

Motorola C1XX Filter Replacement

Copyright © 2011

This work is licensed under a Creative Commons Attribution 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-sa/3.0/> or send a letter to Creative Commons, 559 Nathan Abbott Way, Stanford, California 94305, USA.

Contents

1	Motivation	1
2	Requirement	2
3	Replacement	3
3.1	Step 1	3
3.2	Step 2	3
3.3	Step 5	4
3.4	Step 7	5
A	High Resolution Step 1	7
B	High Resolution Step 2	8
C	High Resolution Step 3	9
D	High Resolution Step 4	10
E	High Resolution Step 5	11
F	High Resolution Step 6	12
G	High Resolution Step 7	13

List of Figures

3.1	Step 1	3
3.2	Step 2	4
3.3	Step 5	5
3.4	Step 7	6

Chapter 1

Motivation

The motivation to replace the baluns is to change the sensitivity of the RX path. TODO

Chapter 2

Requirement

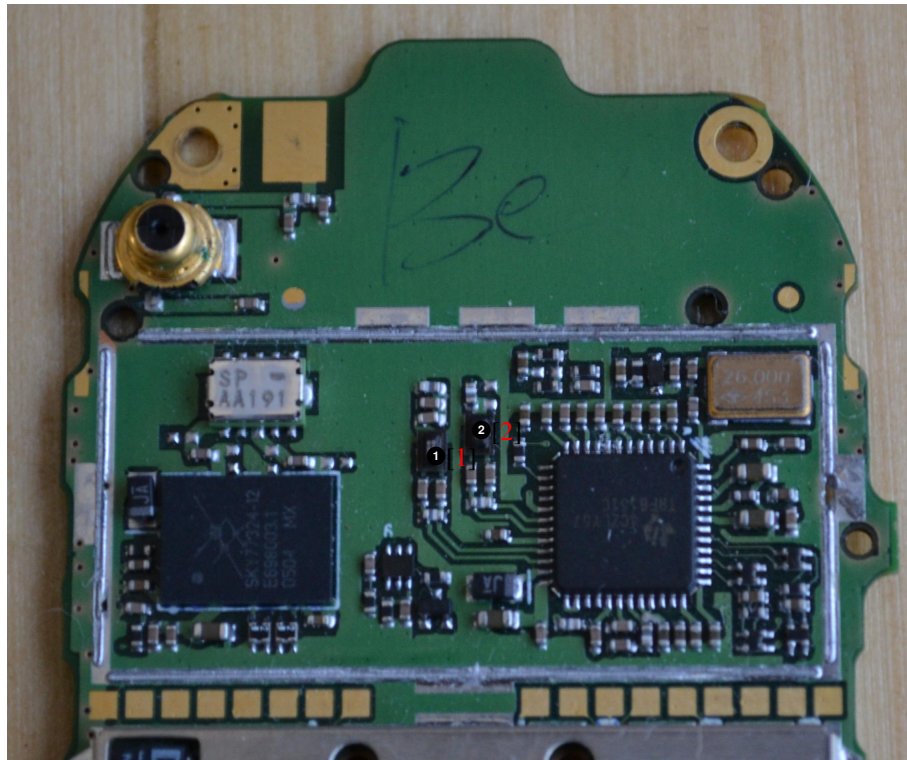
You will need to buy HHM1526, HHM1523C1, 04025A150JAT2A, 04025A220JAT2A (one each), patience, soldering iron, tools, patience. Double check with the wiki page where you found this document.

Chapter 3

Replacement

3.1 Step 1

Remove the two existing baluns.

