

Cover Sheet	1
Block Diagram	2
GPIO	3
Intel mPGA478B CPU - Signals	4
Intel mPGA478B CPU - Power	5
Intel Springdale - Host Signals	6
Intel Springdale - Memory Signals	7
Intel Springdale - AGP & LAN Signals	8
DDR DIMM 1,2	9
82547EI/82562EX-1	10
82547EI/82562EX-2	11
Intel ICH5 - PCI & IDE & AC97 Signals	12
Intel ICH5 - Other Signals	13
CY28404 & FWH & FDD	14
LPC I/O -W83627HF	15
AC97 Audio & CNR	16
AGP 4X/8X Slot & FAN	17
PCI Slots 1 & 2 & 3	18
ATA33/66/100 IDE & Video Connectors	19
USB Connectors	20
W83302 ACPI controller	21
ATX & Front Panel	22
VRM 10	23
History	24

MS(6563)

Version 0A

Intel (R) Springdale (GMCH) + ICH5 Chipset
Intel Northwood & Prescott mPGA478B Processor

CPU:

Intel Northwood/Prescott

System Chipset:

Intel Springdale - GMCH (North Bridge)
Intel ICH5 (South Bridge)

On Board Chipset:

BIOS -- FWH EEPROM
AC'97 Codec -- ALC202A/ALC650
LPC Super I/O -- W83627HF
LAN --82547EI/83562EX
CLOCK -- Cypress CY28404

Main Memory:

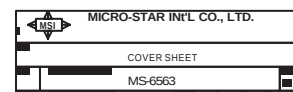
DDR * 2 (Max 2GB)

Expansion Slots:

PCI2.3 SLOT * 3

Intersil PWM:

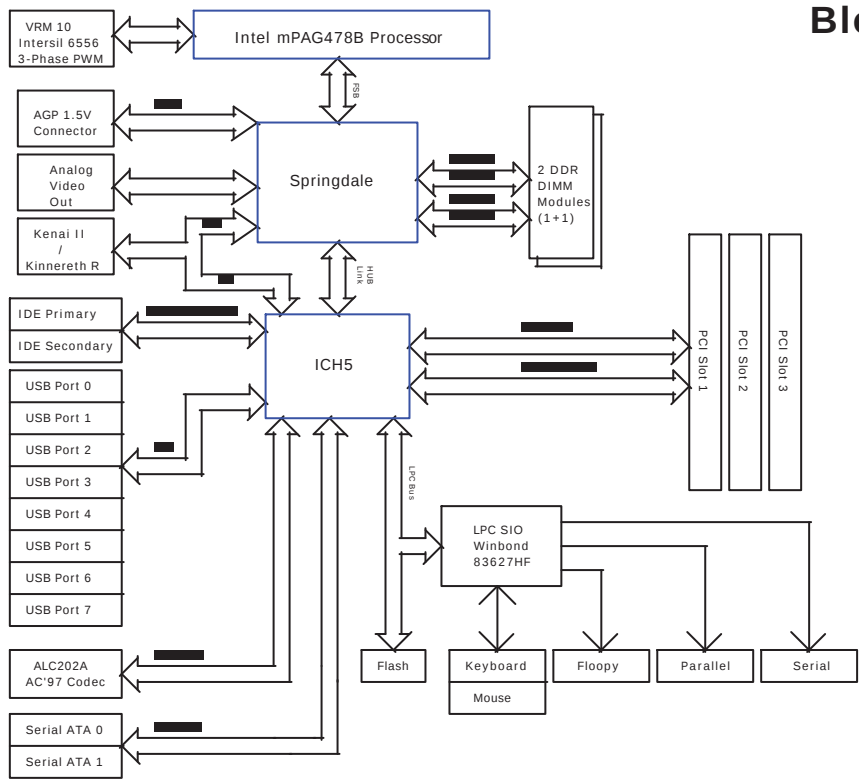
Controller: Intersil 6556B
Driver: Intersil 6601B,6602B



Jumper Setting & Connector Setting



Block Diagram



ICH5

GPIO Pin	Type	Function	Power well
GPIO 0	I	PREQ#B	MAIN
GPIO 1	I	PREQ#B	MAIN
GPIO 2	I	PIRQ#E	MAIN
GPIO 3	I	PIRQ#F	MAIN
GPIO 4	I	PIRQ#G	MAIN
GPIO 5	I	PIRQ#H	MAIN
GPIO 6	I	GPI6	MAIN
GPIO 7	I	GPI7	MAIN
GPIO 8	I	CSA_PME#	RESUME
GPIO 9	I	OC4#	RESUME
GPIO 10	I	OC5#	RESUME
GPIO 11	I	SIO_SMI#	RESUME
GPIO 12	I	EXTSMI#	RESUME
GPIO 13	I	SIO_PME#	RESUME
GPIO 14	I	OC#6	RESUME
GPIO 15	I	OC#7	RESUME
GPIO 16	O	PGNT#A	MAIN
GPIO 17	O	PGNT#B	MAIN
GPIO 18	O	GPO18	MAIN
GPIO 19	O	BIOS_WP#	MAIN
GPIO 20	O	GPO20	MAIN
GPIO 21	O	GPO21	MAIN
GPIO 22	OD	GPO22	MAIN
GPIO 23	O	GPO23	MAIN
GPIO 24	I/O	GPIO24	RESUME
GPIO 25	I/O	LAN_DISABLE#	RESUME
GPIO 27	I/O	GPIO27	RESUME
GPIO 28	I/O	GPIO28	RESUME
GPIO 32	I/O	GPIO32	MAIN
GPIO 33	I/O	GPIO33	MAIN
GPIO 34	I/O	GPIO34	MAIN
GPIO 40	I	PREQ#4	MAIN
GPIO 41	I	GPI41	MAIN
GPIO 48	O	PGNT#4	MAIN
GPIO 49	OD	CPUPWRGD	MAIN

default output

default output

default output

default output

default output

default output

default output

PCI Config.

DEVICE	MCP1 INT Pin	REQ # /GNT#	IDSEL	CLOCK	CLK GEN PINOUT
PCI Slot 1	INTA# INTB# INTC# INTD#	PCI_REQ#0 PCI_GNT#0	AD16	PCICLK0	13 (PCI_CLK0)
PCI Slot 2	INTB# INTC# INTD# INTA#	PCI_REQ#1 PCI_GNT#1	AD17	PCICLK1	14 (PCI_CLK1)
PCI Slot 3	INTC# INTD# INTA# INTB#	PCI_REQ#2 PCI_GNT#2	AD18	PCICLK2	15 (PCI_CLK2)

DDR DIMM Config.

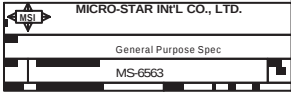
DEVICE	ADDRESS	CLOCK
DIMM 1	1010000B	MCLK_A0/MCLK_A0# MCLK_A1/MCLK_A1# MCLK_A2/MCLK_A2#
DIMM 2	1010001B	MCLK_B0/MCLK_B0# MCLK_B1/MCLK_B1# MCLK_B2/MCLK_B2#

