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[illegible]

Unless otherwise specified:

Resistors are SMD(0402), $\pm 5\%$, 1/16W
Resistors specified as SMD(0603) are $\pm 5\%$, 1/10W
Resistors specified as SMD(0805) are $\pm 5\%$, 1/8W
Ceramic capacitors $\geq 10\mu\text{F}$ are SMD(0805)
Ceramic capacitors $\geq 0.22\mu\text{F}$, $<10\mu\text{F}$, are SMD(0603)
Ceramic capacitors $\leq 0.1\mu\text{F}$ are SMD(0402)
Ceramic and Electrolytic capacitors are 6.3V or higher
Ferrite beads are SMD(0603).

Revision History

[illegible]

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

COMPANY: SUGA ELECTRONICS LTD.

TITLE: RT3352 Wifi Module
(MAIN BOARD)

CODE:	SIZE:	DRAWING NO:	REV:
	A2		V2.0.0

SCALE:	SHEET: 1 OF 22
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<CONFIDENTIAL>

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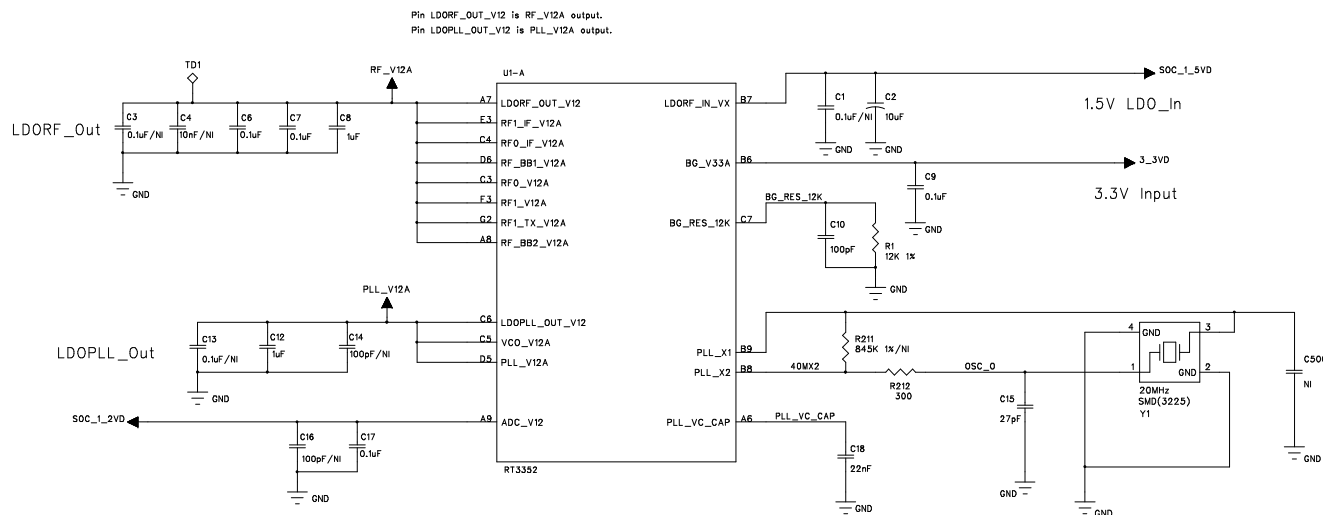
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*** CPU_1 ***

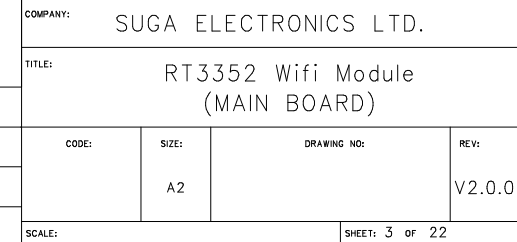
REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: SUGA ELECTRONICS LTD.			
TITLE: RT3352 Wifi Module (MAIN BOARD)			
CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:		SHEET: 2 of 22	

DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



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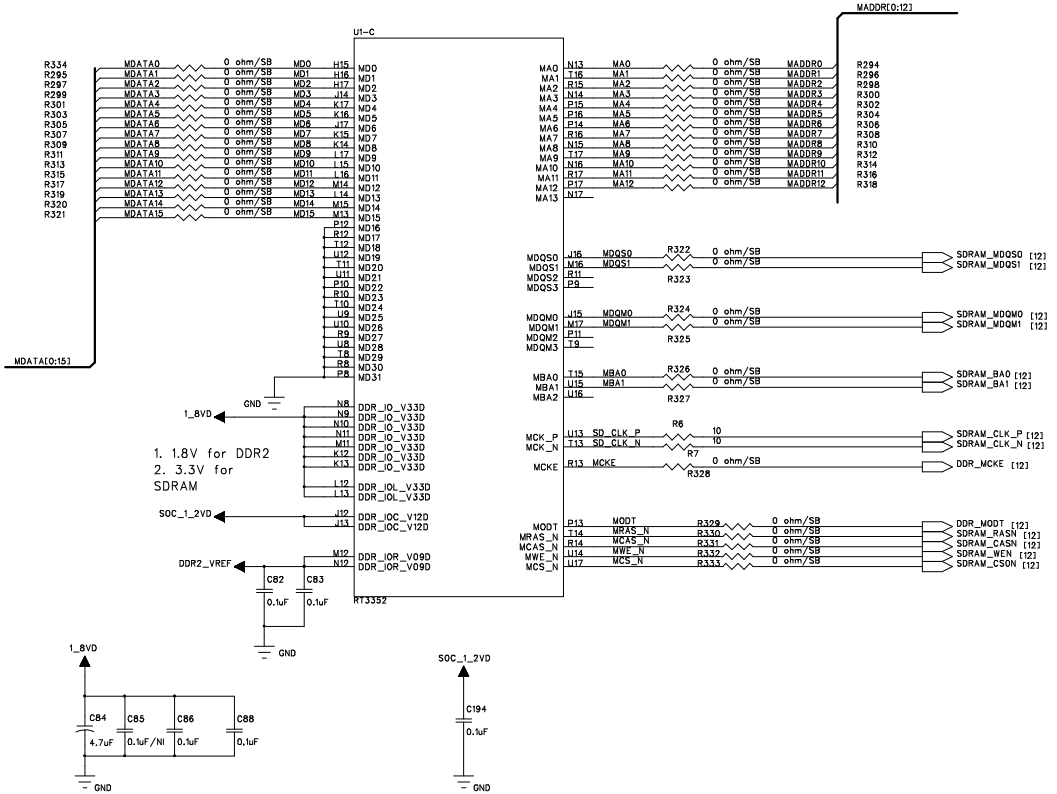
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*** CPU_3, DDR I/F ***

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: SUGA ELECTRONICS LTD.			
TITLE: RT3352 Wifi Module (MAIN BOARD)			
CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:		SHEET: 4	OF 22

DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

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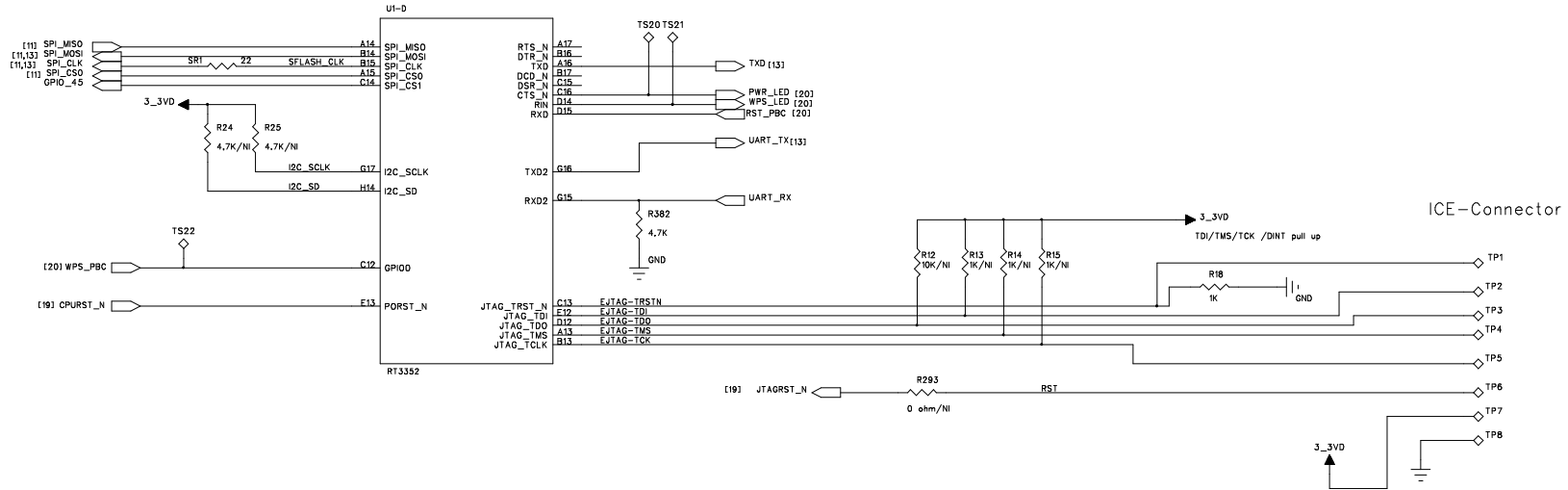
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*** CPU_4 ***

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: SUGA ELECTRONICS LTD.			
TITLE: RT3352 Wifi Module (MAIN BOARD)			
CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:		SHEET: 5 of 22	

DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

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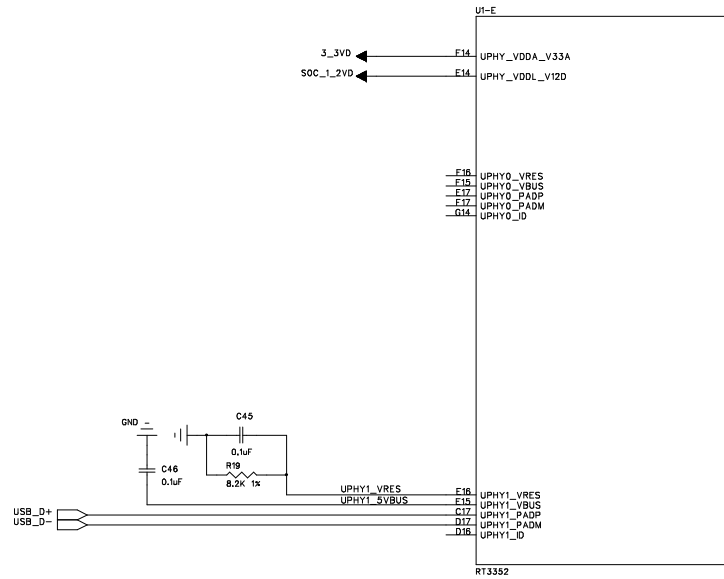
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*** CPU_5, USB I/F ***

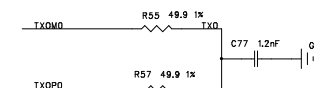
REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: SUGA ELECTRONICS LTD.			
TITLE: RT3352 Wifi Module (MAIN BOARD)			
CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:		SHEET: 6 of 22	

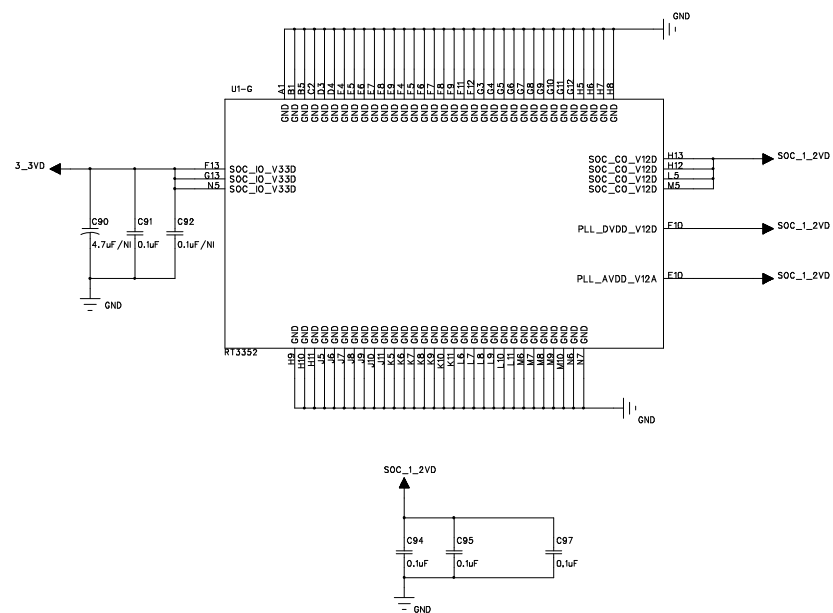
DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY:				SUGA ELECTRONICS LTD.			
TITLE:				RT3352 Wifi Module (MAIN BOARD)			
CODE:		SIZE:	DRAWING NO:			REV:	
		A2				V2.0.0	
SCALE:			SHEET: 7 OF 22				

COMPANY:		SUGA ELECTRONICS LTD.	
TITLE:		RT3352 Wifi Module (MAIN BOARD)	
CODE:	SIZE:	DRAWING NO:	REV:
	A2		V2.0.0
SCALE:		SHEET: 8 of 22	



