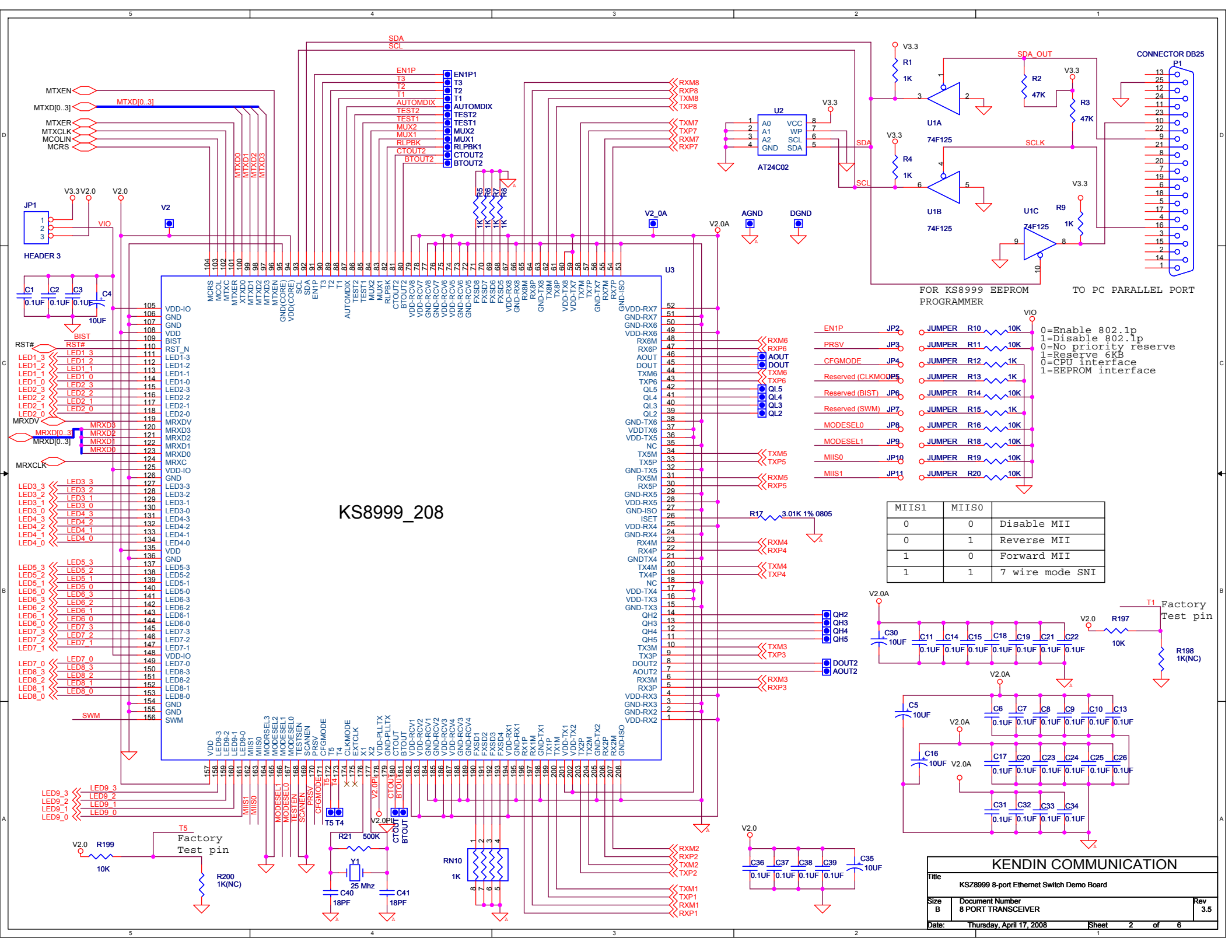
