

DATE	EC NO.	PART NO.	
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		DEVELOPMENT NO.	Q/M
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TORONTO-4.5 PLANAR (SDR)

VER 0.86 OCT/02/2001

- | | |
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| 4. CPU (2/3) | 44. CDC CONNECTOR |
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| 6. DECAP FOR VCCCPU1R2B | 46. I2CBUS/SMBUS |
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| 37. AUDIO SPK CONN | |
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| 39. MINI PCI | |
| 40. PCI BUS SWITCH | |

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APPROVED			TITLE TORONTO-4.5	
CLASS			TITLE PAGE	
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EC HISTORY

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VER	DATE	CONTENTS
SIT		
0.55	FEB/21/2001	CHANGED BY TR4P001/002. CHANGED BY EMI REQUIREMENTS.
0.56	FEB/22/2001	CHANGED BY TR4P001/003.
0.57	FEB/23/2001	CHANGED BY TR4P004.
0.58	FEB/26/2001	CHANGED BY TR4P005/006/007 /008.
0.59	FEB/27/2001	CHANGED BY TR4P009.
0.60	FEB/28/2001	CHANGED BY TR4P010.
0.61	MAR/01/2001	CHANGED BY TR4PXXX.
0.62	MAR/02/2001	CHANGED BY TR4P015.
0.63	MAR/06/2001	CHANGED BY TR4P016 AND TR4P017(AUDIO EC).
0.64	MAR/07/2001	CHANGED BY TR4P019 AND MOVED FL1 AND FL2 TO AGND SIDE.
0.65	MAR/08/2001	CHANGED BY TR4P021/XXX.
0.66	MAR/09/2001	CHANGED BY TR4P024/025.
0.67	MAR/22/2001	CHANGED BY TR4P026/27/28.
0.68	MAR/23/2001	CHANGED BY TR4P029. CHANGED C18/C33 BY GCM REQ.
0.69	MAR/29/2001	CHANGED BY TR4P030.
0.70	APR/04/2001	CHANGED BY TR4P031.
0.71	APR/09/2001	CHANGED BY TR4P032/33.
0.72	APR/13/2001	CHANGED BY TR4P032/34.

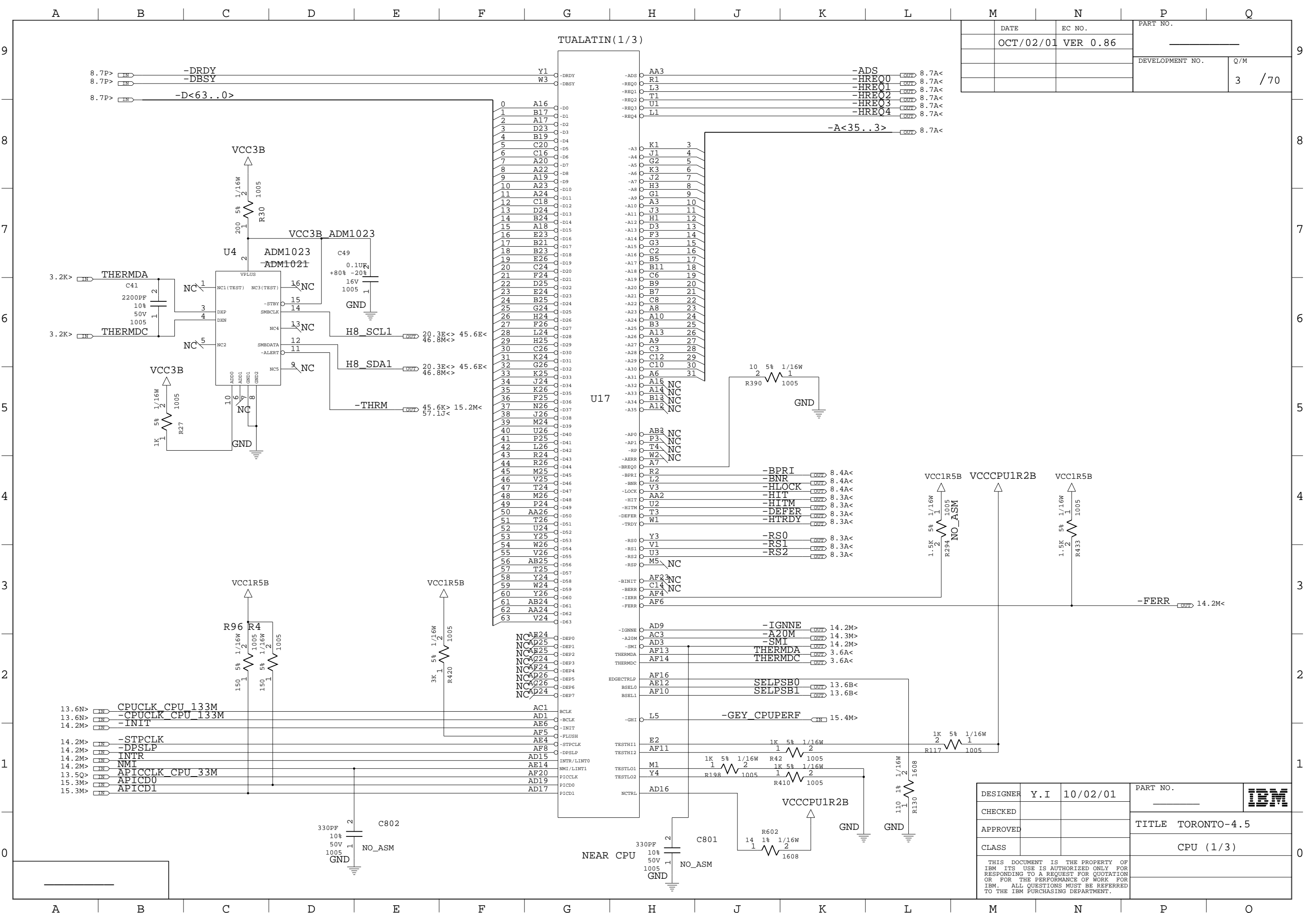
VER	DATE	CONTENTS
0.77	APR/26/2001	CHANGED C658/C659 TO 10%
0.78	MAY/10/2001	CHANGED BY TR4P049/50.
0.79	MAY/11/2001	CHANGED BY TR4P053.
0.80	MAY/24/2001	CHANGED BY TR4P056/57/58.
0.81	MAY/31/2001	CHANGED BY TR4P060.
0.82	JUN/15/2001	CHANGED BY TR4P062.

TR45

0.83	SEP/14/2001	ADD LP3985 P52.
0.84	SEP/17/2001	P38 ADD D43,R394(47K), CHANGE U33 TO MAX4401
		P52 DEL C661, ADD R1(4.7K)
		P56 ADD D78,R392(100)
0.85	SEP/19/2001	P38 CHANGE U33 TO LMV821 DEL R394(47K) CHANGE D43 CONNECTION
0.86	OCT/02/2001	P63 CHANGE Q16/Q18 TO TPC8005_H
		P65 CHANGE R681 TO 10K CHANGE R683 TO 200

SVT		
0.73	APR/18/2001	CHANGED BY TR4P036.
0.74	APR/19/2001	CHANGED BY TR4P035. CHANGED BY TR4P037. CHANGED BY TR4P038.
0.75	APR/23/2001	CHANGED BY TR4P040. CHANGED BY TR4P041. CHANGED BY TR4P042.
0.76	APR/25/2001	CHANGED BY TR4P043. CHANGED BY TR4P044. CHANGED BY TR4P045. CHANGED BY TR4P046. CHANGED BY TR4P047.

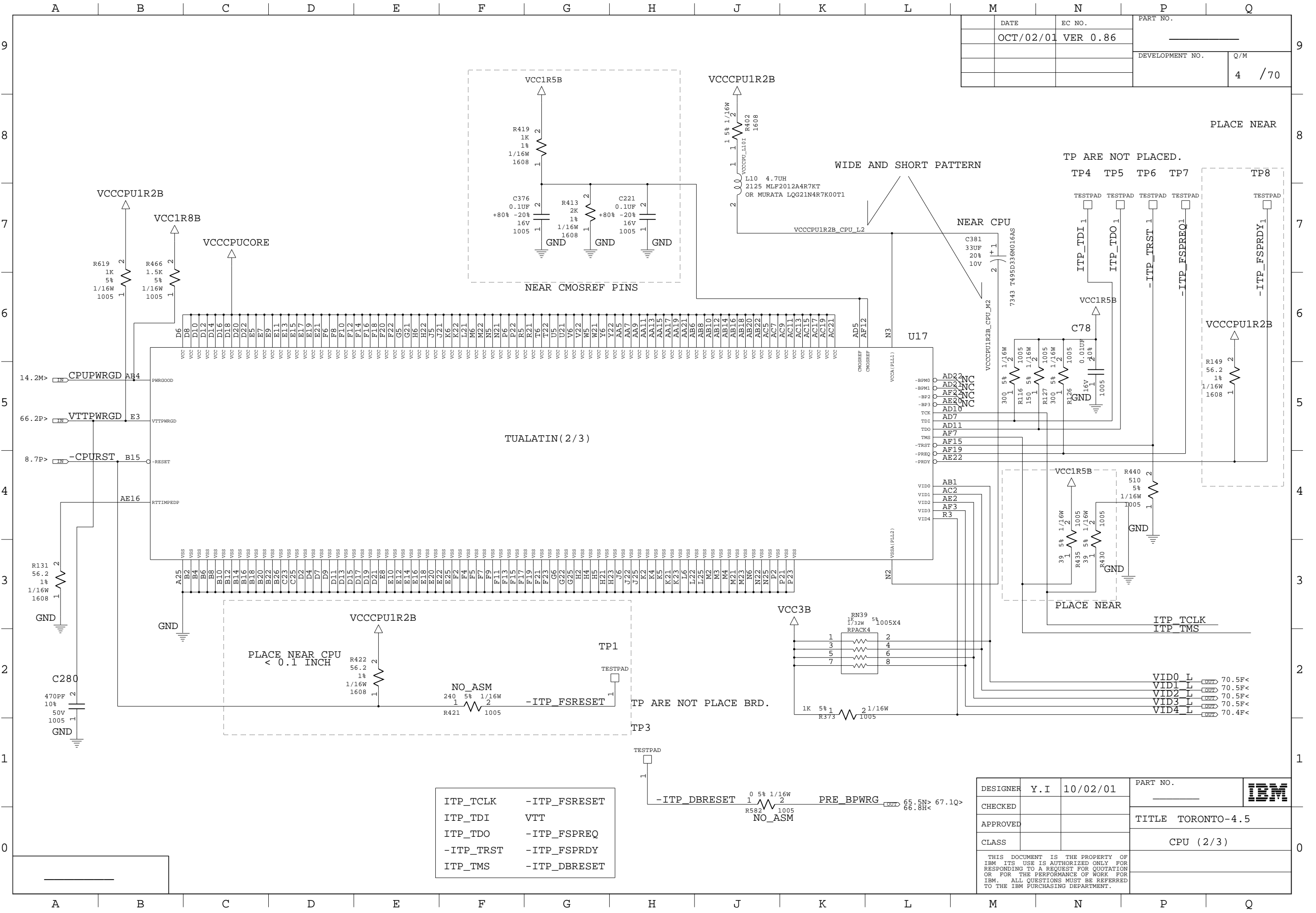
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CLASS			EC HISTORY	
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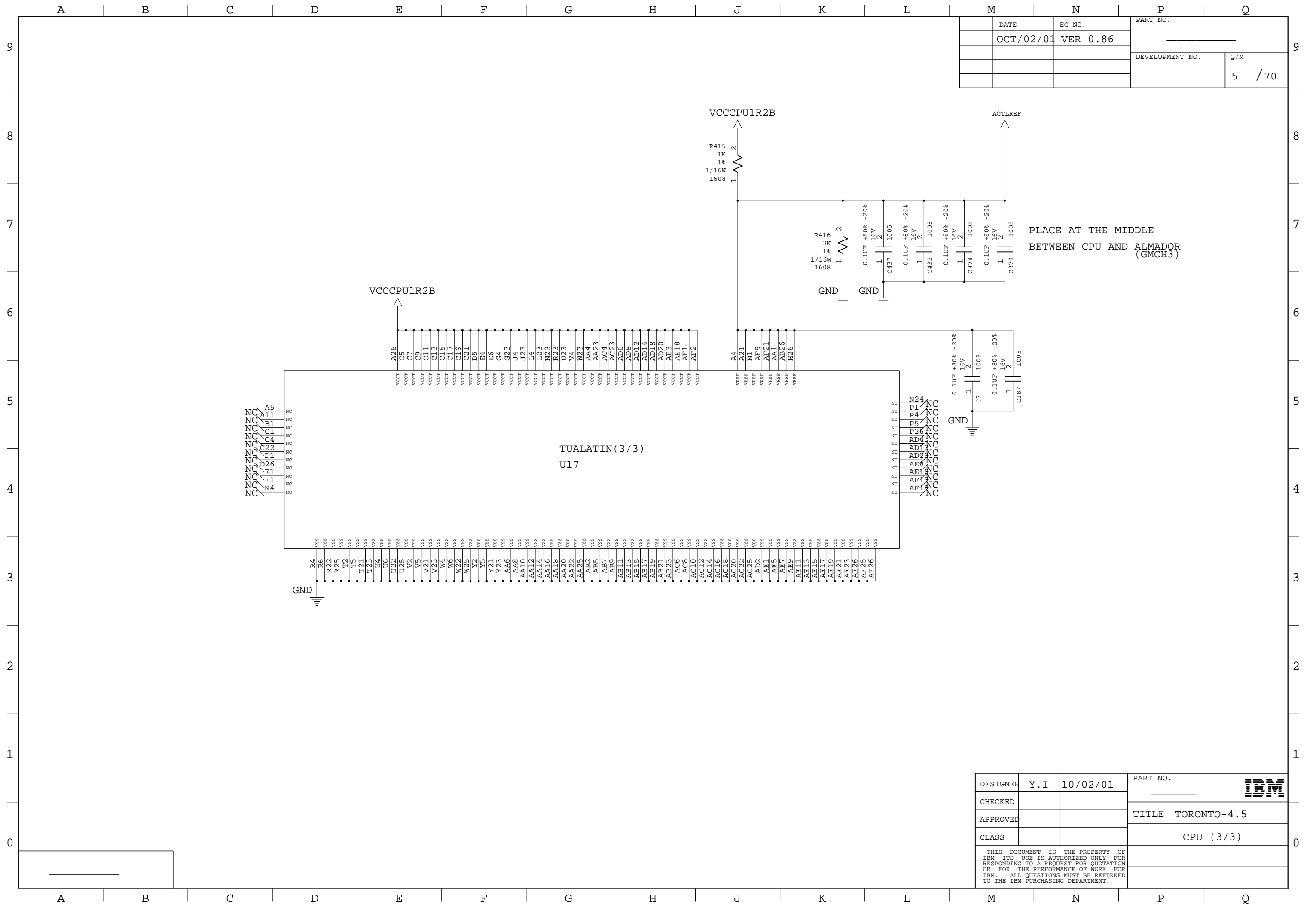
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APPROVED			CLASS	CPU (1/3)
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ITP_TCLK	-ITP_FSRESET
ITP_TDI	VTT
ITP_TDO	-ITP_FSPREQ
-ITP_TRST	-ITP_FSPRDY
ITP_TMS	-ITP_DBRESET

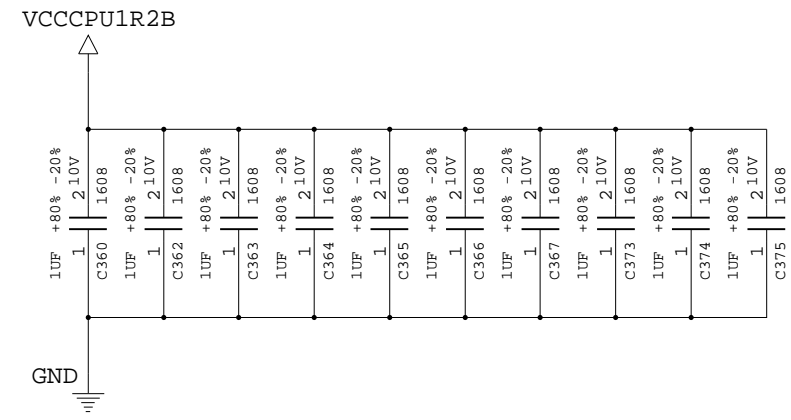
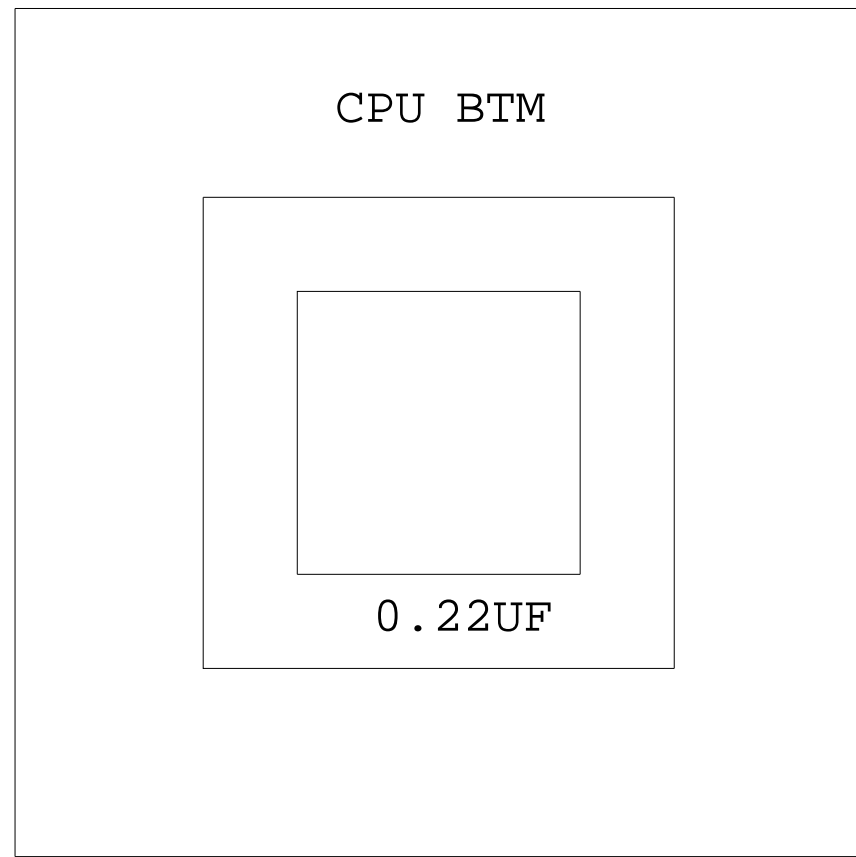
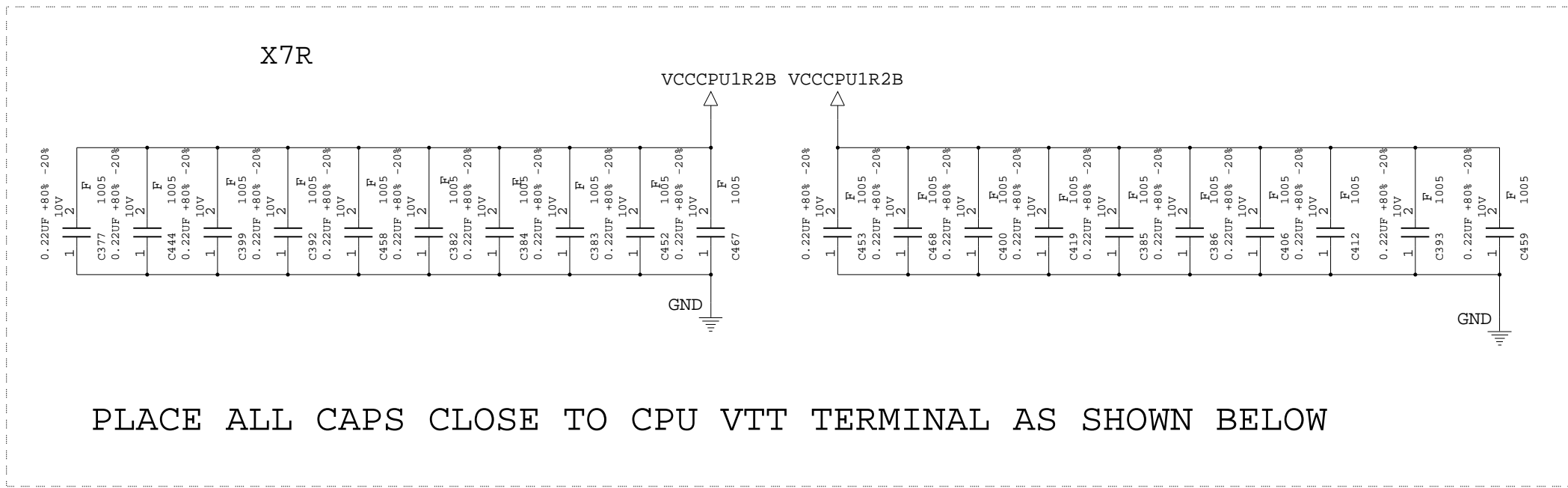
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APPROVED			TITLE	TORONTO-4.5
CLASS				CPU (2/3)
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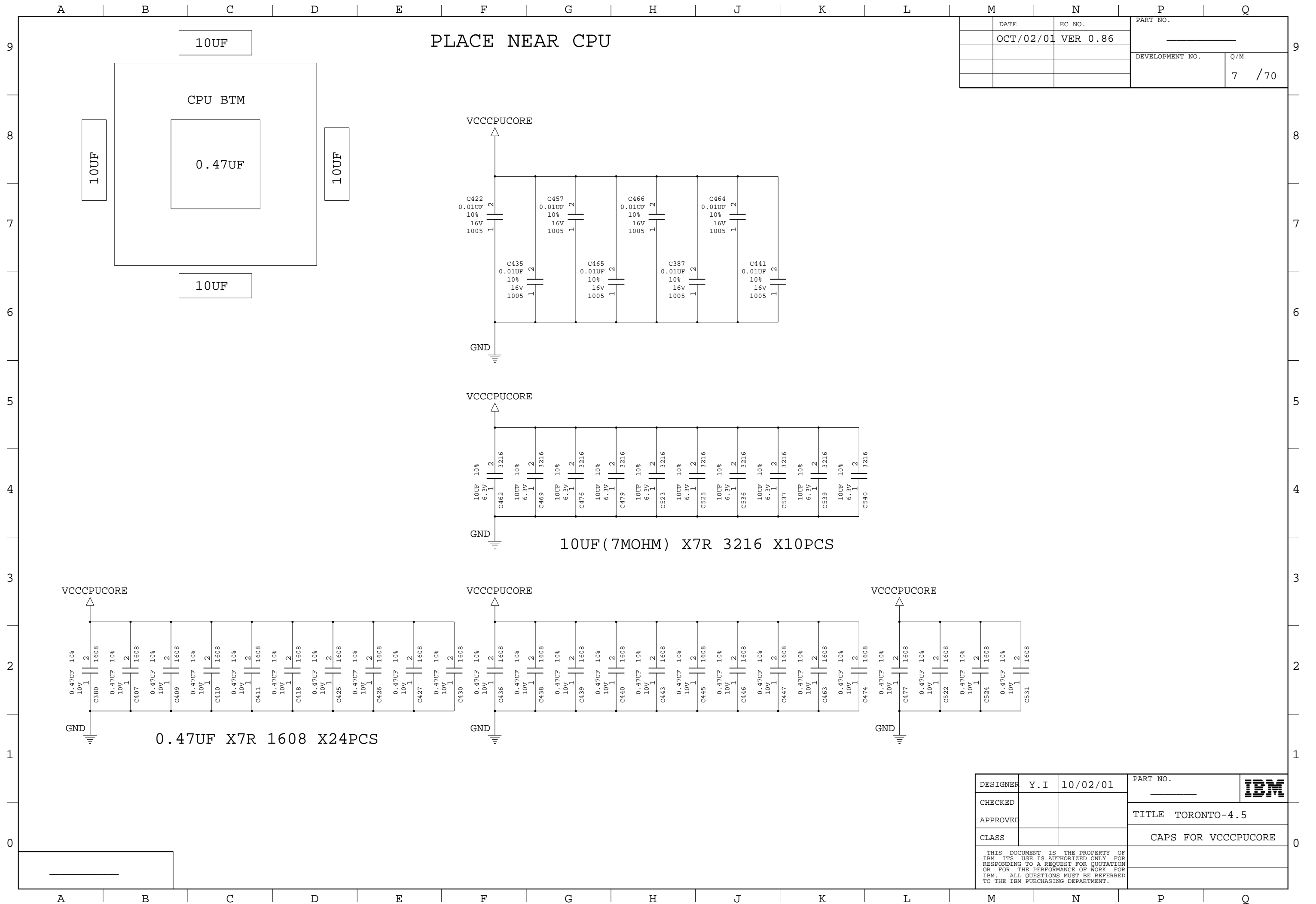
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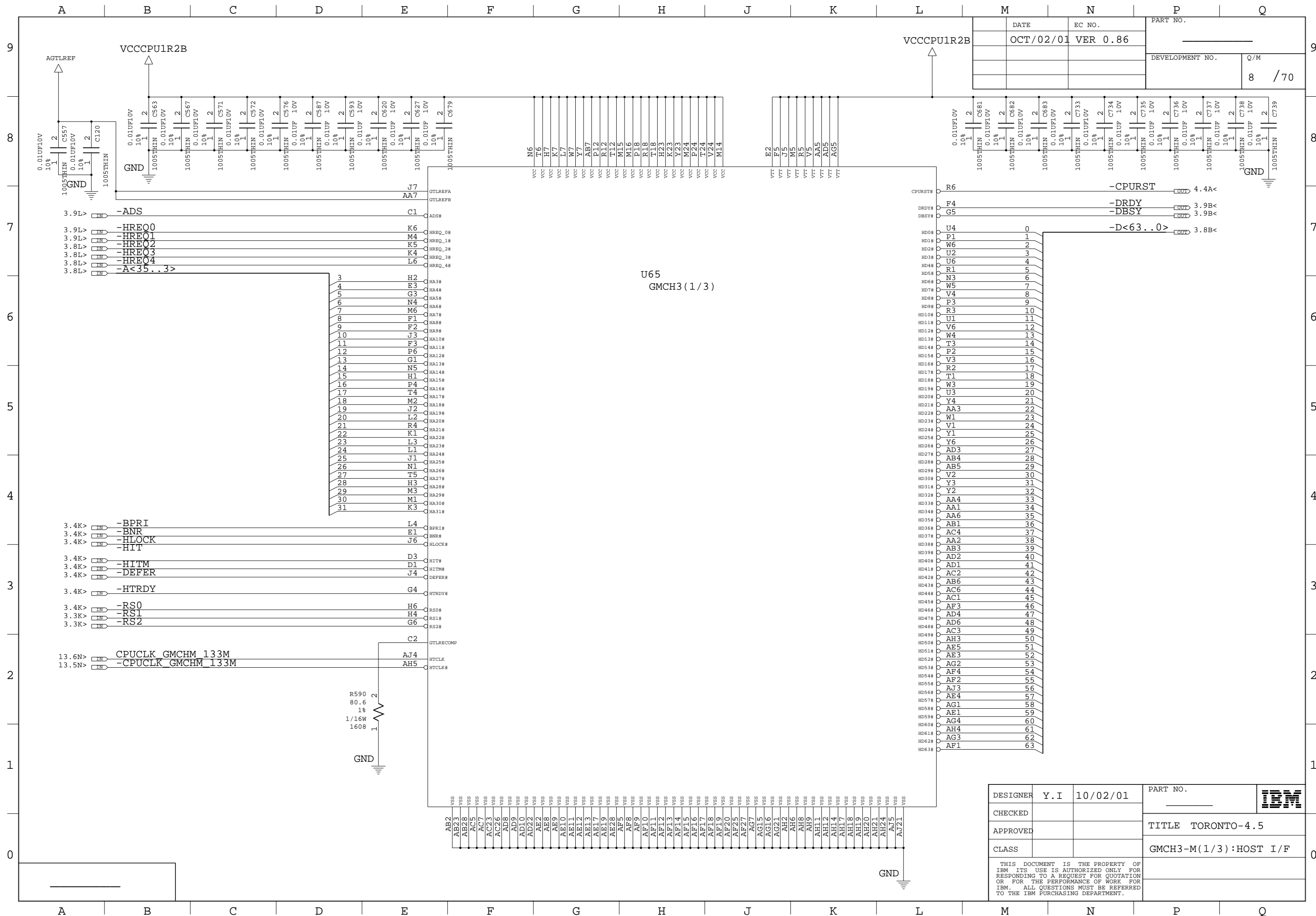


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APPROVED			TITLE TORONTO-4.5	
CLASS			DECAP FOR VCCCPU1R5B	
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CLASS			CAPS FOR VCCCPUCORE	
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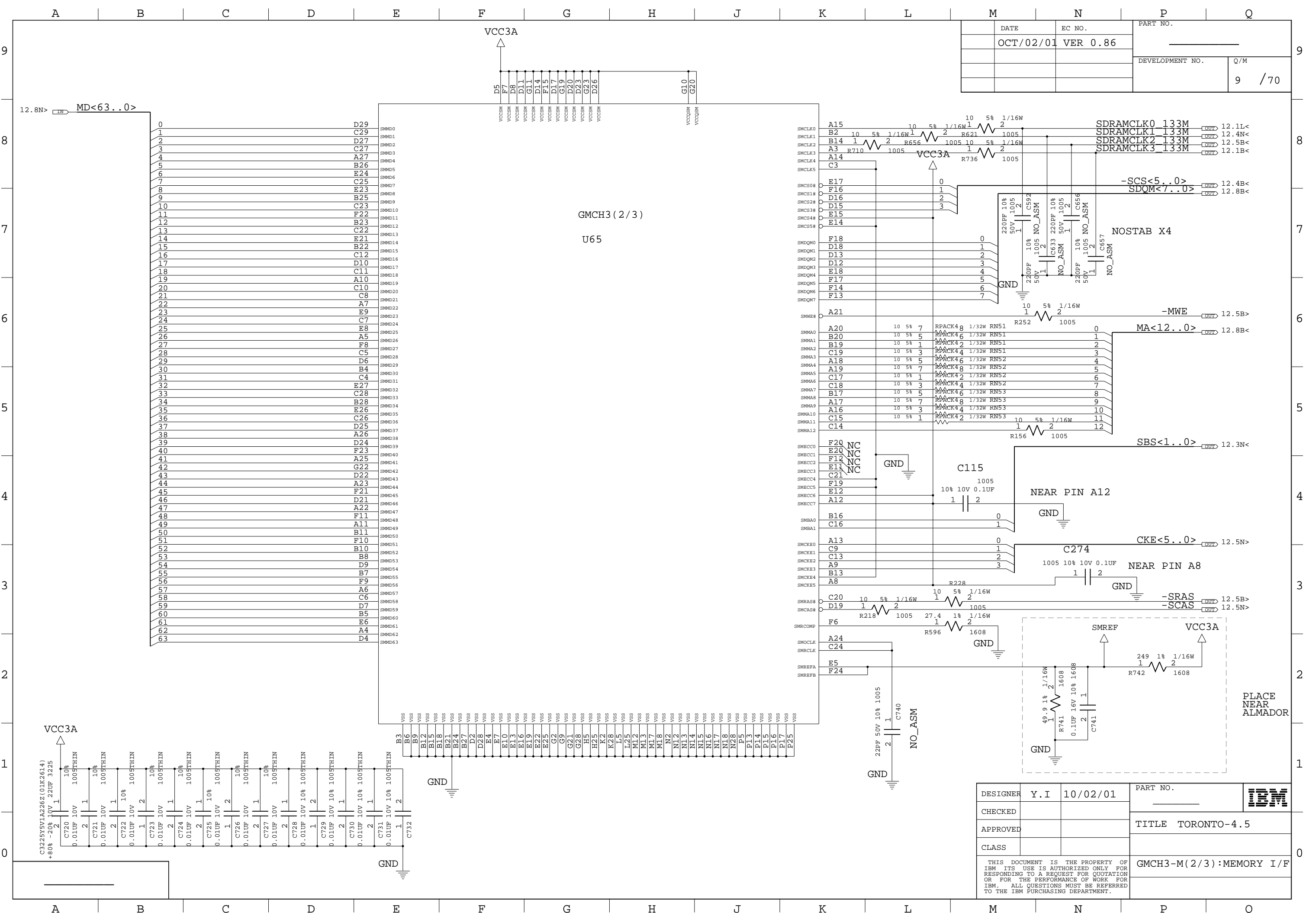
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U65
GMCH3 (1/3)

