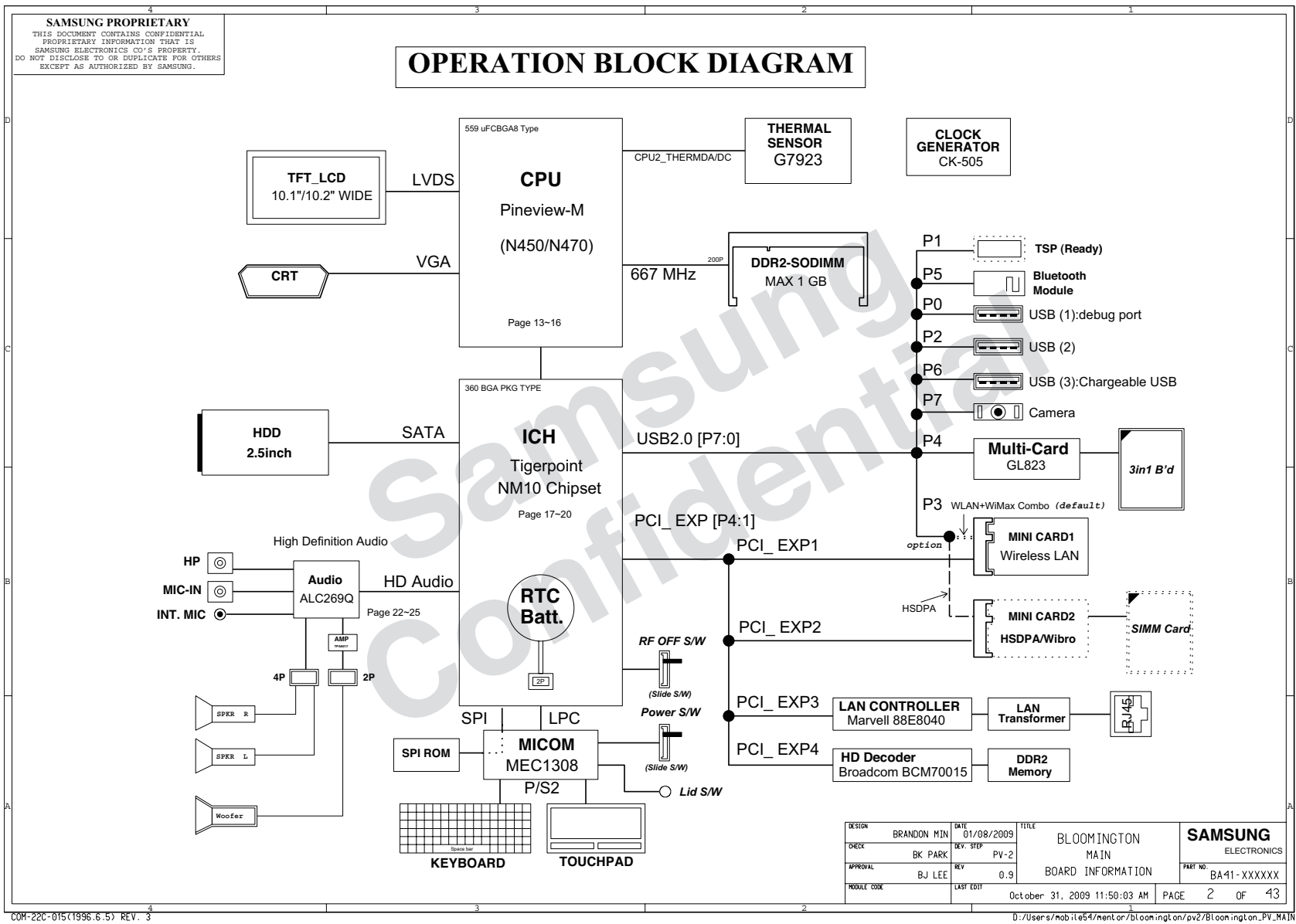


8. Block Diagram and Schematic

<p style="text-align: center;">SAMSUNG PROPRIETARY THIS DOCUMENT CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION THAT IS SAMSUNG ELECTRONICS CO.'S PROPERTY. DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS EXCEPT AS AUTHORIZED BY SAMSUNG.</p> <hr/> <h1 style="text-align: center;">Bloomington</h1> <hr/> <p>CPU : INTEL PINEVIEW-M Chip Set : INTEL TIGERPOINT-M Remarks :</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Model Name : PINE TRAIL-M PCB Part No :</p> <p>Dev. Step : PV2 Revision : 0.9 T.R. Date : 2009.11.09</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 33%;">DRAW</th> <th style="width: 33%;">CHECK</th> <th style="width: 33%;">APPROVAL</th> </tr> </thead> <tbody> <tr> <td style="height: 40px;"></td> <td></td> <td></td> </tr> <tr> <td style="height: 40px;"></td> <td></td> <td></td> </tr> </tbody> </table>	DRAW	CHECK	APPROVAL							<h3 style="text-align: center;">Table of Contents</h3> <hr/> <p>Page. 1 ---- COVER Page. 2 ---- OPERATION BLOCK DIAGRAM Page. 3 ---- BOARD INFORMATION Page. 4~6 --- POWER DIAGRAM / SEQUENCE Page. 7 ---- CLOCK DISTRIBUTION Page. 8 ---- CLOCK GENERATOR (CK-505M) Page. 9 ---- THERMAL MONITOR Page. 10~12 - PINEVIEW-M (N450/N470 CPU) Page. 13~15 - TIGERPOINT (NM10 CHIPSET) Page. 16 ---- SPI ROM & DEBUG PORT Page. 17 ---- DDR2 SODIMM Page. 18 ---- CRT CONN. Page. 19 ---- LCD(LVDS) CONN. Page. 20 ---- HD DECODER (BROADCOM BCM70015) Page. 21 ---- AUDIO CODEC (ALC269Q-GR) Page. 22 ---- AMP & WOOFER Page. 23 ---- HP & MIC & INT. MIC Page. 24 ---- LAN (10/100) Page. 25 ---- HDD CONNECTOR (SATA) Page. 26 ---- MINI-CARD (Wireless & HSDPA/WIBRO) Page. 27 ---- USB Page. 28 ---- BT & CAMERA & TSP Page. 29 ---- CARDBUS CONTROLLER (GL823) Page. 30 ---- MICOM (MEC1308) Page. 31 ---- KBD CONN & MICOM GLUE LOGIC Page. 32 ---- LED Logic Page. 33 ---- Free Fall Sensor Page. 34 ---- CPU VRM POWER (VCC CORE) Page. 35 ---- CHIPSET POWER (P1.05V, P1.5V & P1.2V) Page. 36 ---- DDR2 POWER Page. 37 ---- P3.3V AUX & P5V_AUX Page. 38 ---- CHARGER Page. 39 ---- GRAPHICS POWER (P0.89V) Page. 40 ---- SWITCHED POWER Page. 41 ---- POWER DISCHARGER Page. 42 ---- BLANK PAGE (TBD) Page. 43 ---- MOUNT HOLE Page. 44~45 - TEST POINTS</p>
DRAW	CHECK	APPROVAL								

8. Block Diagram and Schematic



8. Block Diagram and Schematic

SAMSUNG PROPRIETARY
 THIS DOCUMENT CONTAINS CONFIDENTIAL
 PROPRIETARY INFORMATION THAT IS
 SAMSUNG ELECTRONICS CO.'S PROPERTY.
 DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS
 EXCEPT AS AUTHORIZED BY SAMSUNG.

BOARD INFORMATION

SCHEMATIC ANNOTATIONS AND BOARD INFORMATION

PCI Devices

Devices	IDSEL#	REQ/GNT#	Interrupts
USB Hub to PCI LPC Bridge/IDE/AC97/SMBUS Internal MAC	AD29(internal) AD30(internal) AD31(internal) AD24(internal)	Programable	

I²C / SMB Address

Devices	Address	Hex	Bus
ICH7M	Master		SMBUS Master
CK-SBSM (Clock Generator)	1101 001X	D2h	Clock, Unused Clock Output Disable
SCDIMM0	1010 000X	A6h	
CPU Thermal Sensor	0111 101X	7Ah	Thermal Sensor

USB PORT Assign

Port Number	ASSIGNED TO	Port Number	ASSIGNED TO
UHCL_0	0 USB PORT	UHCL_2	4 USB PORT
	3-IN-1		1 USB PORT
UHCL_1	2 Wireless LAN	UHCL_3	6 HSDPA
	3 BLUETOOTH		7 CAMERA

PCI Express Assign

Port Number	ASSIGNED TO
1	Mini Card 1(Wireless LAN)
2	Mini Card 2 (HSDPA/Wibro)
3	LOM

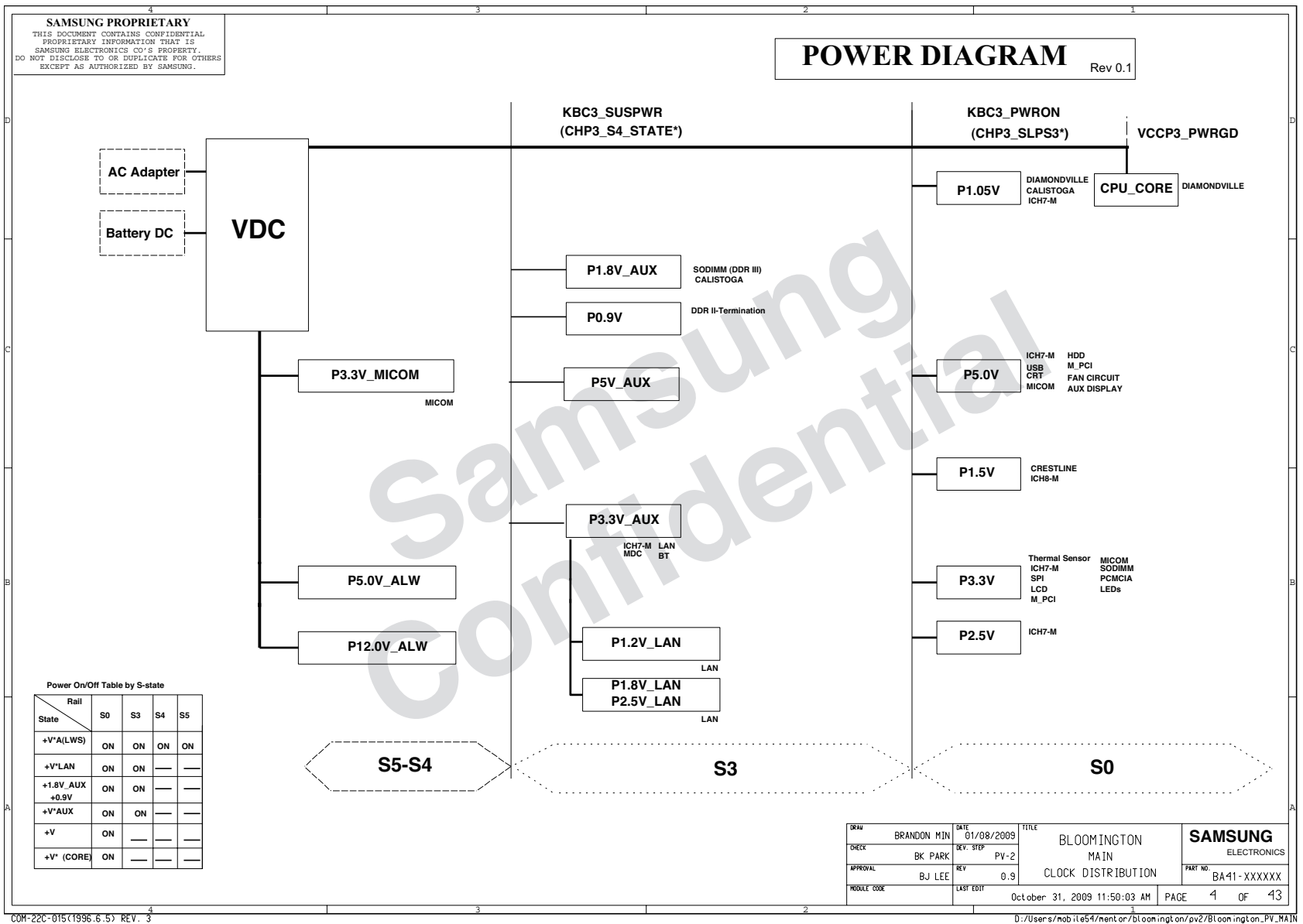
Voltage Rails

Power Rail	Descriptions
PRTC_BAT	3.3V (can drop to 2.0V min. in G3 state) supply for the RTC well.
VDC	Primary DC system power supply (9 to 19V)
P1.05V(VCCP)	VTT for CPU, Callisoga & ICH7-M
P3.3V_MICOM	3.3V always power rail(for Micom)
P1.5V	1.5V switched power rail (off in S3-S5)
P1.8V_AUX	1.8V power rail for DDR (off in S4-S5)
P0.9V	0.9V power rail for DDR (off in S4-S5)
P5V_AUX	5.0V power rail (off in S4-S5)
P3.3V_AUX	3.3V power rail (off in S4-S5)
P5V	5.0V switched power rail (off in S3-S5)
P3.3V	3.3V switched power rail (off in S3-S5)
CPU_CORE	Core voltage for Atom CPU

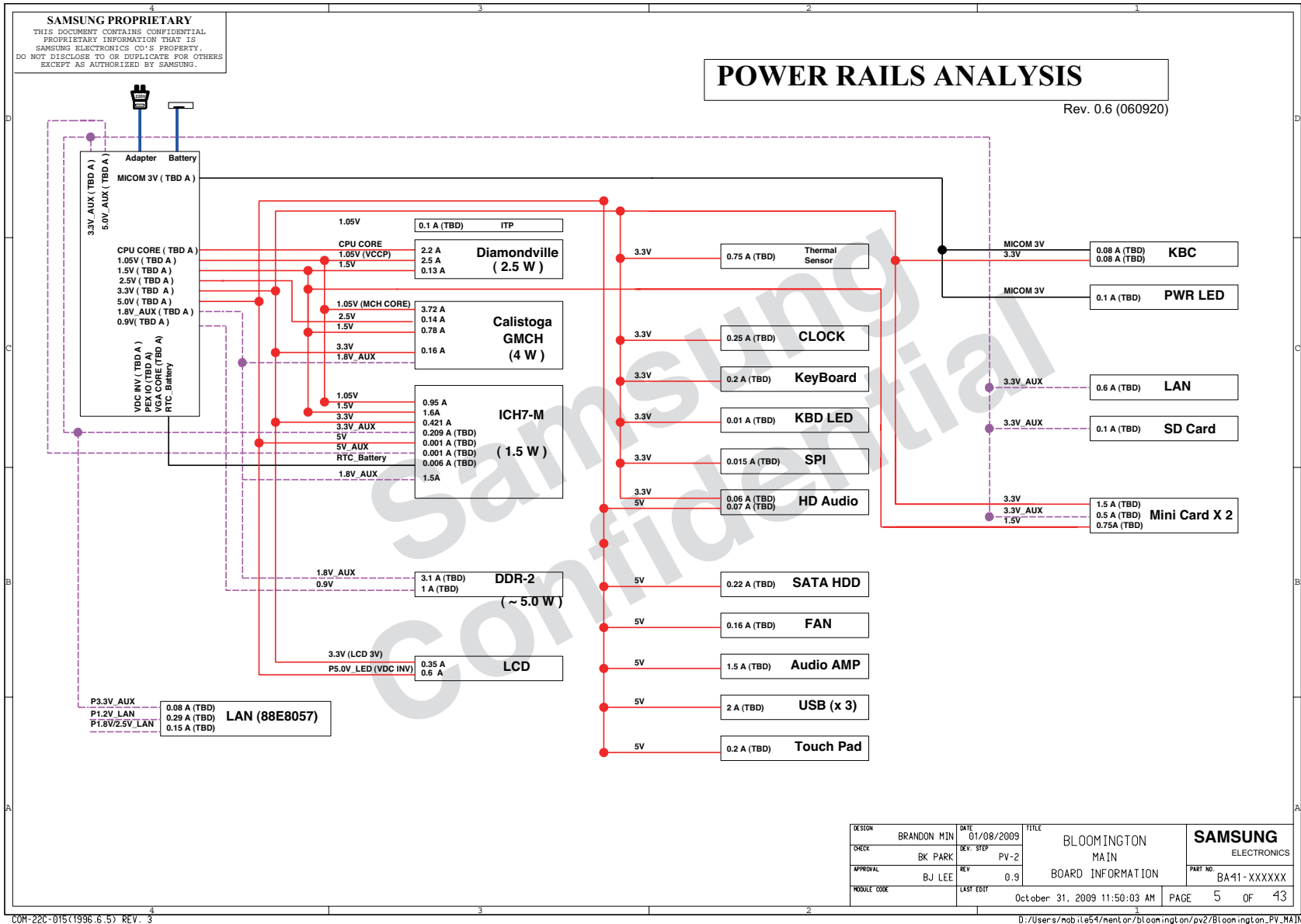
DRAWN	BRANDON MIN	DATE	01/08/2009	TITLE	BLOOMINGTON MAIN POWER SEQUENCE	SAMSUNG ELECTRONICS
CHECK	BK PARK	REV. STEP	PV-2			PART NO. BA41-XXXXXX
APPROVAL	BJ LEE	REV	0.9			
MODULE CODE		LAST EDIT	October 31, 2009 11:50:03 AM	PAGE	3	OF 43

COM-22C-015(1996.6.5) REV. 3
D:\Users\mobile54\menton\blcom\ngl\on\pv2\Bloomington_PV_NA1R

