N to SI3456DV
- P.13 Change value; Q21 FDC653N to SI3456DV
- P.34 Change value; PL9 SPD1004PT3R8M to CDRH104RNP-3R8NC
- P.32 Change value; PL6 SPD1004PT150M to CDRH104RNP-150NC
- P.33 Change value; PL13 SPD1004PT5R2M to CDRH104RNP-5R2NC
- P.34 Change value; PL10,PL11 SPD1005PT1R5M to CDRH105RNP-1R5NC
- P.38 Change value; PL5 SPD5D28PT8R0M to CDRH5D28_8R2
- P.25 Change value; CN6 FOXCONN_UV31413_VU81P_7F to FOXCONN_UV31413-AU81P-7F
- P.23 Change value; CN2,CN3,CN4 FOXCONN_UB11123_CA201_7F to FOXCONN_UB11123-CA202-7F
- P.13 Change value; JVG1 FOXCONN_DZ11A91_MW222_4F to FOXCONN_DZ11A91-MA222-4F
- P.29 Change value; R575 10K to 100K of audio for RS01

FOXCONN CONFIDENTIAL



FOXCONN		HON HAI PRECISION IND. CO., LTD.	
		CPBG - R&D Division	
Title MS02 M/B			
Size A4	Document Number MS02-1-01		Rev A
Date: Tuesday, February 22, 2005	Sheet	39	of 43

HISTORY

(2005/01/20)

- P.10 Change R417,R426 NC_2K to NV_2K,R416,R425 NV_2K to NC_2K,of VRAM ID
- P.30 Add value source;U20 EN29LV800AB-70TC
- P.15 Add value source;U28,U31 NV_HY5DU283222AF
- P.32 Add value source;D2,D3,D26,D27,D31,D32 PACDN042Y3
- P.13 Add value source; U1 74AHC1G08GW
- P.13 Add value source; U26 74LVC1G08GW
- P.29 Add value source; U56 TC7SET04FU
- P.29 Add value source; U42,U45 TC7SET32FU
- P.29 Add value source; U51 TC7SH32FU
- P.29 Add value source; U37,U49 TC7SH86FU
- P.30 Add value source; U23 NC7S32
- P.22 Add value source; C399 100U/10V_7343
- P.23 Add value source; C34,C116,C214 150U/10V_7343
- P.03 Add value source; C707 150U/10V_7343
- P.08 Add value source; C871 AL_150U/10V_7343 to 150U/6.3V_7343
- P.33 Add value source; PC152,PC153,PC133,PC134 6TPE150M_7343
- P.35 Add value source; PC114,PC115,PC116,PC117,PC156,PC157 2R5TPE220M9
- P.34 Add value source; PC38,PC44,PC122,PC123,PC124 2R5TPE330M9_7343
- P.08 Add value source; C677,C697,C714,C715 470U/2.5V_7343
- P.10 Add value source; C874 NV_470U/2.5V_7343
- P.32 Add value source; PQ69,PQ28 IRLML5103
- P.02 Add value source; Q27 2N7002
- P.13 Add value source; Q2,Q3,Q18,Q20 2N7002
- P.19 Add value source; Q12 2N7002
- P.27 Add value source; Q15 2N7002
- P.29 Add value source; Q13,Q37,Q39,Q40 2N7002
- P.30 Add value source; Q5,Q9 2N7002
- P.32 Add value source; PQ13,PQ18,PQ21 2N7002
- P.38 Add value source; PQ40,PQ42 2N7002
- P.37 Add value source; PQ12 FDC6301N
- P.36 Add value source; PQ37,PQ43,PQ44,PQ46,PQ47 FDC653N
- P.23 Add value source; Q7 FDC653N
- P.13 Add value source; Q21 FDC653N
- P.34 Add value source; PL9 SPD1004PT3R8M
- P.32 Add value source; PL6 SPD1004PT150M
- P.33 Add value source; PL13 SPD1004PT5R2M
- P.34 Add value source; PL10,PL11 SPD1005PT1R5M
- P.38 Add value source; PL5 SPD5D28PT8R0M

(2005/01/21)

- P.29 Add CAP 33P,C895,C898,C900,C901,C902,C904,C905,C906 for Audio GPRS noise
- P.29 Add CAP 12P,C896,C897,C899,C903 for Audio GPRS noise

(2005/01/21)

- P.30 Change value;C447,C448 15P to 10P of crystal precision

(2005/01/26)

