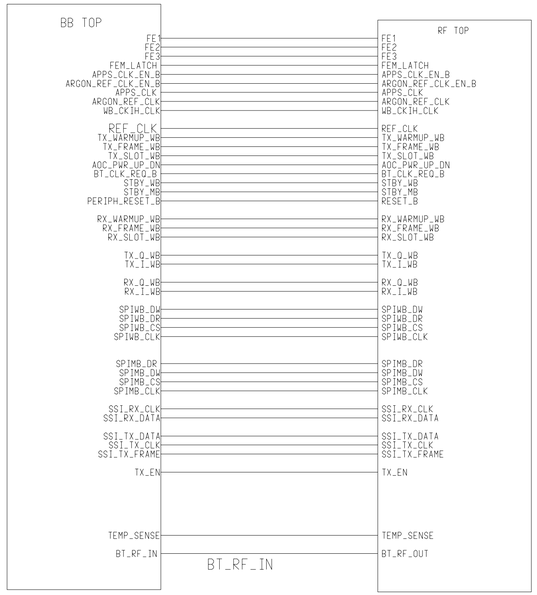
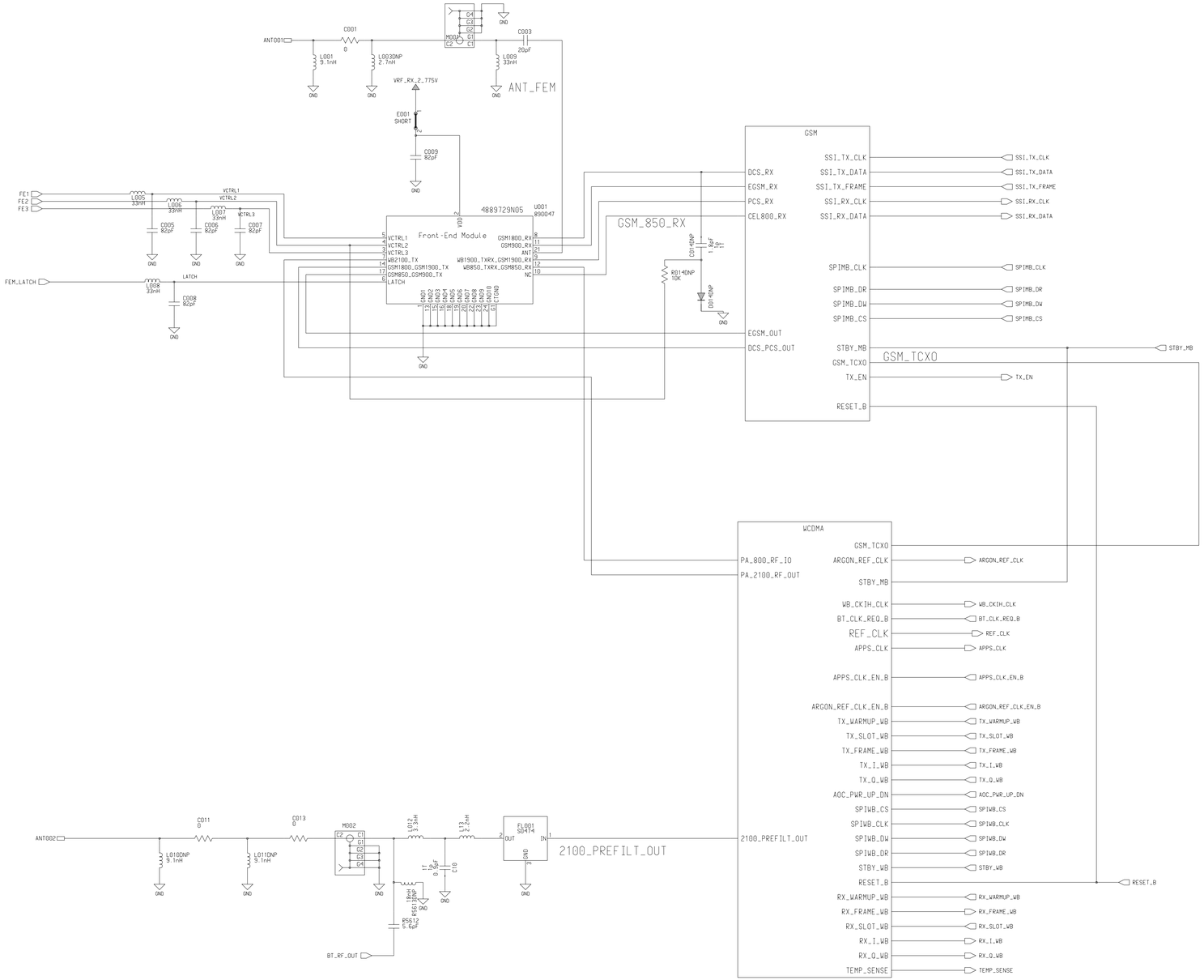


Changed by	Date Released Wednesday, February 8, 2006	Time	QA CHK	REV	Drawing Number	Sheet of

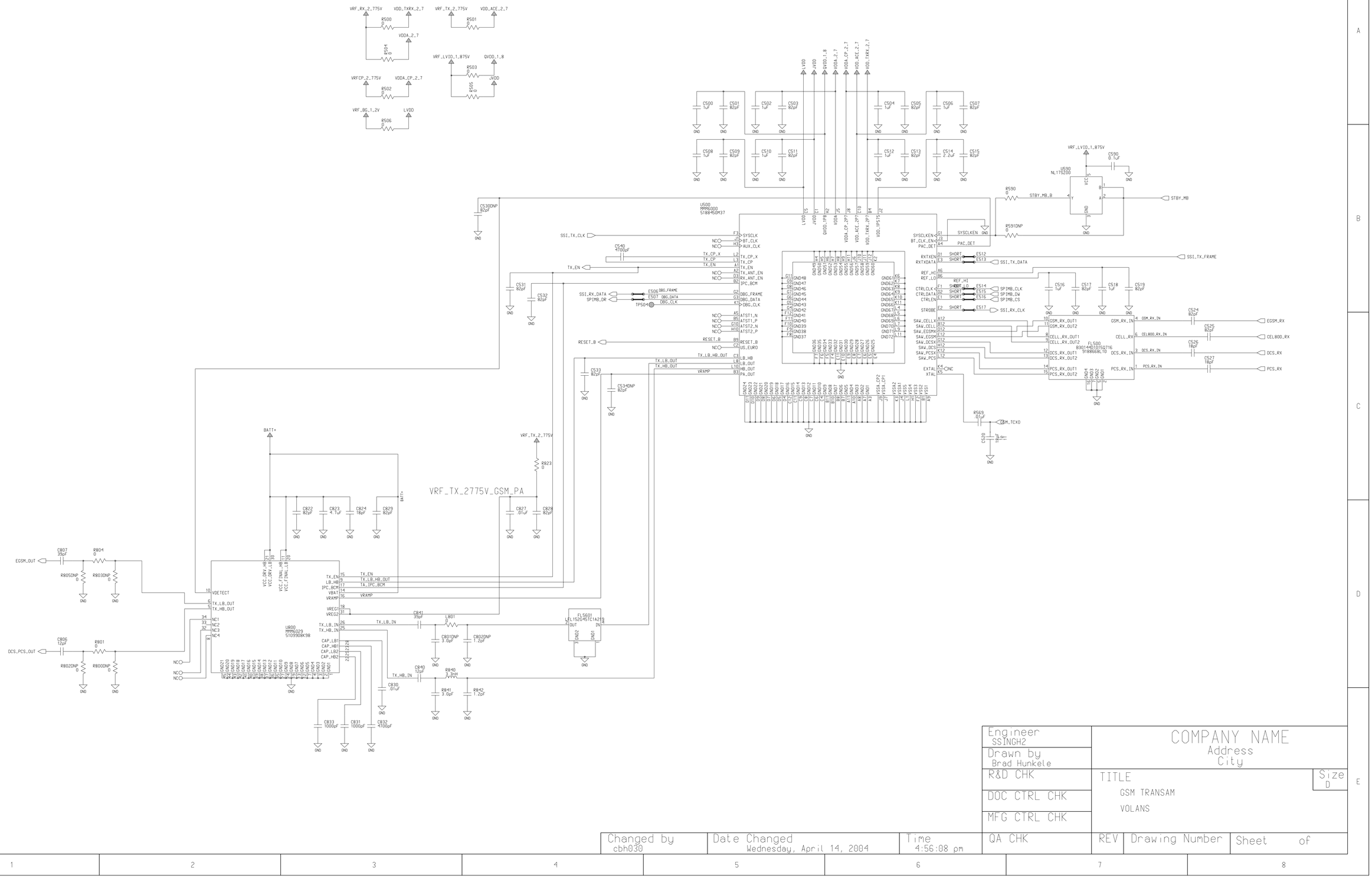
Engineer W16564 / W16224	COMPANY NAME Address City
Drawn by W16564 / W16224	
R&D CHK	TITLE Volans EMEA P0
DOC CTRL CHK	Size D
MFG CTRL CHK	

