Change History

Rev 01.

1 Jun 2017. Based on BRCM943012FCA0REF_3 Rev 03

Rev 02.

1. C88=1.6nH
2. C17=3.1pF
3. C132, C11,C117=9pF

Rev 03

1. C23,C24=7pF
2. Y1=Murata XRCMD37M400FXQ84R0
3. C14=6.2nH
4. C77=10pF
5. FL2=Murata LFD212G45MJ7R816

Page1: Block Diagram
Page2: PMU Power Supply
Page3: RF, SW Control Interface and Xtal
Page4: System I/O Interface and GND
Page5: RF Front End
Page6: Connectors and adapters
Page7: FEM control truth tables

PCB1
PRINTED CIRCUIT BOARD
200-129136-0030

DOC1
DOCUMENT
SCHEMATIC DIAGRAM
824-129136-0030

BLOCK DIAGRAM

Approvals	
Designer	Date
Reviewer	Date
Reviewer	Date
Reviewer	Date

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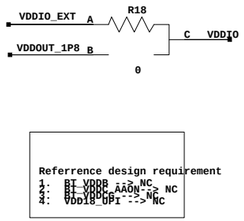
SIZE	TITLE		
B	CYW943012A0FCREF_3		
Designer: Gurmail Kandola		Drawing Number: 824-129136-0030	Version: 03
DATE: 06/10/2017:13:03		SHEET: 1 OF 7	

