

# CRYSTAL 1.0

## PV-R 11/12

Engineer <b>CHEN YE-YU</b>	<b>INVENTEC</b>
Drawn by <b>CHEN YE-YU</b>	
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	TITLE <b>CRYSTAL 1.0</b>

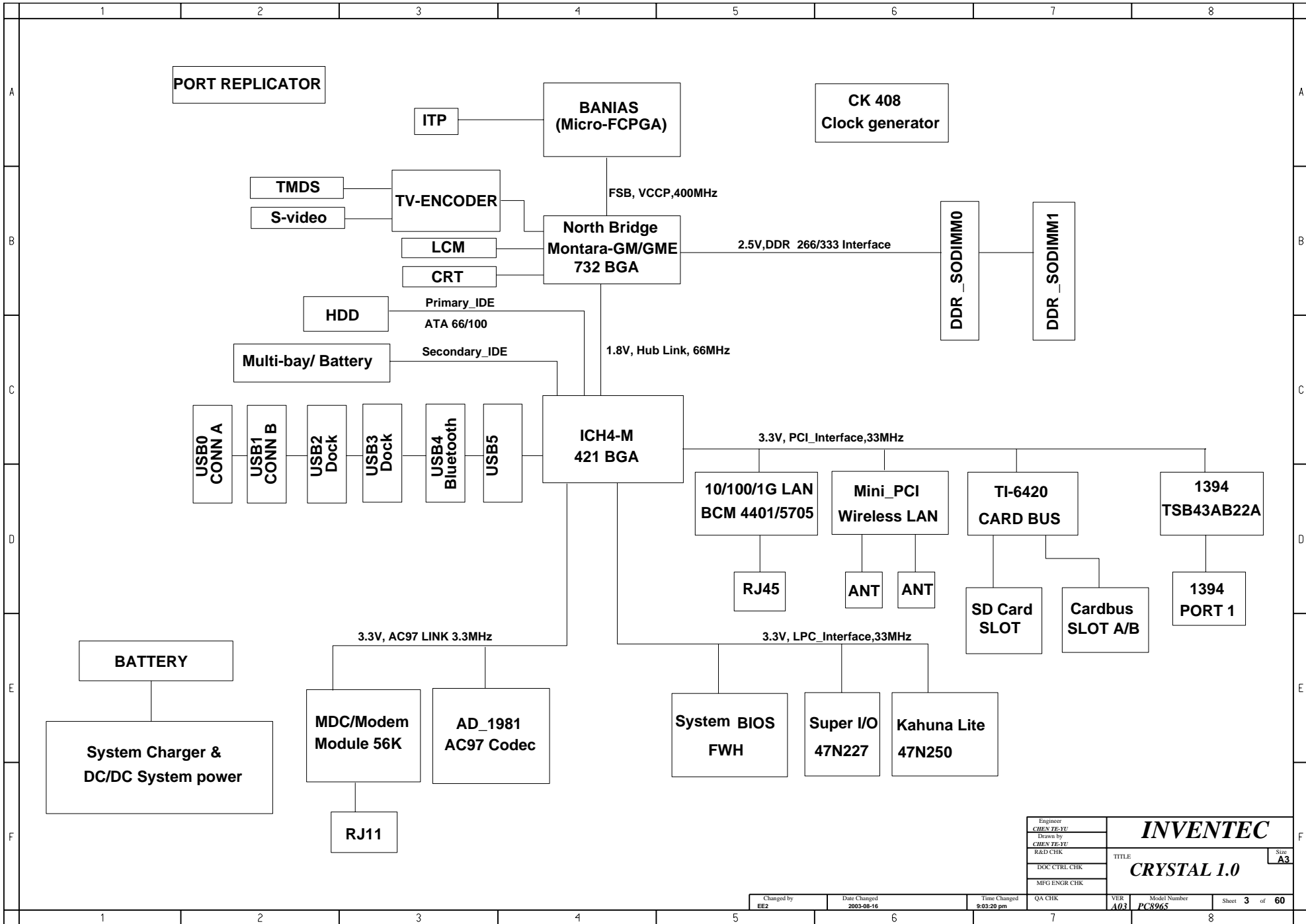
Size  
**A3**

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:01:43 pm</b>	QA CHK	VER <b>A031</b>	Model Number <b>PC8965</b>	Sheet <b>1</b> of <b>60</b>
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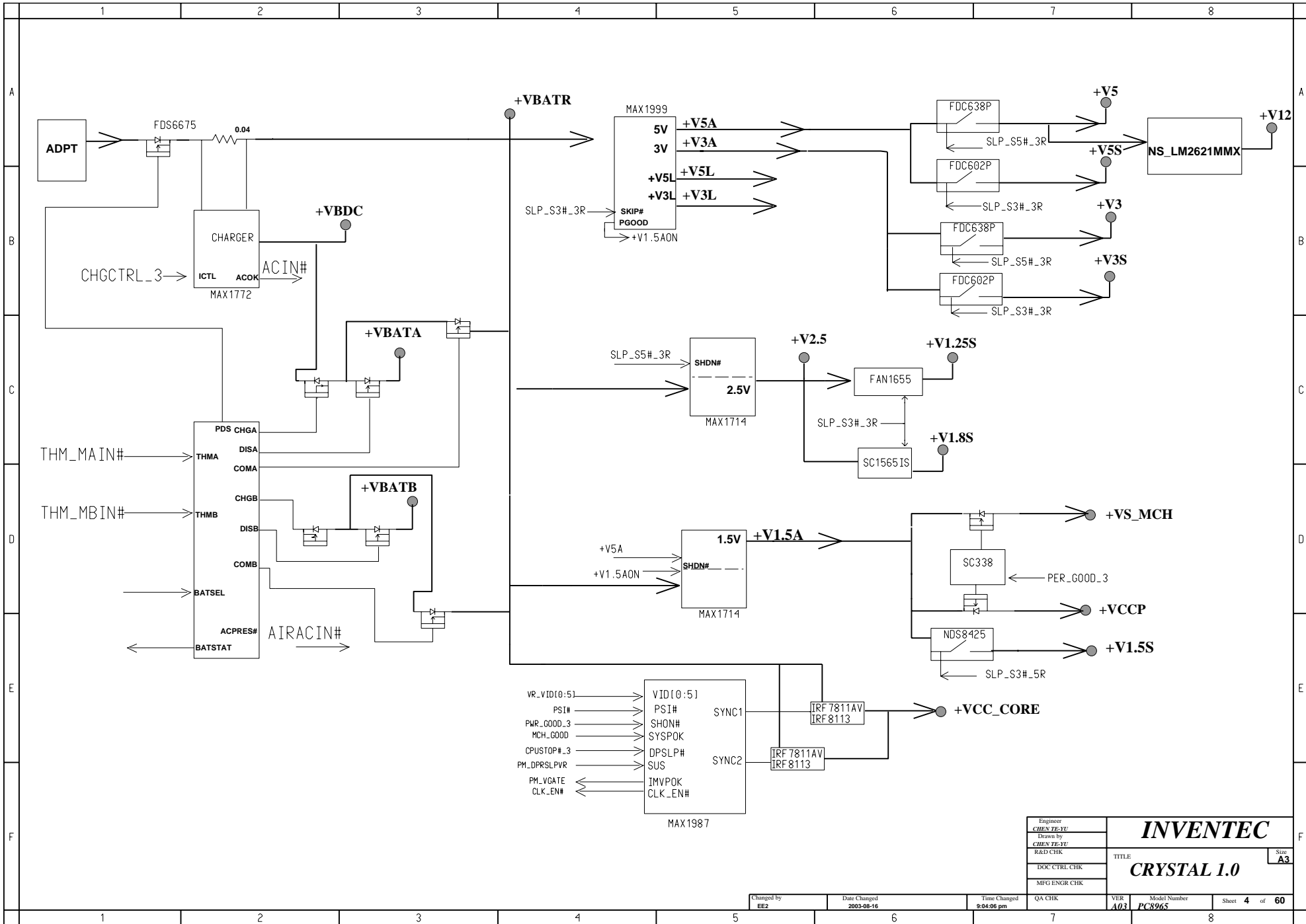
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25- DDR-SDRAM-1	47- CARDBUS CONTROLLER	
26- DDR-SDRAM-2	48- PC CARD SLOT	

<small>Engineer</small> CHEN TE-YU	<b>INVENTEC</b>
<small>Drawn by</small> CHEN TE-YU	
<small>R&amp;D CHK</small>	
<small>DOC CTRL CHK</small>	
<small>MFG ENGR CHK</small>	
<small>TITLE</small> <b>CRYSTAL 1.0</b>	<small>Size</small> A3

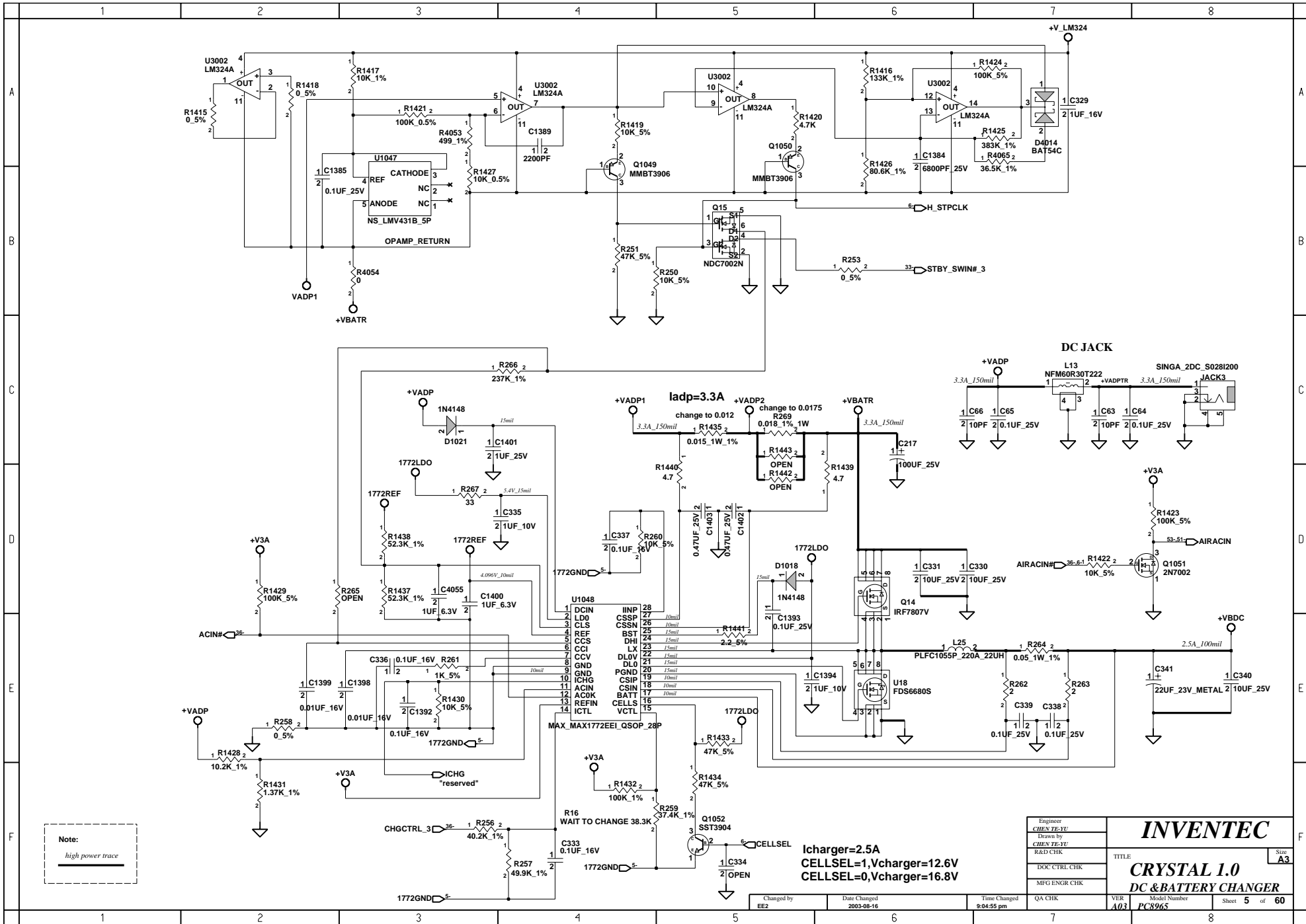


Engineer <i>CHEN YE-YU</i>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b>	Size <b>A3</b>
Drawn by <i>CHEN YE-YU</i>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:03:20 pm</b>	QA CHK	VER <b>A031</b>	Model Number <b>PC8965</b>	Sheet <b>3</b> of <b>60</b>
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Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

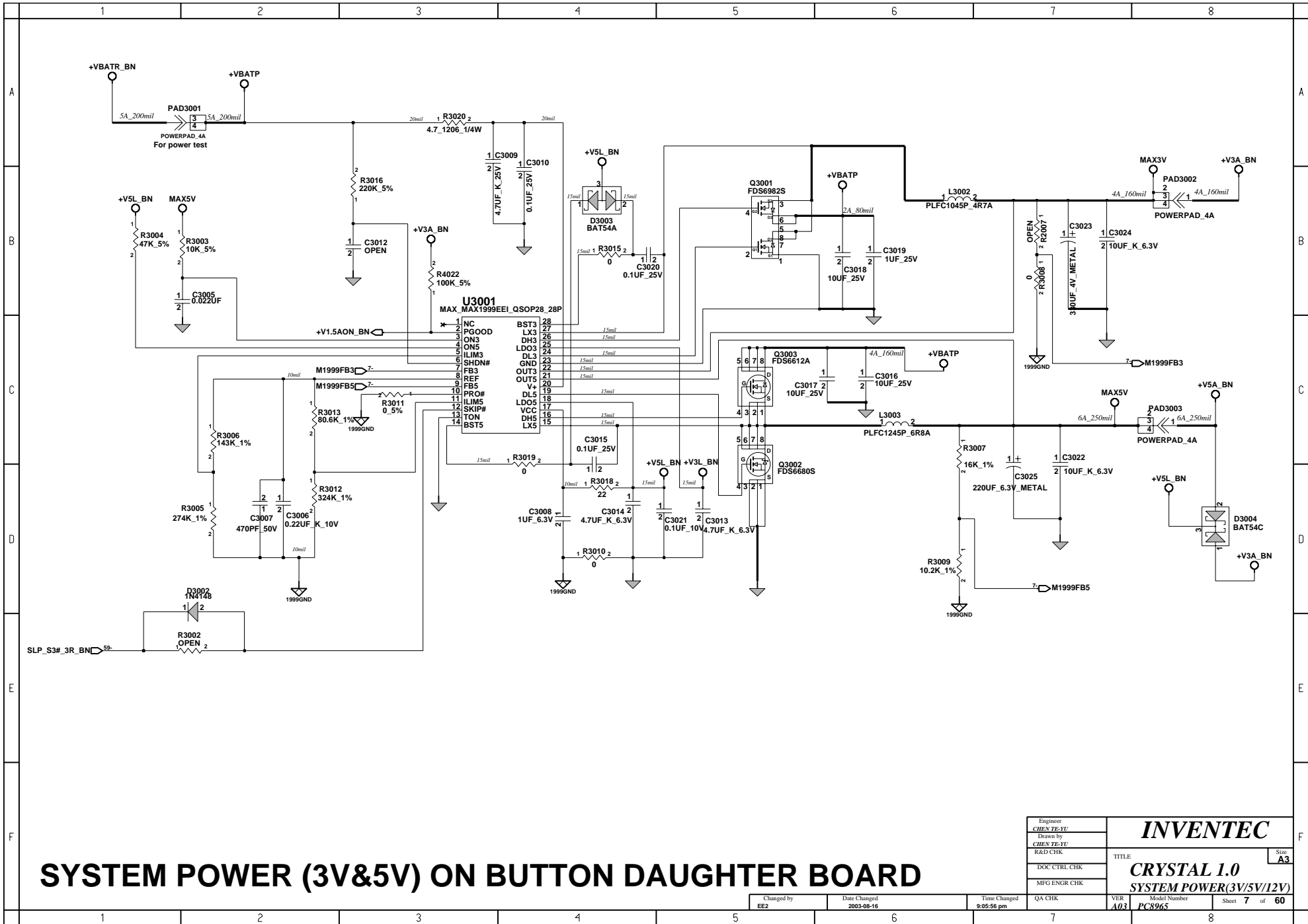


Note:  
high power trace

Icharger=2.5A  
CELLSEL=1, Vcharger=12.6V  
CELLSEL=0, Vcharger=16.8V

Engineer CHEN YE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>DC &amp; BATTERY CHARGER</b> Model Number <b>PC8965</b>	Size A3
Drawn by CHEN YE-YU		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		
Changed by EE2	Date Changed 2003-08-16	Time Changed 9:04:55 pm
QA CHK	VER A03	Sheet 5 of 60





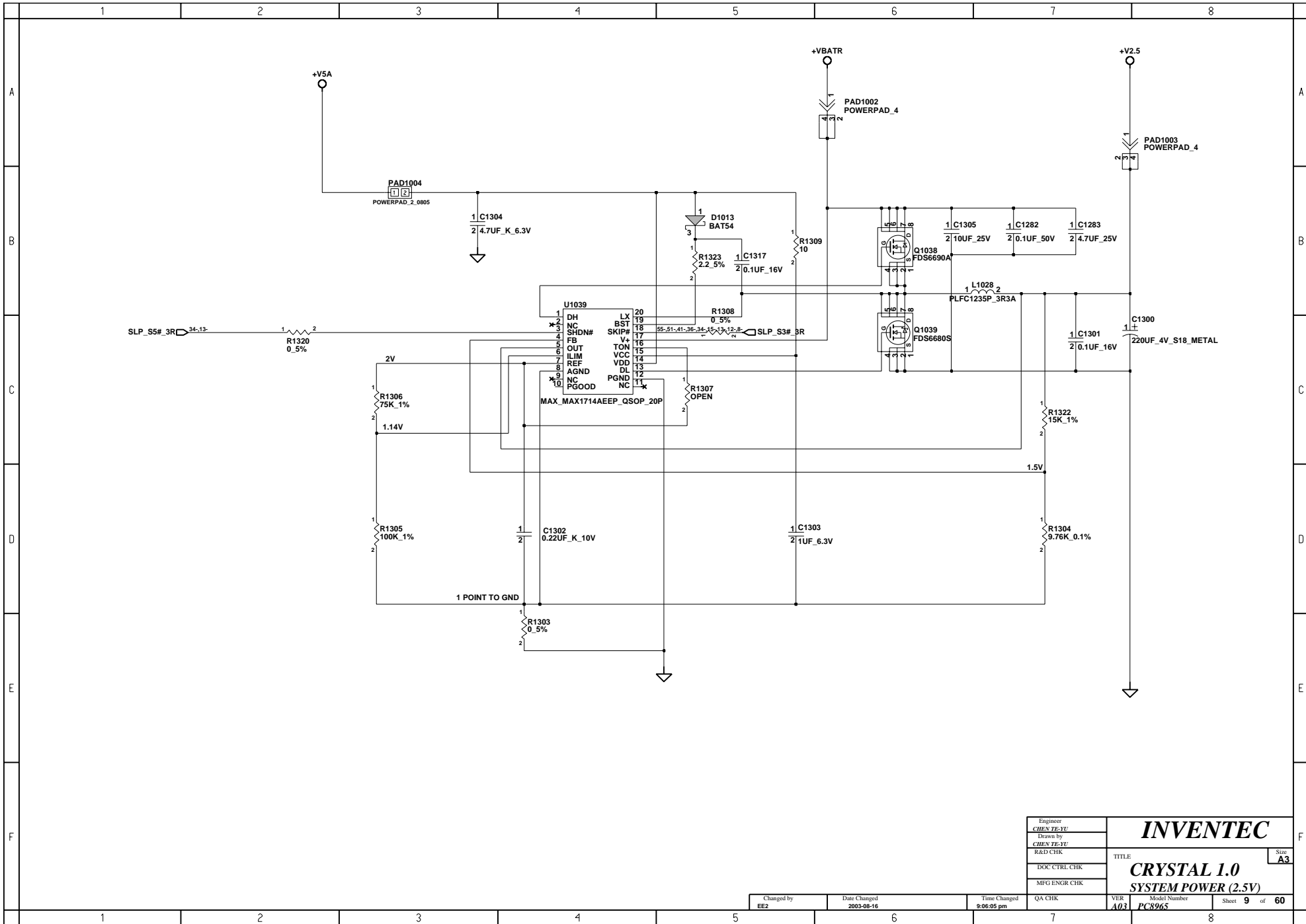
# SYSTEM POWER (3V&5V) ON BUTTON DAUGHTER BOARD

Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>SYSTEM POWER(3V/5V/12V)</b>
Drawn by <b>CHEN TE-YU</b>	
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:05:56 pm</b>	QA CHK	VER <b>A03</b>	Model Number <b>PC8965</b>	Sheet <b>7</b> of <b>60</b>
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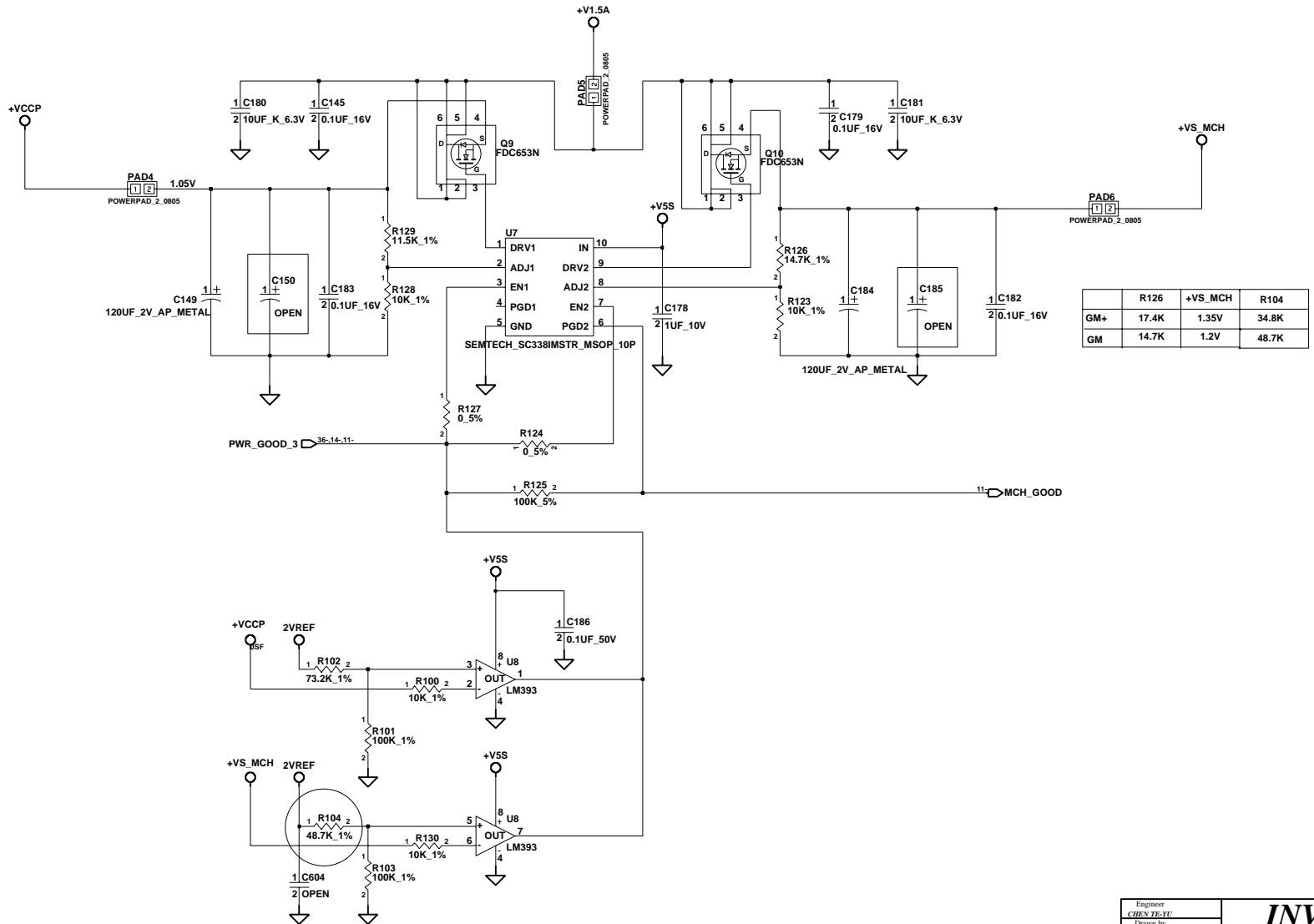






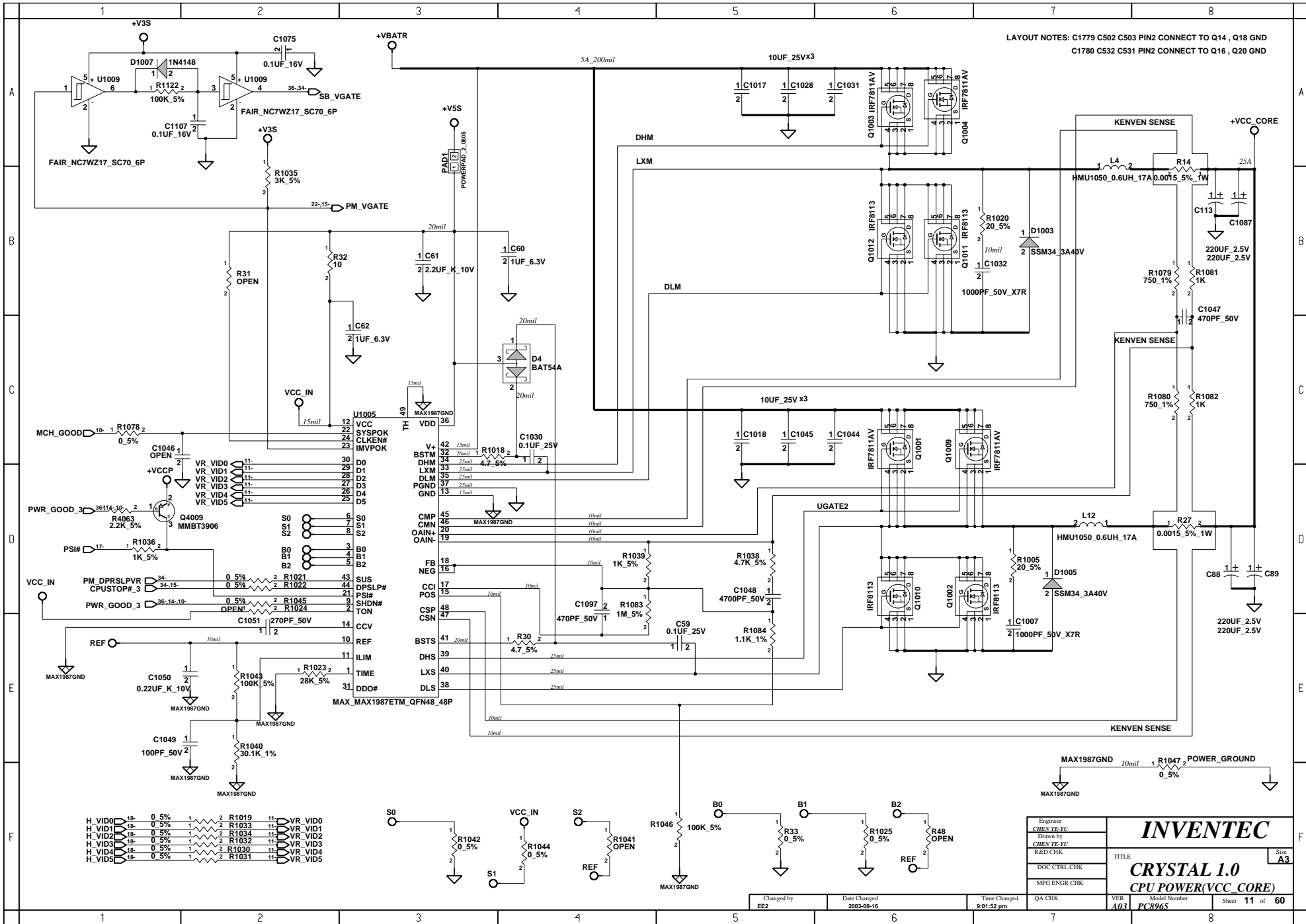
Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>SYSTEM POWER (2.5V)</b>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:06:05 pm</b>	QA CHK	VER <b>A03</b>	Model Number <b>PC8965</b>	Sheet <b>9</b> of <b>60</b>
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	R126	+VS_MCH	R104
GM+	17.4K	1.35V	34.8K
GM	14.7K	1.2V	48.7K

Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b>  <b>CRYSTAL 1.0</b> <b>SYSTEM POWER (VCCP/+VS_MCH)</b>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>		
R&D CHK		TITLE
DOC CTRL CHK		
MFG ENGR CHK		
Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:01:47 pm</b>
QA CHK	VER <b>A03</b>	Model Number <b>PC8965</b>
		Sheet <b>10</b> of <b>60</b>

