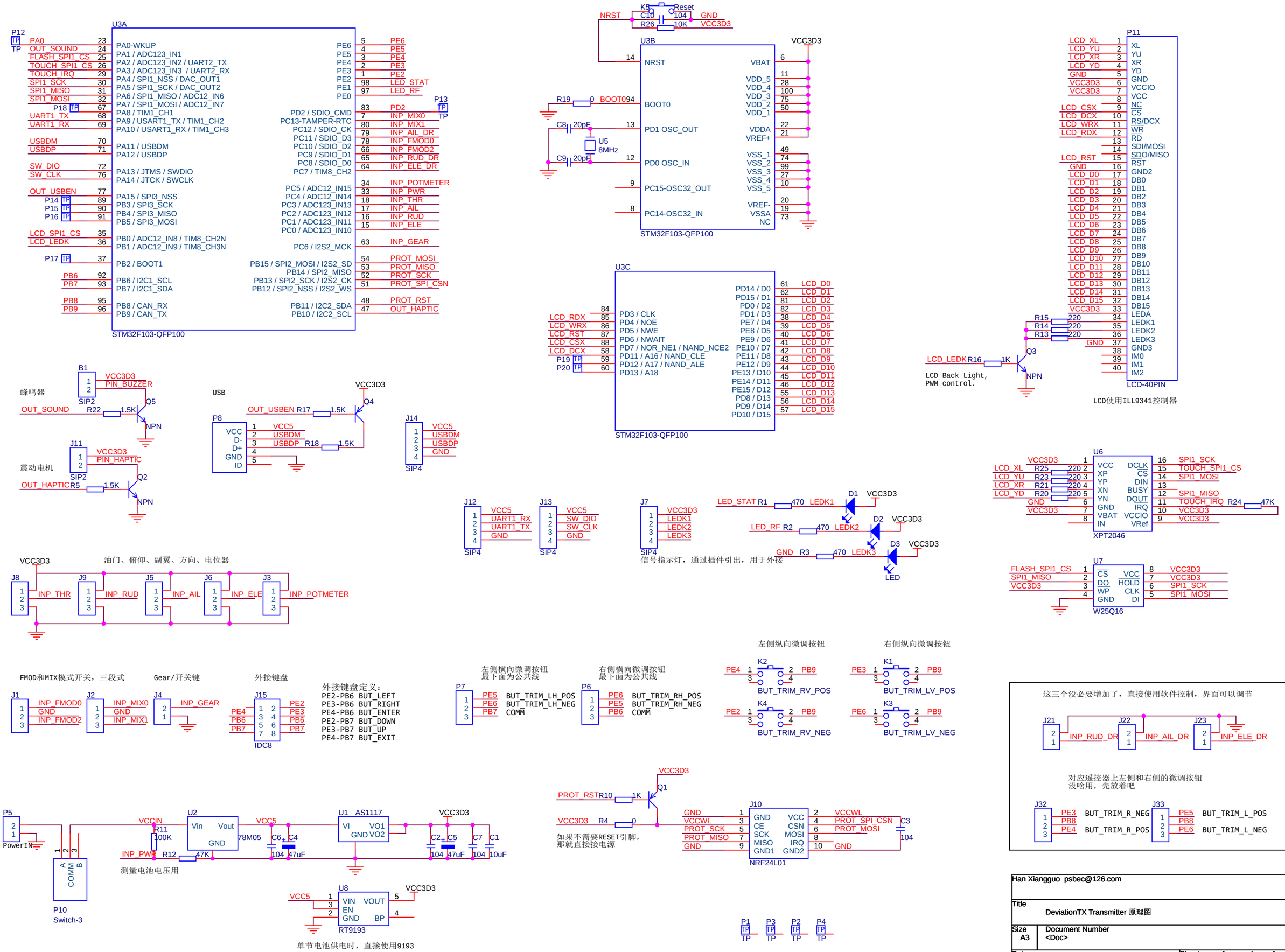
U3A
STM32F103-QFP100
PA0 OUT_SOUND FLASH_SPI1_CS TOUCH_SPI1_CS TOUCH_IRQ SPI1_SCK SPI1_MISO SPI1_MOSI UART1_TX UART1_RX USBDM USBDP SW_DIO SW_CLK OUT_USBEN LCD_SPI1_CS LCD_LEDK
PE6 PE5 PE4 PE3 PE2 LED_STAT LED_RF PD2 INP_MIX0 INP_MIX1 INP_AIL_DR INP_FMOD0 INP_FMOD2 INP_RUD_DR INP_ELE_DR INP_POTMETER INP_PWR INP_THR INP_AIL INP_RUD INP_ELE INP_GEAR PROT_MOSI PROT_MISO PROT_SCK PROT_SPI_CSN PROT_RST OUT_HAPTIC
U3B
STM32F103-QFP100
NRST BOOT0 PD1 OSC_OUT PD0 OSC_IN PC15-OSC32_OUT PC14-OSC32_IN VBAT VDD_5 VDD_4 VDD_3 VDD_2 VDD_1 VDDA VREF+ VSS_1 VSS_2 VSS_3 VSS_4 VSS_5 VREF- VSSA NC
VCC3D3
K5 Reset C10 104 GND R26 10K VCC3D3
R19 0 BOOT0 C8 20pF C9 20pF U5 8MHz
U3C
STM32F103-QFP100