CPURST#	R6	-CPURST	4.4A<
DRDY#	F4	-DRDY	3.9B<
DBSY#	G5	-DBSY	3.9B<
HD0#	U4	-D<63..0>	3.8B<

HD1#	P1	1
HD2#	W6	2
HD3#	U2	3
HD4#	U6	4
HD5#	R1	5
HD6#	N3	6
HD7#	W5	7
HD8#	V4	8
HD9#	P3	9
HD10#	R3	10
HD11#	U1	11
HD12#	V6	12
HD13#	W4	13
HD14#	T3	14
HD15#	P2	15
HD16#	V3	16
HD17#	R2	17
HD18#	T1	18
HD19#	W3	19
HD20#	U3	20
HD21#	Y4	21
HD22#	AA3	22
HD23#	W1	23
HD24#	V1	24
HD25#	Y1	25
HD26#	Y6	26
HD27#	AD3	27
HD28#	AB4	28
HD29#	AB5	29
HD30#	V2	30
HD31#	Y3	31
HD32#	Y2	32
HD33#	AA4	33
HD34#	AA1	34
HD35#	AA6	35
HD36#	AB1	36
HD37#	AC4	37
HD38#	AA2	38
HD39#	AB3	39
HD40#	AD2	40
HD41#	AD1	41
HD42#	AC2	42
HD43#	AB6	43
HD44#	AC6	44
HD45#	AC1	45
HD46#	AF3	46
HD47#	AD4	47
HD48#	AD6	48
HD49#	AC3	49
HD50#	AH3	50
HD51#	AE5	51
HD52#	AE3	52
HD53#	AG2	53
HD54#	AF4	54
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HD56#	AJ3	56
HD57#	AE4	57
HD58#	AG1	58
HD59#	AE1	59
HD60#	AG4	60
HD61#	AH4	61
HD62#	AG3	62
HD63#	AF1	63

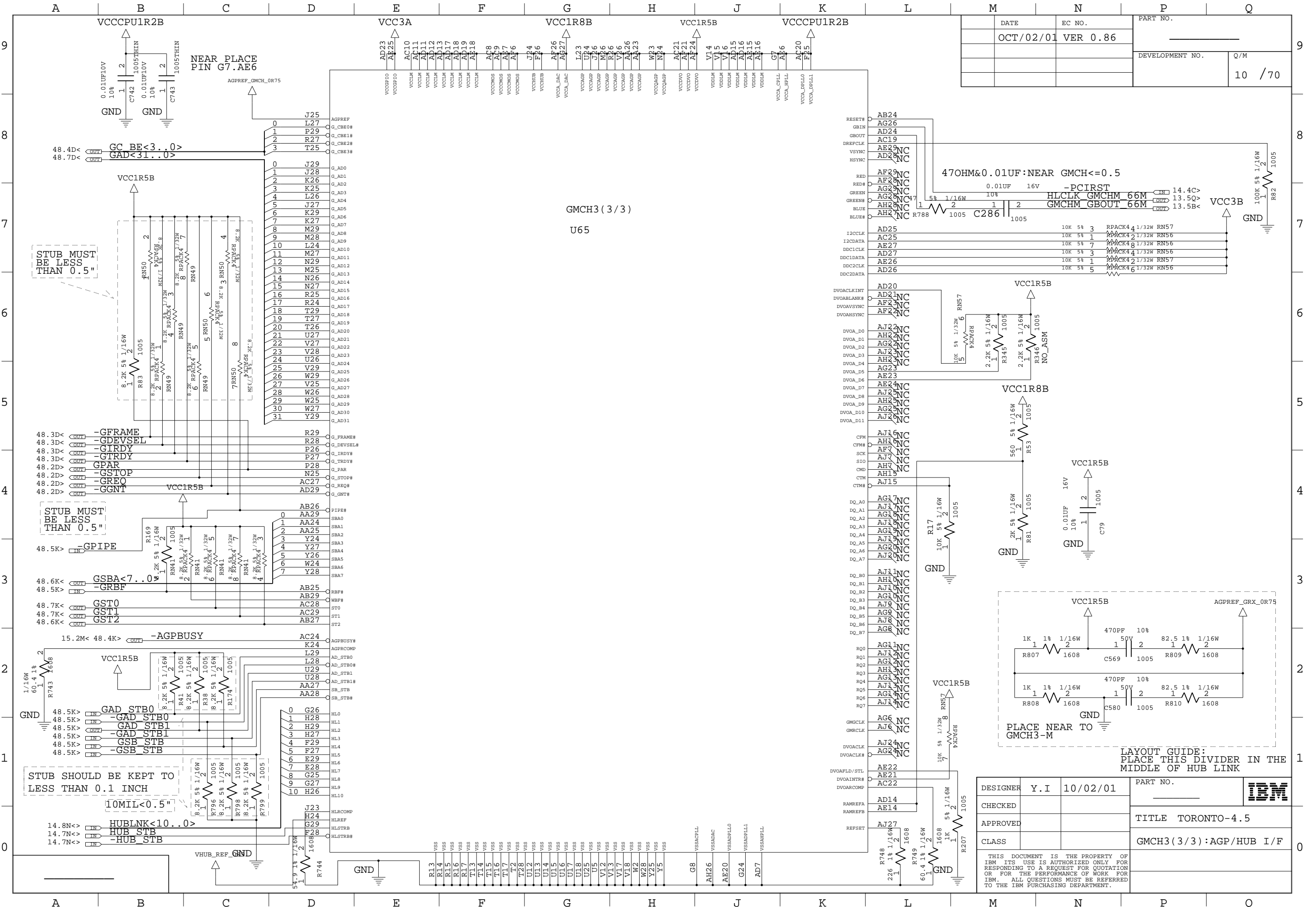
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APPROVED			TITLE	TORONTO-4.5
CLASS				GMCH3-M(1/3):HOST I/F
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CLASS				
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GMCH3 (3/3)
U65

470HM&0.01UF:NEAR GMCH<=0.5

0.01UF 16V -PCIRST
HLCLK GMCHM 66M
GMCHM GBOUT 66M

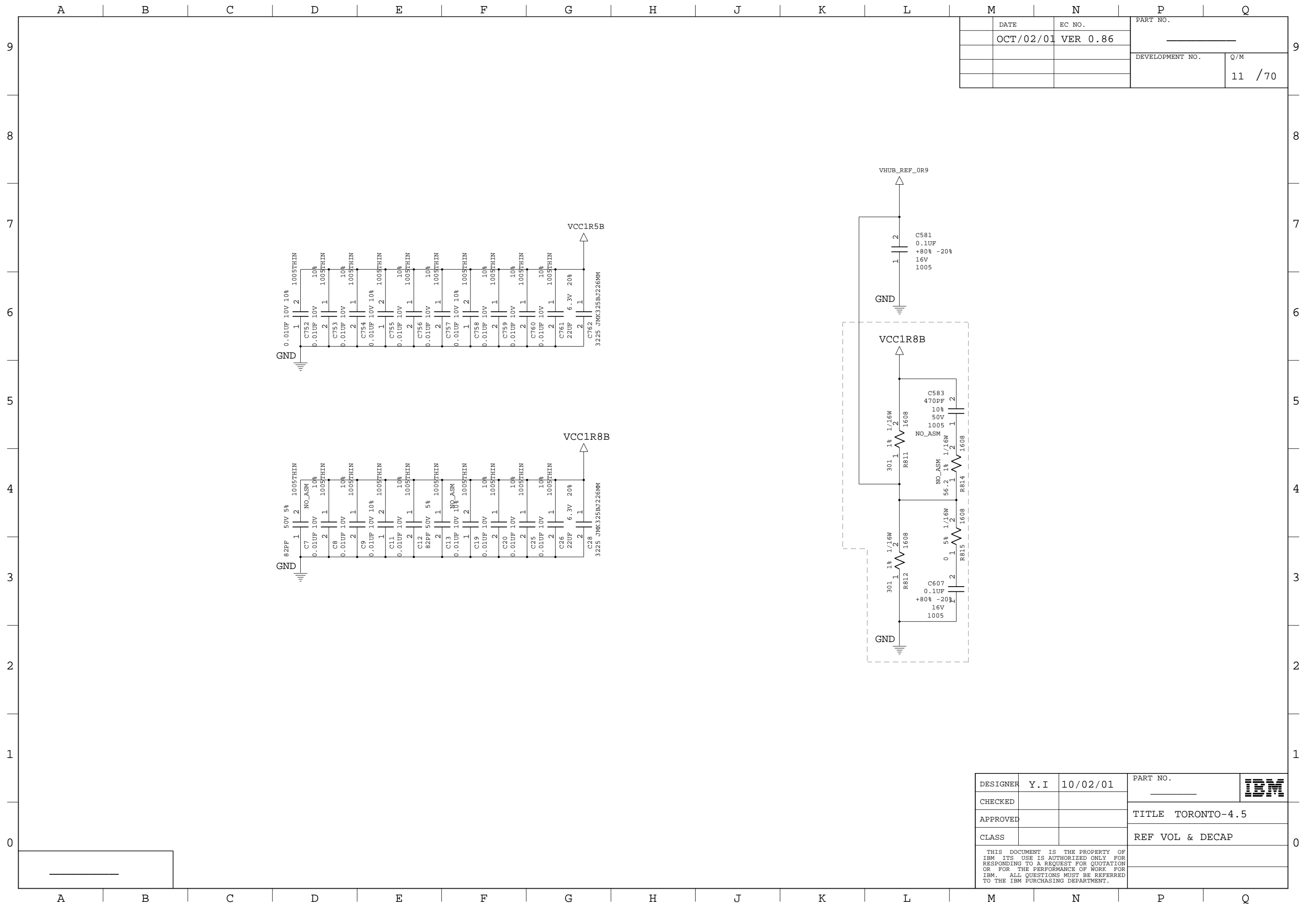
STUB MUST
BE LESS
THAN 0.5"

STUB MUST
BE LESS
THAN 0.5"

STUB SHOULD BE KEPT TO
LESS THAN 0.1 INCH

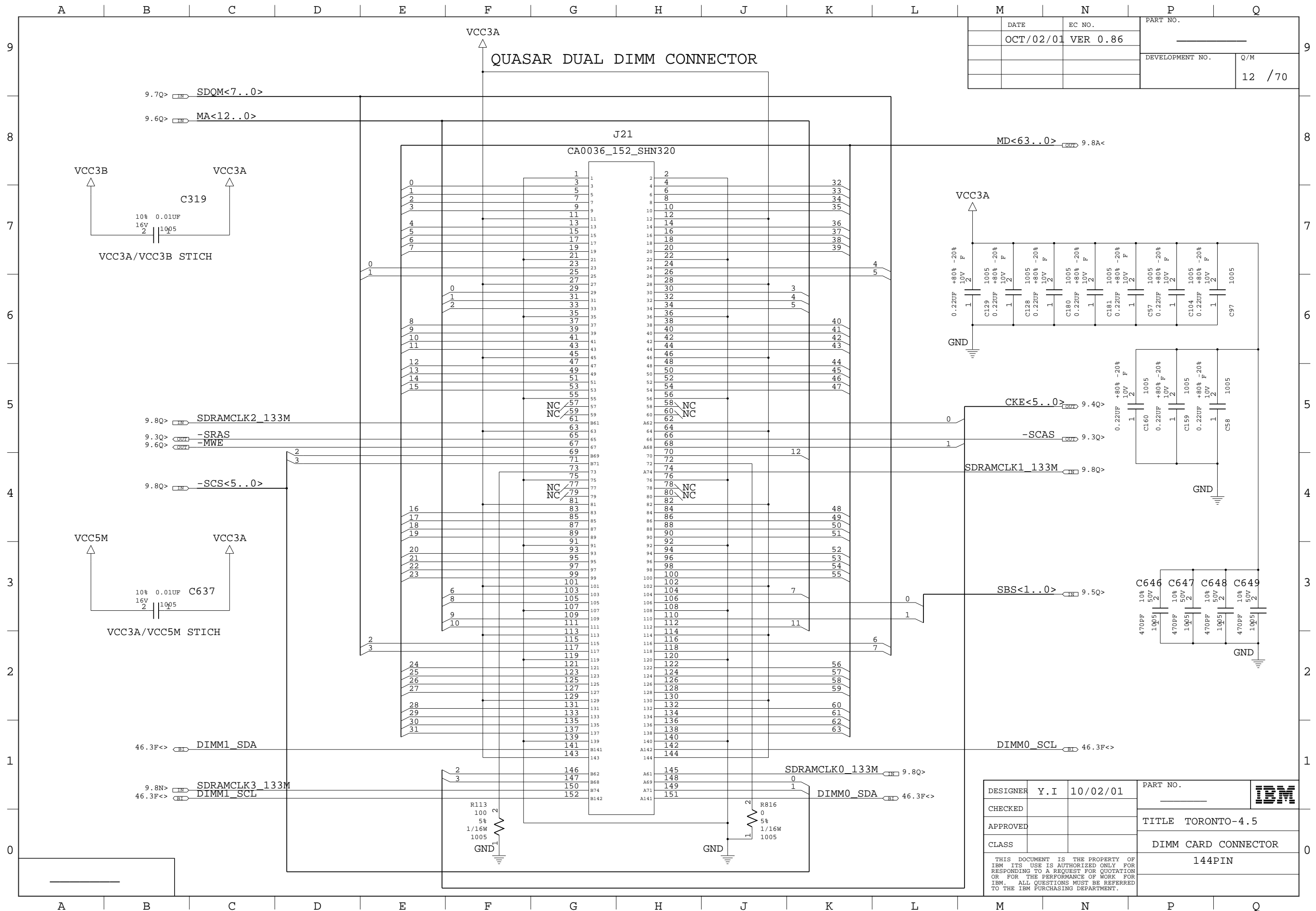
LAYOUT GUIDE:
PLACE THIS DIVIDER IN THE
MIDDLE OF HUB LINK

DESIGNER	Y.I	10/02/01	PART NO.	IBM
CHECKED			TITLE	TORONTO-4.5
APPROVED			GMCH3 (3/3):AGP/HUB I/F	
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CLASS			REF VOL & DECAP	
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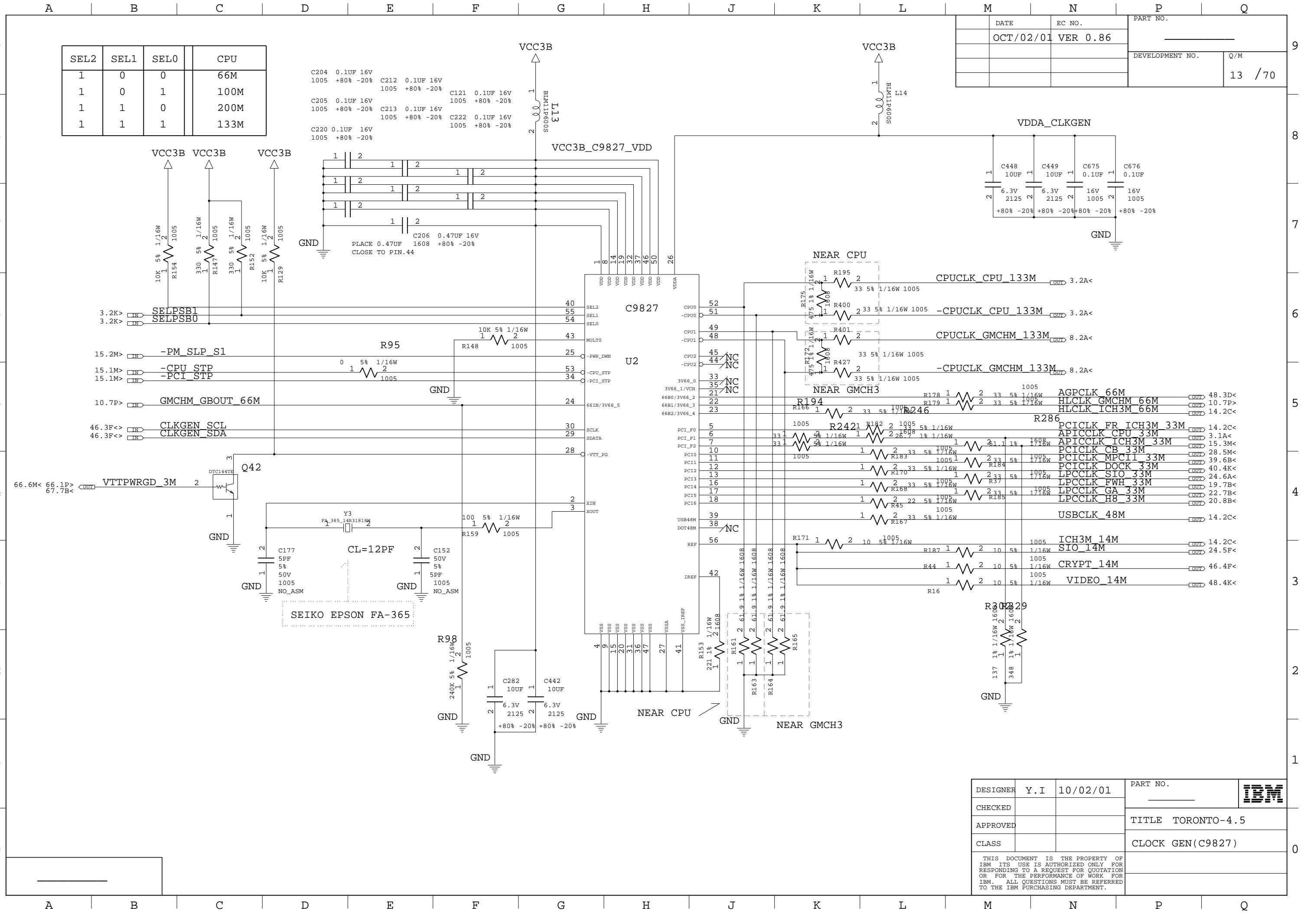
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APPROVED			TITLE TORONTO-4.5	
CLASS			DIMM CARD CONNECTOR	
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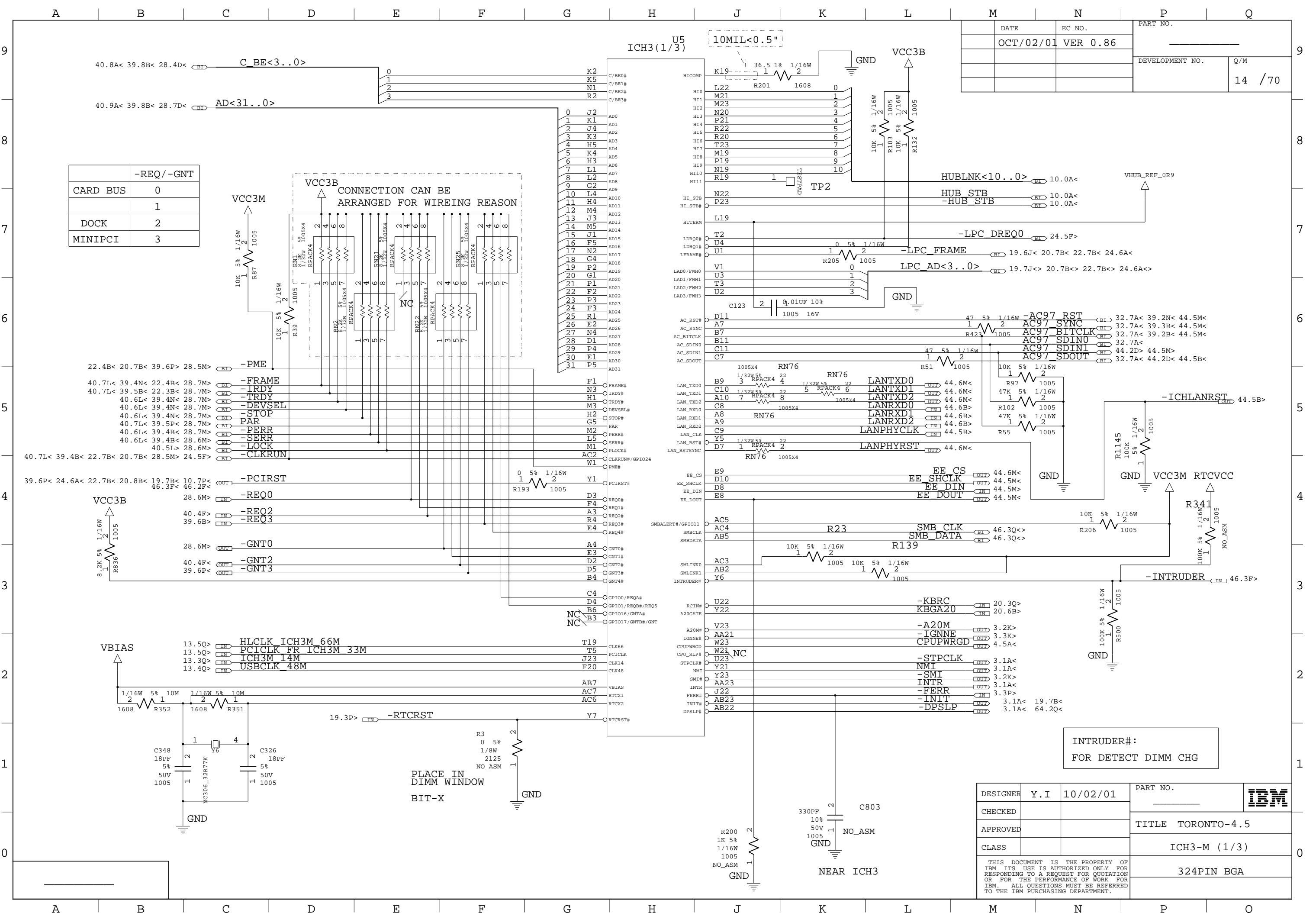
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SEL2	SEL1	SEL0	CPU
1	0	0	66M
1	0	1	100M
1	1	0	200M
1	1	1	133M

- C204 0.1UF 16V 1005 +80% -20%
- C212 0.1UF 16V 1005 +80% -20%
- C205 0.1UF 16V 1005 +80% -20%
- C213 0.1UF 16V 1005 +80% -20%
- C220 0.1UF 16V 1005 +80% -20%
- C221 0.1UF 16V 1005 +80% -20%
- C222 0.1UF 16V 1005 +80% -20%
- C206 0.47UF 16V 1608 +80% -20%

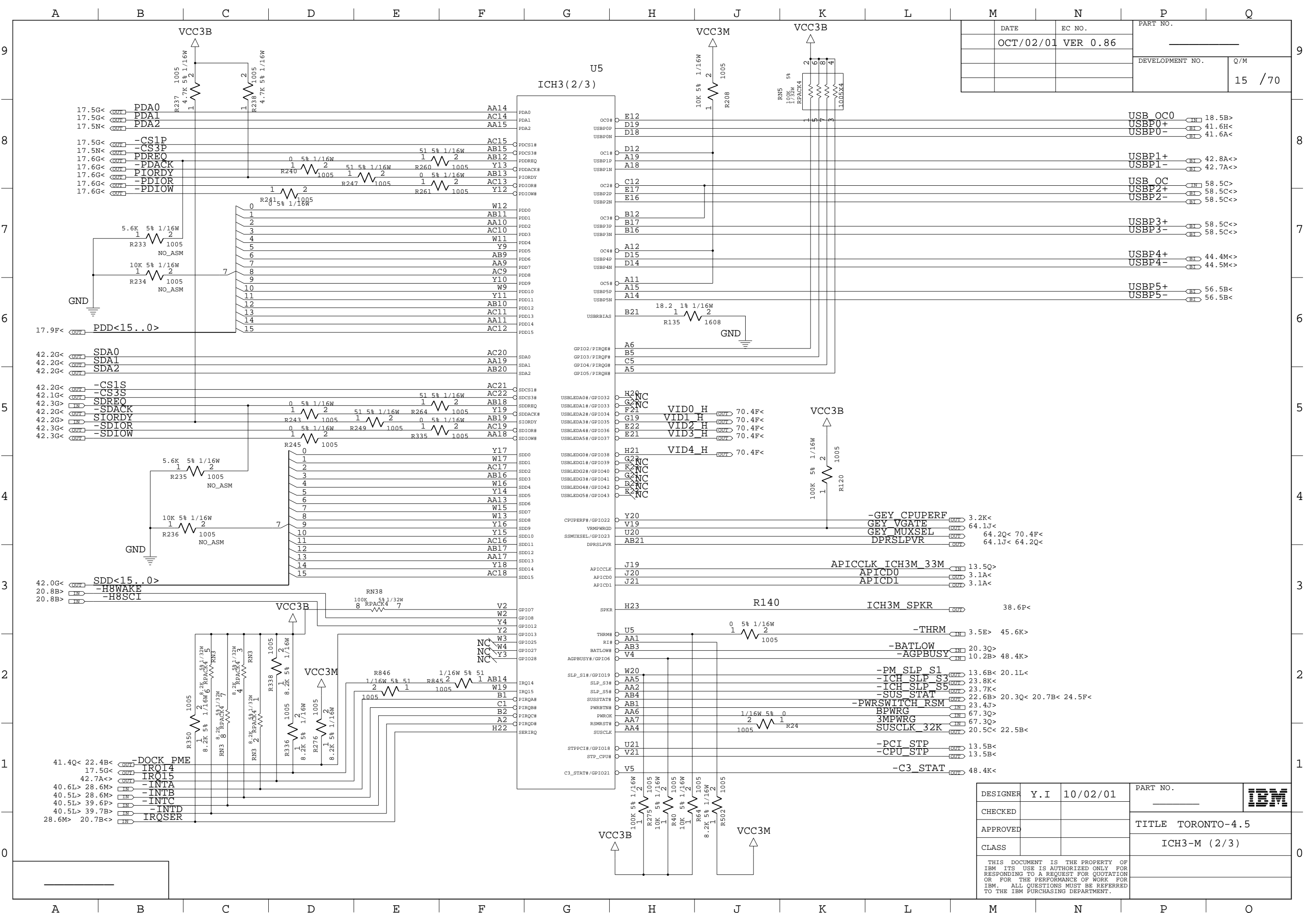


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APPROVED			TITLE TORONTO-4.5	
CLASS			CLOCK GEN(C9827)	
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CHECKED			TITLE	TORONTO-4.5
APPROVED				ICH3-M (1/3)
CLASS				324PIN BGA

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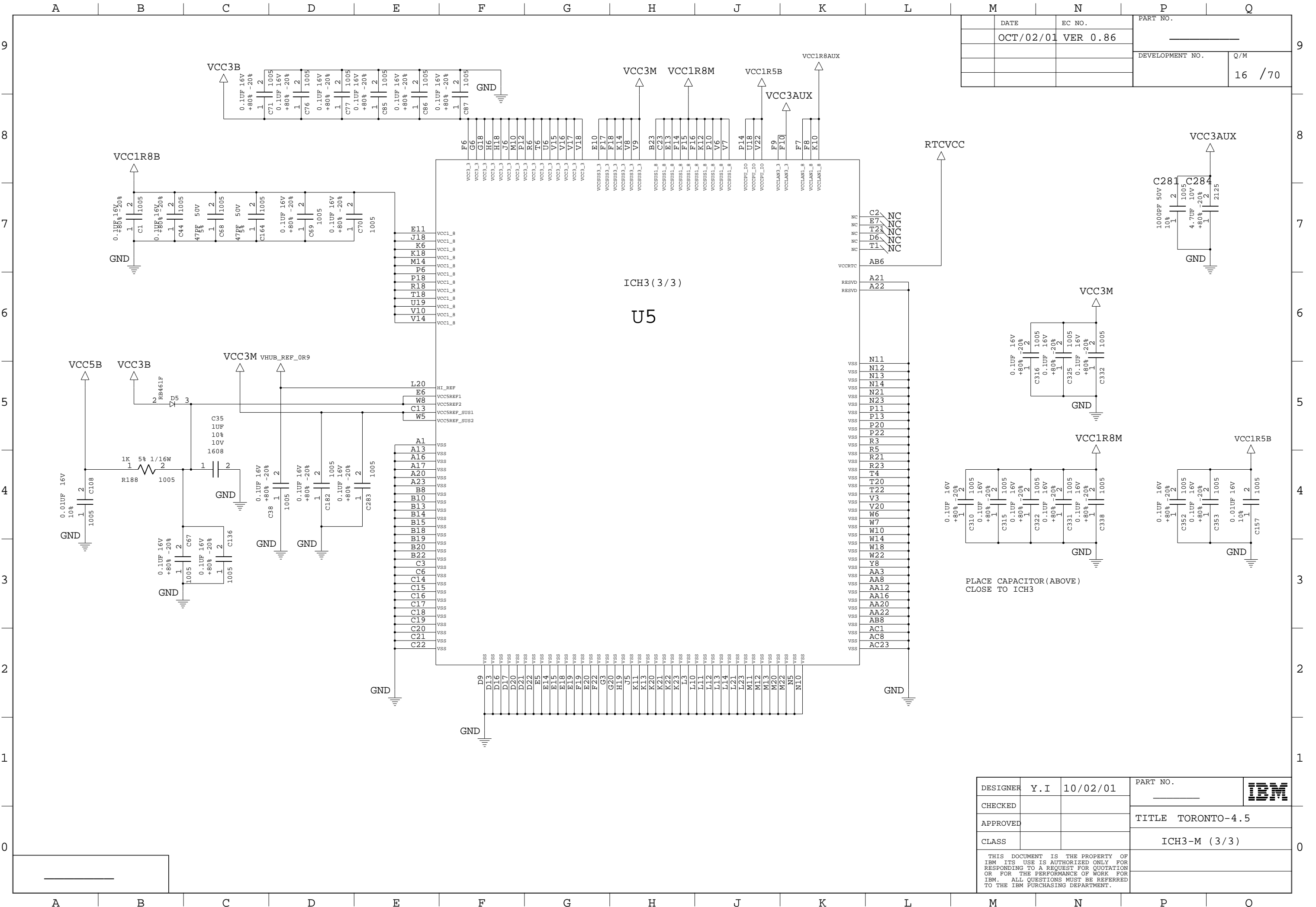
USB_OC0	18.5B<
USBP0+	41.6H<
USBP0-	41.6A<
USBP1+	42.8A<>
USBP1-	42.7A<>
USB_OC	58.5C<
USBP2+	58.5C<>
USBP2-	58.5C<>
USBP3+	58.5C<>
USBP3-	58.5C<>
USBP4+	44.4M<>
USBP4-	44.5M<>
USBP5+	56.5B<
USBP5-	56.5B<

VID0_H	70.4F<
VID1_H	70.4F<
VID2_H	70.4F<
VID3_H	70.4F<
VID4_H	70.4F<
-GEY_CUPERF	3.2K<
GEY_VGATE	64.1J<
GEY_MUXSEL	64.2Q< 70.4F<
DPRSLPVR	64.1J< 64.2Q<