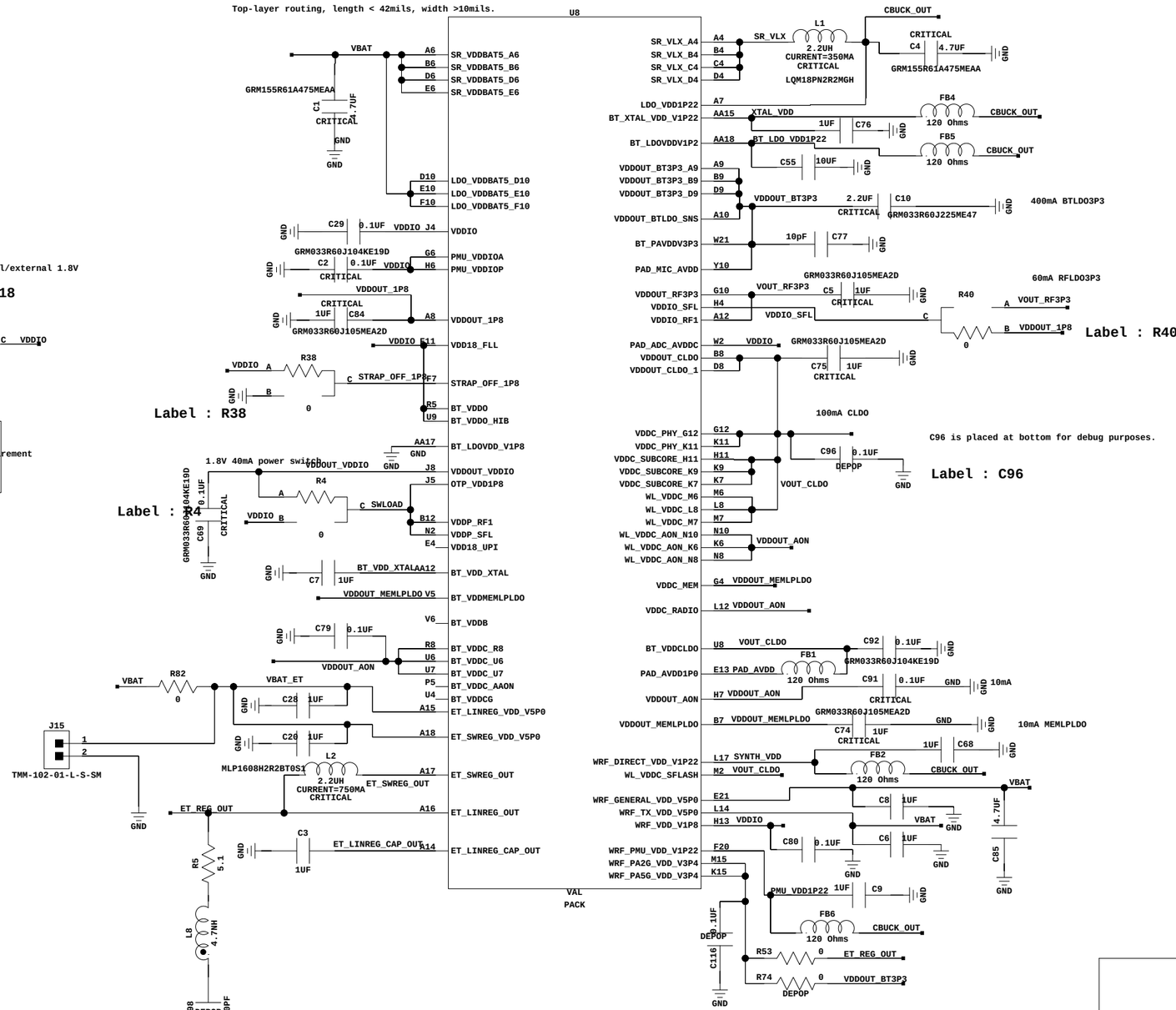


Mux option for internal/external 1.8V

label : R18

Top-layer routing, length < 42mils, width >10mils.

Routing length < 80mils, 10<width<30mils.



PMU POWER SUPPLY

