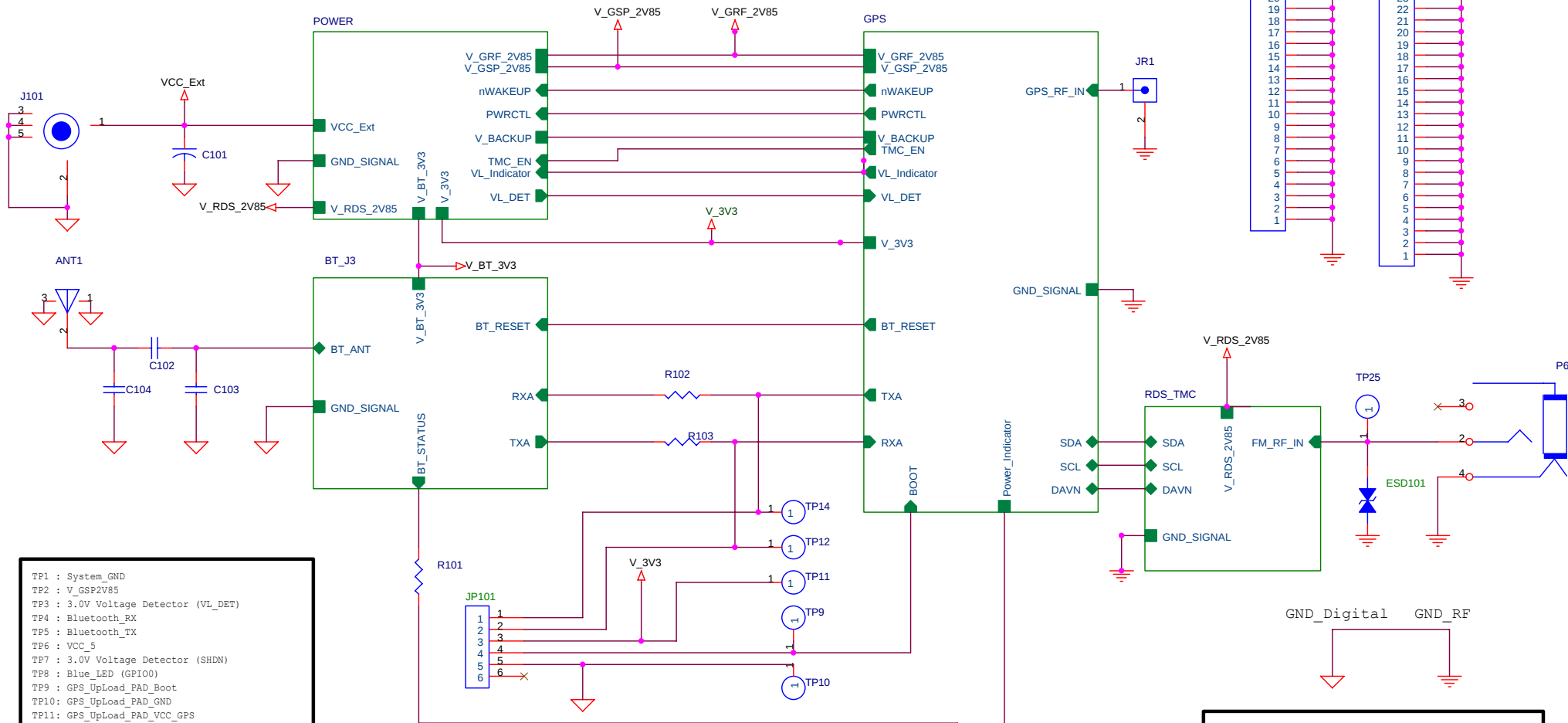


RTG-2000 V1.0 Schematic

1

PCB Revision	Date	Description
V0.1	4/21	Change FIL302 to L303 Add C322(0.1uF),C333(0.01uF) Del U302 1.7V voltage detector Del D301,D320,R302,B301 backup battery Del C309 Add shield-RGM3550 Change Air2U BSM02B-G to BT-1022 Add U404,C420,C421,C419,C418 Change SW3 to SS-B90AP Change U403 Vin to U401 Vout(3.3V) rather than Vcc_5
	4/26	Change L503,L504 33nH 2% 0402(LHL330G20NG) to 0603(LHL330G10NG)
	5/5	DEL R320 100K ADD R323 10K Change X302 24.5535MHz TO 16.369MHz (2.5ppm)ADD R401 47K DEL J101
	5/8	Change D102 BLUE LED TO 192DBK-CT/T DEL U101 7414 ADD R108 0ohm ADD C204 0.22u
V1.0	5/23	DEL C305 1p ADD R334 0ohm DEL R327 100K Change C317 6.8pF TO 22pF Change L301 3.3nH TO 3.9nH Change VL_INDICATOR GPIO[1] TO GPIO[0] Change BLUE LED DRIVE GPIO[0] TO GPIO[1]
	6/5	ADD R420 100K ADD U405 TC1015-2.85VCT ADD C422 12pF ADD C423 0.1uF DEL R104 100ohm ADD BT_RESET BY GPIO[2] Change BLUE LED DRIVE FROM GPIO[1] TO BT_STATUS Change TMC VCC FROM V_GRF_2V85 TO V_RDS_2V85 ADD TMC_EN BY GPIO[9]--TIMEMARK DEL BT_STATUS READING BY GPIO[9]--TIMEMARK ADD BLUETOOTH MODULE BT_STATUS BY PIO[4] FOR RTG-2000 ADD TP26 V_RDS_2V85