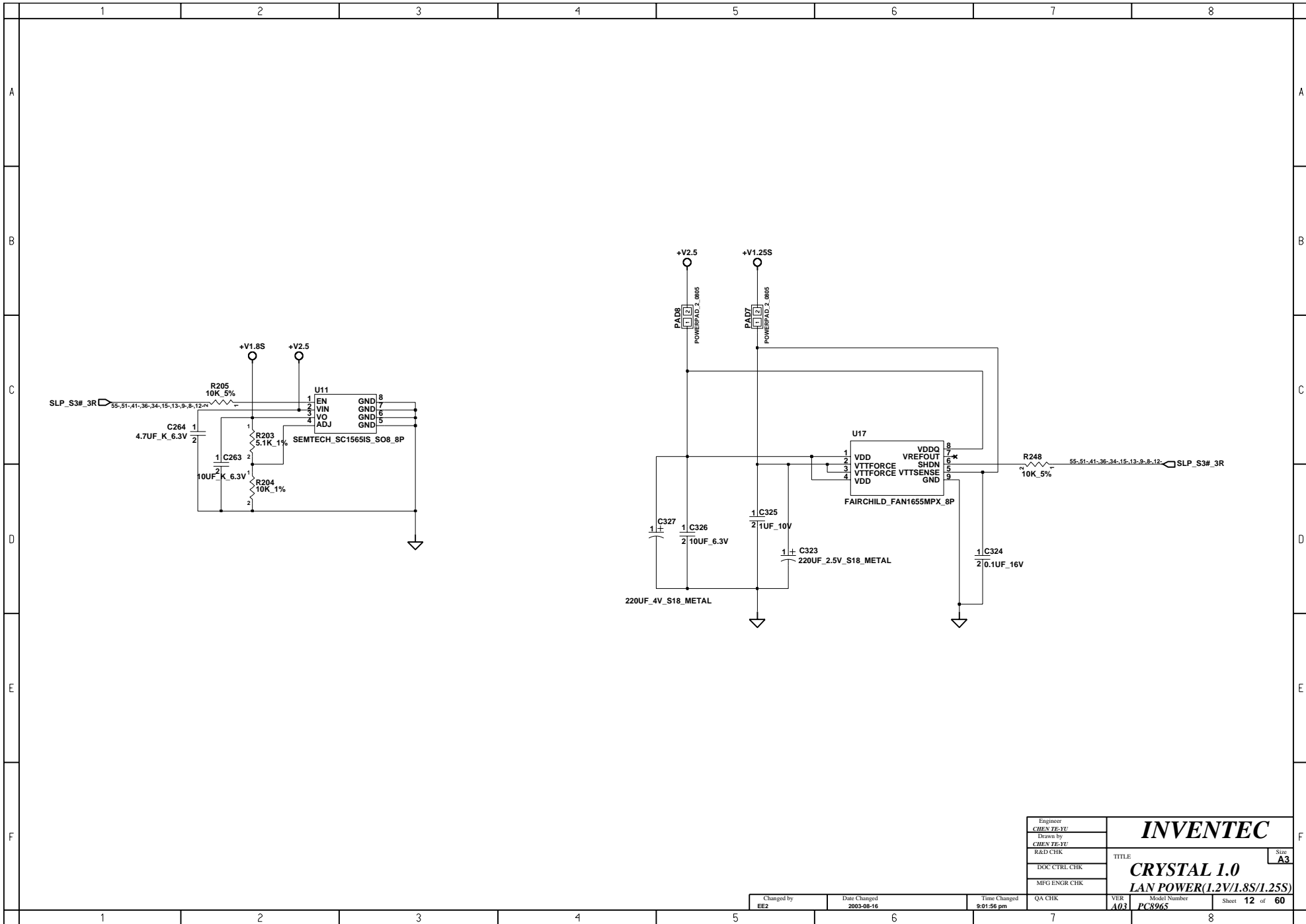


LAYOUT NOTES: C1779 C502 C503 PIN2 CONNECT TO Q14 , Q18 GND  
 C1780 C532 C531 PIN2 CONNECT TO Q16 , Q20 GND

Engineer <b>CHEN YE-YU</b>	<b>INVENTEC</b> <b>CRYSTAL 1.0</b> <b>CPU POWER(VCC_CORE)</b>	Model Number <b>PC8965</b>
Drawn by <b>CHEN YE-YU</b>		Sheet <b>11</b> of <b>60</b>
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

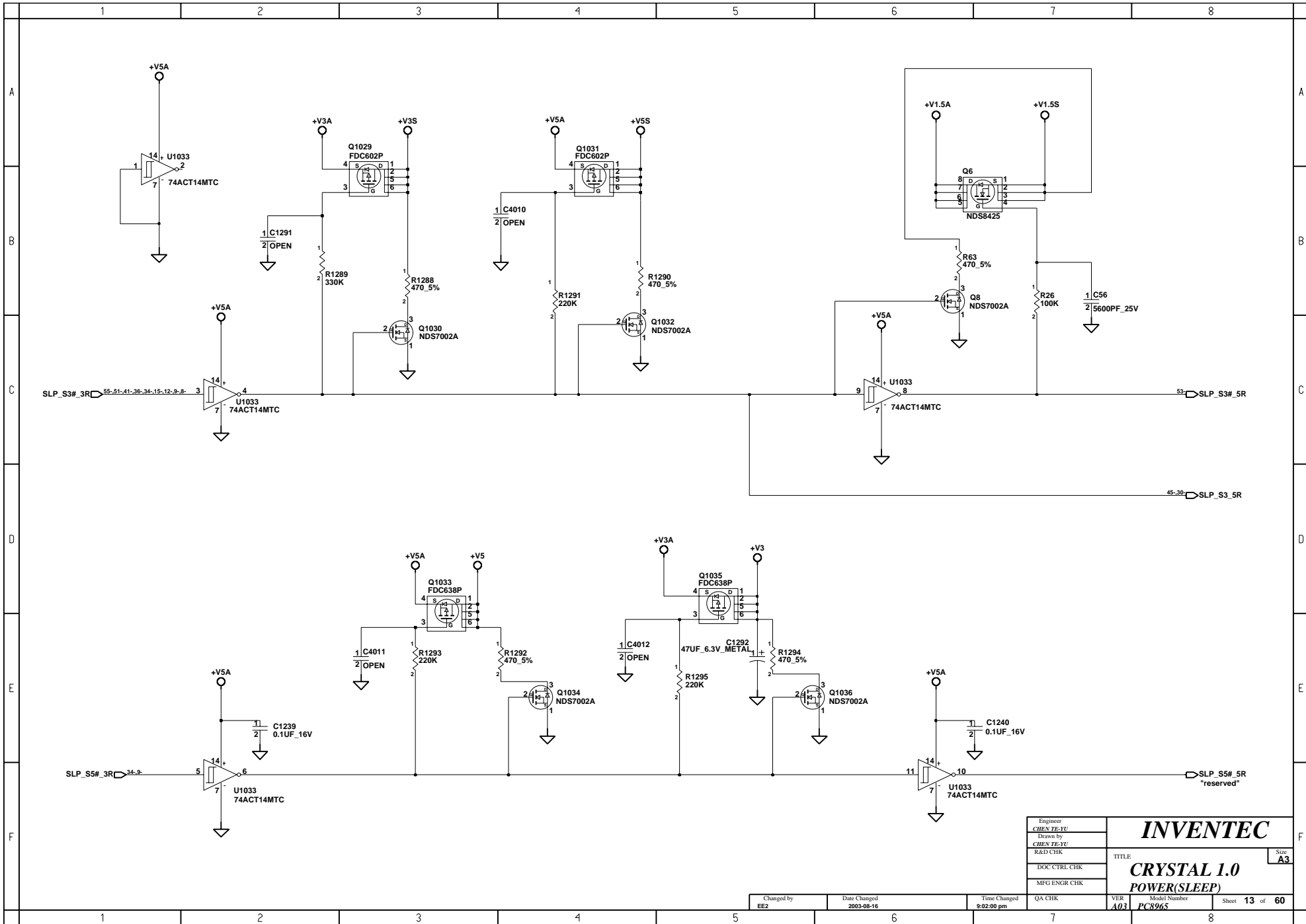
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Size A3



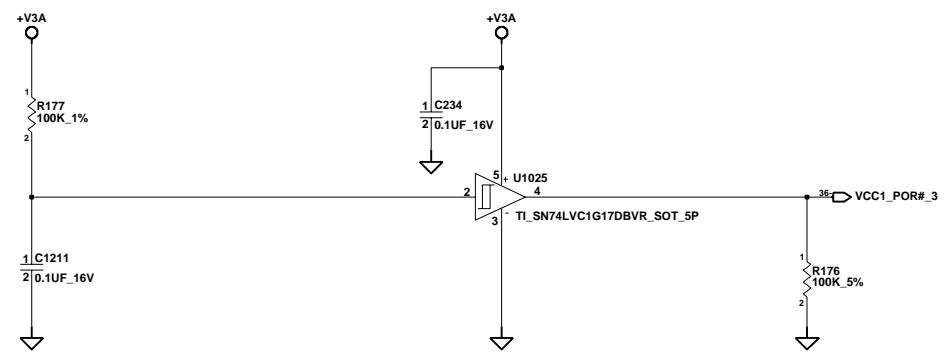
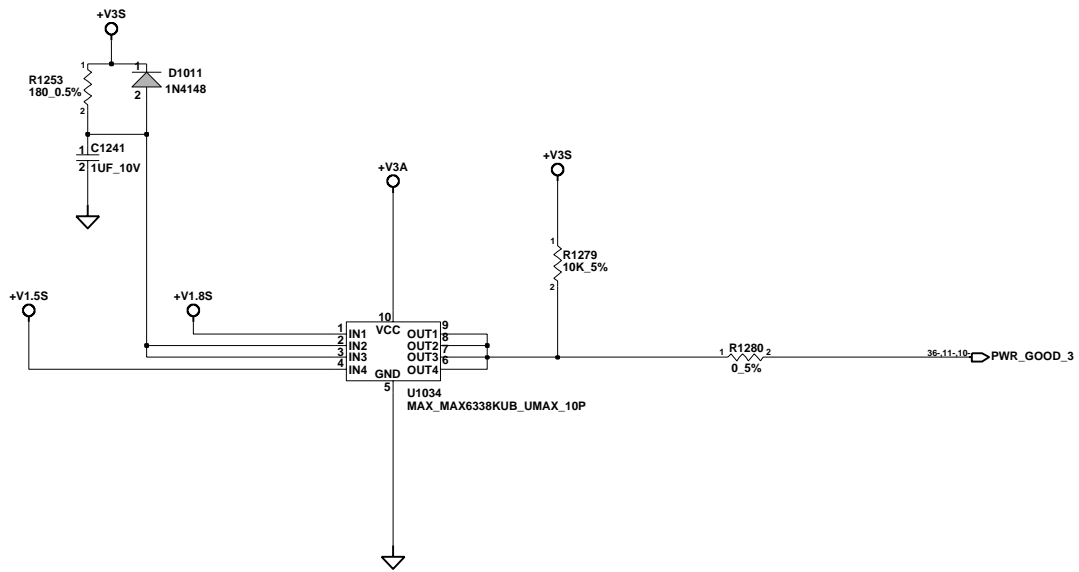
Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>LAN POWER(1.2V/1.8S/1.25S)</b>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:01:56 pm</b>	QA CHK	VER <b>A031</b>	Model Number <b>PC8965</b>	Sheet <b>12</b> of <b>60</b>
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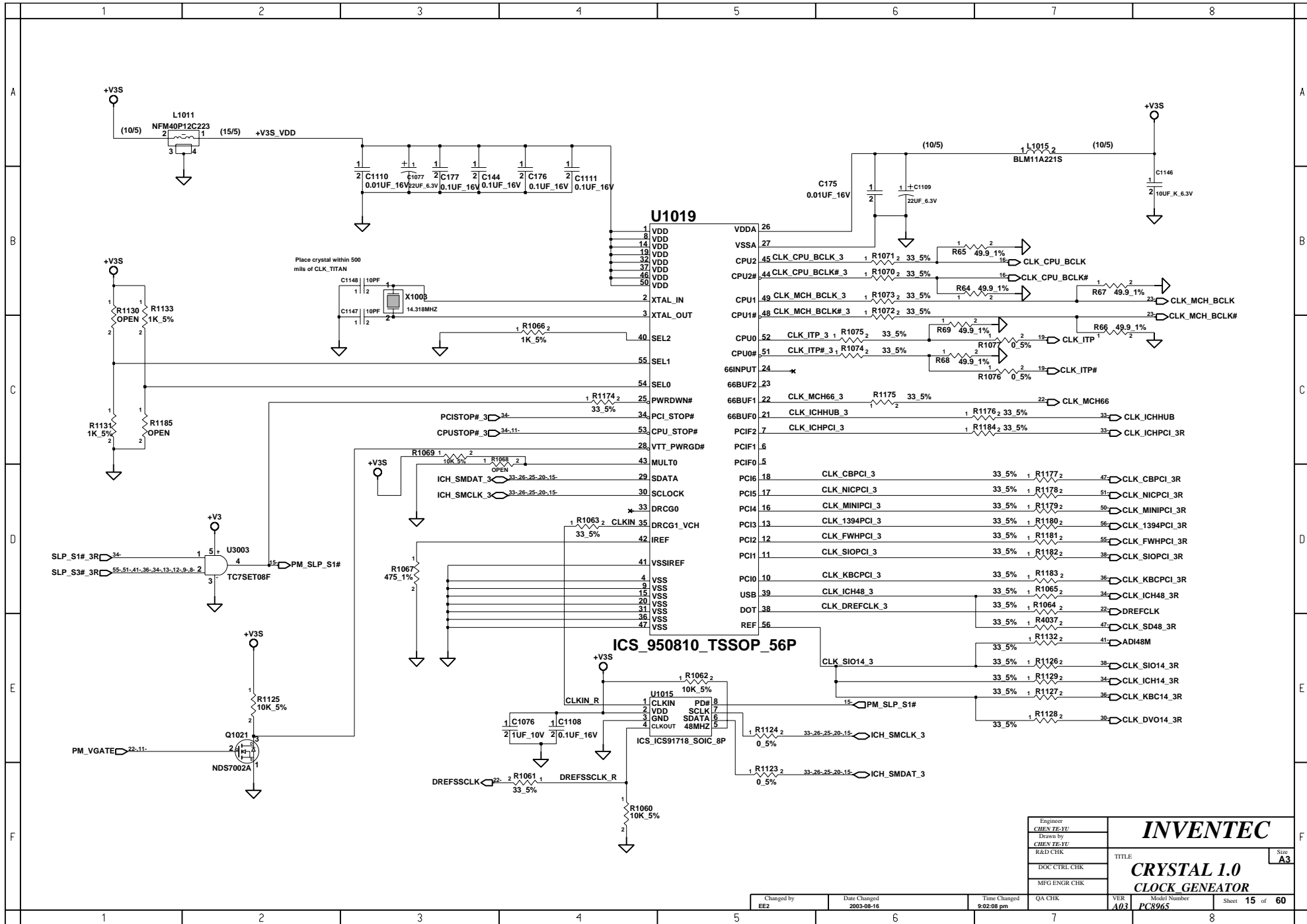
Engineer CHEN TE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>POWER(SLEEP)</b>	Size A3
Drawn by CHEN TE-YU		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by EE2	Date Changed 2003-08-16	Time Changed 9:02:00 pm	QA CHK	VER A03	Model Number PC8965	Sheet 13	of 60
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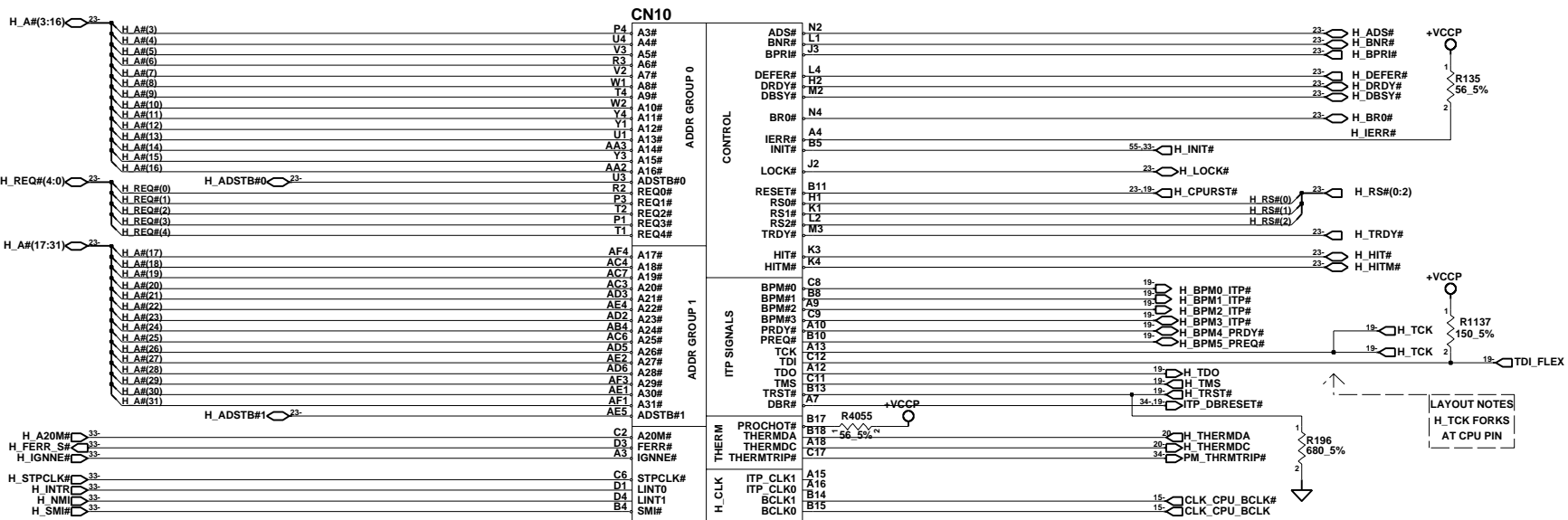
Engineer <b>CHEN YE-YU</b>	<b>INVENTEC</b>
Drawn by <b>CHEN YE-YU</b>	
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	
TITLE <b>CRYSTAL 1.0</b>	Size <b>A3</b>
<b>POWER(SEQUENCE)</b>	

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:02:04 pm</b>	QA CHK	VER <b>A031</b>	Model Number <b>PC8965</b>	Sheet <b>14</b> of <b>60</b>
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Engineer <b>CHEN YE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL I.0</b> <b>CLOCK GENERATOR</b>	Size <b>A3</b>
Drawn by <b>CHEN YE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:02:08 pm</b>	QA CHK	VER <b>A03</b>	Model Number <b>PC8965</b>	Sheet <b>15</b>	of <b>60</b>
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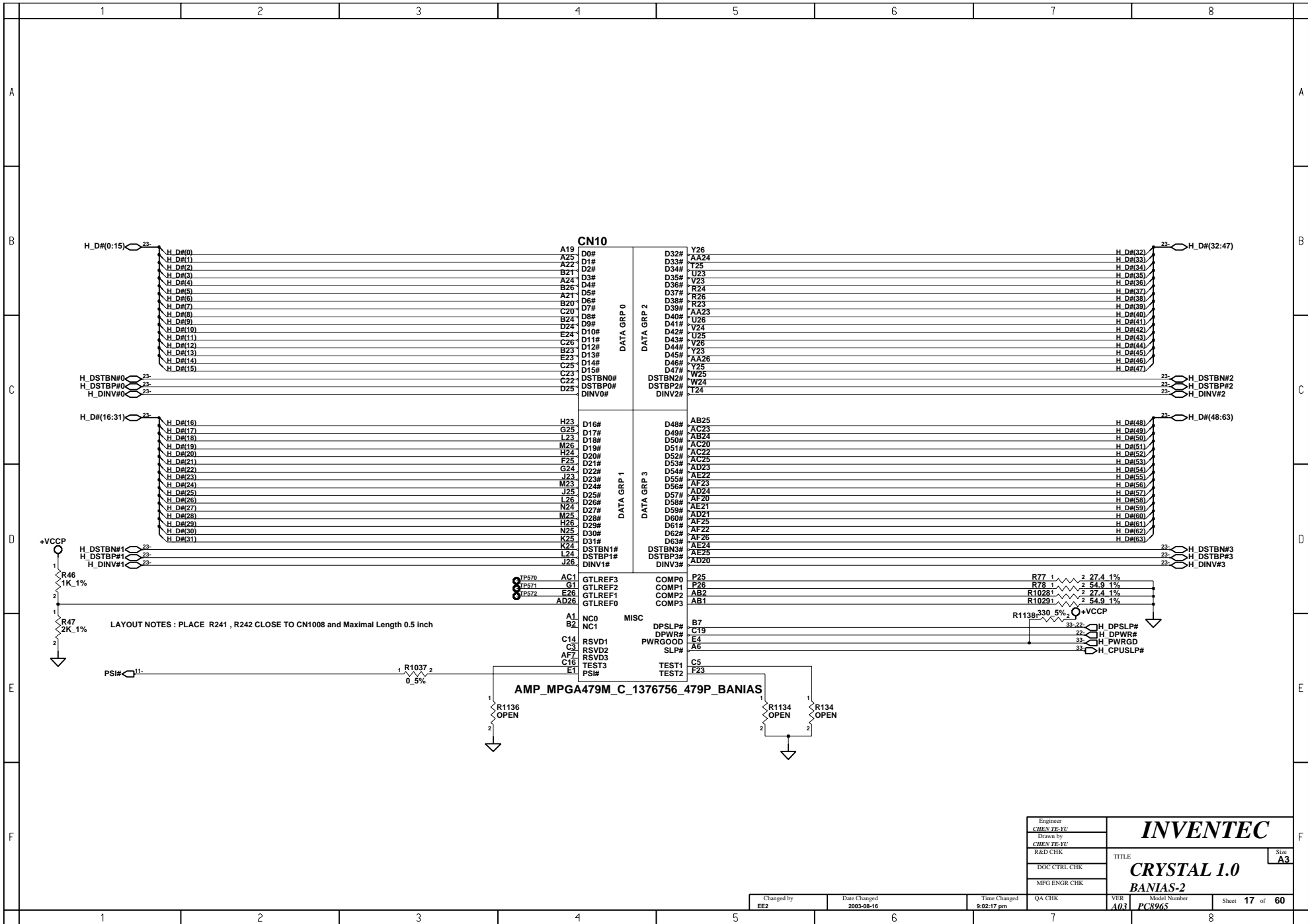


AMP\_MPGA479M\_C\_1376756\_479P\_BANIAS

Engineer	CHEN TE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>BANIAS-1</b>	Size	A3	
Drawn by	CHEN TE-YU				
R&D CHK					
DOC CTRL CHK					
MFG ENGR CHK					
VER	A03	Model Number	PC8965	Sheet	16 of 60

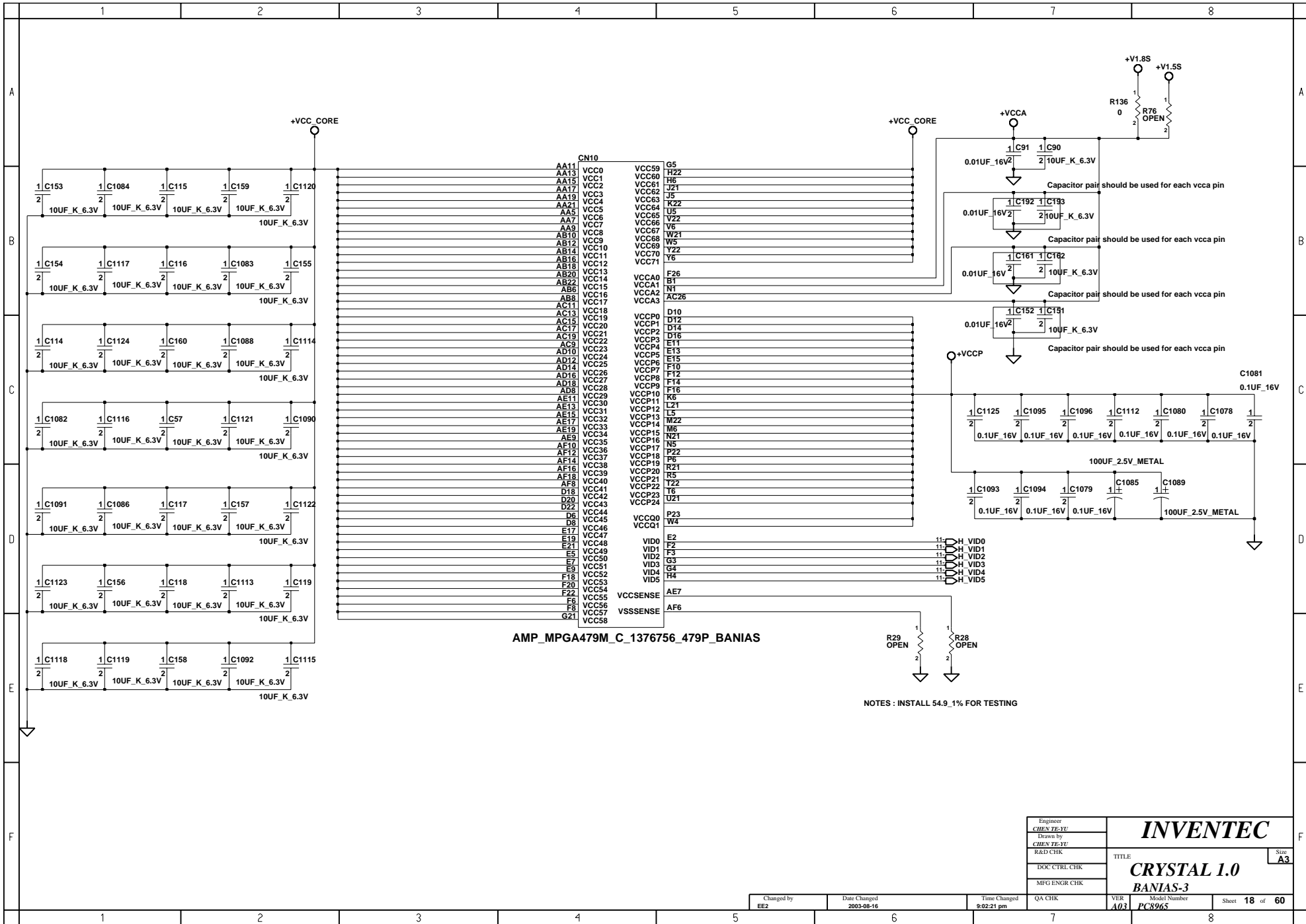
Changed by	Date Changed	Time Changed	QA CHK
EE2	2003-08-16	9:02:13 pm	





Engineer CHEN TE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>BANIAS-2</b> Model Number <b>PC8965</b>	Size <b>A3</b>
Drawn by CHEN TE-YU		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by EE2	Date Changed 2003-08-16	Time Changed 9:02:17 pm	QA CHK	VER A03	Sheet 17 of 60
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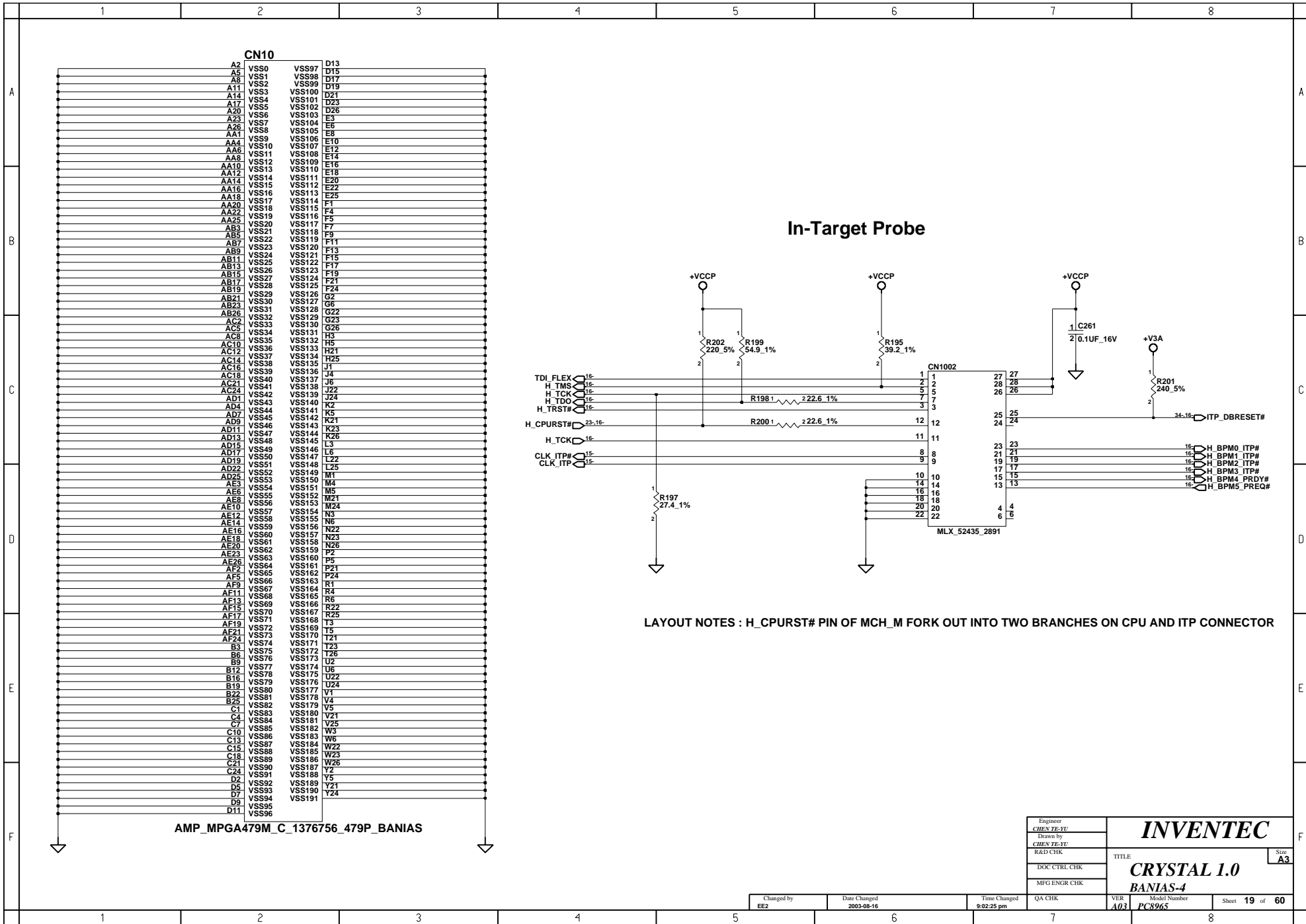


