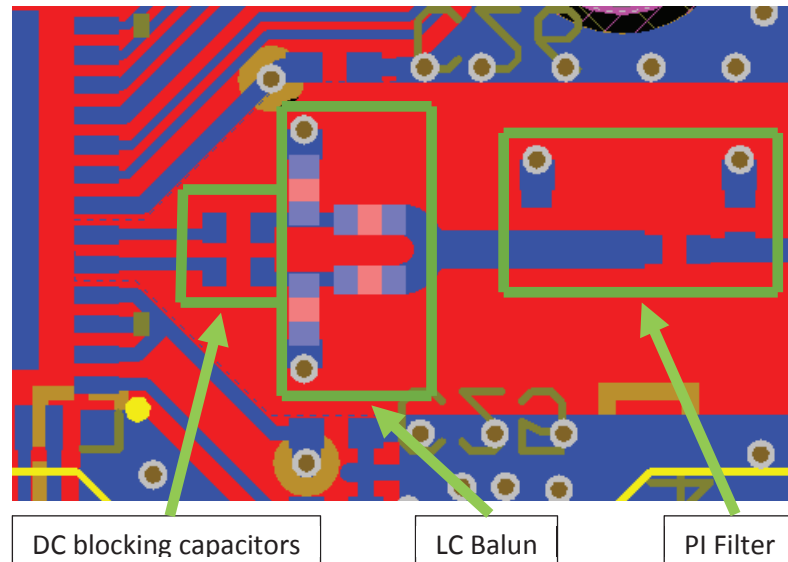




Part IV: A Glance of the Real-World Design

We discussed the theory behind the lumped LC Balun in the previous Parts. Let us take a look at the real-world CC2538 RF design. I designed this RF circuit for our IEEE 802.15.4 based RF Remote Control Remoter.



The DC blocking capacitors and LC Balun can be easily identified. The PI Filter is employed for harmonic reduction. However, you may already notice the layout is a little bit strange. We have this kind of strange layout, because we must use the distributed parameter models for the real-world microwave design. The layout, PCB stackup, stripline and microstrip impedance control, dielectric constant control become crucial [3].

Part V: Conclusion

The lumped LC Balun has been designed step by step in this paper. During the design process, the theory behind the lumped LC Balun has been illustrated.

Part VI: References

[1] CC2538 Powerful Wireless Microcontroller System-On-Chip for 2.4-GHz IEEE 802.15.4 ,6 LoWPAN ,and ZigBee Applications. Retrieved Nov 29, 2019, from <http://www.ti.com/lit/ds/symlink/cc2538.pdf>