

D

D

C

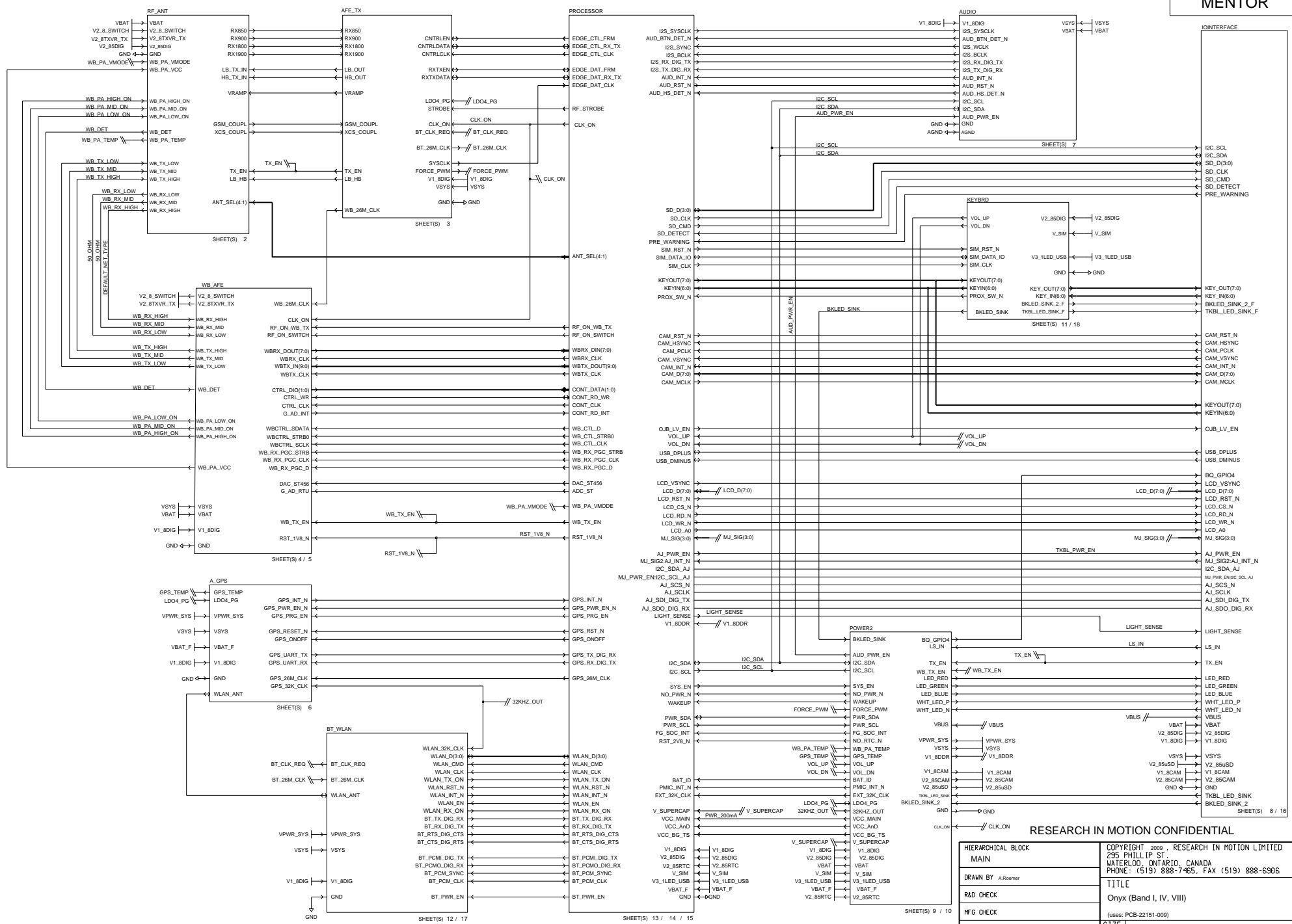
C

B

B

A

A



RESEARCH IN MOTION CONFIDENTIAL

HIERARCHICAL BLOCK MAIN		COPYRIGHT 2009, RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306	
DRAWN BY A.Roemer		TITLE Onyx (Band I, IV, VIII)	
RFG CHECK		(Uses: PCB-22151-009)	
IFG CHECK		SIZE DRAWING No. SCH-22152-009	
Edi Led Bu: aroemer		SIZE DRAWING No. SCH-22152-009	
Last Ed: Sep 24, 2009, 8:49:15 am		REV 1B	
		SHEET 1 OF 18	

Updated with changes from Mentor POP-13901-005 Rev 2
 Updated with changes from POP-17811-005 Rev C

4

3

2

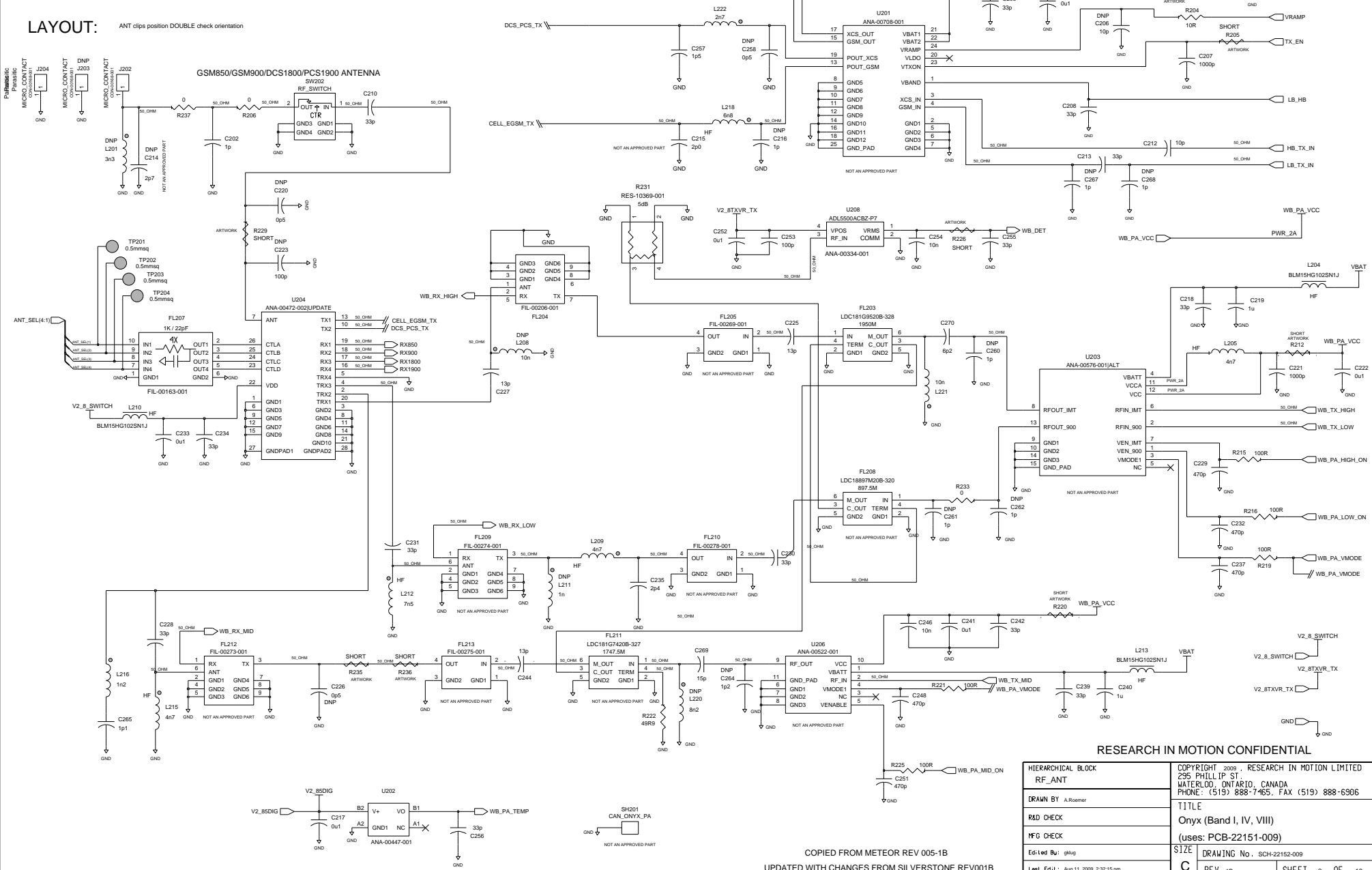
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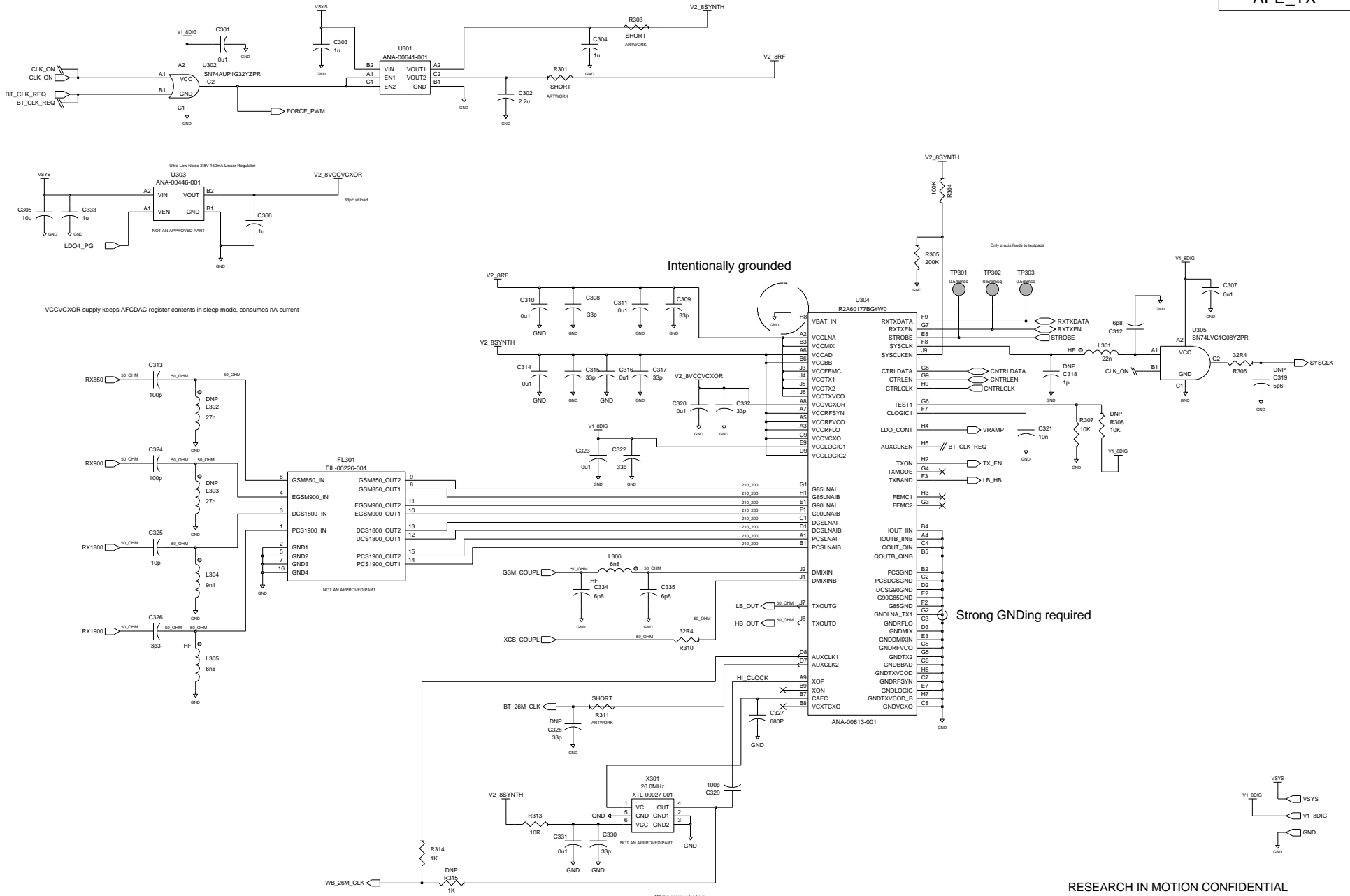
RF_ANT