Main antenna match



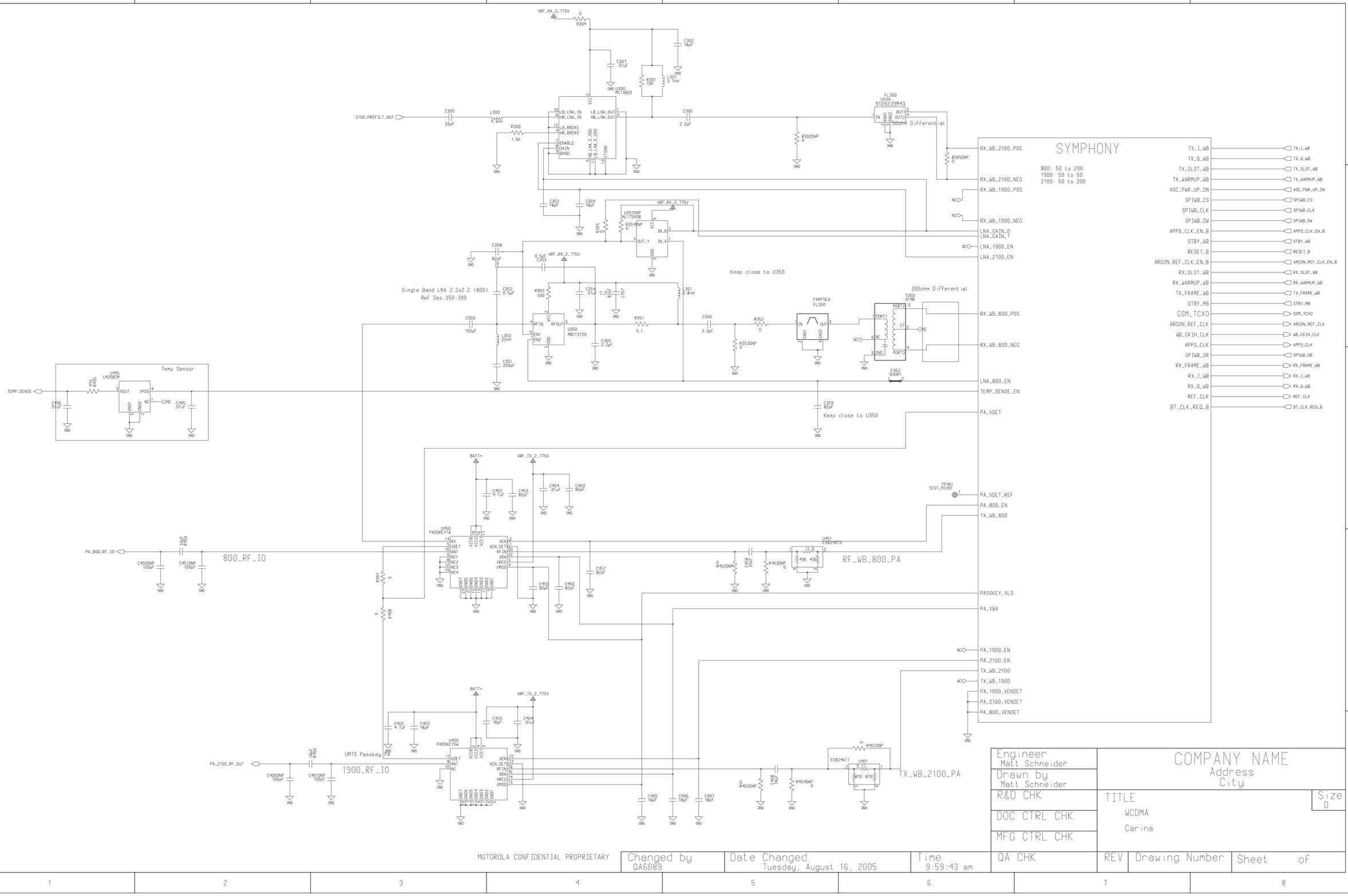
Changed by cbh030	Date Changed Wednesday, April 14, 2004	Time 3:56:11 pm	QA CHK

Engineer SSINGH2	COMPANY NAME Address City		
Drawn by SSINGH2			
R&D CHK	TITLE RF_TOP VOLANS	Size D	
DOC CTRL CHK			
MFG CTRL CHK			
REV	Drawing Number	Sheet of	



Engineer SSINGH2	COMPANY NAME Address City		
Drawn by Brad Hunkele			
R&D CHK	TITLE GSM TRANSAM VOLANS		Size D
DOC CTRL CHK			
MFG CTRL CHK			
QA CHK	REV	Drawing Number	Sheet of

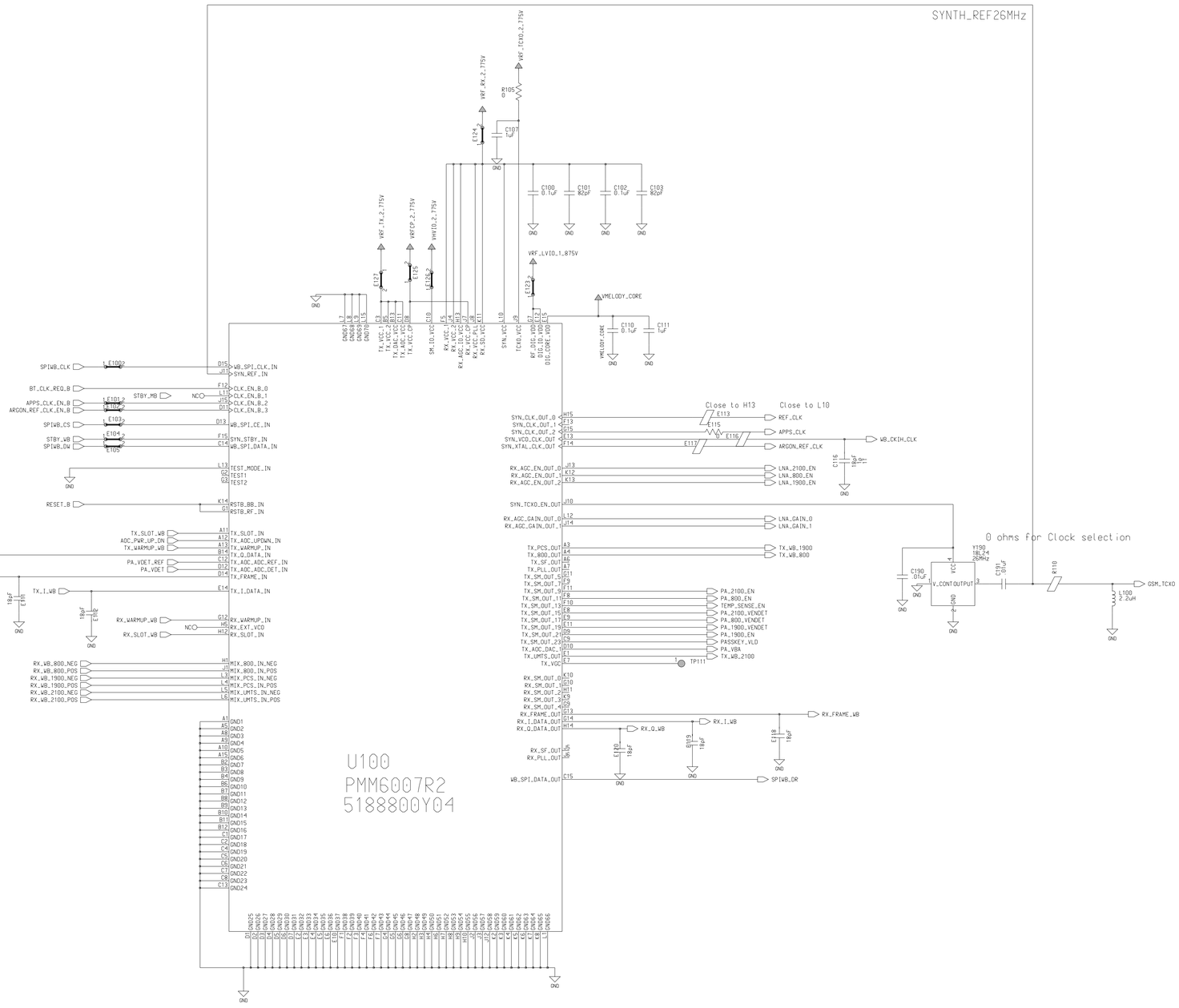
Changed by	Date Changed	Time
cbh030	Wednesday, April 14, 2004	4:56:08 pm



