

# 9 System Schematic Diagrams

## 9-1 System Main Board Schematic Diagrams

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NEON-R

CPU :DOTHAN-ULV

Chip Set :INTEL 915GMS

Remarks :

Model Name : NEON-R MAIN

PBA Name : BA41-00514A(GCE)

BA41-00515A(TPT)

Dev. Step : MP

Revision : 0.2

T.R. Date : 2005.5.27

DRAW	CHECK	APPROVAL
SY KIM	HJ KIM	YH JUNG

D

C

B

A

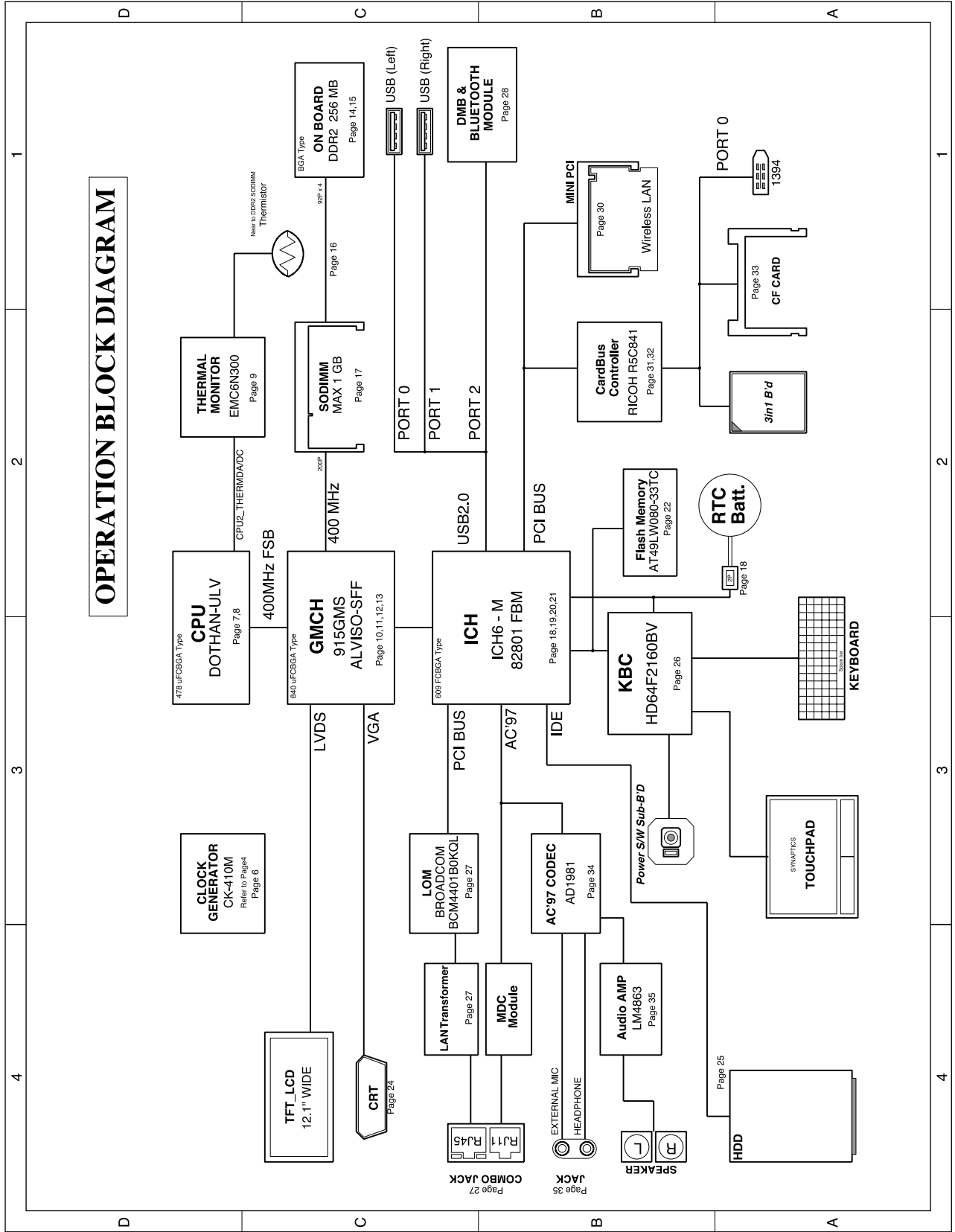
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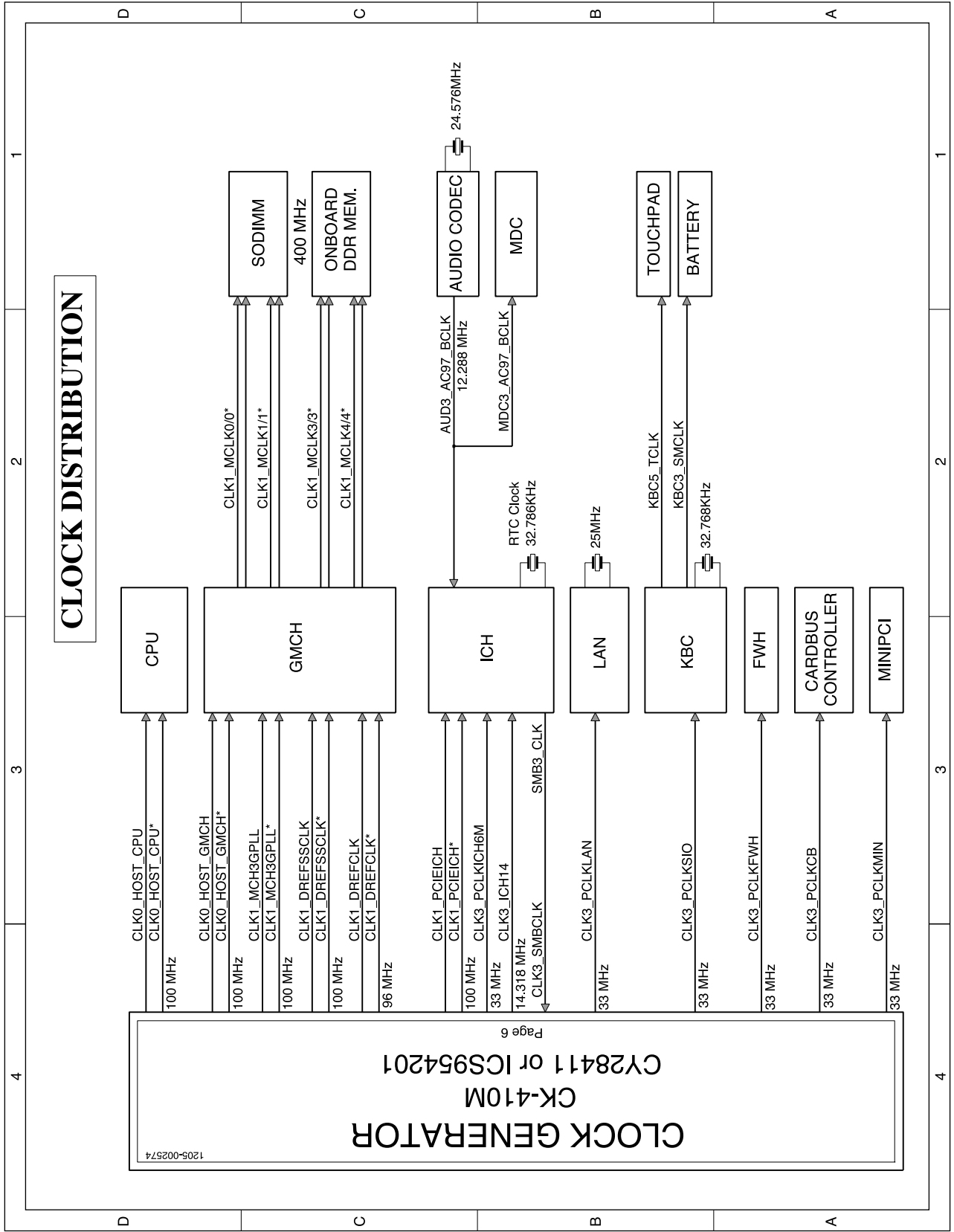
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9-1-1(a) Main Board Schematic Sheet 2 of 47(Operation Block Diagram)





9-1-1(c) Main Board Schematic Sheet 4 of 47(Clock Distribution)



BOARD INFORMATION

SCHEMATIC ANNOTATIONS AND BOARD INFORMATION

PCI Devices

Devices	IDSEL#	REQ/GNT#	Interrupts
CARDBUS	AD17	1	B,C,D
MiniPCI SLOT	AD23	2	C,D
USB	AD24(internal)	3	A
USB to PCI	AD24(internal)	Programmable	
USB Bridge	AD30(internal)		
Internal MAC	AD31(internal)		

I<sup>2</sup>C / SMB Address

Devices	Address	Hex	Bus
RTC	Master	-	SMBUS Master
CK240M (Clock Generator)	1101 001x	D2h	Clock, Unused Clock Output Disable
SODIMM0	1010 001x	A2h	-
MICOM	Master	-	-
WATER	011h	1R	-
TEMPERATURE MONITOR	0001 111x	5Eh	-

USB PORT Assign

Port Number	ASSIGNED TO	Port Number	ASSIGNED TO
GENERAL USB PORT	UHCL0 0	UHCL2 4	X
DMB / BLUETOOTH	UHCL1 2	UHCL3 6	X
	UHCL1 3	UHCL3 7	X

System Power States

Power Rail	Devices (Page Number)
P5V	ICH6-M(20) CRT(24) MICOM(26) DMB(28) USB(29) Mini-PCI(30) R5C4(31) STAC3752(34) Audio AMP(35) DDR POWER(38) LED B/D(44)
P3.3V	CLOCK(6) Thermal sensor(9) SODIMM(17) ICH6-M(19) FW(22) LCD(23) HDD(25) MICOM(26) DMB(28) MDC(29) Mini-PCI(30) R5C4(31) STAC3752(34) CPU VRM(40) MICOM POWER(43) LED B/D(44) BLUETOOTH(28)
P1.5V	CPU(8) 915GMS(11) ICH6-M(20)
P2.5V	915GMS(11) ICH6-M(20) LCD(23) CRT(24) MICOM(26)
P0.9V	DDR2 Termination(16) SODIMM(17)
P5V_AUX	Thermistor(9) ICH6-M(20) DDR POWER(38) PSV(42)
P3.3V_AUX	Thermal Monitor(9) ICH6-M(19) MICOM(26) LAN(27) MDC(29) Mini-PCI(30) LB LED(36) P3.3V(42) P2.5V(42) MICOM POWER(43)
P1.8V_AUX	915GMS(11) DDR2 ON BD(14) SODIMM(17)
P1.5V_AUX	ICH6-M(20) P1.5V(42)
VCCP	CLOCK(6) CPU(7) 915GMS(10) ICH6-M(18) MICOM(26)
VCC_CORE	CPU(8)