AMP\_MPGA479M\_C\_1376756\_479P\_BANIAS

NOTES : INSTALL 54.9\_1% FOR TESTING

Engineer CHEN TE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>BANIAS-3</b>	Size A3
Drawn by CHEN TE-YU		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by EE2	Date Changed 2003-08-16	Time Changed 9:02:21 pm	QA CHK	VER A03	Model Number PC8965	Sheet 18 of 60
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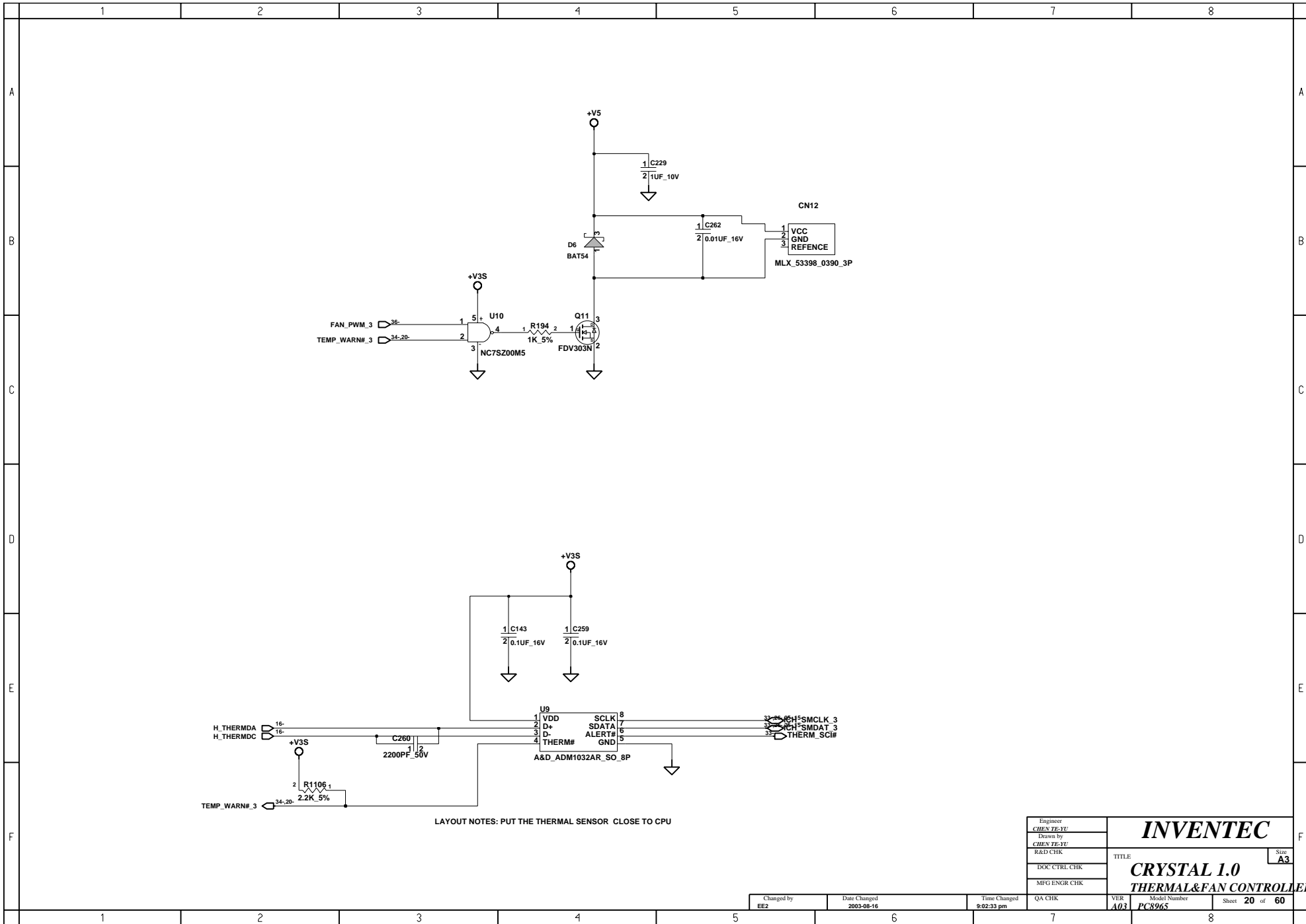
### In-Target Probe

LAYOUT NOTES : H\_CPURST# PIN OF MCH\_M FORK OUT INTO TWO BRANCHES ON CPU AND ITP CONNECTOR

AMP\_MPGA479M\_C\_1376756\_479P\_BANIAS

Engineer CHEN TE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>BANIAS-4</b>	Size A3
Drawn by CHEN TE-YU		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by EE2	Date Changed 2003-08-16	Time Changed 9:02:25 pm	QA CHK	VER A03	Model Number PC8965	Sheet 19	of 60
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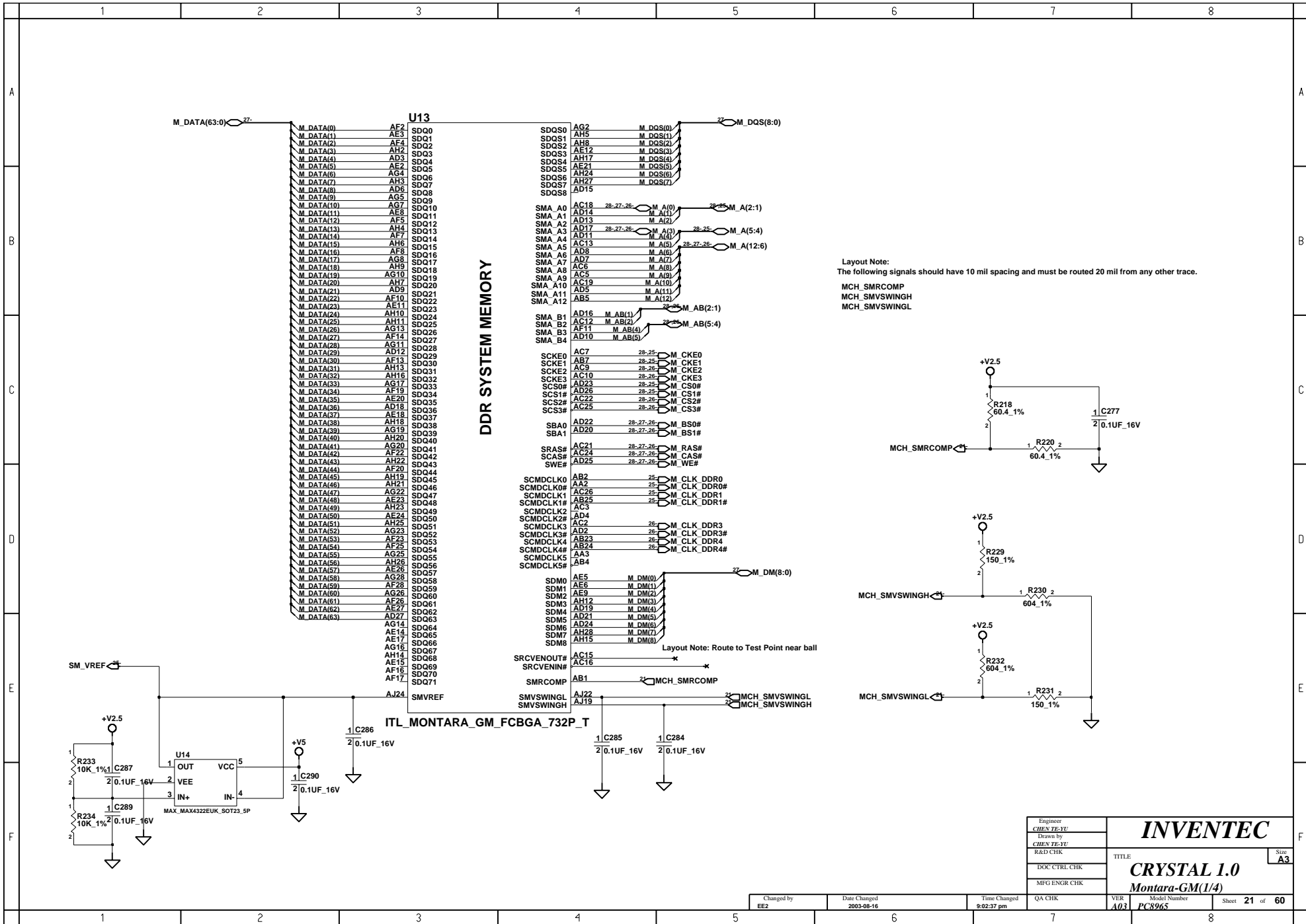


LAYOUT NOTES: PUT THE THERMAL SENSOR CLOSE TO CPU

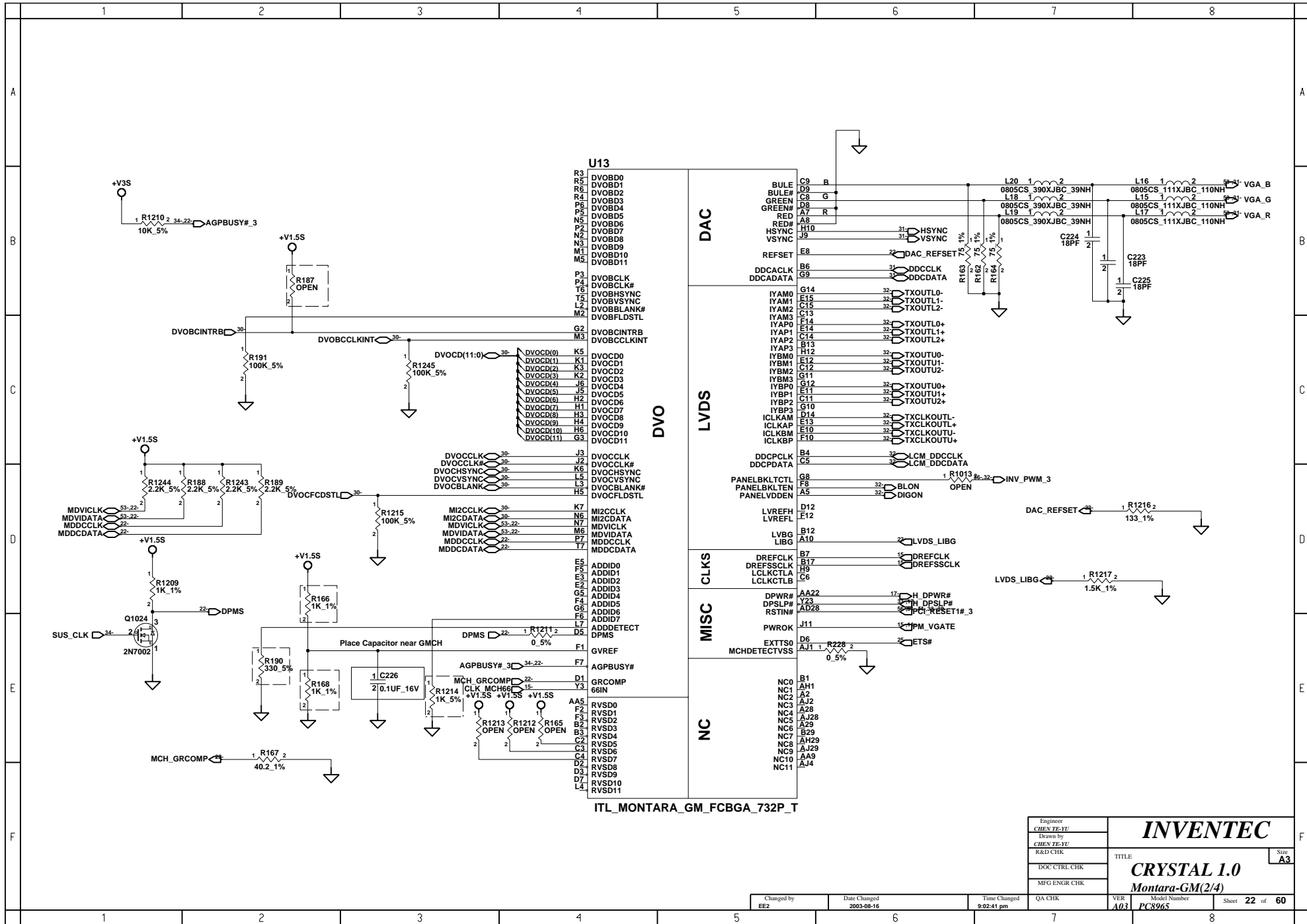
Engineer <b>CHEN YE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>THERMAL&amp;FAN CONTROLLER</b>
Drawn by <b>CHEN YE-YU</b>	
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	
VER <b>A031</b>	Model Number <b>PC8965</b>

Changd by <b>EE2</b>	Date Changd <b>2003-08-16</b>	Time Changd <b>9:02:33 pm</b>	QA CHK	Sheet <b>20</b> of <b>60</b>
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Size **A3**



Engineer CHEN YE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> Montara-GM(1/4) Model Number <b>PC8965</b>	Size <b>A3</b>
Drawn by CHEN YE-YU		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

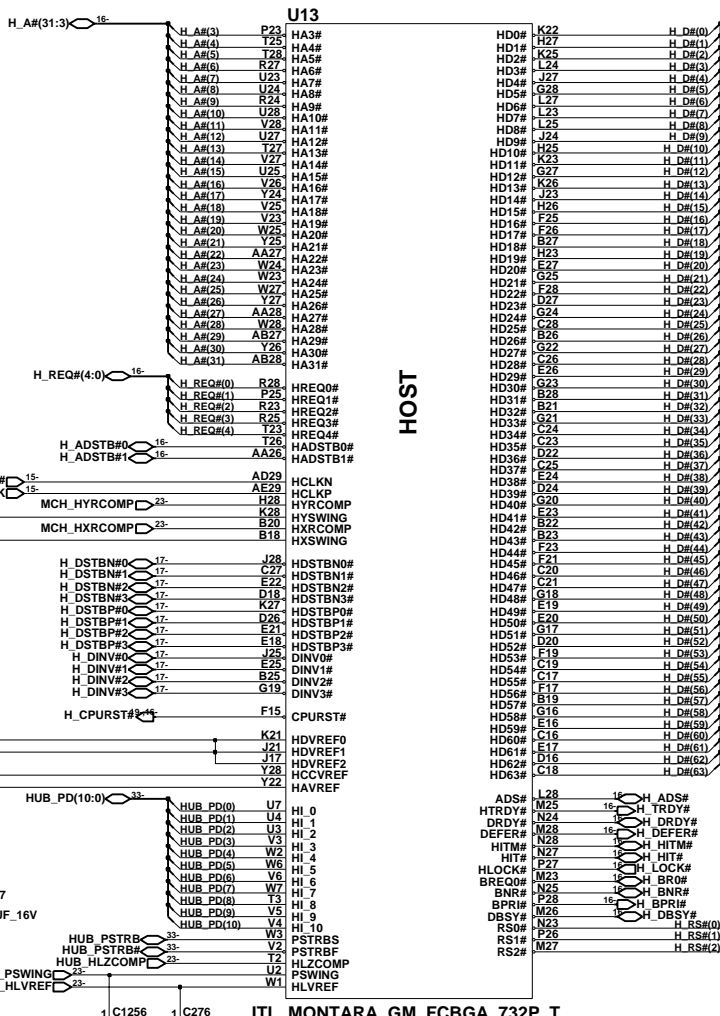
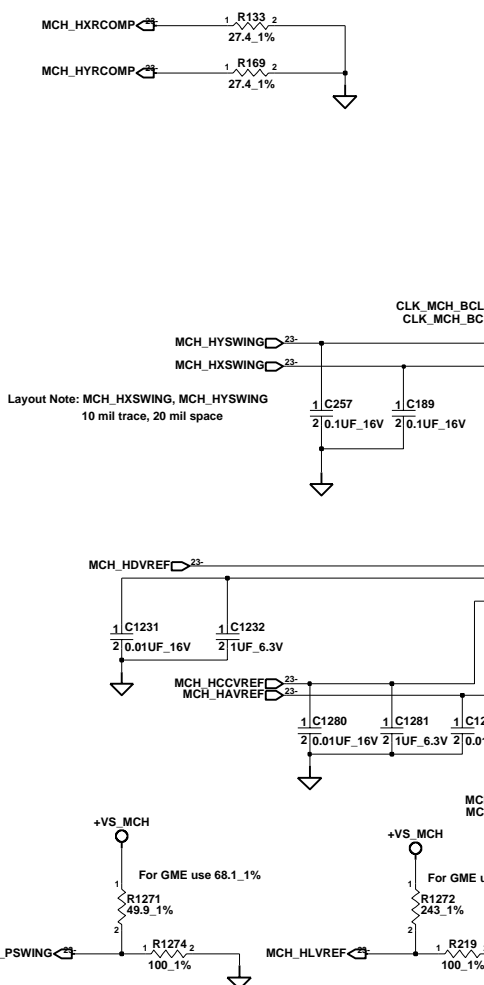
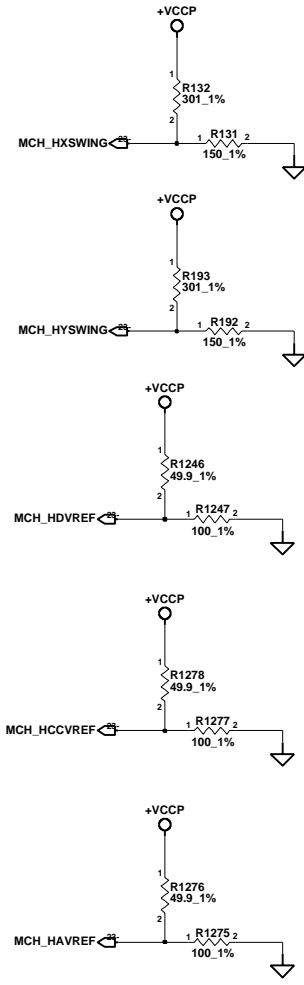


ITL\_MONTARA\_GM\_FCBGA\_732P\_T

Engineer CHEN TE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> Montara-GM(2/4) Model Number <b>PC8965</b>
Drawn by CHEN TE-YU	
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	

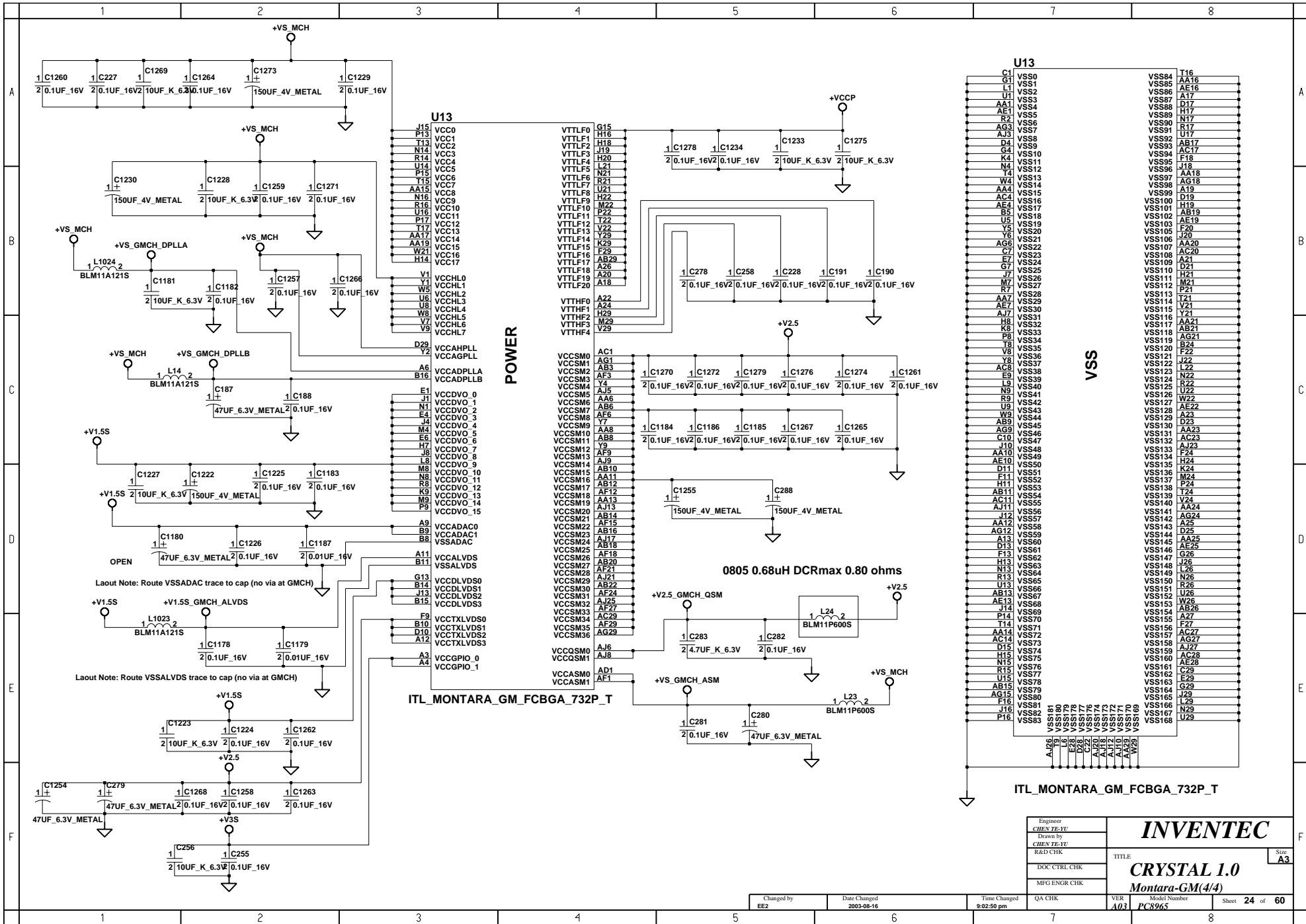
Layout Note:  
The following signals should have 10 mil spacing and must be routed 20 mil from any other trace.

MCH\_HXSWING  
MCH\_HYSWING  
MCH\_HDVREF  
MCH\_HXRCOMP  
MCH\_HYRCOMP  
MCH\_HCCVREF  
MCH\_HLVREF  
HUB\_HLZCOMP  
MCH\_PSWING  
MCH\_HAVREF



Engineer CHEN YE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>Montara-GM(3/4)</b>	Model Number PC8965
Drawn by CHEN YE-YU		Sheet 23 of 60
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

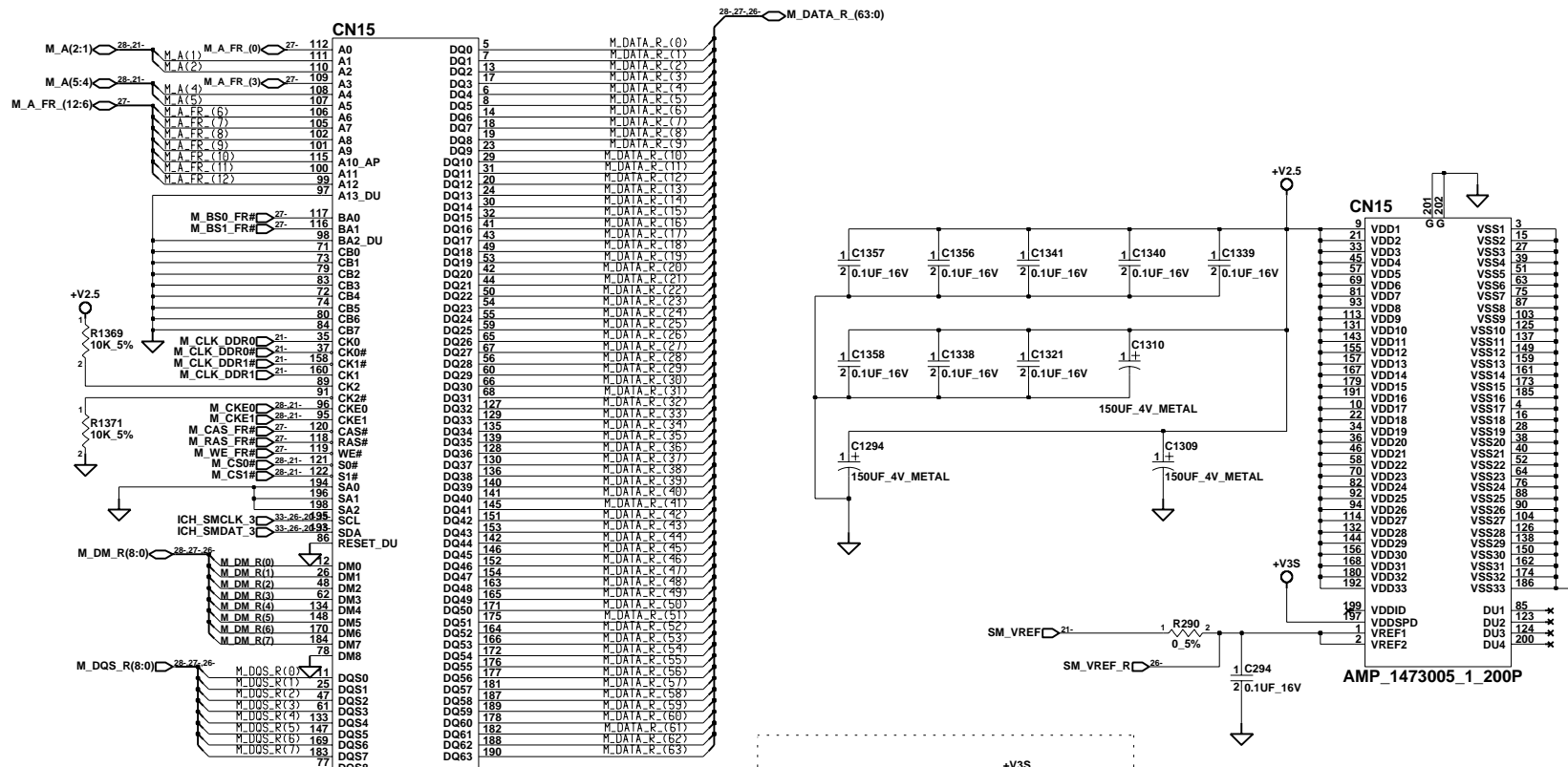
Changed by EE2	Date Changed 2003-08-16	Time Changed 9:02:45 pm	QA CHK	VER A03
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Engineer CHEN TE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>Montara-GM(4/4)</b>	Size A3
Drawn by CHEN TE-YU		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

