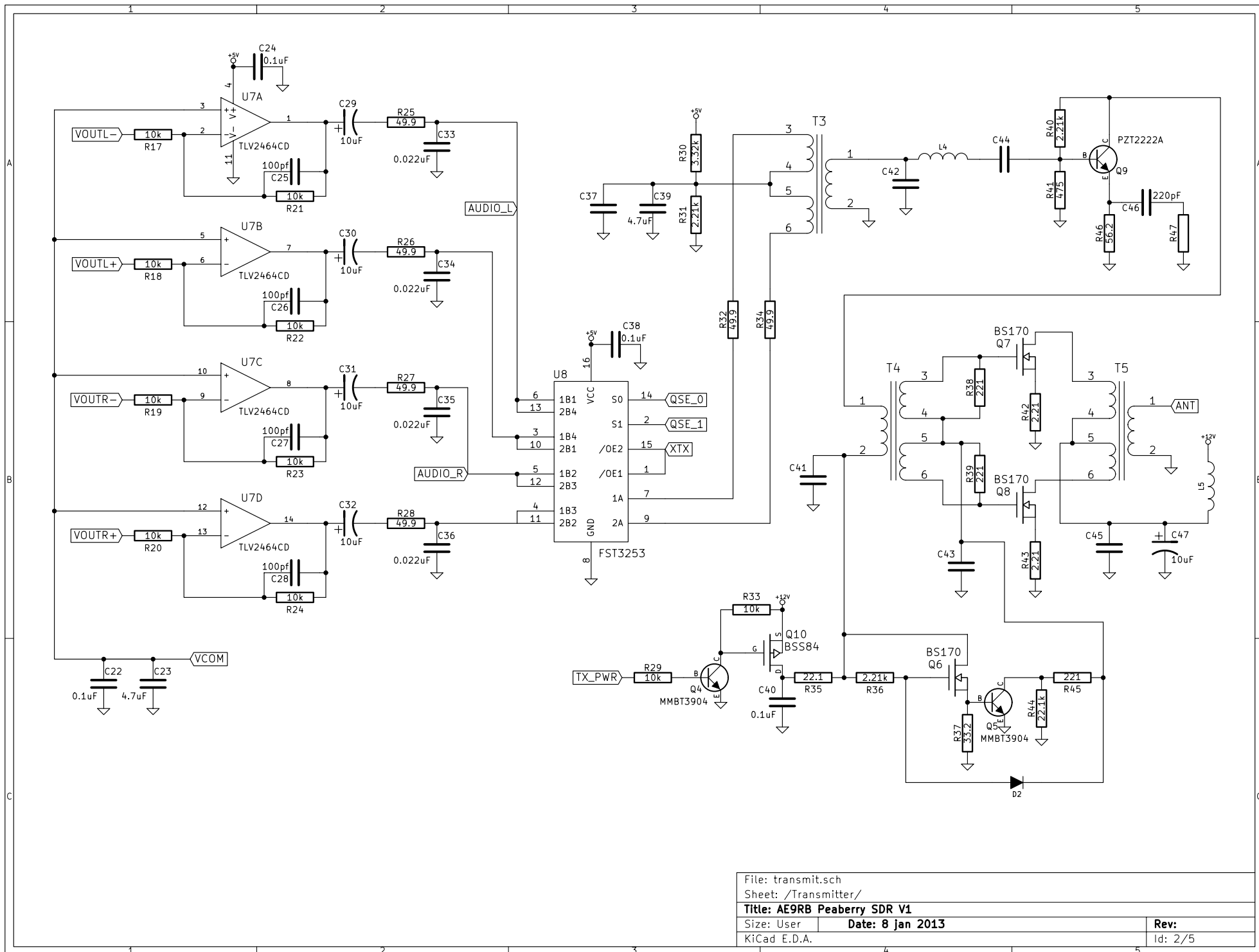
