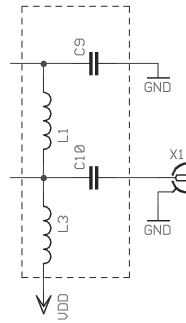**Matching Circuit**

The actual values for each chips can be found in the appropriate datasheets!
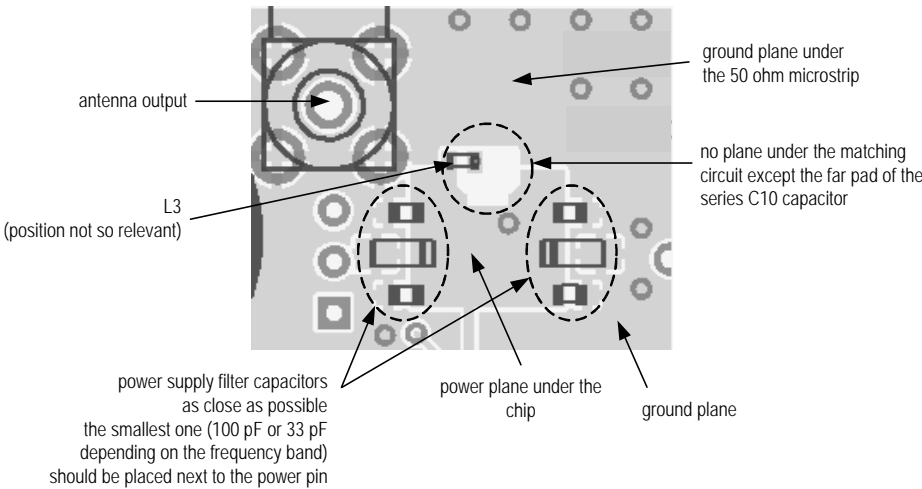
IA4420			
Freq. [MHz]	C9, C10 [pF]	L1 [nH]	L3 [nH]
315	6.8	43	390
434	4.7	27	390
868/915	3	6.8	100

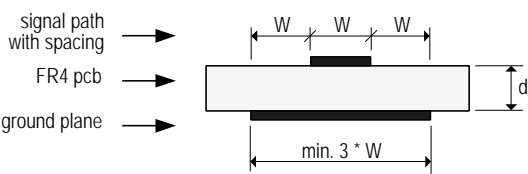| IA4421			
Freq. [MHz]	C9, C10 [pF]	L1 [nH]	L3 [nH]
–	–	–	–
434	4.7	27	390
868/915	3	6.8	100

Top Side
(IA4421 transceiver)

matching circuit

C10

50 ohm microstrip to the antenna output

antenna output

Populate as close as possible to the chip!

C9

L1

ground plane under the chip
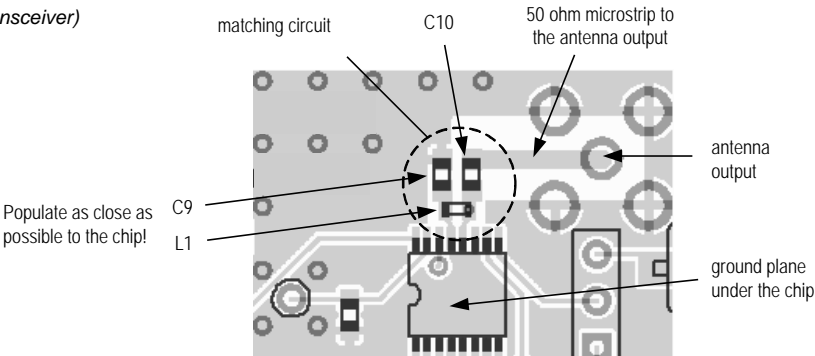
Bottom Side
(IA4421 transceiver)

antenna output

ground plane under the 50 ohm microstrip

no plane under the matching circuit except the far pad of the series C10 capacitor

L3
(position not so relevant)

power supply filter capacitors as close as possible the smallest one (100 pF or 33 pF depending on the frequency band) should be placed next to the power pin

power plane under the chip

ground plane

50 ohm Microstrip

	W	W	W

signal path with spacing →

FR4 pcb →

ground plane →

d

min. 3 * W

pcb thickness (d) [mm]	0.8	1	1.6
wire width (W) [mm]	1.47	1.84	2.97

Crystal Arrangement
(IA4321 receiver)
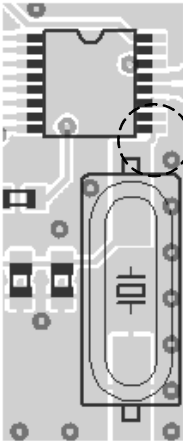
Keep parasitic capacitance as low as possible (use short wire)!

In case of using separate RX-TX chips, use the same layout for the crystals on both panels in order to have the same reference frequency!