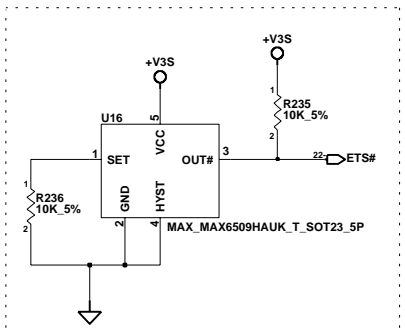
Changed by EE2	Date Changed 2003-08-16	Time Changed 9:02:50 pm	QA CHK	VER A03	Model Number PC8965	Sheet 24	of 60
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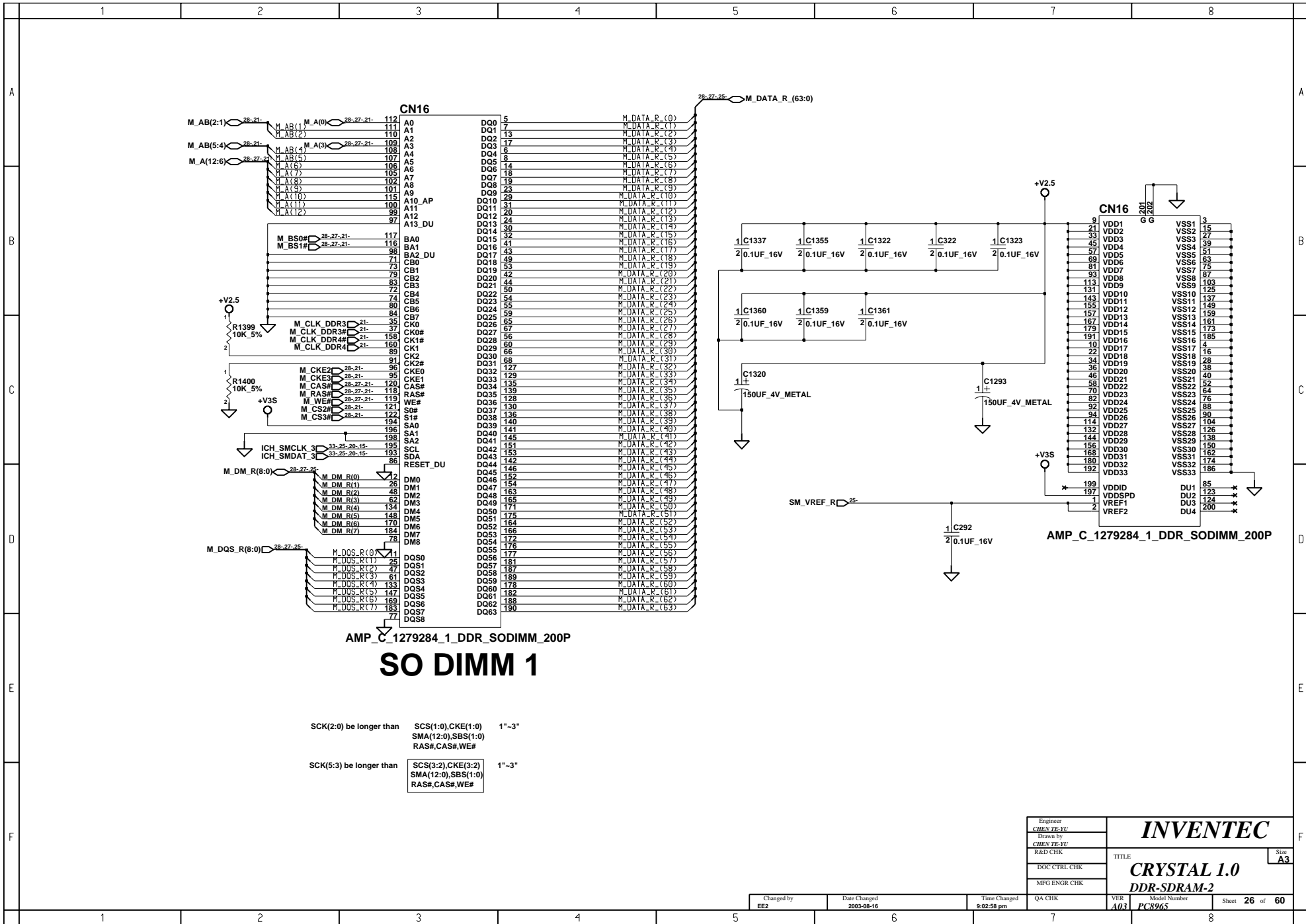
# SO DIMM 0

SCK/SCK#(0)=SCK/SCK#(1)=SCK/SCK#(2)  
 SCK/SCK#(3)=SCK/SCK#(4)=SCK/SCK#(5)  
 DQ=CB=DQS  
 SCK(2:0) be longer than DQS 1"-2"  
 SCK(5:3) be longer than DQS 1"-2"  
 SDQ(63:0) from MCH to DIMM0 2"-3.5"  
 SCS#,SCKE from MCH to DIMM0 2"-4.5"  
 SMA(12:0),SBS(1:0),SRAS#,SCAS#,SWE# 2"-3.5"  
 SCK 3"-6.5"



LAYOUT NOTES : LOCATION MUST BE CENTER OF BOTTON SODIMM 0

Engineer CHEN TE-YU	<b>INVENTEC</b> <b>CRYSTAL 1.0</b> <b>DDR-SDRAM-I</b>	Model Number PC8965
Drawn by CHEN TE-YU		Sheet 25 of 60
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		



AMP\_C\_1279284\_1\_DDR\_SODIMM\_200P

# SO DIMM 1

SCK(2:0) be longer than	SCS(1:0),CKE(1:0) SMA(12:0),SBS(1:0) RAS#,CAS#,WE#	1"-3"
SCK(5:3) be longer than	SCS(3:2),CKE(3:2) SMA(12:0),SBS(1:0) RAS#,CAS#,WE#	1"-3"

Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>DDR-SDRAM-2</b>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:02:58 pm</b>	QA CHK	VER <b>A03</b>	Model Number <b>PC8965</b>	Sheet <b>26</b> of <b>60</b>
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A

B

C

D

E

F

A

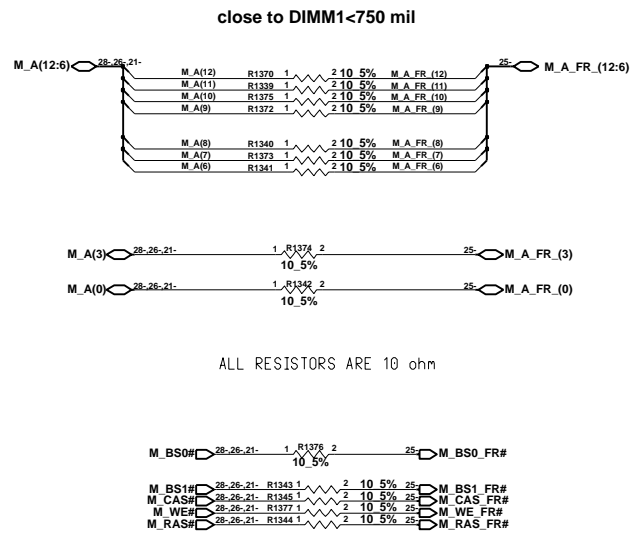
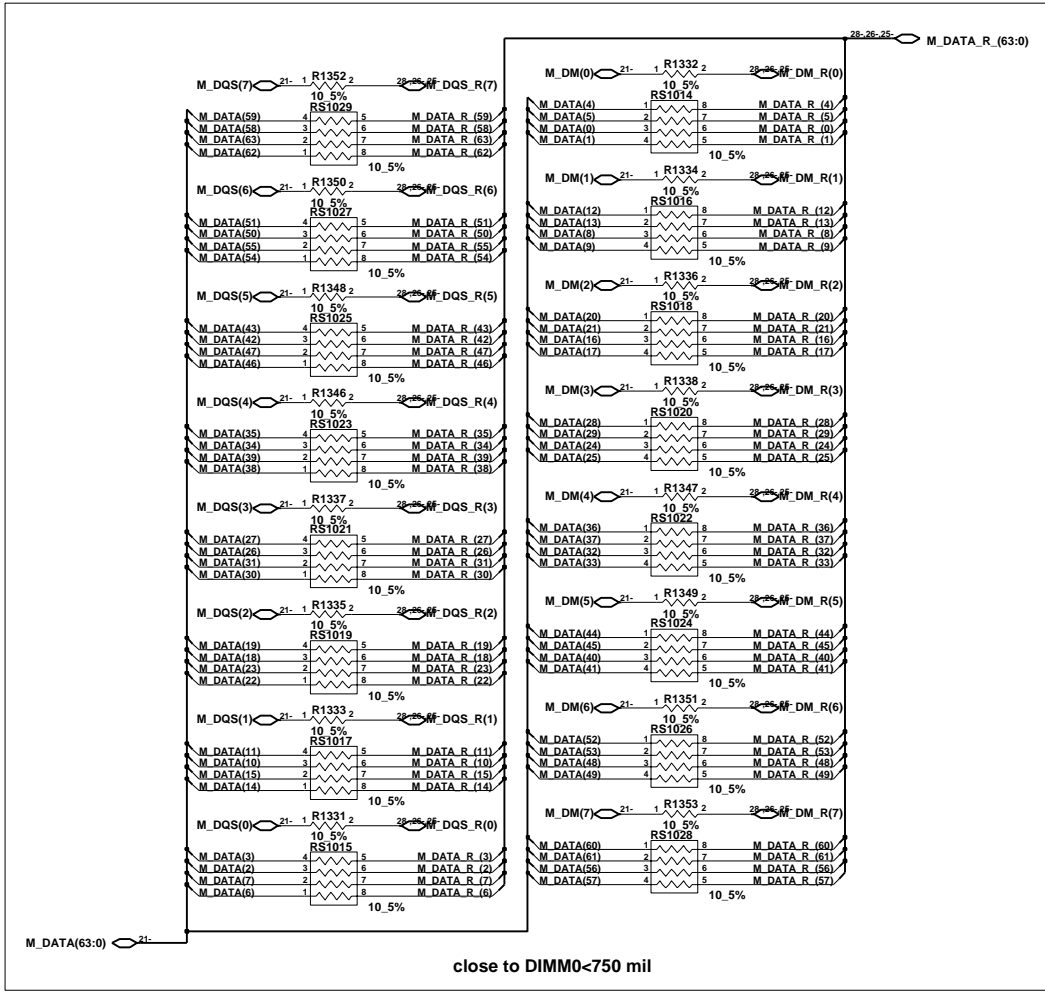
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C

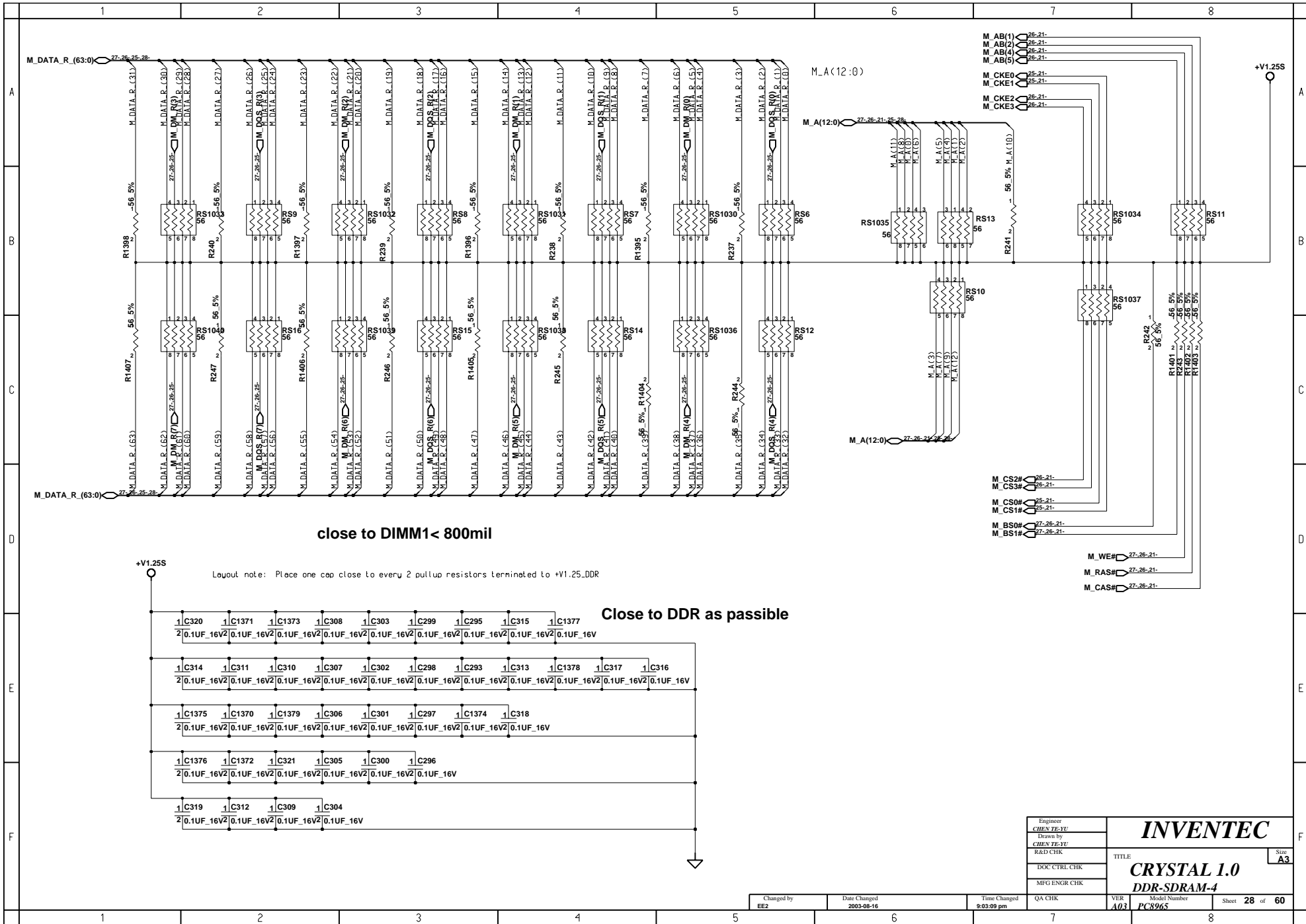
D

E

F



Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>DDR-SDRAM-3</b>	Model Number <b>PC8965</b>
Drawn by <b>CHEN TE-YU</b>		Sheet <b>27</b> of <b>60</b>
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		



close to DIMM1 < 800mil

Layout note: Place one cap close to every 2 pullup resistors terminated to +V1.25\_DDR

Close to DDR as possible

Engineer	CHEN TE-YU
Drawn by	CHEN TE-YU
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	

<b>INVENTEC</b>	
TITLE:	Size <b>A3</b>
<b>CRYSTAL 1.0</b>	
<b>DDR-SDRAM-4</b>	
VER	Model Number
<b>A03</b>	<b>PC8965</b>
Sheet	28 of 60

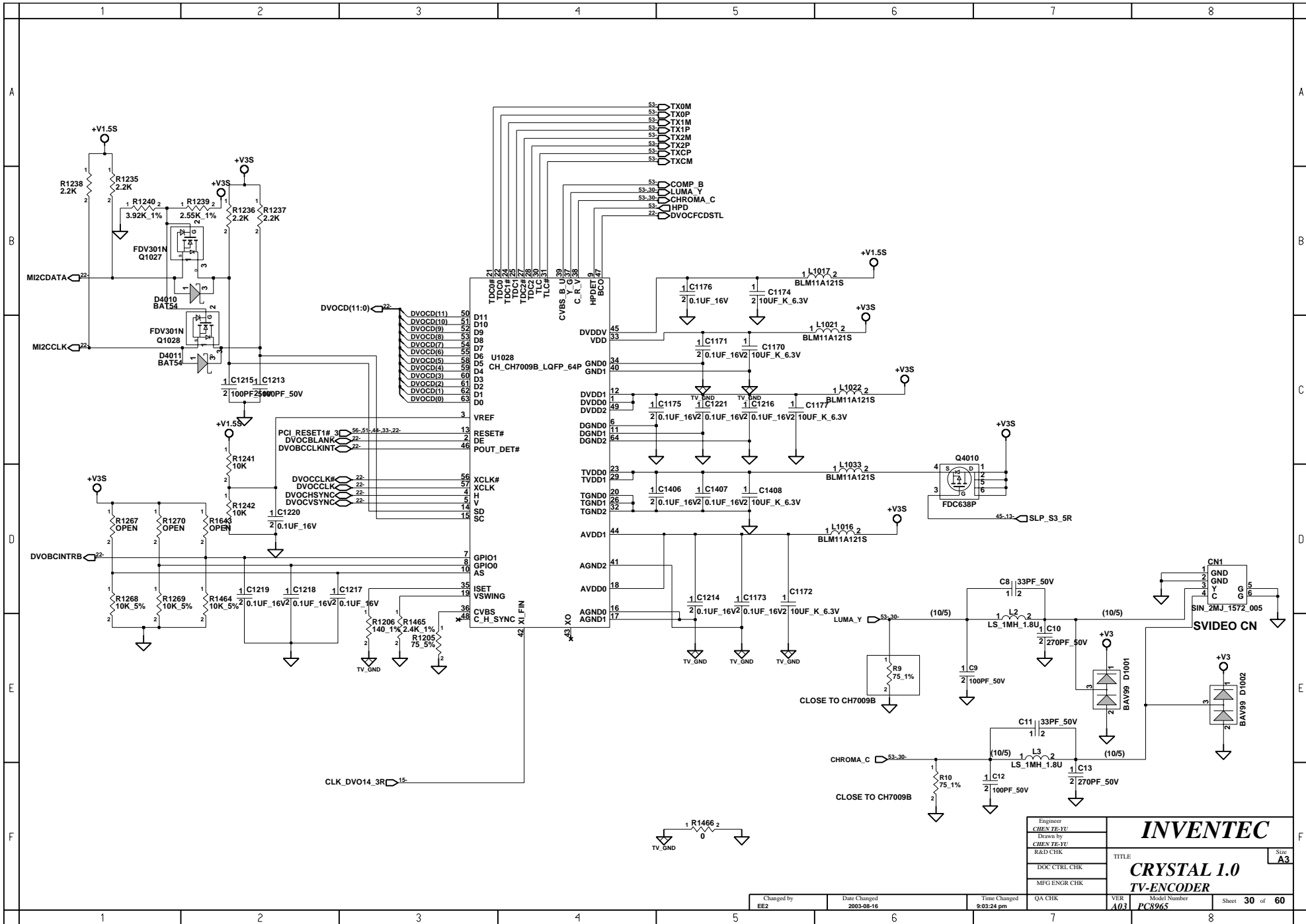
Changed by	Date Changed	Time Changed	QA CHK
EE2	2003-08-16	9:03:09 pm	

**BLANK**

Engineer <i>CHEN TE-YU</i>	<b>INVENTEC</b>
Drawn by <i>CHEN TE-YU</i>	
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	
TITLE	<b>CRYSTAL 1.0</b>
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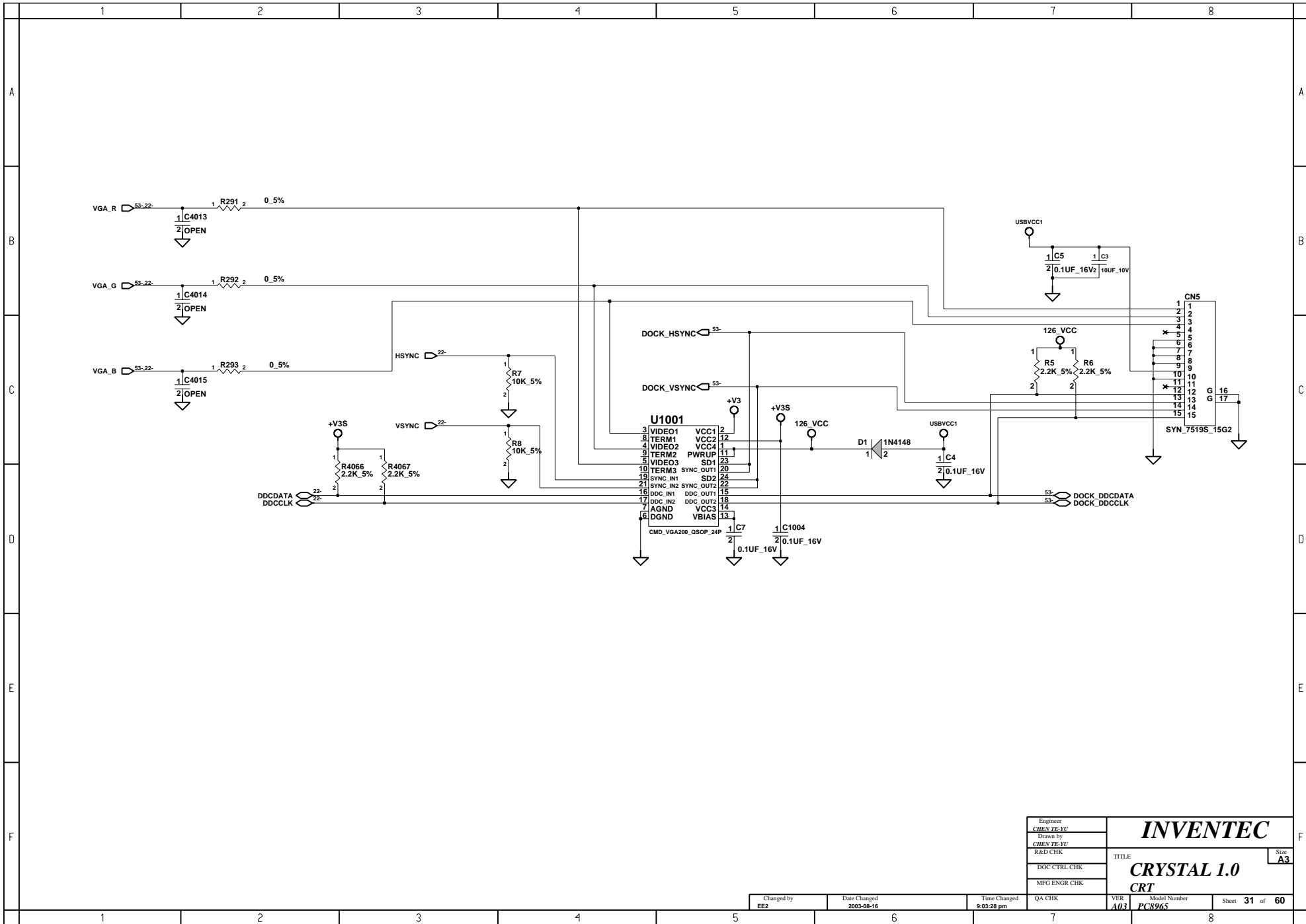
Size **A3**

Changed by <b>EEZ</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:03:15 pm</b>	QA CHK	VER <b>A03</b>	Model Number <b>PC8965</b>	Sheet <b>29</b> of <b>60</b>
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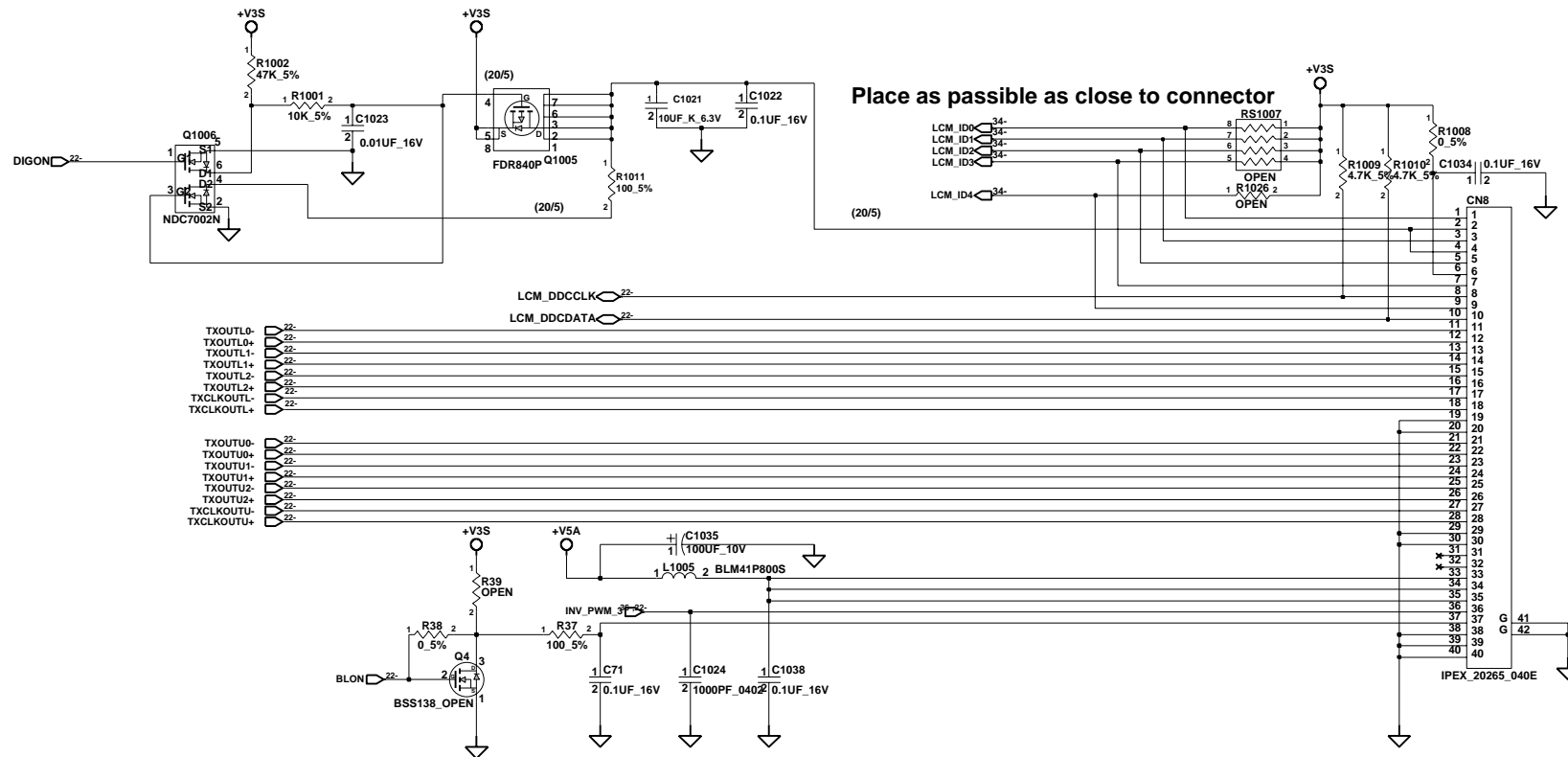
Engineer CHEN YE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>TV-ENCODER</b>	Sheet 30 of 60
Drawn by CHEN YE-YU		Size A3
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by EE2	Date Changed 2003-08-16	Time Changed 9:03:24 pm	QA CHK	VER A03	Model Number PC8965
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Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b>
Drawn by <b>CHEN TE-YU</b>	
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	
TITLE <b>CRYSTAL 1.0</b>	Size <b>A3</b>
<b>CRT</b>	

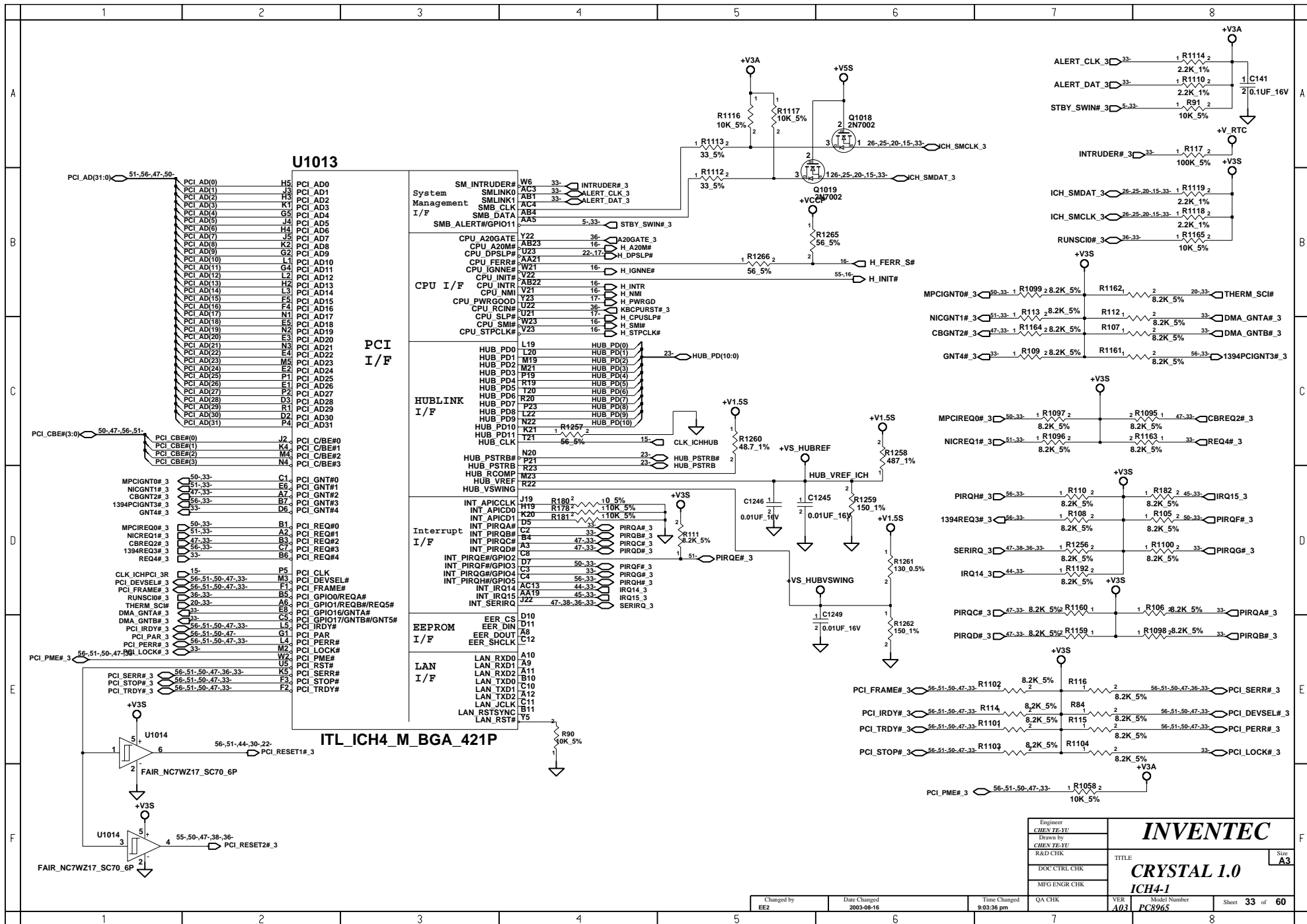
Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:03:28 pm</b>	QA CHK	VER <b>A031</b>	Model Number <b>PC8965</b>	Sheet <b>31</b> of <b>60</b>
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Engineer CHEN TE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>LCD CONN</b>	Size A3
Drawn by CHEN TE-YU		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		
Model Number PC8965	Sheet 32 of 60	