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SIZE	TITLE	
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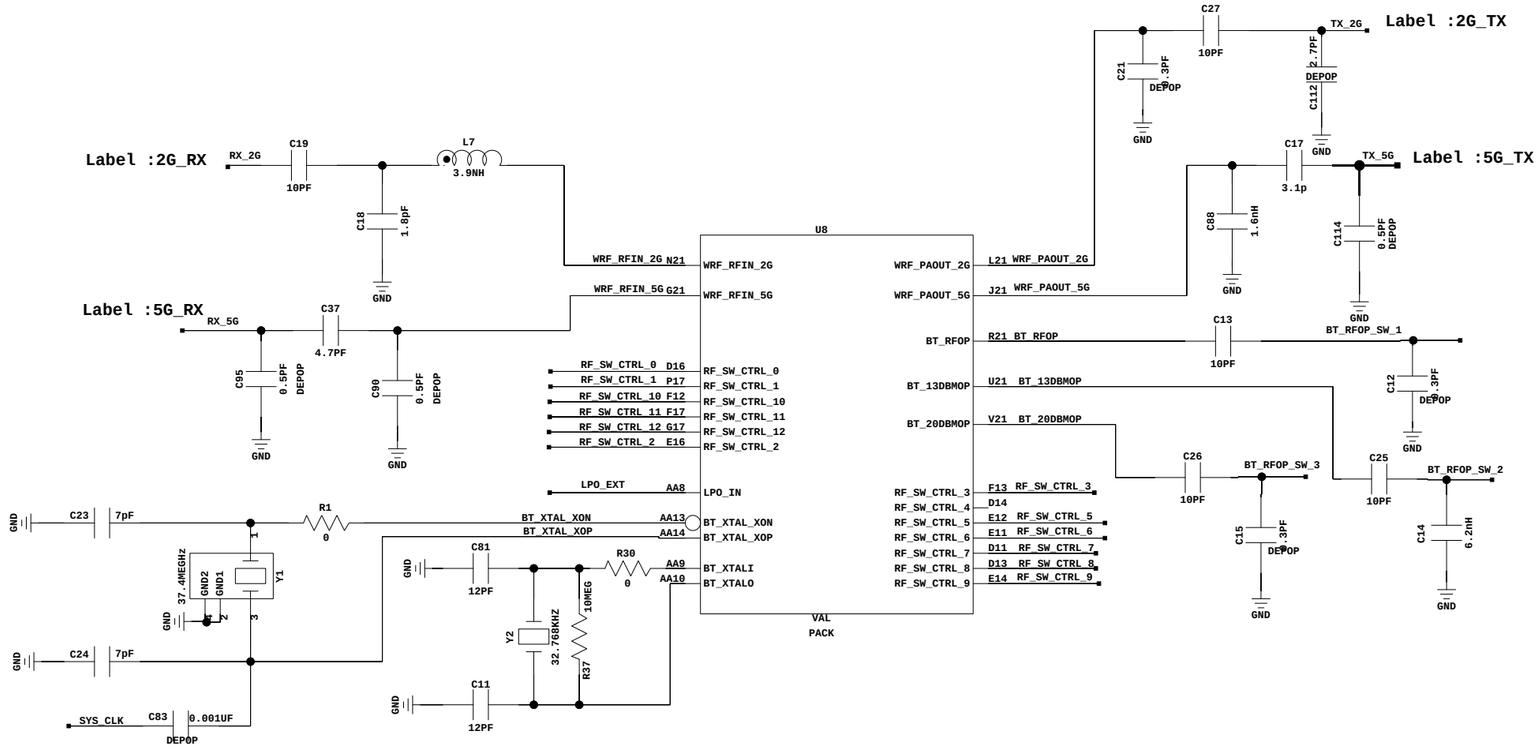
DATE 06/10/2017:13:03		SHEET 2 OF 7