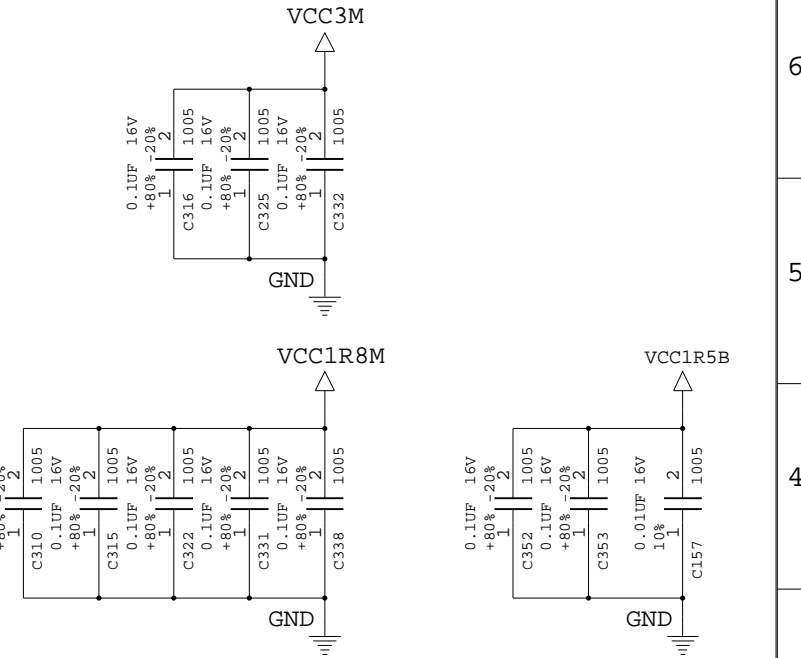
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APICD0	3.1A<
APICD1	3.1A<

ICH3M_SPKR	38.6P<
-THRM	3.5E> 45.6K>
-BATLOW	20.3Q>
-AGPBUSY	10.2B> 48.4K>
-PM_SLP_S1	13.6B< 20.1L<
-ICH_SLP_S3	23.8K<
-ICH_SLP_S5	23.7K<
-SUS_STAT	22.6B> 20.3Q< 20.7B< 24.5F<
-PWRSWITCH_RSM	23.4J>
BPWRG	67.3Q>
3MPWRG	67.3Q>
SUSCLK_32K	20.5C< 22.5B<
-PCI_STP	13.5B<
-CPU_STP	13.5B<
-C3_STAT	48.4K<

DESIGNER	Y.I	10/02/01	PART NO.	IBM
CHECKED			TITLE	TORONTO-4.5
APPROVED			CLASS	ICH3-M (2/3)
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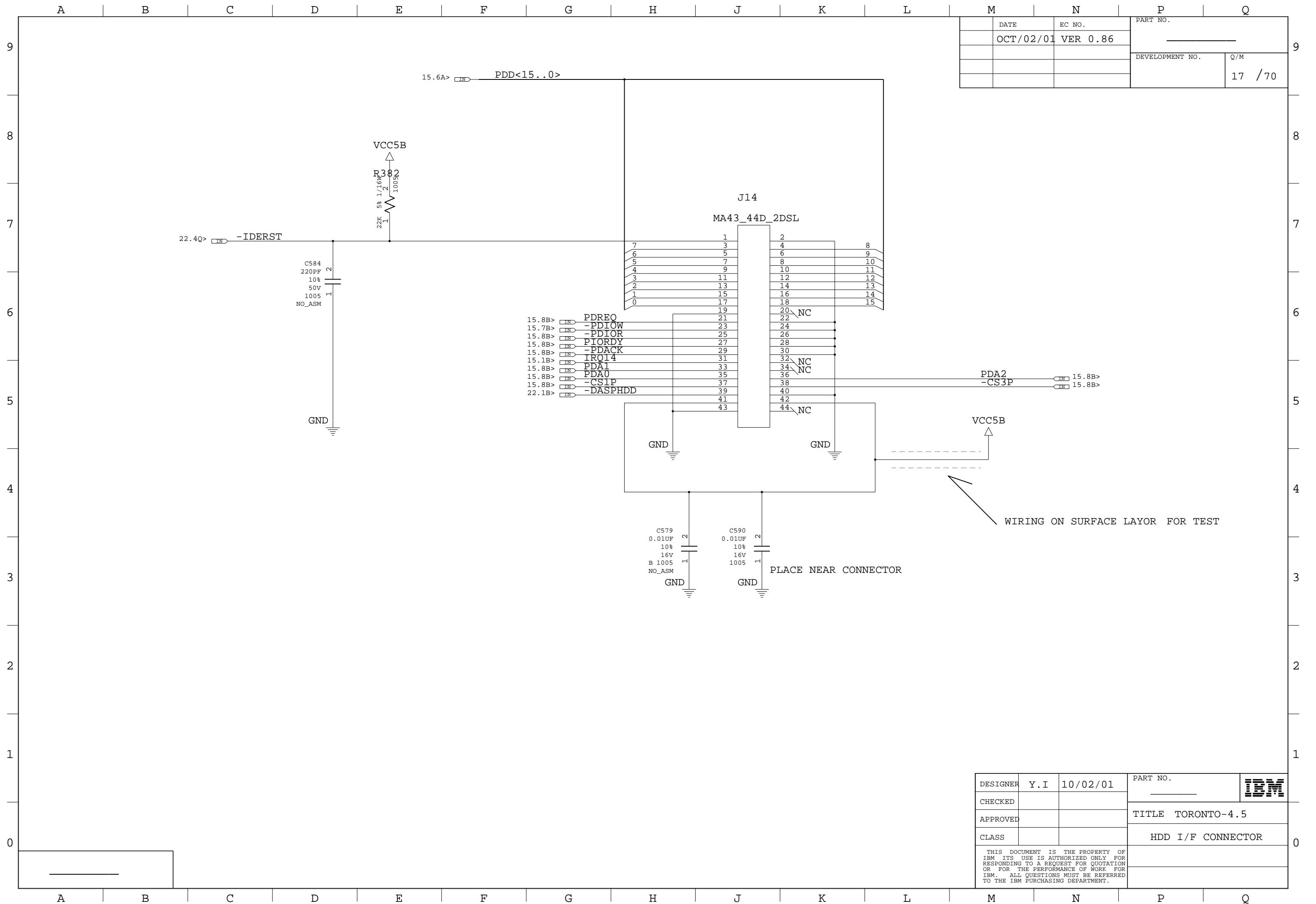


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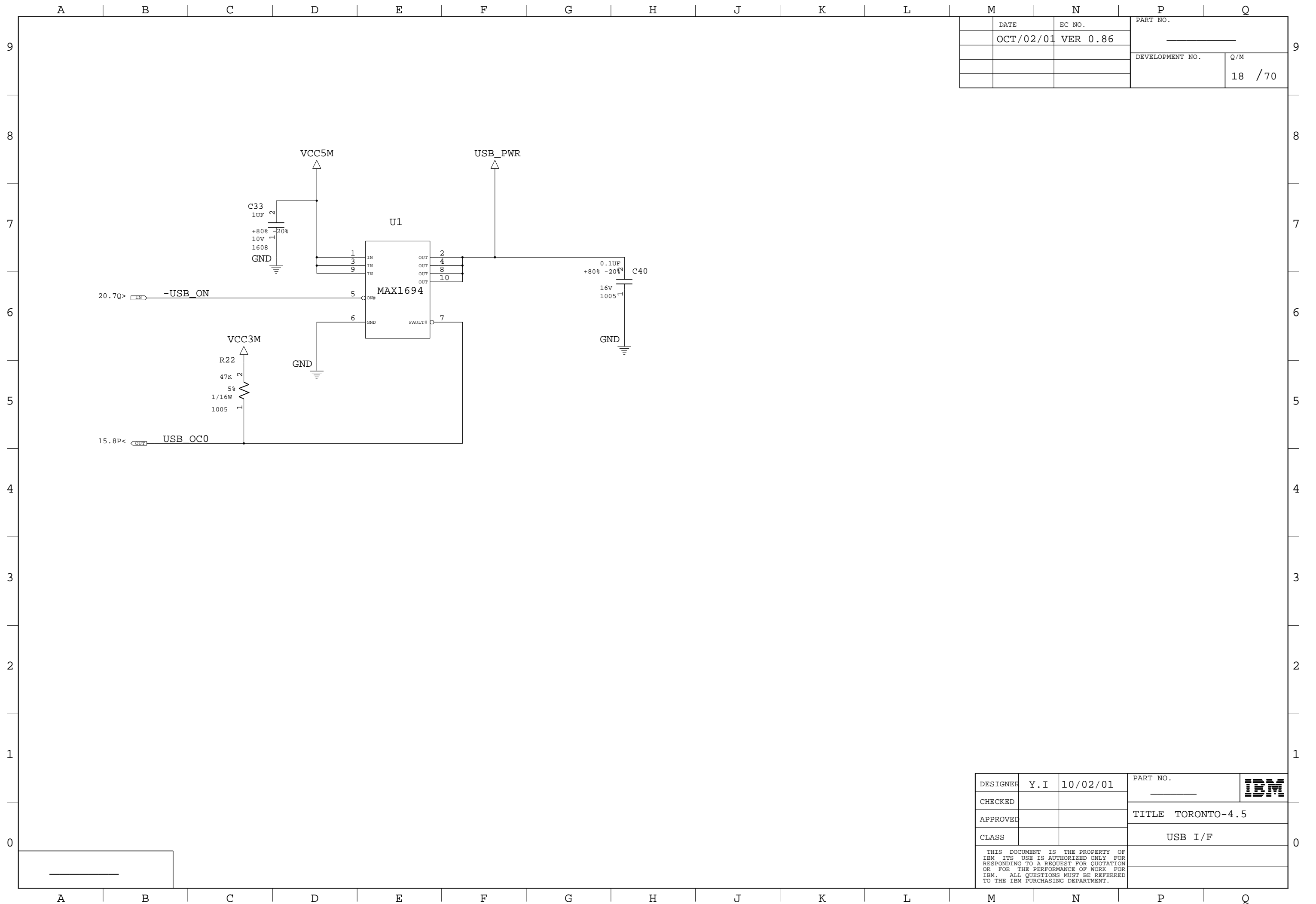
PLACE CAPACITOR (ABOVE)
CLOSE TO ICH3

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APPROVED			TITLE TORONTO-4.5	
CLASS			ICH3-M (3/3)	
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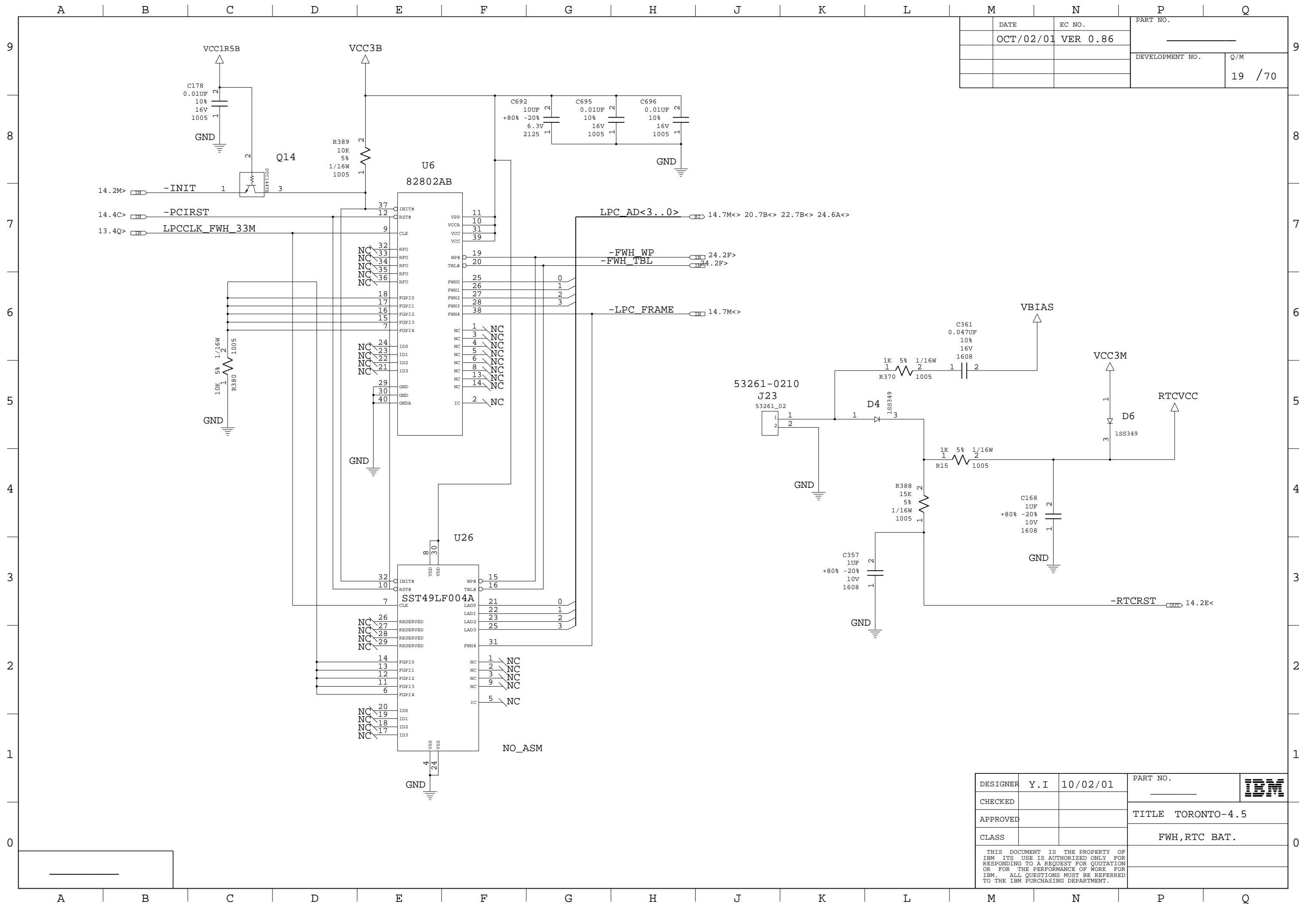
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CLASS			HDD I/F CONNECTOR	
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			18 / 70

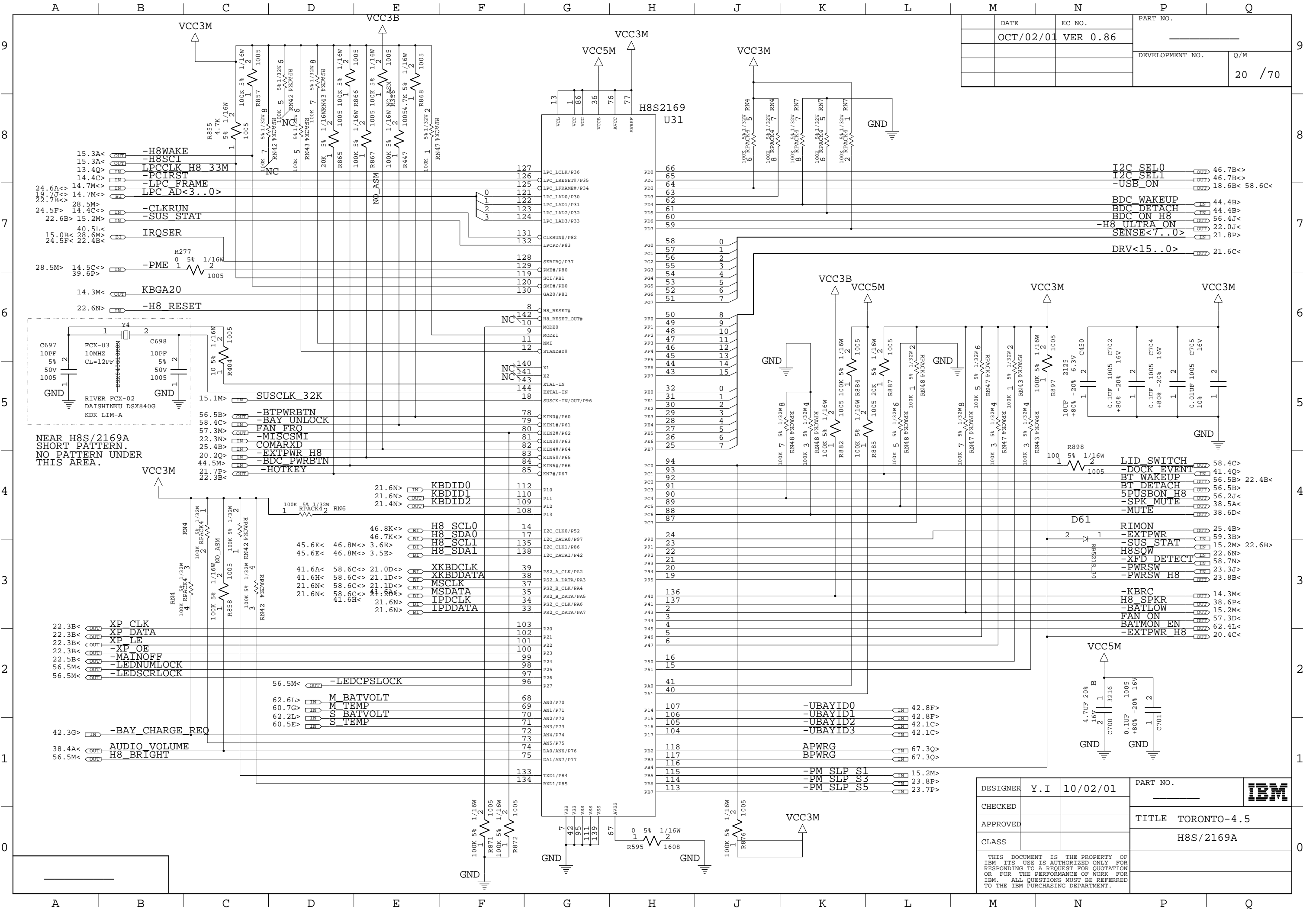
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APPROVED			TITLE TORONTO-4.5	
CLASS			USB I/F	
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OCT/02/01	VER 0.86		
		DEVELOPMENT NO.	Q/M
			19 / 70

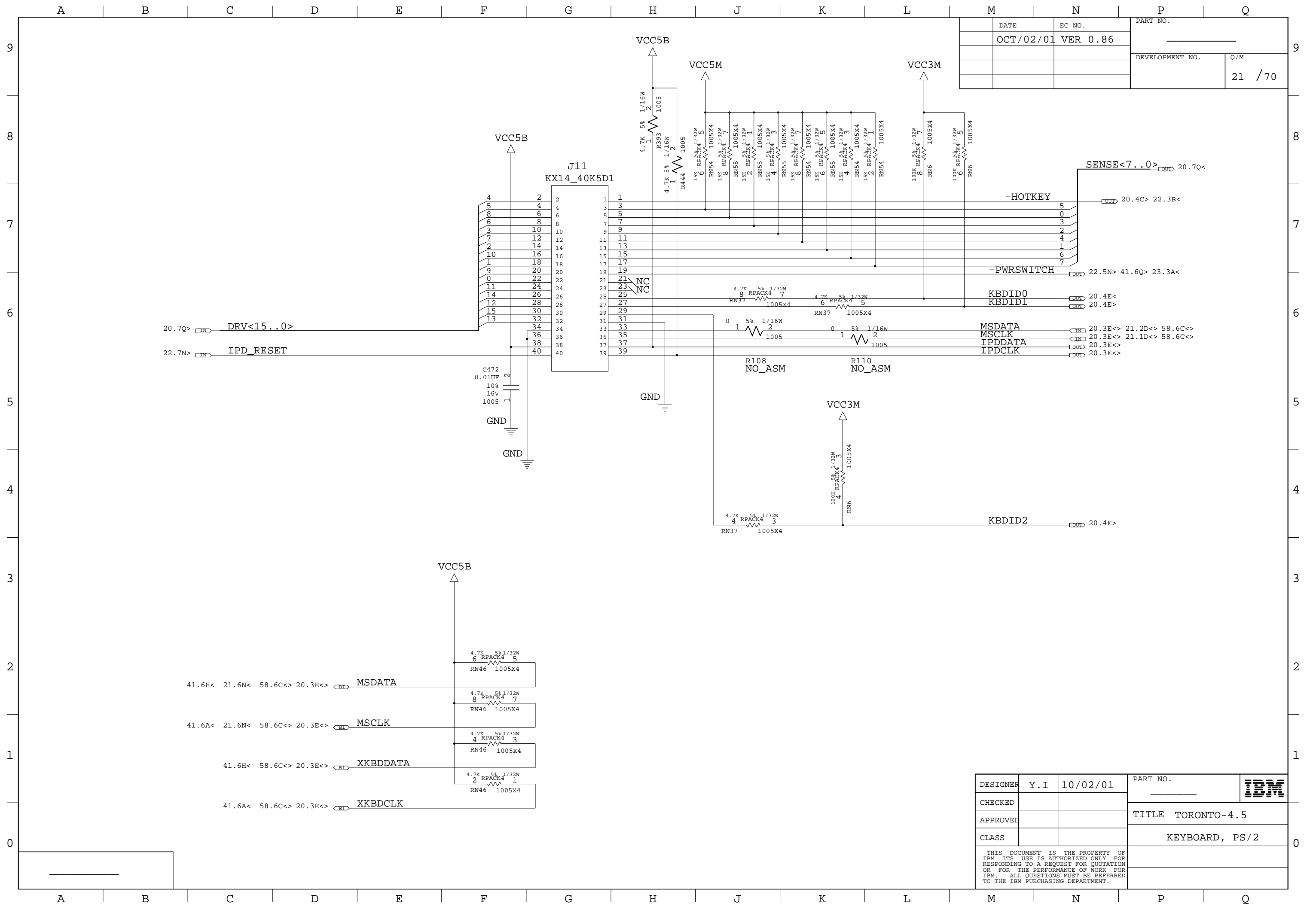
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APPROVED			TITLE TORONTO-4.5	
CLASS			FWH, RTC BAT.	
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OCT/02/01	VER 0.86	
DEVELOPMENT NO.		Q/M
		20 / 70



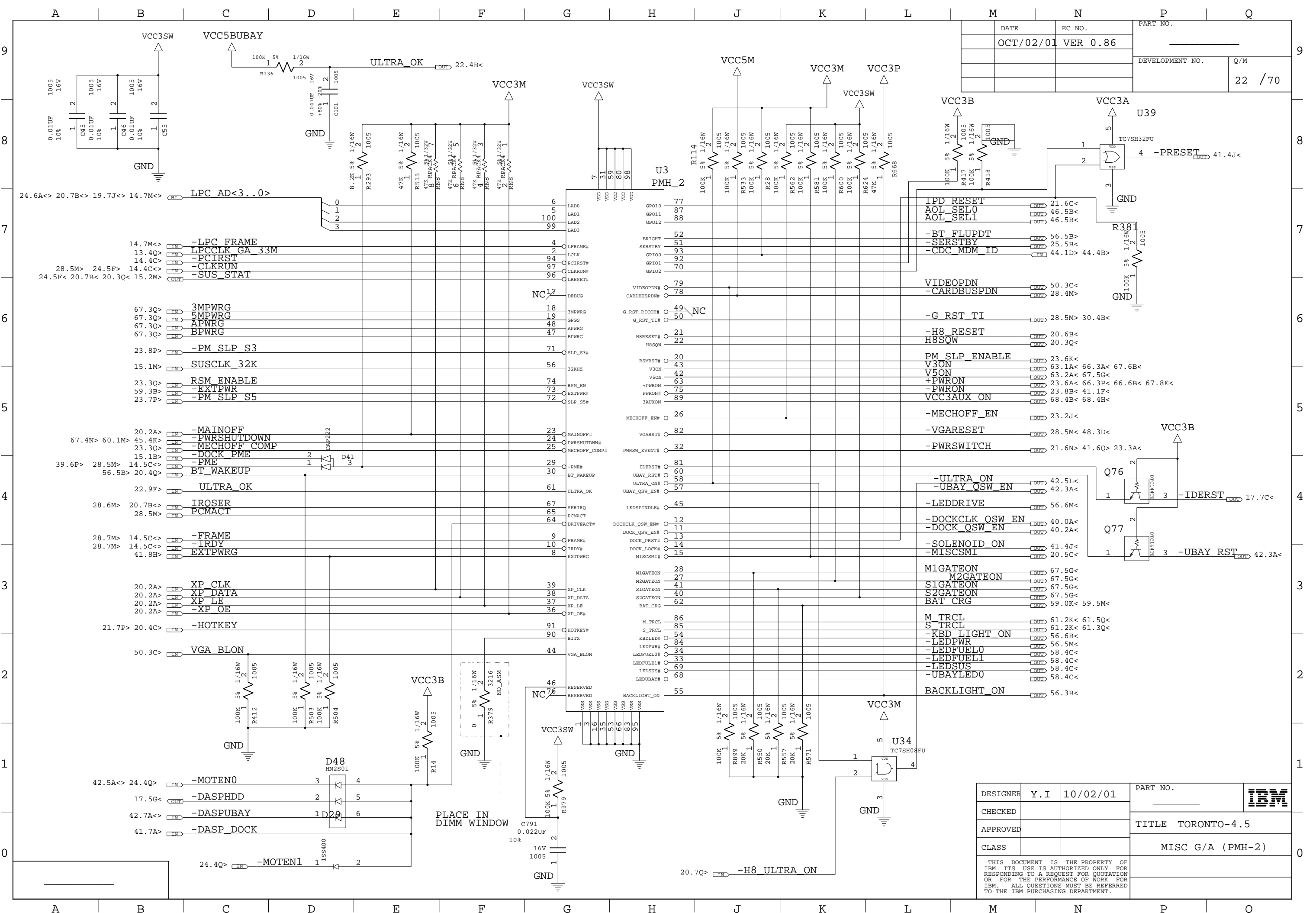
NEAR H8S/2169A
SHORT PATTERN.
NO PATTERN UNDER
THIS AREA.

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CHECKED			TITLE TORONTO-4.5	
APPROVED			H8S/2169A	
CLASS				
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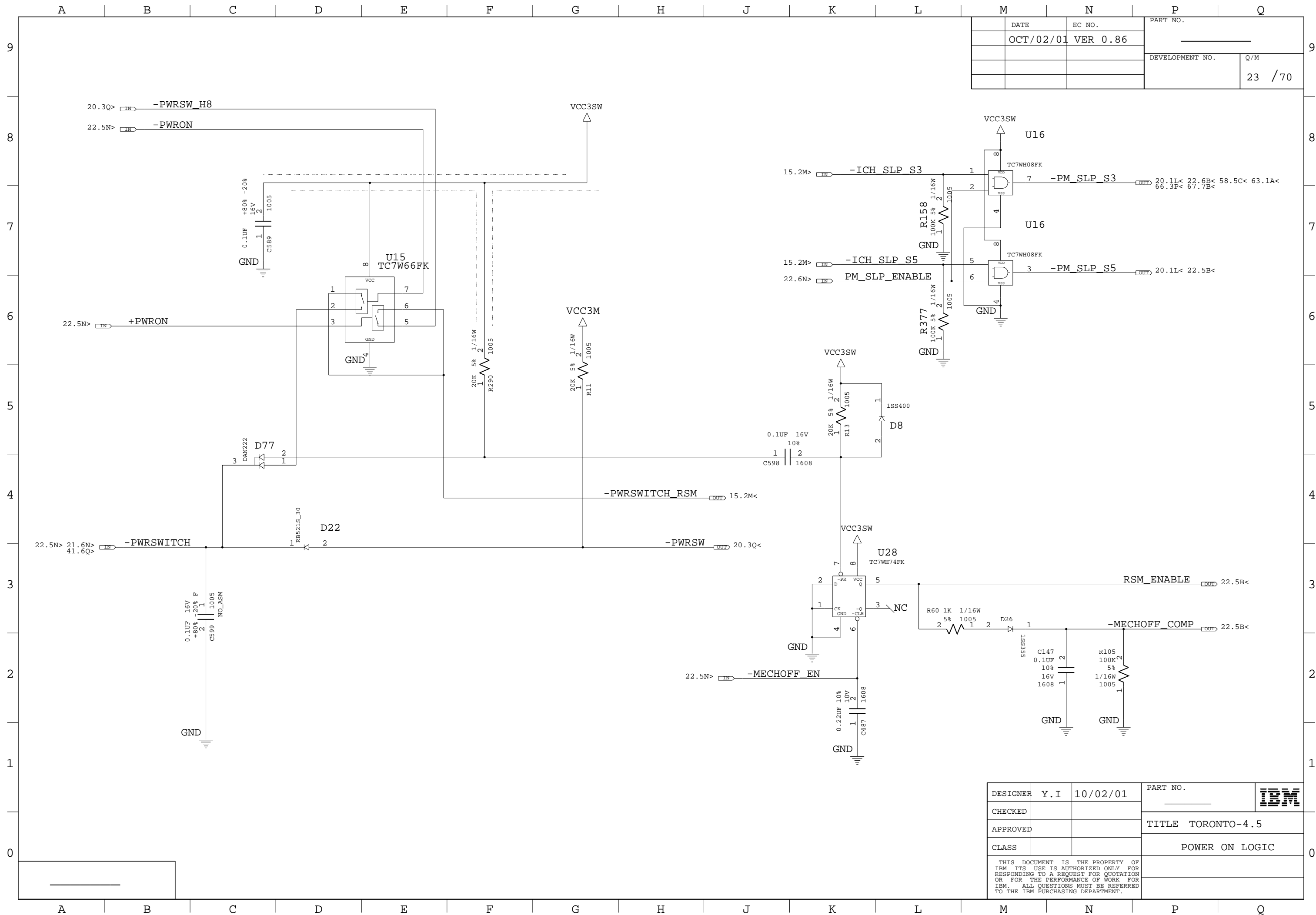
DATE	EC NO.	PART NO.
OCT/02/01	VER 0.86	
DEVELOPMENT NO.		Q/M
		21 / 70

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CHECKED			TITLE TORONTO-4.5	
APPROVED			KEYBOARD, PS/2	
CLASS				
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DEVELOPMENT NO.		Q/M
		22 / 70

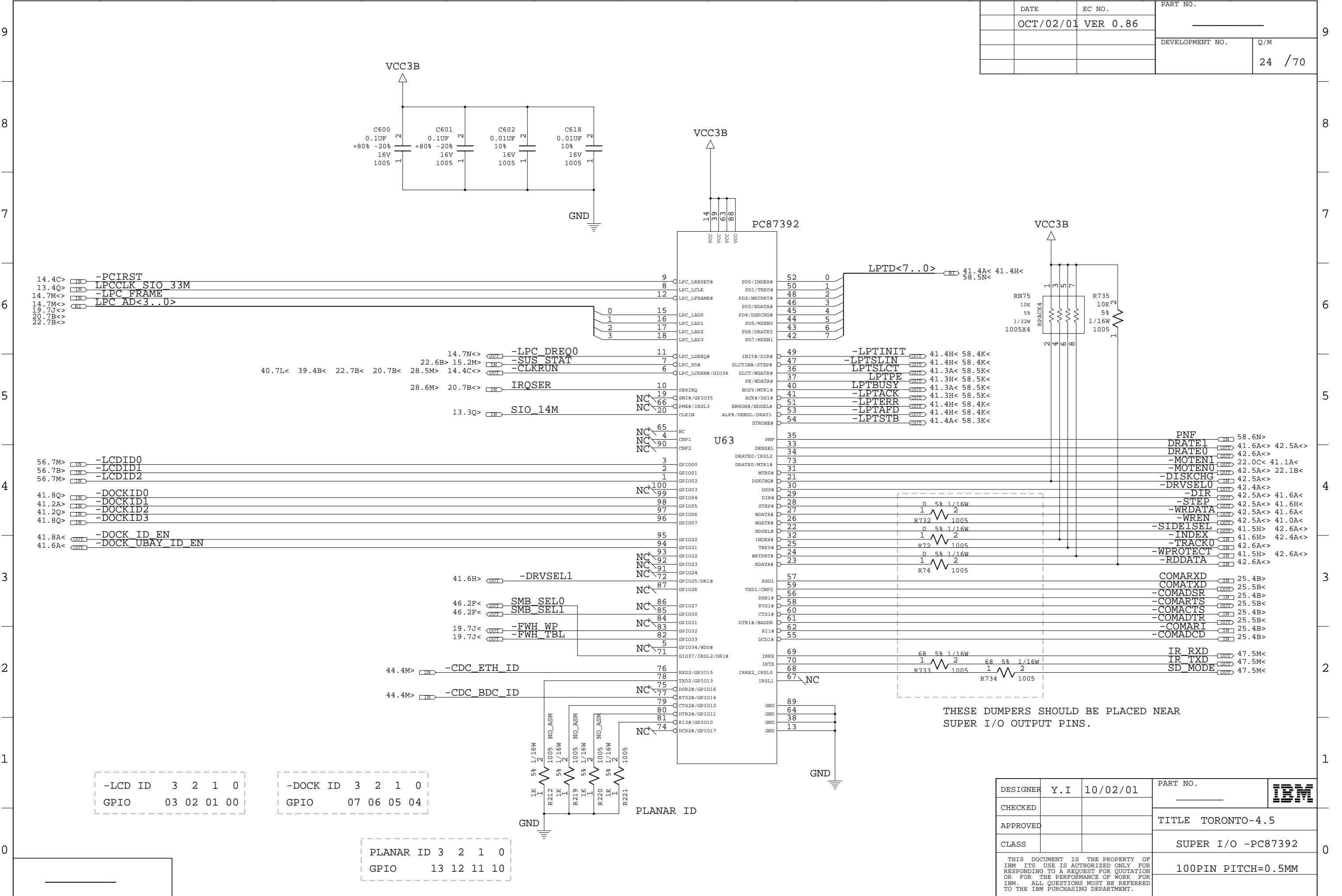
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CHECKED			TITLE TORONTO-4.5	
APPROVED			MISC G/A (PMH-2)	
CLASS				
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		DEVELOPMENT NO.	Q/M
			23 / 70

