

GARUM

(Mobile_Athlon64/RS480M/SB400)

Version History

PAGE	CONTENTS	PAGE	CONTENTS	PAGE	CONTENTS	PAGE	CONTENTS	PAGE	CONTENTS
01	TOP PAGE	21	RS480M PCI-E	41	Reserve	61	RESET	81	Power / DDC / 1.2V, 2.5V
02	Block Diagram	22	RS480M ANALOG	42	PCIC-1 (PCI)	62	Reserve	82	Power / DDC / 1.8V
03	R-C for EMI	23	RS480M VCC	43	PCIC-2 (CardBus)	63	Thermal IC	83	Power / DDC / 3.3V, 5V
04	R-C for ESD	24	RS480M VSS	44	PCIC-3 (POW/IEEE1394)	64	KB/Pointing CN	84	Power/ DDC/ Charger
05	Reserve	25	TV Clock	45	SD Slot/Card Pow SW	65	USB CN	85	Power/ LDO / 1.25V
06	PLL	26	SB400 PCI/PCI-E	46	Reserve	66	PCI / MiniPCI CN	86	Power/ LDO / SYS
07	K8-1	27	SB400 PATA/SATA	47	Audio Codec	67	MDC Modem	87	Power/ LDO / PMU
08	K8-2	28	SB400 CPU/USB/MISC	48	Audio AMP	68	CN P-R	88	Power/ Node / DC-IN
09	K8-3	29	SB400 RTC/CLOCK	49	Audio MIC AMP	69	Audio JACK	89	Power/ Node / Battery
10	K8-4	30	SB400 VCC	50	Audio BEEP	70	BAY CN	90	Power / Node / PWR_1
11	K8-5	31	SB400 VSS	51	Super I/O	71	HDD CN	91	Power/ Node/ Switch
12	K8 PassC	32	SB400 PassC	52	ANN	72	CN CN-Board	92	Power/ PMU / LUNA1
13	MEM Dumping	33	SB400 Pullup/down	53	ANN Pullup/down	73	CN LINE IN/S-VIDEO	93	Power/ PMU / LUNA2
14	MEM Termination	34	SB400 Strap	54	Reserve	74	CN LCD/INV/ST-LCD	94	Power / PMU / AmMeter
15	DIMM0	35	PCI Pullup/down	55	Reserve	75	Reserve	95	Power / PMU / VolMeter
16	DIMM1	36	Reserve	56	Reserve	76	Reserve	96	Power/ PMU/ Scont
17	CPU HDT	37	Reserve	57	Reserve	77	SEQUENCE	97	Power/ PMU/ Etc
18	RS480M HT Bus	38	Reserve	58	PCI / Broadcom LAN	78	Power / Delivery	98	Testpads
19	RS480M CLK/RST#	39	LPC ROM	59	TRANS	79	Power / DDC/CPUCore1	99	Reserve
20	RS480M GDDR	40	Reserve	60	Reserve	80	Power / DDC/CPUCore2		

[illegible]

PCI BUS NUMBER = #10

REQ#GNT#	Device
REQ#0	MiniPCI
REQ#1	(IEEE1394)
REQ#2	Broadcom LAN
REQ#3	PCIC / IEEE1394
REQ#4	
REQ#5	PCIC

[illegible]

IDSEL	Device#	Device
AD24	8	PCIC/IEEE1394
AD25	9	Broadcom LAN
AD26	10	MiniPCI
AD27	11	(IEEE1394)

SMBUS ADDRESS

PCIINT#	Device
INT#0	
INT#1	
INT#2	
INT#3	
INT#4	PCIC(Slot1), PCIC(MS/SD), Broadcom LAN
INT#5	
INT#6	MiniPCI 1 (IEEE1394)
INT#7	MiniPCI 2

ADDRESS	Device
A0h	LCD(SPWG)
A2h	DIMM0
A4h	DIMM1
5Eh	Thermal Sensor(MAX6640)
D2h	PLL(ICS951412)
32h	PMU(LUNA)

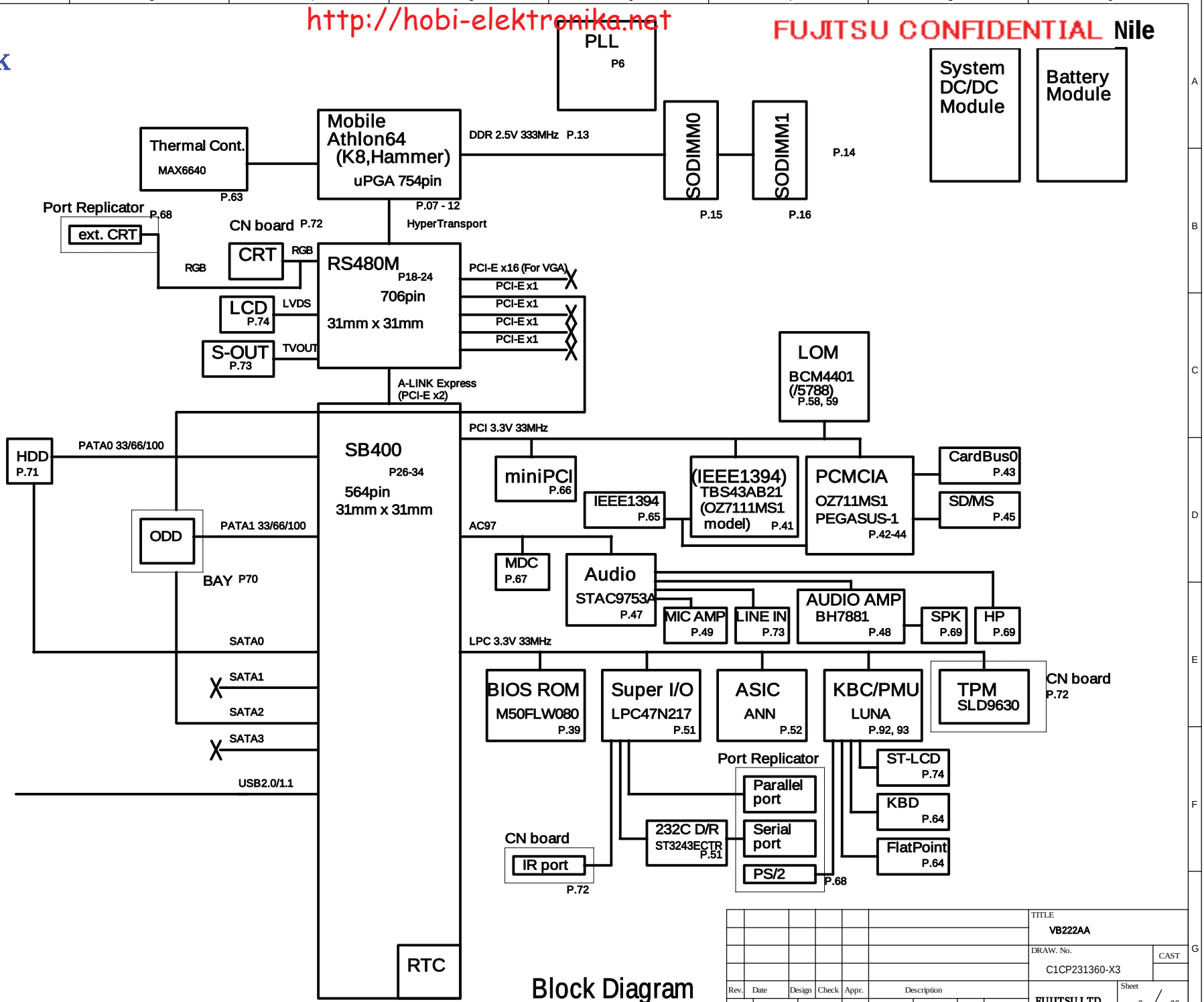
Net Name	S0	S3	S4	S5	G3	AC Battery OFF
PWR_xxMAIN PWR_CPUCORE	ON	OFF	OFF	OFF	OFF	OFF
PWR_xxSUS	ON	ON	OFF	OFF	OFF	OFF
PWR_xxSTD	ON	ON	ON	ON	OFF	OFF
PWR_PMU	ON	ON	ON	ON	ON	OFF
PWR_RTC	ON	ON	ON	ON	ON	ON

Fujitsu
Proprietary &
Confidential

[Top Page](#)

						TITLE			
						VB222AA			
						DRAW. No.		CAST	
						C1CP231360-X3			
Rev.	Date	Design	Check	Appr.	Description				
Design	2005/06/27	KOSHA		Check	2005/06/27	Yamada	Appr.	Miura	FUJITSU LTD.
								Sheet	1 / 99

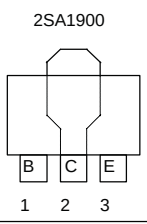
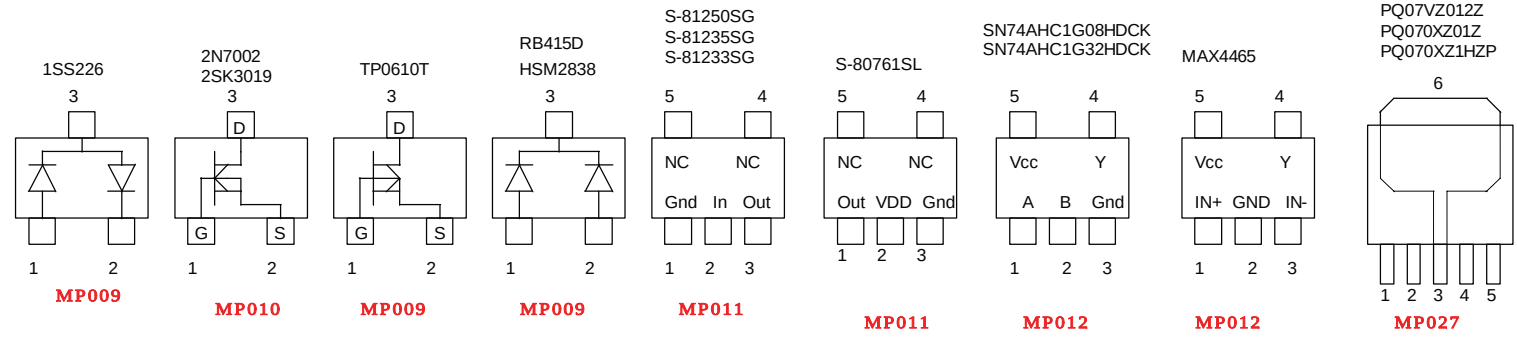
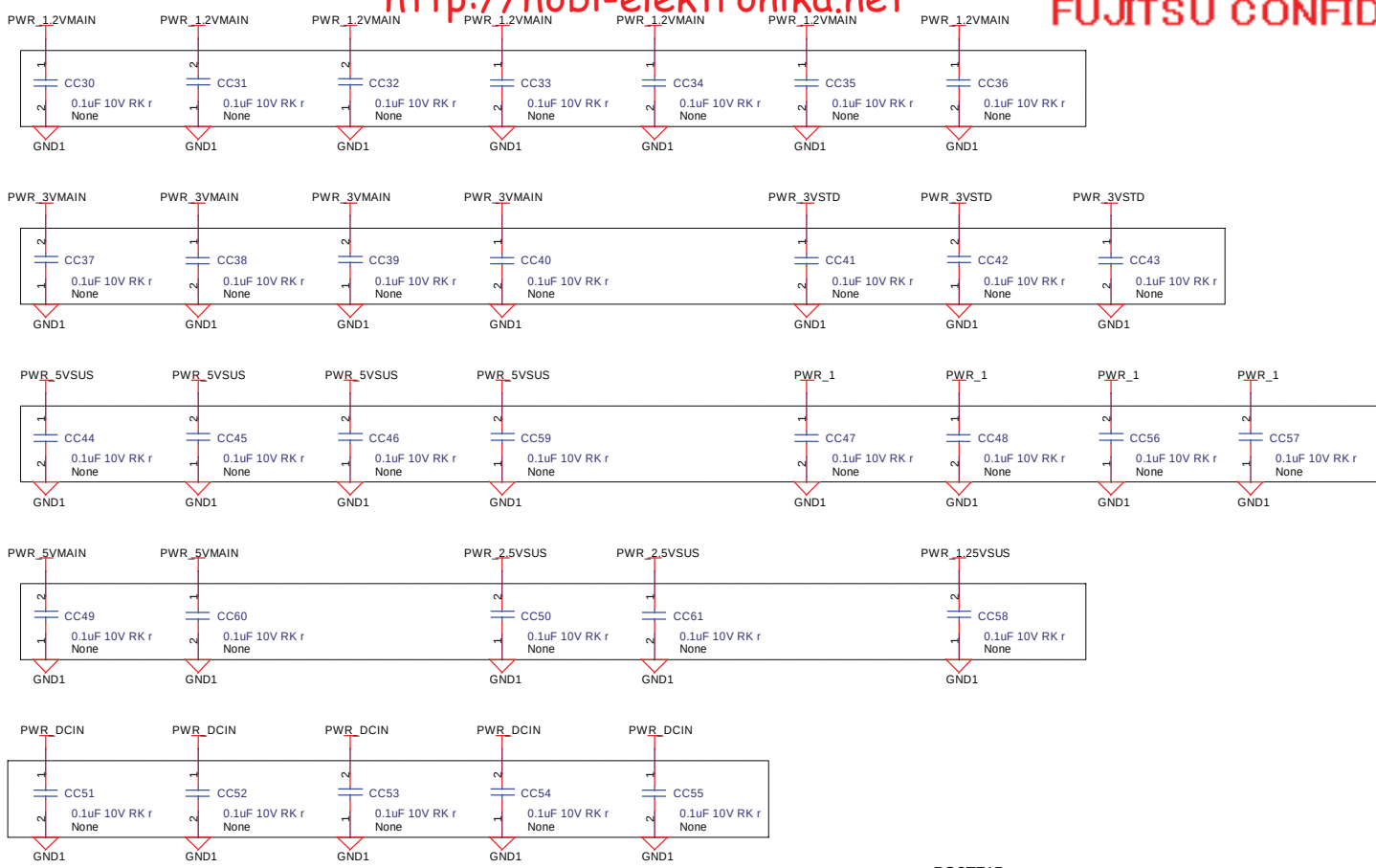
System block diagram



Block Diagram

Fujitsu
Proprietary &
Confidential

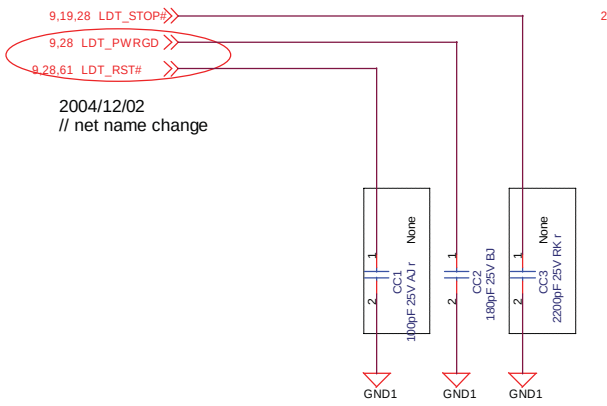
								TITLE	
								VB222AA	
								DRAW. No.	CAST
								C1CP231360-X3	
								Fujitsu Ltd.	
								Sheet 2 / 99	
Rev.	Date	Design	Check	Appr.	Description				
Design	/ /	KOSHA	Check				Appr.		



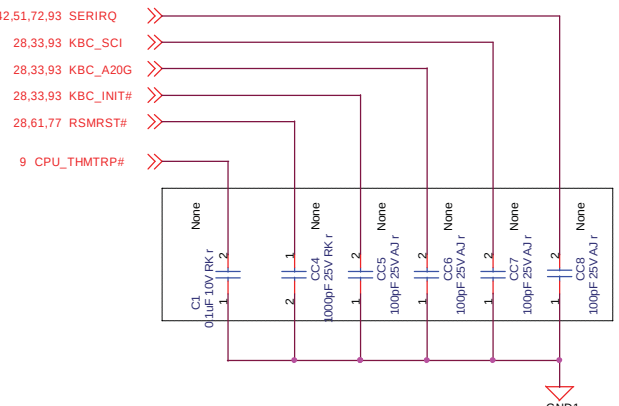
Fujitsu
Proprietary &
Confidential

R-C for EMI

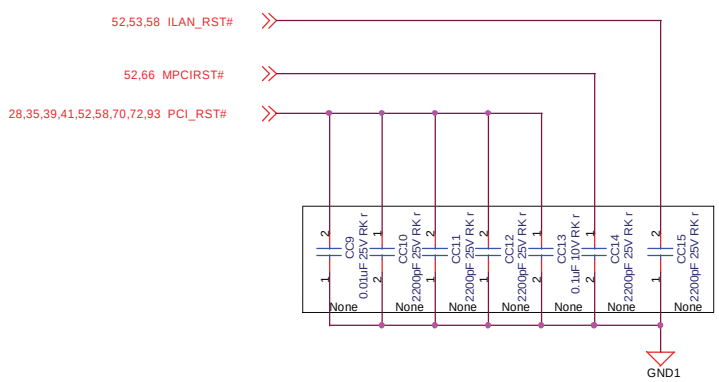
						TITLE	
						VB222AA	
						DRAW. No.	C1CP231360-X3
						CAST	
Rev.	Date	Design	Check	Appr.	Description		
Design	/ /	KOSHA	Check			Appr.	
						FUJITSU LTD.	Sheet 3 / 99



上記部品はCPUのピン近くに配置すること



C1はCPUpinの付近に配置すること
上記部品はSB400(M5)のピン近くに配置すること

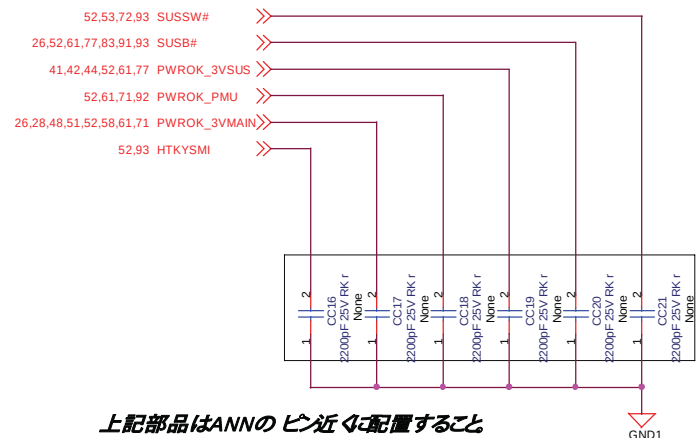


CC12,13,14,15,16はそれぞれデバイスの受端ピン近くに配置すること

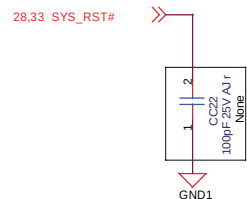
CC18はRealtekのピン近くに配置すること

CC17はMiniPCI CN近くに配置すること

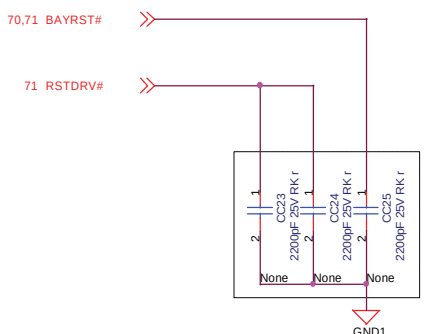
上記部品はネットの終端に配置すること



上記部品はANNのピン近くに配置すること

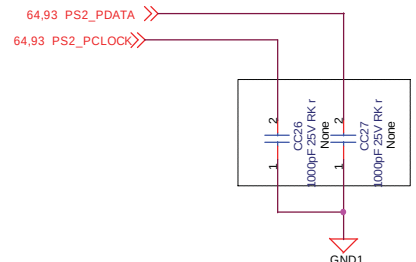


上記部品はSB400のピン近くに配置すること



CC28はHDD-CNのピン近くに配置すること

CC30はBAY-CNのピン近くに配置すること



上記部品はUNAのピン近くに配置すること

								TITLE	
								VB222AA	
								DRAW. No.	CAST
								C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description			FUJITSU LTD.	
Design	/ /	KOSHA	Check				Appr.	Sheet	4 / 99

RESERVED

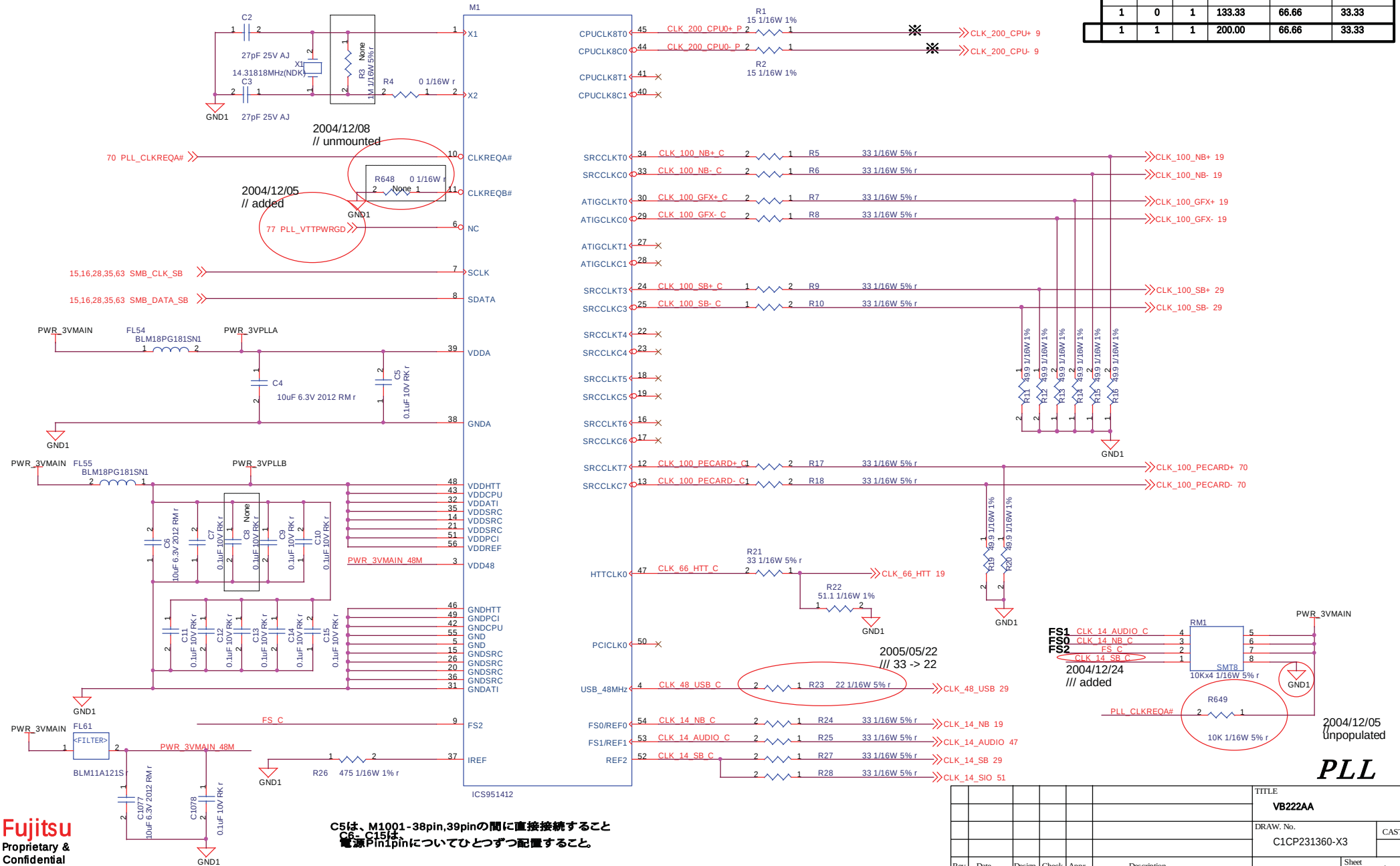
						TITLE		
						VB222AA		
						DRAW. No.		CAST
						C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description			Sheet
Design	/ /	KOSHA		Check			Appr.	5 / 99
FUJITSU LTD.								

2005/02/24/
added

<http://hobi-elektronika.net>

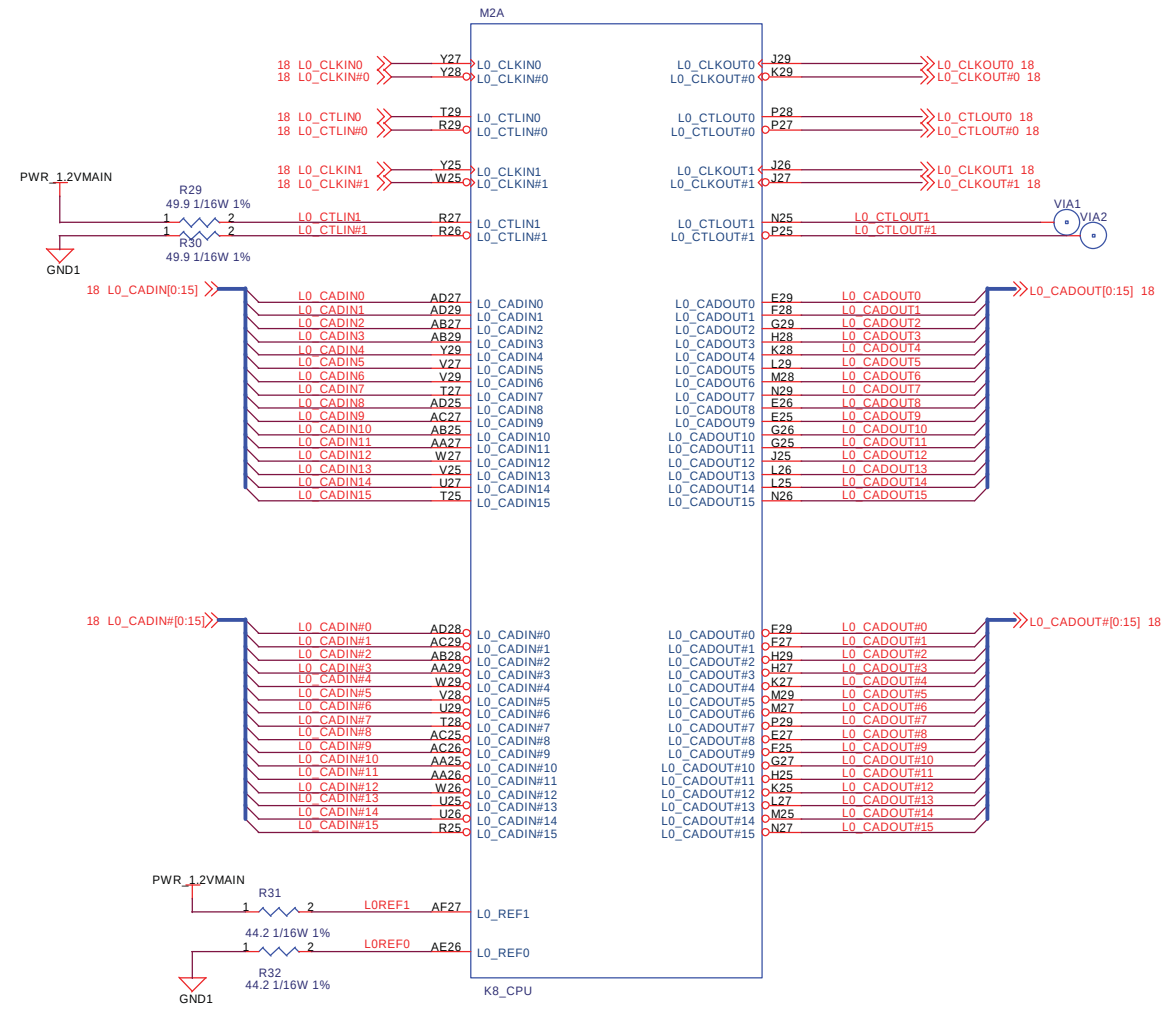
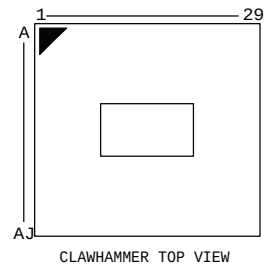
FUJITSU CONFIDENTIAL

					Hi-Z
0	0	1	X	X/3	X/6
0	1	0	180.00	60.00	30.00
0	1	1	220.00	36.56	73.12
1	0	0	100.00	66.66	33.33
1	0	1	133.33	66.66	33.33
1	1	1	200.00	66.66	33.33



Fujitsu
Proprietary &
Confidential

Rev.	Date	Design	Check	Appr.	Description	TITLE	
Design	/ /	KOSHA	Check			RevB222AA	
						DRAW. No.	CAST
						C1CP231360-X3	
						FUJITSU LTD.	Sheet 6 / 99

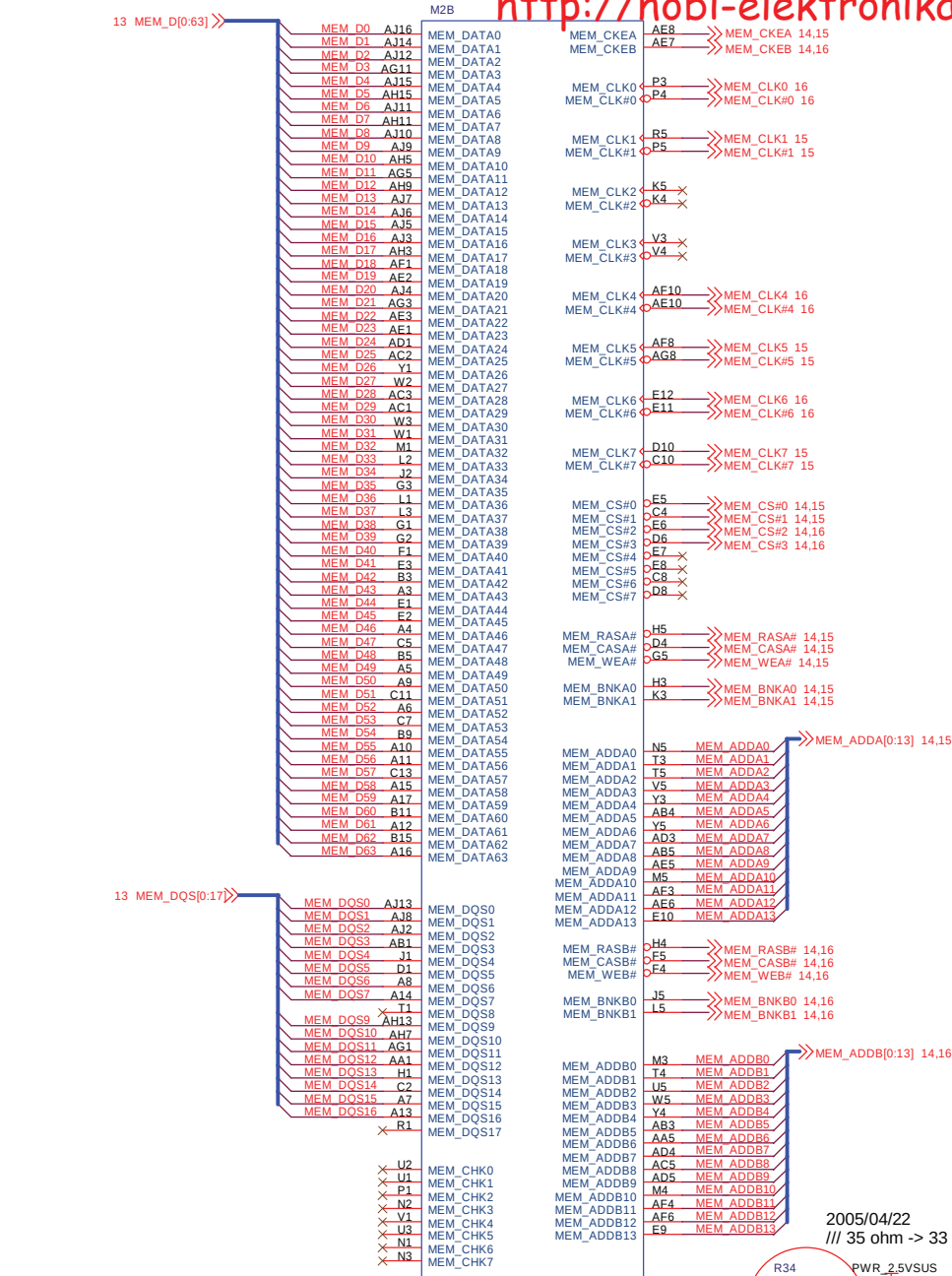


L0REF0,L0REF1は0.127mmの線幅にて配線し
他の信号から0.254mm以上離すこと
R1046,R1047は25.4mm以内に配置すること

K8-1

Fujitsu
Proprietary &
Confidential

TITLE										VB222AA	
DRAW. No.										C1CP231360-X3	
Rev.										CAST	
Description										Fujitsu Ltd.	
Design										Sheet	
Date										7 / 99	
KOSHA										Appr.	
Check										Appr.	



2005/04/22
/// 35 ohm -> 33 ohm

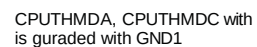
MEM_ZN, MEM_ZPは0.127mmの線幅にて配線し、
他の信号から0.254mm以上離すこと
R1049, R1050は0.254mm以内に配置すること

上記部品はCPUのピン近く配置すること

Fujitsu
Proprietary &
Confidential

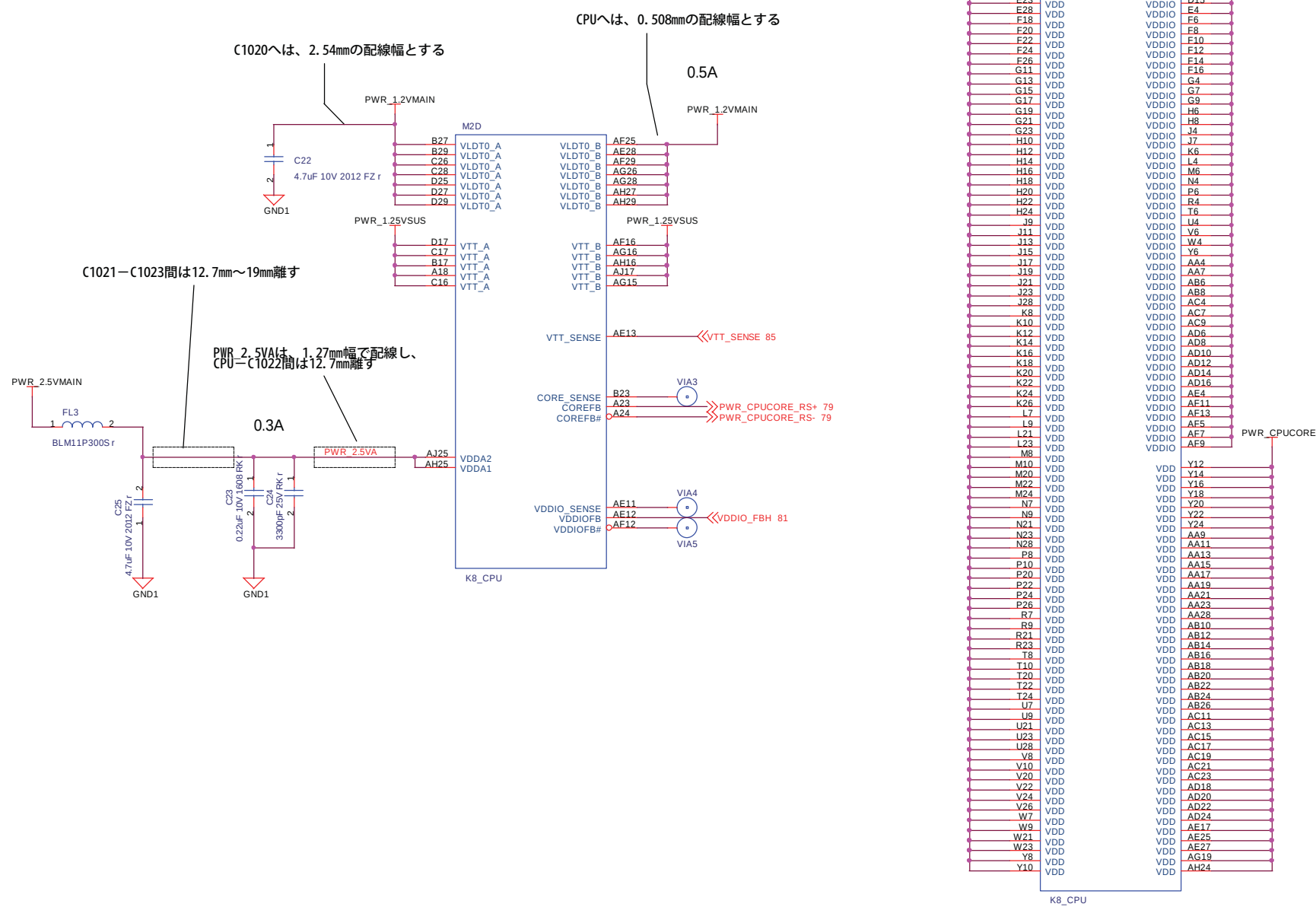
K8-2

						TITLE			VB222AA		
									DRAW. No. C1CP231360-X3		
									CAST		
Rev.	Date	Design	Check	Appr.	Description			Sheet			
Design	/ /	KOSHA		Check			Appr.		8 / 99		
7					8			9			



K8-3

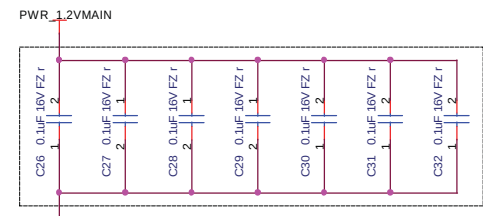
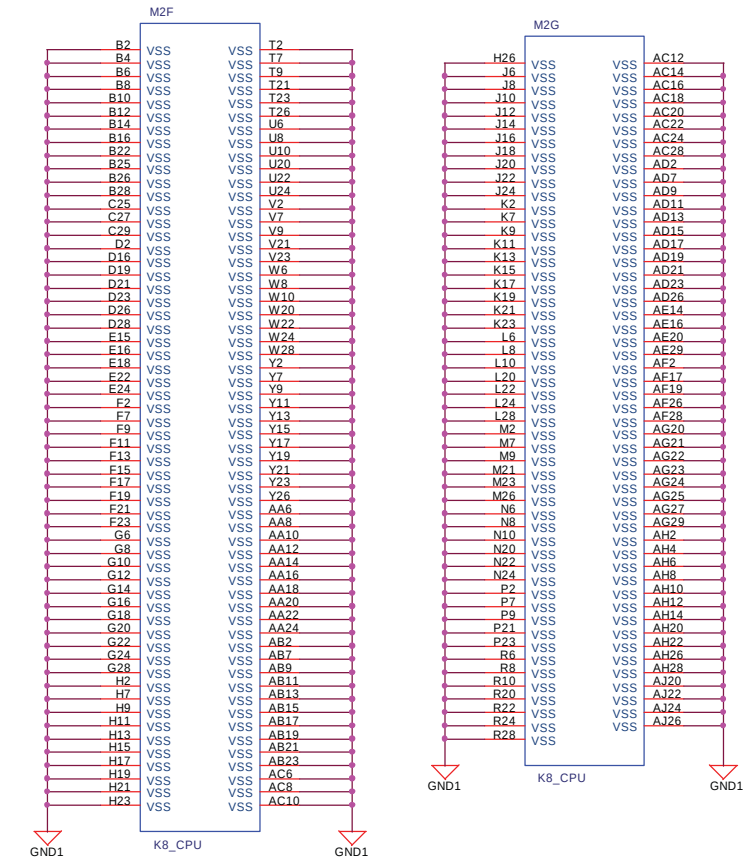
						TITLE VB222AA DRAW. No. C1CP231360-X3 CAST		
Rev.	Date	Design	Check	Appr.	Description			Sheet 9 / 99
Design	/ /	KOSHA	Check			Appr.		
FUJITSU LTD.								



