

Compal Confidential

ECQ60 Schematics Document

Desktop LGA-775 Package with Grantsdale + ICH6 + ATI M24-P

2004-08-09-C

REV: 1.0

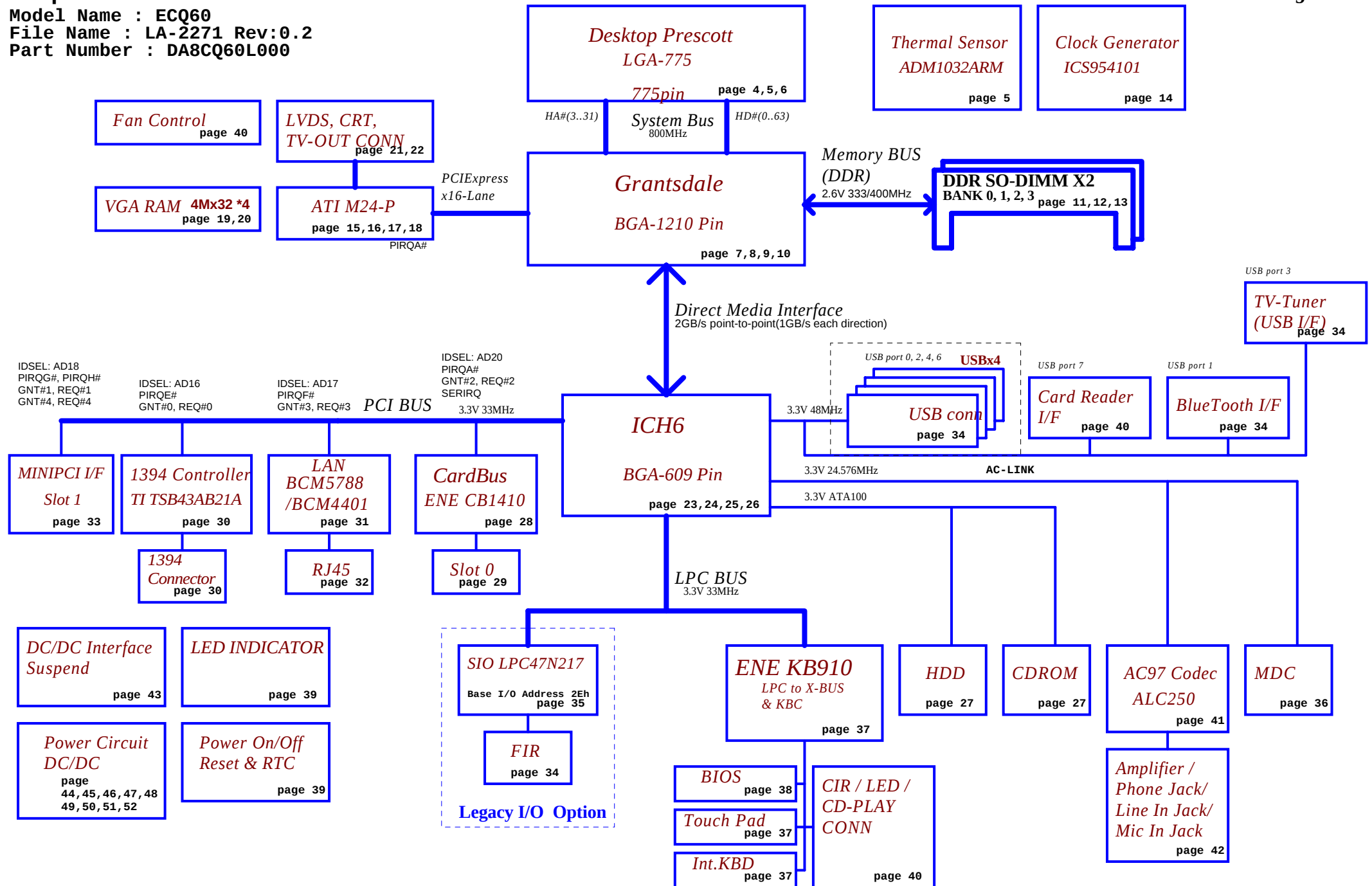
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Model Name : ECQ60
File Name : LA-2271 Rev:0.2
Part Number : DA8CQ60L000

Block Diagram



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Block Diagram			
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Voltage Rails

Power Plane	Description	S0-S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit.	N/A	N/A	N/A
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+V_FSB_VTT	1.2V rail for Processor I/O & GTL Termination	ON	OFF	OFF
+PCIE_1.2VS	+PCIE_1.2VS power rail for VGA PCIExpress	ON	OFF	OFF
+1.3VS	1.3VS for DDR1 Termination	ON	OFF	OFF
+VGA_CORE	VGA Core Power	ON	OFF	OFF
+1.5VS	MCH & ICH Core Power	ON	OFF	OFF
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+2.6V	2.6V power rail for DDR1	ON	ON	OFF
+2.6VS	2.6VS switched power rail	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	ON*
+3V	3.3V power rail	ON	ON	OFF
+3VS	3.3V switched power rail	ON	OFF	OFF
+5VALW	5V always on power rail	ON	ON	ON*
+5VS	5V switched power rail	ON	OFF	OFF
+12VALW	12V always on power rail	ON	ON	ON*
+RTCVCC	RTC power	ON	ON	ON

Note : ON* means that this power plane is ON only with AC power available, otherwise it is OFF.

Board ID Table for AD channel

Vcc	3.3V +/- 5%			
Ra	100K +/- 5%			
Board ID	Rb	VAD_BID min	VAD_BID typ	VAD_BID max
0	0	0 V	0 V	0 V
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V
2	18K +/- 5%	0.436 V	0.503 V	0.538 V
3	33K +/- 5%	0.712 V	0.819 V	0.875 V
4	56K +/- 5%	1.036 V	1.185 V	1.264 V
5	100K +/- 5%	1.453 V	1.650 V	1.759 V
6	200K +/- 5%	1.935 V	2.200 V	2.341 V
7	NC	2.500 V	3.300 V	3.300 V

Board ID	PCB Revision
0	0.1
1	0.2
* 2	0.3
3	0.4
4	
5	
6	
7	

External PCI Devices

Device	IDSEL#	REQ#GNT#	Interrupts
VGA			PIRQA
CardBus	AD20	2	PIRQA
LAN	AD17	3	PIRQF
Mini-PCI	AD18,AD22	1	PIRQG/PIRQH
1394	AD16	0	PIRQE

EC SM Bus1 address

Device	Address	Device	Address
Smart Battery	0001 011X b	ADM1032	1001 100X b
EEPROM(24C16/02)	1010 000X b		
(24C84)	1011 000Xb		

EC SM Bus2 address

ICH6 SM Bus address

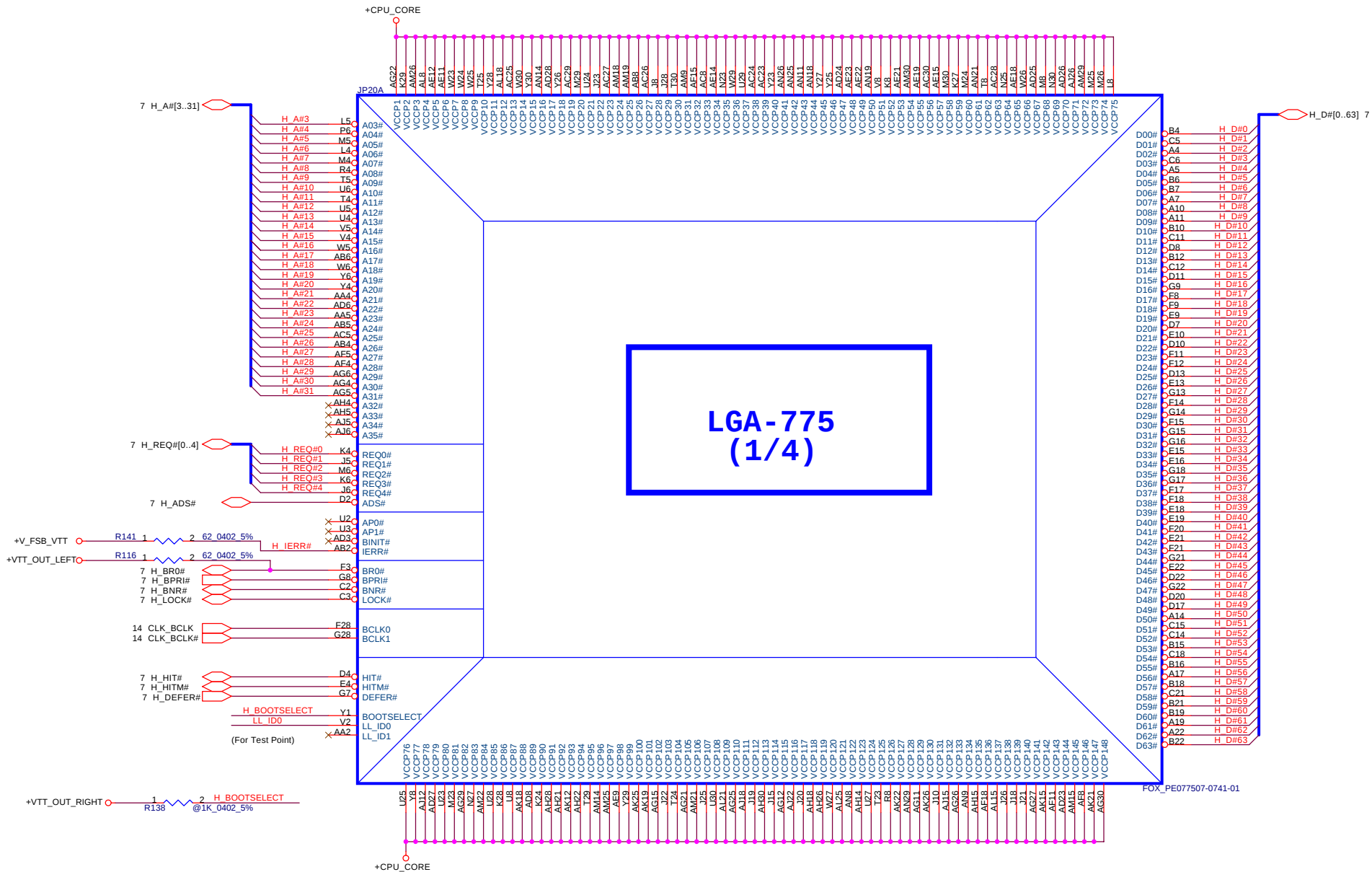
Device	Address
Clock Generator (ICS954101)	1101 001Xb
DDR DIMM0	1010 000Xb
DDR DIMM1	1010 010Xb

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LGA-775
(1/4)



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Title

LGA-775(1/3)

Size

Document Number

Customer

ECQ60 LA-2271

Date:

Monday, August 09, 2004

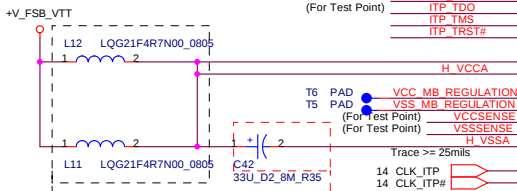
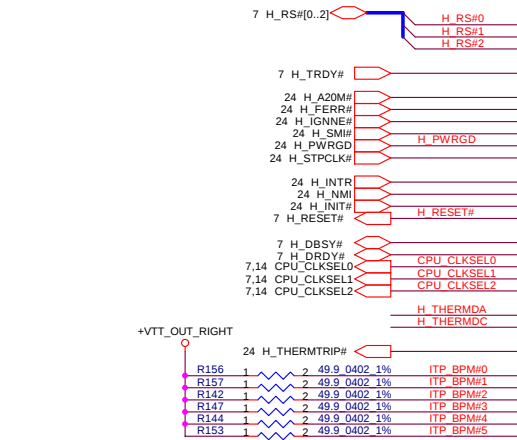
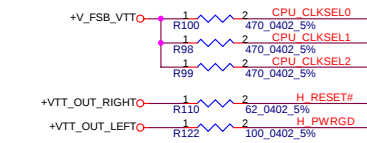
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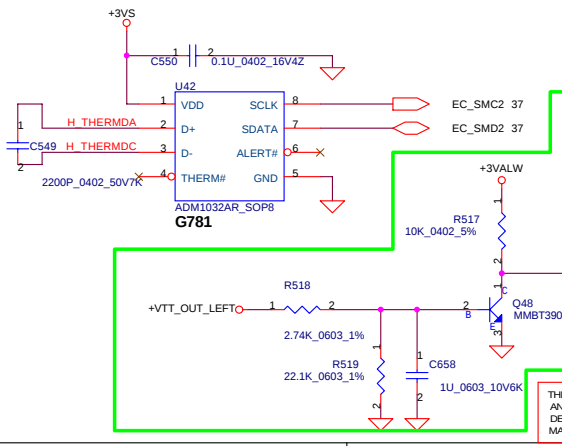
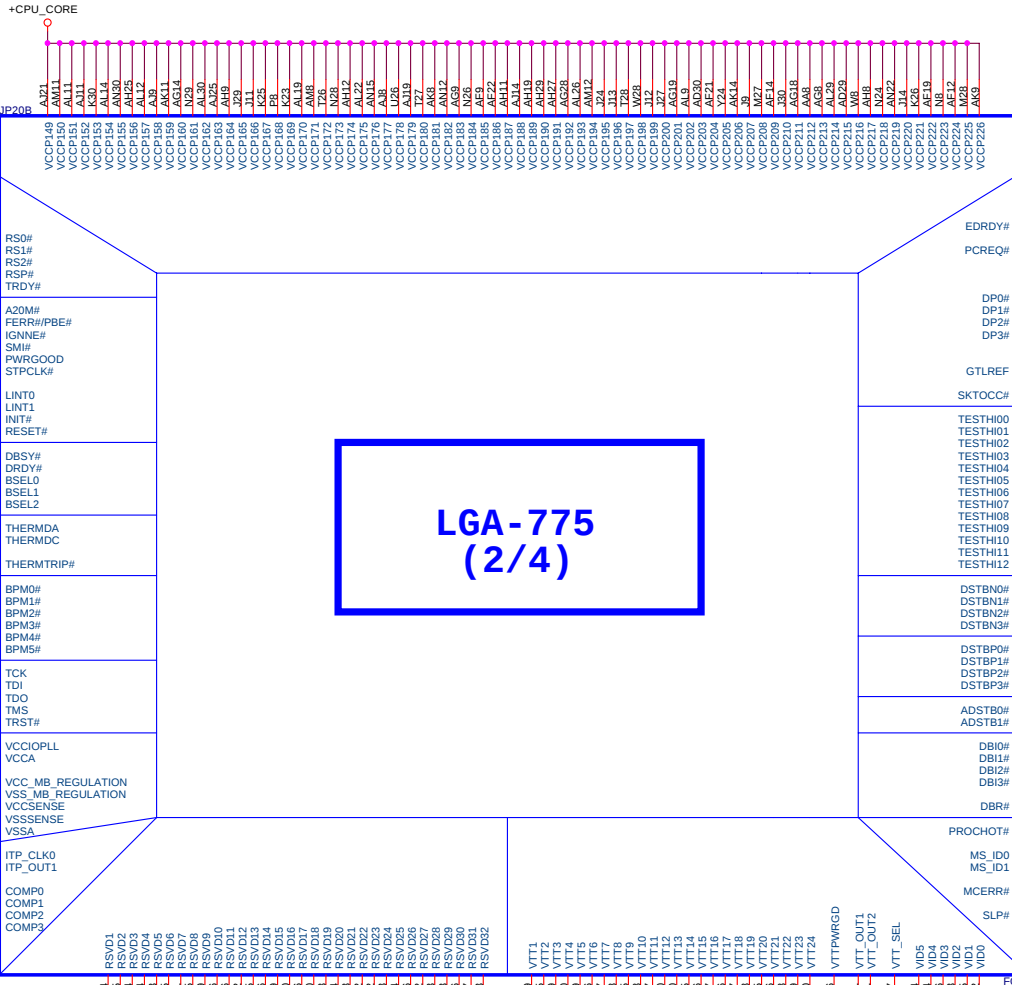
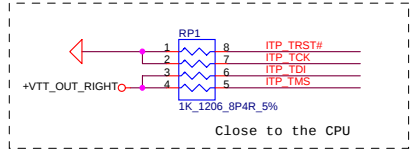
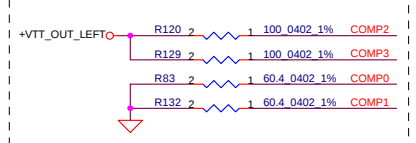
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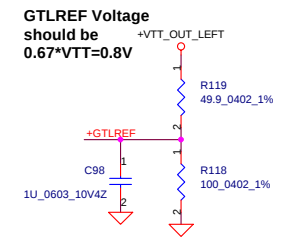
Note: Please change to 10uH, DC current of 120mA parts and close to cap DC voltage drop from VTT to VCCA should be < 78mV

PLL Layout note:

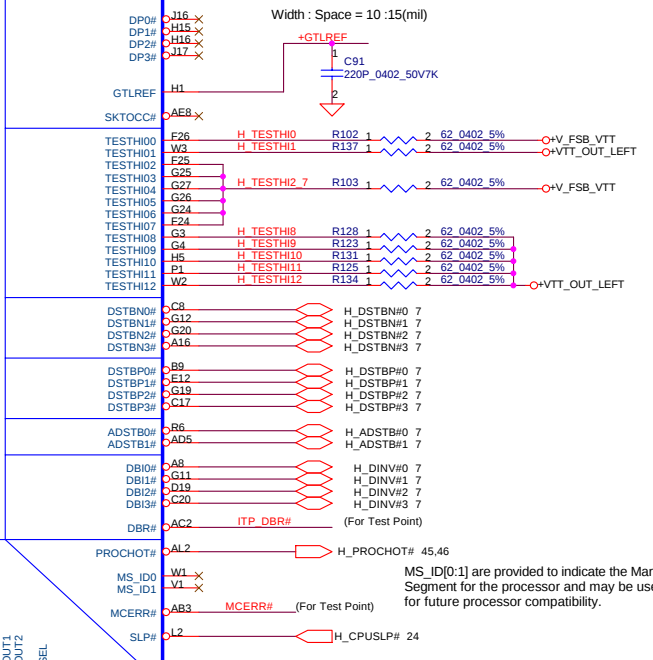
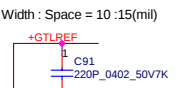
1. Place cap within 600 mils of the VCCA and VSSA pins.
2. H_VCCIOPLL, HVCCA, HVSSA trace wide 12 mils(min)



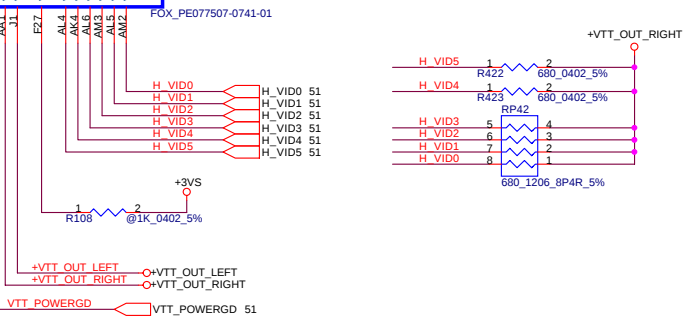
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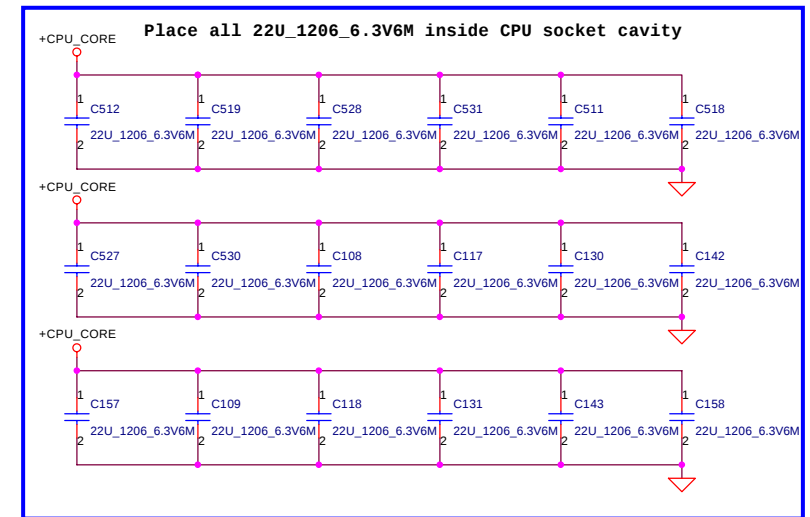
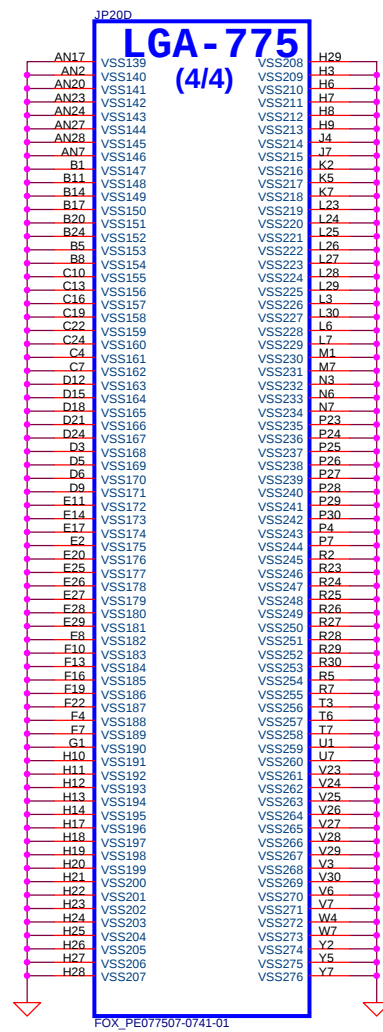
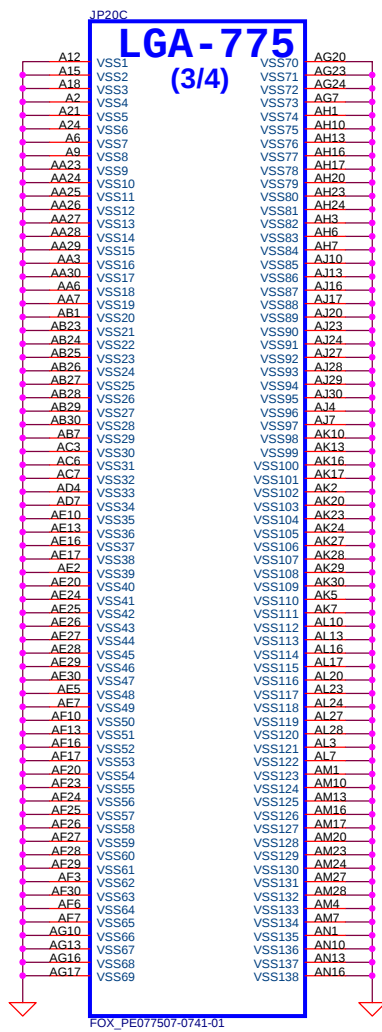


EDRDY# is not a feature of the Pentium 4 processor in the 775-land package.

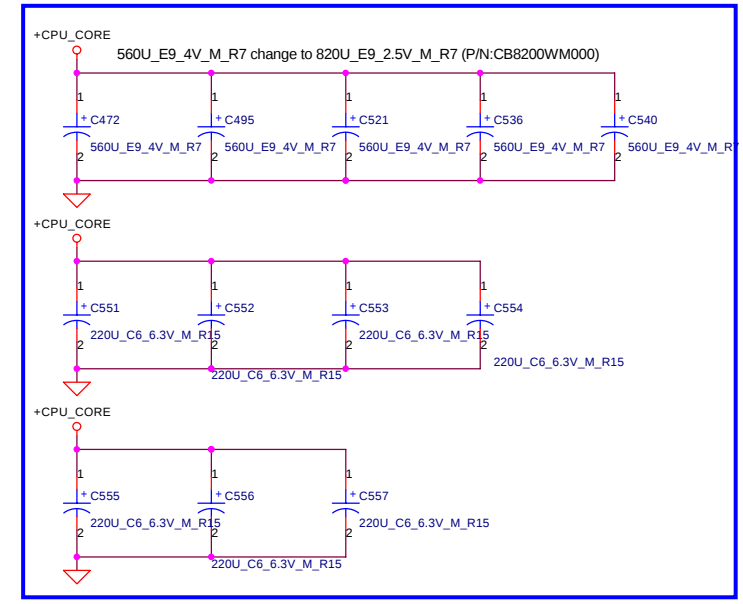


MS_ID[0:1] are provided to indicate the Market Segment for the processor and may be used for future processor compatibility.