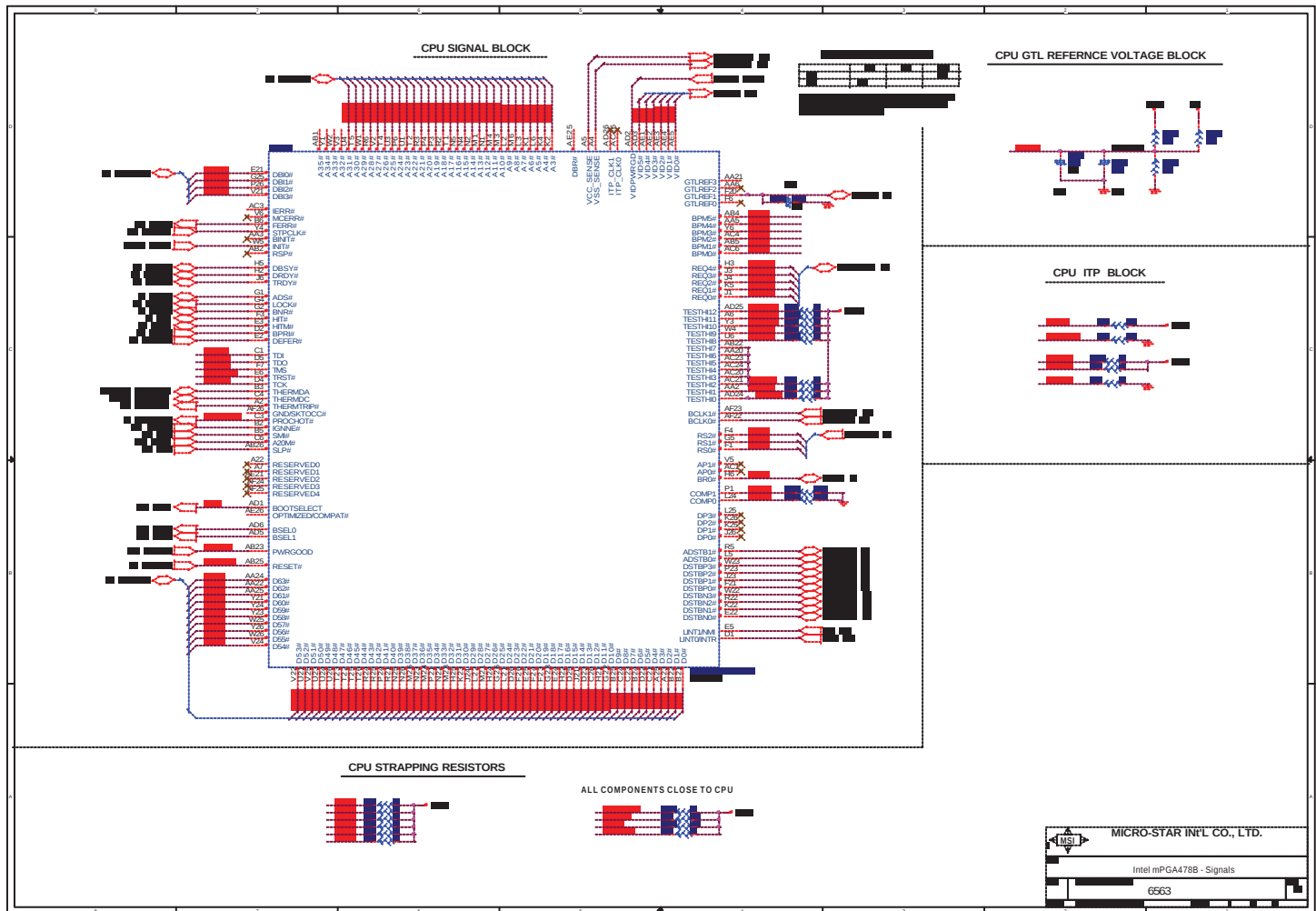
PCI RESET DEVICE

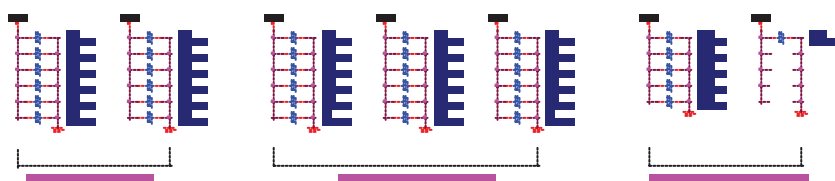
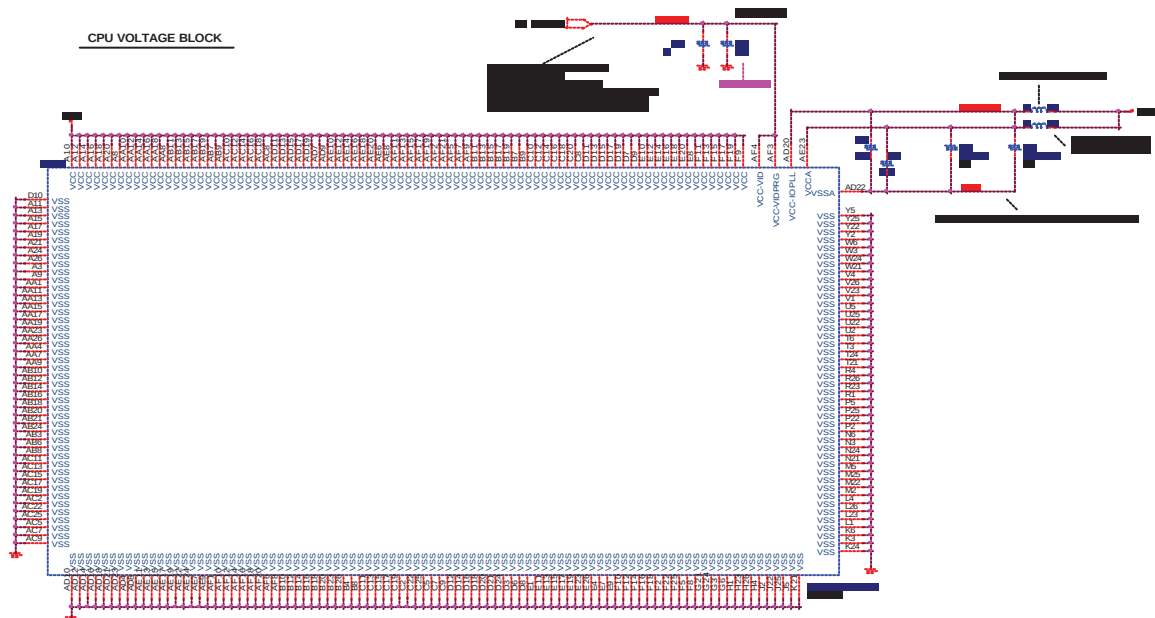
Signals	Target
PCIRST#1	Springdale,LAN,FWH, Super I/O
PCIRST#2	PCI slot 1-3, AGP slot
HD_RST#	Primary, Scondary IDE

