NEON

CPU : Dothan ULV
Chip Set : 855GME
Remarks :

Model Name : Neon Main
PCB Code : BA41-00449A
Dev. Step : MP
Revision : 1.0
T.R. Date : 2004.09.01

DRAW	CHECK	APPROVAL
YM AN	HJ KIM	YH JUNG

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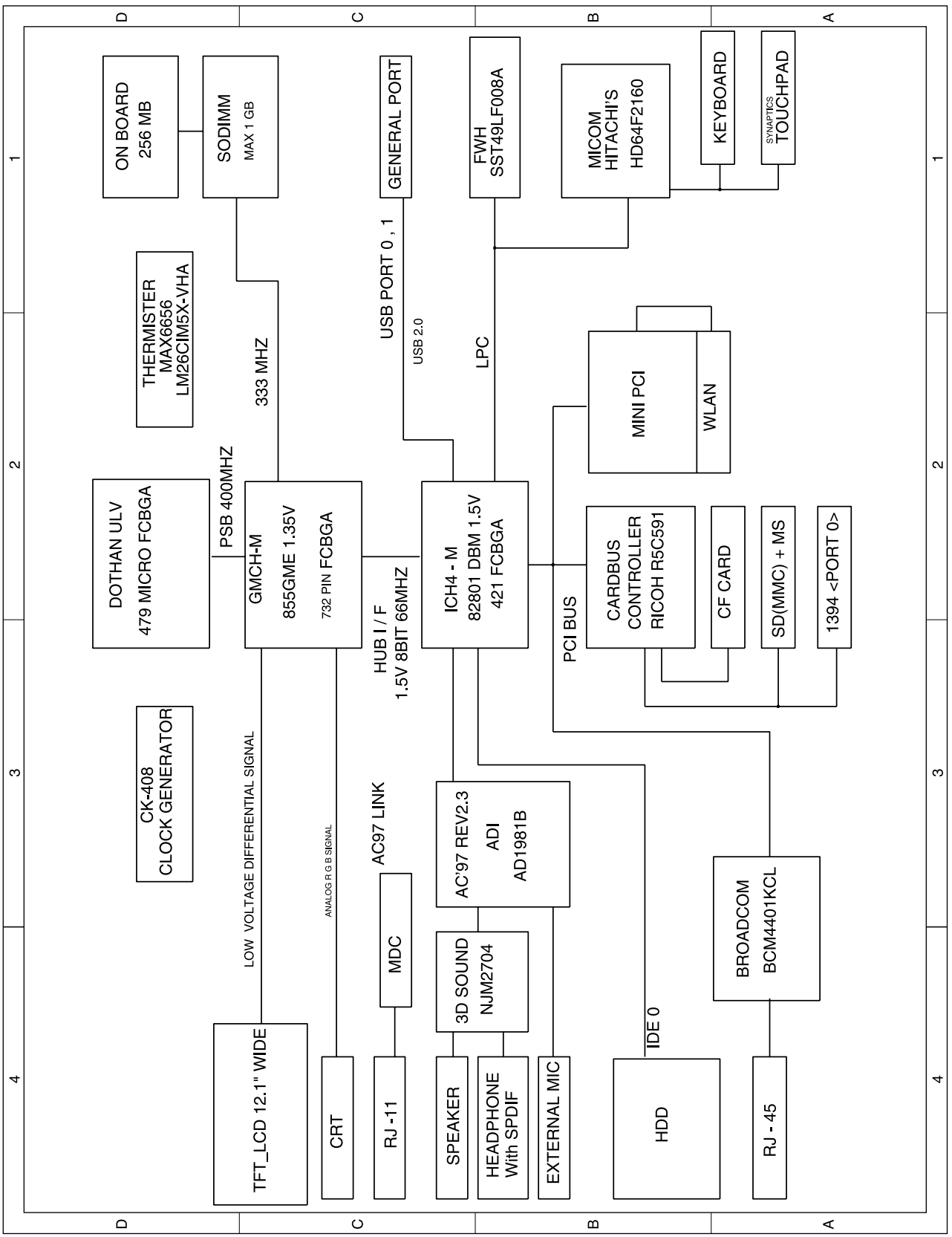
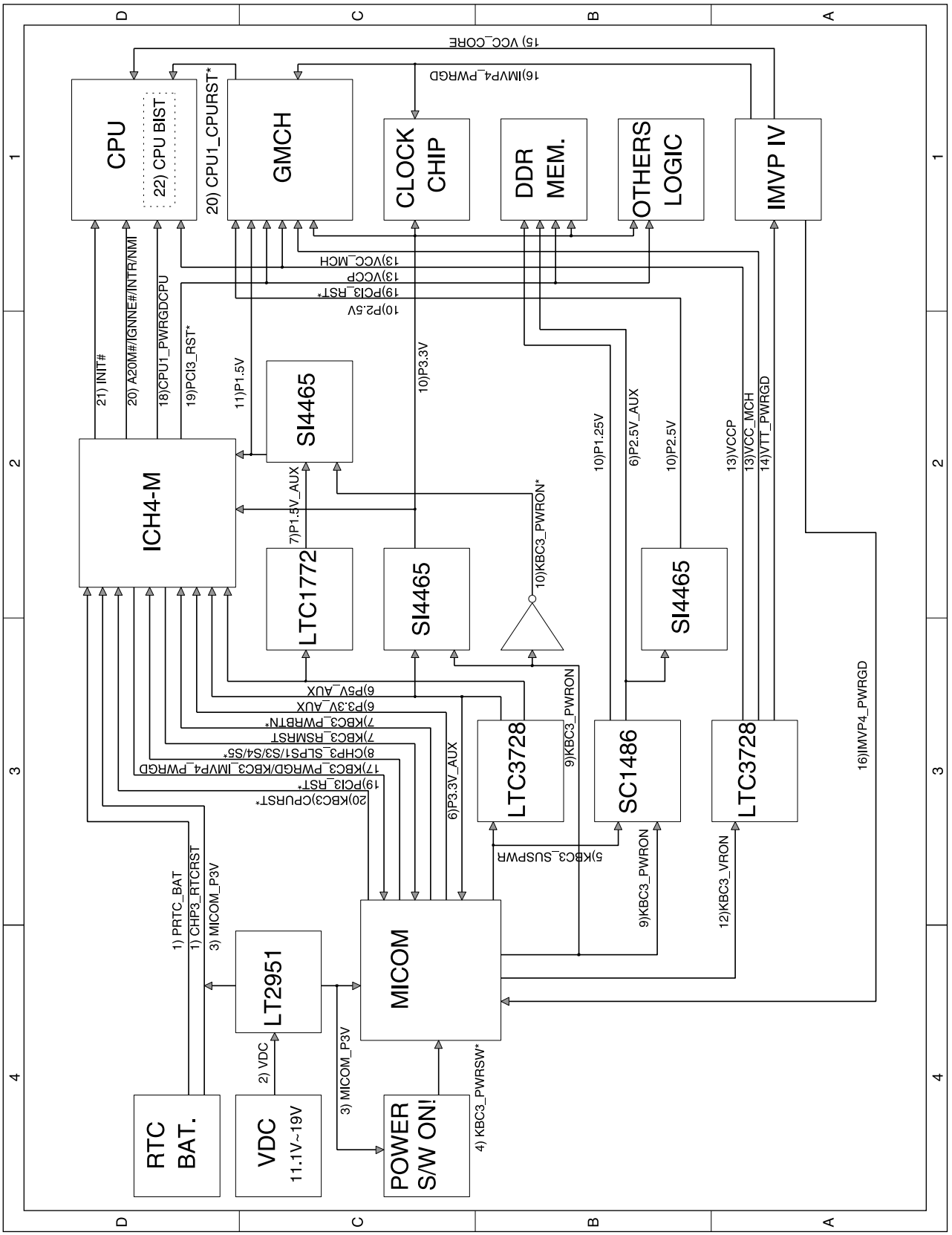
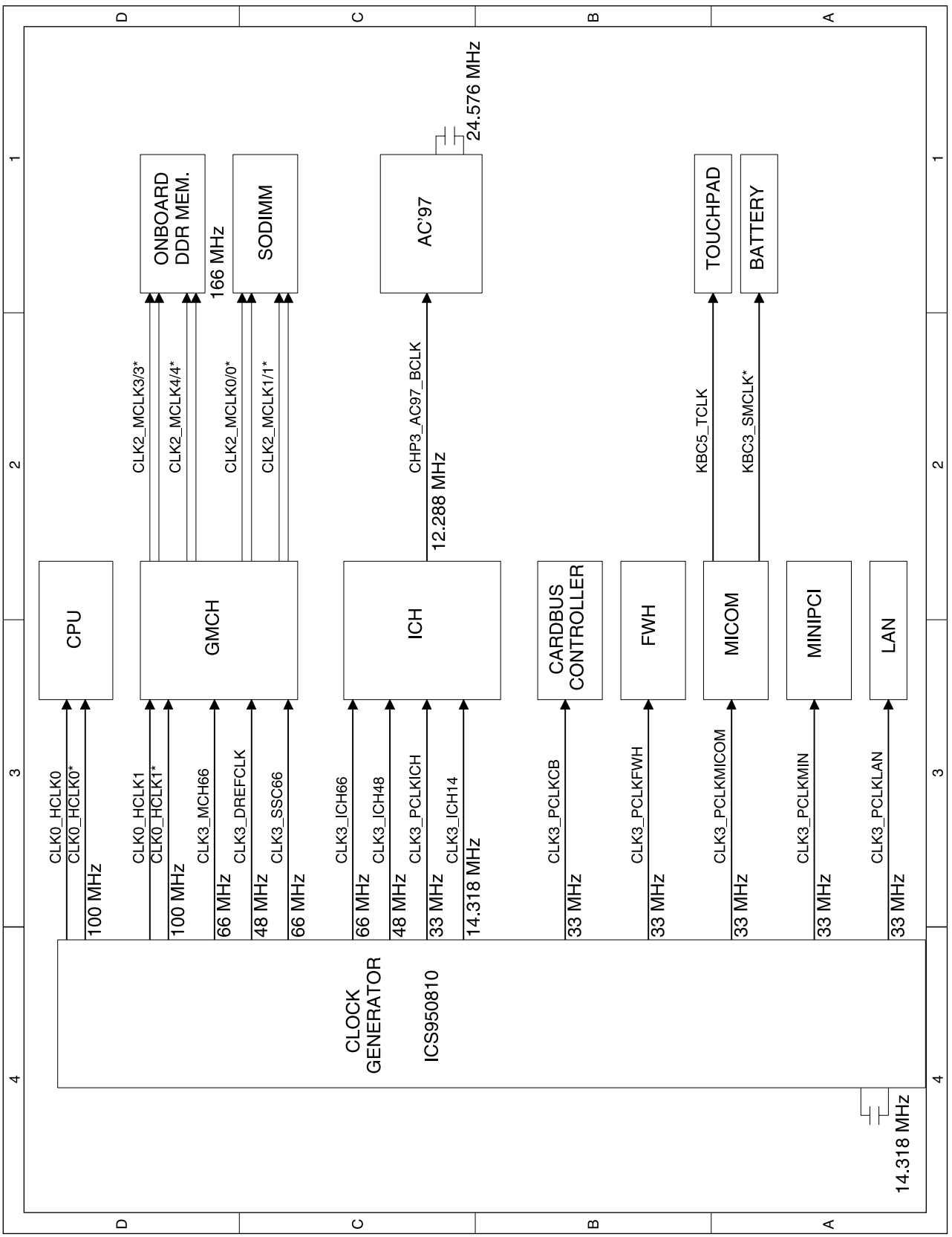
3-1-1(a) Main Board Schematic Sheet 2 of 47(Block Diagram)



3-1-1(b) Main Board Schematic Sheet 3 of 47(Power Sequence)



3-1-1(c) Main Board Schematic Sheet 4 of 47(Clock Distribution)



SCHEMATIC ANNOTATIONS AND BOARD INFORMATION

PCI Devices

Devices	IDSEL#	REQ/GNT#	Interrupts
Cardbus	AD19	1	A
MiniPCI SLOT1	AD23	2	C,D
BROADCOM LAN	AD21	3	G
Internal MAC	AD24(internal)	-	E
USB	AD29(internal)	-	USB2.0 #0 : A USB2.0 #1 : D USB2.0 #2 : C
Hub to PCI	AD30(internal)	-	-
LPC bridge/IDE/AC97/SMBUS	AD31(internal)	-	B

I2C / SMB Address

Devices	Address	Hex	Bus
ICH4	Master	-	SMBUS Master
MAX6656 (CPU Thermal Sensor)	1001 110X	9Ch	Thermal Sensor
SODIMM0	1010 0000	A0h	-
CK-408 (Clock Generator)	1101 001x	D2h	Clock, Unused Clock Output Disable

USB PORT Assign

	PORT NUMBER	ASSIGNED TO
	0	SYSTEM PORT A
	1	SYSTEM PORT B
OPTION	2	DMB INTERFACE

System Power States

CHP3_SLPS3* S3, Suspend-To-RAM(STR) : The system context is maintained in system DRAM, but power is shut off to non-critical circuits. Memory is retained, and refreshes continue. All clocks stop except RTC clock.

CHP3_SLP4S* S4, Suspend-To-Disk(STD) : The Context of the system is maintained on the disk. All power is then shut off to the system except for the logic required to resume. Externally appears same as S5, but may have different wake events.

CHP3_SLPS5* S5, Soft Off(SOFF) : System context is not maintained. All power is shut off except for the logic required to restart. A full boot is required when waking.

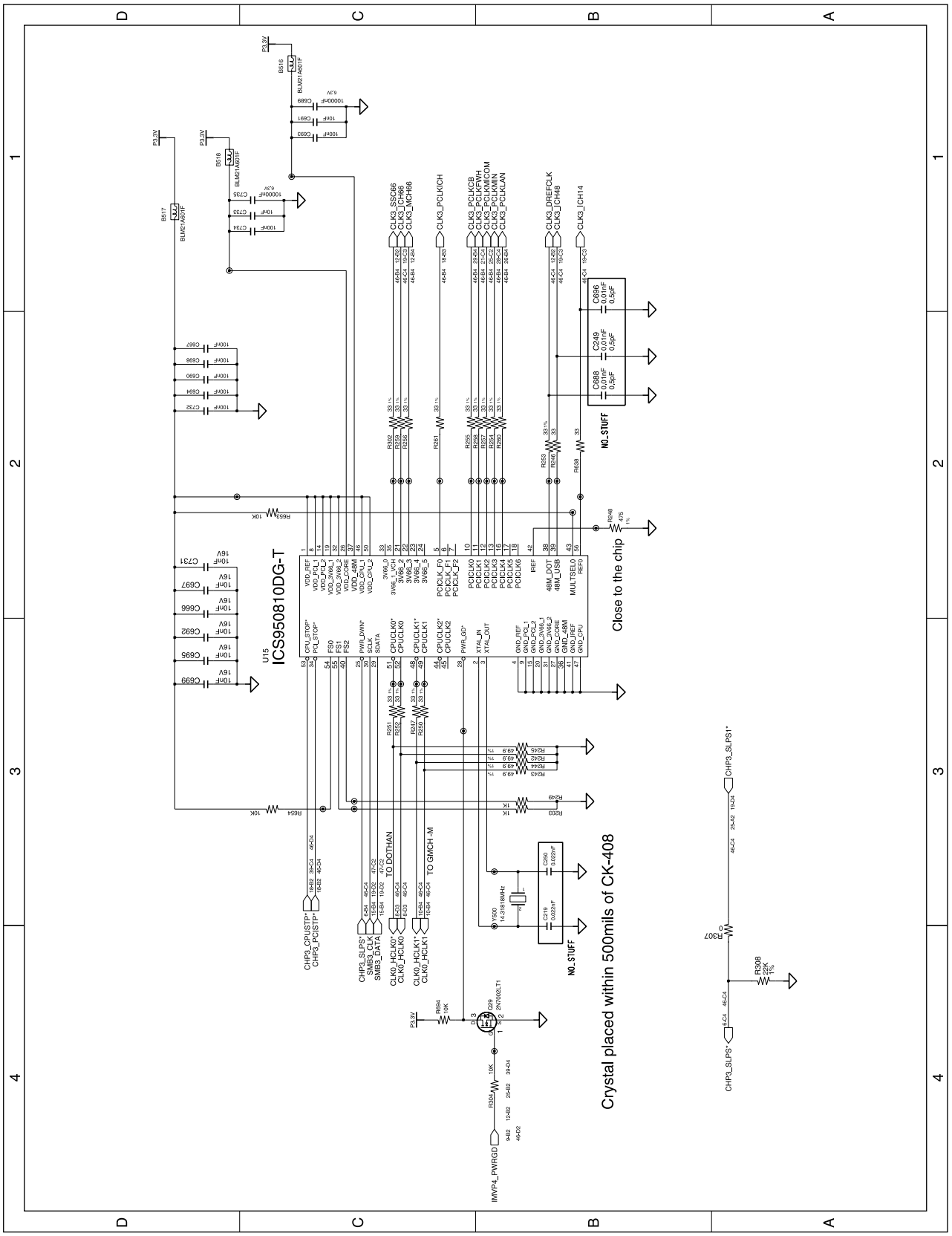
Voltage Rails

VDC	Primary DC system power supply (11.1 to 19V)
VCC_CORE	Core voltage for DOTHAN CPU (0.892 - 0.844V)
VCCP	DOTHAN/855GME Processor System Bus(PSB) Termination (1.05V)
VCC_MCH	MCH-M Core Voltage (1.35V)
P1.5V	1.5V switched power rail (off in S3-S5)
P1.5V_AUX	1.5V power rail (off in S4-S5)
P2.5V	2.5V switched power rail (off in S3-S5)
P2.5V_AUX	2.5V power rail (off in S4-S5)
P1.25V	1.25V power rail (off in S3-S5)
MICOM_P3V	3.3V always on power rail for MICOM
P3.3V	3.3V switched power rail (off in S3-S5)
P3.3V_AUX	3.3V power rail (off in S4-S5)
P5V	5.0V switched power rail (off in S3-S5)
P5V_AUX	5V power rail (off in S4-S5)

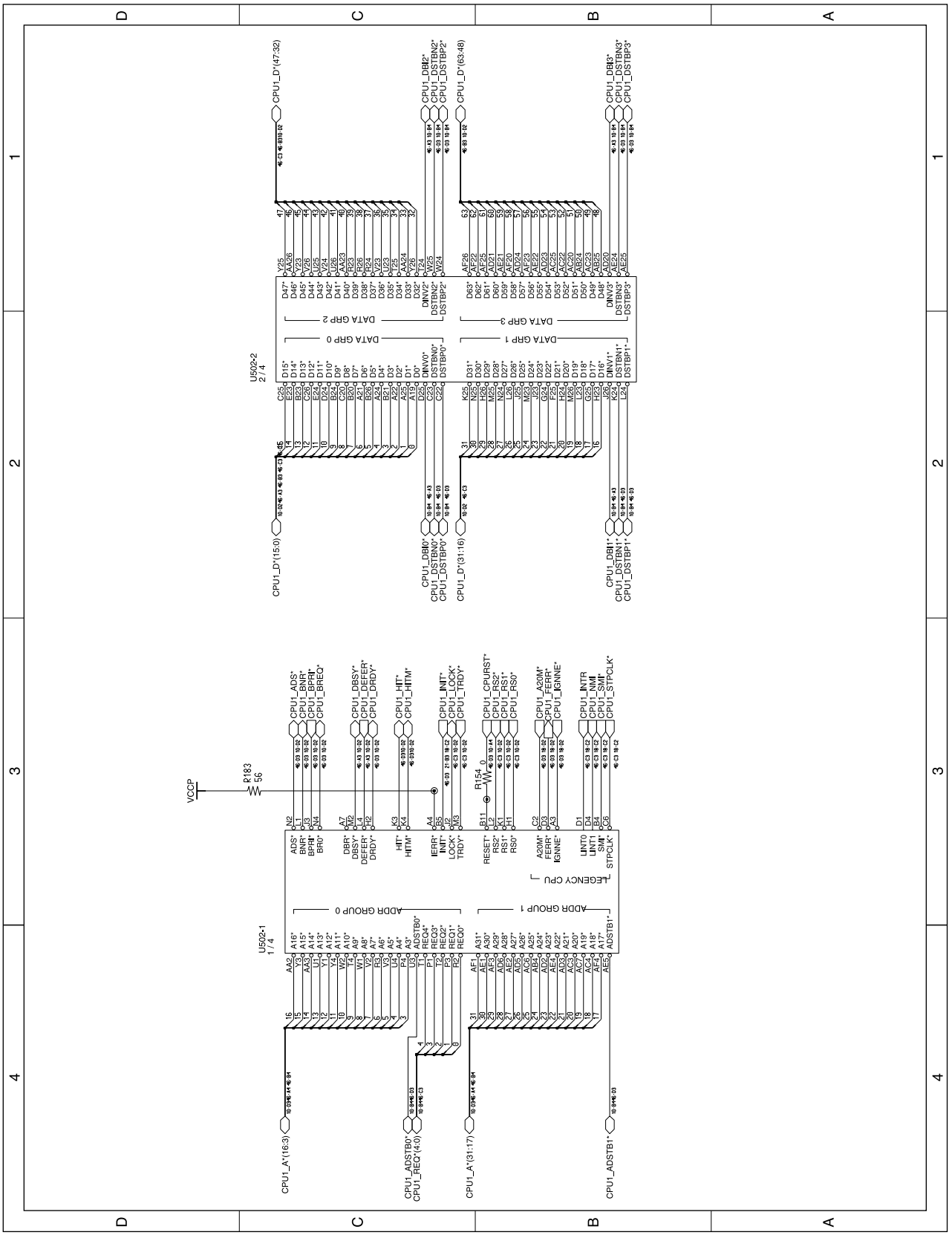
CPU Core Voltage Table

VID5	VID4	VID3	VID2	VID1	VID0	Voltage	VID5	VID4	VID3	VID2	VID1	VID0	Voltage	
0	0	0	0	0	0	1.708 V	1	0	0	0	0	0	1.196 V	
0	0	0	0	0	1	1.692 V	1	0	0	0	0	1	1.180 V	
0	0	0	0	1	0	1.676 V	1	0	0	0	1	0	1.164 V	
0	0	0	0	1	1	1.660 V	1	0	0	0	1	1	1.148 V	
0	0	0	1	0	0	1.644 V	1	0	0	1	0	0	1.132 V	
0	0	0	1	0	1	1.628 V	1	0	0	1	0	1	1.116 V	
0	0	0	1	1	0	1.612 V	1	0	0	1	1	0	1.100 V	
0	0	0	1	1	1	1.596 V	1	0	0	1	1	1	1.084 V	
0	0	1	0	0	0	1.580 V	1	0	1	0	0	0	1.068 V	
0	0	1	0	0	1	1.564 V	1	0	1	0	0	1	1.052 V	
0	0	1	0	1	0	1.548 V	1	0	1	0	1	0	1.036 V	
0	0	1	0	1	1	1.532 V	1	0	1	0	1	1	1.020 V	
0	0	1	1	0	0	1.516 V	1	0	1	1	0	0	1.004 V	
0	0	1	1	0	1	1.500 V	1	0	1	1	0	1	0.988 V	
0	0	1	1	1	0	1.484 V	1	0	1	1	1	0	0.972 V	
0	0	1	1	1	1	1.468 V	1	0	1	1	1	1	0.956 V	
0	1	0	0	0	0	1.452 V	1	1	0	0	0	0	0.940 V	
0	1	0	0	0	1	1.436 V	1	1	0	0	0	1	0.924 V	DOTHAN ULV
0	1	0	0	1	0	1.420 V	1	1	0	0	1	0	0.908 V	
0	1	0	0	1	1	1.404 V	1	1	0	0	1	1	0.892 V	HIGH FREQUENCY MODE
0	1	0	1	0	0	1.388 V	1	1	0	1	0	0	0.876 V	
0	1	0	1	0	1	1.372 V	1	1	0	1	0	1	0.860 V	
0	1	0	1	1	0	1.356 V	1	1	0	1	1	0	0.844 V	LOW FREQUENCY MODE
0	1	0	1	1	1	1.340 V	1	1	0	1	1	1	0.828 V	
0	1	1	0	0	0	11.324 V	1	1	1	0	0	0	0.812 V	
0	1	1	0	0	1	1.308 V	1	1	1	0	0	1	0.796 V	
0	1	1	0	1	0	1.292 V	1	1	1	0	1	0	0.780 V	
0	1	1	0	1	1	1.276 V	1	1	1	0	1	1	0.764 V	
0	1	1	1	0	0	1.260 V	1	1	1	1	0	0	0.748 V	
0	1	1	1	0	1	1.244 V	1	1	1	1	0	1	0.732 V	
0	1	1	1	1	0	1.228 V	1	1	1	1	1	0	0.716 V	
0	1	1	1	1	1	1.212 V	1	1	1	1	1	1	0.700 V	