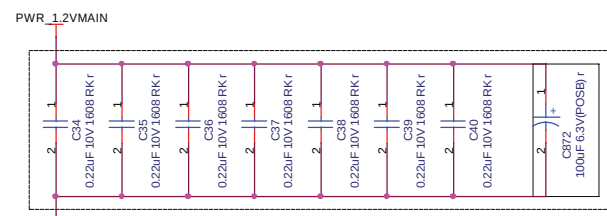
K8-4

Fujitsu
Proprietary &
Confidential

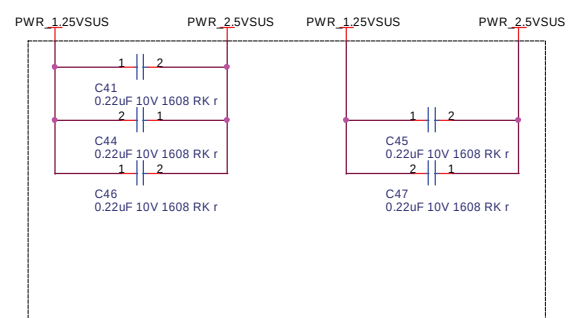
									TITLE VB222AA			
									DRAW. No. C1CP231360-X3		CAST	
Rev.	Date	Design	Check	Appr.	Description				FUJITSU LTD.		Sheet	
Design	/ /	KOSHA	Check				Appr.				10 / 99	



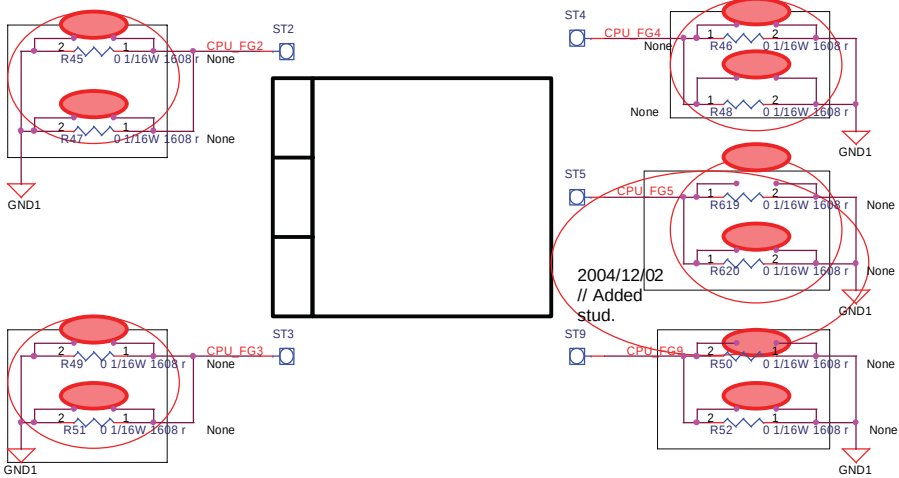
CPU近く配置すること



CPU近く配置すること



PWR_1.25VSUSに沿って均等に配置 (2ページ参照)
#04.12.17 Delete parts
C49,C50,C51,C52



2004/12/02
// Added
stud.

Fujitsu
Proprietary &
Confidential

K8-5

						TITLE				VB222AA			
						DRAW. No.				CAST			
						C1CP231360-X3							
Rev.	Date	Design	Check	Appr.	Description				Sheet				
Design	/ /	KOSHA		Check			Appr.		FUJITSU LTD.		11 / 99		

K8_CPU

CPU逆面の外周に配置

Place on backside under socket. CPU逆面の中央に配置

CPU近く配置すること
Place close to CPU socket.

PWR_1.25VSUSに沿って均等に配置 (2ページ参照)
Place evenly spaced along PWR_1.25VSUS fill.

Place on each sides of PWR_1.25VSUS fill near CPU socket.
CPUへの入り口部分に配置

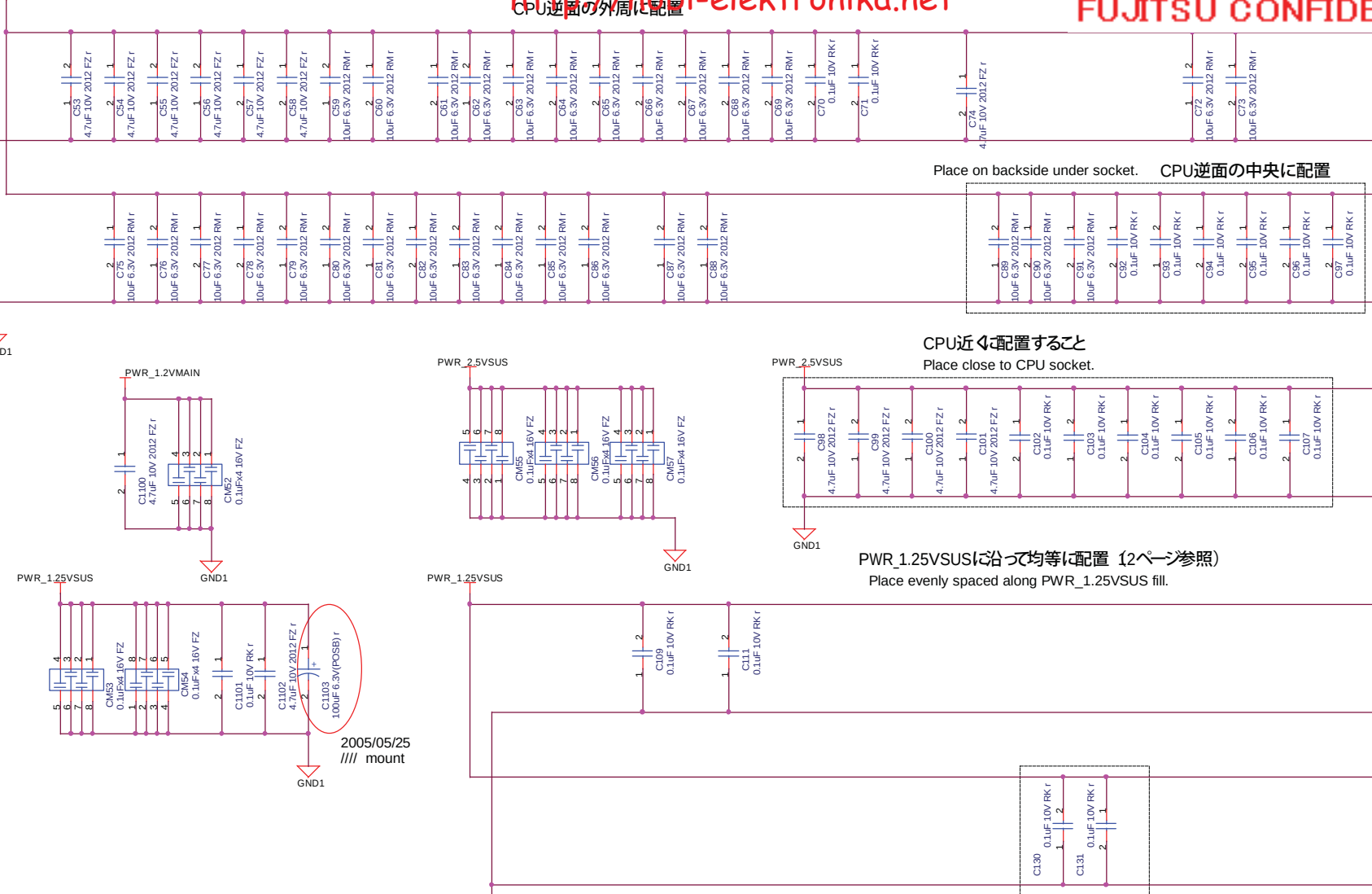
Place on backside under socket.
CPU逆面の中央に配置

#04.12.17 Delete parts
C113,C115,C117,C119,C121,C123,C125,C127,C129,C128,C126
C114,C116,C118,C120,C122,C124

CPU PASS_C

Fujitsu
Proprietary &
Confidential

								TITLE	
								VB222AA	
								DRAW. No.	C1CP231360-X3
								CAST	
Rev.	Date	Design	Check	Appr.	Description			Fujitsu Ltd.	
Design	/ /	KOSHA	Check				Appr.	Sheet	12 / 99



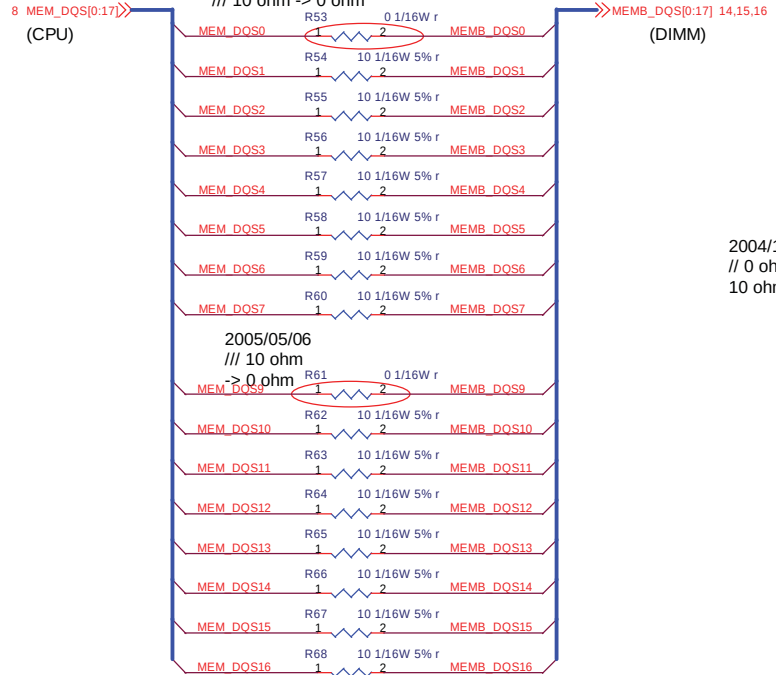
2005/05/25
//// mount

DIMM_CN側に配置

Place these resistors close to DIMM_CN.

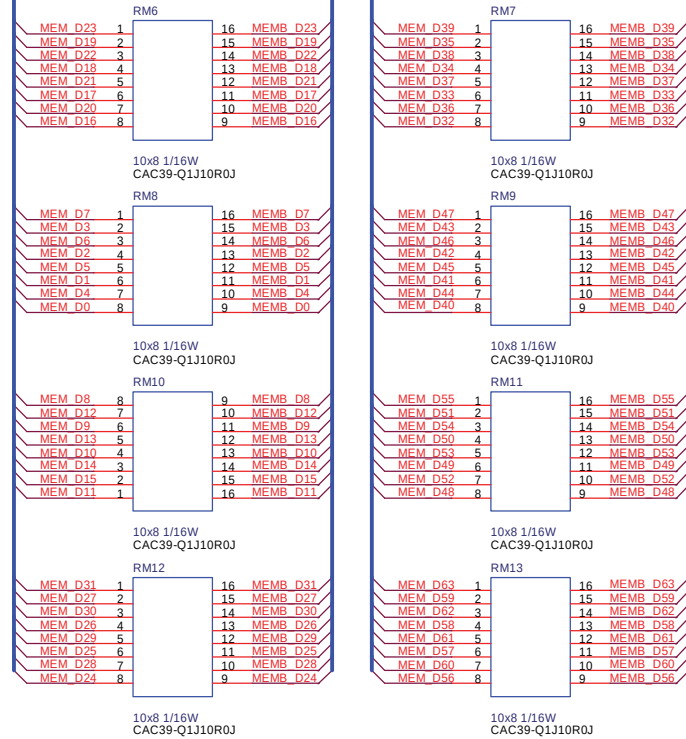
2005/05/06

/// 10 ohm -> 0 ohm



8 MEM_D[0:63] <<< (CPU)

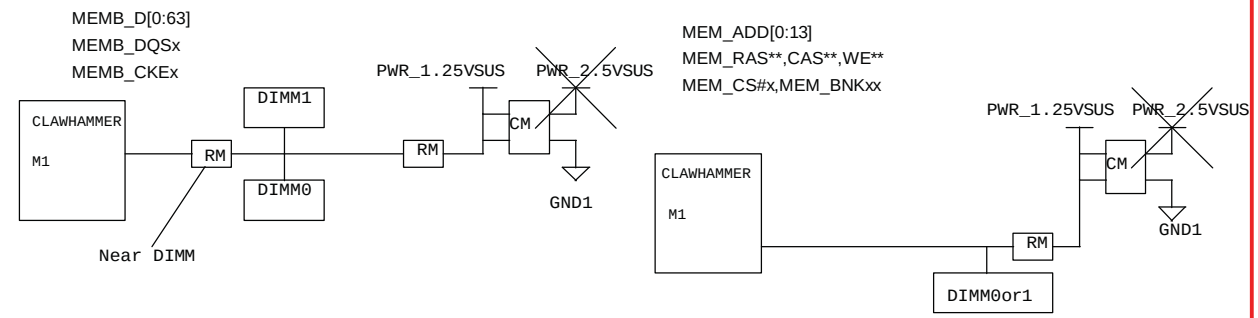
2004/12/08
// 0 ohm ->
10 ohms



(DIMM)

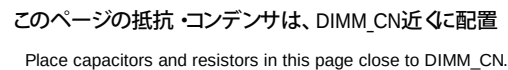
Data系
(Dx,DQSx,CKEx)

Address/Command系
(RAS#,CAS#,WE#,ADDx)



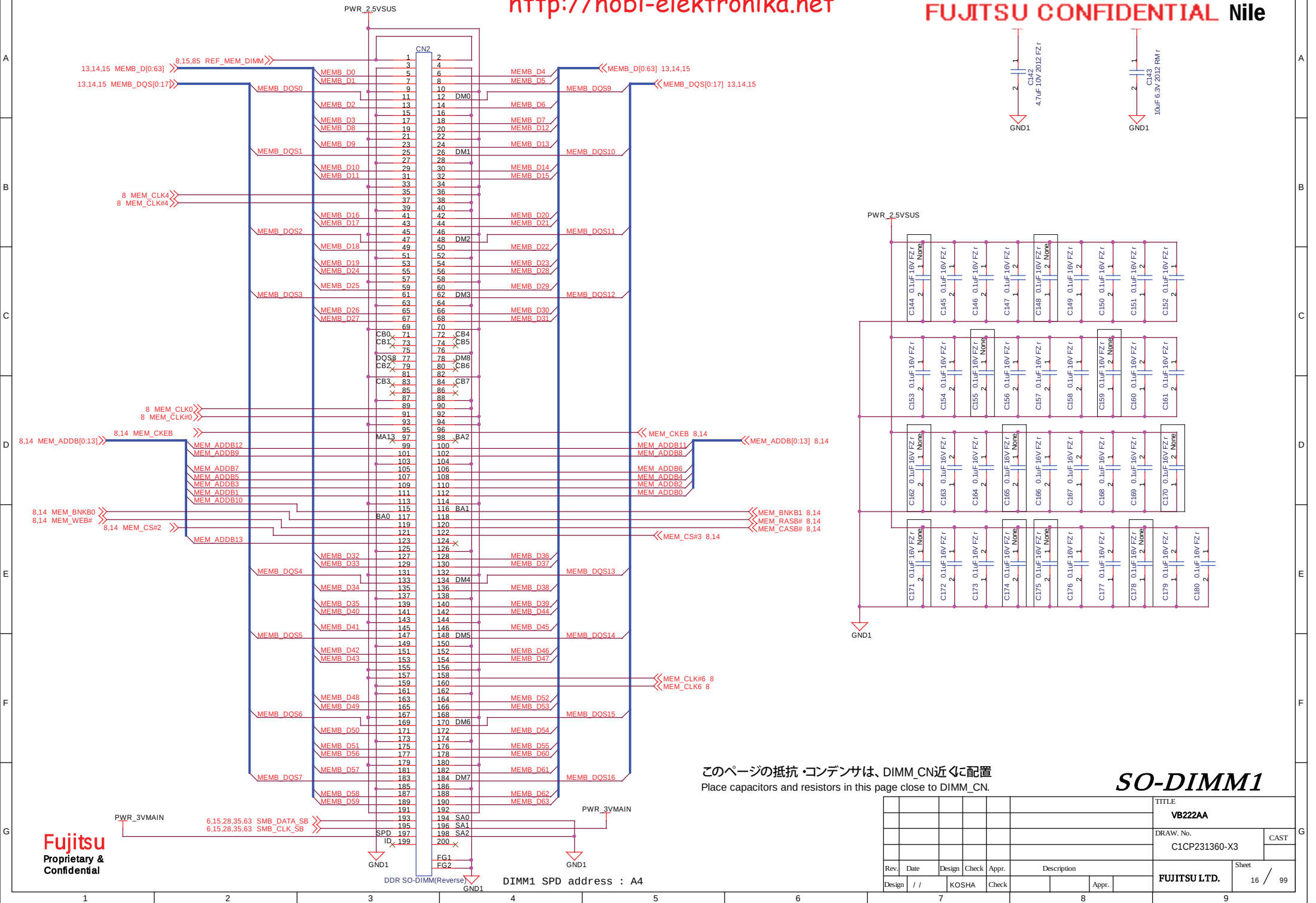
MEM_SERIES
TERMINATION

						TITLE	
						VB222AA	
						DRAW. No.	CAST
						C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description		
Design	/ /	KOSHA	Check		Appr.		
						FUJITSU LTD.	Sheet 13 / 99



SO-DIMM0

						TITLE			
						VB222AA			
						DRAW. No.			C
						C1CP231360-X3			CAST
Rev.	Date	Design	Check	Appr.	Description				
Design	/ /	KOSHA	Check			Appr.		FUJITSU LTD.	Sheet 15 / 99

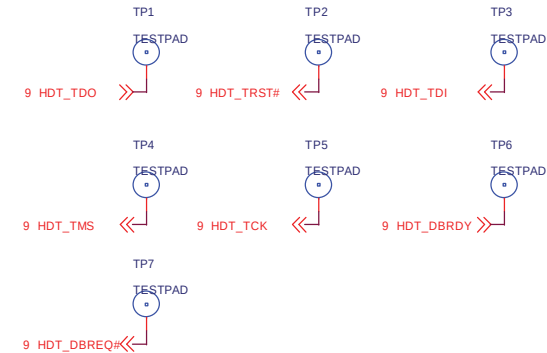
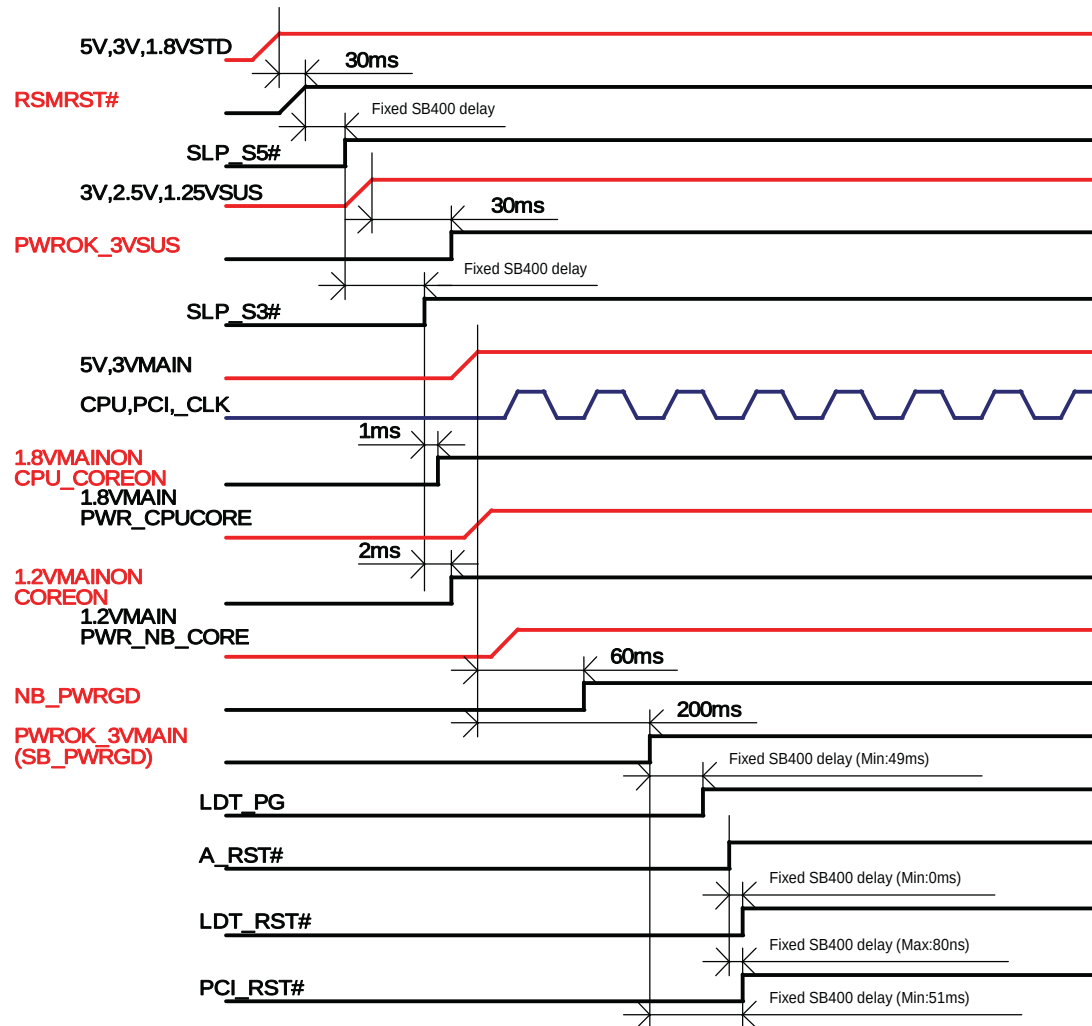


このページの抵抗・コンデンサは、DIMM_CN近くに配置
Place capacitors and resistors in this page close to DIMM_CN.

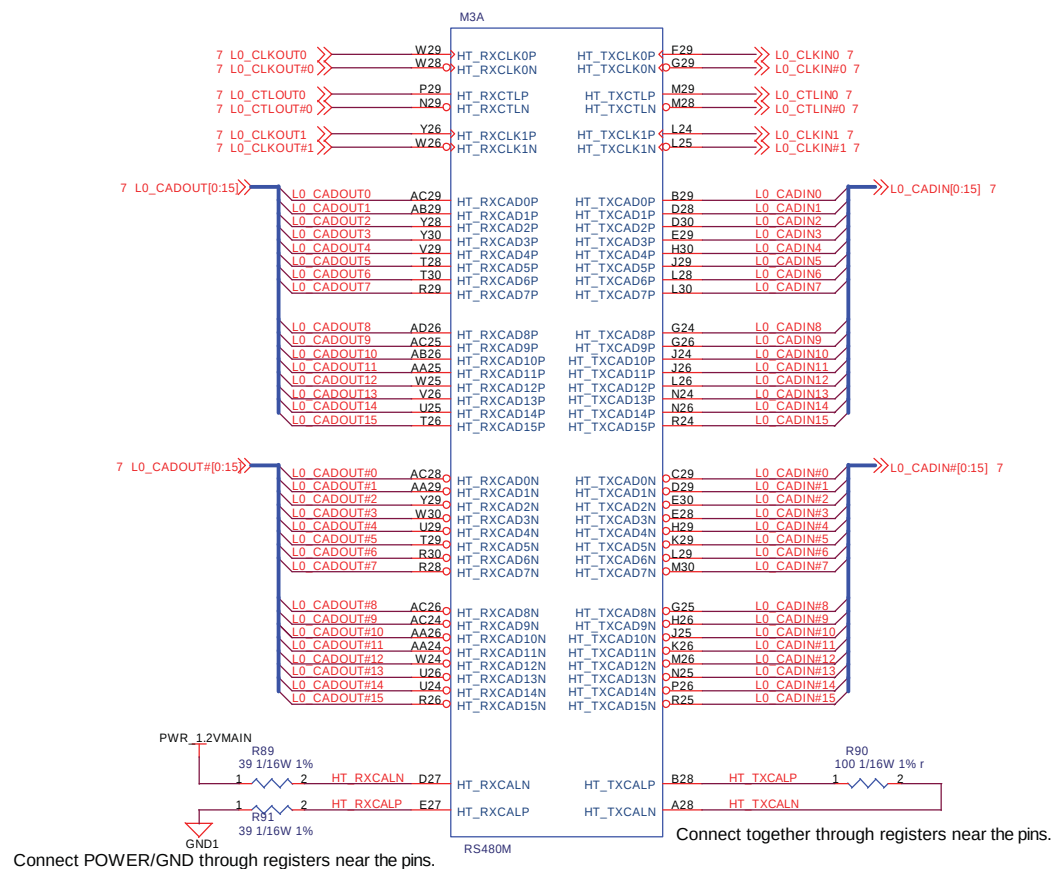
SO-DIMM1

Fujitsu
Proprietary &
Confidential

						TITLE			G
						VB222AA			
						DRAW. No.		CAST	
						C1CP231360-X3			
Rev.	Date	Design	Check	Appr.	Description				Sheet
Design	/ /	KOSHA		Check			Appr.		16 / 99
7					8				9

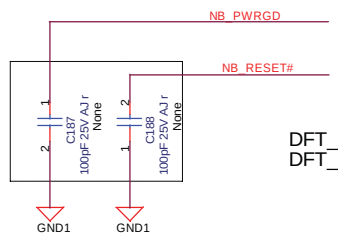
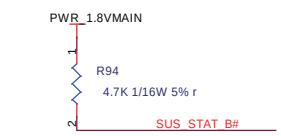
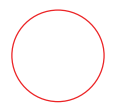
**HDT**

						TITLE		
						VB222AA		
						DRAW. No.		CAST
						C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description			
Design	/ /	KOSHA	Check			Appr.		
						FUJITSU LTD.		Sheet 17 / 99



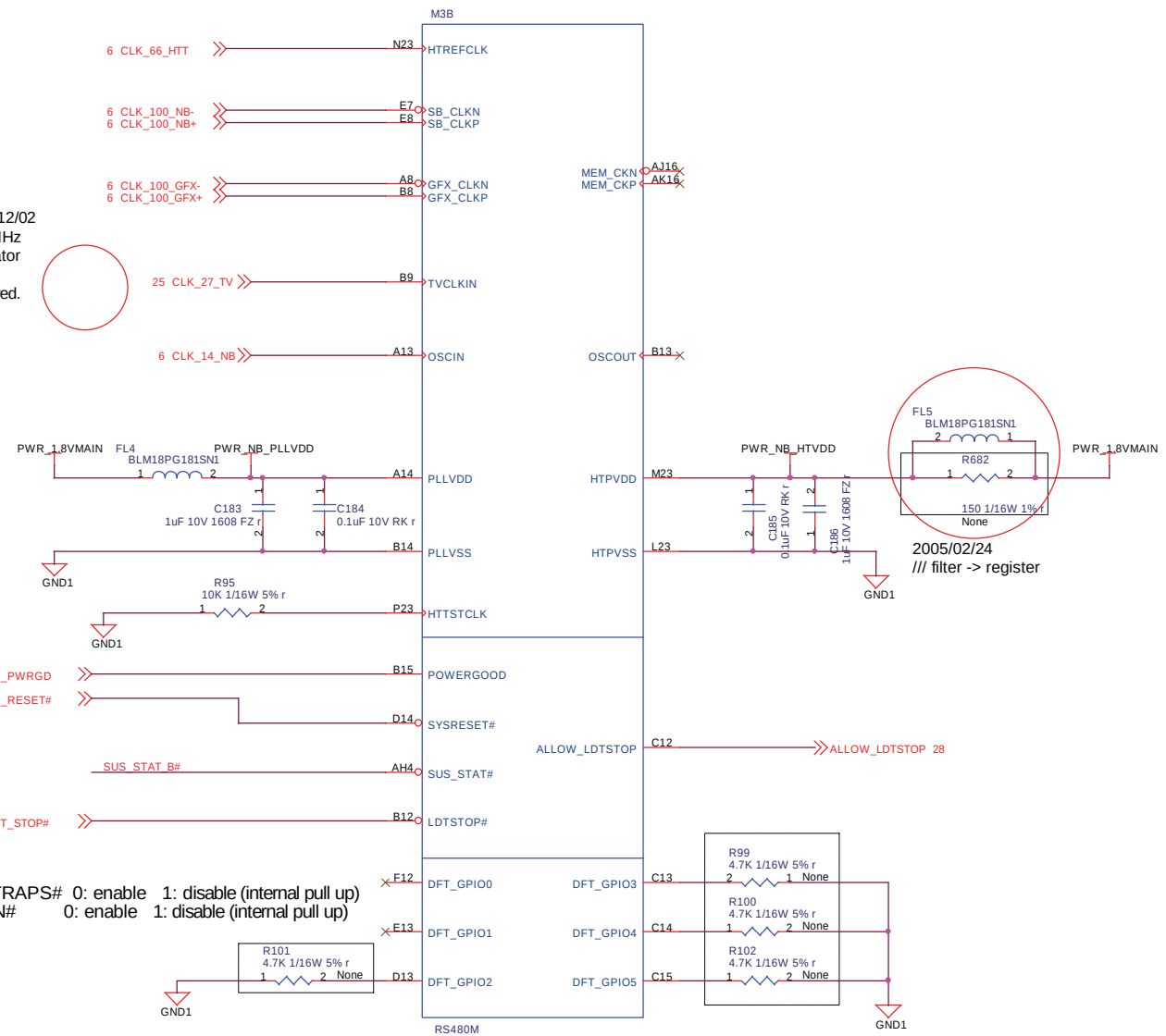
S-video
Place near to RS480

2004/12/02
// 27MHz
oscillator
was
removed.