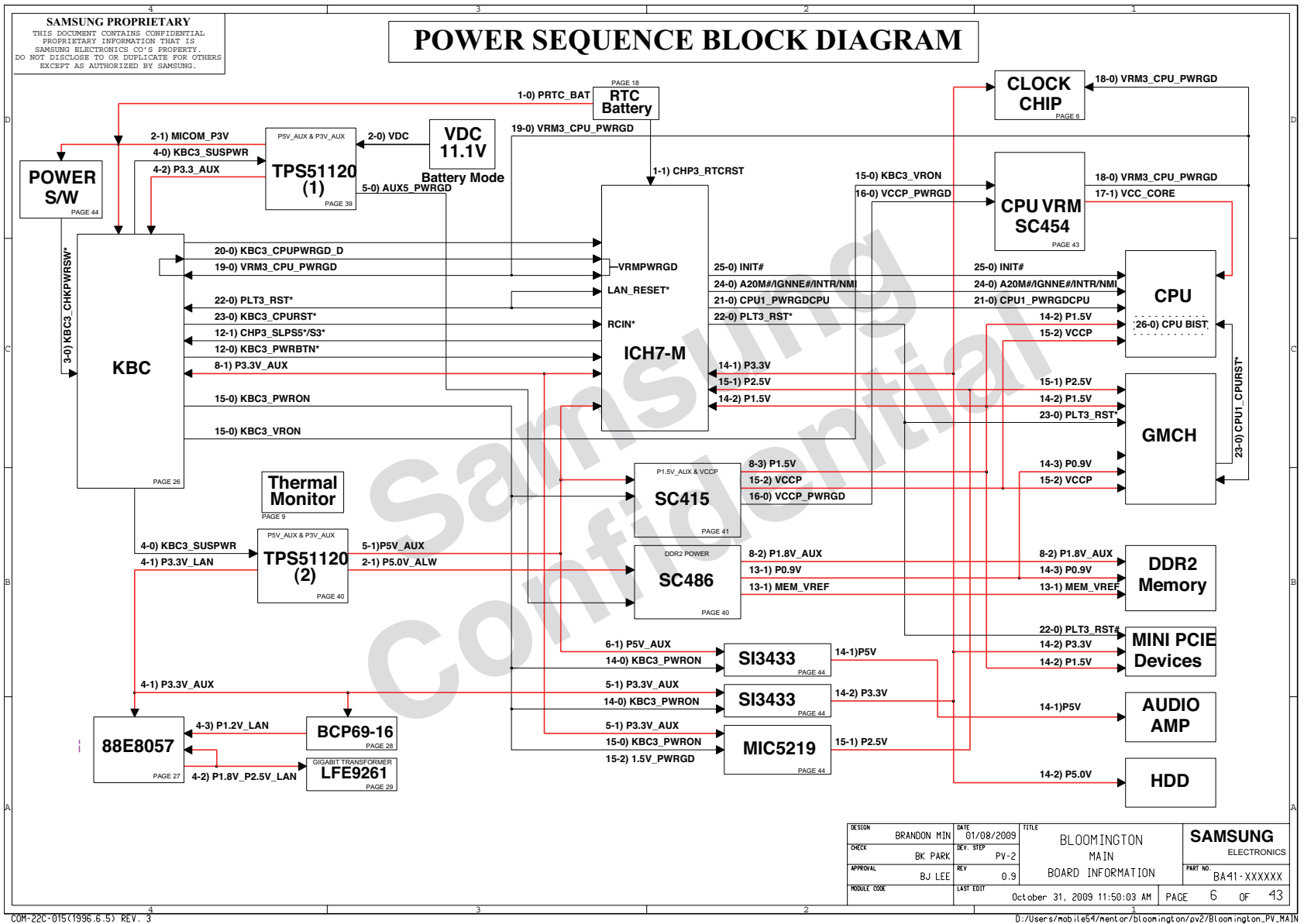
8. Block Diagram and Schematic



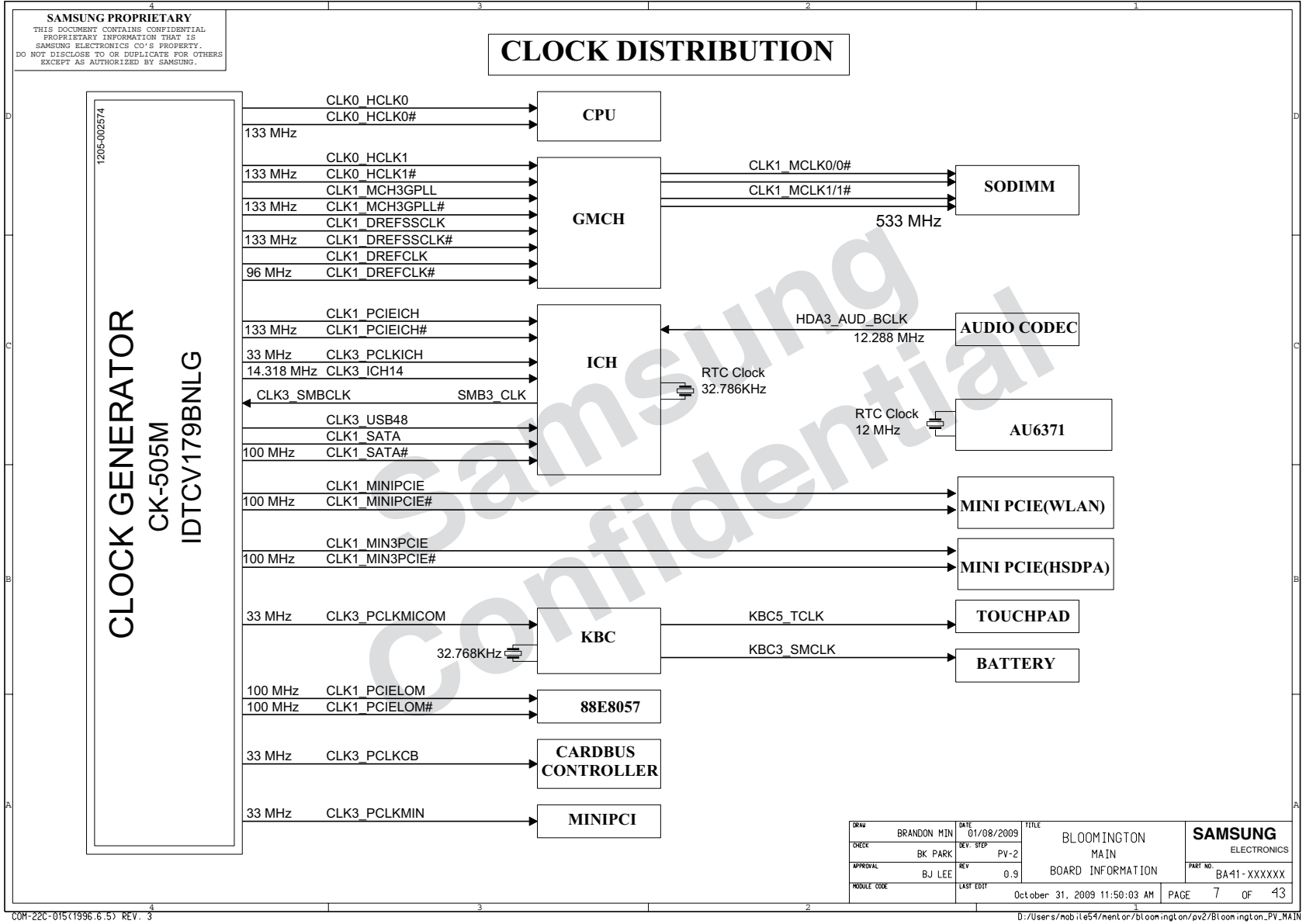
8. Block Diagram and Schematic



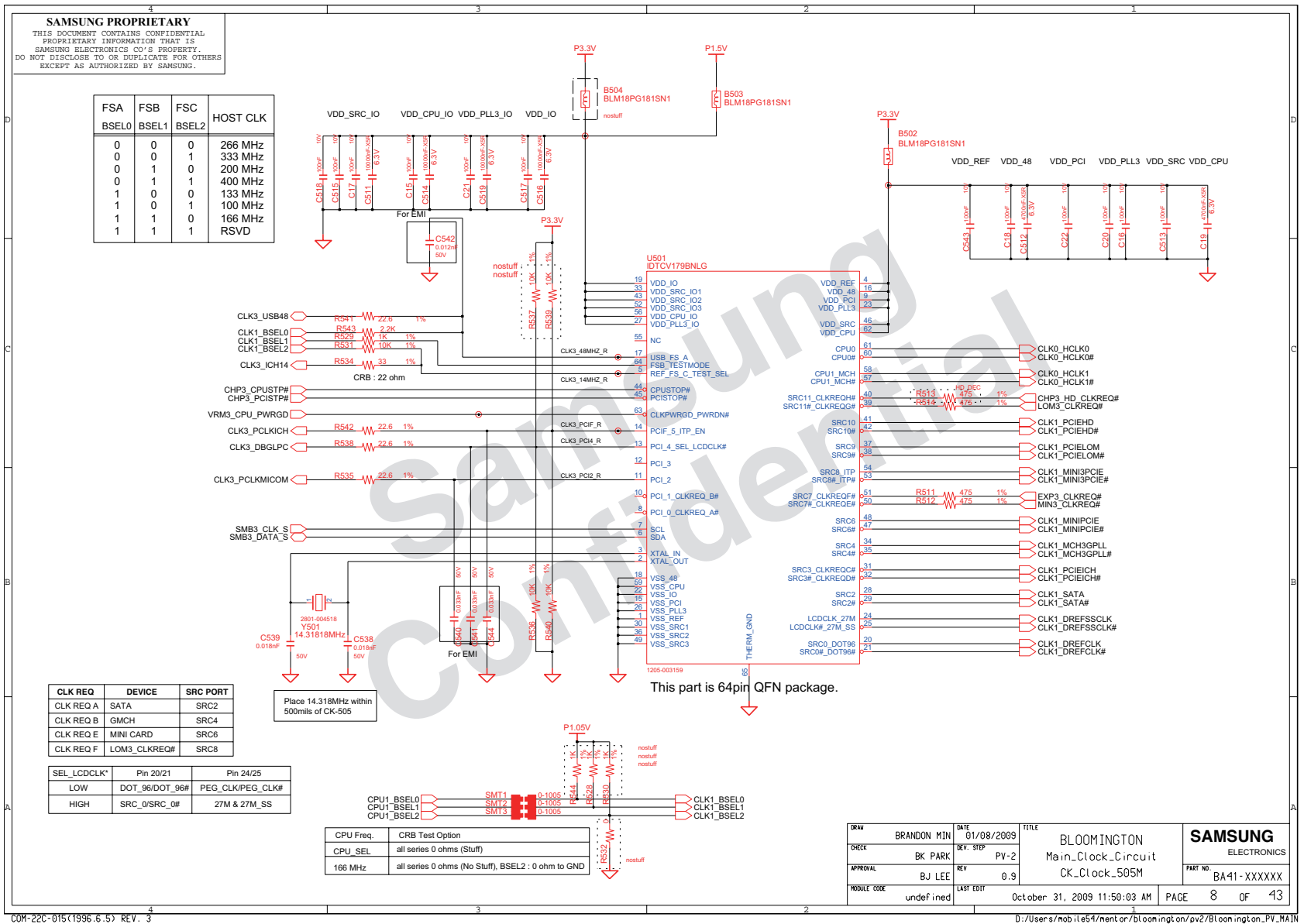
8. Block Diagram and Schematic



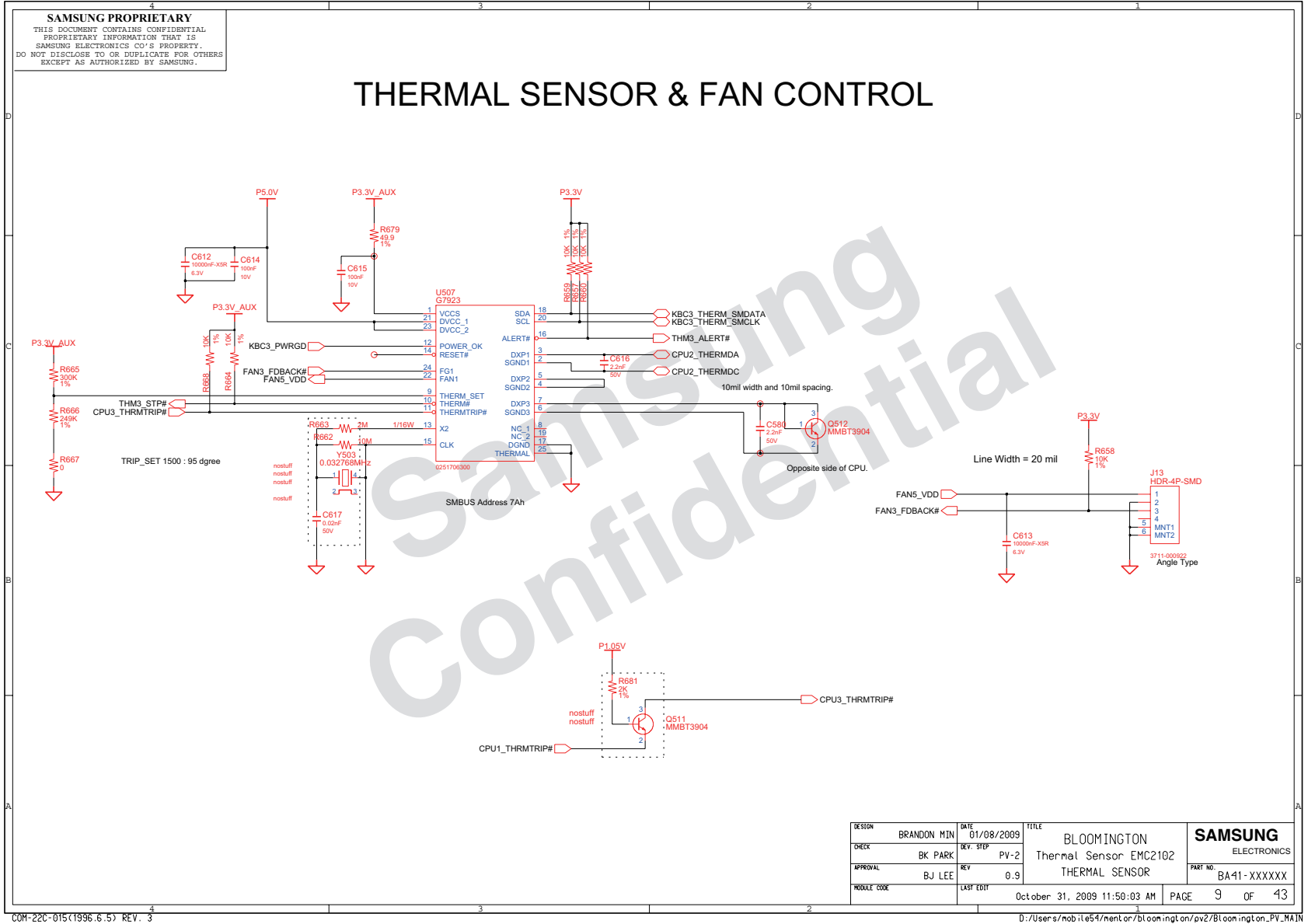
8. Block Diagram and Schematic



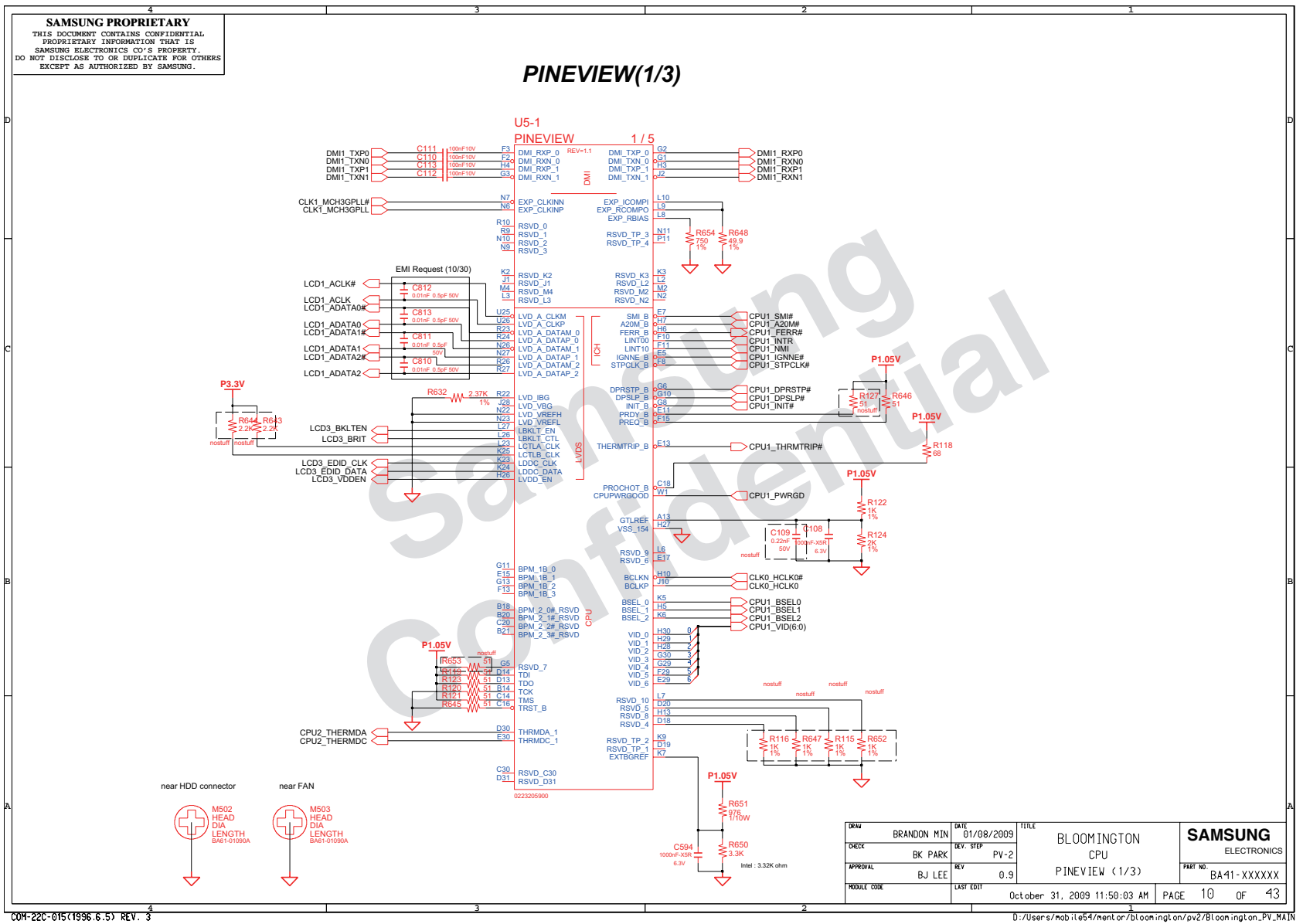
8. Block Diagram and Schematic



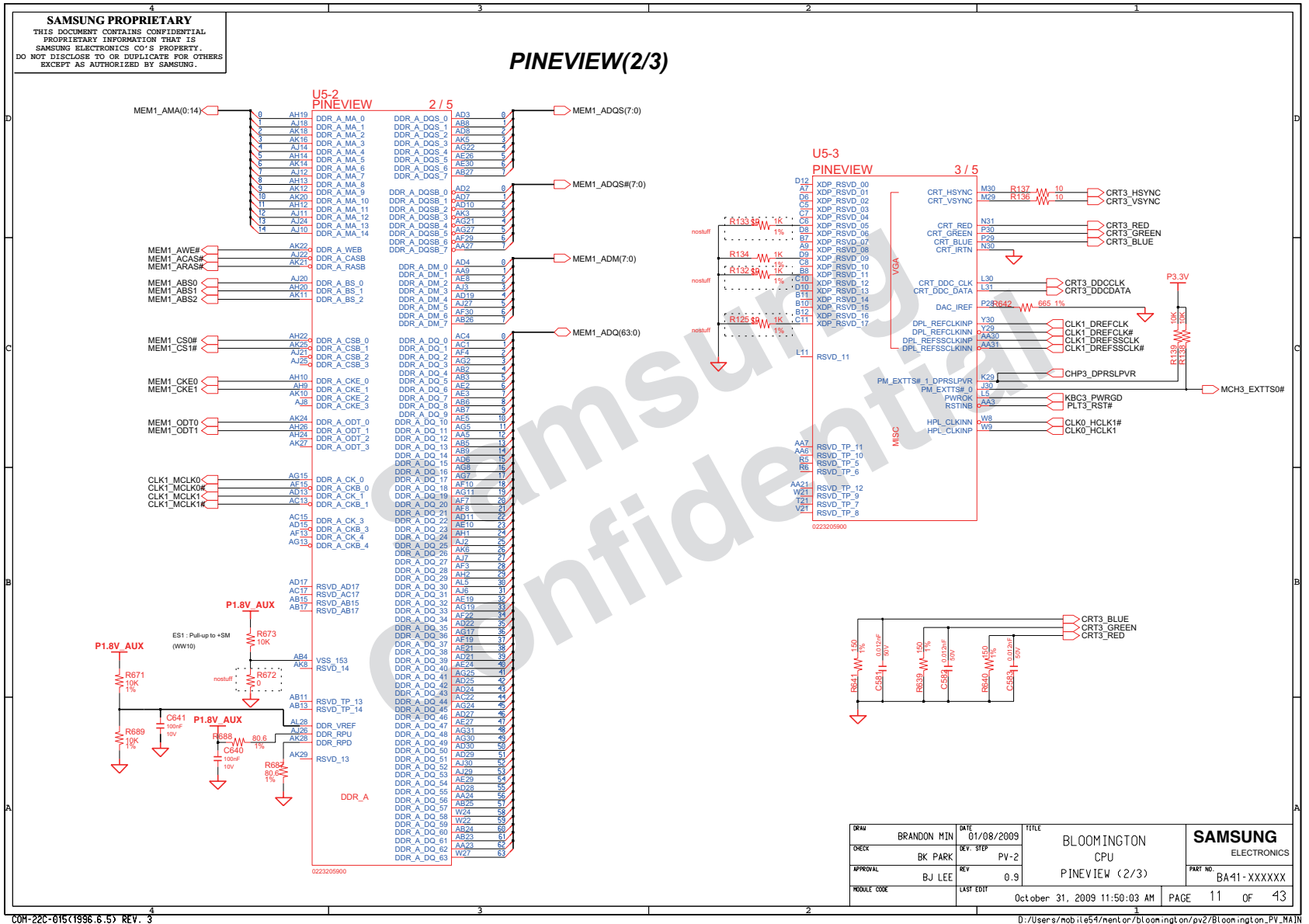
8. Block Diagram and Schematic



8. Block Diagram and Schematic

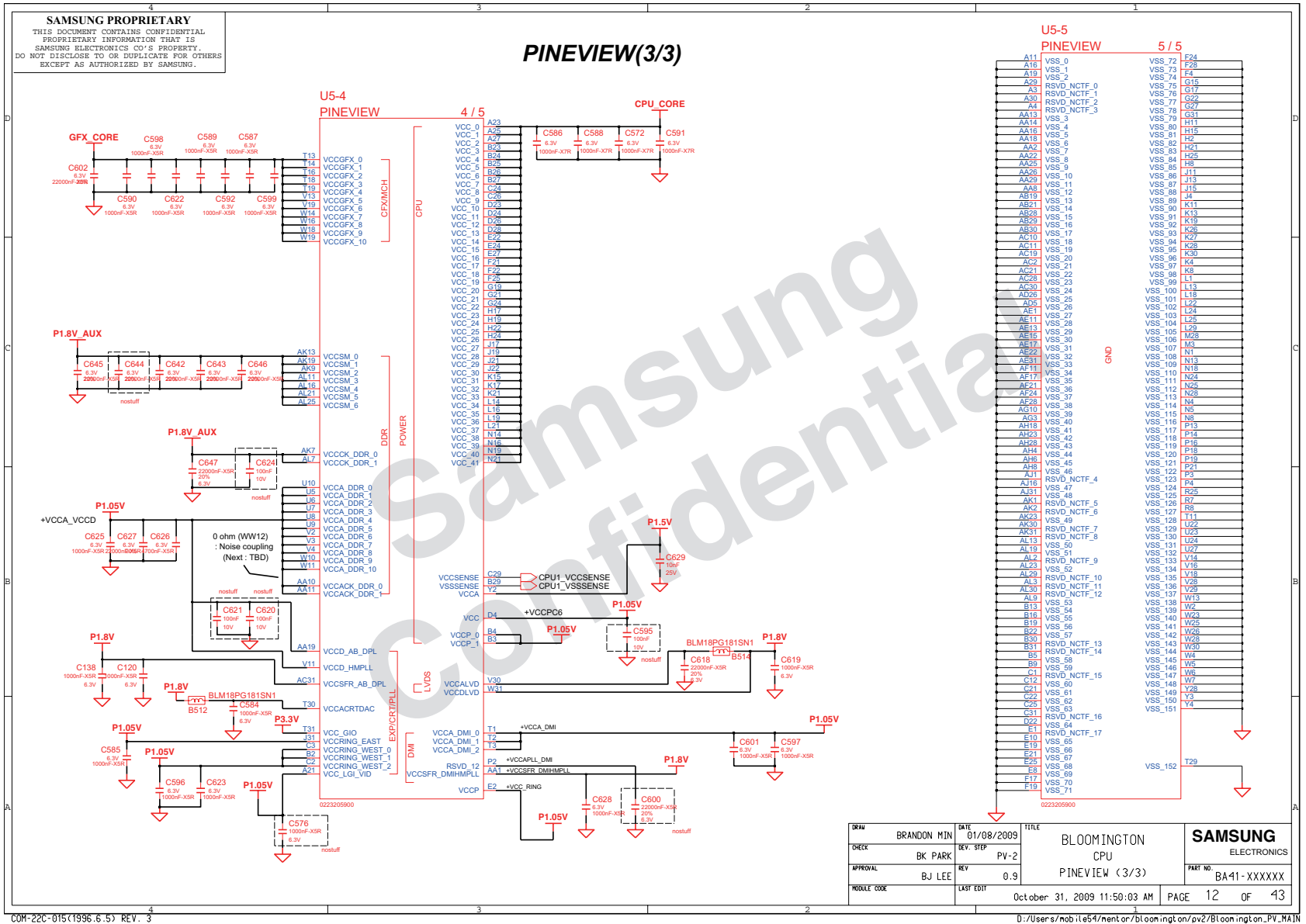


8. Block Diagram and Schematic

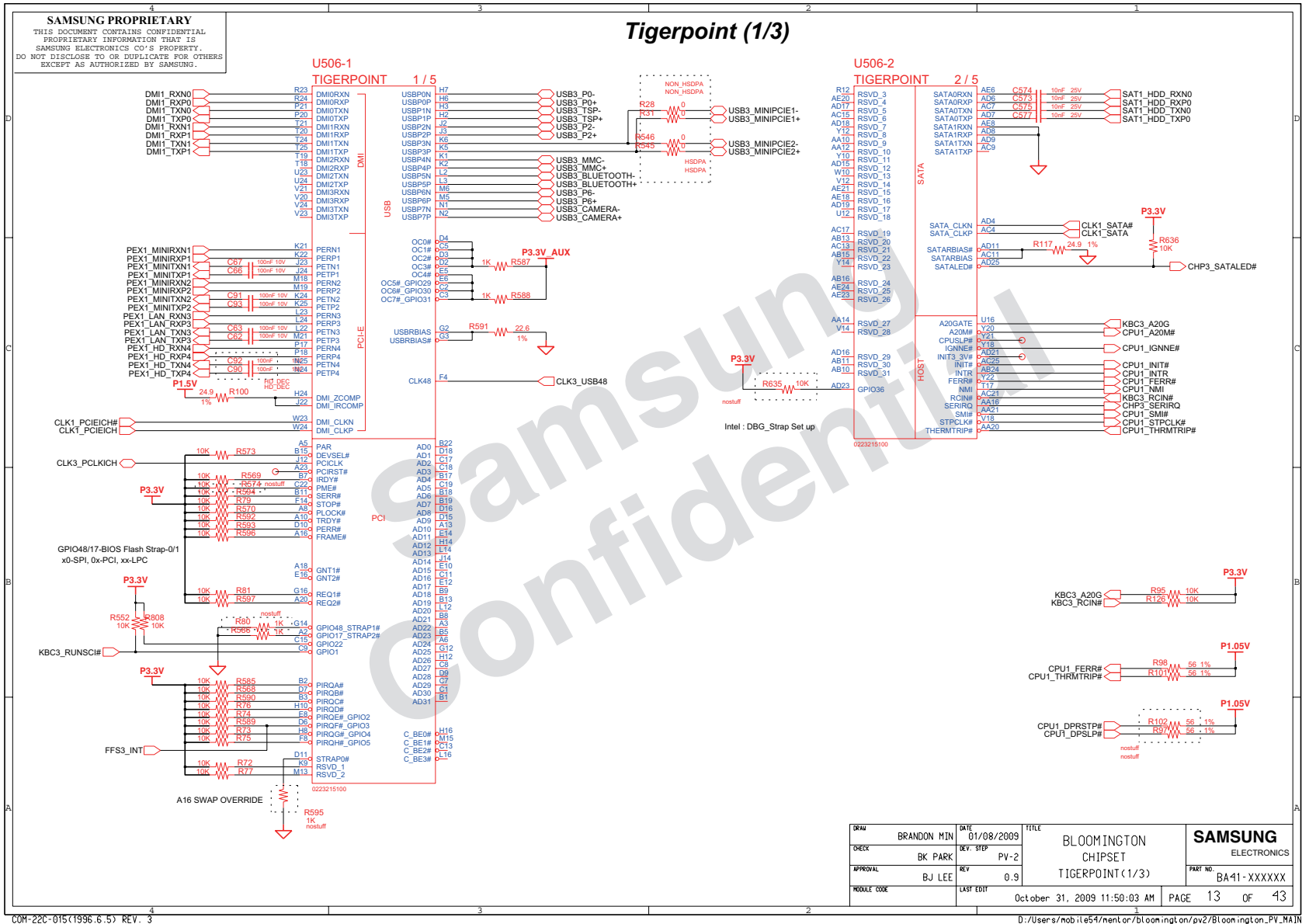