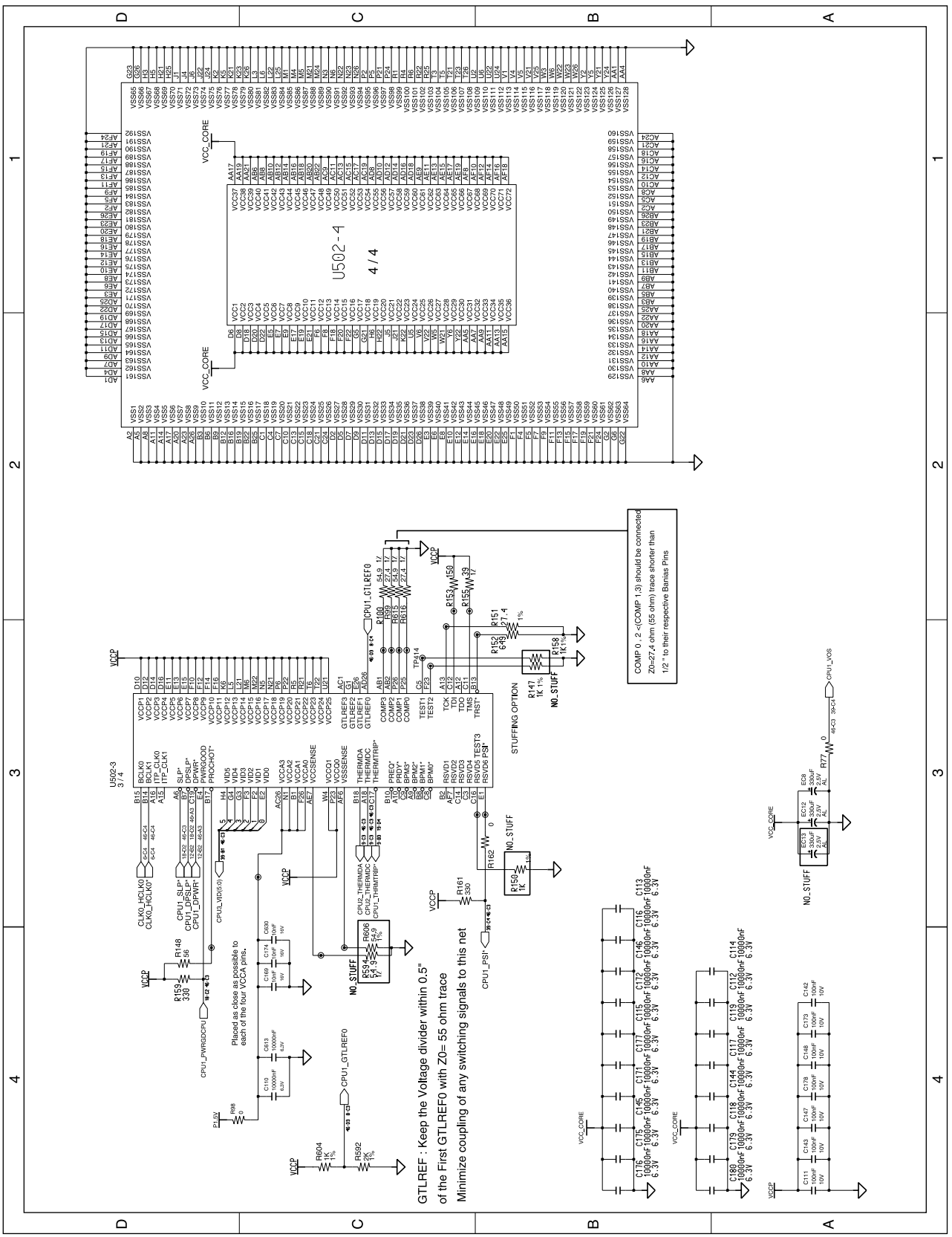
3-1-1(e) Main Board Schematic Sheet 6 of 47(Clock Generator)



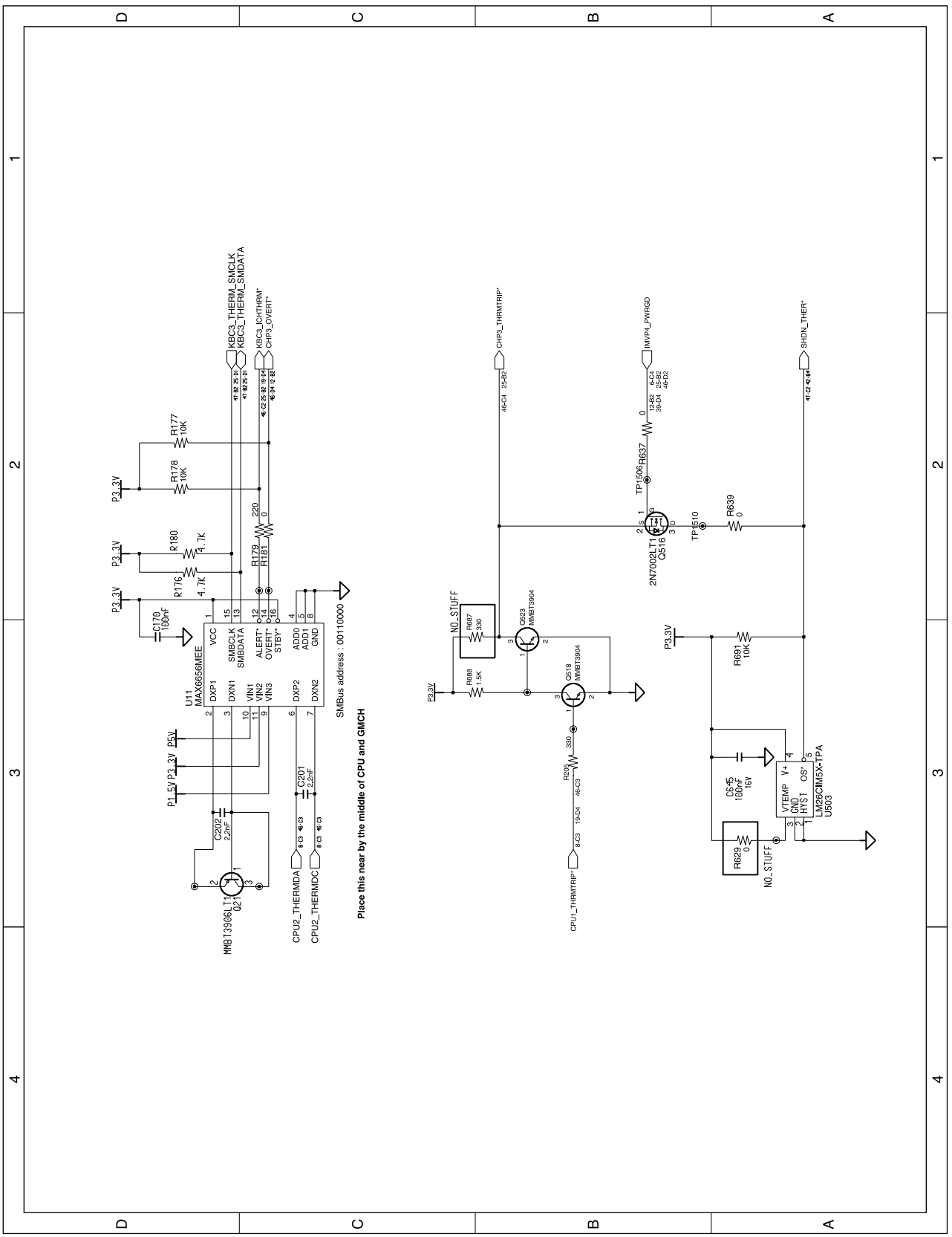
3-1-1(f) Main Board Schematic Sheet 7 of 47(Dothan CPU)



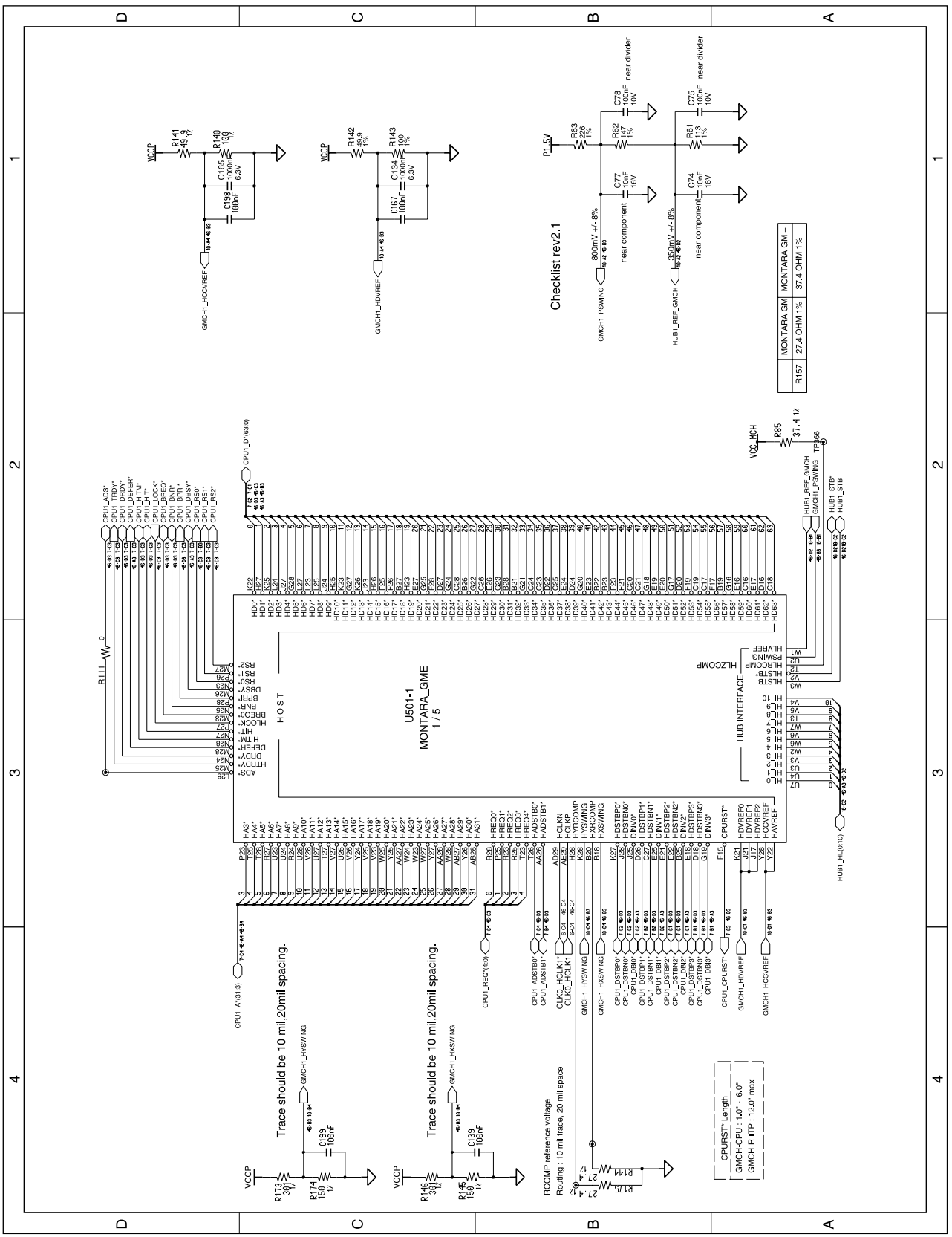
3-1-1(g) Main Board Schematic Sheet 8 of 47(Dothan CPU)



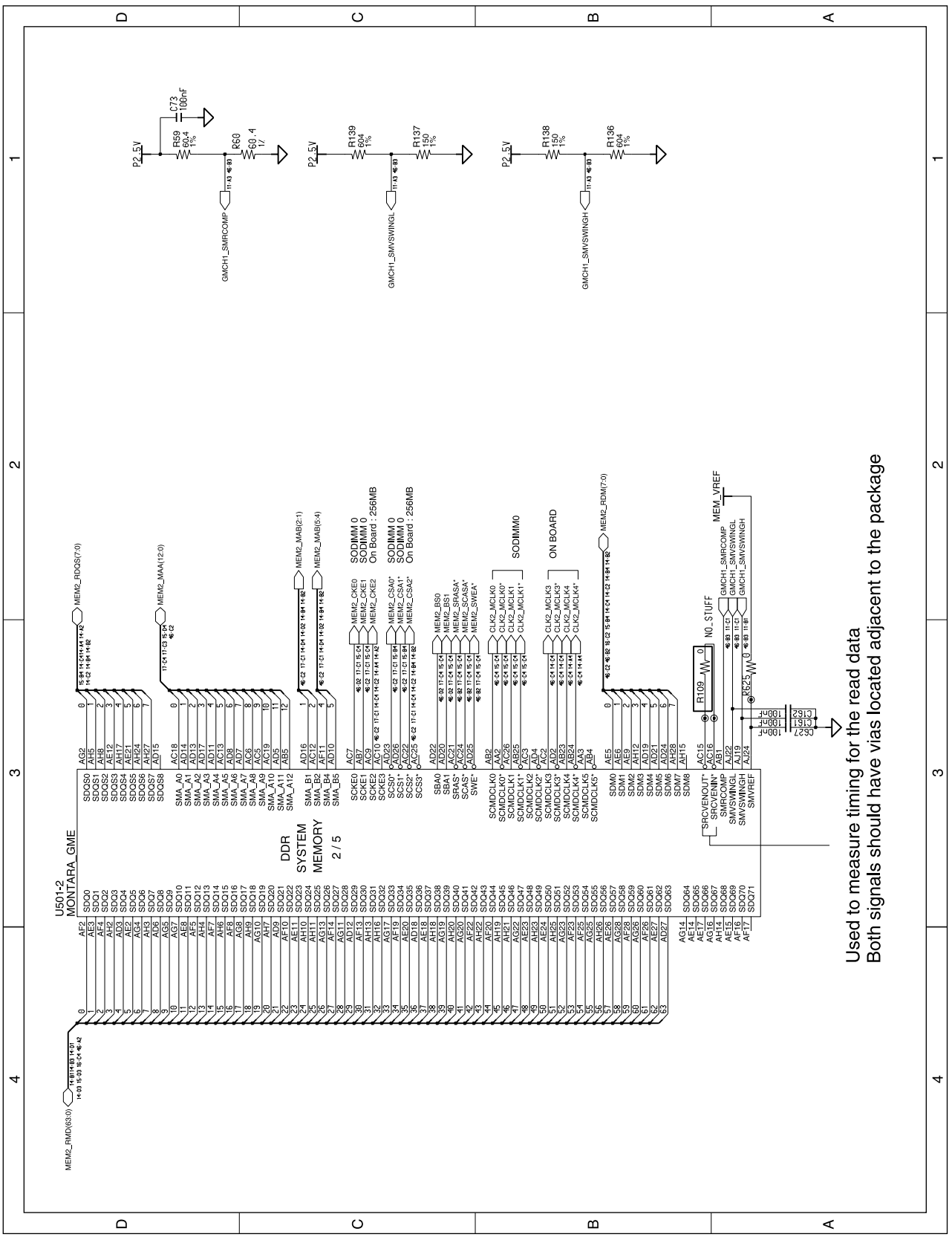
3-1-1(h) Main Board Schematic Sheet 9 of 47(Thermal Sensor)



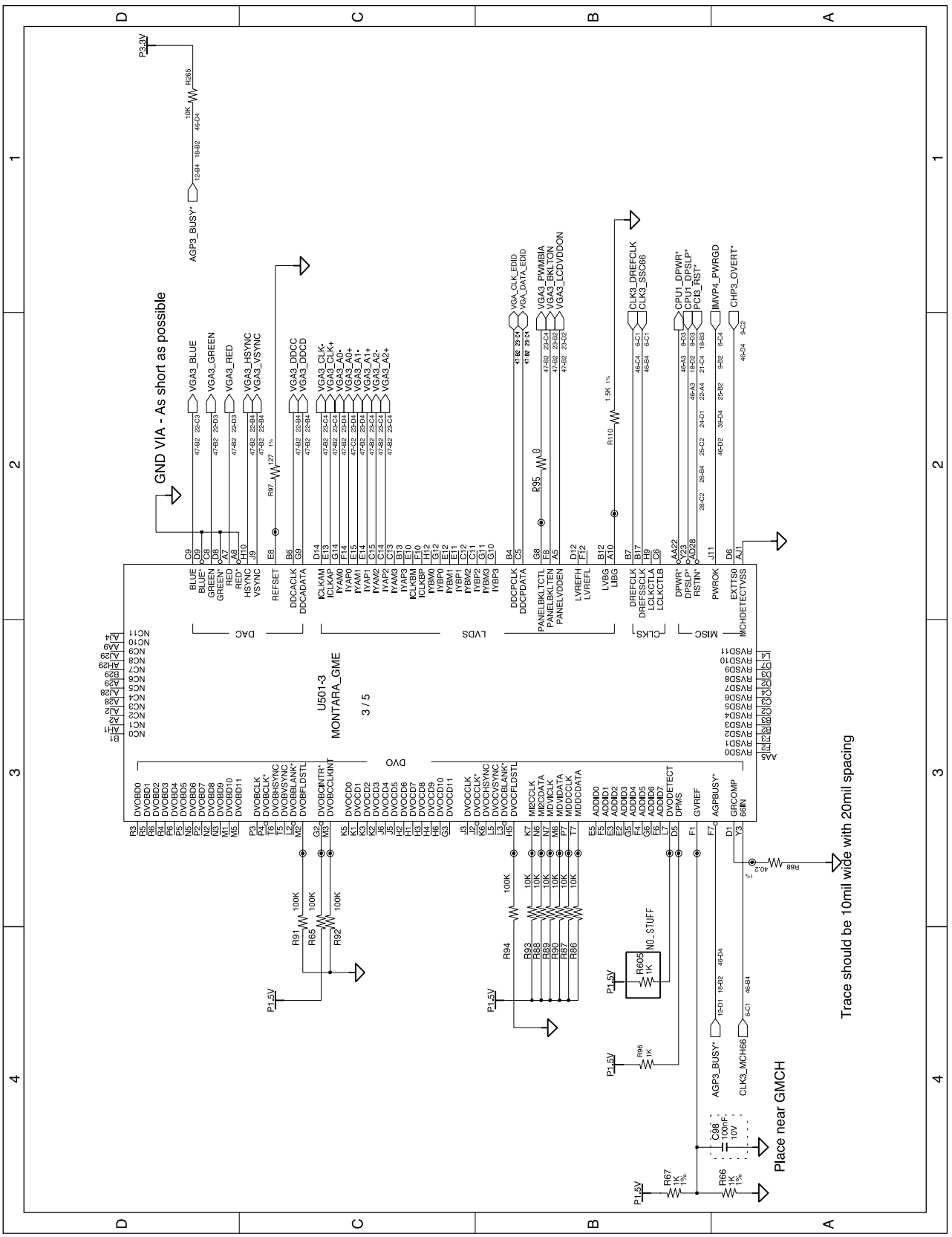
3-1-1(i) Main Board Schematic Sheet 10 of 47(Montara-GM+)