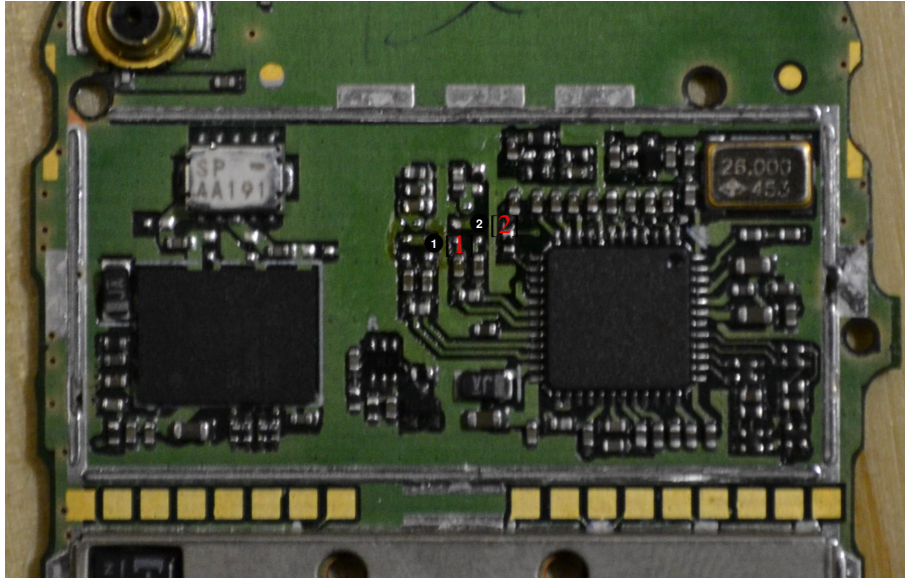


- ❶ The black (sometimes silver) component is the GSM900 balun. Remove it from the PCB.
- ❷ The black (sometimes silver) component is the DCS1800 balun. Remove it from the PCB.

Figure 3.1: Step 1

3.2 Step 2

The balun should now be removed and you should see the traces.

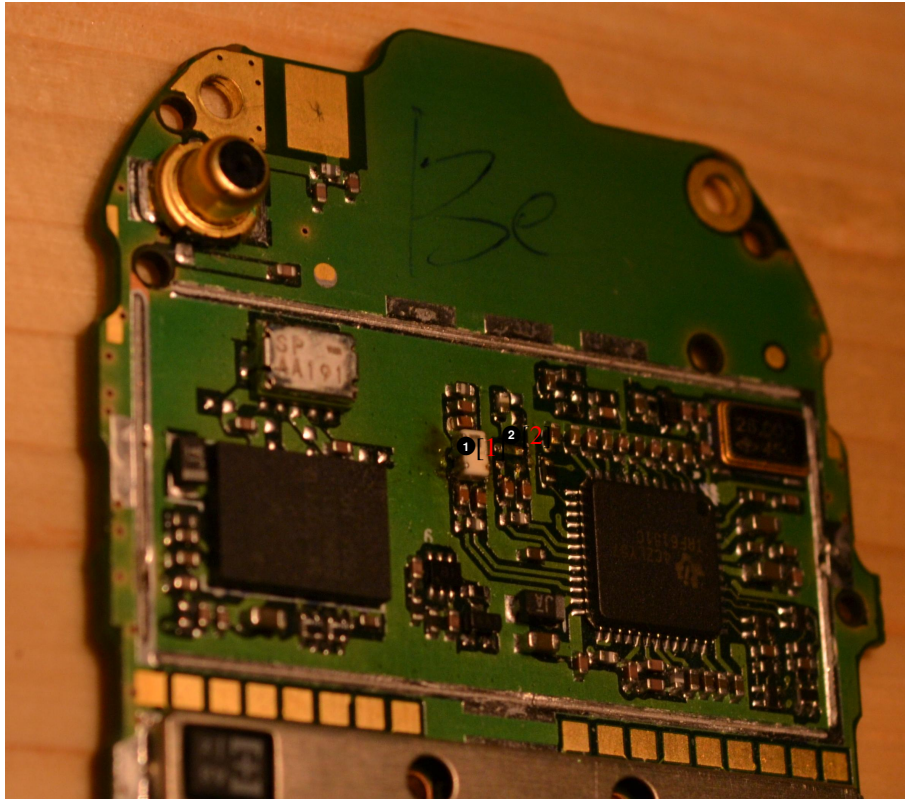


- ❶ The RX path for GSM900 without the balun.
- ❷ The RX path for DCS1800 without the balun.

Figure 3.2: Step 2

3.3 Step 5

Place the new balun's on the PCB.