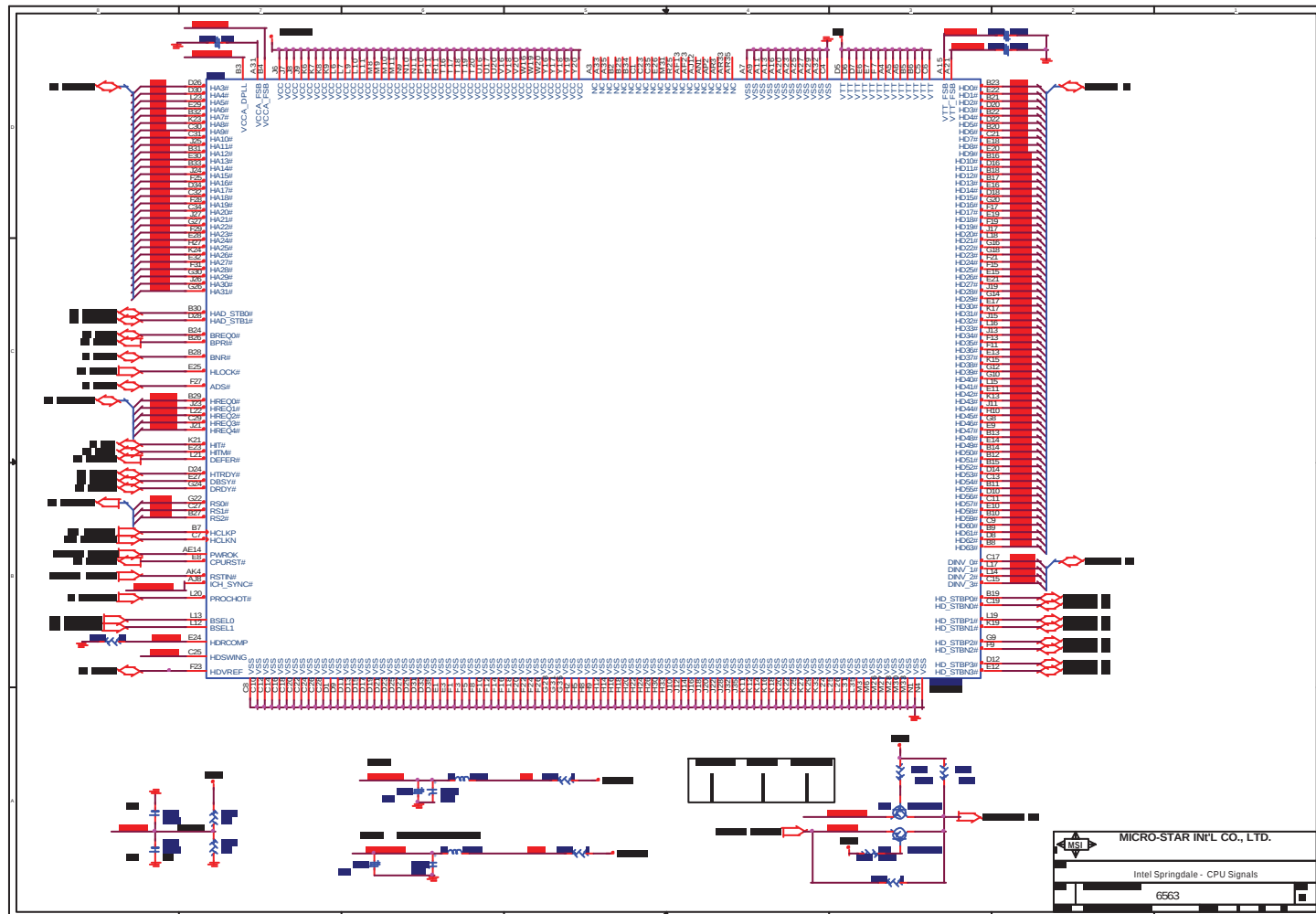
FWH

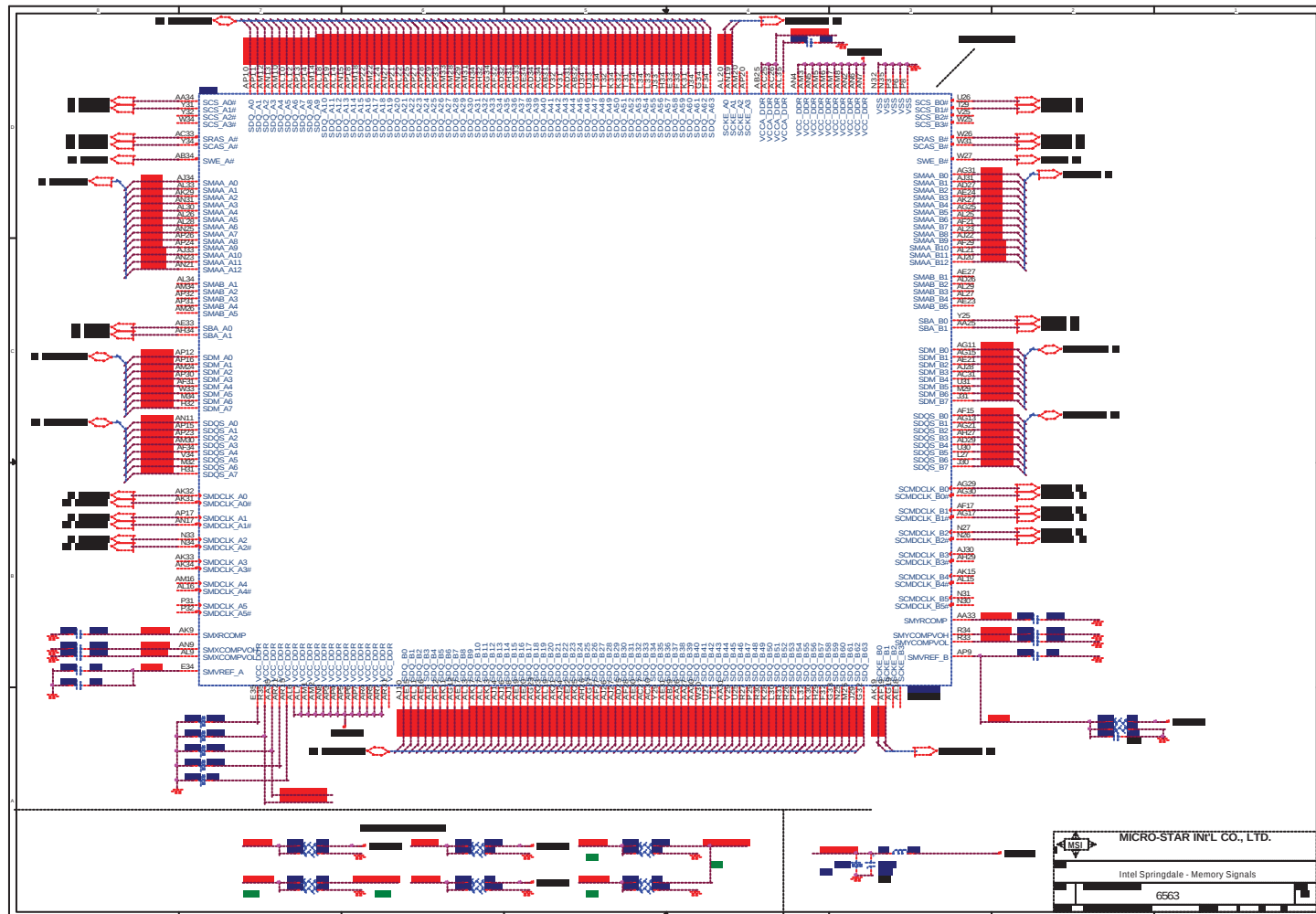
GPIO Pin	Type	Function
GPI 0	I	PD_DET
GPI 1	I	SD_DET
GPI 2	I	Pull down through 1K ohms (unused)
GPI 3	I	Pull down through 1K ohms (unused)
GPI 4	I	Pull down through 1K ohms (unused)