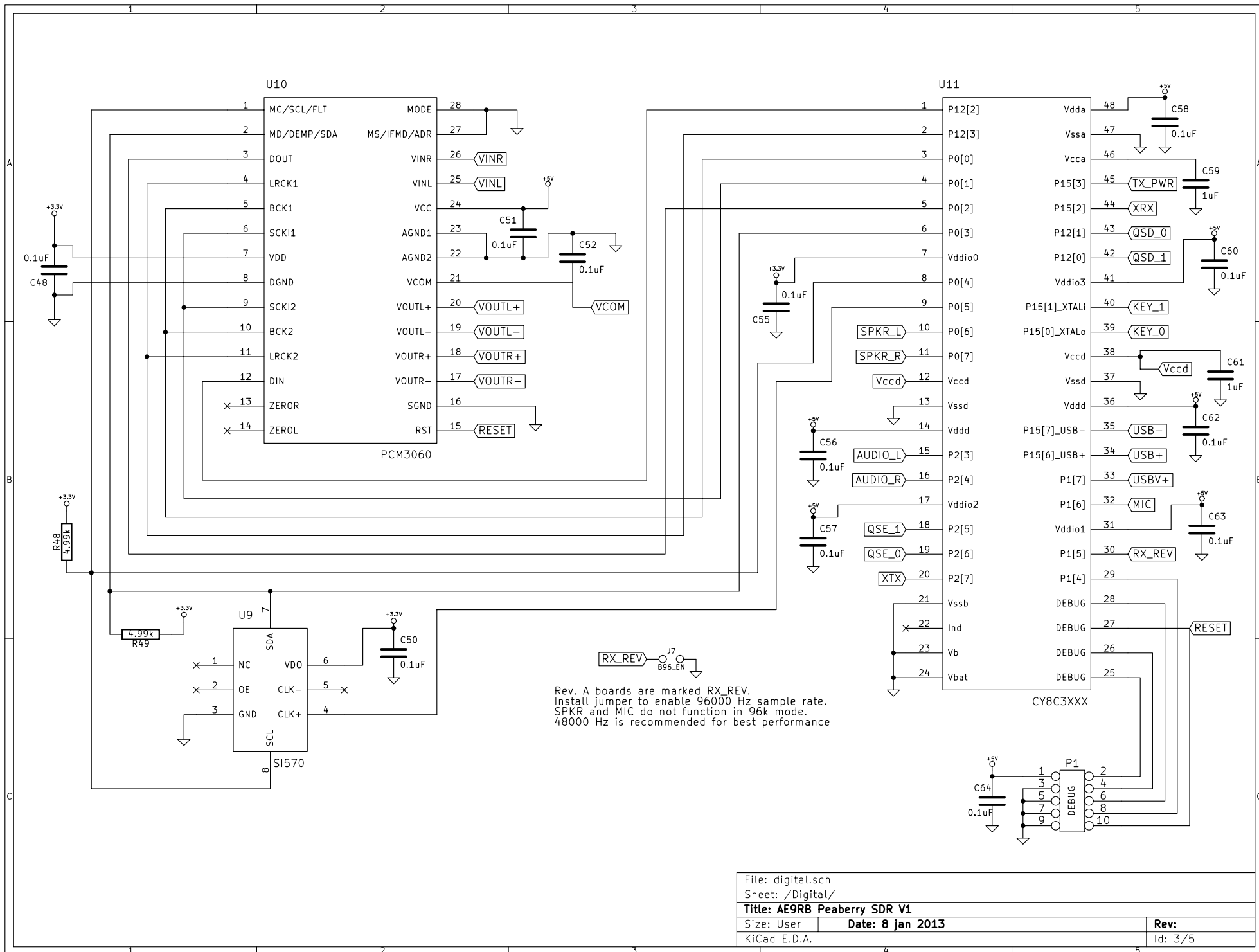