以下のpinのGND VIAは直接GND層に落とし、別のGND pinと共用したり、GNDガード等、他の用途には使用しないこと。
PLLVS (B14pin)

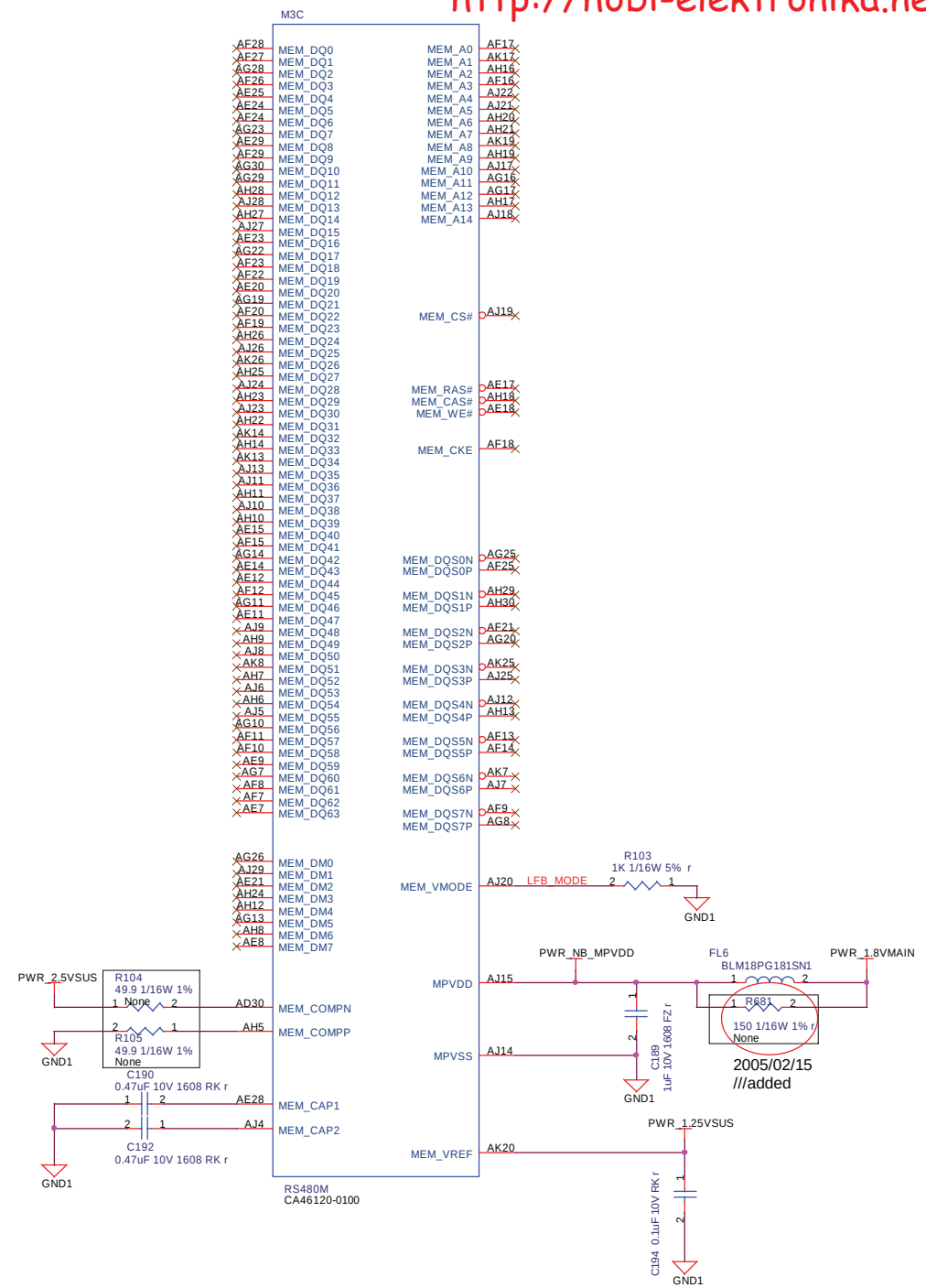
以下のPassCは、それぞれ対応する電源pinとGNDpinの間に直接挿入すること。
C1200 : PLLVDD (A14pin) とPLLVS (B14pin) の間



2005/02/24
/// filter -> register

Signal Name	Function	High(Internal Pullup)	Low
LFB_EN#	SIDE_PORT_EN#	Side Port Memory Disable	Side Port Memory Enable
LOAD_ROM#	LOAD_ROM_STRAPS#	Load Rom Strap Disable	Load Rom Strap Enable

Rev.	Date	Design	Check	Appr.	Description	TITLE VB222AA	
Design	/ /	KOSHA	Check		Appr.	DRAW. No. C1CP231360-X3	CAST
						FUJITSU LTD.	Sheet 19 / 99



LFB_VREFは、0.508mm以上の幅で配線し、
他の信号からは0.508mm以上離すとど。

Fujitsu
Proprietary &
Confidential

								TITLE	
								VB222AA	
								DRAW. No.	C1CP231360-X3
								CAST	
Rev.	Date	Design	Check	Appr.	Description			FUJITSU LTD.	
Design	/ /	KOSHA	Check				Appr.	Sheet	20 / 99

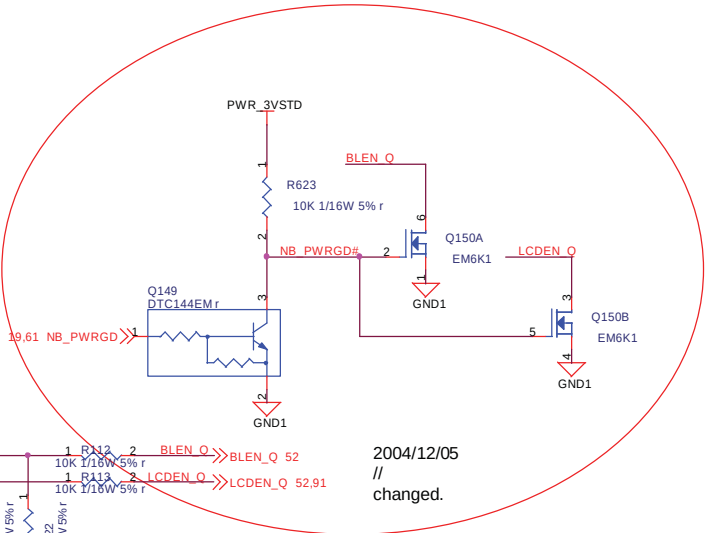
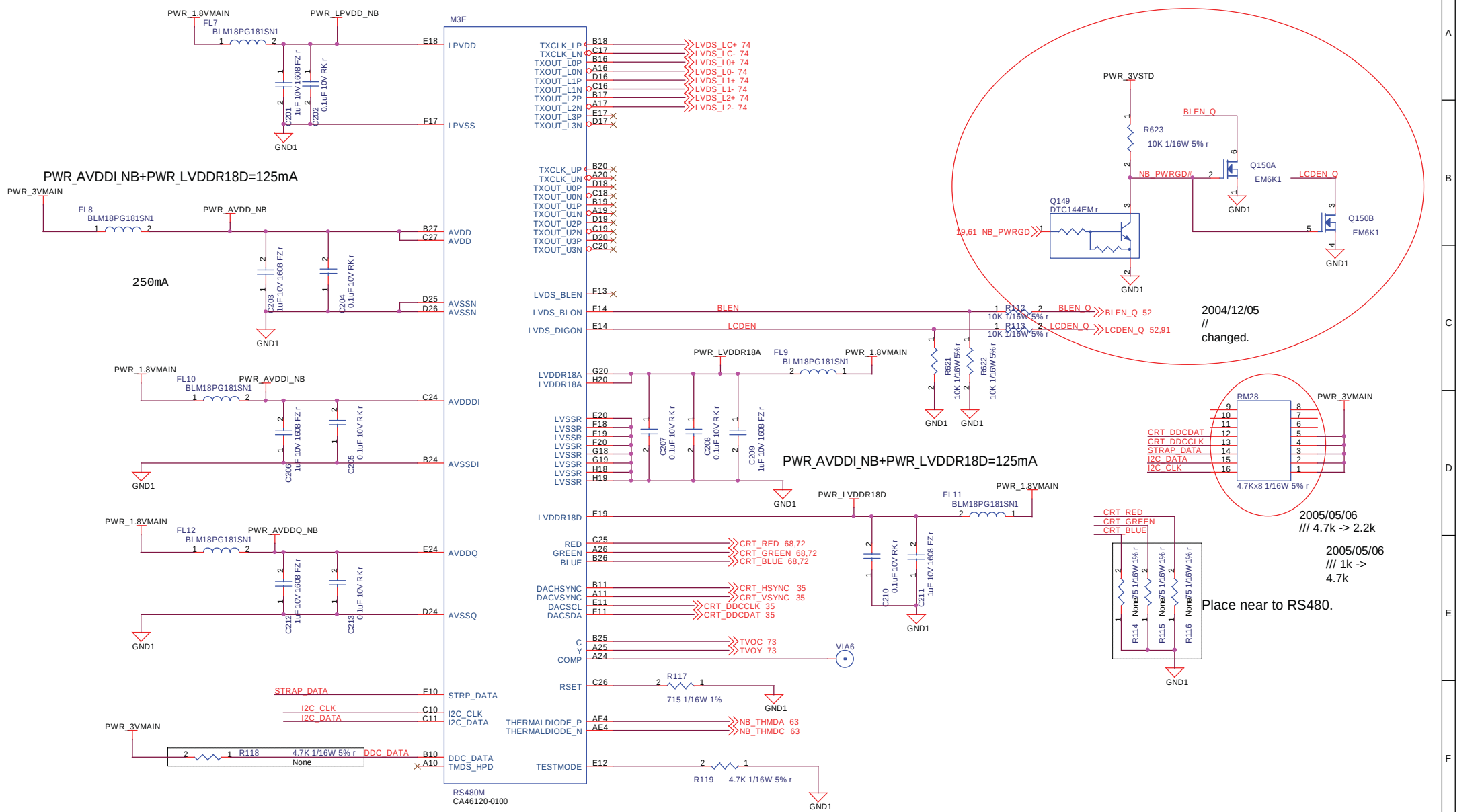


Place above 2 capacitors near to the connector. (Not RS480 side.)

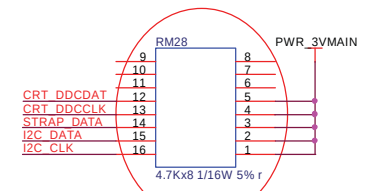
Fujitsu
Proprietary &
Confidential

CAL_NB_PCIE, CAL_NB_PCIE
TXISET_NB_PCIE, ISET_NB_PCIE
は0.254mm以上の幅で配線し、
他の信号から0.254mm以上ギャップを保つこと。
R1129, R1130, R1131, R1132
は、M1004から12.7mm以内に配置すること

								TITLE	
								VB222AA	
								DRAW. No.	CAST
								C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description			FUJITSU LTD.	Sheet
Design	/ /	KOSHA	Check				Appr.		21 / 99



2004/12/05
//
changed.



2005/05/06
/// 4.7k -> 2.2k

2005/05/06
/// 1k -> 4.7k

Place near to RS480.

以下のpinのGND VIAは直接GND層に落とし、別のGND pinと共用したり、GNDガード等、他の用途には使用しないこと。
LPVSS(F17pin)
LVSSR(E20,F18,F19,F20,G18,G19,H18,H19pin)
AVSSN(D25,D26pin)
AVSSDI(B24pin)
AVSSQ(D24pin)

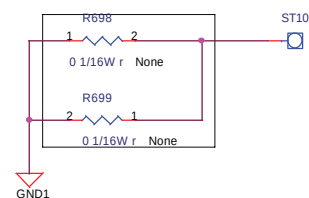
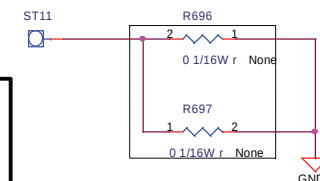
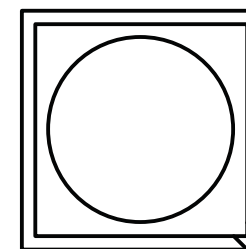
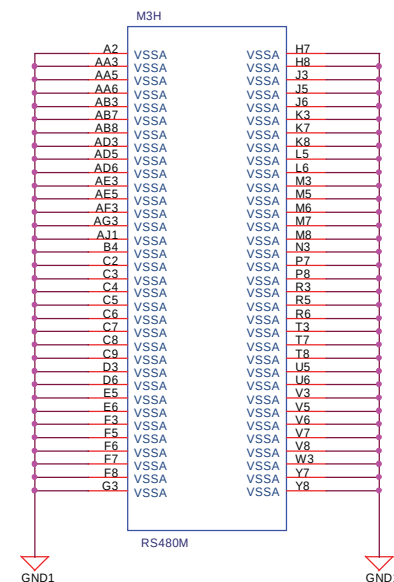
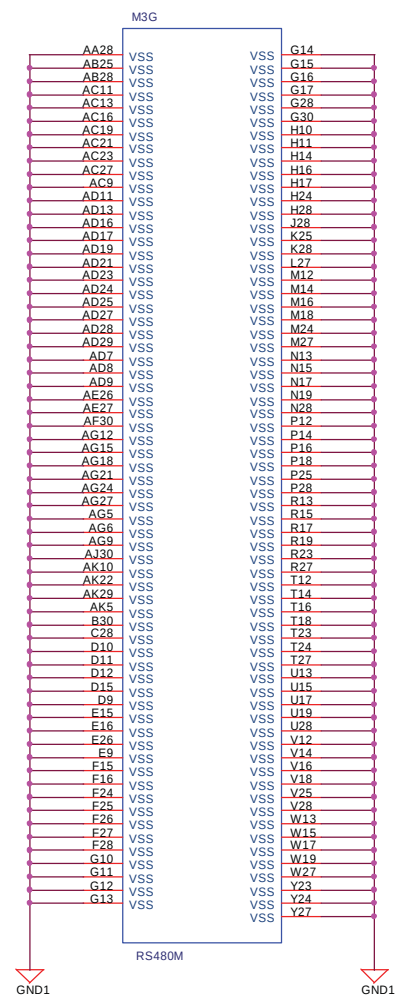
以下のPassCは、それぞれ対応する電源pinとGNDpinの間に直接挿入すること。
C1251 : LPVDD(E18pin)とLPVSS(F17pin)の間
C1256,C1257 : LVDDR18A(G20,H20pin)とLVSSR(E20,F18,F19,F20,G18,G19,H18,H19pin)の間
C1253 : AVDD(B27,C27pin)とAVSSN(D25,D26pin)の間
C1254 : AVDDI(C24pin)とAVSSDI(B24pin)の間
C1262 : AVDDQ(E24pin)とAVSSQ(D24pin)の間

Fujitsu
Proprietary &
Confidential

						TITLE	
						VB222AA	
						DRAW. No.	C1CP231360-X3
						CAST	
Rev.	Date	Design	Check	Appr.	Description	Fujitsu LTD.	
Design	/ /	KOSHA	Check		Appr.	Sheet 22 / 99	



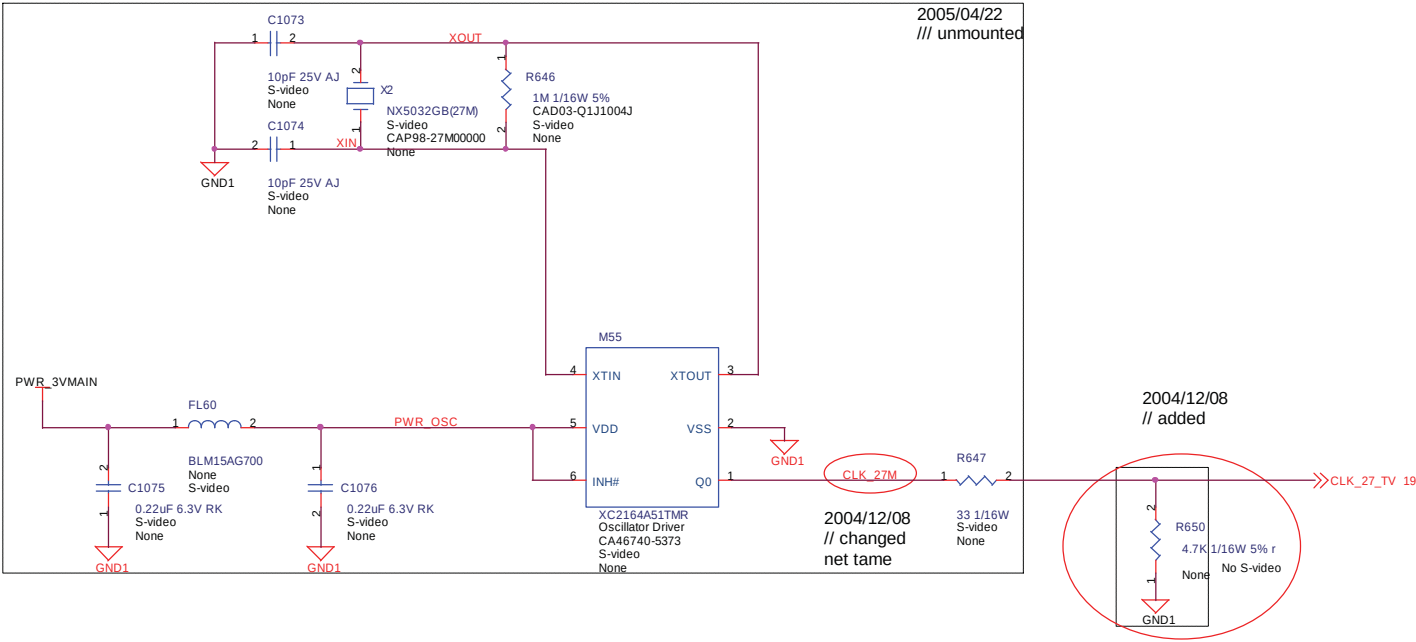
7 C



Rev.					Date			Design			Check			Appr.			Description			TITLE		
																				VB222AA		
																				DRAW. No.		
																				C1CP231360-X3		
																				CAST		
																				Fujitsu Ltd.		
																				Sheet		
																				24 / 99		

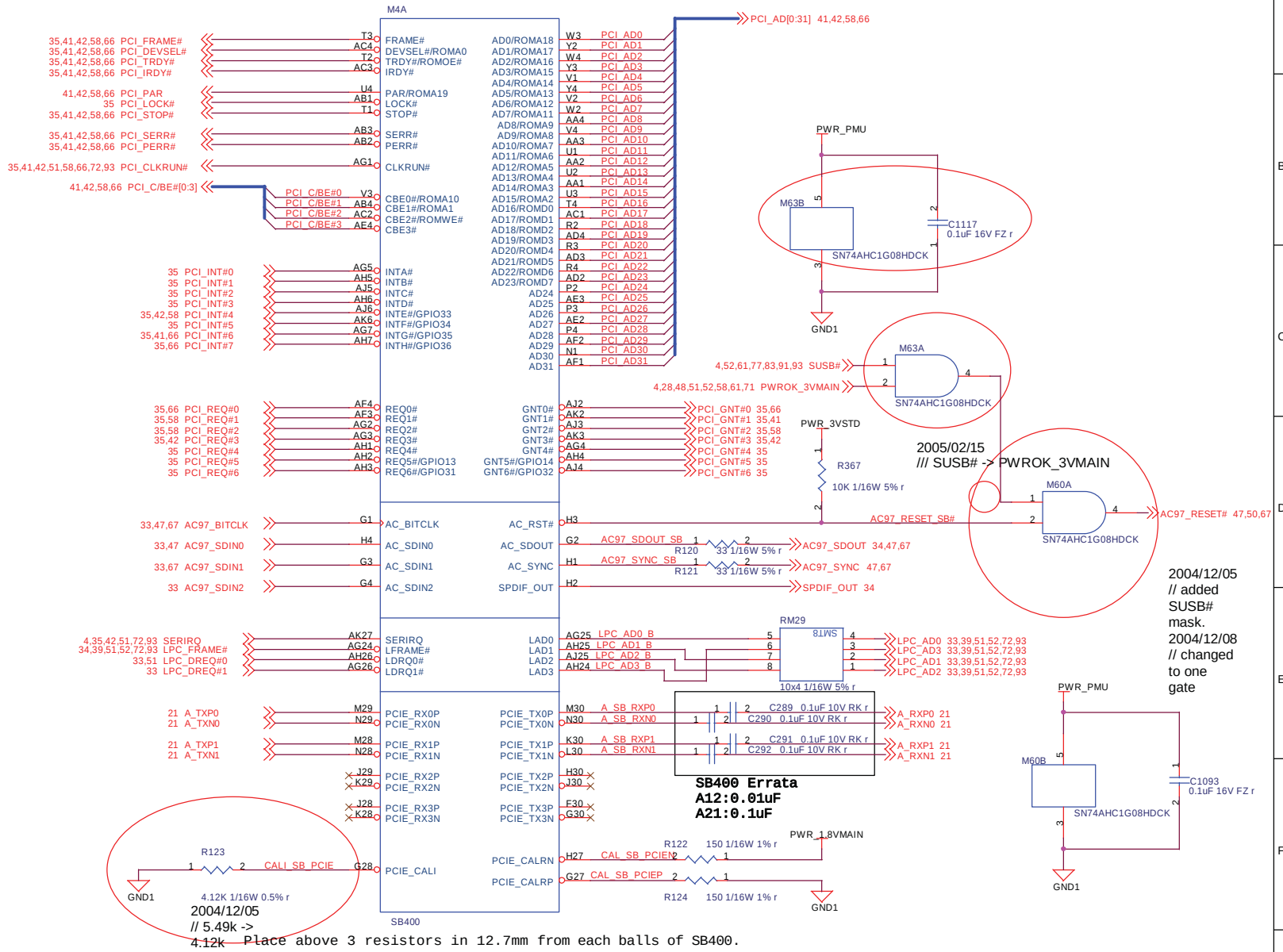
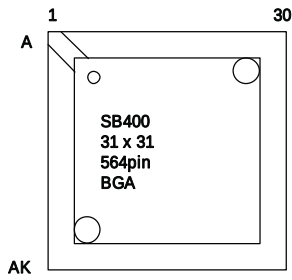
2004/12/02
// This page was added.

S-video
Place near to RS480



TV Clock

					TITLE			
					VB222AA			
					DRAW. No.			CAST
					C1CP231360-X3			
Rev.	Date	Design	Check	Appr.	Description			
Design	/ /	KOSHA		Check		Appr.		FUJITSU LTD.
								Sheet 25 / 99



Fujitsu
Proprietary &
Confidential

Place R169 no less than 12.7mm from G28pin
Place R168 no less than 12.7mm from H27pin
Place R170 no less than 12.7mm from G27pin
R169 is G28pin 5 12.7mm以内に配置
R168 is H27pin 5 12.7mm以内に配置
R170 is G27pin 5 12.7mm以内に配置

								TITLE	
								VB222AA	
								DRAW. No.	CAST
								C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description			Sheet	
Design	/ /	KOSHA	Check			Appr.		Fujitsu LTD.	
								26 / 99	



						TITLE			
						VB222AA			
						DRAW. No.			C
						C1CP231360-X3			CAST
Rev.	Date	Design	Check	Appr.	Description				Sheet
Design	/ /	KOSHA	Check			Appr.		FUJITSU LTD.	27 / 99



2005/05/06
/// 22 ohm
-> Ferrite
bead

SB400 Errata
For Production Parts, can be used 14MHz from PLL
(Notice : strap for PCICLK5 select 14MHz input type)

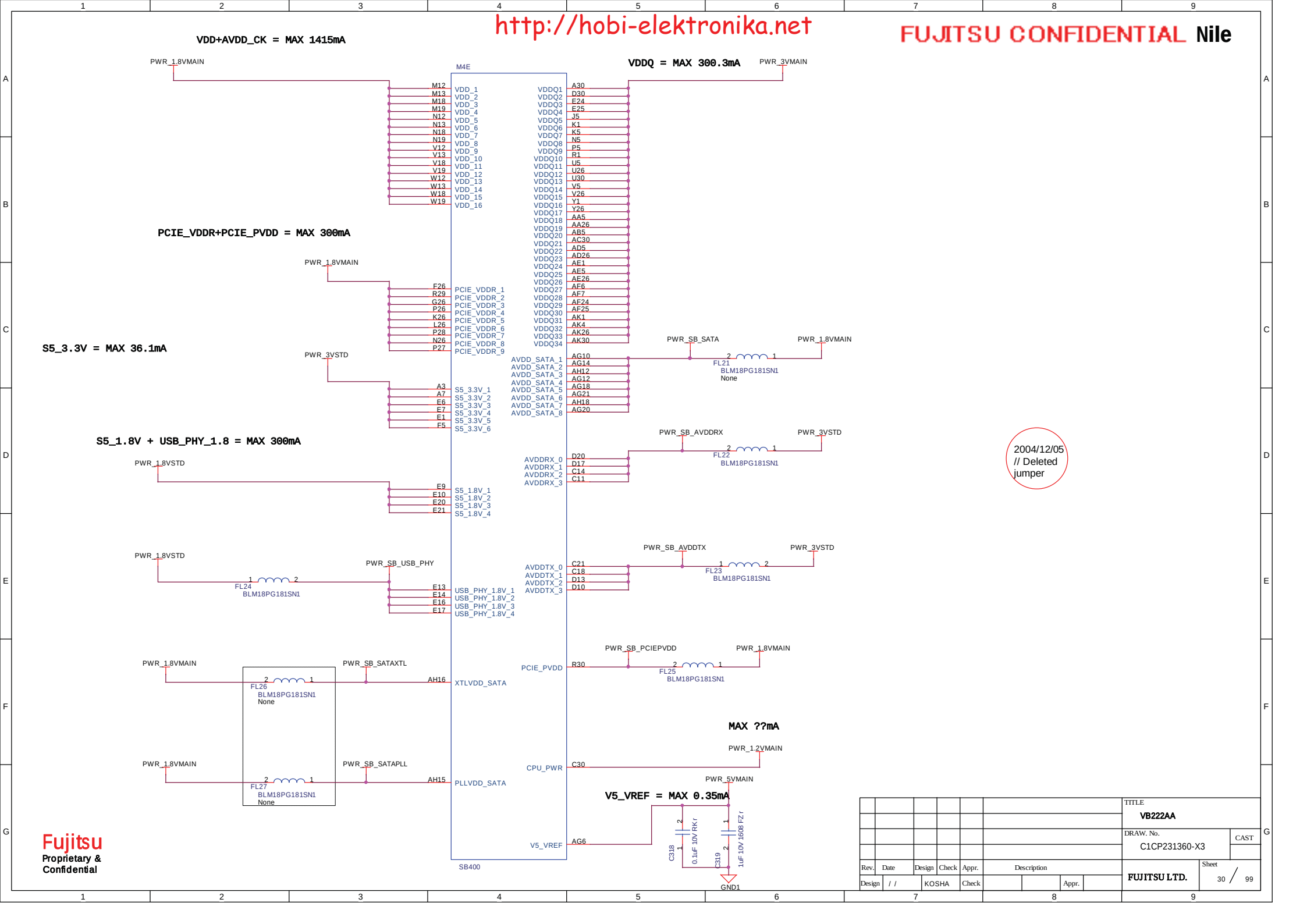
2005/05/06
/// mount

以下のpinのGND VIAは直接GND層に落とし、
別のGND pinと共用したり、GNDガード等、
他の用途には使用しないこと。
AVSSCK (B24pin)
AVSSC (B16pin)
RTC_GND (A1pin)

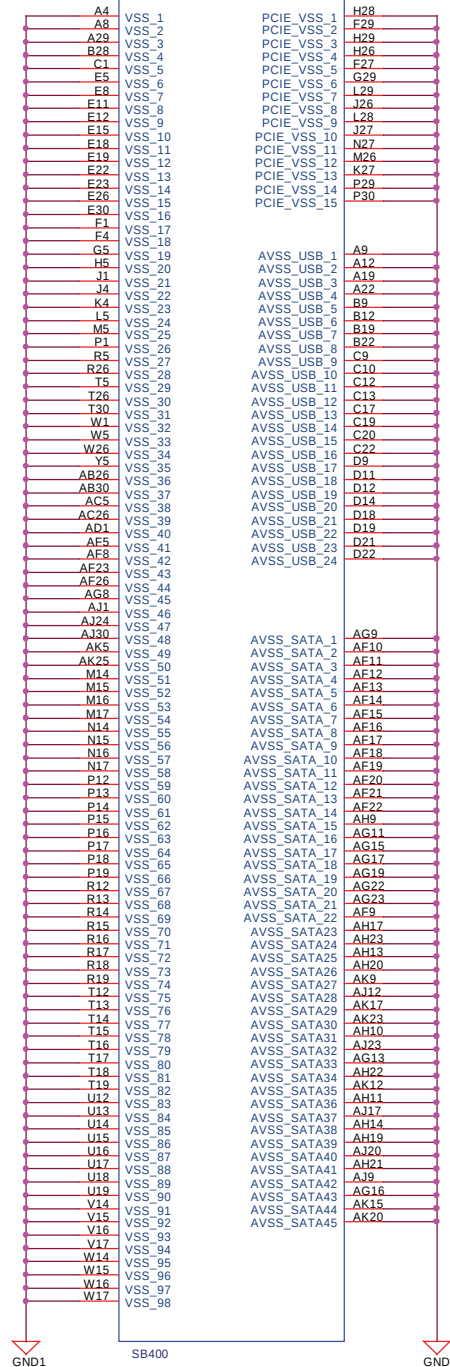
以下のPassClは、それぞれ対応する電源pinと
GNDpinの間に直接挿入すること。
C311 : AVDDCK (A24pin) とAVSSCK (B24pin) の間
C307 : AVDDC (A16pin) とAVSSC (B16pin) の間
C317 : VBAT (A2pin) とRTC_GND (A1pin) の間

2005/02/15
/// added

						TITLE			
						VB222AA			
						DRAW. No.			CAST
						C1CP231360-X3			
Rev.	Date	Design	Check	Appr.	Description			FUJITSU LTD.	Sheet
Design	/ /	KOSHA	Check				Appr.		29 / 99
7					8			9	

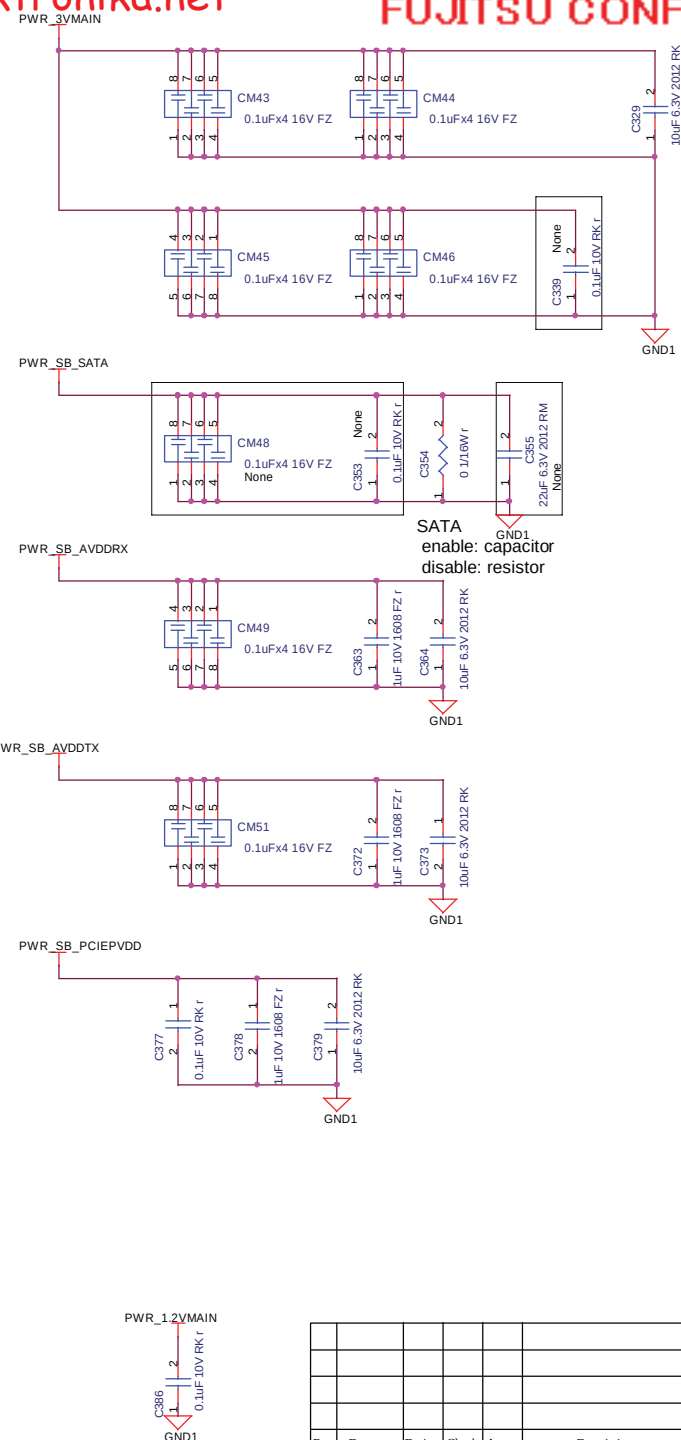


								TITLE	
								VB222AA	
								DRAW. No.	CAST
								C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description			FUJITSU LTD.	Sheet
Design	/ /	KOSHA	Check				Appr.		30 / 99



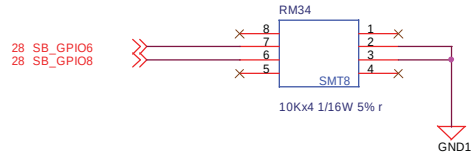
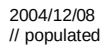
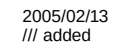
Fujitsu
Proprietary &
Confidential

								TITLE	
								VB222AA	
								DRAW. No.	CAST
								C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description			FUJITSU LTD.	Sheet
Design	/ /	KOSHA		Check			Appr.		31 / 99

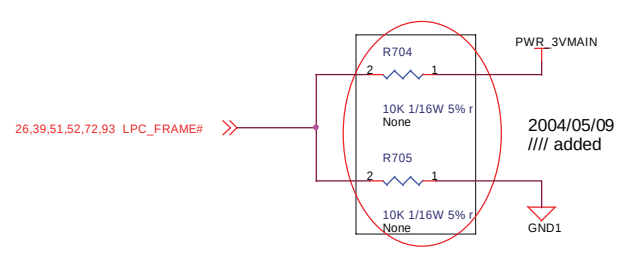
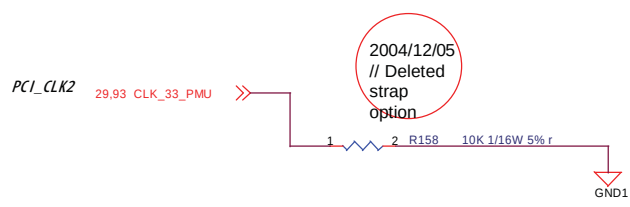
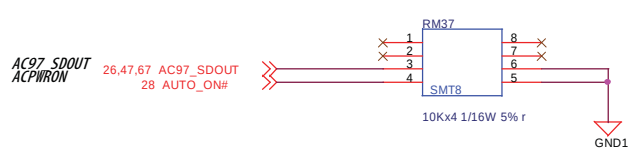
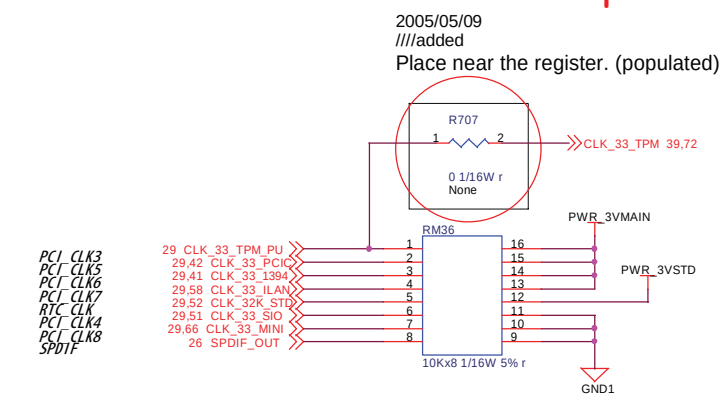


Fujitsu
Proprietary &
Confidential

						TITLE				
						VB222AA				
						DRAW. No.				CAST
						C1CP231360-X3				
Rev.	Date	Design	Check	Appr.	Description					Sheet
Design	1 /	KOSHA	Check			Appr.		FUJITSU LTD.		32 / 99



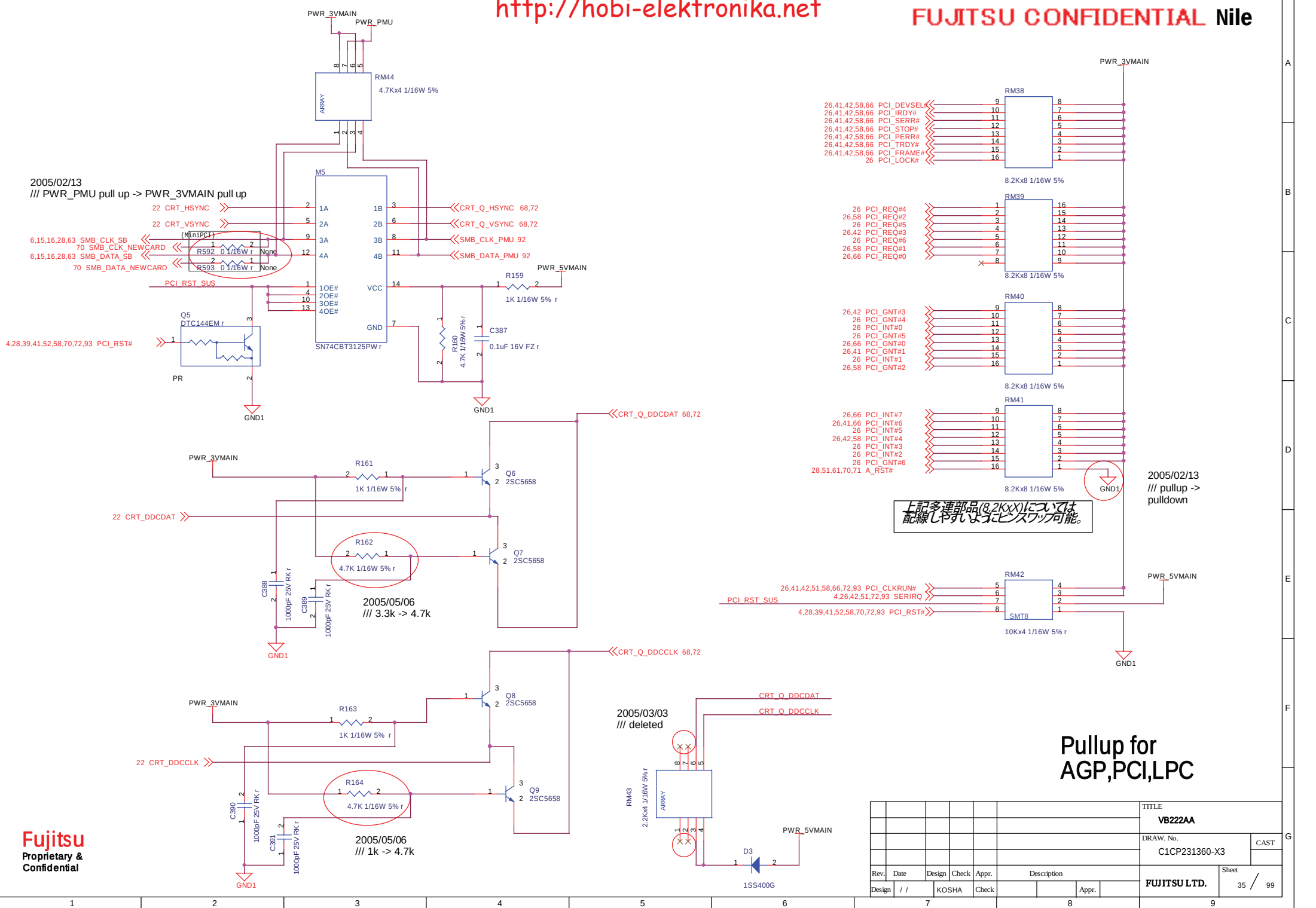
						TITLE		VB222AA	
						DRAW. No.		C1CP231360-X3	CAS
Rev.	Date	Design	Check	Appr.	Description		Sheet		
Design	/ /	KOSHA	Check			Appr.		FUJITSU LTD.	33 / 99



CONFIDENTIAL

Signal Name (Pin Name)	Description	"0" = Pull-down "1" = Pull-Up			
CLK_33_TPM (PCICLK3)	USB PHY Powerdown 0 : Enable 1 : Disable				
CLK_33_SIO (PCICLK4)	Bypsd USB PLL 0 : use external 48MHz 1 : use internal USB PLL for 48MHz				
CLK_33_VIEW (PCICLK5)	14MHz Clock Pad Select 0 : Ctystal Pad 1 : Clock Input Buffer				
CLK_33_PCIC (PCICLK6)	Define Type of CPU 0 : Intel Processors 1 : AMD K8 Processors				
CLK_33_ILAN (PCICLK7)	ROM Type Select				
	PCICLK7	1	1	0	0
CLK_33_MINI (PCICLK8)	PCICLK8	0	1	0	1
	ROM Type	LPC ROM (256K)	BIOS ROM (X-bus)	FWH	LPC ROM (512K/1M)
SPDIF_OUT (SPDIF)	Select Speed for Super I/O. 0 : SIO Speed is 48MHz 1 : SIO Speed is 24MHz				
CLK_32K_STD (RTC_CLK)	RTC Select 0 : External RTC 1 : Internal RTC				
AC97_SDOUT (AC97SDOUT)	Enable/Disable additional straps for Debugging. 0 : Use Hardcoded defaults for Debug straps 1 : Enable additional Debug Strap				
AUTO_ON# (ACPWRON)	Active Manual Power On. 0 : Automatic Power On 1 : Manual Power On				
CLK_33_PMU (PCICLK2)	48MHz Clock Pad Select 0 : Ctystal Pad 1 : Clock Input Buffer				

Pin Name	Description
PCI_AD23	Reserved
PCI_AD24	Bif_core strap from I2ROM enable 0 : Use default Value 1 : getting the value from I2C EPROM
PCI_AD25	Bypass IDE Clock 0 : Use Internal IDE CLK 1 : Bypass Internal IDE CLK
PCI_AD26	Bypass ACPI BCLK 0 : Use internal ACPI_BCLK 1 : Bypass ACPI_BCLK
PCI_AD27	Bypass PCI PLL 0 : Use internal IDE PLL. Generated PCI CLK 1 : Bypass internal PCI PLL
PCI_AD29 PCI_AD28	PLL VCO control bits
PCI_AD31 PCI_AD30	PLL Charge Pump control Bit
IDE_PDDACK# (PIDE_DACK#)	Generate Short Reset 0 : Use Long Reset (Default) 1 : Use Short Reset



Fujitsu
Proprietary &
Confidential

								TITLE	
								VB222AA	
								DRAW. No.	C1CP231360-X3
								CAST	
Rev.	Date	Design	Check	Appr.	Description			Sheet	
Design	/ /	KOSHA	Check				Appr.	35 / 99	
								FUJITSU LTD.	