DRAW	BRANDON MIN	DATE	01/08/2009	TITLE	BLOOMINGTON CPU	SAMSUNG ELECTRONICS
CHECK	BK PARK	REV.	31P	PV-2	PINEVIEW (2/3)	
APPROVAL	BJ LEE	REV.	0.9			PART NO. BA41-XXXXXX
MODULE CODE		LAST EDIT	October 31, 2009 11:50:03 AM	PAGE	11	OF 43

8. Block Diagram and Schematic

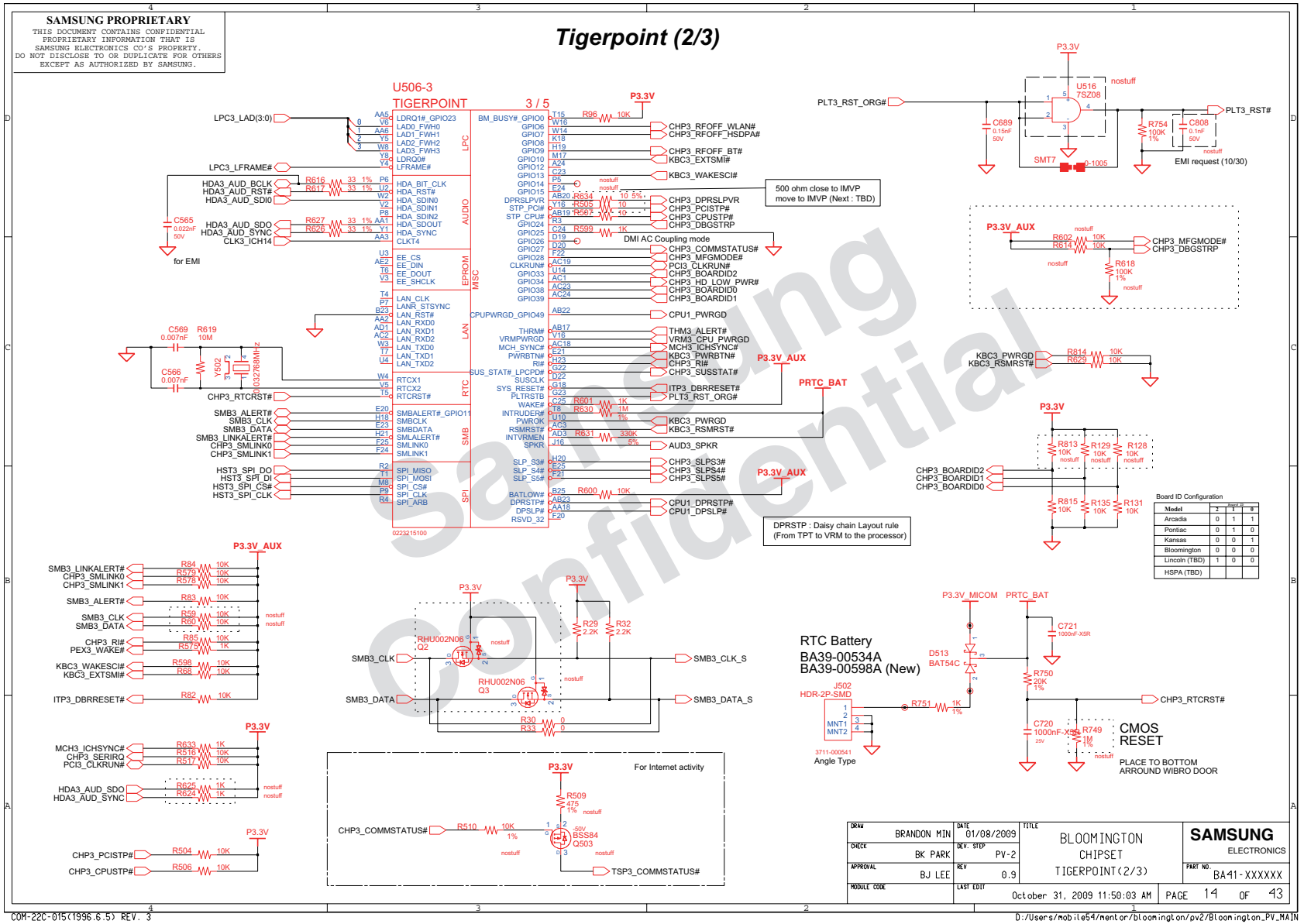


8. Block Diagram and Schematic

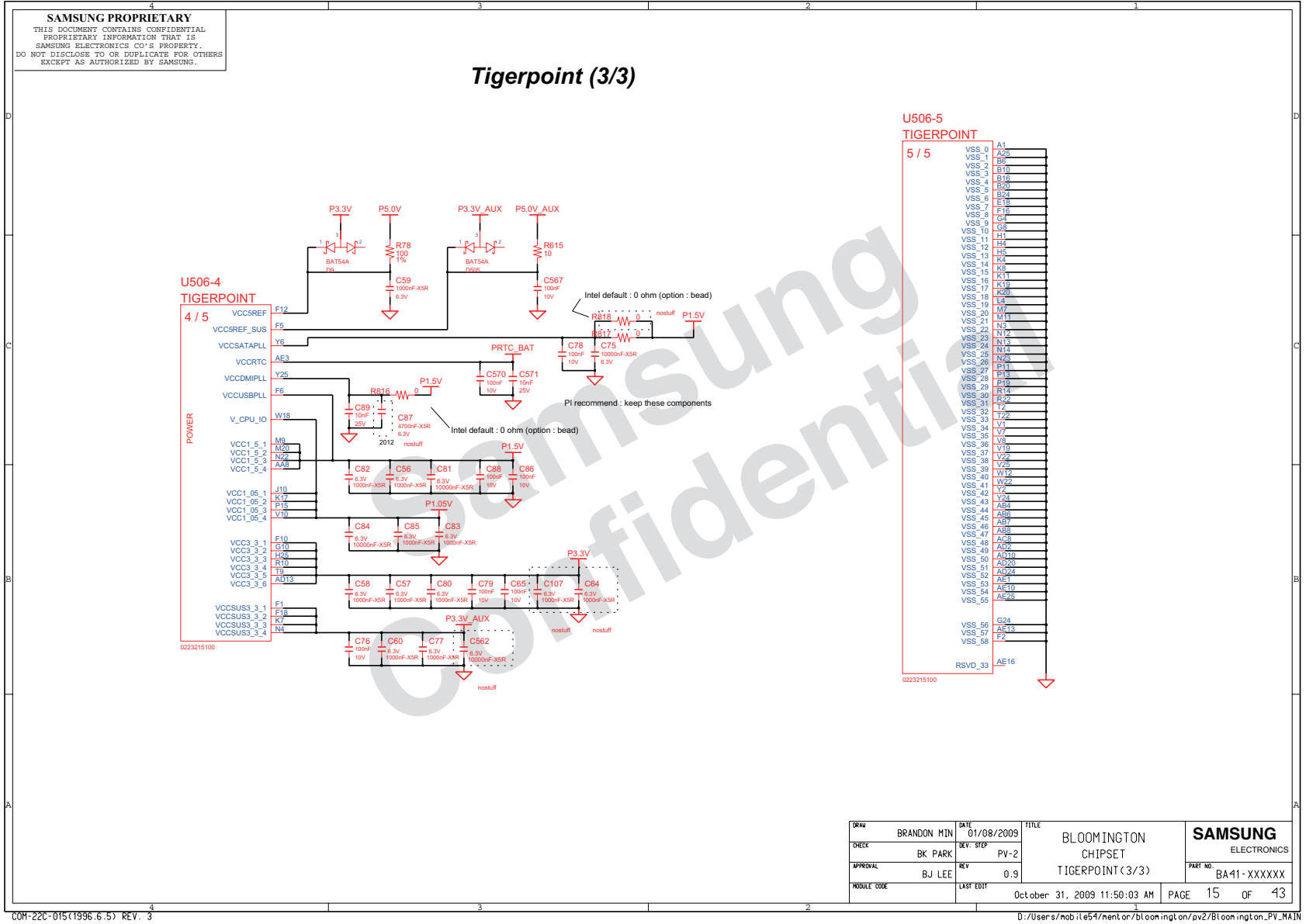


DRW	BRANDON MIN	DATE	01/08/2009	TITLE	BLOOMINGTON CHIPSET	SAMSUNG ELECTRONICS
CHECK	BK PARK	REV. STRIP	PV-2	TIGERPOINT (1/3)		
APPROVAL	BJ LEE	REV	0.9			PART NO. BA41-XXXXXX
MODULE CODE	LAST EDIT		October 31, 2009 11:50:03 AM		PAGE	13 OF 43