GSM_COUPL
XCS_COUPL

LAYOUT:

ANT clips position DOUBLE check orientation



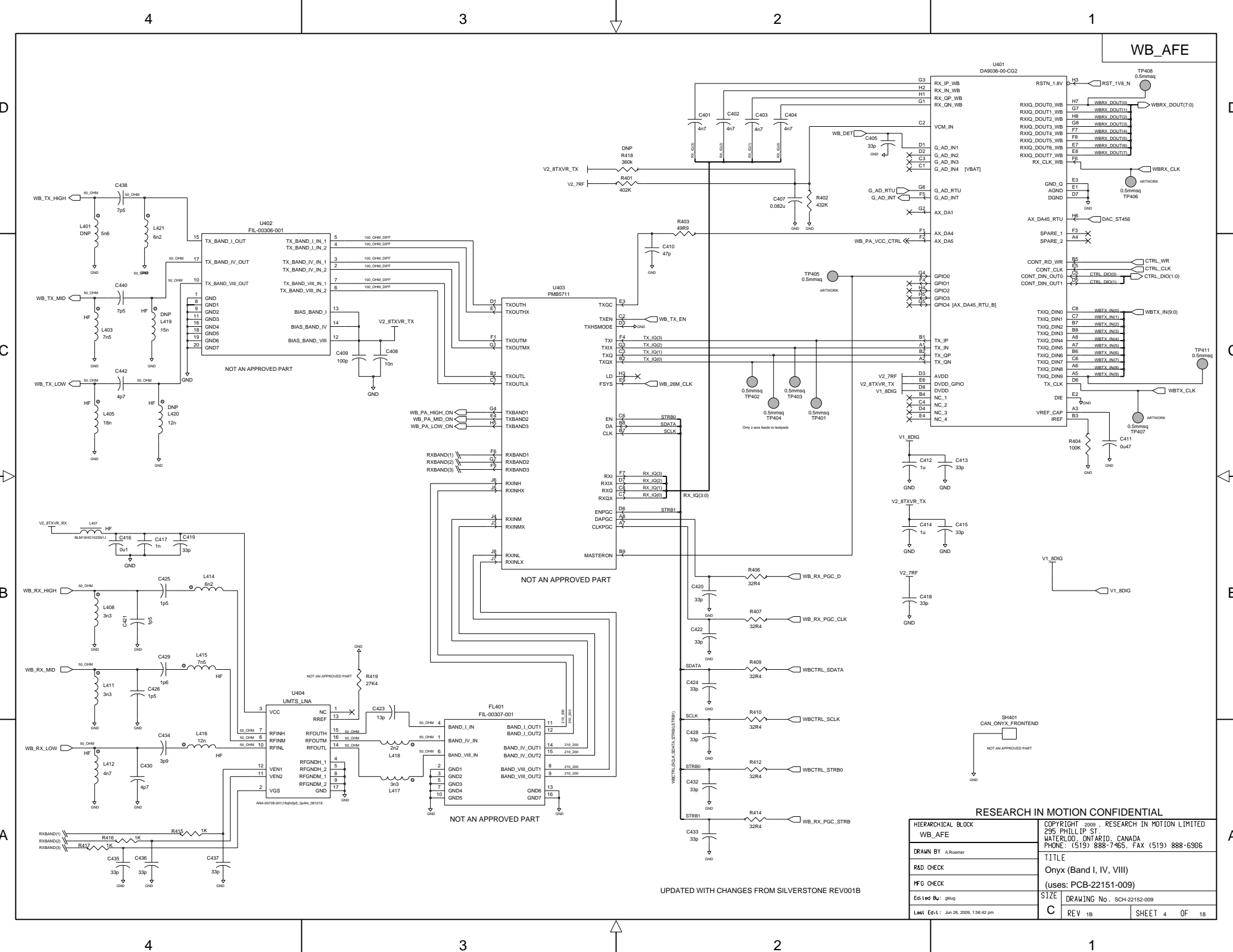


RESEARCH IN MOTION CONFIDENTIAL

HIERARCHICAL BLOCK AFE_TX		COPYRIGHT 2009, RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306	
DRAWN BY A.Roemer		TITLE Onyx (Band I, IV, VIII)	
R&D CHECK		(uses: PCB-22151-009)	
MFG CHECK		SIZE DRAWING No. SCH-22152-009	
Edi Led Bu: gkgug		C REV 1B SHEET 3 OF 18	
Last Ed: Jun 26, 2009, 2:00:11 pm			

COPIED FROM METEOR REV 005-1B
UPDATED WITH CHANGES FROM SILVERSTONE REV001B

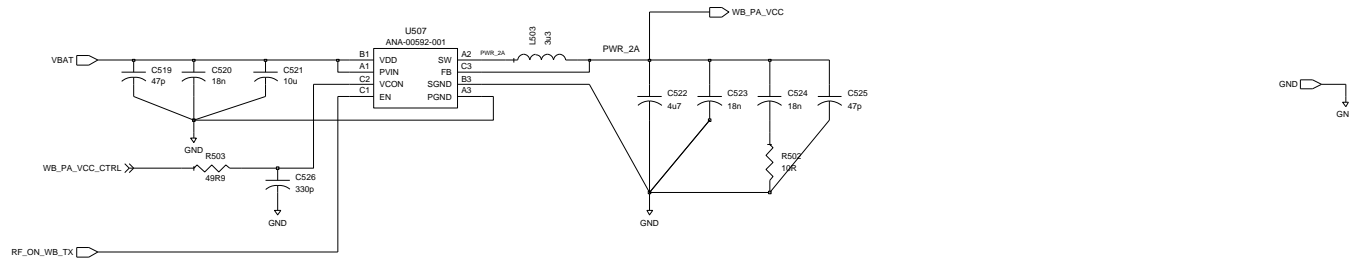
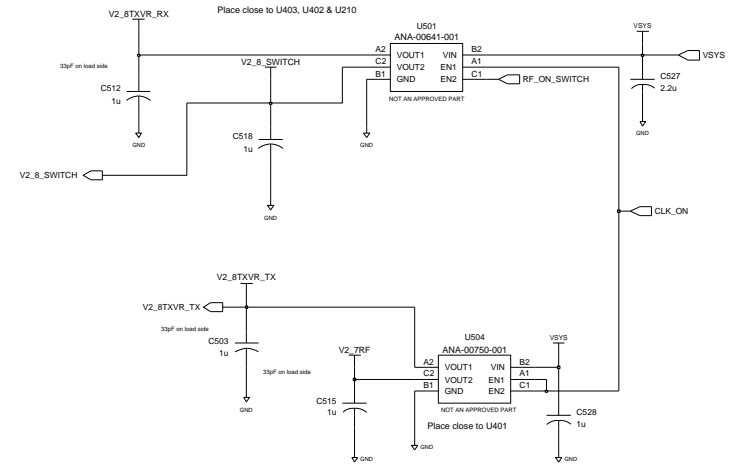
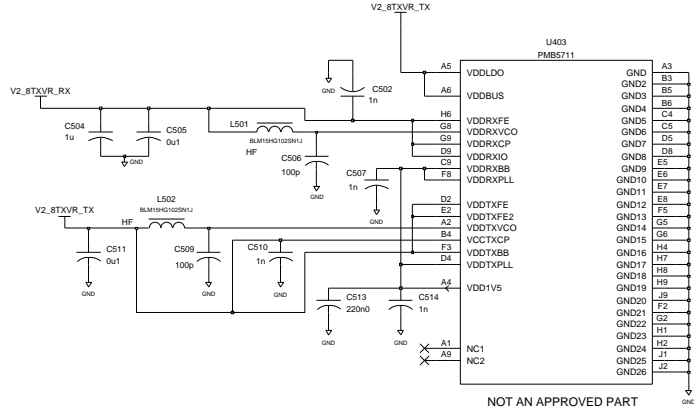
WB_AFE



RESEARCH IN MOTION CONFIDENTIAL

HIERARCHICAL BLOCK WB_AFE		COPYRIGHT 2009, RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306	
DRAWN BY: A.Roemer		TITLE Onyx (Band I, IV, VIII) (uses: PCB-2215-009)	
R&D CHECK		SIZE DRAWING No. SCH-22152-009	
MFG CHECK		REV 1B SHEET 4 OF 18	
Edi Led Bu: gklug		Date: Jun 26, 2009, 1:56:42 pm	