RF SW CONTROL & XTAL

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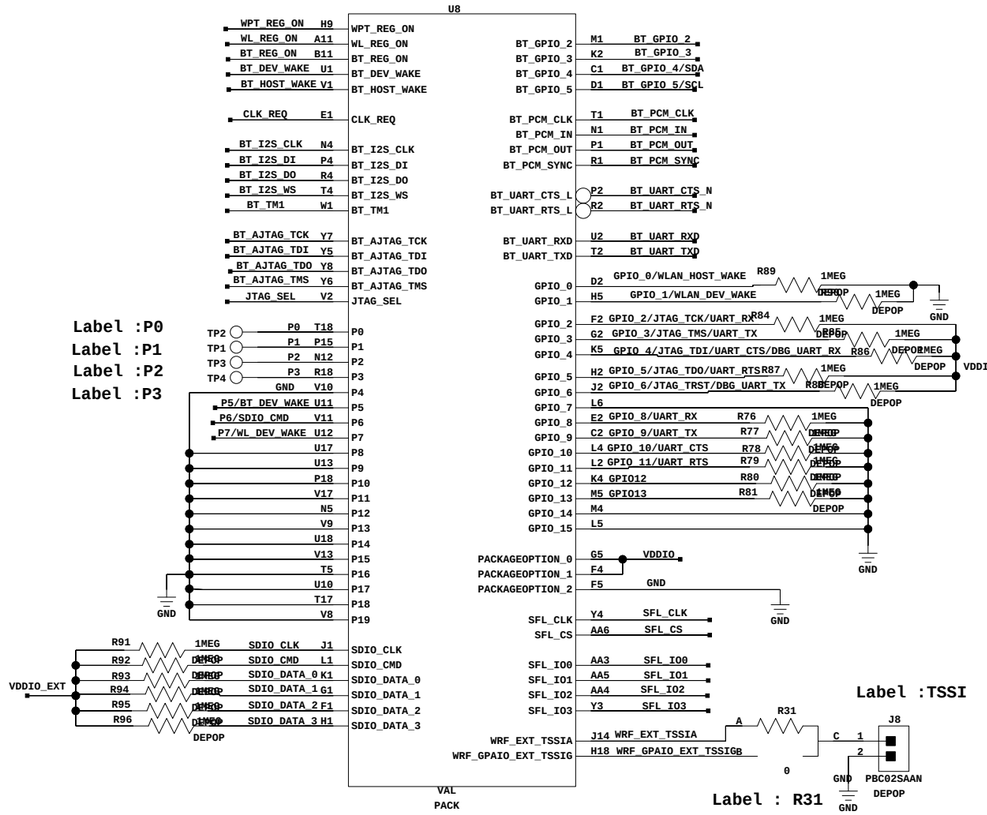
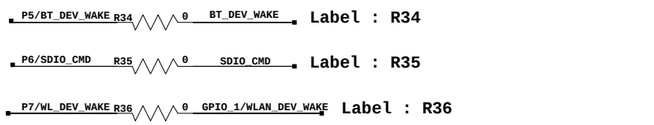
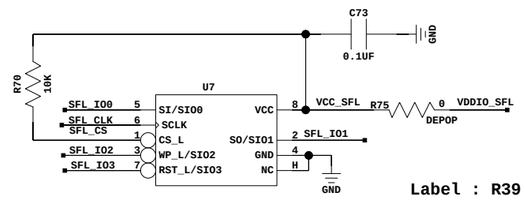
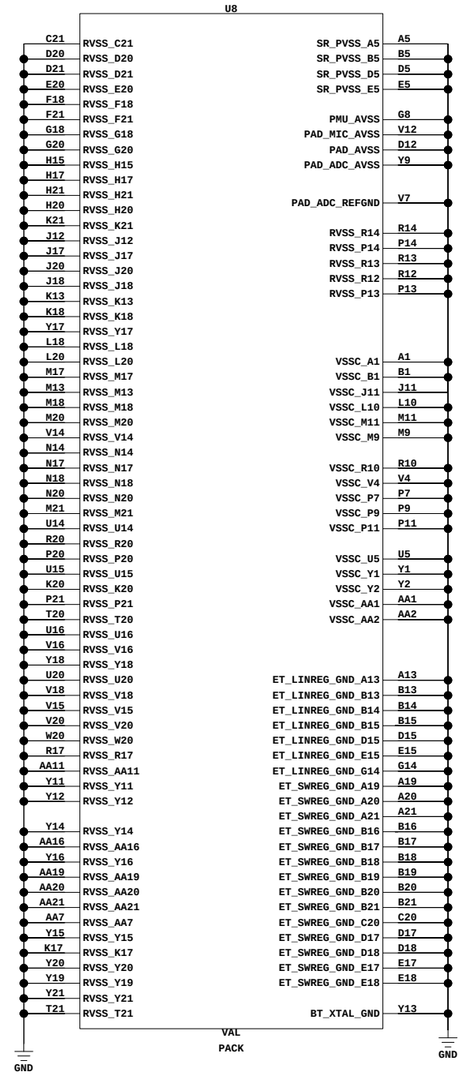
SIZE B	TITLE CYW943012A0FCREF_3 RF SW CTRL	
DATE 06/10/2017:13:03		SHEET 3 OF 7