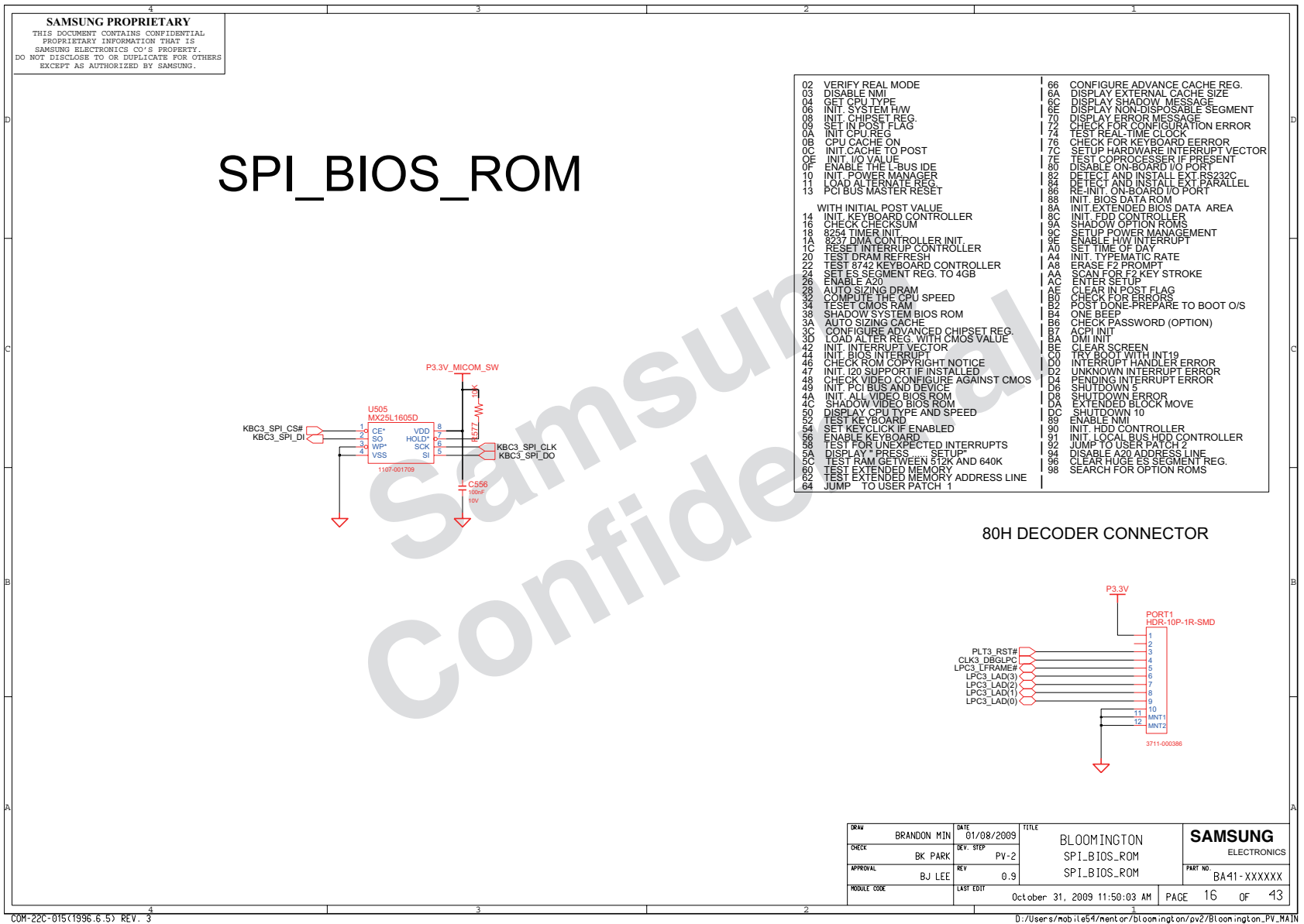
8. Block Diagram and Schematic



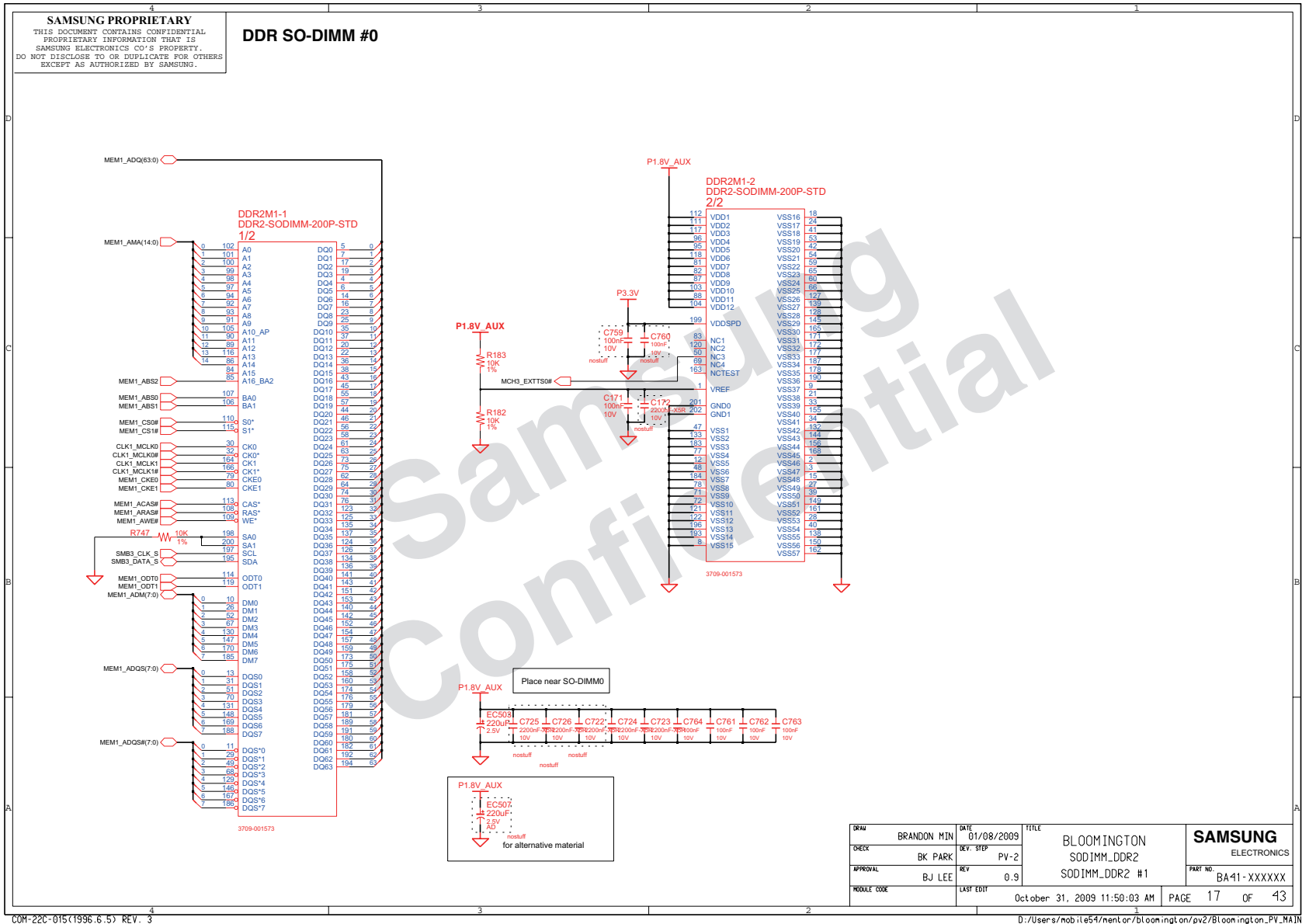
8. Block Diagram and Schematic



8. Block Diagram and Schematic

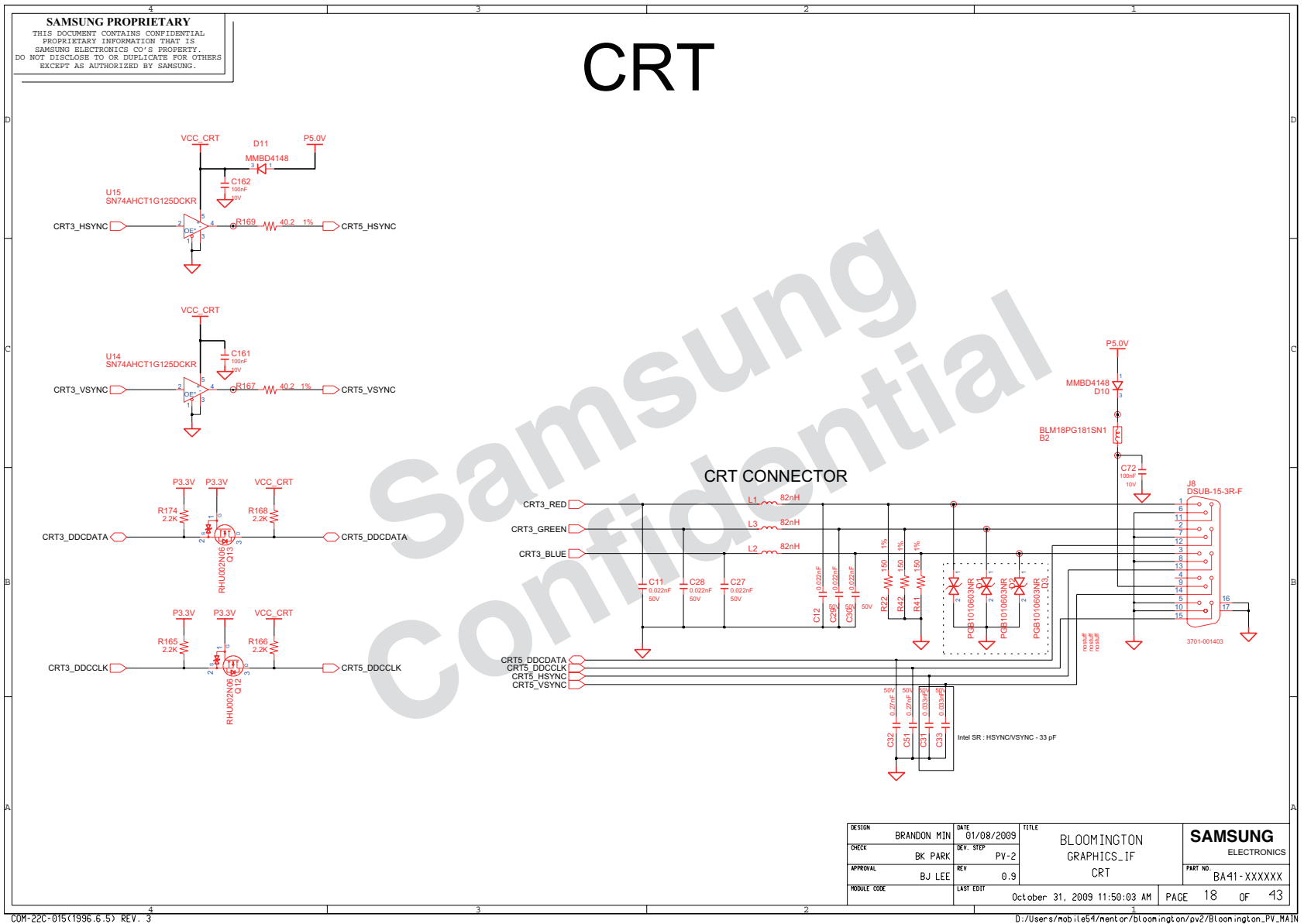


8. Block Diagram and Schematic

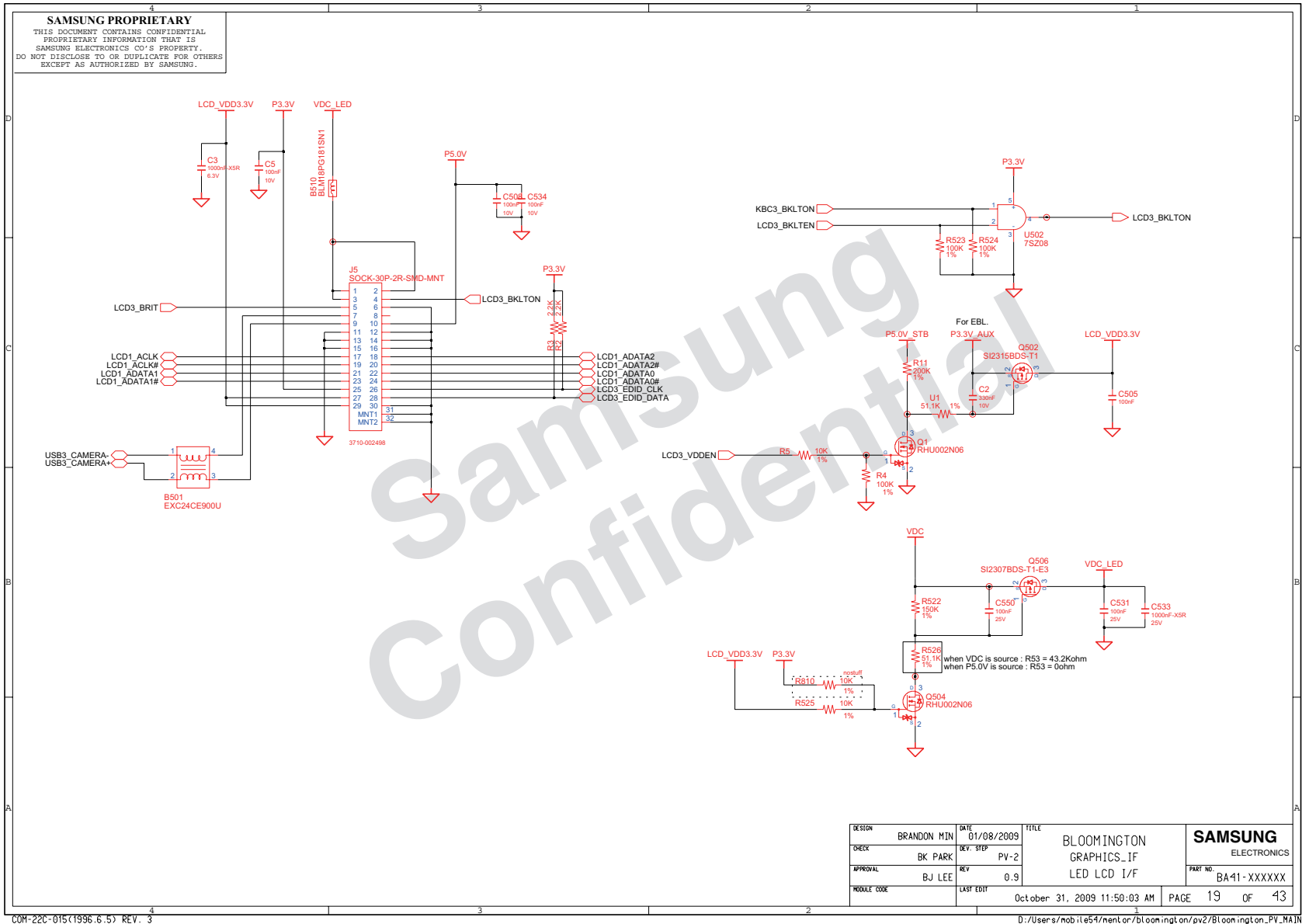


DRAW	BRANDON MIN	DATE	01/08/2009	TITLE	BLOOMINGTON	SAMSUNG ELECTRONICS
CHECK	BK PARK	REV.	31P	PV-2	SODIMM_DDR2	
APPROVAL	BJ LEE	REV.	0.9		SODIMM_DDR2 #1	PART NO. BA41-XXXXXX
MODULE CODE		LAST EDIT	October 31, 2009 11:50:03 AM	PAGE	17	OF 43