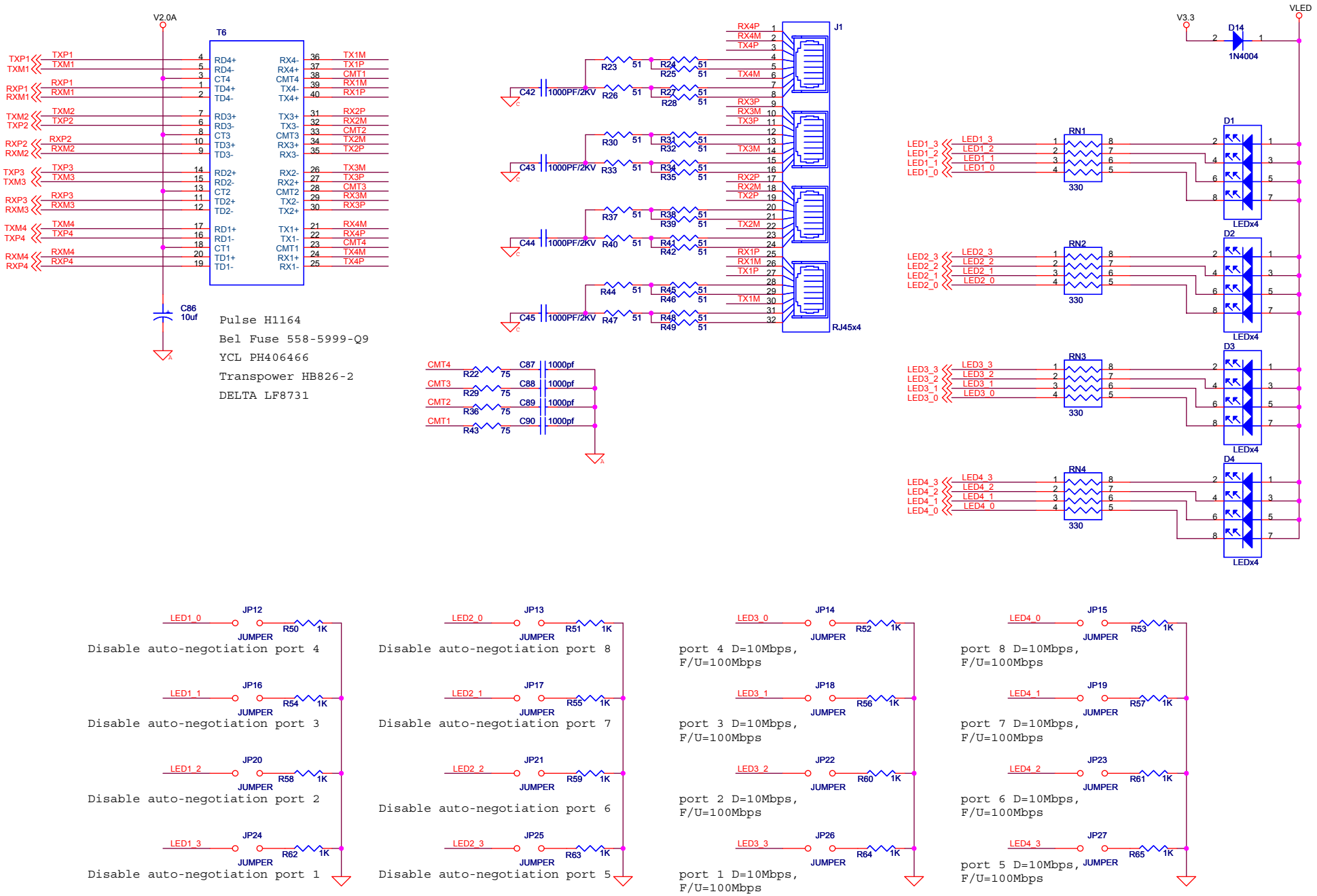
JOIN MCOL AND MCOLIN (P.6)