											TITLE		
											VB222AA		
											DRAW. No.		CAST
											C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description					FUJITSU LTD.		Sheet	
Design	/ /	KOSHA		Check			Appr.				36 / 99		
7					8					9			

RESERVED

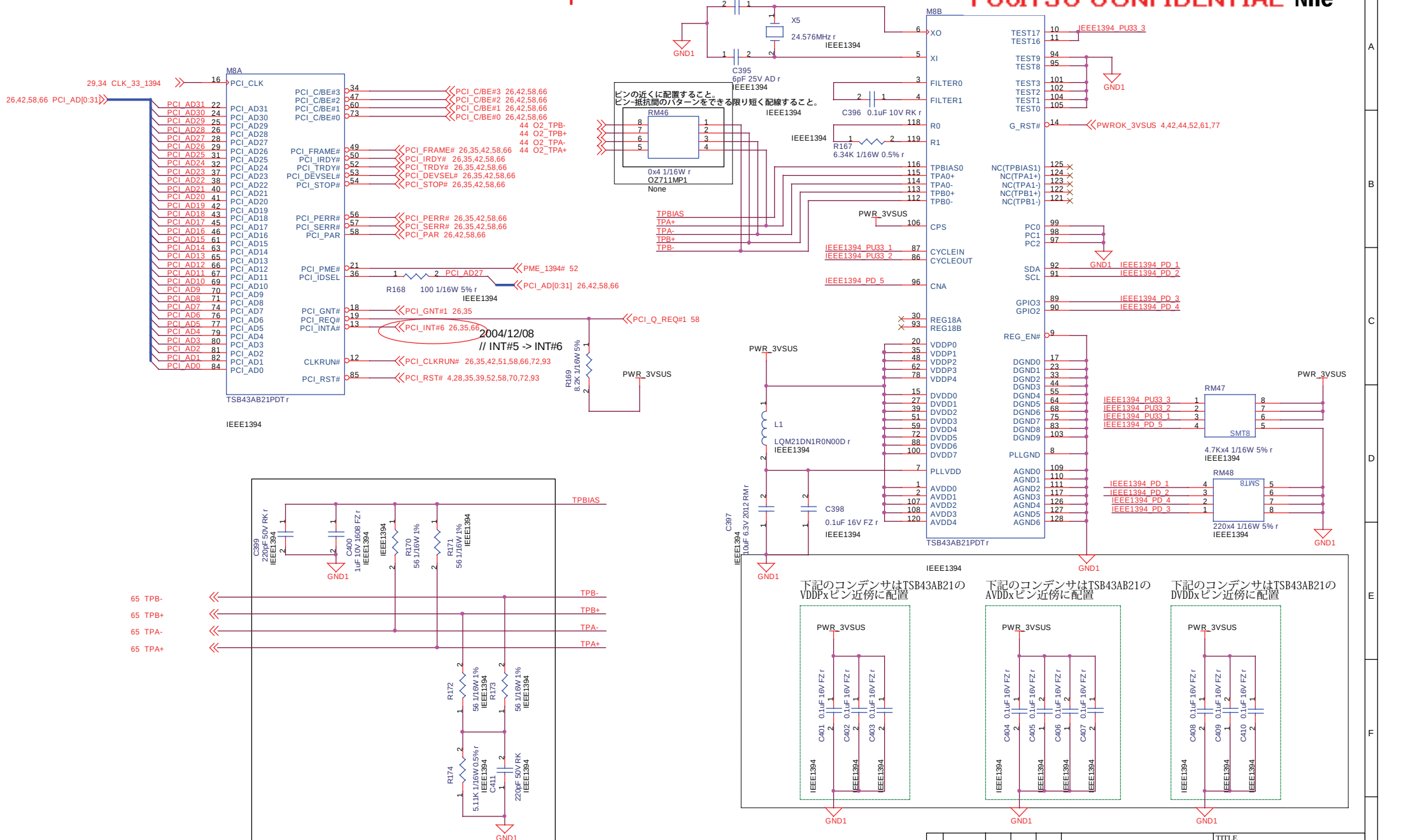
						TITLE		
						VB222AA		
						DRAW. No.		CAST
						C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description			Sheet
Design	/ /	KOSHA		Check			Appr.	FUJITSU LTD. 37 / 99

1	2	3	4	5	6	7	8	9	
http://hobi-elektronika.net									
FUJITSU CONFIDENTIAL Nile									
A									A
B									B
C									C
D									D
E									E
F									F
G									G
Fujitsu Proprietary & Confidential							Reserve		



VID4	VID3	VID2	VID1	VID0	LPM Voltage
0	0	0	0	0	1.450V
0	0	0	0	1	1.425V
0	0	0	1	0	1.400V
0	0	0	1	1	1.375V
0	0	1	0	0	1.350V
0	0	1	0	1	1.325V
0	0	1	1	0	1.300V
0	0	1	1	1	1.275V
0	1	0	0	0	1.250V
0	1	0	0	1	1.225V
0	1	0	1	0	1.200V
0	1	0	1	1	1.175V
0	1	1	0	0	1.150V
0	1	1	0	1	1.125V
0	1	1	1	0	1.100V
0	1	1	1	1	1.075V
1	0	0	0	0	1.050V
1	0	0	0	1	1.025V
1	0	0	1	0	1.000V
1	0	0	1	1	0.975V
1	0	1	0	0	0.950V
1	0	1	0	1	0.925V
1	0	1	1	0	0.900V
1	0	1	1	1	0.875V
1	1	0	0	0	0.850V
1	1	0	0	1	0.825V
1	1	0	1	0	0.800V
1	1	0	1	1	0.775V
1	1	1	0	0	0.750V
1	1	1	0	1	0.725V
1	1	1	1	0	0.700V
1	1	1	1	1	OFF

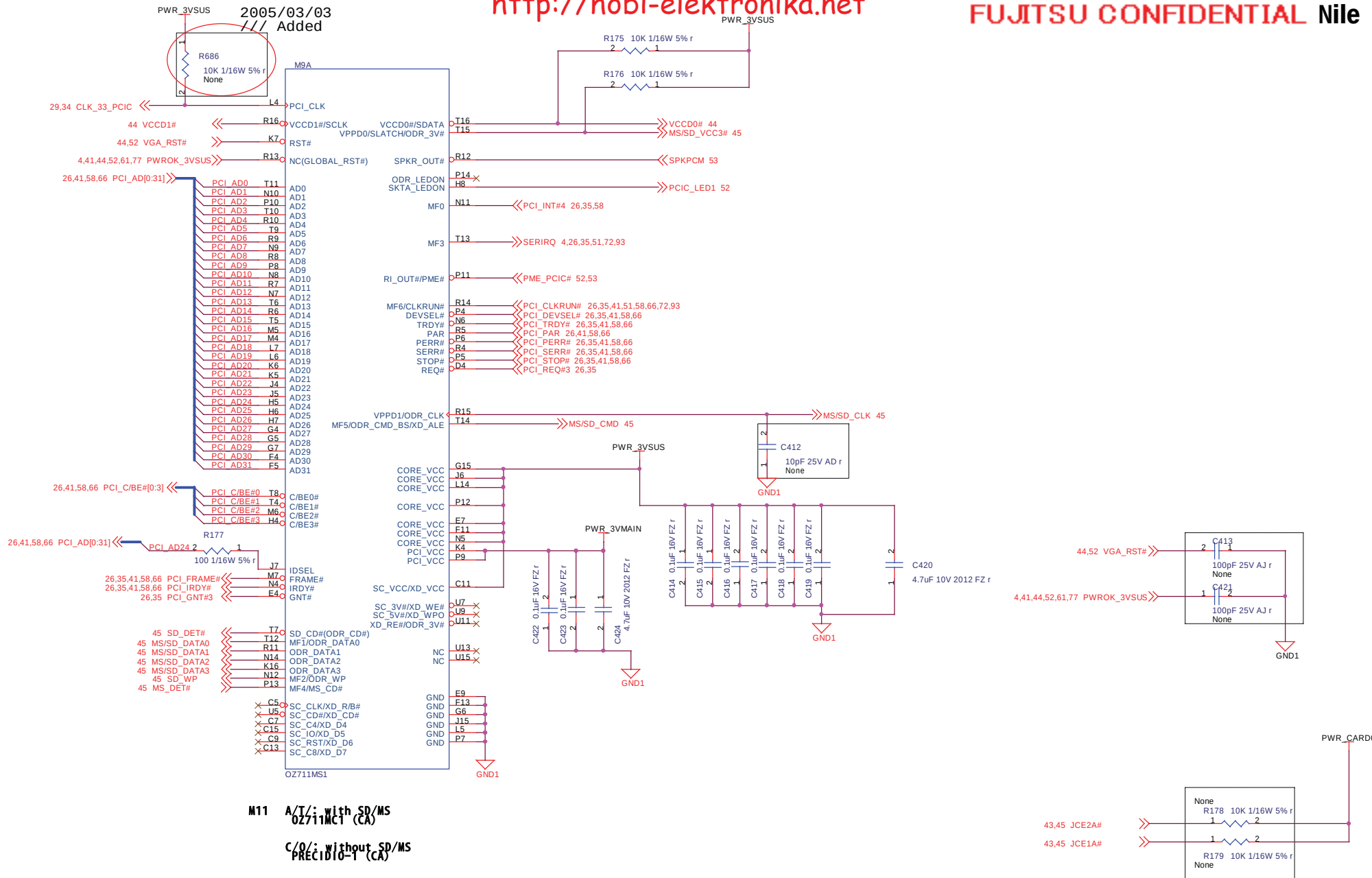
						TITLE	
						VB222AA	
						DRAW. No.	CAST
						C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description	Sheet	
Design	/ /	KOSHA	Check		Appr.	40 / 99	
FUJITSU LTD.							



Fujitsu
Proprietary &
Confidential
[Reserve]

								TITLE		
								VB222AA		
								DRAW. No.		CAST
								C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description			FUJITSU LTD.		Sheet 41 / 99
Design	/ /	KOSHA	Check			Appr.				

2005/03/03
/// Added



M11 A/T: with SD/MS
02711MCI (CA)
C/O: without SD/MS
PRECID10-1 (CA)

Fujitsu
Proprietary &
Confidential
[PCIC-1 (PCI)]

								TITLE	
								VB222AA	
								DRAW. No.	CAST
								C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description			Fujitsu Ltd.	
Design	/ /	KOSHA	Check				Appr.	Sheet	42 / 99

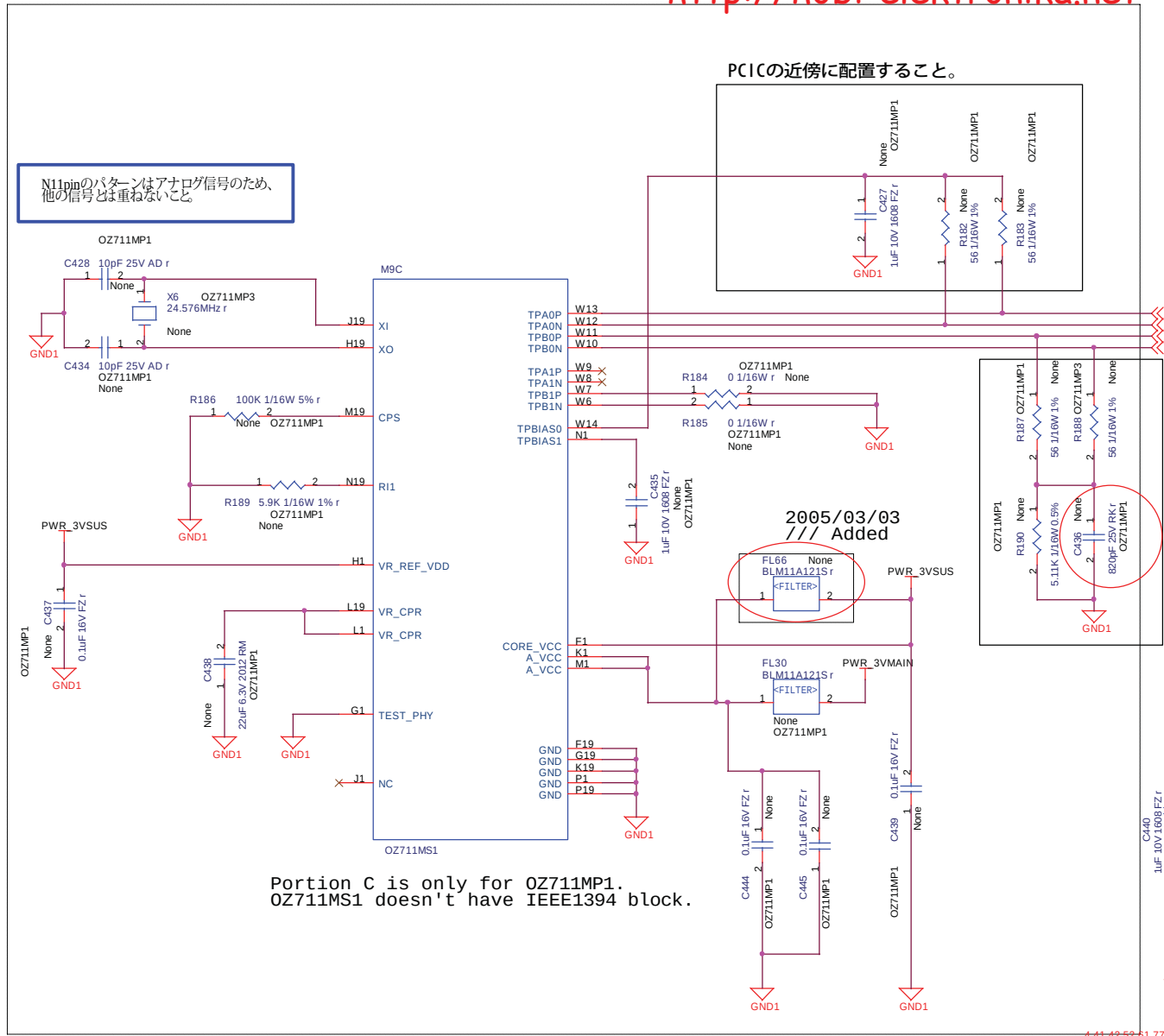


本抵抗/コンデンサはICに近接して実装すること。

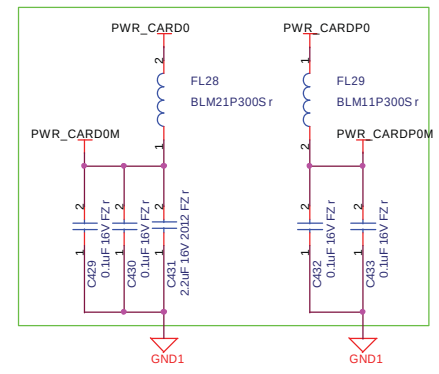
GNDガード

2004/08/23
Delete C355

						TITLE		
						VB222AA		
						DRAW. No.		CAST
						C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description			Sheet
Design	/ /	KOSHA	Check			Appr.		43 / 99
							FUJITSU LTD.	

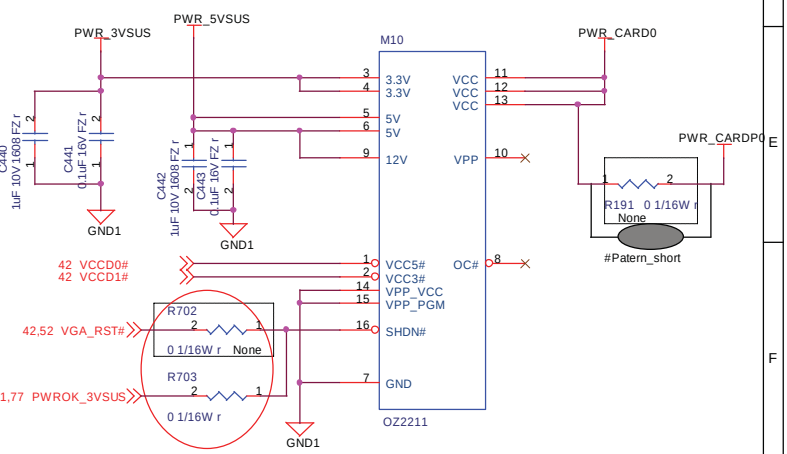


コネクタ電源ピンの近傍に配置



2005/03/03
/// Added

2005/02/18
/// Changed
2005/03/03
/// 3300p -> 820p

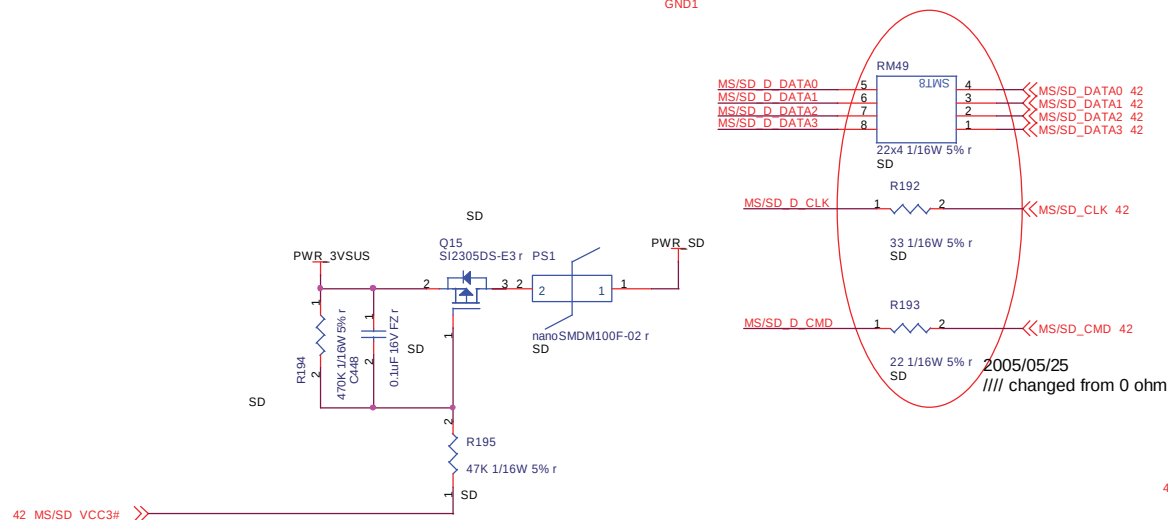
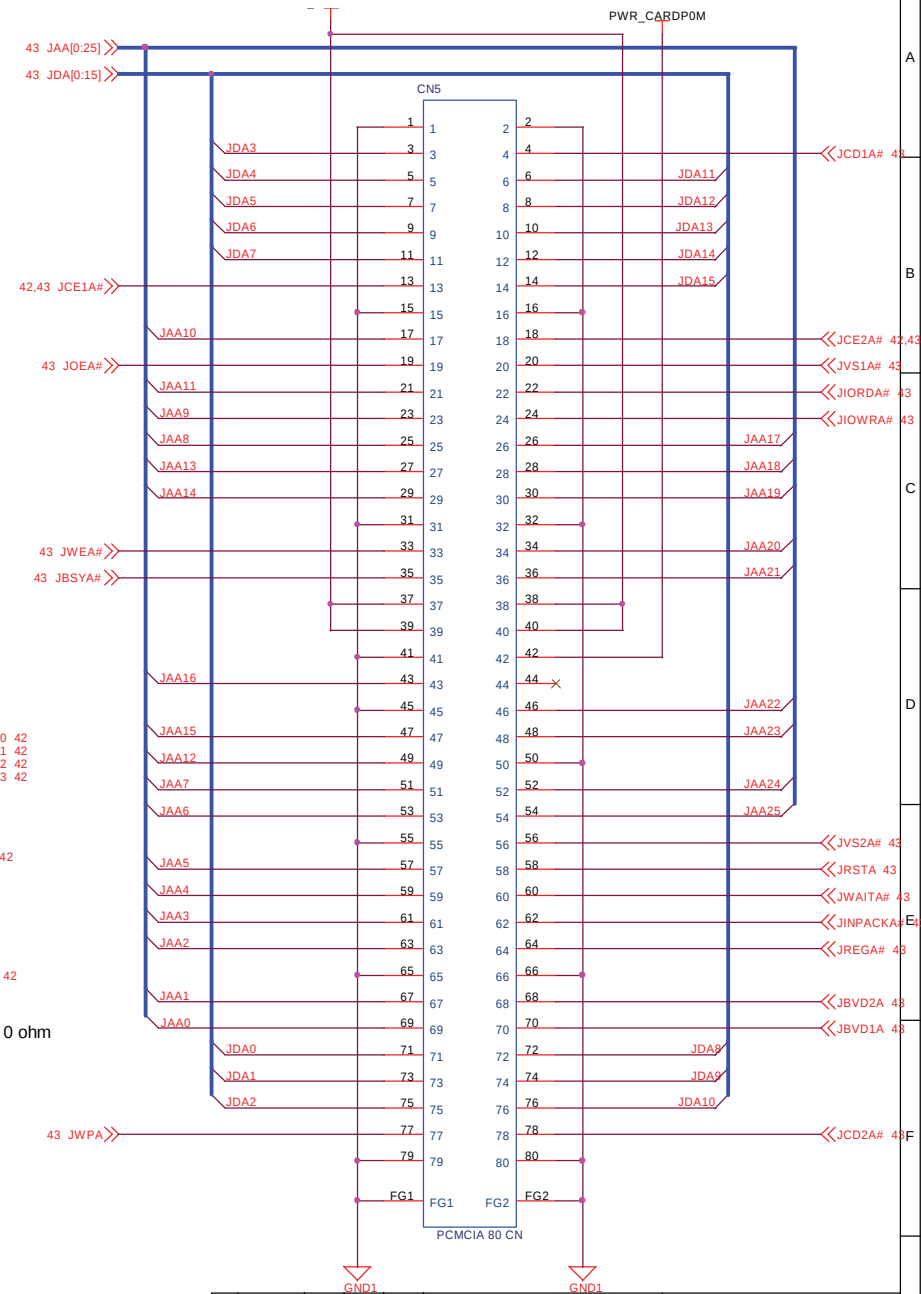


2004/05/09
//// added

Fujitsu
Proprietary &
Confidential

[PCIC_POW/CN]

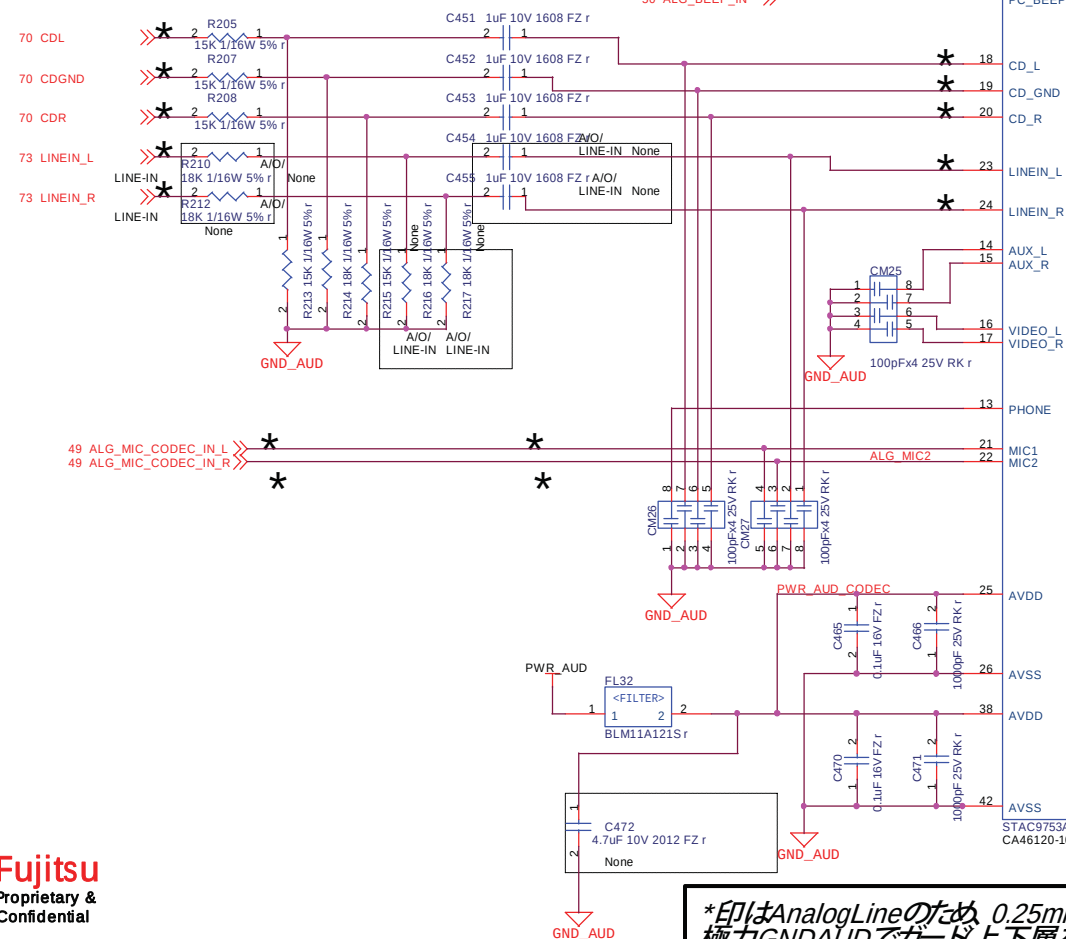
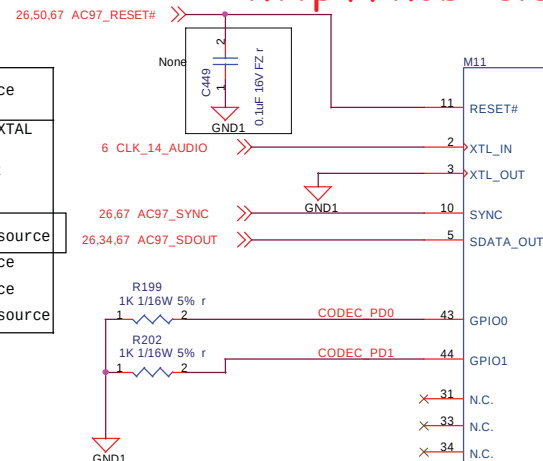
								TITLE	
								VB222AA	
								DRAW. No.	
								C1CP231360-X3	
								CAST	
Rev.	Date	Design	Check	Appr.	Description			Sheet	
Design	/ /	KOSHA	Check				Appr.	44 / 99	
								FUJITSU LTD.	



	1	2	3	4	5	6	7	8	9																																																																							
A	http://hobi-elektronika.net FUJITSU CONFIDENTIAL Nile									A																																																																						
B										B																																																																						
C										C																																																																						
D										D																																																																						
E										E																																																																						
F										F																																																																						
G	Fujitsu Proprietary & Confidential <table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="3">TITLE</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="3">VB222AA</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">DRAW. No.</td><td>CAST</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">C1CP231360-X3</td><td></td></tr><tr><td>Rev.</td><td>Date</td><td>Design</td><td>Check</td><td>Appr.</td><td colspan="5">Description</td></tr><tr><td>Design</td><td>/ /</td><td>KOSHA</td><td>Check</td><td></td><td></td><td></td><td>Appr.</td><td></td><td></td></tr><tr><td colspan="8">FUJITSU LTD.</td><td>Sheet</td><td>46 / 99</td></tr></table>																TITLE										VB222AA										DRAW. No.		CAST								C1CP231360-X3			Rev.	Date	Design	Check	Appr.	Description					Design	/ /	KOSHA	Check				Appr.			FUJITSU LTD.								Sheet	46 / 99	G
							TITLE																																																																									
							VB222AA																																																																									
							DRAW. No.		CAST																																																																							
							C1CP231360-X3																																																																									
Rev.	Date	Design	Check	Appr.	Description																																																																											
Design	/ /	KOSHA	Check				Appr.																																																																									
FUJITSU LTD.								Sheet	46 / 99																																																																							
	1	2	3	4	5	6	7	8	9																																																																							

3pin	46pin	45pin	CODEC MODE/ID[1:0]	Clock source
XTL_OUT	CID1	CID0		
XTAL	open	open	Primary /00	24.576MHZ XTAL
XTAL/open	PD	open	Secondary/01	12.288MHZ bit clk
XTAL/open	open	PD	Secondary/10	
XTAL/open	PD	PD	Secondary/11	
GND	open	open	Primary /00	14.318MHZ source
GND	PD	open	Primary /00	27MHZ source
GND	open	PD	Primary /00	48MHZ source
GND	PD	PD	Primary /00	24.576MHZ source

RS480

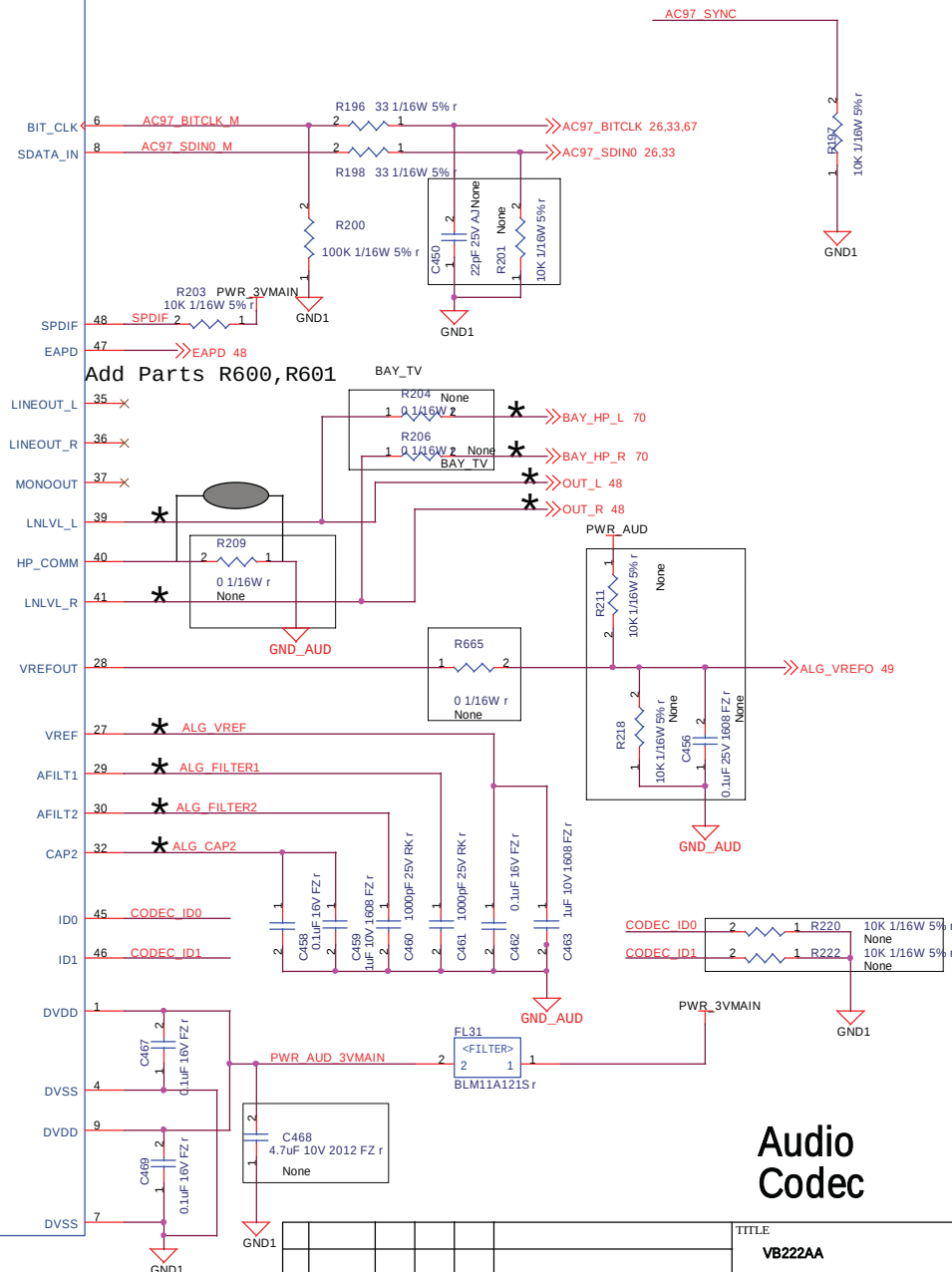


Fujitsu
Proprietary &
Confidential

*印はAnalogLineのため 0.25mm以上の幅で配線し
極力GND/AUDでガード上下層を含むこと

<http://hobi-elektronika.net>

FUJITSU CONFIDENTIAL Nile



Audio Codec

01							TITLE		
							VB222AA		
							DRAW. No.		CAS
							C1CP231360-X3		
	Rev.	Date	Design	Check	Appr.	Description			
	Design	/ /	KOSHA		Check		Appr.		Sheet 47 / 91
								FUJITSU LTD.	