File: peaberry.sch
 Sheet: /
Title: AE9RB Peaberry SDR V1
 Size: User **Date: 8 Jan 2013**
 KiCad E.D.A. **Rev:**
 Id: 1/5



File: transmit.sch
 Sheet: /Transmitter/
Title: AE9RB Peaberry SDR V1
 Size: User Date: 8 Jan 2013
 KiCad E.D.A. Rev: 2/5



Rev. A boards are marked RX_REV.
 Install jumper to enable 96000 Hz sample rate.
 SPKR and MIC do not function in 96k mode.
 48000 Hz is recommended for best performance

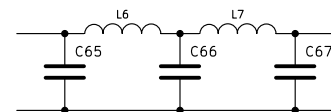
| | |
|-------------------------------------|------------------|
| File: digital.sch | |
| Sheet: /Digital/ | |
| Title: AE9RB Peaberry SDR V1 | |
| Size: User | Date: 8 Jan 2013 |
| KiCad E.D.A. | Rev: Id: 3/5 |

Band Configuration Worksheet

| | |
|--|--|
| <p>L1 160m 3.4uH 29T (18 in) #26 T37-2 (red) 80/40m 1.4uH 19T (13 in) #26 T37-2 (red)</p> <p>L2 40/30/20m 0.8uH 16T (11 in) #26 T37-6 (yellow) 30/20/17m 0.6uH 14T (10 in) #26 T37-6 (yellow)</p> | <p>T1 160m 2x4T (2x6 in) #30 BN-43-2402 80/40m 2x4T (2x6 in) #30 BN-43-2402 40/30/20m 2x4T (2x6 in) #30 BN-61-2402 30/20/17m 2x4T (2x6 in) #30 BN-61-2402</p> |
| <p>L3 160m 18.7uH 66T (35 in) #30 T30-2 (red) 80/40m 1.6uH 22T (11 in) #30 T25-2 (red) 40/30/20m 0.9uH 18T (10 in) #30 T25-6 (yellow) 30/20/17m 0.78uH 17T (9 in) #30 T25-6 (yellow)</p> | <p>T2 160m 1.4uH 18T (12in) 2x9T (2x7 in) #30 T30-2 (red) 80/40m 1.2uH 18T (11 in) 2x9T (2x6 in) #30 T25-2 (red) 40/30/20m 0.69uH 16T (9in) 2x8T (2x7 in) #30 T25-6 (yellow) 30/20/17m 0.6uH 14T (8 in) 2x7T (2x6 in) #30 T25-6 (yellow)</p> |
| <p>L4 160m 30uH 83T (44 in) #30 T30-2 (red) 80/40m 4.7uH 33T (19 in) #30 T30-2 (red) 40/30/20m 2.3uH 25T (15 in) #30 T30-6 (yellow) 30/20/17m 1.6uH 21T (14 in) #30 T30-6 (yellow)</p> | <p>T3 160m 2x20T (2x12 in) 7.1uH 40T (22 in) #30 T30-2 (red) 80/40m 2x17T (2x10 in) 5.0uH 34T (19 in) #30 T30-2 (red) 40/30/20m 2x13T (2x9 in) 2.43uH 26T (15 in) #30 T30-6 (yellow) 30/20/17m 2x11T (2x8 in) 1.74uH 22T (14 in) #30 T30-6 (yellow)</p> |
| <p>L5 Power supply RF choke. 4T (6 in) #26 BN-43-2402</p> | <p>T4 160m 6T (10 in) 2x3T (2x5 in) #30 BN-43-2402 80/40m 6T (10 in) 2x3T (2x5 in) #30 BN-43-2402 40/30/20m 6T (9 in) 2x3T (2x5 in) #30 BN-61-2402 30/20/17m 6T (9 in) 2x3T (2x5 in) #30 BN-61-2402</p> |
| <p>L6 80*/40m 2.5uH 29T (17 in) #26 T37-6 (yellow) 40*/30/20m 1.3uH 18T (12 in) #26 T37-2 (red)</p> <p>L7 30*/20/17m 0.9uH 15T (10 in) #26 T37-2 (red) * External LPF required to transmit on these bands.</p> | <p>T5 160m 2x4T (2x6 in) 5T (9 in) #30 BN-43-2402 80/40m 2x4T (2x6 in) 5T (9 in) #30 BN-43-2402 40/30/20m 2x3T (2x5 in) 5T (9 in) #30 BN-61-2402 30/20/17m 2x3T (2x5 in) 5T (9 in) #30 BN-61-2402</p> |

