

Re: Prototyping?

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- *From:* "Joel Koltner" <JKolstad71HatesSpam@xxxxxxxxxx>
 - *Date:* Fri, 2 Nov 2007 10:40:23 -0700
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Hi Joerg,

"Joerg" <notthisjoergsch@xxxxxxxxxxxxxxxxxxxxxxxx> wrote in message
[news:WHIWi.2552\\$yV6.1654@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:WHIWi.2552$yV6.1654@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

Really steep resonances are frowned upon because now you rely on things such as cleanliness of surfaces, board materials and stuff, and that becomes dicey. Better increase the number of filter stages.

OK, let's just call it Butterworth -- how's that? That asks for far less out of the resonators (with the inductor of course being the generally lousy component -- getting $Q \gg 100$ is hard if you're after both "small" and "cheap"...).

Same offer to you as with John: Let's design a, say, 5th order Butterworth filter, 430-440MHz using something like (free) AADE filter designer and then simulate/tweak a bit using (free) LTspice to get to standard component values. I can do a layout from a sketch/description, cut a board, and measure its response... and I claim the result is most likely to have band edges that are off at least, say, 5% from the simulated result. Whaddaya say?

If you expect tweaking you can provide either varicaps or PIN diodes and have them under host control. I try to stay away from any hand-trimming.

The idea was that you hand-tune using trimmers to get the response right, then replace them with decent accuracy fixed caps that you then crank out in production quantities.

There are excellent books in the ham radio community on how to built UHF and microwave gear that actually works right off the bat.

Quick survey of a couple books on my shelf..

"Experimental Methods in RF Design" (Hayward/Campbell/Lar