Voltage Rails

Power Rail	Descriptions
PRTC_BAT	3.3V (can drop to 2.0V min. in Q3 state) supply for the RTC well.
RTC_PWR3.3V	3.3V supply power for RTC (19V) power supply
P5V_AUX	5.0V power rail (off in S4-S5) Dual rail of MAX1616, VDDC is removed, it will be off)
P3.3V_AUX	3.3V power rail (off in S4-S5) Dual rail of MAX1616, VDDC is removed, it will be off)
P1.8V_AUX	GMCH-DDR II Power Source (off in S4-S5)
P1.5V_AUX	GMCH-DDR II Power Source (off in S4-S5)
P3.3V	3.3V switched power rail (off in S3-S5)
P2.5V	3.3V switched power rail (off in S3-S5)
P1.5V	1.5V switched power rail (off in S3-S5)
P0.9V	DDR2 Termination
P2.5V	3.3V power rail (off in S3-S5)
VCC_CORE	Core supply for DOTHAN CPU (0.9V)
MICOM_P1V	1.5V Analog power rail for MICOM
P1.5V_DMI	1.5V DC power (Inverter)
VDDC	3.3V (Direct Media Interface Compensation)
VCC_CRT	3V (CRT)
S63_VCC	3.3V (3in BD)
VDDC	3V (TAC752)
P1.8V_AUX	1.8V (Audio AMP)
P1.5V_AUX	3.3V (BLUETOOTH)

CPU Core Voltage Table

VDD5	VDD4	VDD3	VDD2	VDD1	VDD0	Voltage	VDD5	VDD4	VDD3	VDD2	VDD1	VDD0	Voltage
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	1.180 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	1.160 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	1.164 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	1.148 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	1.148 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	1.116 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	1.116 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	1.084 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	1.084 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	1.056 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	1.056 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	1.020 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	1.020 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.988 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.972 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.972 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.936 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.936 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.892 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.892 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.860 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.860 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.844 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.844 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.812 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.812 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.788 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.788 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.764 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.764 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.728 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.728 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.716 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.716 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.700 V
0	0	0	0	0	0	1.200 V	1	0	0	0	0	0	0.700 V

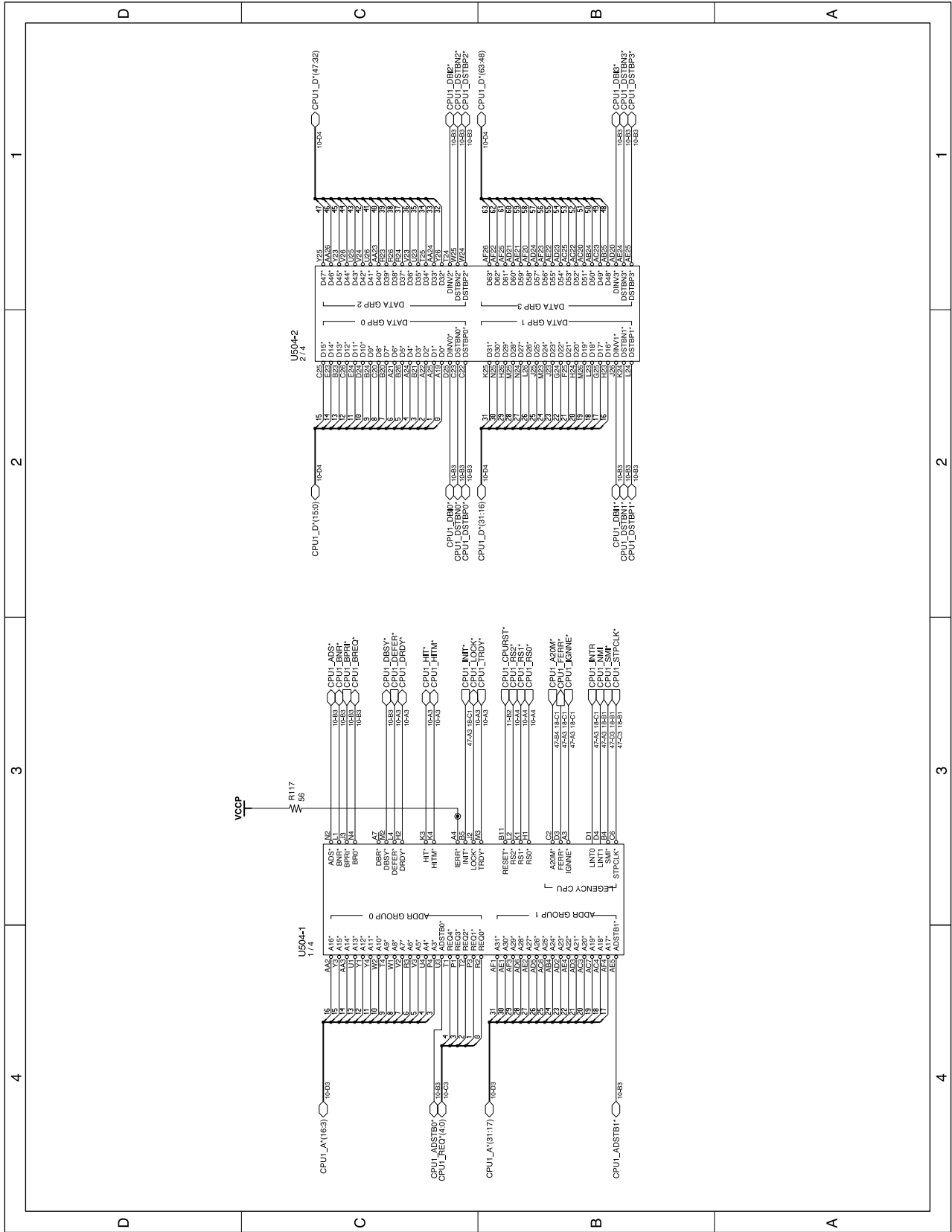
DOTHAN-JULY  
HIGH FREQUENCY MODE

DOTHAN-JULY  
LOW FREQUENCY MODE

DOTHAN-JULY  
Refer to pages

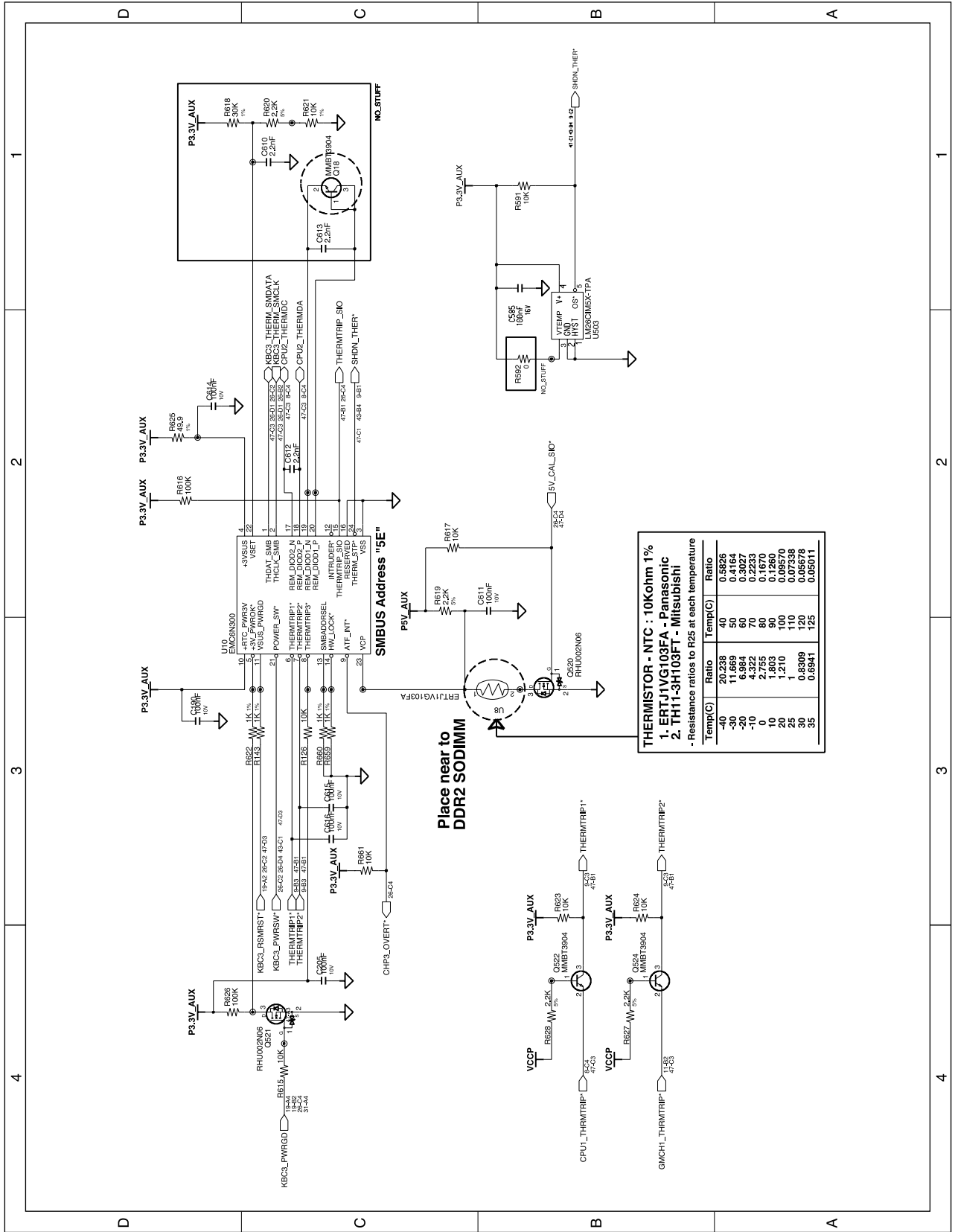


9-1-1(f) Main Board Schematic Sheet 7 of 47(DOTHAN-ULV)