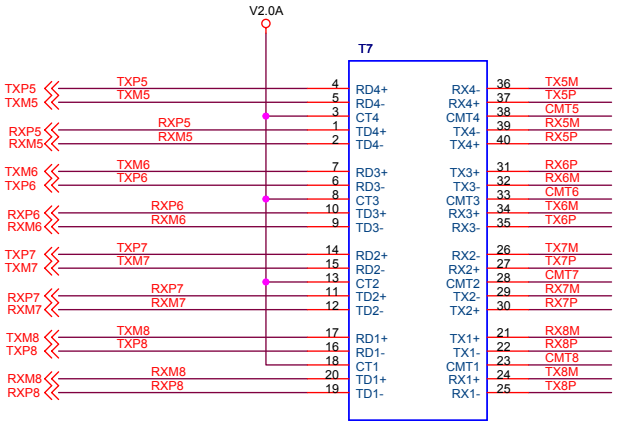
REVISION HISTORY

DATE:	DESCRIPTION	REVISION
3/15/01	ADD D13,D14,R179,C86	2.0
6/18/01	DELETE D13,R179,R180-187,R188-195 RENAME V1.8A TO V2.0A RENAME VDDTX TO V2.0A RENAME V1.8 TO V2.0 CONNECT T6,T7 ALL CT TO V2.0A ADD 3.3V AND 2.5V OPTION FOR VIO	3.0
6/25/01	REPLACE U4,5 WITH MIC29302BT ADD 3.3/2.5V OPTIONS FOR VIO ADD MRXD0-3 10K PULL UP R202-205 ADD KS8999 T1, T5 PULL UP OPTION	3.1
7/25/01	JOIN MCOL AND MCOLIN (P.6)	3.2
7/01/02	REMOVE PORT TRUNKING TABLE REMOVE OSC1 TO 66MHz ADD NO CONNECTION ON PIN 174 & 175 RENAME LED8_1 TO RESERVED RENAME PIN 87, TEST[3] to AUTOMDIX	3.3
6/14/07	Change resistors and capacitors' value as below: R138 1.8K -> 1.43K for 2.1V R149 2.4K -> 2.49K for 3.3V R201 1.5K -> 1.54K for 2.5V C40/C41 22PF -> 18PF for Y1 25 MHz Crystal	3.4
4/17/08	Change resistor's value as below: R17 3K -> 3.01K 1%	3.5

Title	KSZ8999_208 8 PORT SWITCH REFERENCE DESIGN	
Size B	Document Number Revision	Rev 3.5
Date: Thursday, April 17, 2008	Sheet 1 of 6	


KS8999_208
U3
U2
AT24C02
U1A
U1B
U1C
74F125
CONNECTOR DB25
P1
JP1
HEADER 3
FOR KS8999 EEPROM PROGRAMMER
TO PC PARALLEL PORT
0=Enable 802.1p
1=Disable 802.1p
0=No priority reserve
1=Reserve 6KB
0=CPU interface
1=EEPROM interface
MIIS1 MIIS0
0 0 Disable MII
0 1 Reverse MII
1 0 Forward MII
1 1 7 wire mode SNI
Factory Test pin
KENDIN COMMUNICATION
KSZ8999 8-port Ethernet Switch Demo Board
8 PORT TRANSCEIVER
Thursday, April 17, 2008
Sheet 2 of 6