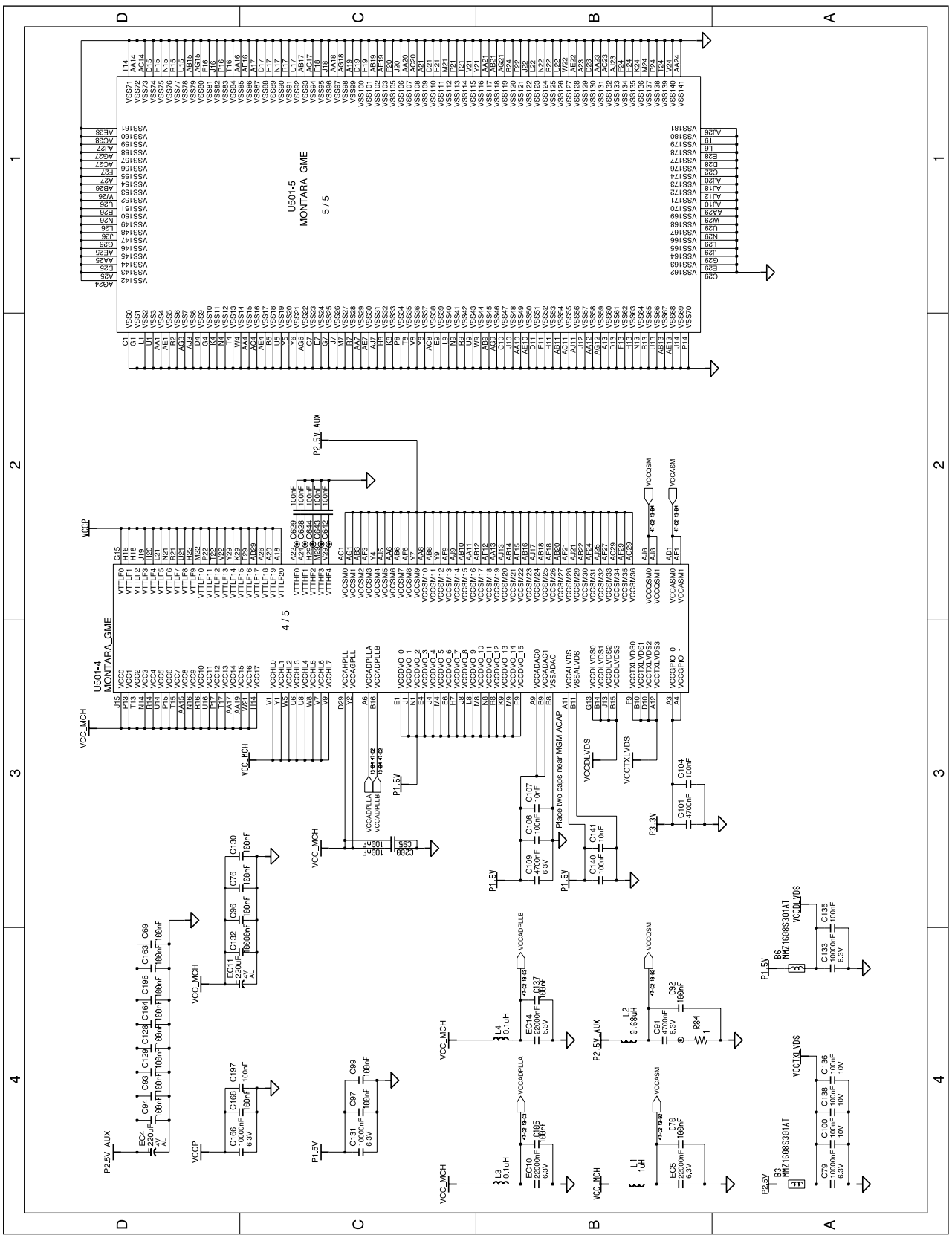
3-1-1(j) Main Board Schematic Sheet 11 of 47(Montara-GM+)



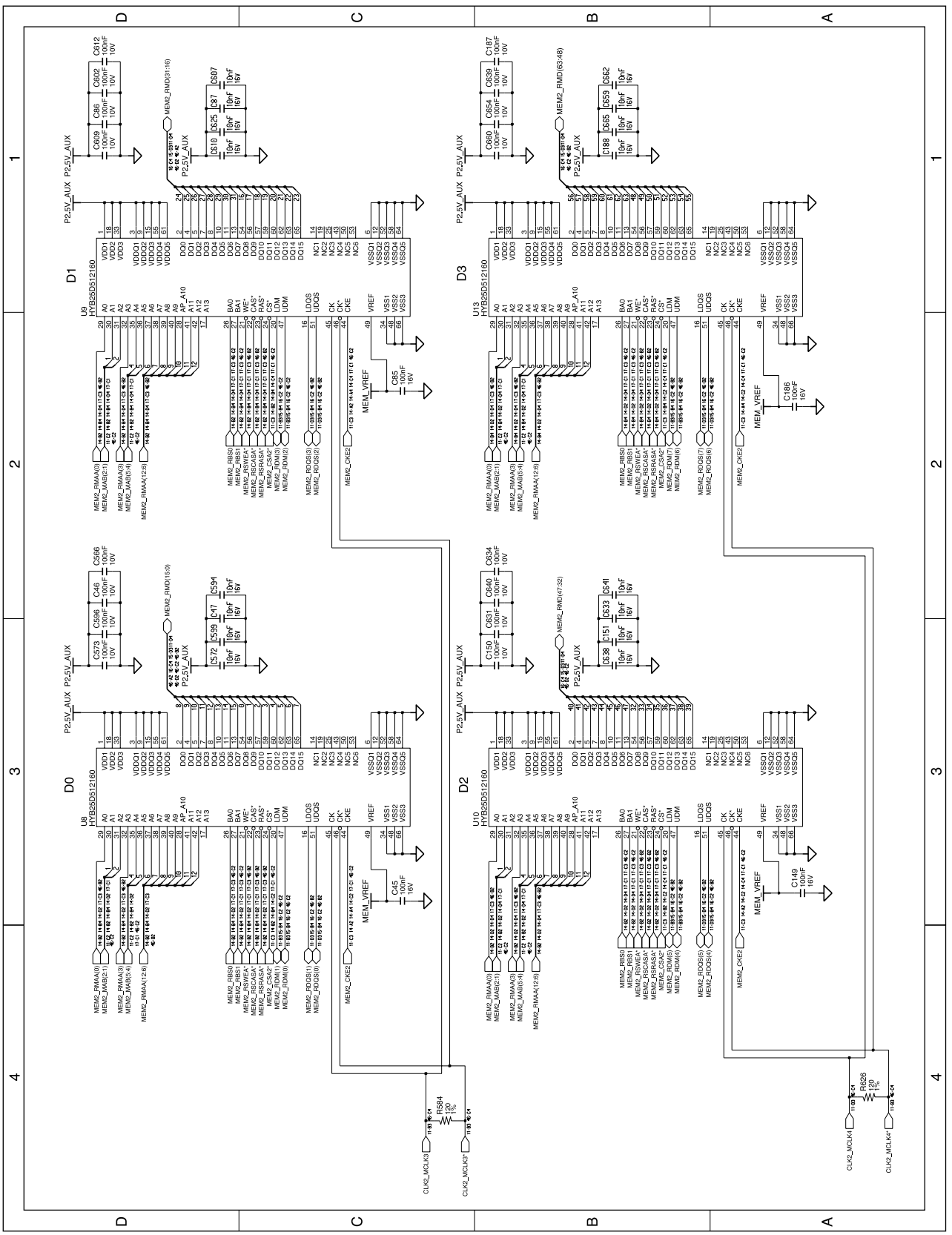
3-1-1(k) Main Board Schematic Sheet 12 of 47(Montara-GM+)



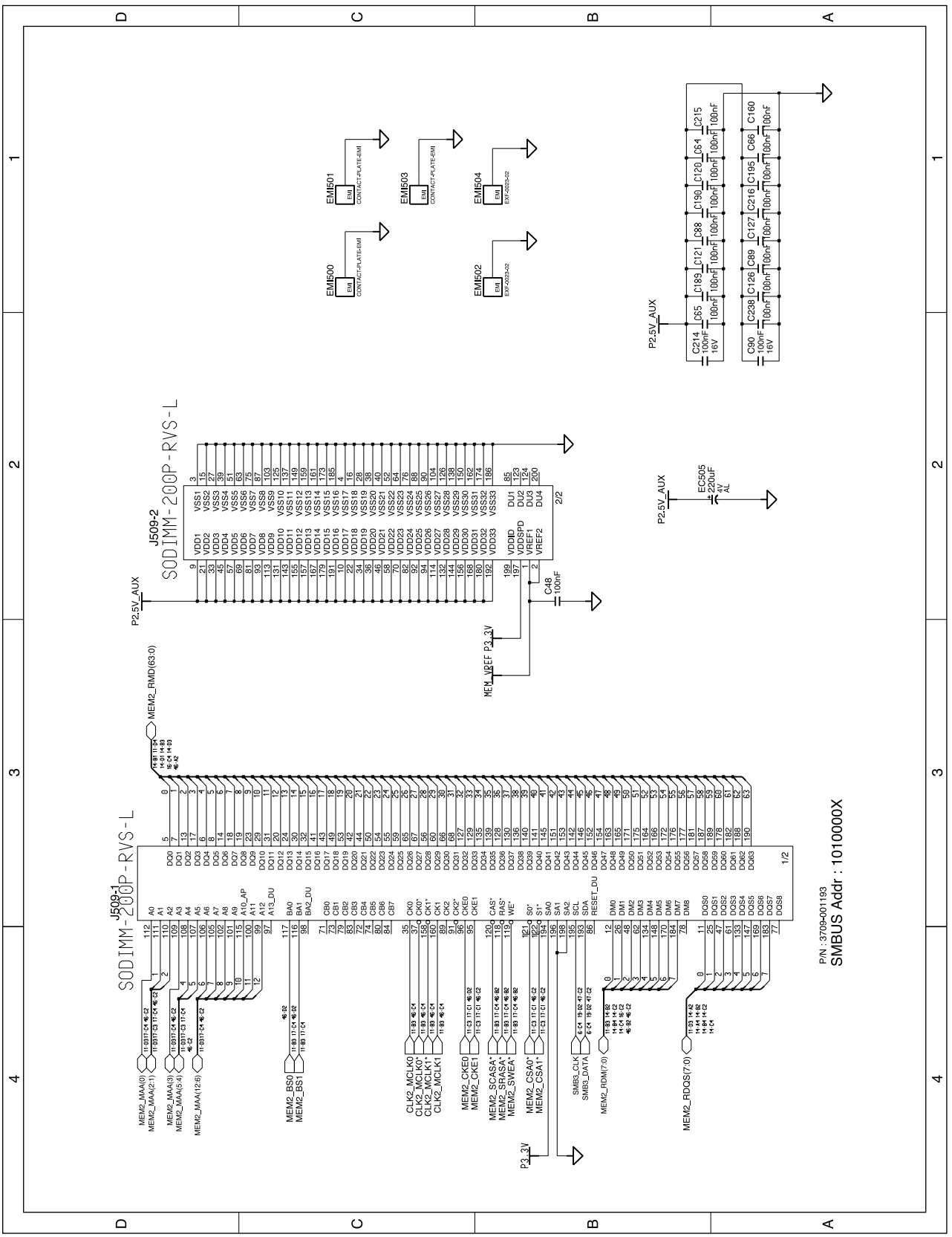
3-1-1(I) Main Board Schematic Sheet 13 of 47(Montara-GM+)



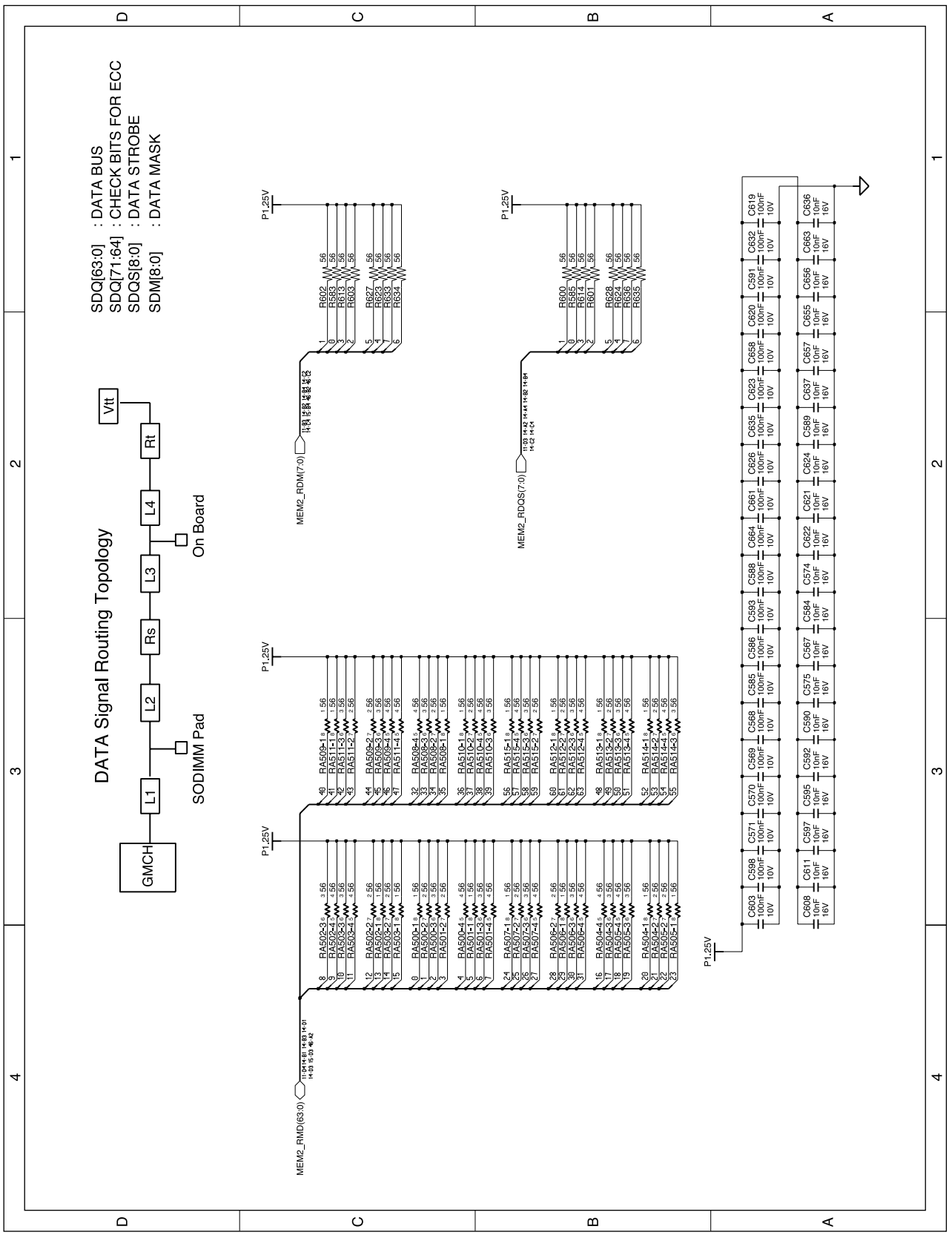
3-1-1(m) Main Board Schematic Sheet 14 of 47(DDR On Board)



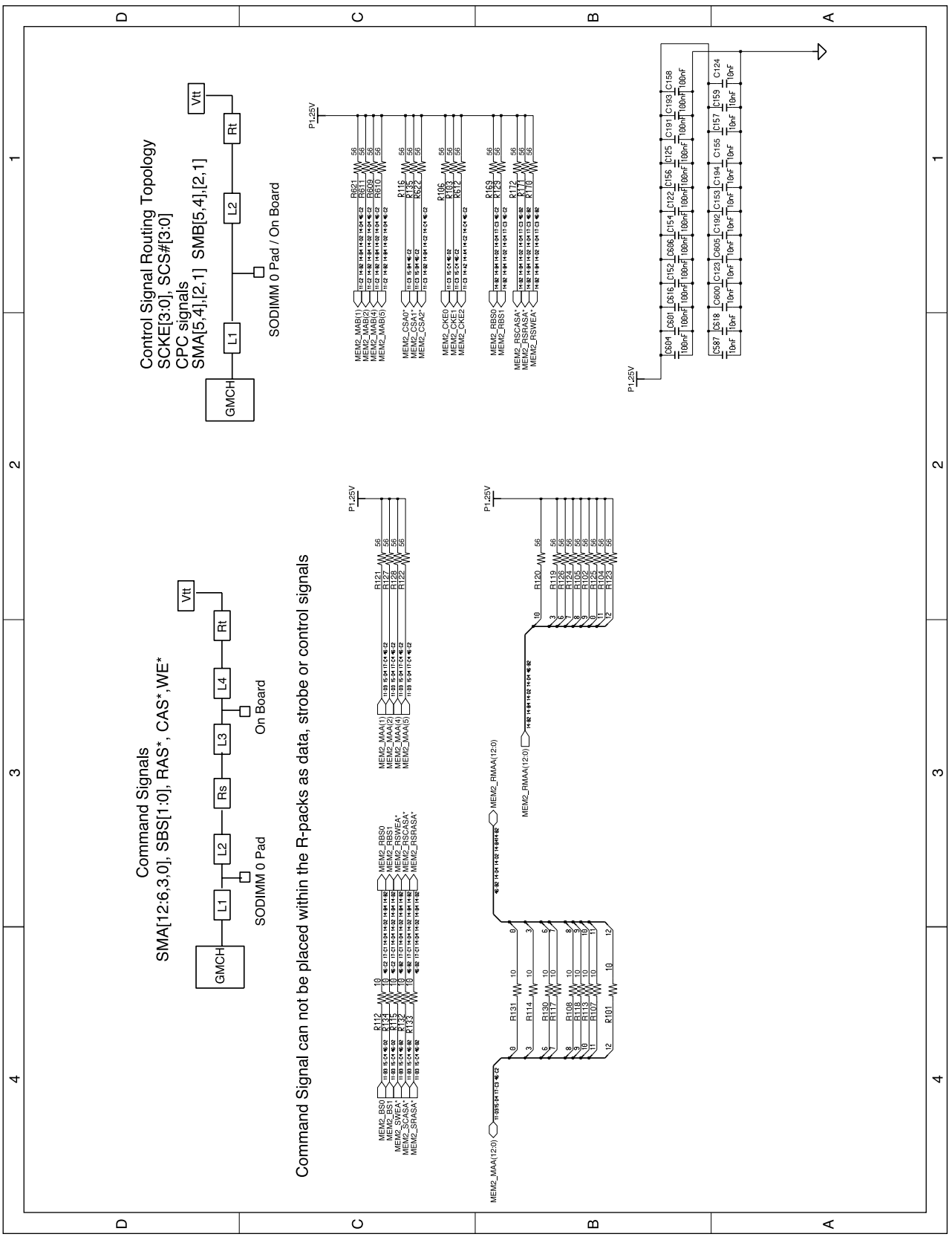
3-1-1(n) Main Board Schematic Sheet 15 of 47(DDR SODIMM)



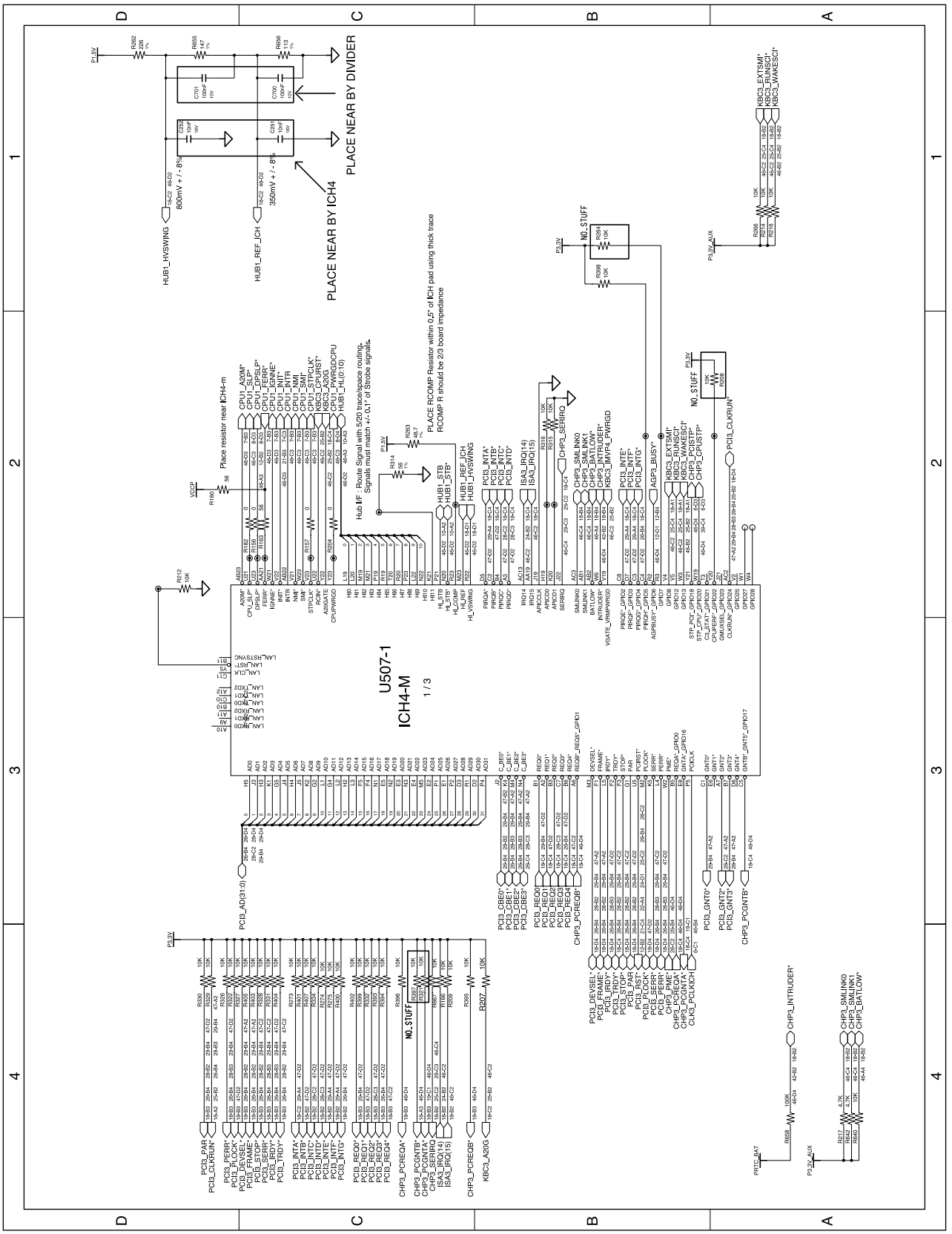
3-1-1(o) Main Board Schematic Sheet 16 of 47(DDR Termination)