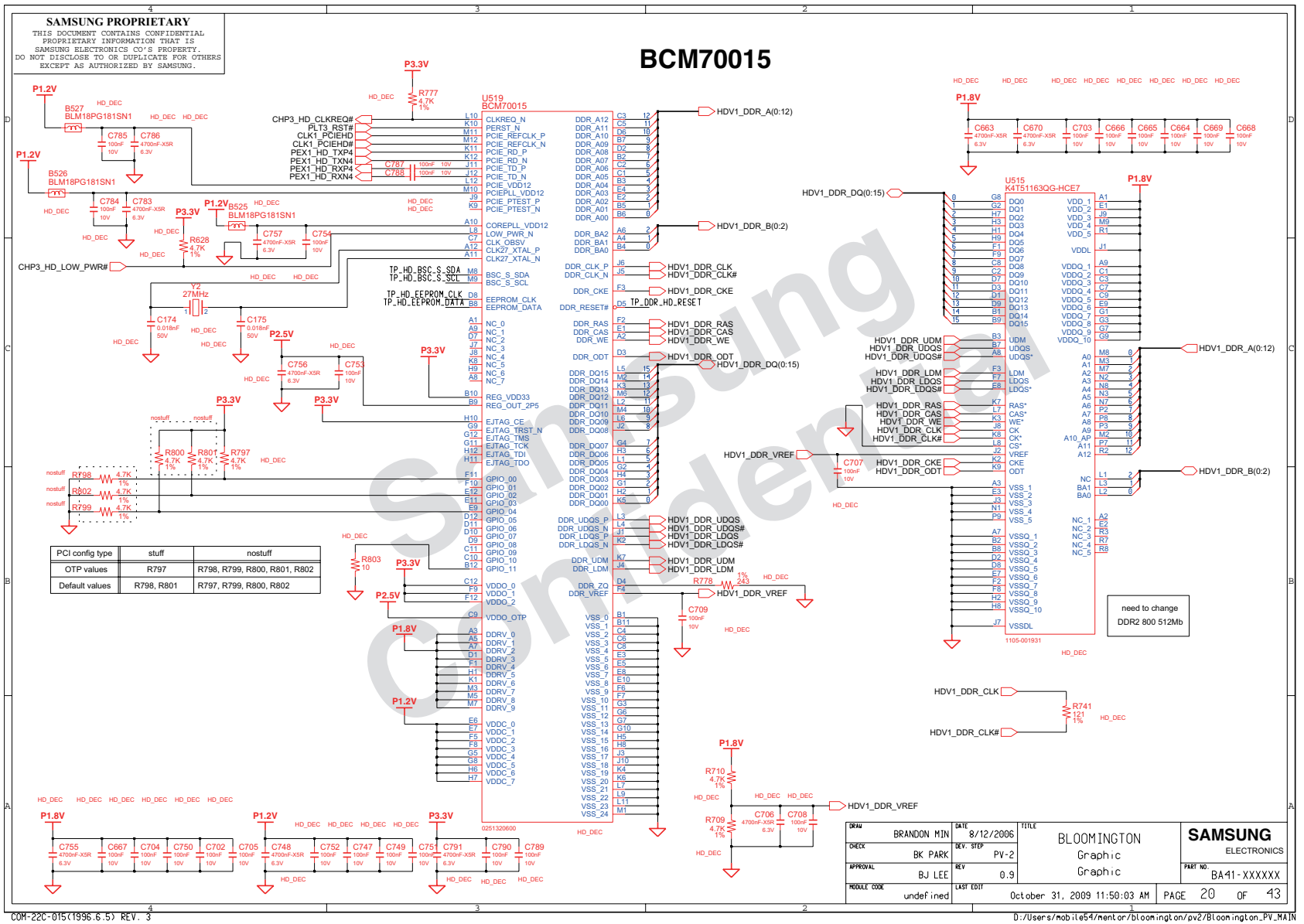
8. Block Diagram and Schematic



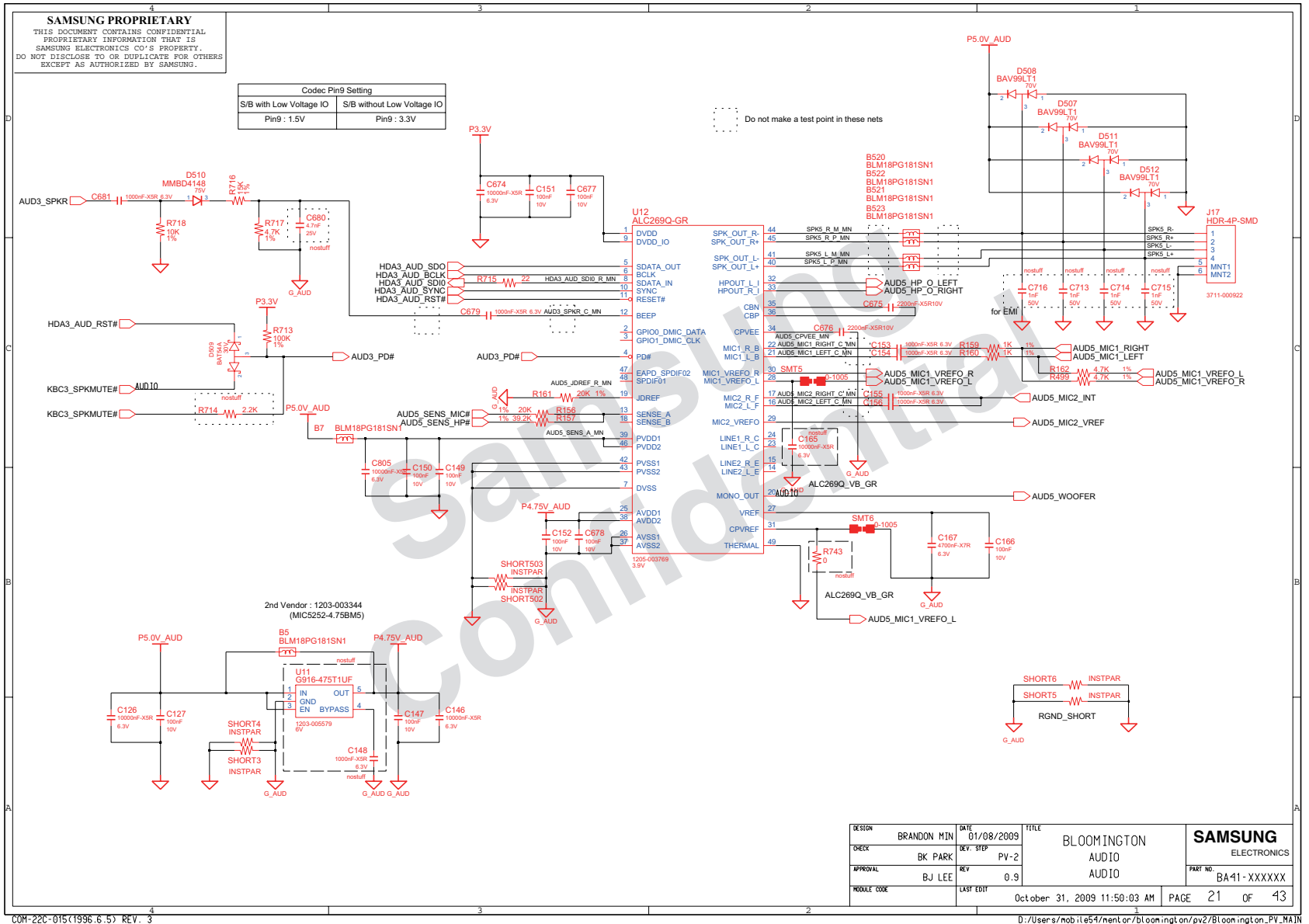
8. Block Diagram and Schematic



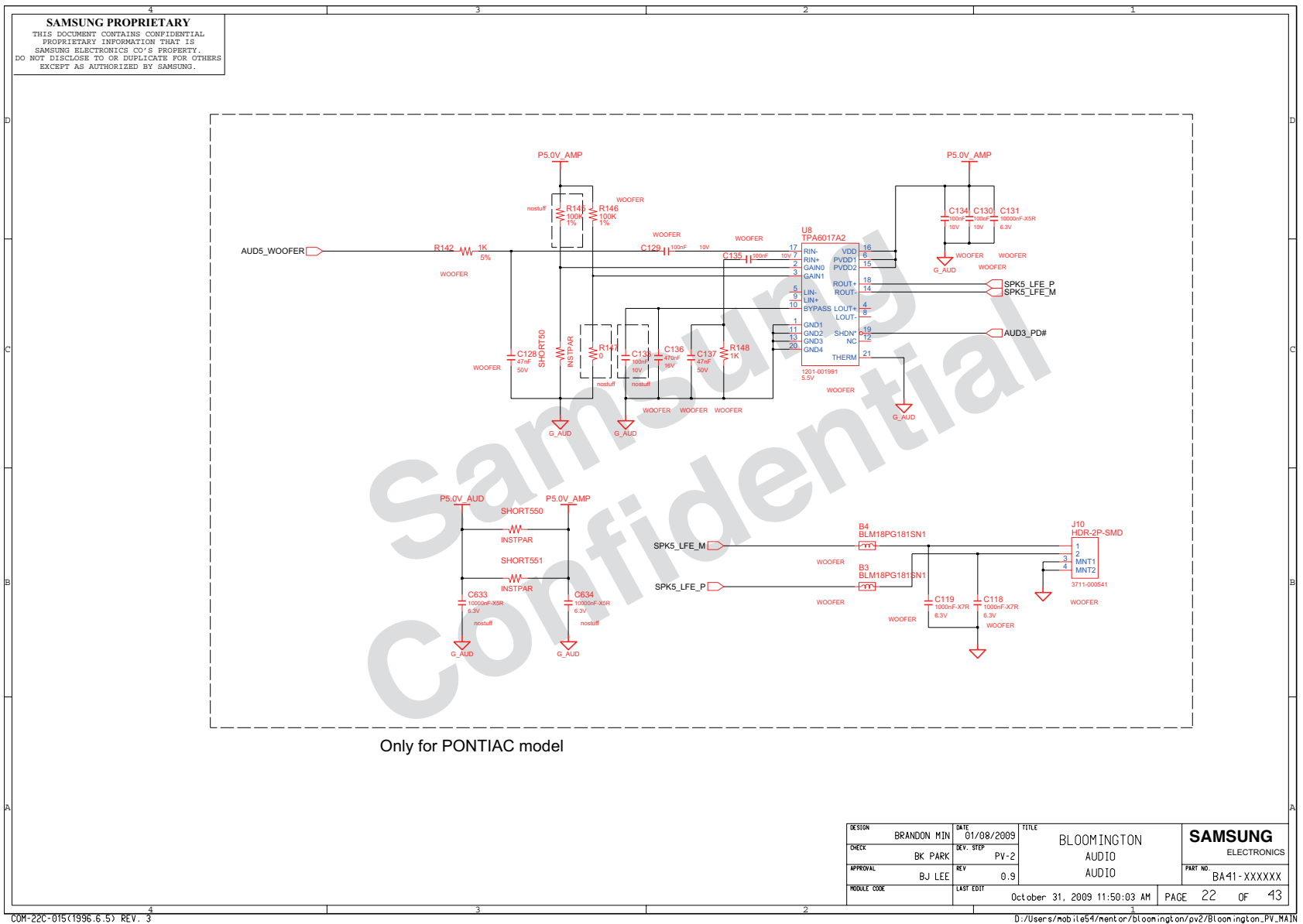
8. Block Diagram and Schematic



8. Block Diagram and Schematic



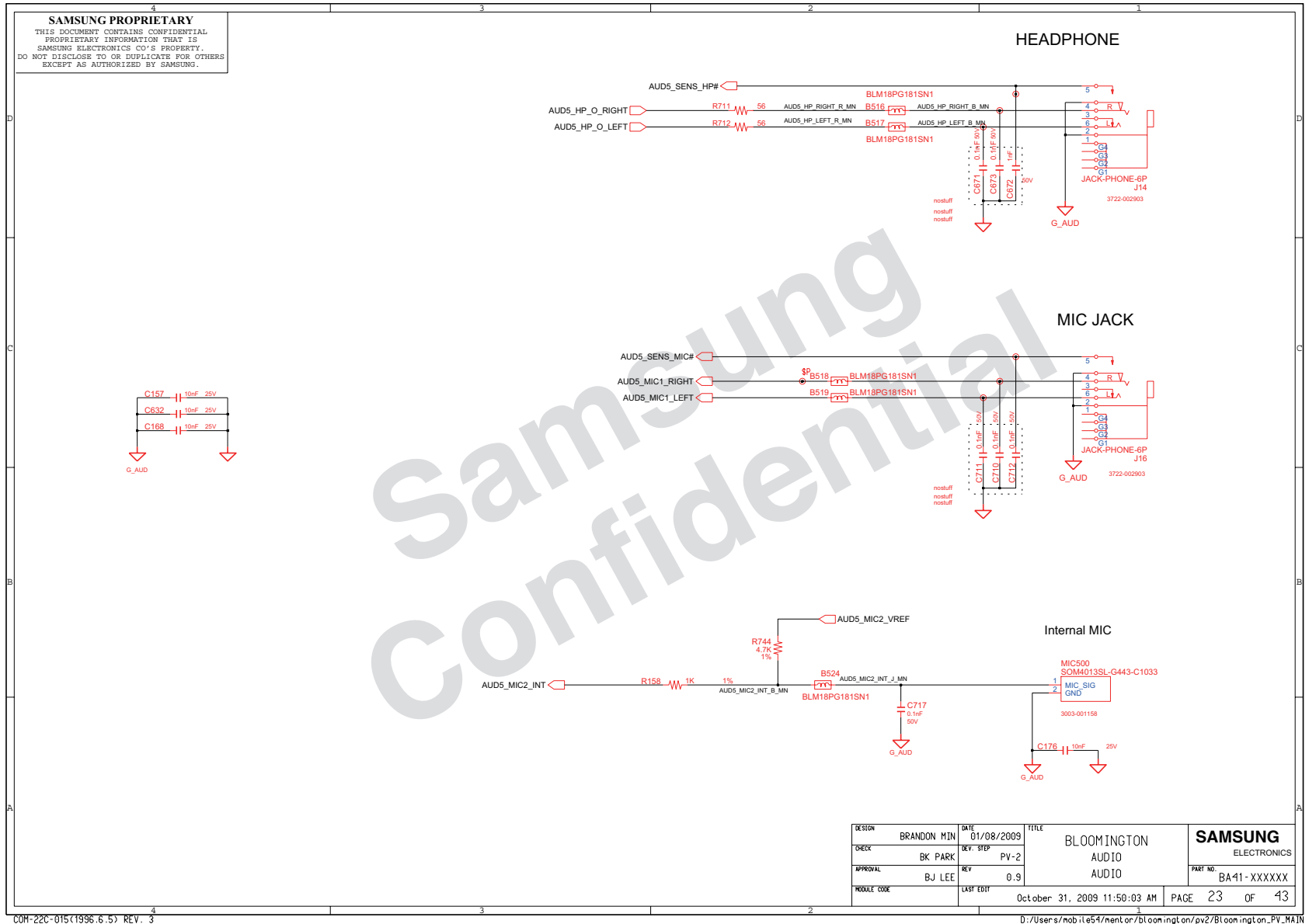
8. Block Diagram and Schematic



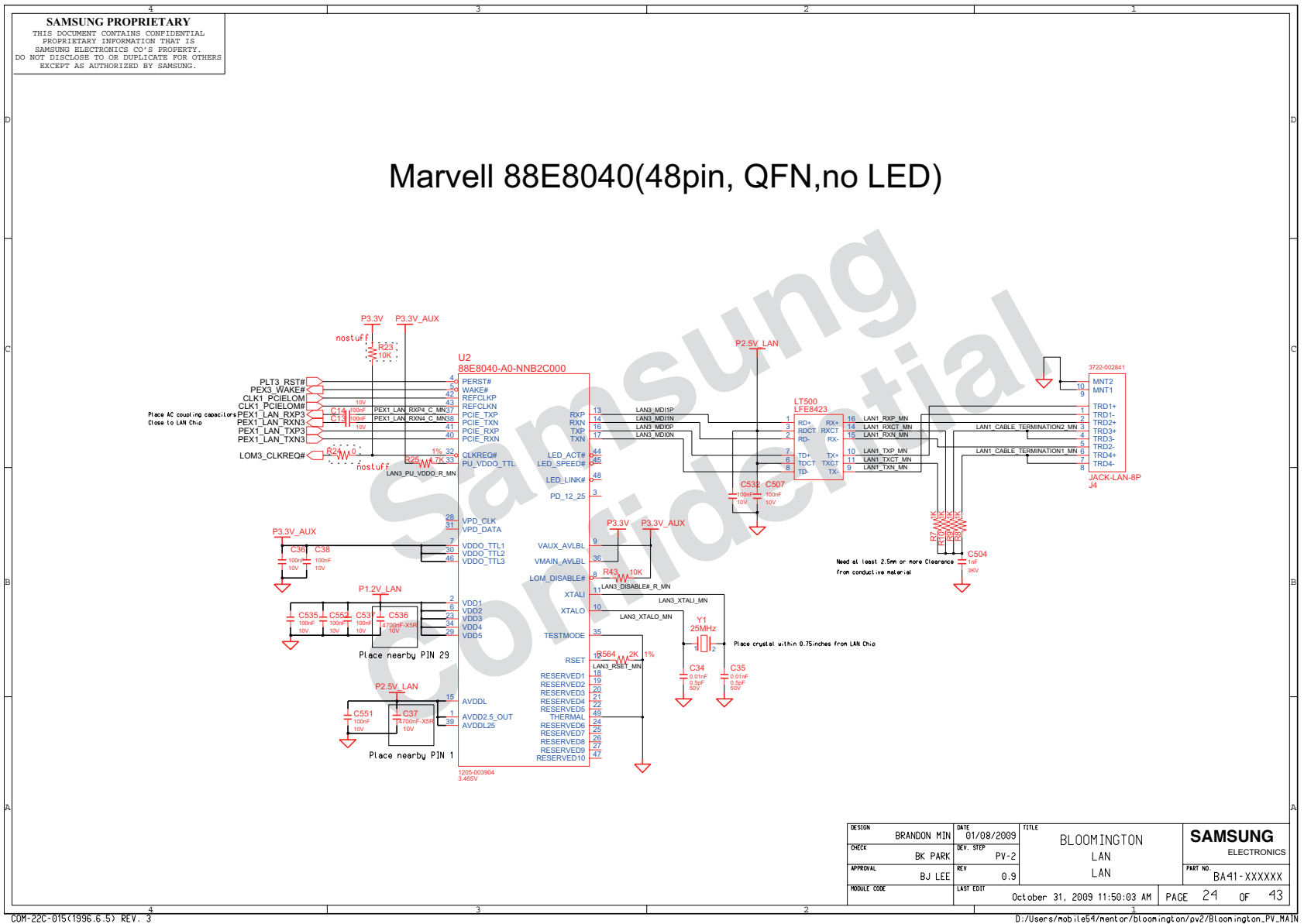
COM-22C-015(1996.6.5) REV. 3

D:\Users\nob.ile47\entor\blom\ngt\pv2\Bloomington_PV_MAIN