	6/7	CHANGE C422 12pf TO 1000pF CHANGE BT_RESET FROM GPIO[2] TO GPIO[1] ADD R212 0ohm DEL C204 0.22uF DEL BT_SYMBOL PIN35,36,37,38, AND MODIFY FOOTPRINT
	6/8	DEL R212 0ohm ADD C204 0.22uF ADD C424 1uF ADD C425 1uF CANCEL BT_RESET FROM GPIO[1],BECAUSE COLD WARM HOT START WILL CAUSE BLUETOOTH DISCONNECT

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TP1 : System_GND
 TP2 : V_GSP2V85
 TP3 : 3.0V Voltage Detector (VL_DET)
 TP4 : Bluetooth_RX
 TP5 : Bluetooth_TX
 TP6 : VCC_5
 TP7 : 3.0V Voltage Detector (SHDN)
 TP8 : Blue_LED (GPIO0)
 TP9 : GPS_Upload_PAD_Boot
 TP10 : GPS_Upload_PAD_GND
 TP11 : GPS_Upload_PAD_VCC_GPS
 TP12 : GPS_Upload_PAD_RX
 TP13 : Power_Indicator (GPIO4)
 TP14 : GPS_Upload_PAD_TX
 TP15 : V_BACKUP
 TP16 : Battery (NTC)
 TP17 : Battery (Positive pole)
 TP18 : VCC_Ext
 TP21 : BT_RTS
 TP22 : BT_CTS
 TP23 : V_GRF_2V85
 TP24 : V_3V3
 TP25 : FM RF INPUT
 TP26 : V_RDS_2V85

BT_STATUS--BLUE_LED
 GPIO[0]--A4 VL_Indicator (RED_LED)
 GPIO[1]--A2 BT_RESET
 GPIO[4]--H1 POWER_Indicator (Green_LED)
 GPIO[9]--C6--TIMEMARK --TMC_EN
 GPIO[10]--B5--EIT[0] DAVN
 GPIO[13]--F1--CTS SCL
 GPIO[14]--C1--RTS SDA
 GPIO[15]--E1--YCLK VL_DET