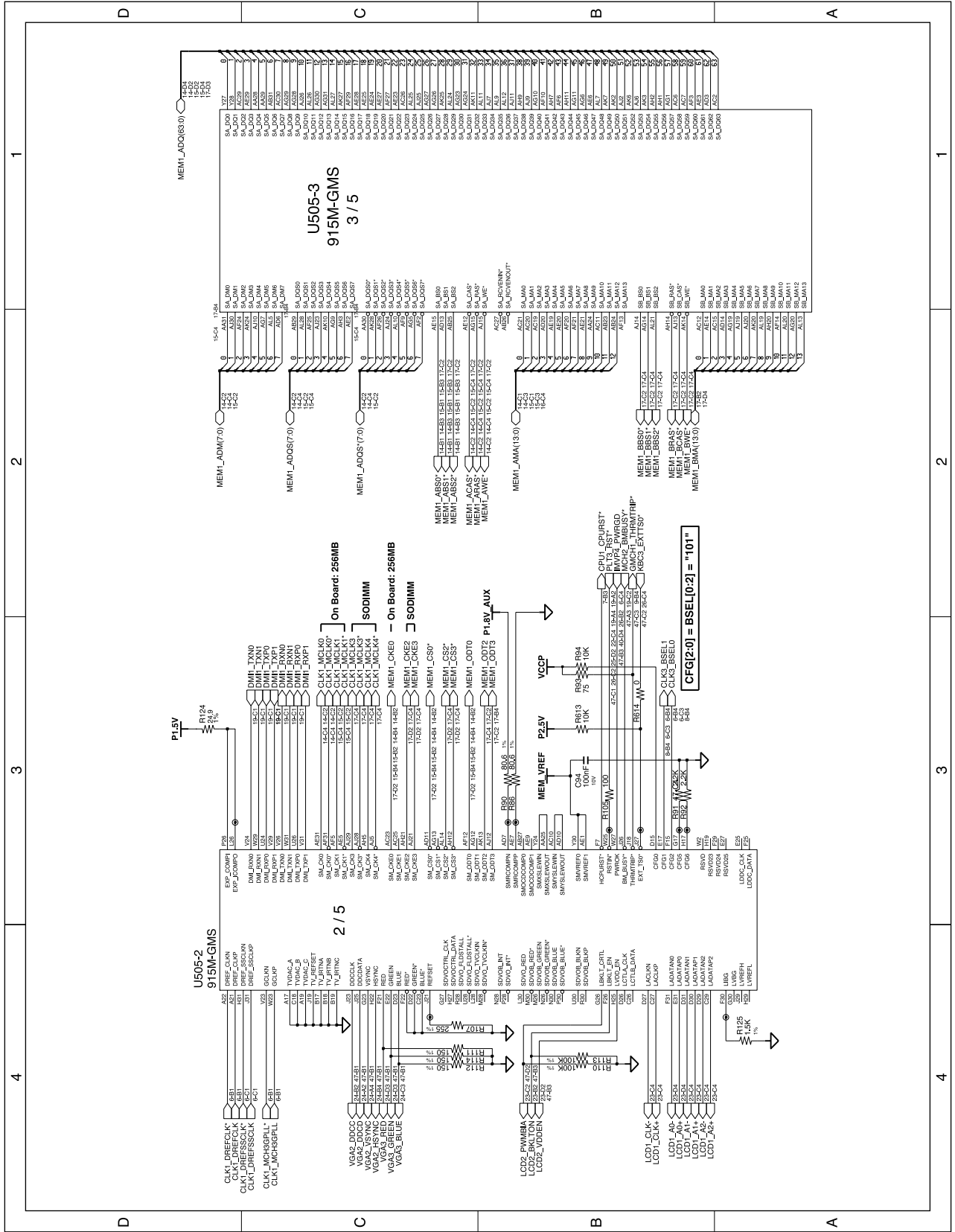




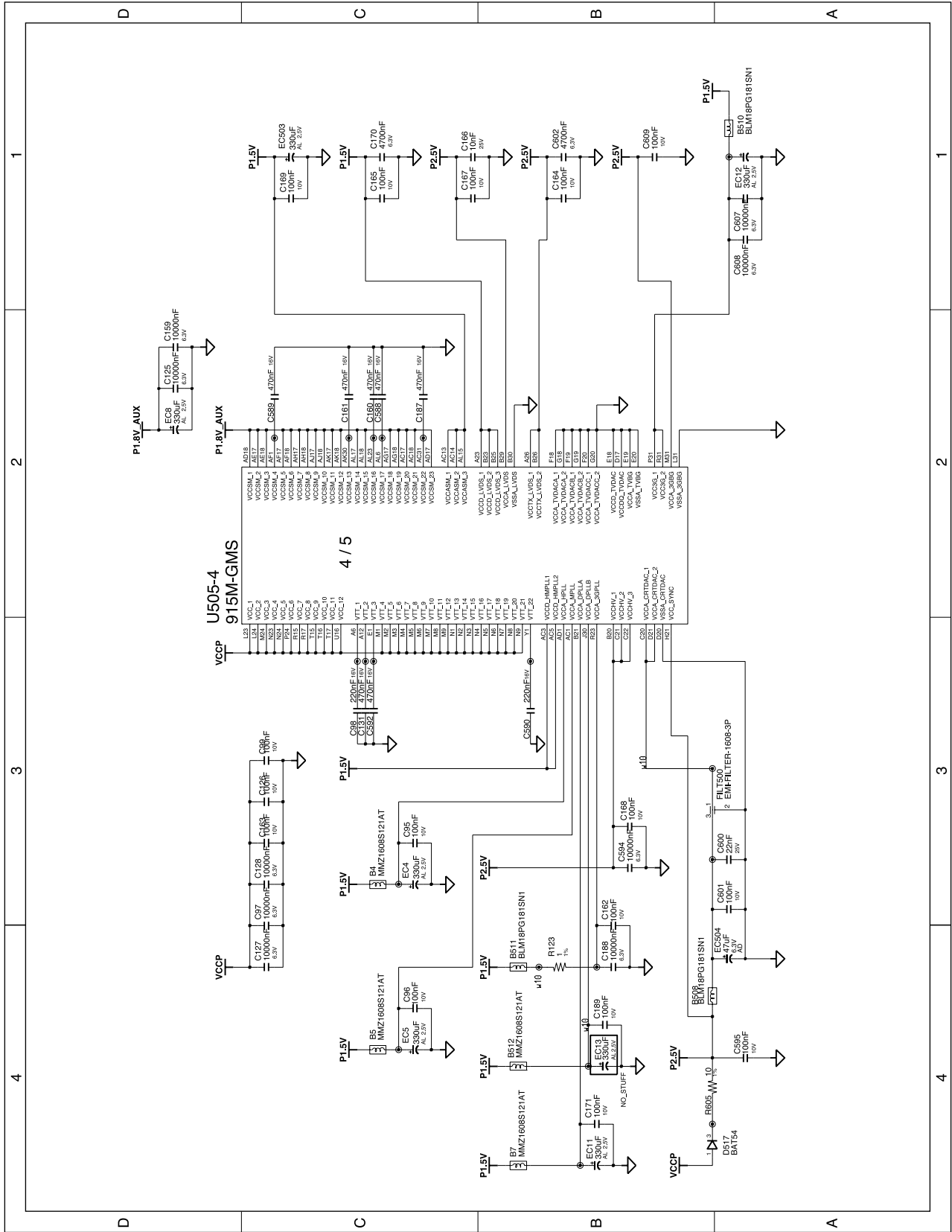
9-1-1(h) Main Board Schematic Sheet 9 of 47(Thermal Monitor)



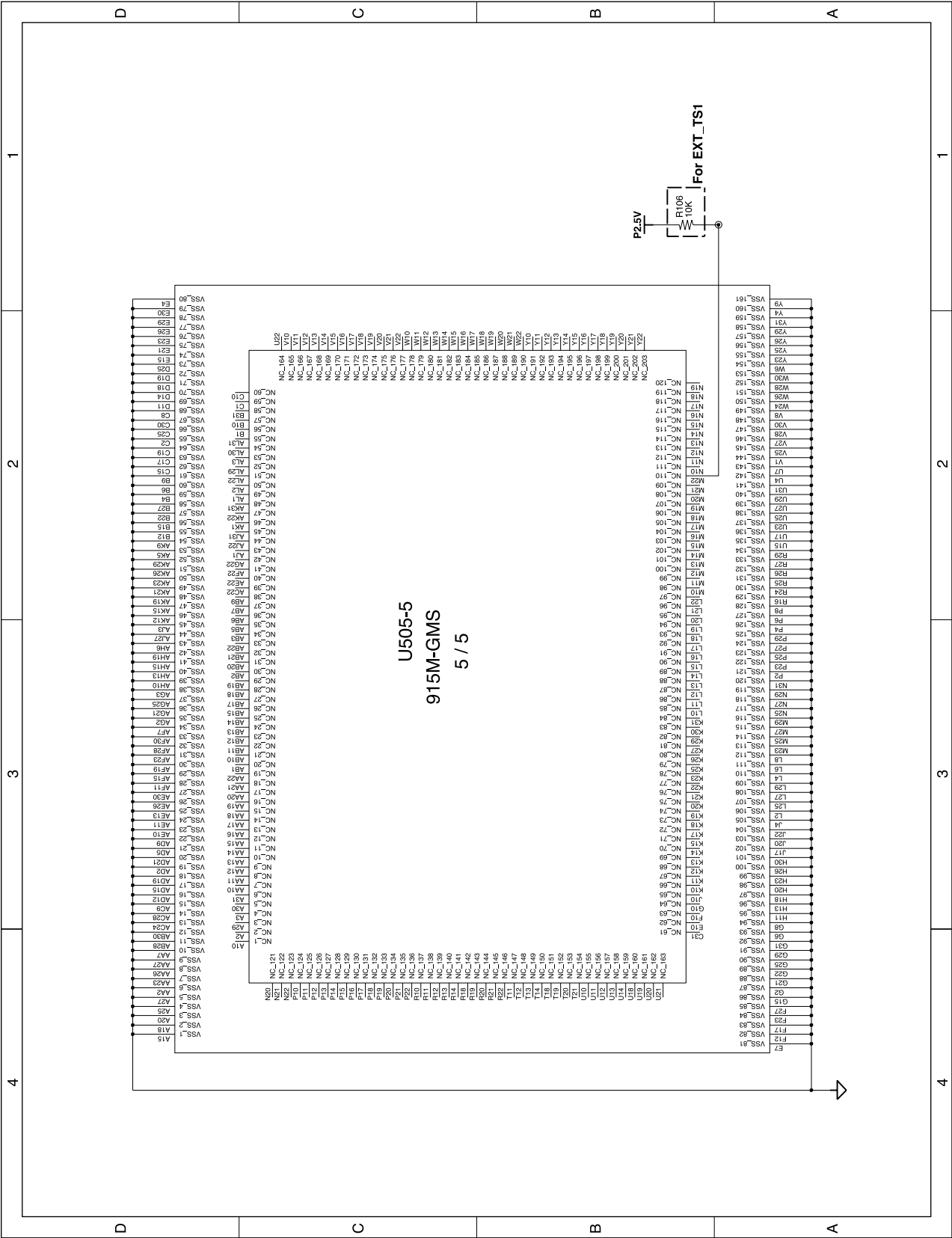




9-1-1(k) Main Board Schematic Sheet 12 of 47(Alviso-SFF)