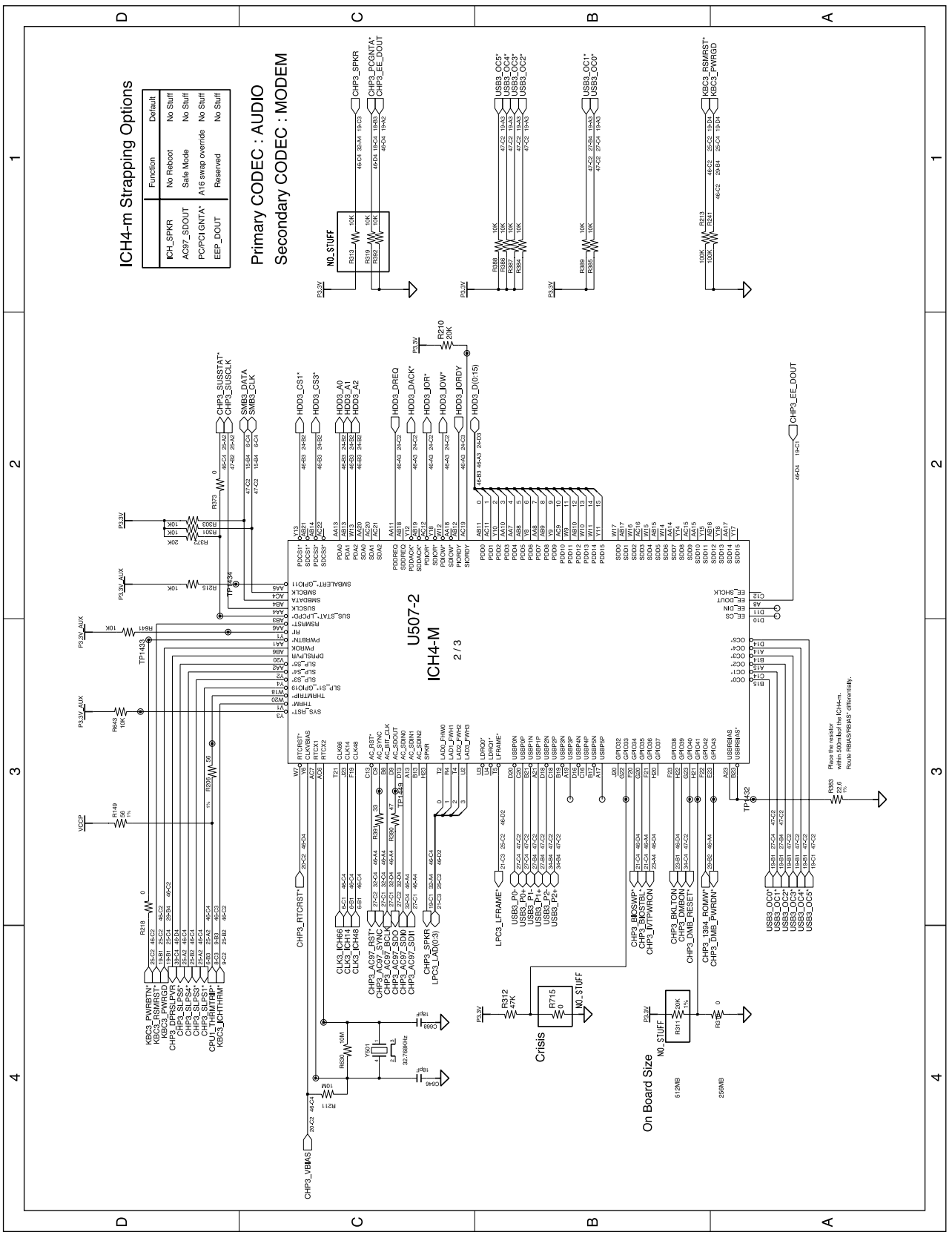
3-1-1(p) Main Board Schematic Sheet 17 of 47(DDR Termination)



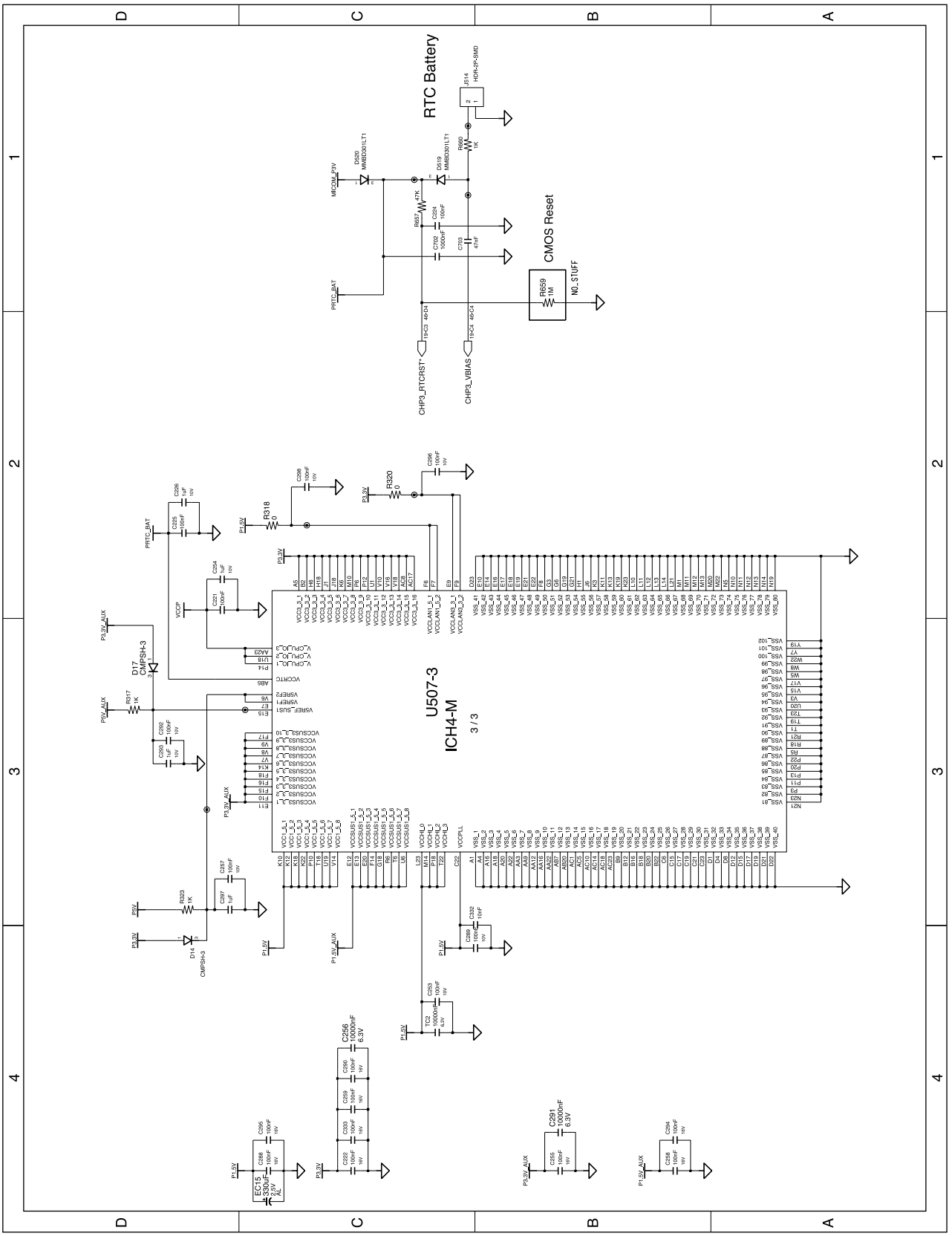
3-1-1(q) Main Board Schematic Sheet 18 of 47(ICH4-M)



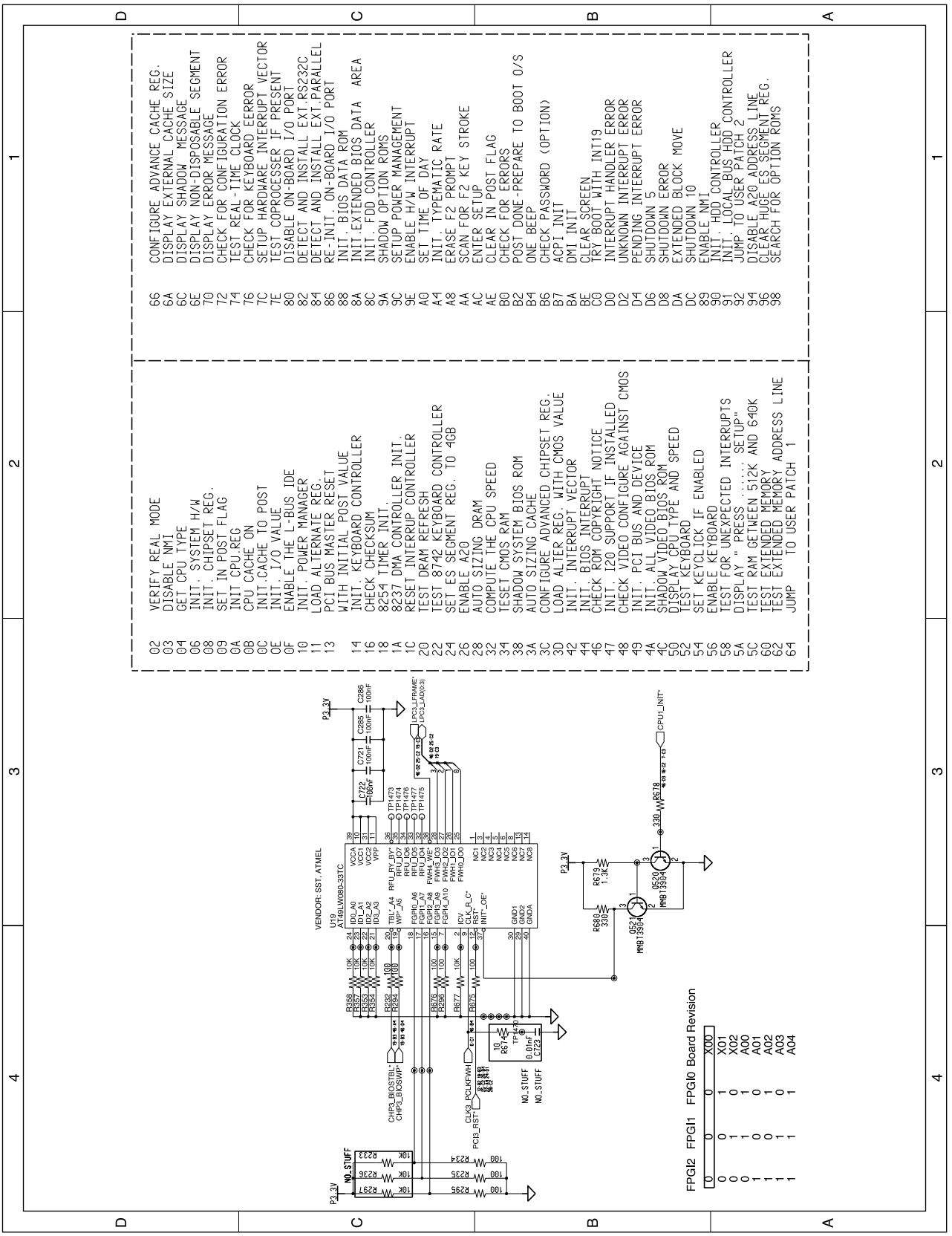
3-1-1(r) Main Board Schematic Sheet 19 of 47(ICH4-M)



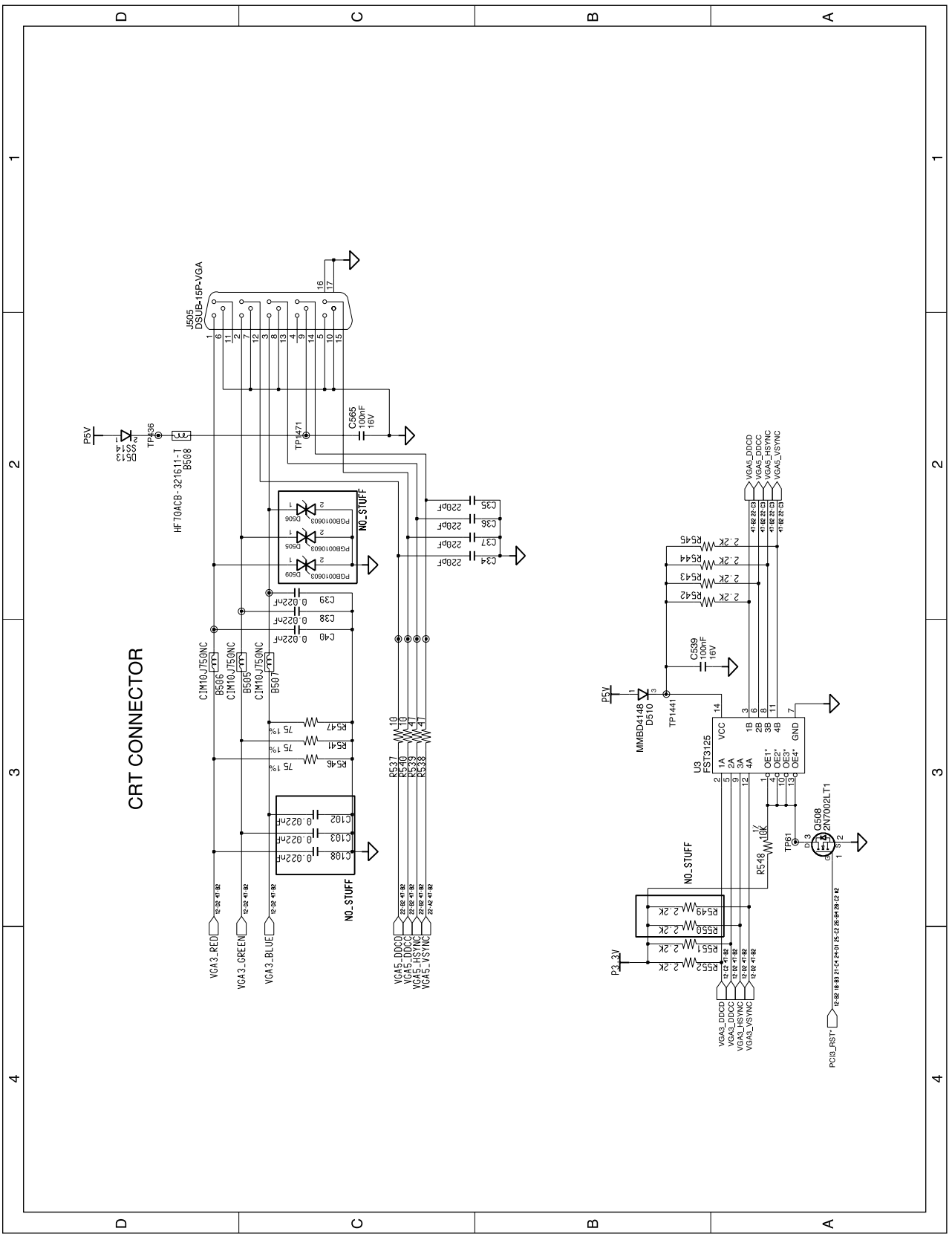
3-1-1(s) Main Board Schematic Sheet 20 of 47(ICH4-M)



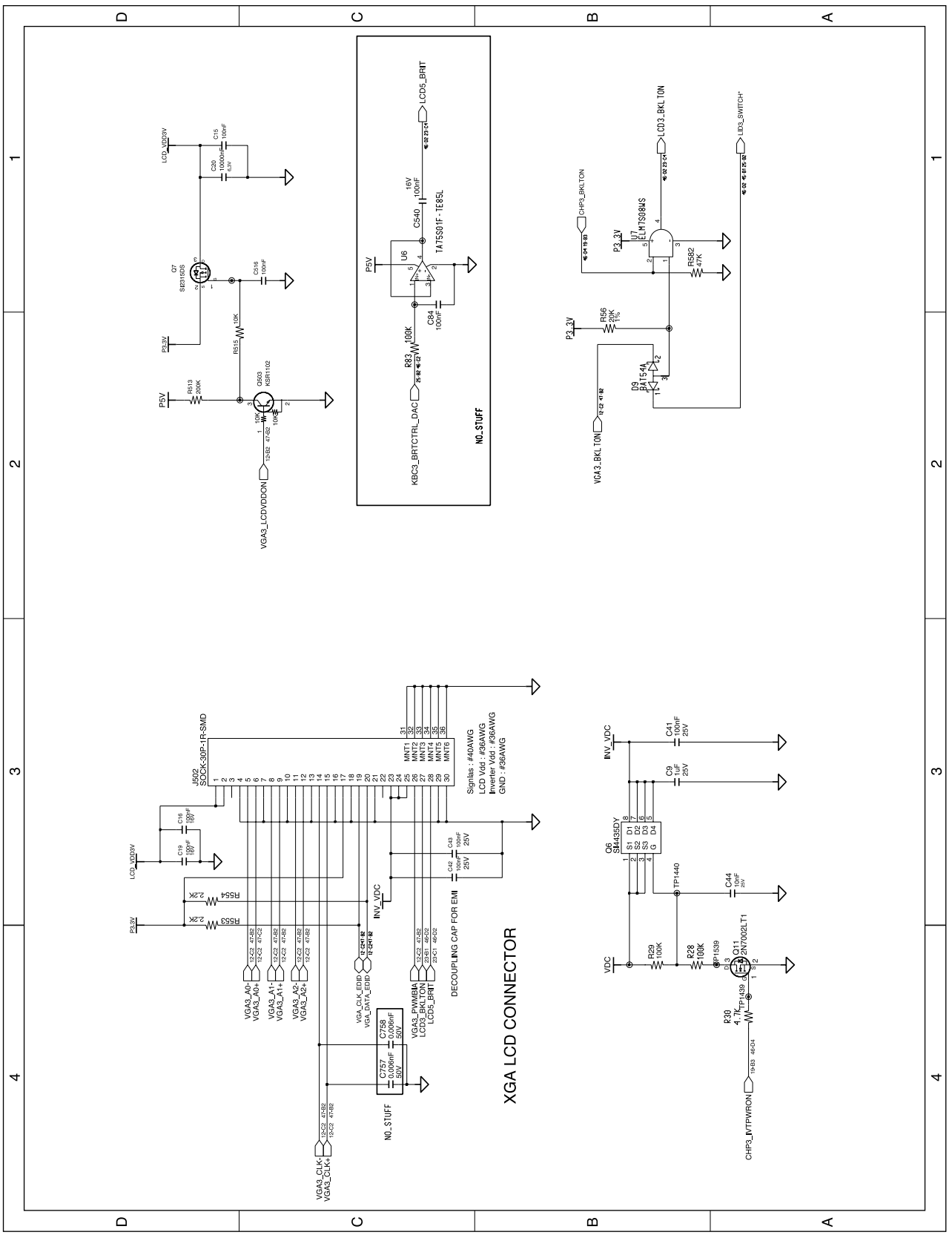
3-1-1(t) Main Board Schematic Sheet 21 of 47(FWH)