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CHECKED				
APPROVED			TITLE TORONTO-4.5	
CLASS			POWER ON LOGIC	
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DATE	EC NO.	PART NO.
OCT/02/01	VER 0.86	
DEVELOPMENT NO.		Q/M
		24 / 70



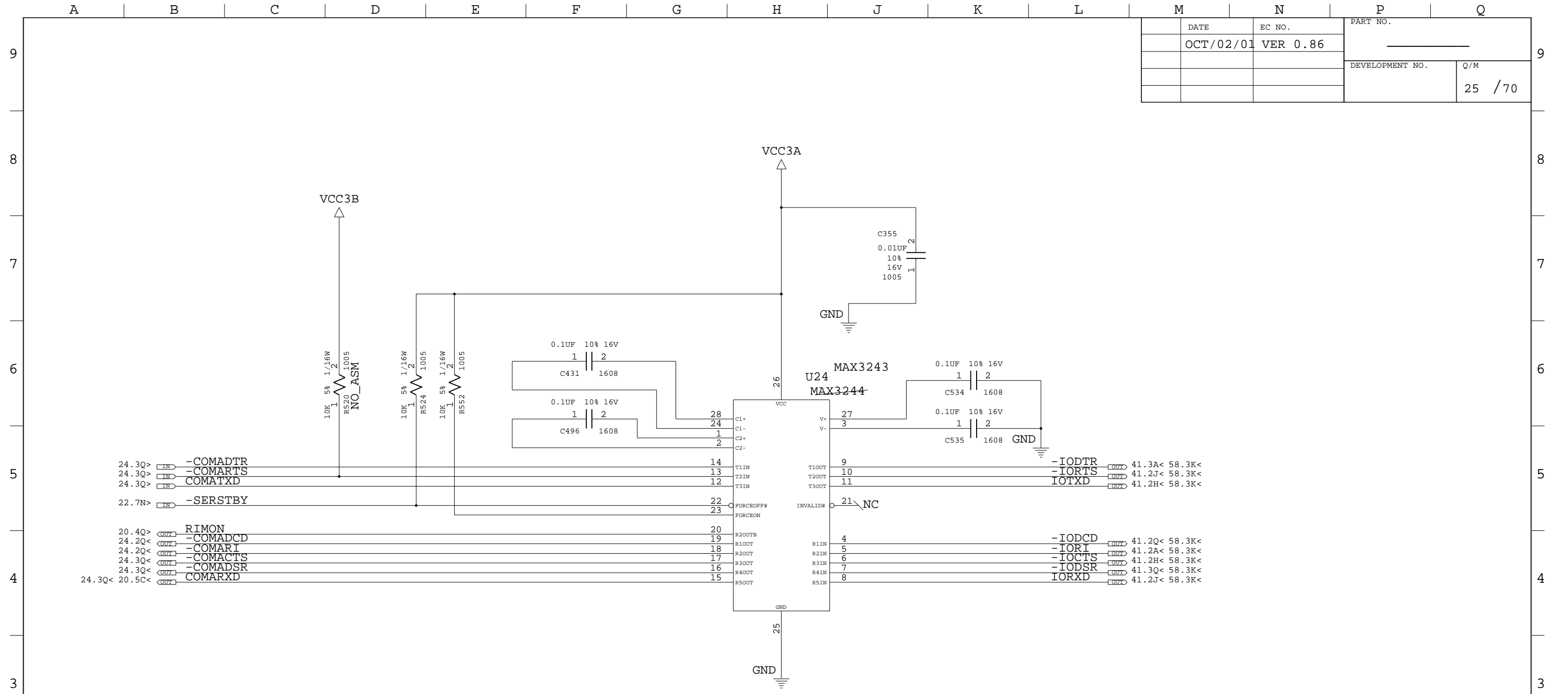
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GPIO	03	02	01	00

-DOCK ID	3	2	1	0
GPIO	07	06	05	04

PLANAR ID	3	2	1	0
GPIO	13	12	11	10

DESIGNER	Y.I	10/02/01	PART NO.	IBM
CHECKED				
APPROVED			TITLE	TORONTO-4.5
CLASS			TITLE	SUPER I/O -PC87392
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				100PIN PITCH=0.5MM

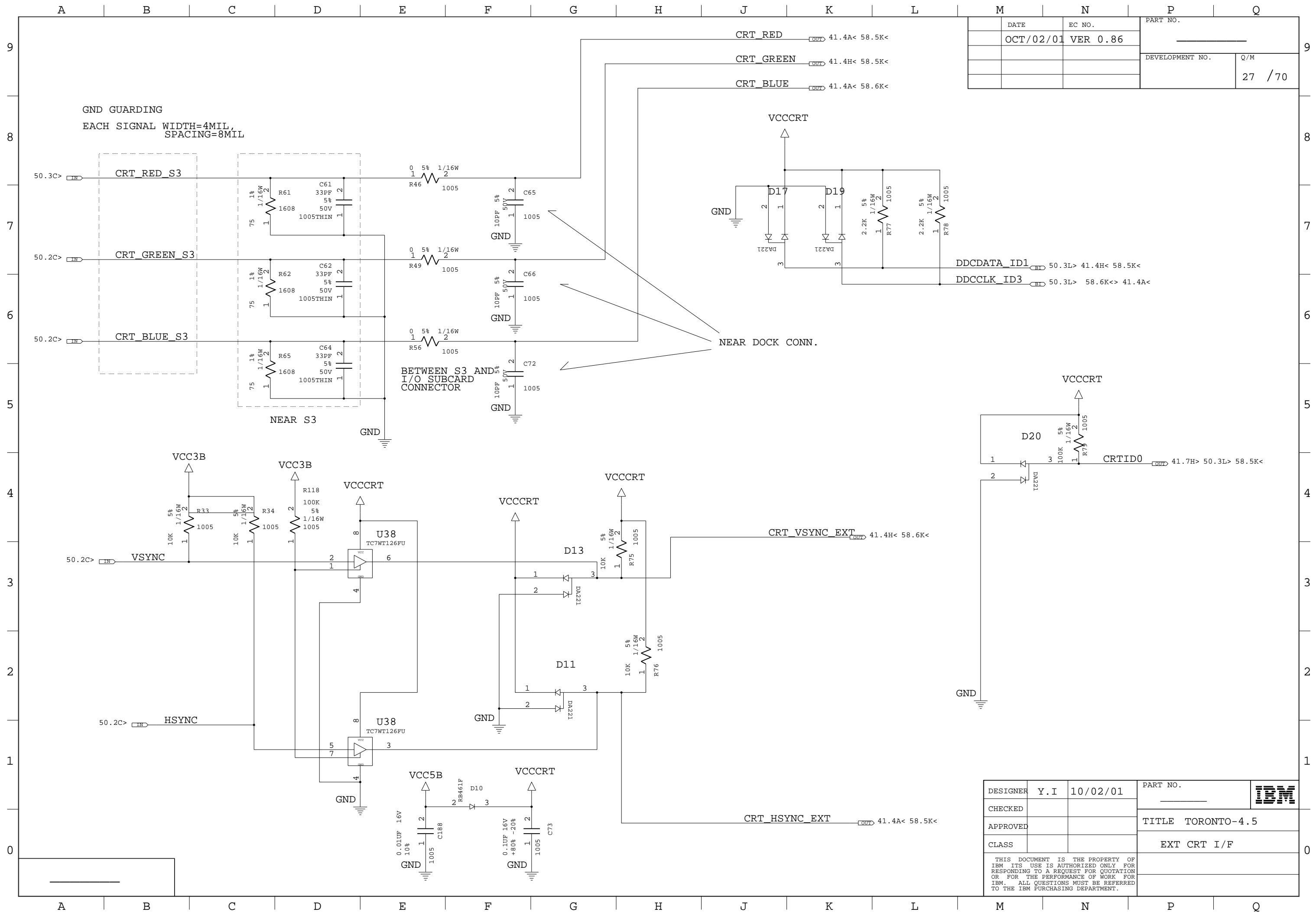
DATE	EC NO.	PART NO.
OCT/02/01	VER 0.86	
DEVELOPMENT NO.		Q/M
		25 / 70



R1IN/R2IN/R3IN/R5IN HAVE INTERNAL PULLDOWN(5K OHM).
DO NOT WIRE SIGNALS UNDER PINS (1/2/3/24/25/26/27/28)
CHARGE PUMP CAPACITOR SHOULD BE PLACED NEAR PINS(1/2/3/24/27/28)
ADD GND SHILED UNDER CHARGE PUMP CIRCUIT TO
PROTECT POWER LINE NOISE
CAPACITORS FOR CHARGE PUMP SHOULD BE USED TYPE B AND LOW ESR TYPE.

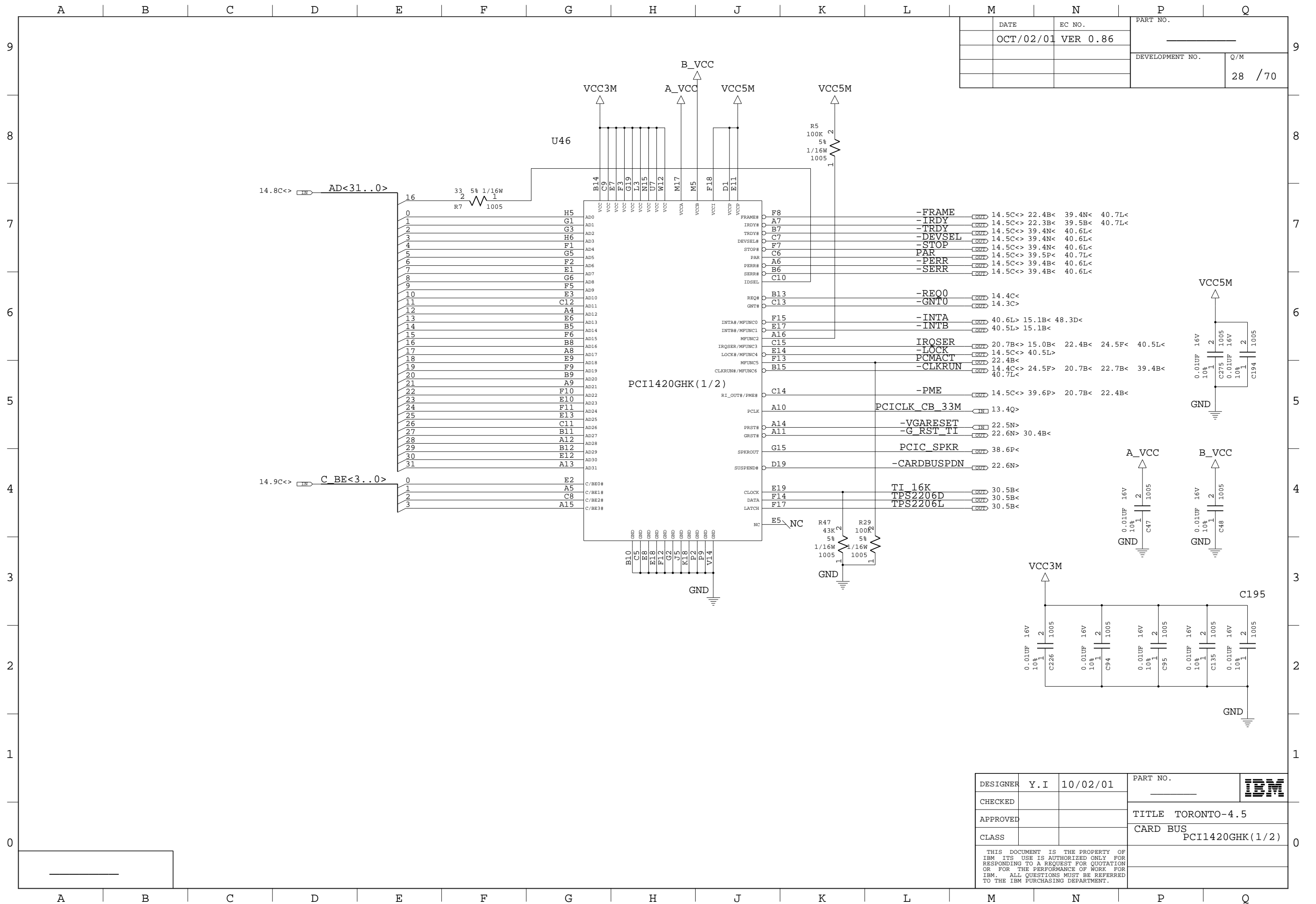
	NOMAL MODE	POWER DOWN MODE	AUTO POWER DOWN MODE
FORCEON	HIGH	DO NOT CARE	LOW
FOCEOFF	HIGH	LOW	HIGH

DESIGNER	Y.I	10/02/01	PART NO.	IBM
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APPROVED			TITLE TORONTO-4.5	
CLASS			SERIAL I/F	
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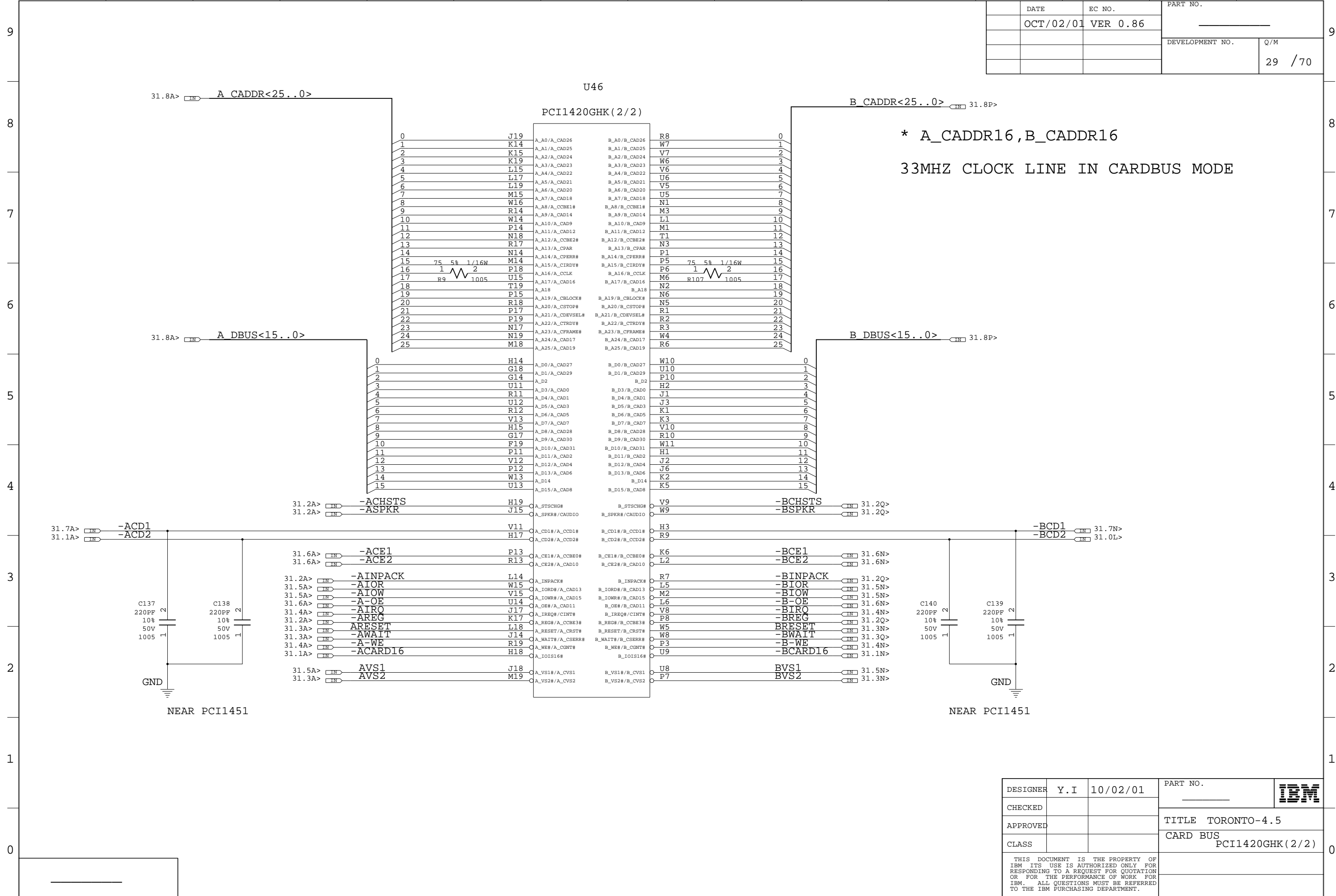
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APPROVED			TITLE TORONTO-4.5	
CLASS			EXT CRT I/F	
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OCT/02/01	VER 0.86	
DEVELOPMENT NO.		Q/M
		28 / 70

DESIGNER	Y. I	10/02/01	PART NO.	IBM
CHECKED				
APPROVED			TITLE	TORONTO-4.5
CLASS			CARD BUS	PCI1420GHK (1/2)
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DEVELOPMENT NO.		Q/M
		29 / 70

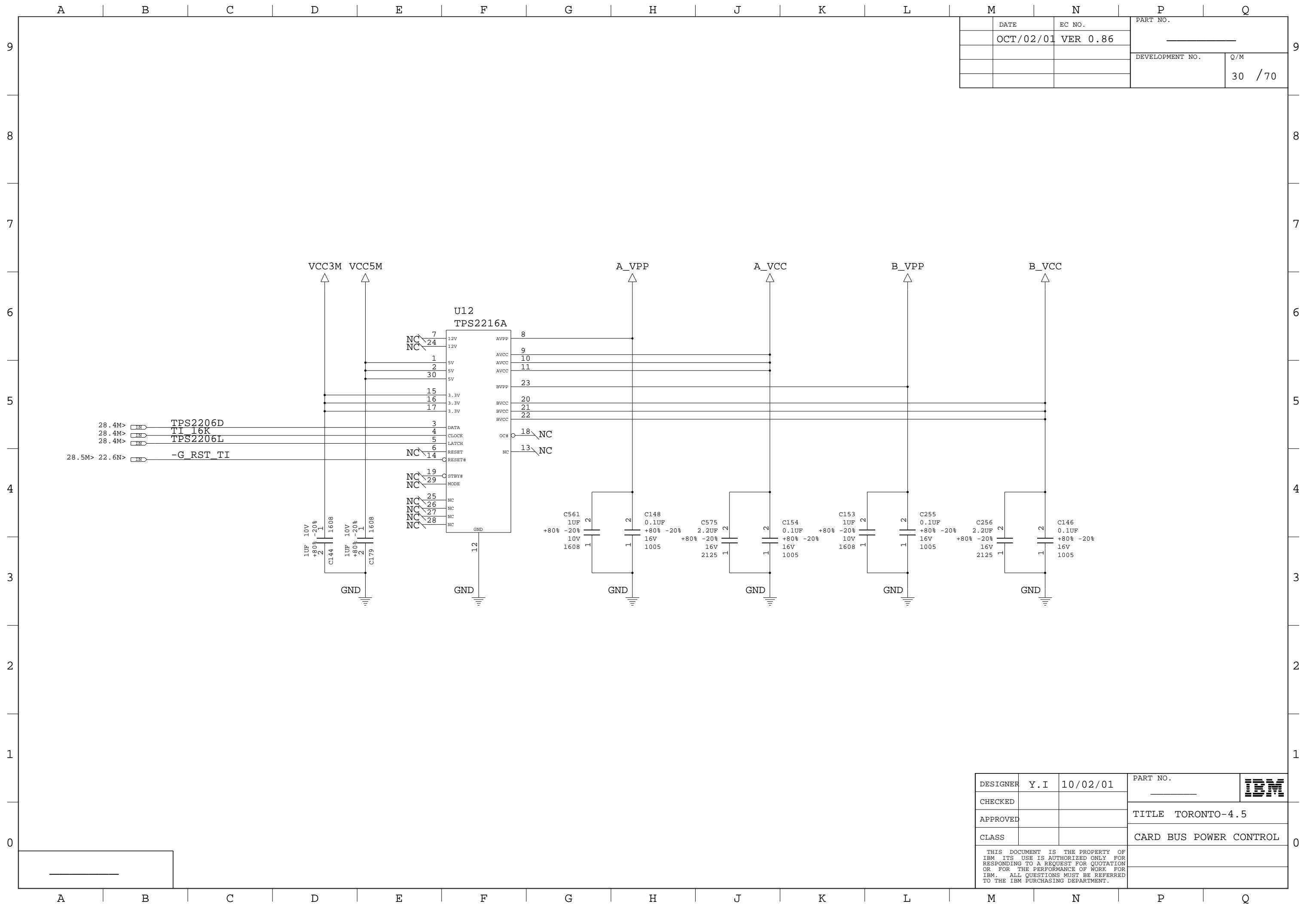


* A_CADDR16, B_CADDR16
33MHZ CLOCK LINE IN CARDBUS MODE

NEAR PCI1451

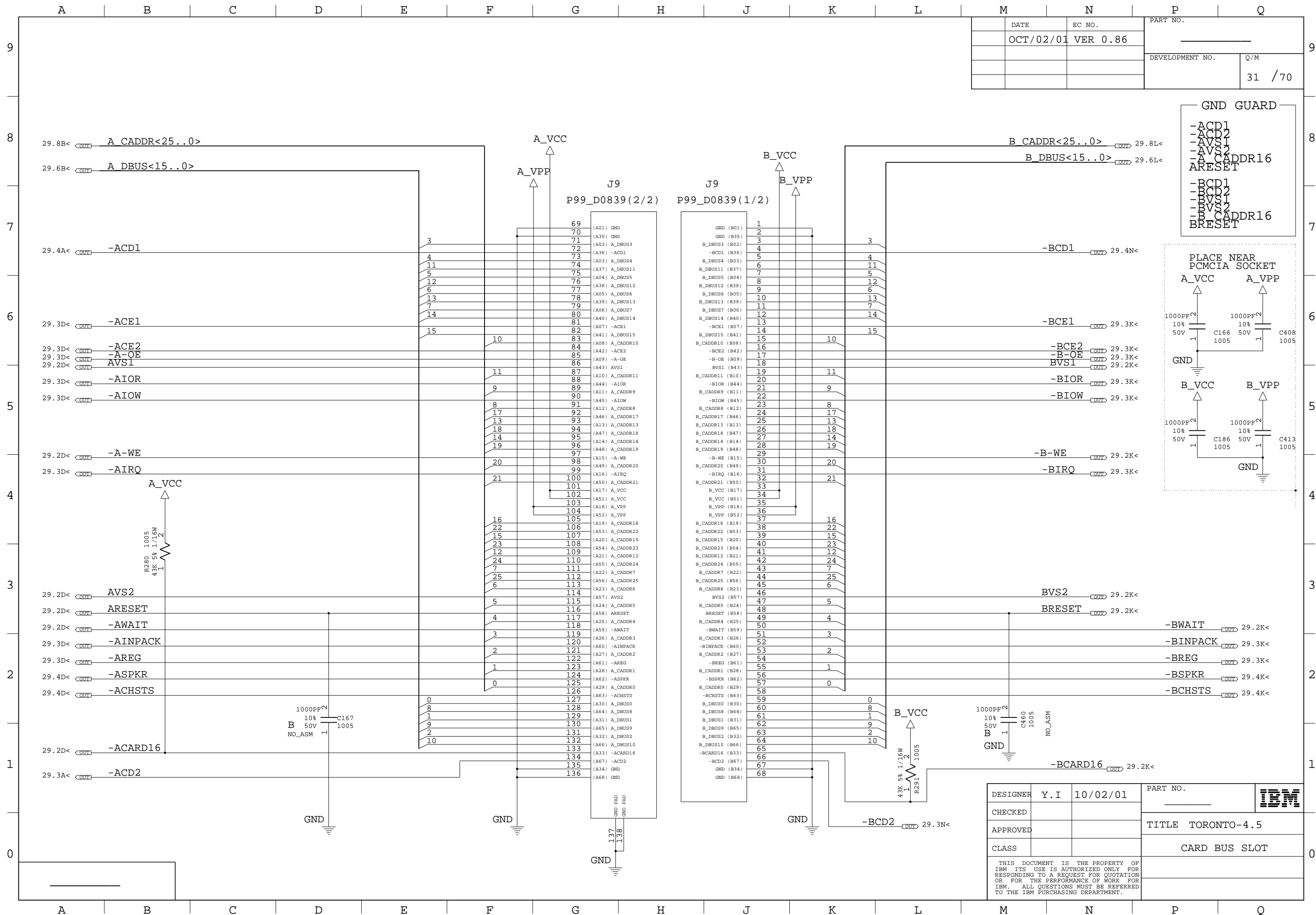
NEAR PCI1451

DESIGNER	Y. I	10/02/01	PART NO.	IBM
CHECKED				
APPROVED			TITLE	TORONTO-4.5
CLASS			CARD BUS	PCI1420GHK (2/2)
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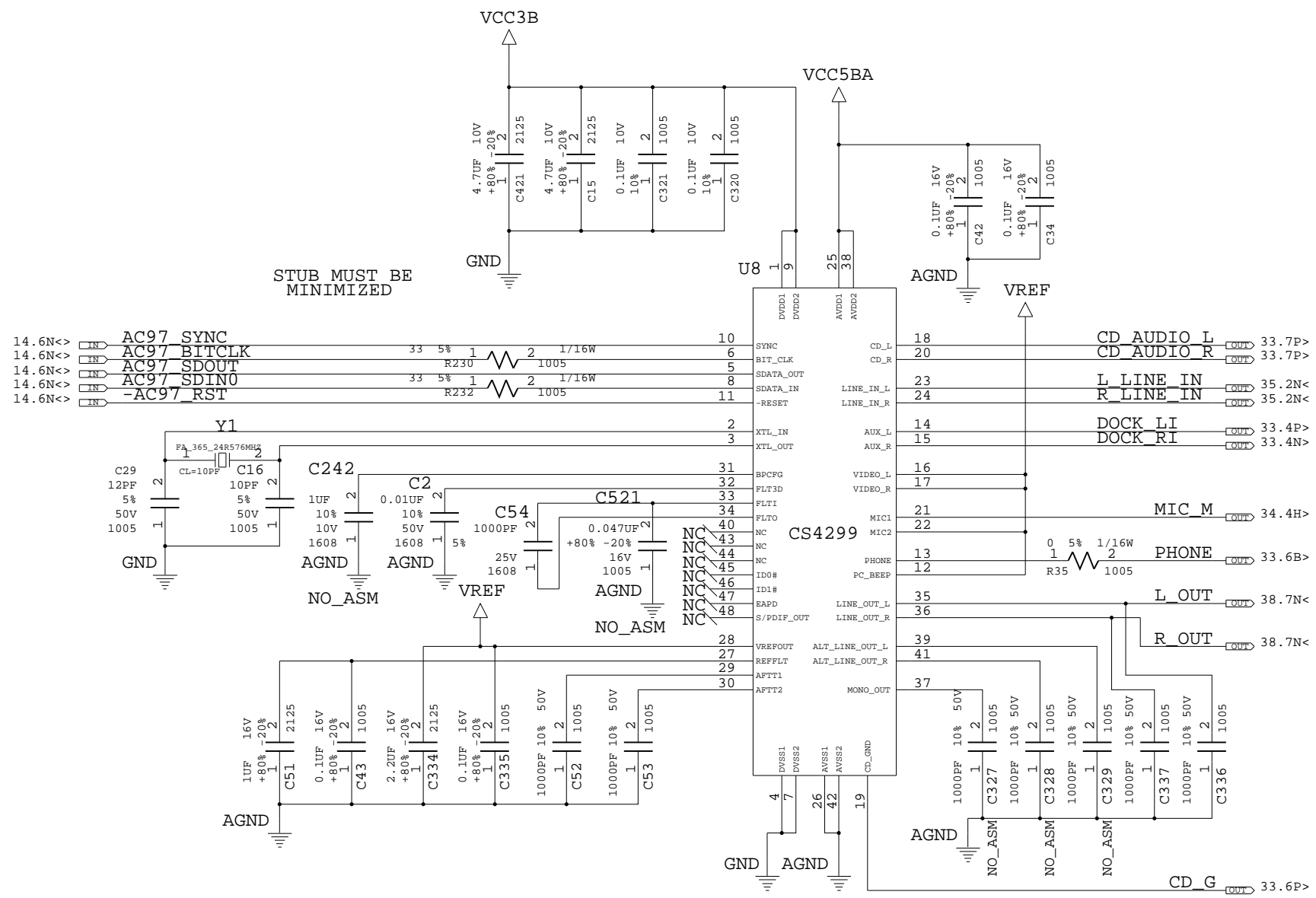