Only 1.8 V SFLASH is populated by default.
For 3.3V SFLASH please use BRCM # 551741-00



SYSTEM I/O INTERFACE & GND

SYSTEM I/O and GND

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SIZE	TITLE	
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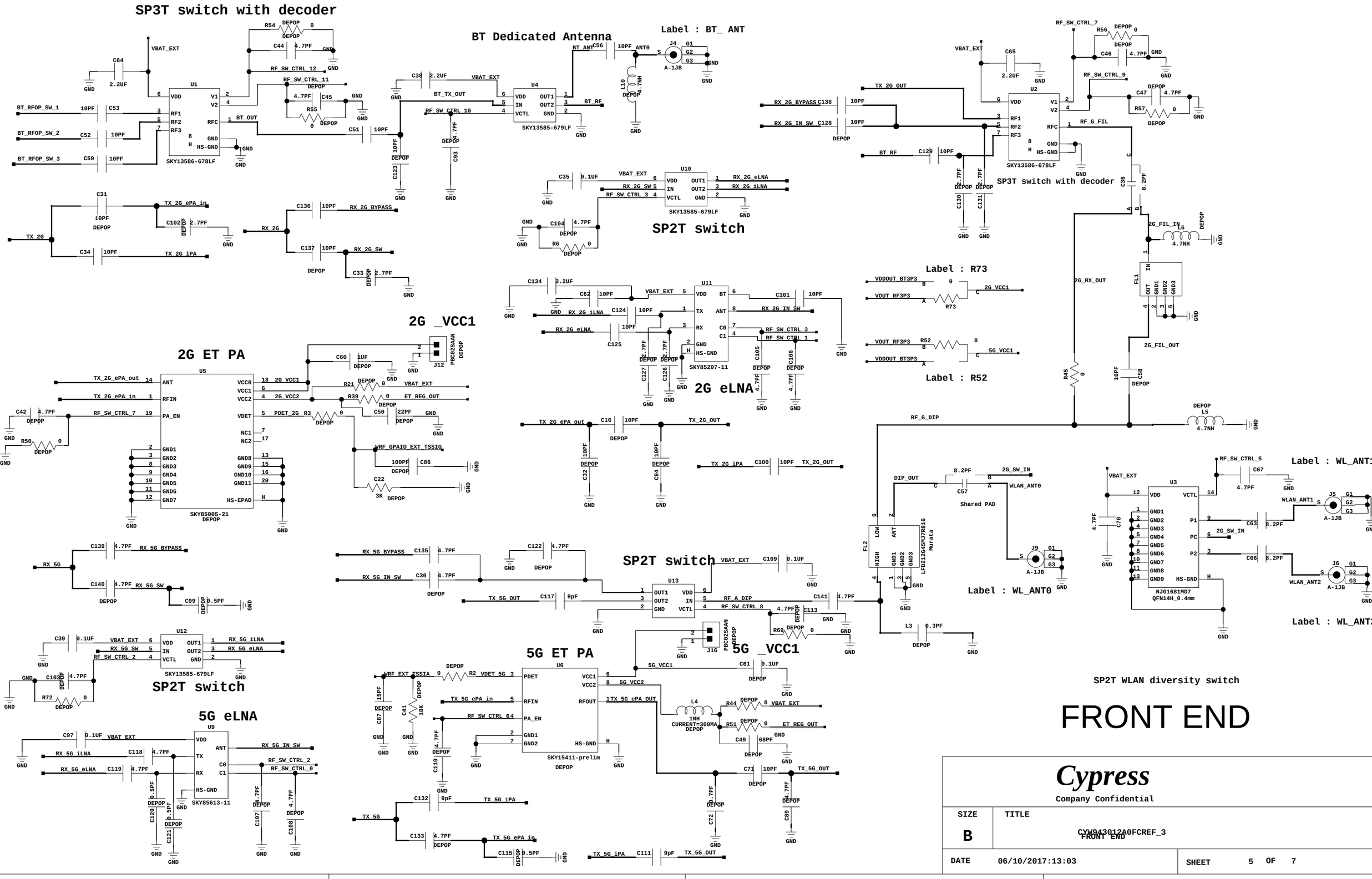
DATE 06/10/2017:13:03		SHEET 4 OF 7