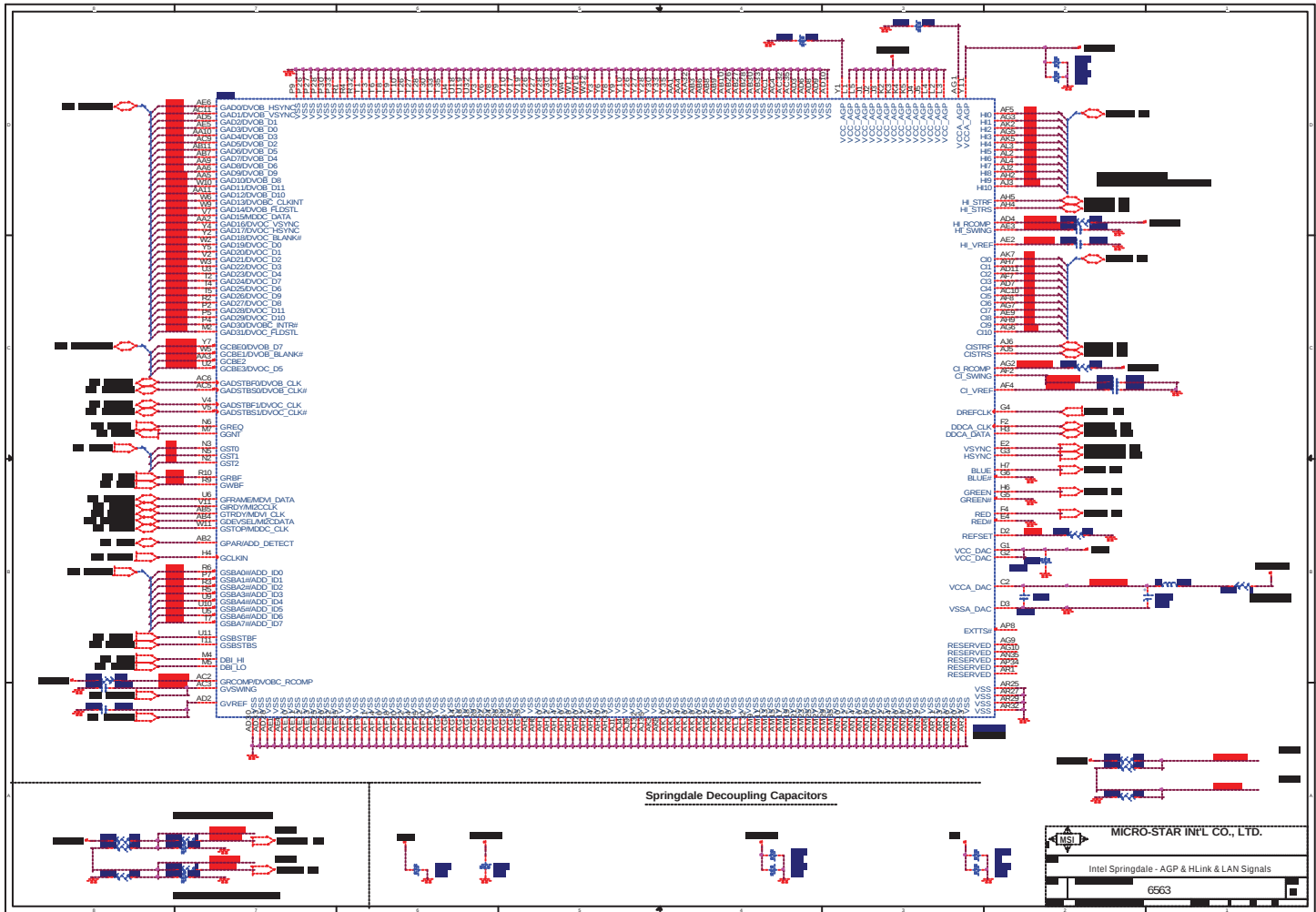


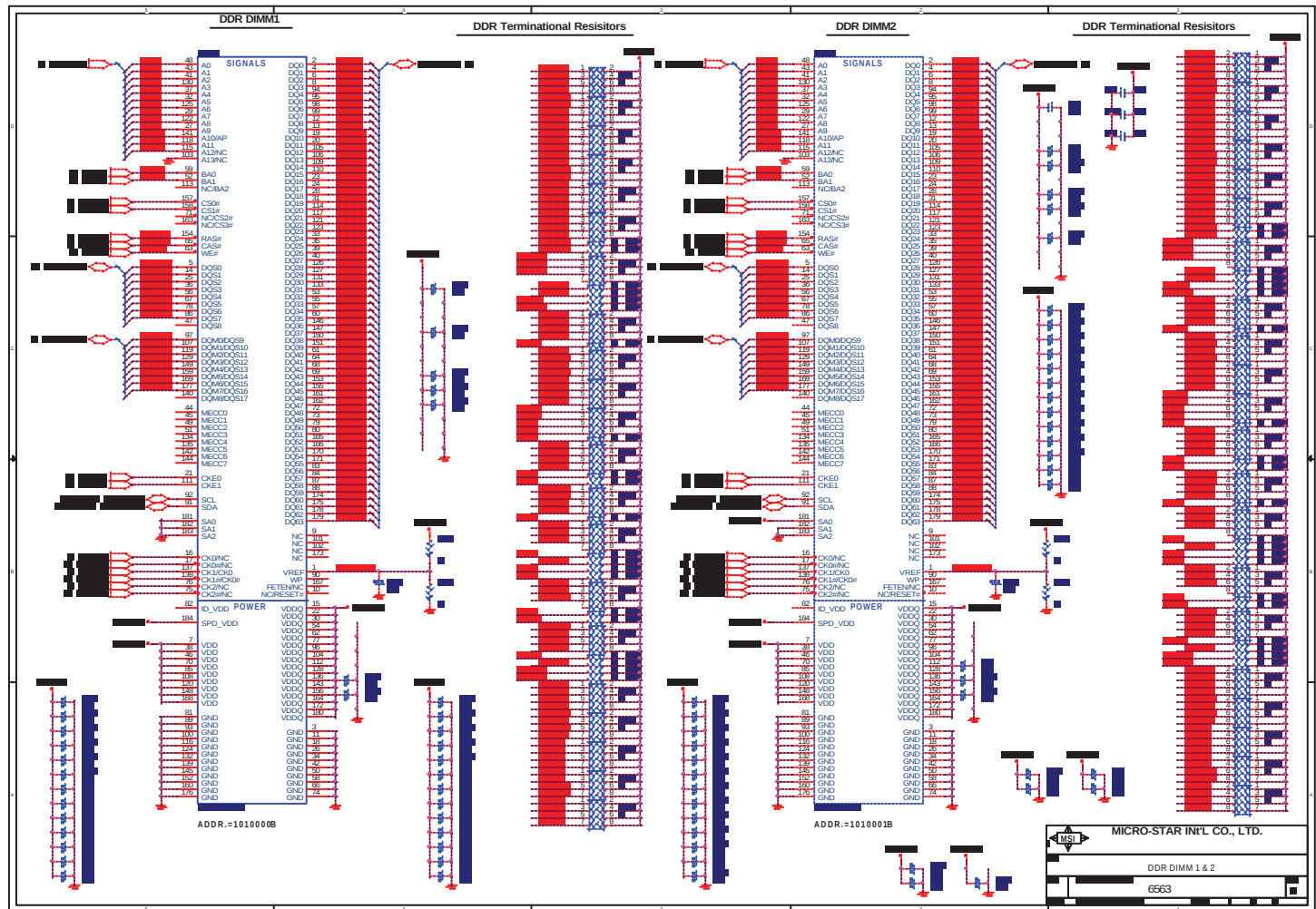




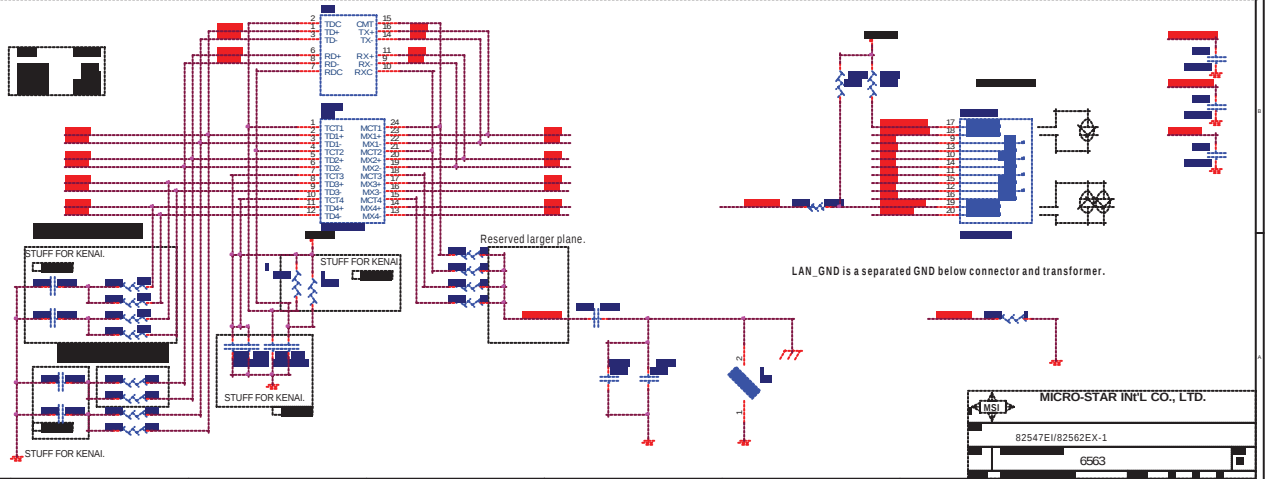
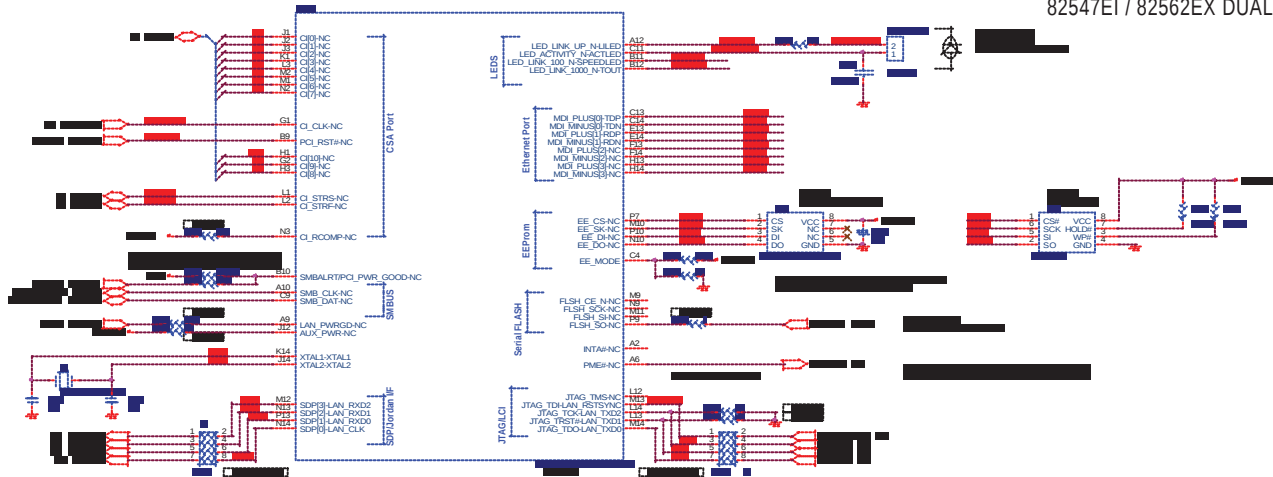