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DESIGNER	Y. I	10/02/01	PART NO.	IBM
CHECKED				
APPROVED			TITLE TORONTO-4.5	
CLASS			CARD BUS POWER CONTROL	
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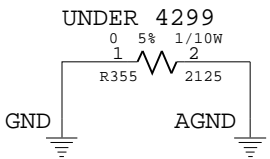
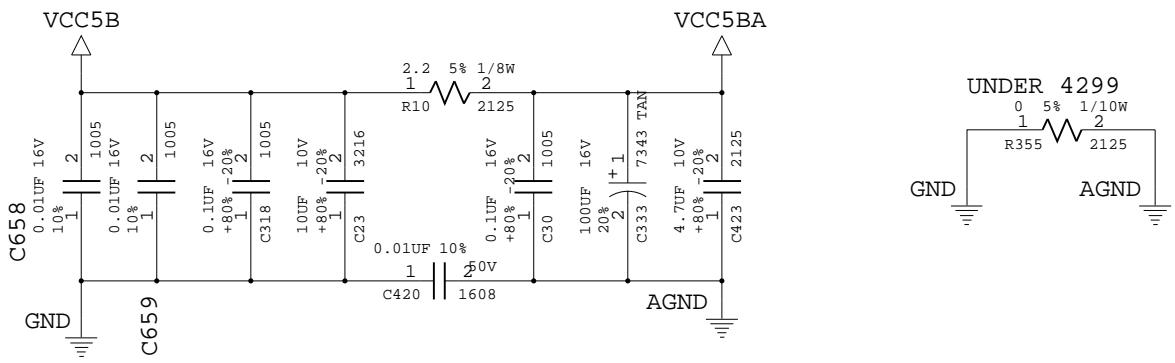
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OCT/02/01	VER 0.86		
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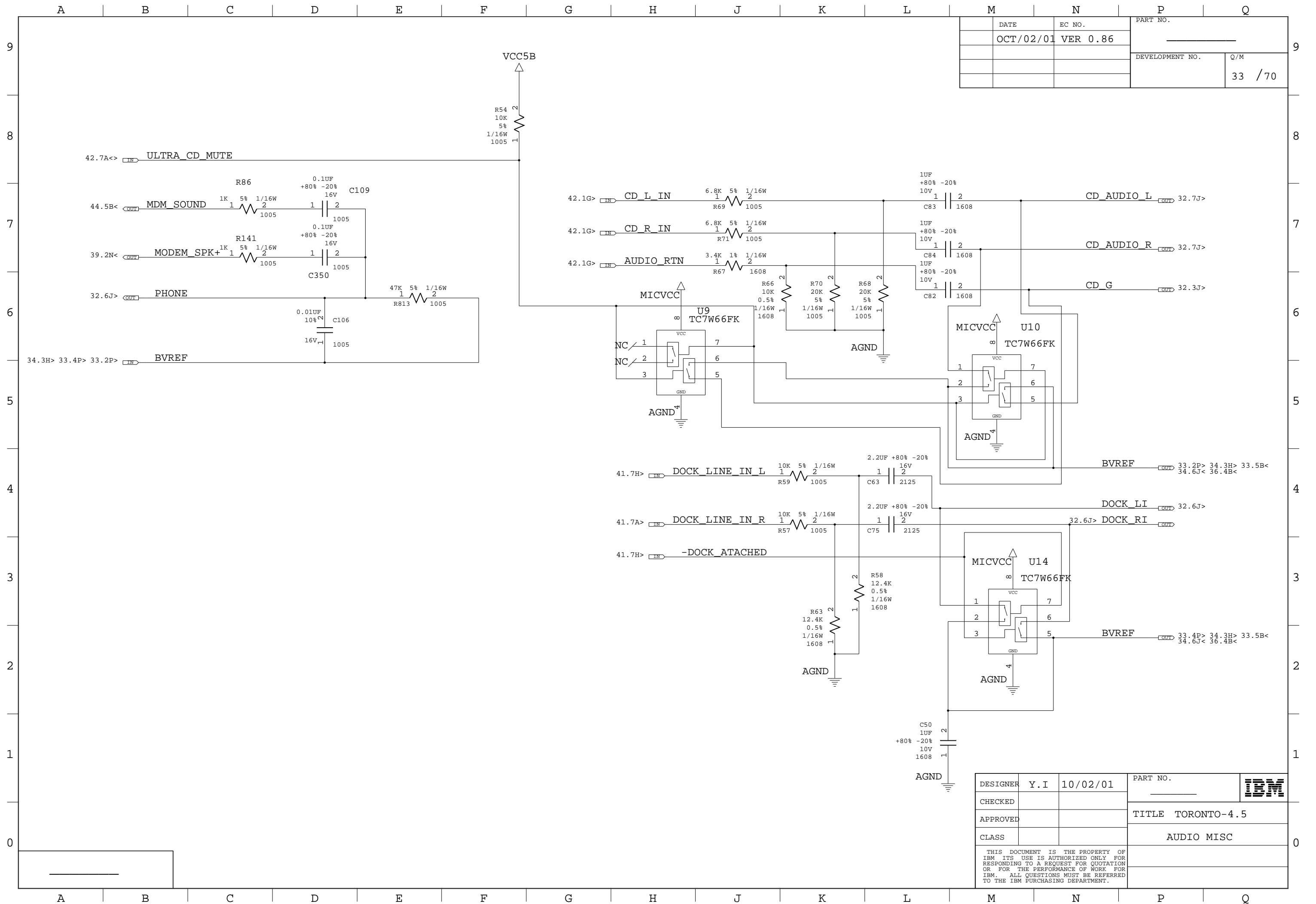
STUB MUST BE MINIMIZED

LOGIC VALUE IS SET FOR CS4299

	AD1881A	CS4299
C2	1UF, 10%, 10V, 1608	0.01UF, 10%, 1608, 50V
C51	4.7UF, 10V, 2125	1UF, 2125, 16V
C52, C53	270PF, 50V, 10%, 1005	1000PF, 50V, 10%, 1005
C54	0.1UF, 10V, 1608	1000PF, 5%, 1608, 25V
C336, C337	270PF, 50V, 10%, 1005	1000PF, 50V, 10%, 1005
C242	1UF, 10%, 10V, 1608	NO-ASM
C521	0.047UF, 16V, 1005	NO-ASM

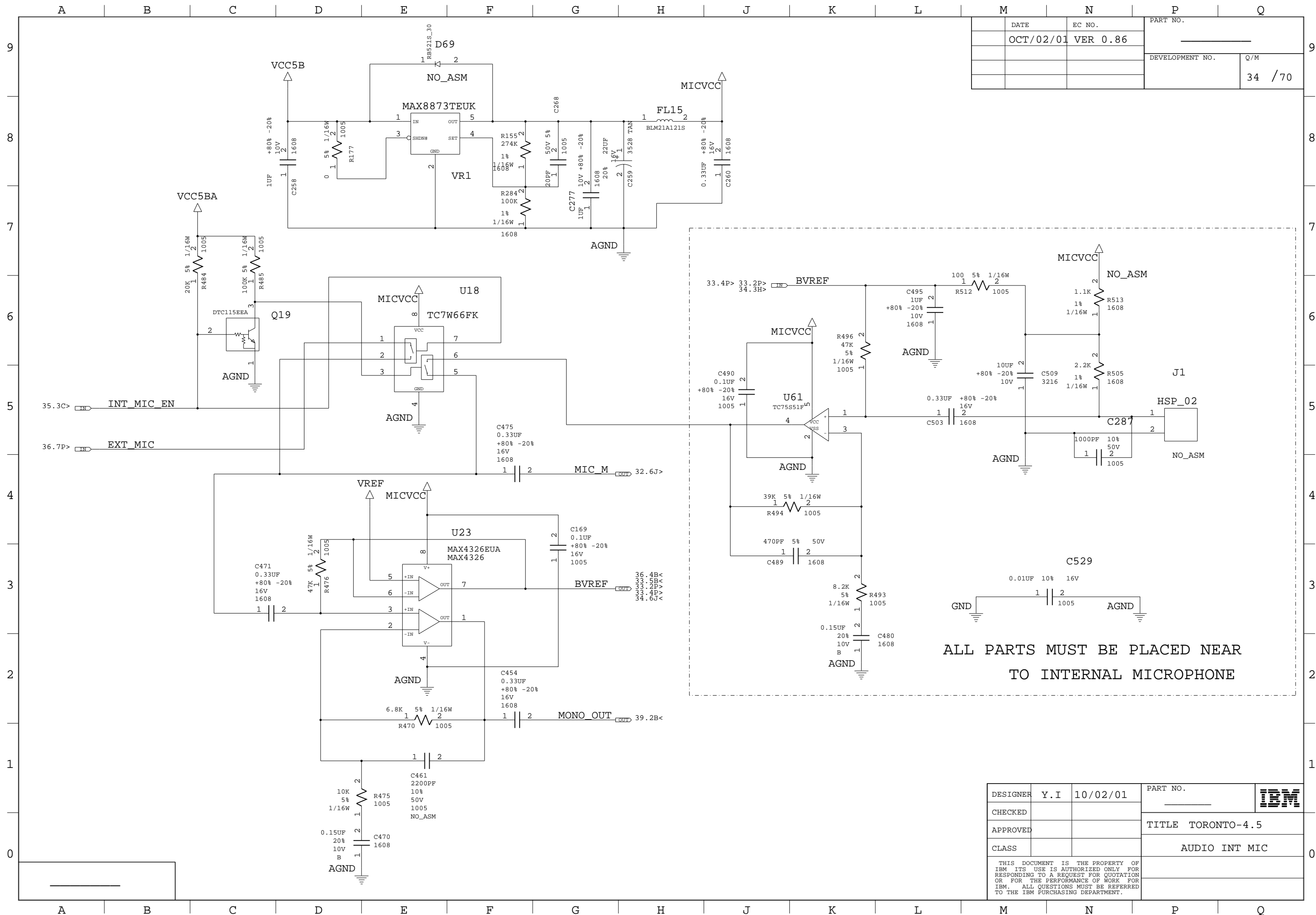


DESIGNER	Y.I	10/02/01	PART NO.	IBM
CHECKED				
APPROVED			TITLE	TORONTO-4.5
CLASS			AUDIO	CS4299
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DEVELOPMENT NO.		Q/M
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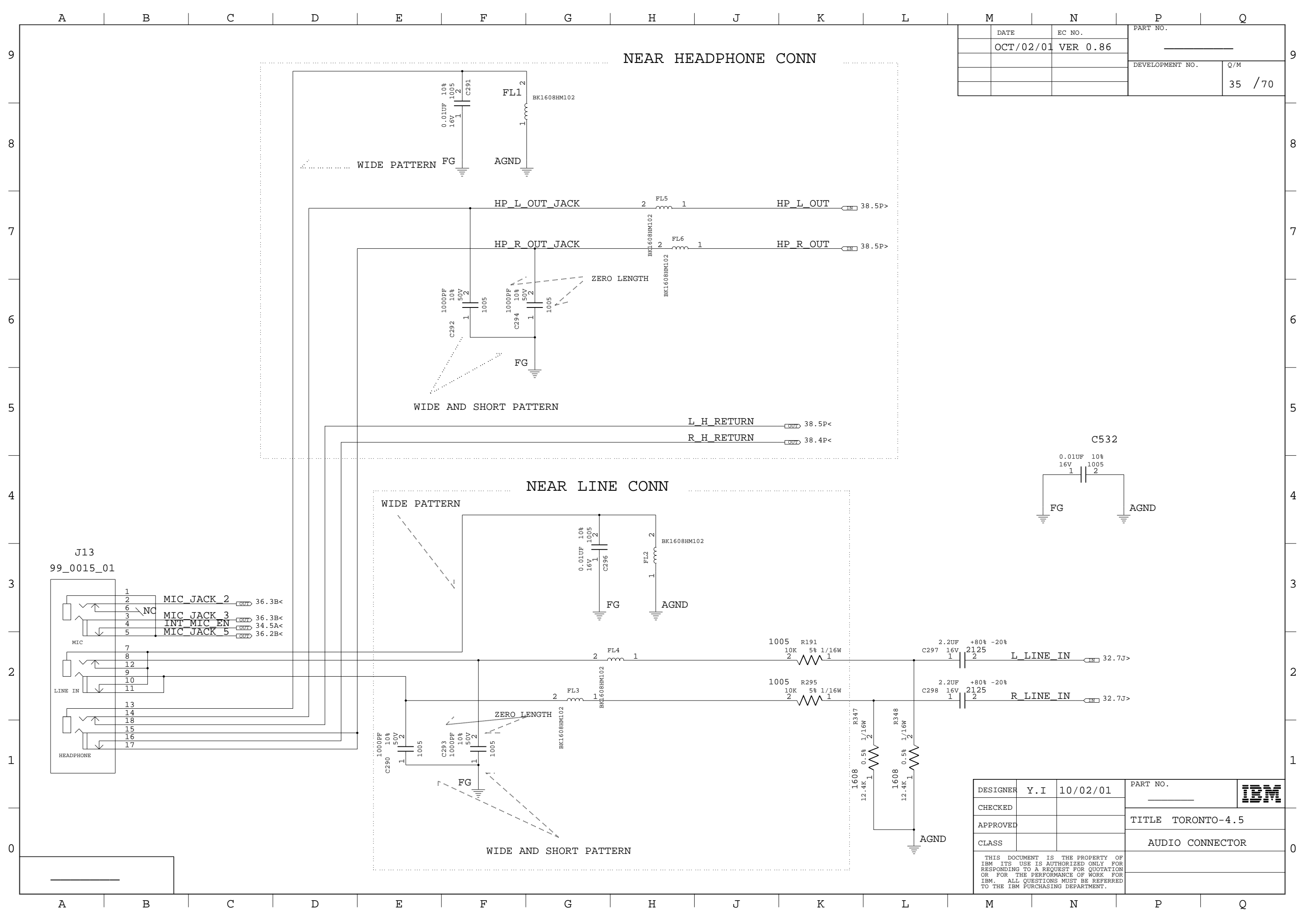
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CLASS			AUDIO MISC	
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DEVELOPMENT NO.		Q/M
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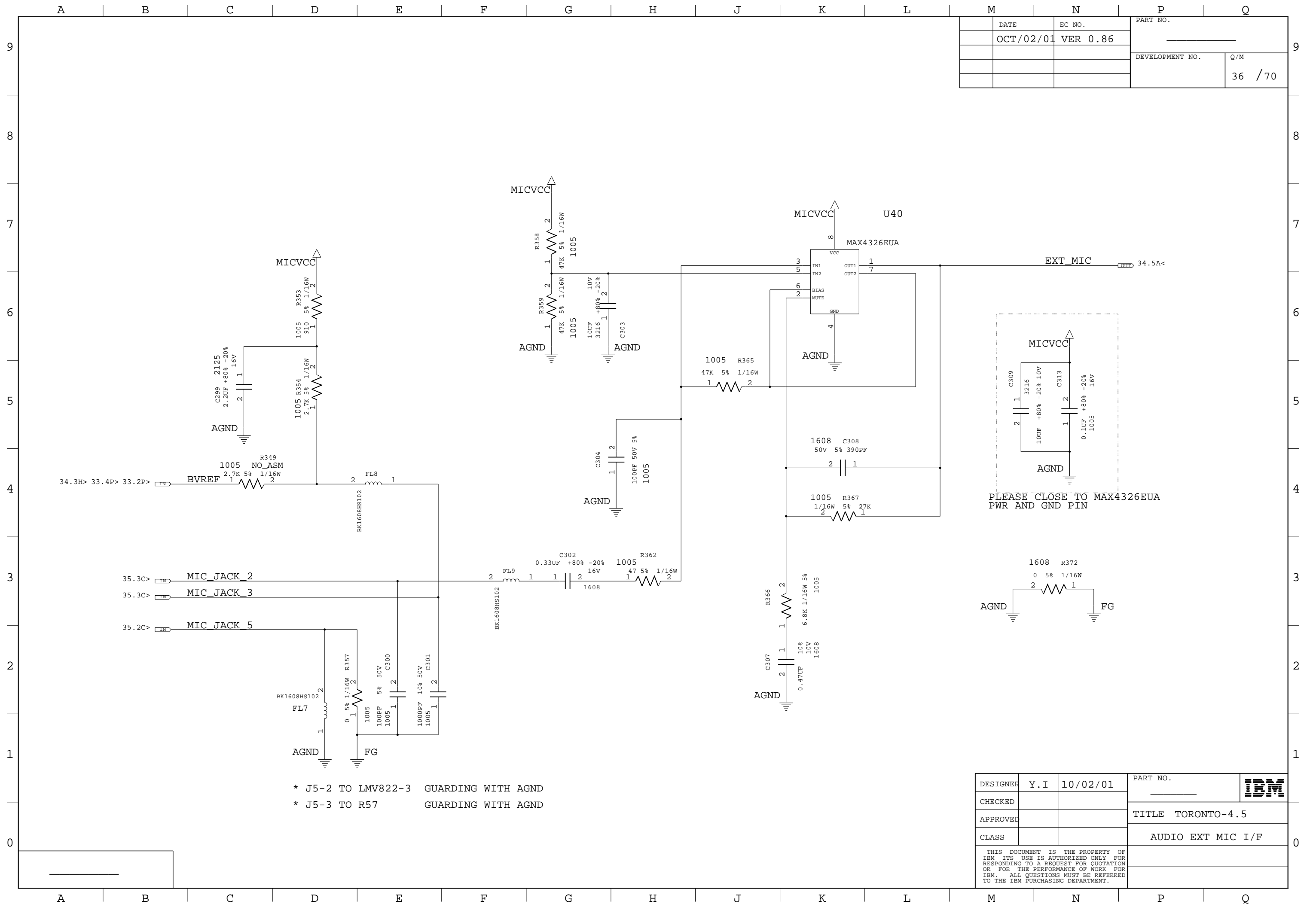
ALL PARTS MUST BE PLACED NEAR TO INTERNAL MICROPHONE

DESIGNER	Y.I	10/02/01	PART NO.	IBM
CHECKED				
APPROVED			TITLE	TORONTO-4.5
CLASS			AUDIO INT MIC	
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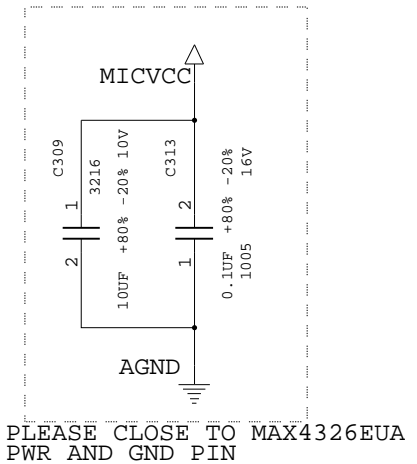


DATE	EC NO.	PART NO.	
OCT/02/01	VER 0.86		
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			35 / 70

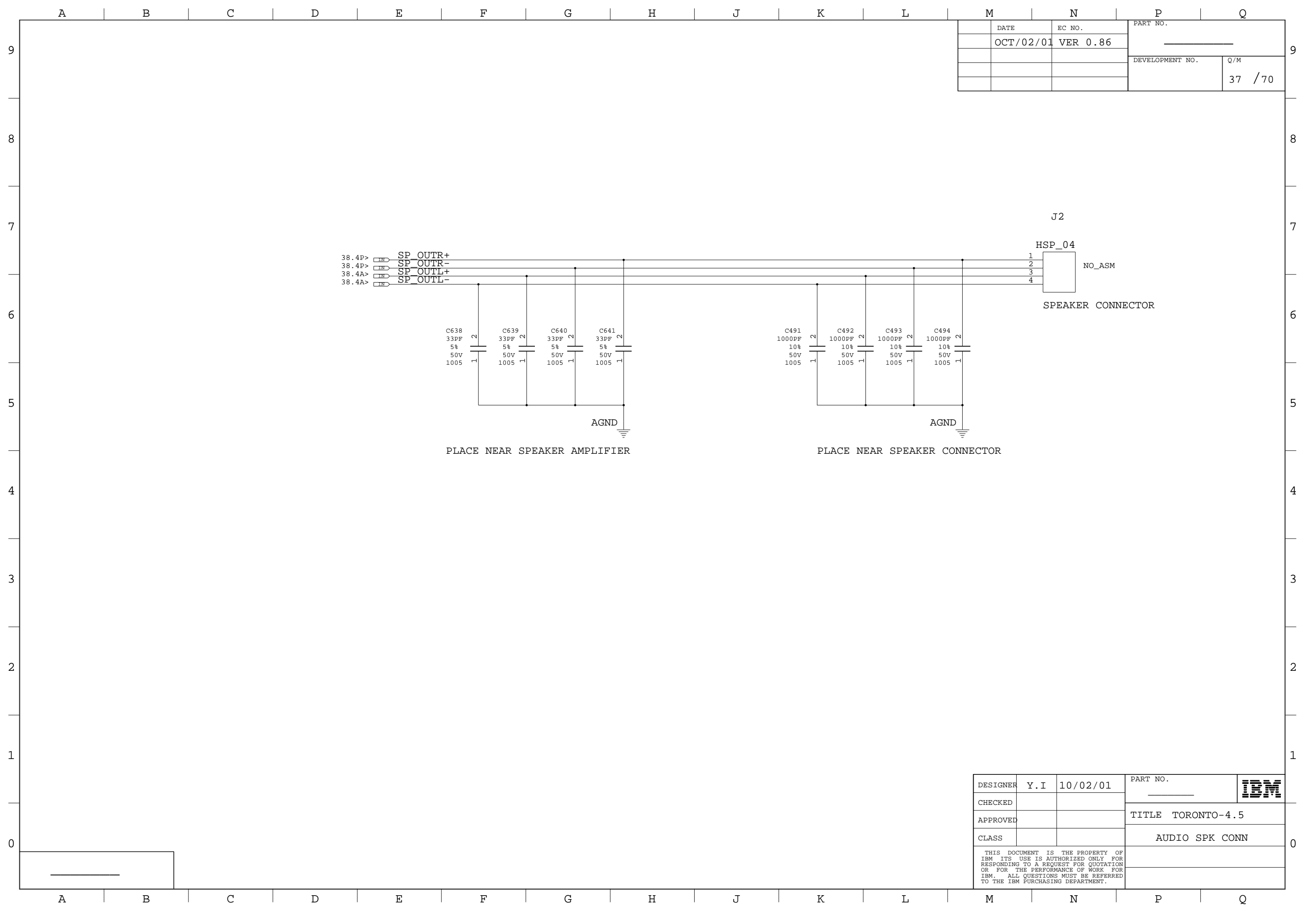
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APPROVED			TITLE TORONTO-4.5	
CLASS			AUDIO EXT MIC I/F	
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38.4P> SP_OUTR+
 38.4P> SP_OUTR-
 38.4A> SP_OUTL+
 38.4A> SP_OUTL-

C638 33PF 5% 50V 1005
 C639 33PF 5% 50V 1005
 C640 33PF 5% 50V 1005
 C641 33PF 5% 50V 1005

AGND

PLACE NEAR SPEAKER AMPLIFIER

C491 1000PF 10% 50V 1005
 C492 1000PF 10% 50V 1005
 C493 1000PF 10% 50V 1005
 C494 1000PF 10% 50V 1005

AGND

PLACE NEAR SPEAKER CONNECTOR

J2

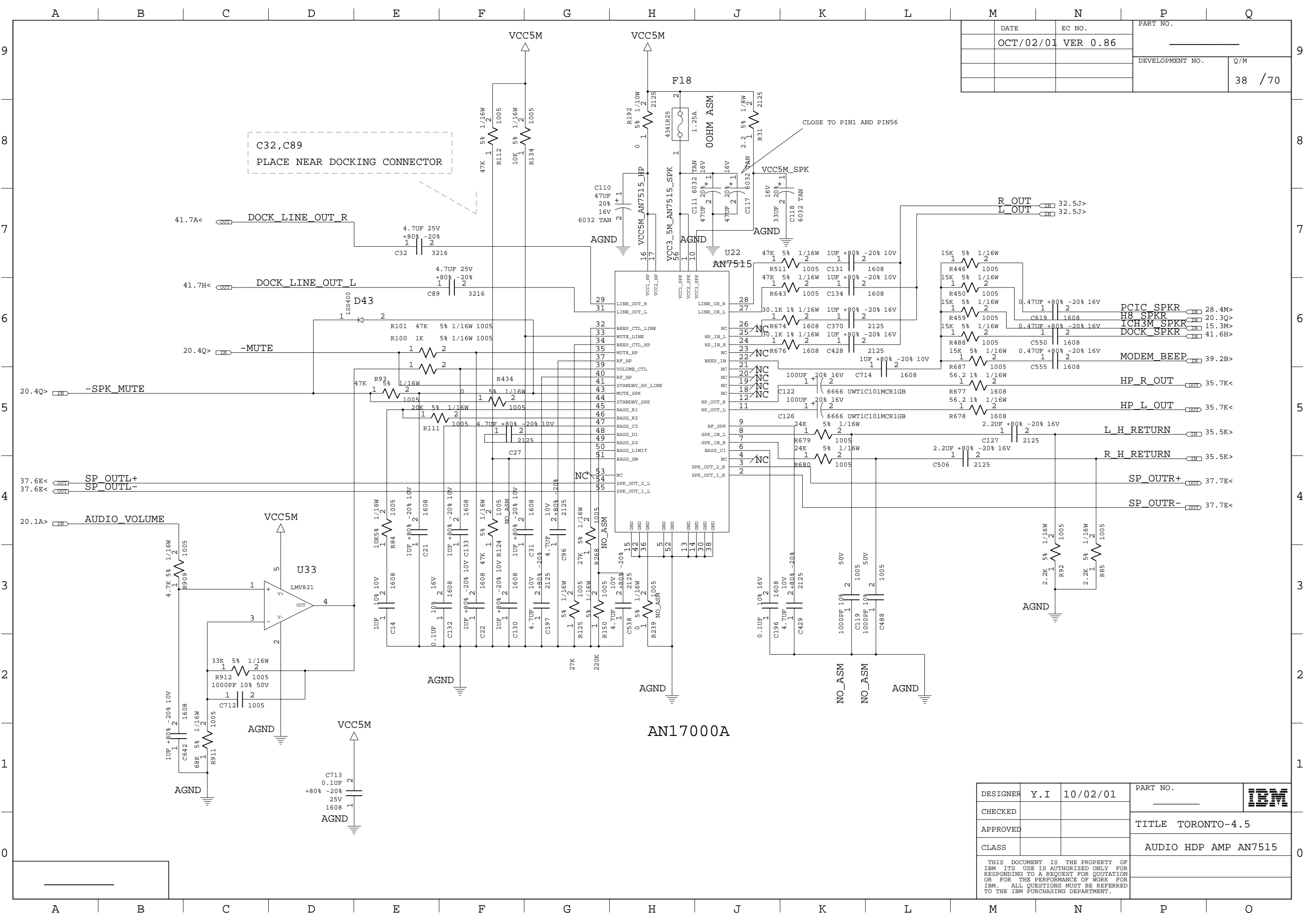
HSP_04

1
2
3
4

NO_ASM

SPEAKER CONNECTOR

DESIGNER	Y.I	10/02/01	PART NO.	IBM
CHECKED				
APPROVED			TITLE TORONTO-4.5	
CLASS			AUDIO SPK CONN	
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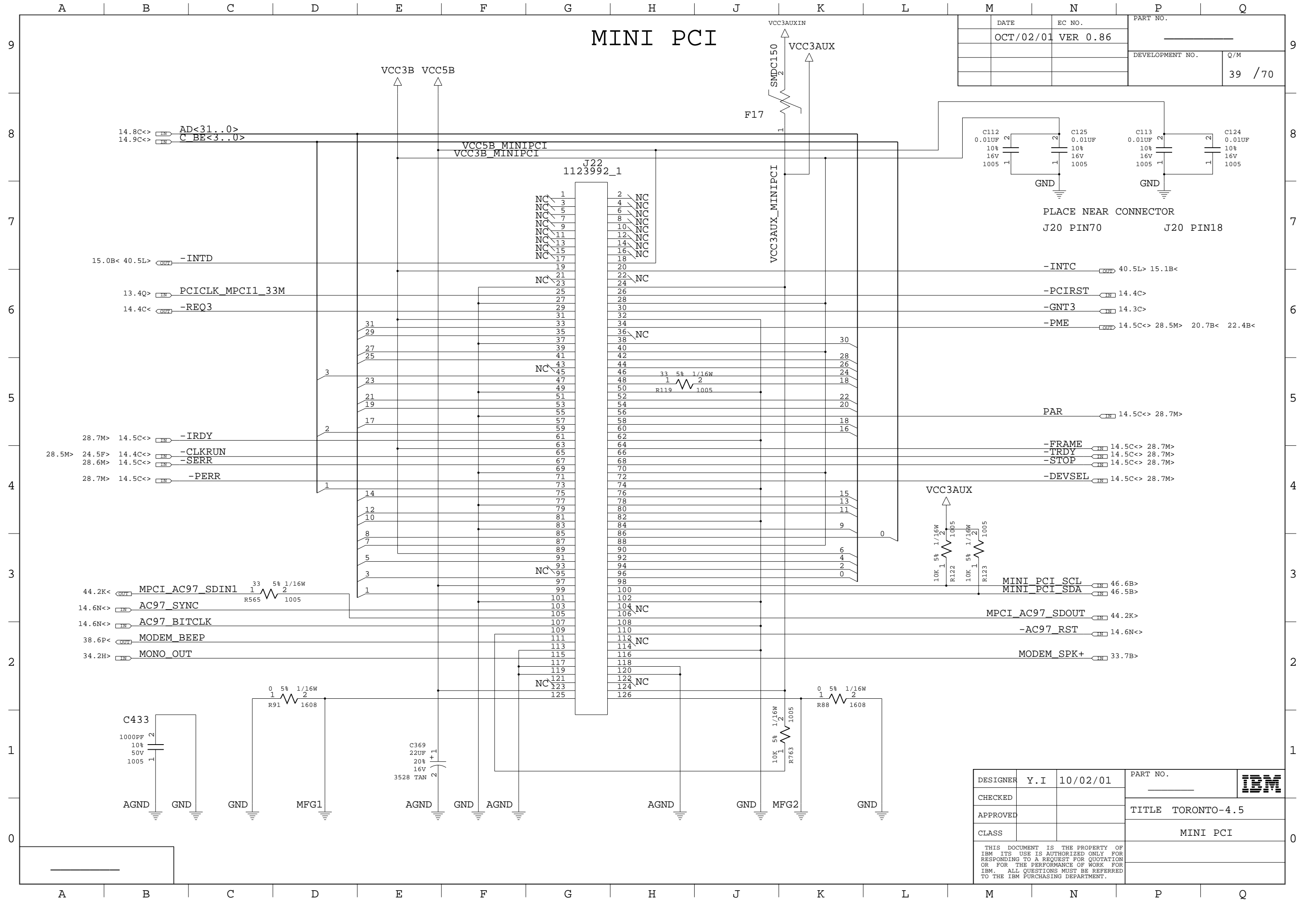
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AN17000A

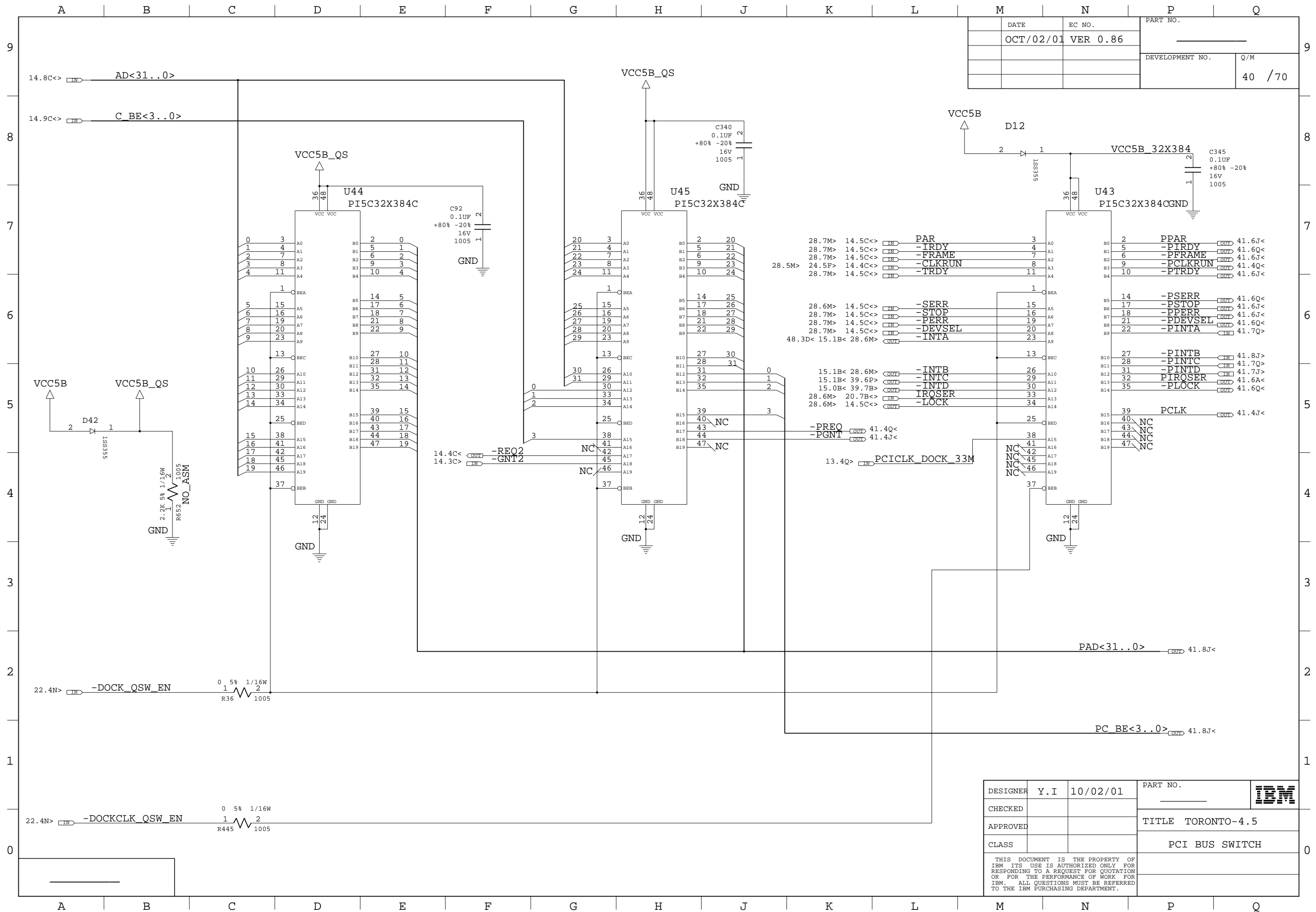
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MINI PCI