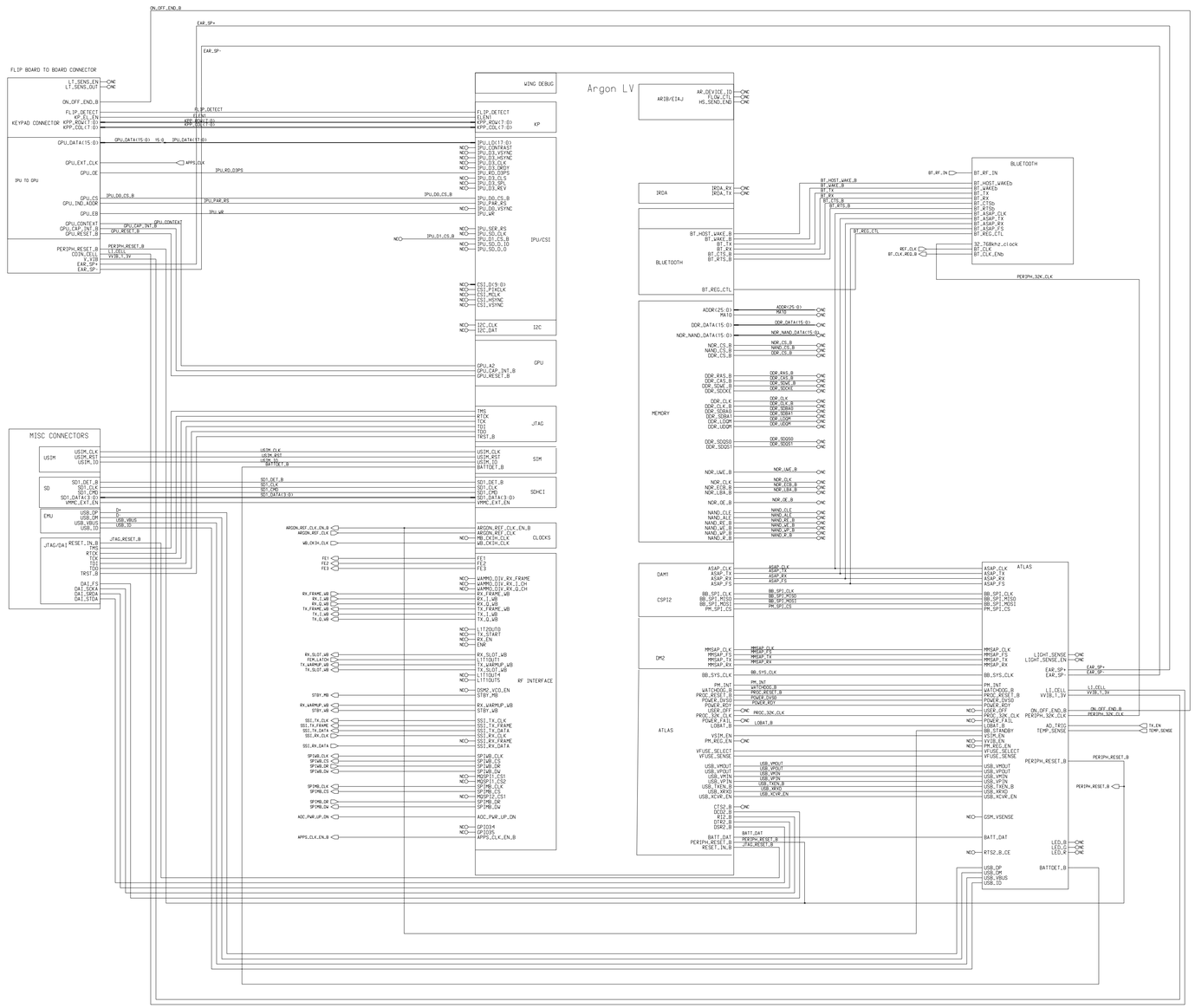
Engineer: Matt Schneider	COMPANY NAME Address City		
Drawn by: Matt Schneider			
R&D CHK	TITLE: WCDMA Carina	Size: D	
DOC CTRL CHK			
MFG CTRL CHK			
QA CHK	REV	Drawing Number	Sheet of