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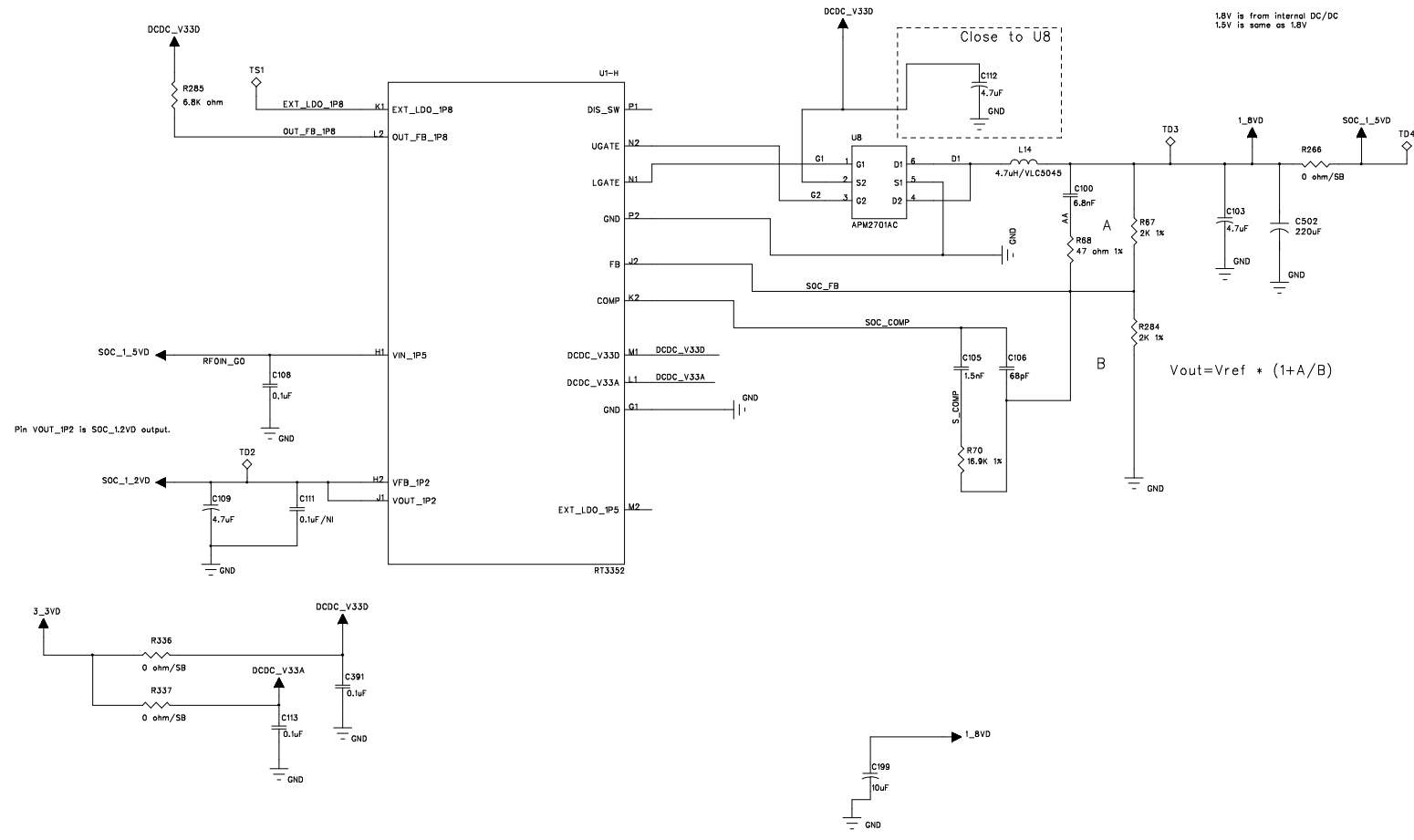
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*** CPU_8, DC/DC ***

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: SUGA ELECTRONICS LTD.			
TITLE: RT3352 Wifi Module (MAIN BOARD)			
CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:		SHEET: 9 of 22	

DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

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*** CPU_9, none ***

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

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DRAWN: QQ Pei		DATED: Nov 28, 2011		COMPANY: SUGA ELECTRONICS LTD.			
CHECKED: TONY TSANG		DATED: Nov 28, 2011		TITLE: RT3352 Wifi Module (MAIN BOARD)			
QUALITY CONTROL:		DATED:		CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
RELEASED:		DATED:		SCALE:			
				SHEET: 10 of 22			

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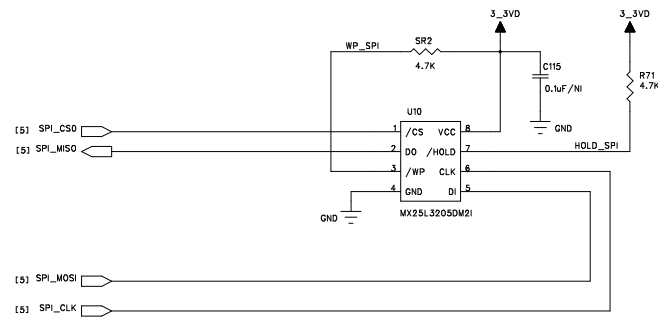
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*** MEMORY_1, SPI Flash ***

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: SUGA ELECTRONICS LTD.			
TITLE: RT3352 Wifi Module (MAIN BOARD)			
CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:		SHEET: 11 of 22	

DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

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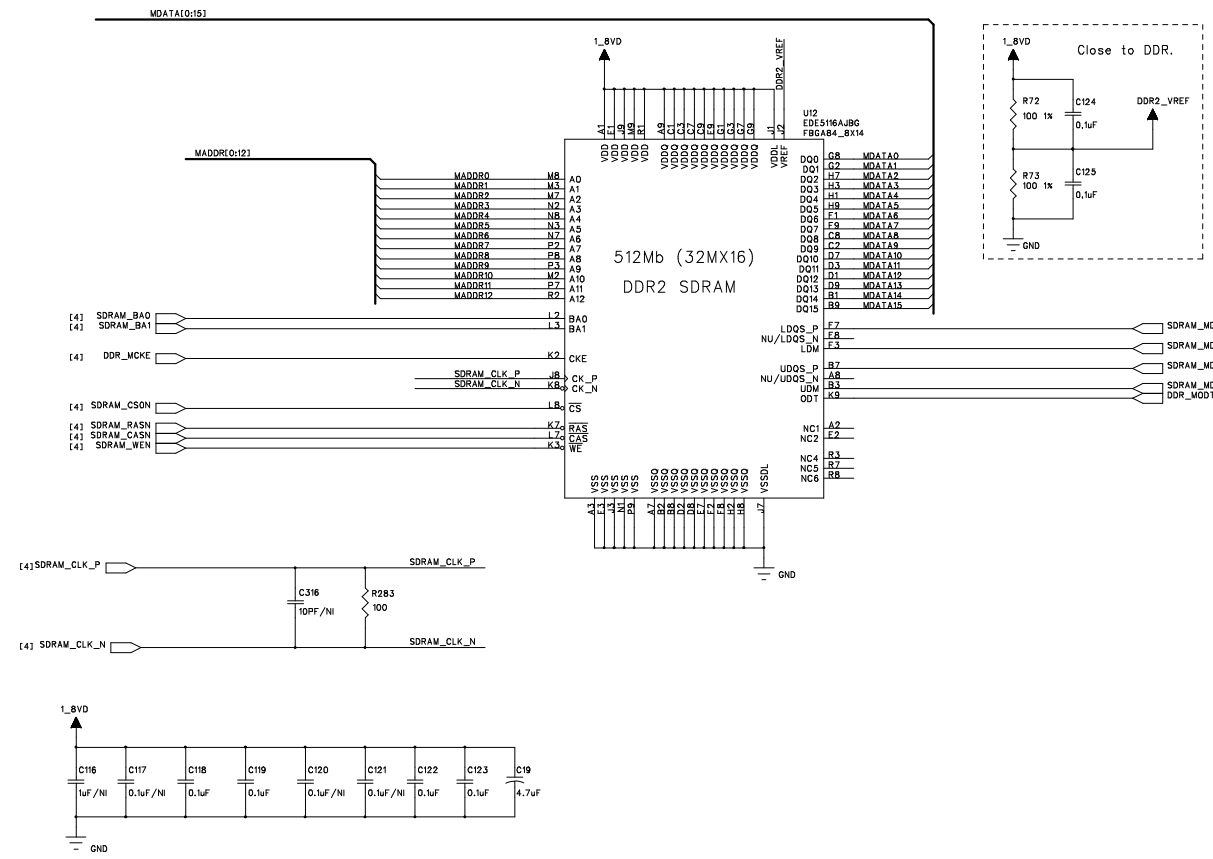
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*** MEMORY_2, DDR ***

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: SUGA ELECTRONICS LTD.

TITLE: RT3352 Wifi Module (MAIN BOARD)

DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:			SHEET: 12 of 22

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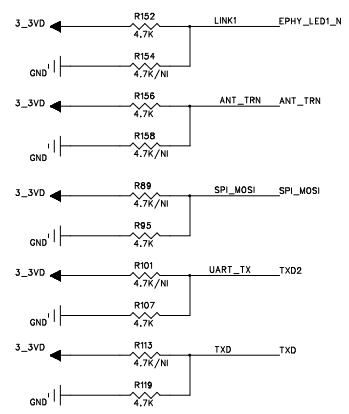
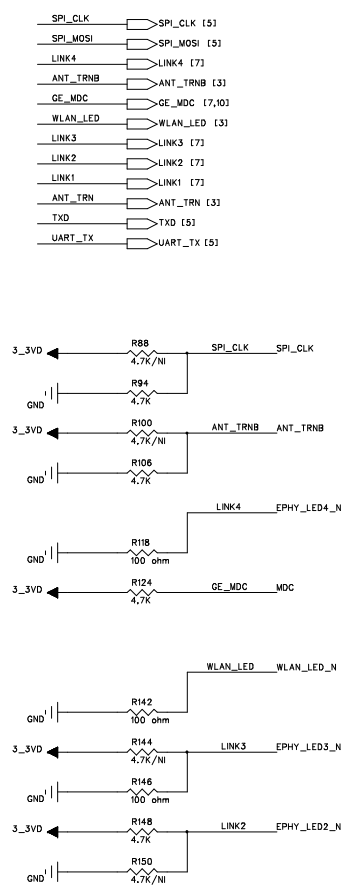
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*** MEMORY_3, Boot Option ***