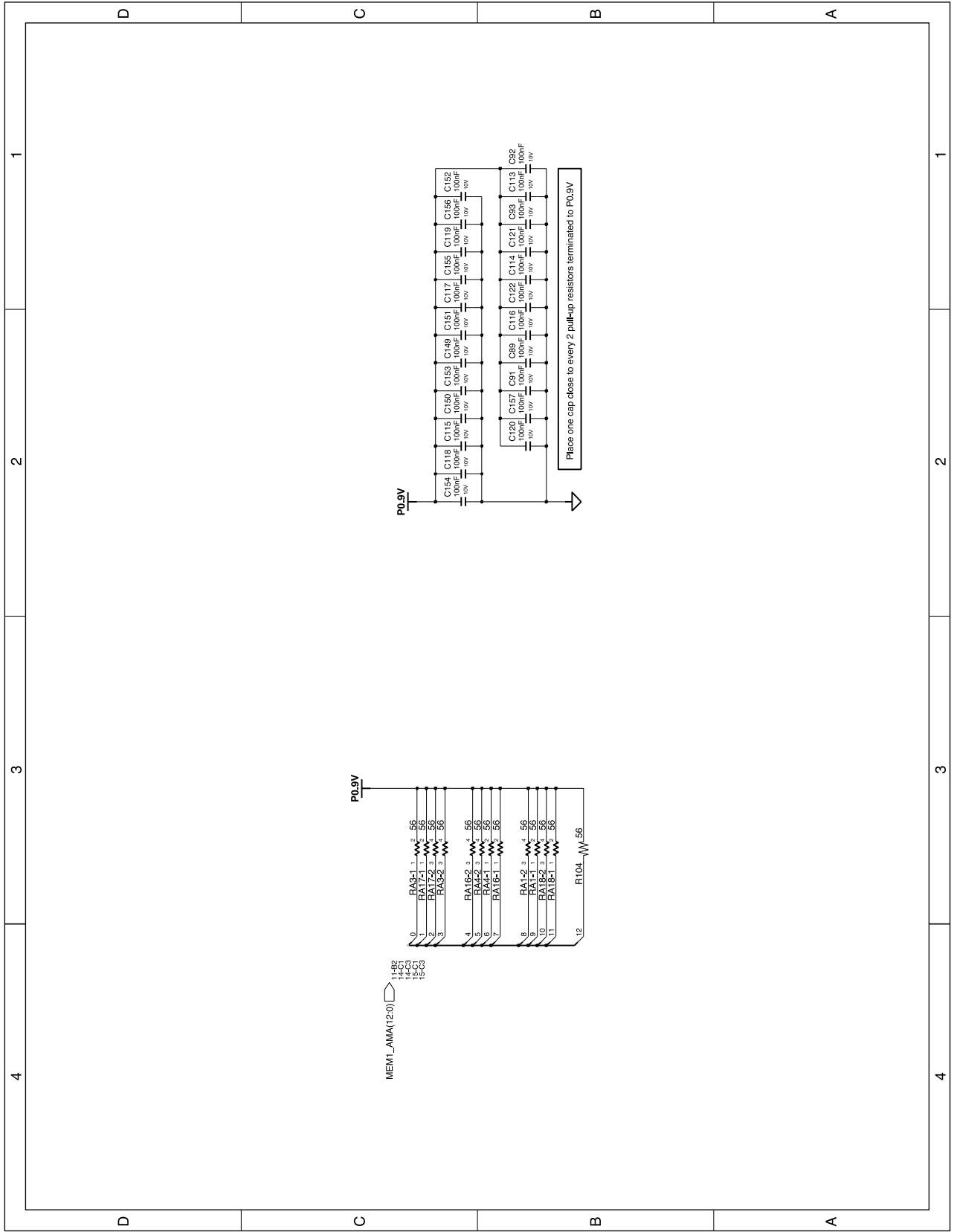
9-1-1(I) Main Board Schematic Sheet 13 of 47(Alviso-SFF)





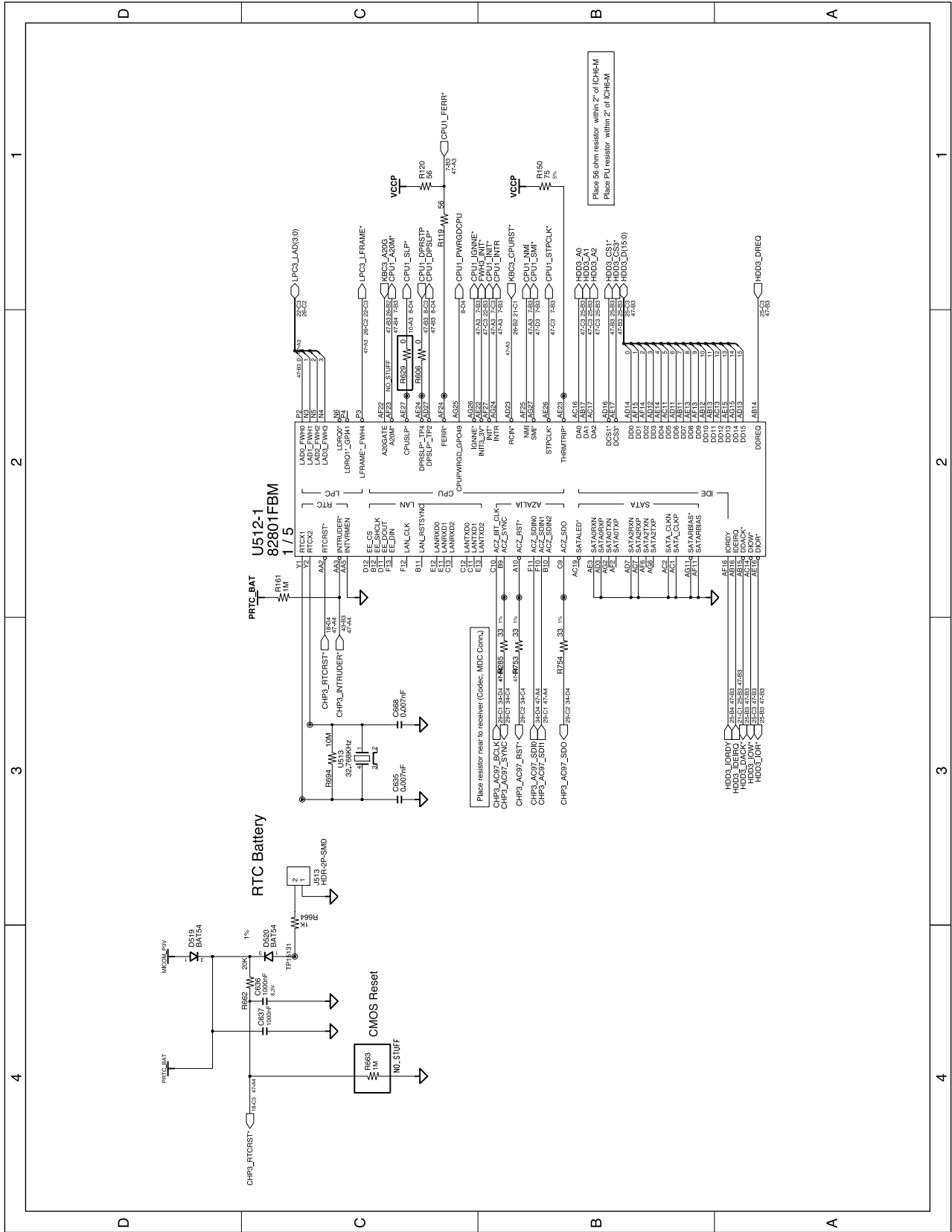


9-1-1(o) Main Board Schematic Sheet 16 of 47(DDR2 Termination)





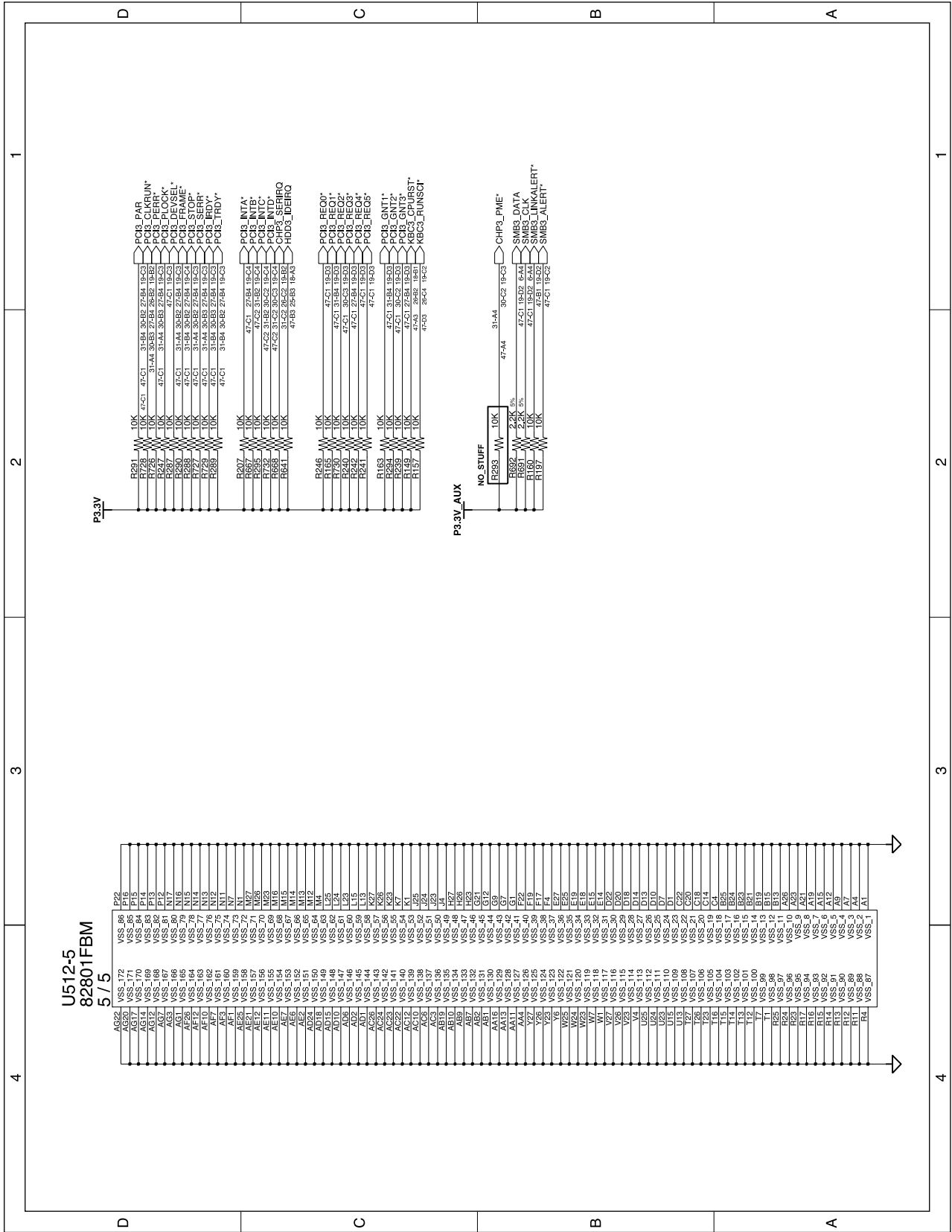
9-1-1(q) Main Board Schematic Sheet 18 of 47(ICH6-M)