V2.0A
T6
TXP1
TXM1
RXP1
RXM1
TXM2
TXP2
RXP2
RXM2
TXP3
TXM3
RXP3
RXM3
TXM4
TXP4
RXM4
RXP4
RD4+
RD4-
CT4
TD4+
TD4-
RD3+
RD3-
CT3
TD3+
TD3-
RD2+
RD2-
CT2
TD2+
TD2-
RD1+
RD1-
CT1
TD1+
TD1-
RX4-
RX4+
CMT4
TX4-
TX4+
RX3-
RX3+
CMT3
TX3-
TX3+
RX2-
RX2+
CMT2
TX2-
TX2+
RX1-
RX1+
CMT1
TX1-
TX1+
C86
10uf
Pulse H1164
Bel Fuse 558-5999-Q9
YCL PH406466
Transpower HB826-2
DELTA LF8731
J1
RJ45x4
C42
C43
C44
C45
1000PF/2KV
R23
R24
R25
R26
R27
R28
R30
R31
R32
R33
R34
R35
R37
R38
R39
R40
R41
R42
R44
R45
R46
R47
R48
R49
51
RX4P
RX4M
TX4P
TX4M
RX3P
RX3M
TX3P
TX3M
RX2P
RX2M
TX2P
TX2M
RX1P
RX1M
TX1P
TX1M
CMT4
CMT3
CMT2
CMT1
R22
R29
R36
R43
75
C87
C88
C89
C90
1000pf
V3.3
VLED
D14
1N4004
RN1
RN2
RN3
RN4
330
D1
D2
D3
D4
LEDx4
LED1_3
LED1_2
LED1_1
LED1_0
LED2_3
LED2_2
LED2_1
LED2_0
LED3_3
LED3_2
LED3_1
LED3_0
LED4_3
LED4_2
LED4_1
LED4_0
JP12
JP13
JP14
JP15
JP16
JP17
JP18
JP19
JP20
JP21
JP22
JP23
JP24
JP25
JP26
JP27
JUMPER
R50
R51
R52
R53
R54
R55
R56
R57
R58
R59
R60
R61
R62
R63
R64
R65
1K
Disable auto-negotiation port 4
Disable auto-negotiation port 8
port 4 D=10Mbps, F/U=100Mbps
port 8 D=10Mbps, F/U=100Mbps
Disable auto-negotiation port 3
Disable auto-negotiation port 7
port 3 D=10Mbps, F/U=100Mbps
port 7 D=10Mbps, F/U=100Mbps
Disable auto-negotiation port 2
Disable auto-negotiation port 6
port 2 D=10Mbps, F/U=100Mbps
port 6 D=10Mbps, F/U=100Mbps
Disable auto-negotiation port 1
Disable auto-negotiation port 5
port 1 D=10Mbps, F/U=100Mbps
port 5 D=10Mbps, F/U=100Mbps
* U/F=default
Kendin Communications Inc.
Title
KSZ8999 8-port Ethernet Switch Demo Board
Size
Document Number
SWITCH_1 - PHY_TRANSCEIVER_TRANSFORMER1
Rev
3.5
Date:
Thursday, April 17, 2008
Sheet
3
of
6