SANYO OS-CON 820uF _ERS7m ohm* 5 H=13mm
SANYO OS-CON 220uF _ERS13m ohm*7 H=6mm

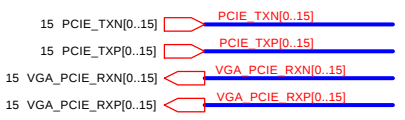
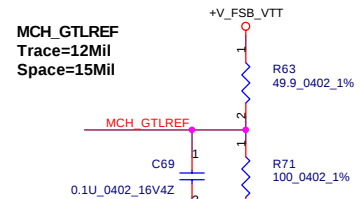
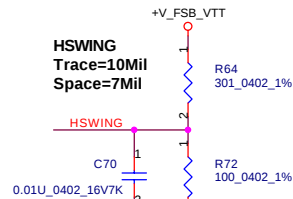
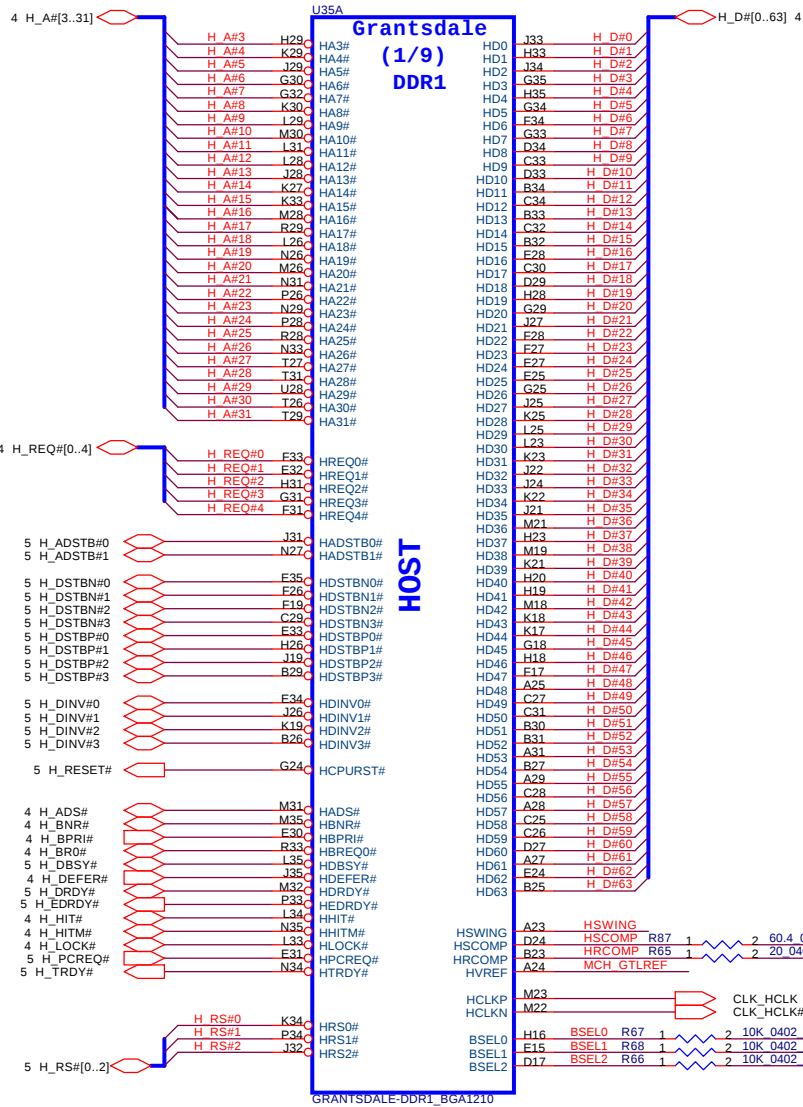


Decoupling Reference Document:
Grantsdale Chipset Platform Design guide Rev1.0
(14652)Page269

Decoupling Reference Requirement:
560uF Polymer, ESR:6m ohm(each) * 10
22uF X5R * 18

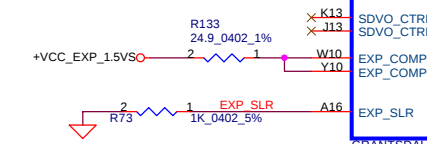
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VGA_PCIE_RXN15	C444	1	2	0.1U	0402	16V4Z	PCIE_RXN15	C9	EXP_TXN0
VGA_PCIE_RXN14	C446	1	2	0.1U	0402	16V4Z	PCIE_RXN14	A8	EXP_TXN1
VGA_PCIE_RXN13	C447	1	2	0.1U	0402	16V4Z	PCIE_RXN13	C7	EXP_TXN2
VGA_PCIE_RXN12	C458	1	2	0.1U	0402	16V4Z	PCIE_RXN12	A6	EXP_TXN3
VGA_PCIE_RXN11	C460	1	2	0.1U	0402	16V4Z	PCIE_RXN11	C5	EXP_TXN4
VGA_PCIE_RXN10	C466	1	2	0.1U	0402	16V4Z	PCIE_RXN10	D2	EXP_TXN5
VGA_PCIE_RXN9	C467	1	2	0.1U	0402	16V4Z	PCIE_RXN9	E3	EXP_TXN6
VGA_PCIE_RXN8	C471	1	2	0.1U	0402	16V4Z	PCIE_RXN8	G1	EXP_TXN7
VGA_PCIE_RXN7	C475	1	2	0.1U	0402	16V4Z	PCIE_RXN7	H3	EXP_TXN8
VGA_PCIE_RXN6	C478	1	2	0.1U	0402	16V4Z	PCIE_RXN6	J1	EXP_TXN9
VGA_PCIE_RXN5	C487	1	2	0.1U	0402	16V4Z	PCIE_RXN5	K3	EXP_TXN10
VGA_PCIE_RXN4	C490	1	2	0.1U	0402	16V4Z	PCIE_RXN4	L1	EXP_TXN11
VGA_PCIE_RXN3	C492	1	2	0.1U	0402	16V4Z	PCIE_RXN3	M3	EXP_TXN12
VGA_PCIE_RXN2	C503	1	2	0.1U	0402	16V4Z	PCIE_RXN2	N1	EXP_TXN13
VGA_PCIE_RXN1	C507	1	2	0.1U	0402	16V4Z	PCIE_RXN1	P1	EXP_TXN14
VGA_PCIE_RXN0	C510	1	2	0.1U	0402	16V4Z	PCIE_RXN0	R1	EXP_TXN15

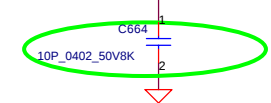
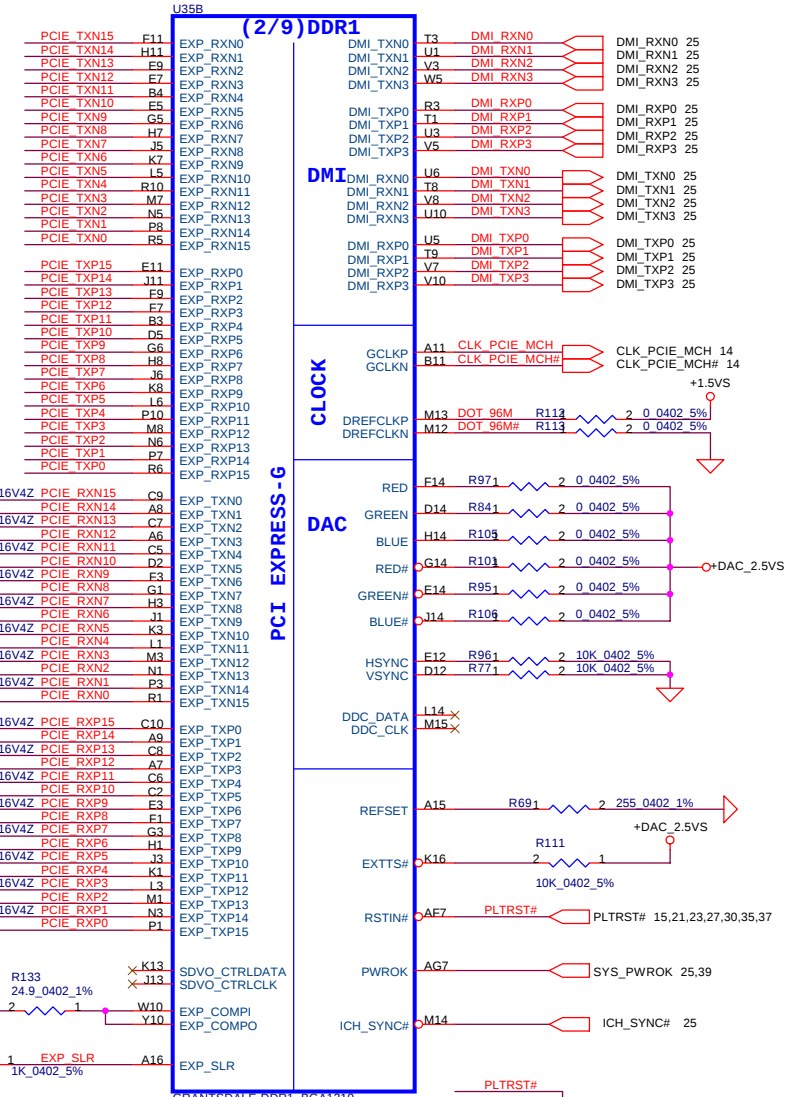
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VGA_PCIE_RXP14	C445	1	2	0.1U	0402	16V4Z	PCIE_RXP14	A9	EXP_TXP1
VGA_PCIE_RXP13	C450	1	2	0.1U	0402	16V4Z	PCIE_RXP13	C8	EXP_TXP2
VGA_PCIE_RXP12	C452	1	2	0.1U	0402	16V4Z	PCIE_RXP12	A7	EXP_TXP3
VGA_PCIE_RXP11	C459	1	2	0.1U	0402	16V4Z	PCIE_RXP11	C6	EXP_TXP4
VGA_PCIE_RXP10	C464	1	2	0.1U	0402	16V4Z	PCIE_RXP10	C2	EXP_TXP5
VGA_PCIE_RXP9	C469	1	2	0.1U	0402	16V4Z	PCIE_RXP9	E3	EXP_TXP6
VGA_PCIE_RXP8	C473	1	2	0.1U	0402	16V4Z	PCIE_RXP8	F1	EXP_TXP7
VGA_PCIE_RXP7	C474	1	2	0.1U	0402	16V4Z	PCIE_RXP7	G3	EXP_TXP8
VGA_PCIE_RXP6	C476	1	2	0.1U	0402	16V4Z	PCIE_RXP6	H1	EXP_TXP9
VGA_PCIE_RXP5	C484	1	2	0.1U	0402	16V4Z	PCIE_RXP5	J3	EXP_TXP10
VGA_PCIE_RXP4	C488	1	2	0.1U	0402	16V4Z	PCIE_RXP4	K1	EXP_TXP11
VGA_PCIE_RXP3	C497	1	2	0.1U	0402	16V4Z	PCIE_RXP3	L3	EXP_TXP12
VGA_PCIE_RXP2	C499	1	2	0.1U	0402	16V4Z	PCIE_RXP2	M1	EXP_TXP13
VGA_PCIE_RXP1	C504	1	2	0.1U	0402	16V4Z	PCIE_RXP1	N3	EXP_TXP14
VGA_PCIE_RXP0	C508	1	2	0.1U	0402	16V4Z	PCIE_RXP0	P1	EXP_TXP15



EXP_SLR

0 GMCH's PCI Express lane numbers are reversed

1 Normal operation



11,13 DDRA_SDQ[0..63] DDRA_SDQ[0..63]

11,13 DDRA_SDQS[0..7] DDRA_SDQS[0..7]

11,13 DDRA_SMA[0..13] DDRA_SMA[0..13]

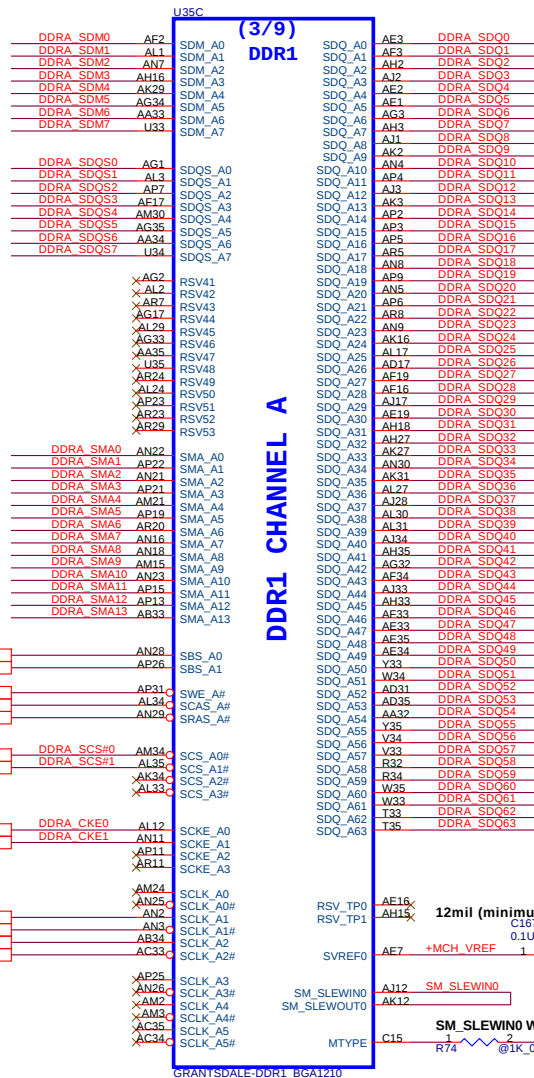
11,13 DDRA_SDM[0..7] DDRA_SDM[0..7]

12,13 DDRB_SDQ[0..63] DDRB_SDQ[0..63]

12,13 DDRB_SDQS[0..7] DDRB_SDQS[0..7]

12,13 DDRB_SMA[0..13] DDRB_SMA[0..13]

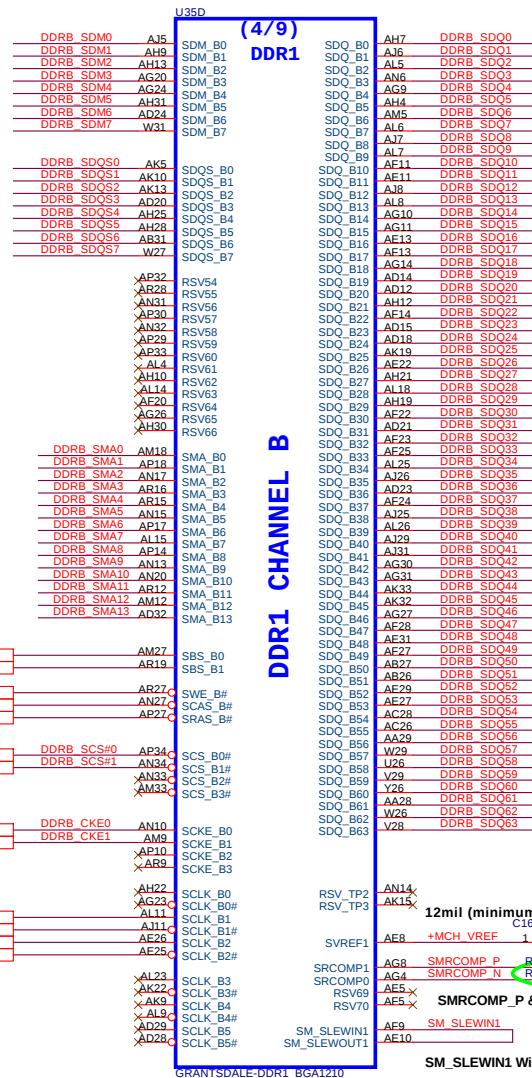
12,13 DDRB_SDM[0..7] DDRB_SDM[0..7]



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DDR1

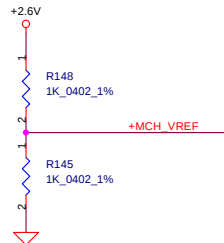
DDR1 CHANNEL A



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DDR1

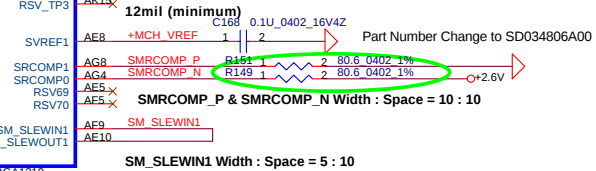
DDR1 CHANNEL B



MTYPE

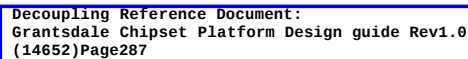
0 DDR2

1 DDR

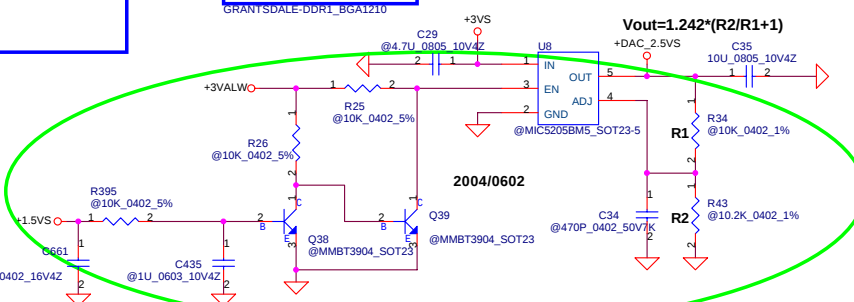


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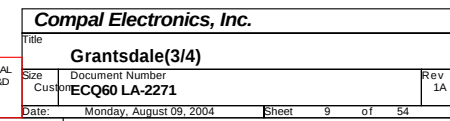
VCC : 10uF *2



VTT : 10uF *3



VCCSM : 2.2uF *6



U35H

AG12	VSS74	GND	VSS168	B9
AG13	VSS75	(8/9)	VSS169	C1
AG15	VSS76		VSS170	C11
AG16	VSS77	DDR1	VSS171	C13
AG18	VSS78		VSS172	C17
AG19	VSS79		VSS173	C18
AG21	VSS80		VSS174	C23
AG22	VSS81		VSS175	C3
AG25	VSS82		VSS176	C35
AG28	VSS83		VSS177	C4
AG29	VSS84		VSS178	D10
AG5	VSS85		VSS179	D11
AH1	VSS86		VSS180	D15
AH11	VSS87		VSS181	D16
AH14	VSS88		VSS182	D18
AH17	VSS89		VSS183	D23
AH20	VSS90		VSS184	D25
AH23	VSS91		VSS185	D26
AH26	VSS92		VSS186	D28
AH29	VSS93		VSS187	D3
AH32	VSS94		VSS188	D30
AH34	VSS95		VSS189	D31
AH5	VSS96		VSS190	D32
AH6	VSS97		VSS191	D4
AH8	VSS98		VSS192	D6
AJ10	VSS99		VSS193	D7
AJ13	VSS100		VSS194	D8
AJ15	VSS101		VSS195	D9
AJ16	VSS102		VSS196	E1
AJ19	VSS103		VSS197	E10
AJ22	VSS104		VSS198	E17
AJ27	VSS105		VSS199	E18
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AK17	VSS114		VSS208	F16
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AK23	VSS116		VSS210	F2
AK25	VSS117		VSS211	F23
AK26	VSS118		VSS212	F25
AK28	VSS119		VSS213	F29
AK30	VSS120		VSS214	F30
AK4	VSS121		VSS215	F32
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AL10	VSS125		VSS219	F6
AL13	VSS126		VSS220	F8
AL16	VSS127		VSS221	G10
AL19	VSS128		VSS222	G11
AL22	VSS129		VSS223	G13
AL32	VSS130		VSS224	G15
AM29	VSS131		VSS225	G17
AM31	VSS132		VSS226	G19
AM4	VSS133		VSS227	G2
AM6	VSS134		VSS228	G20
AM7	VSS135		VSS229	G23
AM8	VSS136		VSS230	G26
AN1	VSS137		VSS231	G27
AP8	VSS138		VSS232	G28
AR13	VSS139		VSS233	G4
AR17	VSS140		VSS234	G7
AR21	VSS141		VSS235	G8
AR25	VSS142		VSS236	H10
AR3	VSS143		VSS237	H13
AR6	VSS144		VSS238	H2
B10	VSS145		VSS239	H21
B12	VSS146		VSS240	H24
B14	VSS147		VSS241	H25
B16	VSS148		VSS242	H27
B18	VSS149		VSS243	H30
B2	VSS150		VSS244	H32
B24	VSS151		VSS245	H34
B28	VSS152		VSS246	H4
B5	VSS153		VSS247	H5
B6	VSS154		VSS248	H6
B7	VSS155		VSS249	H9
B8	VSS156		VSS250	
VSS167				

GRANTSDALE-DDR1_BGA1210

U35I

J10	VSS251	GND	VSS334	P32
J15	VSS252	(9/9)	VSS335	P35
J16	VSS253		VSS336	P4
J17	VSS254	DDR1	VSS337	P5
J18	VSS255		VSS338	P6
J2	VSS256		VSS339	P9
J20	VSS257		VSS340	R11
J23	VSS258		VSS341	R17
J30	VSS259		VSS342	R19
J4	VSS260		VSS343	R2
J7	VSS261		VSS344	R21
J8	VSS262		VSS345	R25
J9	VSS263		VSS346	R26
K10	VSS264		VSS347	R27
K11	VSS265		VSS348	R4
K14	VSS266		VSS349	R7
K2	VSS267		VSS350	R8
K20	VSS268		VSS351	R9
K24	VSS269		VSS352	T10
K26	VSS270		VSS353	T11
K28	VSS271		VSS354	T18
K31	VSS272		VSS355	T2
K32	VSS273		VSS356	T22
K35	VSS274		VSS357	T25
K4	VSS275		VSS358	T28
K5	VSS276		VSS359	T30
K6	VSS277		VSS360	T32
K9	VSS278		VSS361	T34
L11	VSS279		VSS362	T4
L13	VSS280		VSS363	T5
L15	VSS281		VSS364	T6
L16	VSS282		VSS365	T7
L17	VSS283		VSS366	U11
L18	VSS284		VSS367	U15
L2	VSS285		VSS368	U17
L20	VSS286		VSS369	U19
L21	VSS287		VSS370	U2
L22	VSS288		VSS371	U21
L24	VSS289		VSS372	U23
L27	VSS290		VSS373	U25
L30	VSS291		VSS374	U27
L32	VSS292		VSS375	U29
L4	VSS293		VSS376	U31
L7	VSS294		VSS377	U32
L8	VSS295		VSS378	U4
L9	VSS296		VSS379	U7
M10	VSS297		VSS380	U8
M11	VSS298		VSS381	U9
M17	VSS299		VSS382	V1
M2	VSS300		VSS383	V11
M20	VSS301		VSS384	V16
M24	VSS302		VSS385	V18
M25	VSS303		VSS386	V2
M27	VSS304		VSS387	V20
M29	VSS305		VSS388	V22
M34	VSS306		VSS389	V25
M4	VSS307		VSS390	V26
M5	VSS308		VSS391	V27
M6	VSS310		VSS392	V35
M9	VSS311		VSS393	V4
N10	VSS312		VSS394	V6
N11	VSS313		VSS395	V9
N17	VSS314		VSS396	W11
N19	VSS315		VSS397	W15
N2	VSS316		VSS398	W17
N25	VSS317		VSS399	W19
N28	VSS318		VSS400	W21
N30	VSS319		VSS401	W23
N32	VSS320		VSS402	W25
N4	VSS321		VSS403	W28
N7	VSS322		VSS404	W30
N8	VSS323		VSS405	W32
N9	VSS324		VSS406	Y11
P16	VSS325		VSS407	Y22
P18	VSS326		VSS408	Y25
P27	VSS327		VSS409	Y27
P2	VSS328		VSS410	Y29
P20	VSS329		VSS411	Y31
P25	VSS330		VSS412	Y32
P27	VSS331		VSS413	Y34
P29	VSS332		VSS414	
P31	VSS333			