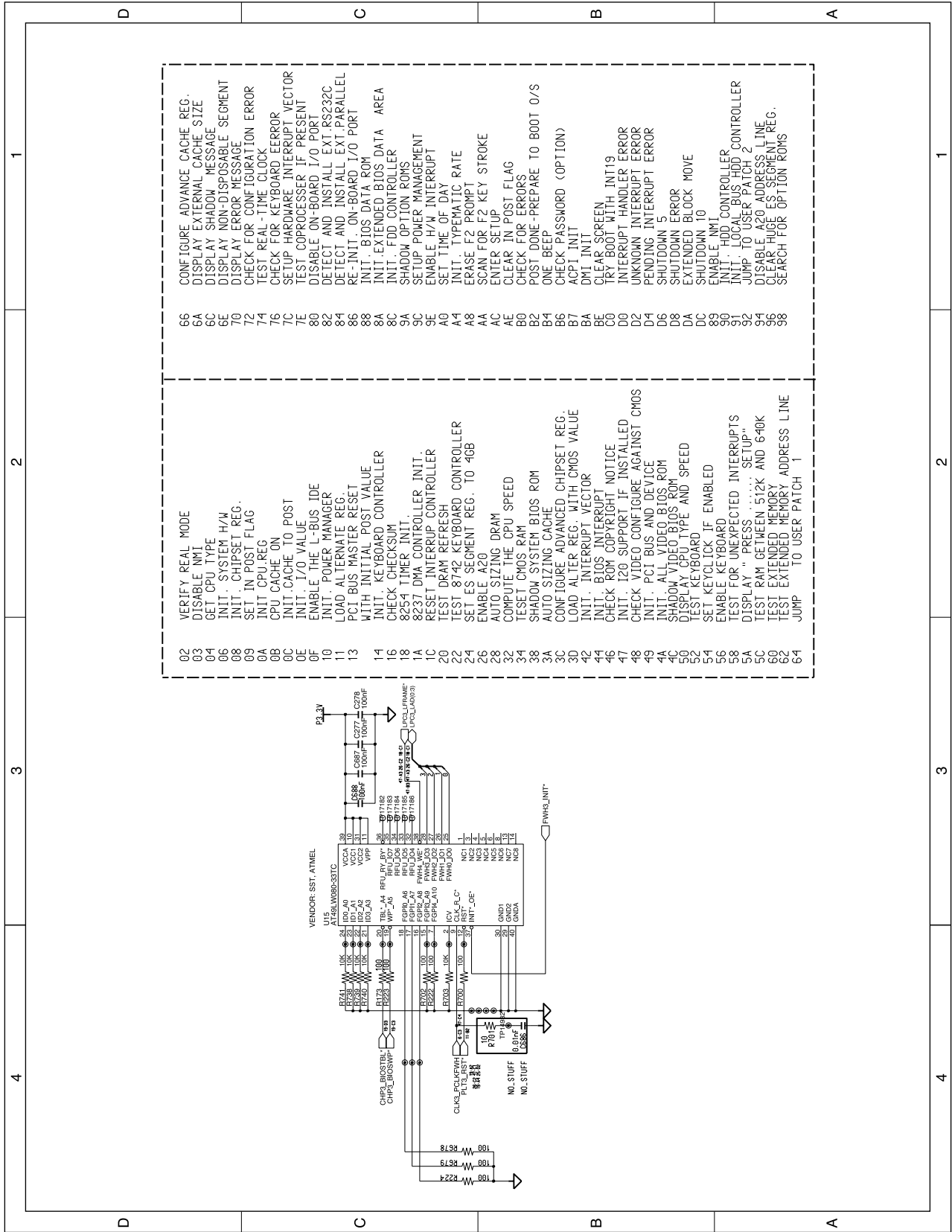




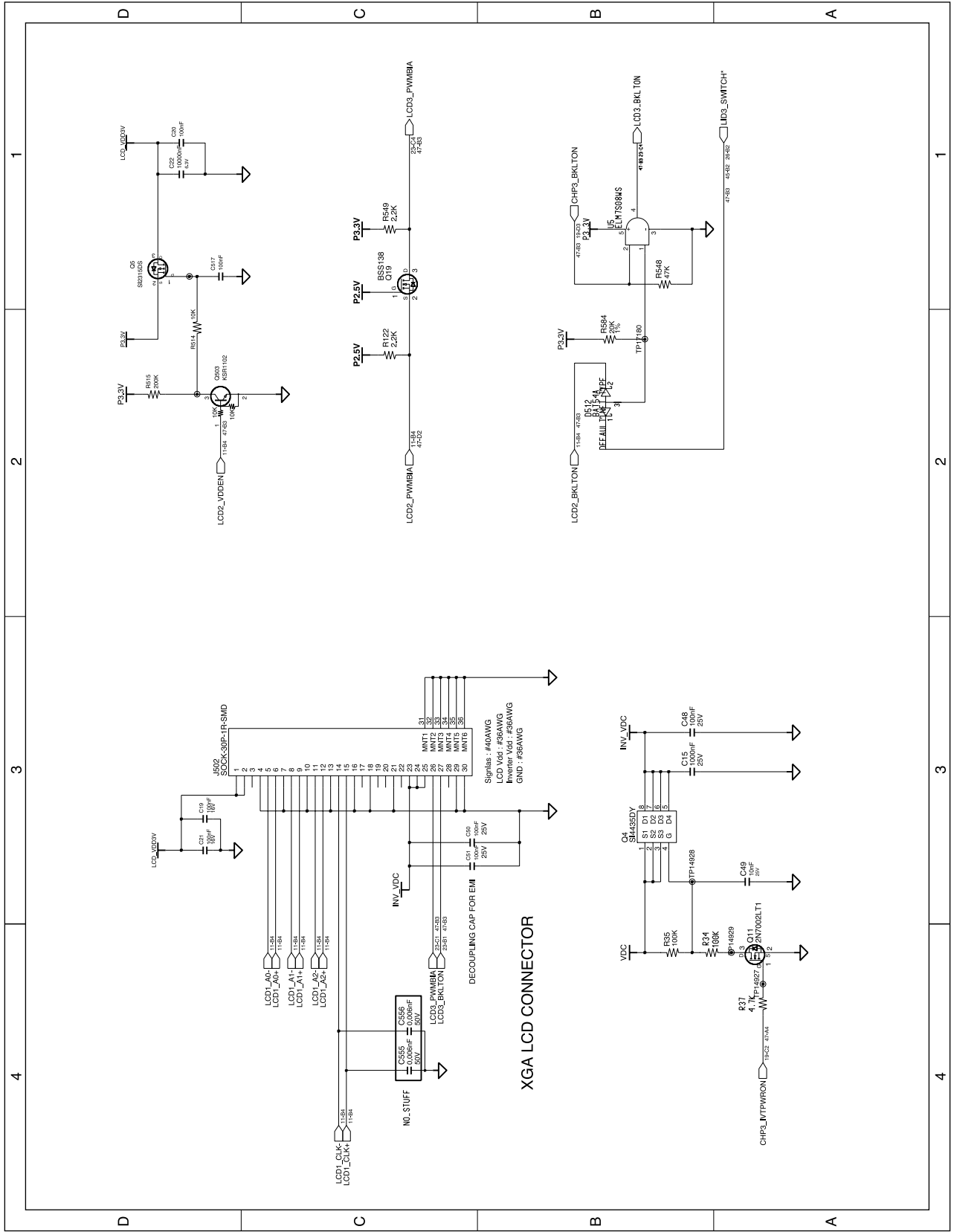
## 9-1-1(t) Main Board Schematic Sheet 21 of 47(ICH6-M)



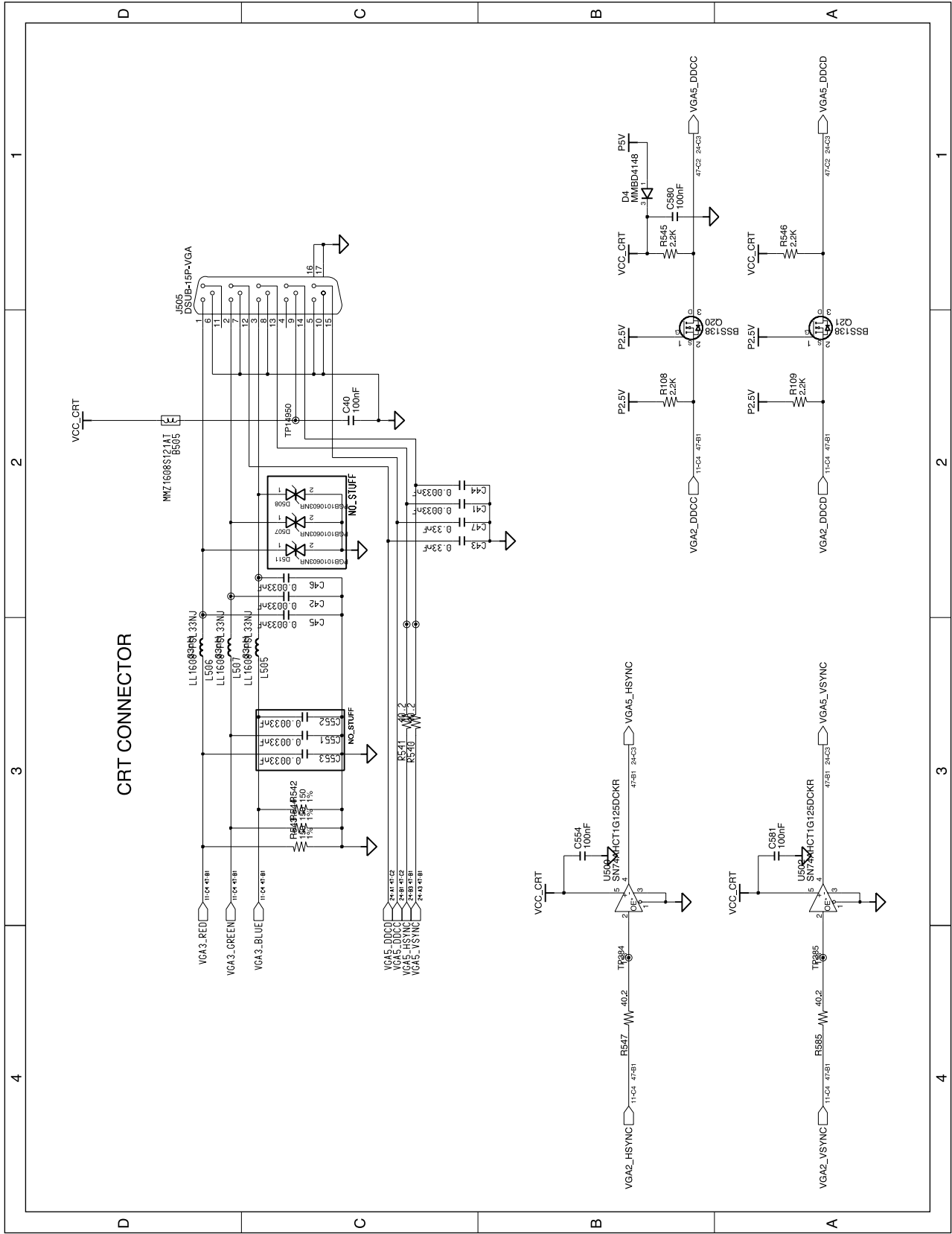
9-1-1(u) Main Board Schematic Sheet 22 of 47(FWH)