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

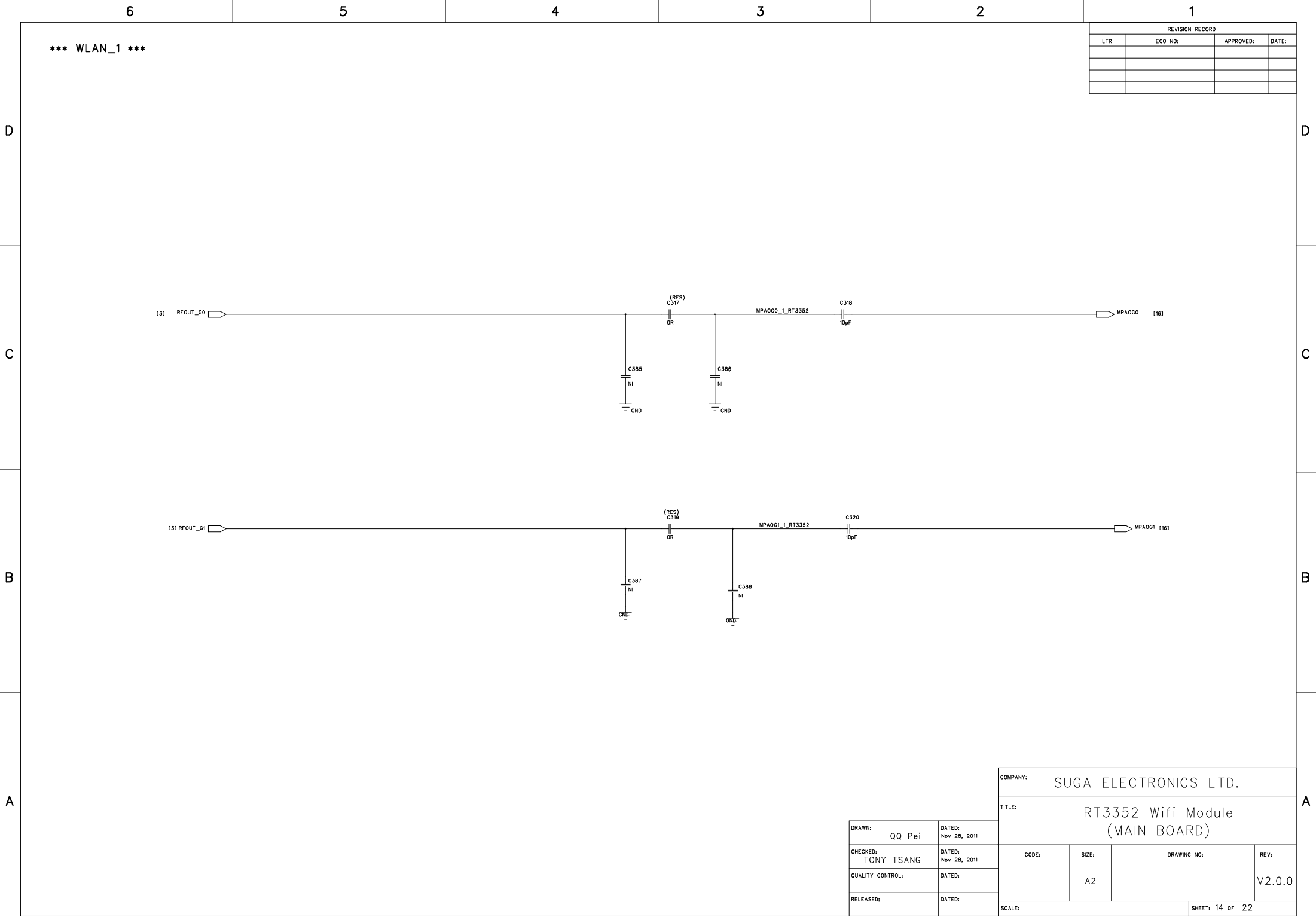


RT3352 Boot Up Strapping

Pin Name	Description	Value=0	Value=1
SPI_CLK	XTAL_FREQ_HI	20MHz	40MHz
ANT_TRNB	Big Endian	Little Endian	Big Endian
EPHY_LED4_N	DRAM_FROM_EE	from boot strapping	from EEPROM
MDC	DRAM_TYPE	SDRAM	DDR2
WLAN_LED_N	DRAM_TOTAL_WIDTH	16	32
{EPHY_LED3_N, EPHT_LED2_N}	DRAM_SIZE	INIC/AP(SDR)/AP(DDR2) 00: 2MB/8MB/32MB 01: 8MB/16MB/64MB 10: 16MB/32MB/128MB 11: 32MB/64MB/256MB	
EPHY_LED1_N	DRAM_WIDTH	SDRAM(DDR2) 0: 16(8) 1: 32(16)	
ANT_TRN	CPU_CLK_SEL	384MHz	400MHz
{SPI_MOSI, TXD2, TXD}	CHIP_MODE[2:0]	000 : AP 001 : iNIC-USB 010 : iNIC-RGMII 011: iNIC-MII 100 : iNIC-RVMII 101 : Reserved 110 : SCAN 111 : TEST/DEBUG	

COMPANY: SUGA ELECTRONICS LTD.			
TITLE: RT3352 Wifi Module (MAIN BOARD)			
CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:		SHEET: 13 of 22	

DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:



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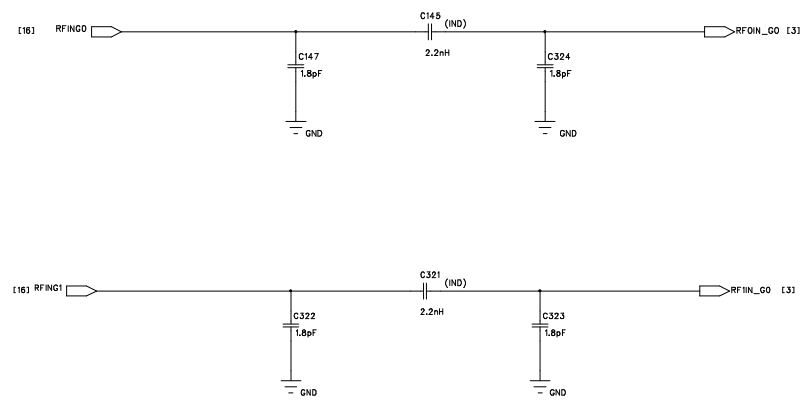
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*** WLAN_2 ***