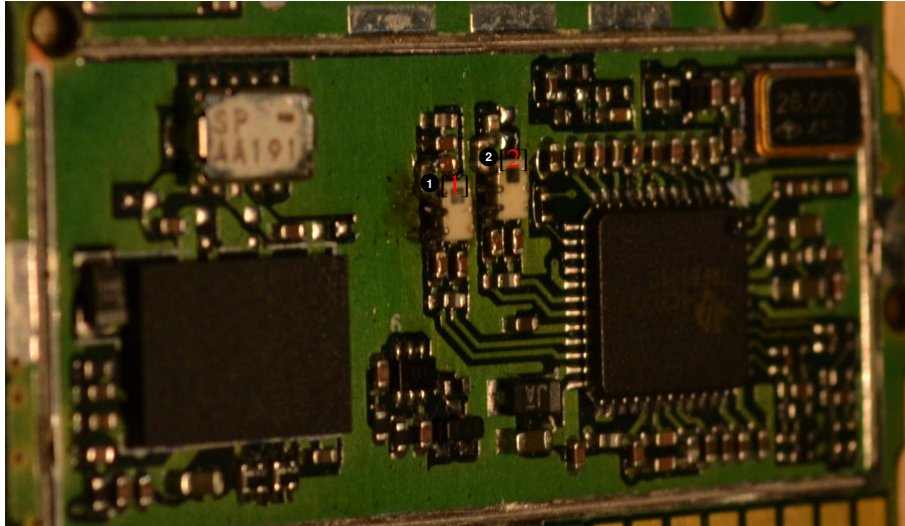


- ❶ Place the HHM1523C1 (GSM 900) here
- ❷ Place the HHM1526 (DCS 1800) here

Figure 3.3: Step 5

3.4 Step 7

Place capacitors



- ❶ Place one 22 pF (04025A220JAT2A) cap here.
- ❷ Place one 15 pF (04025A150JAT2A) cap here.