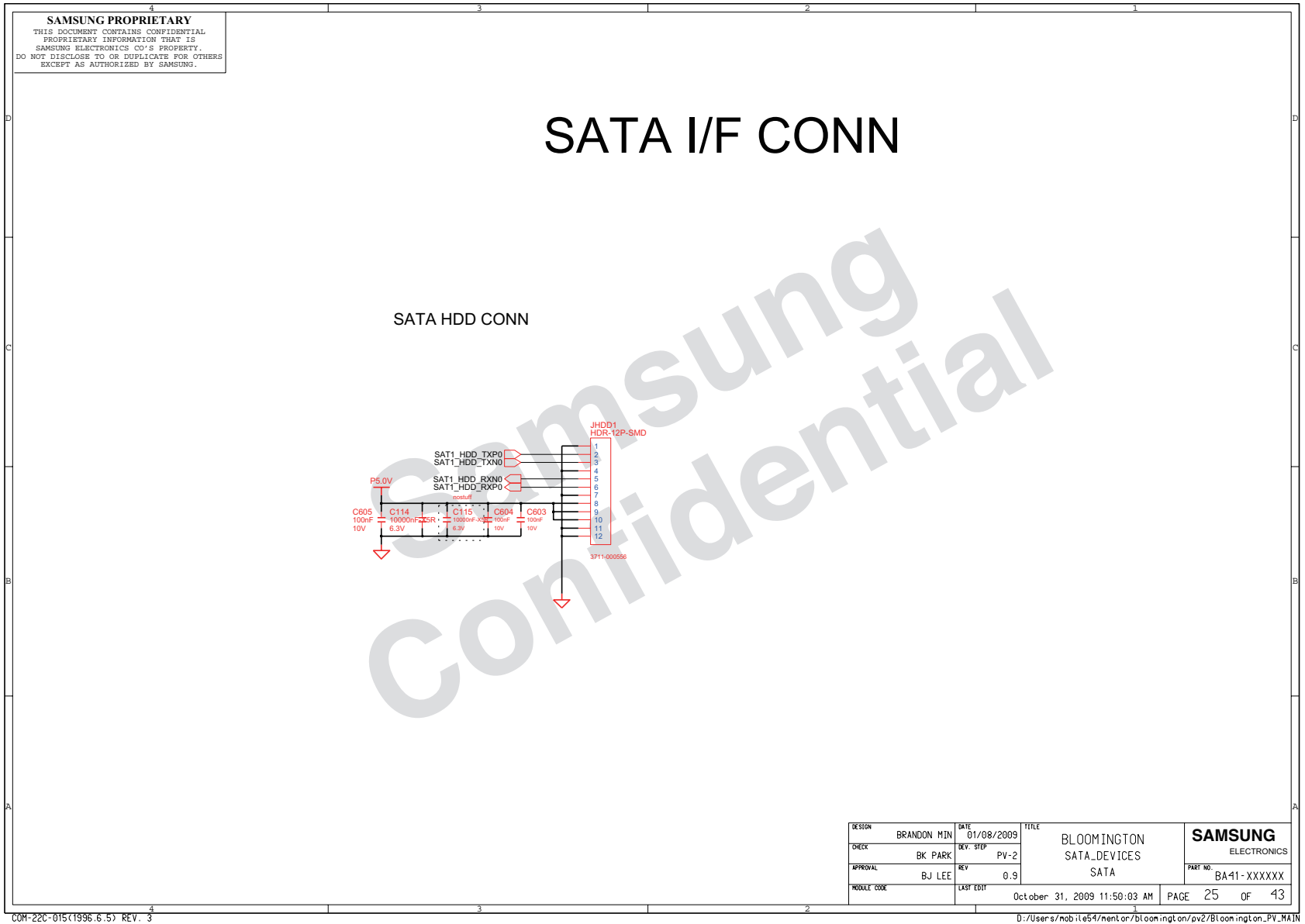
8. Block Diagram and Schematic



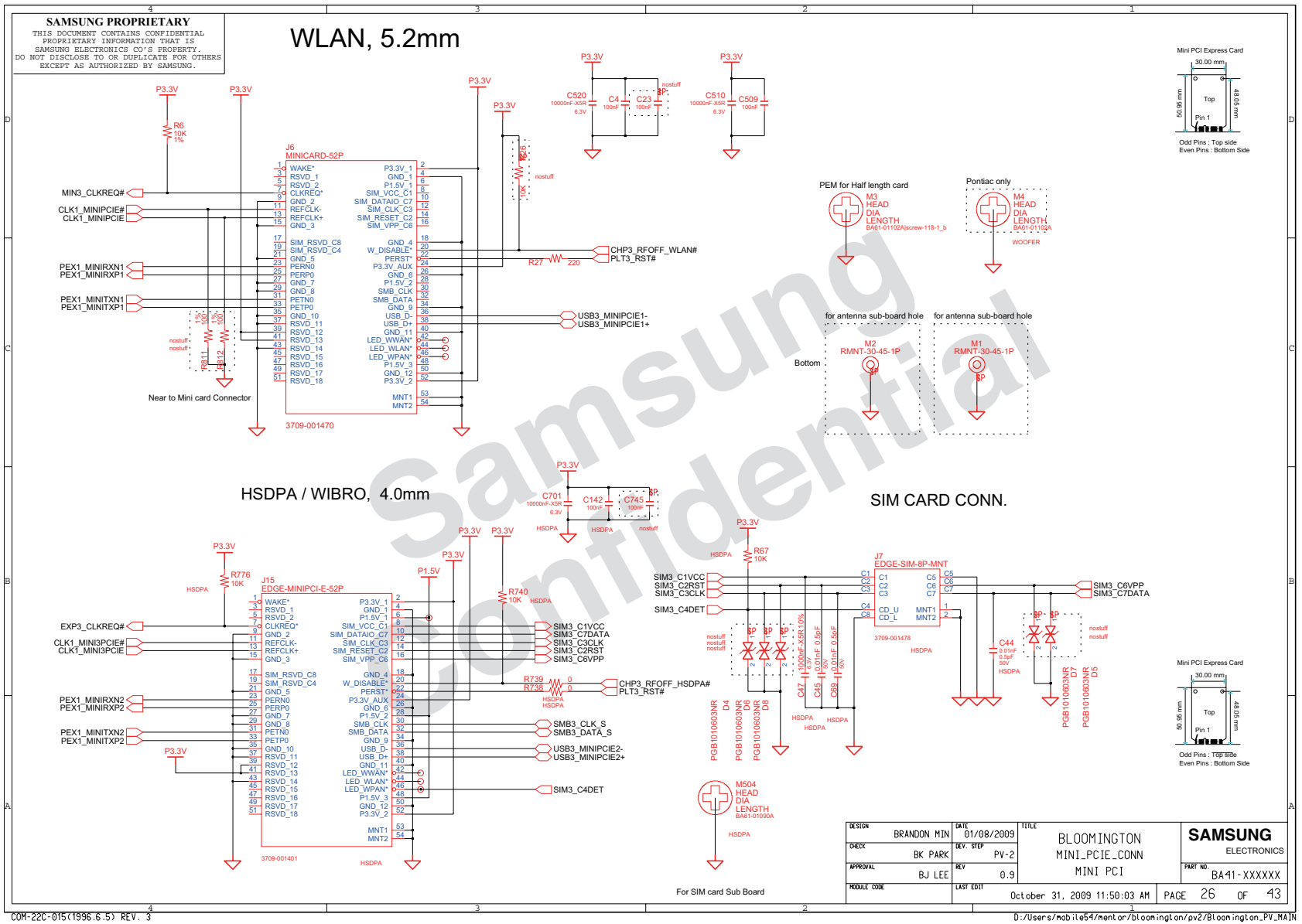
8. Block Diagram and Schematic



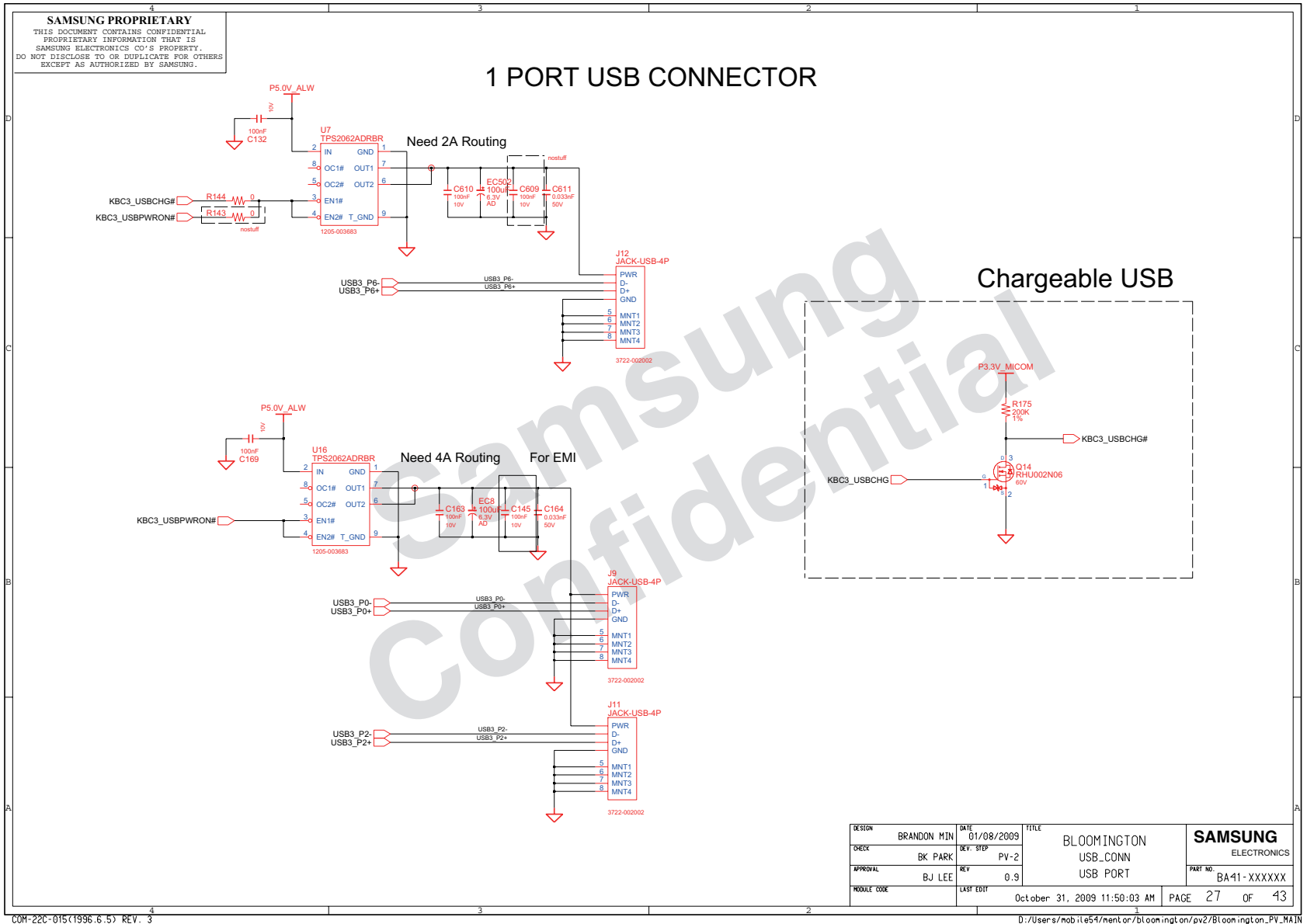
8. Block Diagram and Schematic



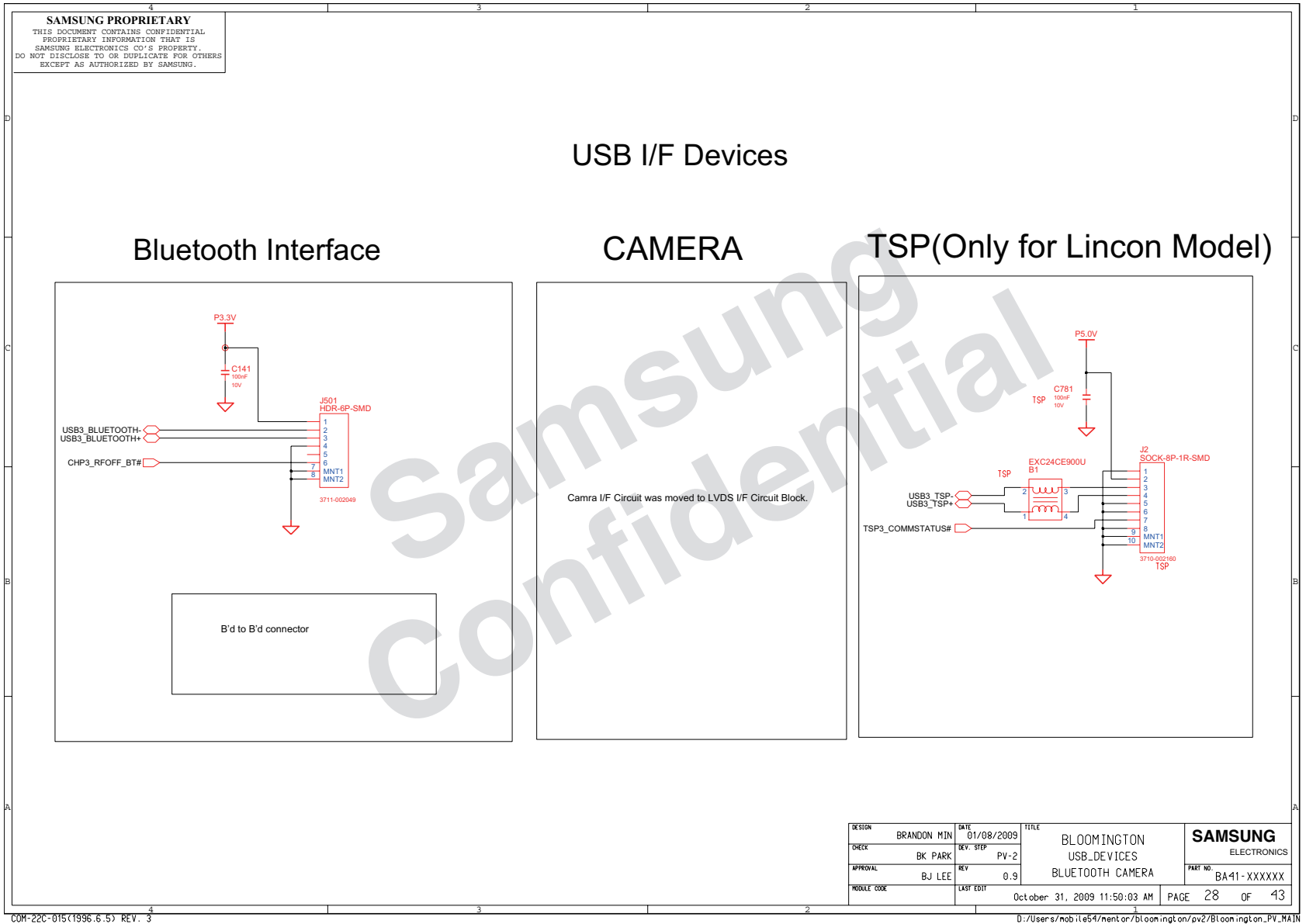
8. Block Diagram and Schematic



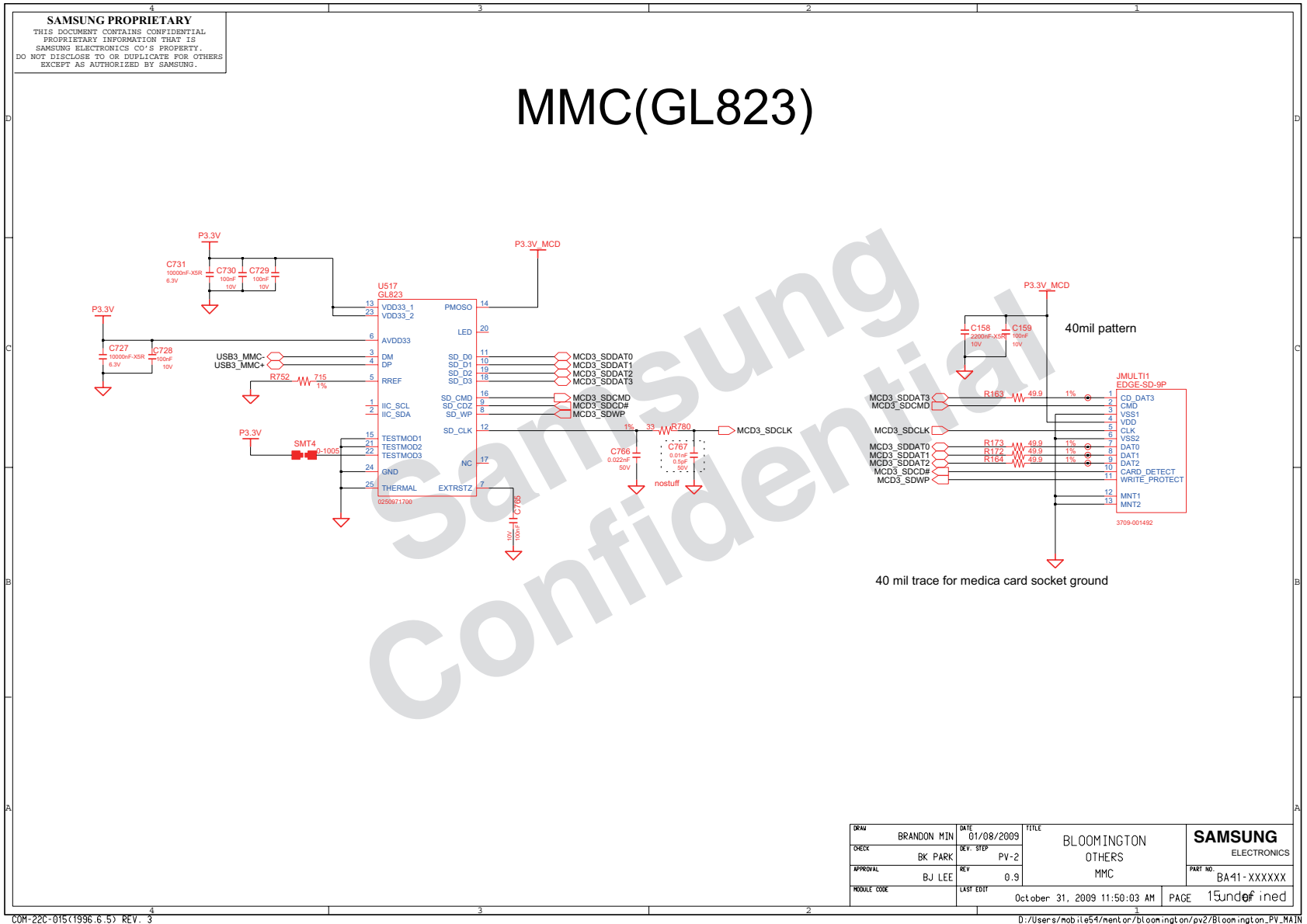
8. Block Diagram and Schematic



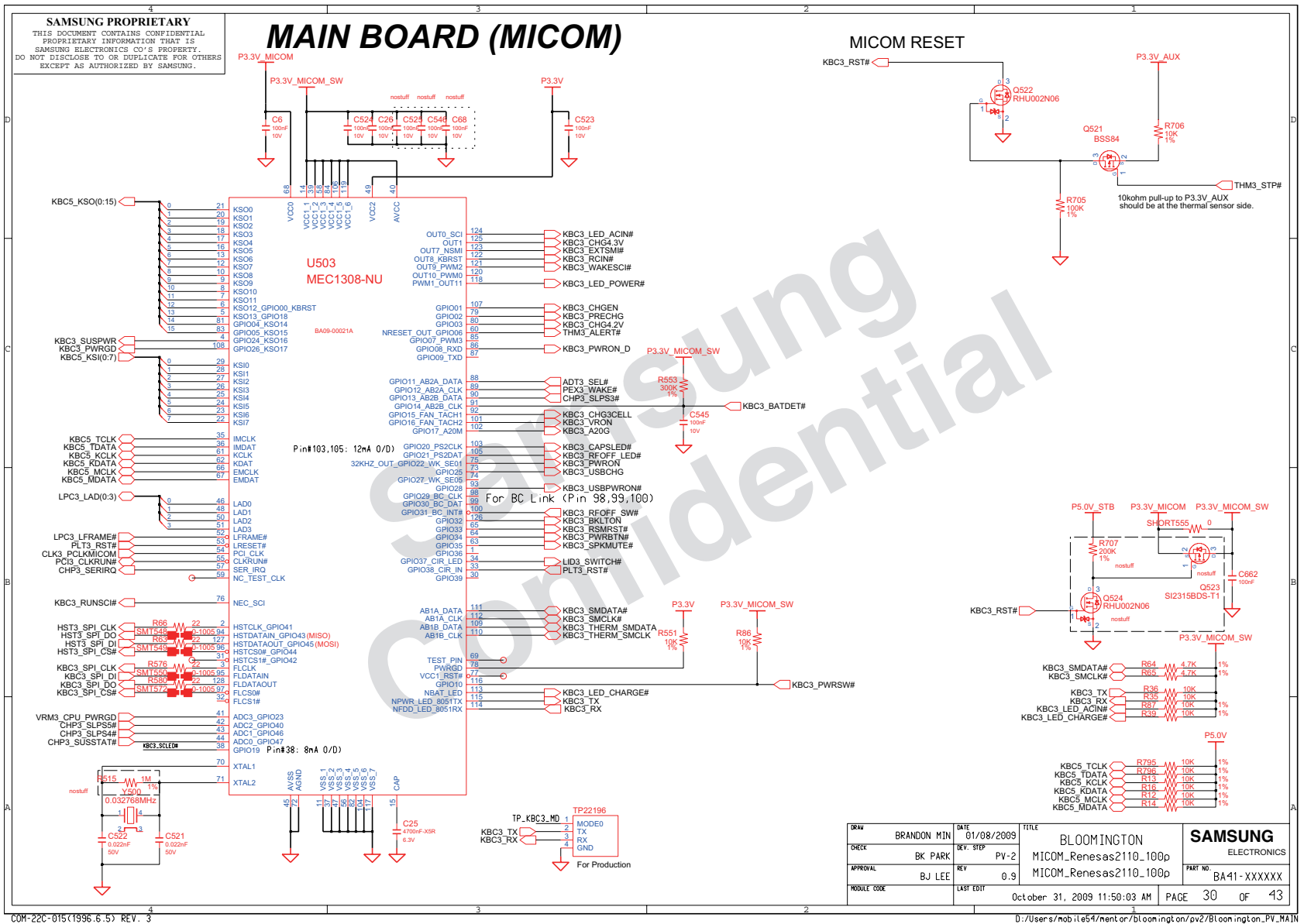
