

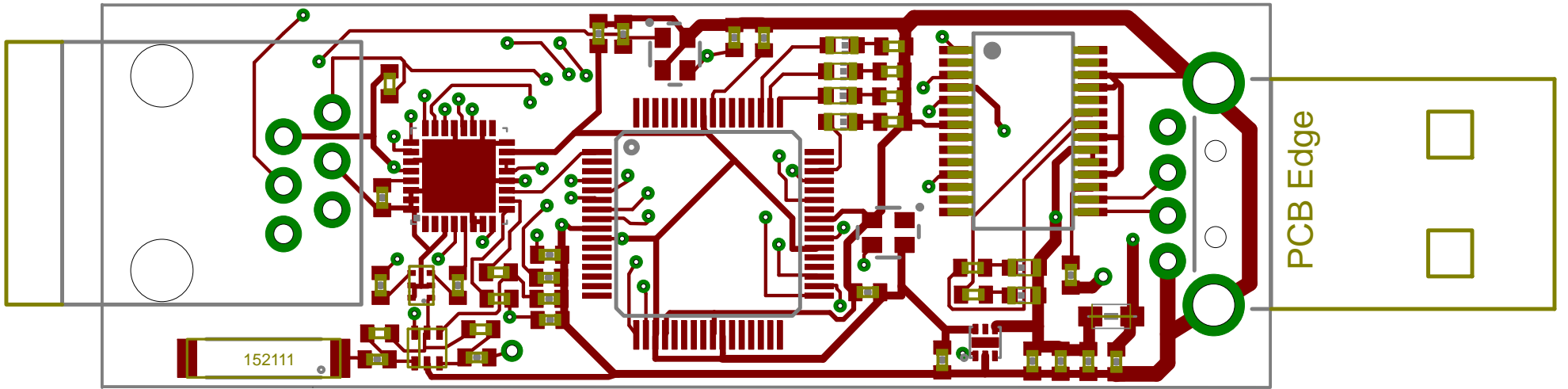
TitleBaseStation\_ver\_17

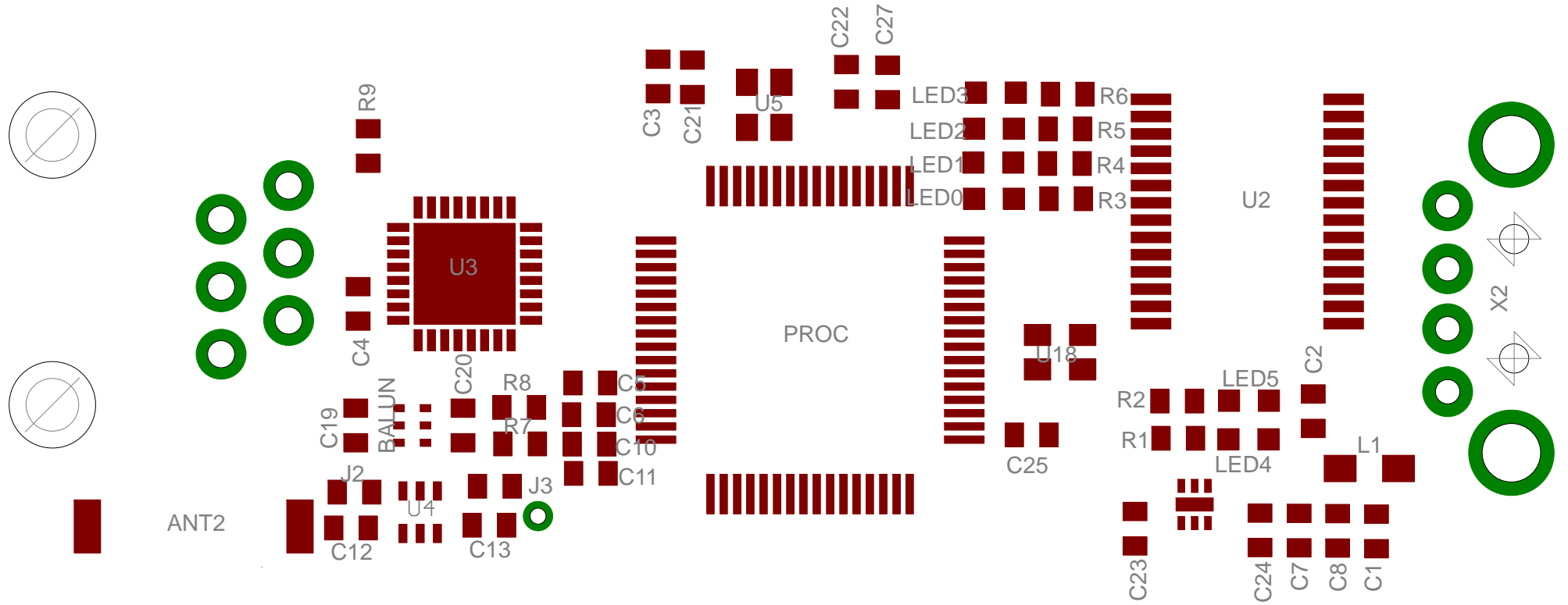
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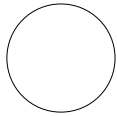
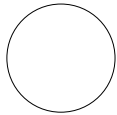
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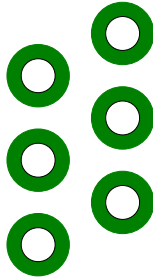
1/2