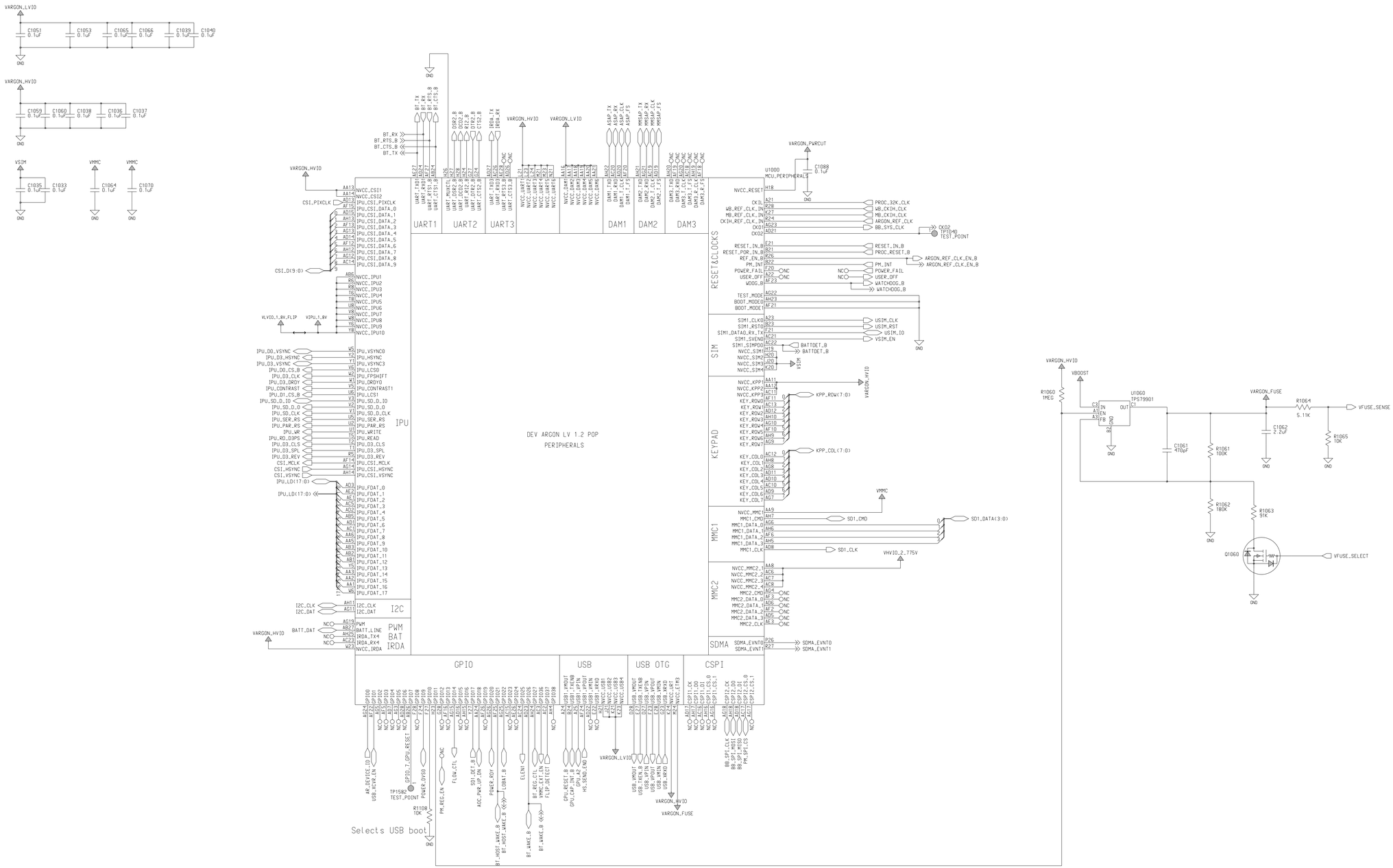
MOTOROLA CONFIDENTIAL PROPRIETARY

Changed by	Date Changed	Time
QA6089	Tuesday, August 16, 2005	9:59:43 am



Engineer Matt Schneider	COMPANY NAME Address City						
Drawn by Matt Schneider							
R&D CHK	TITLE SYMPHONY						Size D
DOC CTRL CHK							
MFG CTRL CHK							
MOTOROLA CONFIDENTIAL PROPRIETARY	Changed by QA6089	Date Changed Friday, August 12, 2005	Time 5:16:05 pm	QA CHK	REV	Drawing Number	Sheet 1 of 1


ON_OFF_END_B
EAR_SP+
EAR_SP-
FLIP BOARD TO BOARD CONNECTOR
LT_SENS_EN
LT_SENS_OUT
ON_OFF_END_B
FLIP_DETECT
KEYPAD CONNECTOR
KPP_MSEL(1:0)
KPP_COL(7:0)
GPU_DATA(15:0)
GPU_EXT_CLK
GPU_OE
IPU TO GPU
GPU_CS
GPU_IND_ADDR
GPU_EB
GPU_CONTEXT
GPU_CAP_INT_B
GPU_RESET_B
PERIPH_RESET_B
COIN_CELL
V_VIB
EAR_SP+
EAR_SP-
MISC CONNECTORS
USIM
SD
EMU
JTAG/DAI
WING DEBUG
KP
IPU/CSI
I2C
GPU
JTAG
SIM
SDHCI
CLOCKS
RF INTERFACE
Argon LV
BLUETOOTH
IRDA
MEMORY
ATLAS
DAM1
CSP12
DM2
BLUETOOTH
BT_RF_IN
BT_HOST_WAKED
BT_WAKED
BT_TX
BT_RX
BT_CTSb
BT_RTS
BT_ASAP_CLK
BT_ASAP_TX
BT_ASAP_RX
BT_ASAP_FS
BT_REG_CTL
32.768khz_clock
BT_CLK
BT_CLK_END
PERIPH_32K_CLK
Engineer:
G15829
Drawn by:
G15829
R&D CHK:
DOC CTRL CHK:
MFG ENGR CHK:
COMPANY NAME
Address
City
TITLE:
Baseband_Top
Size:
E
B1BA
Changed by:
Date Changed:
Time Changed:
QA CHK:
REV
Drawing Number:
Page:
1



Changed by:	Date Changed:	Time:	QA CHK:	REV:	Drawing Number:	Page: HERALS

Engineer: GT5829	COMPANY NAME Address City
Drawn by: GT5829	
R&D CHK:	TITLE: Argon PERIPHERALS
DOC CTRL CHK:	Size: D
MFG CTRL CHK:	8 1 5 A

MOTOROLA CONFIDENTIAL PROPRIETARY

4 1 3 A

VARGON_LVIO

C1011 0.1uF C1012 0.1uF C1013 0.1uF C1014 0.1uF C1018 0.1uF C1019 0.1uF

GND

DDR_DATA(15:0)

VARGON_LVIO VARGON_LVIO

U1000
MEM_TEST_INT

ADDR(25:0)

MA10

NOR_CS_B NAND_CS_B DDR_CS_B NC NOR2_CS_B

NOR_NAND_DATA(15:0)

DEV ARGON LV 1.2 POP

External Memory Interface

& Test Interface

JTAG

TRSTB TDO TDI TCK RTCK TMS DE_B EVTI_B SJC_MOD

TRST_B TDO TDI TCK RTCK TMS NC EVTI_B

VREF VCCQ_IO_SDRAM_FLASH

R1028DNP 100K 1/

R1081 10K

C1020 1000pF

R1022DNP 100K 1/

GND

NOR_OE_B NOR_LBA_B NOR_ECB_B NOR_CLK DDR_RAS_B DDR_CAS_B DDR_SDWE_B DDR_SDCKE DDR_CLK DDR_CLK_B DDR_SDBA0 DDR_SDBA1 NAND_CLE NAND_ALE NAND_RE_B NAND_WE_B NAND_WP_B DDR_LDQM DDR_UDQM NOR_UWE_B NOR_LWE_B DDR_SDQS0 DDR_SDQS1

VARGON_LVIO

R1401 4.7K

NAND_R_B

U1001
S99_50165

NC

5199213K02 (2x32/64/64 - Spansion NOR / Hynix NAND / Micron DDR)
Placeholder for 5199213K03 (64/64/64 - Spansion NOR / Hynix NAND / Micron DDR)

Engineer: G15829	MOTOROLA INC.		
Drawn by: G15829			
R&D CHK:	TITLE: ARGON Memory		Size: 11x17
DOC CTRL CHK:			
MFG CTRL CHK:			
QA CHK:	REV:	Drawing Number: 8xxxxxxx	Page: / Of:
Changed by:	Date:		Time:

MOTOROLA CONFIDENTIAL PROPRIETARY

4 1 3 A

Engineer: G15829	MOTOROLA INC.
Drawn by: G15829	
R&D CHK:	TITLE: ARGON DSP — Size: 11x17
DOC CTRL CHK:	
MFG CTRL CHK:	
QA CHK:	REV: — Drawing Number: 8xxxxxxxxxx — Page: — Of:
Changed by:	Date: — Time:

VRF_LVIO_1_875V

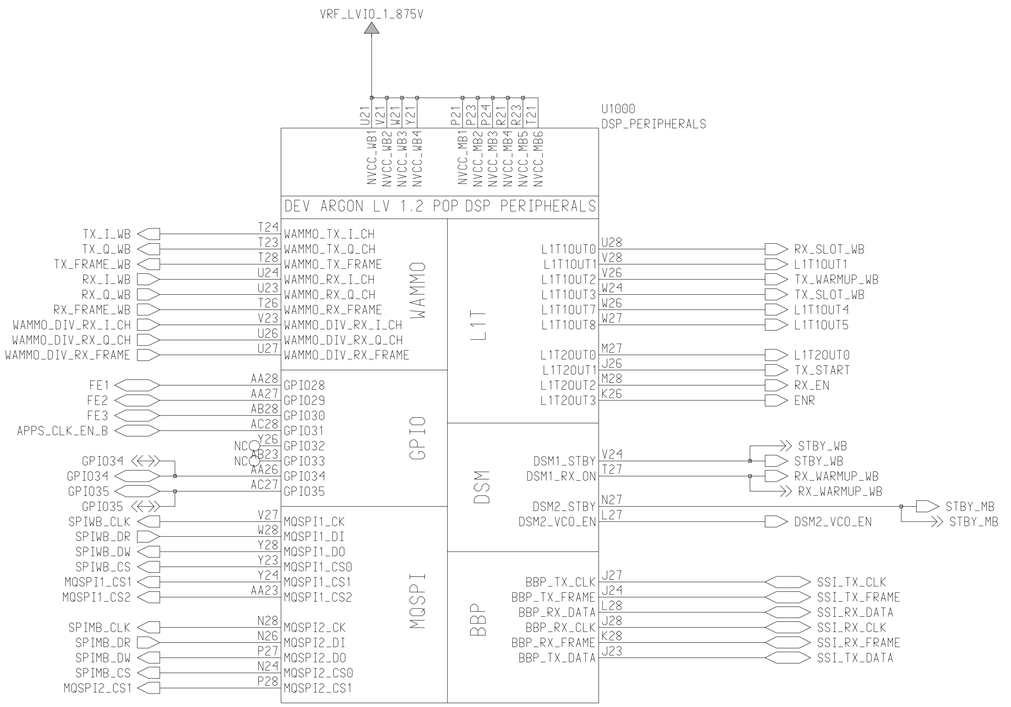
C1042 0.1uF

GND

VRF_LVIO_1_875V

C1043 0.1uF

GND



MOTOROLA CONFIDENTIAL PROPRIETARY

4 1 3 A

Engineer: G15829	MOTOROLA INC.
Drawn by: G15829	
R&D CHK:	TITLE: ARGON Core_Power — Size: 11x17
DOC CTRL CHK:	
MFG CTRL CHK:	
QA CHK:	REV: Drawing Number: Page: Of:
Changed by:	Date: Time:

VARGON_CORE
C1000 0.1uF
C1008 10uF
C1009 10uF
C1005 0.1uF
C1006 0.1uF
C1007 0.1uF
GND

VARGON_CORE
C1025 0.1uF
C1024 0.1uF
C1029 0.1uF
C1032 0.1uF
C1031 0.1uF
GND

VLVIO_1_8V — 0 R1007 — VARGON_LVIO
VARGON_LVIO — 0 R1008 — VSDRAM_CORE
VHVIO_2_775V — 0 R1009 — VARGON_HVIO
VARGON_LVIO — 0 R1012 — VFLASH_CORE
VCCQ_IO_SDRAM_FLASH — 0 R1011 — SW1
SW1 — 0 R1015 — VARGON_CORE
VARGON_PWRCUT — 0 R1014

M1001DNP 1188983Y01
M1002DNP 1188983Y01
M1003DNP 1188983Y01
M1004DNP 1188983Y01
NC — 1 PIN1 PIN2 2 — NC

VARGON_CORE
VCC1 J9, VCC2 J10, VCC3 J11, VCC4 J12, VCC5 J13, VCC6 J14, VCC7 J15, VCC8 J16, VCC9 J17, VCC10 J18, VCC11 J19, VCC12 K9, VCC13 L9, VCC14 L20, VCC15 M9, VCC16 M20, VCC17 N9, VCC18 N20, VCC19 P9, VCC20 P20, VCC21 R9, VCC22 R20, VCC23 T9, VCC24 T20, VCC25 U9, VCC26 U20, VCC27 V9, VCC28 V20, VCC29 W9, VCC30 W20, VCC31 Y9, VCC32 Y10, VCC33 Y11, VCC34 Y12, VCC35 Y13, VCC36 Y14, VCC37 Y15, VCC38 Y16, VCC39 Y17, VCC40 Y18, VCC41 Y19, VCC42 Y20

AA10 FASTR
AC9 THDIODE
GND1 A1, GND2 A2, GND3 A3, GND4 A26, GND5 A27, GND6 A28, GND7 AF1, GND8 AF28, GND9 AG1, GND10 AG2, GND11 AG27, GND12 AG28, GND13 AH1, GND14 AH2, GND15 AH3, GND16 AH26, GND17 AH27, GND18 AH28, GND19 B1, GND20 B2, GND21 B27, GND22 B28, GND23 C11, GND24 C28, GND25 L11, GND26 L12, GND27 L13, GND28 L14, GND29 L15, GND30 L16, GND31 L17, GND32 L18
GND33 M11, GND34 M12, GND35 M13, GND36 M14, GND37 M15, GND38 M16, GND39 M17, GND40 M18, GND41 N11, GND42 N12, GND43 N13, GND44 N14, GND45 N15, GND46 N16, GND47 N17, GND48 N18, GND49 P11, GND50 P12, GND51 P13, GND52 P14, GND53 P15, GND54 P16, GND55 P17, GND56 P18, GND57 R11, GND58 R12, GND59 T8, GND60 R13, GND61 R14, GND62 R15, GND63 R16, GND64 R17, GND65 R18, GND66 T11, GND67 T12, GND68 T13, GND69 T14, GND70 T15, GND71 T16, GND72 T17, GND73 T18, GND74 U11, GND75 U12, GND76 U13, GND77 U14, GND78 U15, GND79 U16, GND80 U17, GND81 U18, GND82 V11, GND83 V12, GND84 V13, GND85 V14, GND86 V15, GND87 V16, GND88 V17, DGND C8, MGND V18
GND