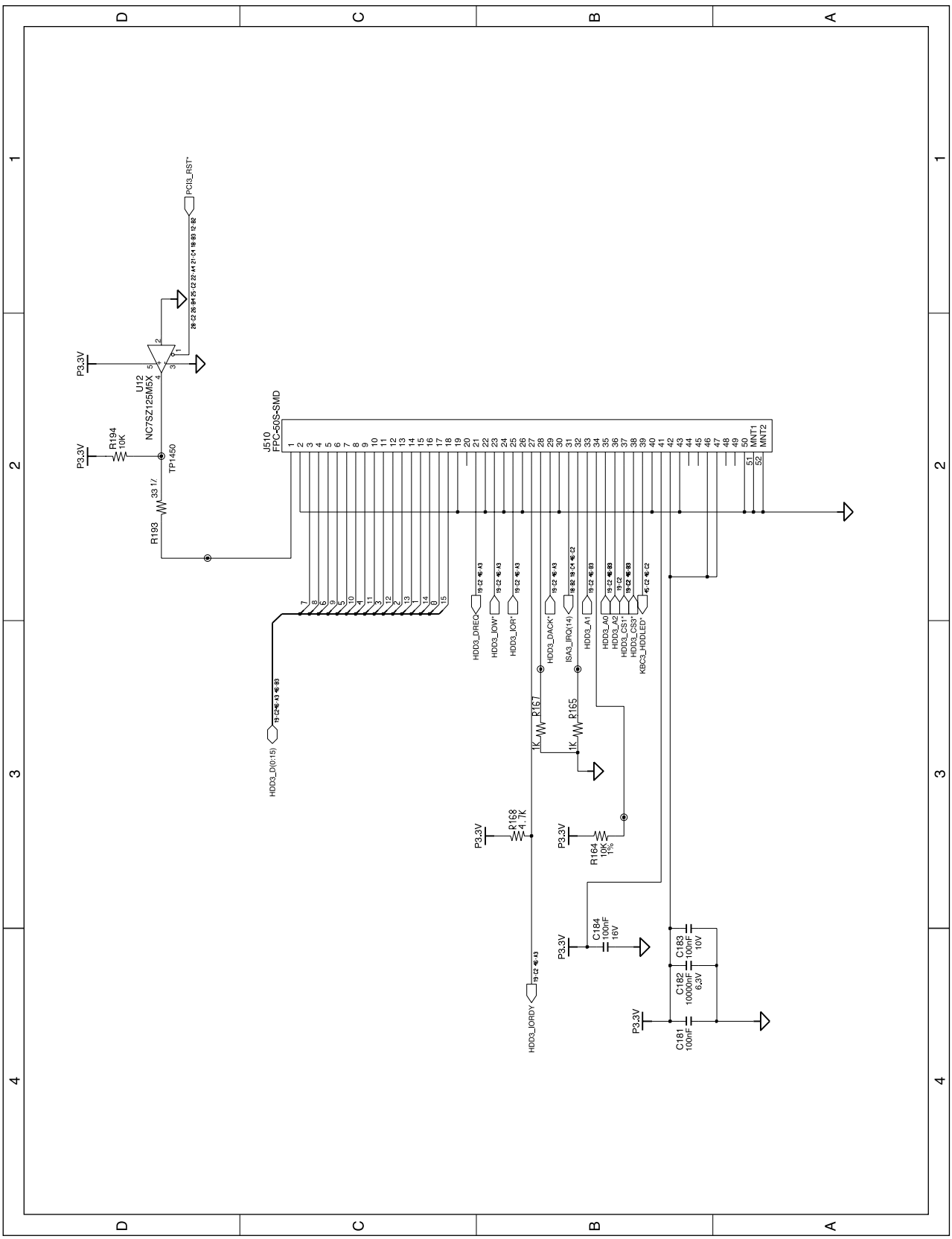
3-1-1(u) Main Board Schematic Sheet 22 of 47(CRT Connector)



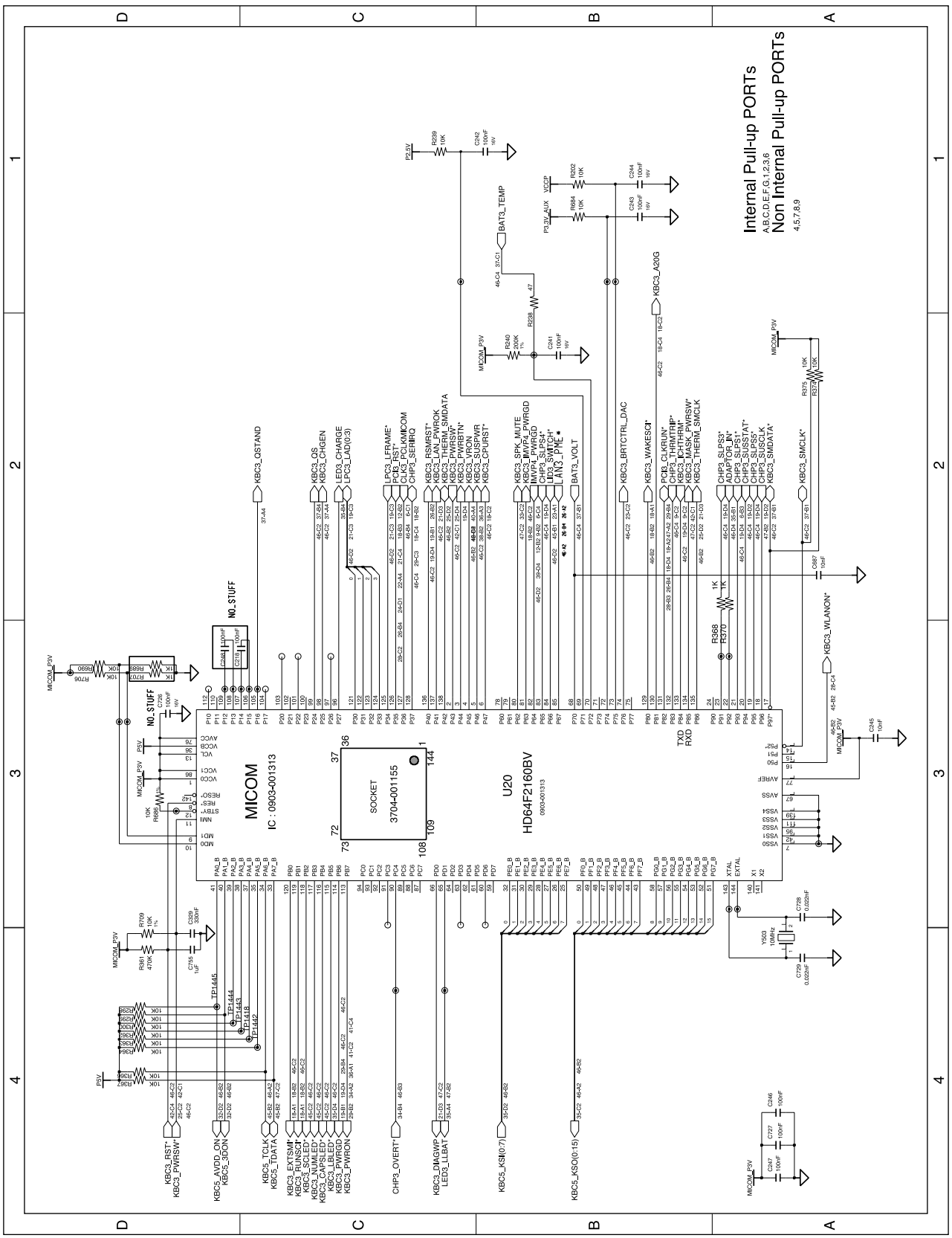
3-1-1(v) Main Board Schematic Sheet 23 of 47(LCD Connector)



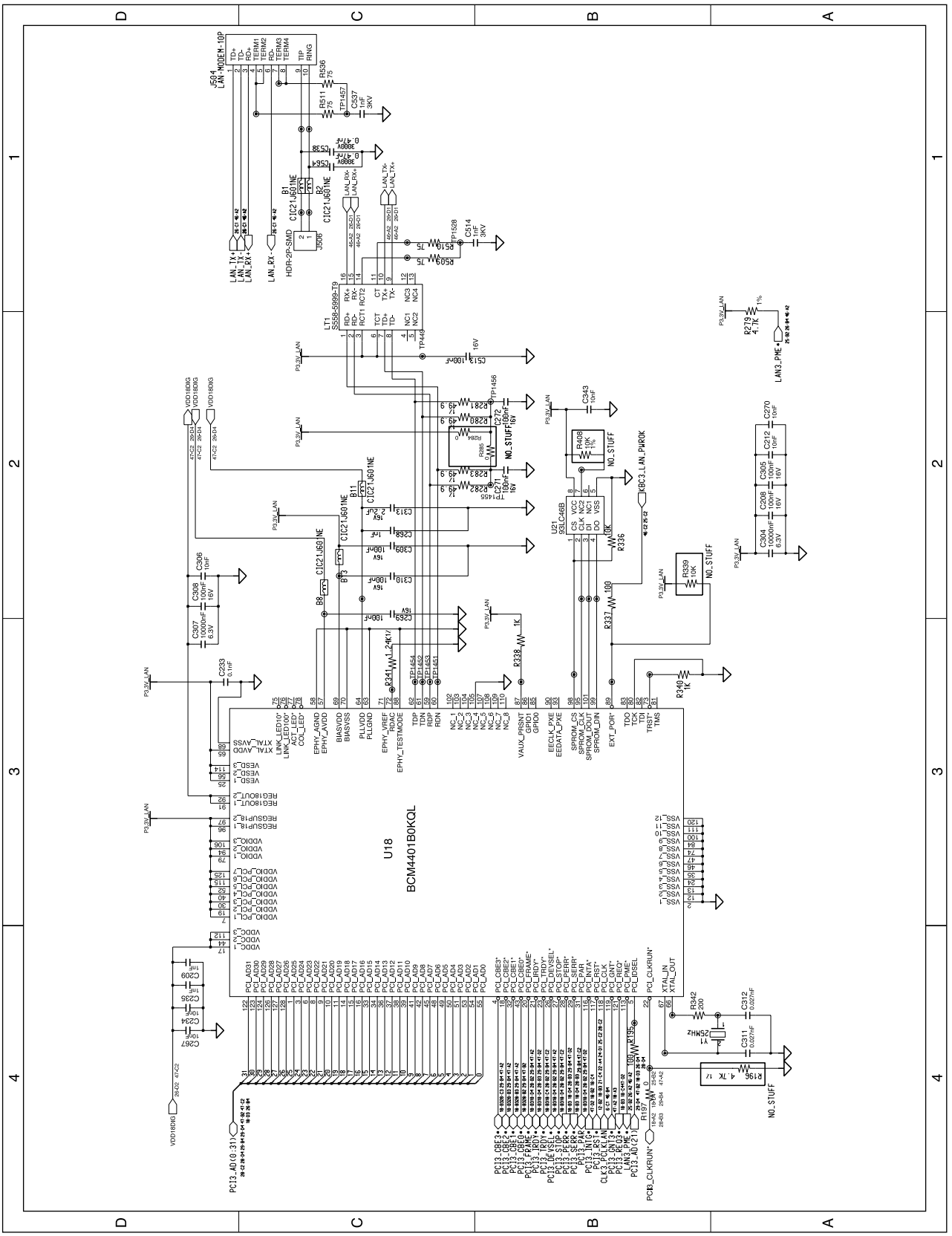
3-1-1(w) Main Board Schematic Sheet 24 of 47(HDD Connector)



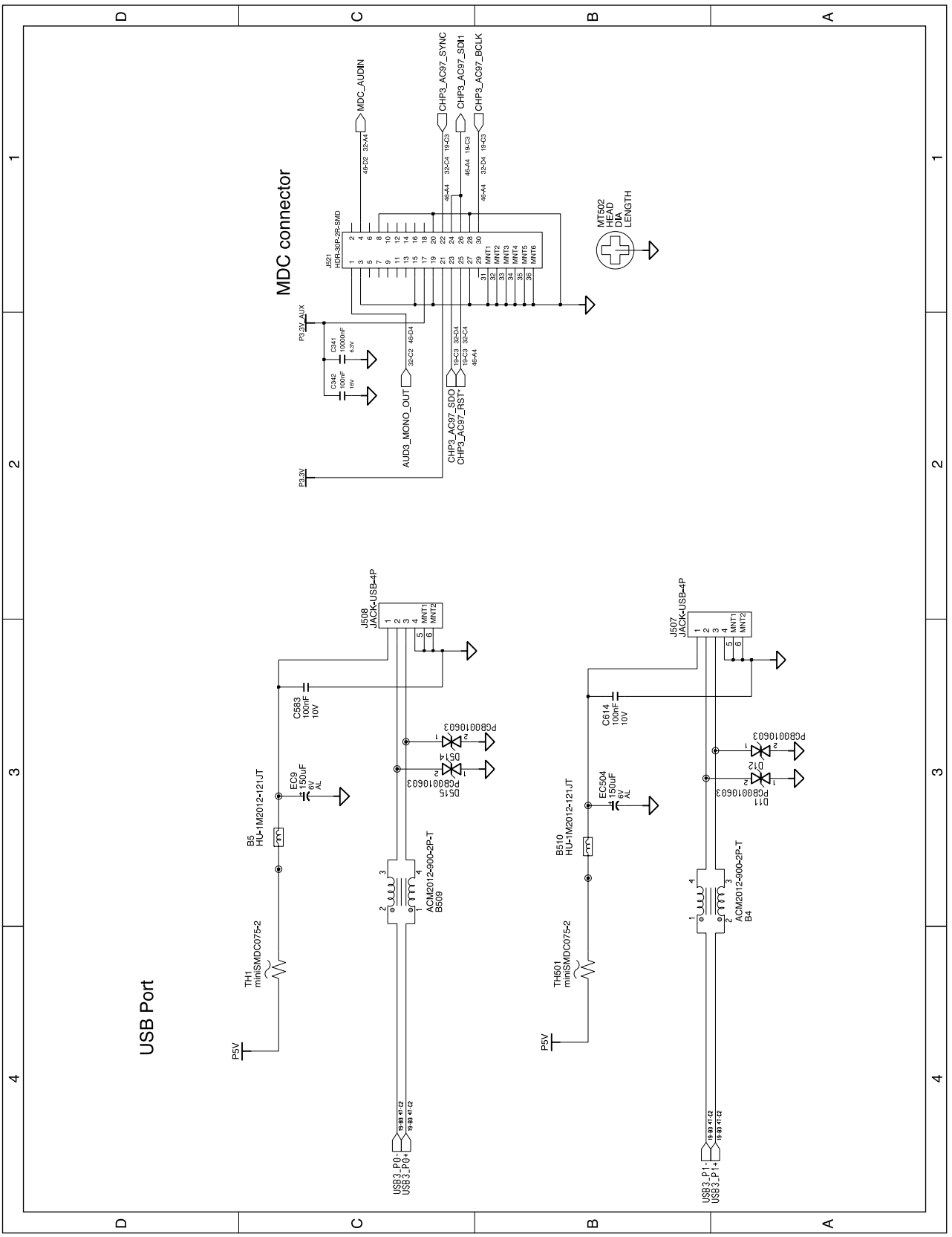
3-1-1(x) Main Board Schematic Sheet 25 of 47(MICOM)



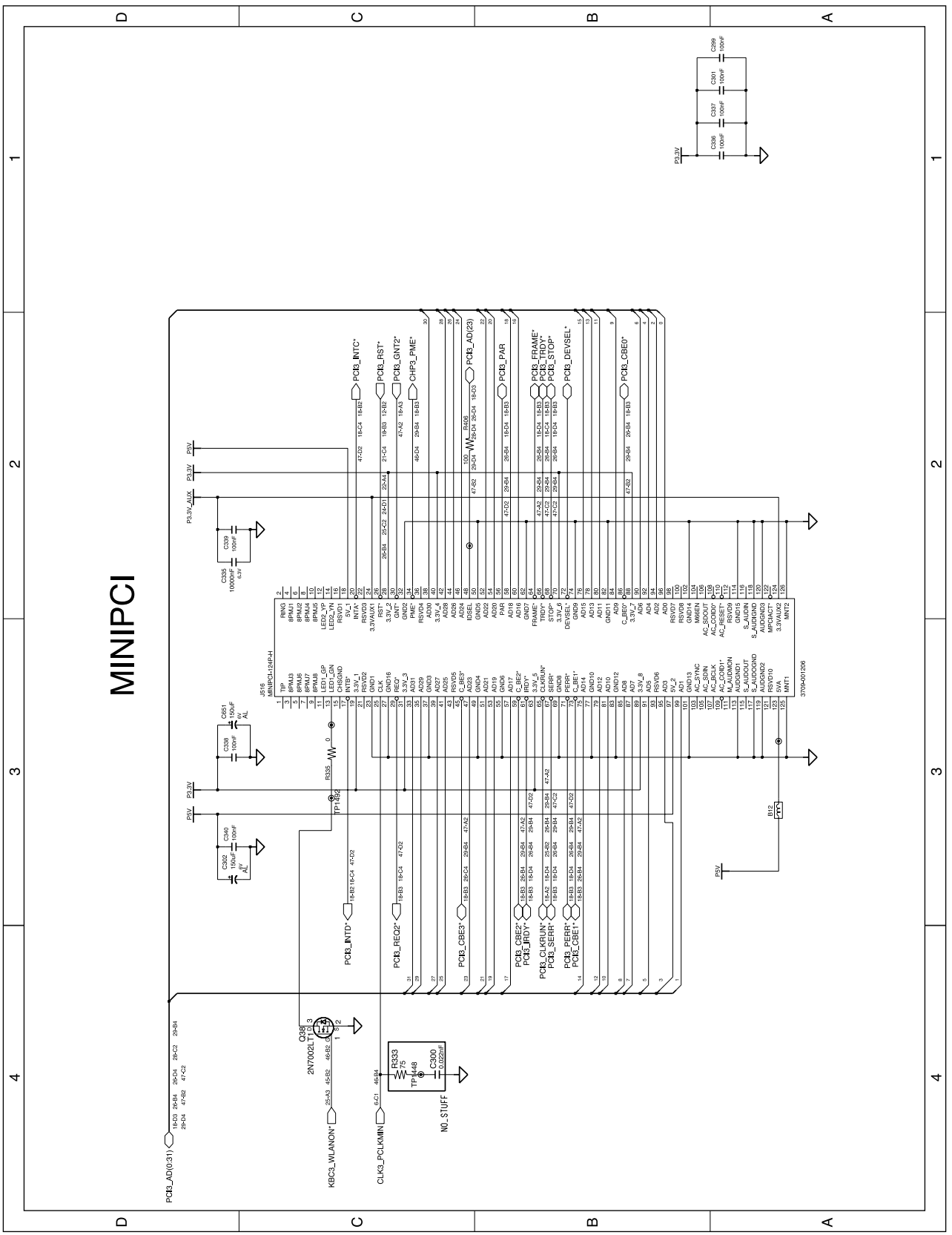
3-1-1(y) Main Board Schematic Sheet 26 of 47(Bradcom LAN)



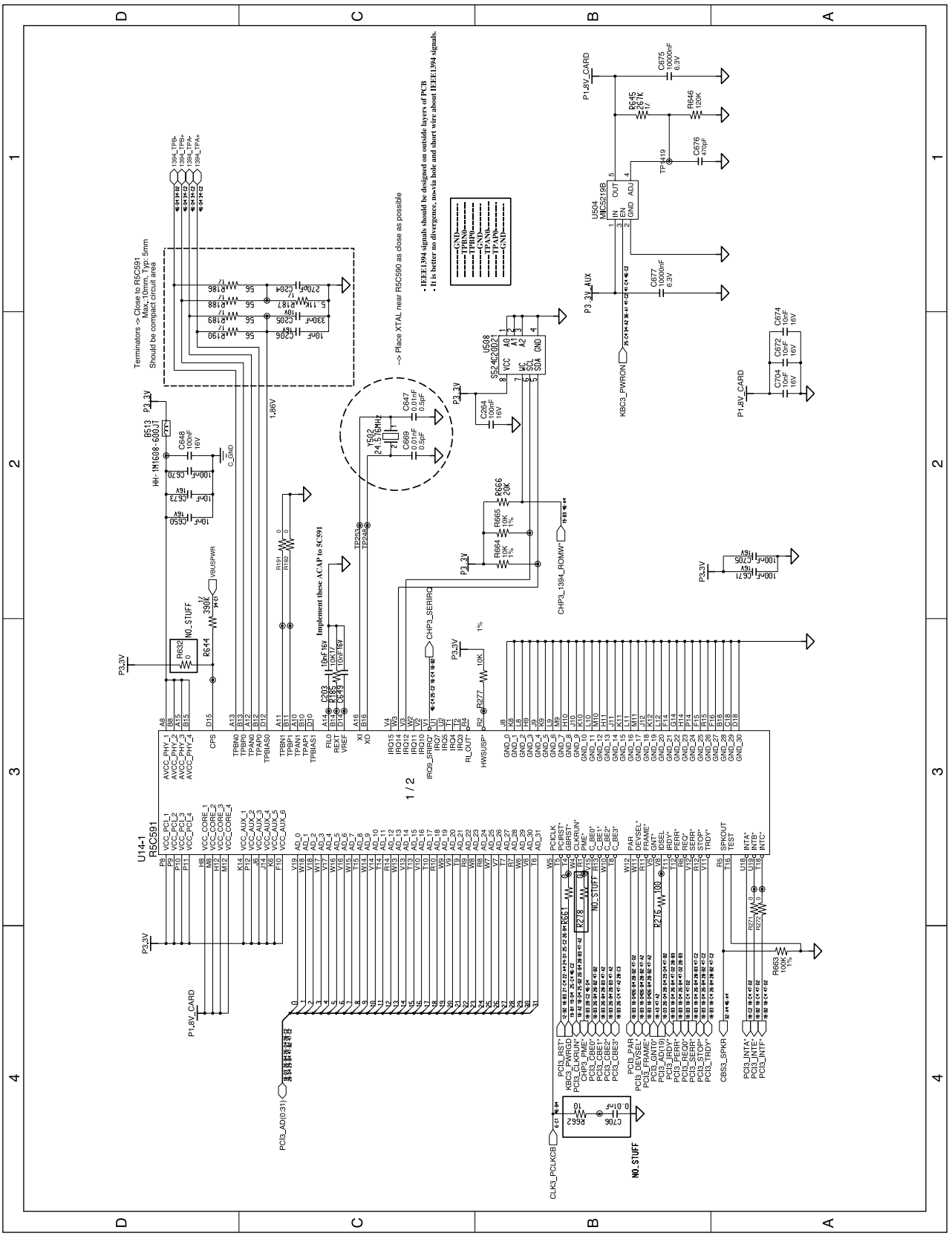
3-1-1(z) Main Board Schematic Sheet 27 of 47(USB & MDC Connector)