UPDATED WITH CHANGES FROM SILVERSTONE REV001B



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HIERARCHICAL BLOCK WB_AFE2		COPYRIGHT 2009, RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306	
DRAWN BY A.Roemer		TITLE Onyx (Band I, IV, VIII)	
R&D CHECK		(uses: PCB-22151-009)	
MFG CHECK		SIZE DRAWING No. SCH-22152-009	
Ed: Led Bu: gklug		C	
Last Ed: 1: Apr 21, 2009, 9:34:22 am		REV 1B SHEET 5 OF 18	

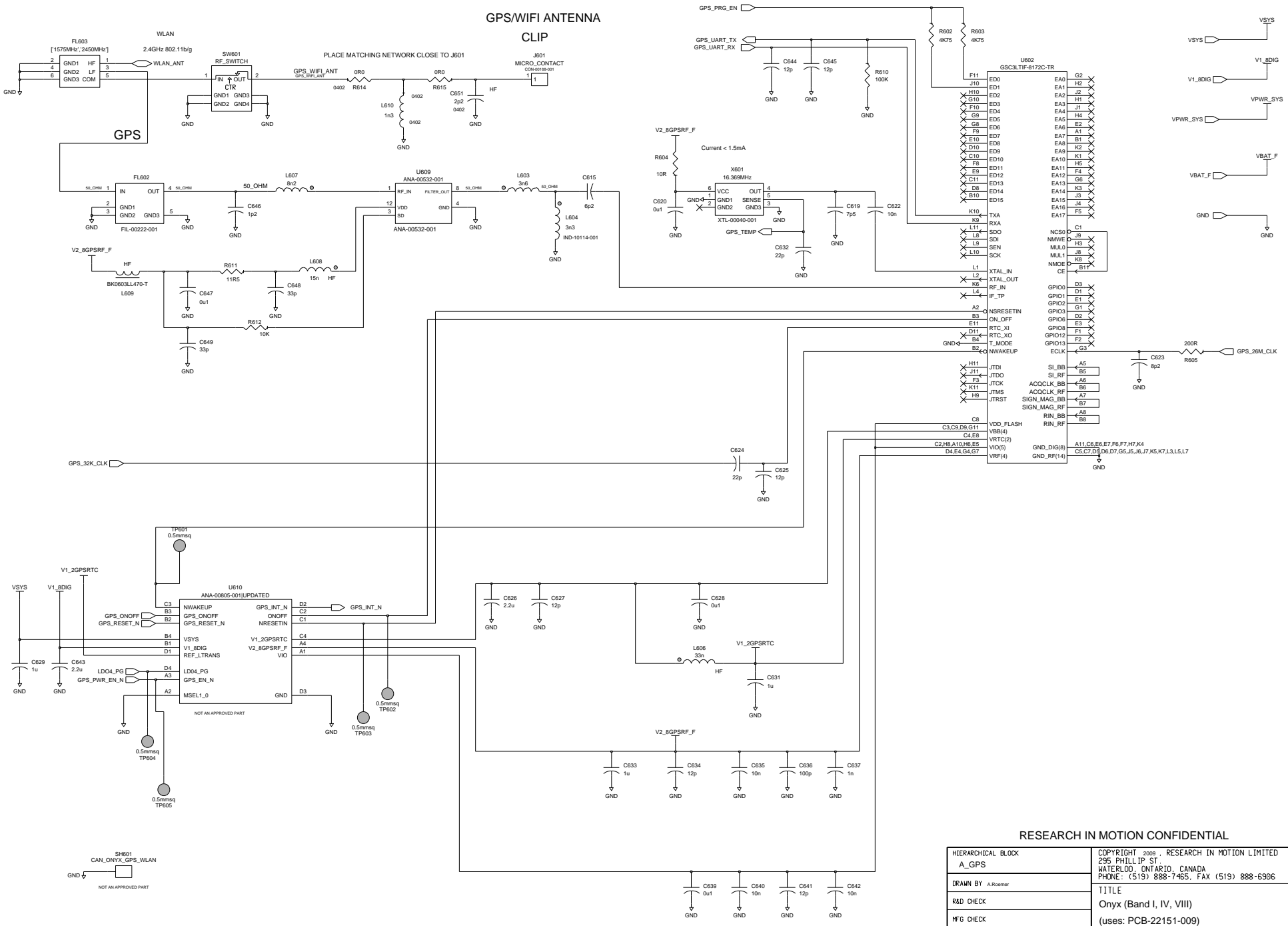
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3

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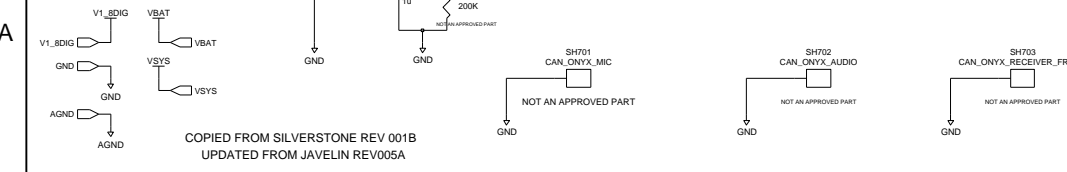
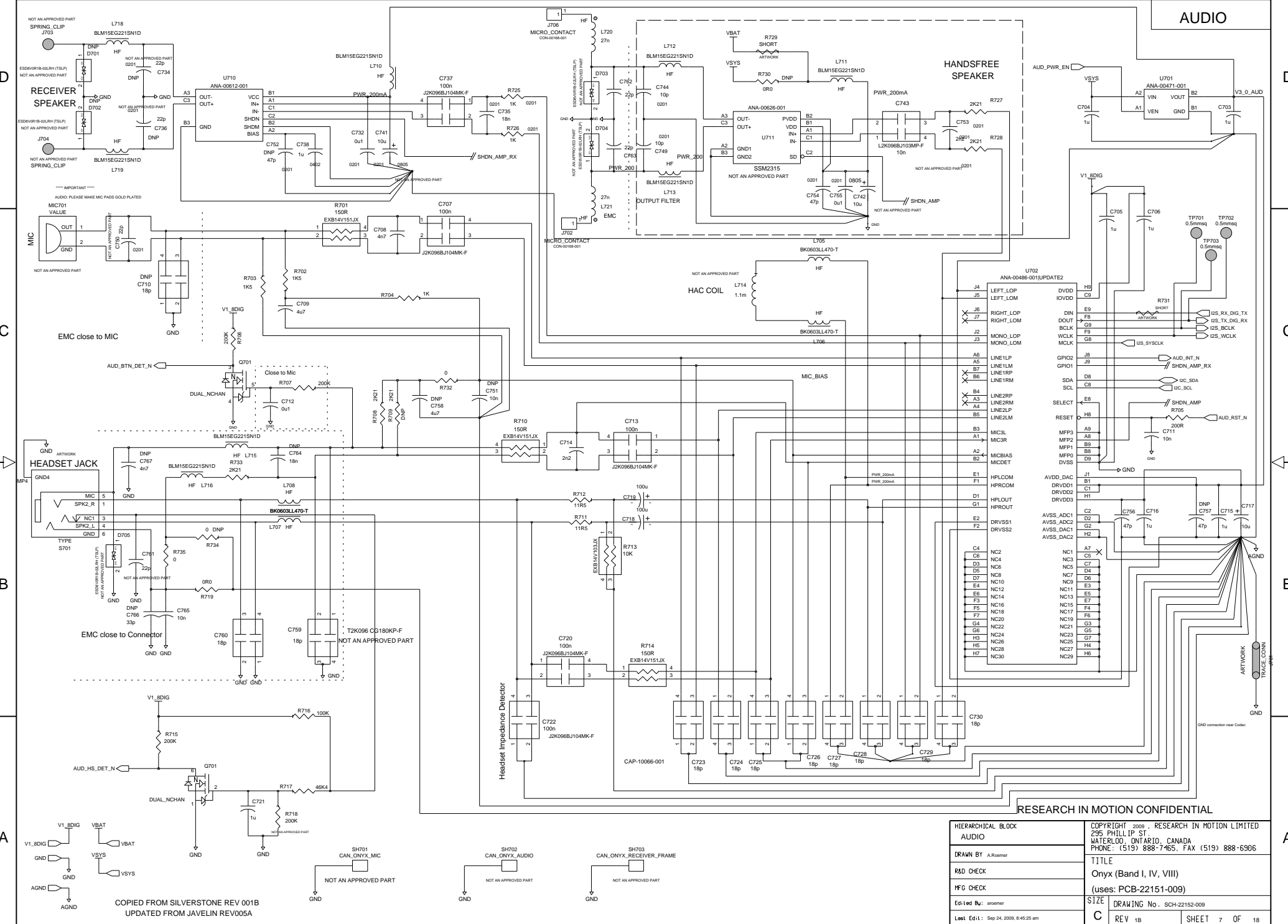
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A-GPS