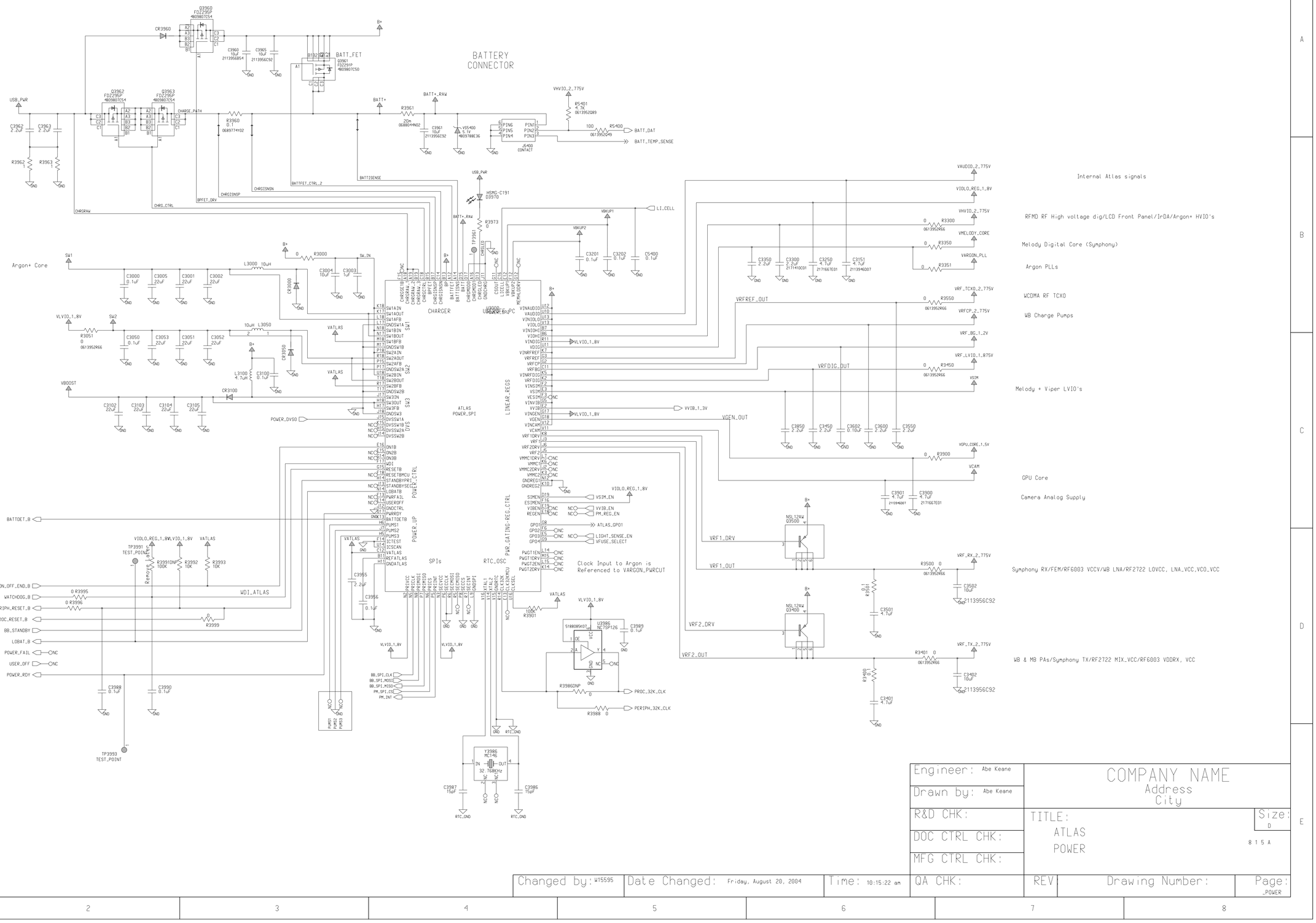
DEV ARGON LV 1.2 POP

CORE POWER,GROUND and NOT CONNECTED

VARGON_PWRCUT
VARGON_PLL
VFLASH_CORE
VSDRAM_CORE
VCCQ_IO_SDRAM_FLASH

U1000
PWR_GND_NC
DVDD N23, IOQVDD AA15, MVDD F12
D_VDD1 P3, D_VDD2 R3, D_VDD3 T3, D_VDD4 U3, AF9
MEM_VDDQ1 C7, MEM_VDDQ2 C6, MEM_VDDQ3 AF4
F_VCC1 L3, F_VCC2 K3
MEM_VCCQ1 G3, MEM_VCCQ2 H3, MEM_VCCQ3 AF17, MEM_VCCQ4 F3, MEM_VCCQ5 C18, MEM_VCCQ6 M26
F_VPP E26
MEM_VSS1 N3, MEM_VSS2 W3, MEM_VSS3 C23, MEM_VSS4 Y3, MEM_VSSQ1 AF8, MEM_VSSQ2 AF7, MEM_VSSQ3 C24, MEM_VSSQ4 C20, MEM_VSSQ5 C21, MEM_VSSQ6 C19, MEM_VSSQ7 F26
F_DPD_B G26
F_RST_B C22 — PERIPH_RESET_B
F_WP1_B L26

C1023 0.1uF
C1022 0.1uF
GND
C1030 0.1uF
C1003 0.1uF
C1004 0.1uF
C1054 0.1uF
GND
C1016 0.1uF
C1017 0.1uF
GND



Engineer: Abe Keane	COMPANY NAME Address City				
Drawn by: Abe Keane					
R&D CHK:	TITLE: ATLAS POWER	Size: D 8 1 5 A			
DOC CTRL CHK:					
MFG CTRL CHK:					
Changed by: W15595	Date Changed: Friday, August 20, 2004	Time: 10:15:22 am	QA CHK:	REV:	Drawing Number: Page: _POWER

MOTOROLA CONFIDENTIAL PROPRIETARY

4 1 3 A

Engineer: Nick Klezek	MOTOROLA INC.
Drawn by: Nick Klezek	
R&D CHK:	TITLE: ATLAS Audio
DOC CTRL CHK:	Size: 11x21
MFG CTRL CHK:	
QA CHK:	REV: / Drawing Number: / Page: / Of:
Changed by: W16564	Date: Monday, February 13, 2006 / Time: 9:29:26 am

M3001DNP 05B01 — NC — PIN1 PIN2 — NC
M3002DNP 05B01 — NC — PIN1 PIN2 — NC
M3003DNP 05B01 — NC — PIN1 PIN2 — NC
M3004DNP 1171905B03 — NC — PIN1 PIN2 — NC

LED_B — NC
LED_G — NC
LED_R — NC
RTS2_B_CE — NC

ATLAS
AUDIO_BK_ADC_USB

USB_DP — R3650 22 — USB_DP_ATLAS — C2 UDP
USB_DM — R3651 22 — USB_DM_ATLAS — F7 UDM
USB_ID — F7 UID
USB_VPOUT — C5 UDATVP
USB_VMOUT — C6 USE0VM
USB_TXEN_B — C4 UTXENB
USB_XRXD — B5 URCVD
USB_VPIN — B3 URXVP
USB_VMIN — B2 URXVM

USB_PWR
USB_VBUS
VBOOST
USB_XCVR_EN — C3 USBEN
B4 VINBUS
D3 VBUS
VHVIO_2_775V — F5 VUSB
USBVCC — E1 USBVCC
A1 GNDUSBA_1
B1 GNDUSBA_2
A2 GNDUSBA_3
K5 GNDUSBD
C3652 2.2uF
H7 UMOD0
G6 UMOD1

BATT_TEMP_SENSE — R4850 22K — ADIN5 — M14 ADIN5
R4851 39K — ATLAS_GPO1
C4852 .01uF
TEMP_SENSE — U15 ADIN6
GSM_VSENSE — R15 ADIN7
P14 ADIN8
LIGHT_SENSE — ONC — V17 ADIN9
VFUSE_SENSE — V18 ADIN10
V19 ADIN11_1
W18 ADIN11_2
W19 ADIN11_3
P13 TSX1
L13 TSX2
P12 TSY1
M13 TSY2
R13 ADREF
AD_TRIG — N15 ADTRIG
E6 ADOUT
L12 GNDADC
C4851 1uF

Shorted internally
Tied to ground to provide anchor to PCB
Flood on PCB to provide support

LEDAD1 C8 ONC
LEDAD2 E8 ONC
LEDR1 E10 ONC
LEDG1 F11 ONC
LEDB1 F10 ONC
LEDR2 F8 ONC
LEDG2 G10 ONC
LEDB2 G9 ONC
LEDR3 G8 ONC
LEDG3 G11 ONC
LEDB3 H7 ONC
LEDKP B8 ONC
LEDMD1 F9 ONC
LEDMD2 E9 ONC
LEDMD3 D9 ONC
LEDMD4 C9 ONC
GNDLEDBL H10
GNDLEDTC J10
GND

GNDSUB1 N11
GNDSUB2 K12
GNDSUB3 K11
GNDSUB4 J12
GNDSUB5 J9
GNDSUB6 J8
GNDSUB7 L8
GNDSUB8 L11
SPARE2 K8 NC
SPARE4 H13 NC
HSLDET R8 NC
SW1ABSPB P11
SW2ABSPB R12

U3000 AUDIO_BK_ADC_USB

ASAP_CLK
ASAP_FS
ASAP_TX
ASAP_RX
MMSAP_CLK
MMSAP_FS
MMSAP_TX
MMSAP_RX

BCL1 M7
FS1 M9
RX1 L5
TX1 M6
BCL2 M8
FS2 M2
RX2 M3
TX2 M5
CLIA L6
CLIB L3 ONC

C4805 MMZ1005Y — BB_SYS_CLK1
C4806DNP 18pF — BB_SYS_CLK
B+
R4000 10 — EAR_SP+
R4001 10 — EAR_SP-
Earpiece speaker
FL4100 ACM20121212P
M4001 CONTACT
M4000 CONTACT