GRANTSDALE-DDR1_BGA1210

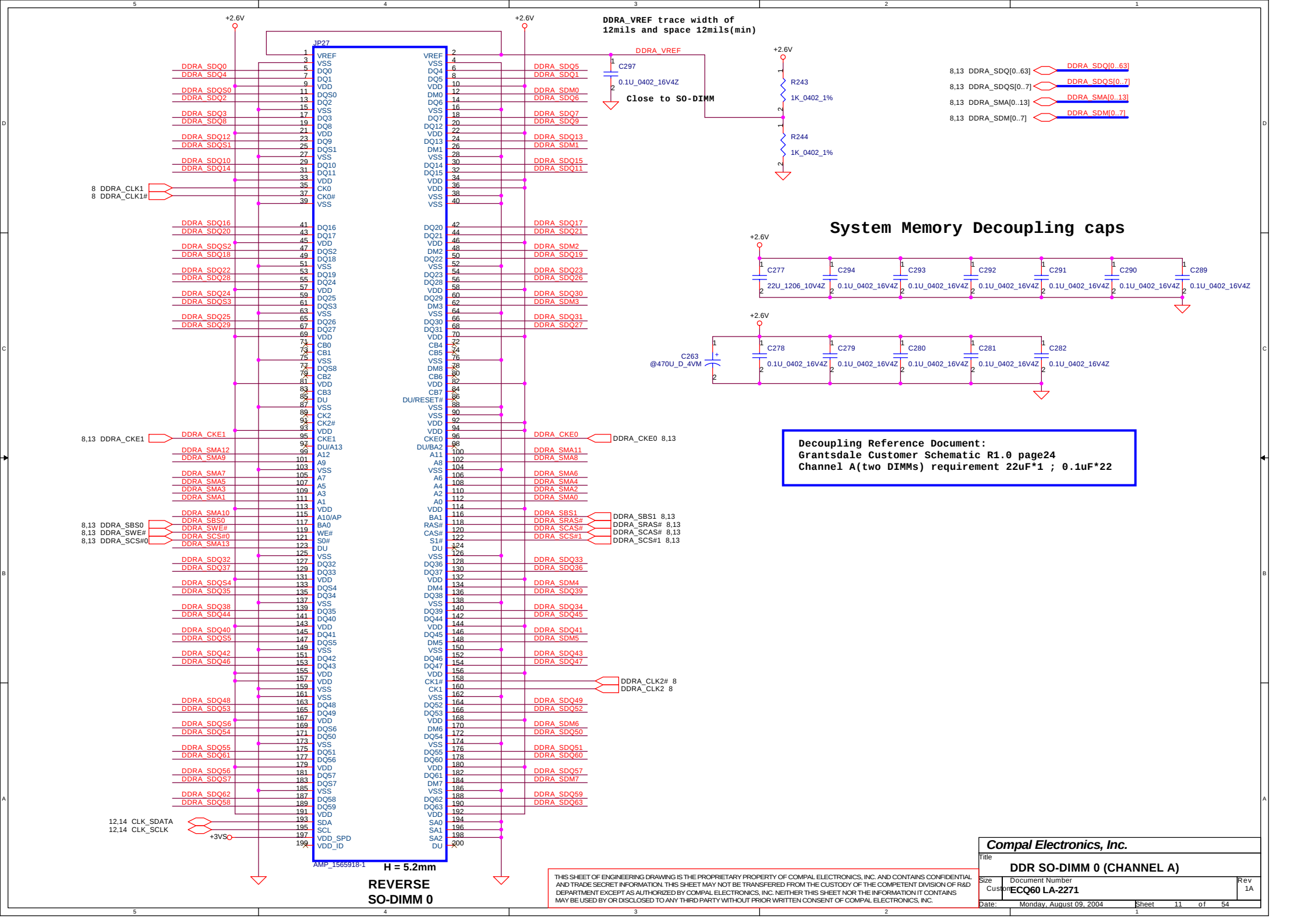
Compal Electronics, Inc.

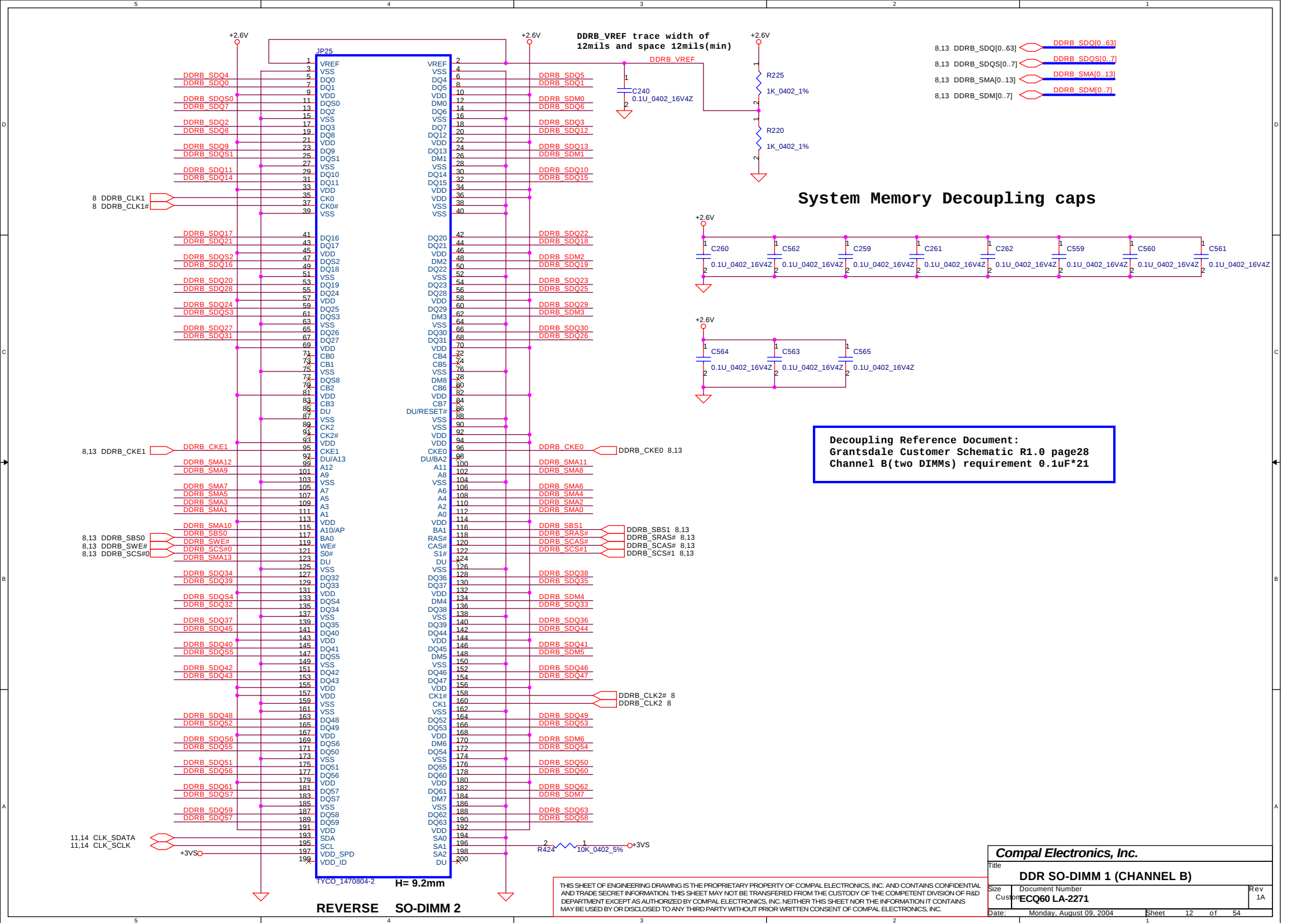
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Size Document Number
Customer ECQ60 LA-2271 Rev
1A

Date: Monday, August 09, 2004 Sheet 10 of 54

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Channel A(DIMM0) Termination resistors & Decoupling caps



Decoupling Reference Document:
Grantsdale Customer Schematic R1.0 page24
Channel A(two DIMMs) requirement 4.7u*3 ; 0.1uF*26

Channel B(DIMM1) Termination resistors & Decoupling caps

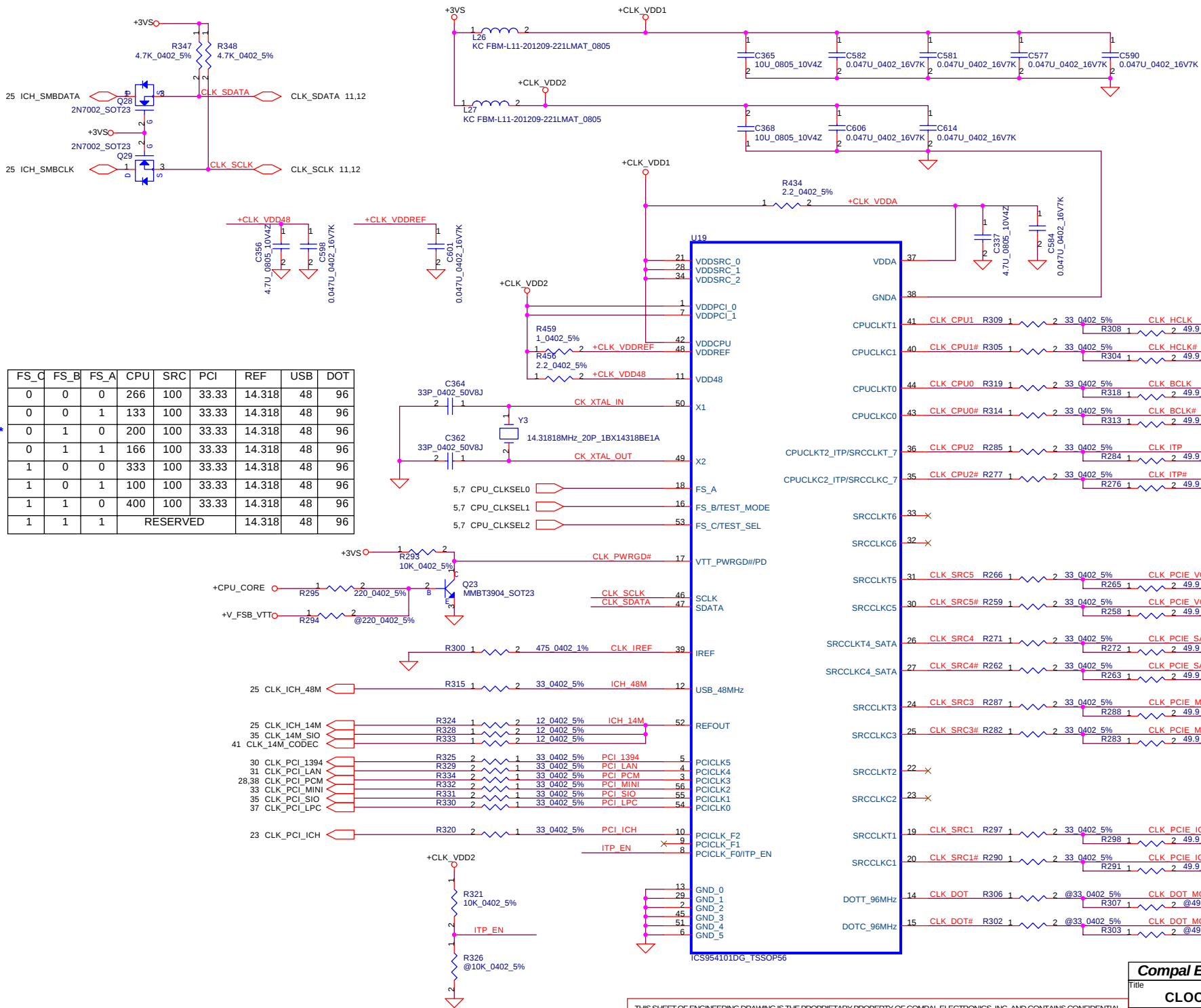


Decoupling Reference Document:
Grantsdale Customer Schematic R1.0 page28
Channel B(two DIMMs) requirement 4.7u*3 ; 0.1uF*28

Compal Electronics, Inc.			
Title			
DDR Termination & Decoupling			
Size	Document Number		Rev
Customer	EQ60 LA-2271		1A
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Clock Generator



FS_C	FS_B	FS_A	CPU	SRC	PCI	REF	USB	DOT
0	0	0	266	100	33.33	14.318	48	96
0	0	1	133	100	33.33	14.318	48	96
0	1	0	200	100	33.33	14.318	48	96
0	1	1	166	100	33.33	14.318	48	96
1	0	0	333	100	33.33	14.318	48	96
1	0	1	100	100	33.33	14.318	48	96
1	1	0	400	100	33.33	14.318	48	96
1	1	1	RESERVED			14.318	48	96

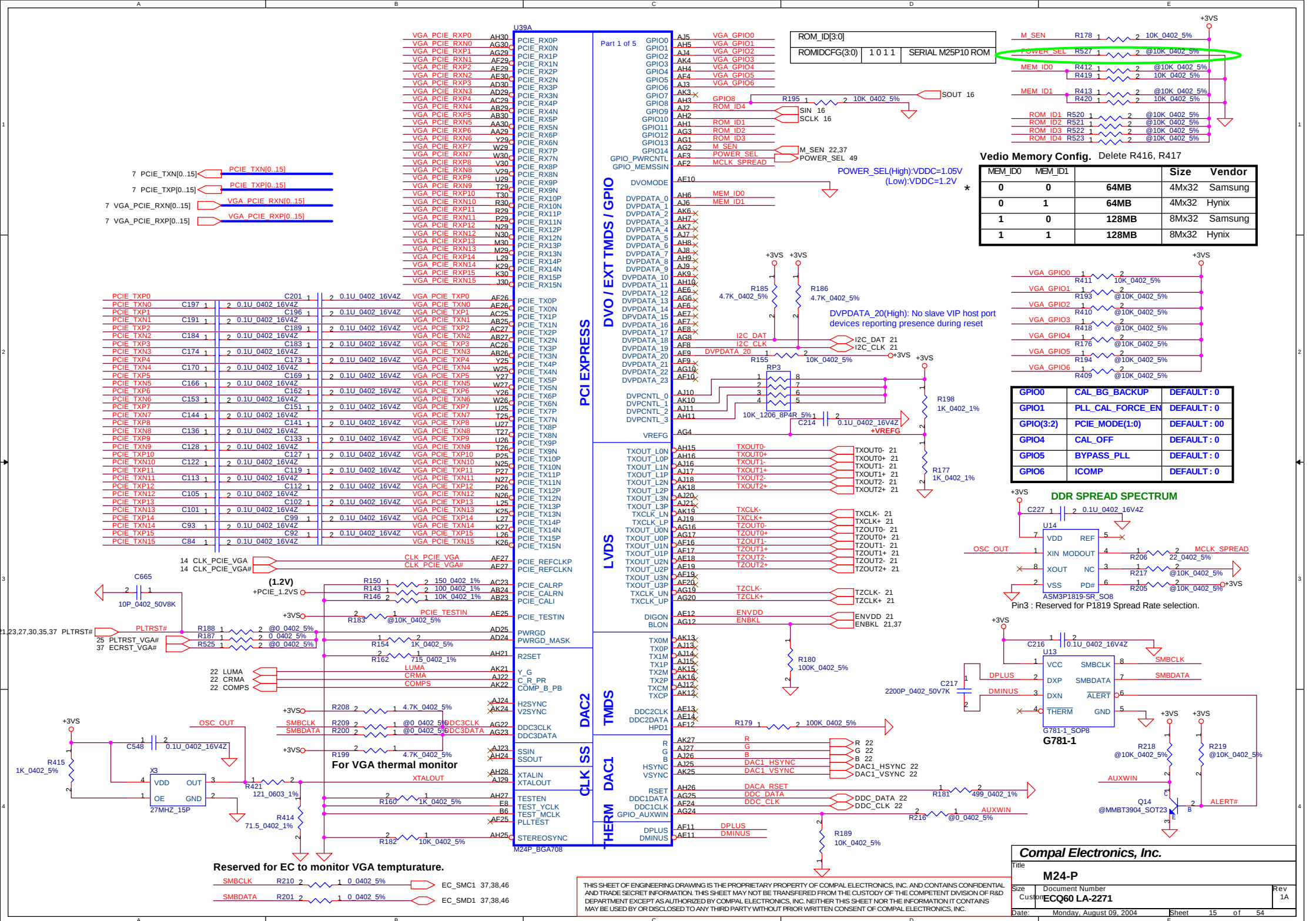
Compal Electronics, Inc.

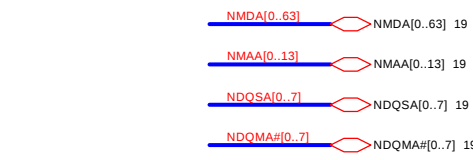
CLOCK GENERATOR

Size	Document Number	Rev
Custom	ECQ60 LA-2271	1A

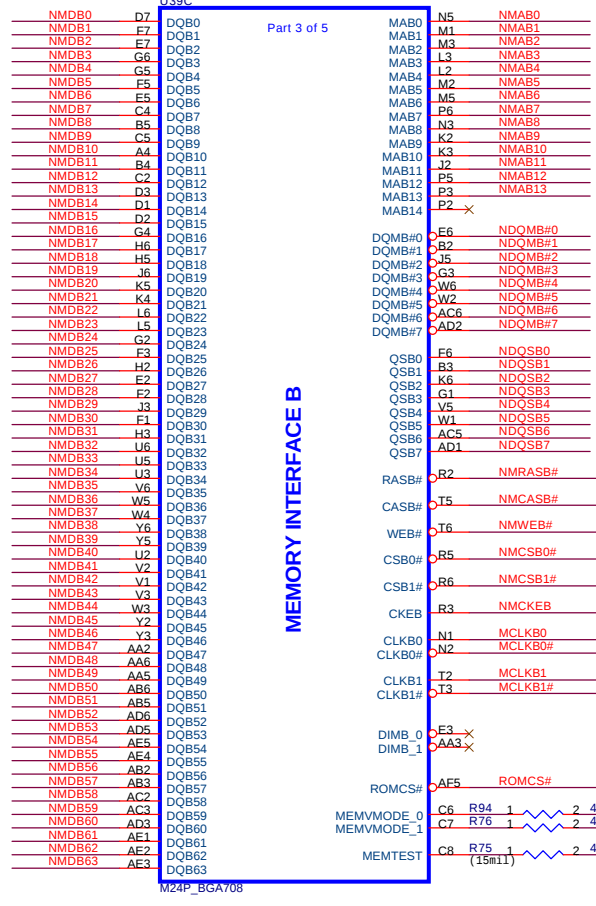
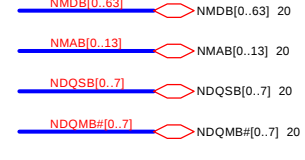
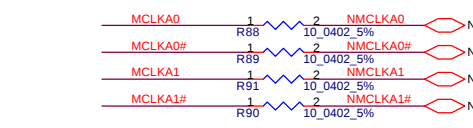
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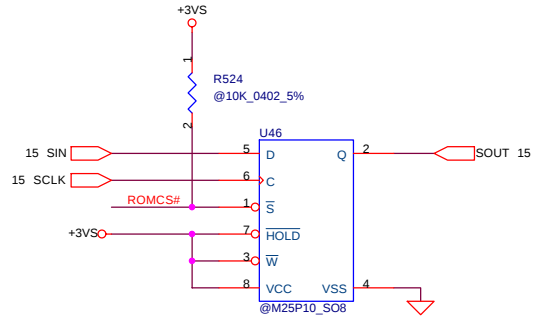
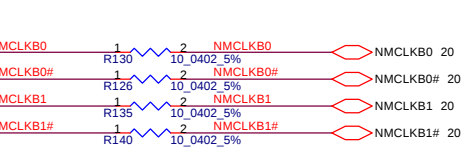
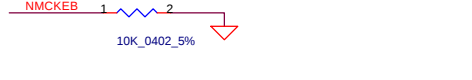




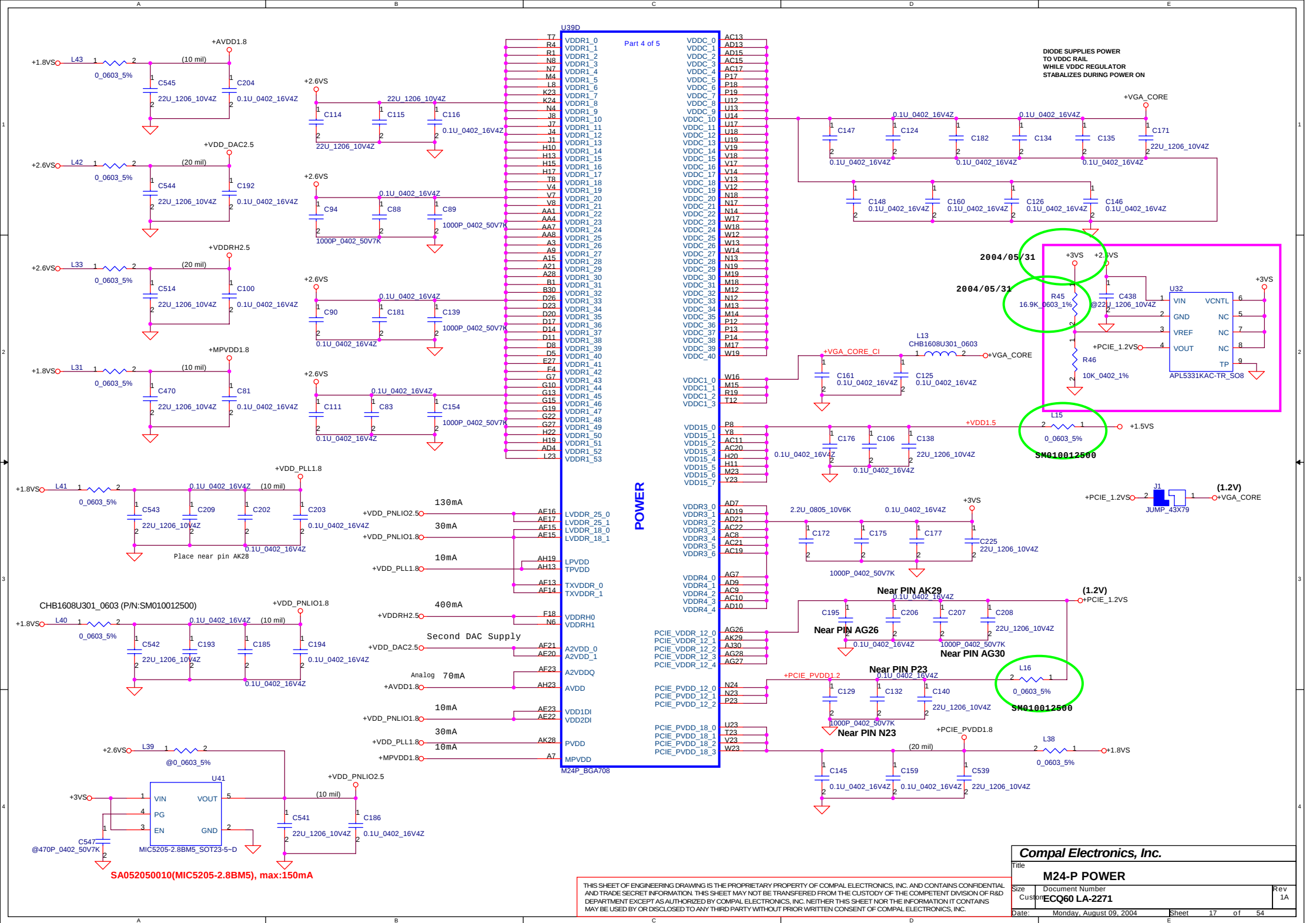
MEMORY INTERFACE A

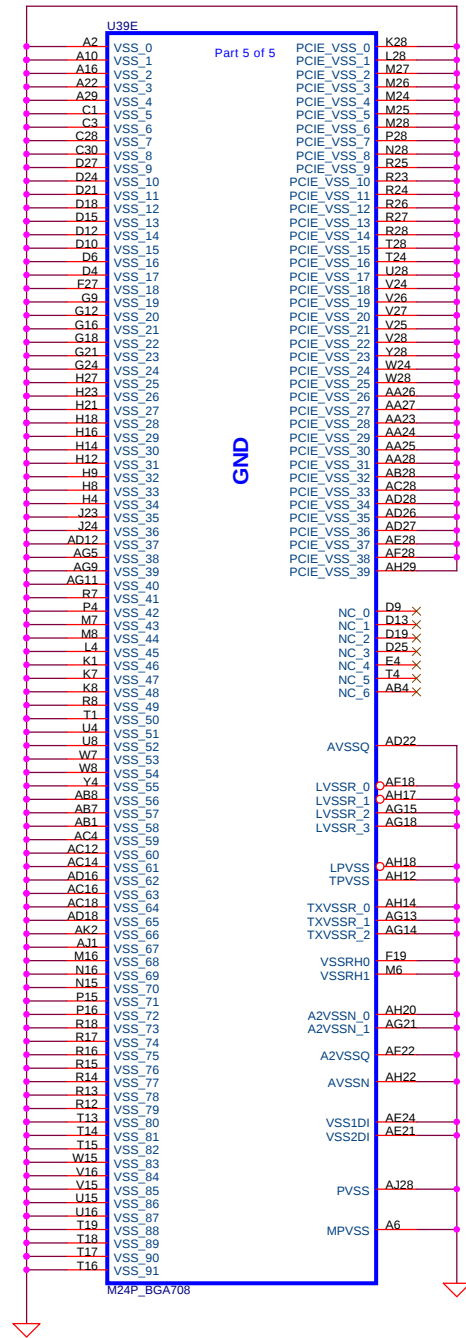


MEMORY INTERFACE B

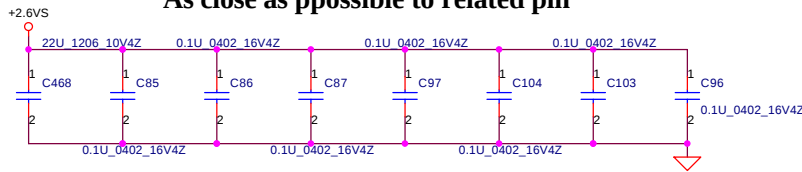


MEM I/O Voltage Selection		
	2.5V VDDR1	1.8V VDDR1(ELPIDA)
MEMVMODE0	HI	LOW
MEMVMODE1	LOW	HI