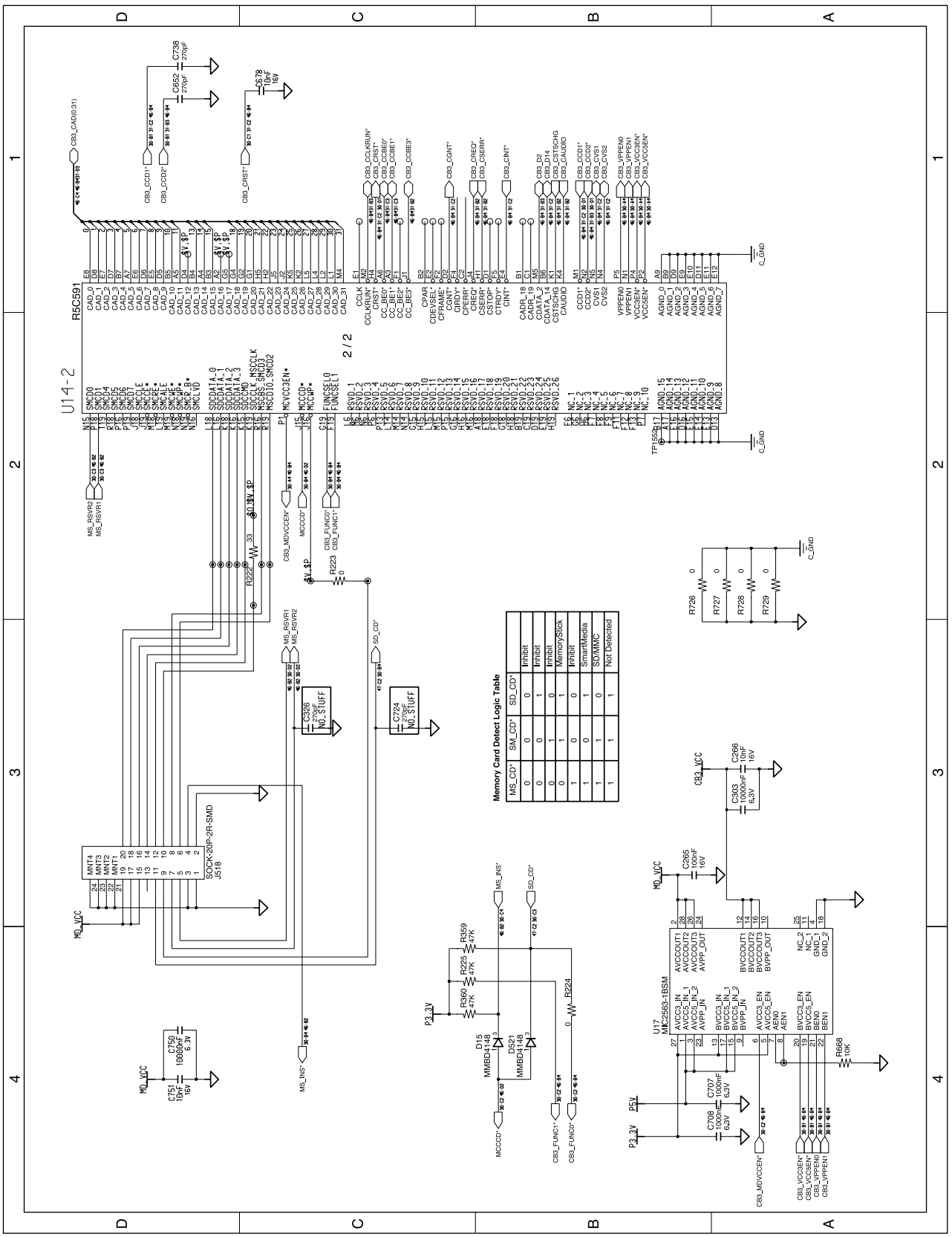
3-1-1(aa) Main Board Schematic Sheet 28 of 47(MINIPCI)



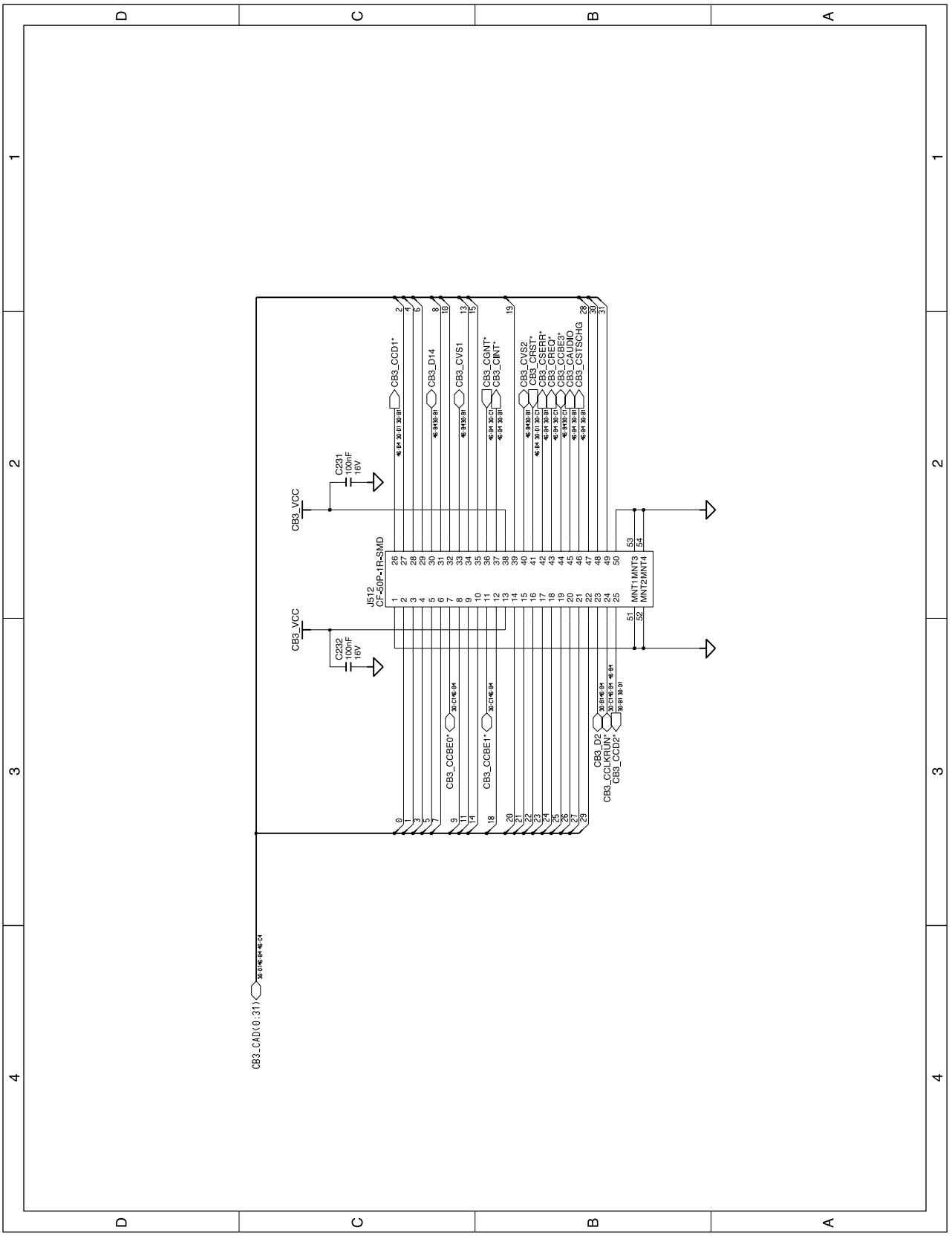
3-1-1(bb) Main Board Schematic Sheet 29 of 47(Cardbus Controller)



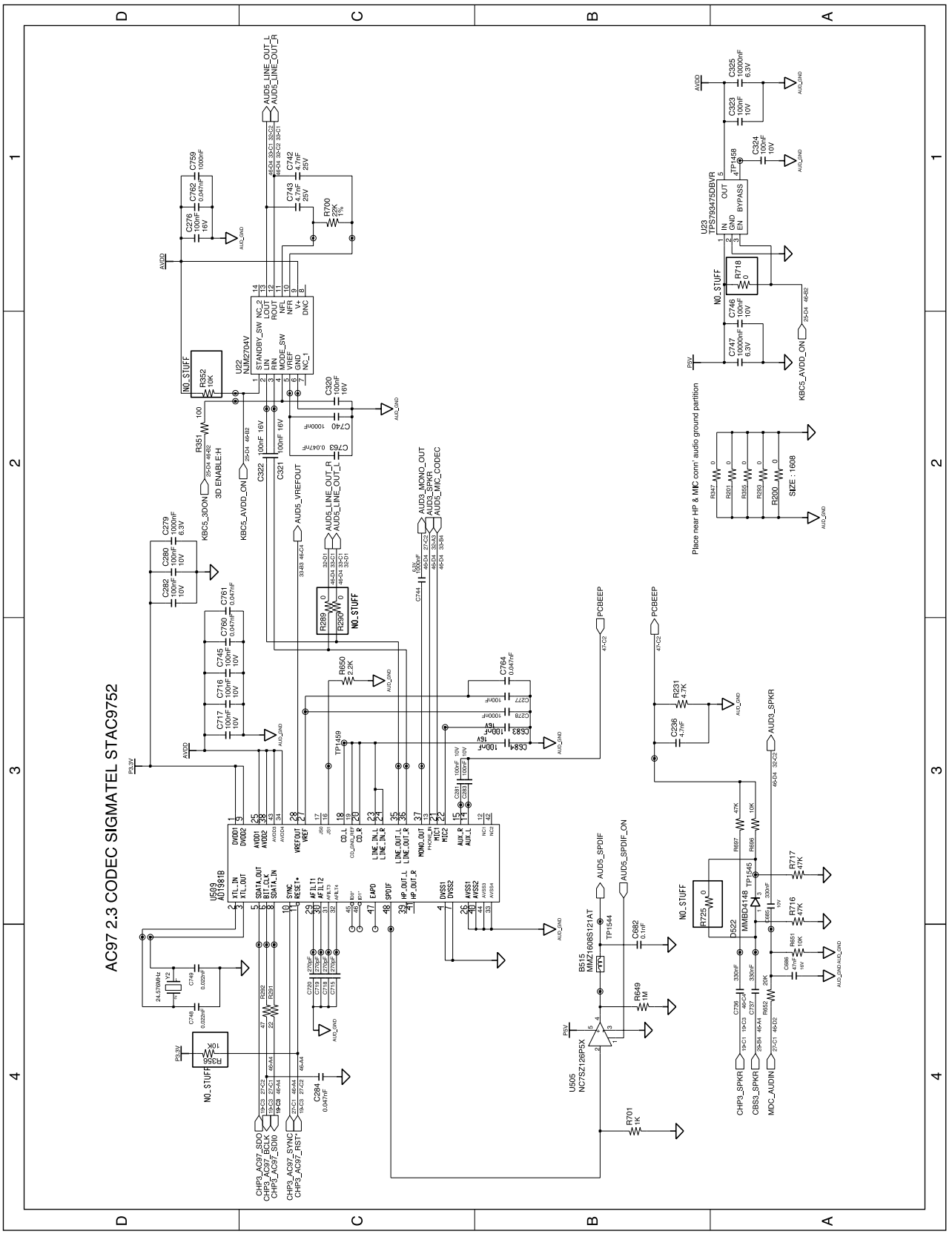
3-1-1(cc) Main Board Schematic Sheet 30 of 47(Cardbus Controller)



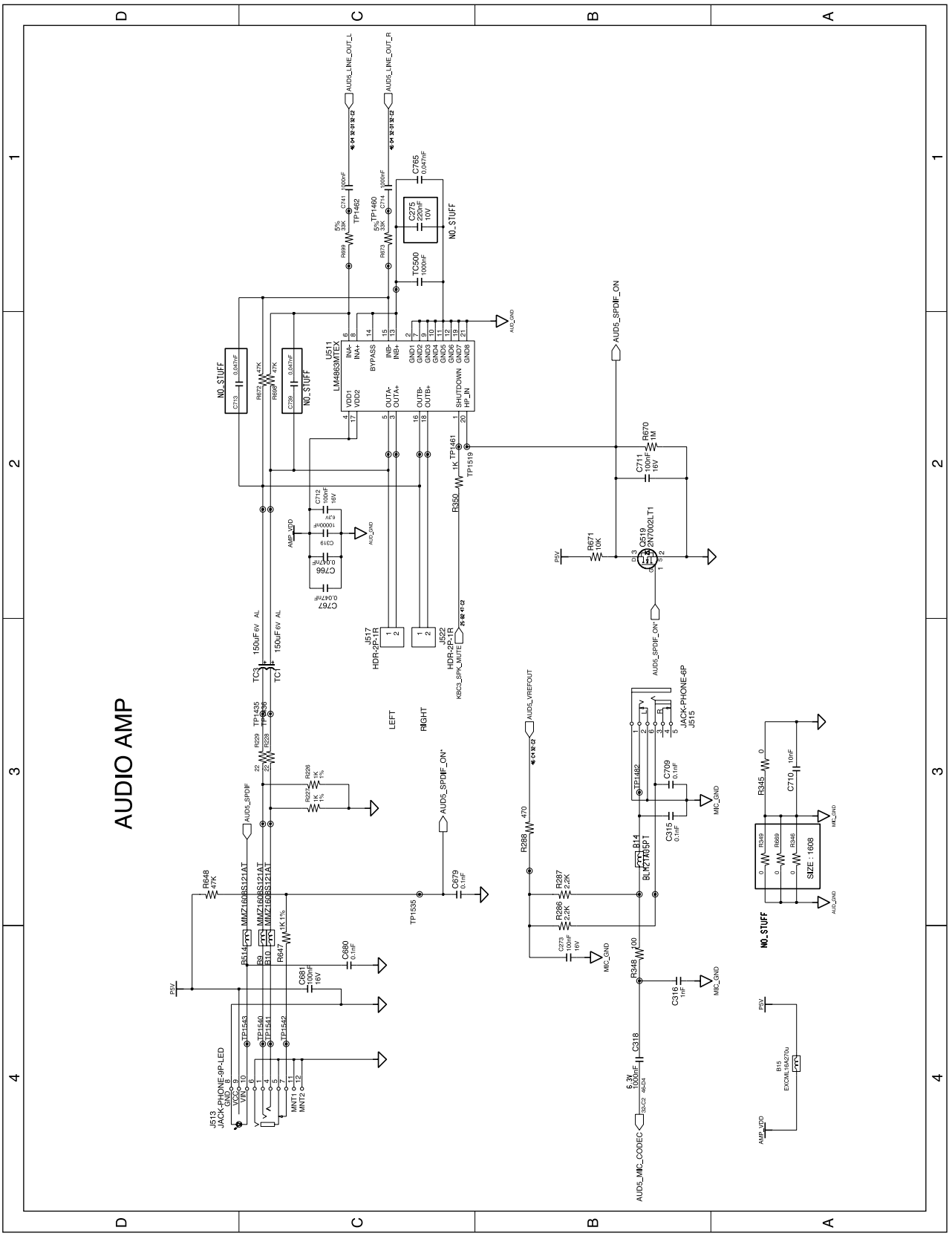
3-1-1(dd) Main Board Schematic Sheet 31 of 47(CF Socket)



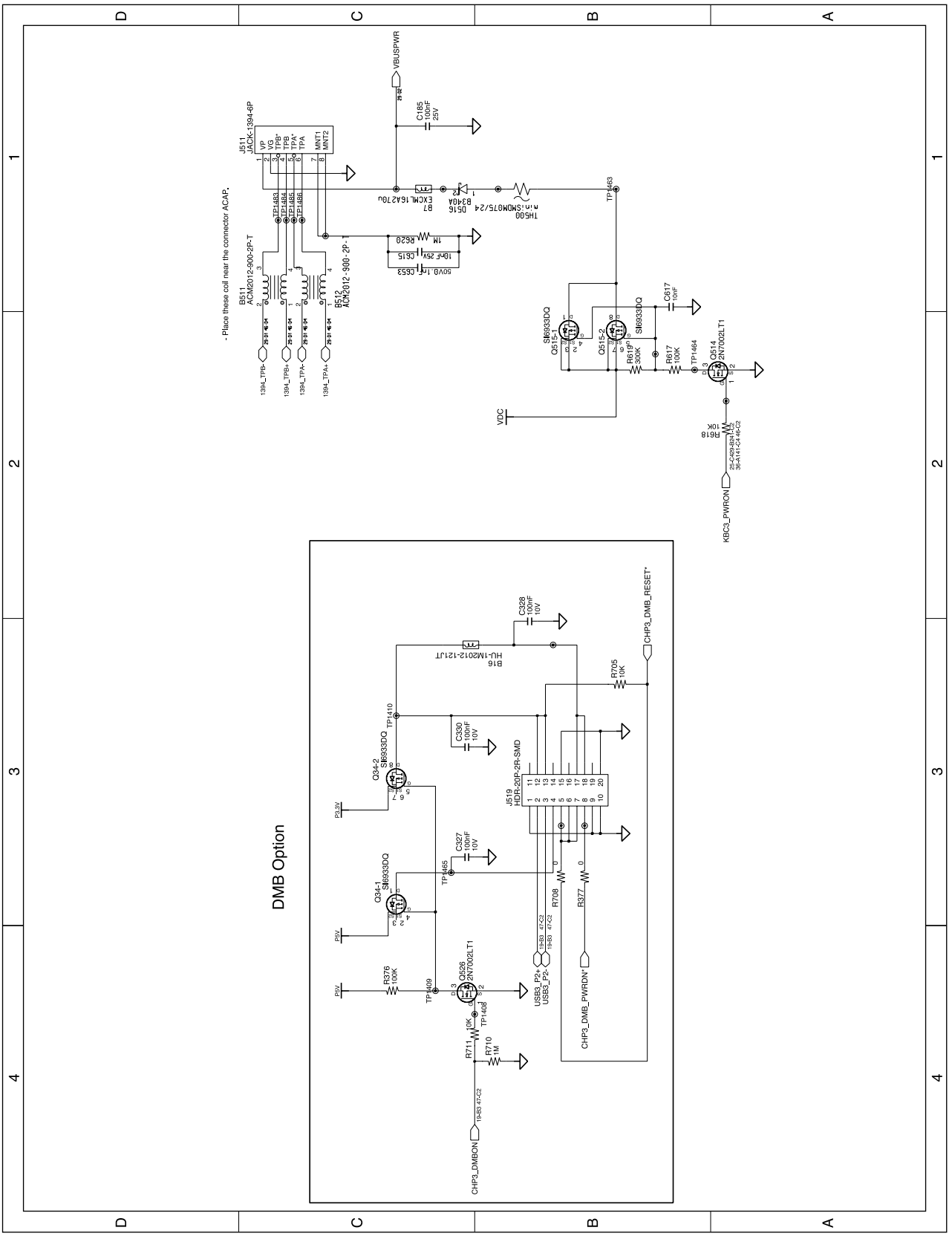
3-1-1(ee) Main Board Schematic Sheet 32 of 47(AC' 97)



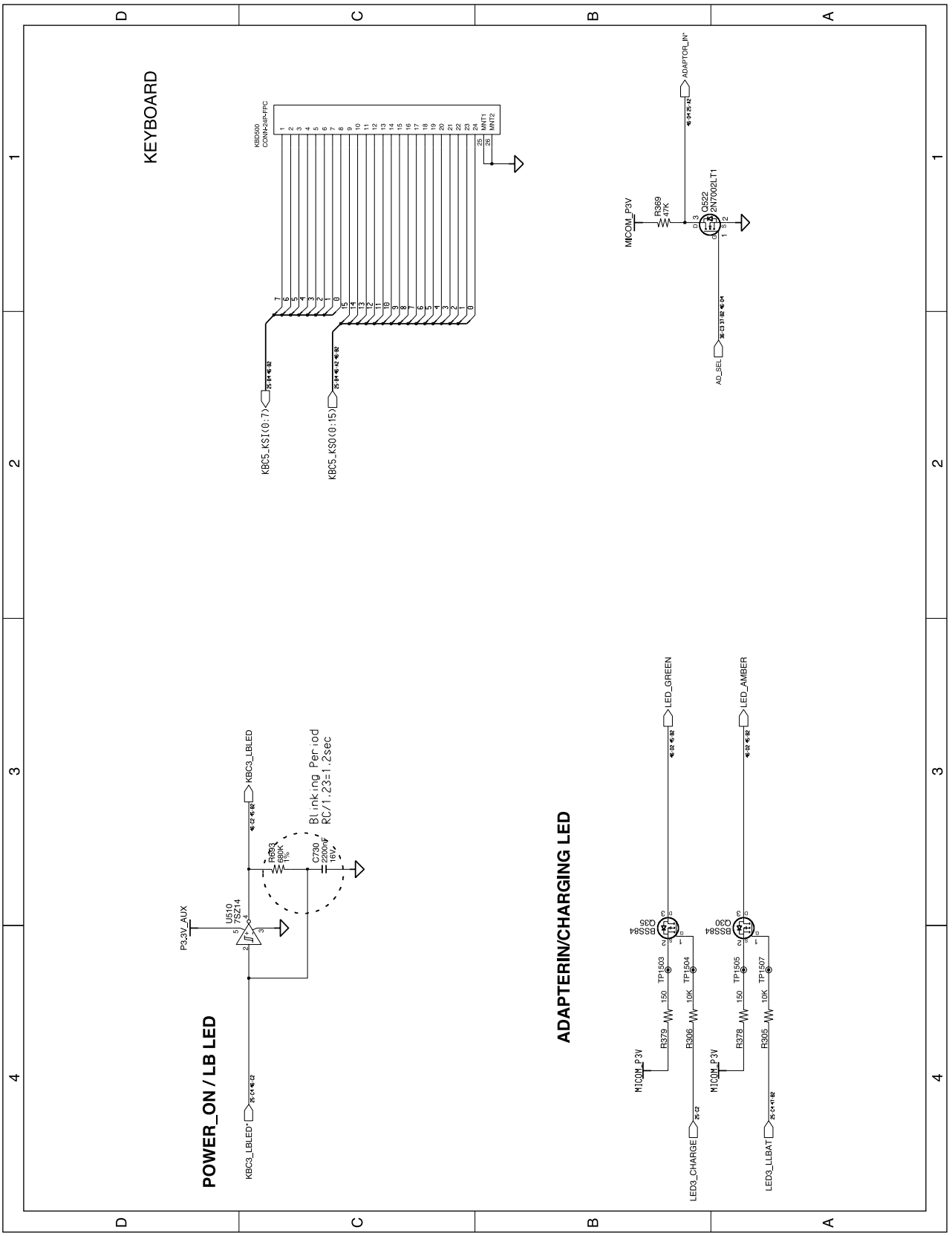
3-1-1(ff) Main Board Schematic Sheet 33 of 47(Audio AMP)