SPP V9 ATLAS_SP+
SPM V10 ATLAS_SP-
VINLSP V6
LSPP V5
LSPM V4
LOUD_SPP
LOUD_SPM
GNDLSP_1 V1
GNDLSP_2 W1
GNDLSP_3 W2
LSPL U5 ONC
CDCOUT U6 ONC
HSL V8 ONC
HSR U9 ONC
HSDET R10 ONC
HSPGF V7 ONC
HSPGS P10 ONC
RXOUTR U7 ONC
RXOUTL P9 ONC
RXINR R9 ONC
RXINL U8 ONC

VS4001
C4501 100pF
C4502 100pF
C4108 27pF
C4104 27pF

Handset Mic

MC1RB R2 ATLAS_MIC_BIAS
MC1RIN V2 ATLAS_MIC_INPUT
MC1LB P3 ONC
MC1LIN P2 ONC
MC2B U3 ONC
MC2IN U4 ONC
TXIN V3
TXOUT
C4850 .01uF

R4105 0 — MIC_BIAS
R4106 0 — MIC_IN
C4100 0.1uF — MIC_INPUT
C4103 100pF
C4109 27pF
C4105DNP 0.1uF
C4101 33pF
C4102 10pF
C4106 10pF
C4107 33pF
MK1 4 VCC, 2 NC, 1 OUT, 3 GND — 5089874N01

REFA R3 ATLAS_REFA
REFB T3 ATLAS_REFB
REFC T2 ATLAS_REFC
REFD L2 ATLAS_REFD
PLLLPF H2 ATLAS_PLL_LPF
GNDPLL H3
GNDAUD1 L10
GNDAUD2 M10
GNDAUD3 M11
GNDAUD4 M12
GNDAUD5 H9

C4804 2.2uF
C4803 0.1uF
C4802 0.1uF
C4801 0.1uF

R4830 47K — ATLAS_PLL_LPF_1
C4831 1500pF
C4830 .01uF

MOTOROLA CONFIDENTIAL PROPRIETARY

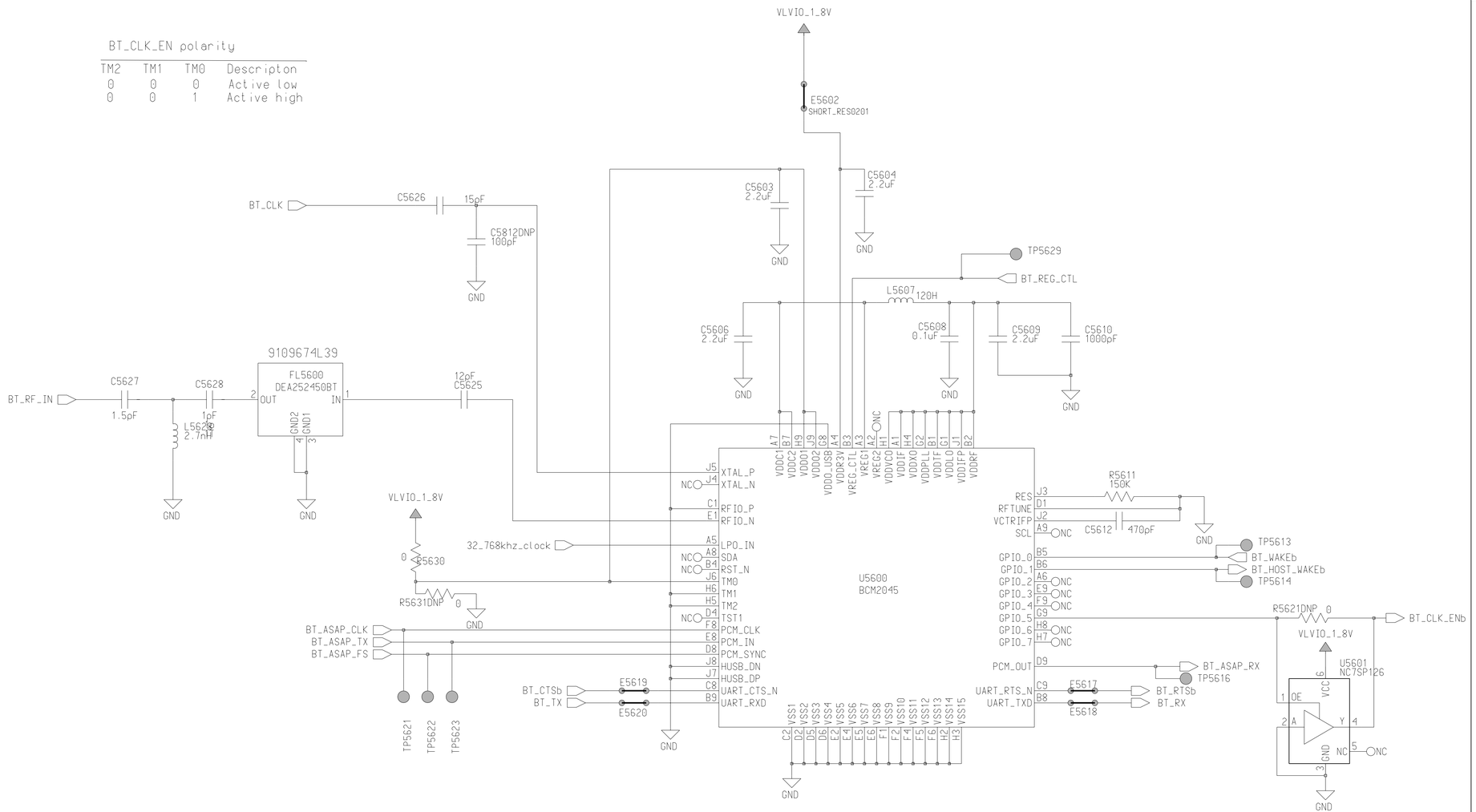
MOTOROLA INTERNAL USE ONLY

4 1 3 A

Engineer: Yun Sun Lee	MOTOROLA INC.
Drawn by: Yun Sun Lee	
R&D CHK:	TITLE: BLUETOOTH BLUETOOTH — Size: 11x17
DOC CTRL CHK:	
MFG CTRL CHK:	
QA CHK:	REV: / Drawing Number: / Page: / Of:
Changed by: w17698	Date: Tuesday, August 31, 2004 — Time: 3:47:09 pm

BT_CLK_EN polarity

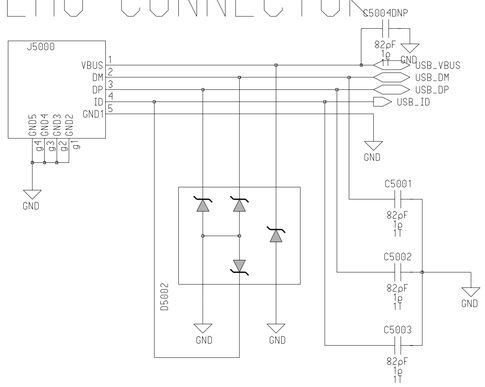
TM2	TM1	TM0	Description
0	0	0	Active low
0	0	1	Active high