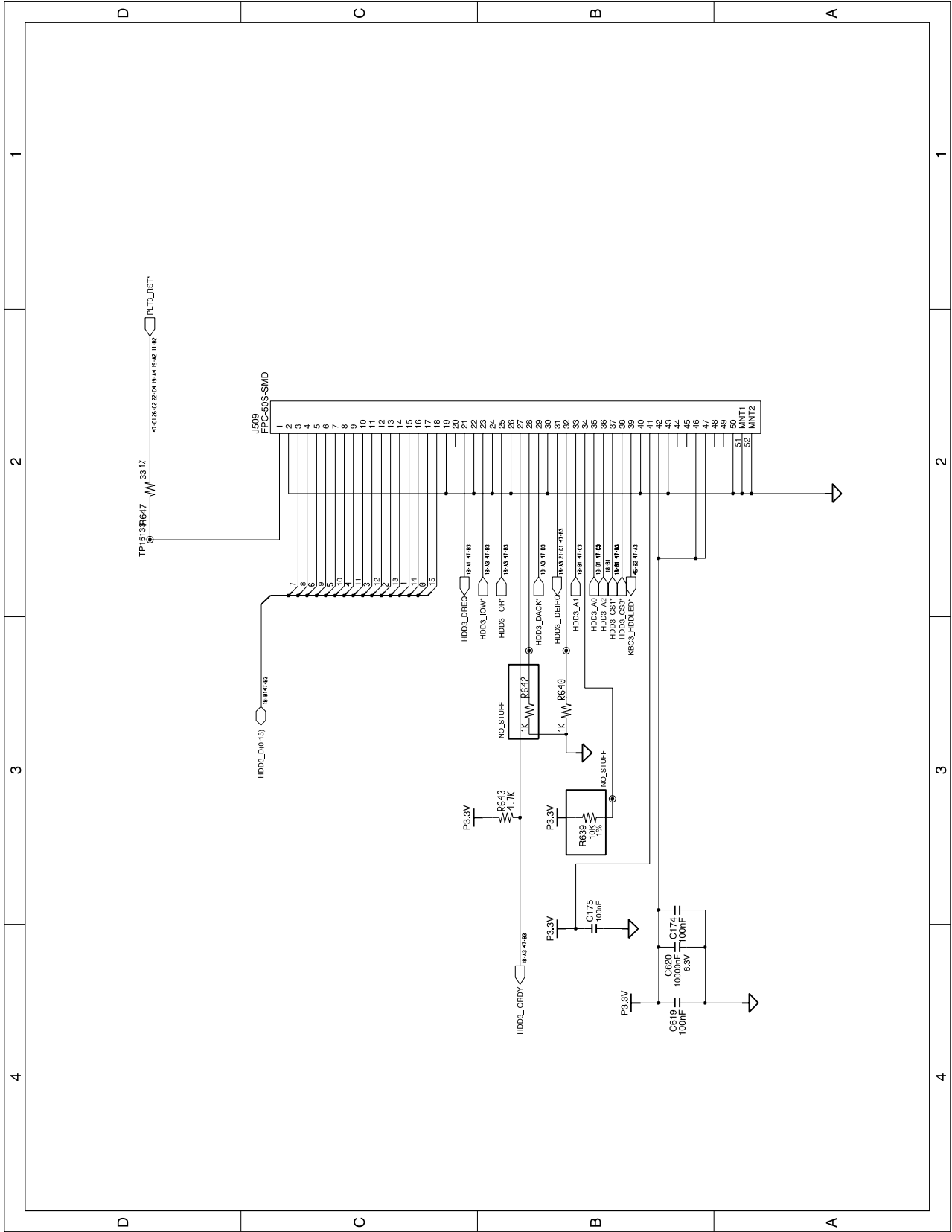
9-1-1(v) Main Board Schematic Sheet 23 of 47(LCD[LVDS] Conn.)



9-1-1(w) Main Board Schematic Sheet 24 of 47(CRT Conn.)

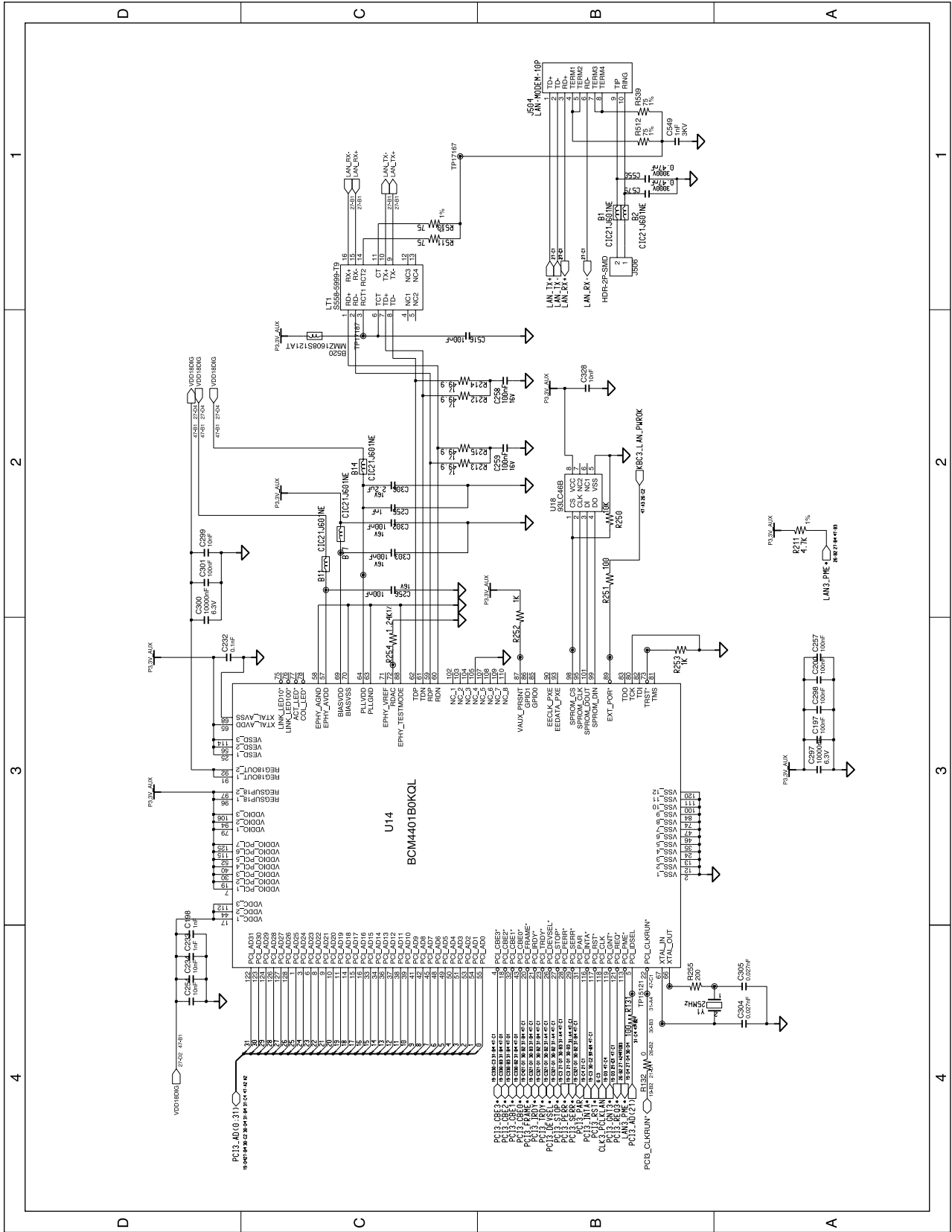


9-1-1(x) Main Board Schematic Sheet 25 of 47(HDD Connector)