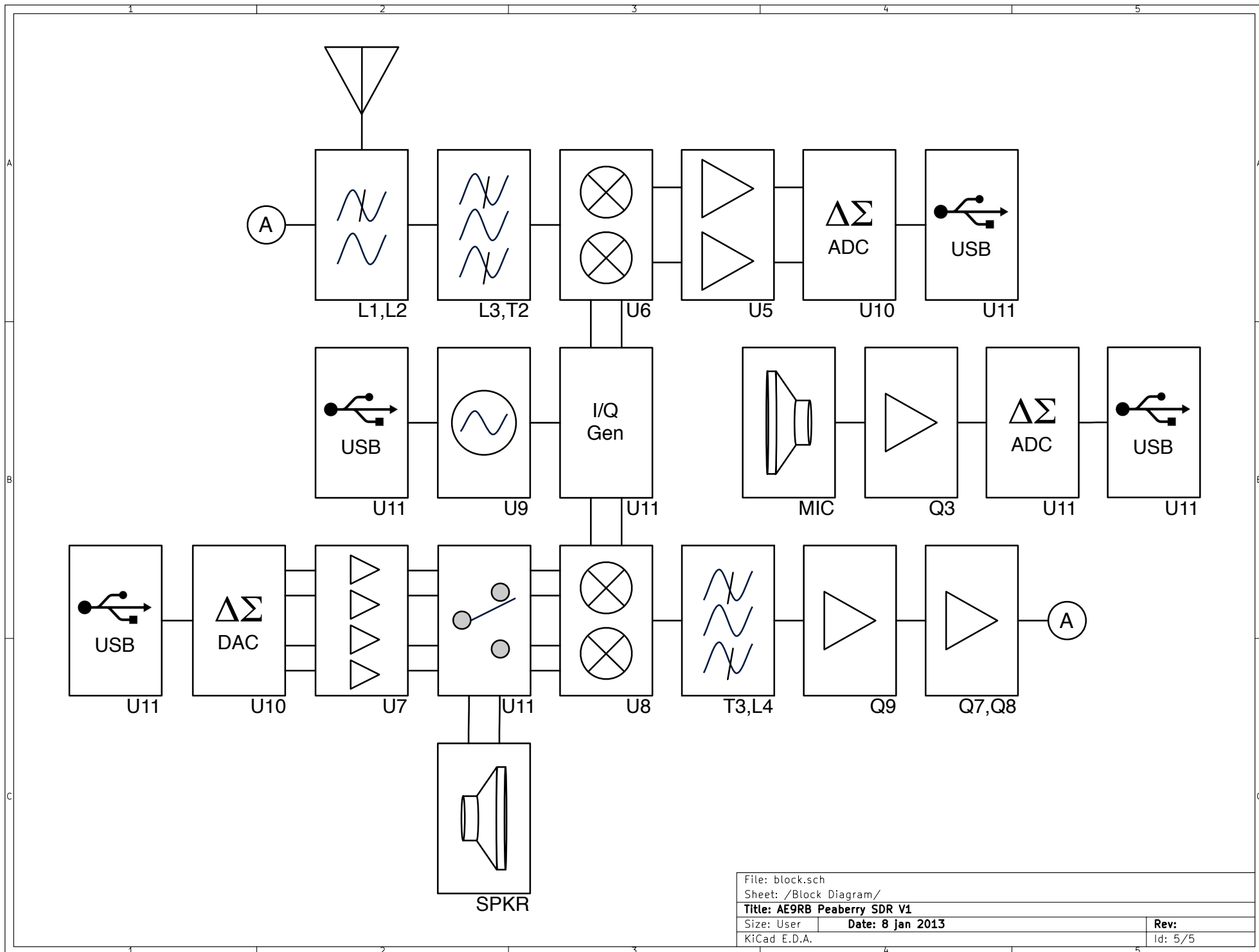
| | R10, R11 | C18, C19 | R47 | C5, C7 | C6 | C8 | C9 | C42 | C44 | C11, C37, C43, C45 | Leaded caps for external LPF C65, C67 C66 | |
|-----------|-------------|-------------|------|--------|--------|-------|--------|--------|-------|--------------------------|---|--------|
| 160m | 1.00k | 1500pF | omit | 2200pF | 4700pF | 390pF | 5600pF | 1000pF | 270pF | 0.1uF | N/A | N/A |
| 80/40m | 1.00k | 1500pF | omit | 470pF | 820pF | 560pF | 680pF | 220pF | 220pF | 0.1uF | 390pF | 1000pF |
| 40/30/20m | 4.99k | 390pF | omit | 220pF | 470pF | 330pF | 470pF | 100pF | 100pF | 0.1uF | 220pF | 470pF |
| 30/20/17m | 4.99k | 390pF | 68.1 | 150pF | 330pF | 180pF | 220pF | 82pF | 82pF | 0.1uF | 100pF | 330pF |

External LPF



Receiver only mixes with odd harmonics so filters are designed very large. (1/5, 1/3, 3, 5, etc.) Transmitter will mix up on all harmonics (2, 3, 4, etc.) so an external LPF is necessary in some configurations.

| | | | |
|-------------------------------------|------------------|-------------------------|---------|
| File: bands.sch | | Sheet: /Band Selection/ | |
| Title: AE9RB Peaberry SDR V1 | | | |
| Size: User | Date: 8 Jan 2013 | | Rev: |
| KiCad E.D.A. | | | Id: 4/5 |



| | |
|-------------------------------------|-------------------------|
| File: block.sch | |
| Sheet: /Block Diagram/ | |
| Title: AE9RB Peaberry SDR V1 | |
| Size: User | Date: 8 Jan 2013 |
| KiCad E.D.A. | Rev: |
| | Id: 5/5 |