★印は微小なAnalogLineのため 0.25mm以上の幅で配線し
GNDAUDでガード上下層を含むこと

2005/05/22
/// 68p -> 220p

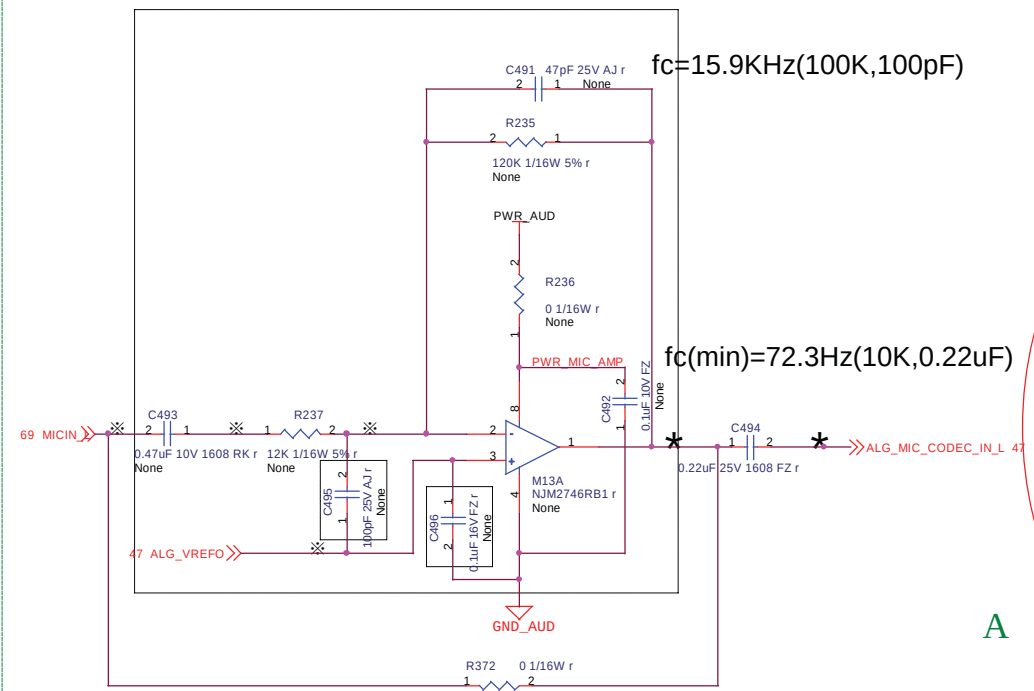
2005/02/27
/// deleted

Audio
AMP

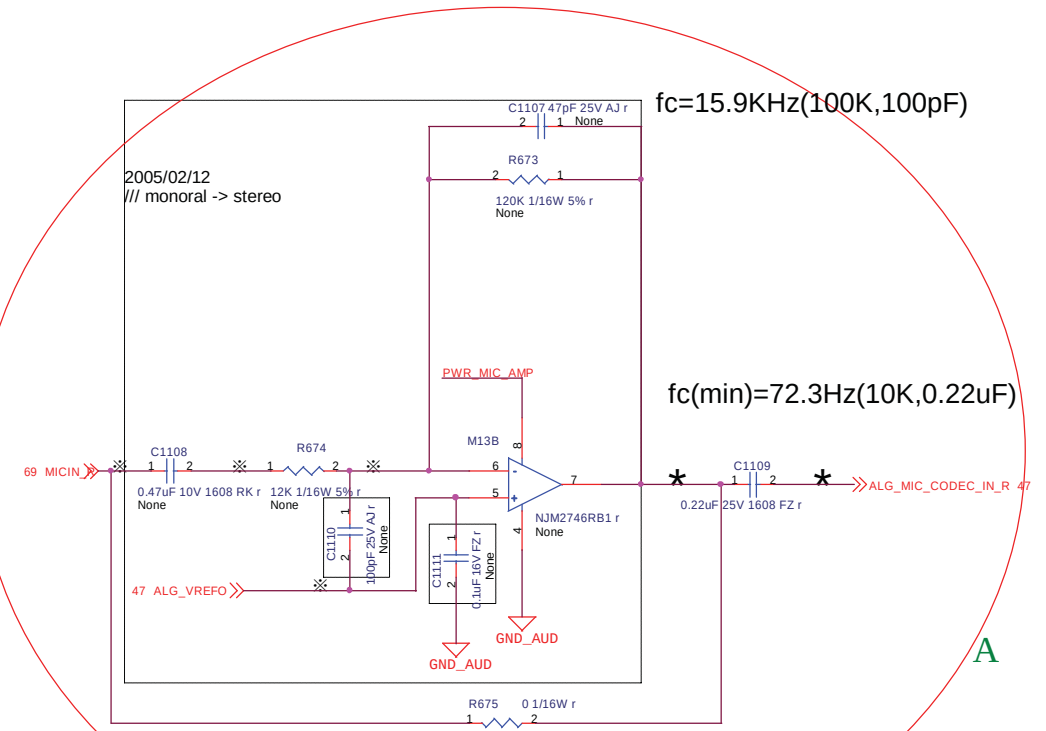
Fujitsu
Proprietary &
Confidential

					TITLE			
					VB222AA			
					DRAW. No.			CAST
					C1CP231360-X3			
Rev.	Date	Design	Check	Appr.	Description			Sheet
Design	/ /	KOSHA	Check			Appr.		48 / 99

*印はAnalog
Lineのため 0.25mm以上の幅で配線し
極力GND/AUDでガード上下層を含むこと

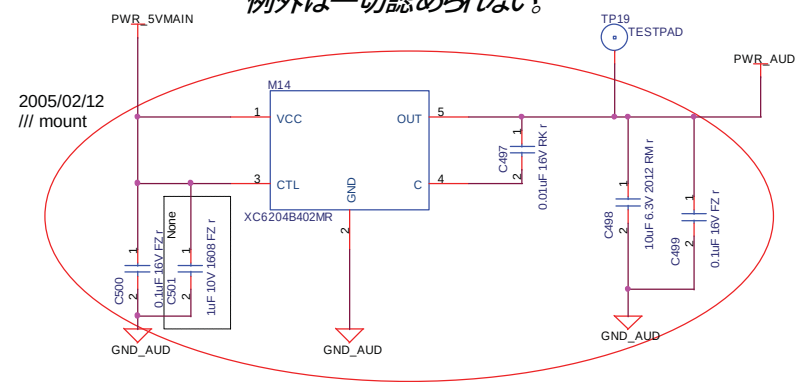


A



A

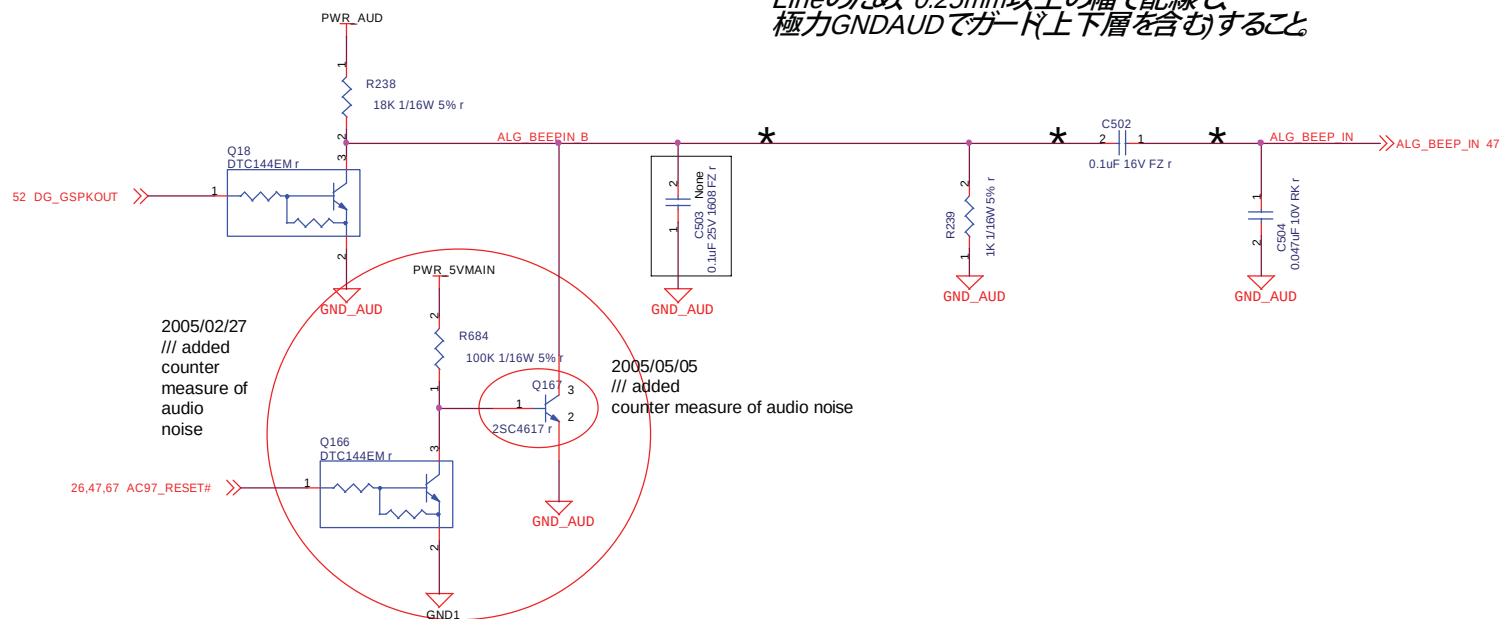
A部は微小なアナログ信号のため 配線やその
周辺部品、周辺部品のパッドの周辺や上下層を
確実にGND/AUDでガードすること
例外は一切認められない。



MIC AMP / AUDIO POWER

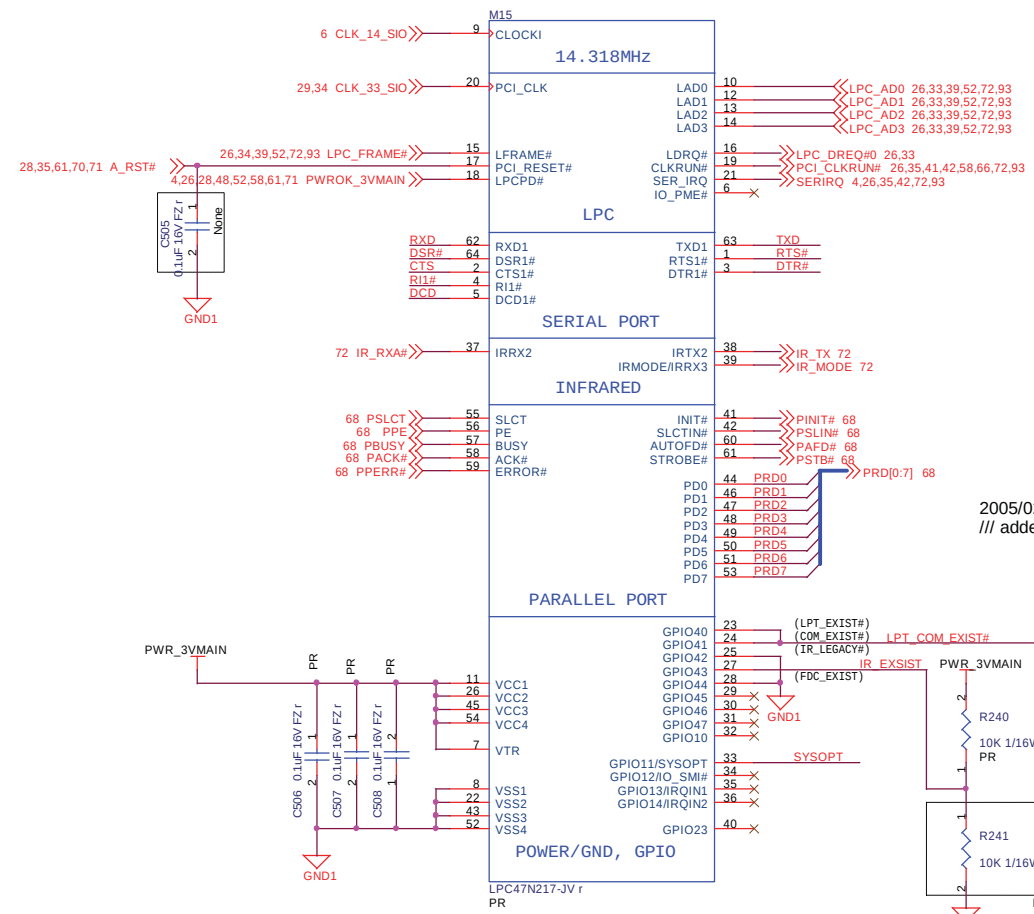
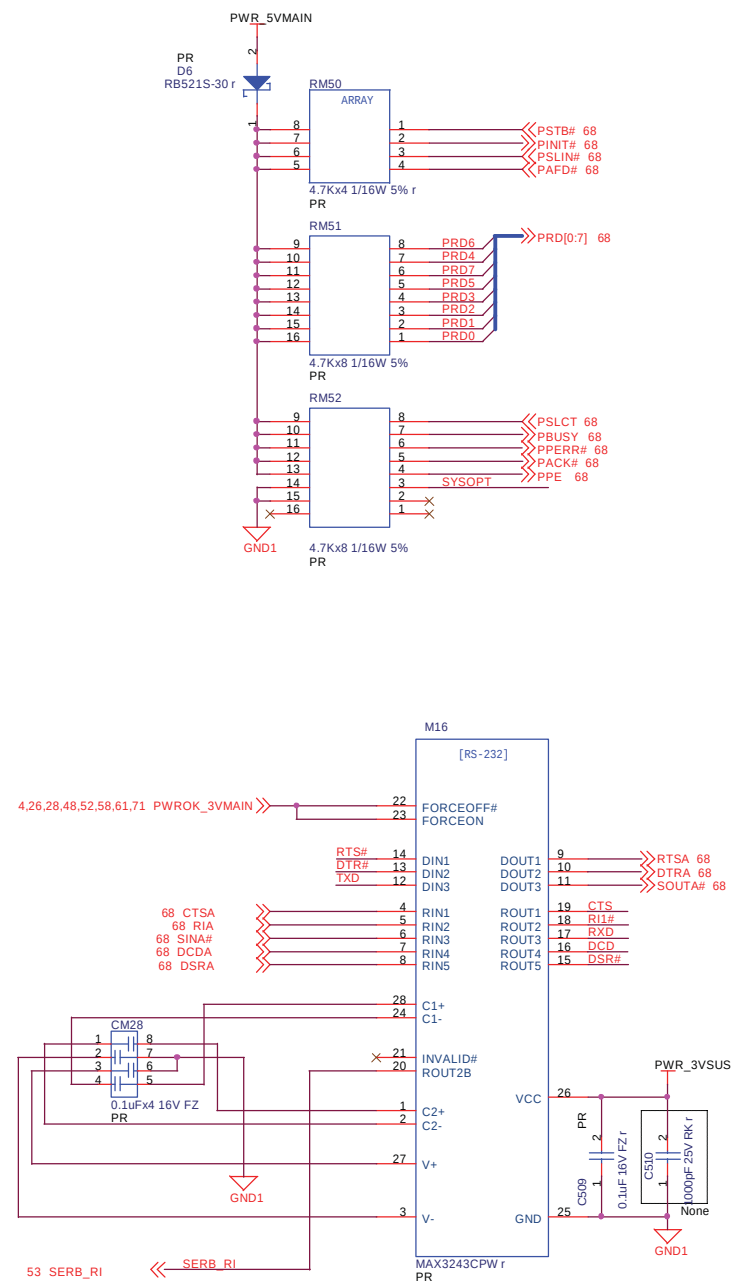
									TITLE VB222AA		
									DRAW. No. C1CP231360-X3		CAST
Rev.	Date	Design	Check	Appr.	Description				FUJITSU LTD.		Sheet
Design	/ /	KOSHA	Check				Appr.		49 / 99		

*印はAnalog
Lineのため 0.25mm以上の幅で配線し
極力GND/AUDでガード上下層を含むこと

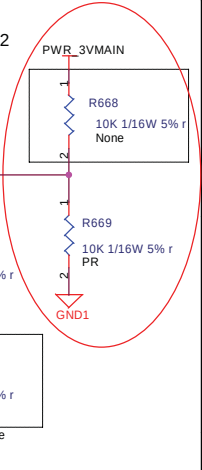


Fujitsu
Proprietary &
Confidential

						TITLE VB222AA DRAW. No. C1CP231360-X3 CAST			
Rev.	Date	Design	Check	Appr.	Description				Sheet 50 / 99
Design	//	KOSHA	Check			Appr.			
FUJITSU LTD.									



2005/02/12
/// added



Base I/O Address

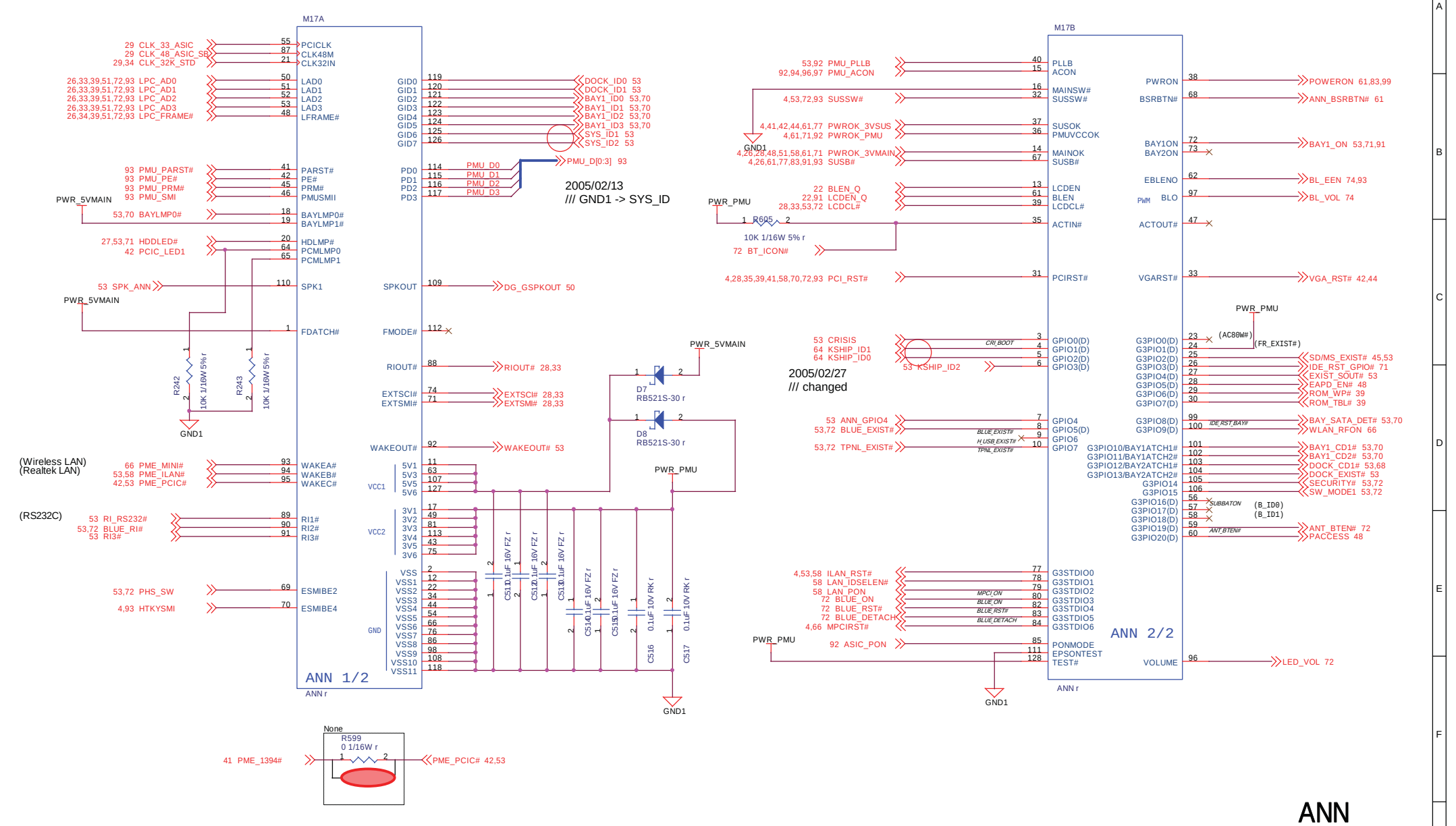
GPIO11	Address
0	02E
1	04E

本ページの抵抗・コンデンサはKONA付近に配置すること

Fujitsu
Proprietary &
Confidential

Super I/O

						TITLE		
						VB222AA		
						DRAW. No.		CAST
						C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description			Sheet
Design	/ /	KOSHA	Check			Appr.		51 / 99
7					8			9



Fujitsu
Proprietary &
Confidential

ANN

									TITLE VB222AA		
									DRAW. No. C1CP231360-X3		CAST
Rev.	Date	Design	Check	Appr.	Description				FUJITSU LTD.		Sheet 52 / 99
Design	/ /	KOSHA		Check			Appr.				

4,52,72,93 SUSSW# >>> 2 R251 1 PWR PMU
10K 1/16W 5% r



Fujitsu
Proprietary &
Confidential

						TITLE			
						VB222AA			
						DRAW. No.			C
						C1CP231360-X3			CAST
Rev.	Date	Design	Check	Appr.	Description				Sheet
Design	/ /	KOSHA	Check			Appr.		FUJITSU LTD.	53 / 99

TPM Configuration

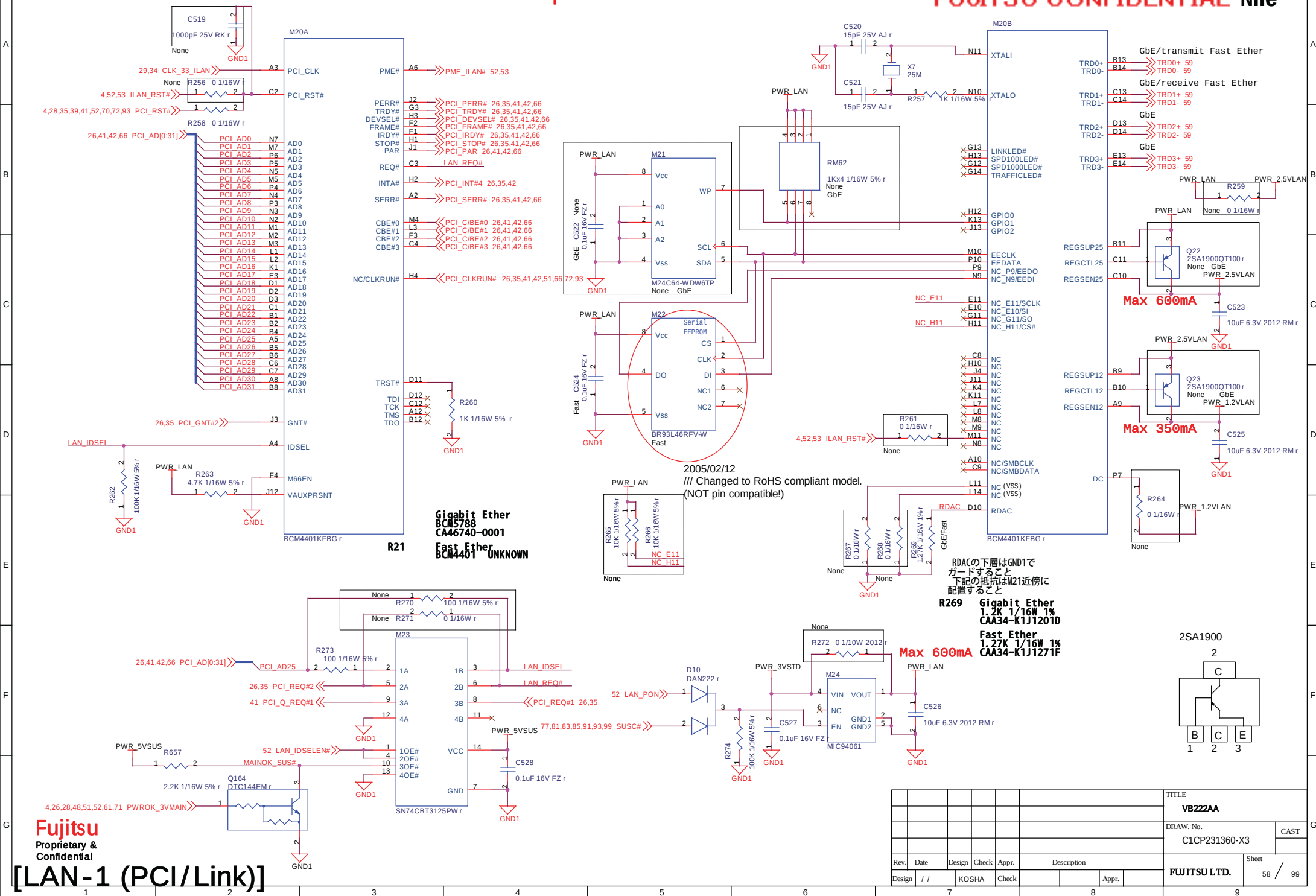
	High	Low
TPM_BADDR	4E/4Fh	2E/2Fh
TPM_BACCESS	Physical Presence ON	Physical Presence OFF

						TITLE			
						VB222AA			
						DRAW. No.			CAST
						C1CP231360-X3			
Rev.	Date	Design	Check	Appr.	Description				Sheet
Design	/ /	KOSHA		Check			Appr.		54 / 99
FUJITSU LTD.									

	1	2	3	4	5	6	7	8	9																																																																	
A	http://hobi-elektronika.net FUJITSU CONFIDENTIAL Nile									A																																																																
B										B																																																																
C										C																																																																
D										D																																																																
E										E																																																																
F										F																																																																
G	Fujitsu Proprietary & Confidential						<table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">TITLE</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">VB222AA</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>DRAW. No.</td><td>CAST</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>C1CP231360-X3</td><td></td></tr><tr><td>Rev.</td><td>Date</td><td>Design</td><td>Check</td><td>Appr.</td><td colspan="3">Description</td></tr><tr><td>Design</td><td>/ /</td><td>KOSHA</td><td>Check</td><td></td><td></td><td>Appr.</td><td>FUJITSU LTD.</td></tr><tr><td colspan="7"></td><td>Sheet</td></tr><tr><td colspan="7"></td><td>55 / 99</td></tr></table>									TITLE								VB222AA								DRAW. No.	CAST							C1CP231360-X3		Rev.	Date	Design	Check	Appr.	Description			Design	/ /	KOSHA	Check			Appr.	FUJITSU LTD.								Sheet								55 / 99	G
						TITLE																																																																				
						VB222AA																																																																				
						DRAW. No.	CAST																																																																			
						C1CP231360-X3																																																																				
Rev.	Date	Design	Check	Appr.	Description																																																																					
Design	/ /	KOSHA	Check			Appr.	FUJITSU LTD.																																																																			
							Sheet																																																																			
							55 / 99																																																																			
	1	2	3	4	5	6	7	8	9																																																																	

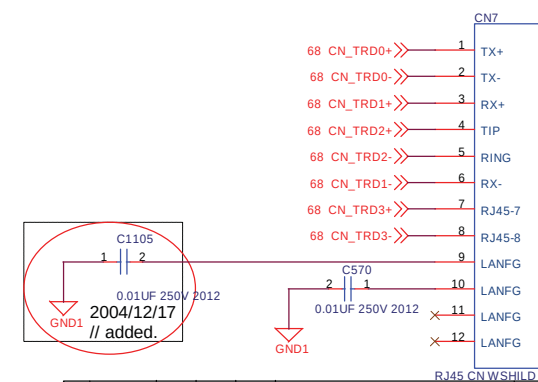
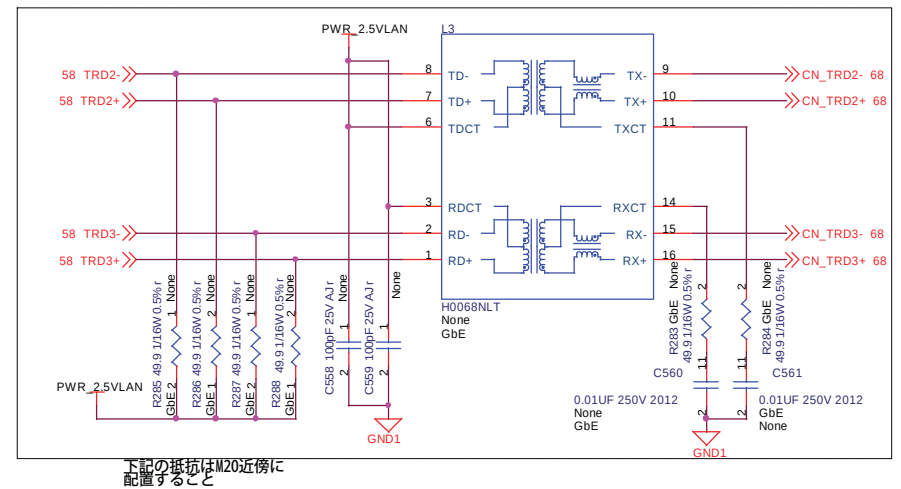
1	2	3	4	5	6	7	8	9	
http://hobi-elektronika.net									
FUJITSU CONFIDENTIAL Nile									
A									A
B									B
C									C
D									D
E									E
F									F
G									G
Fujitsu Proprietary & Confidential						RESERVE			

1	2	3	4	5	6	7	8	9																																																																								
http://hobi-elektronika.net																																																																																
FUJITSU CONFIDENTIAL Nile																																																																																
A								A																																																																								
B								B																																																																								
C								C																																																																								
D								D																																																																								
E								E																																																																								
F								F																																																																								
G								G																																																																								
Fujitsu Proprietary & Confidential							<table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">TITLE</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">VB222AA</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">DRAW. No.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">C1CP231360-X3</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">CAST</td></tr><tr><td>Rev.</td><td>Date</td><td>Design</td><td>Check</td><td>Appr.</td><td colspan="4">Description</td></tr><tr><td>Design</td><td>/ /</td><td>KOSHA</td><td>Check</td><td></td><td></td><td>Appr.</td><td colspan="2">Fujitsu Ltd.</td></tr><tr><td colspan="7"></td><td>Sheet</td><td>57 / 99</td></tr></table>									TITLE									VB222AA									DRAW. No.									C1CP231360-X3									CAST		Rev.	Date	Design	Check	Appr.	Description				Design	/ /	KOSHA	Check			Appr.	Fujitsu Ltd.									Sheet	57 / 99
							TITLE																																																																									
							VB222AA																																																																									
							DRAW. No.																																																																									
							C1CP231360-X3																																																																									
							CAST																																																																									
Rev.	Date	Design	Check	Appr.	Description																																																																											
Design	/ /	KOSHA	Check			Appr.	Fujitsu Ltd.																																																																									
							Sheet	57 / 99																																																																								
1	2	3	4	5	6	7	8	9																																																																								



下記のコンデンサ配置数

- ・E12pin: 1ヶ
- ・P8pin: 1ヶ
- ・M14, N14, P12-14: 3ヶ
- ・その他のpin: 残りす



[LAN-2 (POW/TRANS/CN)]

R345 C N W S H I D										TITLE	
										VB222AA	
										DRAW. No.	CAST
										C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description					Sheet	
Design	/ /	KOSHA		Check			Appr.		FUJITSU LTD.		59 / 99

Fujitsu
Proprietary &
Confidential

						TITLE			
						VB222AA			
						DRAW. No.			CAST
						C1CP231360-X3			
Rev.	Date	Design	Check	Appr.	Description				Sheet 60 / 99
Design	/ /	KOSHA		Check			Appr.		
								FUJITSU LTD.	



2004/12/02



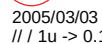
Target : $T_d(\text{Typ. } 6.9 \times 10^6) * 4700\text{pF} = 32.4\text{ms.}$



2004/12/05
// changed
sequence



Fujitsu
Proprietary &
Confidential



2005/02/11
/// BD5327FVE -> BU4327FVE

2004/12/02 T
// pin change



RESET

						TITLE				
						VB222AA				
						DRAW. No.				CAST
						C1CP231360-X3				
Rev.	Date	Design	Check	Appr.	Description					Sheet 61 / 99
Design	/ /	KOSHA		Check			Appr.		FUJITSU LTD.	

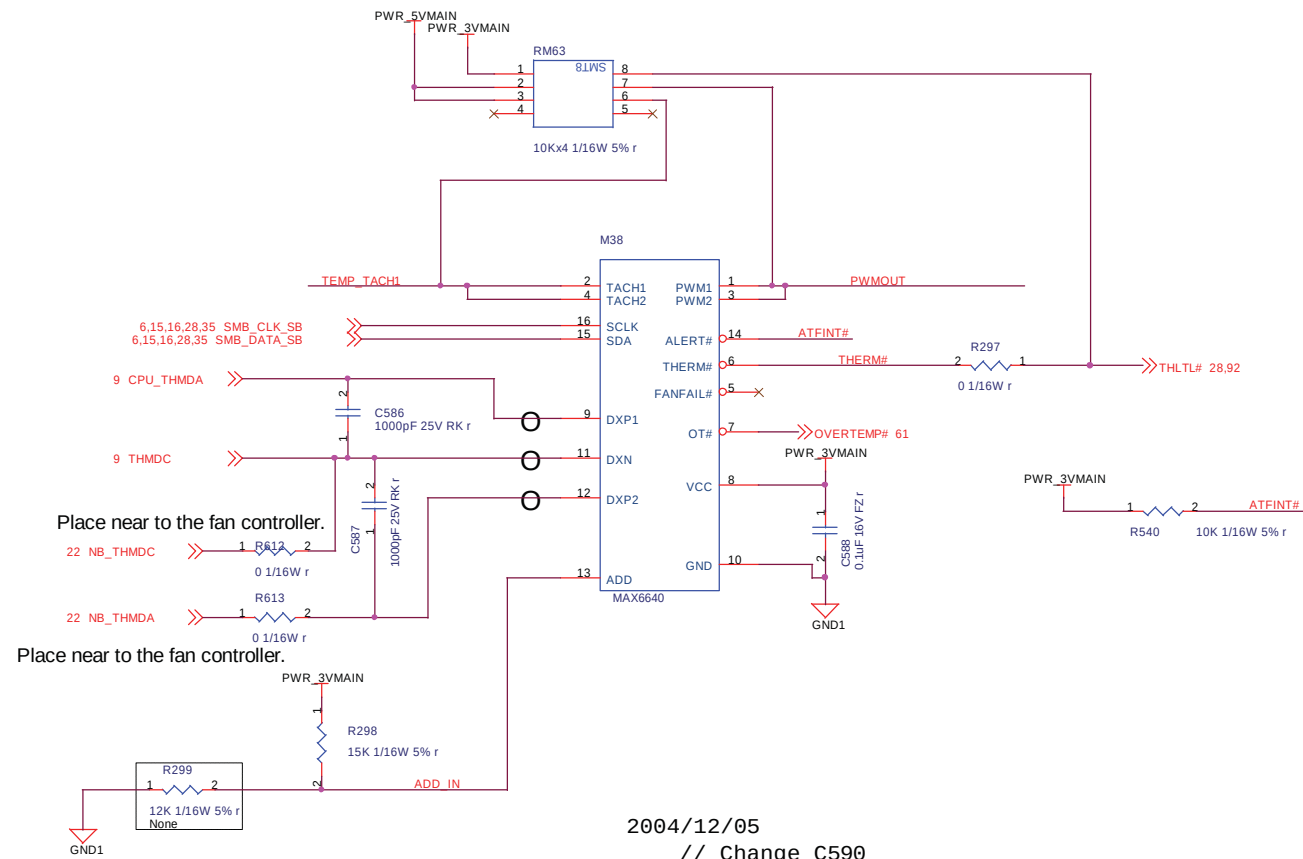
SN74AHCT08
VCC : 4.5V - 5.5V
VIH : 2.00V
VIL : 0.80V
VI : 0V - 5.5V

SN74LV05A
VCC : 2.0V - 5.5V
VIH : VCC * 0.7
VIL : VCC * 0.3
VI : 0V - 5.5V

Fujitsu
Proprietary &
Confidential

Reserve

						TITLE		
						VB222AA		
						DRAW. No.		CAST
						C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description			
Design	/ /	KOSHA		Check		Appr.		
FUJITSU LTD.							Sheet	62 / 99



○印の付いた信号線(CPU_THMDA,CPU_THMDC)は
GND1で両側をガードすること
(下図参照)

10mil ()

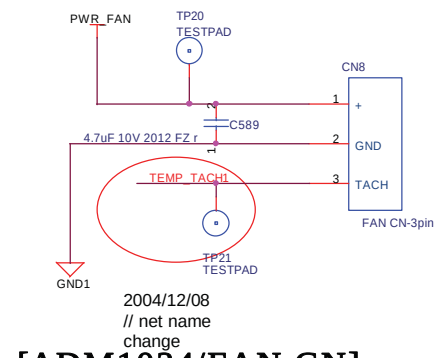
10mil ()

10mil ()

10mil ()

ADM1034
SMB Address : 5Eh

2004/12/05
// Change C590
// Unmount D11

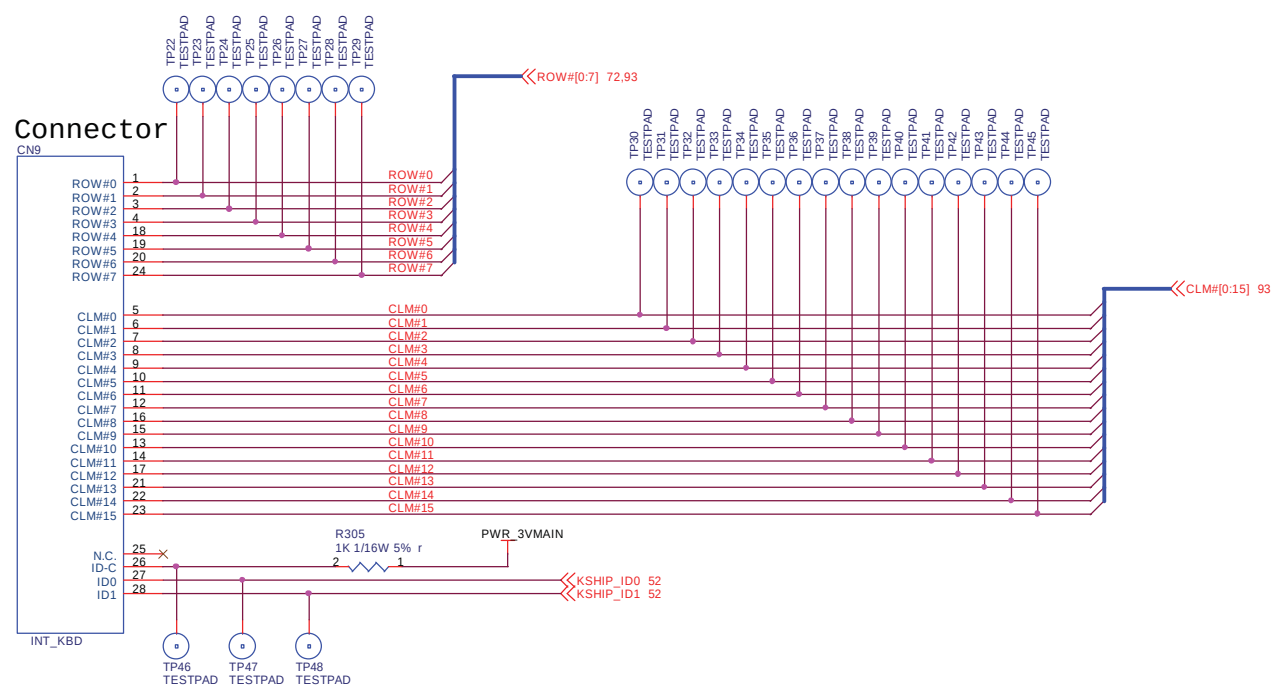


[ADM1034/FAN CN]

Thermal IC

									TITLE	
									VB222AA	
									DRAW. No.	CAST
									C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description				FUJITSU LTD.	Sheet
Design	/ /	KOSHA	Check				Appr.			63 / 99