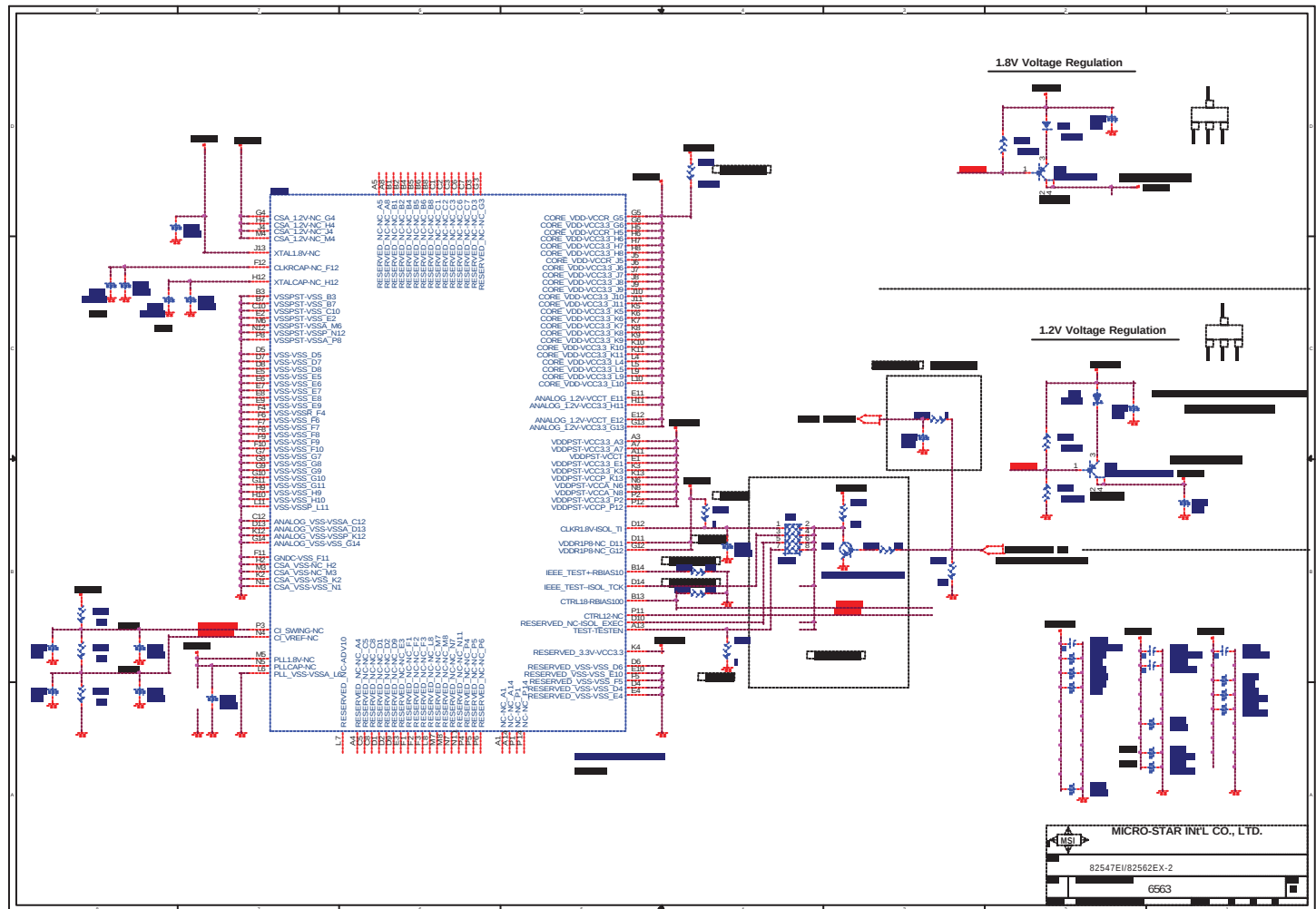


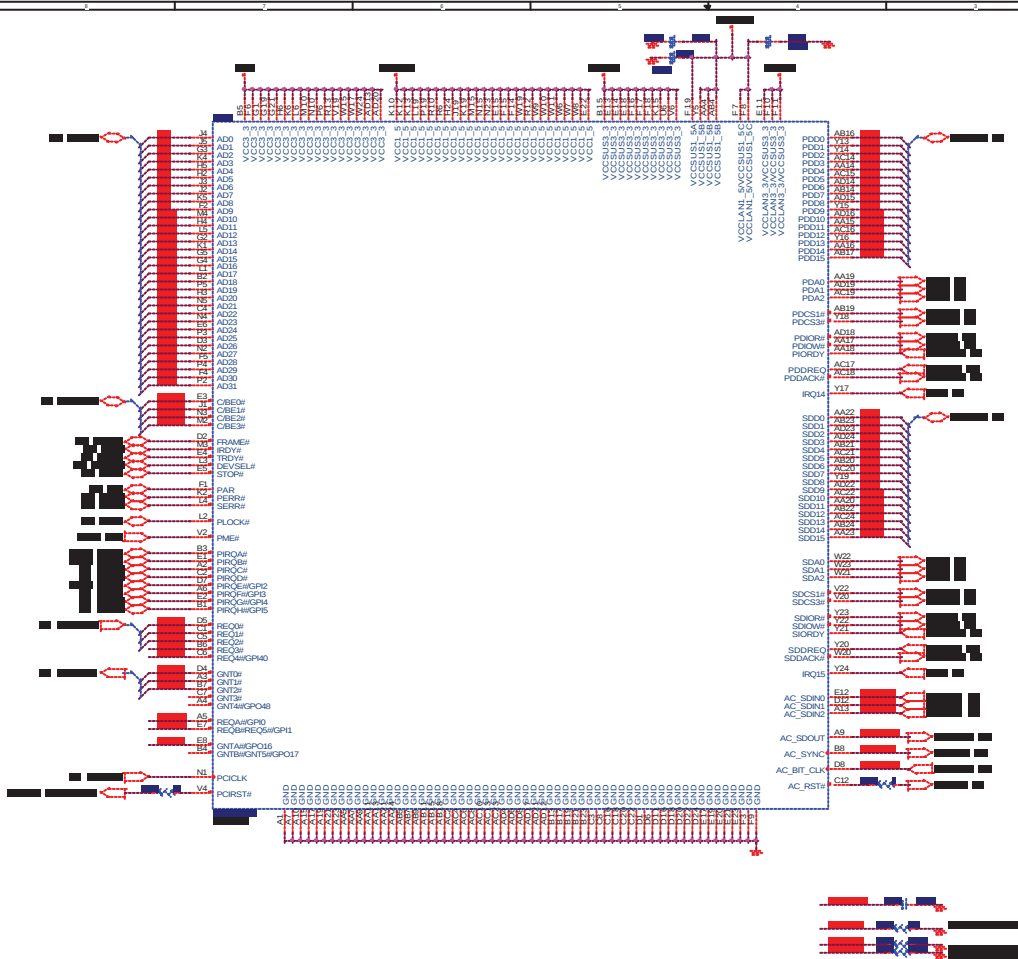


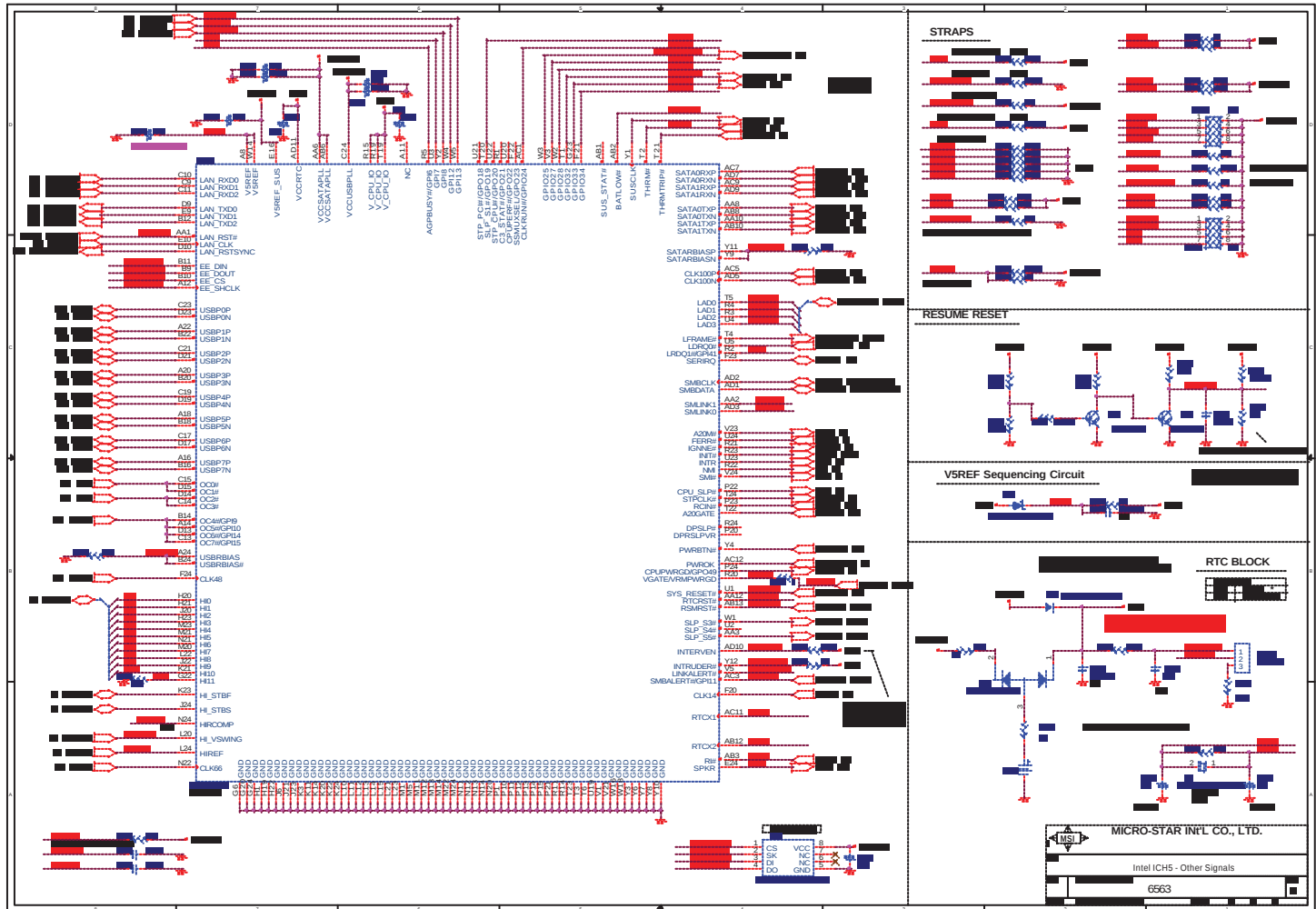


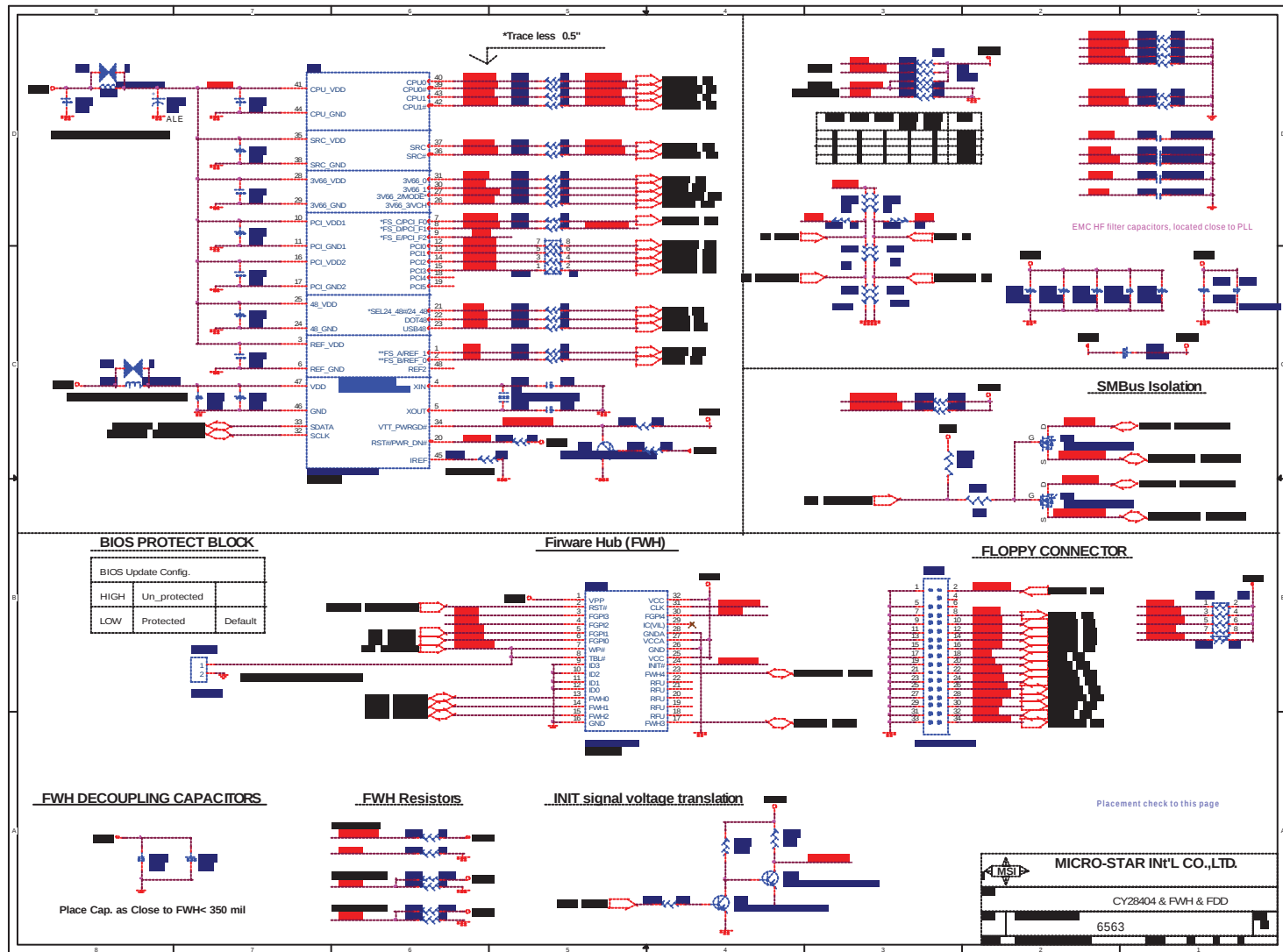
82547EI / 82562EX DUAL LAYOUT.