SP3T switch with decoder
U1
SKY13586-678LF
VBAT_EXT
BT_RFOP_SW_1
BT_RFOP_SW_2
BT_RFOP_SW_3
BT_OUT
RF_SW_CTRL_12
RF_SW_CTRL_11
BT Dedicated Antenna
Label : BT_ ANT
U4
SKY13585-679LF
BT_ANT
BT_TX_OUT
BT_RF
RF_SW_CTRL_10
A-1JB
SP2T switch
U10
SKY13585-679LF
RX_2G_eLNA
RX_2G_iLNA
RX_2G_SW_5
RF_SW_CTRL_3
SP3T switch with decoder
U2
SKY13586-678LF
RF_SW_CTRL_7
RF_SW_CTRL_9
RF_G_FIL
TX_2G_OUT
RX_2G_BYPASS
RX_2G_IN_SW
BT_RF
Label : R73
Label : R52
2G _VCC1
2G ET PA
U5
SKY85005-21
TX_2G_ePA_out
TX_2G_ePA_in
RF_SW_CTRL_7
PDET_2G_R3
2G_VCC1
2G_VCC2
VBAT_EXT
ET_REG_OUT
WRF_GPAIO_EXT_TSSIG
2G eLNA
U11
SKY85207-11
RX_2G_eLNA
RX_2G_iLNA
RX_2G_IN_SW
RF_SW_CTRL_3
RF_SW_CTRL_1
TX_2G_ePA_out
TX_2G_OUT
TX_2G_iPA
2G_RX_OUT
2G_FIL_IN
2G_FIL_OUT
RF_G_DIP
Label : WL_ANT0
Label : WL_ANT1
Label : WL_ANT2
Shared PAD
DIP_OUT
2G_SW_IN
WLAN_ANT0
WLAN_ANT1
WLAN_ANT2
U3
NJG1681MD7
QFN14H_0.4mm
RF_SW_CTRL_5
2G_SW_IN
RX 5G BYPASS
RX 5G IN SW
RX 5G
TX 5G OUT
RF A DIP
RF_SW_CTRL_8
SP2T switch
U13
5G _VCC1
5G ET PA
U6
SKY15411-prelim
WRF_EXT_TSSIA
TX_5G_ePA_in
RF_SW_CTRL_64
TX_5G_ePA_OUT
5G_VCC1
5G_VCC2
TX_5G_iPA
TX_5G
TX_5G_OUT
5G eLNA
U9
RX_5G_iLNA
RX_5G_eLNA
RX_5G_IN_SW
RF_SW_CTRL_2
RF_SW_CTRL_0
SP2T switch
U12
RX_5G_iLNA
RX_5G_eLNA
RX_5G_SW
RF_SW_CTRL_2
SP2T WLAN diversity switch
FRONT END
Cypress
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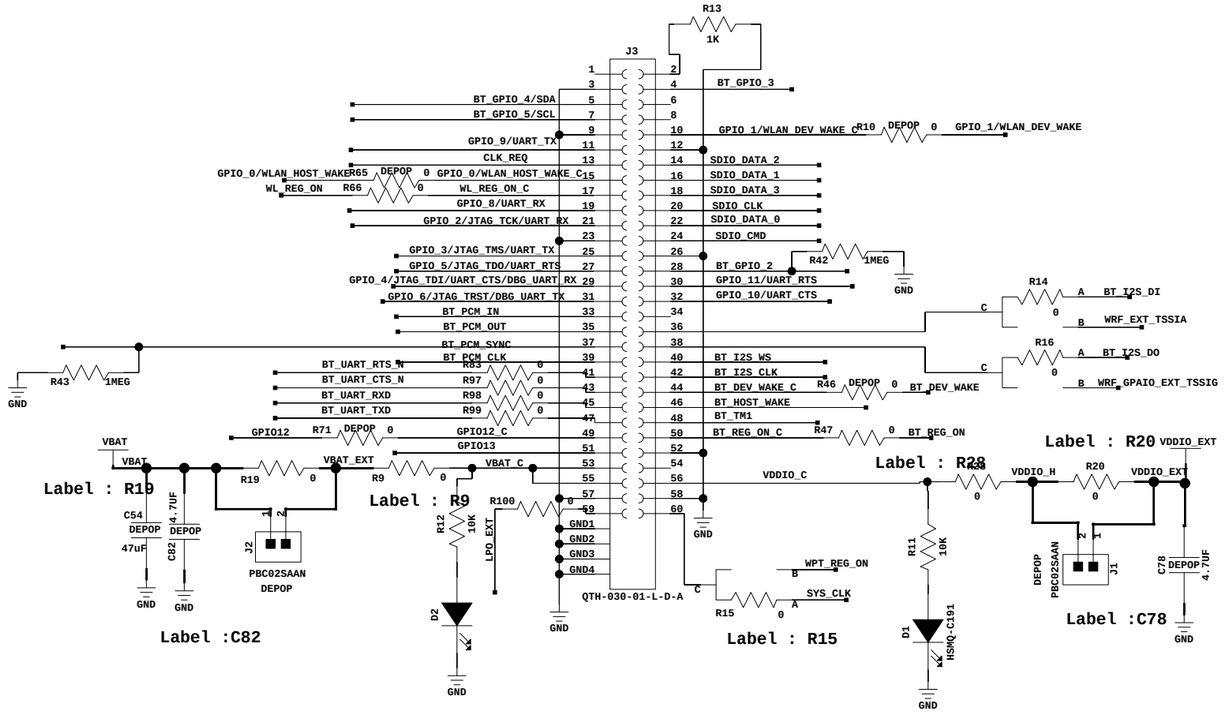
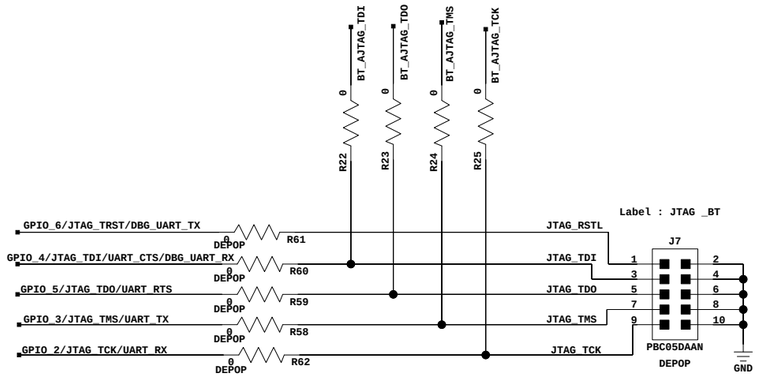
SIZE
B
TITLE
CYW943012A0FCREF_3
FRONT END
DATE
06/10/2017:13:03
SHEET
5
OF
7