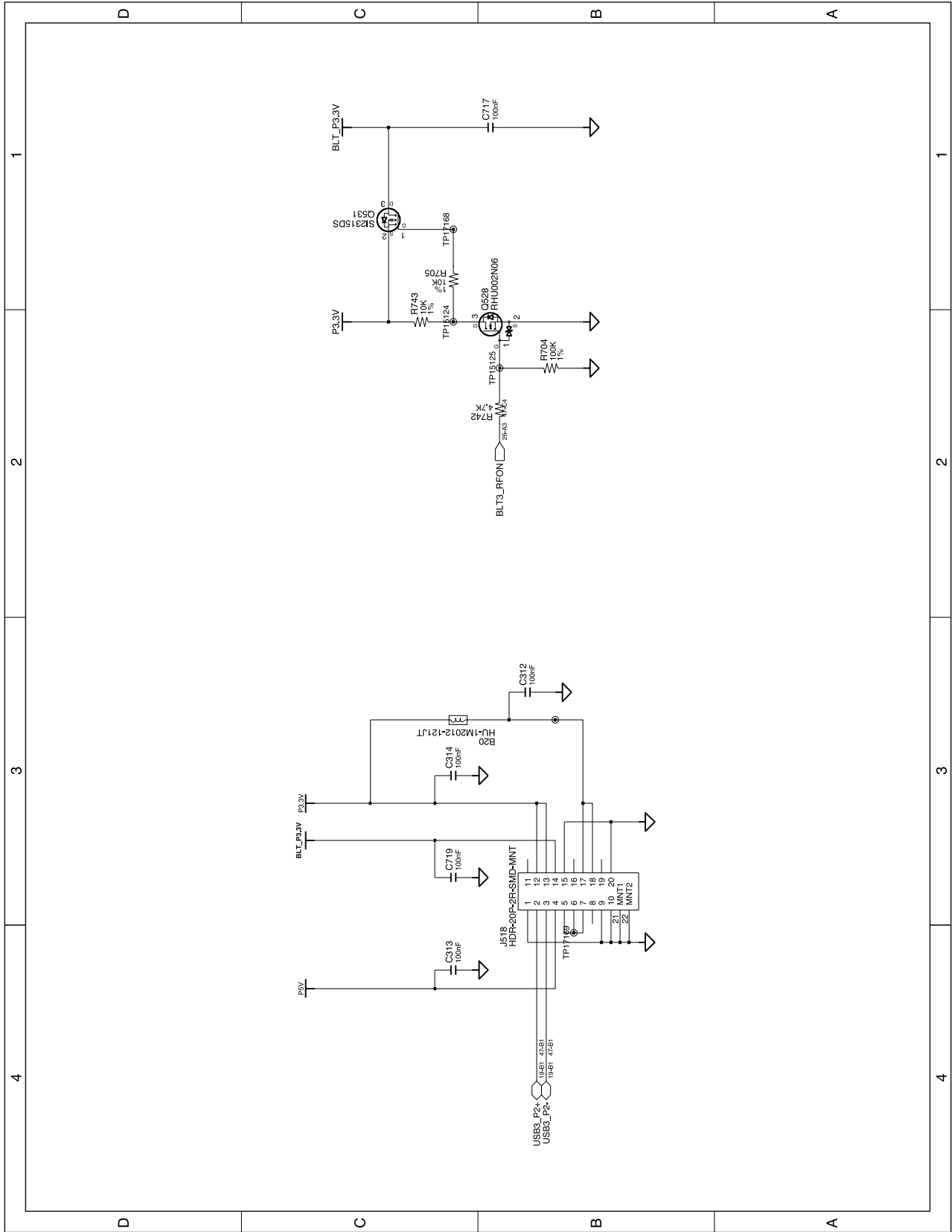




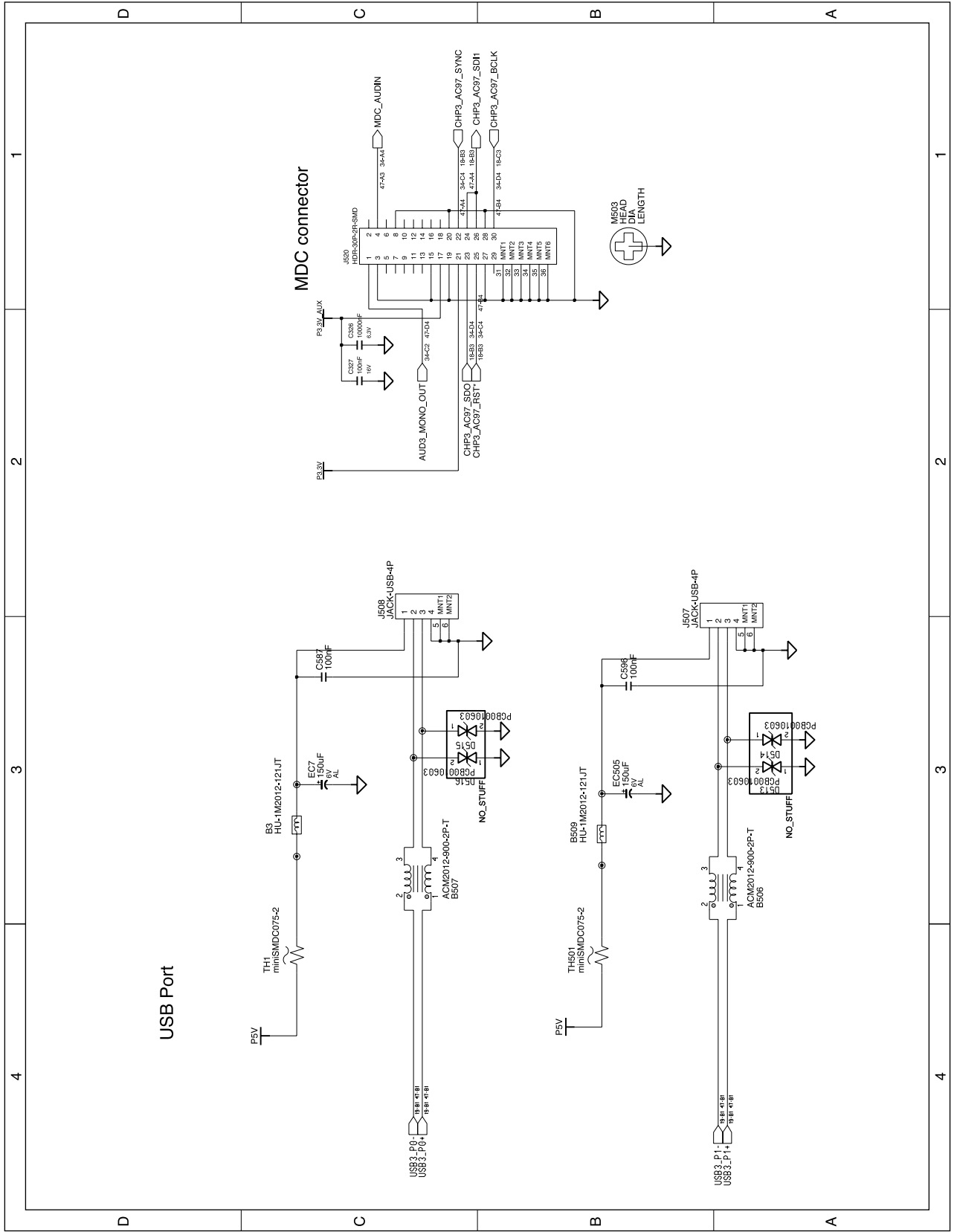
9-1-1(z) Main Board Schematic Sheet 27 of 47(LAN)



9-1-1(aa)Main Board Schematic Sheet 28 of 47(DMB & Bluetooth)



9-1-1(bb) Main Board Schematic Sheet 29 of 47(USB & MDC)







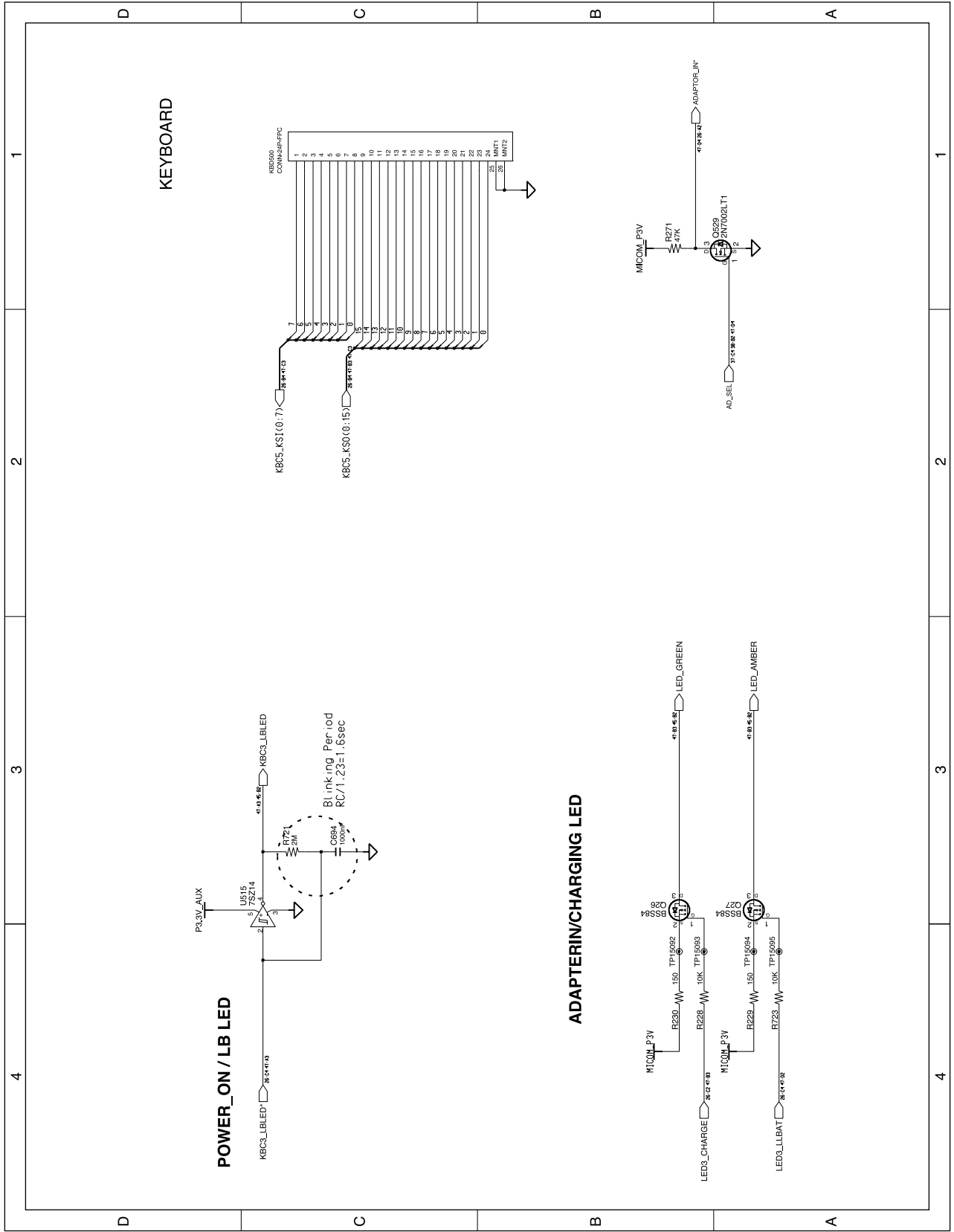






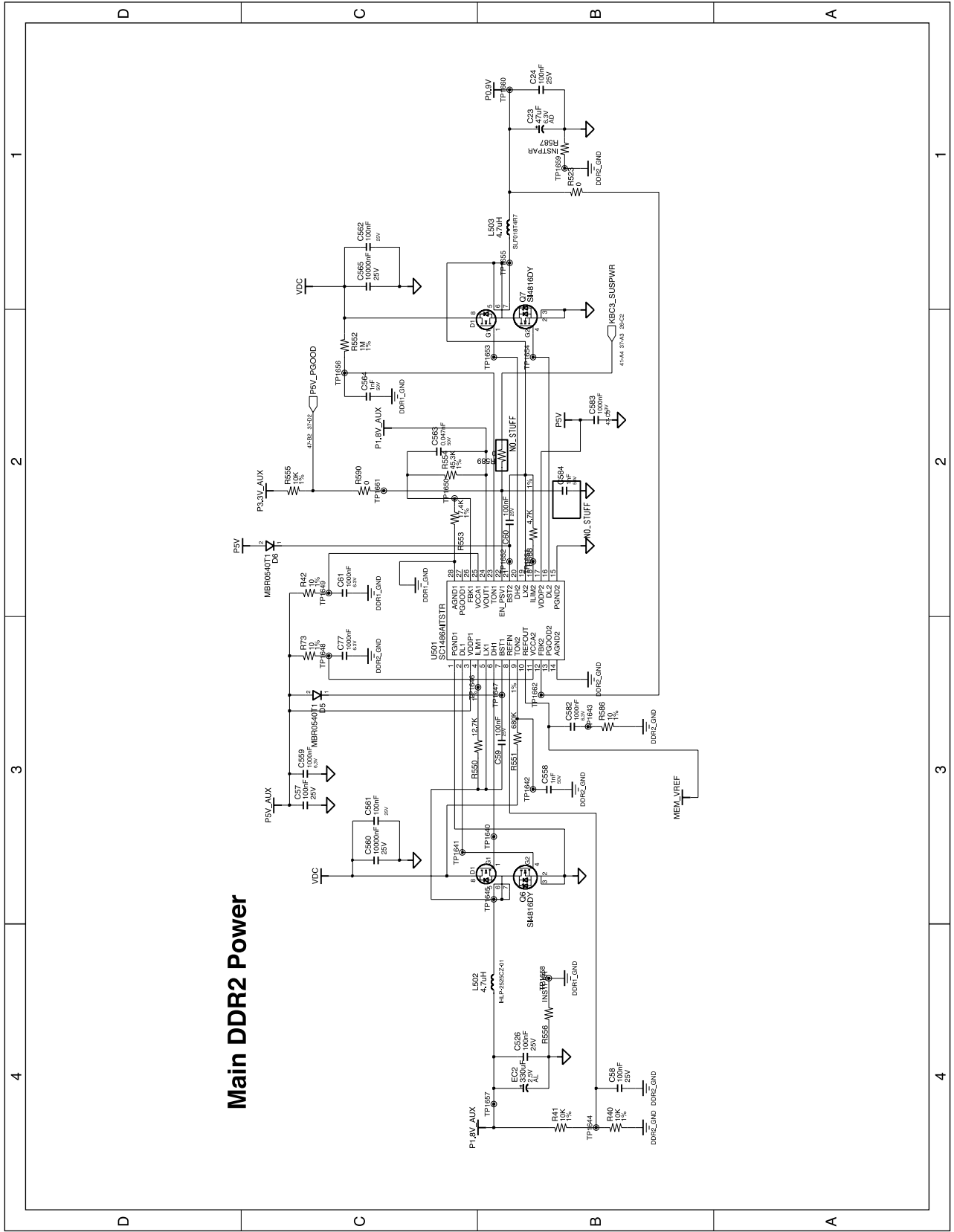


9-1-1(ii) Main Board Schematic Sheet 36 of 47(Keyboard Connector)