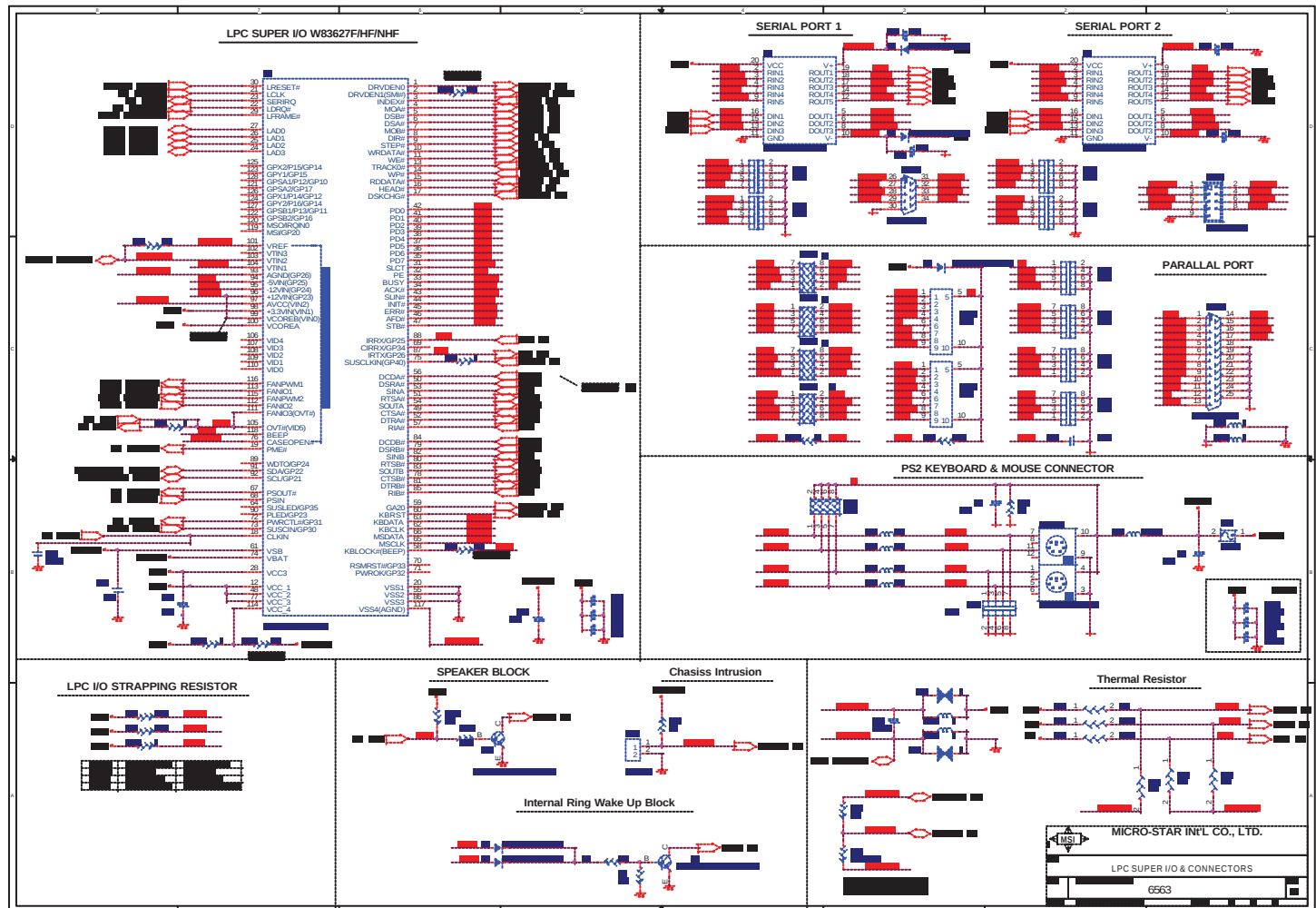


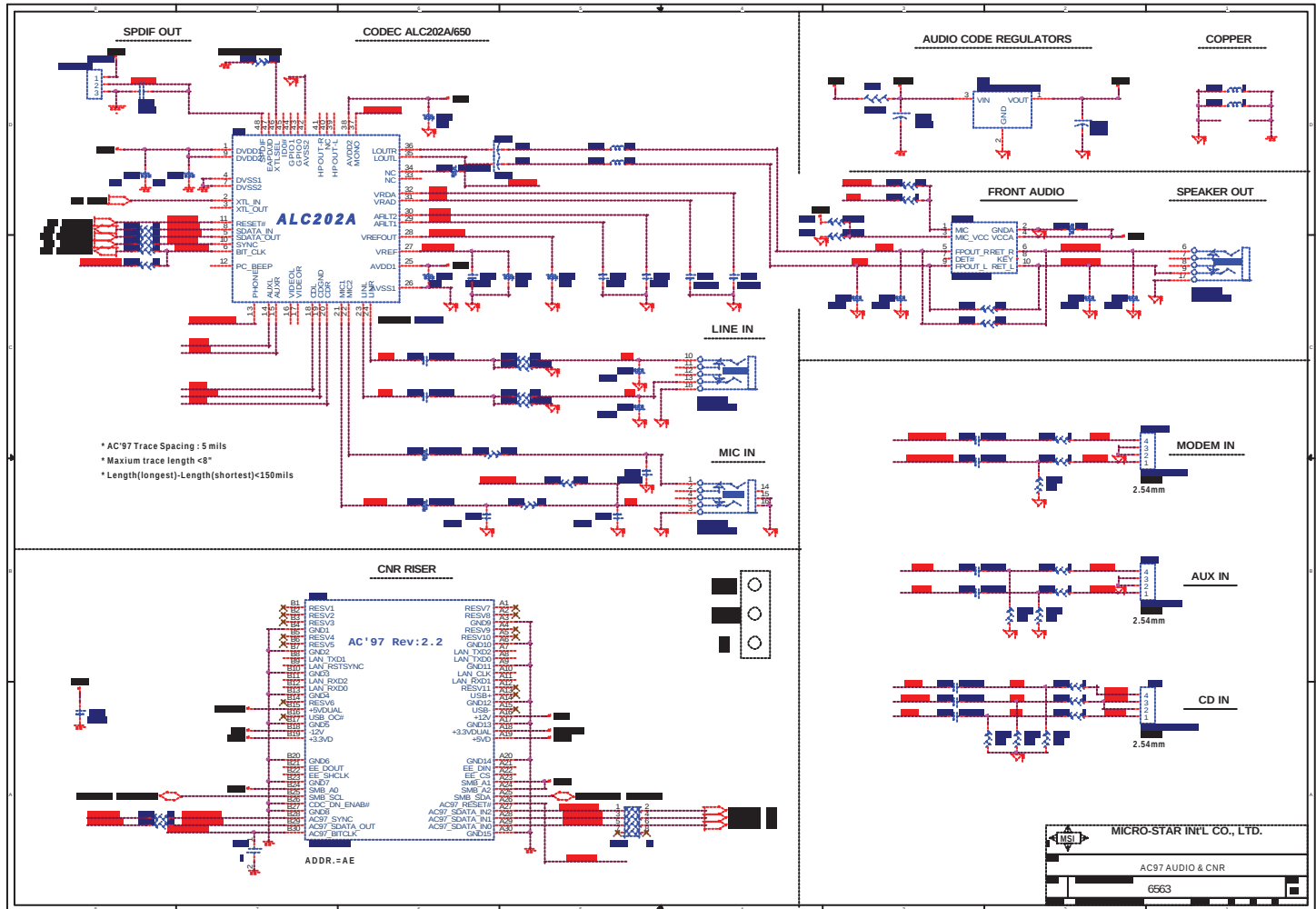


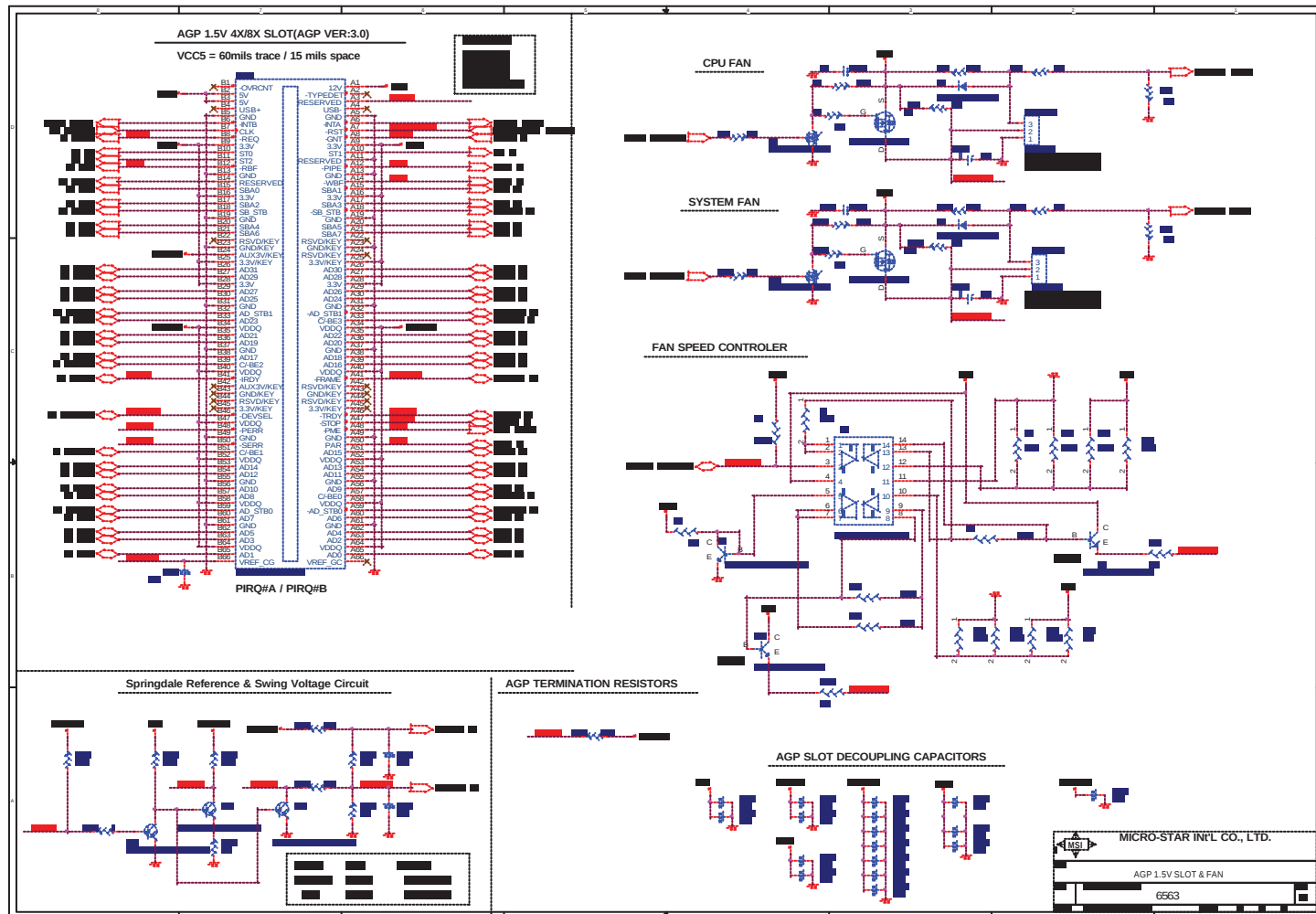




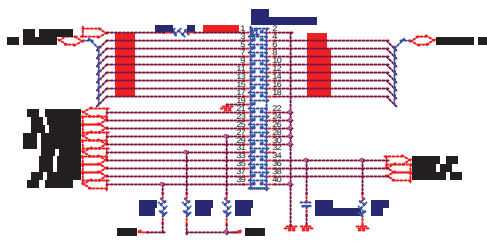




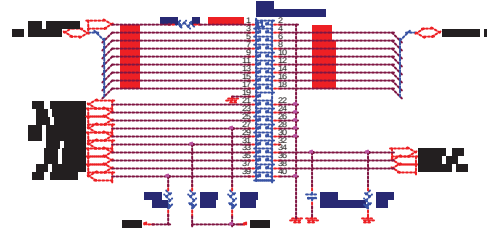




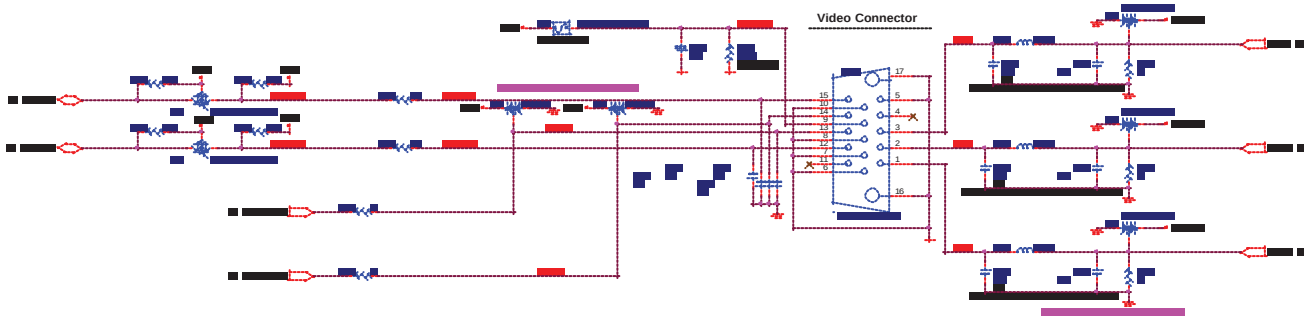
PRIMARY IDE BLOCK



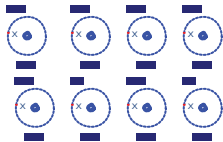
ATA 33/66/100 IDE Connectors



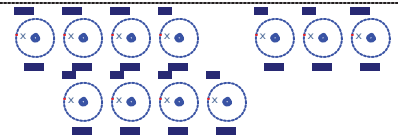
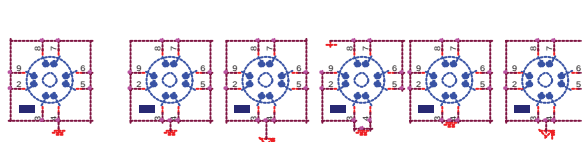
SECONDARY IDE BLOCK



Optics Orientation Holes