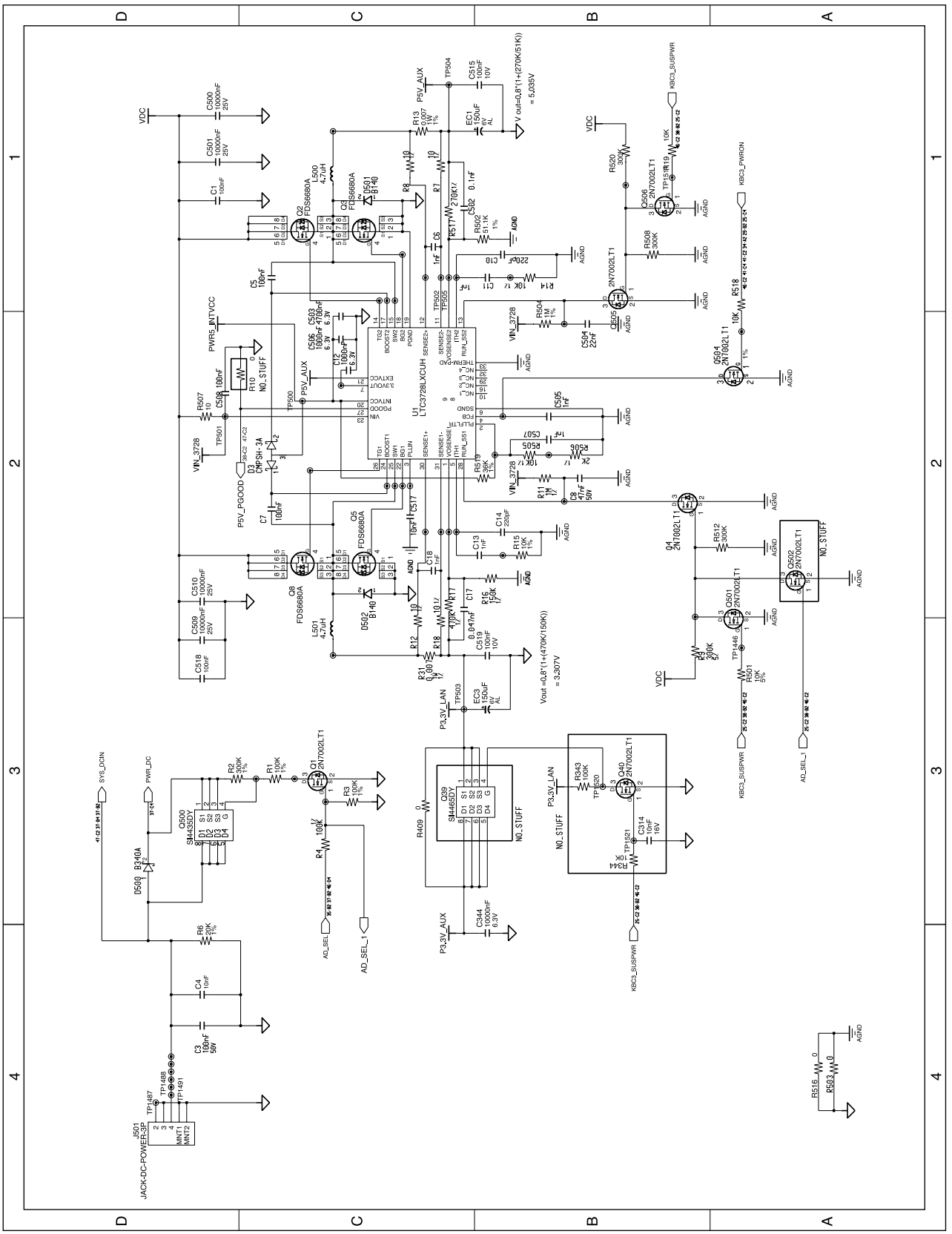
3-1-1(gg) Main Board Schematic Sheet 34 of 47(DMB & 1394 Port)



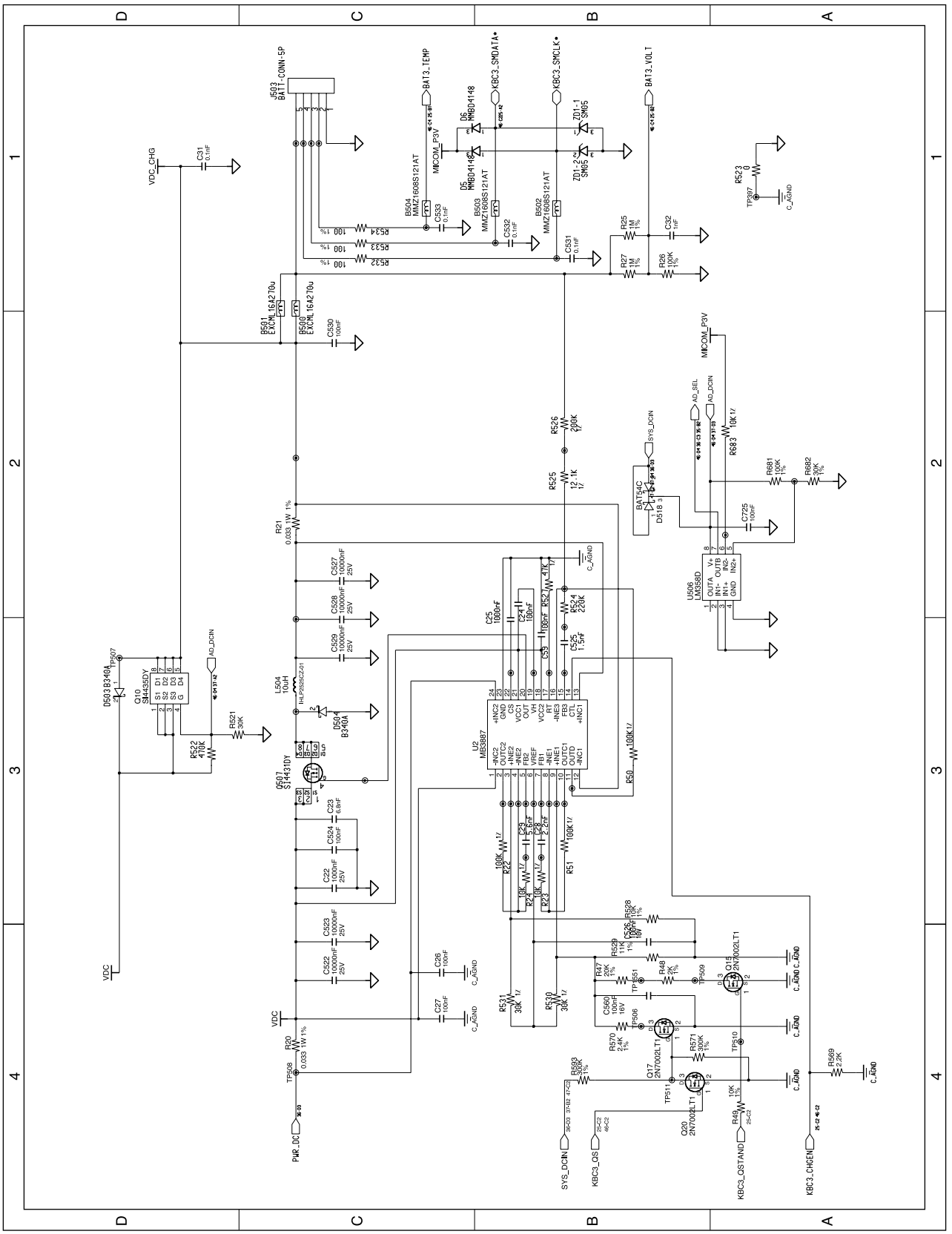
3-1-1(hh) Main Board Schematic Sheet 35 of 47(Keyboard Connector)



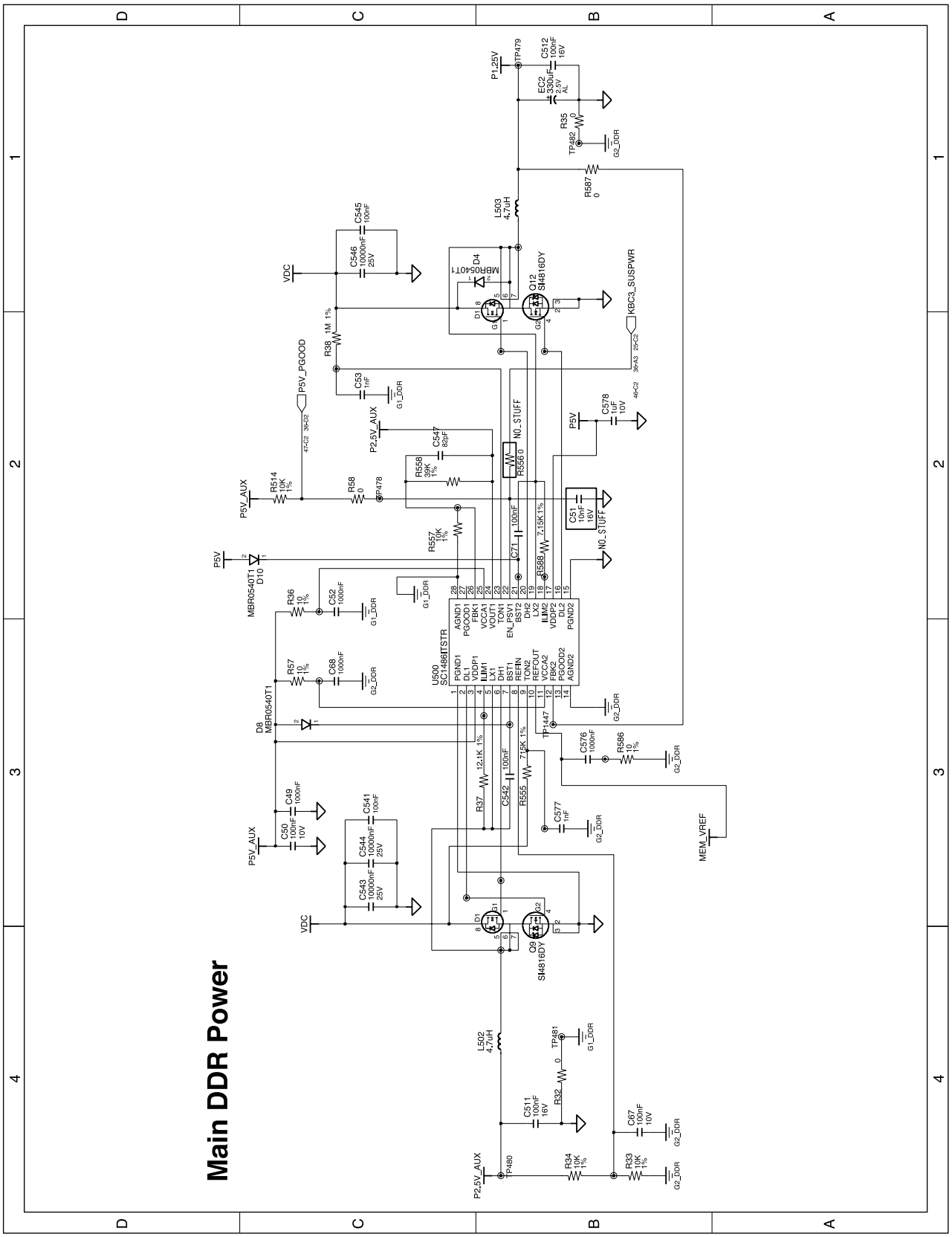
3-1-1(ii) Main Board Schematic Sheet 36 of 47(DC/DC Power)



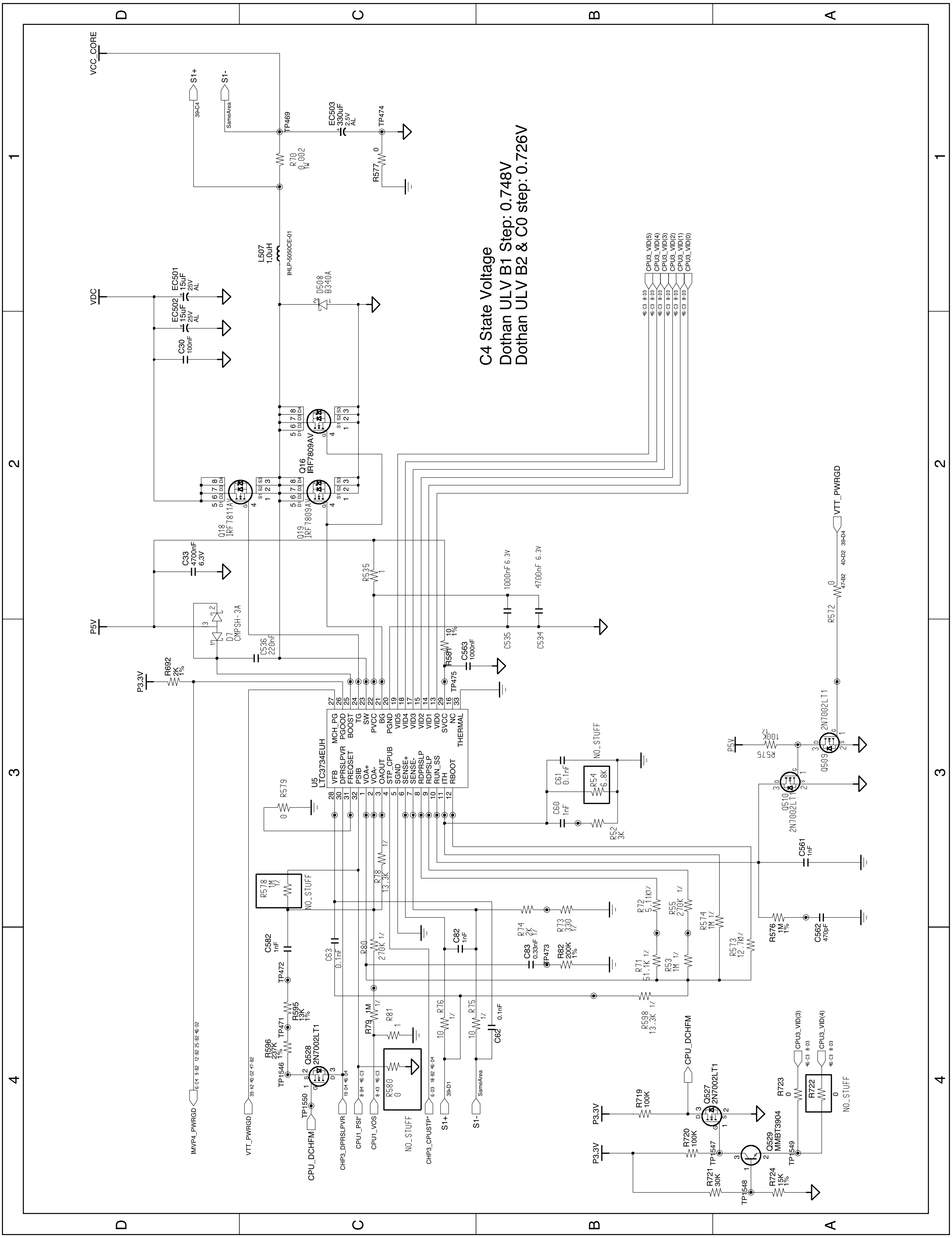
3-1-1(jj) Main Board Schematic Sheet 37 of 47(Charger)



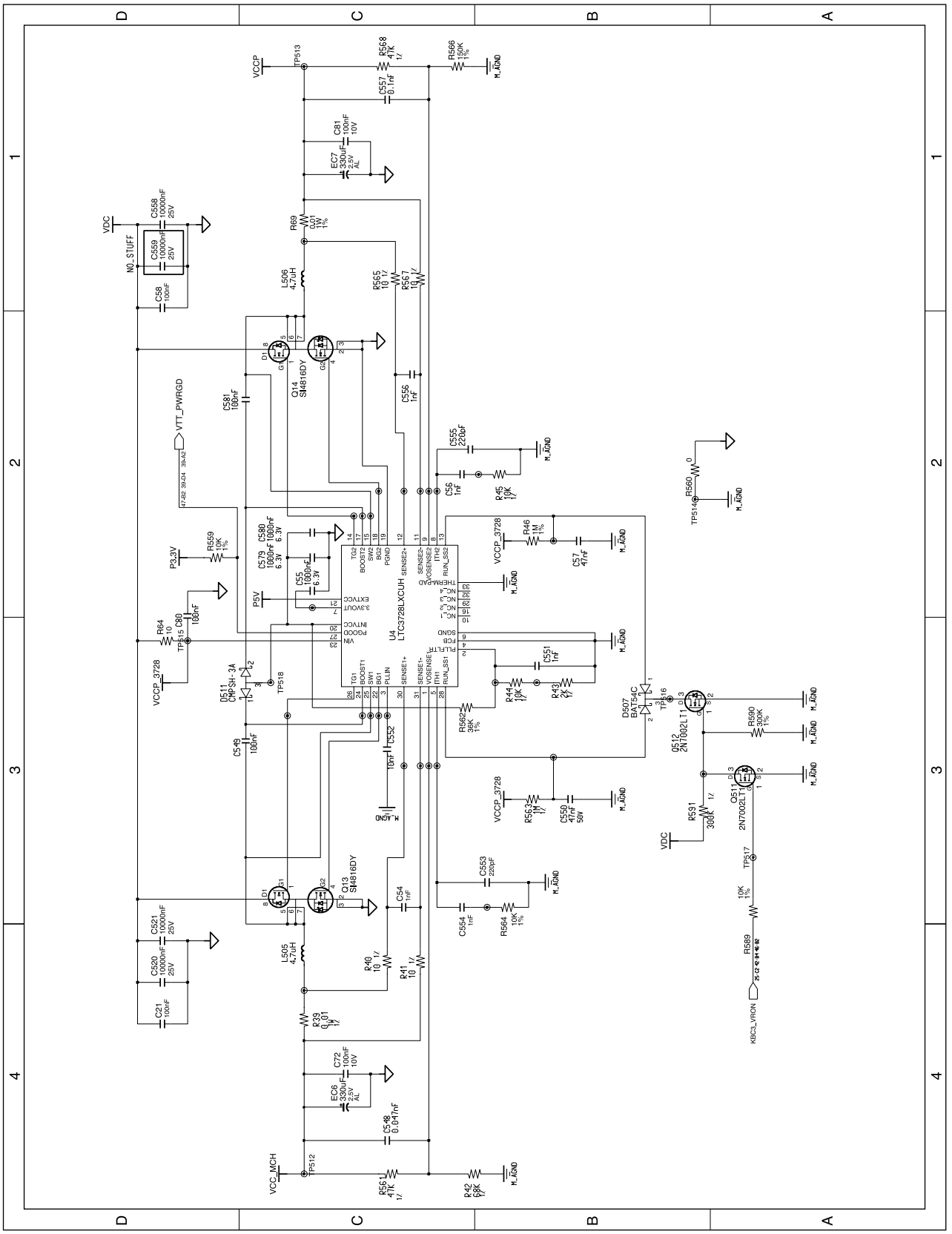
3-1-1(kk) Main Board Schematic Sheet 38 of 47(DDR Power)