DATE	EC NO.	PART NO.
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DEVELOPMENT NO.		Q/M
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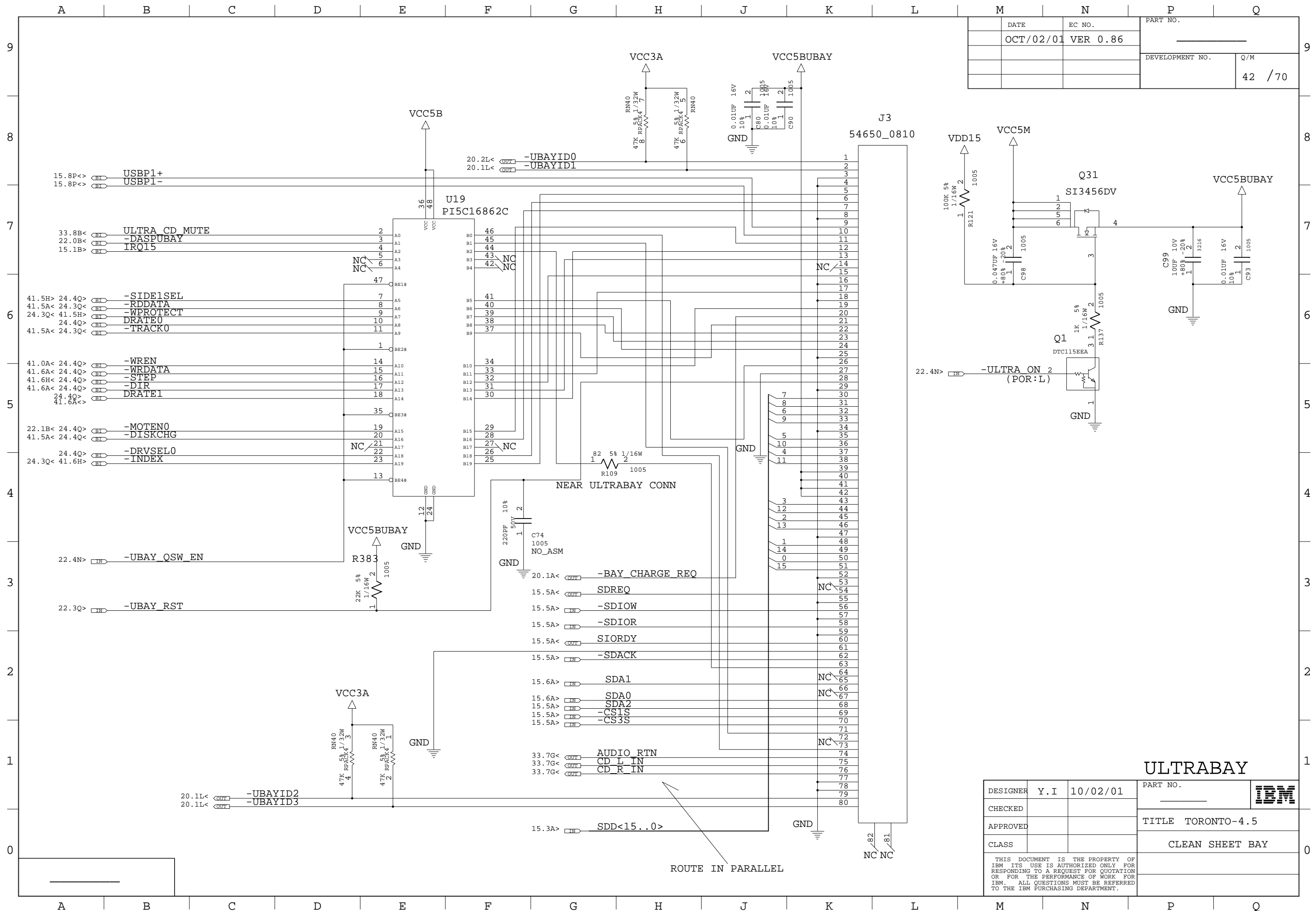


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APPROVED			MINI PCI	
CLASS				
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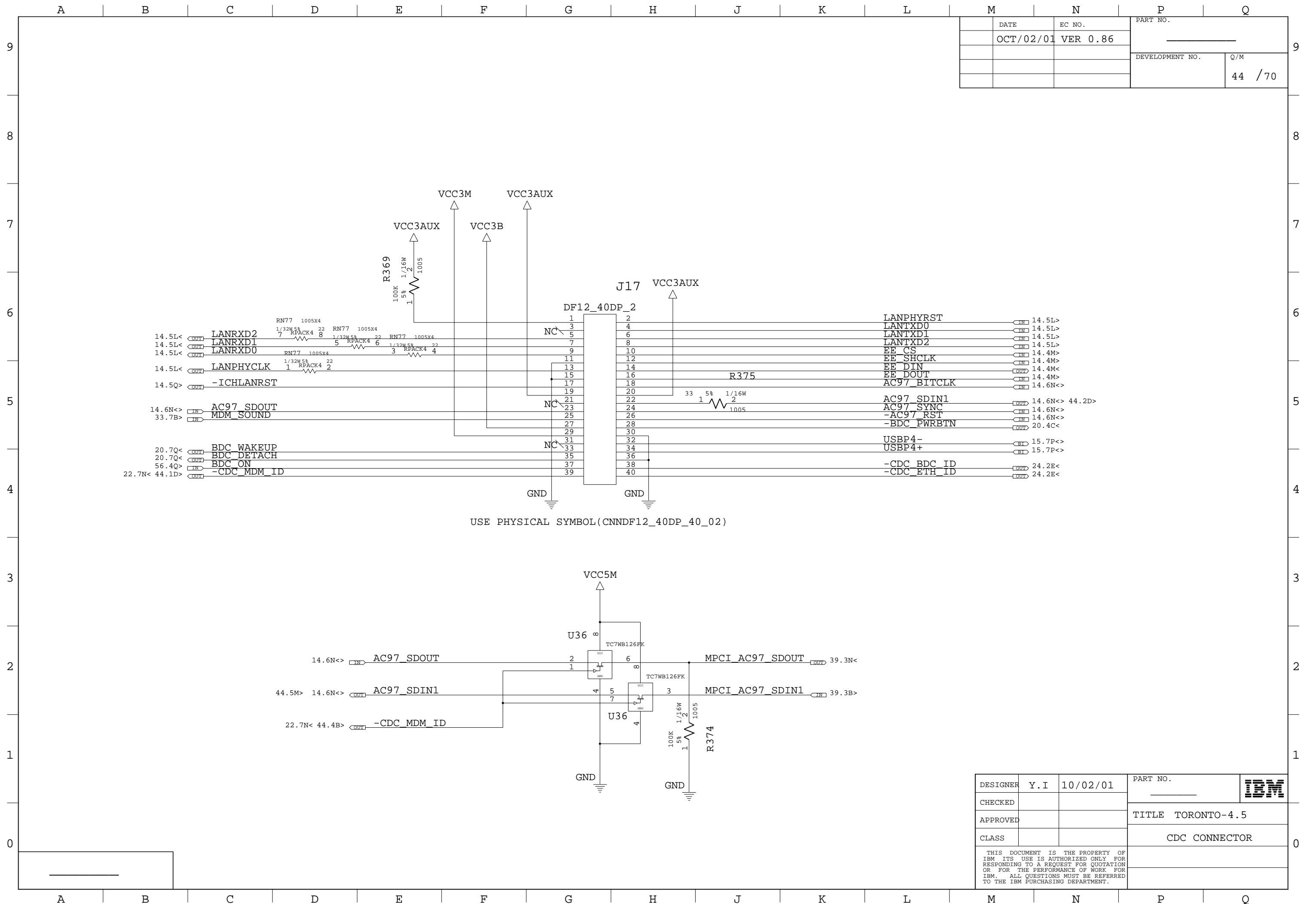
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APPROVED			TITLE TORONTO-4.5	
CLASS			PCI BUS SWITCH	
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OCT/02/01	VER 0.86	
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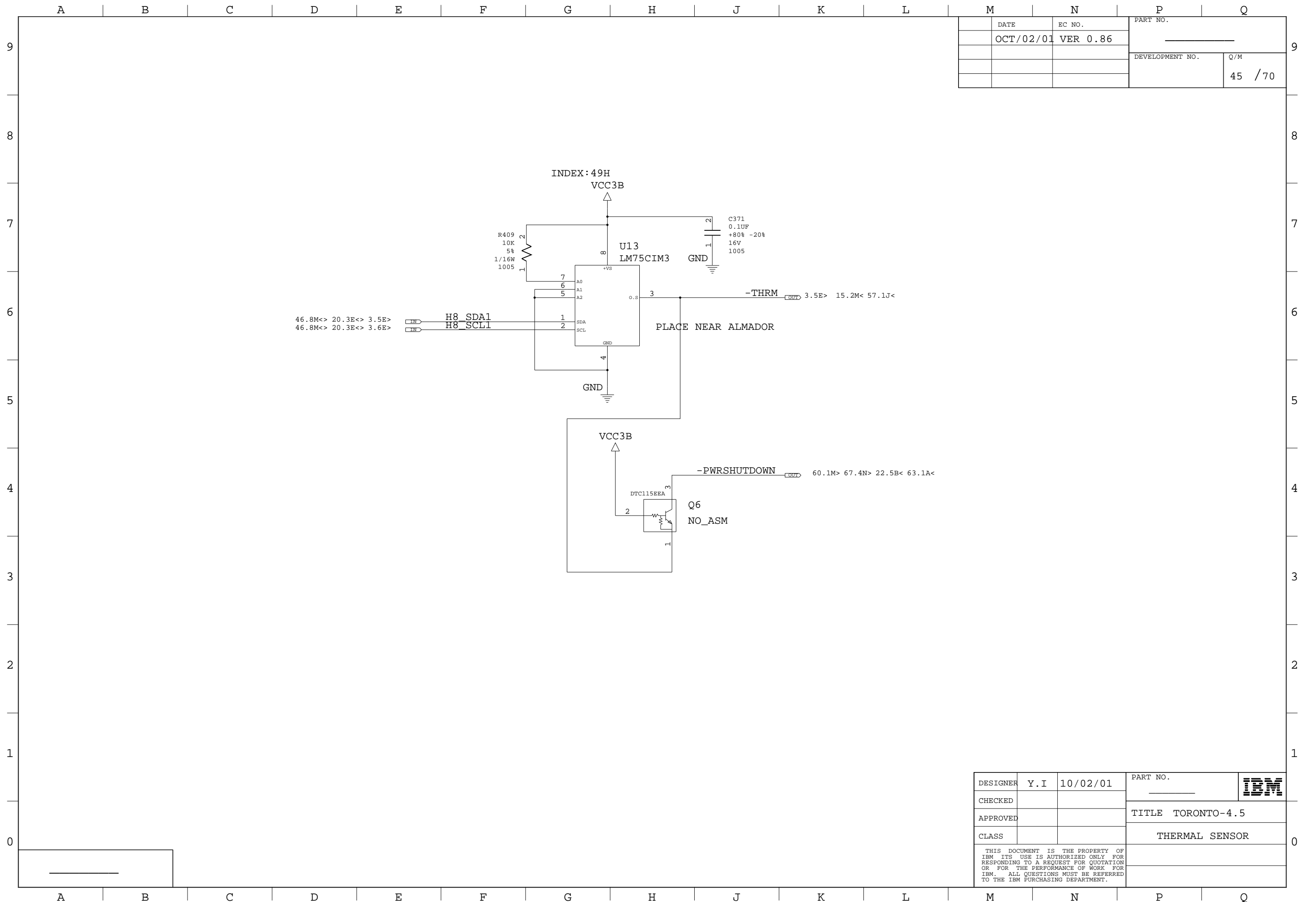
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CHECKED				
APPROVED			TITLE TORONTO-4.5	
CLASS			CLEAN SHEET BAY	
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ULTRABAY



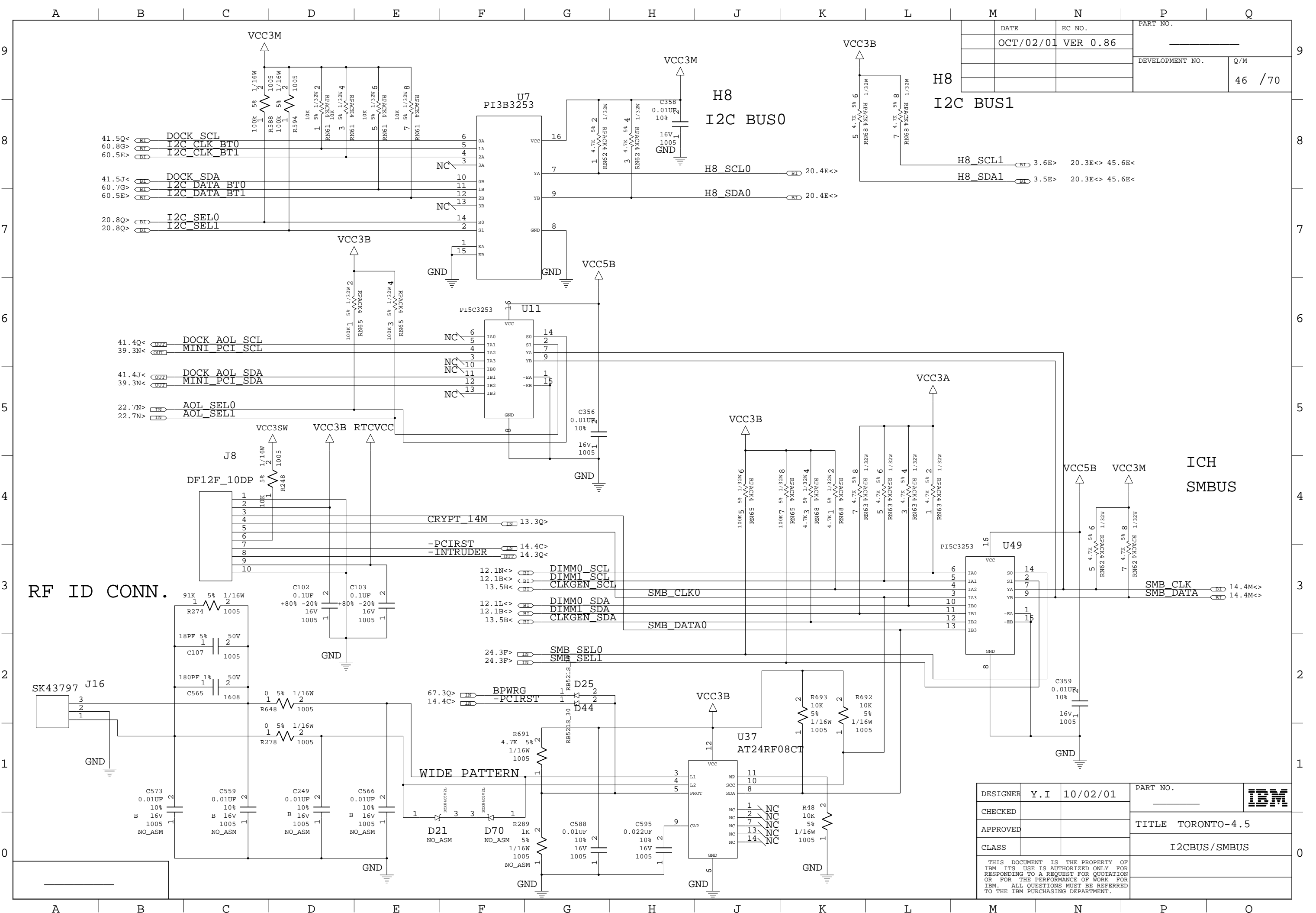
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OCT/02/01	VER 0.86		
		DEVELOPMENT NO.	Q/M
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APPROVED			TITLE TORONTO-4.5	
CLASS			CDC CONNECTOR	
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APPROVED			TITLE TORONTO-4.5	
CLASS			THERMAL SENSOR	
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H8
I2C BUS1

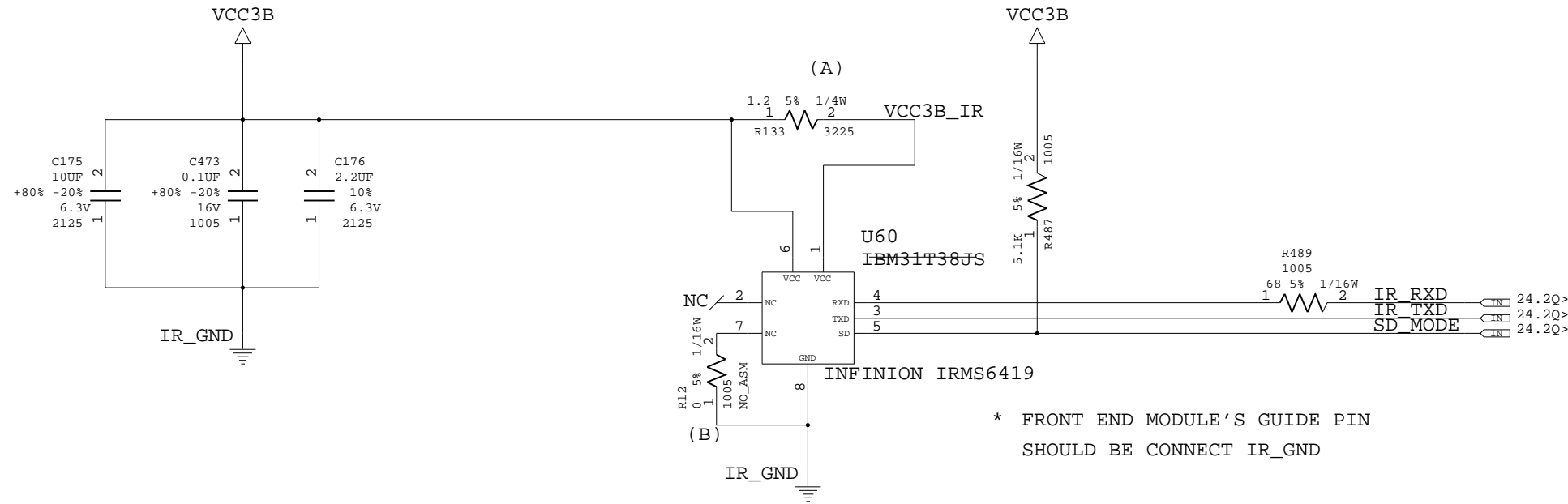
H8_SCL1 3.6E> 20.3E<> 45.6E<
H8_SDA1 3.5E> 20.3E<> 45.6E<

ICH
SMBUS

SMB_CLK 14.4M<>
SMB_DATA 14.4M<>

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APPROVED			TITLE	TORONTO-4.5
CLASS				I2CBUS/SMBUS
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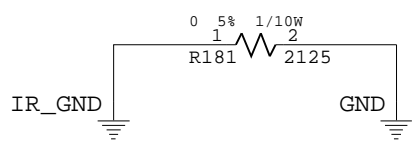
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OCT/02/01	VER 0.86	_____	
		DEVELOPMENT NO.	Q/M
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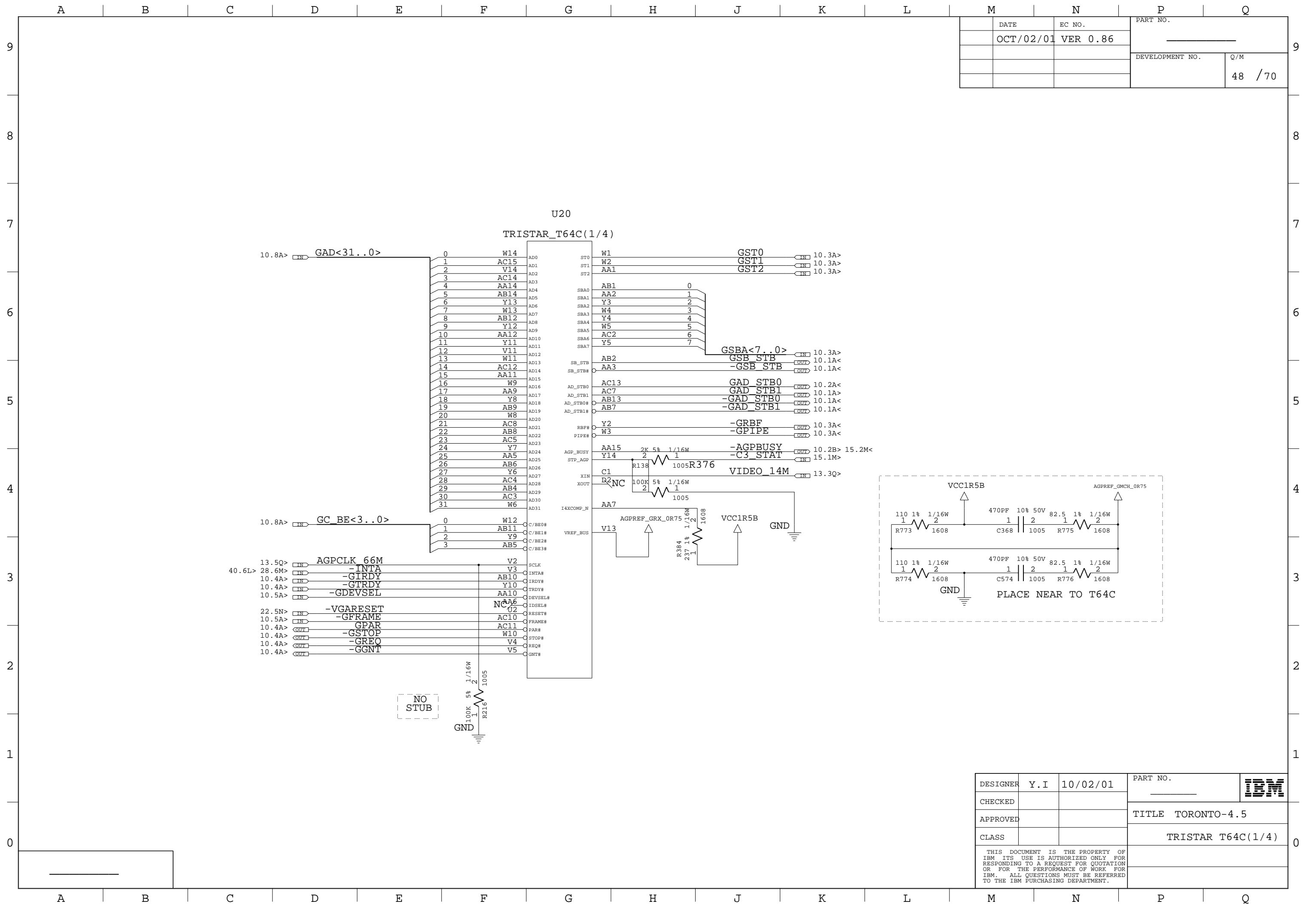
* FRONT END MODULE'S GUIDE PIN
SHOULD BE CONNECT IR_GND