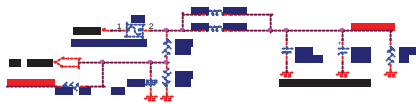
Mounting Holes



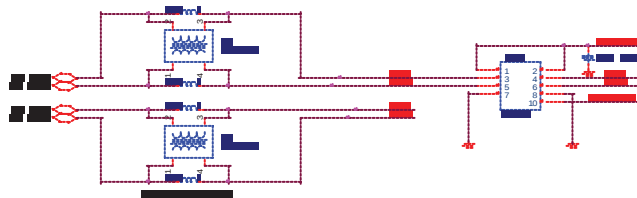
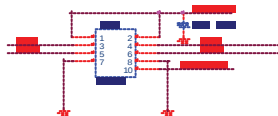
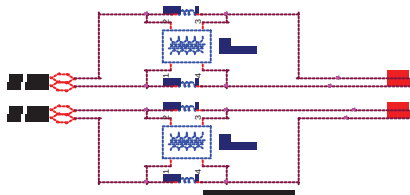
Simulation



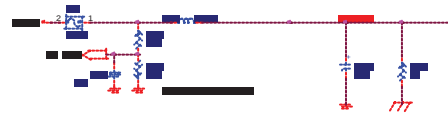
POWER CIRCUIT FOR USB PORT 0,1,2,3



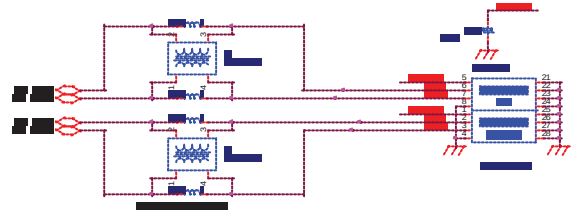
REAR PANEL USB CONNECTOR FOR USB PORT 0,1,2,3



POWER CIRCUIT FOR USB PORT 4,5



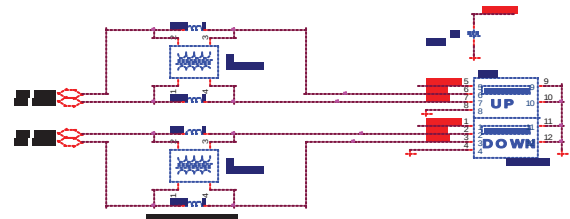
REAR PANEL USB CONNECTOR FOR USB PORT 4,5