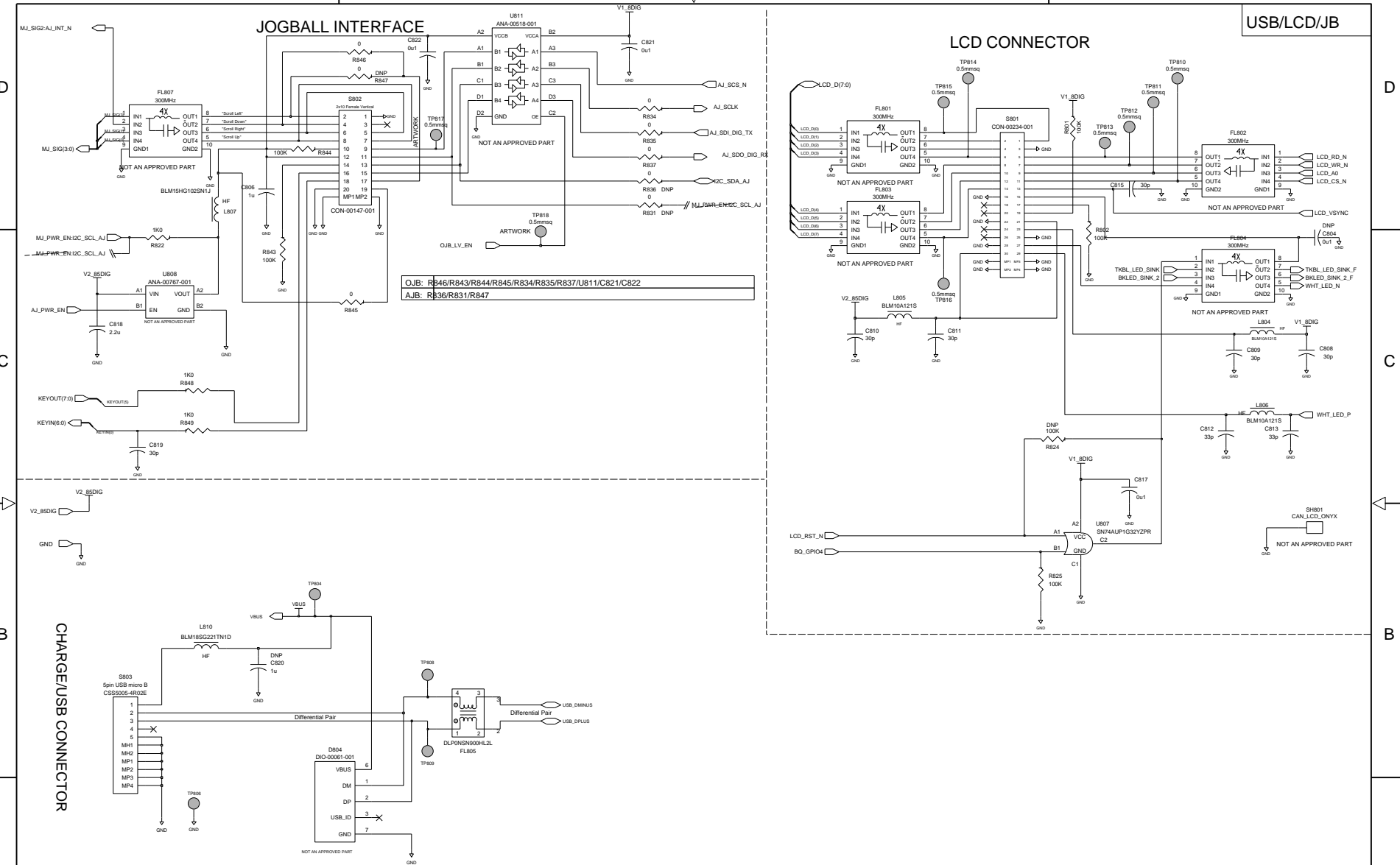
RESEARCH IN MOTION CONFIDENTIAL

HIERARCHICAL BLOCK A_GPS	COPYRIGHT 2009, RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306
DRAWN BY A.Roemer	TITLE Onyx (Band I, IV, VIII)
R&D CHECK	(uses: PCB-22151-009)
HFG CHECK	SIZE DRAWING No. SCH-22152-009
Ed: Led Bu: gklug	C REV 1B SHEET 6 OF 18
Level Ed1: Aug 11, 2009, 9:27:38 am	



HIERARCHICAL BLOCK		COPYRIGHT 2009, RESEARCH IN MOTION LIMITED	
AUDIO		295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306	
DRAWN BY: A.Roemer		TITLE	
R&D CHECK		Onyx (Band I, IV, VIII)	
MFG CHECK		(uses: PCB-22151-009)	
Edi Led By: arומר		SIZE	
Level: Ed1: Sep 24, 2009, 8:45:25 am		DRAWING No. SCH-22152-009	
		REV 1B	SHEET 7 OF 18

4 3 2 1



OJB: R846/R843/R844/R845/R834/R835/R837/U811/C821/C822
 AJB: R836/R831/R847

RESEARCH IN MOTION CONFIDENTIAL

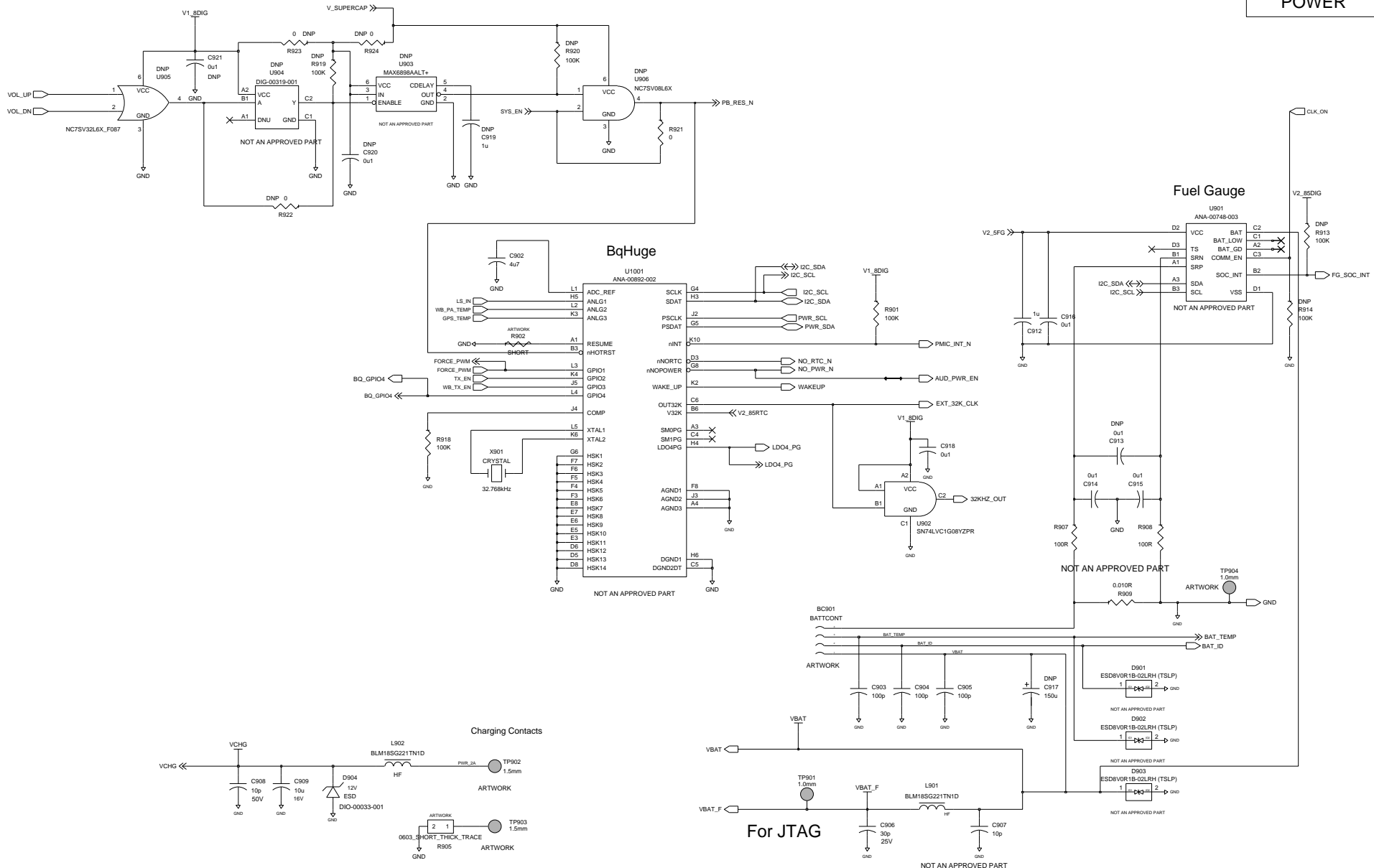
HIERARCHICAL BLOCK	JOINTERFACE	COPYRIGHT 2009 . RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7453, FAX (519) 888-6906
DRAWN BY	A.Rosner	TITLE
R&D CHECK		Onyx (Band I, IV, VIII)
MFG CHECK		(uses: PCB-22151-009)
Edited By:	gph	SIZE
Last Edit:	Aug 11, 2009, 2:49:16 pm	C DRAWING No. : 824-22151-009
		REV 1b SHEET 8 OF 18