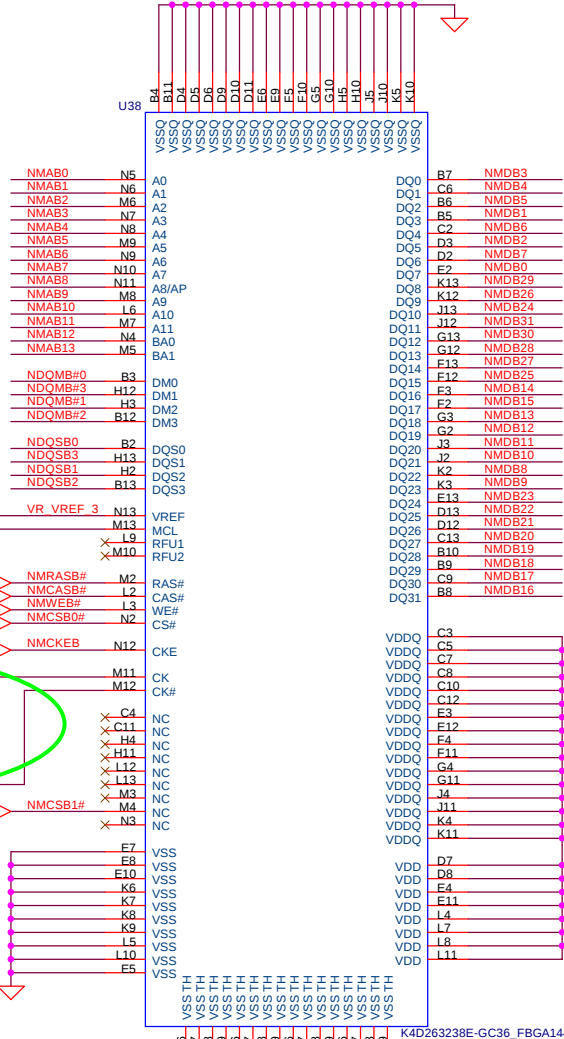




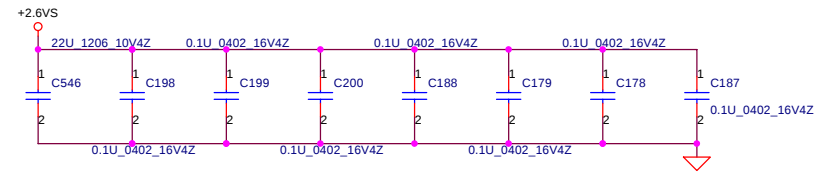
As close as possible to related pin



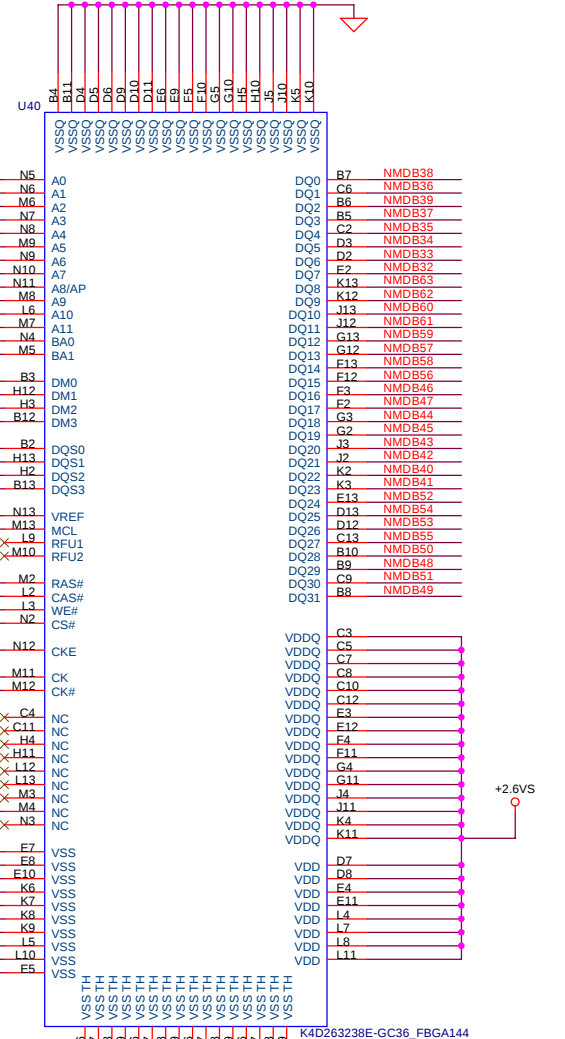
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- 16 NDQSB#[0..7] NDQSB#[0..7]
- 16 NMAB#[0..13] NMAB#[0..13]
- 16 NMDB#[0..63] NMDB#[0..63]



Closed to VRAM



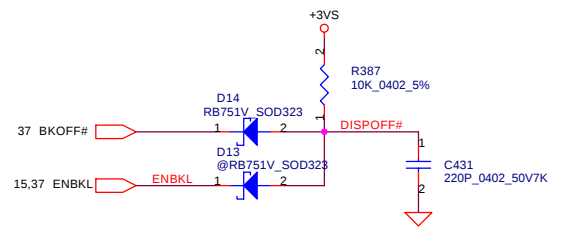
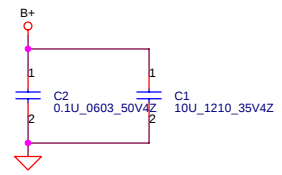
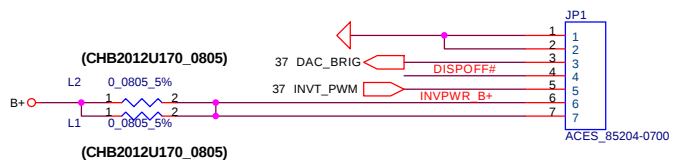
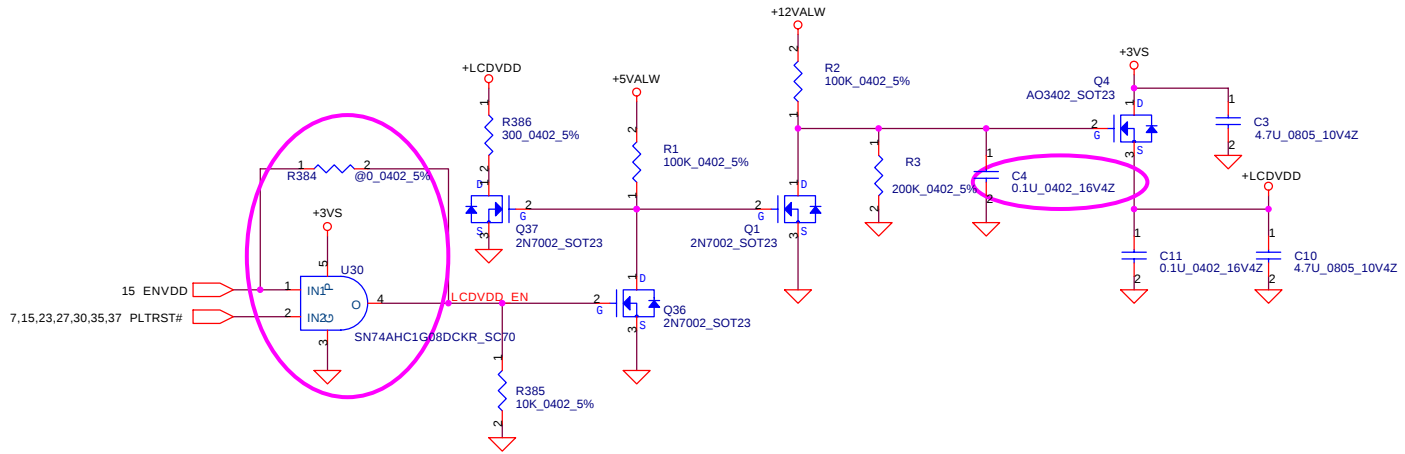
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- 16 NMDB#[0..63] NMDB#[0..63]



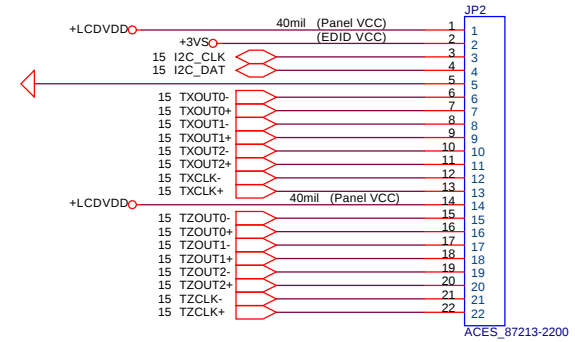
Closed to VRAM

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Compal Electronics, Inc.		
Title		
GRAPHIC DDR CHANNEL B		
Size	Document Number	Rev
Custom	ECQ60 LA-2271	1A
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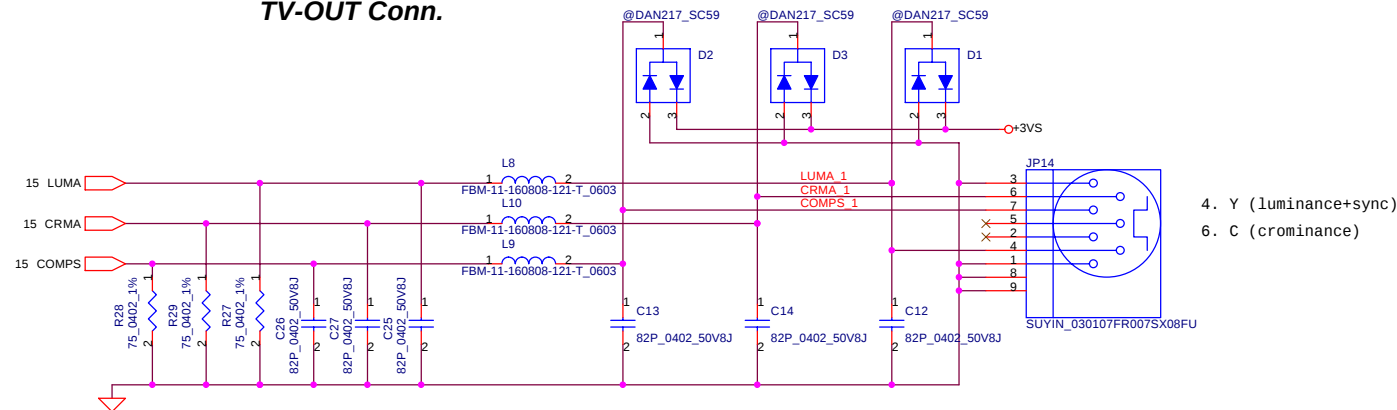
LVDS Conn.



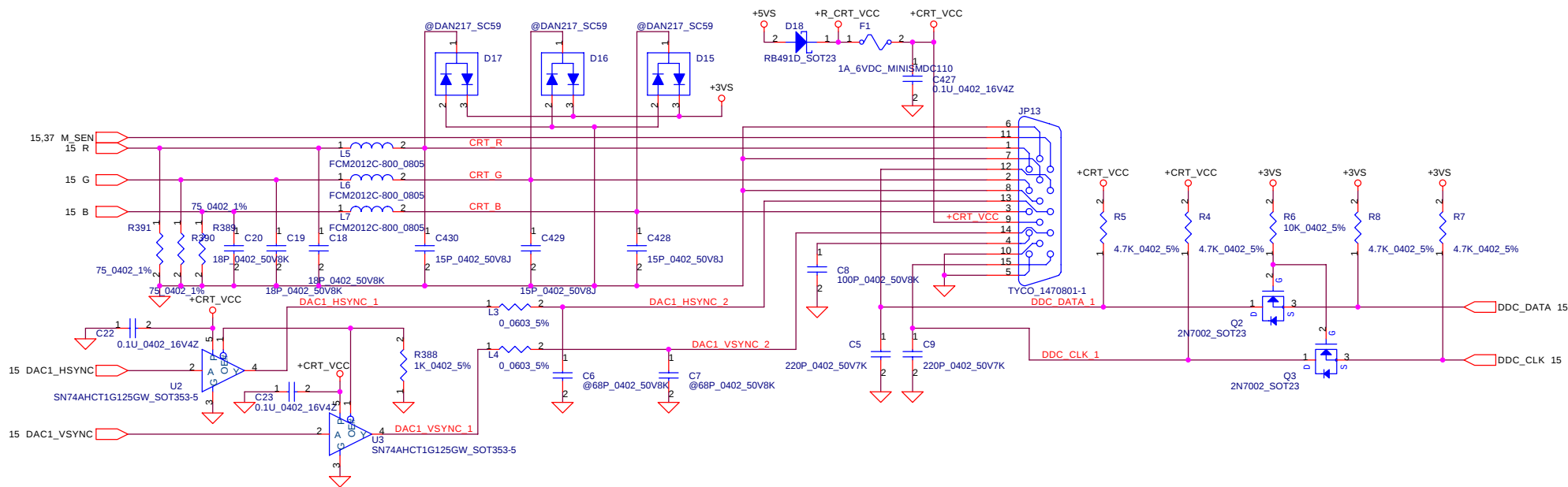
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Compal Electronics, Inc.		
Title		
LVDS CONNECTOR		
Size	Document Number	Rev
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TV-OUT Conn.



CRT Conn.



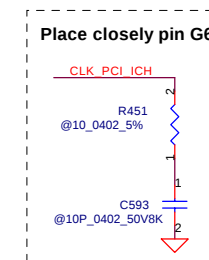
Compal Electronics, Inc.

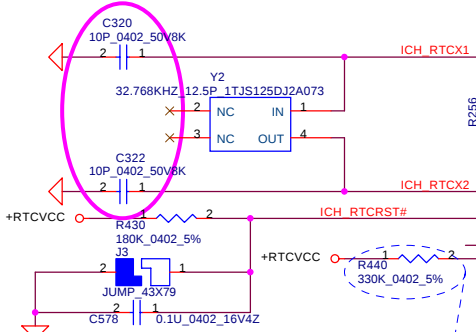
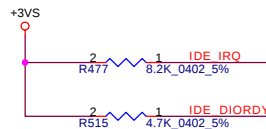
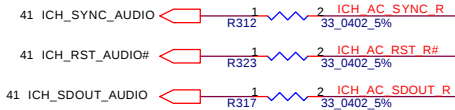
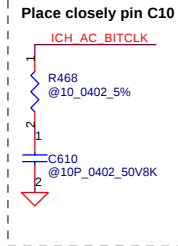
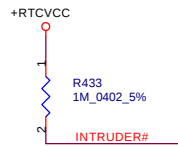
CRT, TV-OUT CONNECTOR

Size Document Number Rev
Customer ECQ60 LA-2271 1A

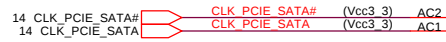
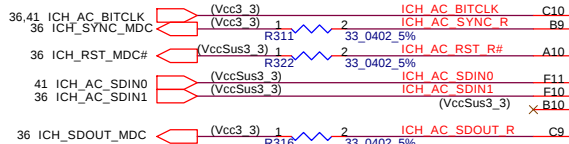
Date: Monday, August 09, 2004 Sheet 22 of 54

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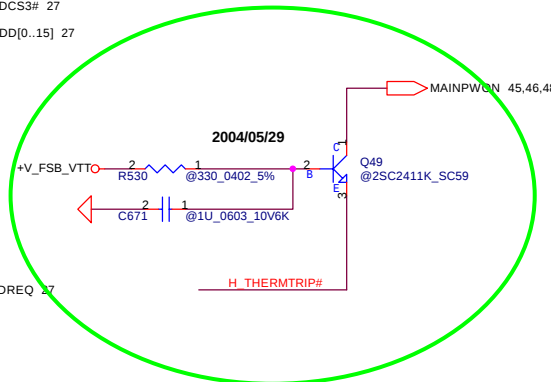
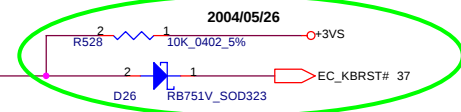
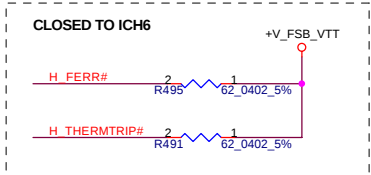
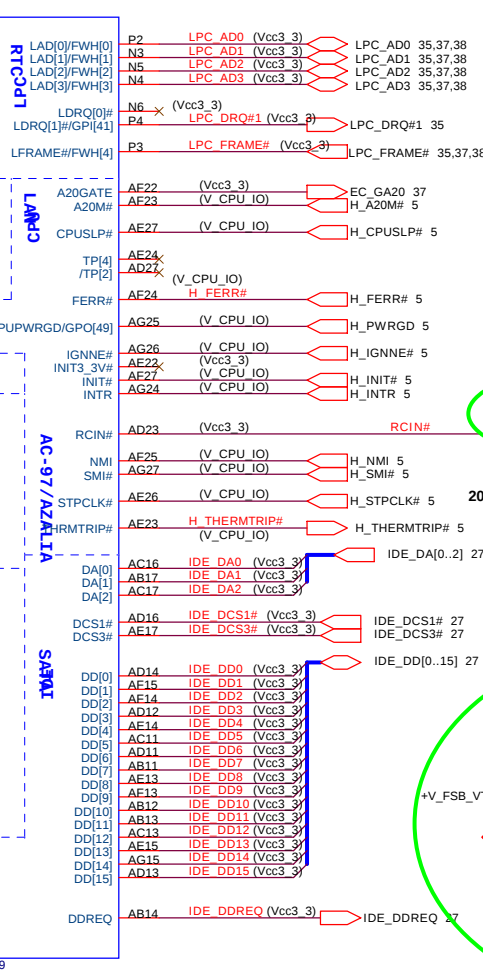
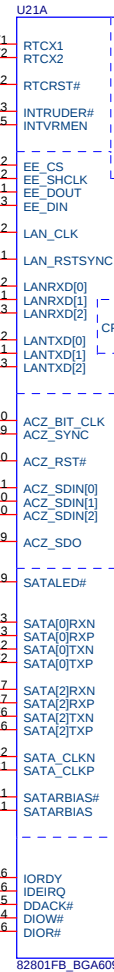
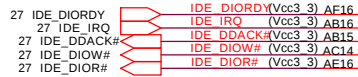


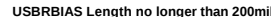
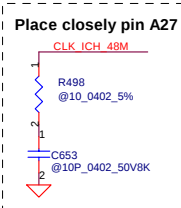


INTVRMEN	
HIGH	ENABLE INTEGRATED VCCSUS1.5 VRM
LOW	DISABLE INTEGRATED VCCSUS1.5 VRM

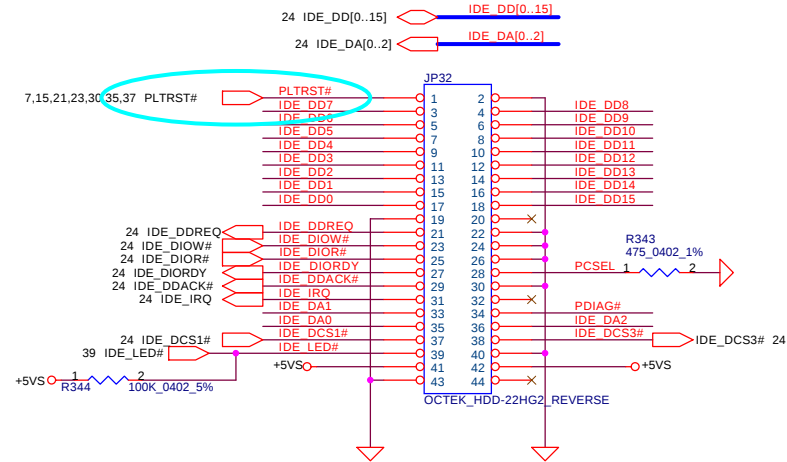


SATARBIAS Length no longer than 200mil



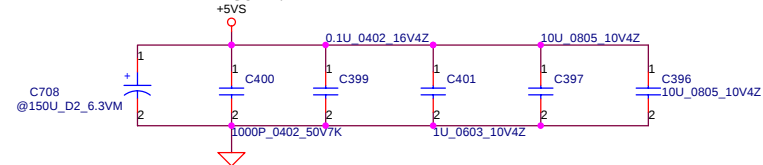


HDD Connector

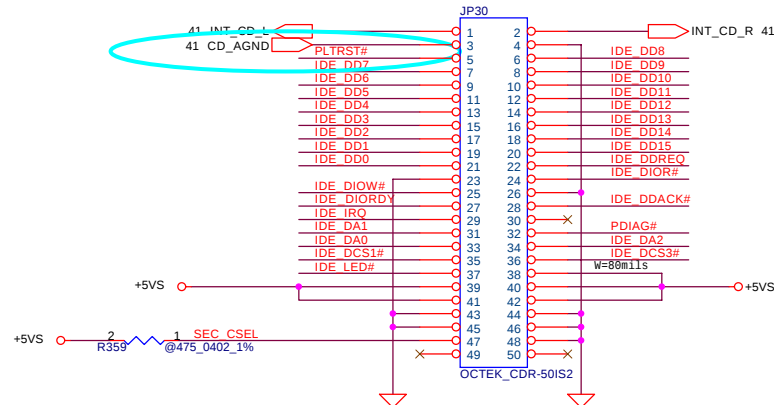


When Pin28 CSEL grounded,
the device recognizes itself as a master.

Place caps. near HDD CONN.

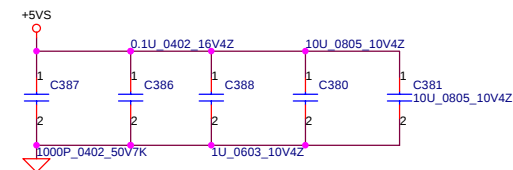


CD-ROM Connector



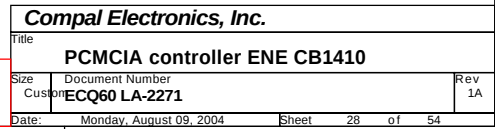
When Pin47 CSEL grounded,
the device recognizes itself as a master.
When CSEL open,
the device recognizes itself as a slave.

Place caps. near CDROM CONN.