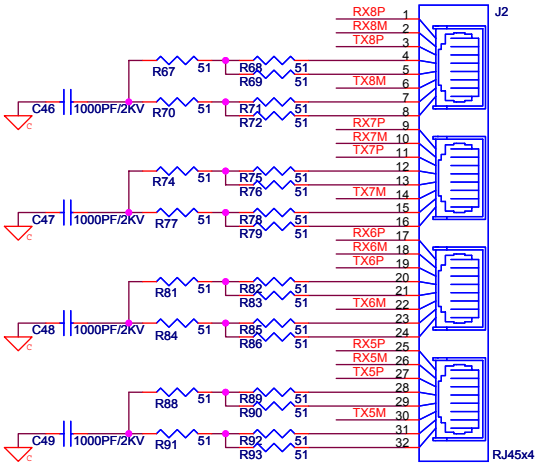
Pulse H1164

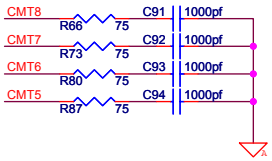
Bel Fuse 558-5999-Q9

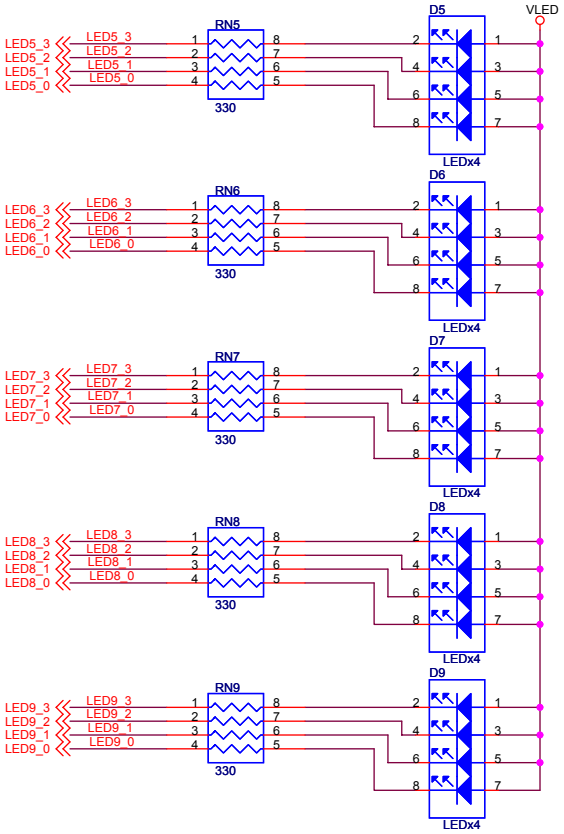
YCL PH406466

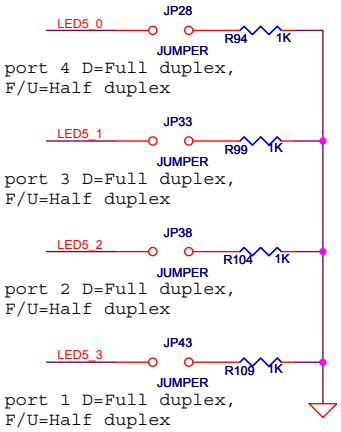
Transpower HB826-2

DELTA LF8731







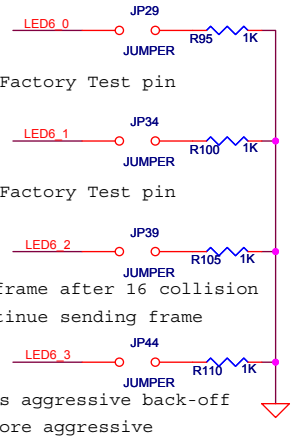


port 4 D=Full duplex,
F/U=Half duplex

port 3 D=Full duplex,
F/U=Half duplex

port 2 D=Full duplex,
F/U=Half duplex

port 1 D=Full duplex,
F/U=Half duplex



Factory Test pin

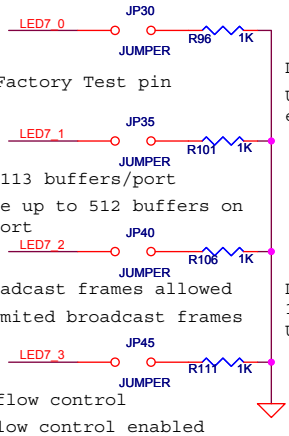
Factory Test pin

D=Drop frame after 16 collision

U/F=Continue sending frame

D=Less aggressive back-off

U/F=More aggressive



Factory Test pin

D=Equal 113 buffers/port

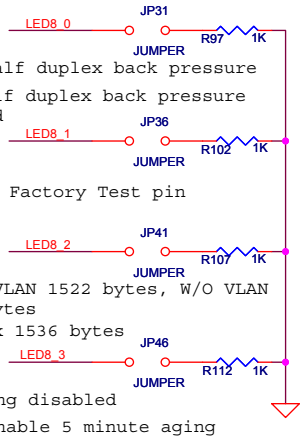
U/F=Share up to 512 buffers on single port