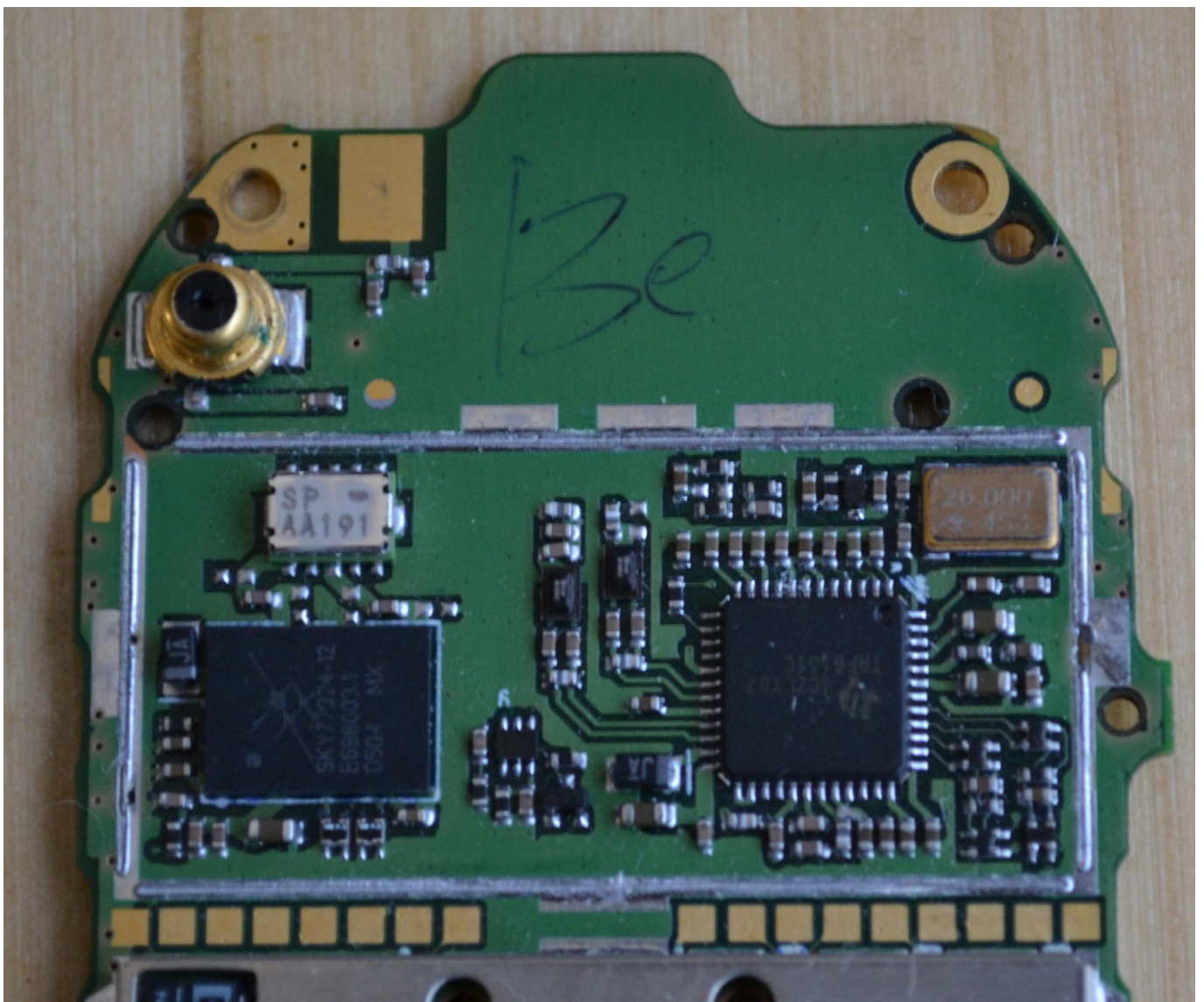
Figure 3.4: Step 7

Different circuit

Sometimes the input (at the bottom of the balun) is not with caps in series and a resistor in parallel. Instead it might be without the resistors in parallel and resistors in series. Remove the resistors and place 2x the appropriate cap in series (22 pF for GSM90, 15 pF for DCS1800).