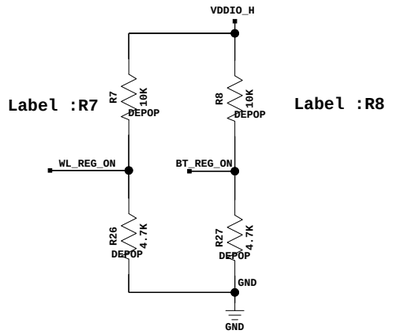


SDIO 60-pin Connector

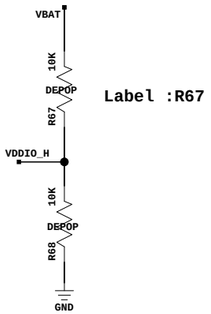


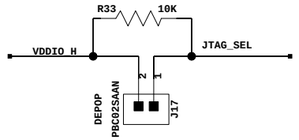
WLAN JTAG Burn-in or BT JTAG CONNECTOR

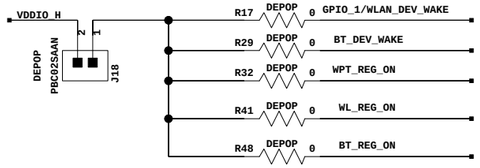
WL/BT Reg ON Selections



Optional VDDIO for PMU Burn in







60 pin connector

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SIZE	TITLE	
B	CYW943012A0FCREF_3 60 pin Connector	
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2G i/eLNA SELECTION

2G Rx MODE	RF_SW_CTRL_3
2G eLNA	1
2G iLNA	0

5G i/eLNA SELECTION

5G Rx MODE	RF_SW_CTRL_2
5G eLNA	0
5G iLNA	1

BT- RF SWITCH CONTROL TRUTH TABLE

BT Mode	RF_SW_CTRL_12	RF_SW_CTRL_11
BT TX, 20 dBm, Ant0	0	0
BT TX,14 dBm,Ant0	0/1	1
BT TX, 4 dBm, Ant0	1	0

2G eLNA/BYPASS SELECTION

Mode	RF_SW_CTRL_3	RF_SW_CTRL_1
2G eLNA	1	1
2G eLNA bypass	1	0
2G iLNA	0	1

5G eLNA/BYPASS SELECTION

Mode	RF_SW_CTRL_2	RF_SW_CTRL_0
5G eLNA	0	1
5G eLNA bypass	0	0
5G iLNA	1	1/0

BT ANTENNA SELECTION SW CONTROL TRUTH TABL

Antenna select	RF_SW_CTRL_10
BT_ANT	1
WLAN_ANT1/2	0

2G PA SELECTION

2G Tx MODE	RF_SW_CTRL_7
2G PA On	1
2G PA off	0

5G PA SELECTION

5G Tx MODE	RF_SW_CTRL_6
5G PA On	1
5G PA off	0

ANTENNA DIVERSITY SW CONTROL TRUTH TABLE

Antenna select	RF_SW_CTRL_5
WLAN_ANT1	1
WLAN_ANT2	0

BT- WLAN RF SWITCH CONTROL TRUTH TABLE

Mode	RF_SW_CTRL_7	RF_SW_CTRL_9
2G ePA Tx	1	0
2G iLNA Rx	0/1	1
BT Tx	0	0

5G Tx/Rx SELECTION

5G Tx MODE	RF_SW_CTRL_8
5G Tx	0
5G Rx	1

TRUTH TABLES

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SIZE	TITLE	
B	CYW943012A0FCREF_3 Truth tables	
DATE 06/10/2017:13:03		SHEET 7 OF 7