UPDATED FROM JAVELIN REV005A

A

4 3 2 1

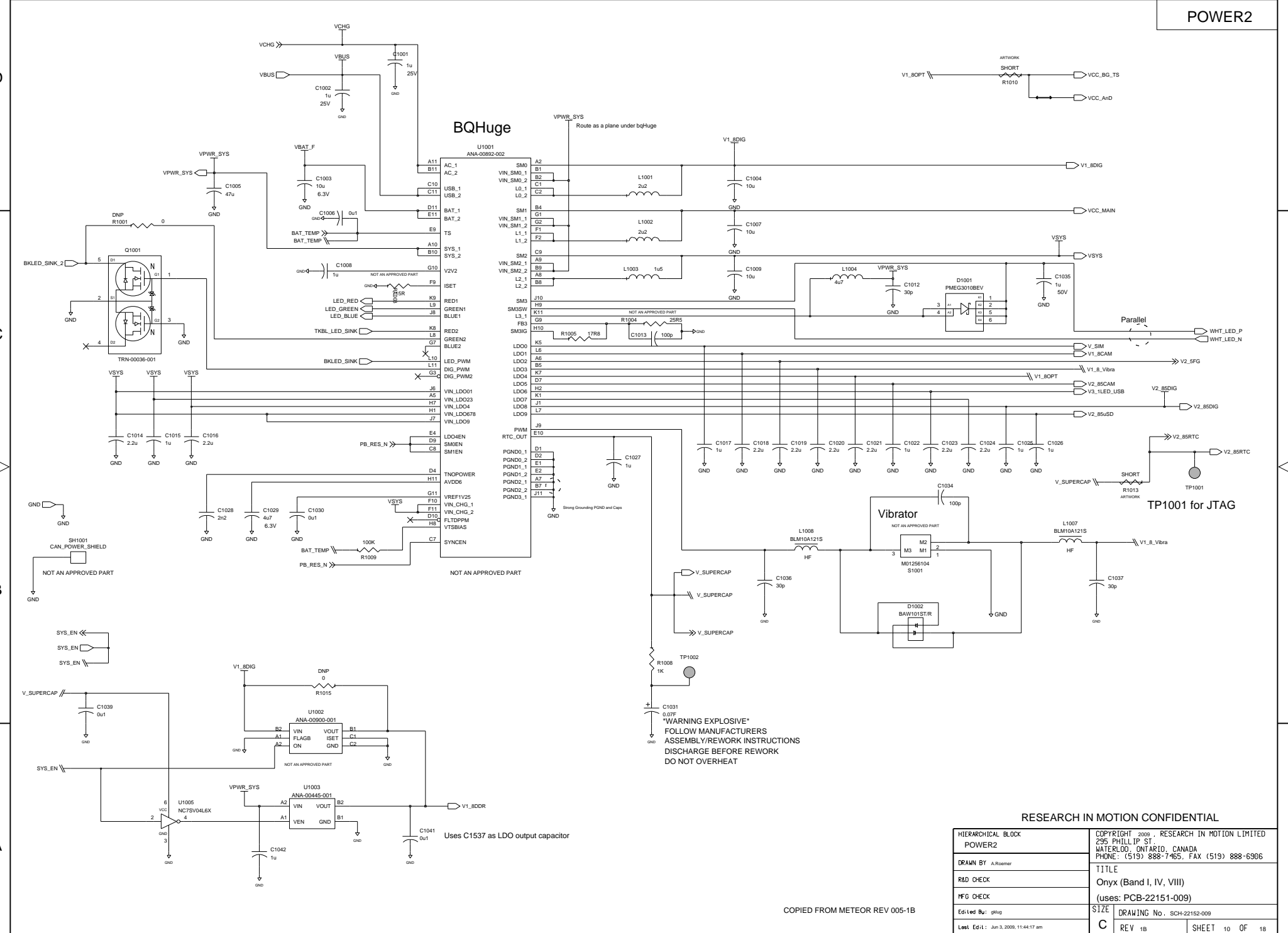
POWER



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HIERARCHICAL BLOCK POWER22	COPYRIGHT 2009, RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306
DRAWN BY A.Roemer	TITLE Onyx (Band I, IV, VIII)
R&D CHECK	(uses: PCB-22151-009)
IFG CHECK	SIZE DRAWING No. SCH-22152-009
Edi Led Bu: aroemer	C REV 1B SHEET 9 OF 18
Label Ed1: Sep 4, 2009, 1:03:58 pm	

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UPDATED FROM JAVELIN REV005A



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HIERARCHICAL BLOCK POWER2		COPYRIGHT 2009, RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306	
DRAWN BY	A.Roemer	TITLE	Onyx (Band I, IV, VIII)
R&D CHECK		(uses: PCB-22151-009)	
HFG CHECK		SIZE	DRAWING No. SCH-22152-009
Ed: Led Bu: gklug		C	REV 1B SHEET 10 OF 18
Level: Ed:1: Jun 3, 2009, 11:44:17 am			

COPIED FROM METEOR REV 005-1B

4

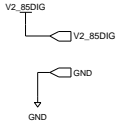
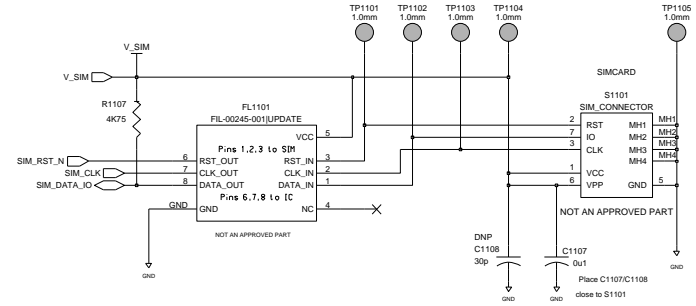
3

2

1

SIM

SIM CONNECTOR



RESEARCH IN MOTION CONFIDENTIAL

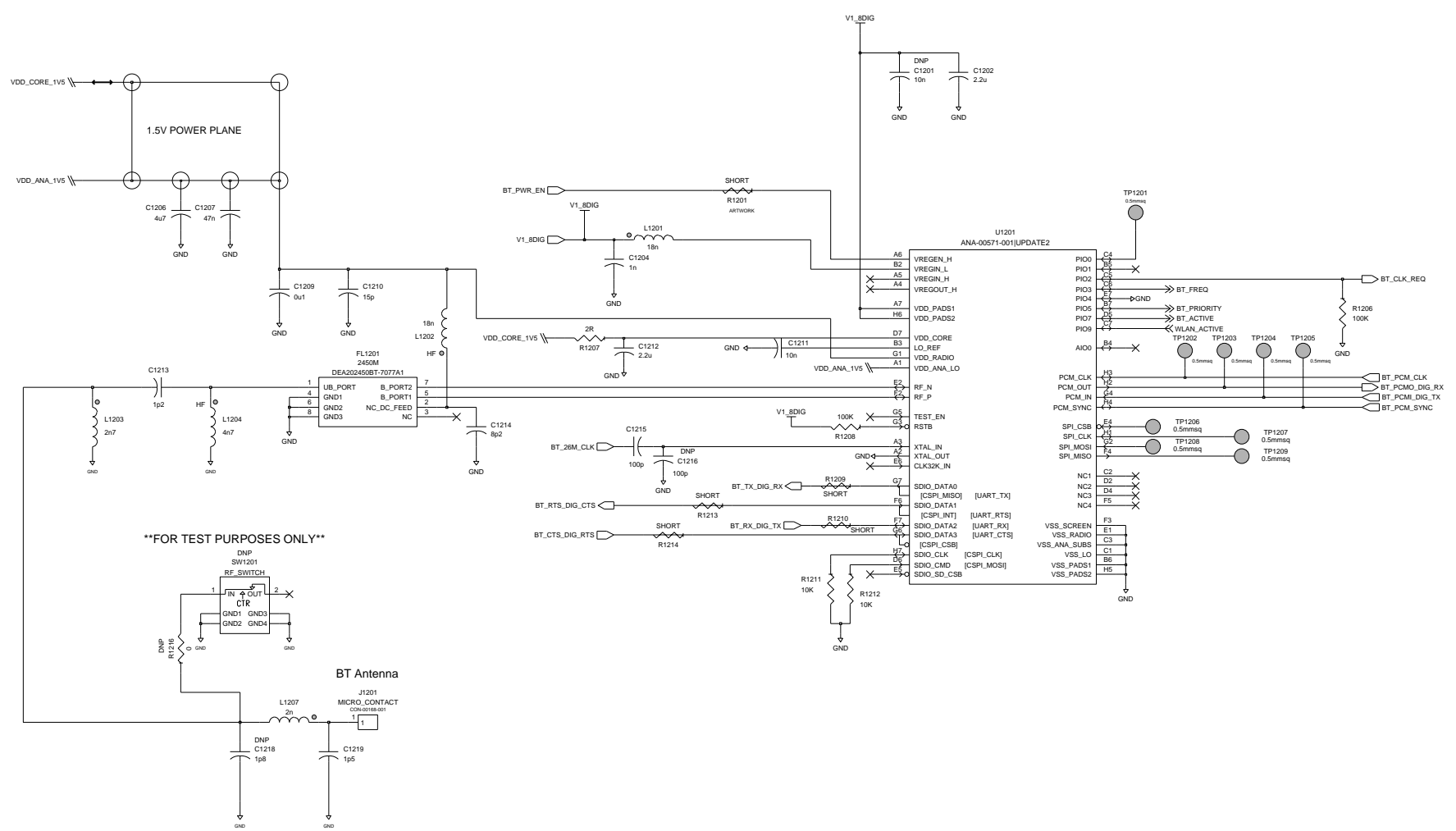
HIERARCHICAL BLOCK KEYBRD		COPYRIGHT 2009, RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306	
DRAWN BY: A.Roemer		TITLE Onyx (Band I, IV, VIII) (uses: PCB-22151-009)	
R&D CHECK		SIZE	
MFG CHECK		DRAWING No. SCH-22152-009	
Ed: Led Bu: gkug		C	
Last Ed: Aug 11, 2009, 9:16:56 am		REV 1B SHEET 11 OF 18	

4

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1



FOR TEST PURPOSES ONLY

UPDATED WITH CHANGES FROM JAVELIN REV 5A

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HIERARCHICAL BLOCK BT_WLAN		COPYRIGHT 2009, RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306	
DRAWN BY: A.Roemer		TITLE Onyx (Band I, IV, VIII)	
R&D CHECK		(uses: PCB-22151-009)	
MFG CHECK		SIZE DRAWING No. SCH-22152-009	
Edi Led Bu: gklug		C	
Last Ed: Aug 11, 2009, 9:34:29 am		REV 1B SHEET 12 OF 18	