D=5% broadcast frames allowed

U/F=Unlimited broadcast frames

D=No flow control

U/F=Flow control enabled



D=No half duplex back pressure

U/F=Half duplex back pressure enabled

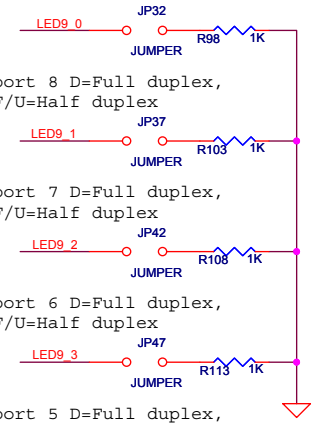
Factory Test pin

D=Max VLAN 1522 bytes, W/O VLAN 1518 bytes

U/F=Max 1536 bytes

D=Aging disabled

U/F=Enable 5 minute aging



port 8 D=Full duplex,
F/U=Half duplex

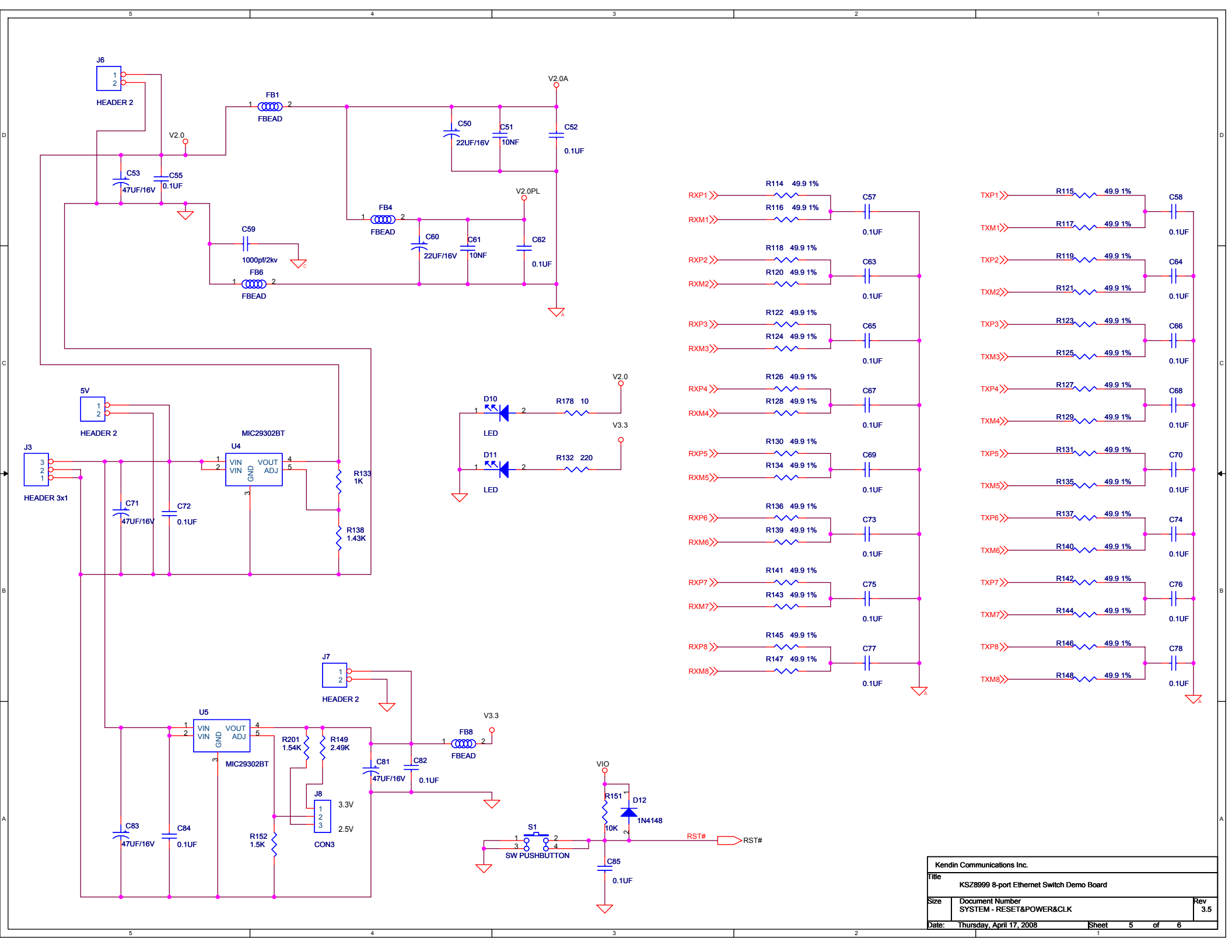
port 7 D=Full duplex,
F/U=Half duplex

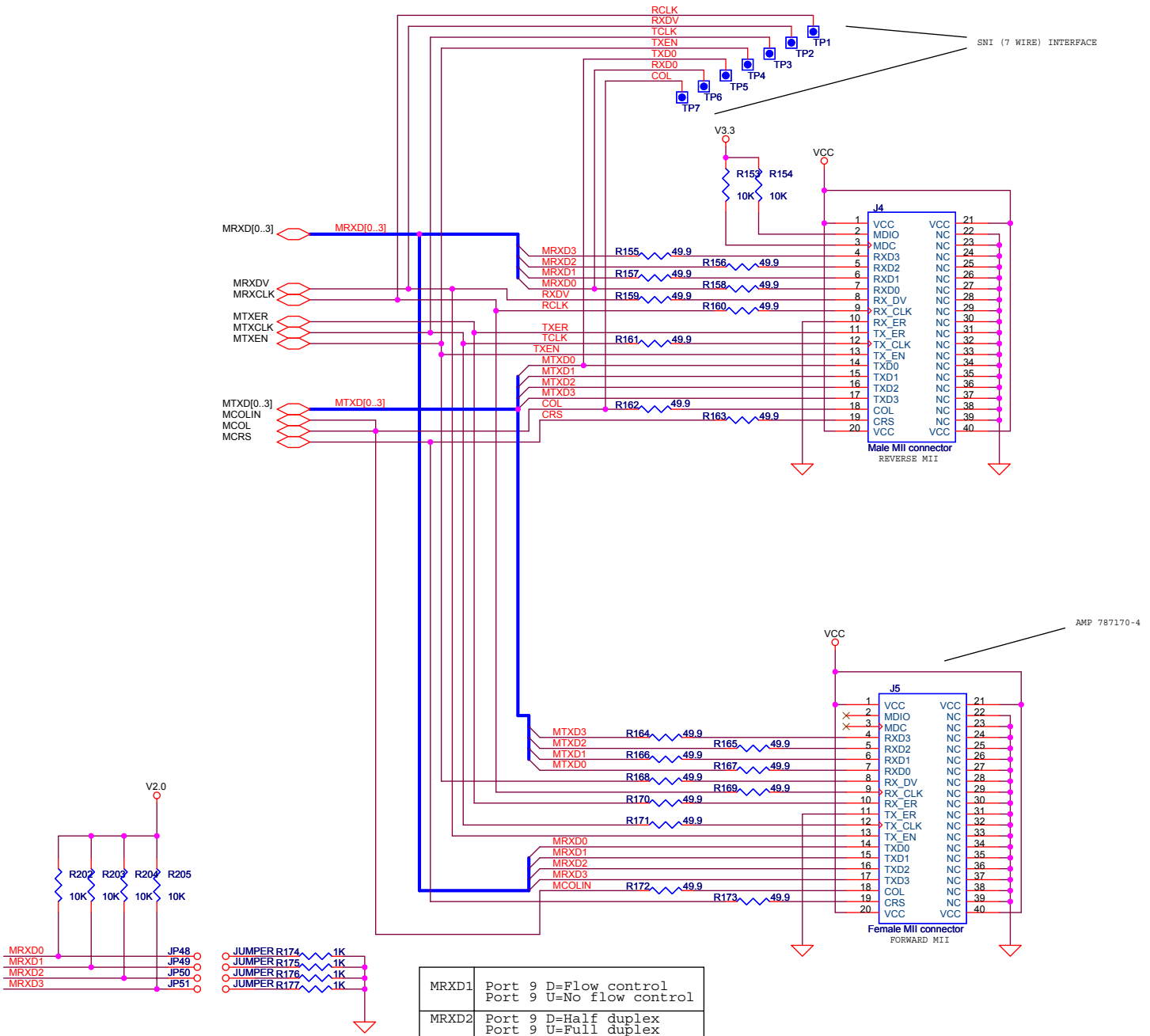
port 6 D=Full duplex,
F/U=Half duplex

port 5 D=Full duplex,
F/U=Half duplex

* U/F=default

Kendin Communications Inc.		
Title: KSZ8999 8-port Ethernet Switch Demo Board		
Size	Document Number: SWITCH_1 - PHY_TRANSCEIVER_TRANSFORMER2	Rev: 3.5
Date: Thursday, April 17, 2008	Sheet 4 of 6	


J6
HEADER 2
FB1
FBEAD
V2.0A
V2.0
C50
22UF/16V