* THIS LOGIC BASED ON INFINION

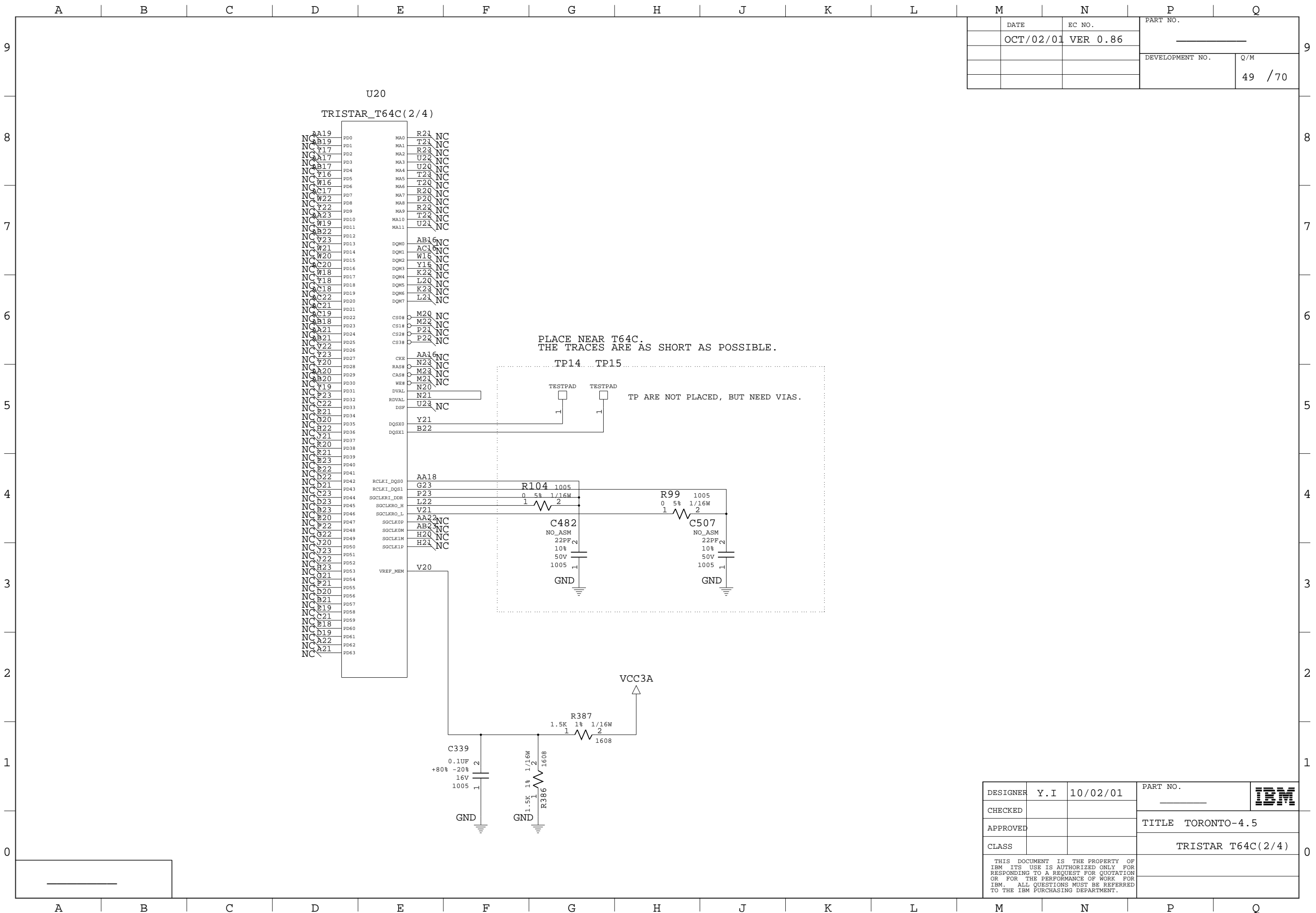
	(A)	(B)
INFINION IRMS6419	1.2 ASM	NO-ASM
CALIBRE CHX2000	0 ASM	0 ASM



DESIGNER	Y. I	10/02/01	PART NO.	IBM
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APPROVED			TITLE TORONTO-4.5	
CLASS			IR MODULE	
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APPROVED			TITLE	TORONTO-4.5
CLASS				TRISTAR T64C(1/4)
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OCT/02/01	VER 0.86		
		DEVELOPMENT NO.	Q/M
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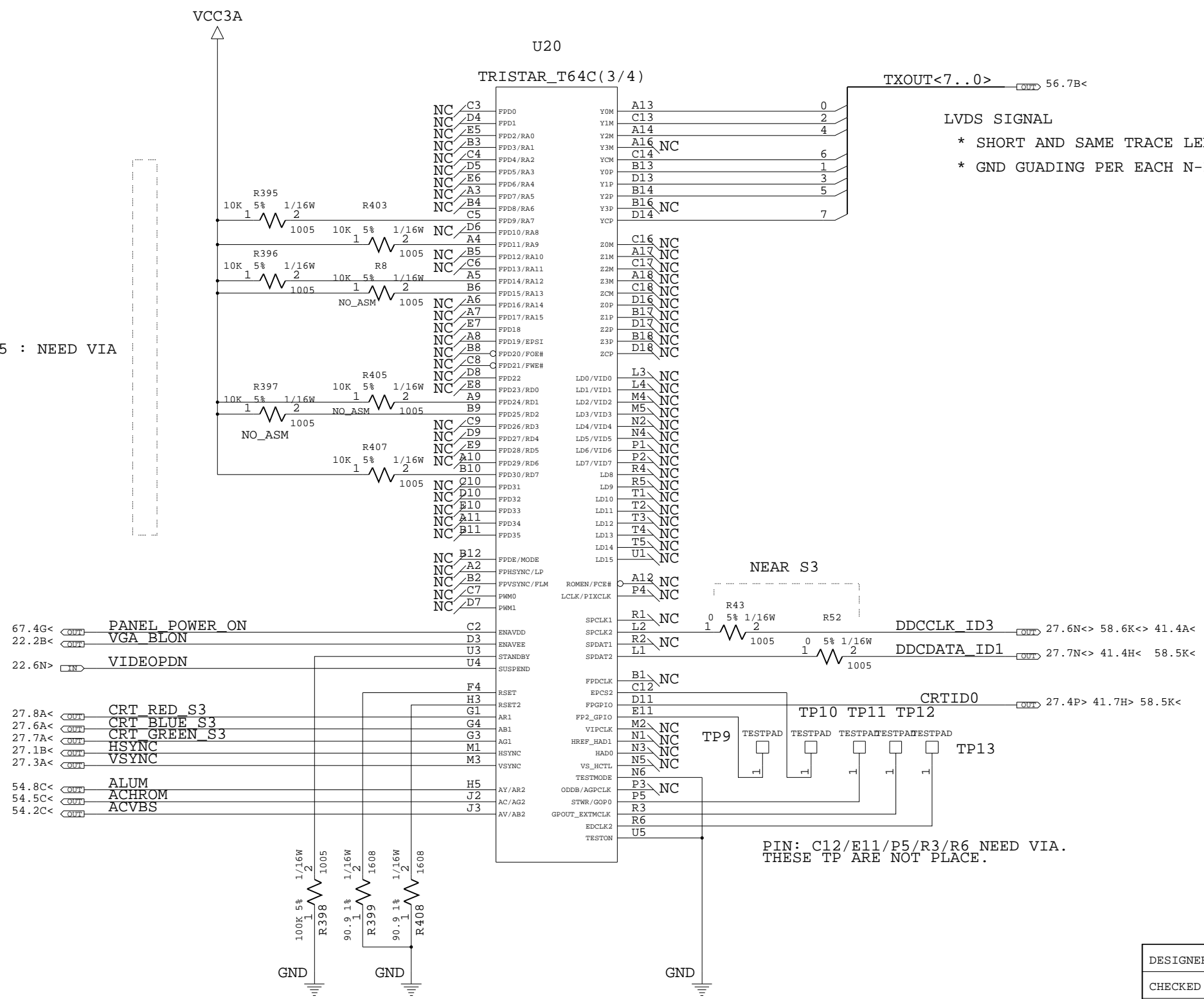
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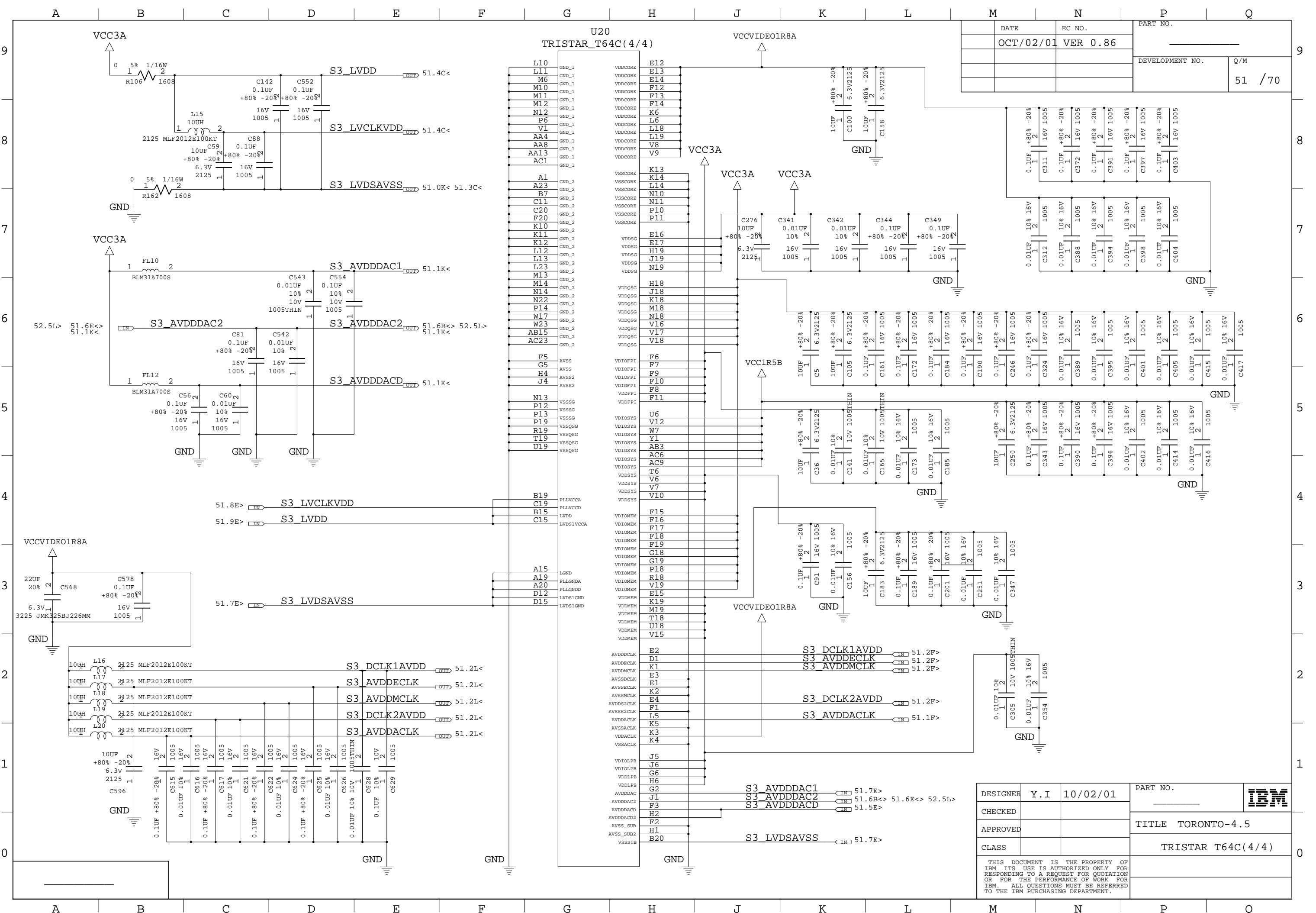
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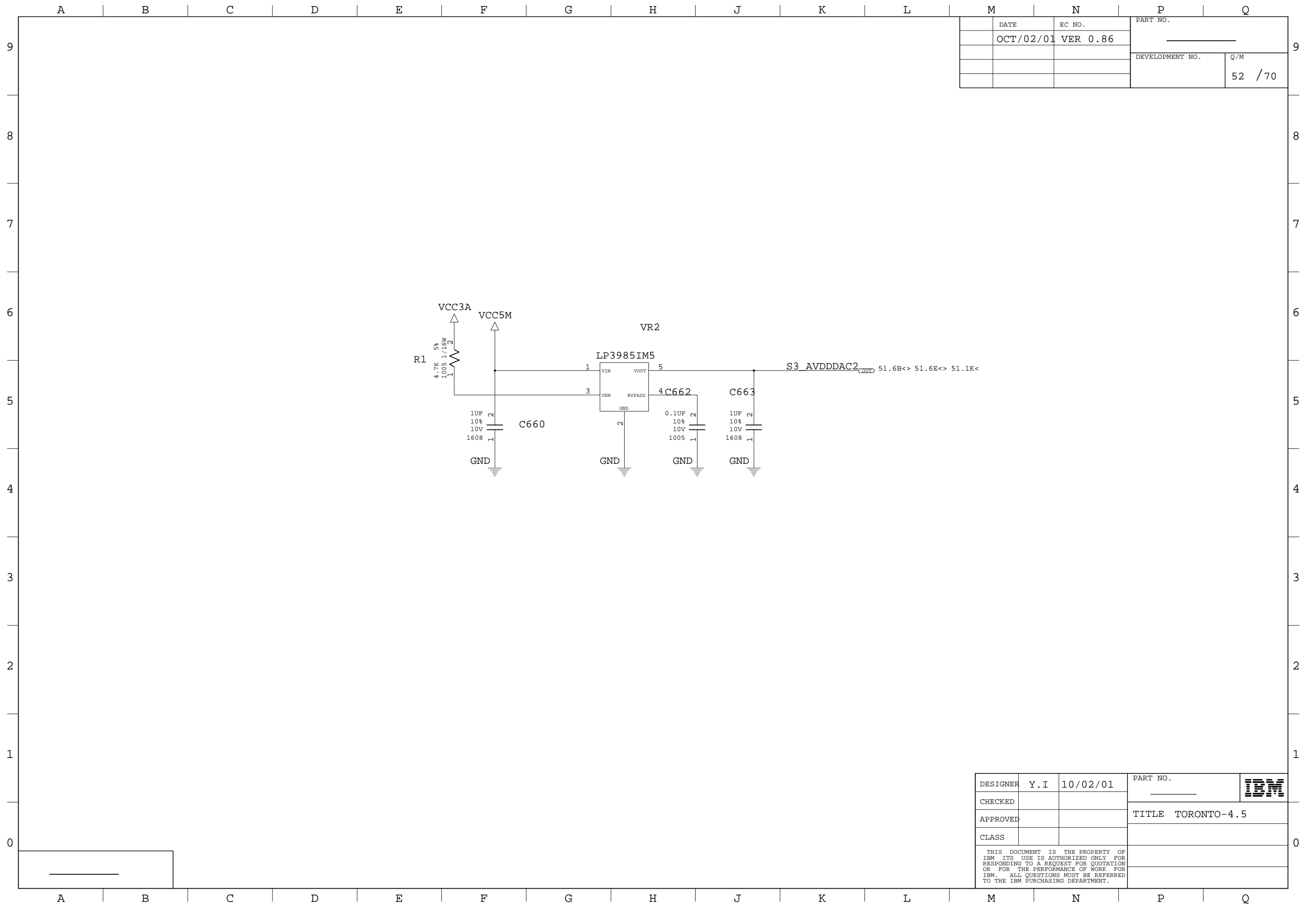
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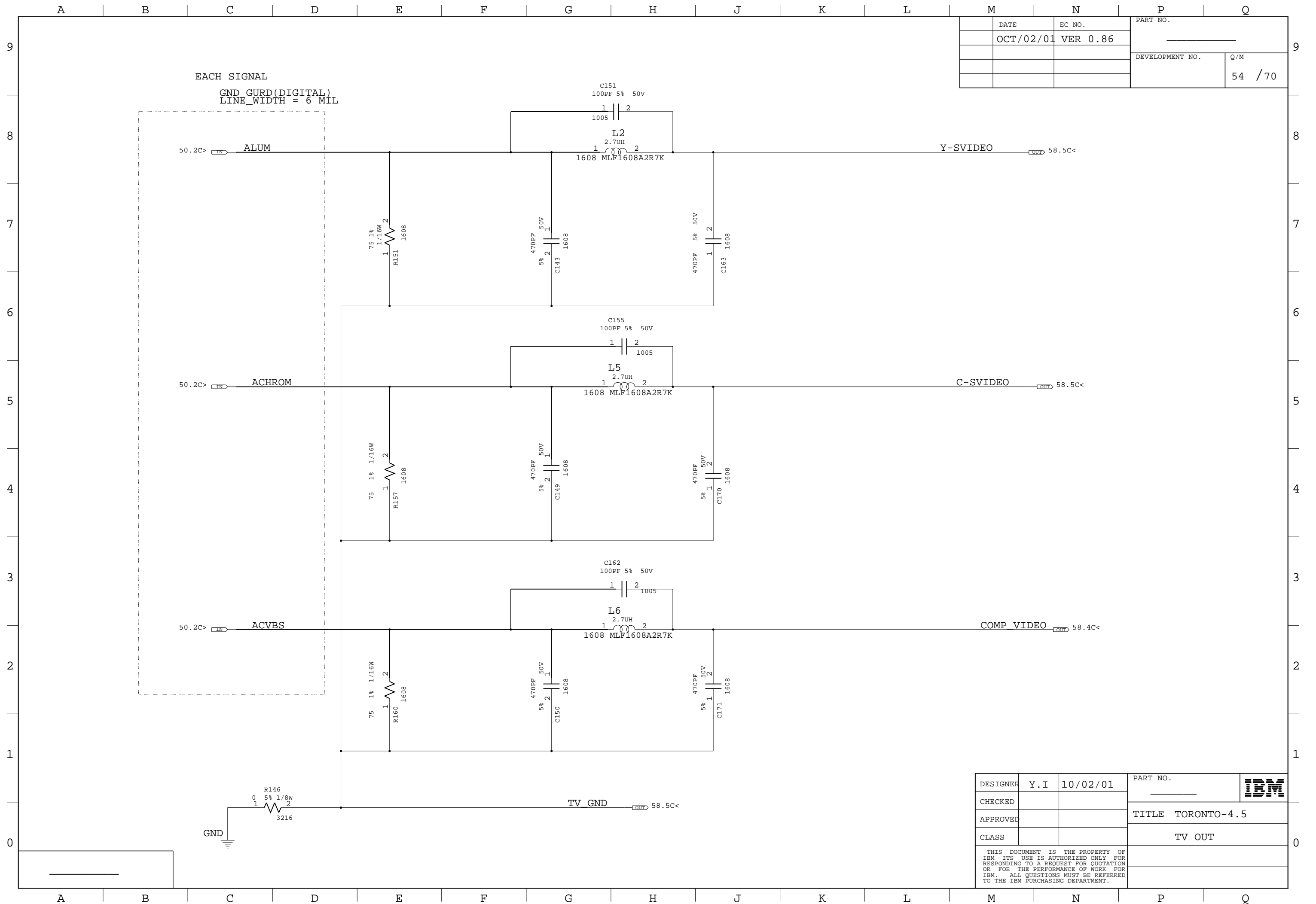
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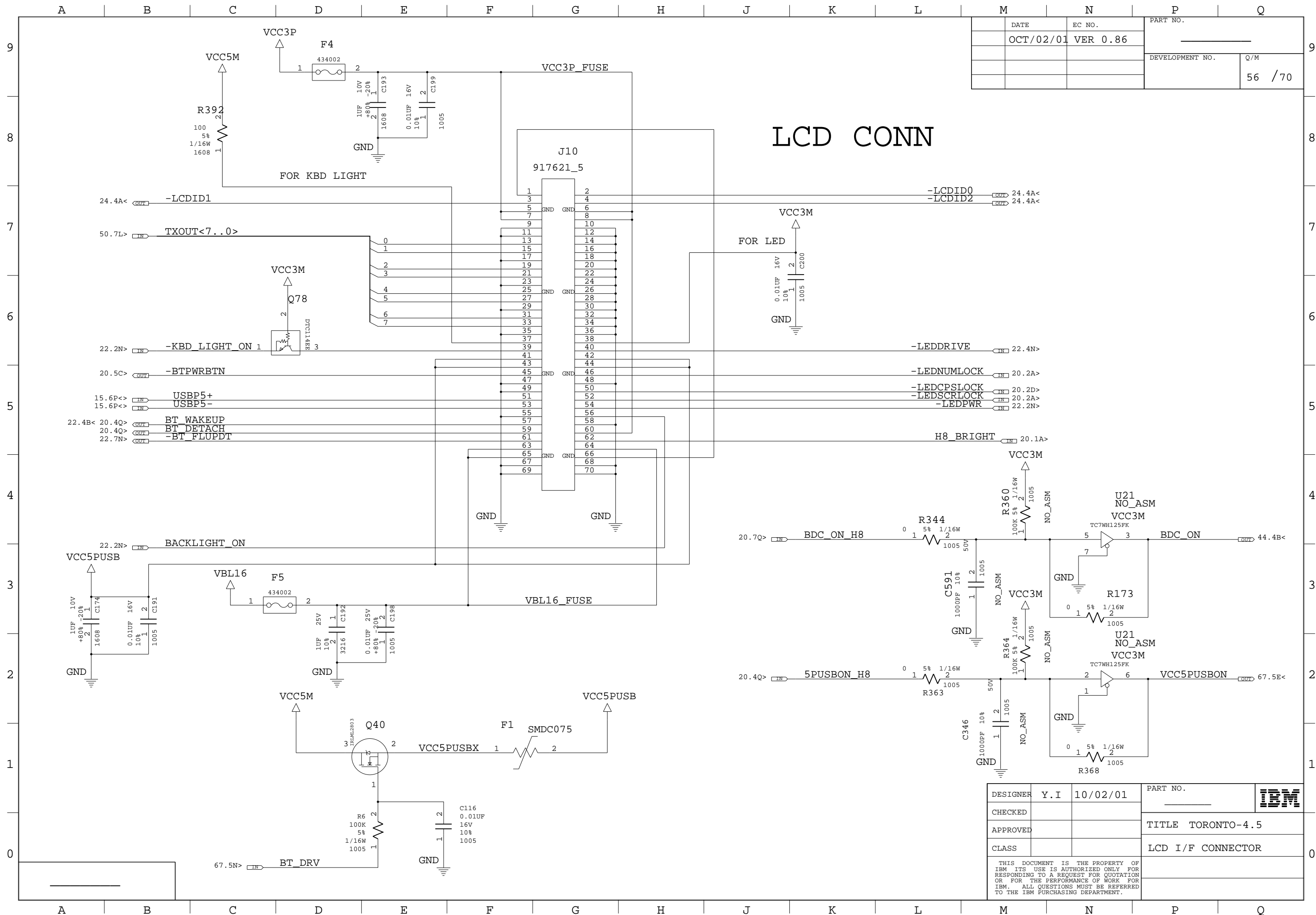
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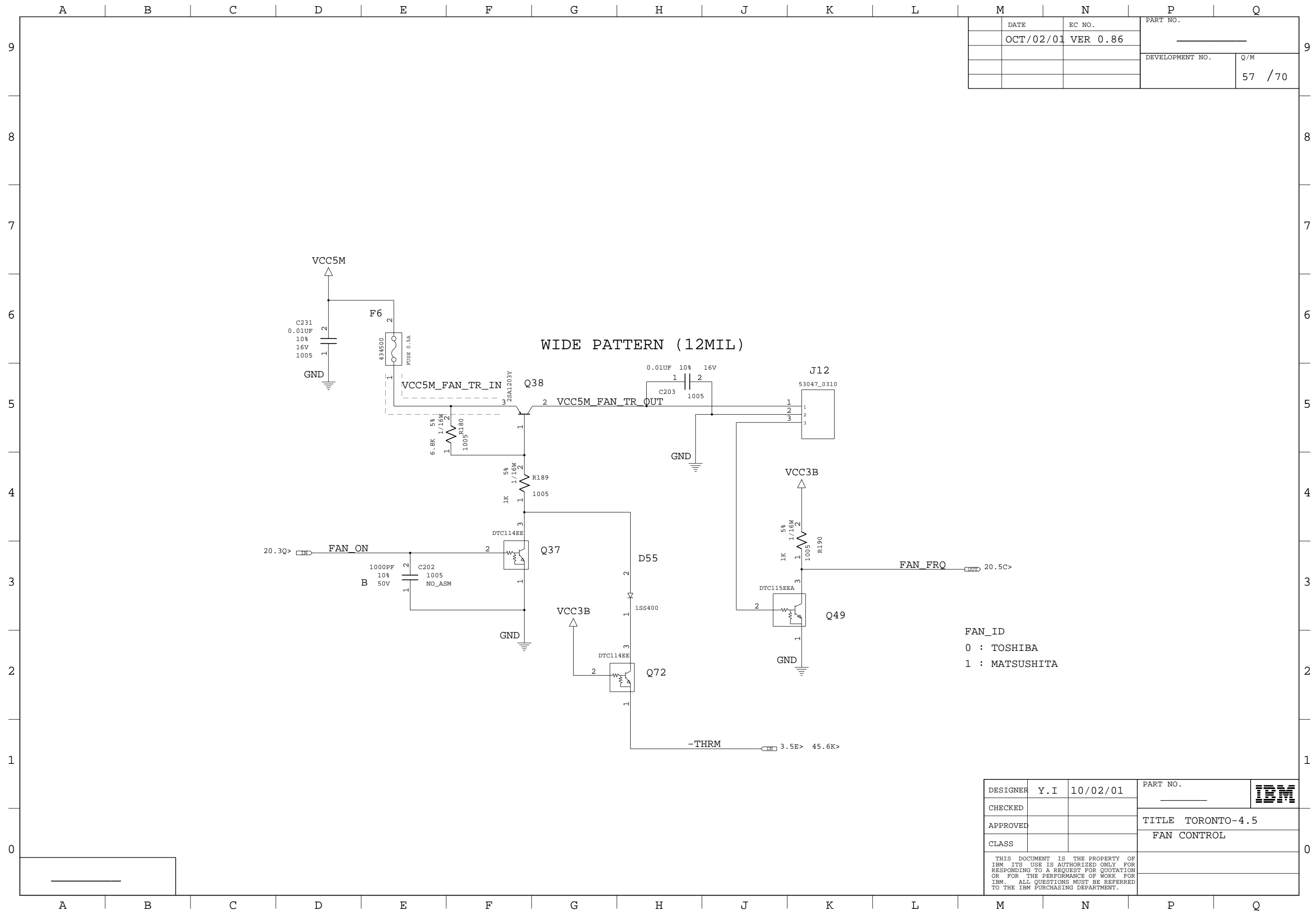
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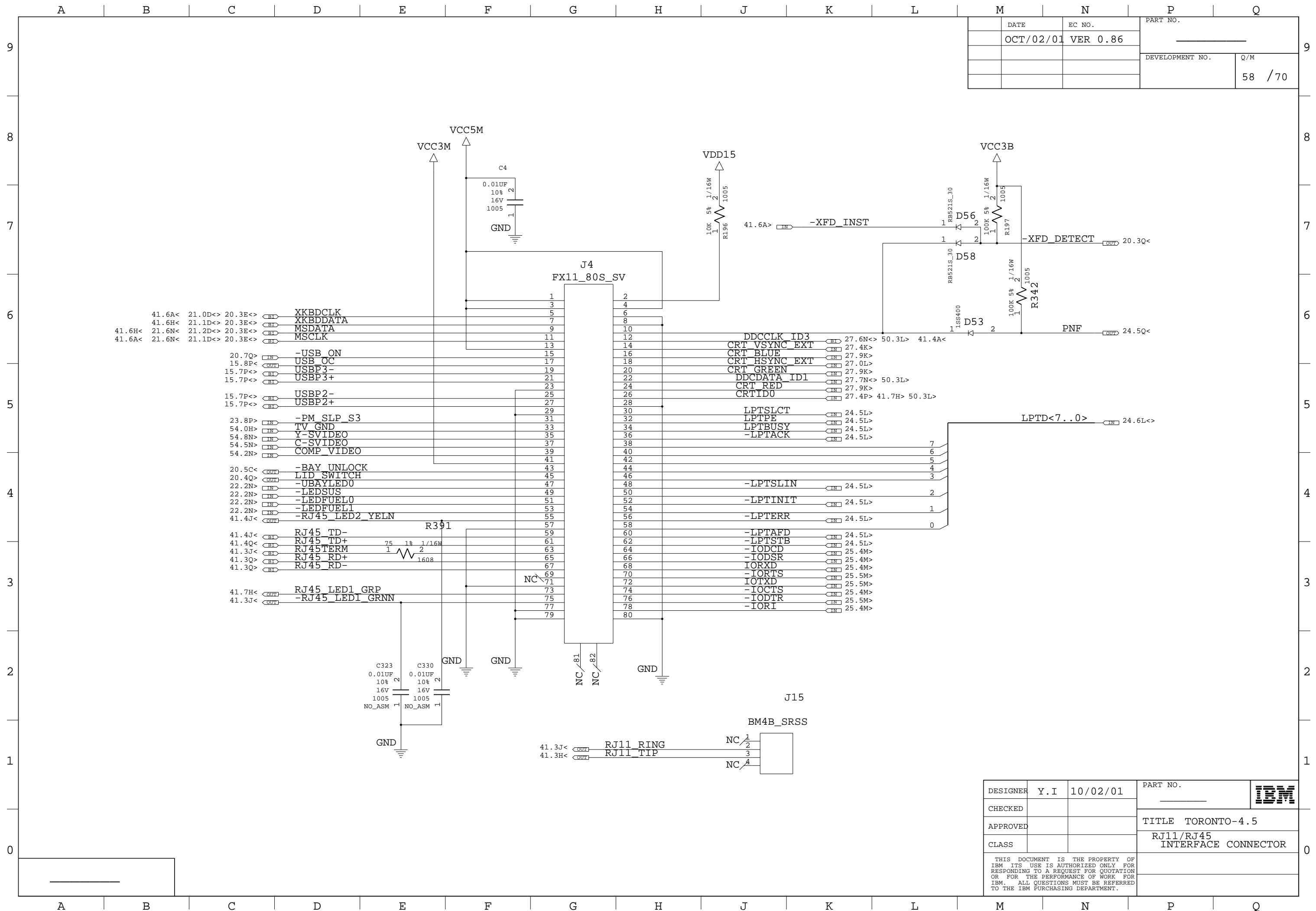