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: SUGA ELECTRONICS LTD.			
TITLE: RT3352 Wifi Module (MAIN BOARD)			
CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:		SHEET: 15 of 22	

DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

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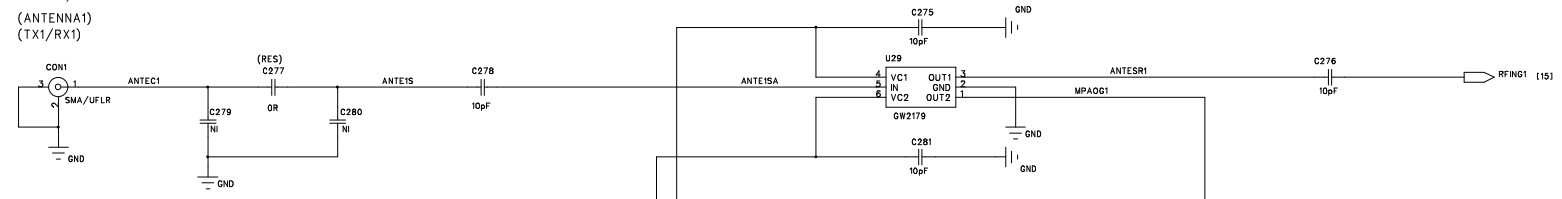
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*** WLAN_3 ***

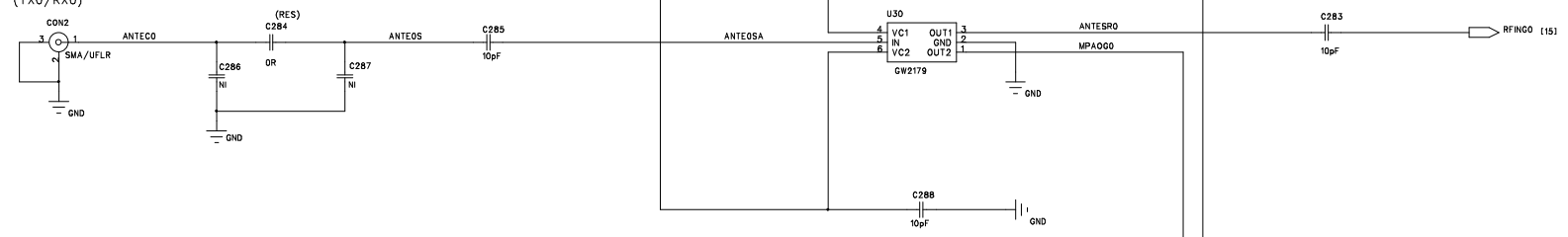
REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

802.11b/g/n-HT20 (2412 MHz-2462 MHz)
802.11n40 (2422 MHz-2452 MHz)
(ANTENNA1)
(TX1/RX1)



[3] ANT_TRN
[3] ANT_TRNB

802.11b/g/n-HT20 (2412 MHz-2462 MHz)
802.11n40 (2422 MHz-2452 MHz)
(ANTENNA0)
(TX0/RX0)



[14] MPAOG0
[14] MPAOG1

COMPANY: SUGA ELECTRONICS LTD.			
TITLE: RT3352 Wifi Module (MAIN BOARD)			
CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:		SHEET: 16 of 22	

DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

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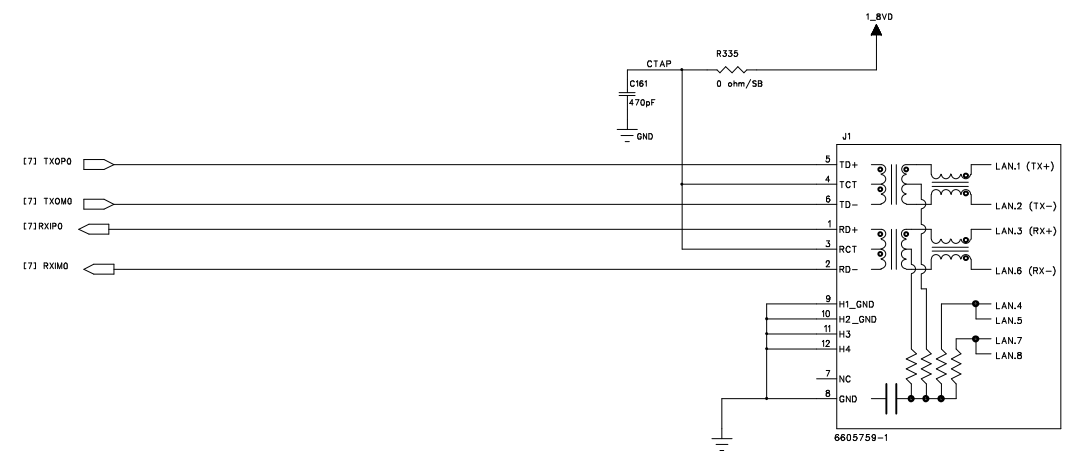
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*** ETHERNET_1 ***

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: SUGA ELECTRONICS LTD.