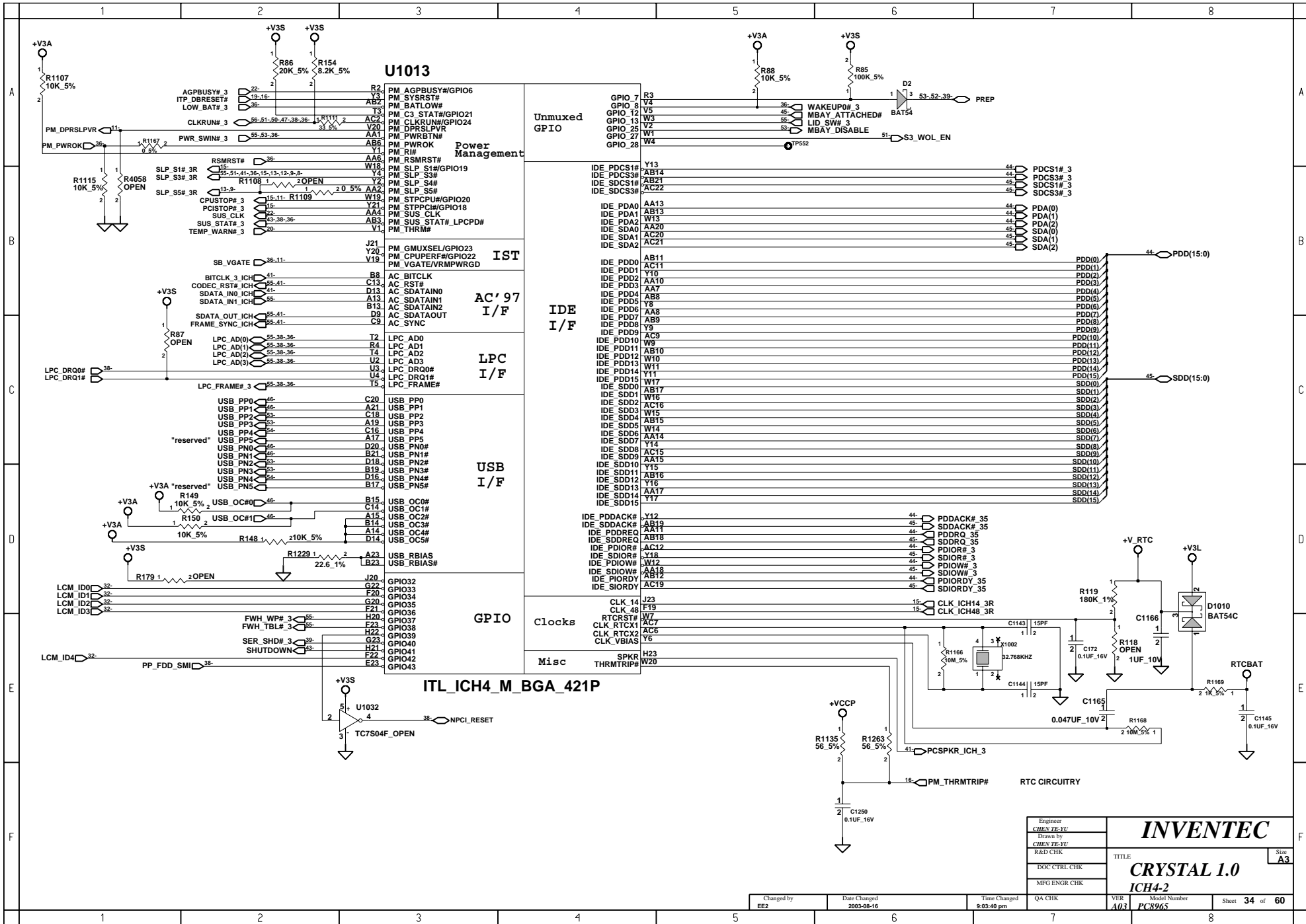
Changed by EE2	Date Changed 2003-08-16	Time Changed 9:03:32 pm	QA CHK	VER A03
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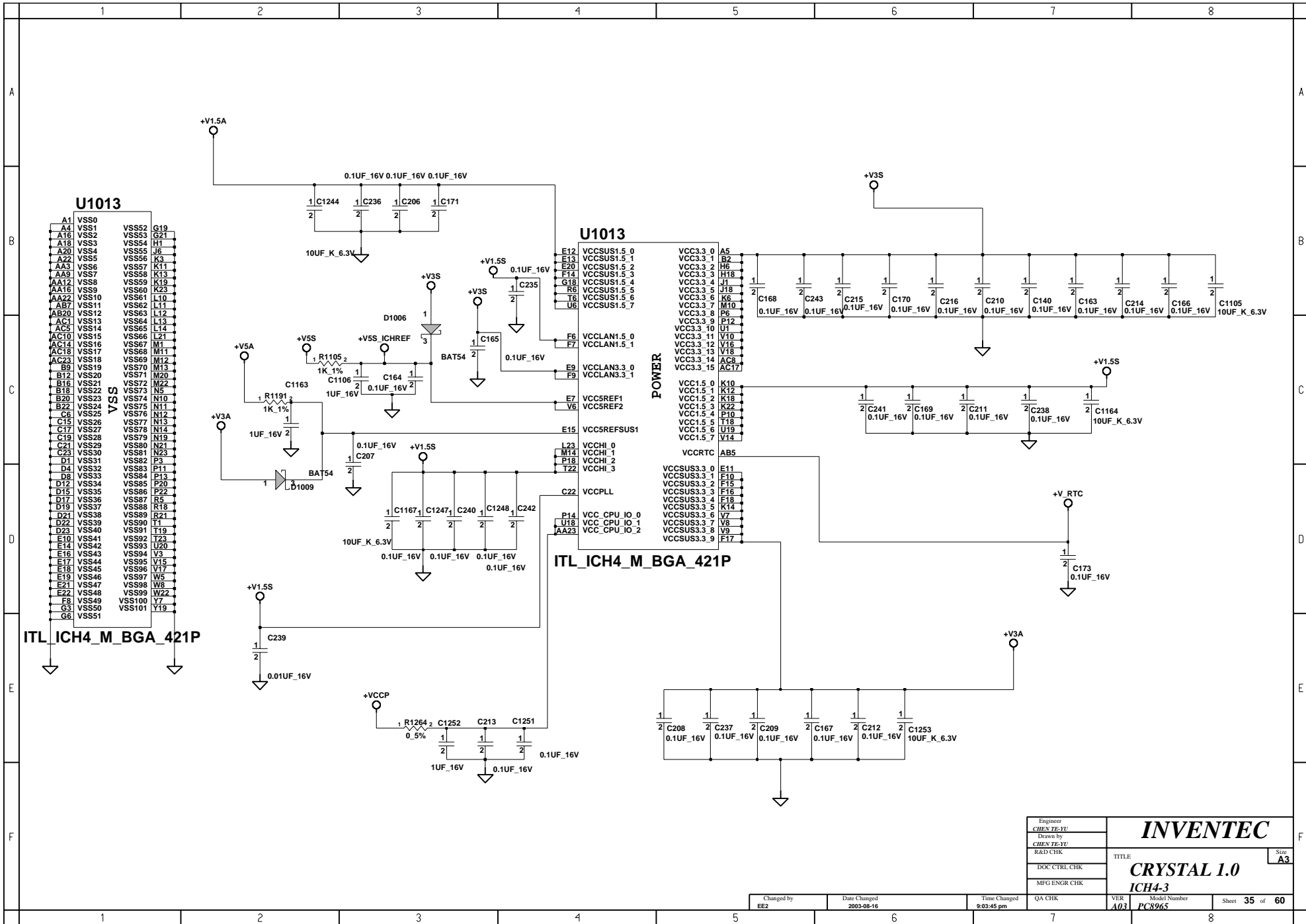
Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>ICH4-1</b>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:03:36 pm</b>	QA CHK	VER <b>A03</b>	Model Number <b>PC8965</b>	Sheet <b>33</b> of <b>60</b>
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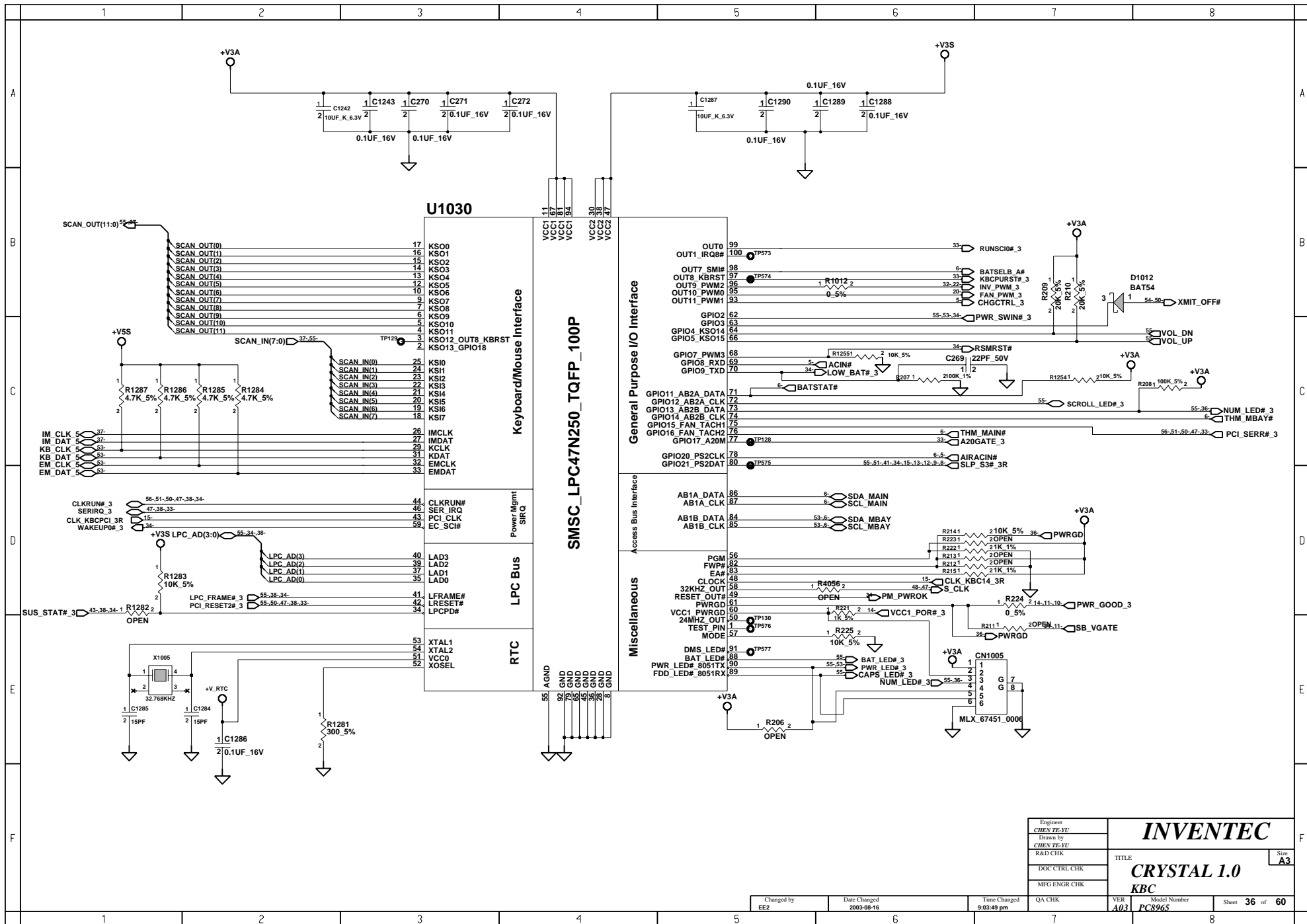
Engineer	CHEN TE-YU
Drawn by	CHEN TE-YU
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	
TITLE	CRYSTAL 1.0
Size	A3
Model Number	ICH4-2
Sheet	34 of 60

Changed by	Date Changed	Time Changed	QA CHK	VER	Model Number	Sheet
EE2	2003-08-16	9:03:40 pm		A03	PC8965	34 of 60



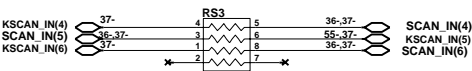
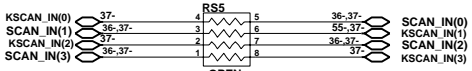
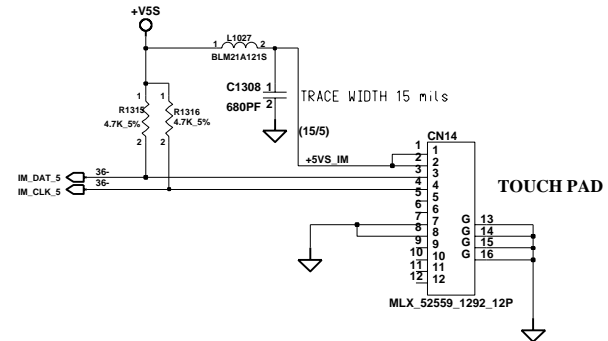
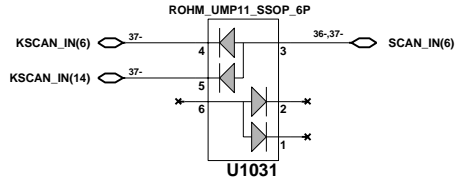
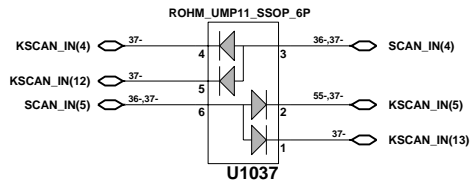
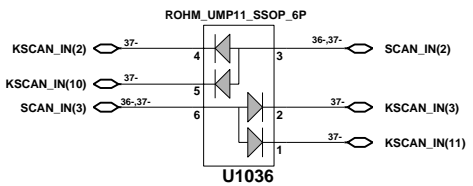
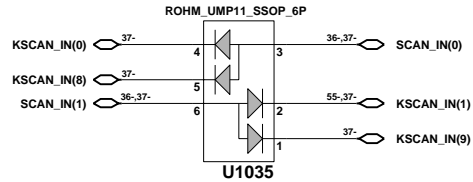
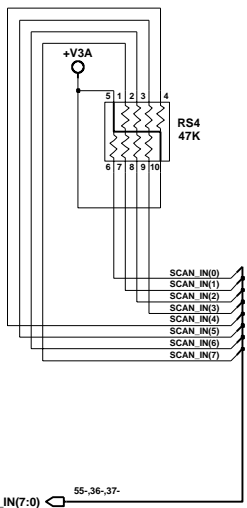
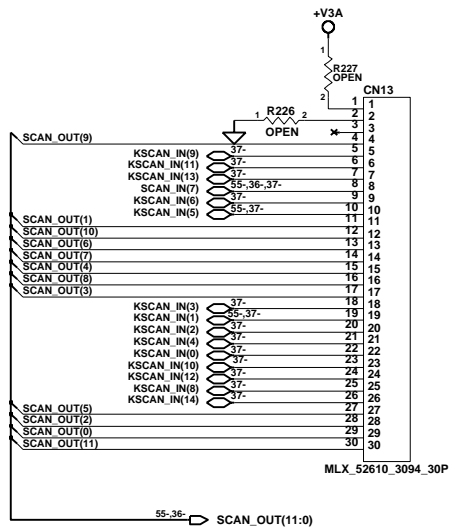
Engineer CHEN TE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>ICH4-3</b> Model Number <b>PC8965</b>	Sheet <b>35</b> of <b>60</b>
Drawn by CHEN TE-YU		Size <b>A3</b>
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by EE2	Date Changed 2003-08-16	Time Changed 9:03:45 pm	QA CHK	VER A03
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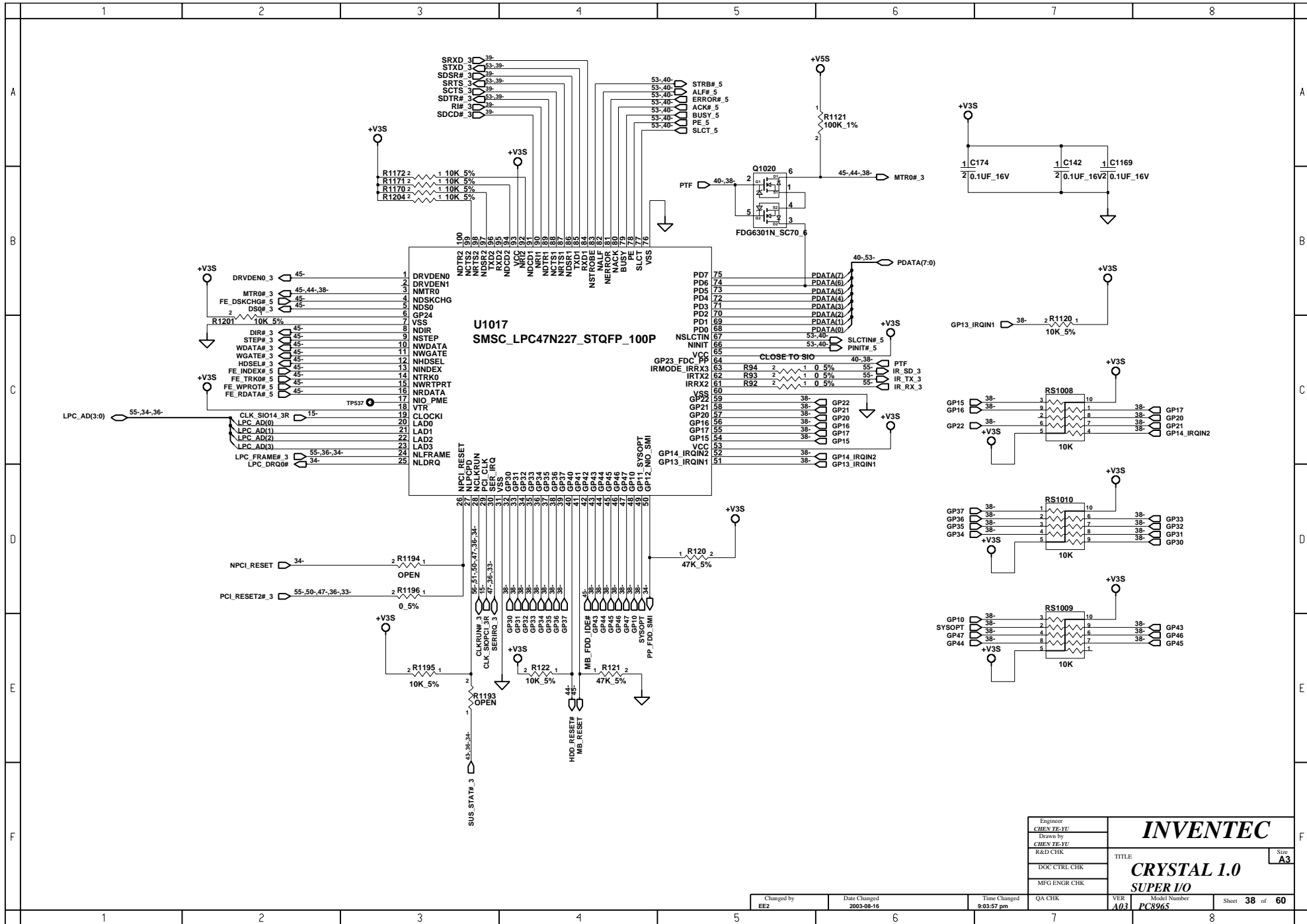
Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b>  <b>CRYSTAL 1.0</b> <b>KBC</b>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>		TITLE
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:03:49 pm</b>	QA CHK	VER <b>A03</b>	Model Number <b>PC8965</b>	Sheet <b>36</b> of <b>60</b>
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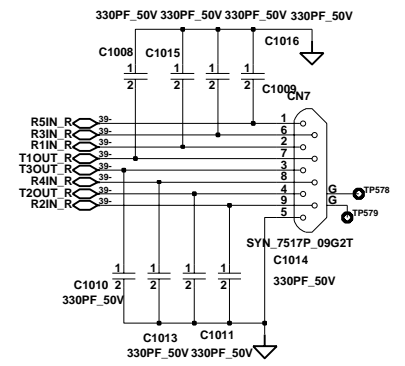
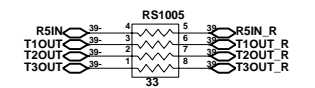
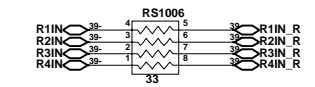
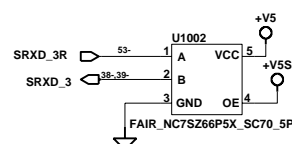
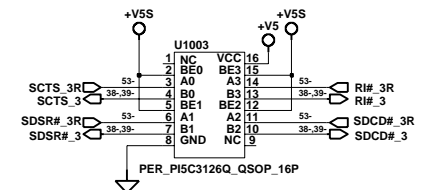
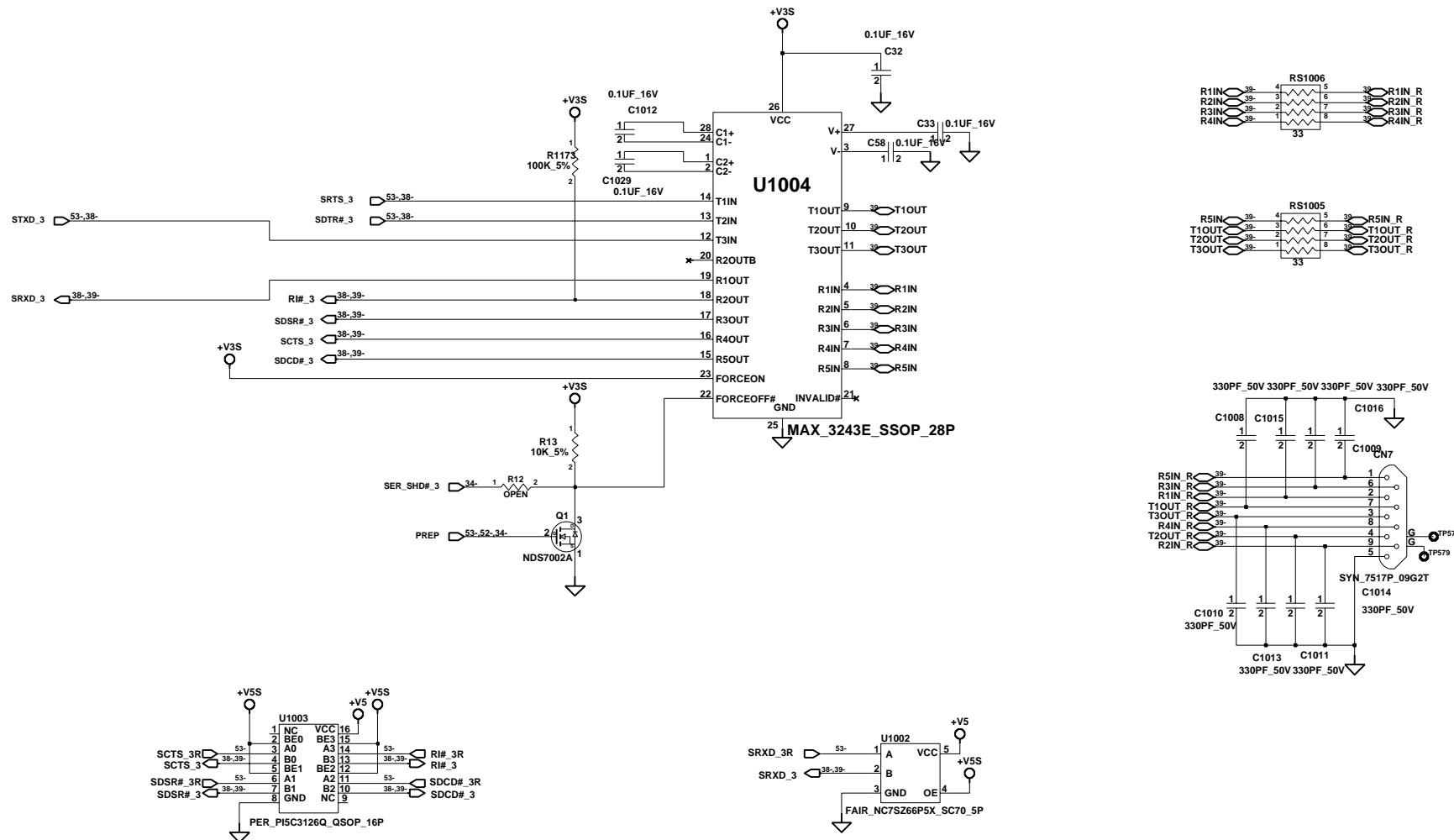


Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>INT.KBC/POINT DEVICES</b>
Drawn by <b>CHEN TE-YU</b>	
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	
Model Number <b>PC8965</b>	Sheet <b>37</b> of <b>60</b>

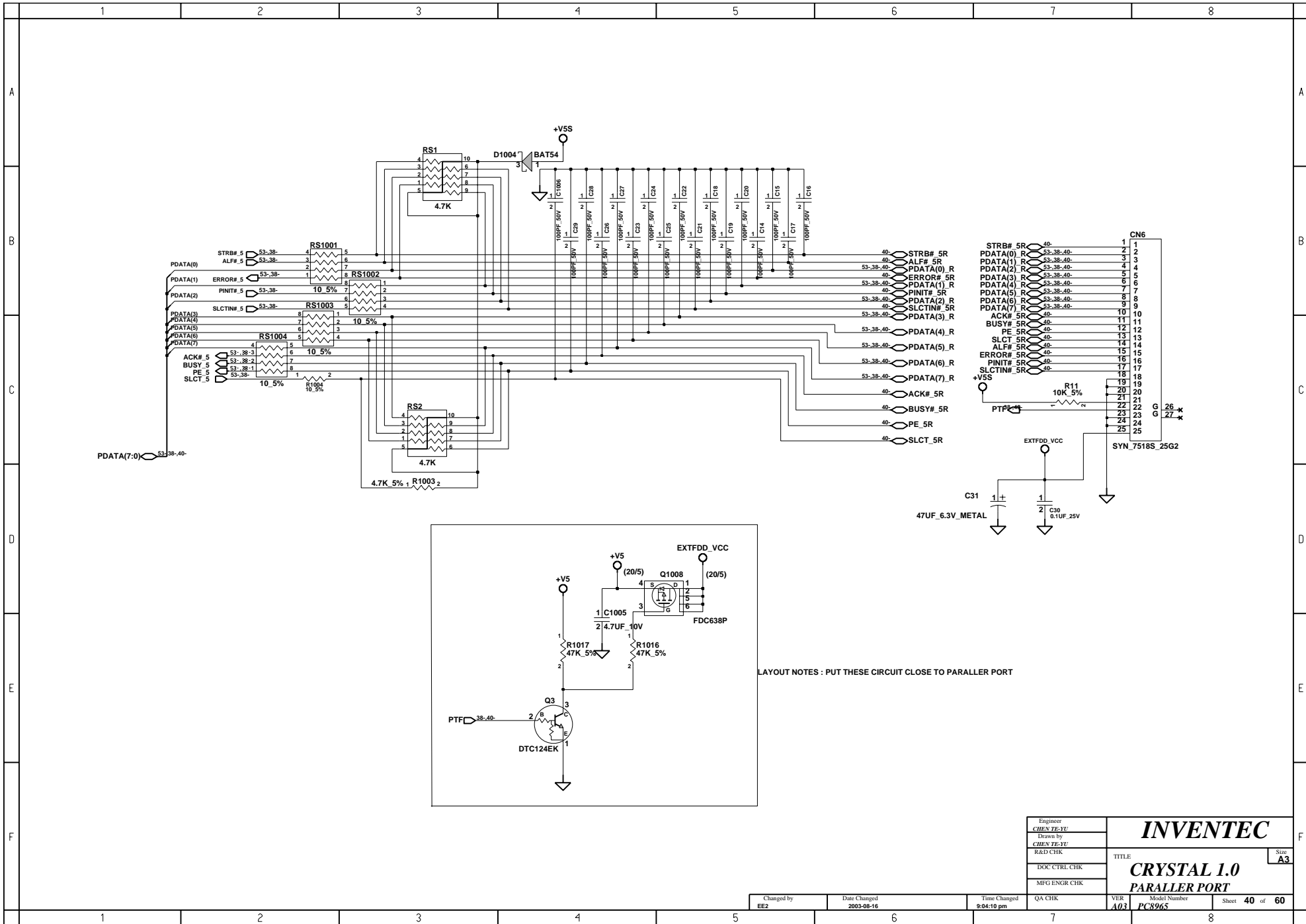
Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:03:53 pm</b>	QA CHK	VER <b>A03</b>
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Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b>		Size <b>A3</b>	
Drawn by <b>CHEN TE-YU</b>				
R&D CHK				TITLE
DOC CTRL CHK				<b>CRYSTAL 1.0</b>
MFG ENGR CHK				<b>SUPER I/O</b>