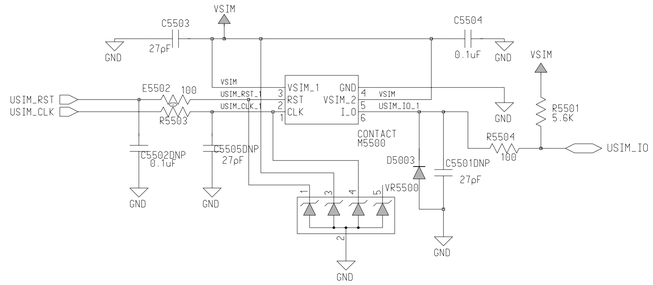
MOTOROLA CONFIDENTIAL PROPRIETARY

WING EMU CONNECTOR

EMU CONNECTOR

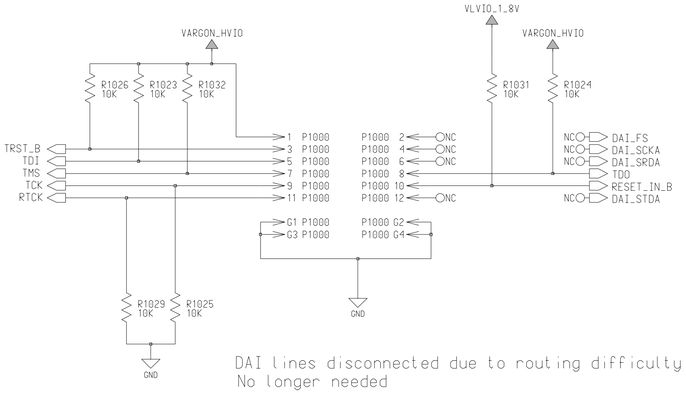


USIM



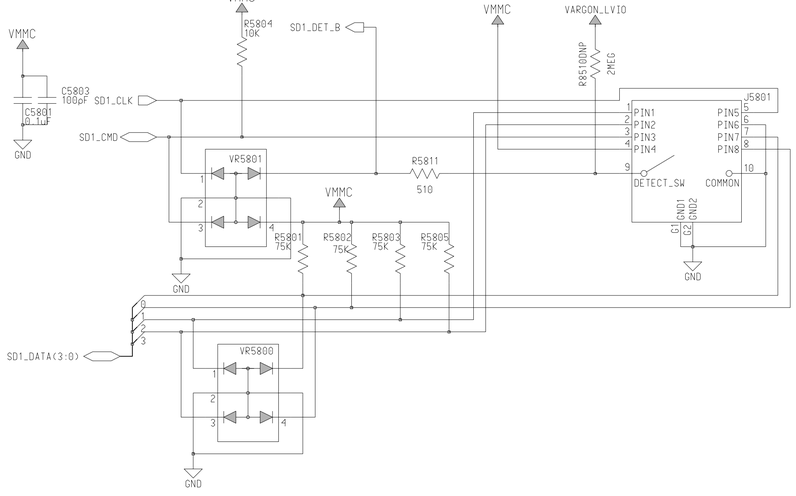
JTAG/DAI

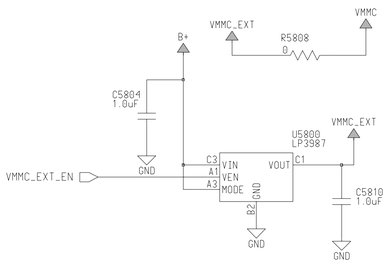
12-pin JTAG connector



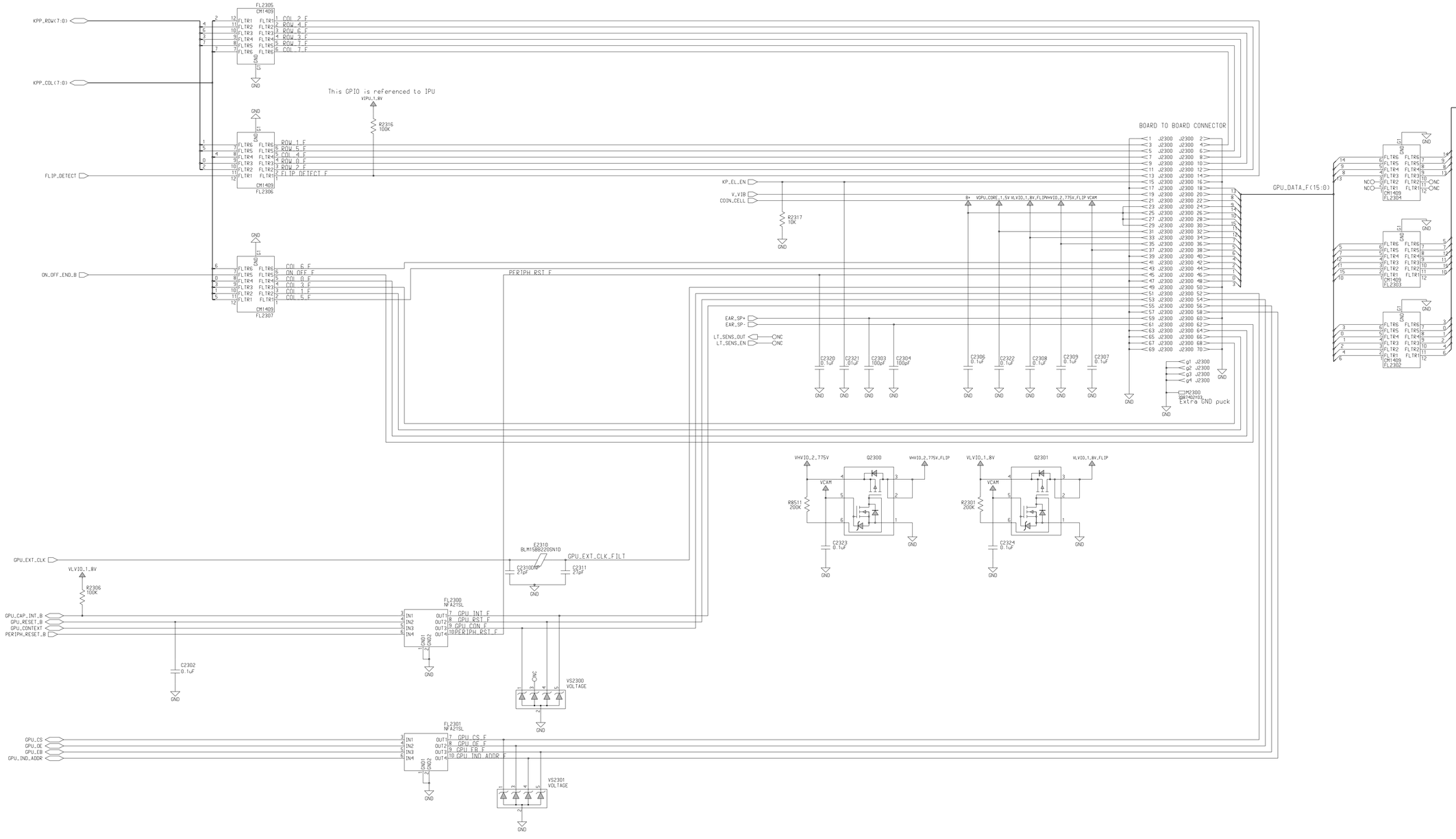
DAI lines disconnected due to routing difficulty
No longer needed

TRANSFLASH





Engineer: Chris Pipe	MOTOROLA INC.			
Drawn by: Chris Pipe				
R&D CHK:	TITLE: MISC_CONNECTORS			Size: 11x21
DOC CTRL CHK:				
MFG CTRL CHK:				
QA CHK:	REV:	Drawing Number:	Page:	Of:
Changed by: W16564	Date: Monday, February 13, 2006			Time: 9:23:31 am



Changed by: w16564	Date Changed: Tuesday, August 10, 2004	Time: 4:29:50 pm	QA CHK:	REV:	Drawing Number:	Page: 2

Engineer: Chris Pipe	COMPANY NAME Address City
Drawn by: Chris Pipe	
R&D CHK:	TITLE: BOARD TO BOARD CONNECTOR
DOC CTRL CHK:	Size: D 8 1 5 A
MFG CTRL CHK:	