

PRACTICAL CHOKES

Figure 20.26 shows typical wound-coax chokes suitable for use on the HF ham bands. **Figure 20.27**, **Figure 20.28**, and **Figure 20.29** are graphs of the magnitude of the impedance for HF transmitting chokes of various sizes. Fourteen close-spaced, 3 inch diameter turns of RG-58 size cable on a #31 toroid is a very effective 300 W choke for the 160 and 80 meter bands.



Figure 20.26 — Typical transmitting wound-coax common-mode chokes suitable for use on the HF ham bands.

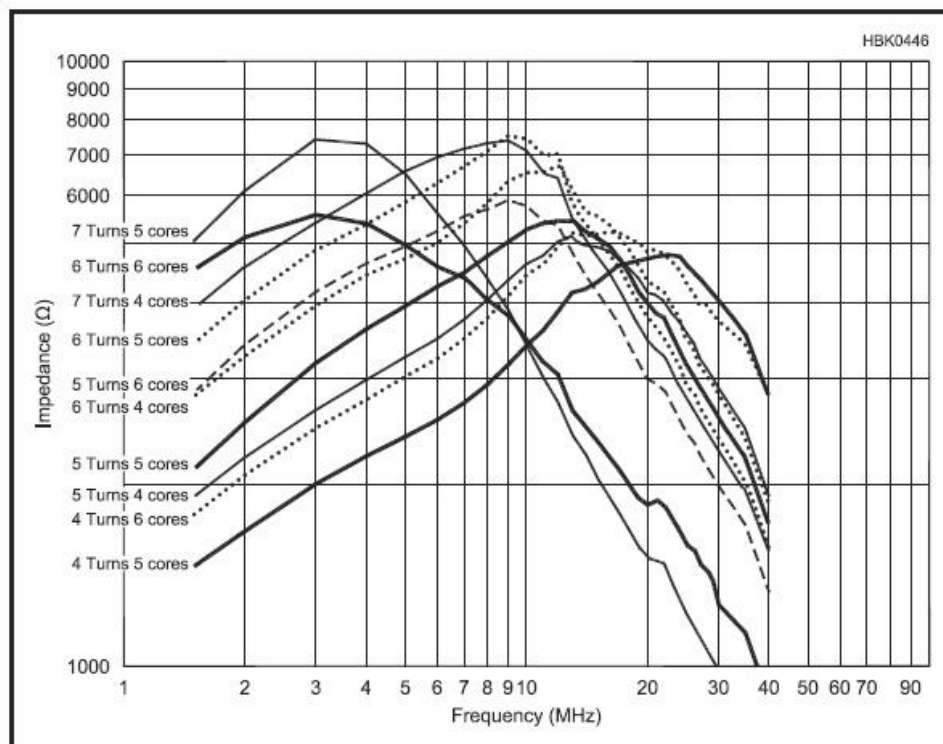


Figure 20.27 — Impedance versus frequency for HF wound-coax transmitting chokes using 2.4 inch toroid cores of #31 material with RG-8X coax.