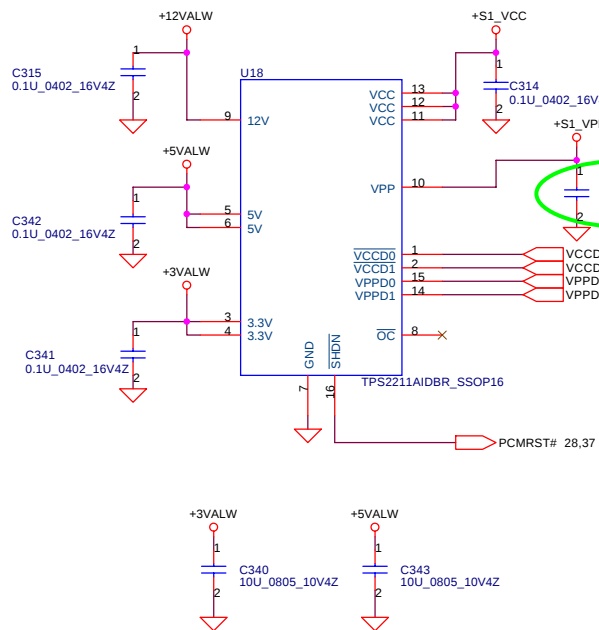


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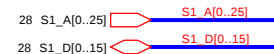
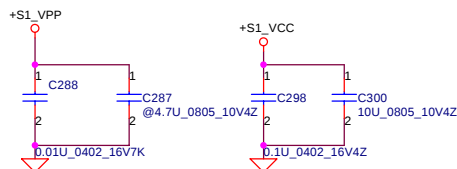
Compal Electronics, Inc.			
Title		IDE CONNECTOR	
Size	Document Number	Rev	
Customer	ECQ60 LA-2271	1A	
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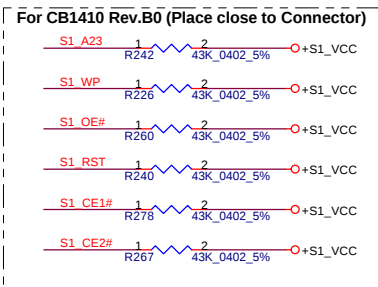
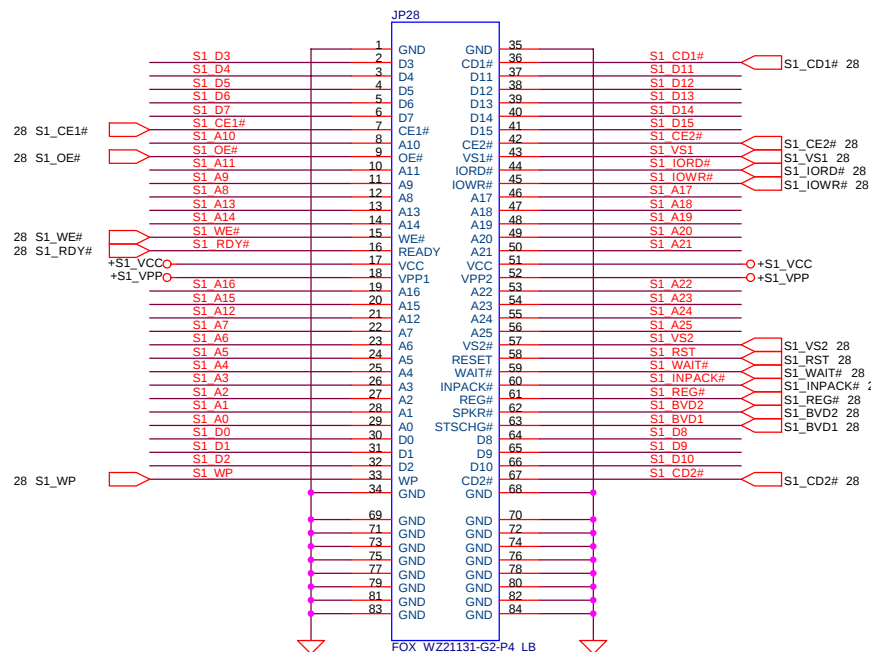
PCMCIA Power Controller



Change Package from 0603 to 0805



CardBus Socket



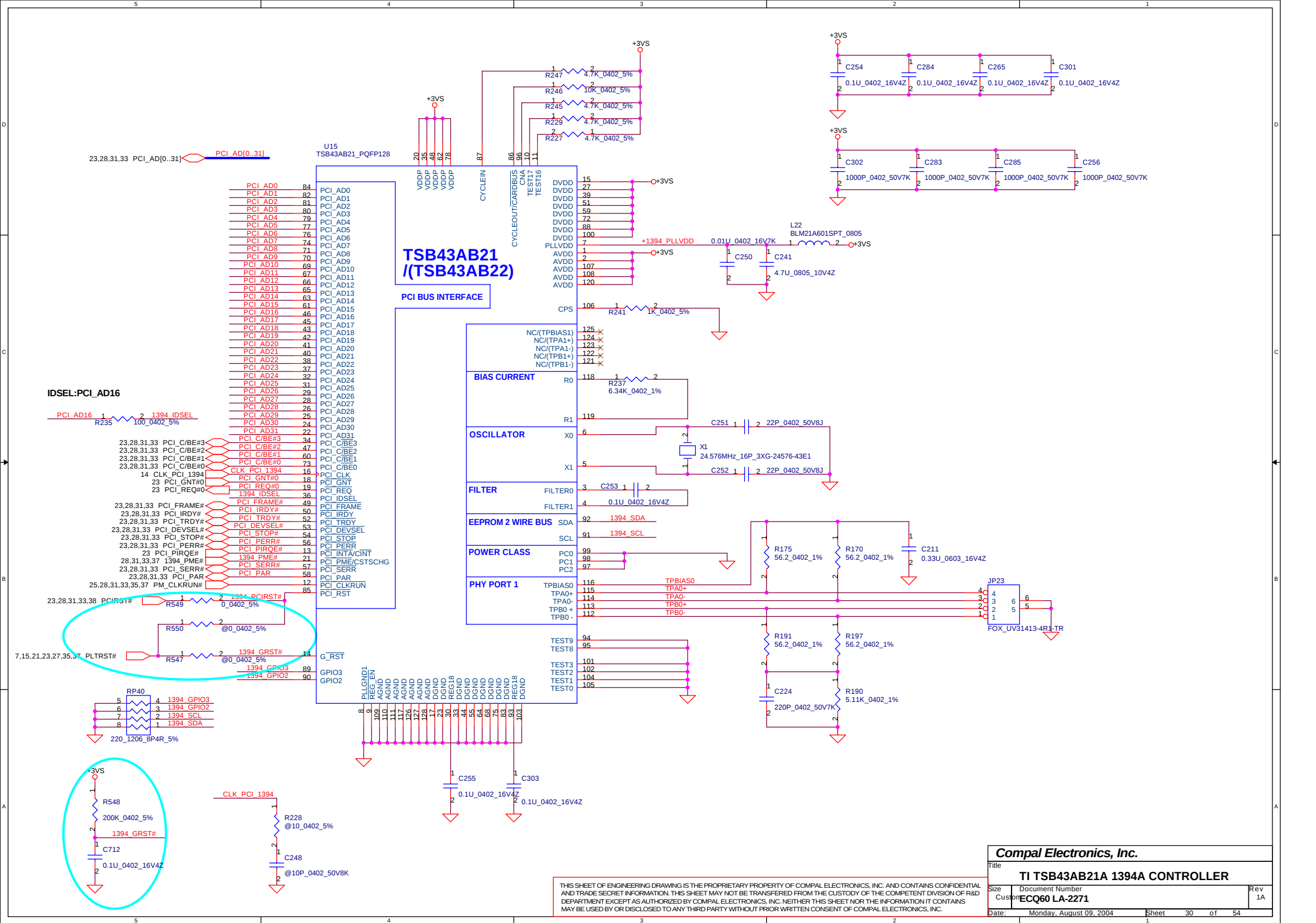
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Compal Electronics, Inc.

CardBus Socket

Size	Document Number	Rev
Custom	EQ60 LA-2271	1A
Date:	Monday, August 09, 2004	Sheet 29 of 54

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EN_WOL# = Low,
System can wake on LAN
(keep Low when Power On)

VGS(th) = -0.45V
IDmax = 2.3A

+3VS for BCM5788
+3V_LAN for BCM4401

23,28,30,33 PCI_AD[0..31]

BCM5788:SA057880000
BCM4401:SA044010000

CLK_PCI_LAN
R136
@10_0402_5%

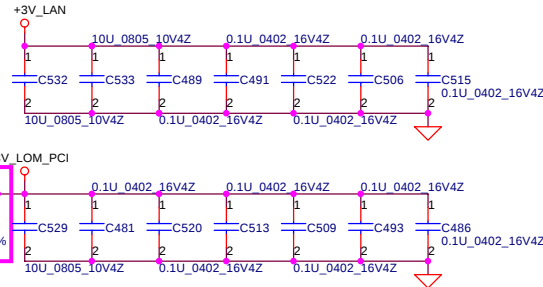
23,28,30,33 PCI_C/BE#3
23,28,30,33 PCI_C/BE#2
23,28,30,33 PCI_C/BE#1
23,28,30,33 PCI_C/BE#0

100_0402_5%
PCI_AD17 R139 1 2 LAN_IDSEL A4
23,28,30,33 PCI_FRAME# F2
23,28,30,33 PCI_IRDY# F1
23,28,30,33 PCI_TRDY# G3
23,28,30,33 PCI_DEVSEL# H3
23,28,30,33 PCI_STOP# J1
23,28,30,33 PCI_PERR# A2
23,28,30,33 PCI_SERR# J2
23,28,30,33 PCI_PAR# J1
14 CLK_PCI_LAN A3

23 PCI_PIRQ# H2
23,28,30,33 PCI_RST# J3
23 PCI_GNT#3 J3
23 PCI_REQ#3 C3

+3V_LAN R109 1 2 LAN_AUXPWR J12
28,30,33,37 LAN_PME# A6

LAN_X1 Y1
25MHZ_20P
C74 27P_0402_50V8J
C73 27P_0402_50V8J



BCM5788M
/(BCM4401)

TRD3+/(NC_E13)
TRD3+/(NC_E14)
TRD2+/(NC_D13)
TRD1+/(RDP)
TRD1+/(RDN)
TRD0+/(TDP)
TRD0+/(TDN)

REGSUP12/(NC_B9)
REGCTL12/(NC_B10)
REGSEN12/(REG18OUT)
REGSUP25/(REGSUP18)
REGCTL25/(NC_C11)
REGSEN25/(REGSUP18)

VESD1
VESD2
VESD3
EEDATA/(SPROM_CS)
EECLK/(SPROM_CLK)

GPI00/(NC_H12)
GPI01/(NC_K13)
GPI02/(NC_J13)

LINKLED/(LINKLED10)
SPD100LED/(LINKLED100)
SPD1000LED/(COL_LED)
TRAFFICLED/(ACT_LED)

PLLVD2/(PLLVD)
NC_P7
TCK
TDI
TDO
TMS
TRST

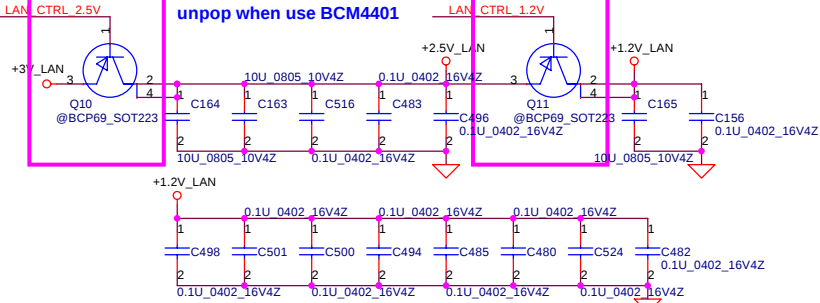
XTALVDD
XTALO
XTALI

NC_G11
NC_E10/(EEDATA_PXE)
NC_E11/(EECLK_PXE)
NC_H11

BIASVDD
RDAC

NC_A10
NC_C9

unpop when use BCM4401



VDDC_E12
VDDC_H5
VDDC_H6
VDDC_H7
VDDC_H8
VDDC_J5
VDDC_J6
VDDC_J7
VDDC_J8
VDDC_J9
VDDC_J10
VDDC_K5
VDDC_K6
VDDC_K7
VDDC_K8
VDDC_K9
VDDC_K10
VDDC_L5
VDDC_L10
VDDC_M14
VDDC_N14
VDDC_P8
VDDC_P12
VDDC_P13
VDDC_P14

VDDIO_PCI_A7
VDDIO_PCI_B3
VDDIO_PCI_C5
VDDIO_PCI_E1
VDDIO_PCI_E4
VDDIO_PCI_G1
VDDIO_PCI_K3
VDDIO_PCI_L4
VDDIO_PCI_N6
VDDIO_PCI_P2

NC_C8
CLKRUN
NC_H10
NC_J4
NC_K4
NC_L11/(GPIO_11/LOW_POWER/(TESTMODE))
NC_K11/(GPIO_0)
NC_L7
NC_L8

NC_C9
NC_L11/(VSS_L11)
NC_L14/(VSS_L14)
NC_M6
NC_M9/(VREF)
NC_J11/(GPIO_11/LOW_POWER/(TESTMODE))
NC_K11/(GPIO_0)
NC_L7
NC_L8

NC_C9
CLKRUN
NC_H10
NC_J4
NC_K4
NC_L11/(GPIO_11/LOW_POWER/(TESTMODE))
NC_K11/(GPIO_0)
NC_L7
NC_L8

NC_C9
CLKRUN
NC_H10
NC_J4
NC_K4
NC_L11/(GPIO_11/LOW_POWER/(TESTMODE))
NC_K11/(GPIO_0)
NC_L7
NC_L8

NC_C9
CLKRUN
NC_H10
NC_J4
NC_K4
NC_L11/(GPIO_11/LOW_POWER/(TESTMODE))
NC_K11/(GPIO_0)
NC_L7
NC_L8

NC_C9
CLKRUN
NC_H10
NC_J4
NC_K4
NC_L11/(GPIO_11/LOW_POWER/(TESTMODE))
NC_K11/(GPIO_0)
NC_L7
NC_L8

VSS_B7
VSS_D4
VSS_D5
VSS_D6
VSS_D7
VSS_D8
VSS_D9
VSS_E2
VSS_E5
VSS_E6
VSS_E7
VSS_E8
VSS_E9
VSS_F5
VSS_F6
VSS_F7
VSS_F8
VSS_F9
VSS_F10
VSS_G4
VSS_G5
VSS_G6
VSS_G7
VSS_G8
VSS_G9
VSS_G10
VSS_H9
VSS_K2
VSS_L6
VSS_L9
VSS_M6
VSS_M12
VSS_N1
VSS_N12
VSS_N13

VDDP_K14/(NC_K14/VDDL_F12/(AVDD_F12))
VDDP_L13/(NC_L13/VDDL_F13/(AVDD_F13))
VDDP_P11/(NC_P11)
AVDD_F14/(NC_F14)
AVDD_A13/(NC_A13)

NC_C9
CLKRUN
NC_H10
NC_J4
NC_K4
NC_L11/(GPIO_11/LOW_POWER/(TESTMODE))
NC_K11/(GPIO_0)
NC_L7
NC_L8

NC_C9
CLKRUN
NC_H10
NC_J4
NC_K4
NC_L11/(GPIO_11/LOW_POWER/(TESTMODE))
NC_K11/(GPIO_0)
NC_L7
NC_L8

NC_C9
CLKRUN
NC_H10
NC_J4
NC_K4
NC_L11/(GPIO_11/LOW_POWER/(TESTMODE))
NC_K11/(GPIO_0)
NC_L7
NC_L8

NC_C9
CLKRUN
NC_H10
NC_J4
NC_K4
NC_L11/(GPIO_11/LOW_POWER/(TESTMODE))
NC_K11/(GPIO_0)
NC_L7
NC_L8

NC_C9
CLKRUN
NC_H10
NC_J4
NC_K4
NC_L11/(GPIO_11/LOW_POWER/(TESTMODE))
NC_K11/(GPIO_0)
NC_L7
NC_L8

NC_C9
CLKRUN
NC_H10
NC_J4
NC_K4
NC_L11/(GPIO_11/LOW_POWER/(TESTMODE))
NC_K11/(GPIO_0)
NC_L7
NC_L8

AT93C46 for BCM4401

AT24C256 for BCM5788

Compal Electronics, Inc.

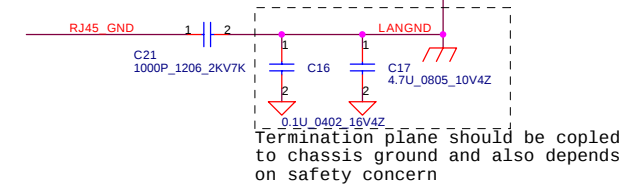
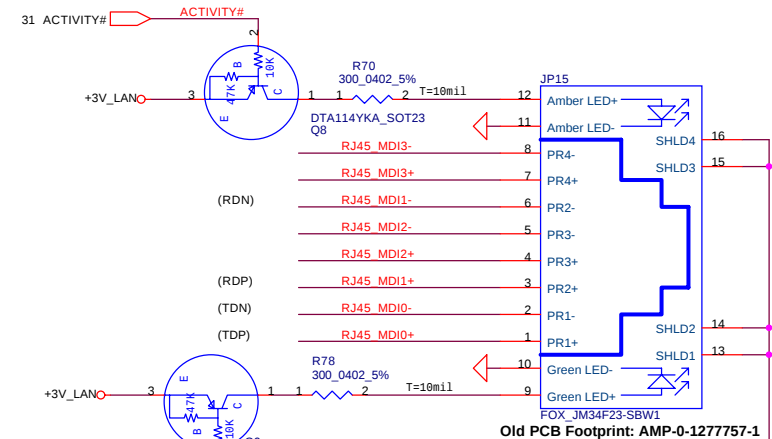
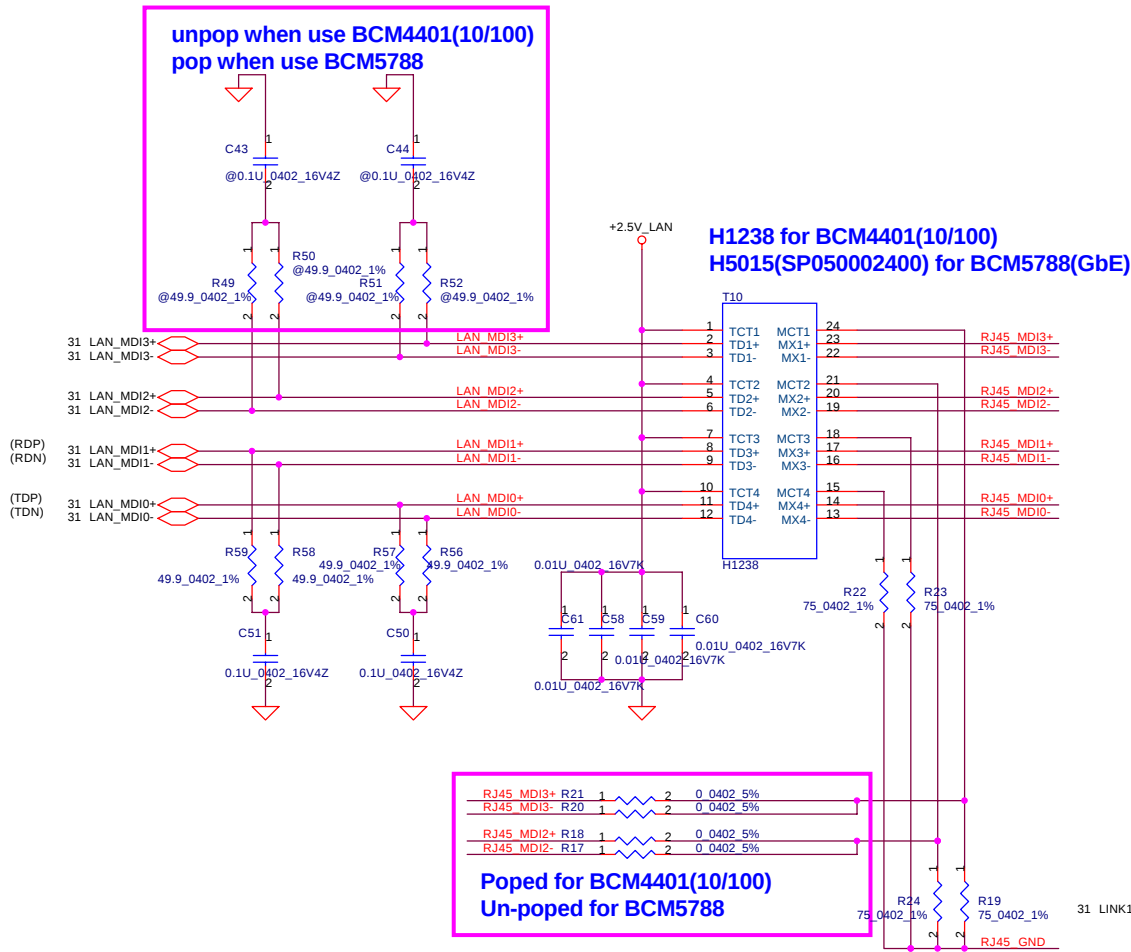
LAN BCM4401 / BCM5788

Size B Document Number ECQ60 LA-2271 Rev 1A

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LAN BCM5788M/BCM4401KFB



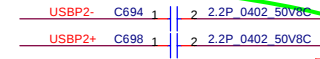
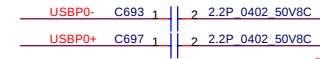
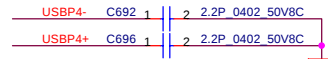
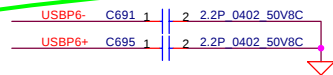
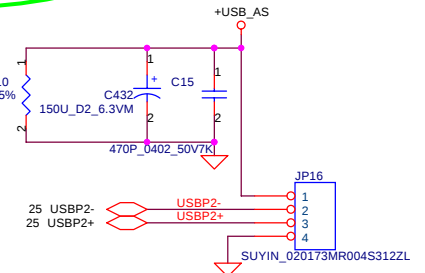
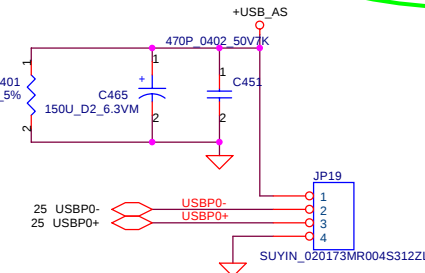
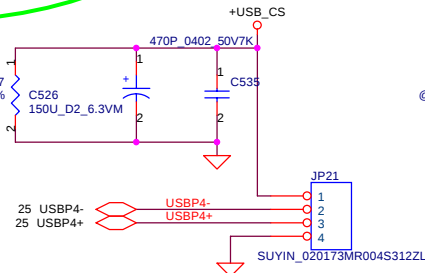
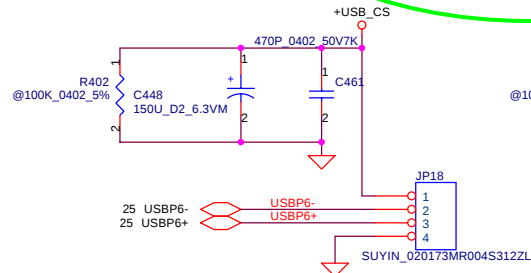
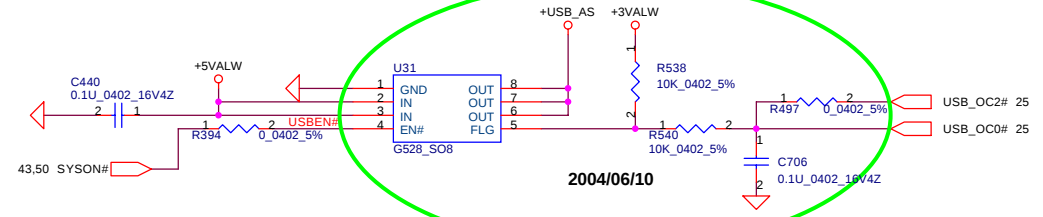
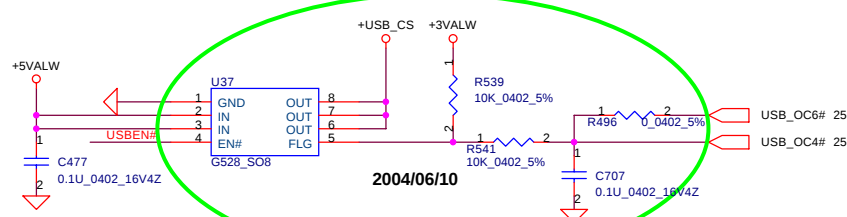
Compal Electronics, Inc.