8. Block Diagram and Schematic



8. Block Diagram and Schematic



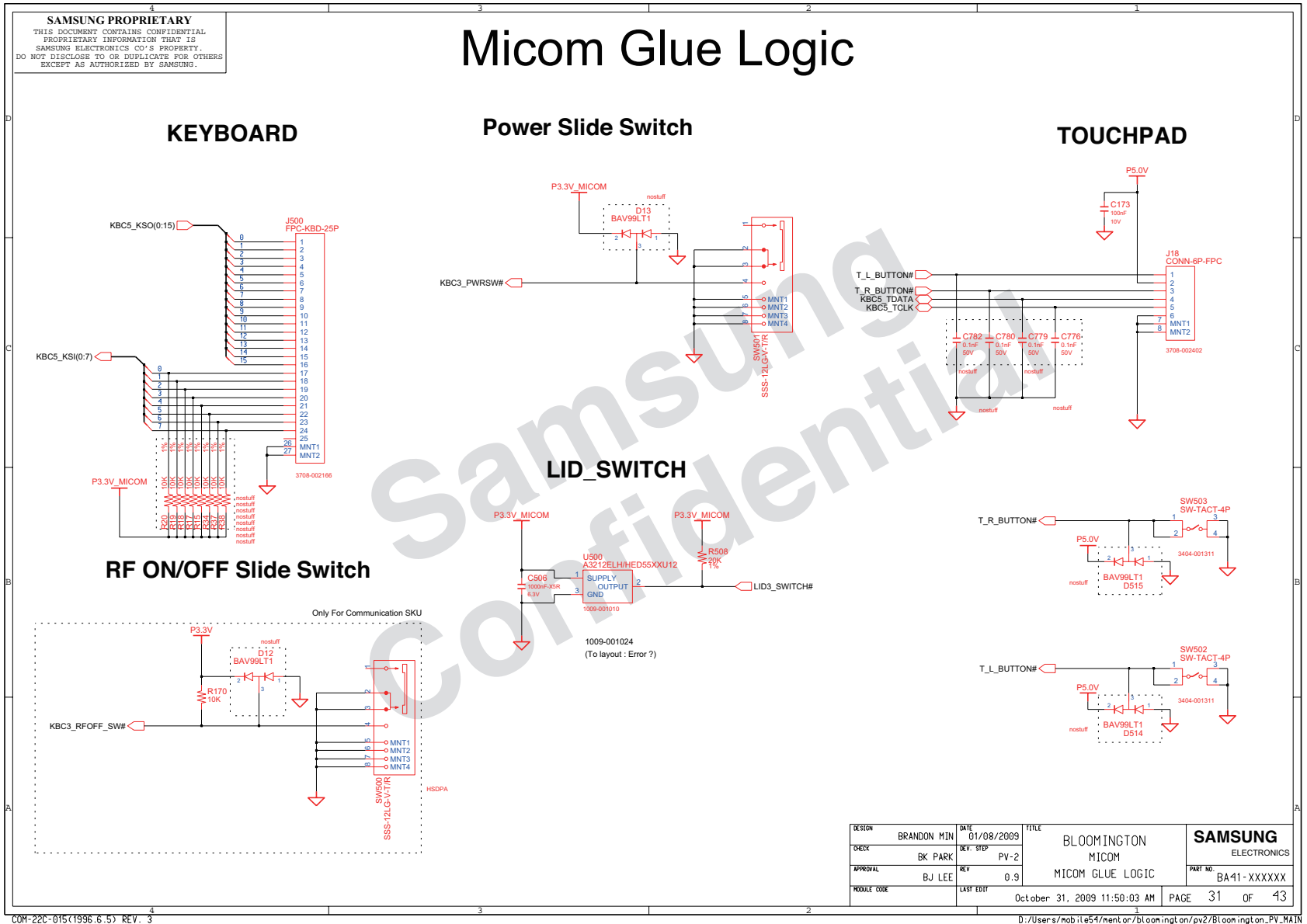
8. Block Diagram and Schematic



COM-22C-015(1996.6.5) REV. 3

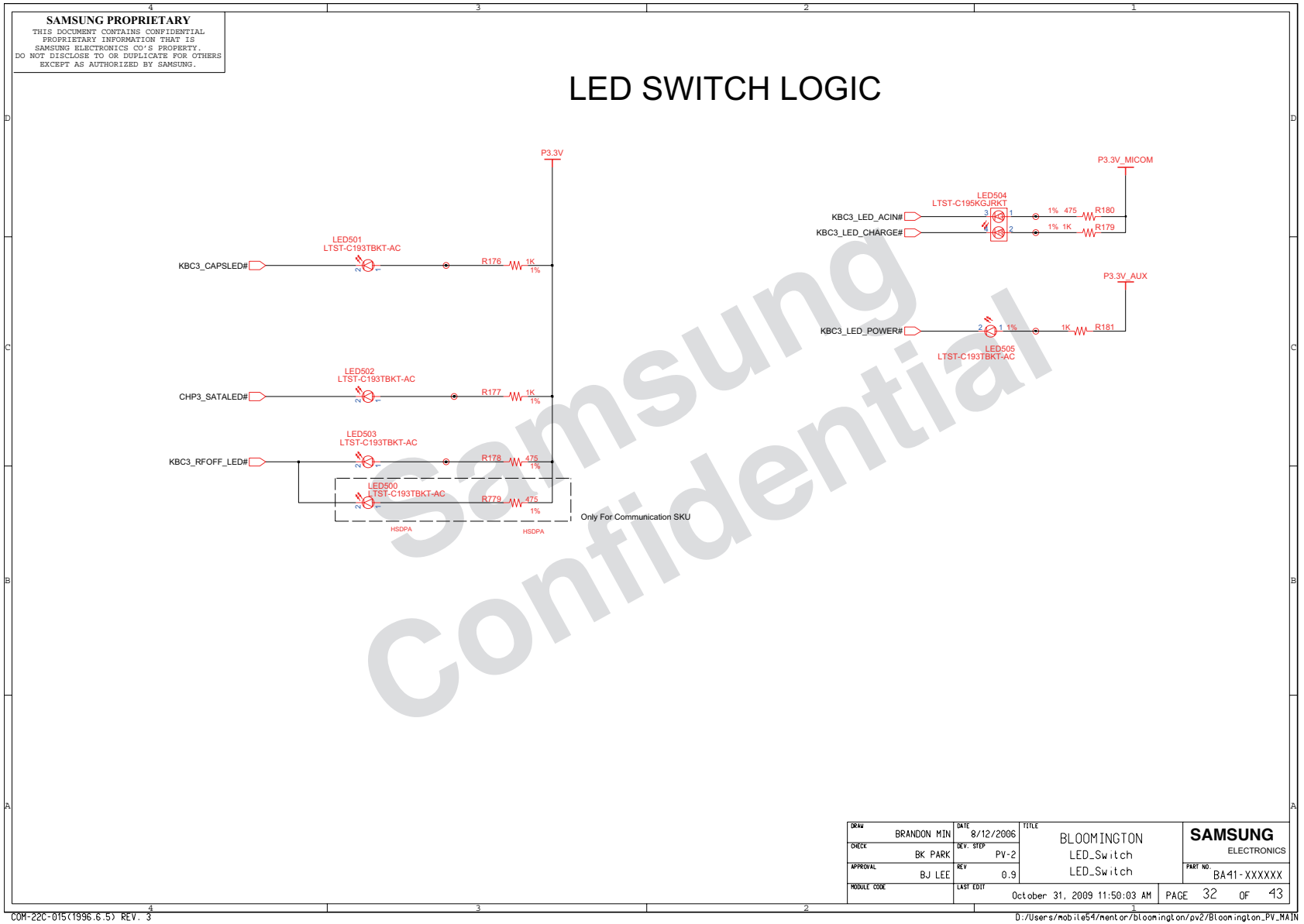
D:\Users\nob ile454\ntor\blom\ngt\on\pv2\Bloomington_PV_MAIN

8. Block Diagram and Schematic

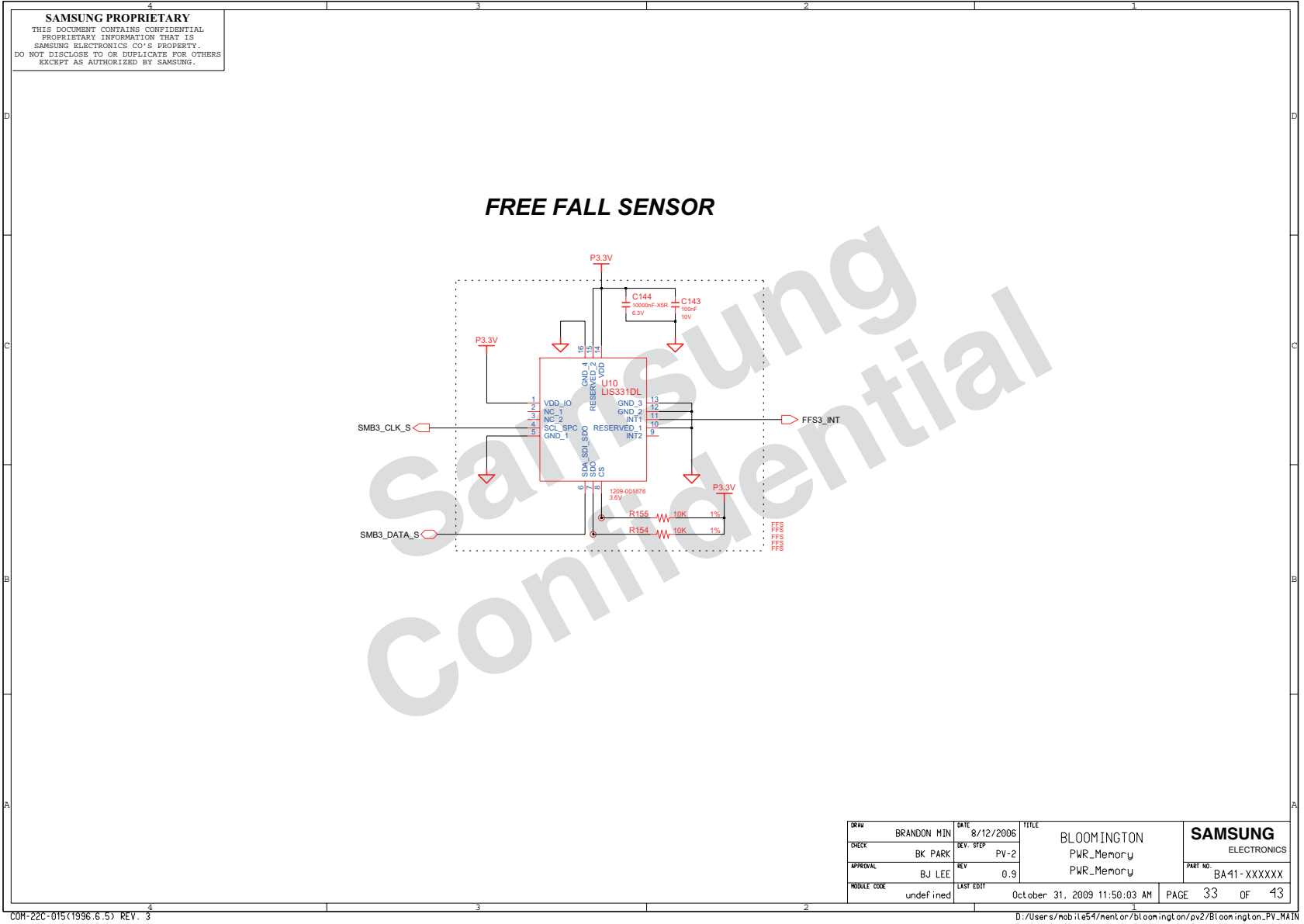


- 이 문서는 삼성전자의 기술 자산으로 승인자만이 사용할 수 있습니다 -
 - This Document can not be used without Samsung's authorization -