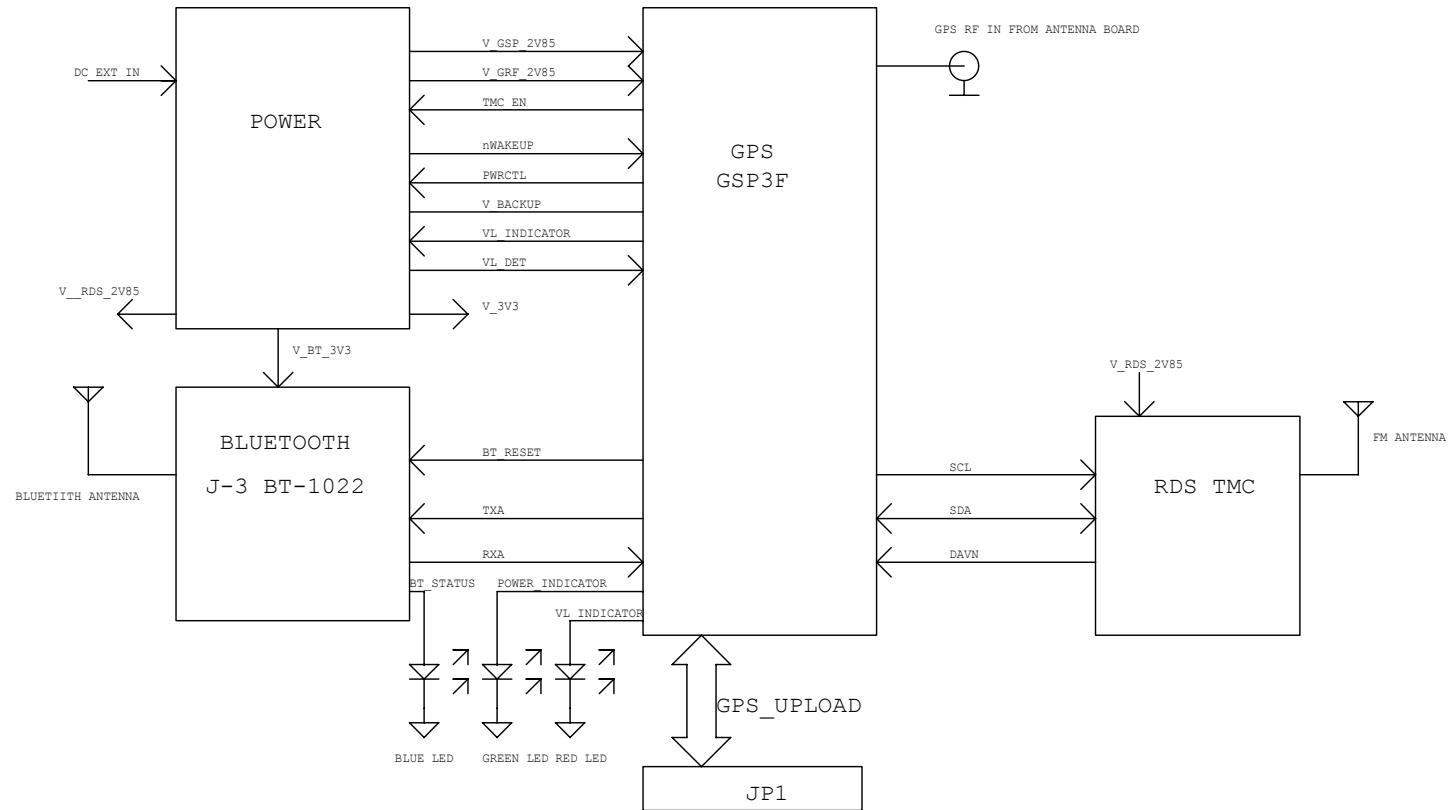
Blue LED :
 閃爍(無連結) ;
 恆亮(已連結)

Green LED :
 閃爍(GPS No Fixd) ;
 恆亮(GPS Fixd)