Title LAN Magnetic & RJ45 / RJ11

Size Document Number
Customer ECQ60 LA-2271

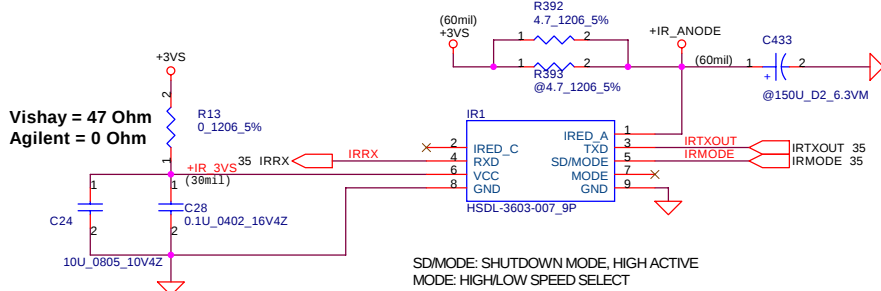
Date: Monday, August 09, 2004 Sheet 32 of 54 Rev 1A

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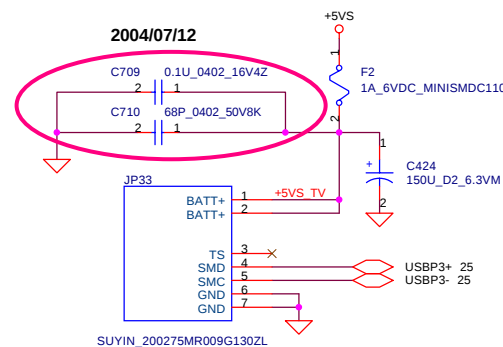


FIR Module

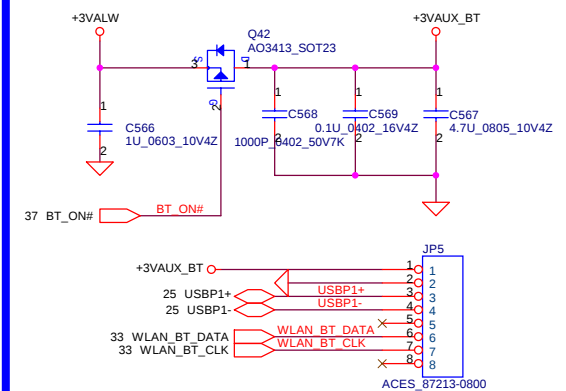
Vishay populate two 4.7 Ohm resistor
Agilent populate one 4.7 Ohm resistor



TV-Tuner Module Connector



Bluetooth Conn.



Compal Electronics, Inc.

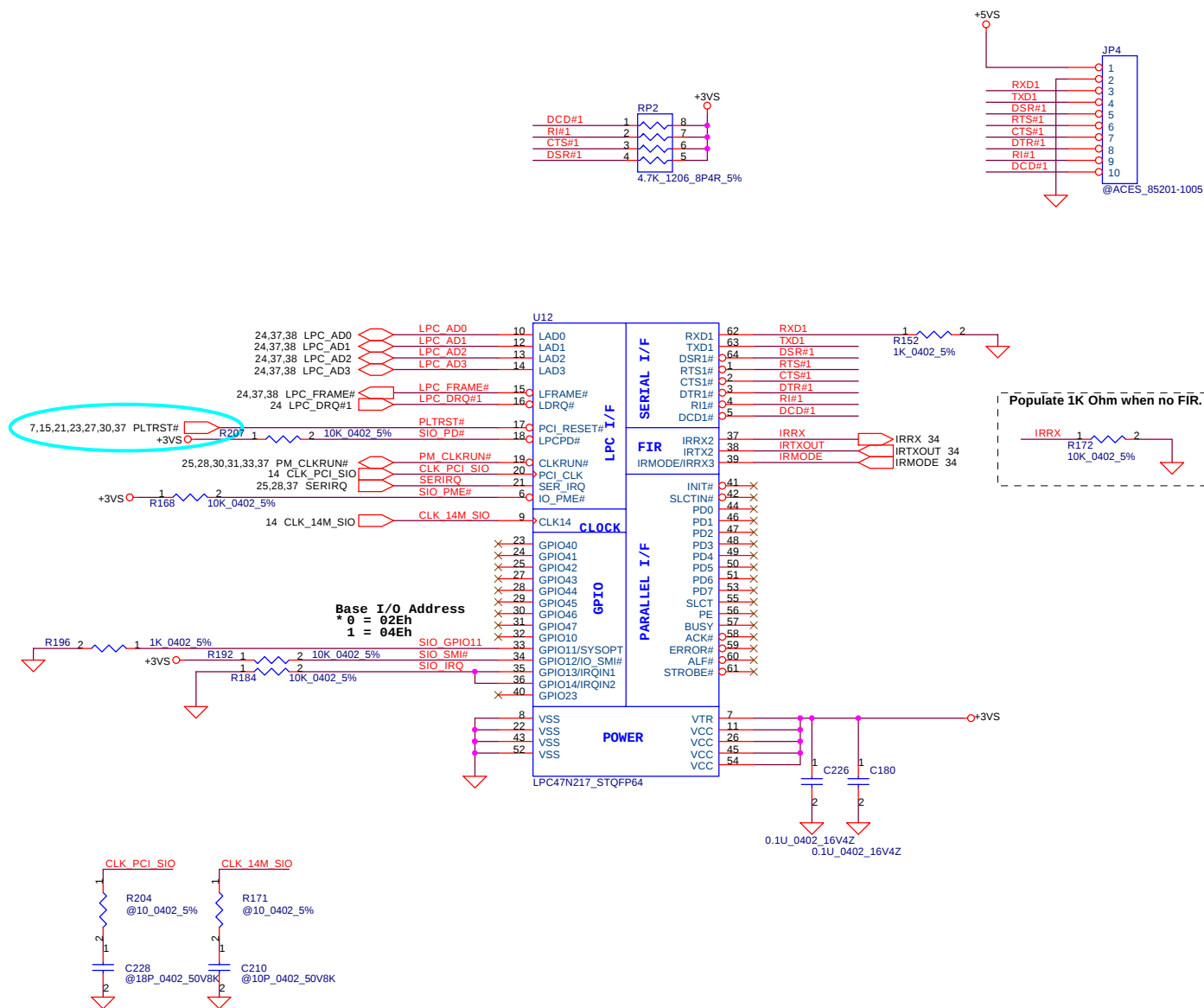
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USB / FIR / BT / TV

Size
Document Number
ECQ60 LA-2271

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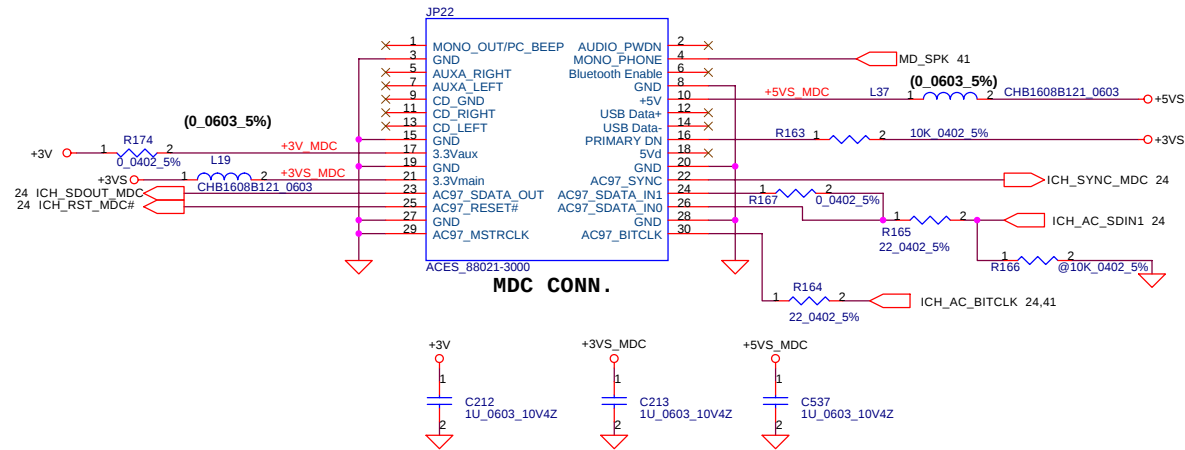
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SUPER I/O SMC LPC47N217



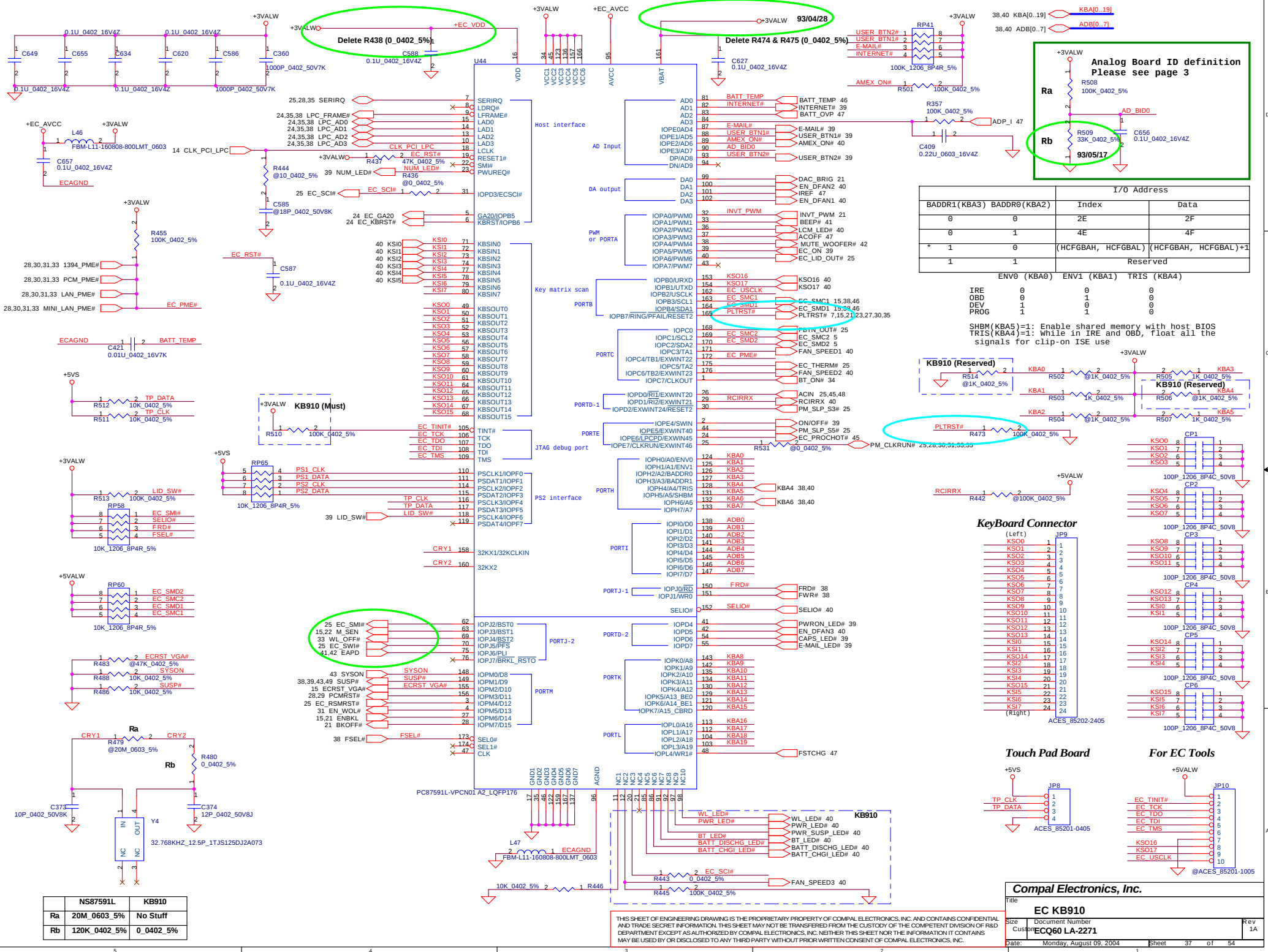
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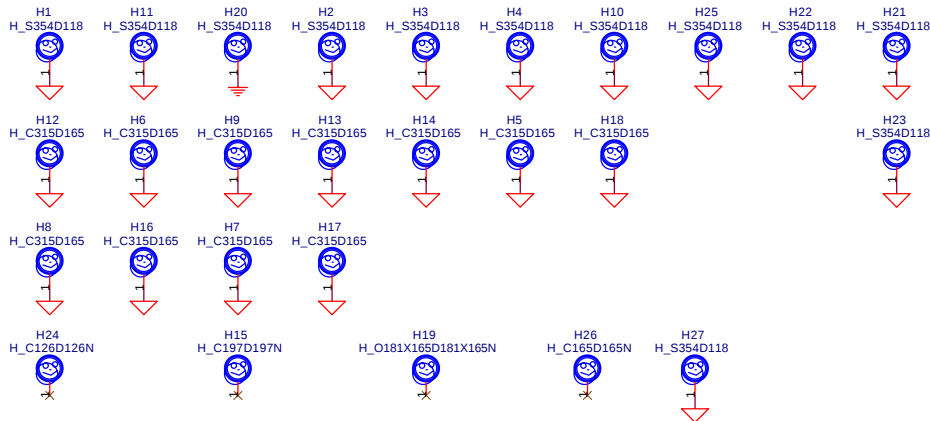
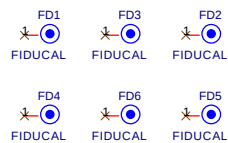
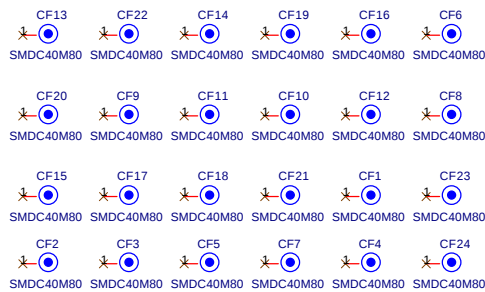
Compal Electronics, Inc.			
SUPER I/O LPC47N217			
Size	Document Number	Rev	
Custom	ECQ60 LA-2271	1A	
Date:	Monday, August 09, 2004	Sheet	35 of 54



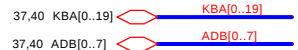
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Compal Electronics, Inc.			
Title			
PARALLEL PORT / MDC			
Size	Document Number		Rev
Custom	ECQ60 LA-2271		1A
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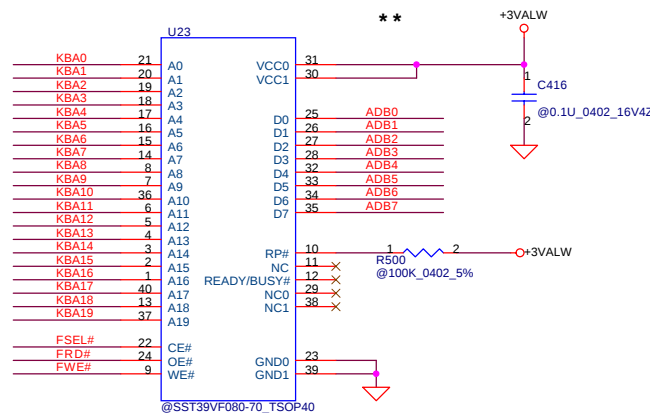
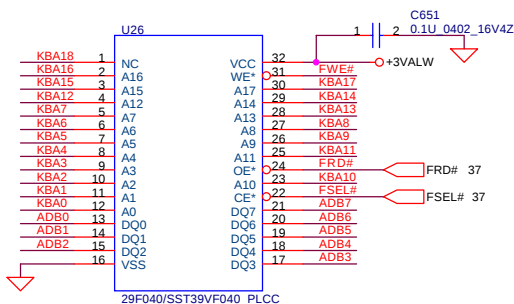




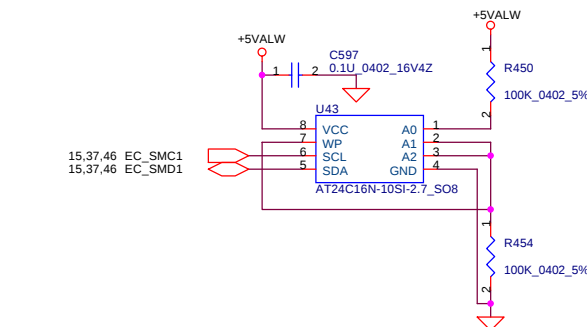
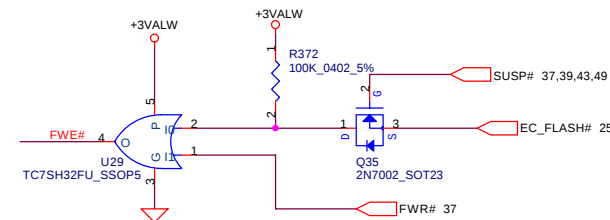
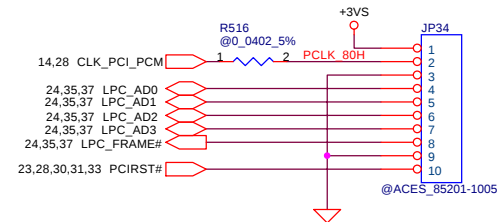
1MB Flash ROM



512KB Flash ROM



For LPC Debug Card



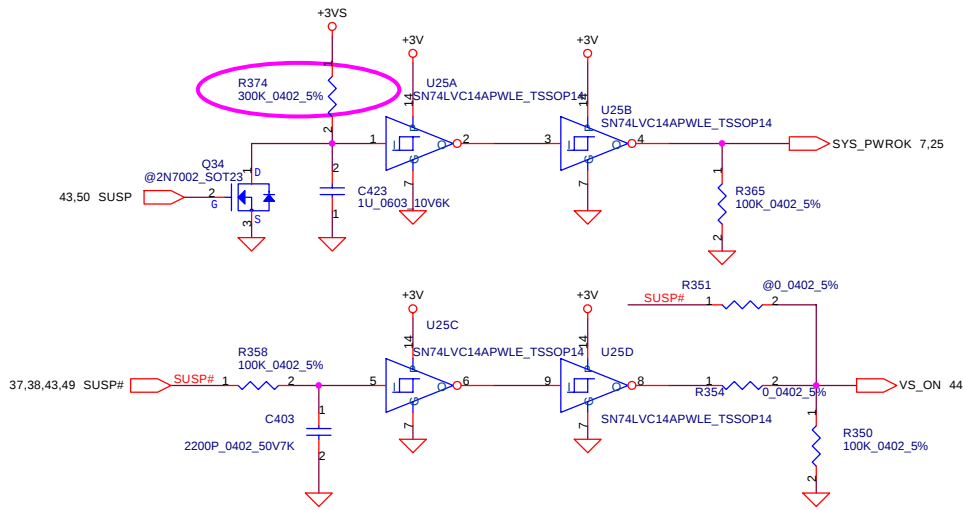
Compal Electronics, Inc.

BIOS & EXT. I/O PORT

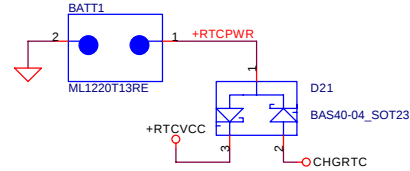
Size	Document Number	Rev
Customer	ECQ60 LA-2271	1A
Date	Monday, August 09, 2004	Sheet 38 of 54

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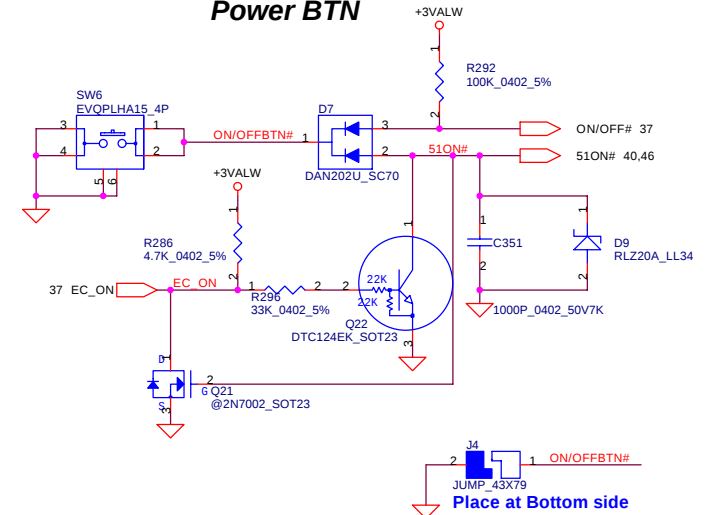
Power ON Circuit



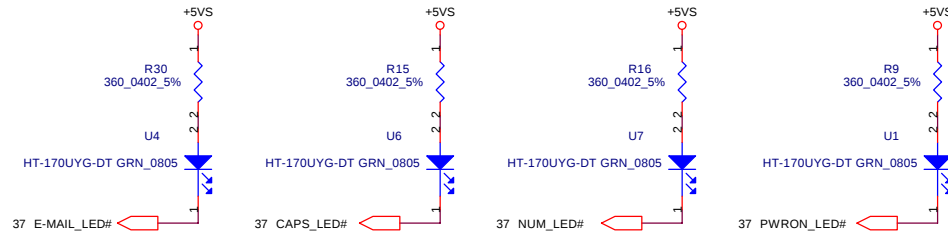
RTC Battery



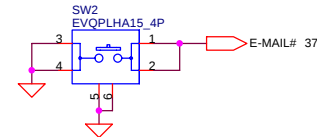
Power BTN



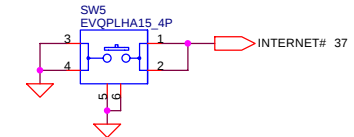
LED Indicator



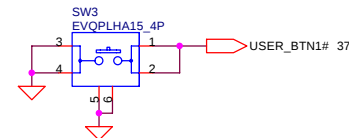
E-Mail_BTN



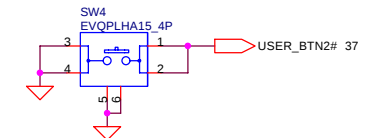
Internet_BTN



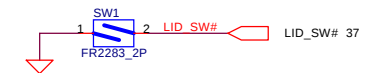
USER_BTN1



USER_BTN2



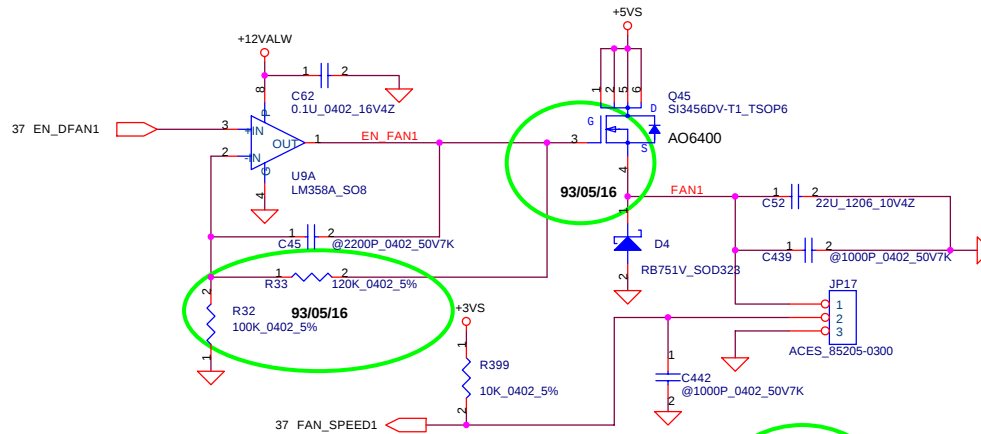
LID_Switch



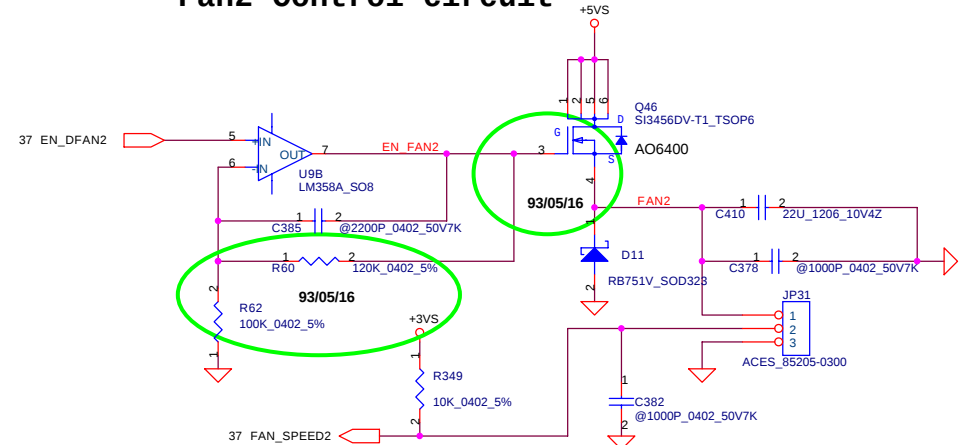
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Compal Electronics, Inc.			
Title			
Power OK/Reset/RTC battery			
Size	Document Number	Rev	
Custom	ECQ60 LA-2271	1A	
Date:	Monday, August 09, 2004	Sheet	39 of 54