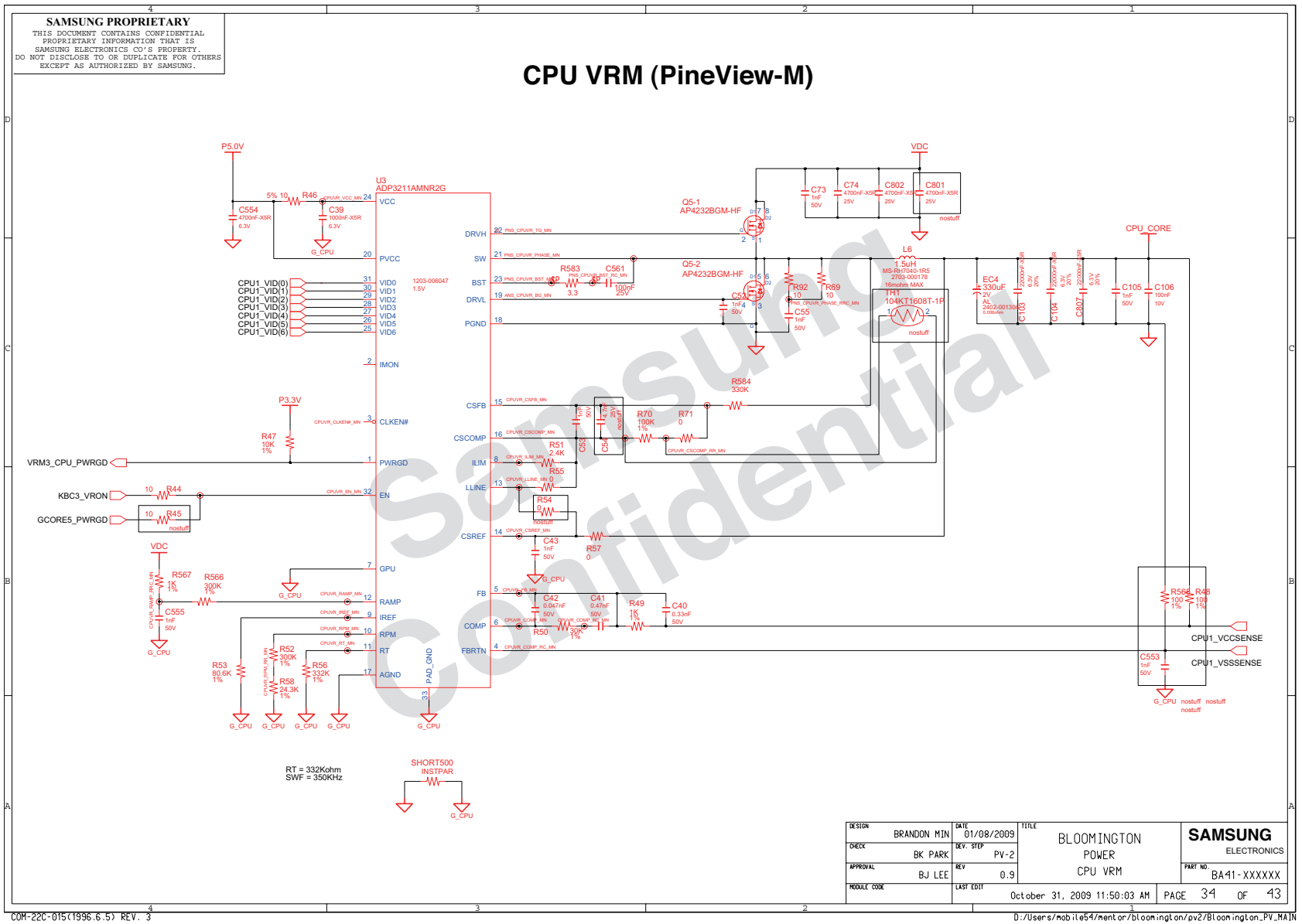
8. Block Diagram and Schematic



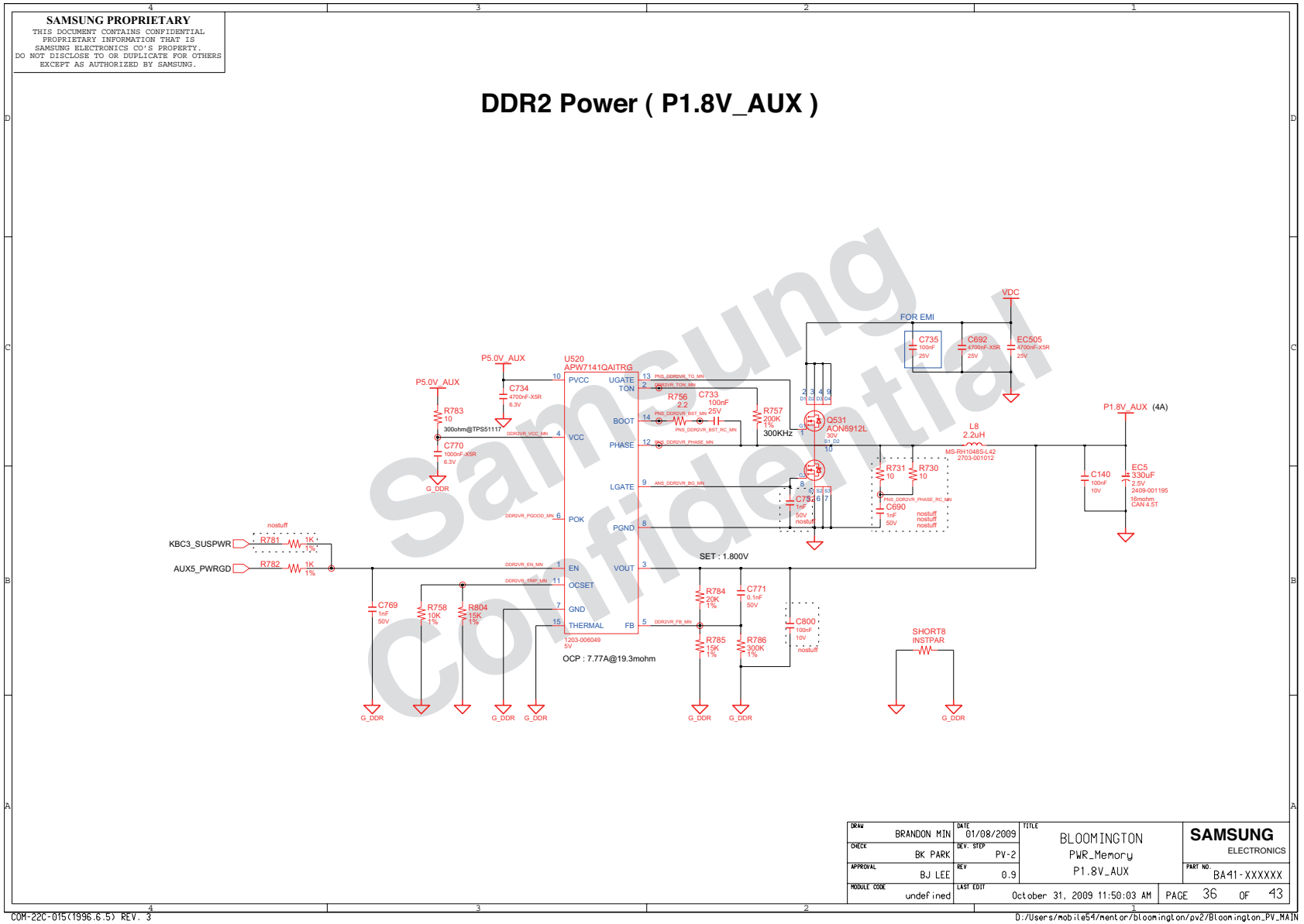
8. Block Diagram and Schematic



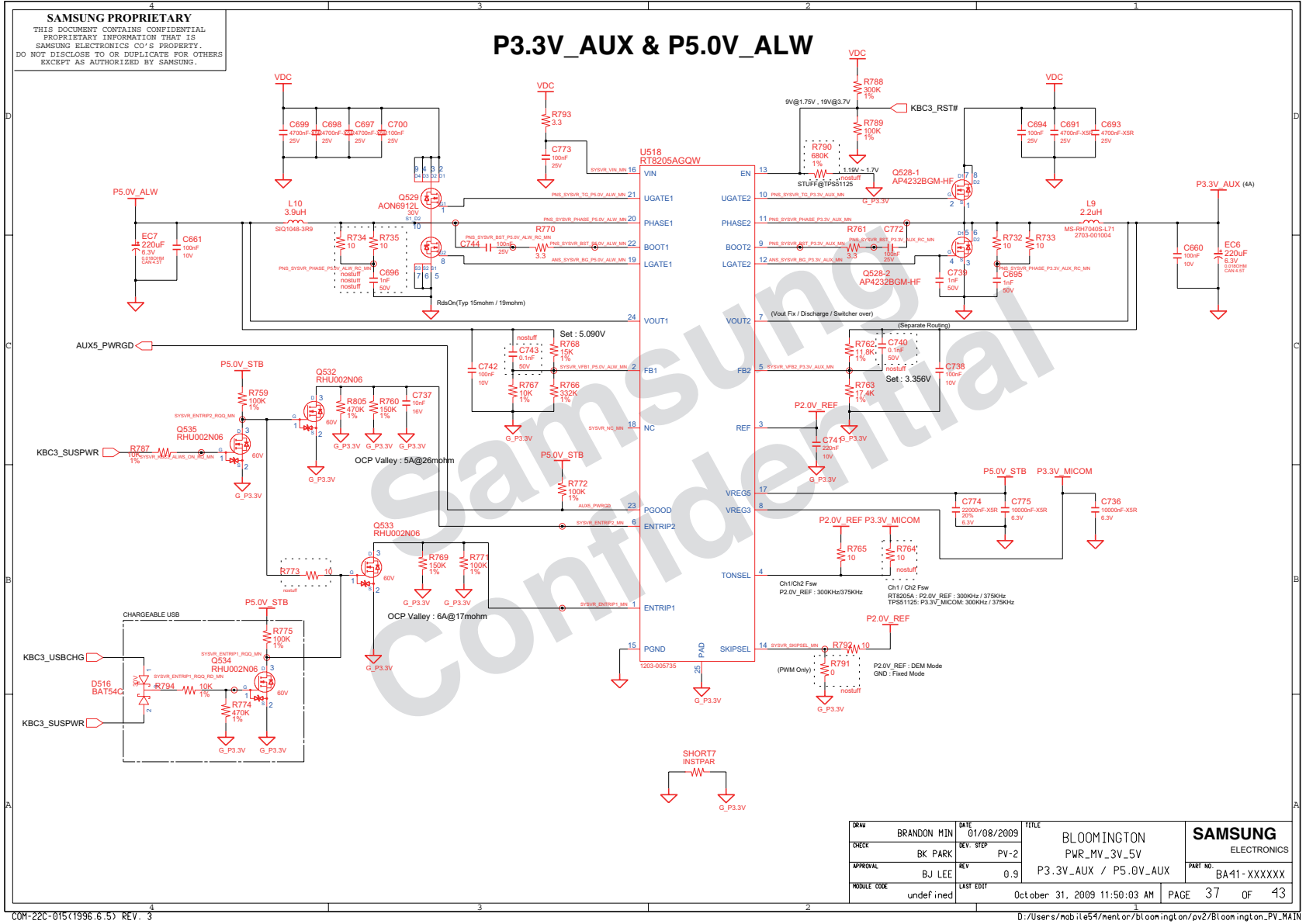
8. Block Diagram and Schematic



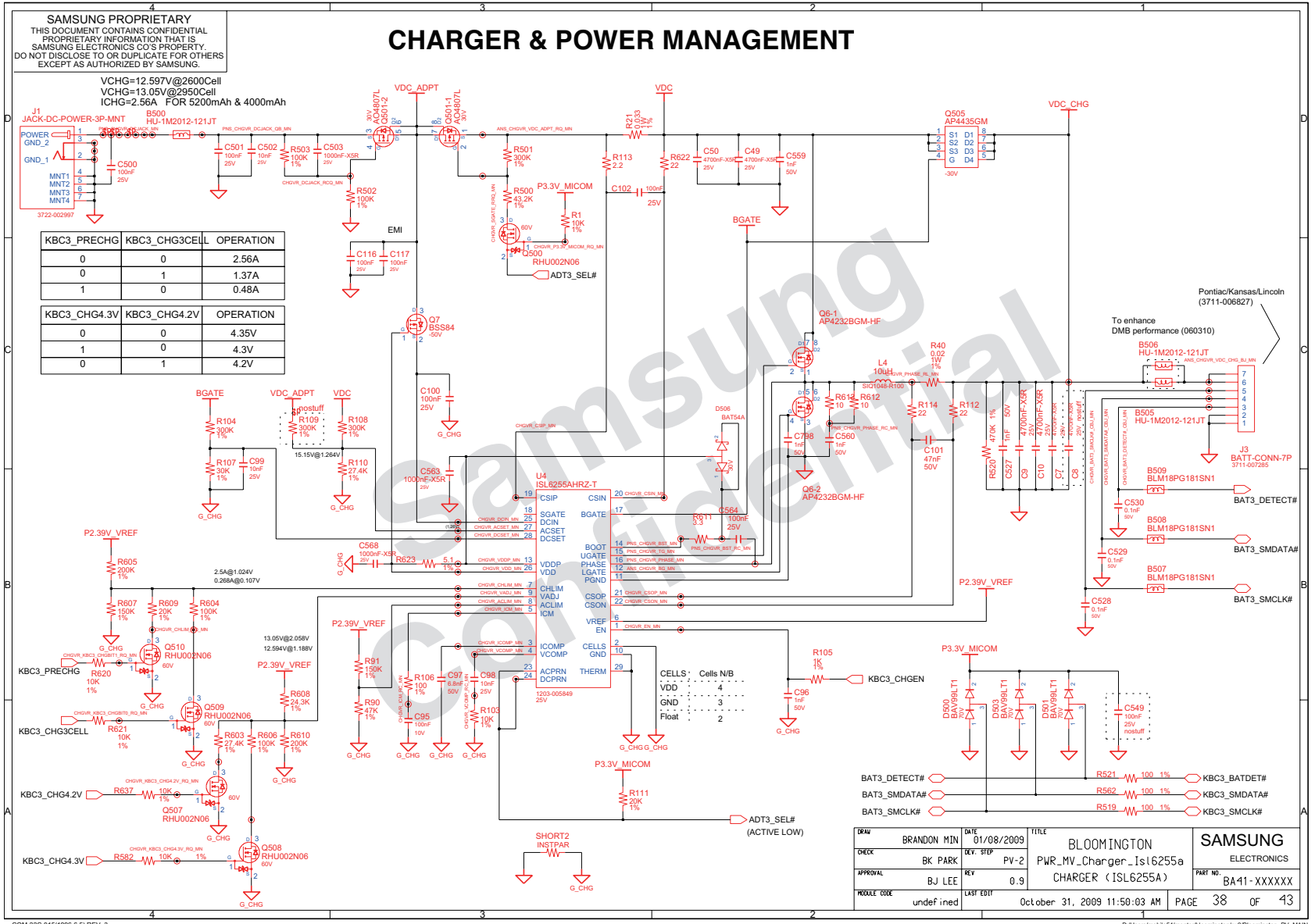
8. Block Diagram and Schematic



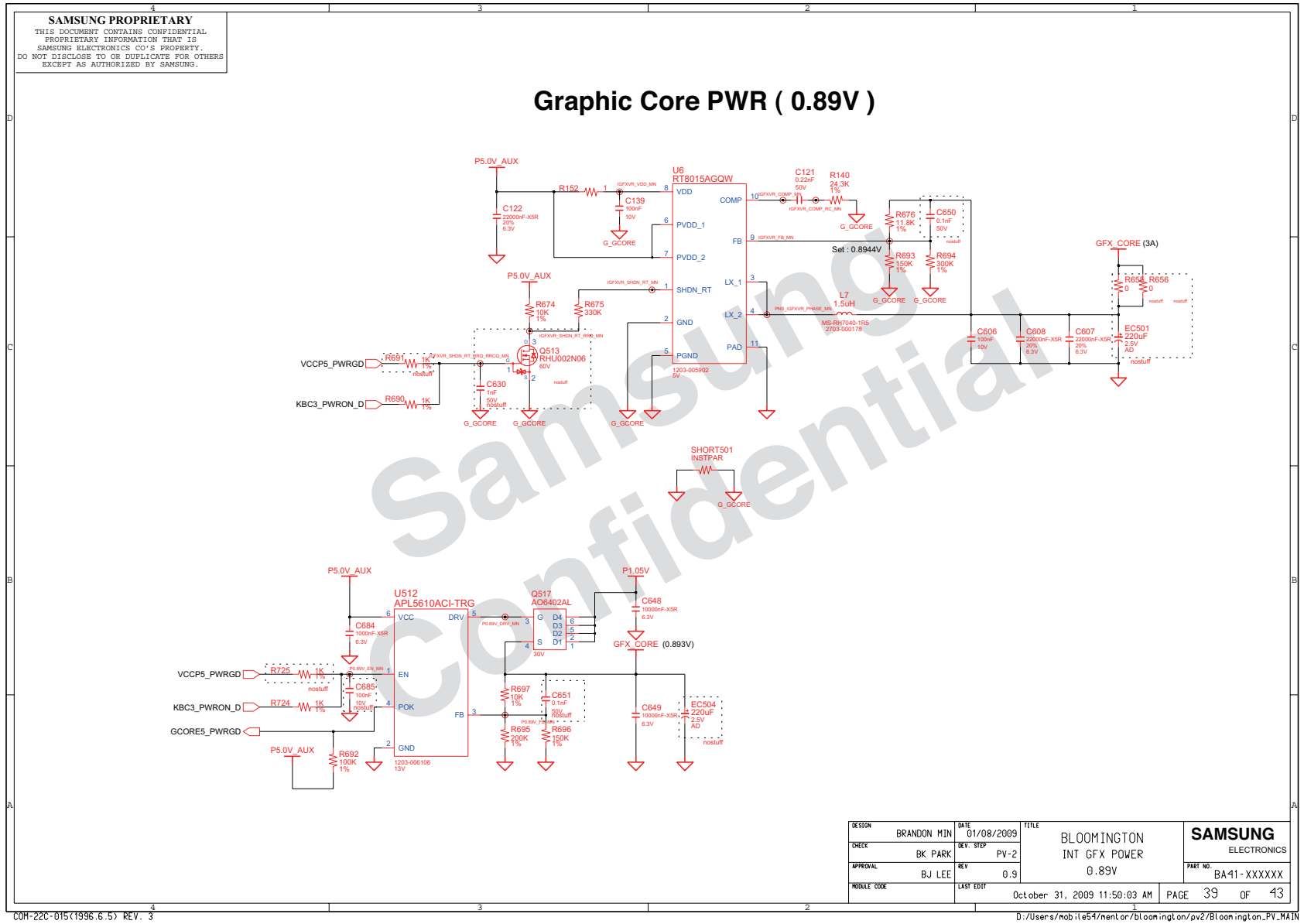
8. Block Diagram and Schematic



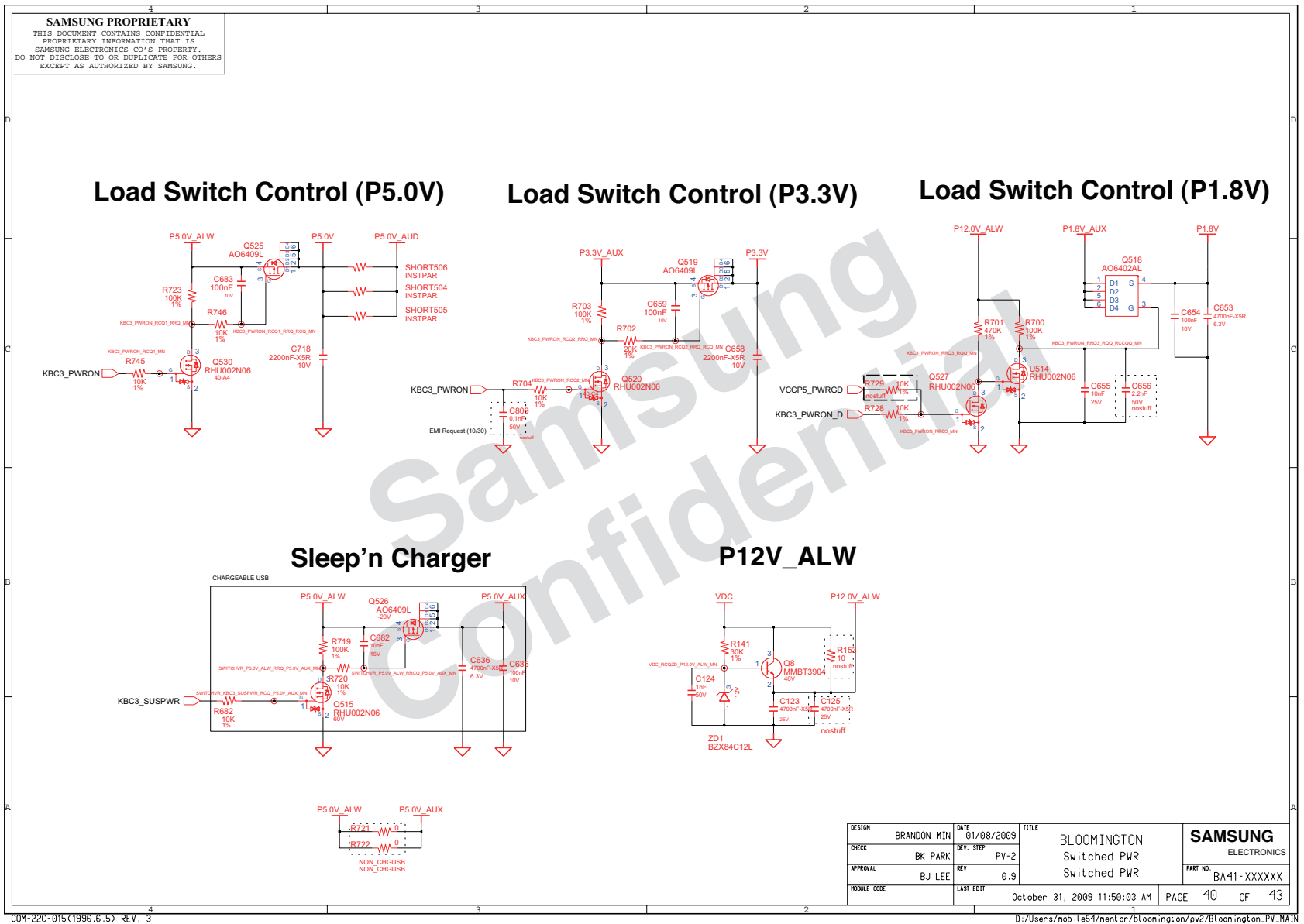
8. Block Diagram and Schematic



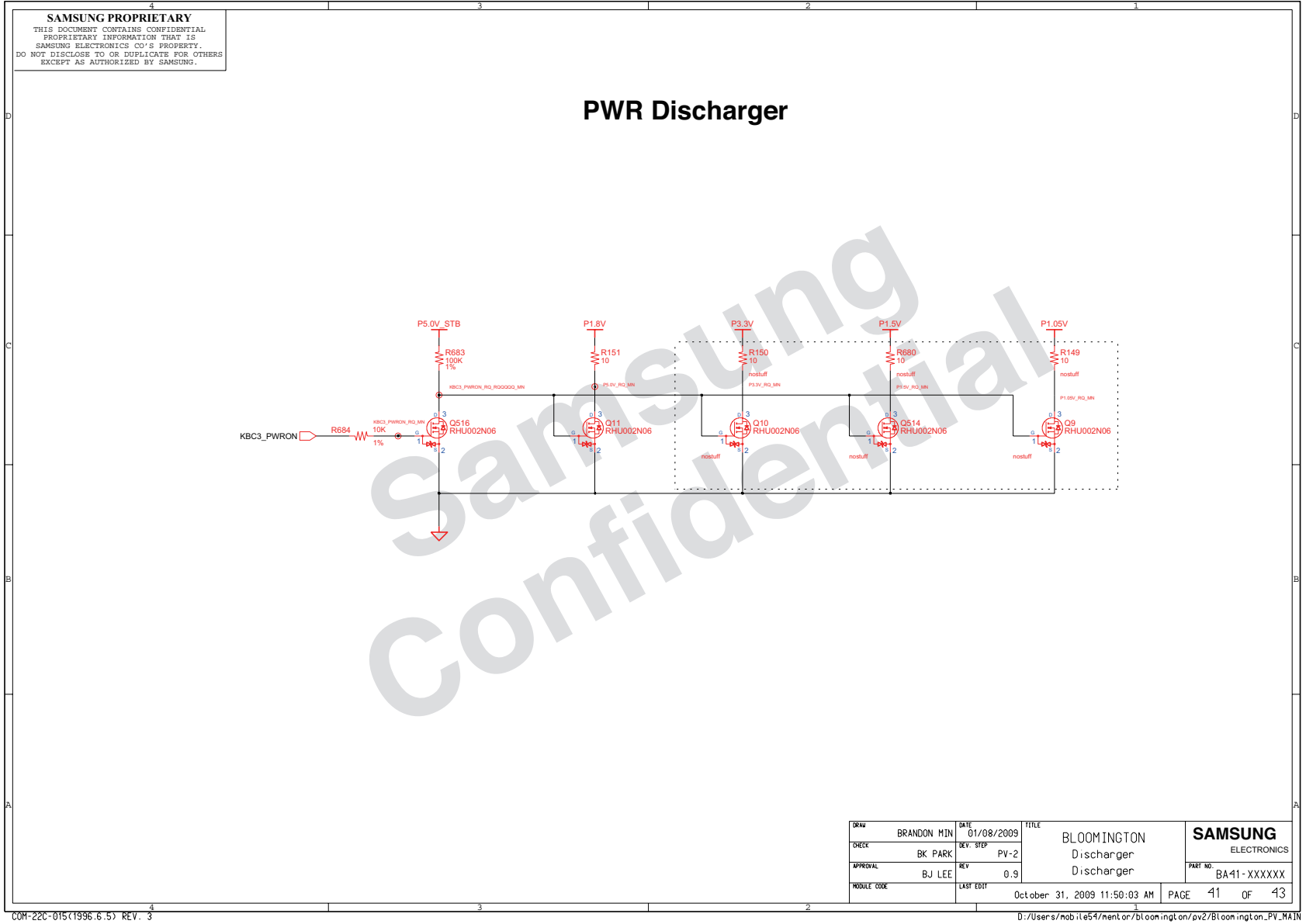
8. Block Diagram and Schematic



8. Block Diagram and Schematic

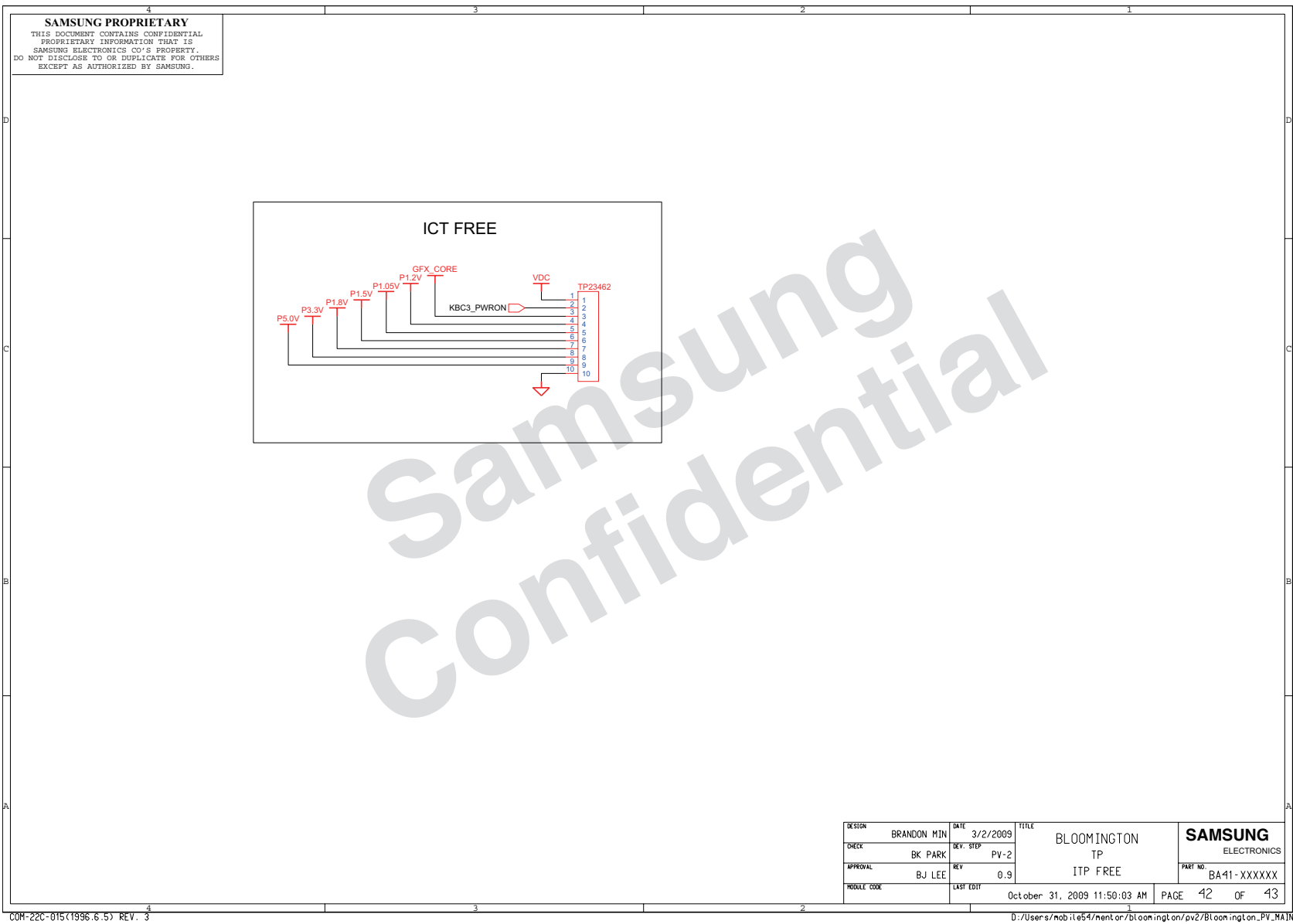


8. Block Diagram and Schematic



- 이 문서는 삼성전자의 기술 자산으로 승인자만이 사용할 수 있습니다 -
 - This Document can not be used without Samsung's authorization -

8. Block Diagram and Schematic



8. Block Diagram and Schematic