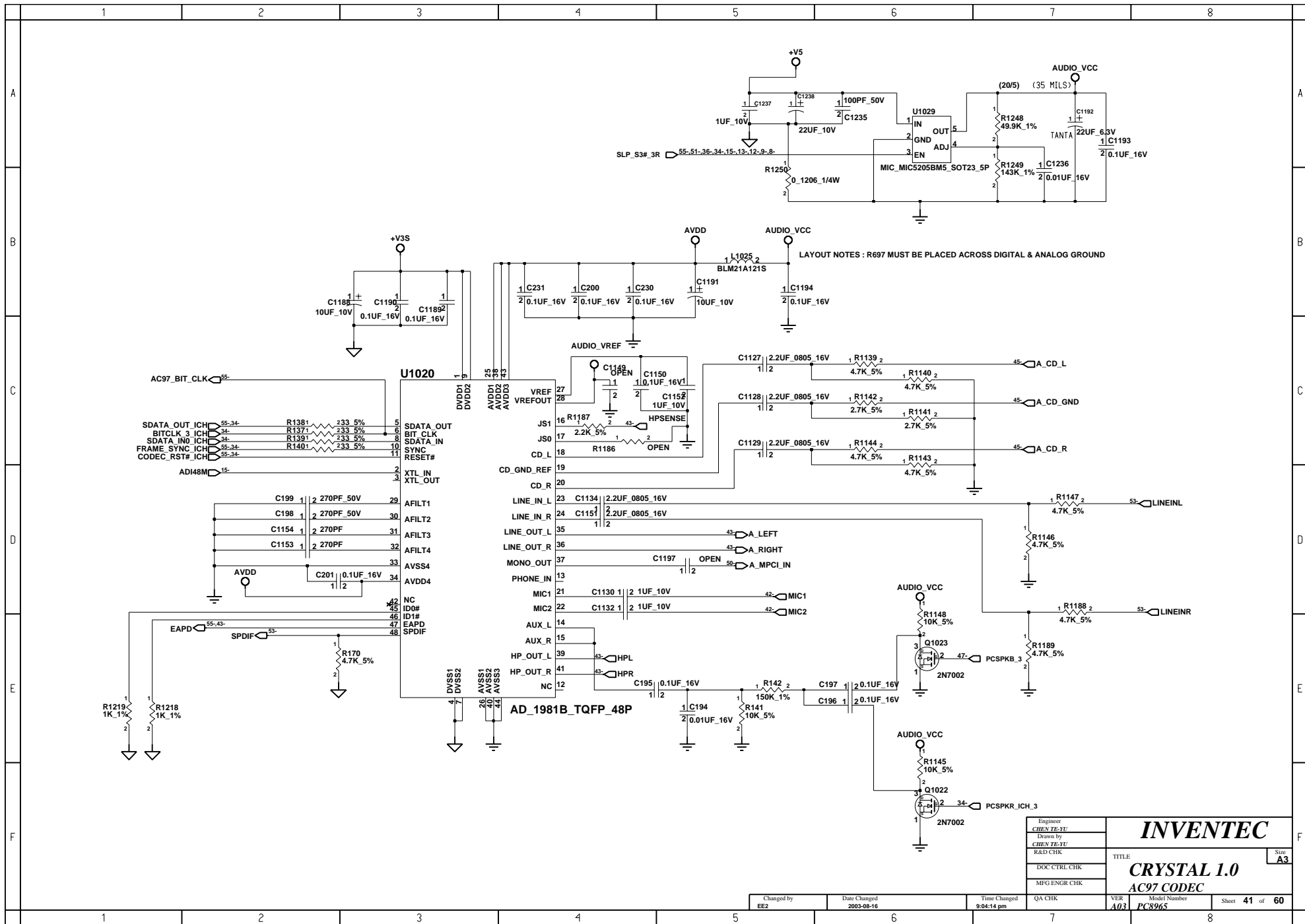
Engineer CHEN TE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0 SERIAL PORT&amp;IR</b> Size: <b>A3</b>						
Drawn by CHEN TE-YU							
R&D CHK							
DOC CTRL CHK							
MFG ENGR CHK							
Changed by EE2	Date Changed 2003-08-16	Time Changed 9:04:03 pm	QA CHK	VER A03	Model Number PC8965	Sheet 39	of 60



Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0 PARALLER PORT</b> Model Number <b>PC8965</b>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

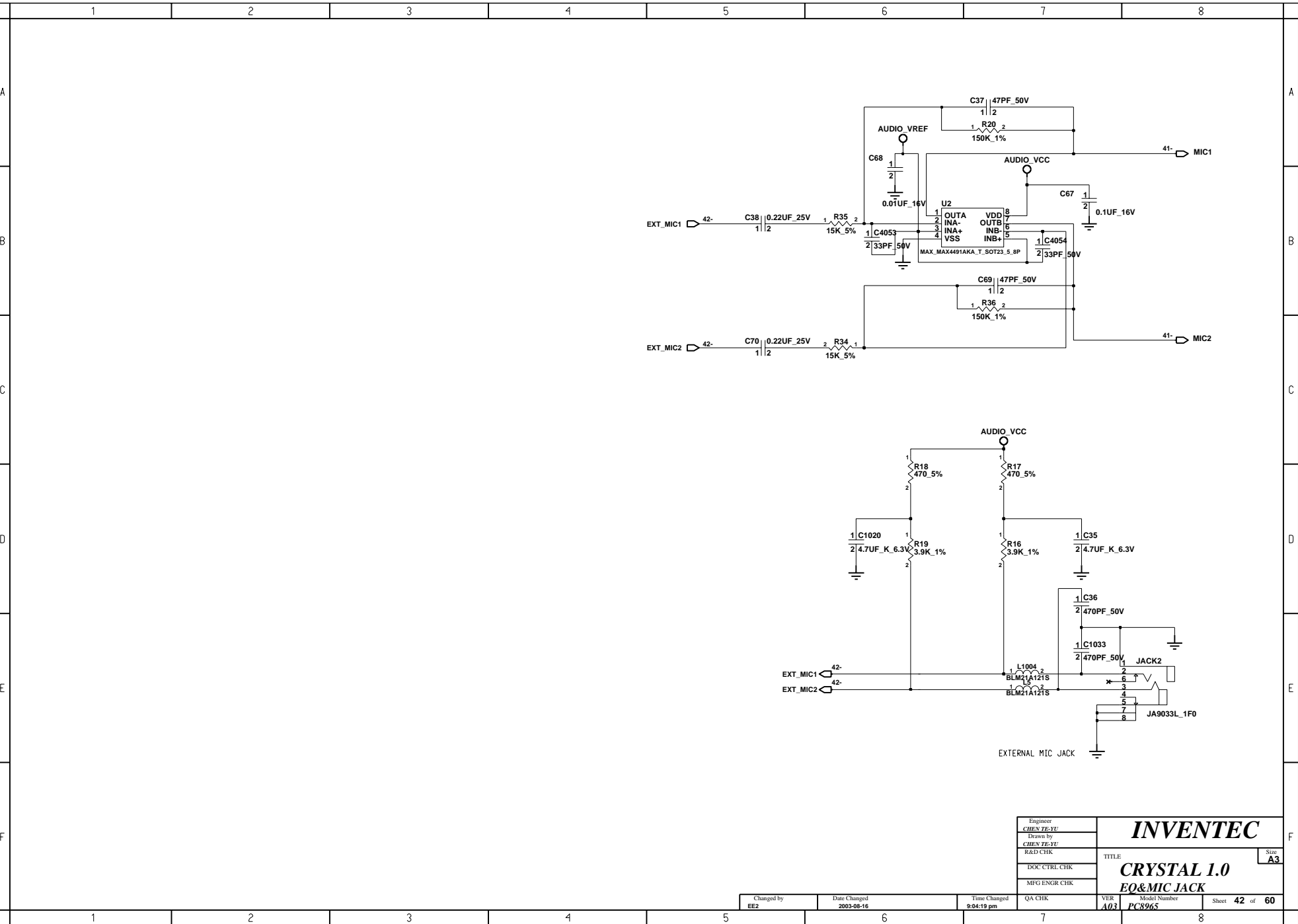
Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:04:10 pm</b>	QA CHK	VER <b>A03</b>	Sheet <b>40</b> of <b>60</b>
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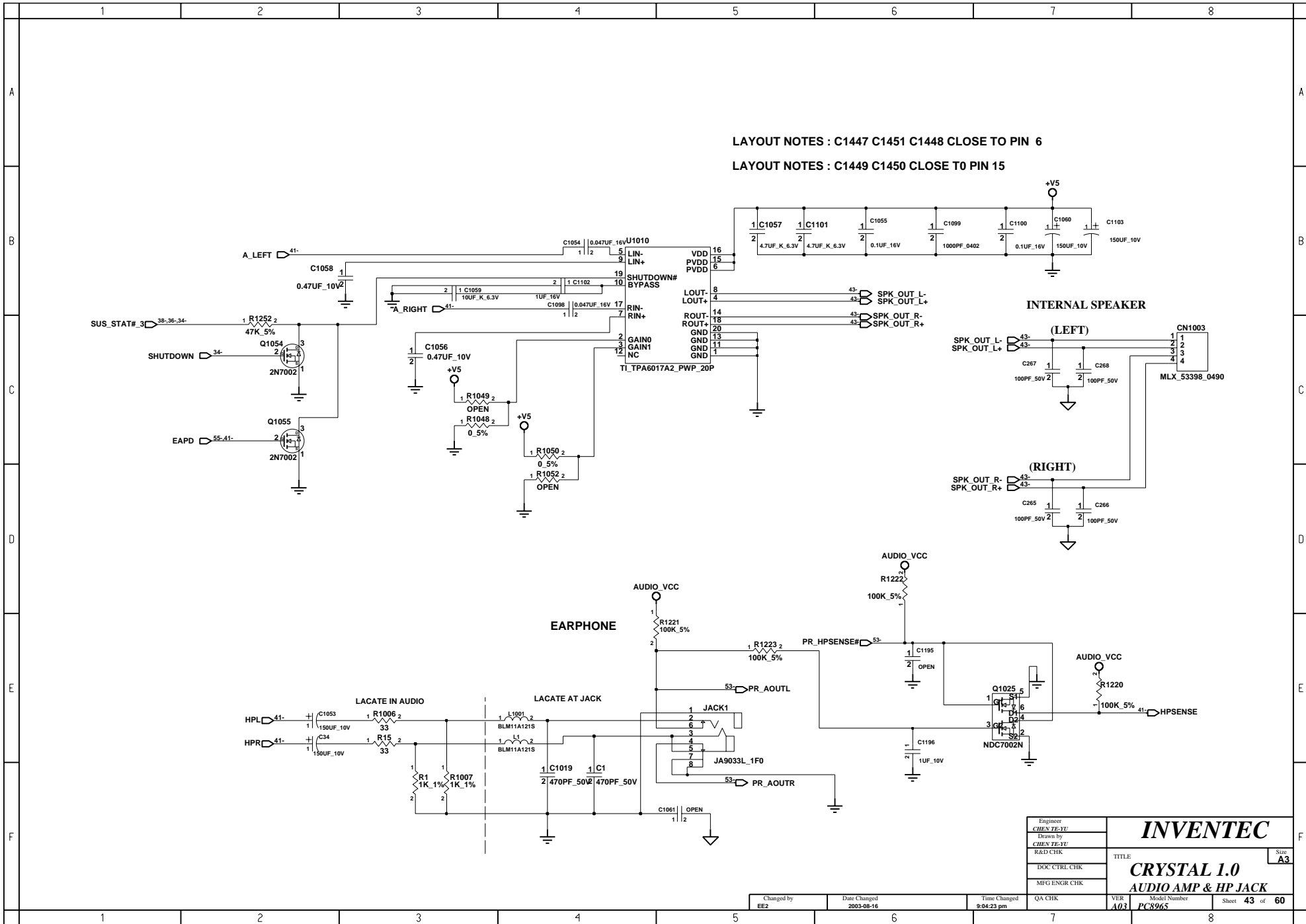
Engineer <b>CHEN YE-YU</b>		<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>AC97 CODEC</b>	
Drawn by <b>CHEN YE-YU</b>			
R&D CHK			
DOC CTRL CHK			
MFG ENGR CHK			
VER <b>A03</b>	Model Number <b>PC8965</b>	Sheet <b>41</b> of <b>60</b>	

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:04:14 pm</b>	QA CHK
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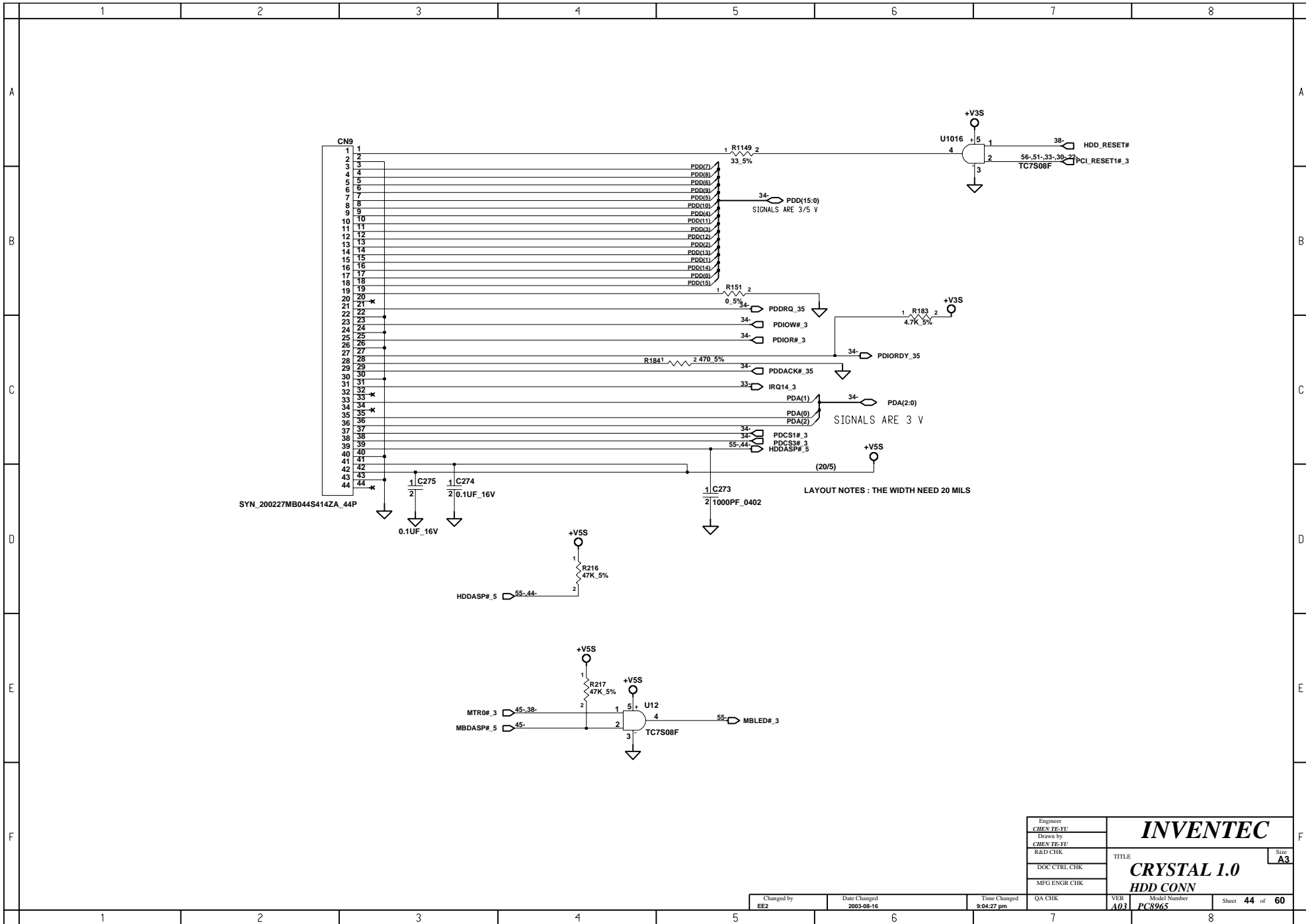
Engineer <b>CHEN YE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>EQ&amp;MIC JACK</b>	Size <b>A3</b>
Drawn by <b>CHEN YE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:04:19 pm</b>	QA CHK	VER <b>A03</b>	Model Number <b>PC8965</b>	Sheet <b>42</b> of <b>60</b>
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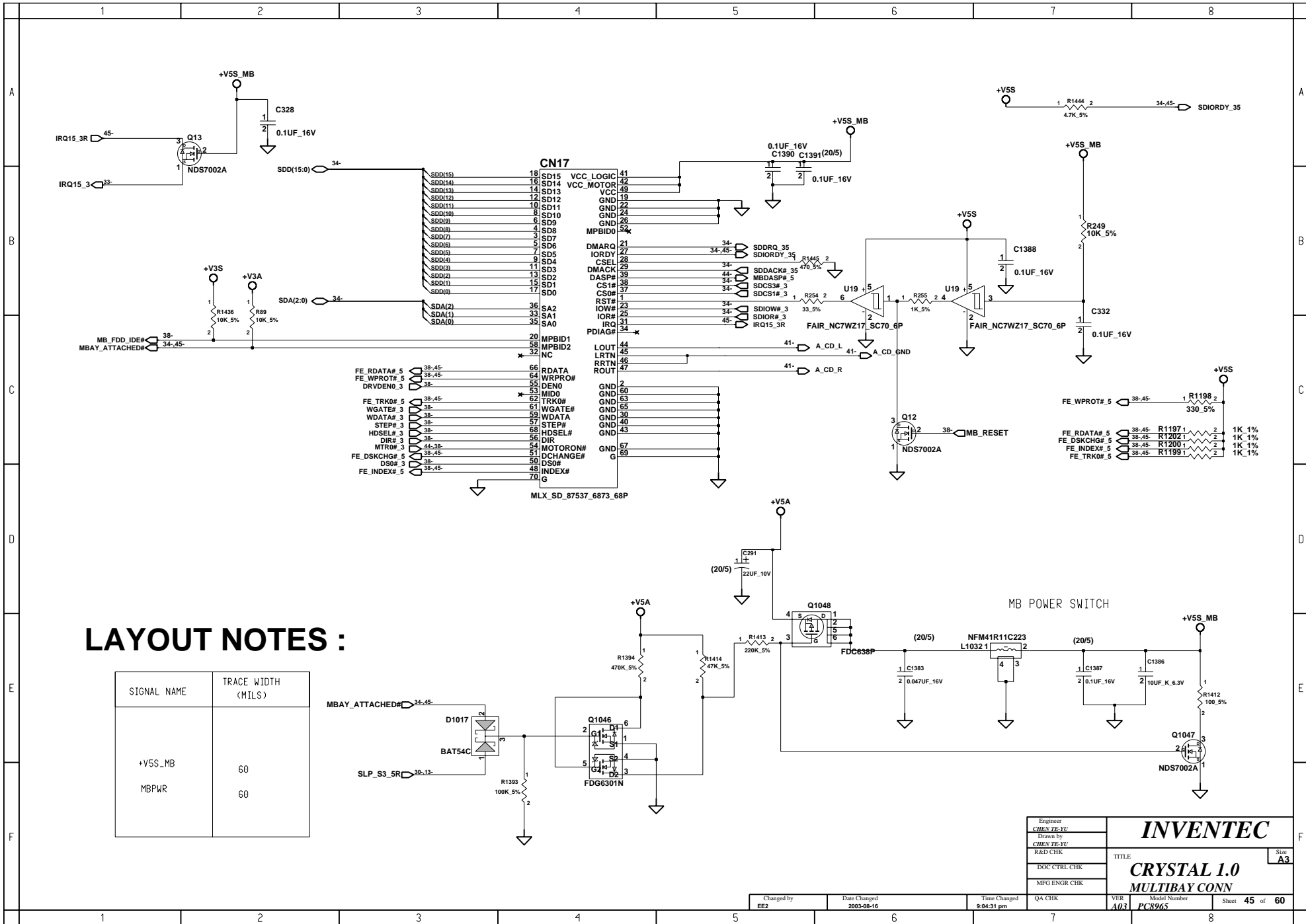
Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>AUDIO AMP &amp; HP JACK</b>
Drawn by <b>CHEN TE-YU</b>	
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	
VER <b>A03</b>	Model Number <b>PC8965</b>
Sheet <b>43</b> of <b>60</b>	Size <b>A3</b>

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:04:23 pm</b>	QA CHK
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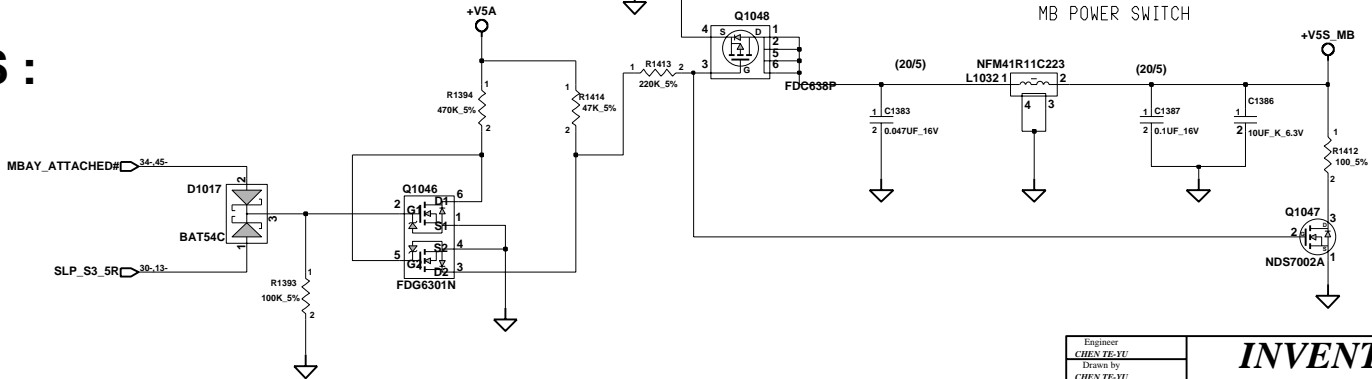
Engineer <b>CHEN YE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>HDD CONN</b>	Size <b>A3</b>
Drawn by <b>CHEN YE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:04:27 pm</b>	QA CHK	VER <b>A03</b>	Model Number <b>PC8965</b>	Sheet <b>44</b> of <b>60</b>
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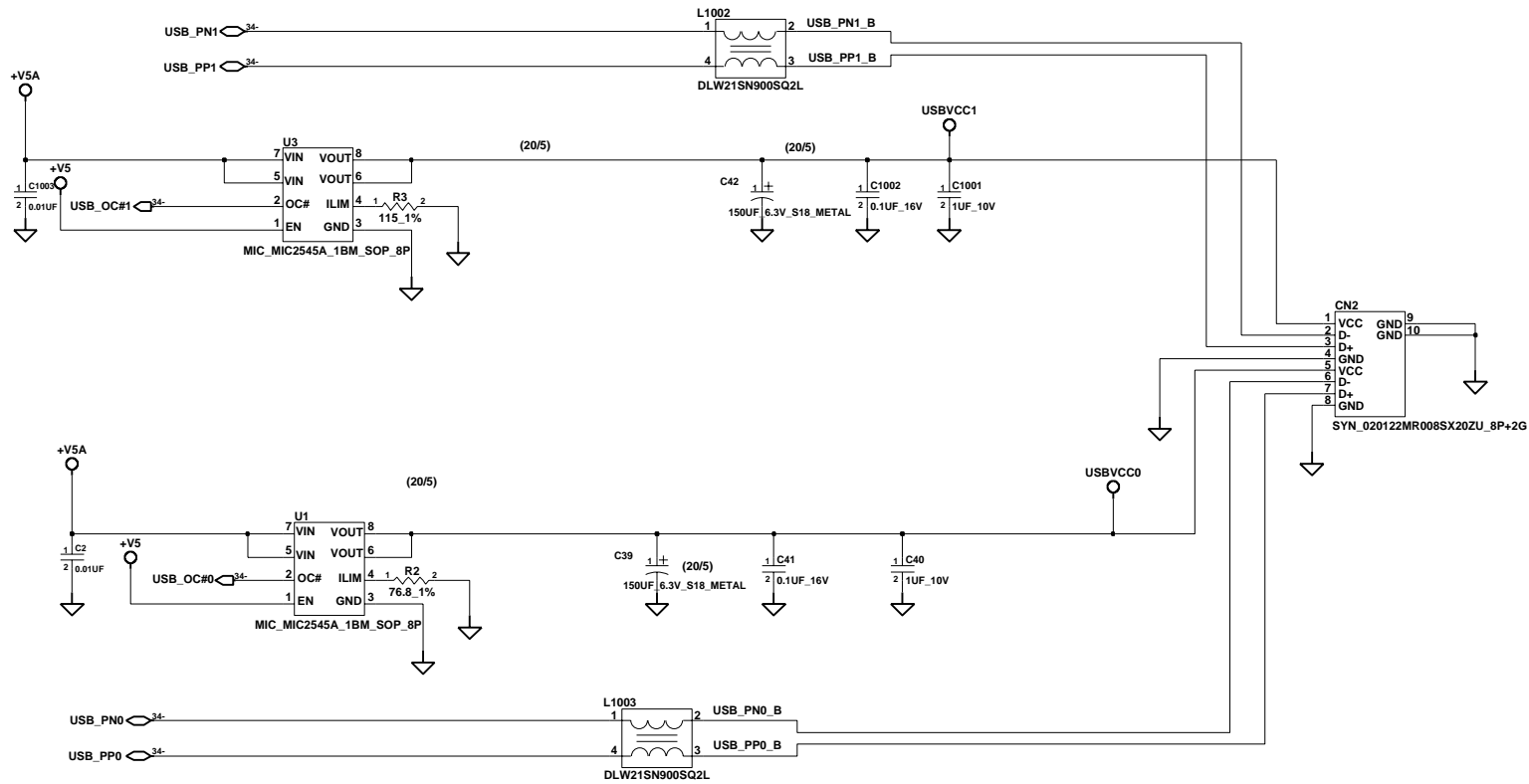


### LAYOUT NOTES :

SIGNAL NAME	TRACE WIDTH (MILS)
+V5S_MB	60
MBPWR	60

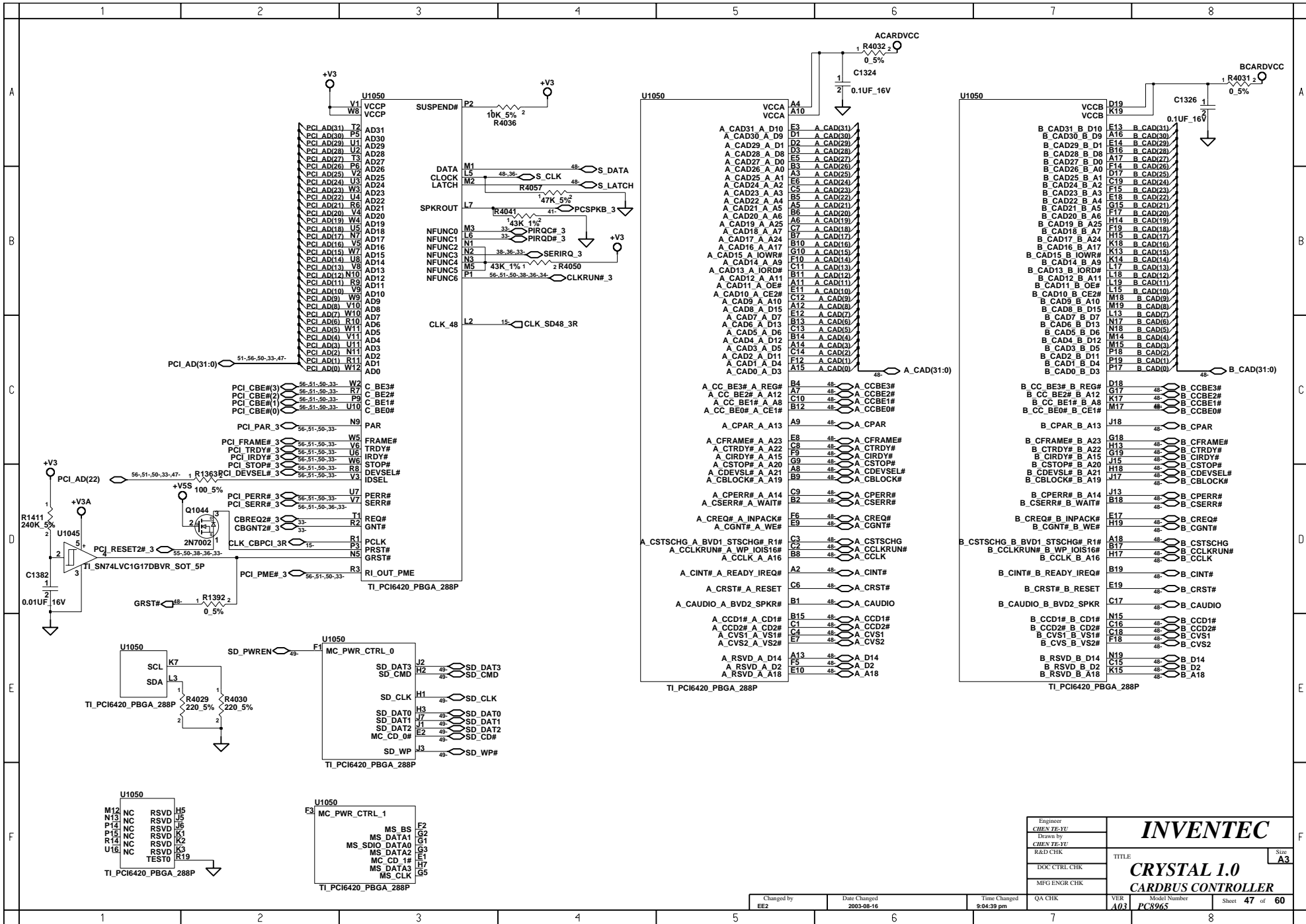


Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b>  <b>CRYSTAL 1.0</b> <b>MULTIBAY CONN</b>	Model Number <b>PC8965</b>
Drawn by <b>CHEN TE-YU</b>		Sheet <b>45</b> of <b>60</b>
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