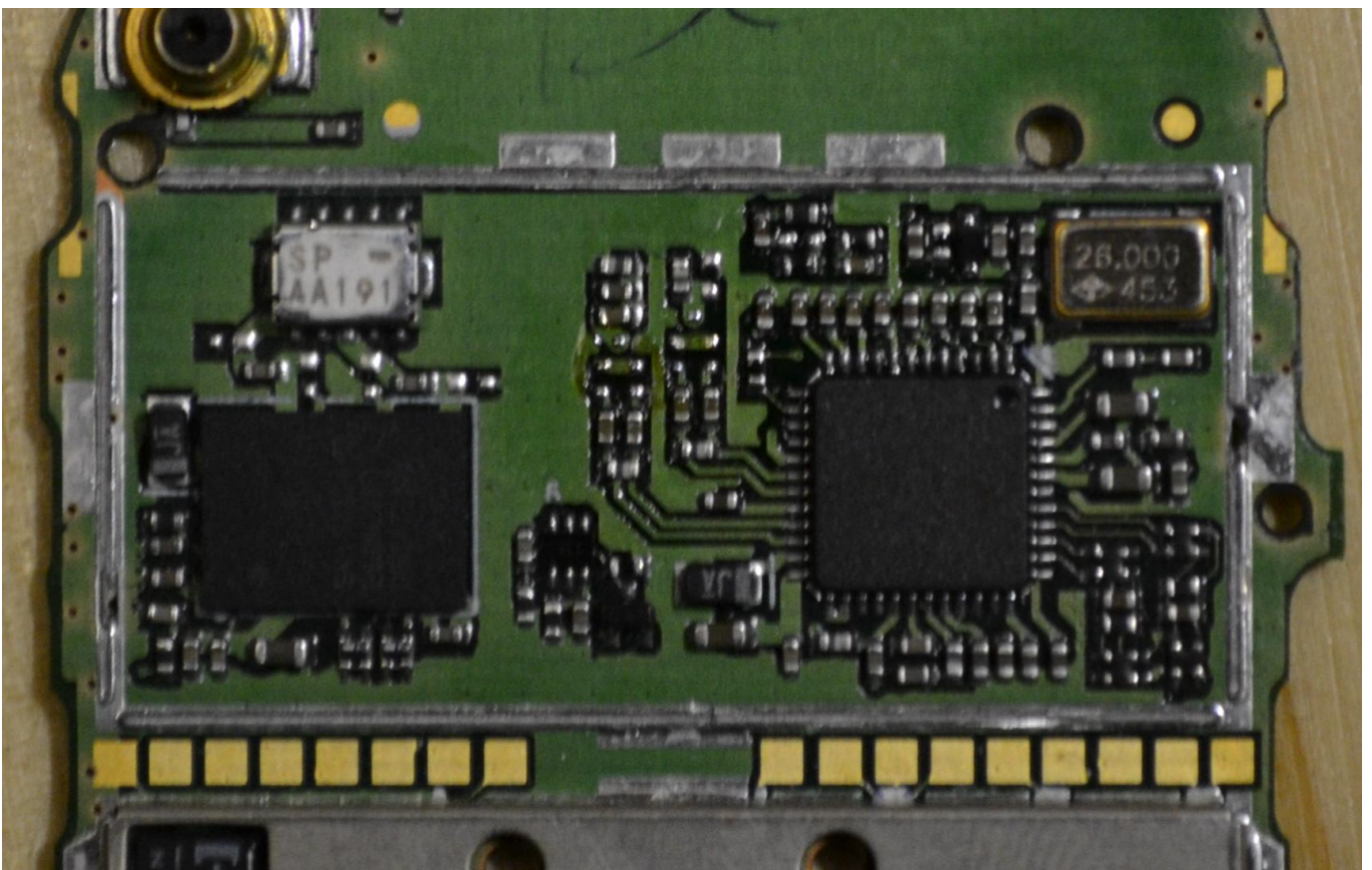
Appendix A

High Resolution Step 1



Appendix B

High Resolution Step 2



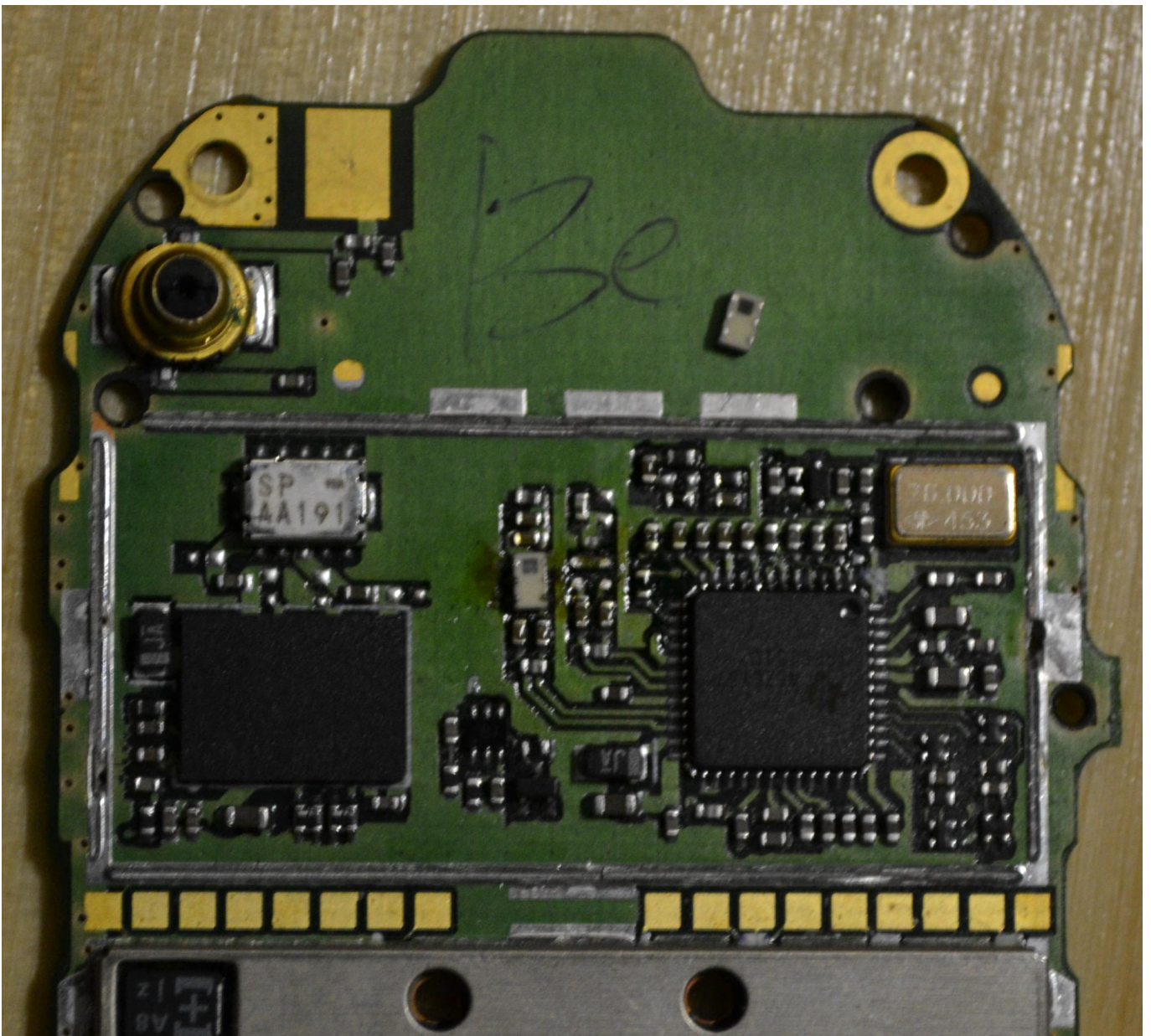