- P.10 Change value;R425,R416 NC_2K to H_NV_2K for Hynix VRAM
- P.10 Change value;R426,R417 NV_2K to S_NV_2K for Samsung VRAM
- P.01 Add BOM configuration;Hynix:H_NV_ , Samsung: S_NV_ .of VRAM ID

(2005/01/28)

- P.29 Del CAP 33P,C895,C898,C900,C901,C902,C904,C905,C906,C896,C897,C899,C903

(2005/02/01)

- P.29 Add CAP 33P,C895,C898,C900,C901,C902,C904,C905,C906 for Audio GPRS noise
- P.29 Add CAP 12P,C896,C897,C899,C903 for Audio GPRS noise
- P.29 Add RES,R716 0_0805

Change ";" to "/" for correct ORCAD rule :
 C399,C677,C697,C707,C714,C715,C871,C874,D2,D3,D26,D27,D31,D32,PC38,PC44,PC114,PC115,PC116,PC117,PC122,PC123,PC124,PC133,PC134,PC152,PC153,PC156,PC157,PL5,PL6,PL9,
 PL10,PL11,PL13,PQ12,PQ13,PQ18,PQ21,PQ37,PQ40,PQ42,PQ43,PQ44,PQ46,PQ47,Q2,Q3,Q5,Q9,Q12,Q13,Q18,Q20,Q21,Q27,Q37,Q39,Q40,U1,U20,U23,U26,U28,U31,U37,U42,U45,U49,U51,U56.
 Correct page order & change Rev.01. to Rev 0.2 .

FOXC CONN
CONFIDENTIAL



FOXCONN HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title MS02 MB	
Size A4	Document Number MS02-1-01
Date: Tuesday, February 22, 2005	Sheet 40 of 43
Rev A	

HISTORY

(2005/02/14)

P.29 Del CAP C895,C898,C900,C901,C902,C904,C905,C906,C896,C897,C899,C903;Del RES R716

Correct page order & change Rev.02. to Rev 0.3.

(2005/02/16)

P.28 Add L59 BLM11A121S from EMI suggest

P.28 Del U25 pin 1 & U25 pin 25 connector line from EMI suggest

(2005/02/17)

P.29 Add RES R716 NC_0_0805,for EMI suggest

(2005/02/19)

P.37 Add diode PD42 connect AC_OFF_3#.for power issue UL latch

P.37 Change PD6 value MTW355 to NC_MTW355 for UL latch

P.04 change R454 4.7K to 1K for OVT_EC# singal pull-low

P.04 Add RES 10K,R717. for OVT_EC# singal pull-low

P.38 Add PL5 Value CDRH5D28_8R2/SPD5D28PT8R0M to CDRH5D28_8R2/SPD5D28PT8R0M/8D28 for PQ49 failed

P.38 change PR153 value 0.02/F_1206 to 0.03/F_1206 for PQ49 failed

P.38 Add 3 CAP,PC169,PC170,PC171 10U/25V_1206 for PQ49 failed

P.38 change PL5 footprint CHOKE_2P_163_217x217 to CHOKE_327x327_217x217use for PQ49 failed

(2005/02/20)

P.38 change PL5 footprint CHOKE_327x327_217x217use to choke_2p_319_327x327_h118 for PQ49 failed

(2005/02/21)

P.29 Del C836,C531;Add RES R718,R719 0 ohm for EMI solution.

(2005/02/22)

P.29 Del R718,R719. Add C836,C531 CAP 1000P for EMI solution

P.29 Change R716 value NC_0_0805 to 0_0805 for EMI solution

FOXCONN
CONFIDENTIAL



FOXCONN		HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title MS02 M/B			
Size A4	Document Number MS02-1-01		Rev A
Date: Tuesday, February 22, 2005	Sheet	41	of 43

Revision History

Doc. Rev.	ECN No.:	Sch. Page	Rev. Change		Description of Change
			From	To	
	RN-050033	P.01	0.1	0.2	Add BOM configuration explain of VRAM ID
	RN-050033	P.10	0.1	0.2	Because Hynix&Samsung VRAM ID different
	RN-050033	P.29	0.1	0.2	Into PVT schematics

Doc. Rev.	ECN No.:	Sch. Page	Rev. Change		Description of Change
			From	To	

FOXCONN CONFIDENTIAL



FOXCONN		HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	MS02 MB		
Size	Document Number	Rev	
A4	MS02-1-01	A	
Date:	Tuesday, February 22, 2005	Sheet	42 of 43