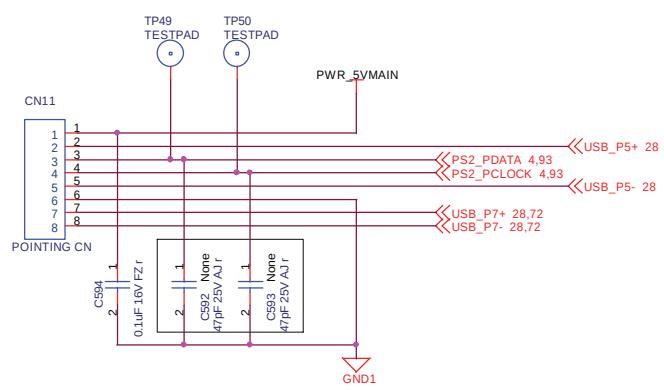
KeyBoard Connector



Keyboard Strap (N86C-7664-0203-E)

ID1: ID0 (KBC Side)
JP 1 1
US 1 0
UK 0 1

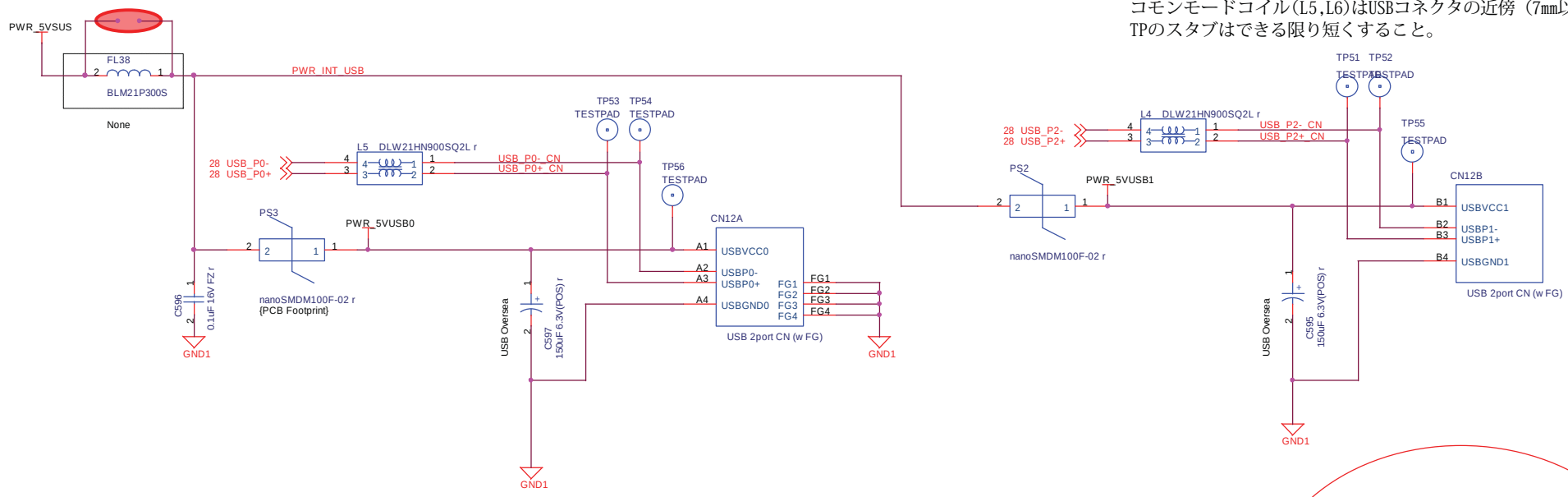
2005/03/03
/// deleted 6 pins connect



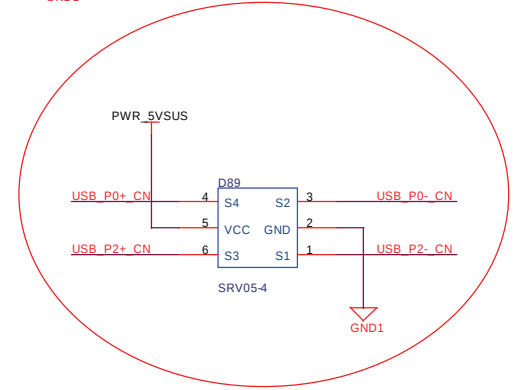
KB/Pointing-CN

Rev.					Date					Design					Check					Appr.					Description					TITLE				
																														VB222AA				
																														DRAW. No.				
																														C1CP231360-X3				
																														CAST				
																														Fujitsu LTD.				
																														Sheet				
																														64 / 99				

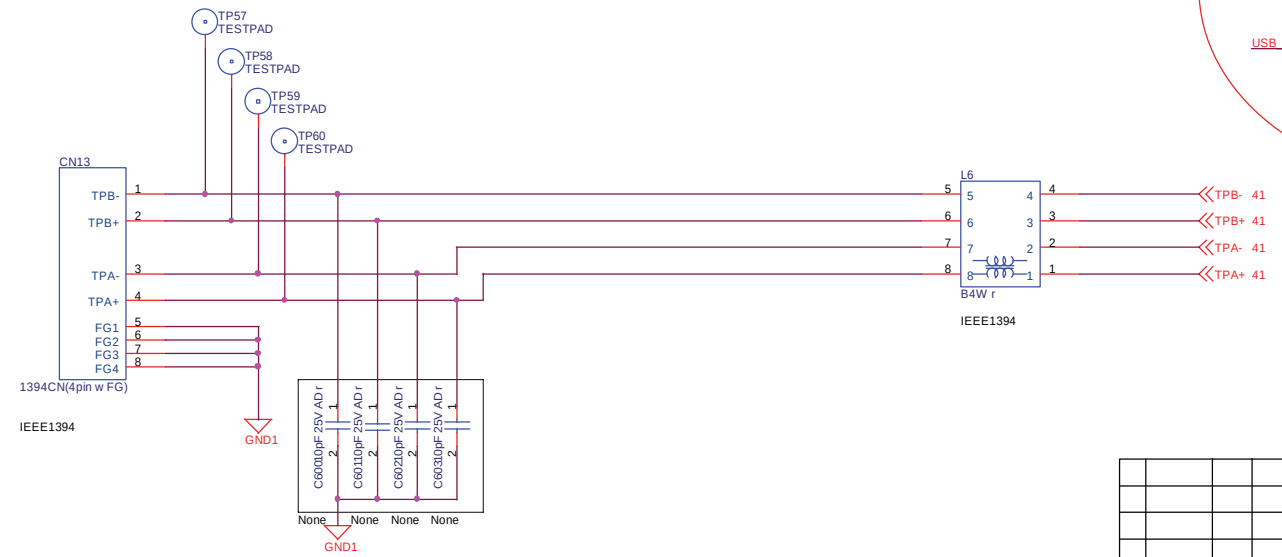
コモンモードコイル(L5,L6)はUSBコネクタの近傍 (7mm以内)に配置すること。
TPのスタブはできる限り短くすること。



TPのスタブはできる限り短くすること。



2005/02/12
/// added
2005/03/03
/// mounted

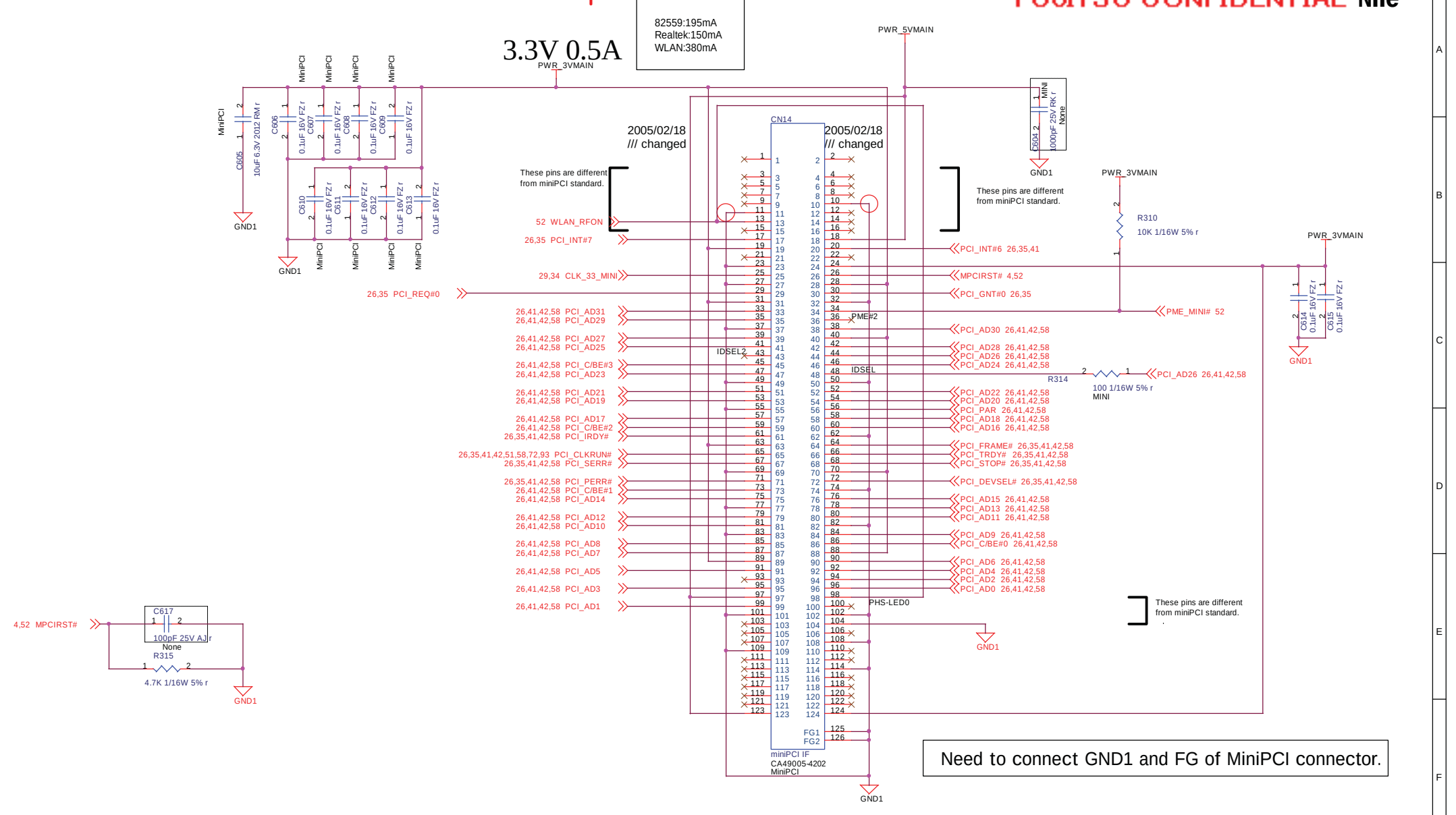


※Need to have GND1 guard for USB signal.

Fujitsu
Proprietary &
Confidential

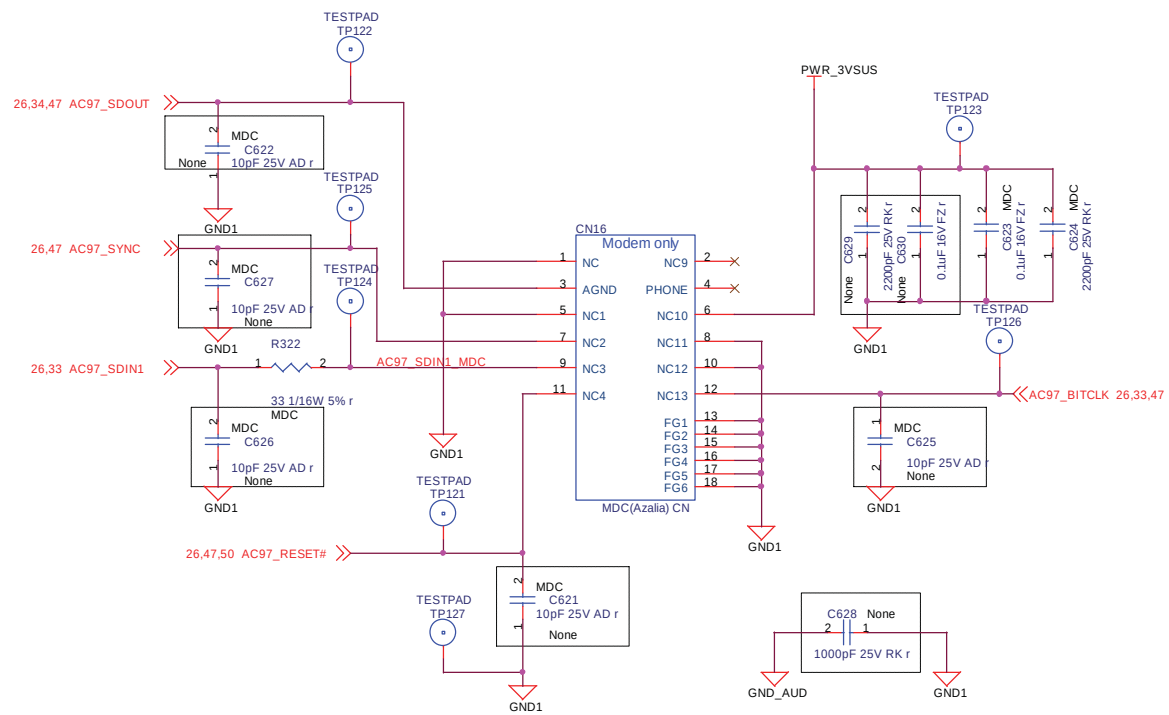
USB-CN

								TITLE	
								VB222AA	
								DRAW. No.	CAST
								C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description			Sheet	
Design	/ /	KOSHA	Check				Appr.	FUJITSU LTD. 65 / 99	



MiniPCI CN

								TITLE	
								VB222AA	
								DRAW. No.	C1CP231360-X3
								CAST	
Rev.	Date	Design	Check	Appr.	Description			Sheet	
Design	/ /	KOSHA	Check				Appr.	66	99



AC97_BITCLK, AC97_RESET#はGND1でガードすること

モジュールの固定用ネジ穴はGND 1に接続する

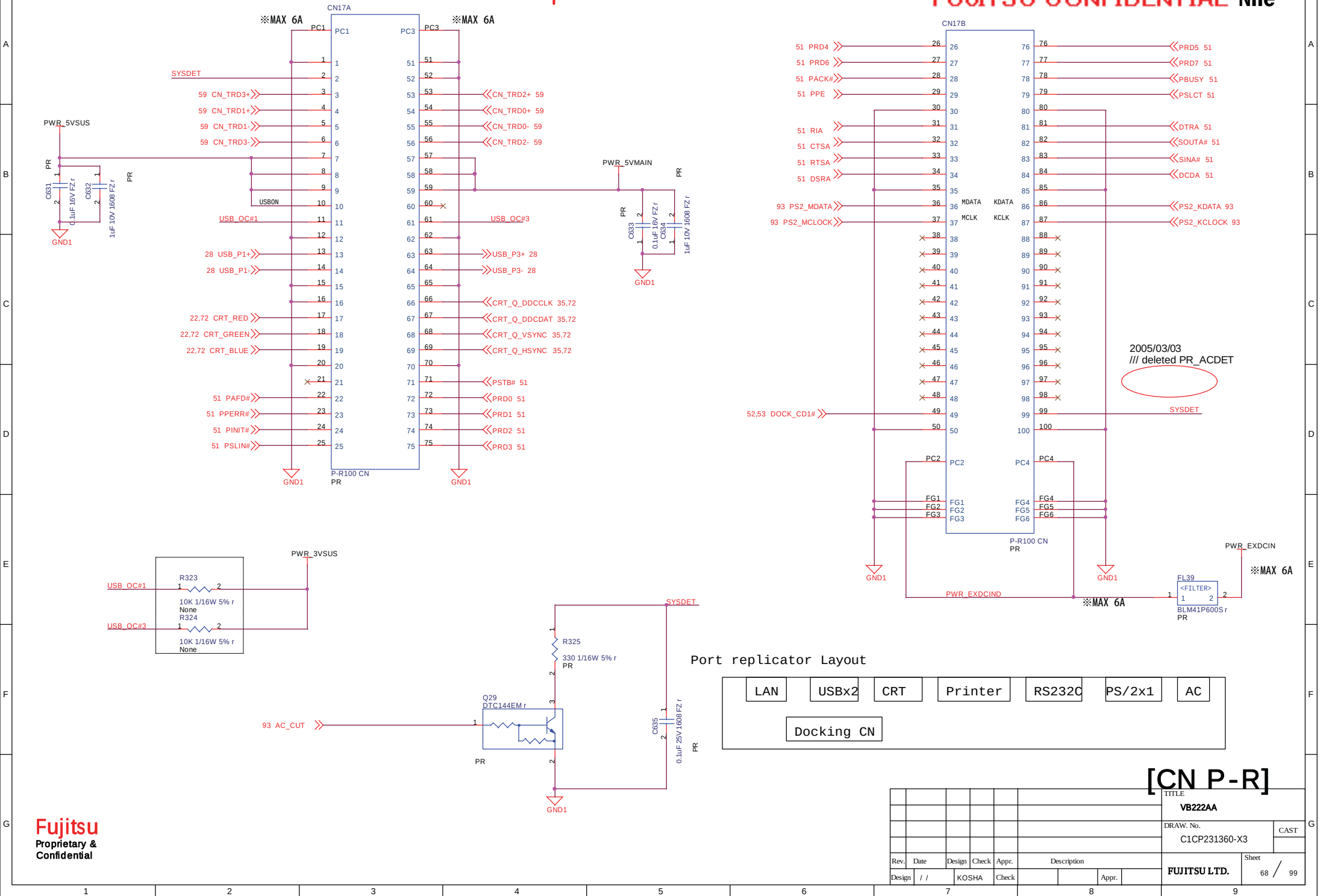
2004/12/08
// MDC 1.0
connector
deleted

2004/12/08
// net name
change

MDC Modem

Fujitsu
Proprietary &
Confidential

									TITLE			
									VB222AA			
									DRAW. No.		CAST	
									C1CP231360-X3			
Rev.	Date	Design	Check	Appr.	Description				FUJITSU LTD.		Sheet	
Design	/ /	KOSHA	Check				Appr.				67 / 99	



2005/03/03
/// deleted PR_ACDET

Fujitsu
Proprietary &
Confidential

[CN P-R]

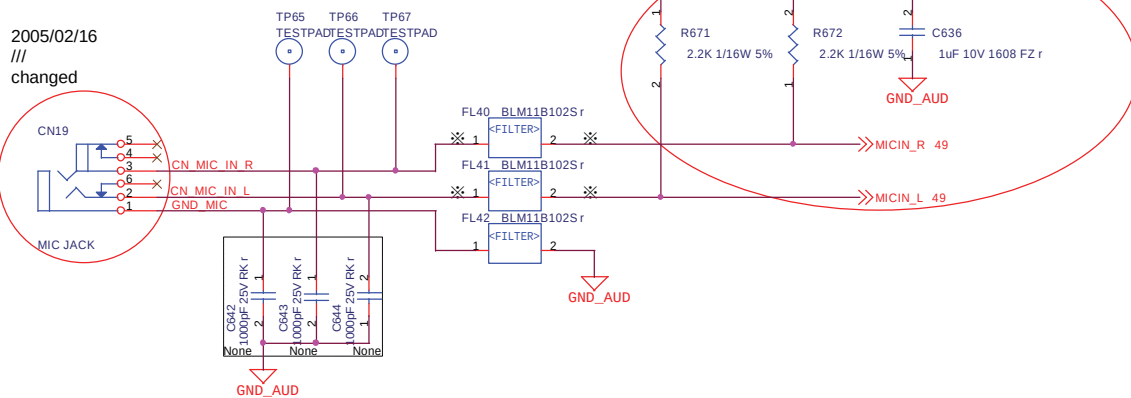
										TITLE	
										VB222AA	
										DRAW. No.	
										C1CP231360-X3	
										CAST	
										Sheet	
										68 / 99	
										Fujitsu Ltd.	
Rev.	Date	Design	Check	Appr.	Description						
Design	/ /		KOSHA	Check						Appr.	

全項AUDIO AREA

<http://hobi-elektronika.net>

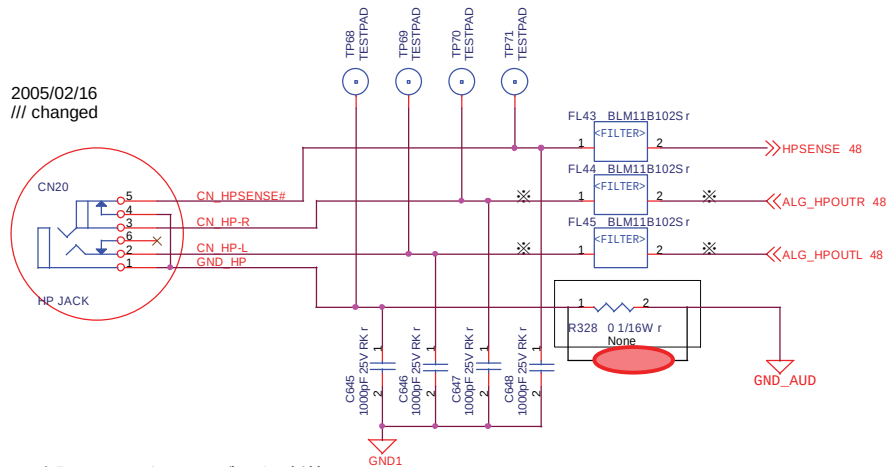
FUJITSU CONFIDENTIAL Nile

2005/02/16
///
changed



上記のフィルタ、コンデンサ、抵抗は
MTC JACKの近くに配置すること。

2005/02/16
/// changed



上記のフィルタ、コンデンサ、抵抗は
HP JACKの近くに配置すること。

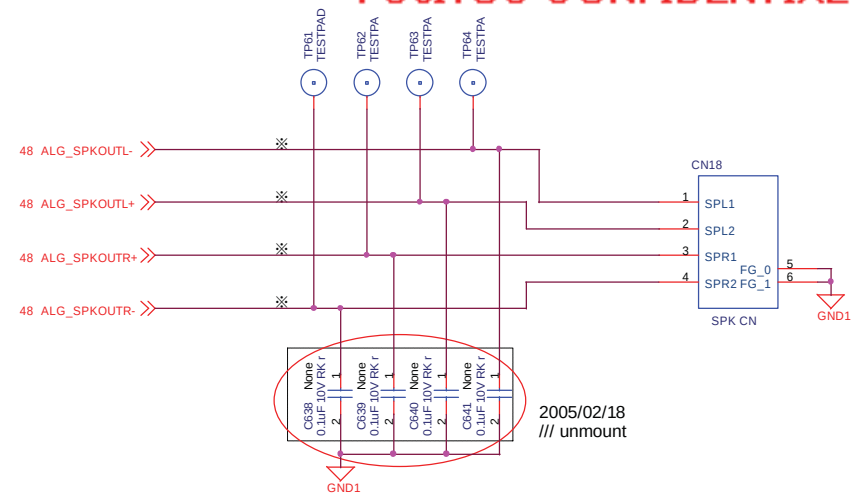
本ページ中に記載されているフィルタ (FLxx) はそれぞれ接続されているコネクタの近くに配置し、フィルターコネクタ間の配線は非常に短く配線すること。

The filters in this page (referred with FLxx) have to be placed near each connector connecting to respective filters. The traces between connector and filter have to be short as much as possible.

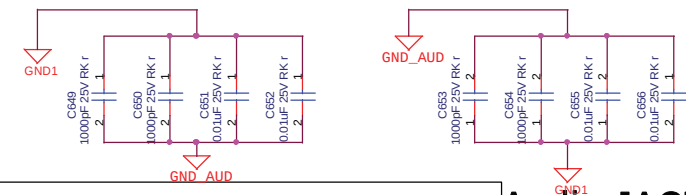
be short as
Fujitsu
Proprietary &
Confidential

本項中※印のついたパターンは、GND_AUDでガードし、その上下はGND_AUDのベタパターンで覆うこと。また、Mxの下基板面およびその下の層には、デジタル系の信号線を配線しないこと。

The traces marked with ※ have to be guarded both side and both adjacent layer with AUDIOGND. Underneath Mx on surface layer and in one more internal layer don't allow digital traces to be run.

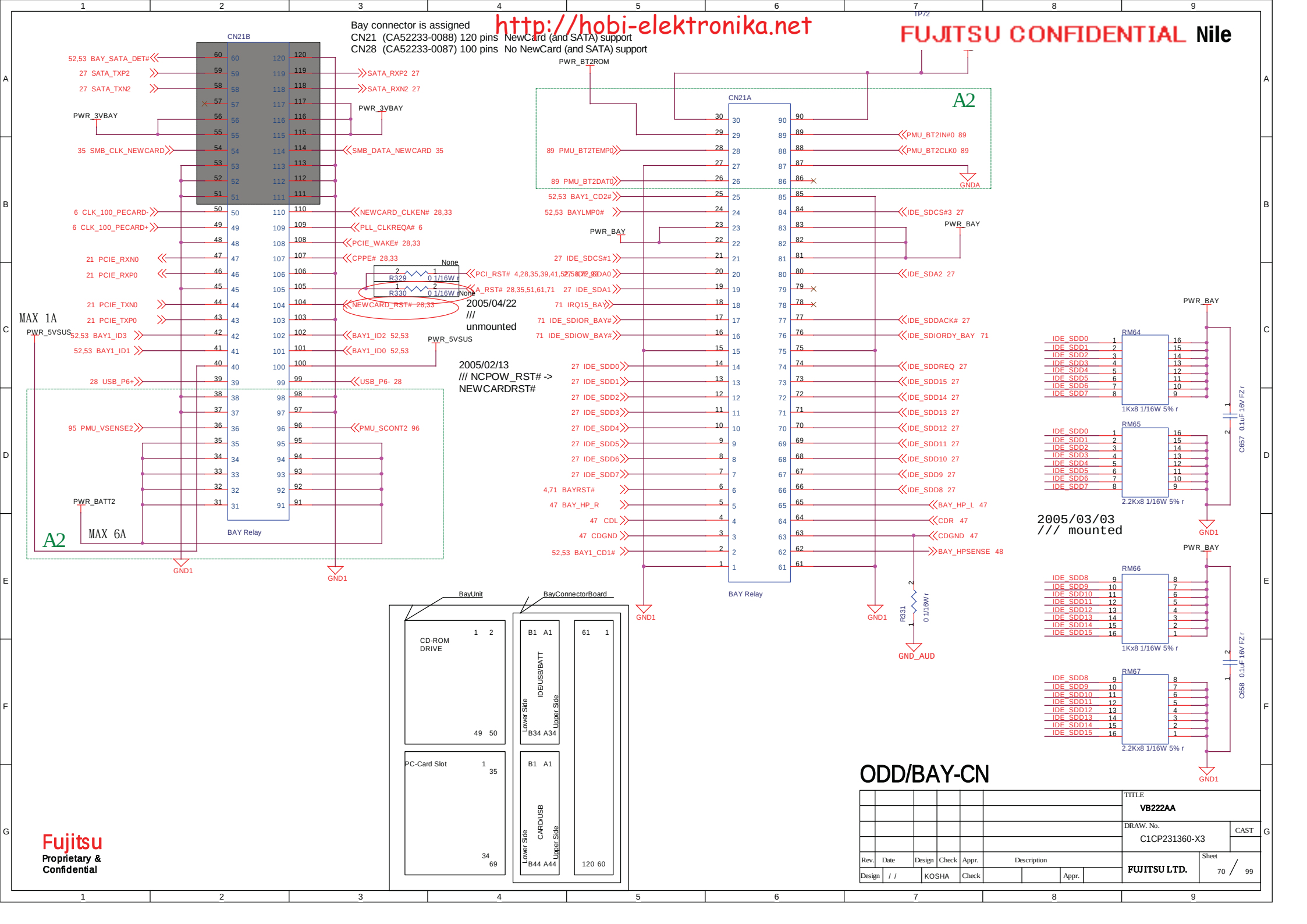


2005/02/18
/// unmount



本Pageの部品は、それぞれのコネクタの近くに配置すること

						TITLE				
						VB222AA				
						DRAW. No.			CAST	
						C1CP231360-X3				
Rev.	Date	Design	Check	Appr.	Description				Sheet	
Design	/ /	KOSHA		Check			Appr.		FUJITSU LTD.	69 / 99



※IDE_PD1OR_HDD#, IDE_PD1OW_HDD#, IDE_PD1ORDY_HDD#は
それぞれGND1のガードを付けて付線すること。

※1 SB400側に搭載

※HDD_CN側に搭載

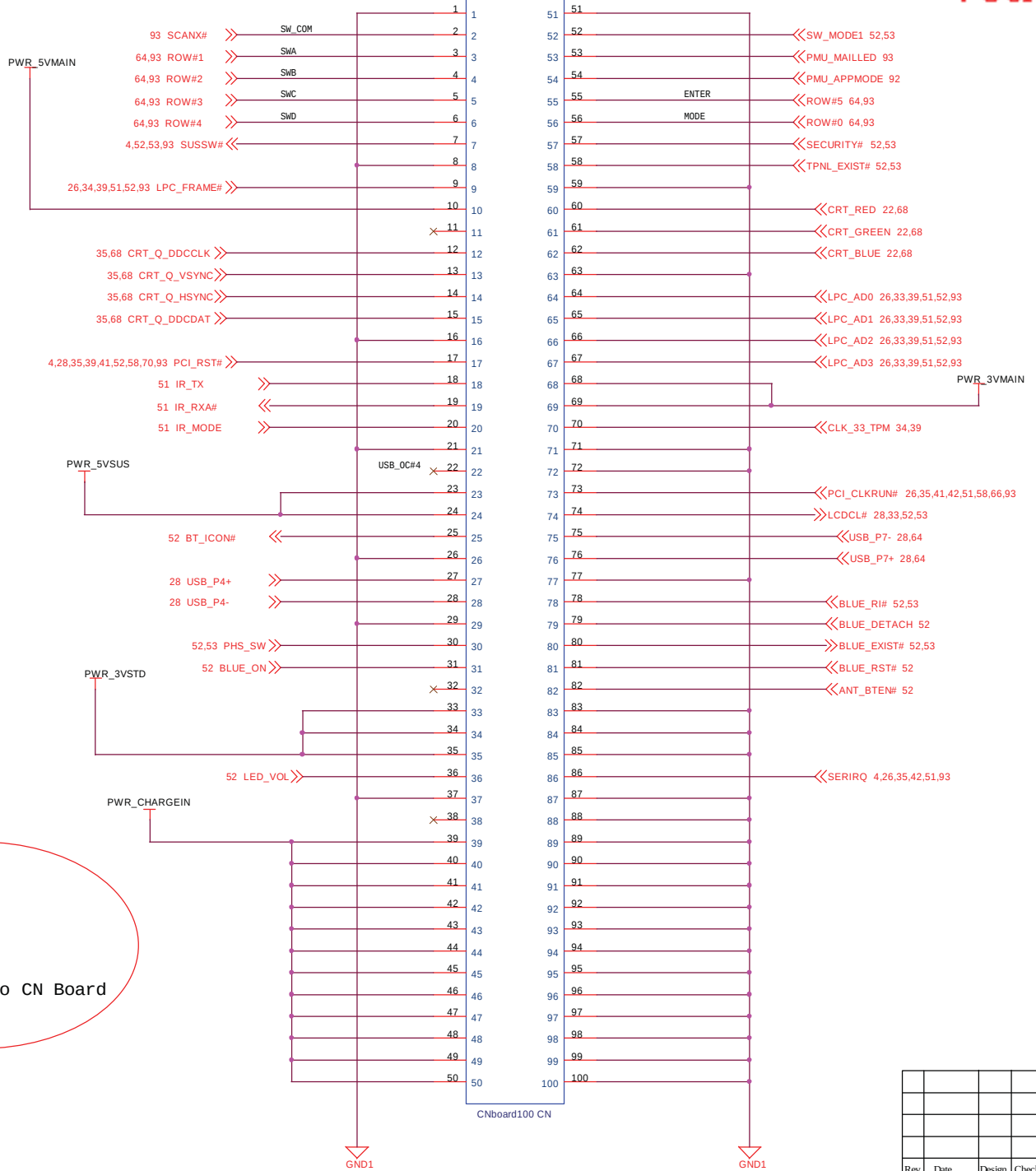
※BAY_CN側に搭載

2004/12/05
// Deleted
pull up

HDD-CN

Fujitsu
Proprietary &
Confidential

								TITLE	
								VB222AA	
								DRAW. No.	CAST
								C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description			FUJITSU LTD.	Sheet
Design	/ /	KOSHA	Check				Appr.		71 / 99

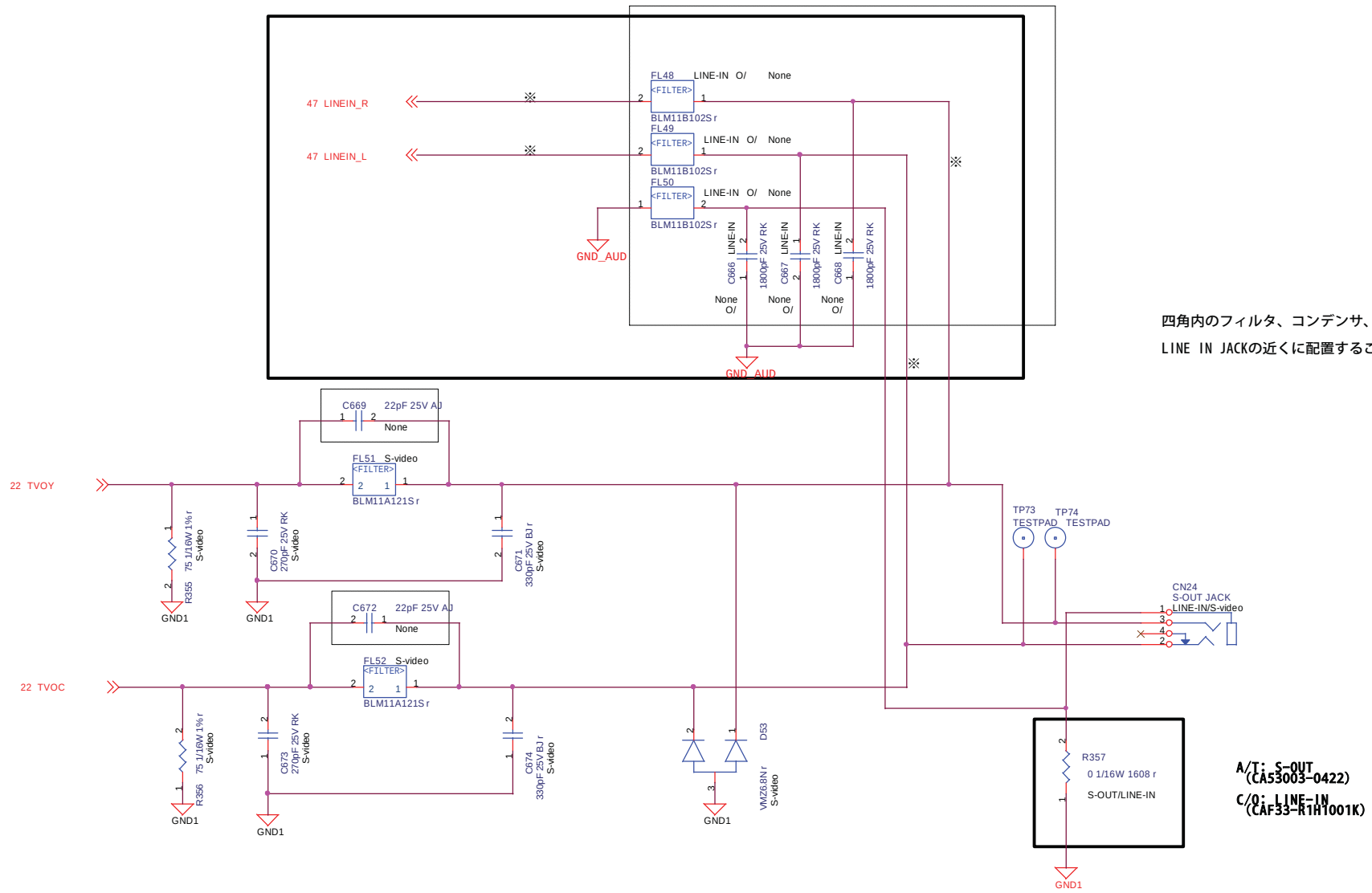


2005/02/18
/// Added
2005/03/03
/// mounted
2005/05/09
//// moved to CN Board

Fujitsu
Proprietary &
Confidential

[CN CN-Board]

									TITLE			
									VB222AA			
									DRAW. No.		CAST	
									C1CP231360-X3			
Rev.	Date	Design	Check	Appr.	Description				FUJITSU LTD.		Sheet	
Design	/ /	KOSHA	Check				Appr.				72 / 99	



四角内のフィルタ、コンデンサ、抵抗は
LINE IN JACKの近くに配置すること。

A/T: S-OUT
(CA53003-0422)
C/O: LINE-IN
(CAF33-R1H1001K)

TV Encoder

Fujitsu
Proprietary &
Confidential

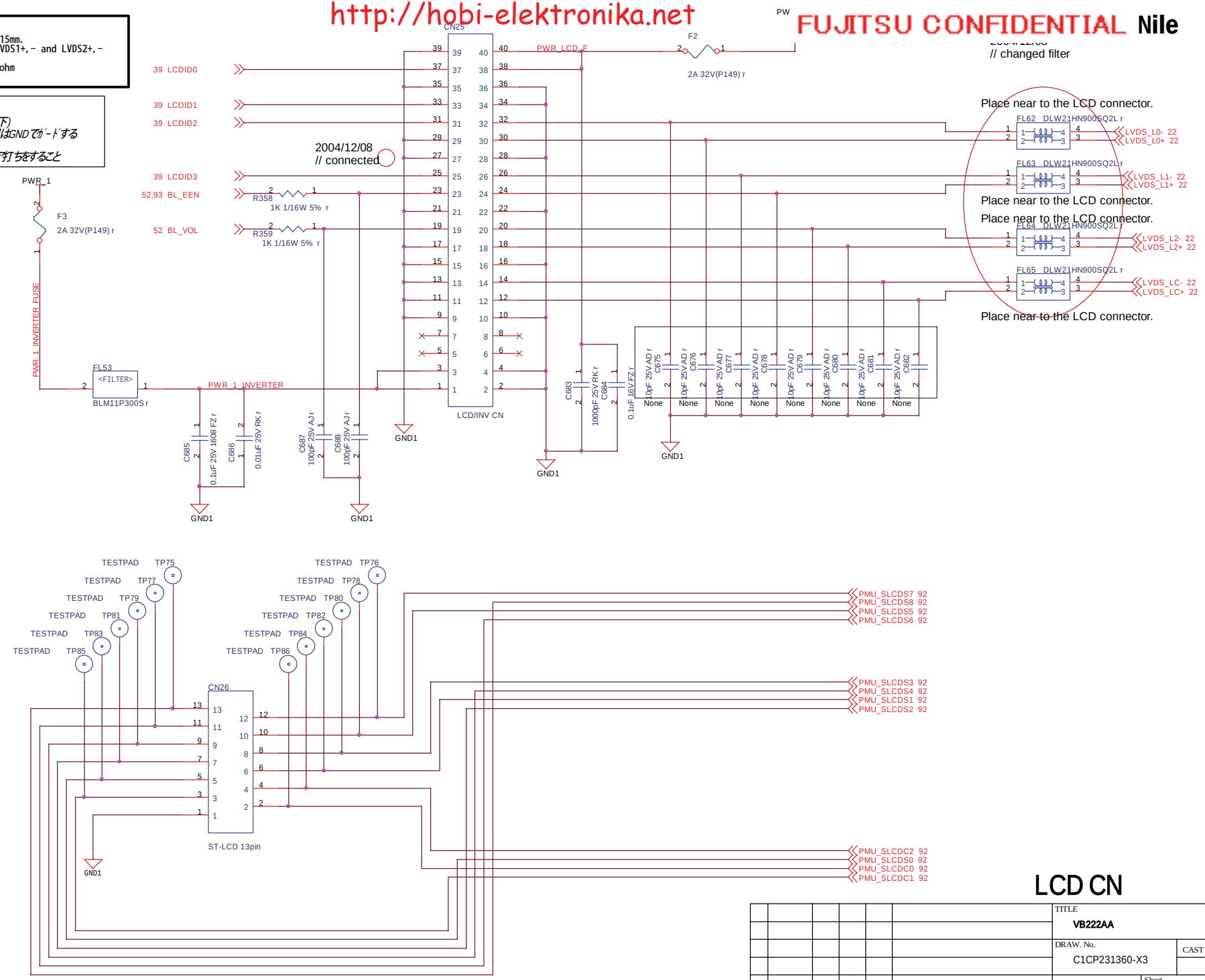
									TITLE	
									VB222AA	
									DRAW. No.	CAST
									C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description				FUJITSU LTD.	Sheet
Design	/ /	KOSHA	Check				Appr.			73 / 99

LVDxx Design guide
- Difference each net length is within 15mm.
- Interval LVDS₊, - and LVDS₀₊, - and LVDS₁₊, - and LVDS₂₊, - have GND1 guard.
- Impedance of each LVDS signal is 100ohm
- Max VIA is three.