Appendix C

High Resolution Step 3



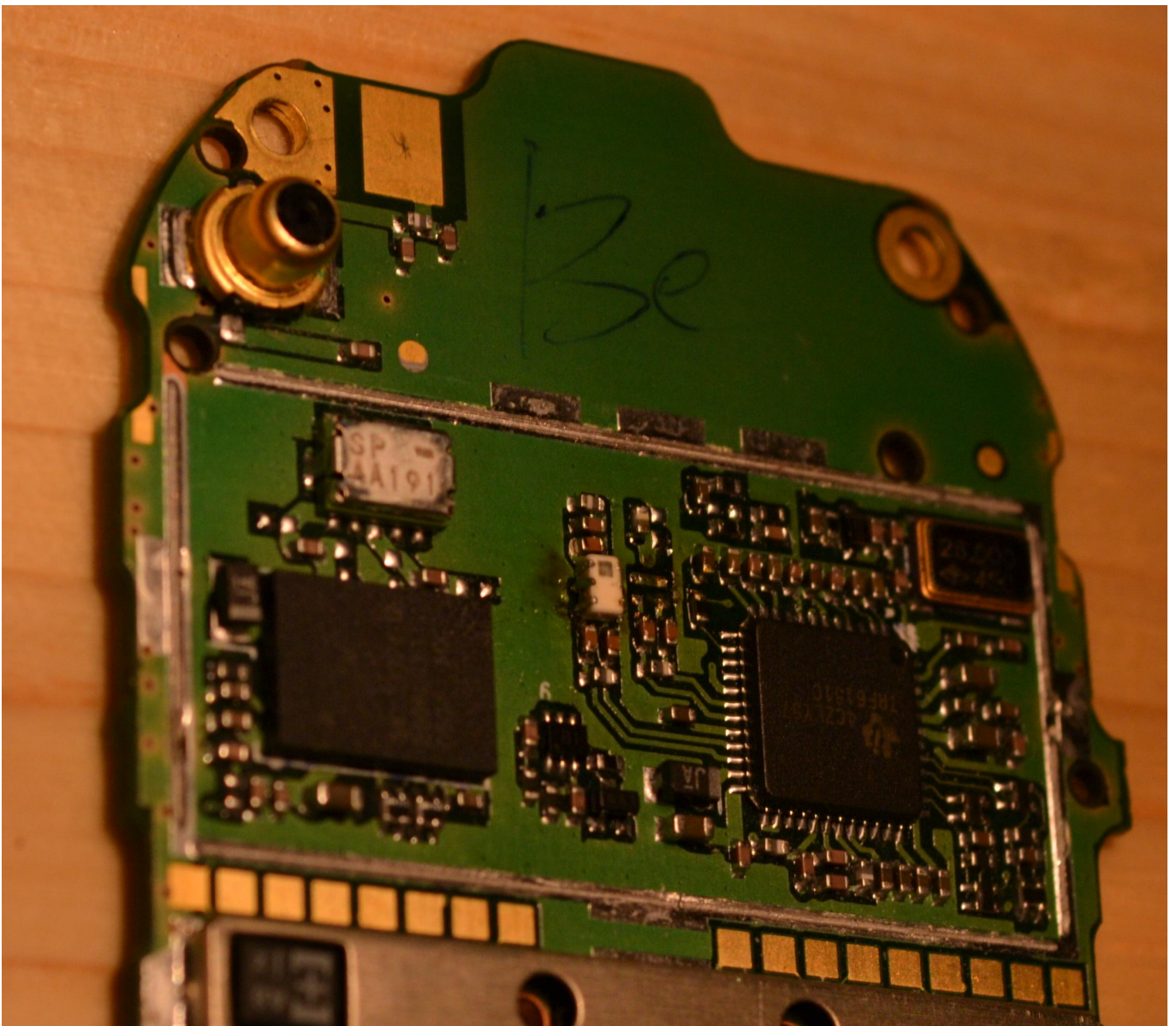
Appendix D

High Resolution Step 4