PD3 / CLK PD4 / NOE PD5 / NWE PD6 / NWAIT PD7 / NOR_NE1 / NAND_NCE2 PD11 / A16 / NAND_CLE PD12 / A17 / NAND_ALE PD13 / A18
PD14 / D0 PD15 / D1 PD0 / D2 PD1 / D3 PE7 / D4 PE8 / D5 PE9 / D6 PE10 / D7 PE11 / D8 PE12 / D9 PE13 / D10 PE14 / D11 PE15 / D12 PD8 / D13 PD9 / D14 PD10 / D15
LCD_RDX LCD_WRX LCD_RST LCD_CSX LCD_DCX
P11
LCD-40PIN
LCD_XL LCD_YU LCD_XR LCD_YD GND VCC3D3 VCC3D3 LCD_CSX LCD_DCX LCD_WRX LCD_RDX LCD_RST GND LCD_D0 LCD_D1 LCD_D2 LCD_D3 LCD_D4 LCD_D5 LCD_D6 LCD_D7 LCD_D8 LCD_D9 LCD_D10 LCD_D11 LCD_D12 LCD_D13 LCD_D14 LCD_D15 VCC3D3 LEDA LEDK1 LEDK2 LEDK3 GND3 IM0 IM1 IM2
XL YU XR YD GND VCCIO VCC NC CS RS/DCX WR RD SDI/MOSI SDO/MISO RST GND2 DB0 DB1 DB2 DB3 DB4 DB5 DB6 DB7 DB8 DB9 DB10 DB11 DB12 DB13 DB14 DB15
R15 220 R14 220 R13 220 Q3 NPN LCD_LEDK R16 1K
LCD Back Light, PWM control.