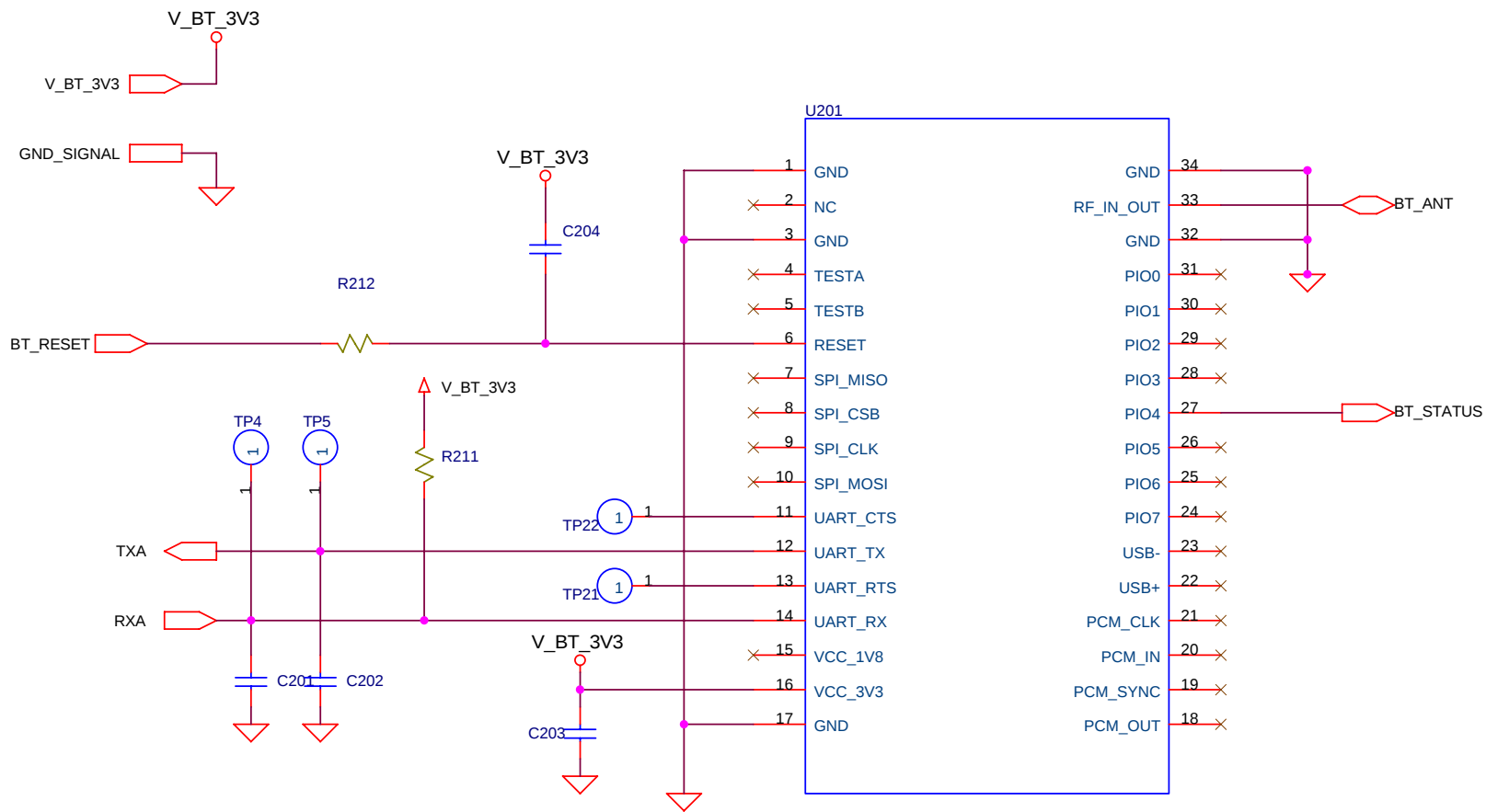
VCC_EXT : 5.0V +/- 5.0%
 V_3V3 : 3.3V +/- 2.5%
 V_BT_3V3 : 3.3V +/- 2.5%
 V_GSP_2V85 : 2.85V +/- 2.5%
 V_GRF_2V85 : 2.85V +/- 2.5%
 V_RDS_2V85 : 2.85V +/- 2.5%
 V_TMC_2V85 : 2.85V +/- 2.5%

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RTG-2000 SYSTEM STRUCTURE



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Title			
<Title> RTG-2000 SYSTEM STRUCTURE			
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RoyalTek			
Title			
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V_GSP_2V85  V_GSP_2V85
V_GRF_2V85  V_GRF_2V85
V_3V3  V_IN_3V3