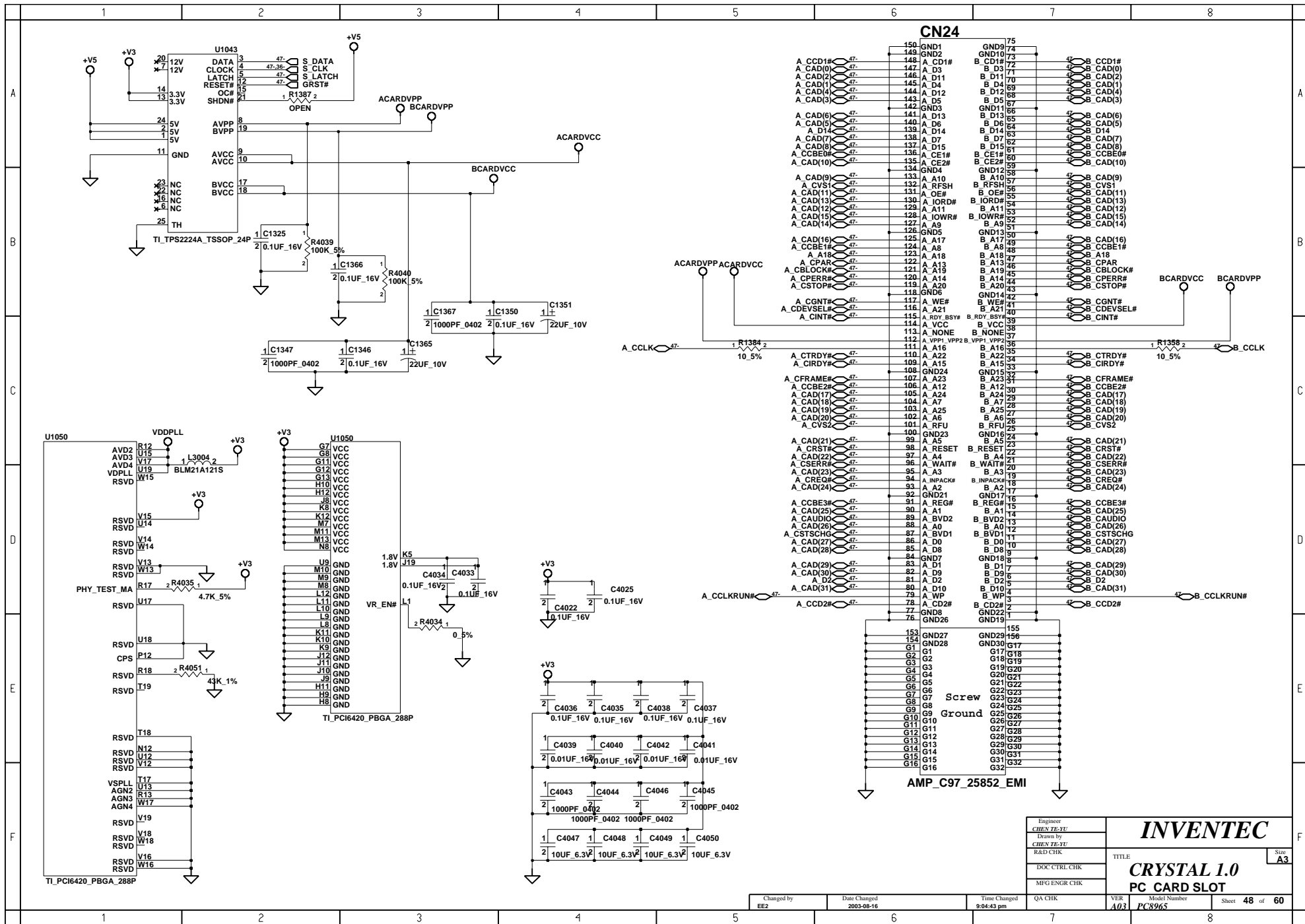


Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>USB&amp;IR CONN</b>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		
Model Number <b>PC8965</b>	VER <b>A031</b>	Sheet <b>46</b> of <b>60</b>

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:04:35 pm</b>	QA CHK
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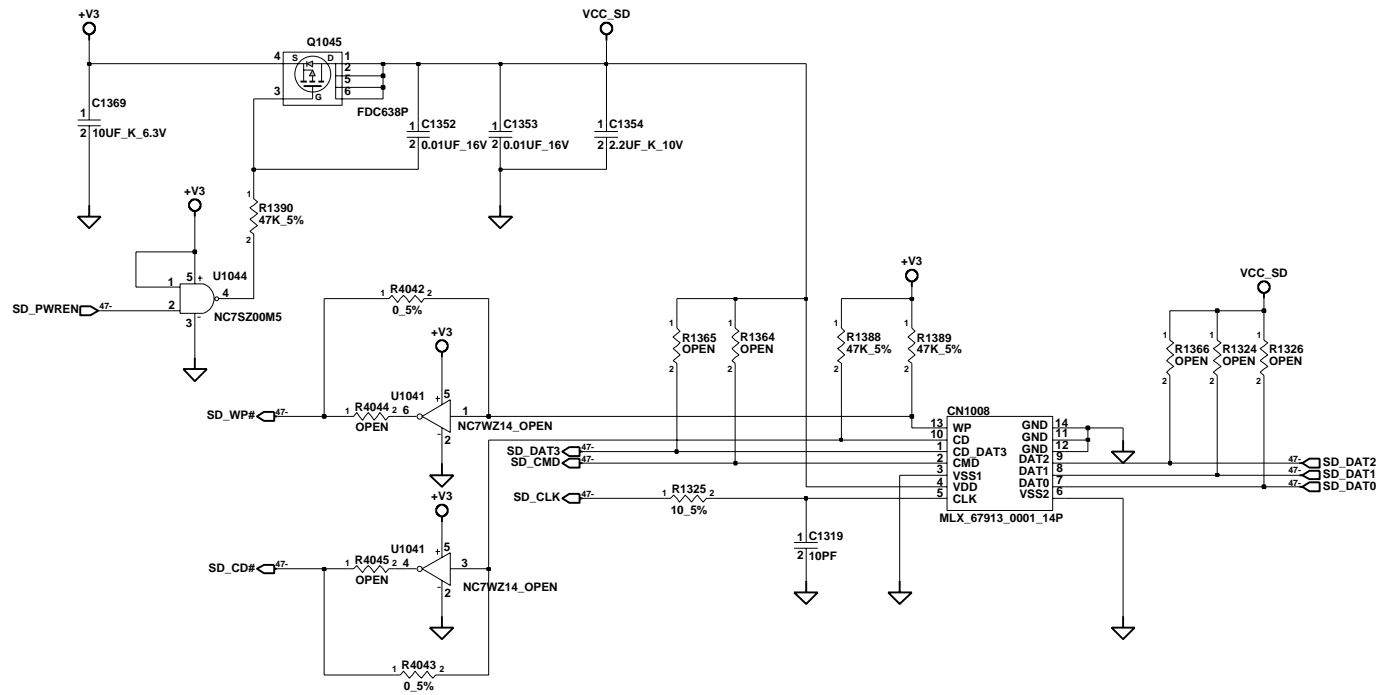
Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		
TITLE	<b>CRYSTAL I.0</b>	
	<b>CARDBUS CONTROLLER</b>	
VER <b>A03</b>	Model Number <b>PC8965</b>	Sheet <b>47</b> of <b>60</b>



Engineer <b>CHEN TE-YU</b>	<h1 style="text-align: center;">INVENTEC</h1> <p style="text-align: center;">TITLE: <b>CRYSTAL 1.0</b> <b>PC CARD SLOT</b></p>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		
Model Number <b>PC8965</b>	Sheet <b>48</b> of <b>60</b>	

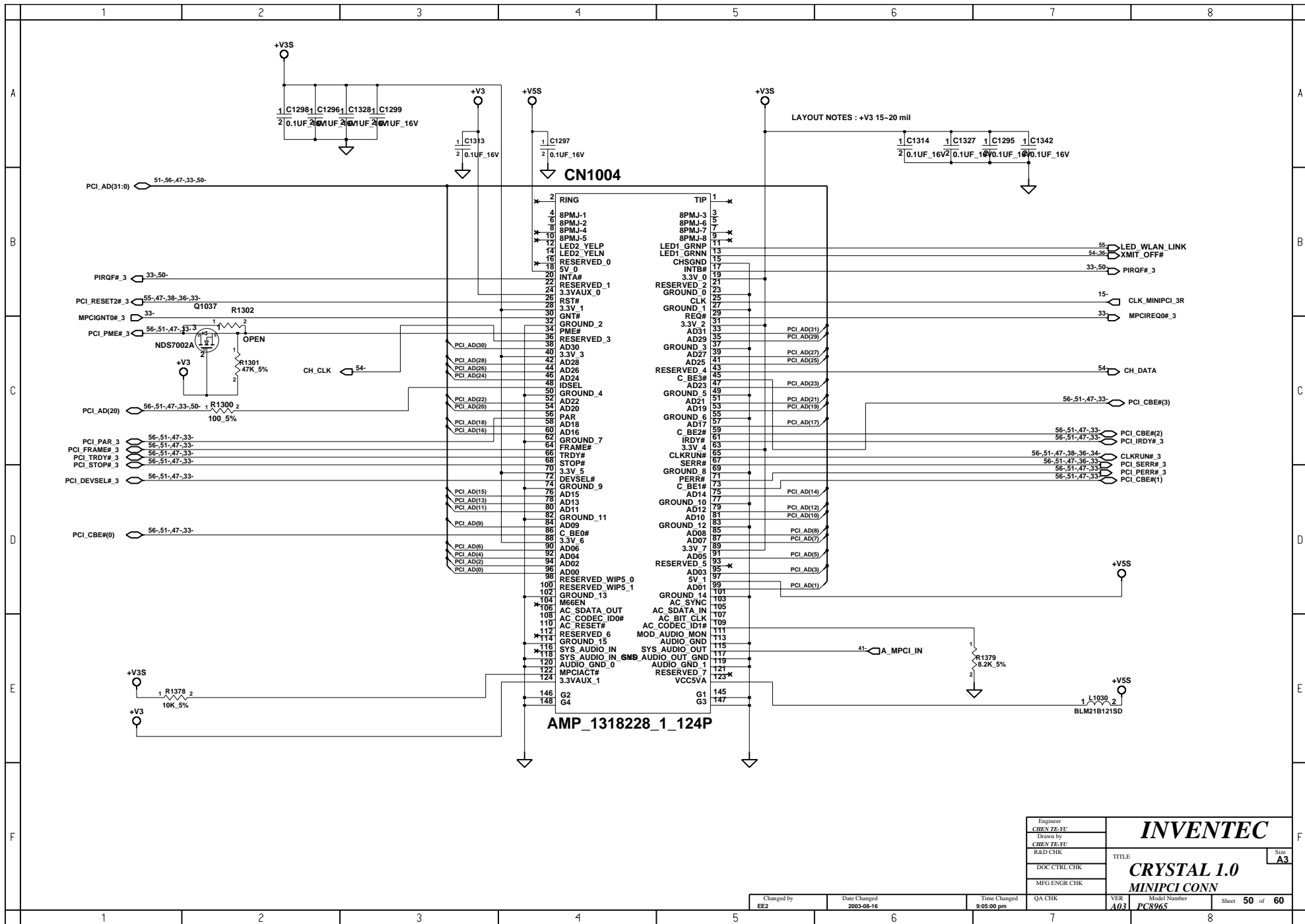
Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:04:43 pm</b>	QA CHK	VER <b>A03</b>
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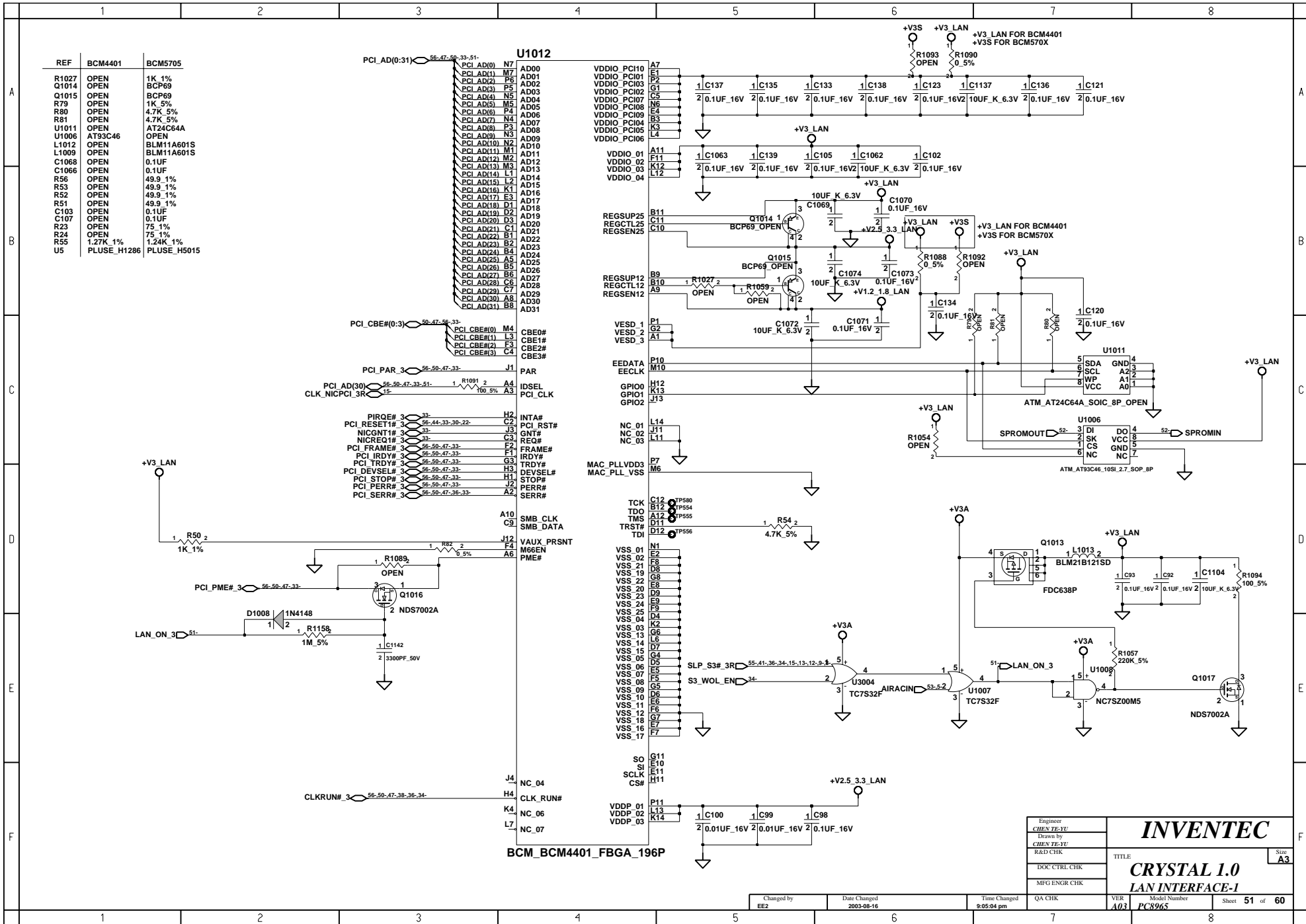


Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b>  <b>CRYSTAL 1.0</b> <b>SD CARD</b>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>		TITLE
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:04:50 pm</b>	QA CHK	VER <b>A031</b>	Model Number <b>PC8965</b>	Sheet <b>49</b> of <b>60</b>
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Engineer CHEN TE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>MINIPCI CONN</b>
Drawn by CHEN TE-YU	
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	



REF	BCM4401	BCM5705
R1027	OPEN	1K 1%
Q1014	OPEN	BCP69
Q1015	OPEN	BCP69
R79	OPEN	1K 5%
R80	OPEN	4.7K 5%
R81	OPEN	4.7K 5%
U1011	OPEN	AT24C64A
U1006	AT93C46	OPEN
L1012	OPEN	BLM11A601S
L1009	OPEN	BLM11A601S
C1068	OPEN	0.1UF
C1066	OPEN	0.1UF
R56	OPEN	49.9 1%
R53	OPEN	49.9 1%
R52	OPEN	49.9 1%
R51	OPEN	49.9 1%
C103	OPEN	0.1UF
C107	OPEN	0.1UF
R23	OPEN	75 1%
R24	OPEN	75 1%
R55	OPEN	1.24K 1%
U5	PLUSE_H1286	PLUSE_H5015

**U1012**

Pin	Signal	Pin	Signal
PCI_AD(0:31)	PCI_AD(0) N7	AD00	VDDIO PCI10
	PCI_AD(1) M7	AD01	VDDIO PCI01
	PCI_AD(2) P6	AD02	VDDIO PCI03
	PCI_AD(3) P5	AD03	VDDIO PCI02
	PCI_AD(4) N5	AD04	VDDIO PCI07
	PCI_AD(5) M5	AD05	VDDIO PCI08
	PCI_AD(6) P4	AD06	VDDIO PCI09
	PCI_AD(7) N4	AD07	VDDIO PCI04
	PCI_AD(8) P3	AD08	VDDIO PCI05
	PCI_AD(9) N3	AD09	VDDIO PCI06
	PCI_AD(10) N2	AD10	
	PCI_AD(11) M1	AD11	VDDIO_01
	PCI_AD(12) M2	AD12	VDDIO_02
	PCI_AD(13) M3	AD13	VDDIO_03
	PCI_AD(14) L1	AD14	VDDIO_04
	PCI_AD(15) L2	AD15	
	PCI_AD(16) K1	AD16	
	PCI_AD(17) E3	AD17	
	PCI_AD(18) D1	AD18	
	PCI_AD(19) D2	AD19	
	PCI_AD(20) D3	AD20	
	PCI_AD(21) C1	AD21	
	PCI_AD(22) B1	AD22	
	PCI_AD(23) B2	AD23	
	PCI_AD(24) B4	AD24	
	PCI_AD(25) A5	AD25	
	PCI_AD(26) B5	AD26	
	PCI_AD(27) B6	AD27	
	PCI_AD(28) C6	AD28	
	PCI_AD(29) C7	AD29	
	PCI_AD(30) A8	AD30	
	PCI_AD(31) B8	AD31	
		AD32	
		AD33	

Pin	Signal	Pin	Signal
PCI_CBE#(0:3)	PCI_CBE#(0) M4	CBE0#	
	PCI_CBE#(1) L3	CBE1#	
	PCI_CBE#(2) F3	CBE2#	
	PCI_CBE#(3) C4	CBE3#	

Pin	Signal	Pin	Signal
PCI_PAR_3	PAR	J1	PAR
CLK_NICPCI_3R	IDSEL	A4	IDSEL
	PCI_CLK	A3	PCI_CLK

Pin	Signal	Pin	Signal
PIRQE#	H2	INTA#	
PCI_RESET#	J5	PCI_RST#	
NICGNT#	C2	GNT#	
NICREQ#	C3	REQ#	
PCI_FRAME#	F2	FRAME#	
PCI_IRDY#	G3	IRDY#	
PCI_TRDY#	G3	TRDY#	
PCI_DEVSEL#	H3	DEVSEL#	
PCI_STOP#	J2	STOP#	
PCI_PERR#	J2	PERR#	
PCI_SERR#	A2	SERR#	

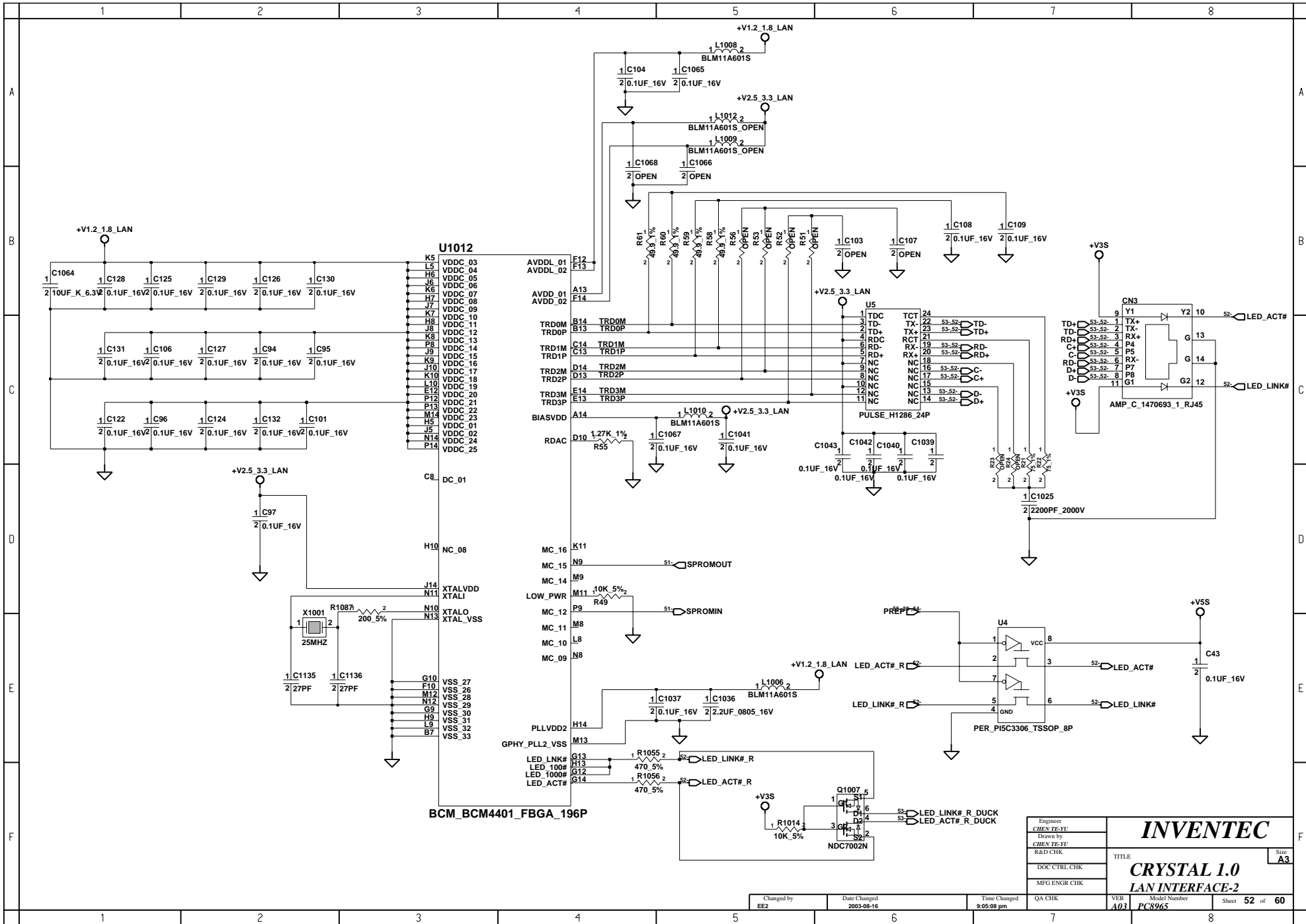
Pin	Signal	Pin	Signal
A10	SMB_CLK	J4	SMB_CLK
CB#	SMB_DATA	J4	SMB_DATA
	VAUX_PRSENT	A6	VAUX_PRSENT
	M6EN		M6EN
	PME#		PME#

Pin	Signal	Pin	Signal
J4	NC_04	S0	G11
H4	CLK_RUN#	S1	E10
K4	NC_06	E11	SCLK
L7	NC_07	H11	CS#

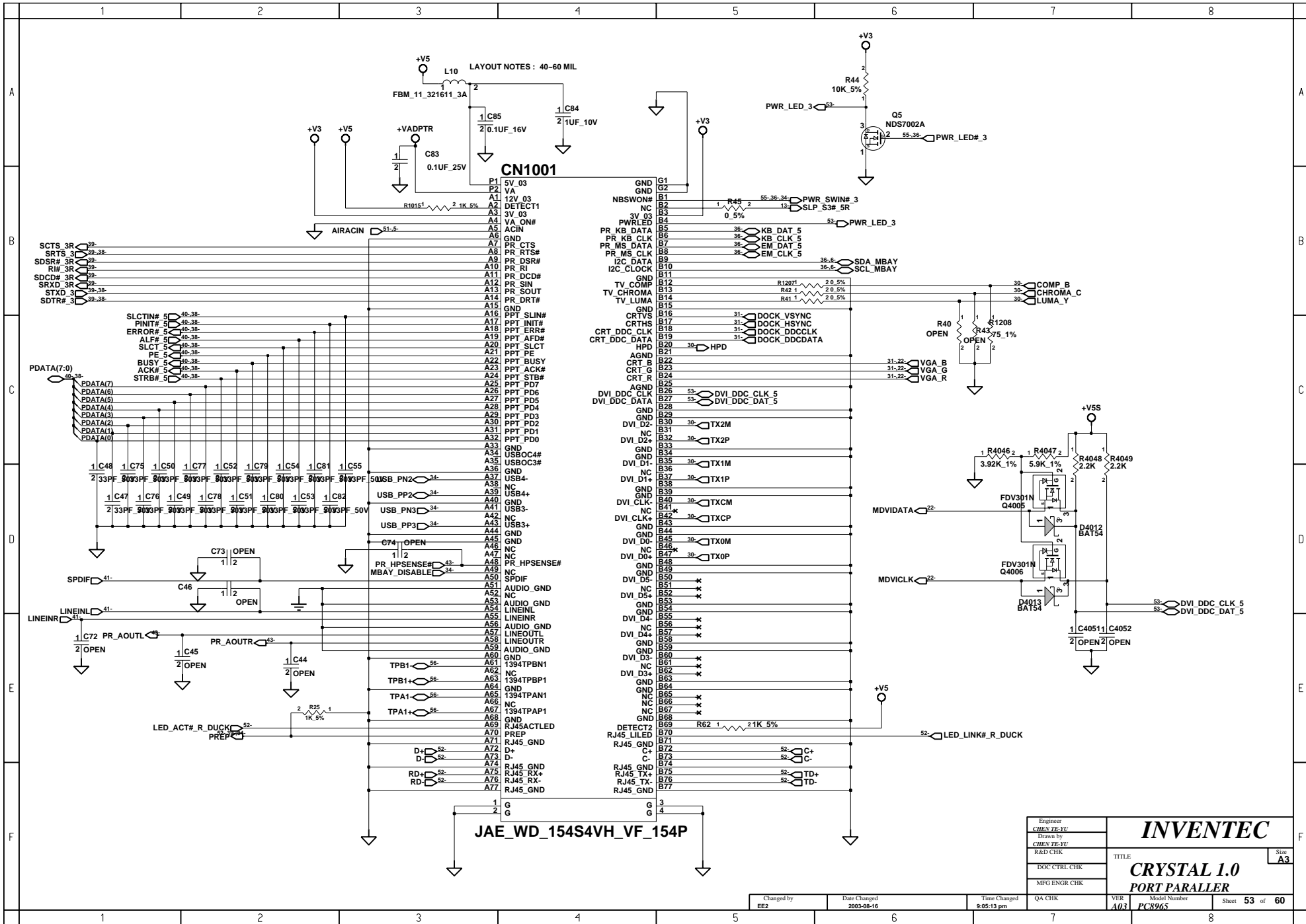
Engineer <b>CHEN YE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL I.0</b> <b>LAN INTERFACE-1</b>	Model Number <b>PC8965</b>	Sheet <b>51</b> of <b>60</b>
Drawn by <b>CHEN YE-YU</b>		VER <b>A03</b>	
R&D CHK			
DOC CTRL CHK			
MFG ENGR CHK			

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:05:04 pm</b>	QA CHK	VER <b>A03</b>	Model Number <b>PC8965</b>	Sheet <b>51</b> of <b>60</b>
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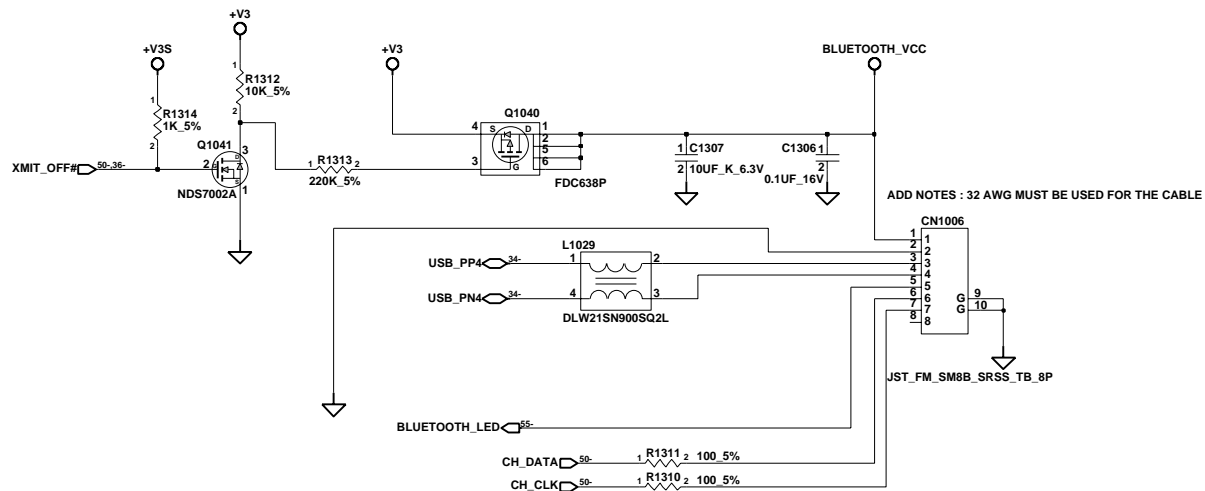