UMTS RADIO

GPIO

CAN_ONYX_DIGITAL

NOT AN APPROVED PART

NOT AN APPROVED PART

NOT AN APPROVED PART

NOT AN APPROVED PART

NOT AN APPROVED PART

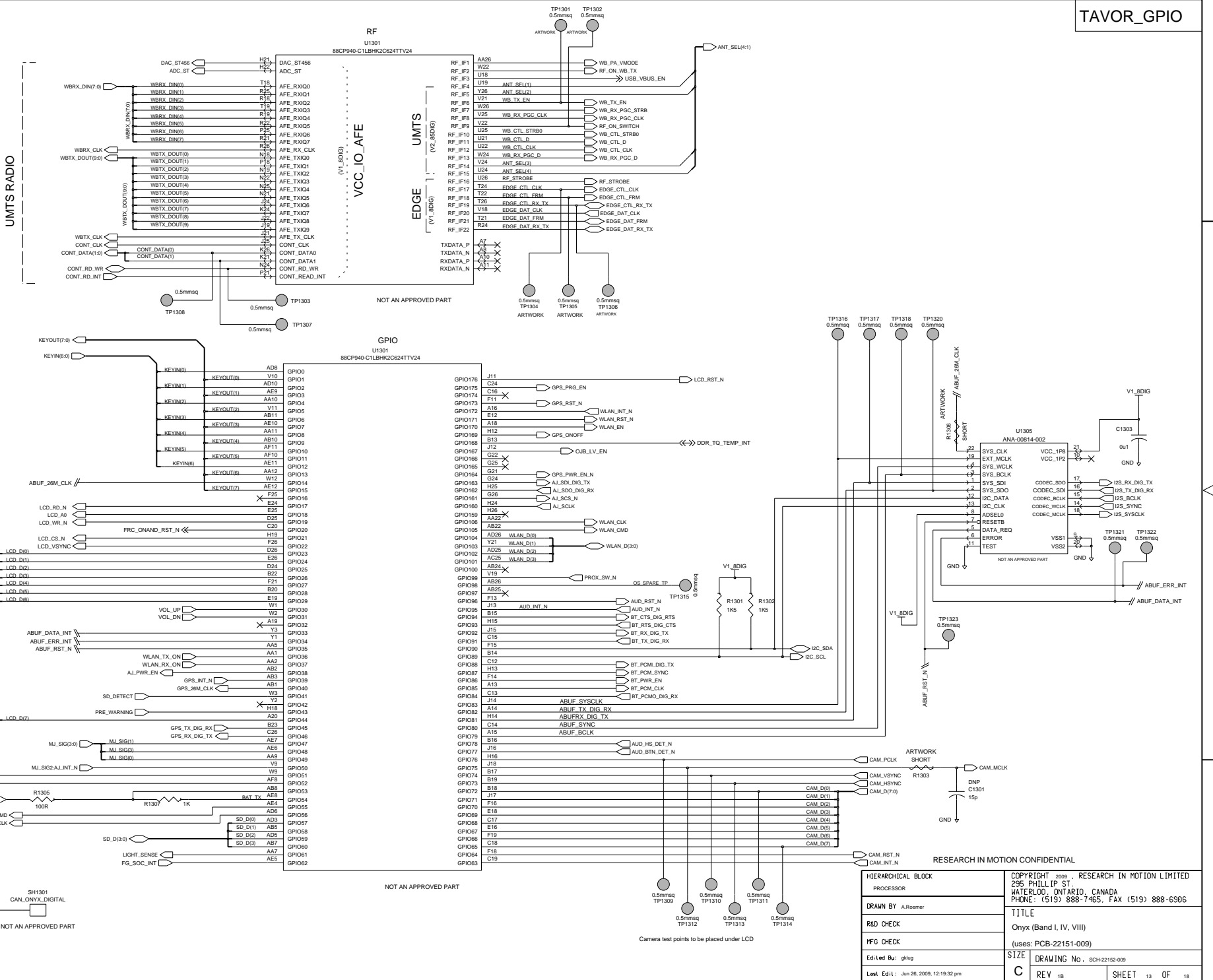
NOT AN APPROVED PART

NOT AN APPROVED PART

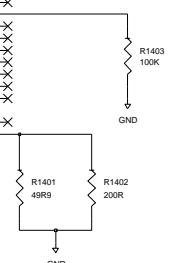
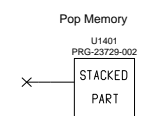
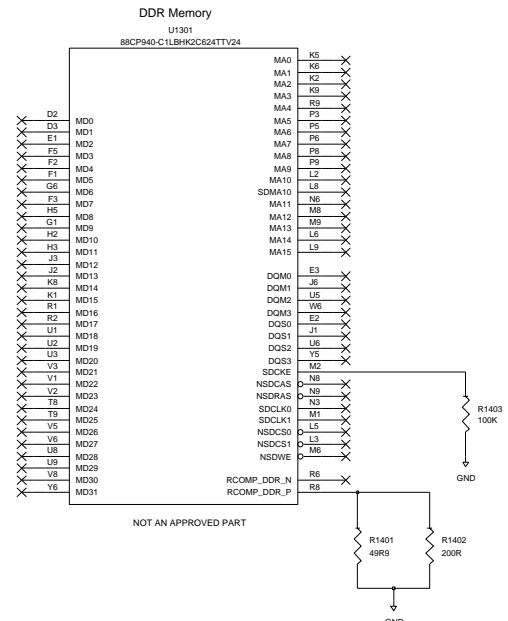
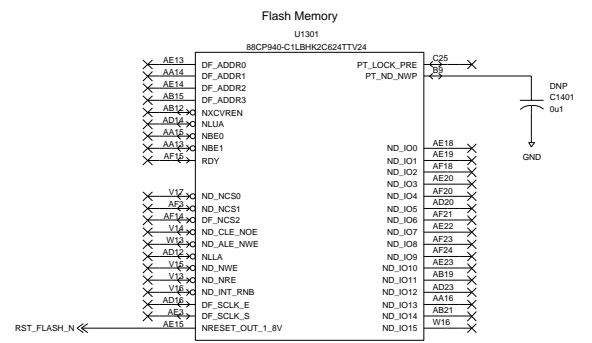
NOT AN APPROVED PART

NOT AN APPROVED PART

NOT AN APPROVED PART

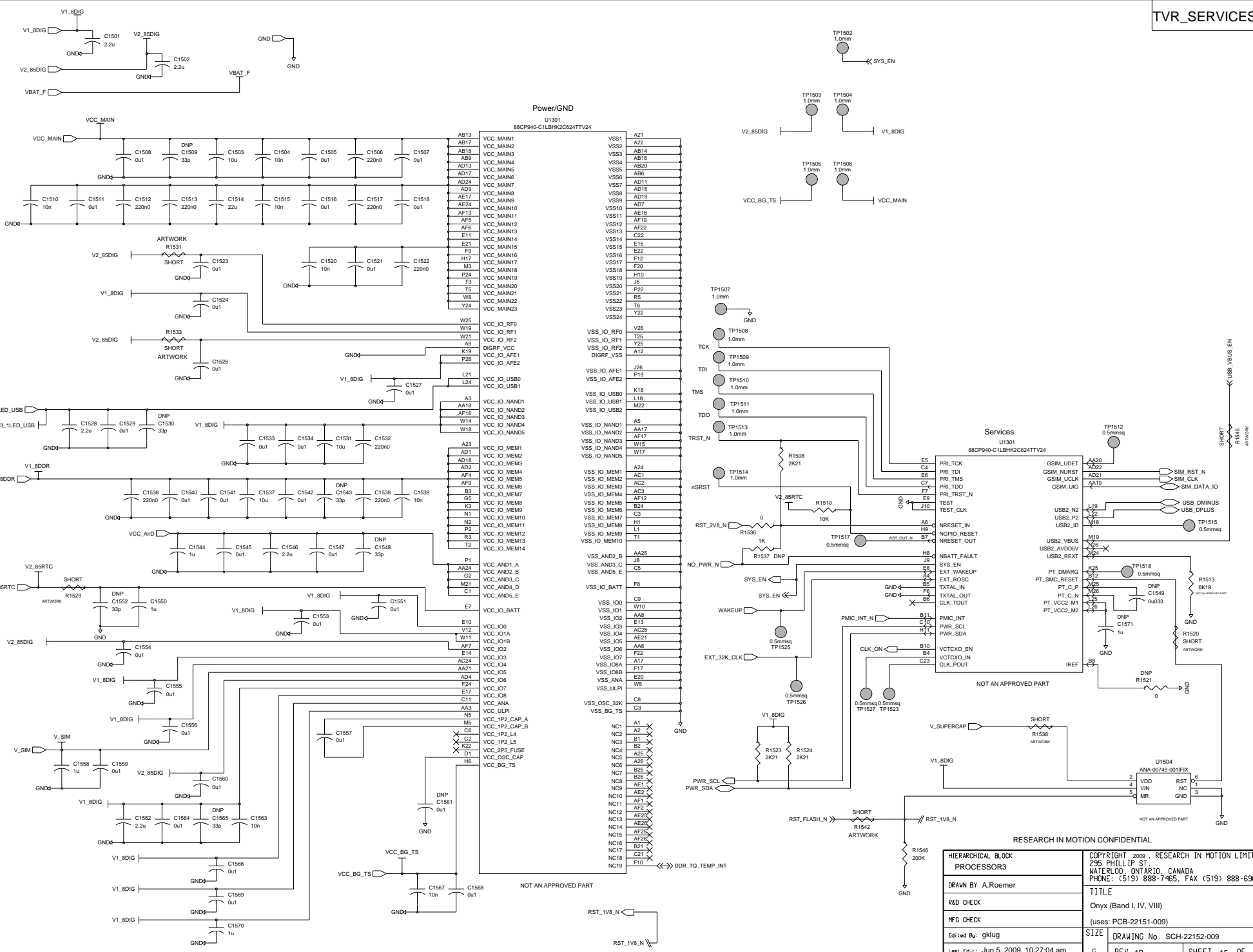


HIERARCHICAL BLOCK		PROCESSOR	
DRAWN BY A.Roemer		RIGHT 2009, RESEARCH IN MOTION LIMITED	
R&D CHECK		WATERLOO, ONTARIO, CANADA	
IFG CHECK		PHONE: (519) 888-7465, FAX: (519) 888-6306	
Edi Led Bu: gklug		TITLE	
Level Edi L: Jun 26, 2009, 12:19:32 pm		Onyx (Band I, IV, VIII)	
		(uses: PCB-22151-009)	
		SIZE	
		DRAWING No. SCH-22152-009	
		C	
		REV 18 SHEET 13 OF 18	



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HIERARCHICAL BLOCK PROCESSOR2		COPYRIGHT 2009, RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306	
DRAWN BY: A.Roemer		TITLE Onyx (Band I, IV, VIII)	
R&D CHECK		(uses: PCB-22151-009)	
MFG CHECK		SIZE DRAWING No. SCH-22152-009	
Edi Led By: gklug		C	
Last Edit: May 26, 2009, 6:29:24 am		REV 1B	SHEET 14 OF 18