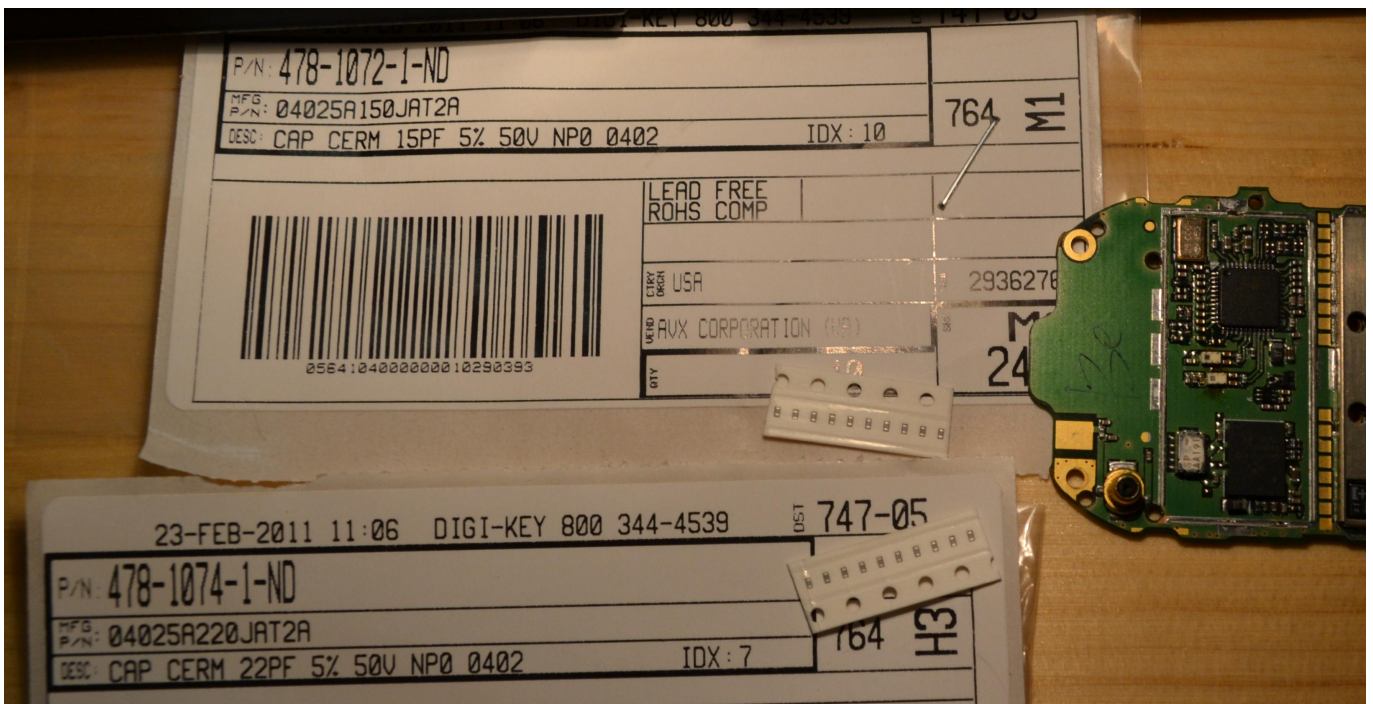
Appendix E

High Resolution Step 5



Appendix F

High Resolution Step 6



Appendix G

High Resolution Step 7