Read on power-up to determine boot clock

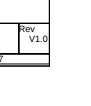
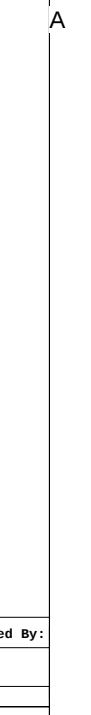
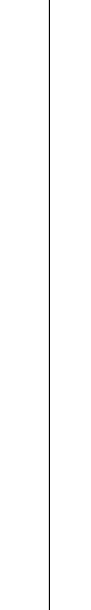
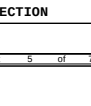
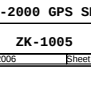
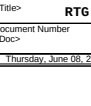
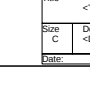
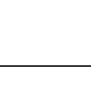
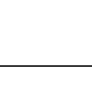
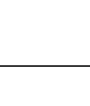
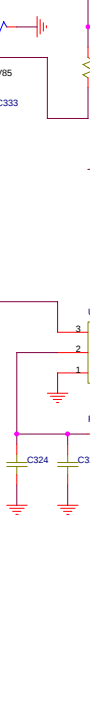
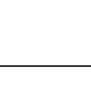
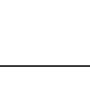
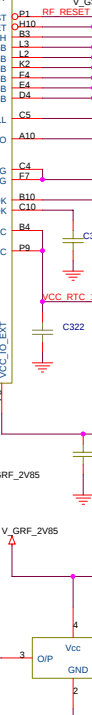
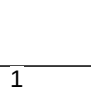
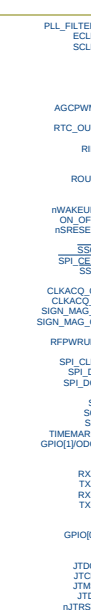
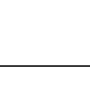
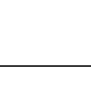
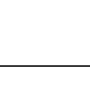
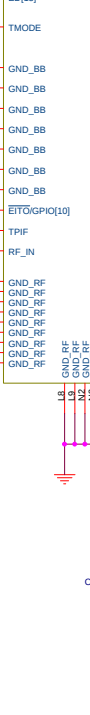
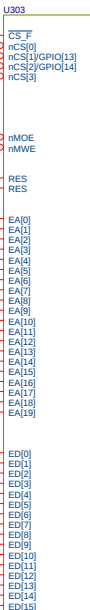
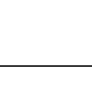
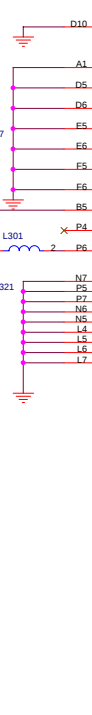
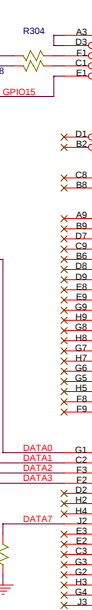
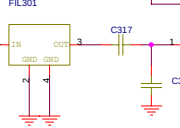
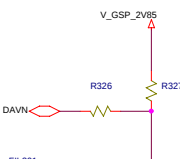
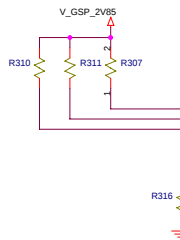
BootClock	ED[3]	ED[2]
Reserved	0	0
RTCLK	0	1
ECLK	1	0
CLKACQ	1	1

ED[0] Read on power-up to determine boot

1=internal
0=external

GPIO[0]--A4--VL_Indicator (RED LED)
GPIO[1]--A2--BT RESET
GPIO[2]--K3--
GPIO[3]--J9--CAN NOT BE USED
GPIO[4]--H1--POWER_Indicator (Green LED)
GPIO[9]--C6--TIMEMARK--TMC_EN
GPIO[10]--B5--EIT[0] DAVN
GPIO[13]--F1--CTS SCL
GPIO[14]--C1--RTS SDA
GPIO[15]--E1--YCLK VL_DET

BOOT  BOOT

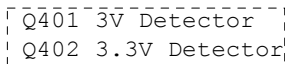
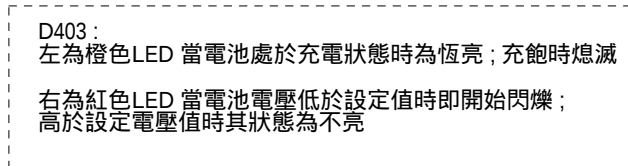


During boot-strap these pins determine RF reference frequency		
Frequency(MHz)	JTCK	JTD1
16.369	0	0
24.5535	0	1
26.0	1	0
Reserved	1	1