LVDxxの設計条件
- 原則として等長配線する各線長の誤差は5mm以下
- LVDS₊, -とLVDS₀₊, -とLVDS₁₊, -とLVDS₂₊, -の間はGNDでガードする
- 各線のインダクタンスを100Ωにする
- ビッパチは最小限(3回以下)とし、各信号等長でビッパチをすること

<http://hobi-elektronika.net>

FUJITSU CONFIDENTIAL Nile

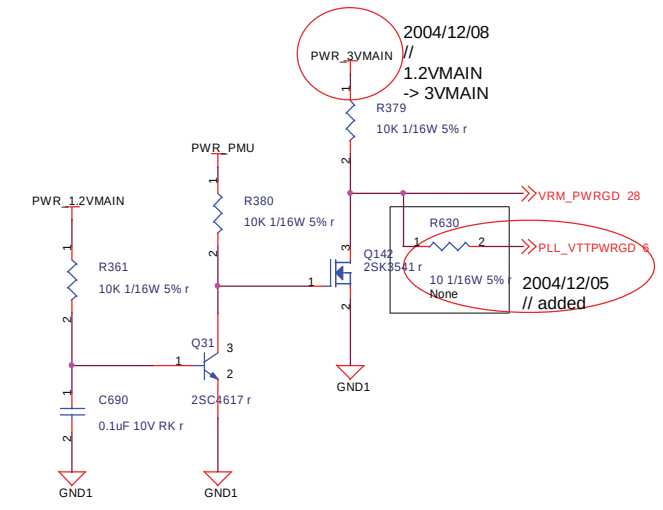


Fujitsu
Proprietary &
Confidential

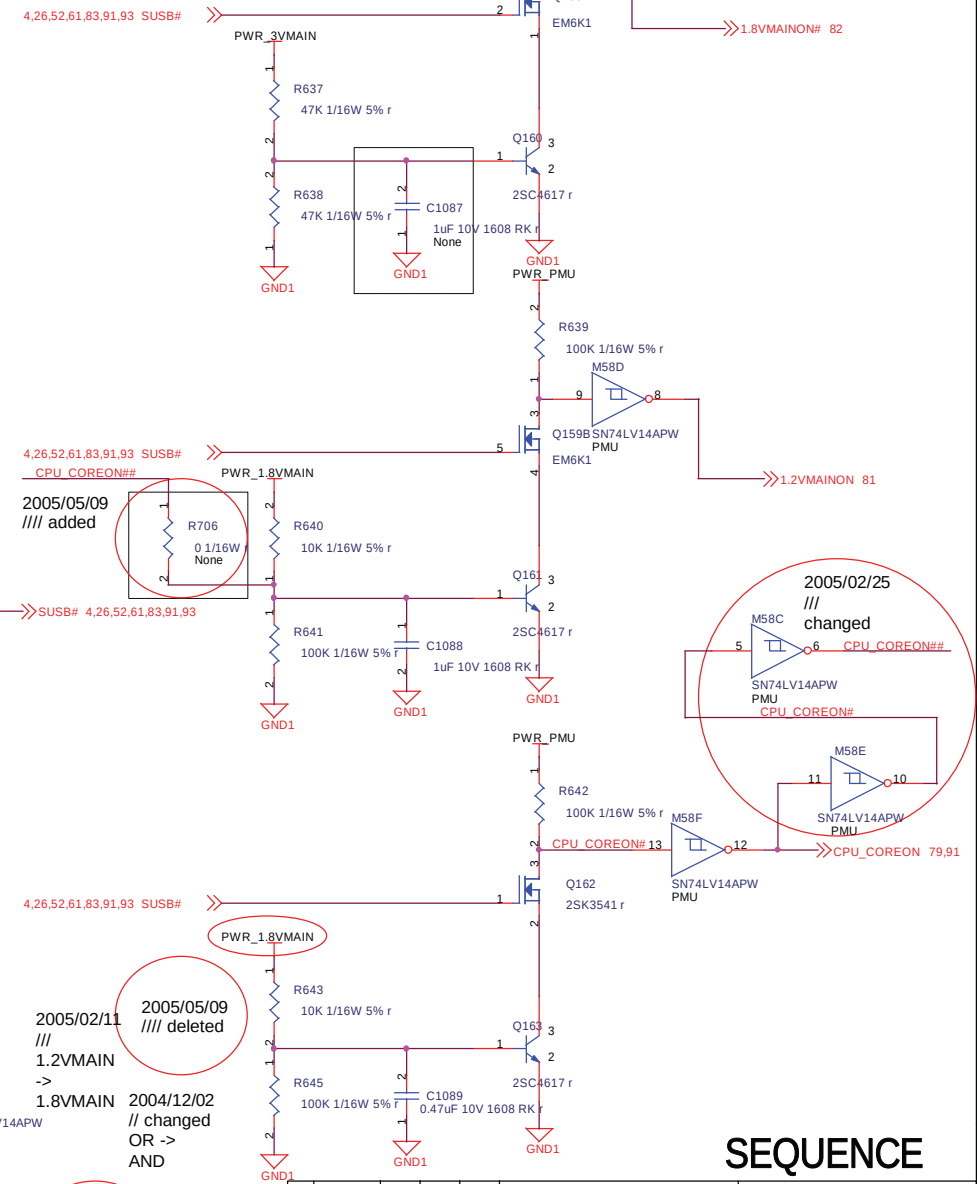
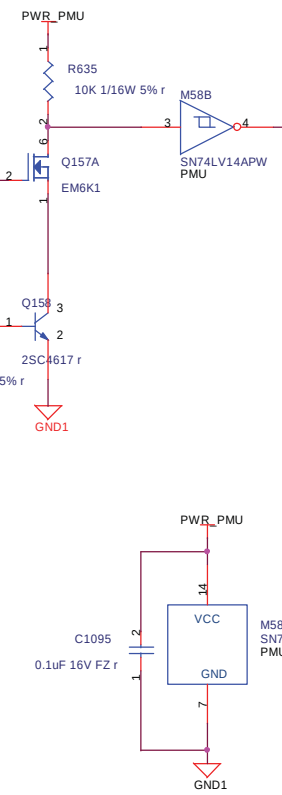
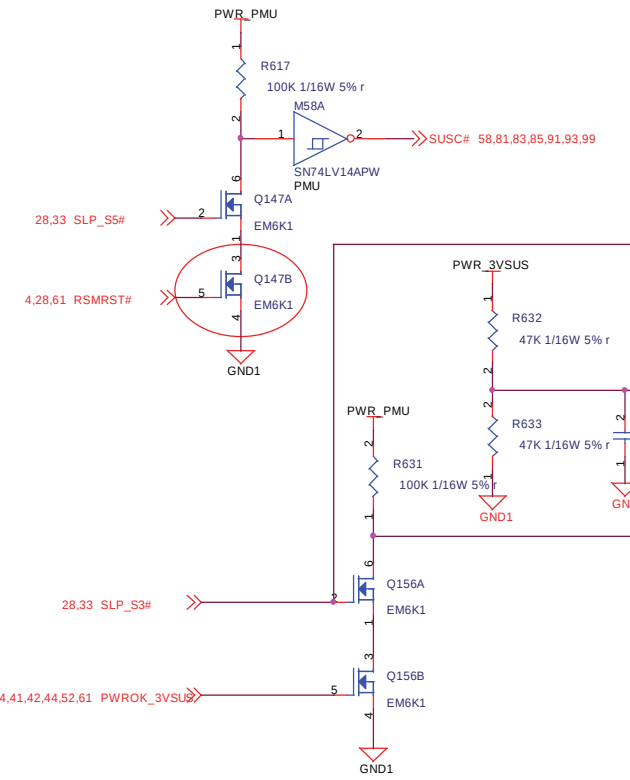
LCD CN

								TITLE	
								VB222AA	
								DRAW. No.	CAST
								C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description			Fujitsu Ltd.	
Design	/ /	KOSHA	Check				Appr.	Sheet	74 / 99

	1	2	3	4	5	6	7	8	9																																																																									
A	http://hobi-elektronika.net FUJITSU CONFIDENTIAL Nile									A																																																																								
B										B																																																																								
C										C																																																																								
D										D																																																																								
E										E																																																																								
F										F																																																																								
G	Fujitsu Proprietary & Confidential						<table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">TITLE</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">VB222AA</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">DRAW. No.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">C1CP231360-X3</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2"></td></tr><tr><td>Rev.</td><td>Date</td><td>Design</td><td>Check</td><td>Appr.</td><td colspan="3">Description</td></tr><tr><td>Design</td><td>/ /</td><td>KOSHA</td><td>Check</td><td></td><td></td><td>Appr.</td><td></td></tr><tr><td colspan="7">FUJITSU LTD.</td><td>Sheet</td></tr><tr><td colspan="7"></td><td>75 / 99</td></tr></table>									TITLE								VB222AA								DRAW. No.								C1CP231360-X3										Rev.	Date	Design	Check	Appr.	Description			Design	/ /	KOSHA	Check			Appr.		FUJITSU LTD.							Sheet								75 / 99	G
						TITLE																																																																												
						VB222AA																																																																												
						DRAW. No.																																																																												
						C1CP231360-X3																																																																												
Rev.	Date	Design	Check	Appr.	Description																																																																													
Design	/ /	KOSHA	Check			Appr.																																																																												
FUJITSU LTD.							Sheet																																																																											
							75 / 99																																																																											
	1	2	3	4	5	6	7	8	9																																																																									



SLP_S3, SLP_S5#に3VSTDでPull-Upがあるためマスク回路追加



Fujitsu
Proprietary &
Confidential

SEQUENCE

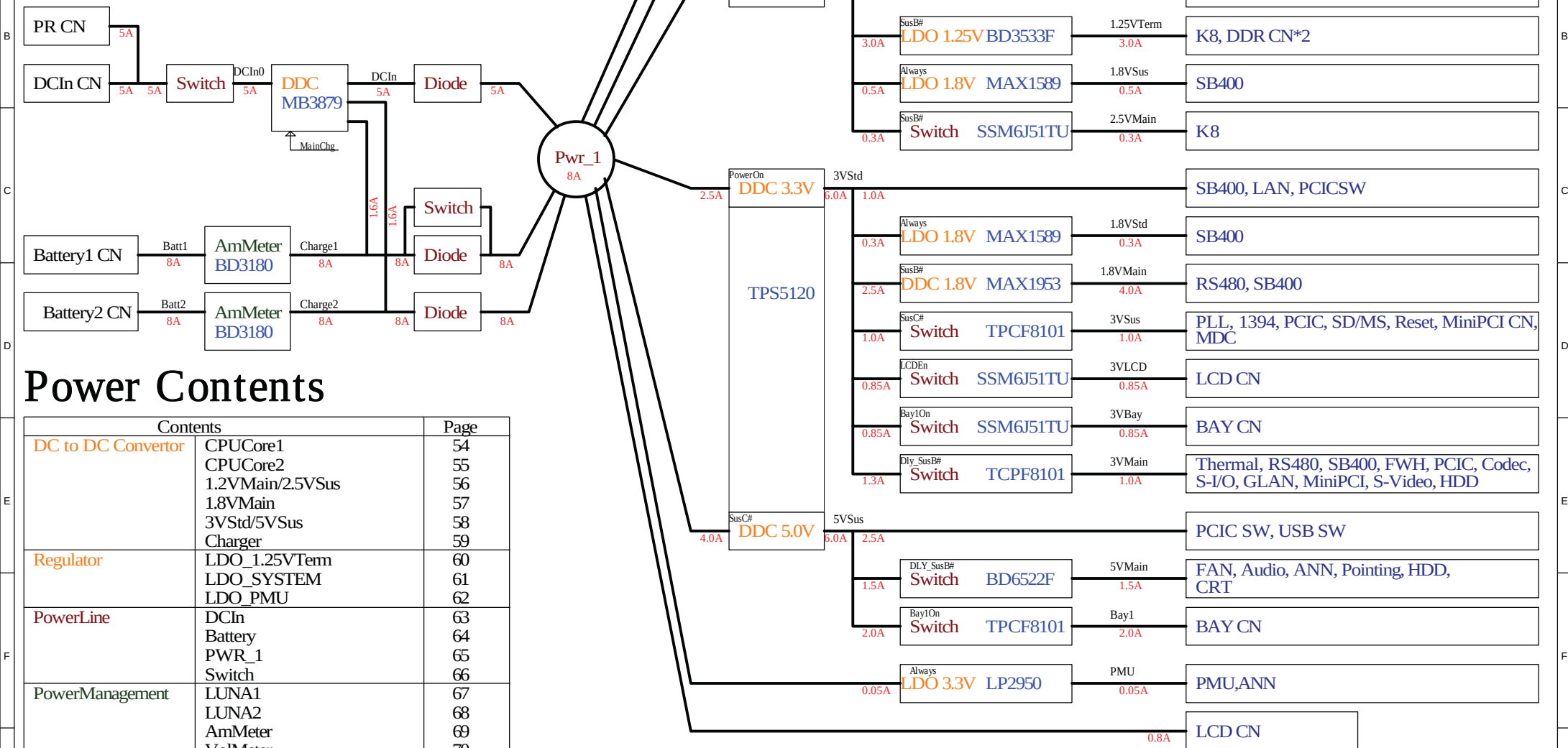
										TITLE		
										VB222AA		
										DRAW. No.		CAST
										C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description					Sheet		
Design	/ /	KOSHA		Check			Appr.		FUJITSU LTD.			
									77 / 99			

GARUM Power (POST-GARLIC) Power Tree 2004/12/01

<http://hobi-elektronika.net>

FUJITSU CONFIDENTIAL

processor

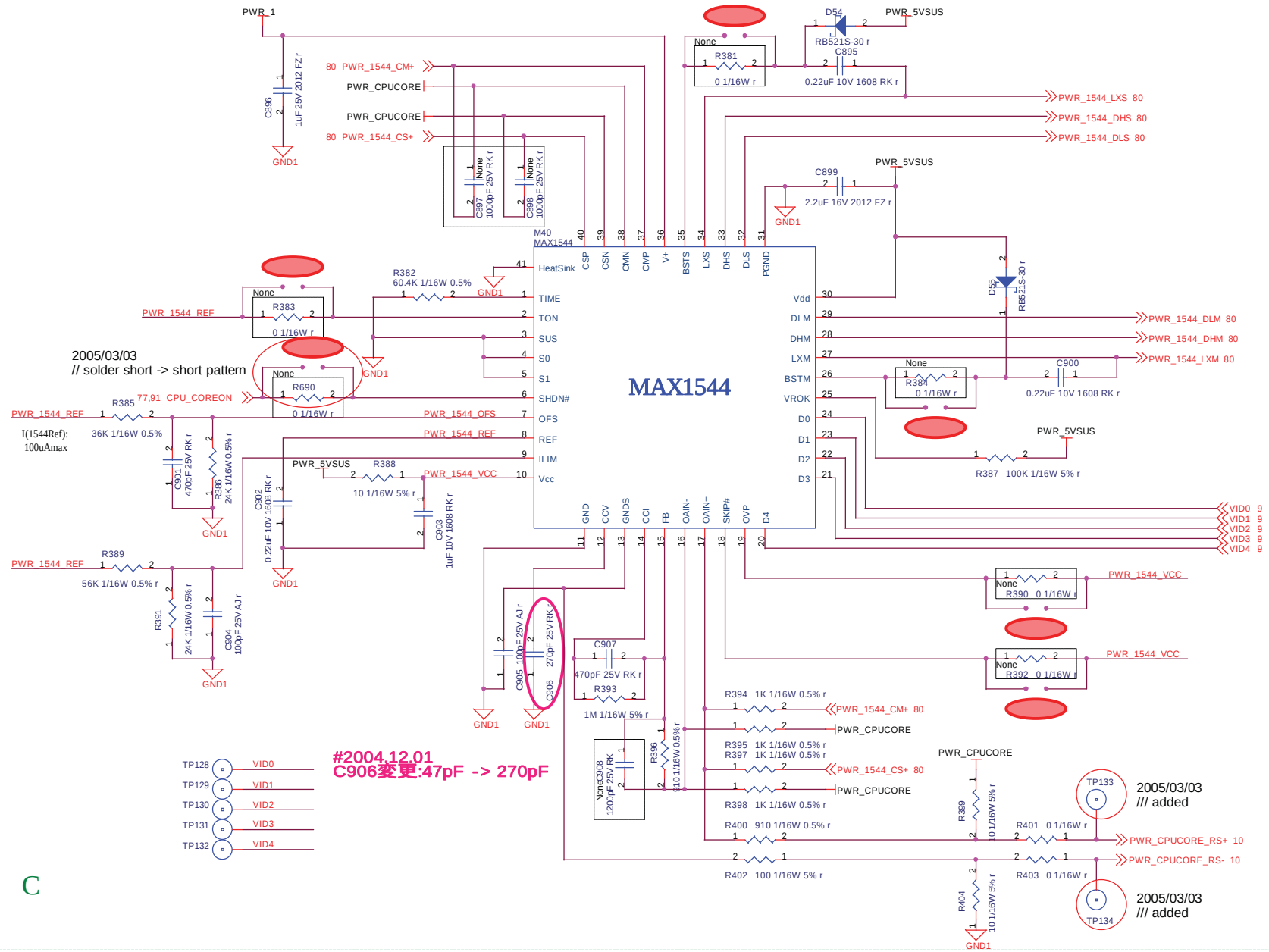


Power Contents

Contents		Page
DC to DC Converter	CPUCore1	54
	CPUCore2	55
	1.2VMain/2.5VSus	56
	1.8VMain	57
	3VStd/5VSus	58
	Charger	59
Regulator	LDO_1.25VTerm	60
	LDO_SYSTEM	61
	LDO_PMU	62
PowerLine	DCIn	63
	Battery	64
	PWR_1	65
	Switch	66
PowerManagement	LUNA1	67
	LUNA2	68
	AmMeter	69
	VolMeter	70
	Scont	71
	Etc	72
Power Sequence		73

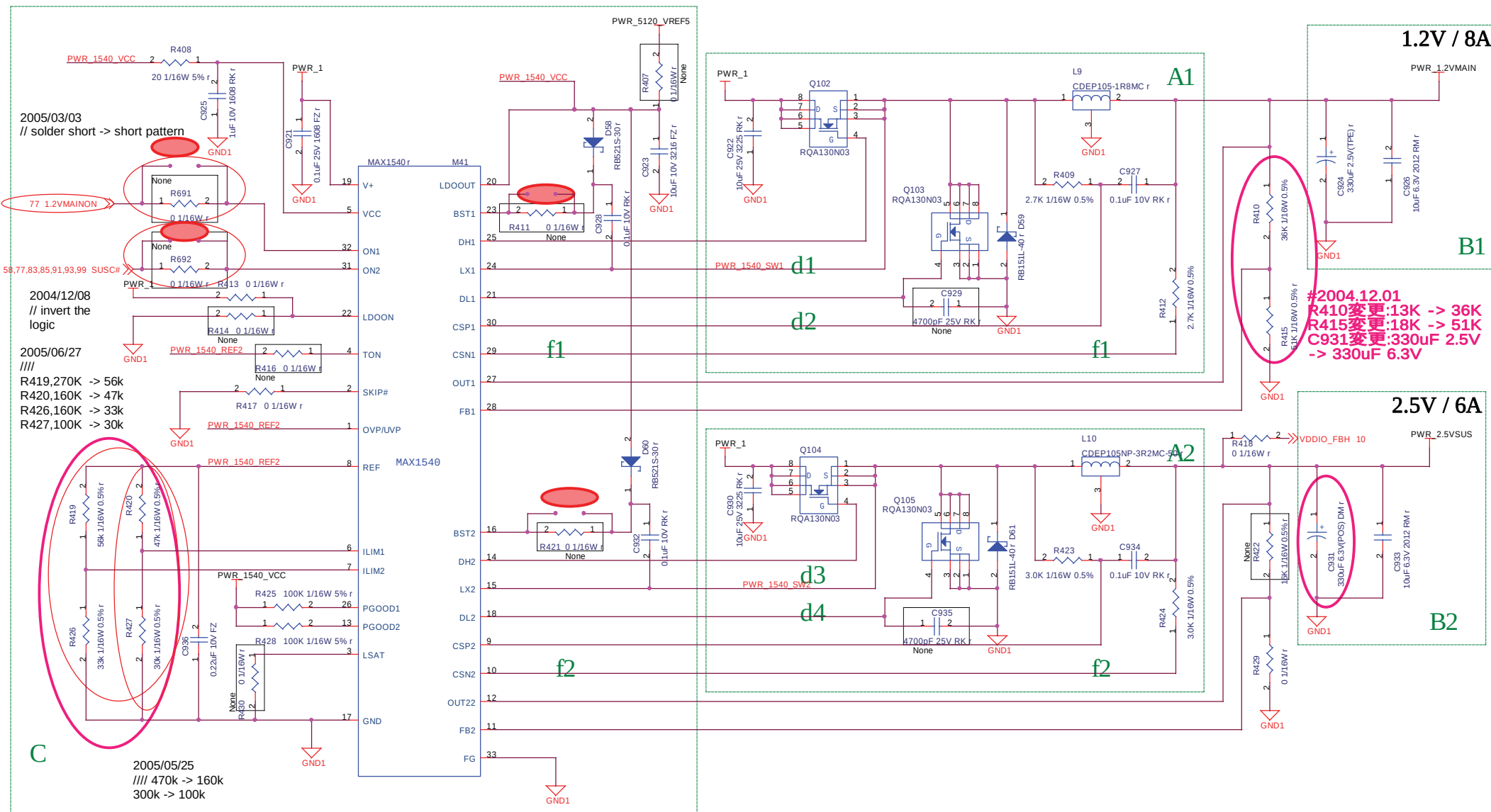
Fujitsu
Proprietary & Confidential
Power/Delivery

						TITLE		
						VB222AA		
						DRAW. No.		CAST
						C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description			
Design	/ /	KOSHA	Check					
						Fujitsu LTD.		Sheet 78 / 99



Fujitsu
Proprietary &
Confidential
Power/ DDC/ CPUCore 1

									TITLE	
									VB222AA	
									DRAW. No.	CAST
									C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description				Sheet	
Design	/ /	KOSHA	Check				Appr.		FUJITSU LTD.	
									79 /	99

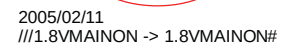


Fujitsu
Proprietary &
Confidential

#2004.12.01
R419變更:390K -> 270K
R420變更:390K -> 470K
R426變更:270K -> 160K
R427變更:200K -> 300K

Power/ DDC/ 1.2VMain, 2.5VSus

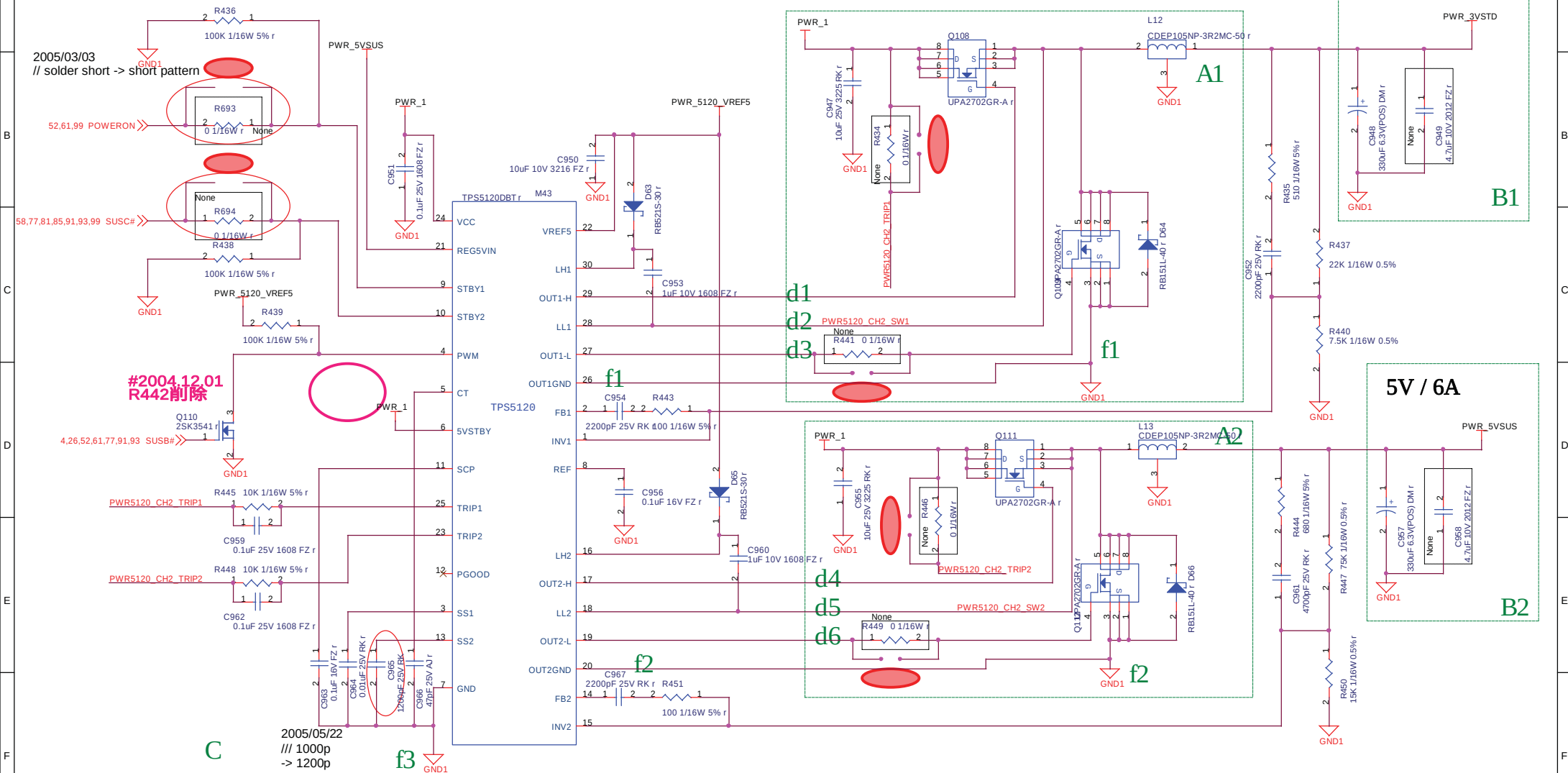
						TITLE	
						VB222AA	
						DRAW. No.	CAST
						C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description		
Design	/ /	KOSHA	Check		Appr.	FUJITSU LTD.	Sheet 81 / 99



Power/ DDC/ 1.5VMAIN

						TITLE VB222AA			
						DRAW. No. C1CP231360-X3			CAST
Rev.	Date	Design	Check	Appr.	Description				Sheet
Design	/ /	KOSHA		Check			Appr.		
FUJITSU LTD.								82 / 99	

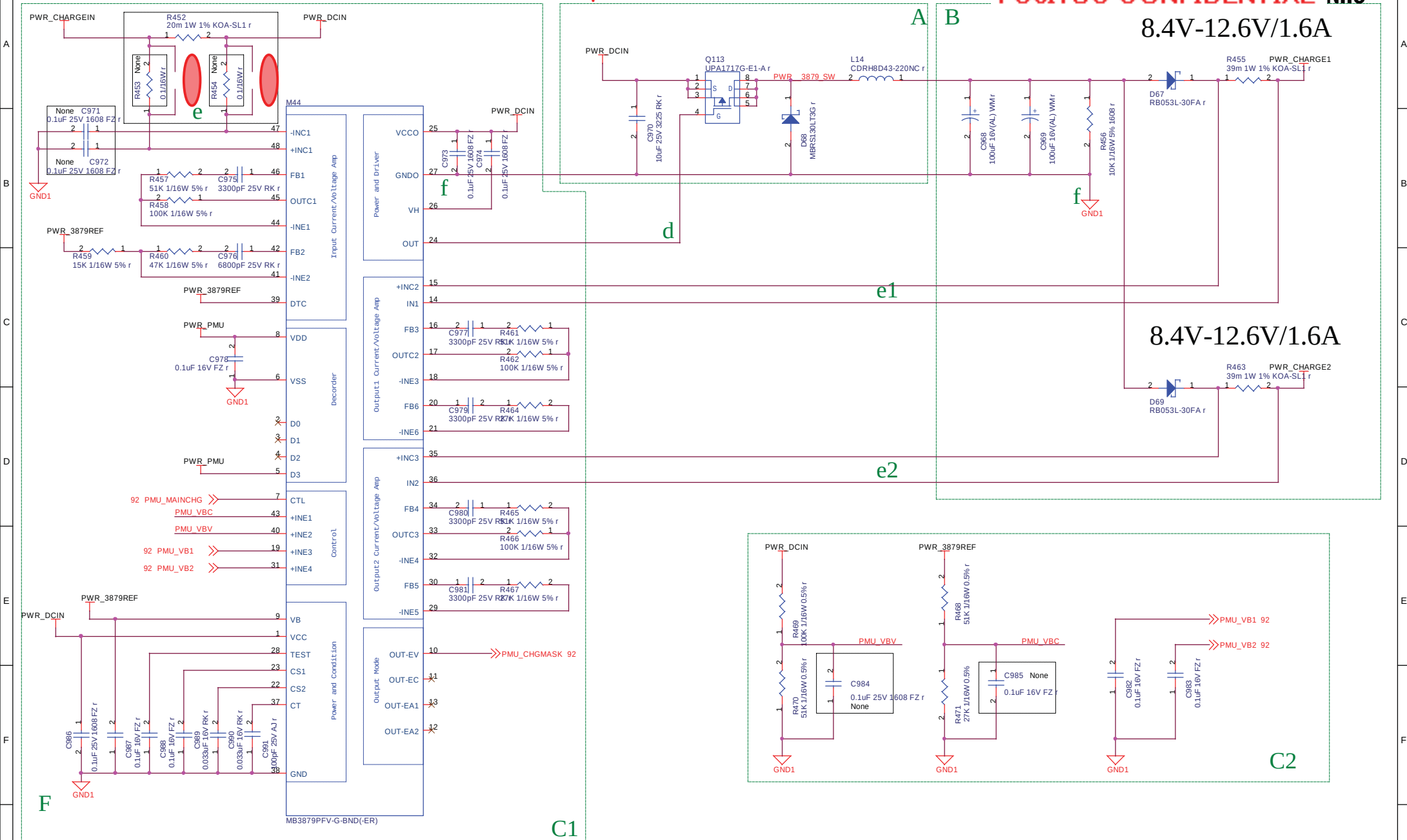
2005/03/03
// solder short -> short pattern



Fujitsu
Proprietary &
Confidential

Power/ DDC/ 3VSTD,5VSUS

						TITLE			
						VB222AA			
						DRAW. No.			CAST
						C1CP231360-X3			
Rev.	Date	Design	Check	Appr.	Description				Sheet
Design	1 /	KOSHA	Check			Appr.		FUJITSU LTD.	83 / 99



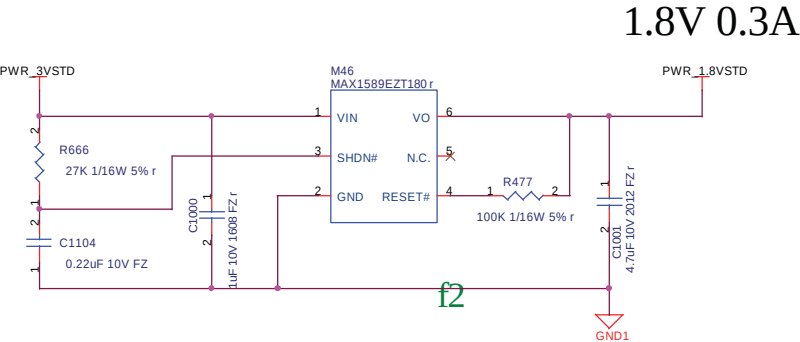
Fujitsu
Proprietary &
Confidential

Power/ DDC/ Charger

						TITLE	
						VB222AA	
						DRAW. No.	CAST
						C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description		
Design	/ /	KOSHA	Check		Appr.		FUJITSU LTD. 84 / 99

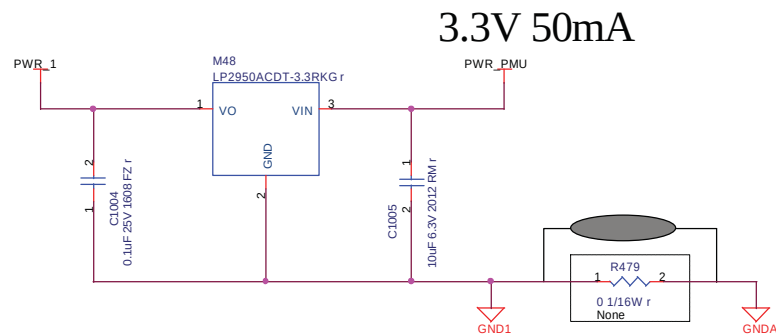


						TITLE VB222AA DRAW. No. C1CP231360-X3 C CAST			
Rev.	Date	Design	Check	Appr.	Description				FUJITSU LTD. Sheet 85 / 99
Design	/ /	KOSHA		Check			Appr.		