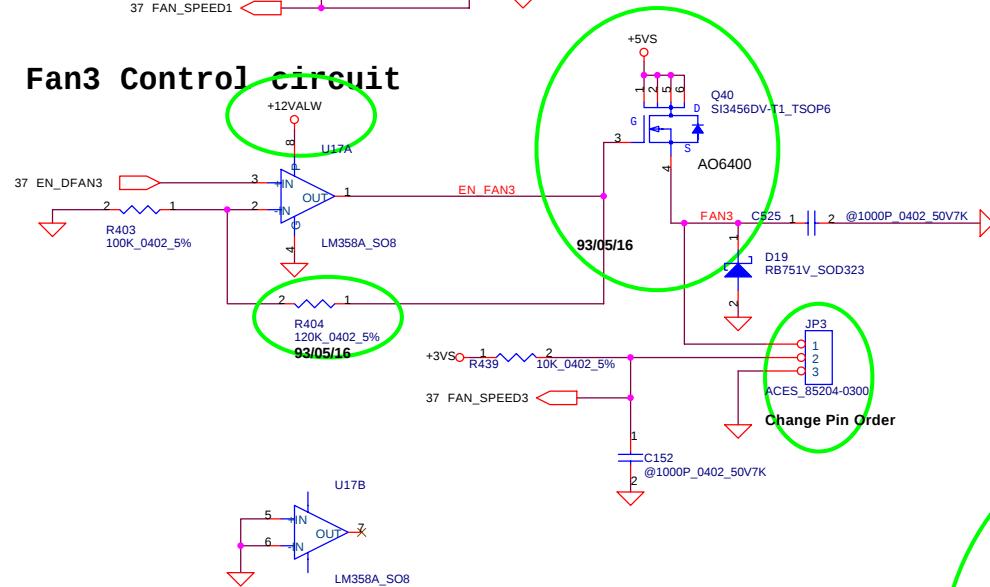
Fan1 Control circuit



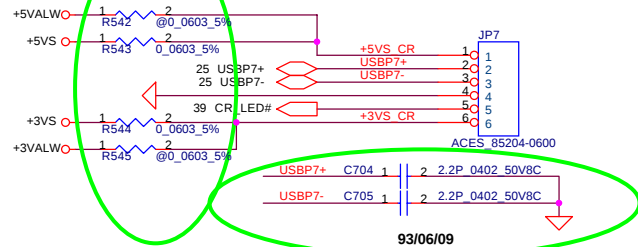
Fan2 Control circuit



Fan3 Control circuit



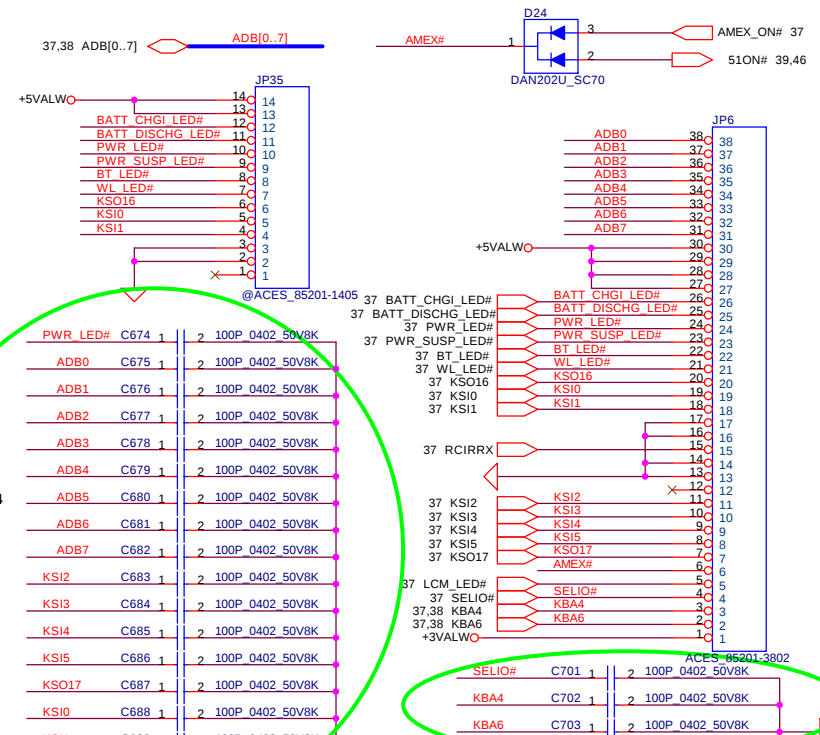
CARD READER CONNECTOR



	KSO16	KSO17
KSI0	BT_ENABLE	LEFT#
KSI1	WL_ENABLE	RIGHT#
KSI2	EC_PLAYBTN#	ENTER#
KSI3	EC_STOPBTN#	VOLUME_UP#
KSI4	EC_REVBTN#	VOLUME_DOWN#
KSI5	EC_FRDBTN#	

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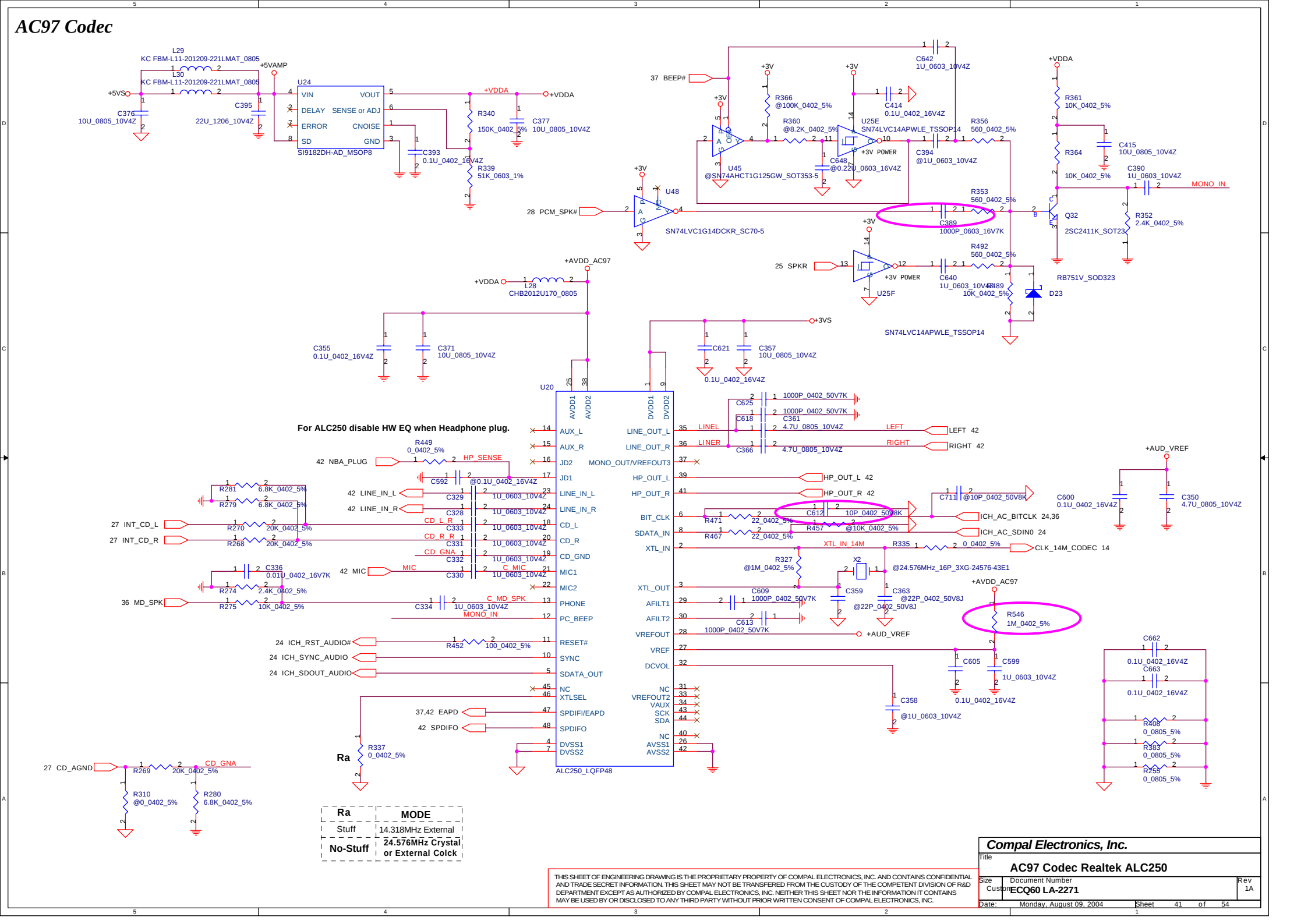
AMEX# to support Instant On Media Play.

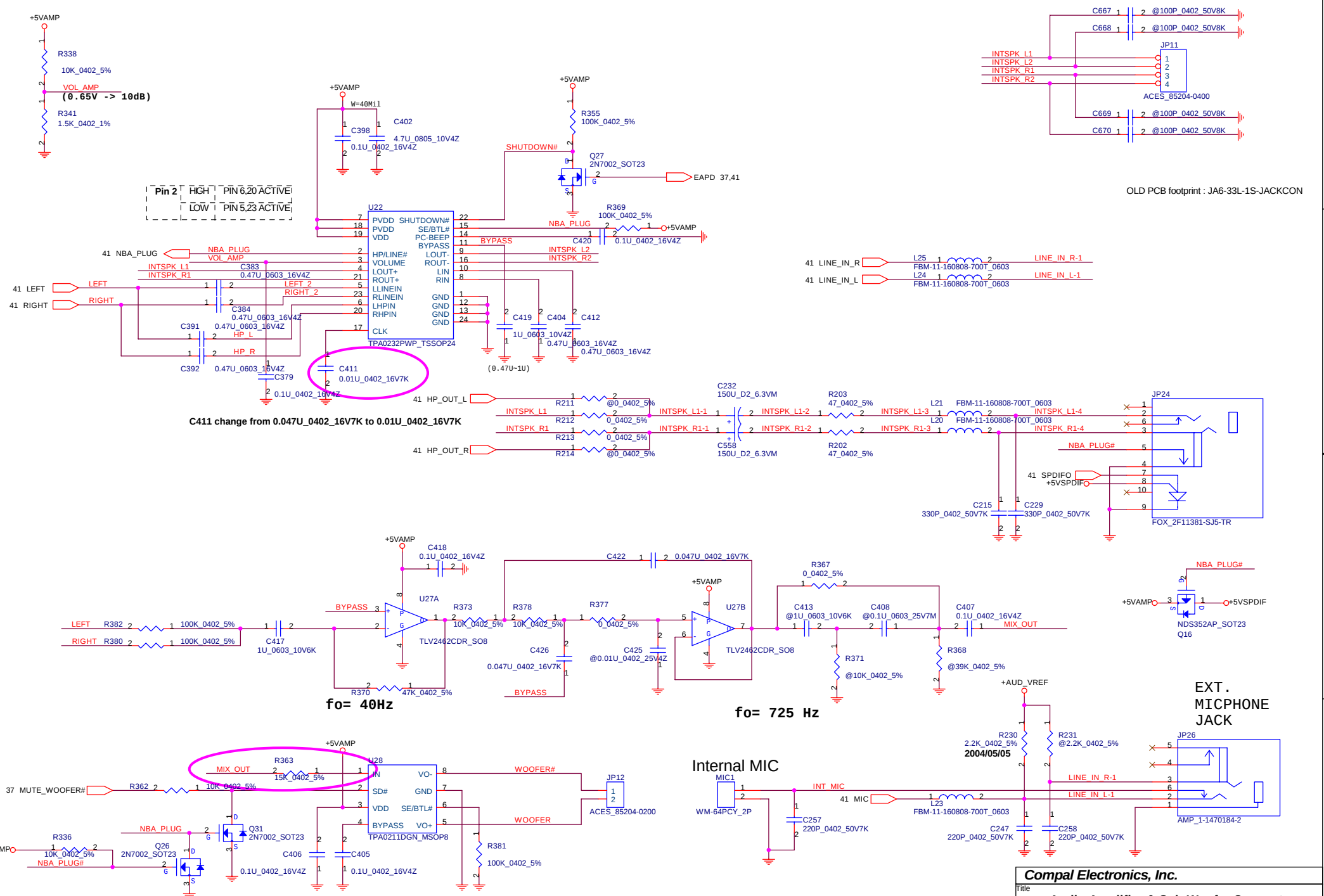


Compal Electronics, Inc.

Title			
FAN Control Circuit			
Size	Document Number	Rev	
Custom	ECQ60 LA-2271	1A	
Date:	Monday, August 09, 2004	Sheet	40 of 54

AC97 Codec

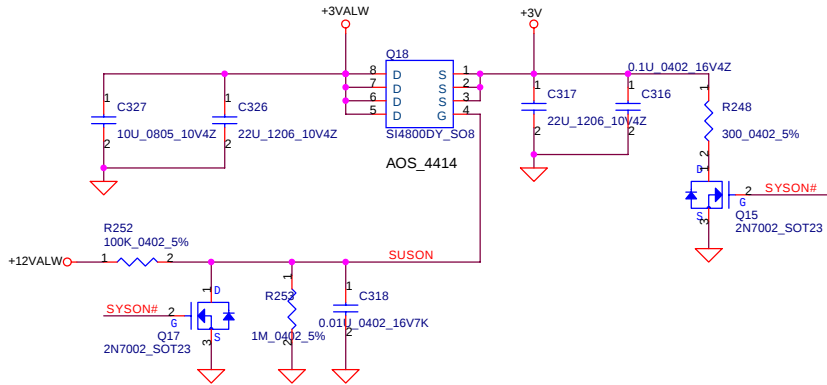




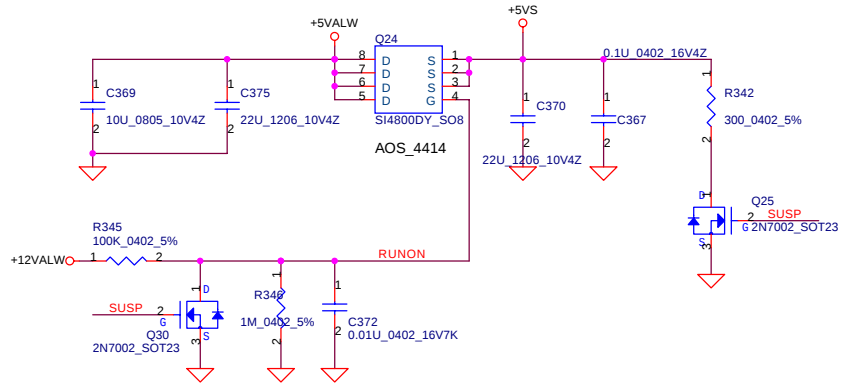
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Compal Electronics, Inc.			
Title			
Audio Amplifier & Sub-Woofer Connector			
Size	Document Number		Rev
Custom	EQ60 LA-2271		1A
Date:	Monday, August 09, 2004	Sheet	42 of 54

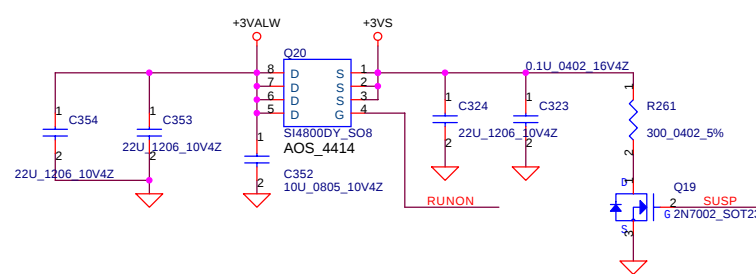
+3VALW to +3V Transfer



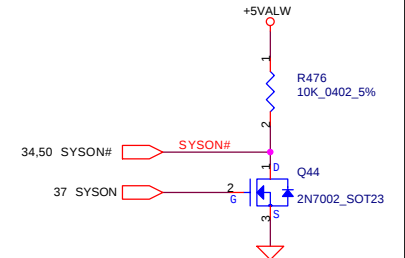
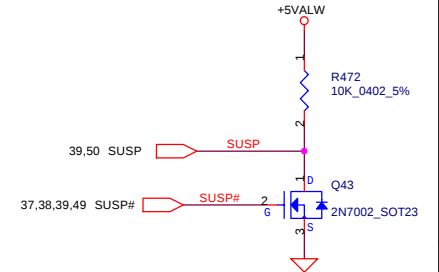
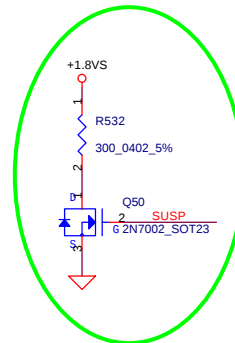
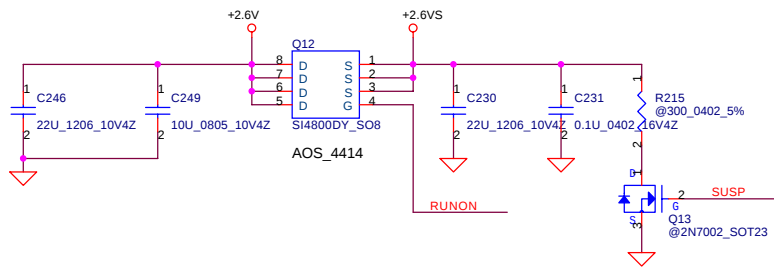
+5VALW to +5VS Transfer



+3VALW to +3VS Transfer



+2.6V to +2.6VS Transfer

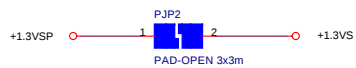


Compal Electronics, Inc.

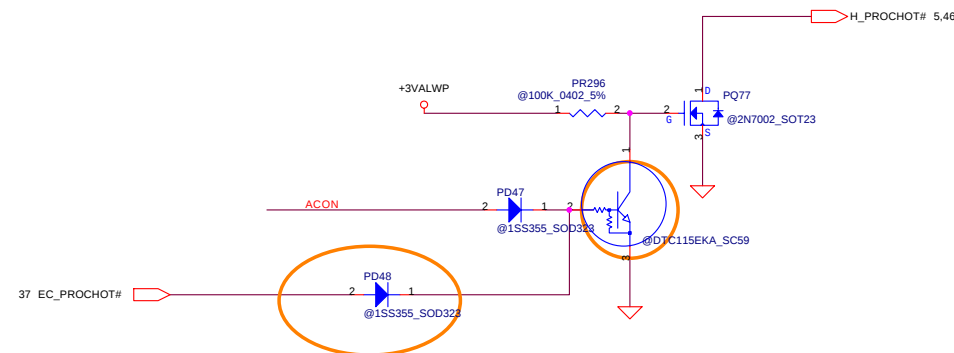
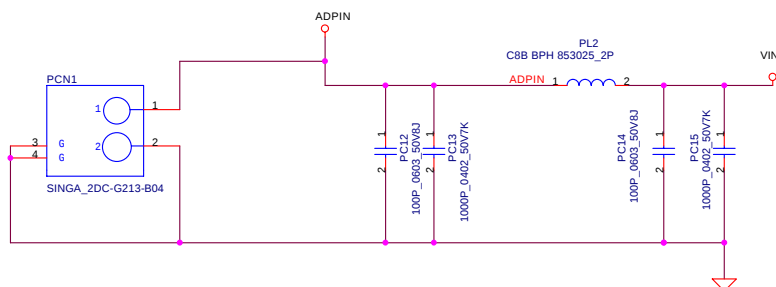
DC/DC Circuit Interface

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Customer: ECQ60 LA-2271
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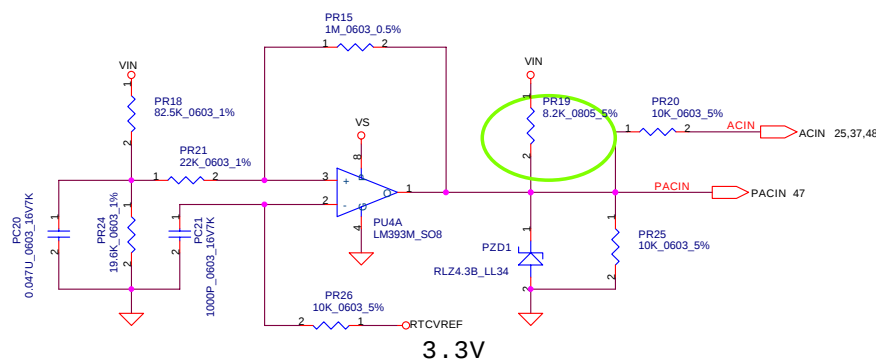
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Compal Electronics, Inc.			
Title			
12V(FAN)& 1.3V(DDR Temination)			
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Customer	ECQ60 LA-2271		1A
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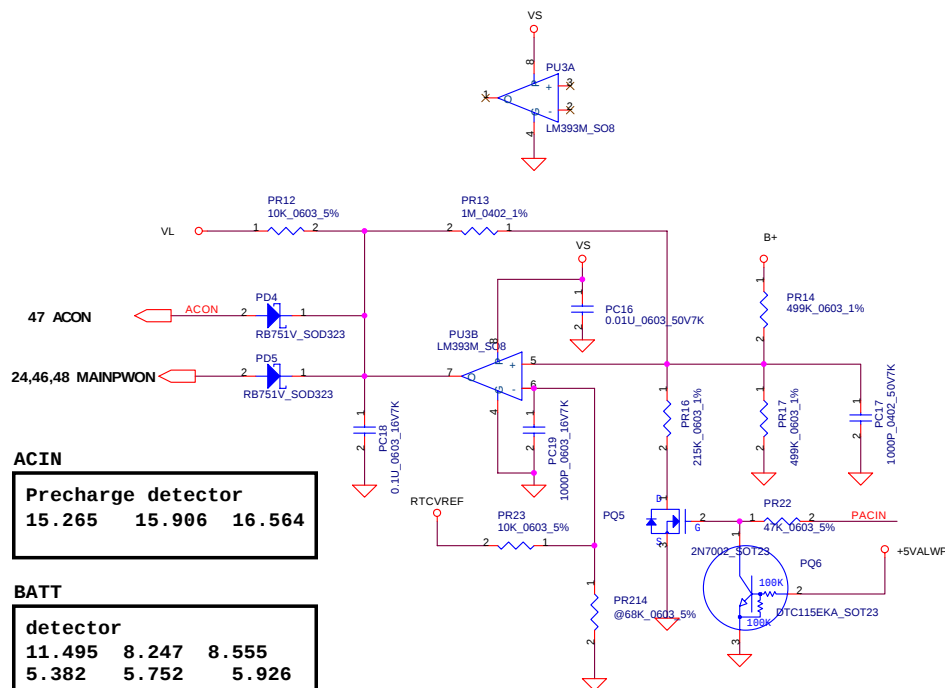