TITLE: RT3352 Wifi Module (MAIN BOARD)

DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:			SHEET: 17 of 22

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*** ETHERNET_2, none ***

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

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DRAWN: QQ Pei		DATED: Nov 28, 2011		COMPANY: SUGA ELECTRONICS LTD.			
CHECKED: TONY TSANG		DATED: Nov 28, 2011		TITLE: RT3352 Wifi Module (MAIN BOARD)			
QUALITY CONTROL:		DATED:		CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
RELEASED:		DATED:		SCALE:			
				SHEET: 18 of 22			

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*** LED ***

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

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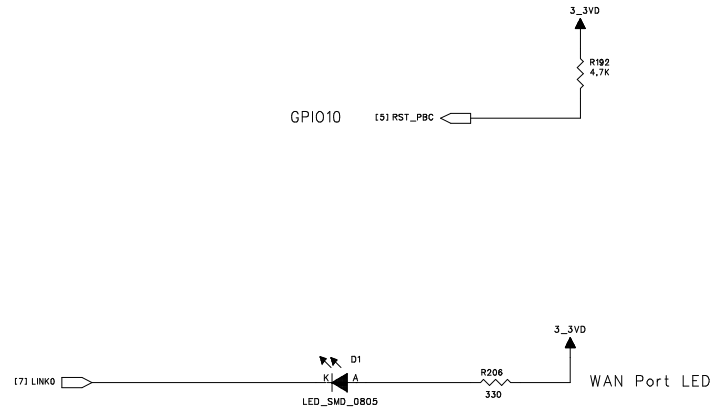
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COMPANY: SUGA ELECTRONICS LTD.			
TITLE: RT3352 Wifi Module (MAIN BOARD)			
CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:		SHEET: 19 of 22	

DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

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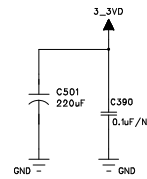
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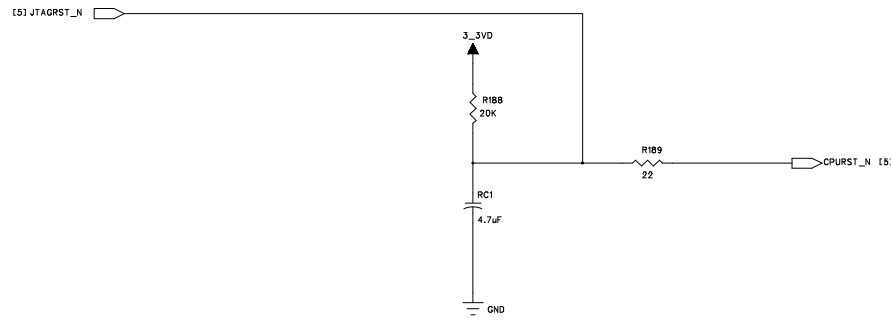
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*** POWER ***

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



Reset Circuit



COMPANY: SUGA ELECTRONICS LTD.			
TITLE: RT3352 Wifi Module (MAIN BOARD)			
CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:		SHEET: 20 of 22	

DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

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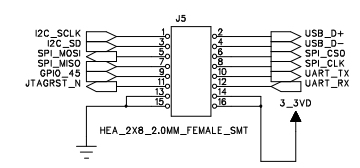
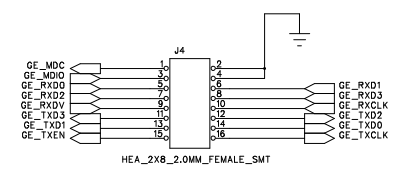
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*** CONNECTOR ***

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



DRAWN: QQ Pei	DATED: Nov 28, 2011
CHECKED: TONY TSANG	DATED: Nov 28, 2011
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

COMPANY: SUGA ELECTRONICS LTD.			
TITLE: RT3352 Wifi Module (MAIN BOARD)			
CODE:	SIZE: A2	DRAWING NO:	REV: V2.0.0
SCALE:			SHEET: 21 of 22

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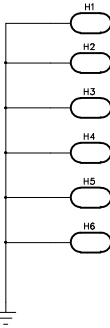
*** Mechanical ***

PCB requirements

Dimension: TBC
Thickness: 1.6mm
Number of layers: 4
Copper thickness: 0.5oz top & bottom; 1oz all internal layers.
Material: FR4
Surface treatment: immersion gold plated.
Minimum wire width and spacing: 5mil (0.127mm)
Minimum via hole diameter: 10mil (0.254mm)

PCB stack-up for fabrication

Layer	Name	Assignment
1	Top	Components, CPU, DDR
2	GND1	Ground
3	PWR1	Power
4	Bottom	Components



REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

COMPANY: SUGA ELECTRONICS LTD.			
TITLE: RT3352 Wifi Module (MAIN BOARD)			
CHECKED: TONY TSANG	DATED: Nov 28, 2011	CODE:	SIZE: A2
QUALITY CONTROL:	DATED:	DRAWING NO:	REV: V2.0.0
RELEASED:	DATED:	SCALE:	SHEET: 22 of 22