2005/03/03
///
Deleted

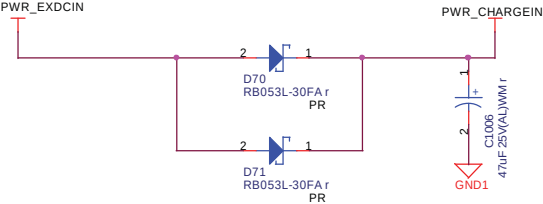
						TITLE	
						VB222AA	
						DRAW. No.	CAST
						C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description	FUJITSU LTD.	
Design	/ /	KOSHA	Check		Appr.	Sheet	86 / 99
7		8		9			



Fujitsu
Proprietary &
Confidential

Power/ LDO/ PMU

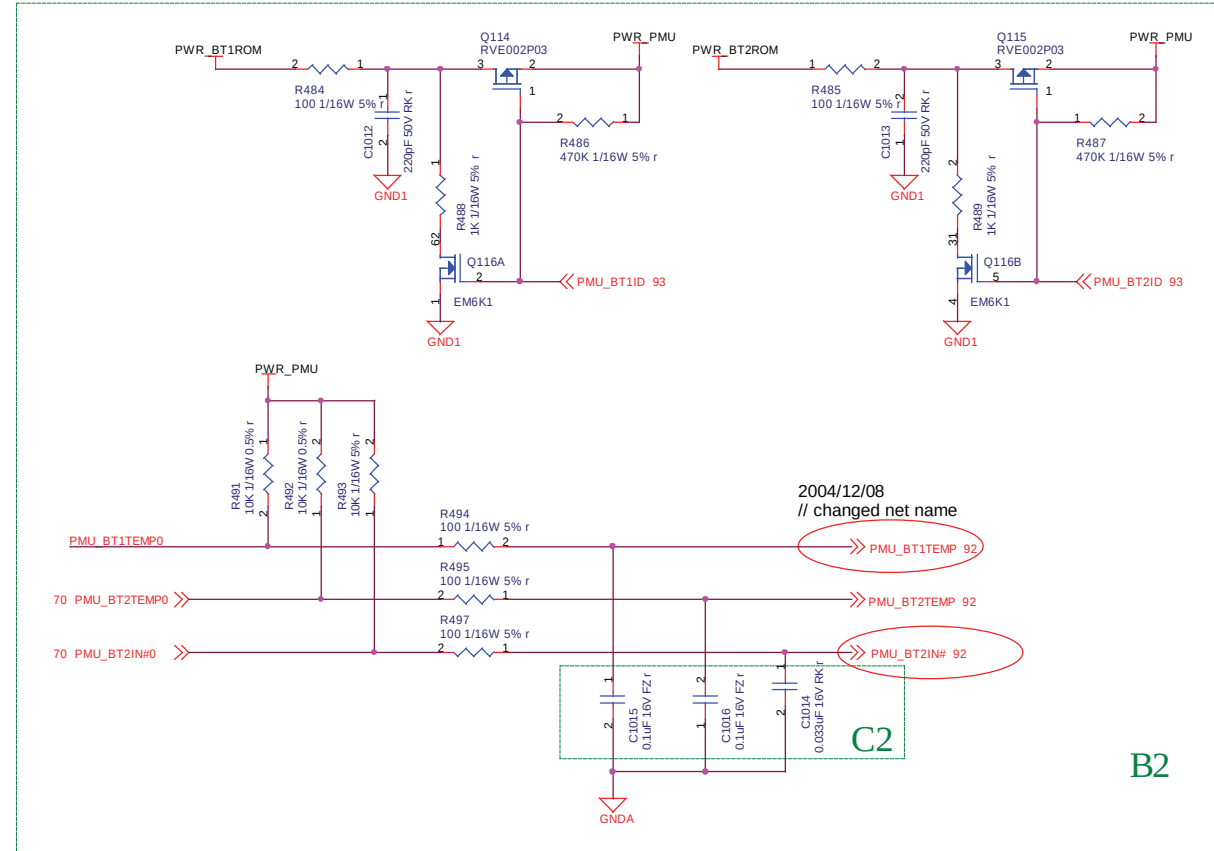
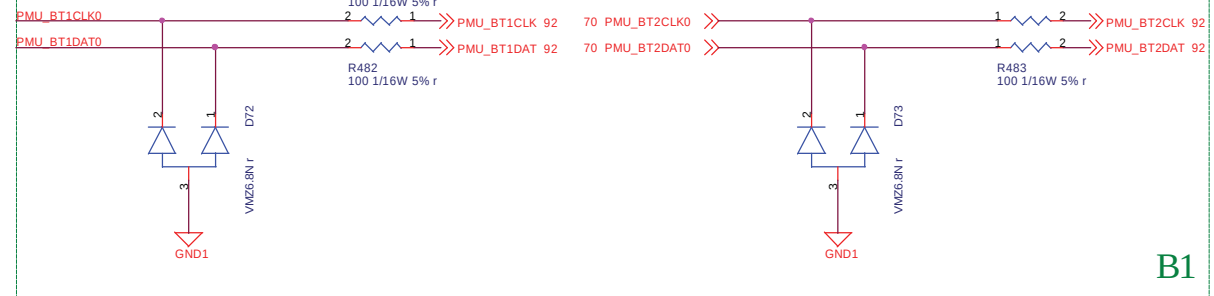
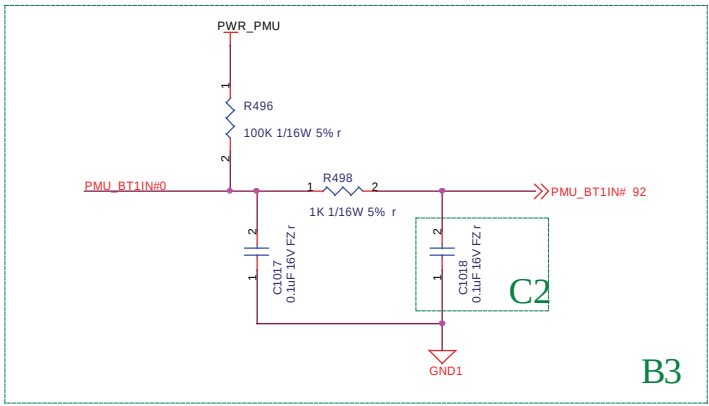
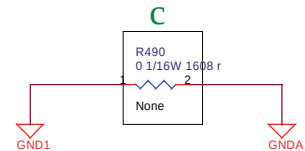
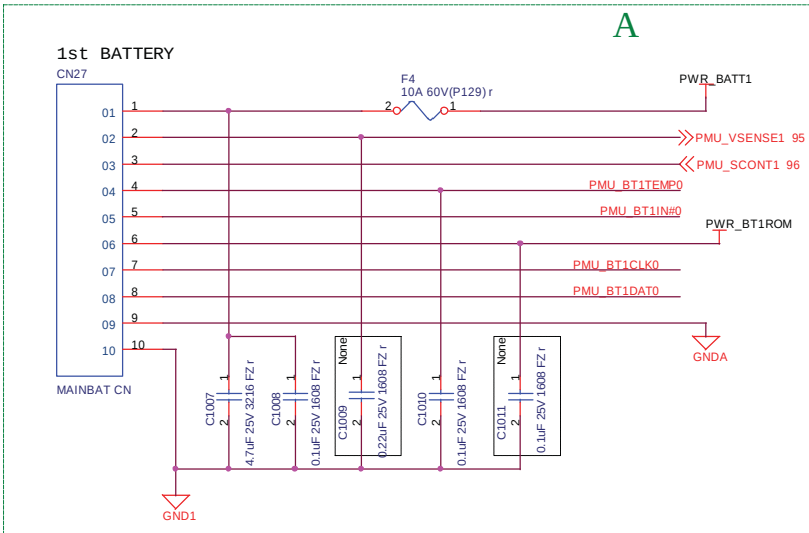
						TITLE	
						VB222AA	
						DRAW. No.	CAST
						C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description	FUJITSU LTD.	
Design	/ /	KOSHA	Check			Appr.	Sheet
							87 / 99



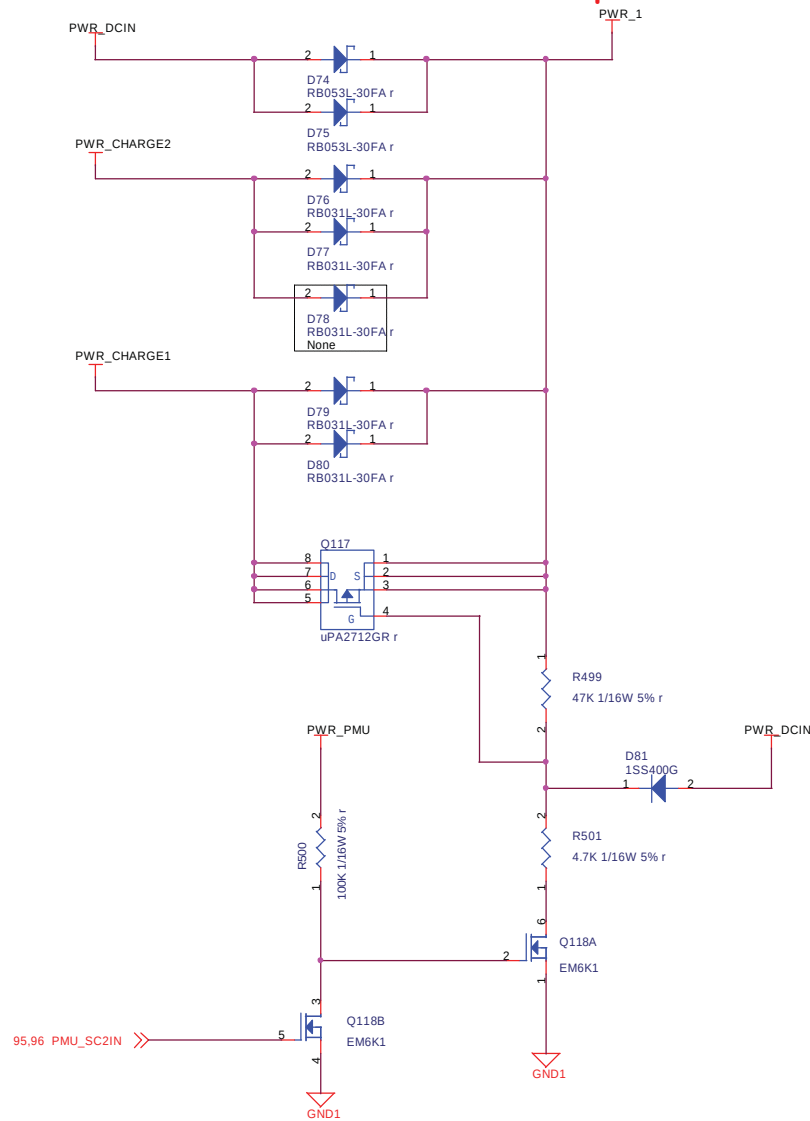
Fujitsu
Proprietary &
Confidential

Power/ Node/ DCIn

						TITLE		
						VB222AA		
						DRAW. No.		CAST
						C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description			
Design	/ /	KOSHA		Check		Appr.		
FUJITSU LTD.							Sheet	88 / 99



								TITLE	
								VB222AA	
								DRAW. No.	CAST
								C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description			FUJITSU LTD.	Sheet
Design	/ /	KOSHA	Check				Appr.		89 / 99



Fujitsu
Proprietary &
Confidential

Power/ Node/ PWR_1

										TITLE			
										VB222AA			
										DRAW. No.		C1CP231360-X3	CASE
Rev.	Date	Design	Check	Appr.	Description					Sheet			
Design	/ /	KOSHA		Check				Appr.		FUJITSU LTD.			90 / 99
7					8					9			

3.3V 2.0A

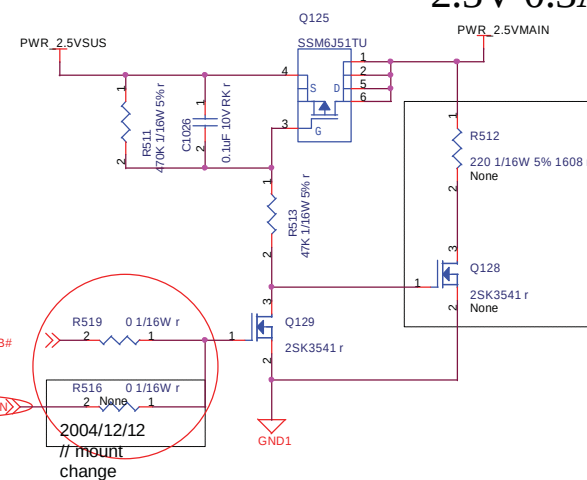
3.3V 1.0A

2.5V 0.3A

5.0V 2.0A

5.0V 2.0A

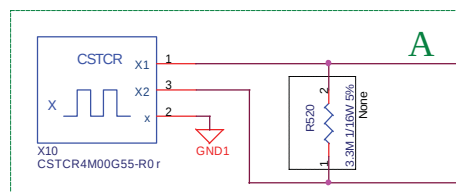
3.0V 2.0A



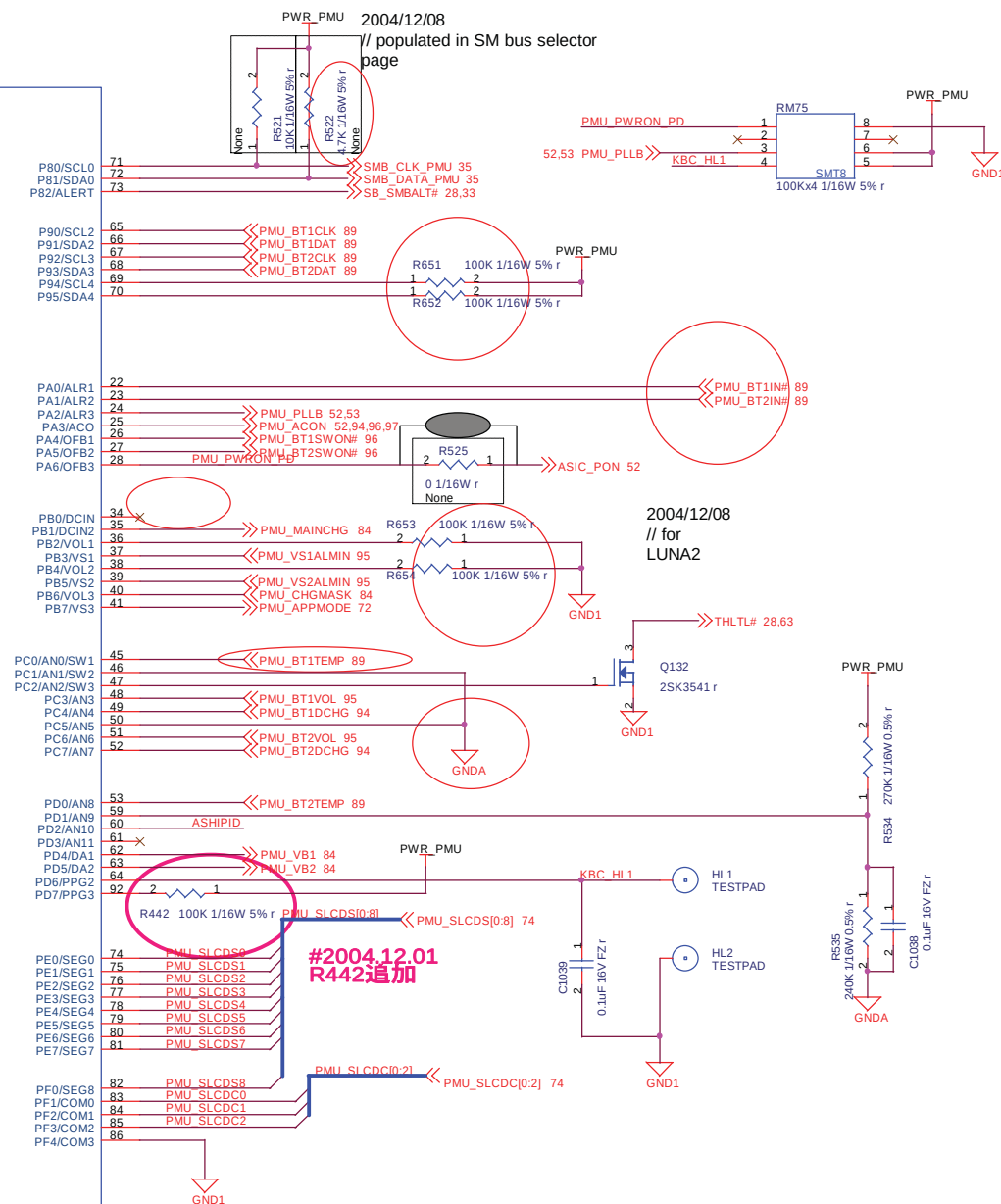
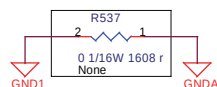
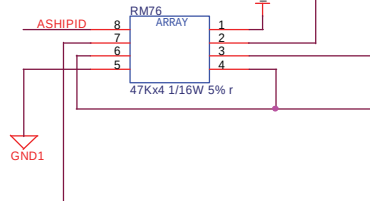
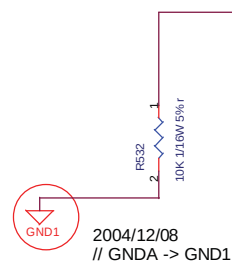
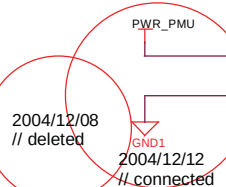
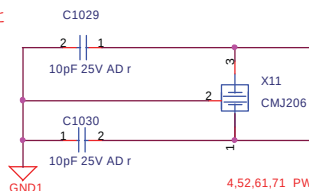
Fujitsu
Proprietary &
Confidential

Power/ Node/ Swicth

						TITLE			
						VB222AA			
						DRAW. No.			CAST
						C1CP231360-X3			
Rev.	Date	Design	Check	Appr.	Description				Sheet
Design	/ /	KOSHA		Check			Appr.		FUJITSU LTD. 91 / 99



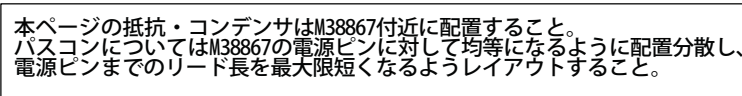
本クロックはノイズに弱いので、上下層に高速な信号が走らないように配線すること

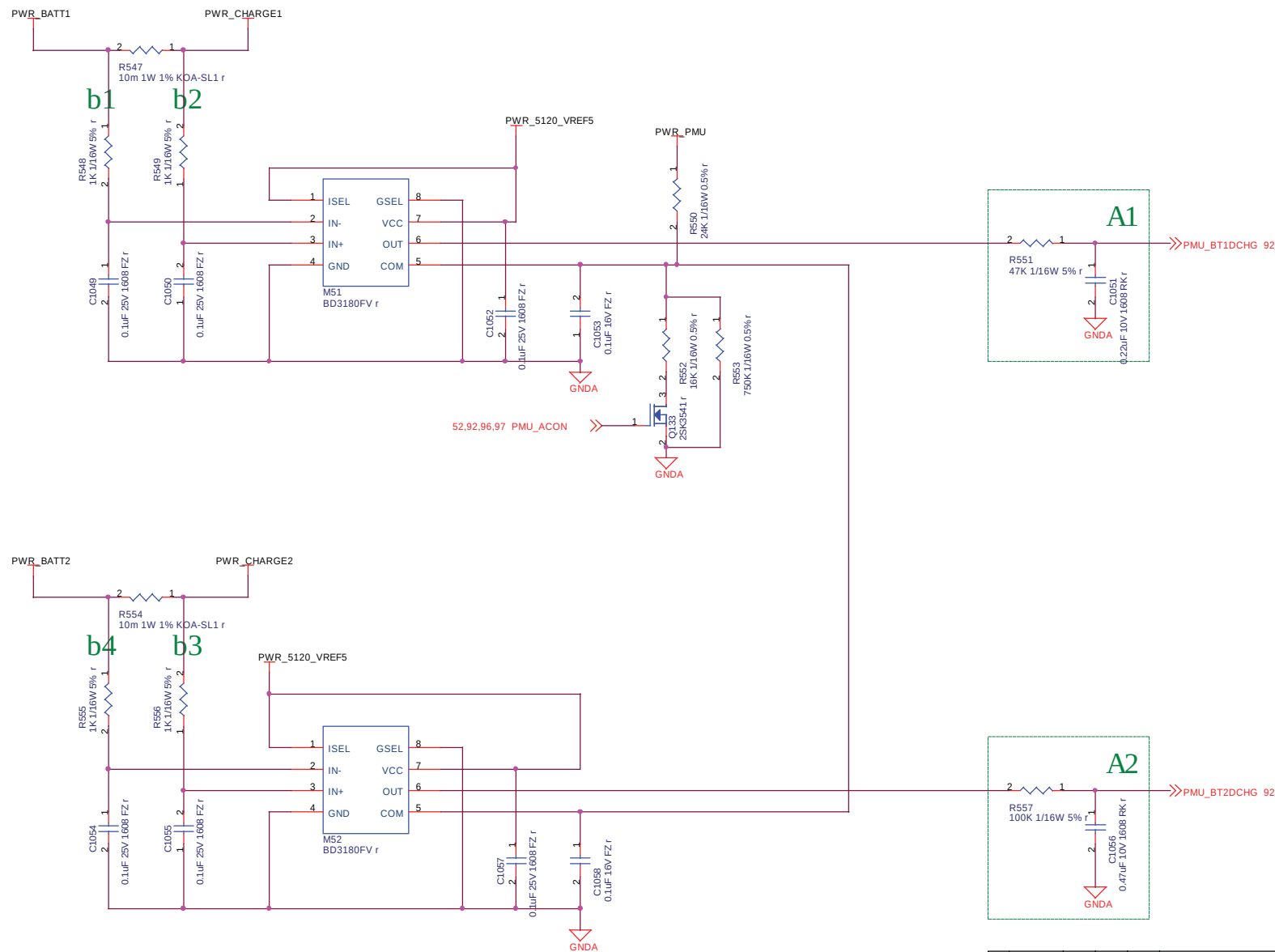


Fujitsu
Proprietary &
Confidential

Power/ PMU/ LUNA1

						TITLE	
						VB222AA	
						DRAW. No.	CAST
						C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description		Sheet
Design	/ /	KOSHA	Check		Appr.	FUJITSU LTD.	92 / 99





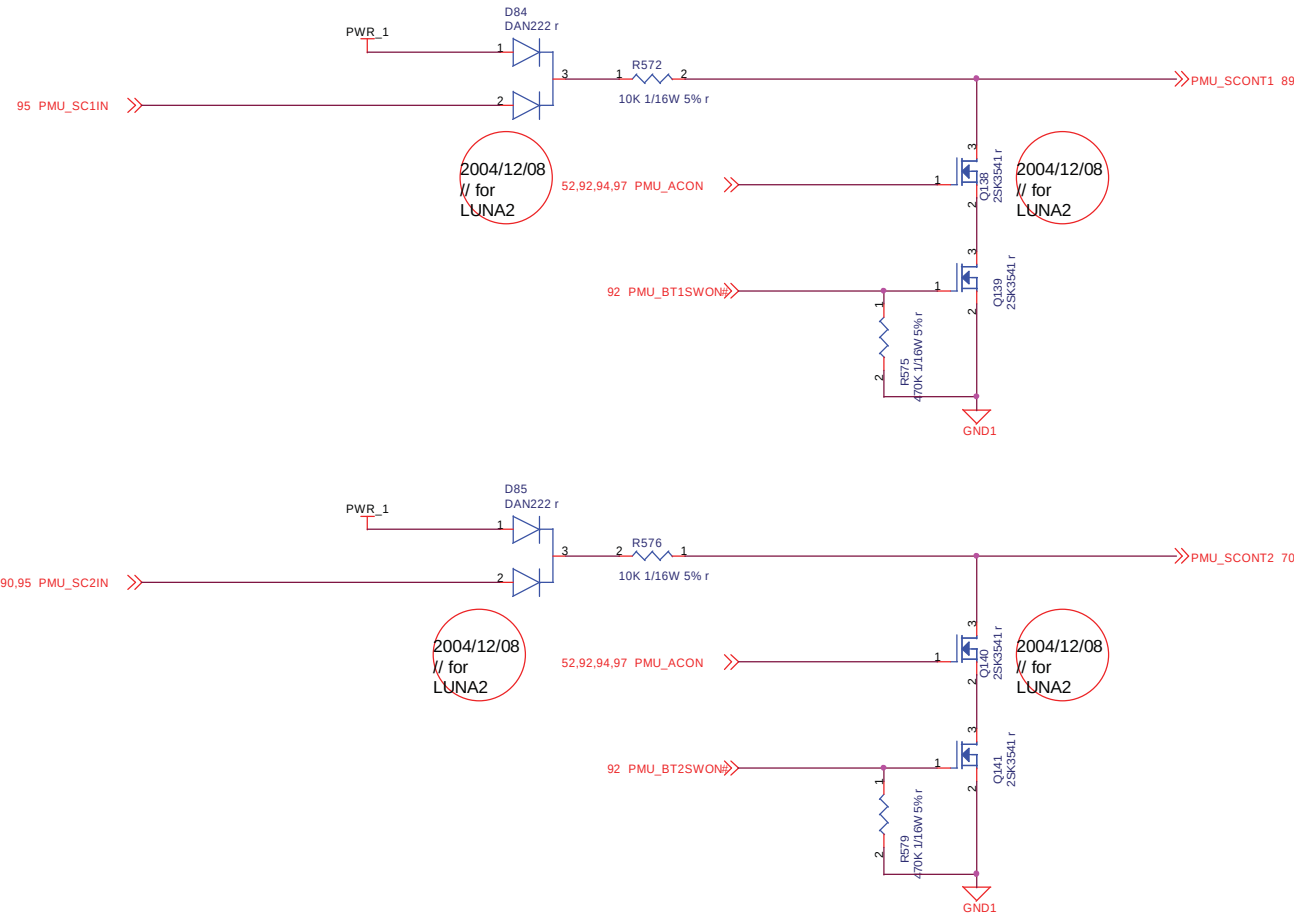
Fujitsu
Proprietary &
Confidential

Power/ PMU/ AmMeter

								TITLE	
								VB222AA	
								DRAW. No.	CAST
								C1CP231360-X3	
Rev.	Date	Design	Check	Appr.	Description				Sheet
Design	/ /	KOSHA	Check				Appr.		94 / 99



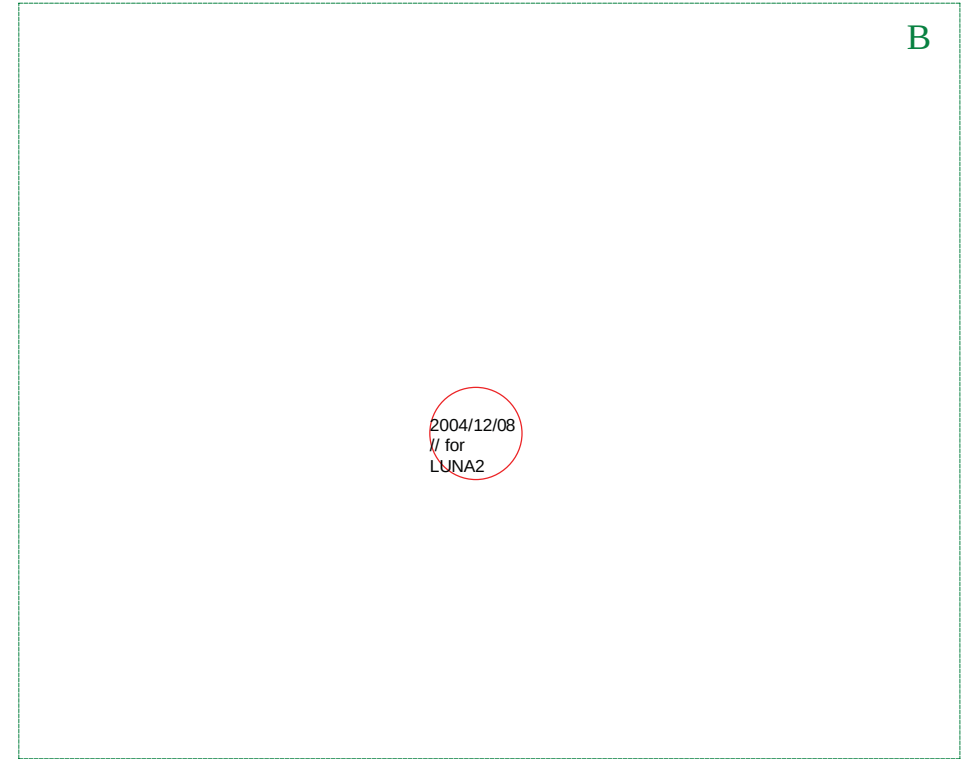
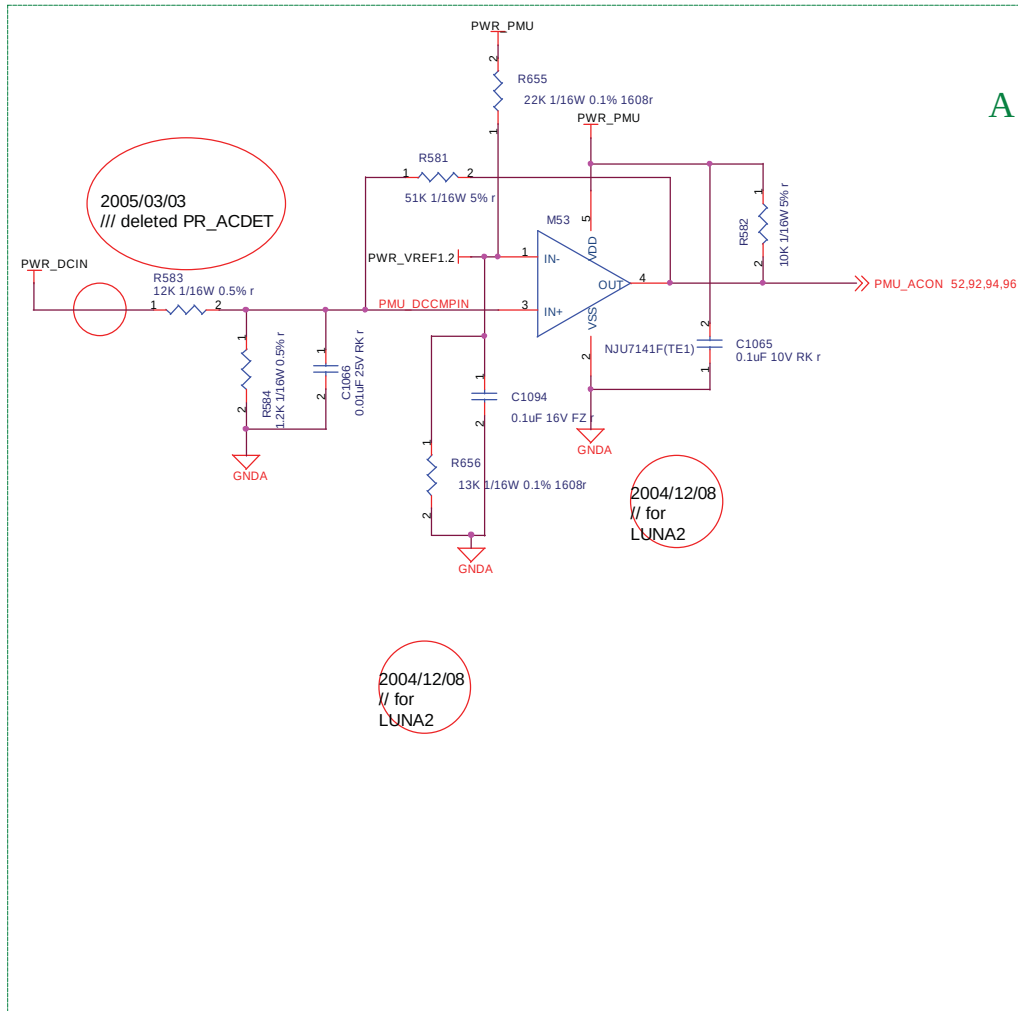
						TITLE			
						VB222AA			
						DRAW. No.			CAST
						C1CP231360-X3			
Rev.	Date	Design	Check	Appr.	Description				Sheet
Design	1 /	KOSHA	Check			Appr.		FUJITSU LTD.	95 / 99



Fujitsu
Proprietary &
Confidential

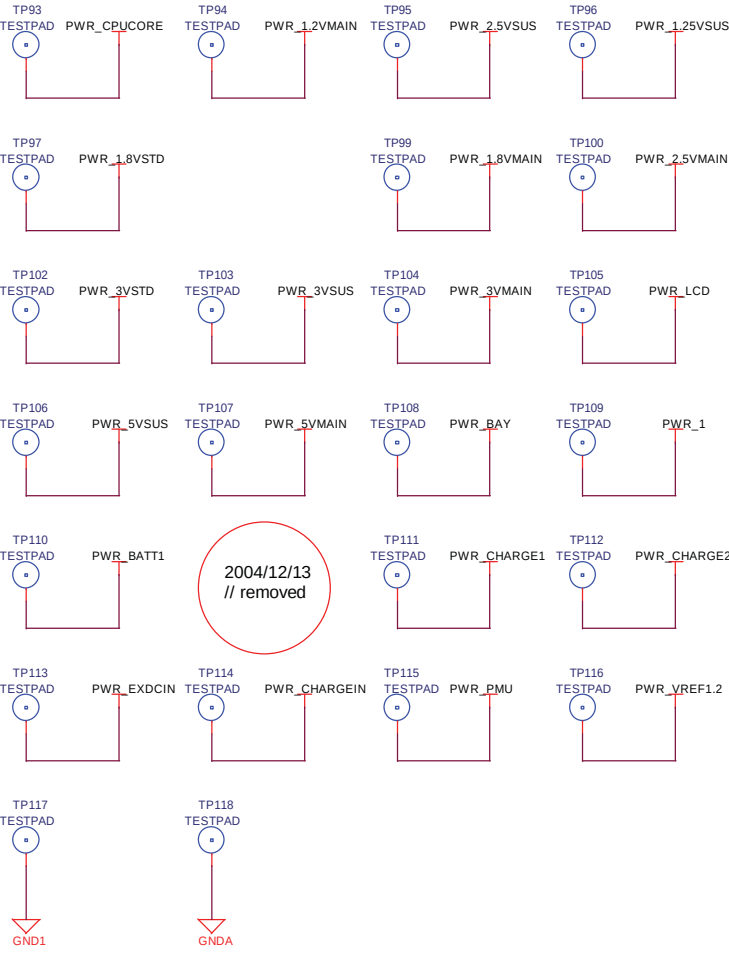
Power/ PMU/ Scont

									TITLE		
									VB222AA		
									DRAW. No.		CAST
									C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description				FUJITSU LTD.		Sheet
Design	/ /	KOSHA		Check			Appr.				96 / 99



Fujitsu
Proprietary &
Confidential
Power/ PMU/ Etc1

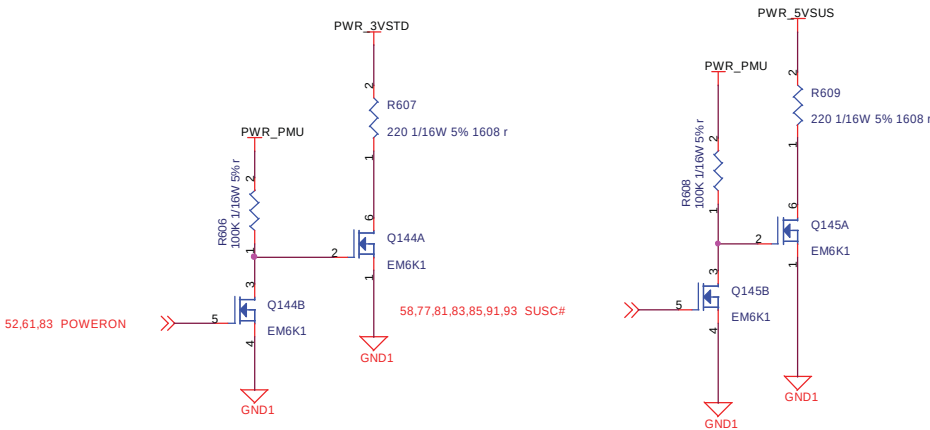
										TITLE		
										VB222AA		
										DRAW. No.		CAST
										C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description					Sheet		
Design	/ /	KOSHA	Check					Appr.		FUJITSU LTD. 97 / 99		
7					8					9		



Fujitsu
Proprietary &
Confidential

[TestPad]

									TITLE		
									VB222AA		
									DRAW. No.		CAST
									C1CP231360-X3		
Rev.	Date	Design	Check	Appr.	Description				FUJITSU LTD.		Sheet
Design	/ /	KOSHA		Check			Appr.		98 / 99		
					7				8		9



Fujitsu
Proprietary &
Confidential

POWER_Discharger

					TITLE			
					VB222AA			
					DRAW. No.			CASE
					C1CP231360-X3			
Rev.	Date	Design	Check	Appr.	Description			
Design	/ /	KOSHA	Check				Appr.	
					FUJITSU LTD.			Sheet 99 / 99