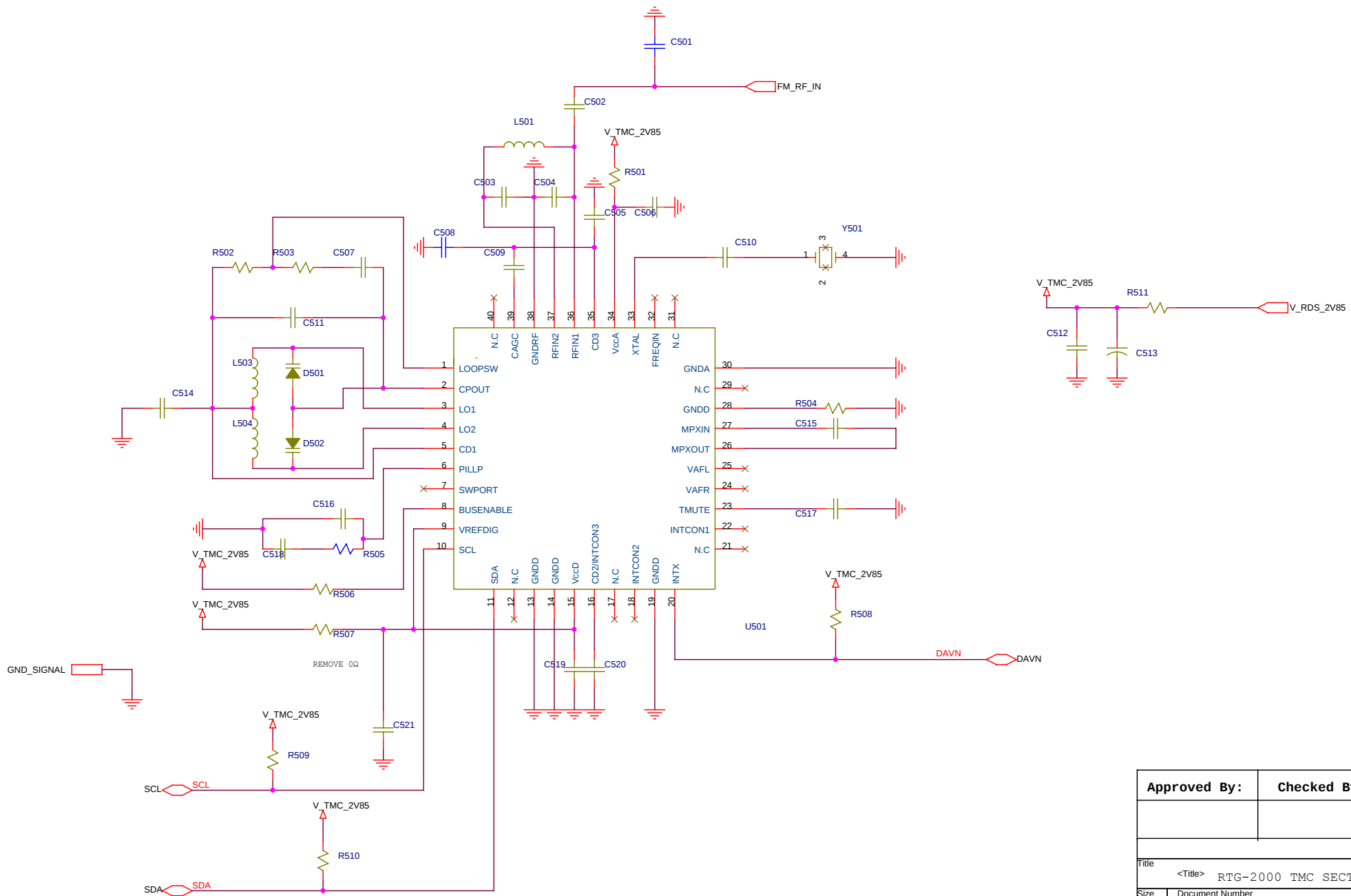
Tunning R&C
以調整Delay Time
Sifrf Spec.>280mS

VL_Indicator  GPIO0
Power_Indicator  GPIO4
VL_DET  GPIO15
TMC_EN  TIMEMARK
BT_RESET  BT_RESET
GND_SIGNAL  GND

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Royaltek			
RTG-2000 GPS SECTION			
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	RoyalTek					
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RTG-2000 BlueGPS POWER						
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