C51
10NF
C52
0.1UF
C53
47UF/16V
C55
0.1UF
V2.0PL
FB4
FBEAD
C60
22UF/16V
C61
10NF
C62
0.1UF
C59
1000pf/2kv
FB6
FBEAD
5V
HEADER 2
J3
HEADER 3x1
MIC29302BT
U4
VIN
VIN
GND
VOUT
ADJ
R133
1K
R138
1.43K
C71
47UF/16V
C72
0.1UF
V2.0
D10
LED
R178 10
V3.3
D11
LED
R132 220
RXP1
RXM1
R114 49.9 1%
R116 49.9 1%
C57
0.1UF
RXP2
RXM2
R118 49.9 1%
R120 49.9 1%
C63
0.1UF
RXP3
RXM3
R122 49.9 1%
R124 49.9 1%
C65
0.1UF
RXP4
RXM4
R126 49.9 1%
R128 49.9 1%
C67
0.1UF
RXP5
RXM5
R130 49.9 1%
R134 49.9 1%
C69
0.1UF
RXP6
RXM6
R136 49.9 1%
R139 49.9 1%
C73
0.1UF
RXP7
RXM7
R141 49.9 1%
R143 49.9 1%
C75
0.1UF
RXP8
RXM8
R145 49.9 1%
R147 49.9 1%
C77
0.1UF
TXP1
TXM1
R115 49.9 1%
R117 49.9 1%
C58
0.1UF
TXP2
TXM2
R119 49.9 1%
R121 49.9 1%
C64
0.1UF
TXP3
TXM3
R123 49.9 1%
R125 49.9 1%
C66
0.1UF
TXP4
TXM4
R127 49.9 1%
R129 49.9 1%
C68
0.1UF
TXP5
TXM5
R131 49.9 1%
R135 49.9 1%