Power/GND		Services	
U1301 88CP940-C1L6HQC024TV24			
AB13	VCC_MAIN1	VSS1	A21
AB17	VCC_MAIN2	VSS2	A22
AB18	VCC_MAIN3	VSS3	AB14
AD9	VCC_MAIN4	VSS4	AB16
AD13	VCC_MAIN5	VSS5	AB20
AD17	VCC_MAIN6	VSS6	AB6
AD24	VCC_MAIN7	VSS7	AD11
A26	VCC_MAIN8	VSS8	AD15
AE17	VCC_MAIN9	VSS9	AD19
AE24	VCC_MAIN10	VSS10	AD7
AF13	VCC_MAIN11	VSS11	AE16
AF6	VCC_MAIN12	VSS12	AF22
E11	VCC_MAIN13	VSS13	C22
E21	VCC_MAIN14	VSS14	E15
F9	VCC_MAIN15	VSS15	E22
H17	VCC_MAIN16	VSS16	F12
M3	VCC_MAIN17	VSS17	F20
P4	VCC_MAIN18	VSS18	H10
T3	VCC_MAIN19	VSS19	J5
T5	VCC_MAIN20	VSS20	P22
W8	VCC_MAIN21	VSS21	R5
Y4	VCC_MAIN22	VSS22	T8
	VCC_MAIN23	VSS23	Y22
	VCC_MAIN24	VSS24	
W25	VCC_IO_RF0	VSS_IO_RF0	V26
W19	VCC_IO_RF1	VSS_IO_RF1	T25
W21	VCC_IO_RF2	VSS_IO_RF2	Y25
A8	DIGRF_VCC	VSS_IO_RF2	A12
K19	DIGRF_VSS	VSS_IO_AFE1	
P26	VCC_IO_AFE2	VSS_IO_AFE2	J26
L21	VCC_IO_USB0	VSS_IO_AFE2	P19
L24	VCC_IO_USB1	VSS_IO_USB0	K18
A3	VCC_IO_NAND1	VSS_IO_USB1	L18
AA18	VCC_IO_NAND2	VSS_IO_USB2	M22
AF16	VCC_IO_NAND3	VSS_IO_NAND1	A5
W14	VCC_IO_NAND4	VSS_IO_NAND2	AA17
W18	VCC_IO_NAND5	VSS_IO_NAND3	AF17
		VSS_IO_NAND5	W15
A23	VCC_IO_MEM1	VSS_IO_MEM1	A24
AD1	VCC_IO_MEM2	VSS_IO_MEM2	AC1
AD2	VCC_IO_MEM3	VSS_IO_MEM3	AC2
AF4	VCC_IO_MEM4	VSS_IO_MEM4	AC3
AF9	VCC_IO_MEM5	VSS_IO_MEM5	AF12
B3	VCC_IO_MEM6	VSS_IO_MEM6	B24
C5	VCC_IO_MEM7	VSS_IO_MEM7	C3
K3	VCC_IO_MEM8	VSS_IO_MEM8	H1
N1	VCC_IO_MEM9	VSS_IO_MEM9	L1
N2	VCC_IO_MEM10	VSS_IO_MEM10	T1
R3	VCC_IO_MEM11	VSS_AND2.B	AA25
R2	VCC_IO_MEM12	VSS_AND3.C	J8
T2	VCC_IO_MEM13	VSS_AND4.E	C5
	VCC_IO_MEM14	VSS_AND5.E	
AA24	VCC_AND1.A	VSS_IO_BATT	
G2	VCC_AND2.B	VSS_IO0	C9
M21	VCC_AND3.C	VSS_IO1	W10
C1	VCC_AND4.D	VSS_IO2	AA8
	VCC_AND5.E	VSS_IO3	E13
E7	VCC_IO_BATT	VSS_IO4	AC26
E10	VCC_IO0	VSS_IO5	AE21
V12	VCC_IO1A	VSS_IO6	F22
W11	VCC_IO2	VSS_IO7	A17
AF7	VCC_IO3	VSS_IO8A	F17
E14	VCC_IO4	VSS_IO8B	E20
AA24	VCC_IO5	VSS_ULPI	W5
AA21	VCC_IO6	VSS_OSC_32K	C8
AD4	VCC_IO7	VSS_OSC_32K	G3
F24	VCC_IO8	VSS_ULPI	
E17	VCC_IO9	VCC_1P2_CAP.A	
C11	VCC_ANA	VCC_1P2_CAP.B	
AA3	VCC_ULPI	VCC_1P2_L4	
N5	VCC_ULPI	VCC_1P2_L5	
M5	VCC_1P2_CAP.A	VCC_2P5_FUSE	
C8	VCC_1P2_CAP.B	VCC_OSC_CAP	
C2	VCC_1P2_L4	VCC_BG_TS	
B2	VCC_1P2_L5		
NC4	VCC_2P5_FUSE		
NC5	VCC_OSC_CAP		
NC6	VCC_BG_TS		
NC7			
NC8			
NC9			
NC10			
NC11	A1		
NC12	A2		
NC13	B1		
NC14	B2		
NC15	A25		
NC16	A28		
NC17	B25		
NC18	AE1		
NC19	AE2		
	AF1		
	AF2		
	AE28		
	AE29		
	AF26		
	B21		
	C21		
	F10		

HIERARCHICAL BLOCK PROCESSOR3		COPYRIGHT 2009, RESEARCH IN MOTION LIMITED	
DRAWN BY: A.Roemer	R&D CHECK	TITLE	295 PHILLIP ST
IFG CHECK	Ed: Led Bu: gklug	TITLE	WATERLOO, ONTARIO, CANADA
REV 1B	LAST Ed: Jun 5, 2009, 10:27:04 am	TITLE	PHONE: (519) 888-7465, FAX (519) 888-6306
SHEET 15 OF 18		SIZE	DRAWING No. SCH-22152-009
			REV 1B

D

D

C

C

B

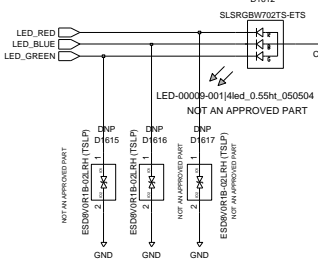
B

A

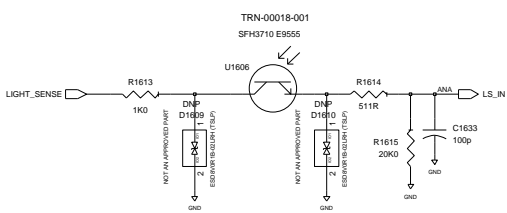
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RESEARCH IN MOTION CONFIDENTIAL

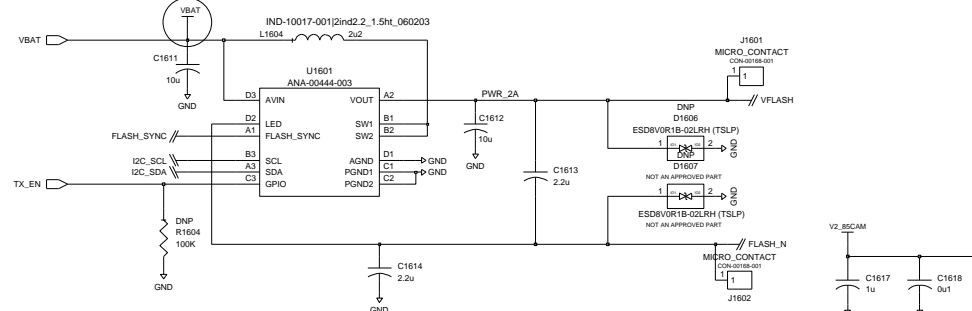
TRI-COLOR LED



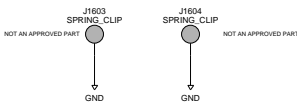
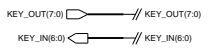
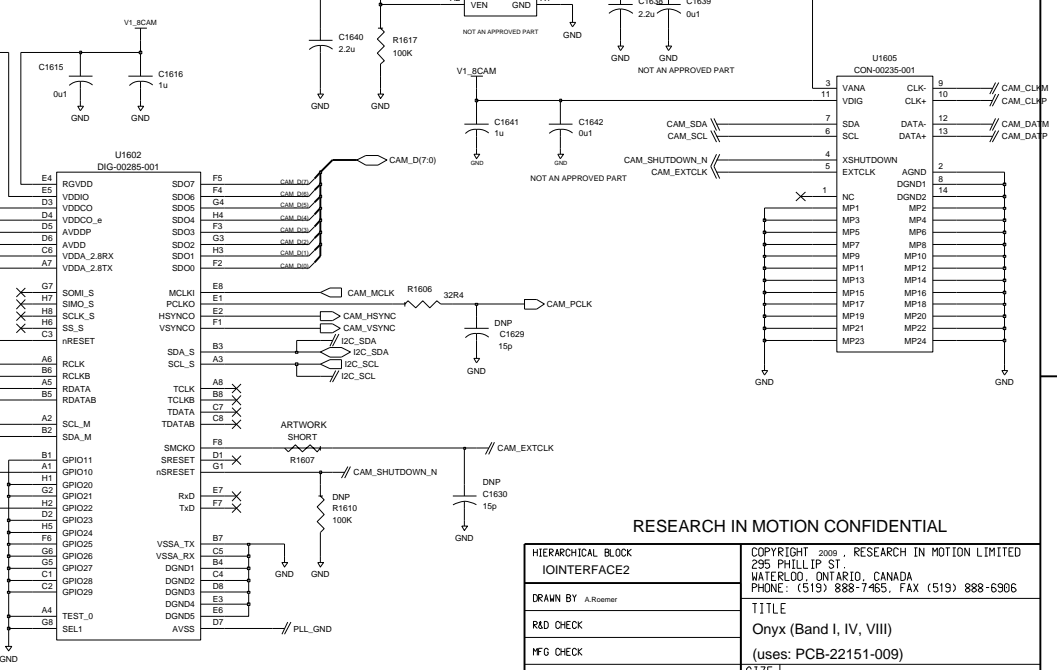
LIGHT SENSOR



CAMERA FLASH



CAMERA ISP



Pullups to be programmed in Tavor PV

CLK_IN must be connected to SD-Card side

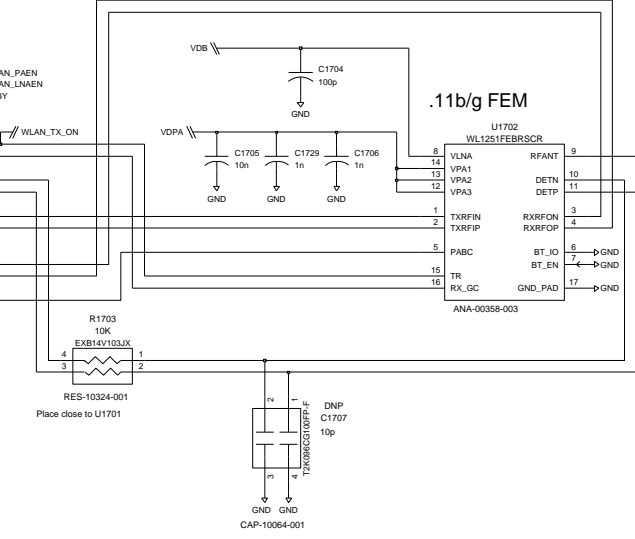
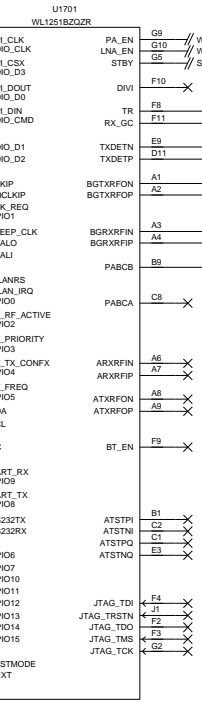
Place close to ISP w/ shortest stubs