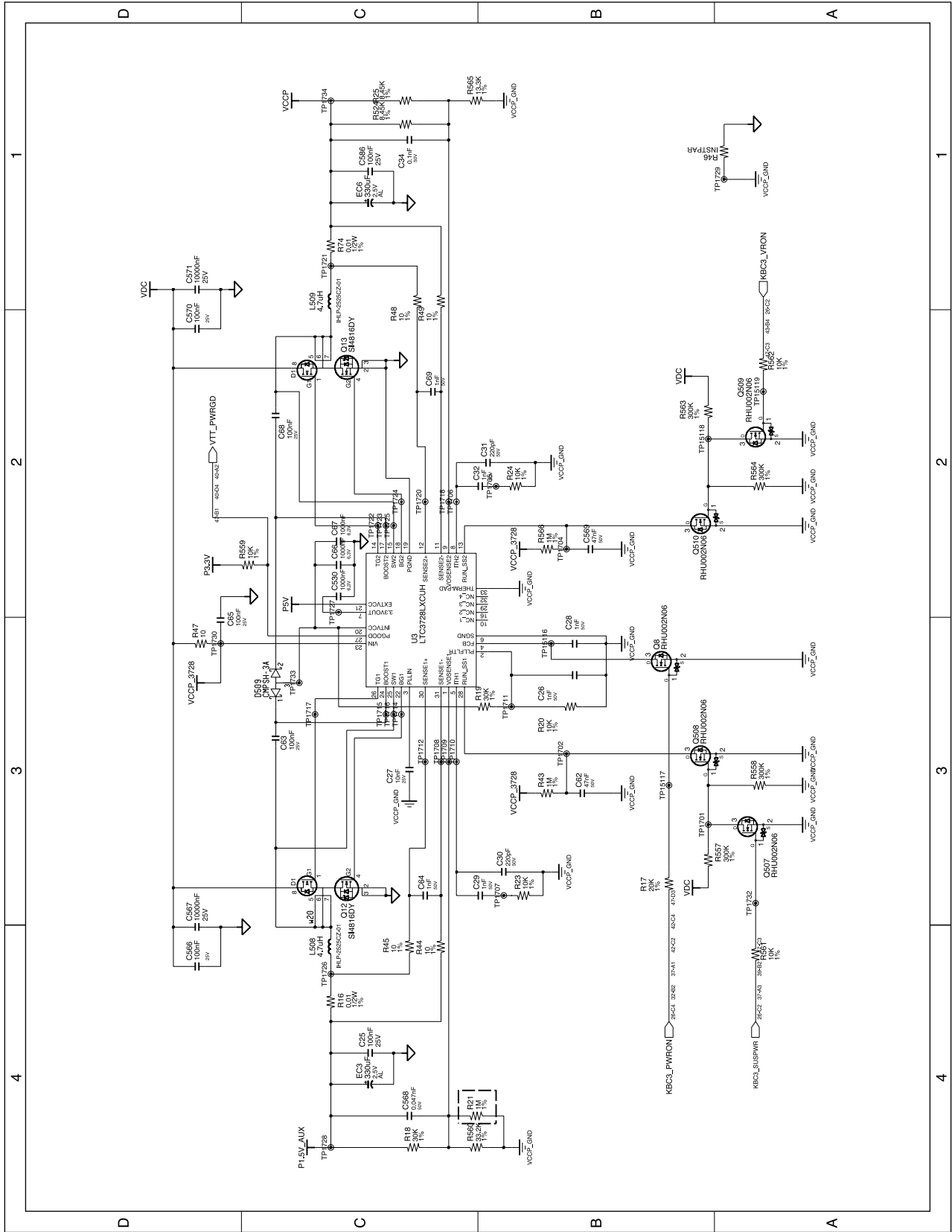




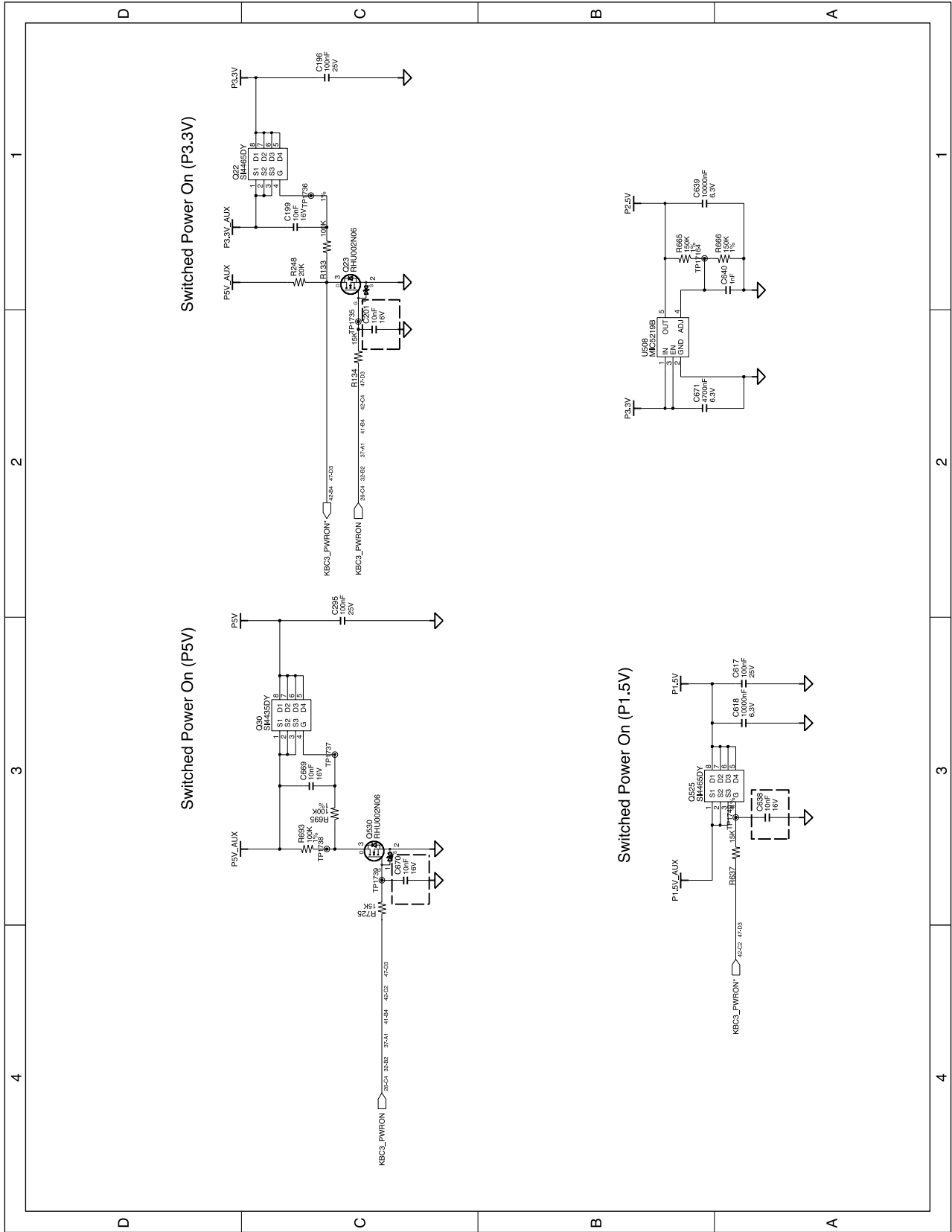




9-1-1(nn) Main Board Schematic Sheet 41 of 47(1.5V AUX & VCCP Power)

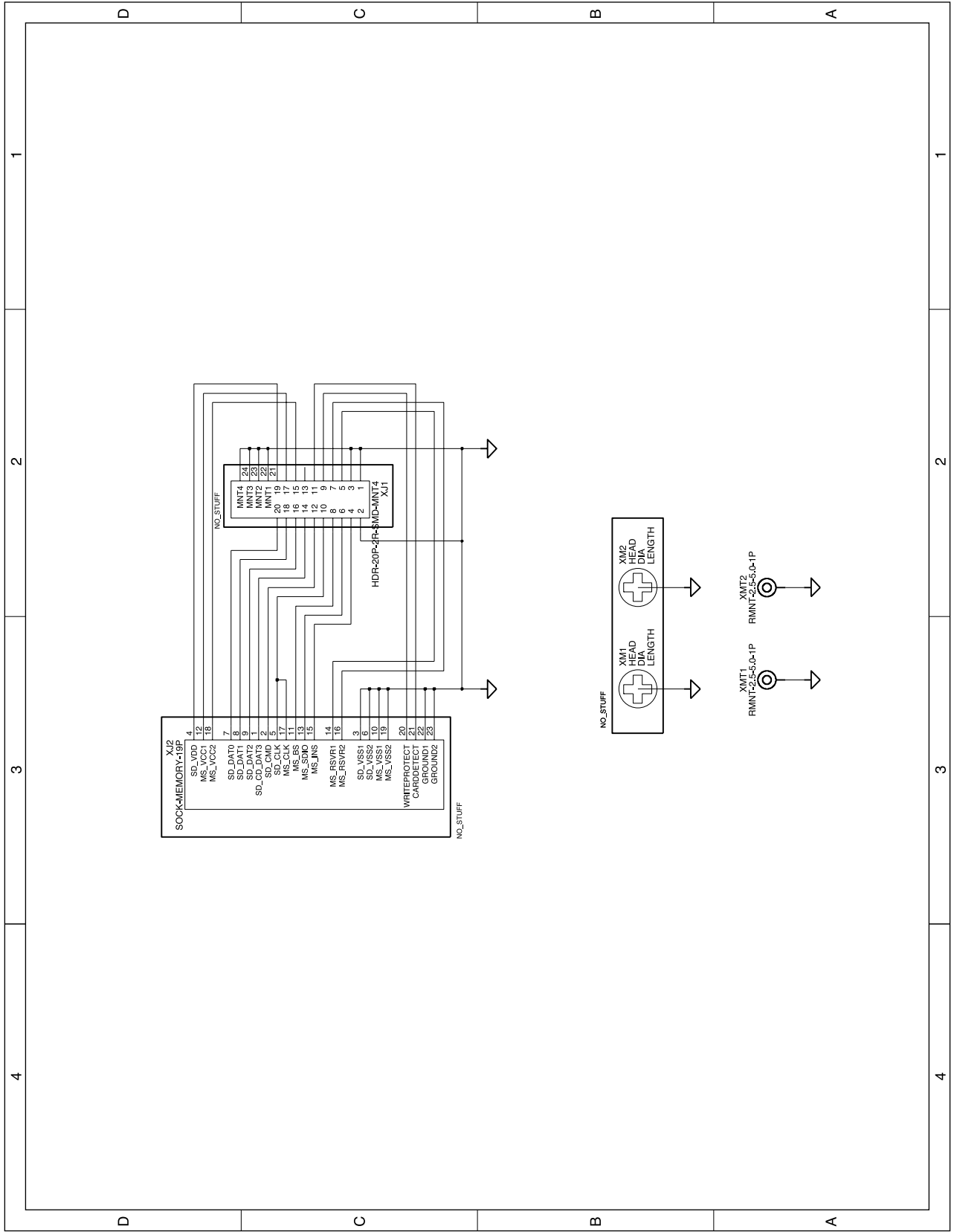


9-1-1(oo) Main Board Schematic Sheet 42 of 47(Switched Power)





9-1-1(qq) Main Board Schematic Sheet 44 of 47(9 in 1 Board)





9-1-1(ss) Main Board Schematic Sheet 46 of 47(Mount Hole)