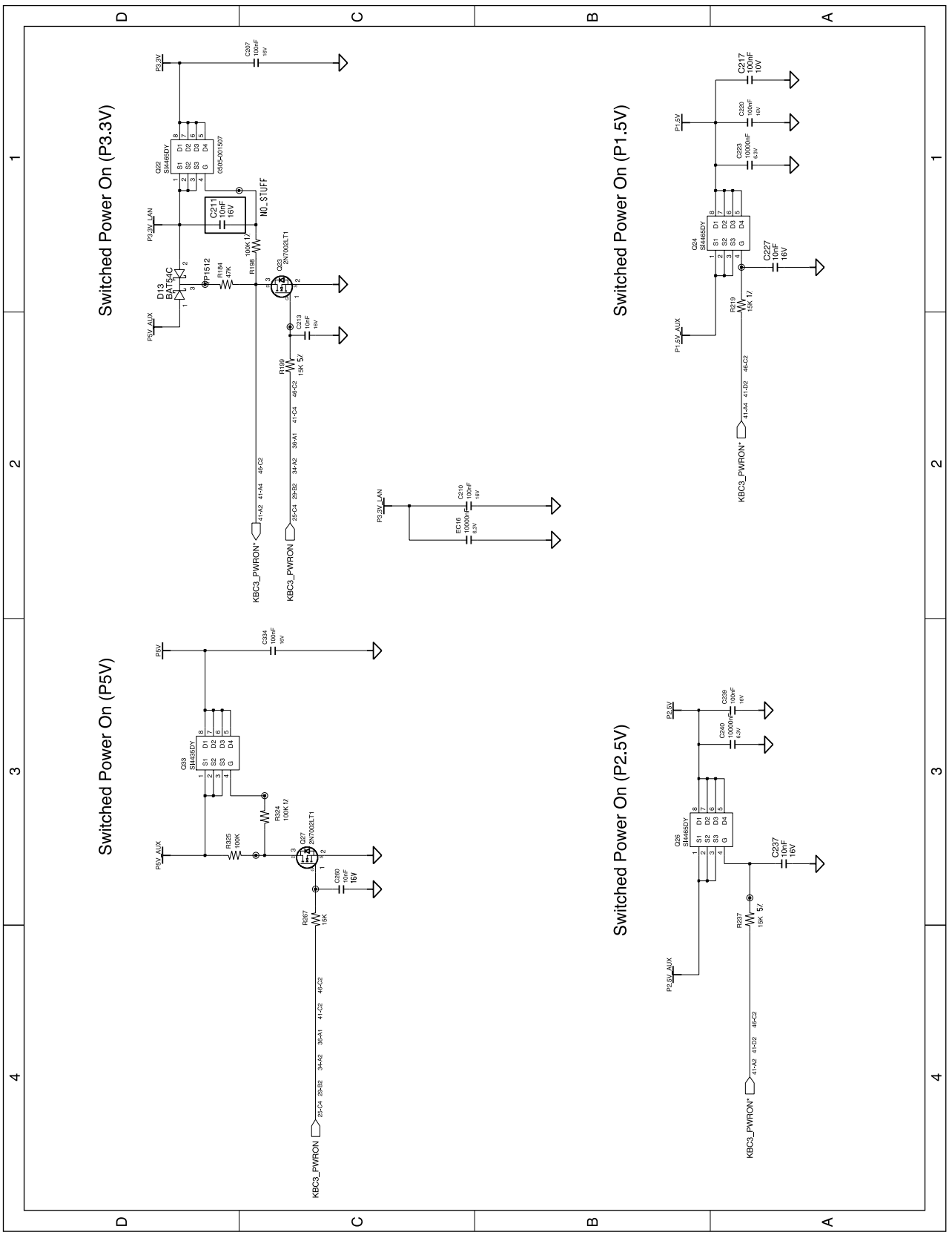
3-1-1(II) Main Board Schematic Sheet 39 of 47(IMVP IV)



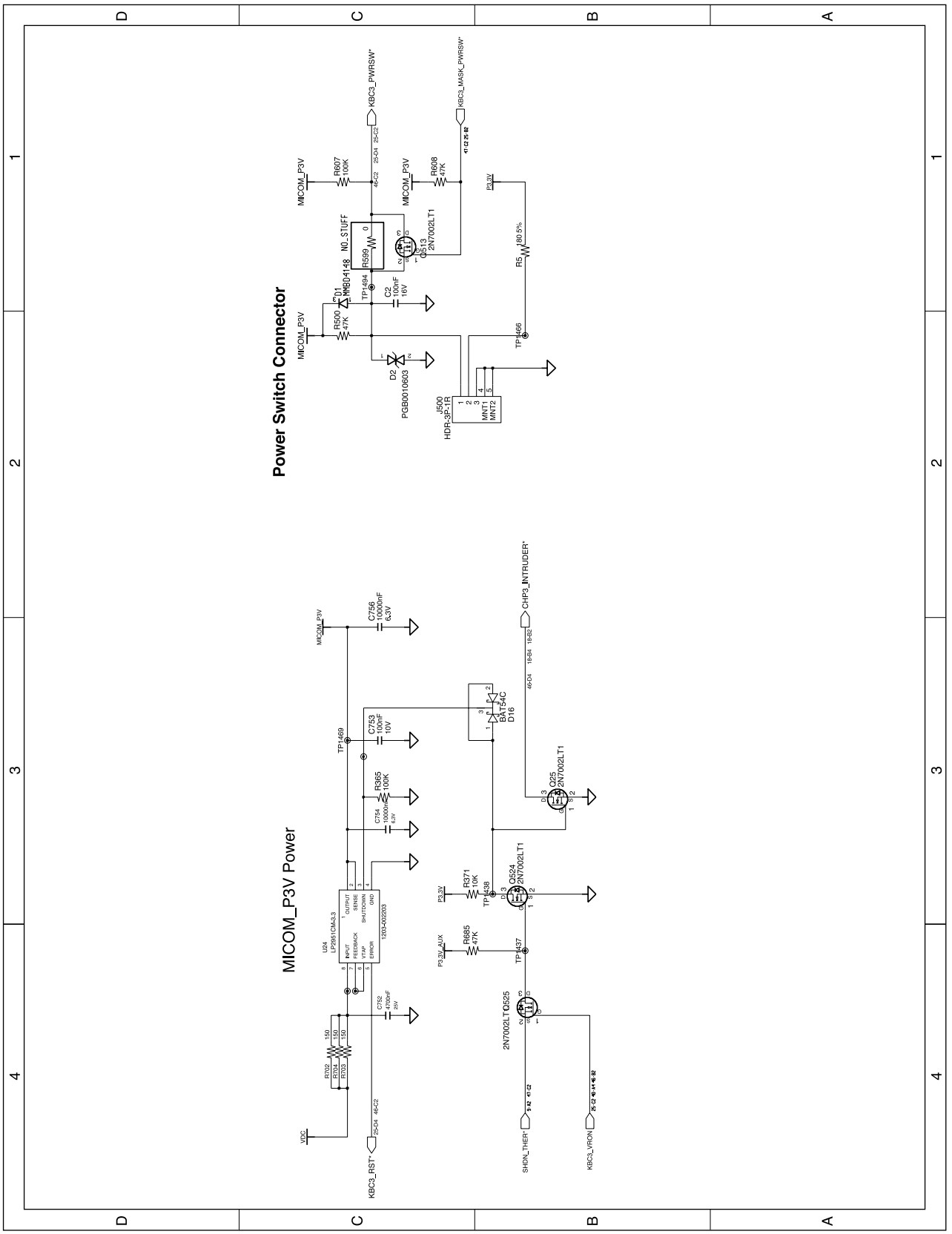
3-1-1(mm) Main Board Schematic Sheet 40 of 47(VCCP & GMCH Power)



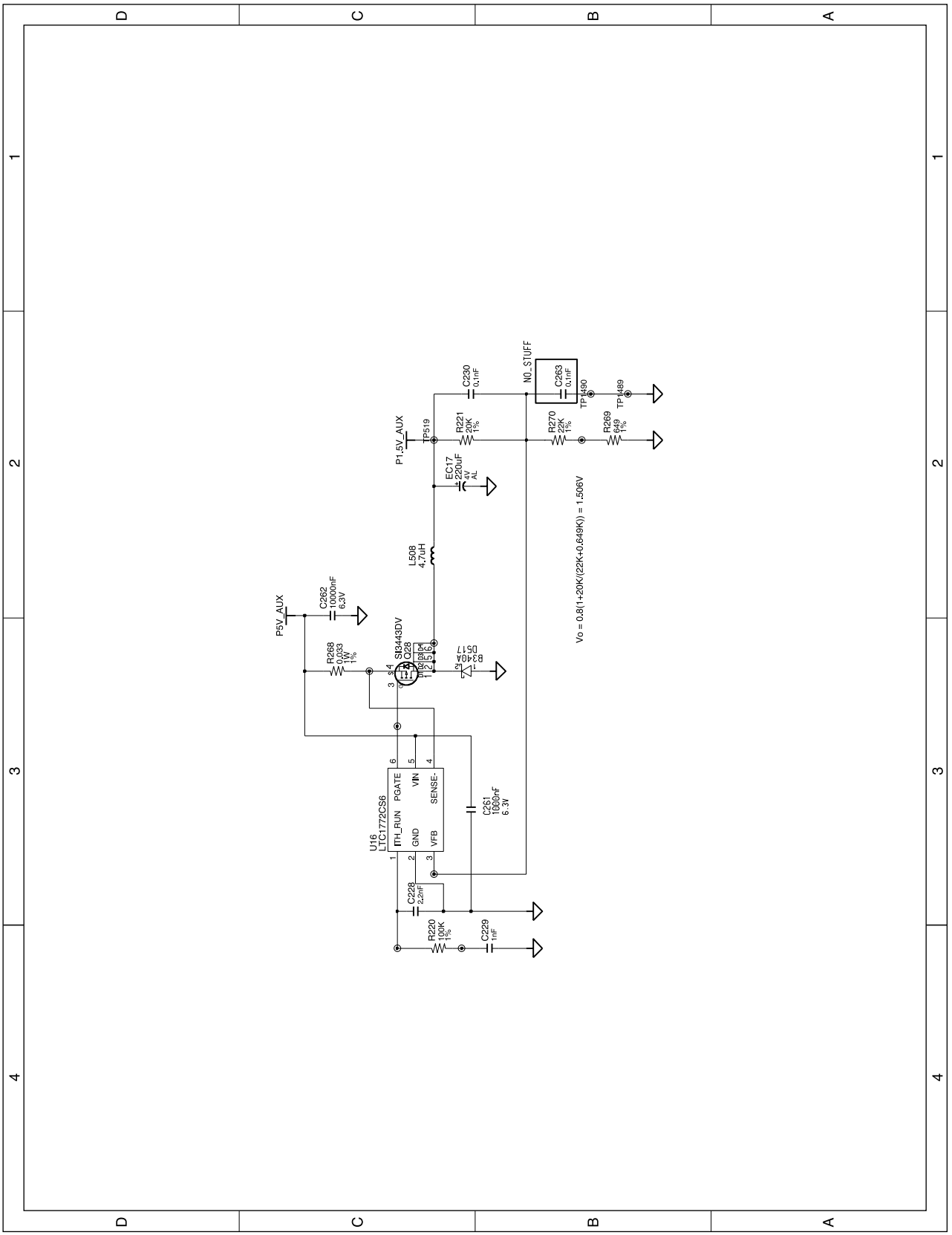
3-1-1(nn) Main Board Schematic Sheet 41 of 47(Switched Power)



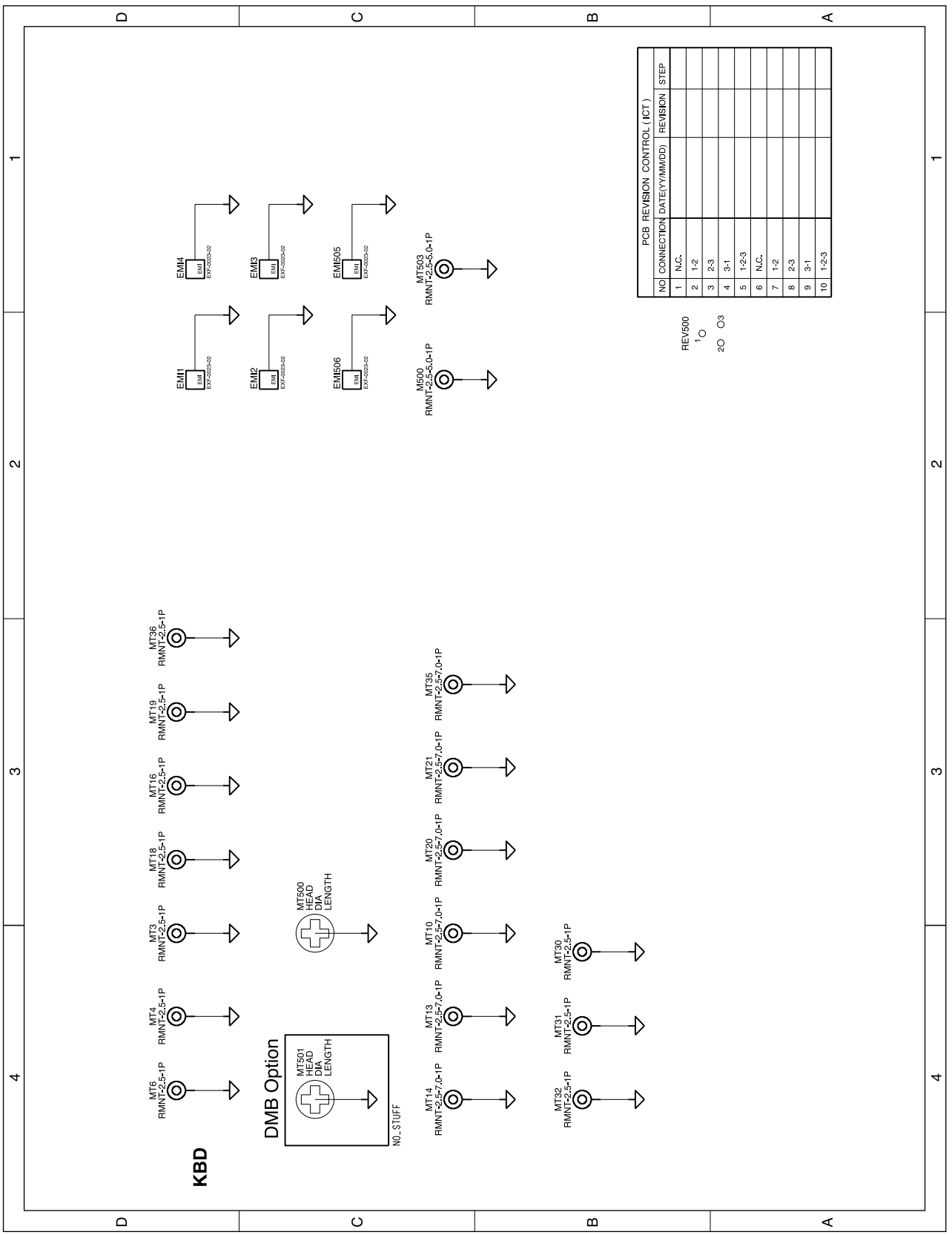
3-1-1(oo) Main Board Schematic Sheet 42 of 47(MICOM Power & Power S/W)



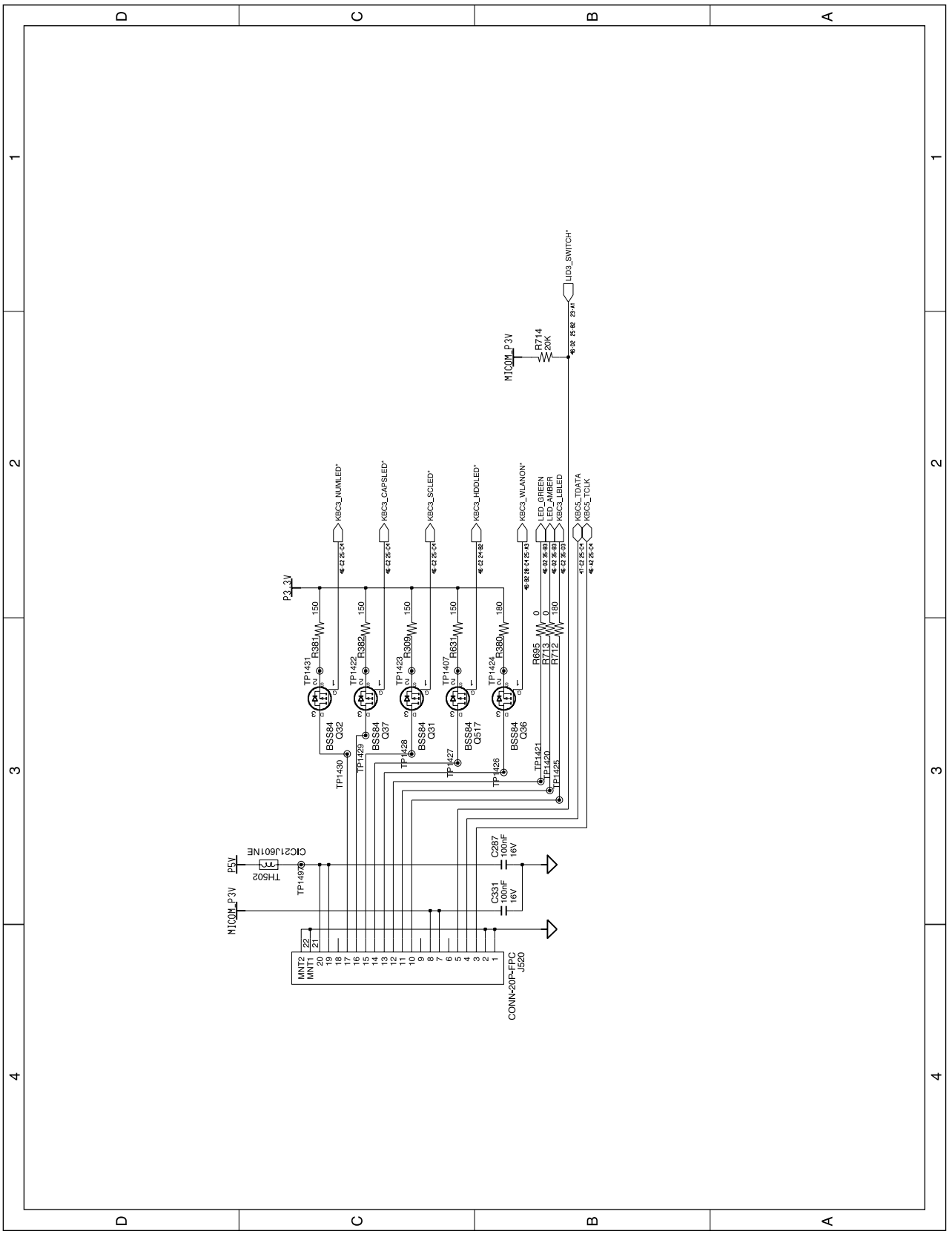
3-1-1(pp) Main Board Schematic Sheet 43 of 47(Always Power)



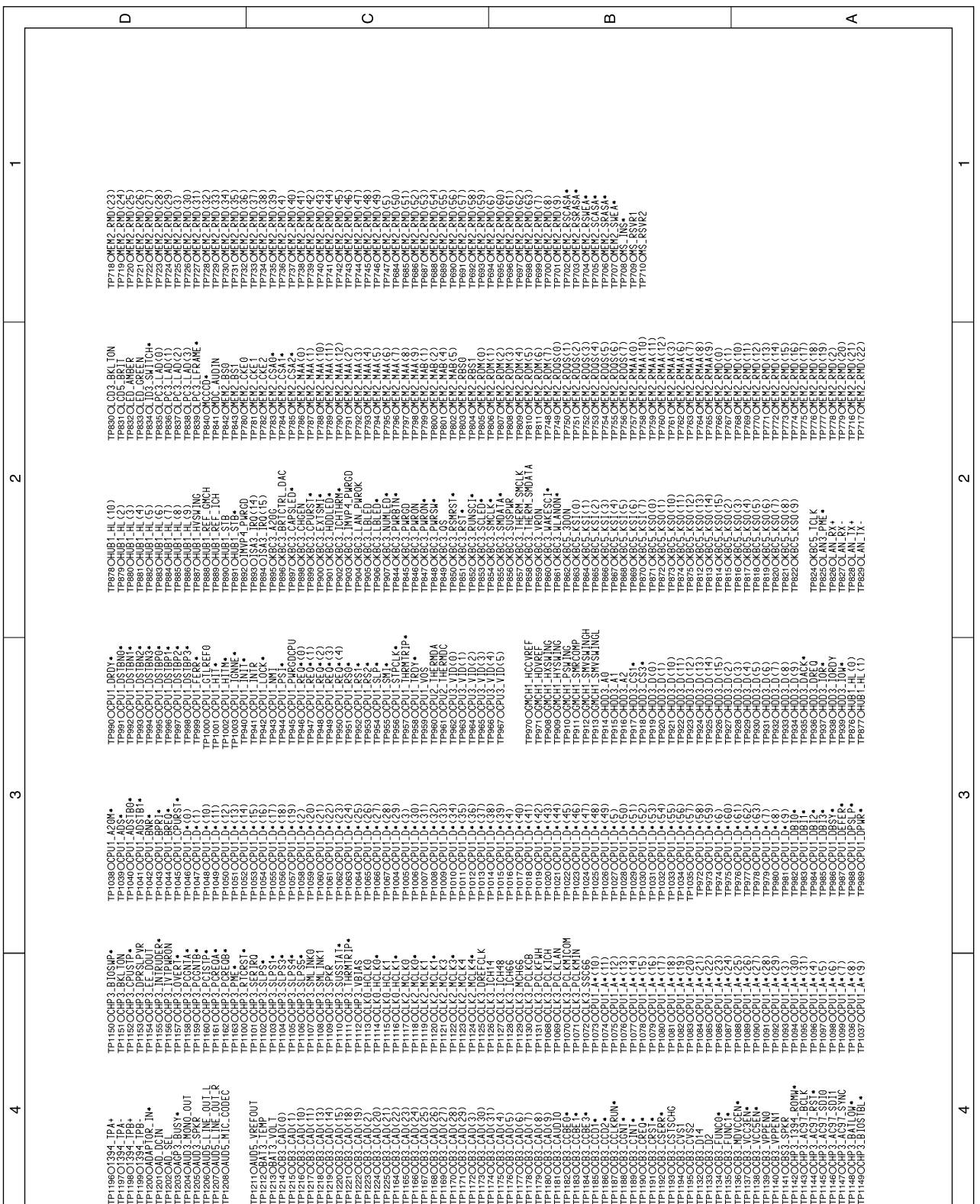
3-1-1(qq) Main Board Schematic Sheet 44 of 47(Mount Hole)



3-1-1(rr) Main Board Schematic Sheet 45 of 47(Sub-Board Connector)



3-1-1(ss) Main Board Schematic Sheet 46 of 47(TP)



3-1-1(tt) Main Board Schematic Sheet 47 of 47(TP)