Engineer CHEN TE-YU	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>LAN INTERFACE-2</b>	Size A3
Drawn by CHEN TE-YU		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by EE2	Date Changed 2003-08-16	Time Changed 9:05:08 pm	QA CHK	VER A03	Model Number PC8965	Sheet 52 of 60
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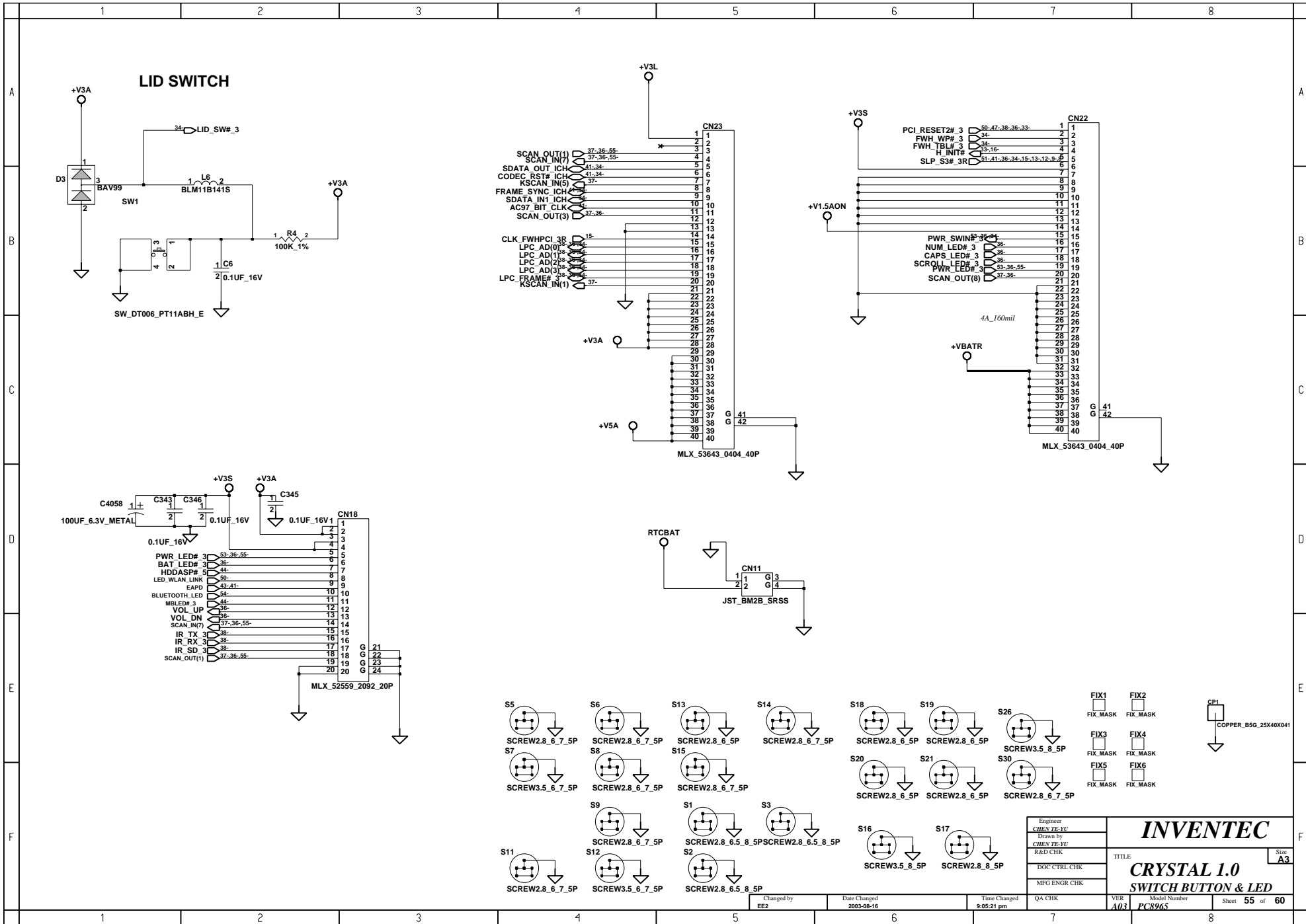


Engineer	CHEN TE-YU
Drawn by	CHEN TE-YU
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	
TITLE	CRYSTAL 1.0
PORT PARALLER	
Model Number	PC8965
VER	A03
Sheet	53 of 60

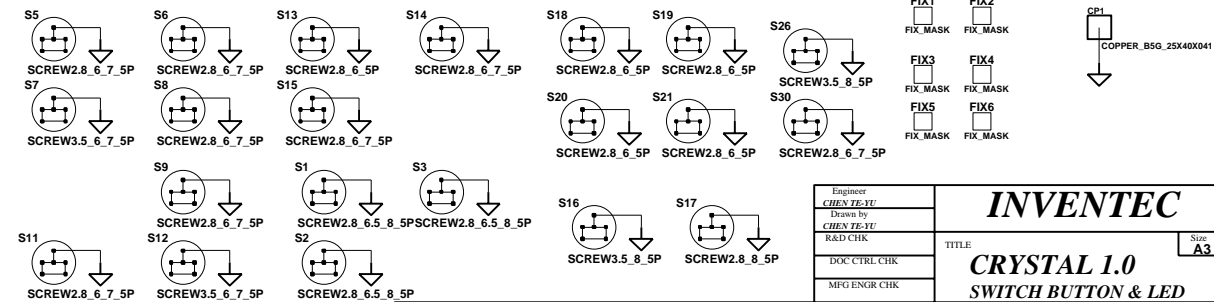
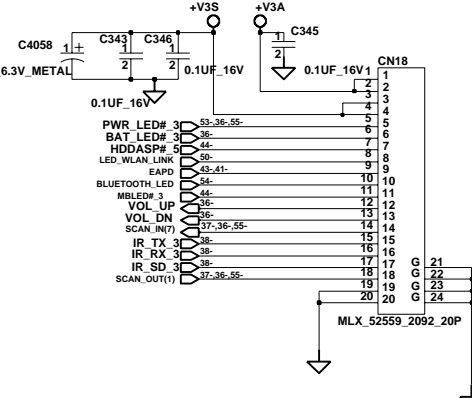
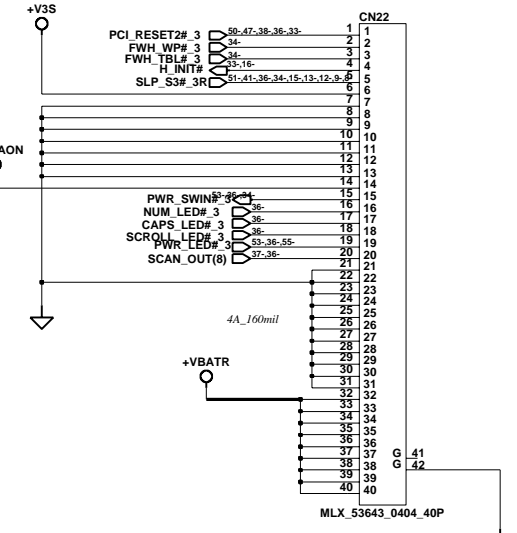
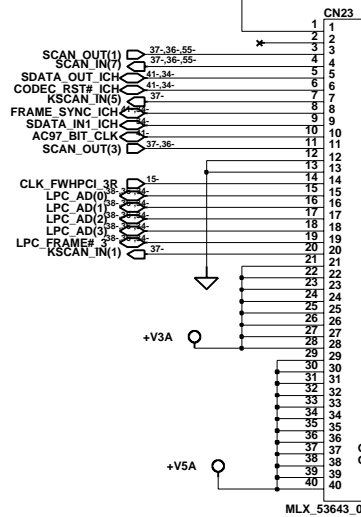


Engineer <b>CHEN YE-YU</b>	<b>INVENTEC</b>
Drawn by <b>CHEN YE-YU</b>	
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	
TITLE <b>CRYSTAL 1.0</b>	Size <b>A3</b>
<b>BLUETOOTH</b>	
VER <b>A031</b>	Model Number <b>PC8965</b>
QA CHK	Sheet <b>54</b> of <b>60</b>

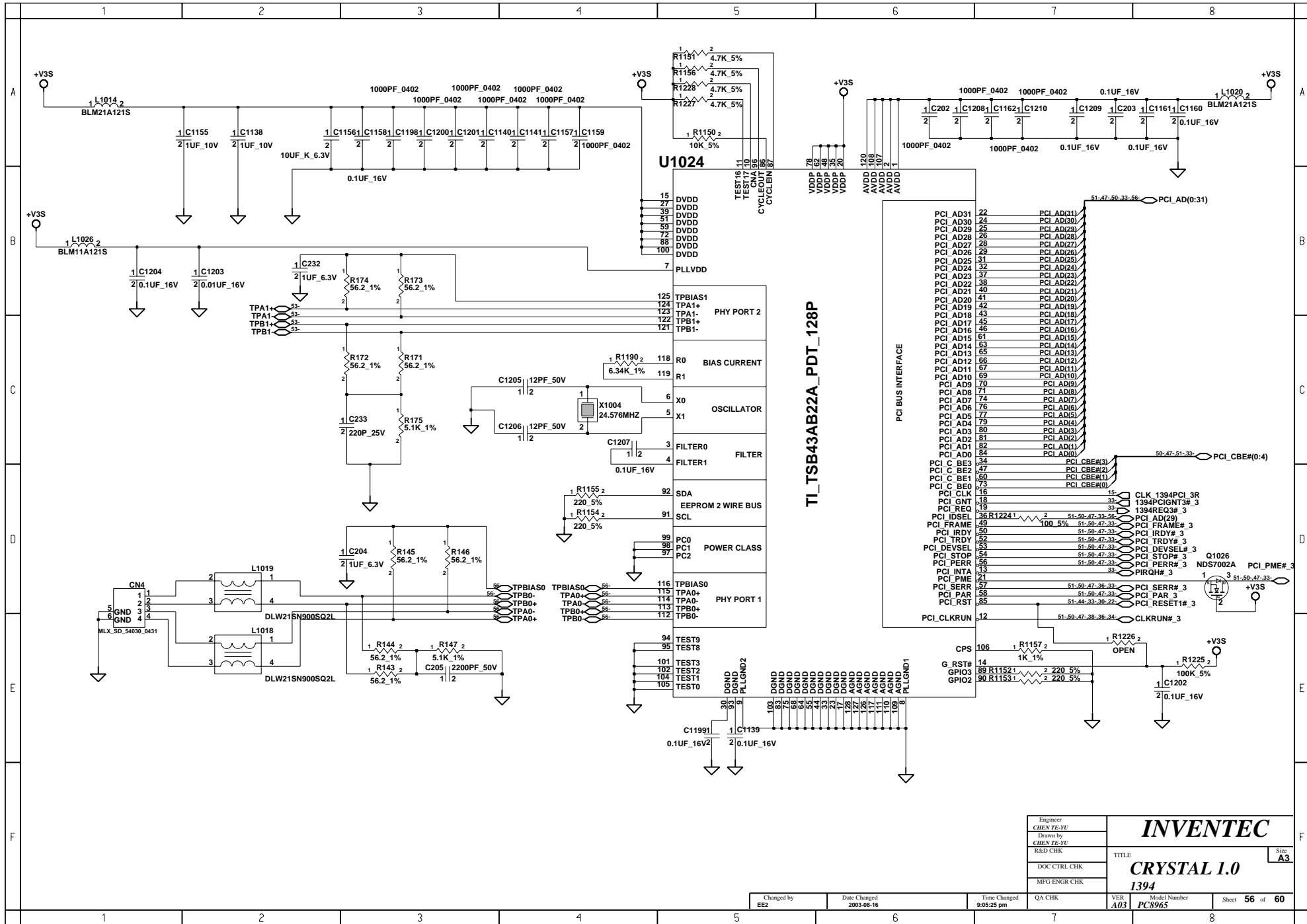
Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:05:17 pm</b>
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**LID SWITCH**

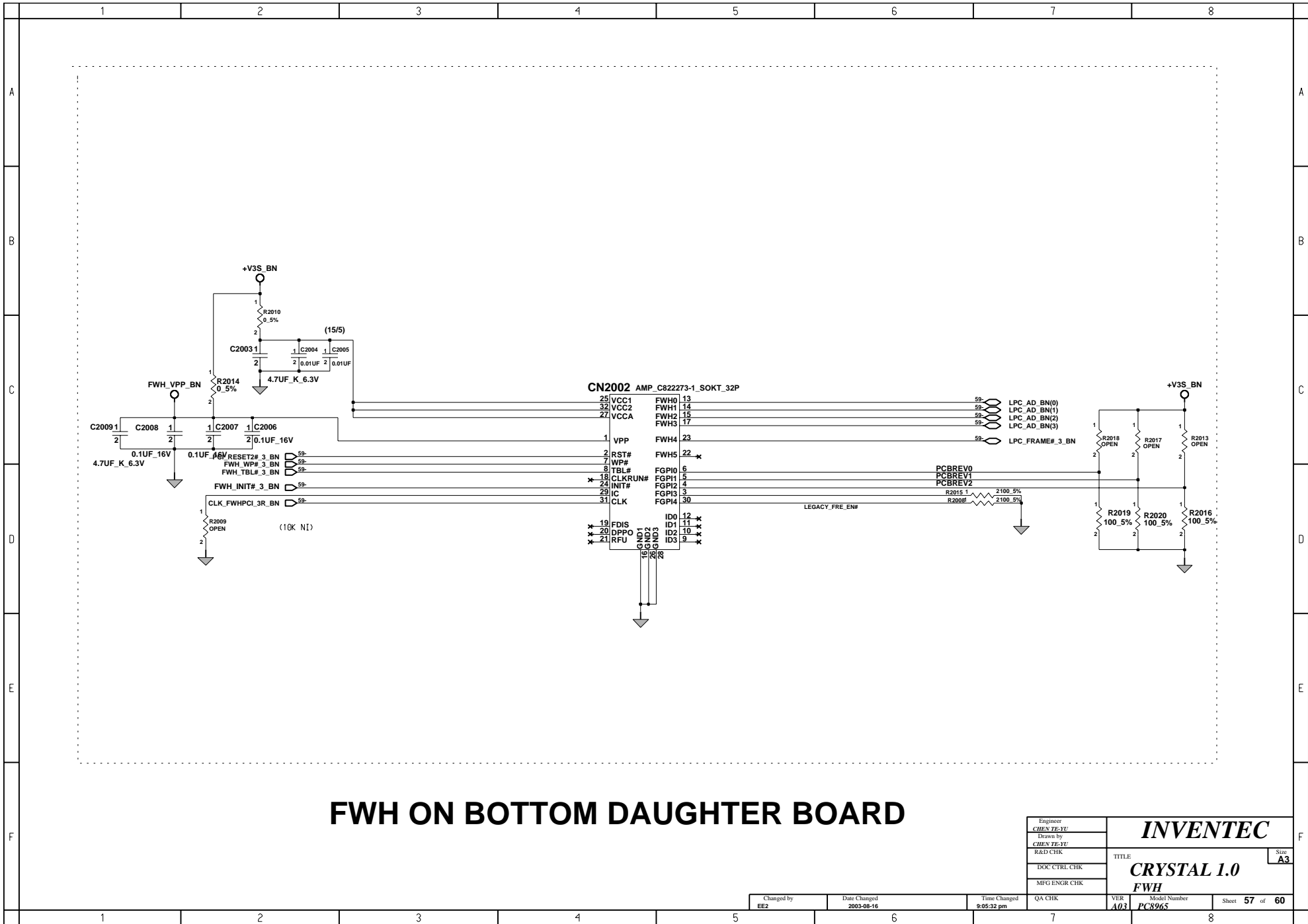


Engineer <b>CHEN TE-YU</b>	<p><b>INVENTEC</b></p> <p>Model Number <b>PC8965</b></p> <p>Sheet <b>55</b> of <b>60</b></p>
Drawn by <b>CHEN TE-YU</b>	
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	
QA CHK	Model Number <b>PC8965</b>
VER <b>A03</b>	Sheet <b>55</b> of <b>60</b>
<p>Changed by <b>EE2</b></p> <p>Date Changed <b>2003-08-16</b></p> <p>Time Changed <b>9:05:21 pm</b></p>	
<p>TITLE <b>CRYSTAL 1.0 SWITCH BUTTON &amp; LED</b></p>	



Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b>	<b>CRYSTAL I.0</b>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>			
R&D CHK			
DOC CTRL CHK			
MFG ENGR CHK			
TITLE <b>1394</b>		VER <b>A03</b>	Model Number <b>PC8965</b>
Changed by <b>EEZ</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:05:25 pm</b>	Sheet <b>56</b> of <b>60</b>

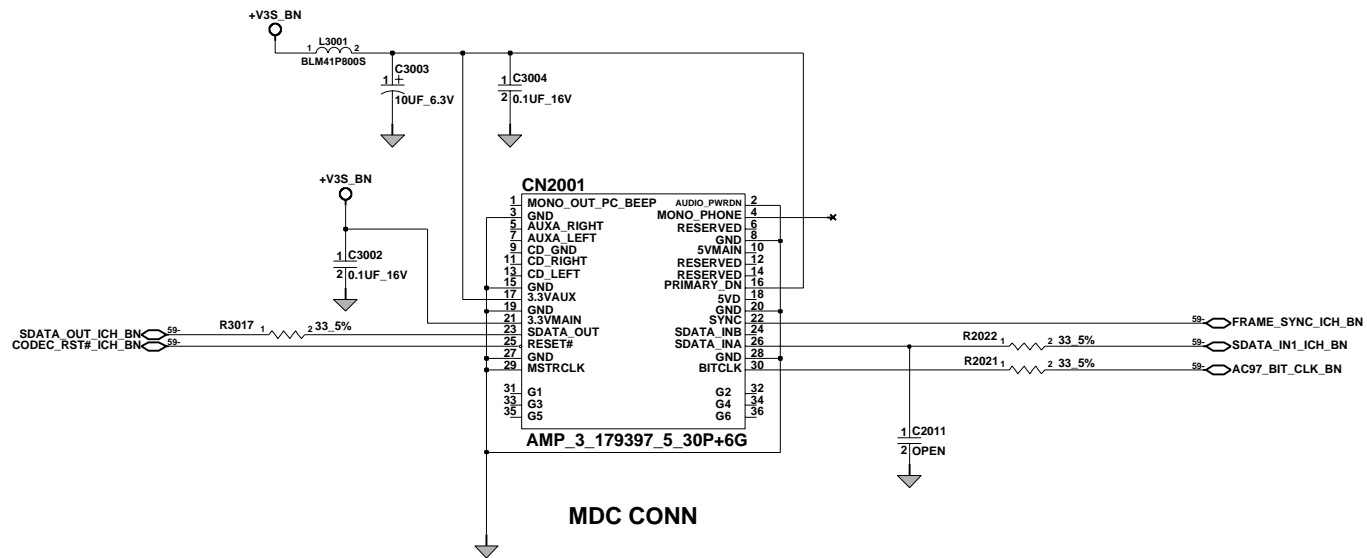




# FWH ON BOTTOM DAUGHTER BOARD

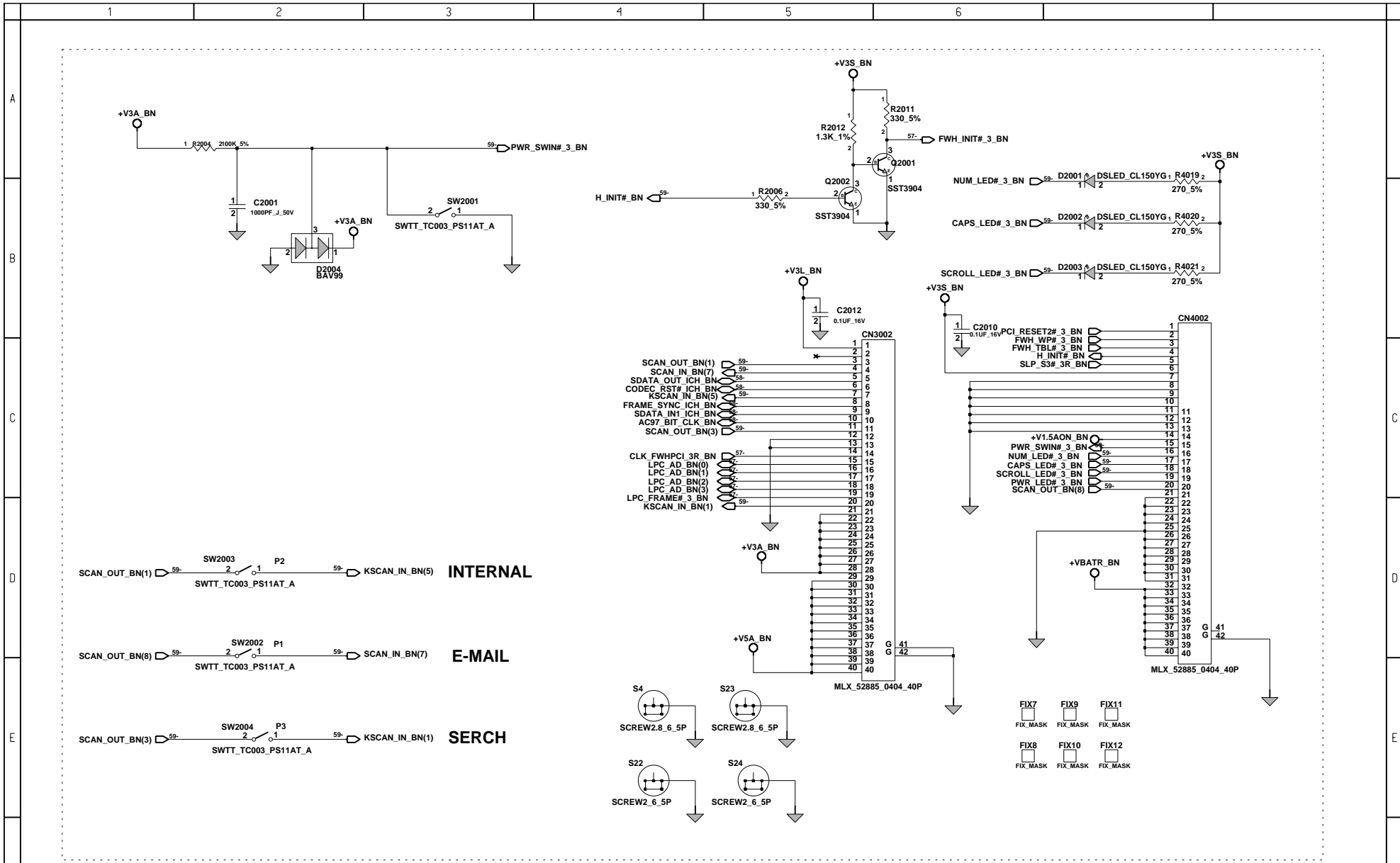
Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>FWH</b>	Size <b>A3</b>
Drawn by <b>CHEN TE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:05:32 pm</b>	QA CHK	VER <b>A031</b>	Model Number <b>PC8965</b>	Sheet <b>57</b> of <b>60</b>
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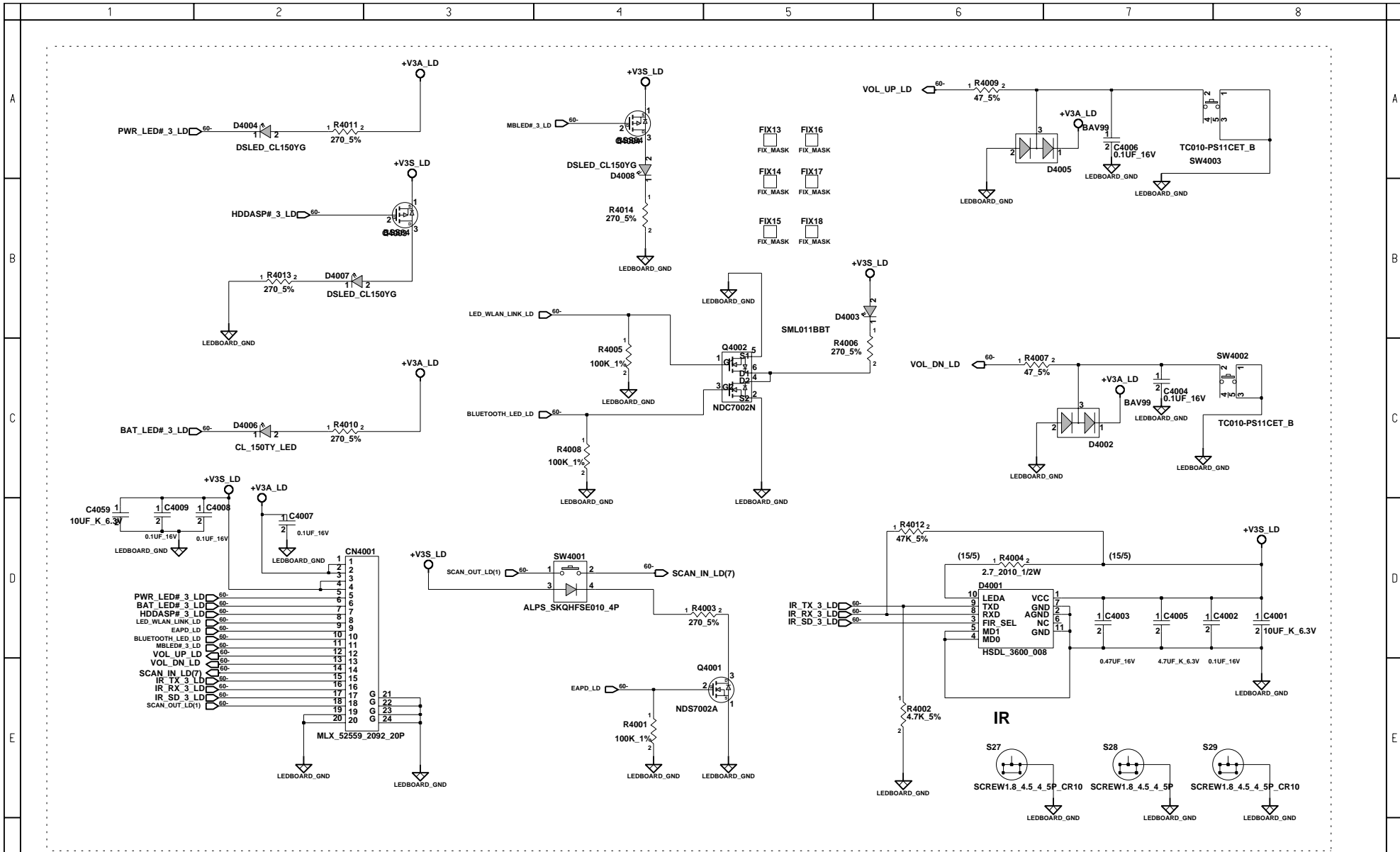
## MDC CONN ON BUTTON DAUGHTER BOARD

Engineer <b>CHEN YE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0</b> <b>MDC CONN</b>	Size <b>A3</b>
Drawn by <b>CHEN YE-YU</b>		
R&D CHK		
DOC CTRL CHK		
MFG ENGR CHK		
Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:05:36 pm</b>
QA CHK	VER <b>A031</b>	Model Number <b>PC8965</b>
Sheet <b>58</b> of <b>60</b>		



# SWITCH & CONN & LED ON BUTTON DAUGHTER BOARD

Engineer <b>CHEN YE-YU</b>	<b>INVENTEC</b>	
Drawn by <b>CHEN YE-YU</b>		
R&D CHK	TITLE	Size <b>A3</b>
DOC CTRL CHK	<b>CRYSTAL 1.0</b>	
MFG ENGR CHK	<b>CONN &amp; SWITCH &amp; LED</b>	
Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:05:41 pm</b>
QA CHK	VER <b>A03</b>	Model Number <b>PC8965</b>
Sheet		<b>59 of 60</b>



# LED & VOL BUTTON ON LED DAUGHTER BOARD

Engineer <b>CHEN TE-YU</b>	<b>INVENTEC</b> TITLE: <b>CRYSTAL 1.0 LED &amp; VOL BUTTON</b> Size: <b>A3</b>
Drawn by <b>CHEN TE-YU</b>	
R&D CHK	
DOC CTRL CHK	
MFG ENGR CHK	

Changed by <b>EE2</b>	Date Changed <b>2003-08-16</b>	Time Changed <b>9:05:51 pm</b>	QA CHK	VER <b>A03</b>	Model Number <b>PC8965</b>	Sheet <b>60</b>	of <b>60</b>
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