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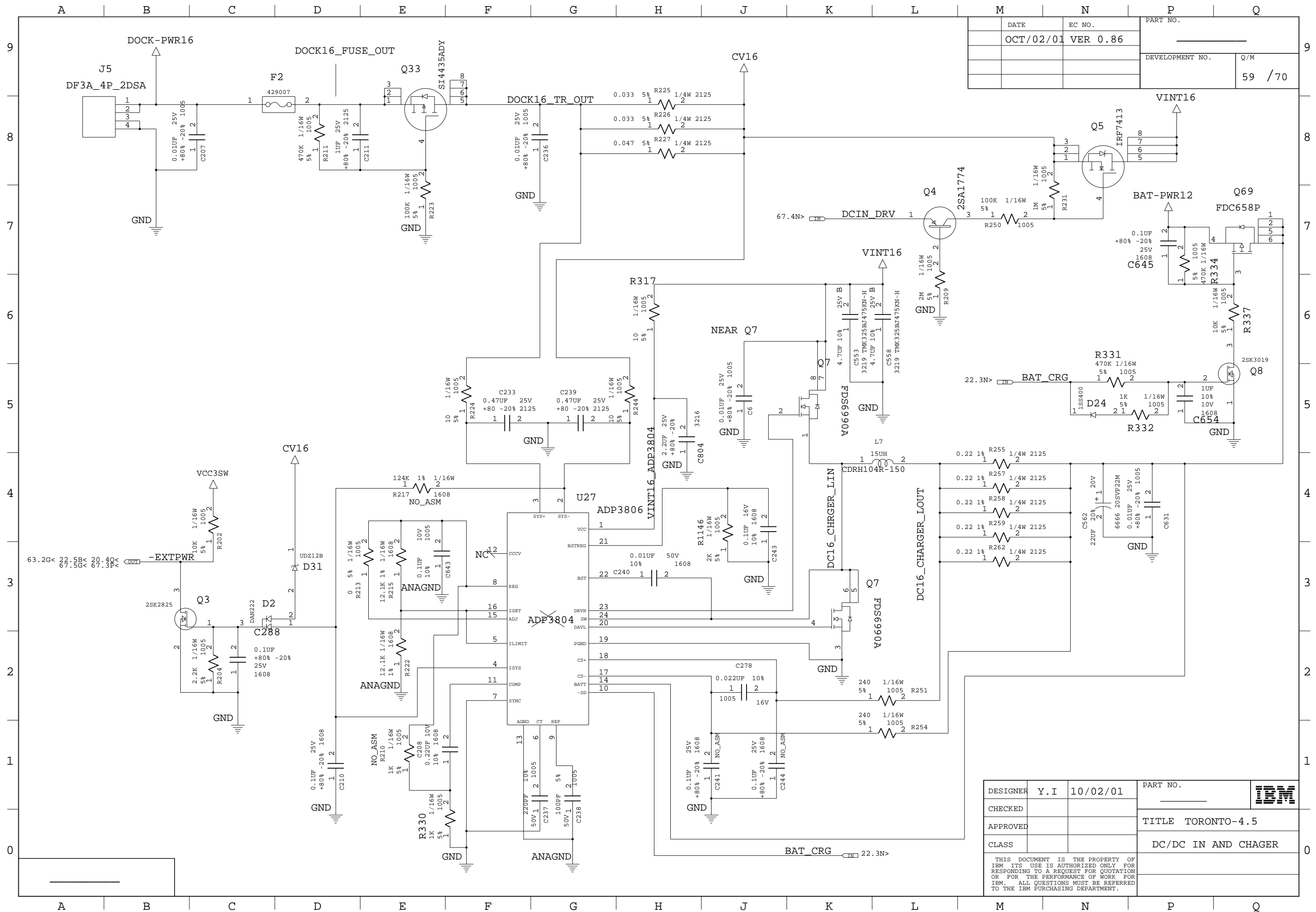
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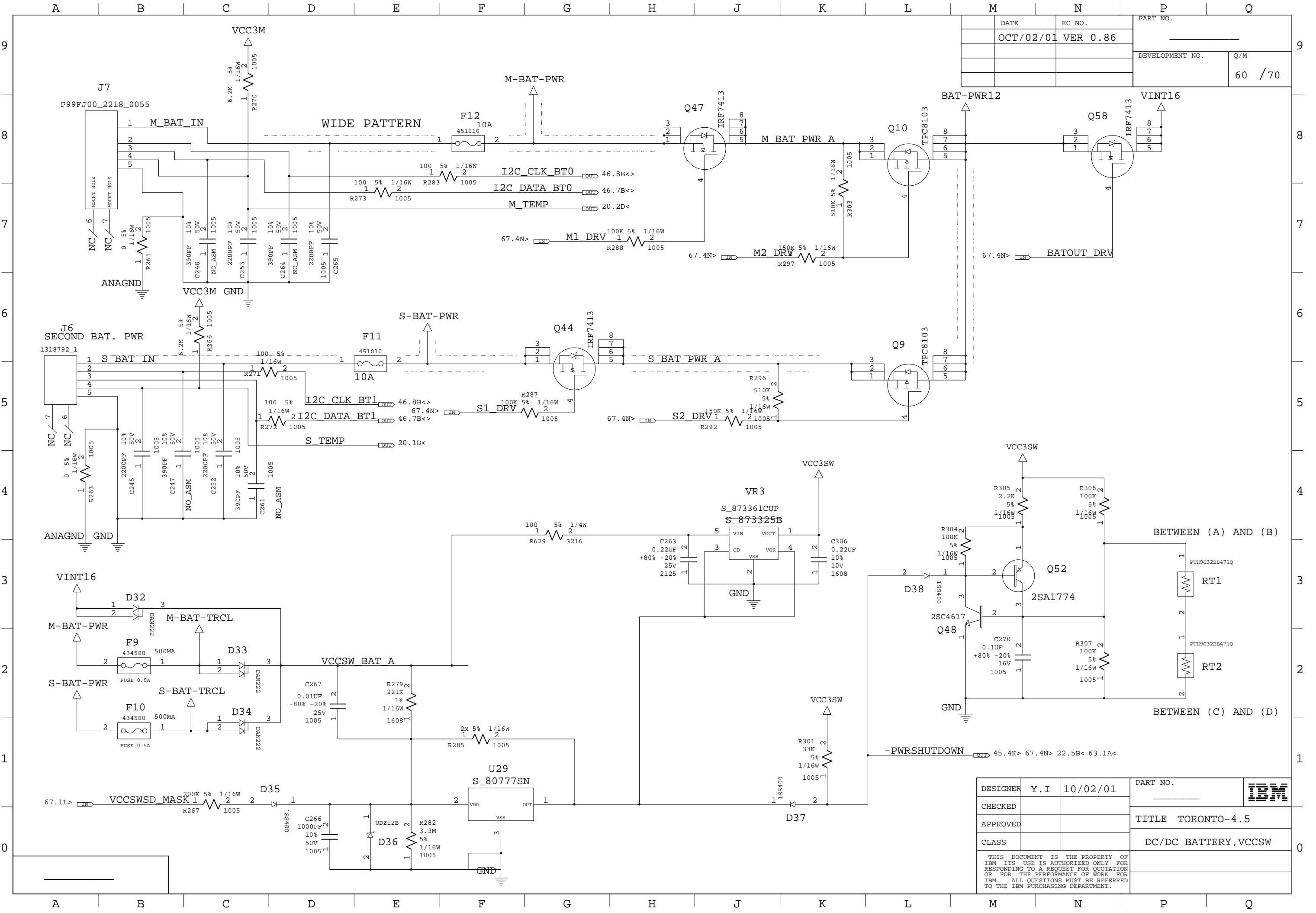
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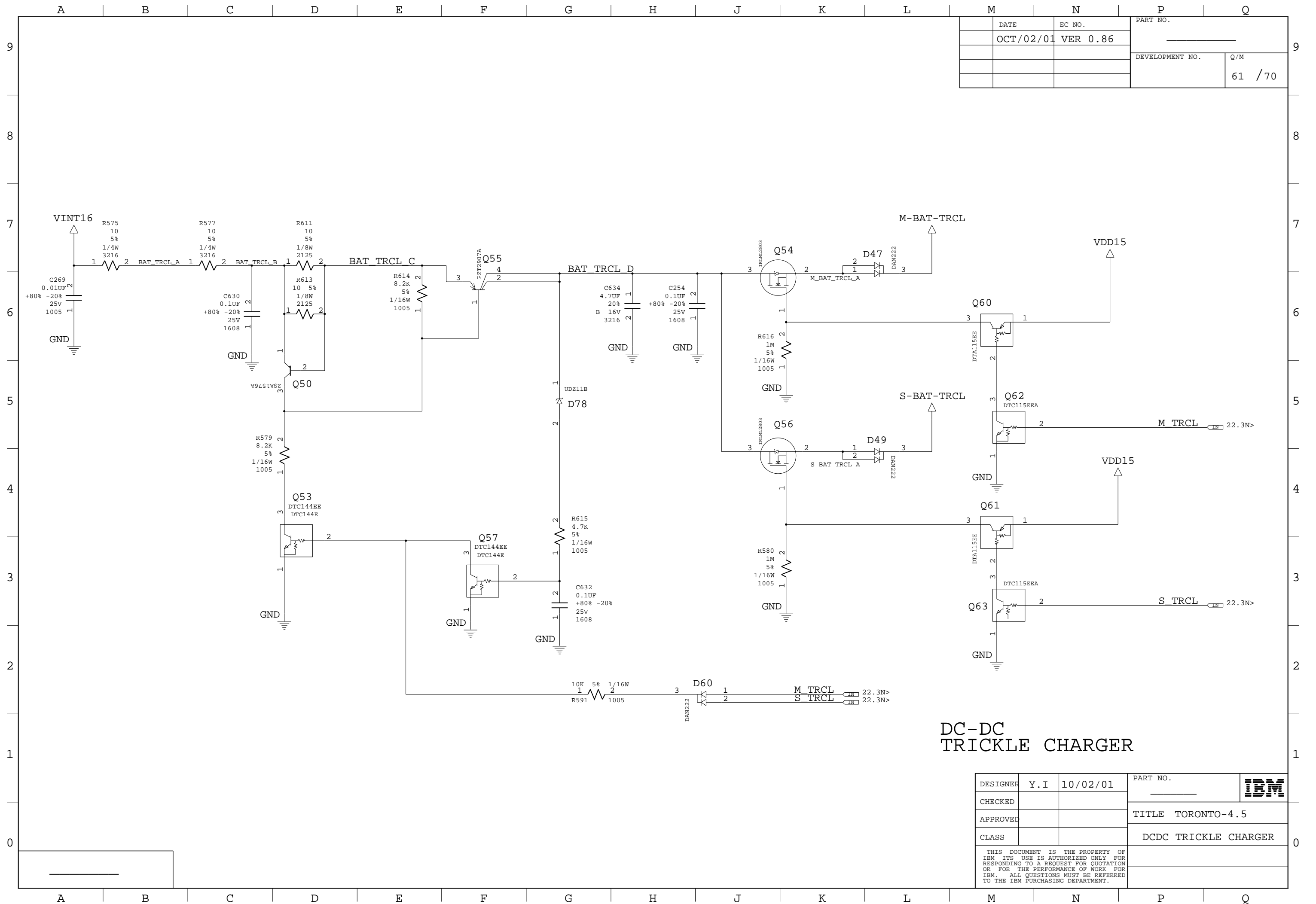
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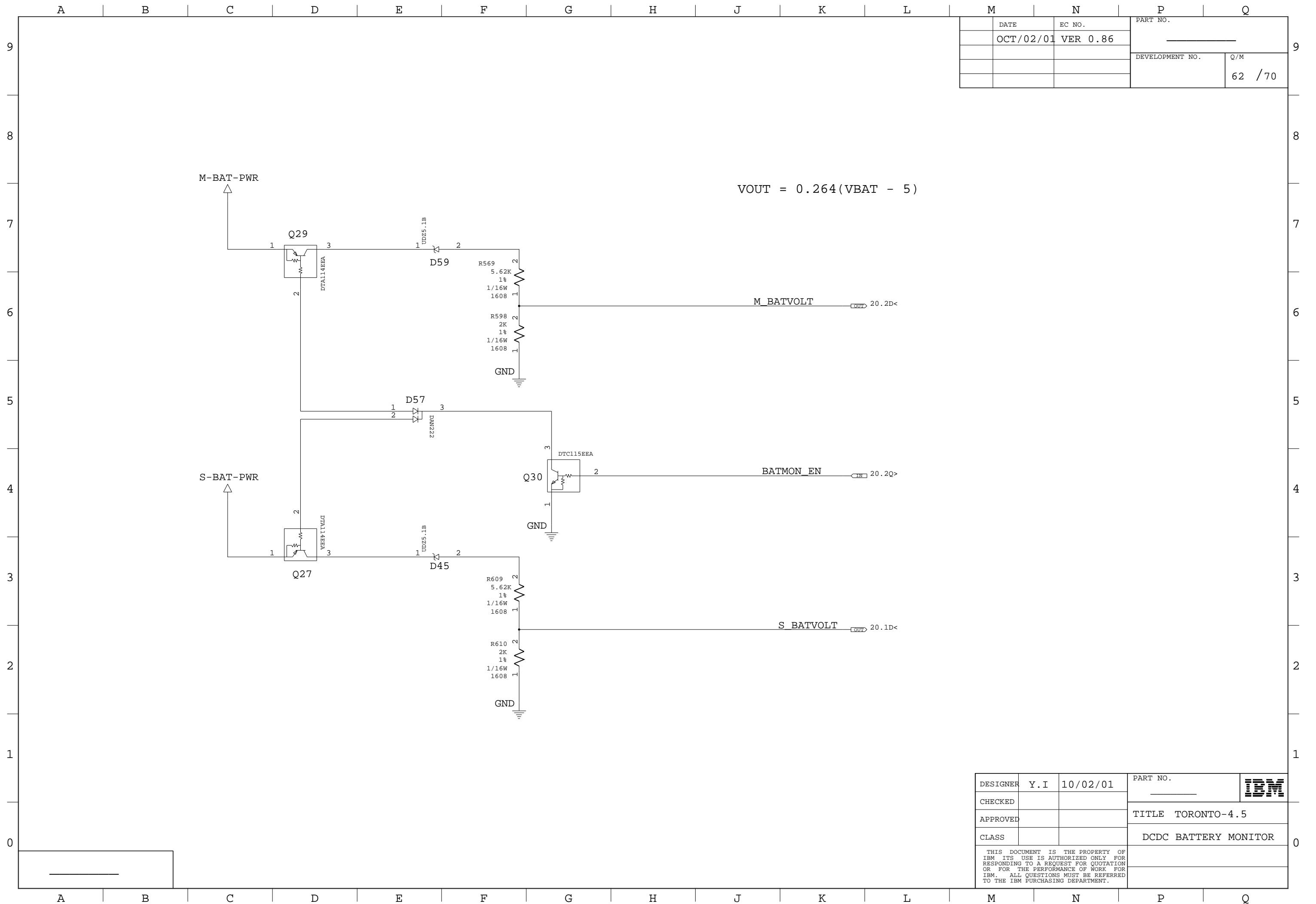
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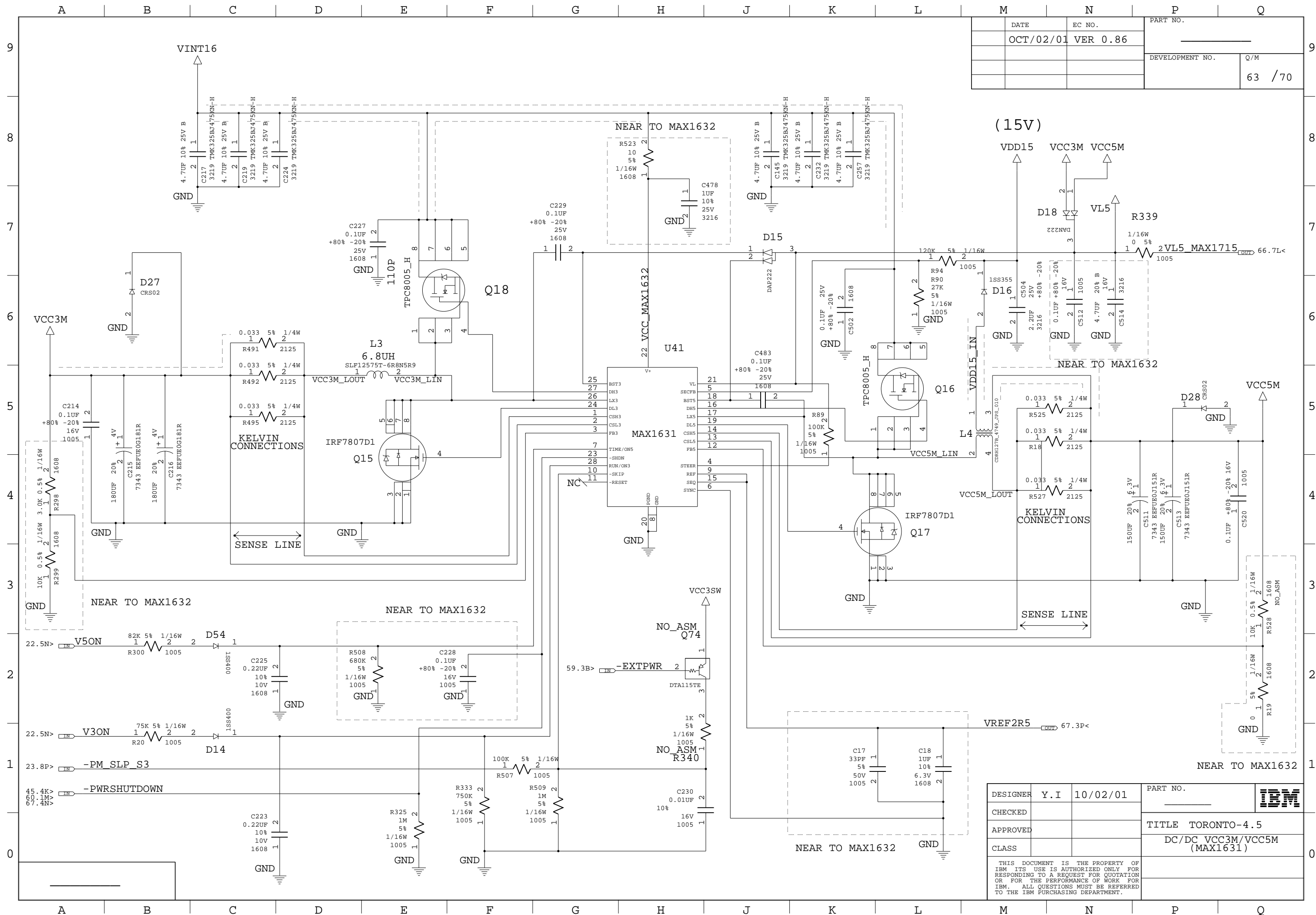
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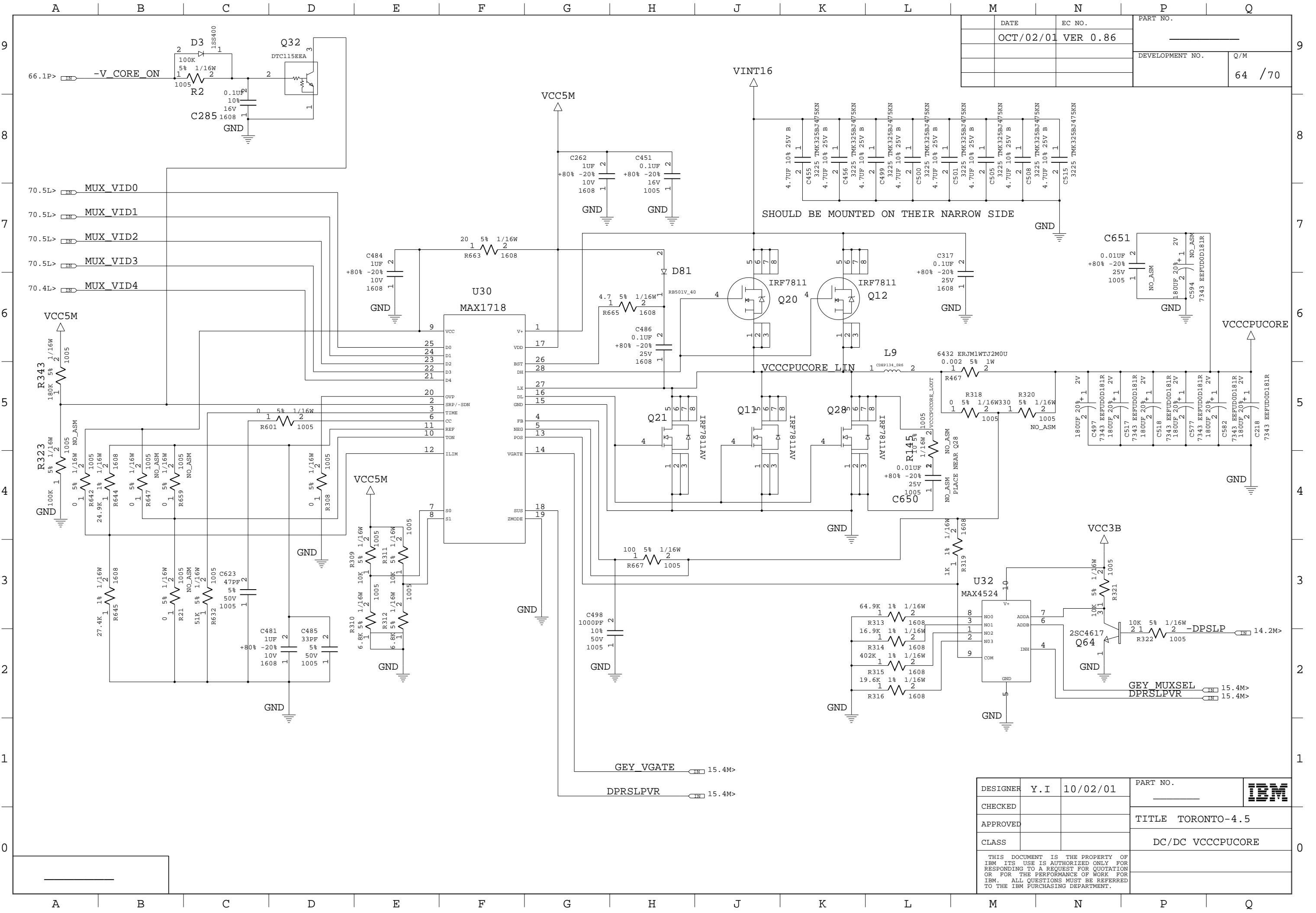
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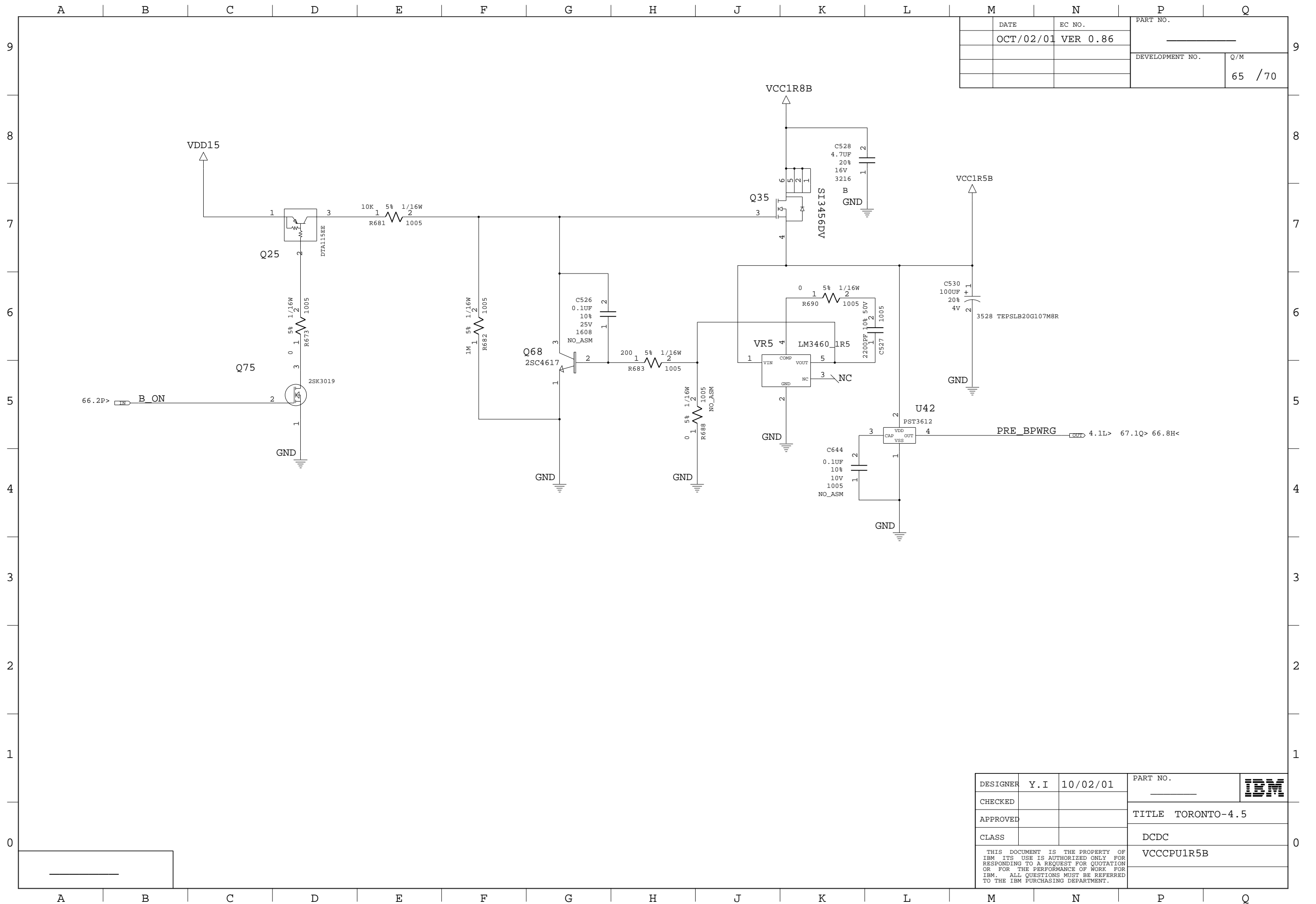
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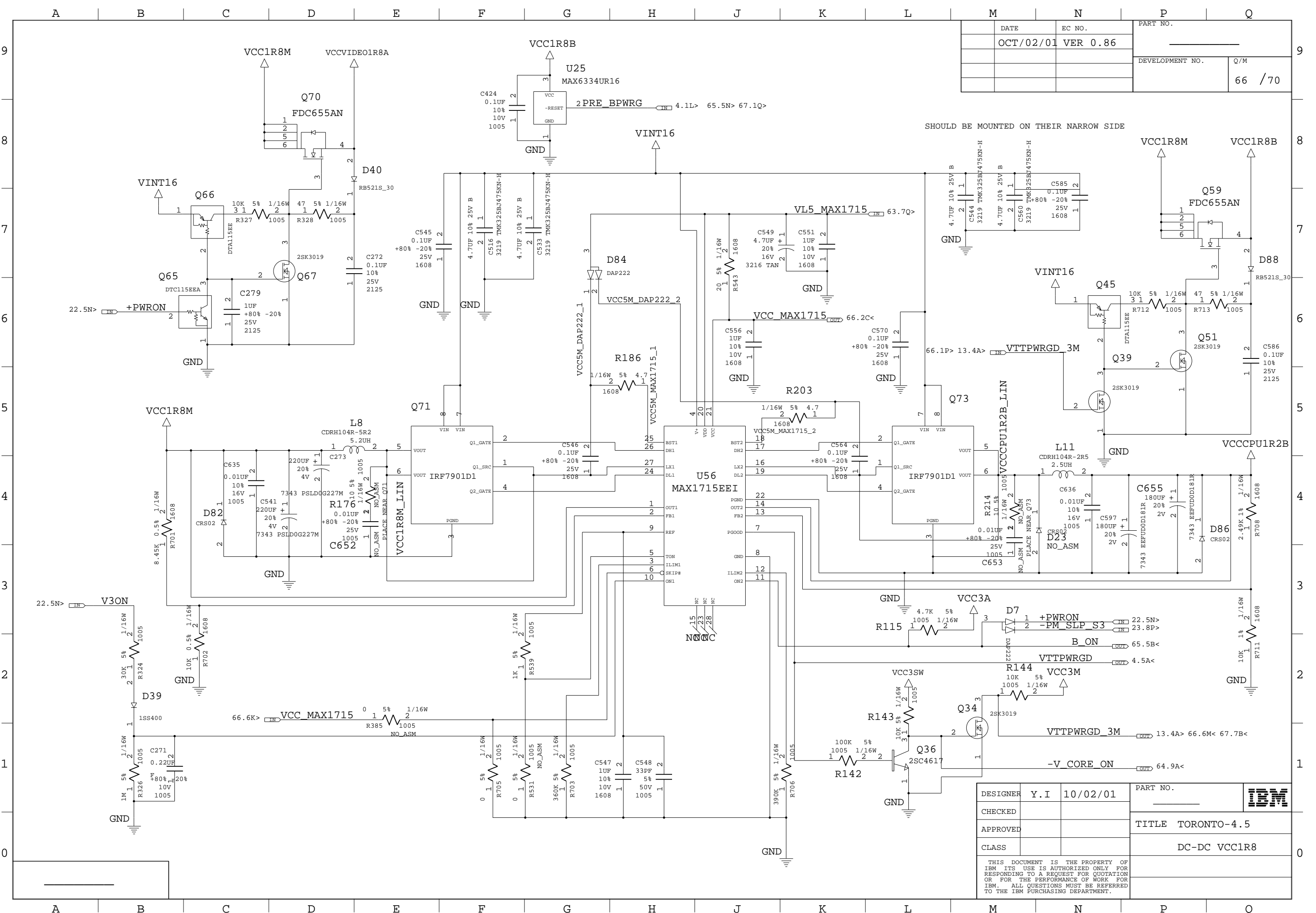
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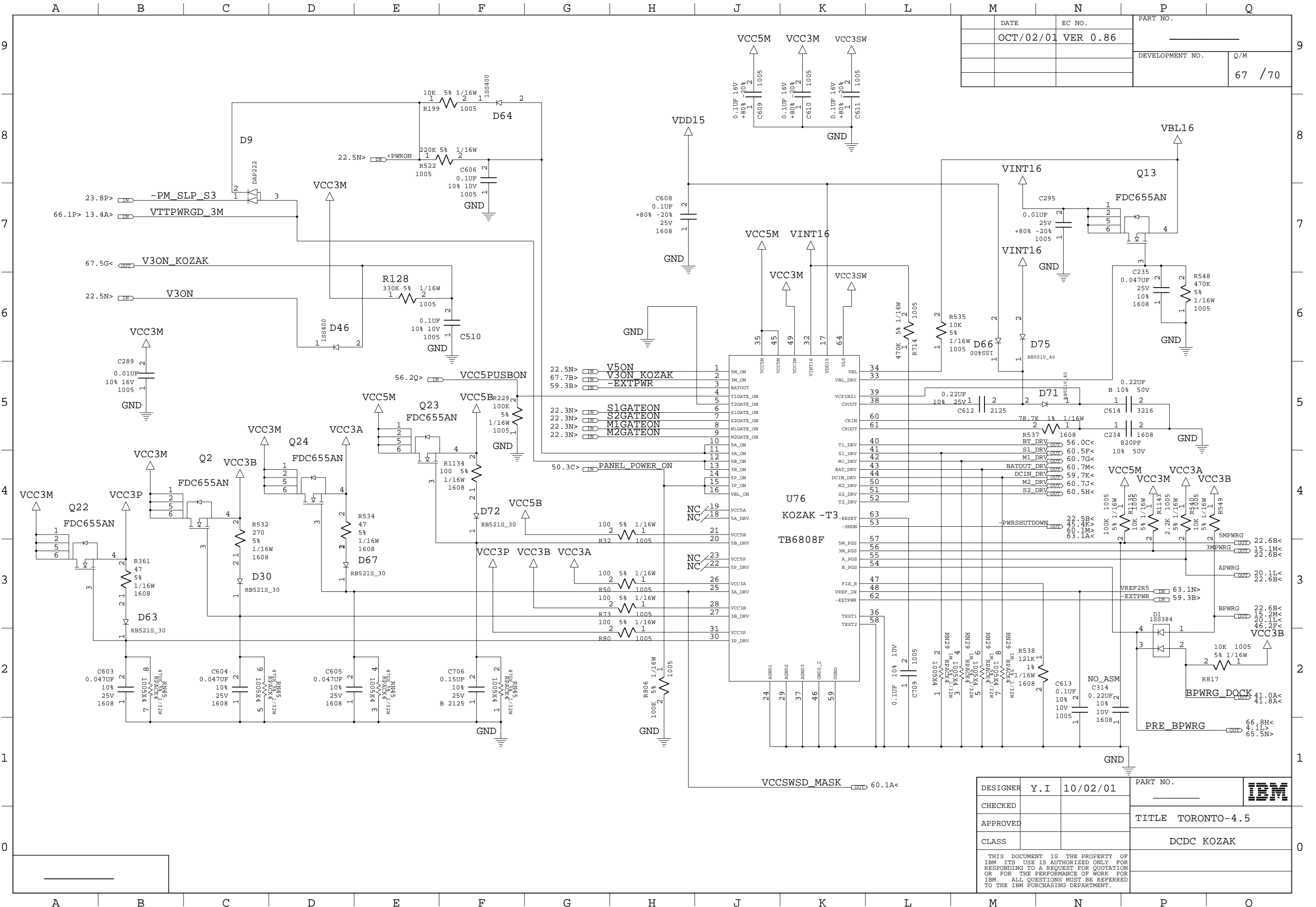
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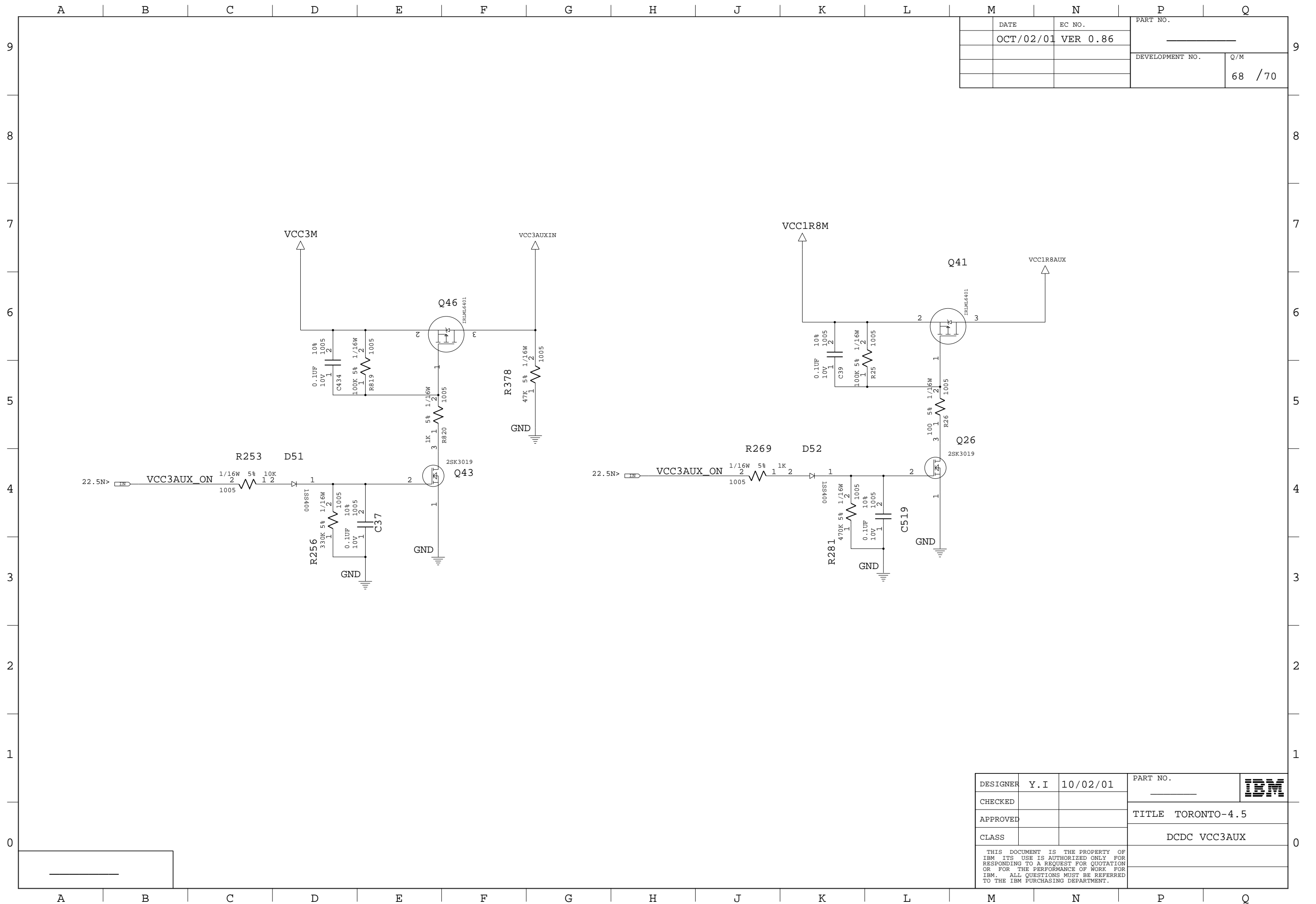
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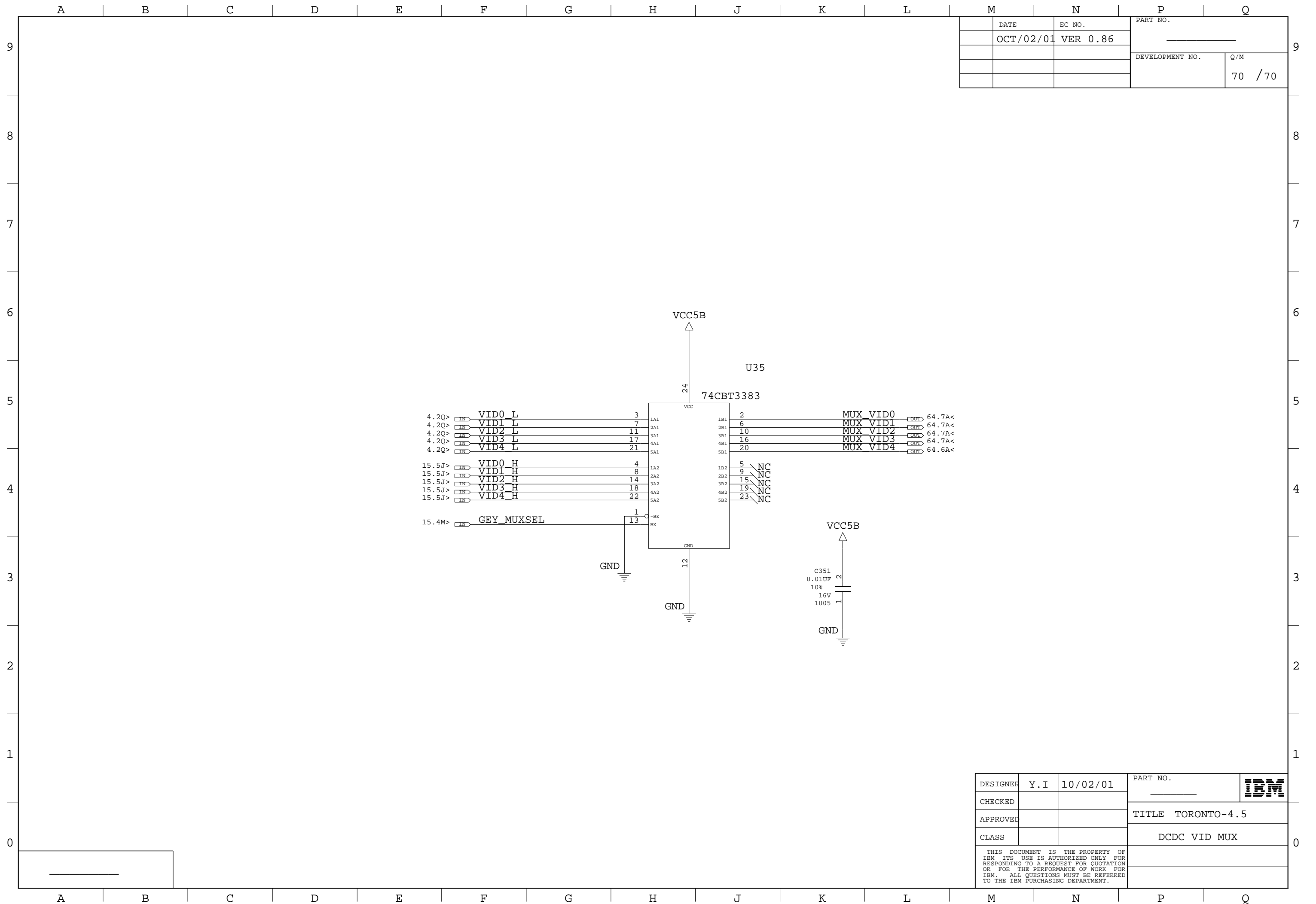
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