Vin Detector		
17.841	18.234	17.449
17.210	17.597	16.813



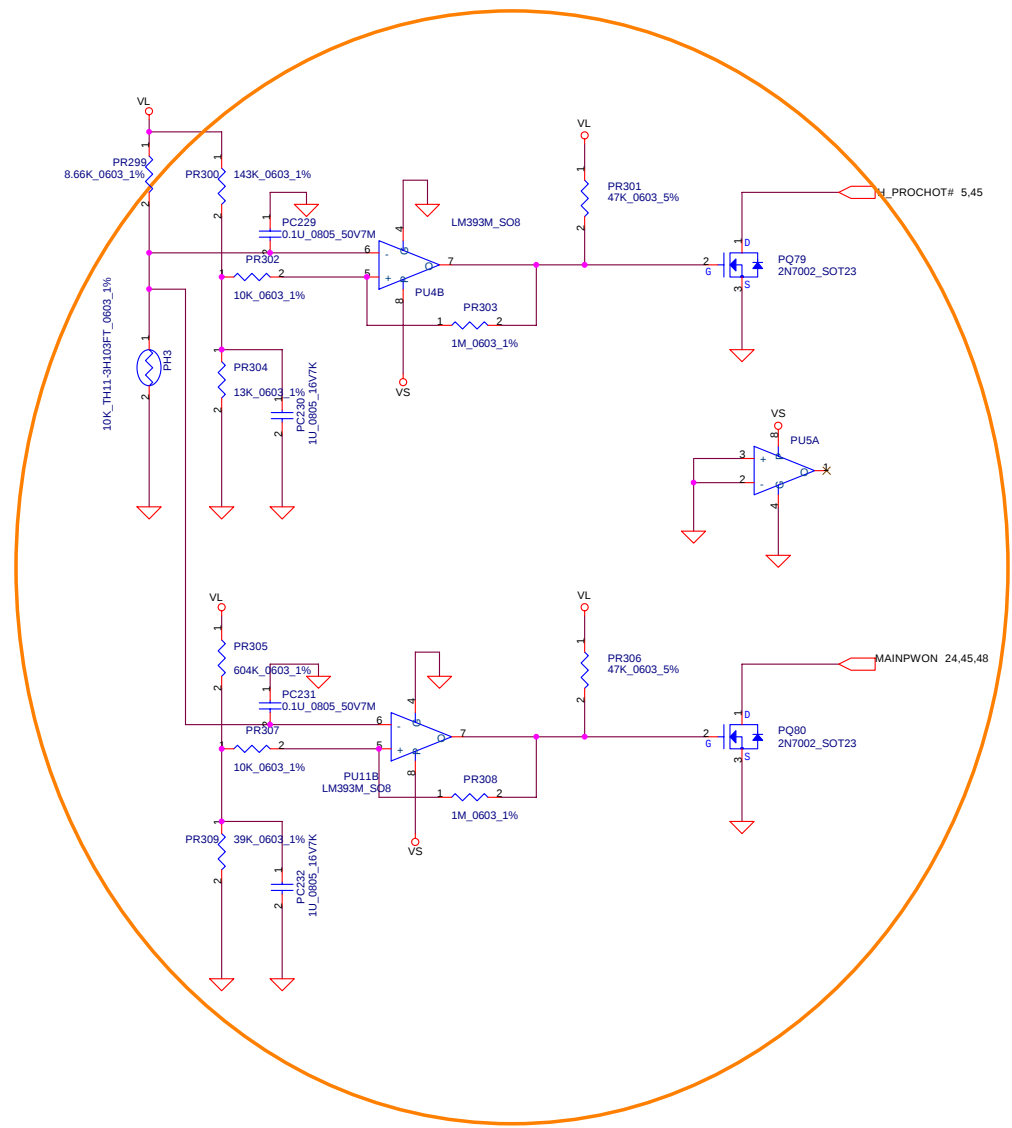
Precharge detector		
15.265	15.906	16.564

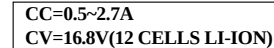
BATT detector		
11.495	8.247	8.555
5.382	5.752	5.926

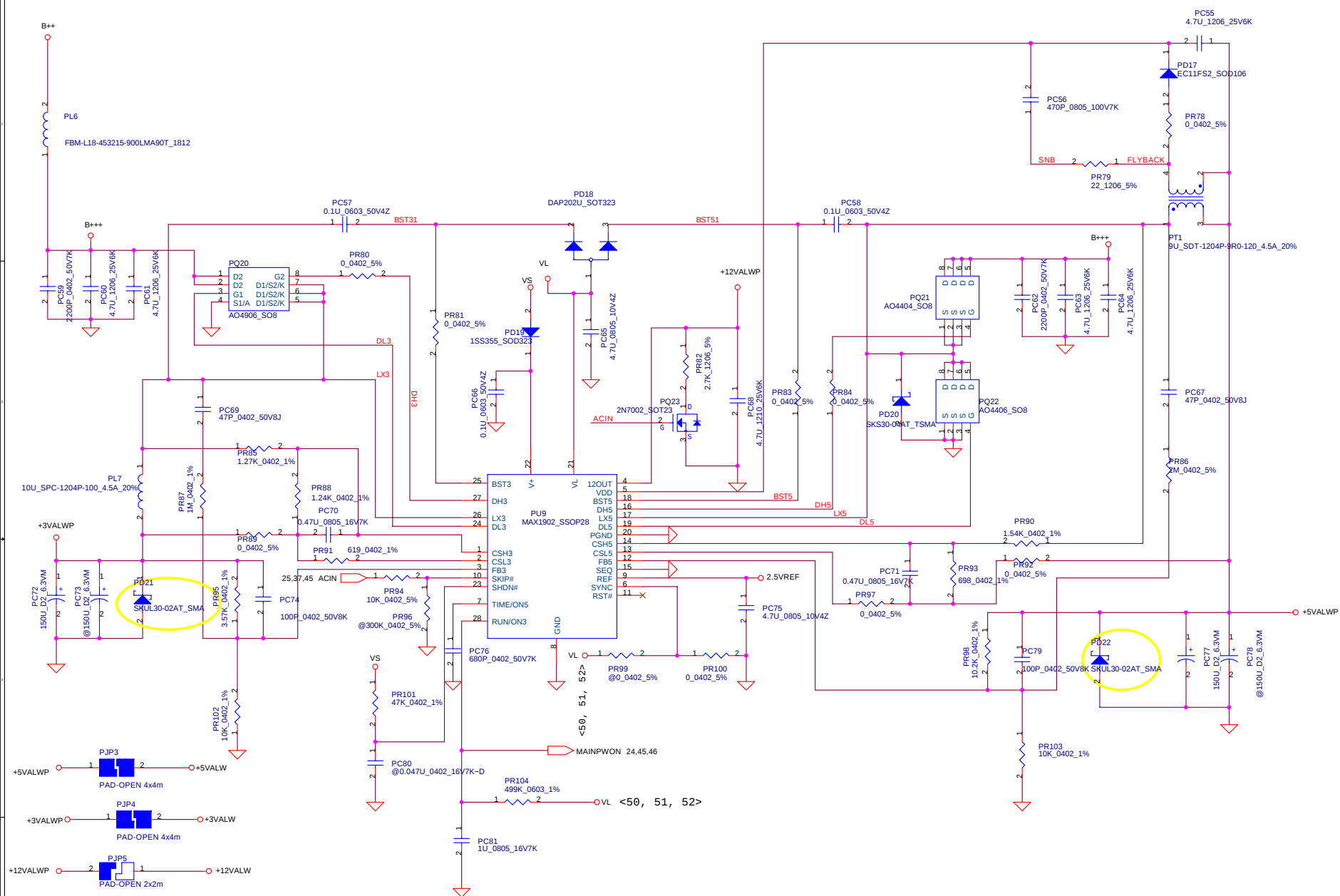


Compal Electronics, Inc.			
Title			
Detect			
Size	Document Number	Rev	
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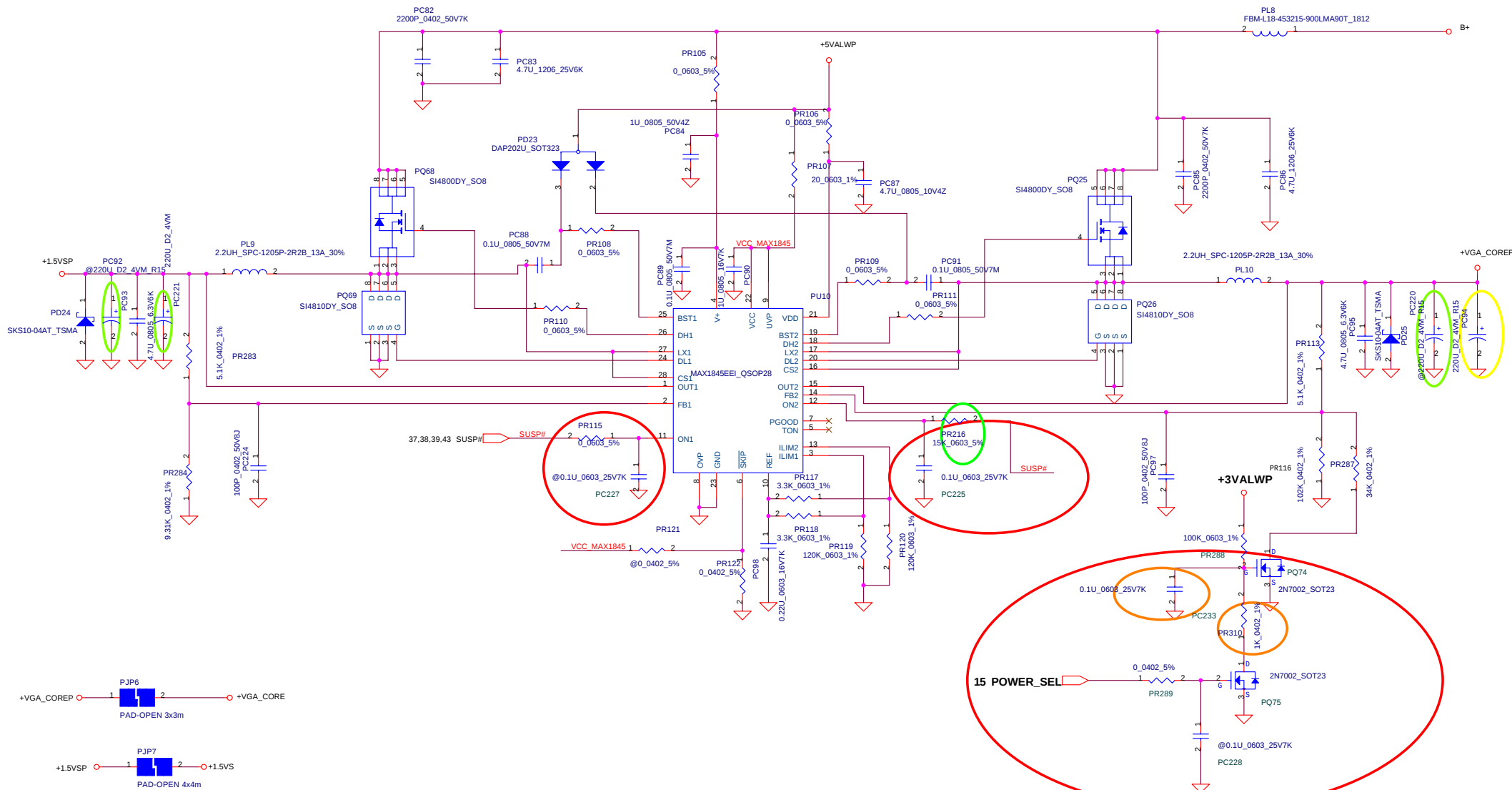
Compal Electronics, Inc.

5V/3.3V/12V

Size: Document Number
Customer: ECQ60 LA-2271

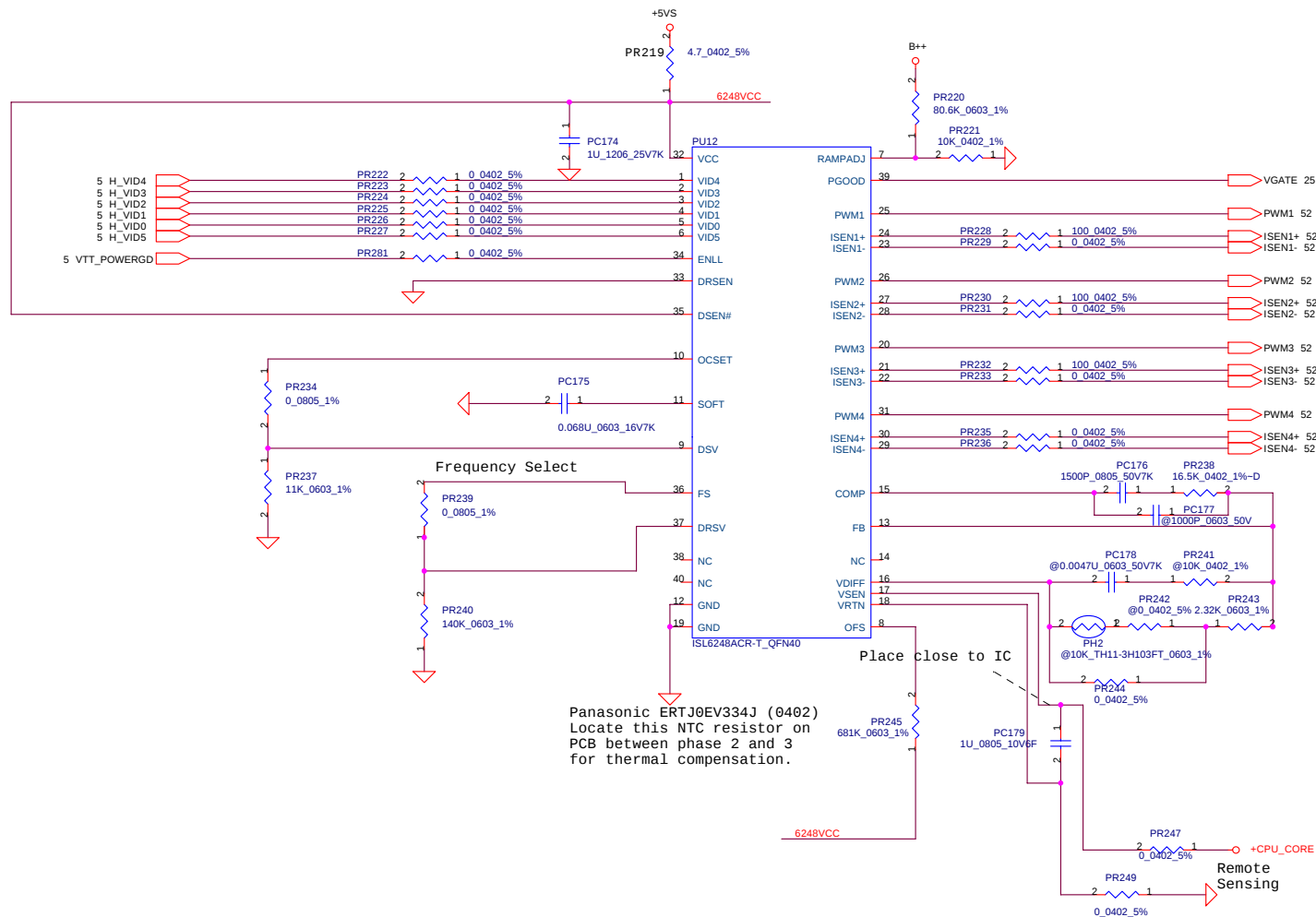
Date: Monday, August 09, 2004 Sheet 48 of 11

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Compal Electronics, Inc.			
Title			
VGA CORE & 1.5VS			
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Panasonic ERTJ0EV334J (0402)
Locate this NTC resistor on
PCB between phase 2 and 3
for thermal compensation.

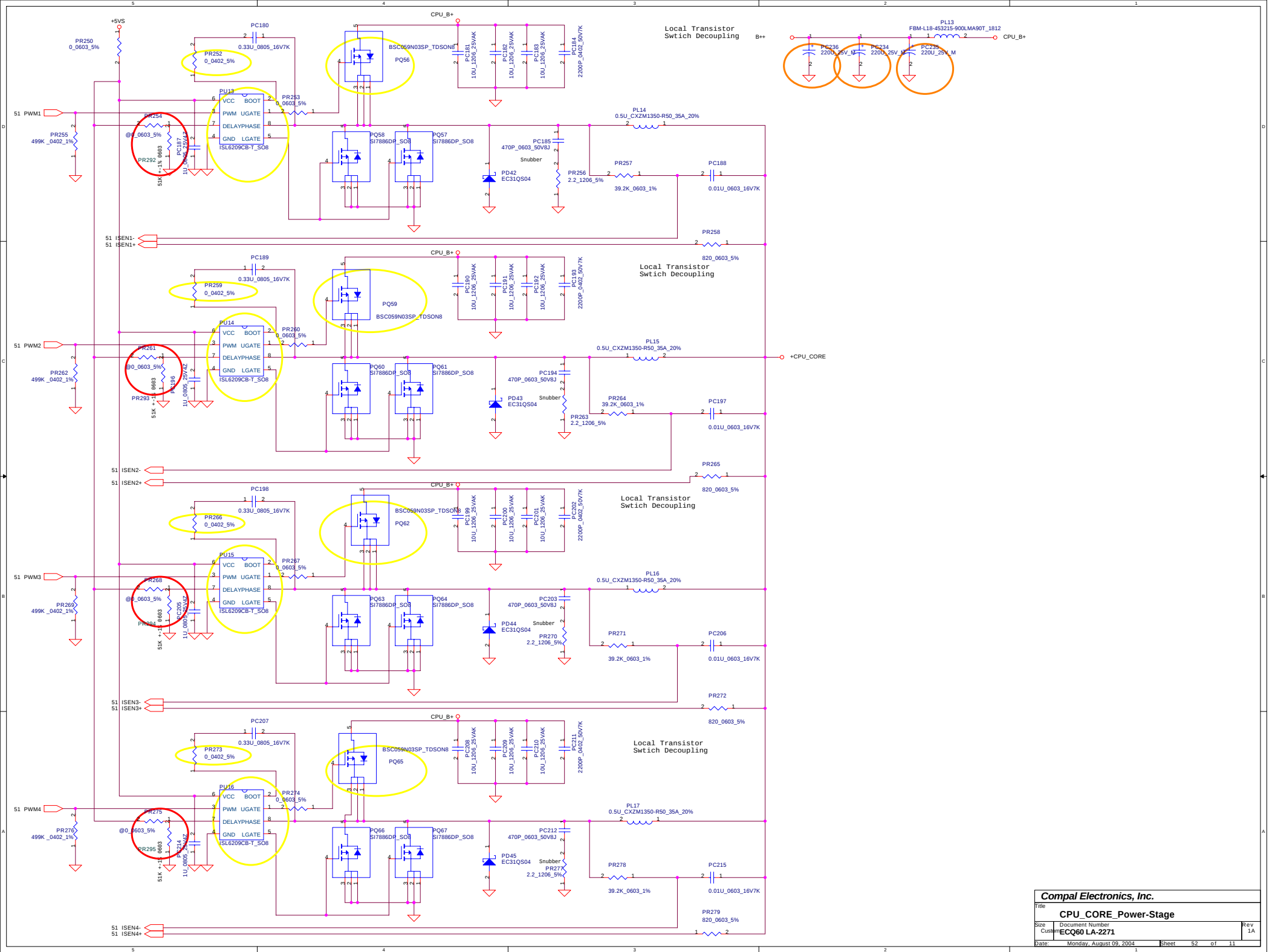
Place close to IC

+CPU_CORE

Remote
Sensing

Compal Electronics, Inc.			
Title			
CPU CORE Controller			
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HW PIR

B Test

- Page 5Add R518, R519, C658, Q48, Q47, R517 for VTT_POWERGD timing
- Page 7Add C664
- Page 8Change Material R149, R151 to 80.6_0402_1%
- Page 9Add C659, C660, C661 for EMI request
- Page 14Change R347, R348 from 10K_0402_5% to 4.7K_0402_5%
- Page15Add C665, R210, R201, R411, R189
Change R414 to 71.5_0402_1%
R198, R177 to 1K_0402_1%

Delete R218, R219, R216,R209, R200
- Page17Delete D6
Change R45 from 16K_0402_1% to 10.7K_0603_1% for 1.2V +PCIE_1.2VS
Change L15, L16 from 0_0603_5% to CHB1608U301
- Page23Add R526 & C666
- Page26Delete D22, D8
Change R481, R299 from 1K_0402_5% to 10_0402_5%
- Page31Delete R81
- Page38Modify scroll hole pad size and add H27
- Page41Add C662, C663, R408, R383 for EMI request
- Page42Add R382, R380 for mix left & right channel
Change R370 from 100K_0402_5% to 47K_0402_5%
Change C422. C426 from 0.1U_0402_16V4Z to 0.047U_0402_16V7K
Reserved C667, C668, C669, C670 for EMI request
- B3 Test

Page 9Delete R395, C435, Q38, R26, Q39, R25, C29, U8, C34, R34, R43
Add R533
Change L34, R396, R48, R398, R53, R397 from SM010014500 to SD0020000T8

Page 17Change R45 to 16.9K_0603_1%

Page 19Add R40, R41, C30, R37, R38, C31 For VRAM Clock Termination

Page 20Add R114, R117, C95, R161, R158, C190 For VRAM Clock Termination

Page 21Change C320, C322 from 18P_0402_50V7K to 12P_0402_50V8J
Add R528, D26

Page 22Add D25 for EC_LID_OUT# to prevent power leakage
Add U47 to and SLP_S4# & SLP_S5#
Delete RP63, RP64 / Add R534, R535, R536, R537 for USB_OC# pull high

Page 23Change R299 from 10_0402_5% to 1K_0402_5%
Add D22, D8

Page 29Change C310 to 1U_0805_25V4Z

Page 34Change USB Power Switch to G528, (U31, U37)
Add C691, C692, C693, C694, C695, C696, C697, C698, C699, C700, C672, C673

Page 37Delete R438 R474, R475, R509,

Page 40Change R33, R60, R404 to 120K_0402_5%
Change R32, R62 to 100K_0402_5%
Change Q40 to AO6400 for 5V FAN
Add R543, R544 for Card Reader Power
Add C674, C675, C676, C677, C678,C679, C680, 681, C682, C683, C684, C685, C686
C687, C688, C689, C690, C701, C702, C703, C704, C705

Page 41Add U48 SN74LVC1G14DCKR_SC70-5

Page 43Add R532, Q50 for +1.8VS Power Down discharge

C Test

- Page 41Change C389 from 1U_0603_10V4Z to 1000P_0603_16V7K
Add C612 10P_0402_50V8K for EMI.
Add R546 1M_0402_5% for ALC250 issue.
- Page 42Change R363 from 10K_0402_5% to 15K_0402_5% to reduce woofer volume.
- Page 34Add C709, C710 for EMI.
- Pre-MP

Page 21Delete R384 & add U30 to prevent ENVDD output high pulse before reset
Change C4 from 100P_0402_50V7K to 0.1U_0402_16V4Z to delay +LCDVDD turn on timing.

Page 42Change C411 from 0.047U_0402_16V7K to 0.01U_0402_16V7K for ALC250 issue.

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Compal Electronics, Inc.			
Title			
HW PIR			
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Version change list (P.I.R. List)

Power section

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Item	Reason for change	PG #	Modify List	Date	B.Ver #
1	Update 12VSP(FAN) SUSP Function	44	1. Change PR8 to 10K from 1K 2. Change PR218 to 100K from 0 ohm 3. Add PQ70 (2N7002) 4. Add PR282 0 ohm 5. Update design circuit for 2.5VREF and SUSP# signal	2004.04.22	
	Delete VTT_Powergood control module	44	1. Delete PR213 1K 2. Delete PC170 0.1U		
3	For common parts design				
4	delete unnecessary 0ohm resister		delete PR247, PR19, PR109, PR113, PR115, PR116, PR117, PR118, PR107, PR125, PR127, PR132, PR135, PR137, PR254, PR79, PR260, PR292, PR119		
5	adjust Vin detector	34	change PR170 from 73.2K_0603_1% to 22K_0603_1% change PR172 from 40.2K_0603_1% to 36K_0603_1% change PR167 from 84.5K_0603_1% to 82.5K_0603_1%		
6	adjust PACIN voltage from 3.3V to 3.2V	34	change PR168 from 8.2K_0805_5% to 10K_0805_1%		
7	EMI test failure	40	change PR105 and PR140 from 0_0603_5% to 2.2_0603_5%		
8	PC60 rate voltage not enough	36	change PC60 from 0.047_0603_16V to 0.047U_0603_25V		
9	Vin detector issue	34	change PR172 form 36K to 34.8K		

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Compal Electronics, Inc.			
Title			
PWR PIR			
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