LCD使用ILL9341控制器
B1 SIP2 蜂鸣器 VCC3D3 PIN_BUZZER OUT_SOUND R22 1.5K Q5 NPN
J11 SIP2 震动电机 VCC3D3 PIN_HAPTIC OUT_HAPTIC R5 1.5K Q2 NPN
USB
P8 VCC D- D+ GND ID VCC5 USBDM USBDP
OUT_USBEN R17 1.5K Q4 R18 1.5K
VCC3D3
J14 SIP4 VCC5 USBDM USBDP GND
J12 SIP4 VCC5 UART1_RX UART1_TX GND
J13 SIP4 VCC5 SW_DIO SW_CLK GND
J7 SIP4 VCC3D3 LEDK1 LEDK2 LEDK3
信号指示灯，通过插件引出，用于外接
LED_STAT R1 470 LEDK1 D1 VCC3D3
LED_RF R2 470 LEDK2 D2 VCC3D3
GND R3 470 LEDK3 D3 VCC3D3
LED
U6 XPT2046
VCC3D3 LCD_XL LCD_YU LCD_XR LCD_YD GND VCC3D3
R25 220 R23 220 R21 220 R20 220
VCC XP YP XN YN GND VBAT IN DCLK CS DIN BUSY DOUT IRQ VCCIO VRef
SPI1_SCK TOUCH_SPI1_CS SPI1_MOSI SPI1_MISO TOUCH_IRQ R24 47K VCC3D3 VCC3D3
U7 W25Q16
FLASH_SPI1_CS SPI1_MISO VCC3D3
CS DO WP GND VCC HOLD CLK DI
VCC3D3 SPI1_SCK SPI1_MOSI
VCC3D3
油门、俯仰、副翼、方向、电位器
J8 INP_THR J9 INP_RUD J5 INP_AIL J6 INP_ELE J3 INP_POTMETER
FMOD和MIX模式开关，三段式
J1 INP_FMOD0 GND INP_FMOD2
J2 INP_MIX0 GND INP_MIX1
Gear/开关键
J4 INP_GEAR
外接键盘
J15 IDC8 PE4 PB6 PB7 PE2 PE3 PB6 PB7
外接键盘定义：
PE2-PB6 BUT_LEFT
PE3-PB6 BUT_RIGHT
PE4-PB6 BUT_ENTER
PE2-PB7 BUT_DOWN
PE3-PB7 BUT_UP
PE4-PB7 BUT_EXIT
左侧横向微调按钮
最下面为公共线
P7 PE5 PE6 PB7 BUT_TRIM_LH_POS BUT_TRIM_LH_NEG COMM
右侧横向微调按钮
最下面为公共线
P6 PE6 PE5 PB6 BUT_TRIM_RH_POS BUT_TRIM_RH_NEG COMM
左侧纵向微调按钮
K2 PE4 PB9 BUT_TRIM_RV_POS
K4 PE2 PB9 BUT_TRIM_RV_NEG
右侧纵向微调按钮
K1 PE3 PB9 BUT_TRIM_LV_POS
K3 PE6 PB9 BUT_TRIM_LV_NEG
这三个没必要增加了，直接使用软件控制，界面可以调节
J21 INP_RUD_DR J22 INP_AIL_DR J23 INP_ELE_DR
对应遥控器上左侧和右侧的微调按钮
没啥用，先放着吧
J32 PE3 PB8 PE4 BUT_TRIM_R_NEG BUT_TRIM_R_POS
J33 PE5 PB8 PE6 BUT_TRIM_L_POS BUT_TRIM_L_NEG
P5 PowerIN
VCCIN R11 100K INP_PWR R12 47K
测量电池电压用
P10 Switch-3 A COMM B
U2 Vin Vout GND 78M05 VCC5 C6 104 C4 47uF
U1 AS1117 VI VO1 GND VO2 VCC3D3 C2 104 C5 47uF C7 104 C1 10uF
U8 RT9193 VCC5 VIN EN GND VOUT BP VCC3D3
单节电池供电时，直接使用9193
PROT_RST R10 1K Q1 VCC3D3
VCC3D3 R4 0
如果不需要RESET引脚，
那就直接接电源
J10 NRF24L01
GND VCCWL PROT_SCK PROT_MISO GND
GND CE SCK MISO GND1 VCC CSN MOSI IRQ GND2
VCCWL PROT_SPI_CSN PROT_MOSI GND C3 104
P1 P3 P2 P4 TP
Han Xiangguo psbec@126.com
Title
DeviationTX Transmitter 原理图
Size A3
Document Number <Doc>
Rev 1.0
Date:
Sheet 1 of 1