ANTENNA-CHIP



1uF

HHM1710D1

22pF

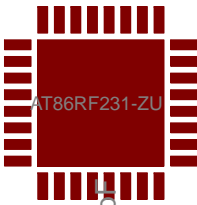
0

22pF

AS183-92

0

22pF



AT86RF231-ZU

22pF

2K

2K



1uF

1uF

22pF

22pF



1uF

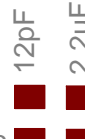
12pF



ECX-2236



DSPIC33



12pF

2.2uF

Blue

Yellow

Green

Red



1uF

ECS-2033



470

470

0.1uF

FT232RL

Orange

Green

1uF

0.1uF

4.7uF

10nF



0.1uF



## Partlist

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Part Sheet	Value	Device	Package	Library	
ANT1	ANTENNA	ANTENNA	ANTENNA_PAD	stan	1
ANT2	ANTENNA-CHIP	ANTENNA-CHIP	ANTENNA-CHIP	stan	1
BALUN	HHM1710D1	BALUNA	BALUN	stan	1
C1	10nF	CAP0402-CAP	0402-CAP	SparkFun	1
C2	0.1uF	CAP0402-CAP	0402-CAP	SparkFun	1
C3	1uF	CAP0402-CAP	0402-CAP	SparkFun	1
C4	1uF	CAP0402-CAP	0402-CAP	SparkFun	1
C5	1uF	CAP0402-CAP	0402-CAP	SparkFun	1
C6	1uF	CAP0402-CAP	0402-CAP	SparkFun	1
C7	0.1uF	CAP0402-CAP	0402-CAP	SparkFun	1
C8	4.7uF	CAP0402-CAP	0402-CAP	SparkFun	1
C10	22pF	CAP0402-CAP	0402-CAP	SparkFun	1
C11	22pF	CAP0402-CAP	0402-CAP	SparkFun	1
C12	22pF	CAP0402-CAP	0402-CAP	SparkFun	1
C13	22pF	CAP0402-CAP	0402-CAP	SparkFun	1
C19	22pF	CAP0402-CAP	0402-CAP	SparkFun	1
C20	22pF	CAP0402-CAP	0402-CAP	SparkFun	1
C21	12pF	CAP0402-CAP	0402-CAP	SparkFun	1
C22	12pF	CAP0402-CAP	0402-CAP	SparkFun	1
C23	0.1uF	CAP0402-CAP	0402-CAP	SparkFun	1
C24	1uF	CAP0402-CAP	0402-CAP	SparkFun	1
C25	1uF	CAP0402-CAP	0402-CAP	SparkFun	1
C27	2.2uF	CAP0402-CAP	0402-CAP	SparkFun	1
J1	RJ11-6PTH	RJ11-6PTH	RJ11-6	SparkFun	1
J2	0	R-US_R0402	R0402	rcl	1
J3	0	R-US_R0402	R0402	rcl	1
L1	Ferrite Bead	WE-CBF_0805	0805	wuerth-elektronik	1
LED0	Red	LEDCHIP-LED0603	CHIP-LED0603	led	1
LED1	Green	LEDCHIP-LED0603	CHIP-LED0603	led	1
LED2	Yellow	LEDCHIP-LED0603	CHIP-LED0603	led	1
LED3	Blue	LEDCHIP-LED0603	CHIP-LED0603	led	1
LED4	Green	LEDCHIP-LED0603	CHIP-LED0603	led	1
LED5	Orange	LEDCHIP-LED0603	CHIP-LED0603	led	1
PROC	DSPI C33	DSPI C33FJ128MC706-I/PT	TQFP64	stan	1
R1	470	R-US_R0402	R0402	rcl	1
R2	470	R-US_R0402	R0402	rcl	1
R3	470	R-US_R0402	R0402	rcl	1
R4	470	R-US_R0402	R0402	rcl	1
R5	470	R-US_R0402	R0402	rcl	1
R6	470	R-US_R0402	R0402	rcl	1
R7	2K	R-US_R0402	R0402	rcl	1
R8	2K	R-US_R0402	R0402	rcl	1
R9	10k	R-US_R0402	R0402	rcl	1
U1	MI C5335-SPYMT	MI C5320-JGYML	MLF-6	stan	1
U2	FT232RL	FT232RL	SSOP28	ftdichip	1
U3	AT86RF231-ZU	AT86RF231-ZU	QFN-32	stan	1
U4	AS183-92	AS183-92	SC-70-6	stan	1
U5	ECX-2236	CRYSTALS	CRYSTAL-SMD	stan	1
U18	ECS-2033	OSCILLATORS	OSCILLATOR-SMD	stan	1
X2	USB-A-H	USB-A-H	USB-A-H	SparkFun	1

## Antenna diversity

If you have implementation of antenna diversity with AT86RF231, you need to populate an RF switch (U4). For this case, you should leave J2 and J3 open. You also need to populate R7, R8, C10, and C11. The values for R7 and R8 do not have to be exactly 2k. You can pick any resistors between 1.7k and 2.3k.

If you do not have implementation of antenna diversity, you **must not** populate an RF switch (U4). You do not have to populate R7, R8, C10, and C11. If you would like to use a whip antenna (ANT1), you have to populate J3 with a zero ohm resistor. If you would like to use a chip Antenna (ANT2), you have to populate J2 with a zero ohm resistor.

**Do not populate both J2 and J3 for any cases.**

If you have any questions, please ask Stan Baek ([stanbaek@eecs.berkeley.edu](mailto:stanbaek@eecs.berkeley.edu)).