C70
0.1UF
TXP6
TXM6
R137 49.9 1%
R140 49.9 1%
C74
0.1UF
TXP7
TXM7
R142 49.9 1%
R144 49.9 1%
C76
0.1UF
TXP8
TXM8
R146 49.9 1%
R148 49.9 1%
C78
0.1UF
J7
HEADER 2
U5
MIC29302BT
R201
1.54K
R149
2.49K
V3.3
FB8
FBEAD
C81
47UF/16V
C82
0.1UF
J8
CON3
3.3V
2.5V
R152
1.5K
C83
47UF/16V
C84
0.1UF
VIO
R151
10K
D12
1N4148
S1
SW PUSHBUTTON
RST#
RST#
C85
0.1UF
Kendin Communications Inc.
Title
KSZ8999 8-port Ethernet Switch Demo Board
Size
Document Number
SYSTEM - RESET&POWER&CLK
Rev
3.5
Date: Thursday, April 17, 2008
Sheet 5 of 6



MRXD1	Port 9 D=Flow control Port 9 U=No flow control
MRXD2	Port 9 D=Half duplex Port 9 U=Full duplex
MRXD3	Port 9 D=10Mbps Port 9 U=100Mbps

Kendin Communications Inc.		
Title: KSZ8999 8-port Ethernet Switch Demo Board		
Size	Document Number: SYSTEM - MII Interface	Rev: 3.5
Date: Thursday, April 17, 2008	Sheet 6 of 6	