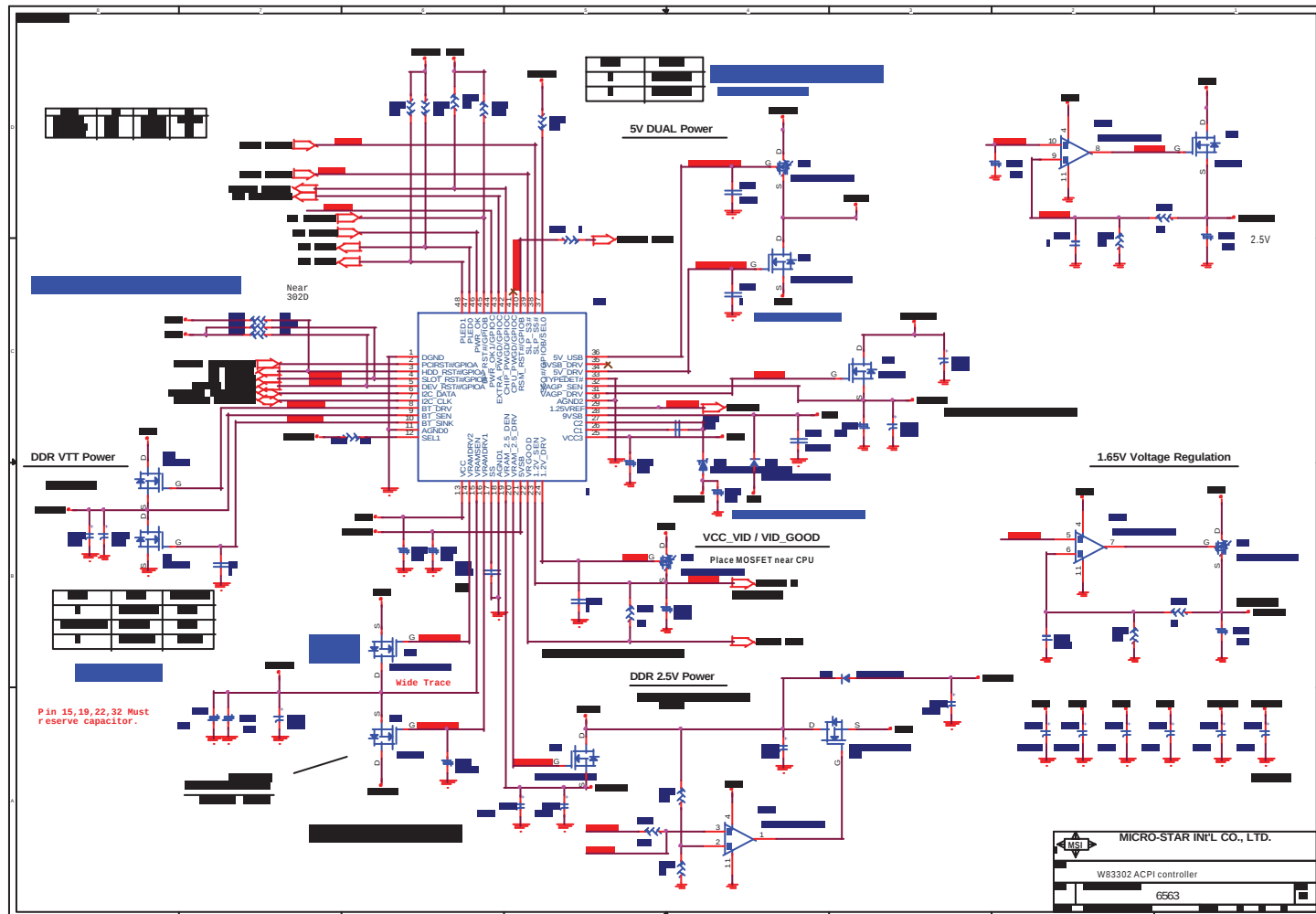


POWER CIRCUIT FOR USB PORT 6,7

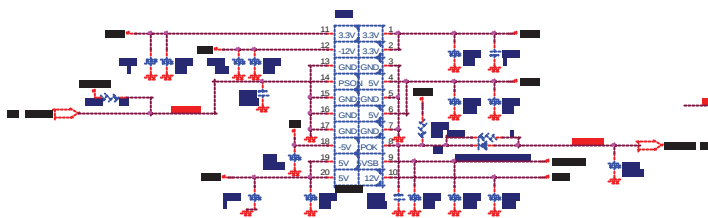


REAR PANEL USB CONNECTOR FOR USB PORT 6,7

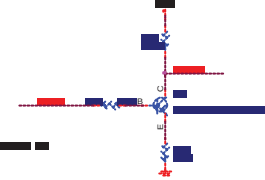




ATX Connector



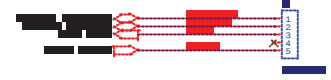
MS5 PWR_OK patch circuits



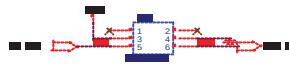
SERIAL ATA CONNECTOR BLOCK



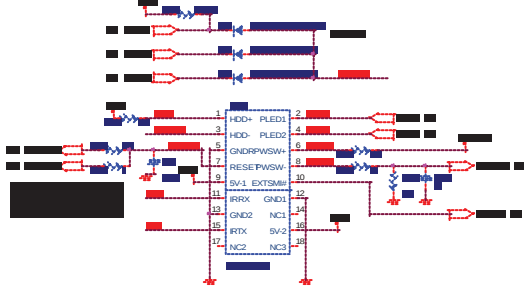
SMBus Header for A3



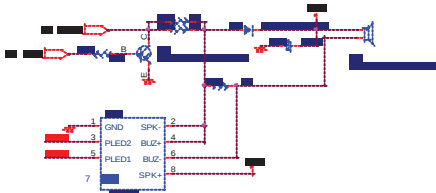
IR Connector



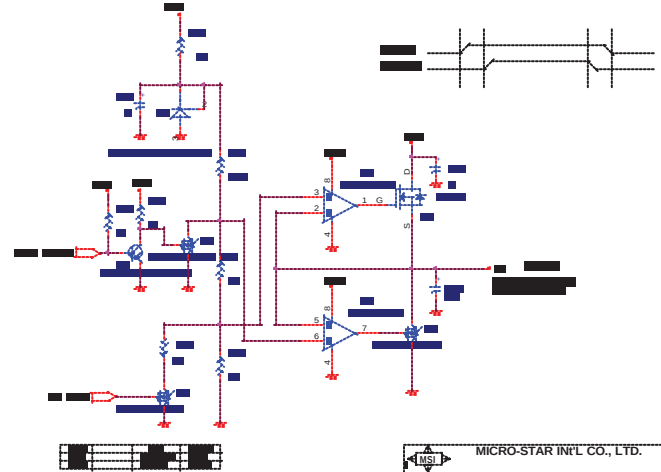
INTEL/PB Front Panel Connector

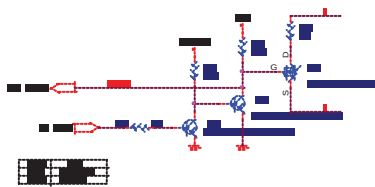
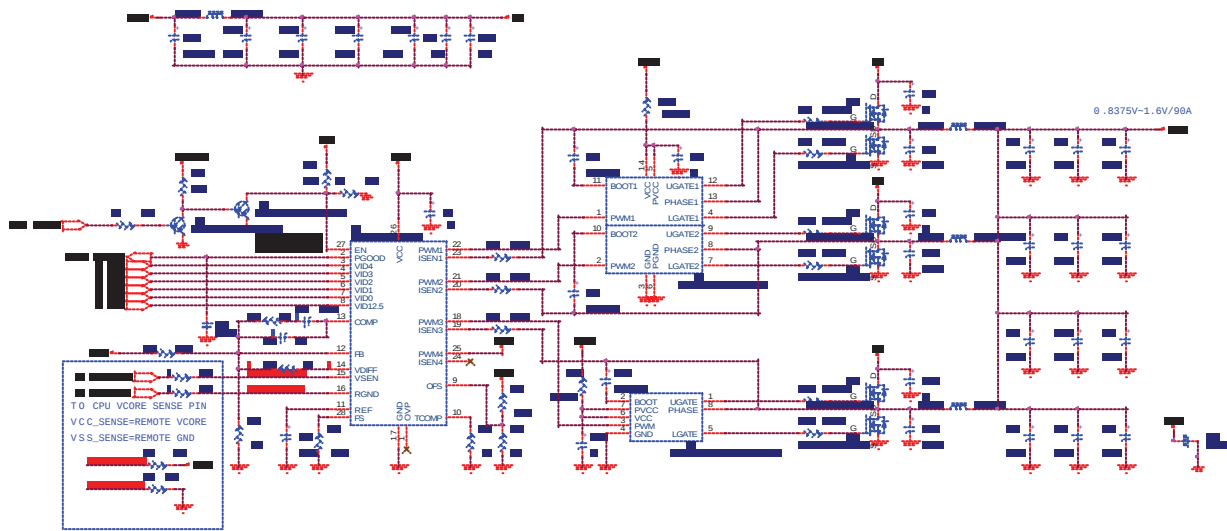


MSI Front Panel Connector

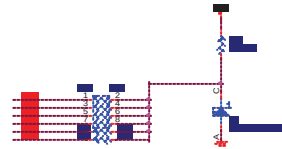


Intel reference GMCH VTT power circuit





VID Pull-Up Rresistors



ATX12V Power Connector