HIERARCHICAL BLOCK JOINTERFACE2		COPYRIGHT 2009, RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306	
DRAWN BY A.Roemer		TITLE Onyx (Band I, IV, VIII)	
R&D CHECK		(uses: PCB-22151-009)	
MFG CHECK		SIZE DRAWING No. SCH-22152-009	
Edi Led Bu: gklug		C REV 1B SHEET 16 OF 18	
Last Ed1: May 25, 2009, 1:19:49 pm			

UPDATED FROM JAVELIN REV005A

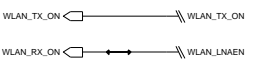
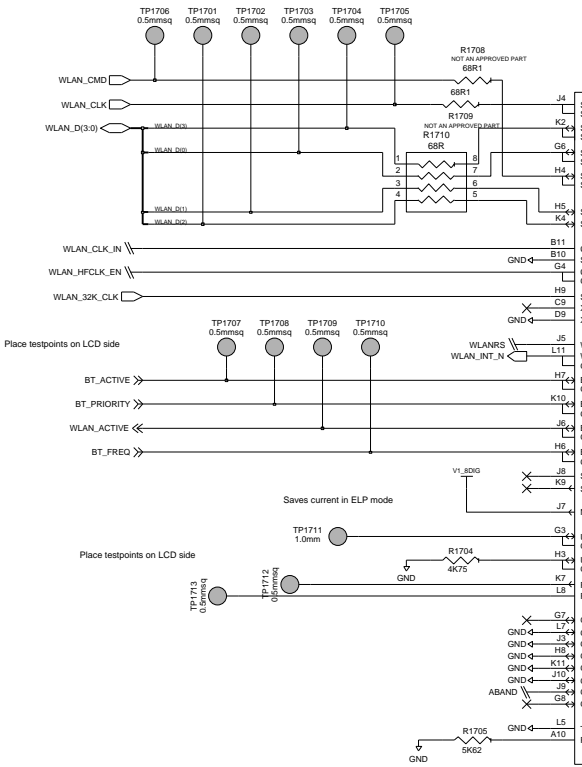
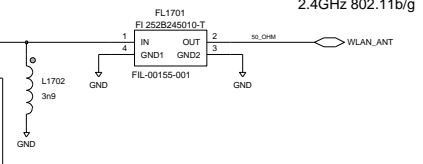
Z-axis connection only
Place close to Digital side
Route SMD lines as a bus, min trans

MAC BB

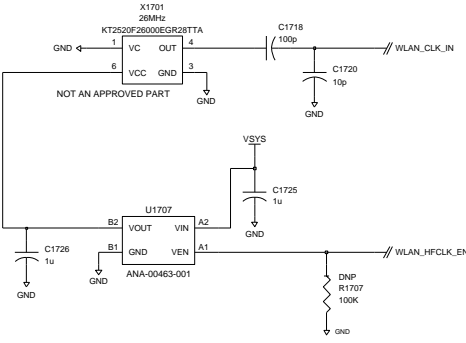
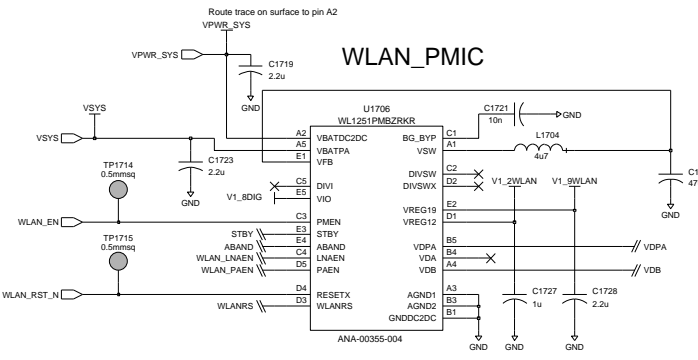


WLAN

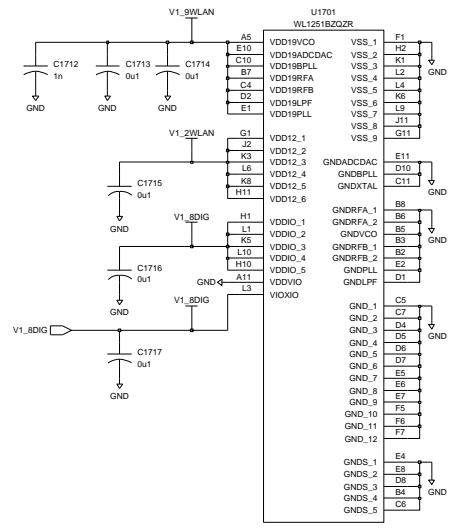
2.4GHz 802.11b/g



WLAN_PMIC



MAC BB



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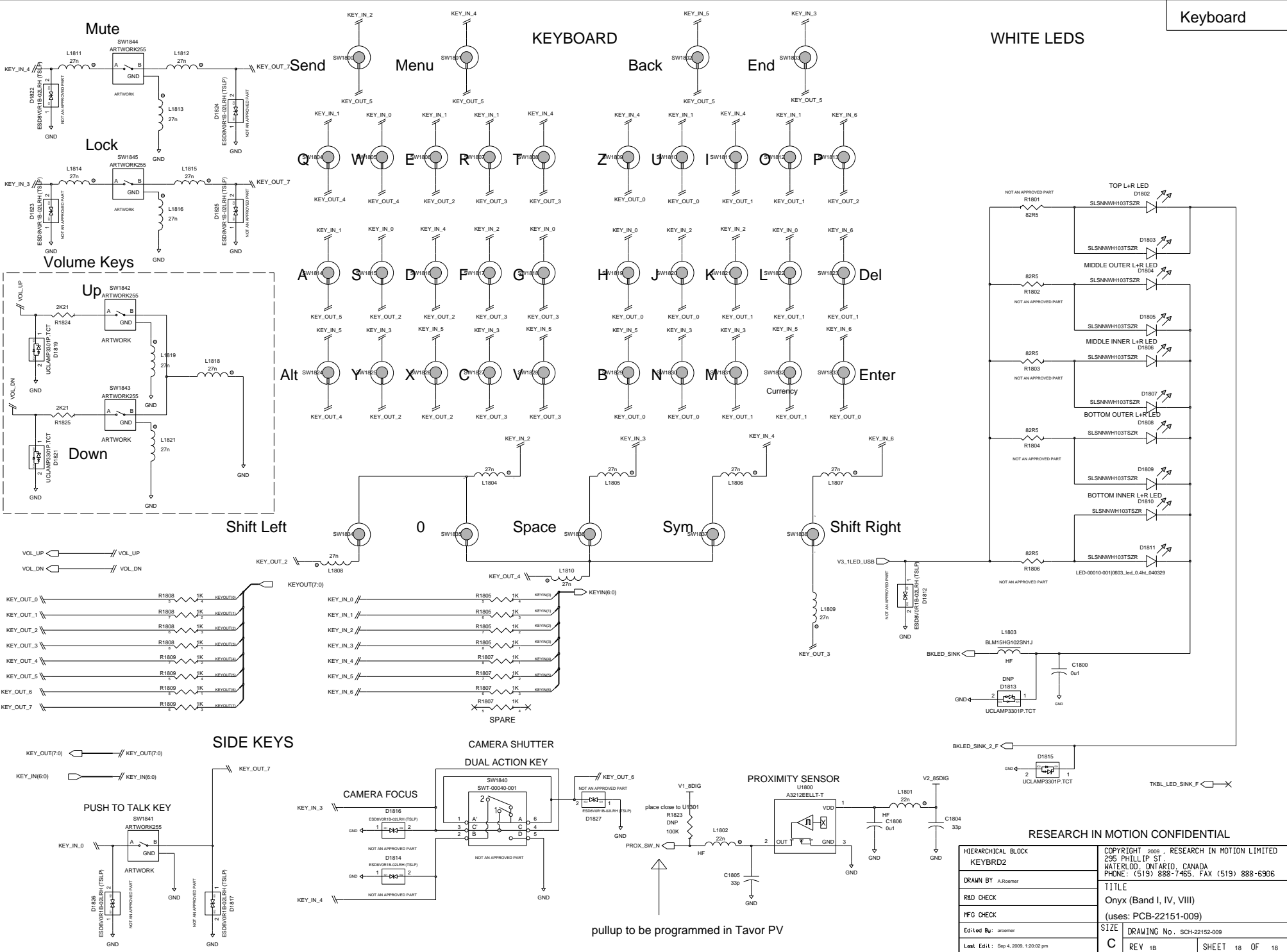
HIERARCHICAL BLOCK BT_WLAN2	COPYRIGHT 2009, RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306
DRAWN BY A.Roemer	TITLE Onyx (Band I, IV, VIII) (uses: PCB-22151-009)
R&D CHECK	SIZE DRAWING No. SCH-22152-009
IFG CHECK	C REV 1B SHEET 17 OF 18
Edi Led By: aroemer	
Label Ed1: Sep 4, 2009, 1:09:04 pm	

UPDATED WITH CHANGES FROM JAVELIN REV 5A

Keyboard

WHITE LEDS

KEYBOARD



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HIERARCHICAL BLOCK KEYBRD2		COPYRIGHT 2009, RESEARCH IN MOTION LIMITED 295 PHILLIP ST. WATERLOO, ONTARIO, CANADA PHONE: (519) 888-7465, FAX (519) 888-6306	
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R&D CHECK		(uses: PCB-22151-009)	
MFG CHECK		SIZE DRAWING No. SCH-22152-009	
Ed: Led Bu: aroemer		C	
Last Ed: 1 Sep 4, 2009, 1:20:02 pm		REV 1B	SHEET 18 OF 18

pullup to be programmed in Tavor PV