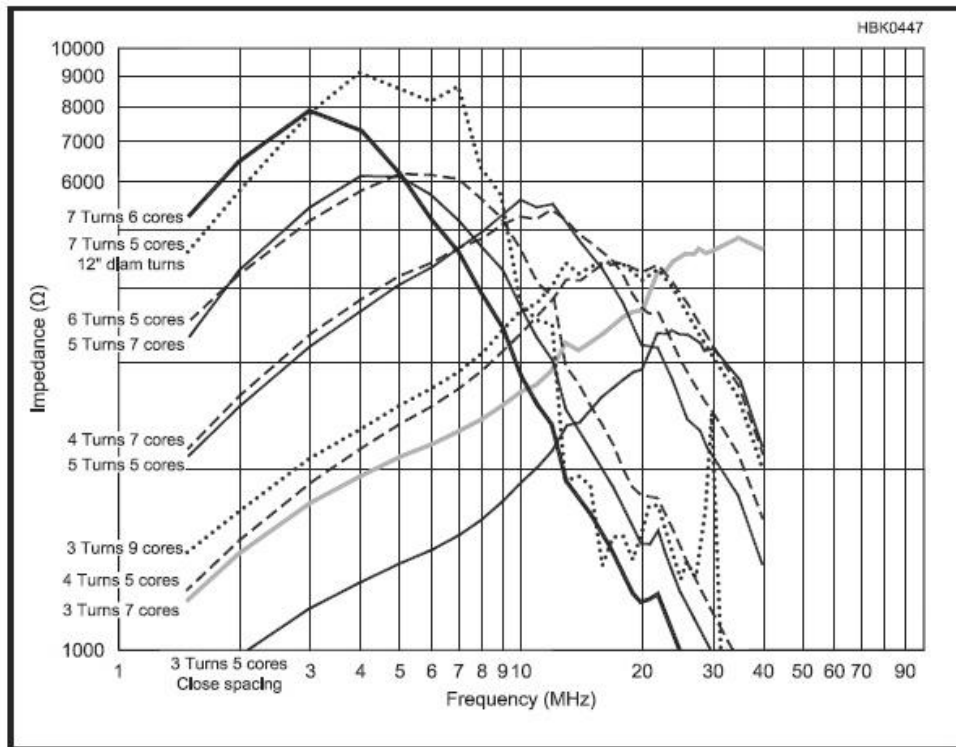


Figure 20.28 — Impedance versus frequency for HF wound-coax transmitting chokes using toroid cores of #31 material with RG-8 coax. Turns are 5 inch diameter and wide-spaced unless noted.

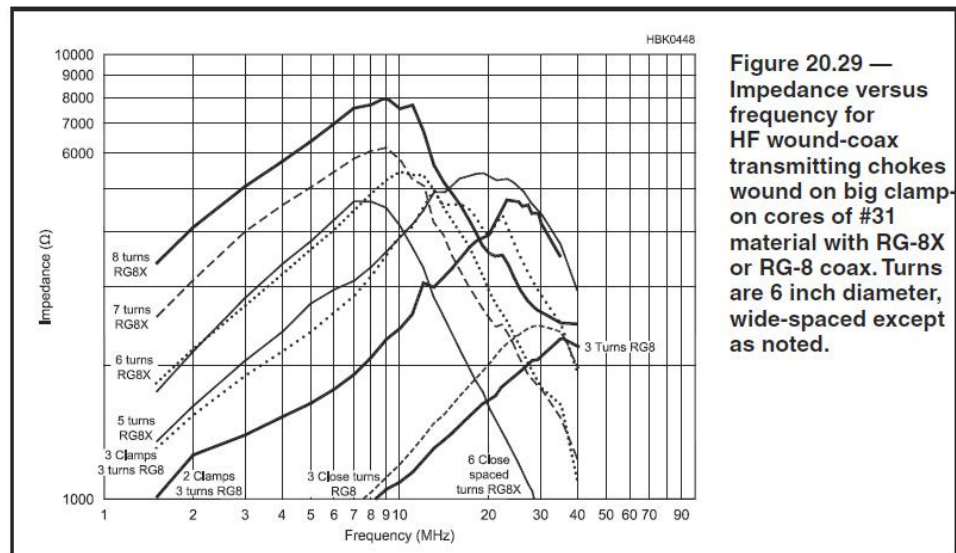


Figure 20.29 — Impedance versus frequency for HF wound-coax transmitting chokes wound on big clamp-on cores of #31 material with RG-8X or RG-8 coax. Turns are 6 inch diameter, wide-spaced except as noted.

Table 20.7 summarizes designs that meet the 5000 Ω criteria for the 160 through 6 meter ham bands and several practical transmitting choke designs that are “tuned” or optimized for ranges of frequencies. The table entries refer to the specific cores in the preceding paragraph. If you construct the chokes using toroids, remember to make the diameter of the turns large enough to avoid deformation of the coaxial cable. Space turns evenly around the toroid to minimize interturn capacitance.

Table 20.7

Transmitting Choke Designs

<i>Freq Band(s)</i> (MHz)	<i>Mix</i>	<i>RG-8, RG-11</i>		<i>RG-6, RG-8X, RG-58, RG-59</i>	
		<i>Turns</i>	<i>Cores</i>	<i>Turns</i>	<i>Cores</i>
1.8, 3.8	#31	7	5 toroids	7 8	5 toroids Big clamp-on
3.5-7		6	5 toroids	7 8	4 toroids Big clamp-on
10.1	#31 or #43	5	5 toroids	8 6	Big clamp-on 4 toroids
7-14		5	5 toroids	8	Big clamp-on
14		5 4	4 toroids 6 toroids	8 5-6	2 toroids Big clamp-on
21		4 4	5 toroids 6 toroids	4 5	5 toroids Big clamp-on
28		4	5 toroids	4 5	5 toroids Big clamp-on
7-28 10.1-28 or 14-28	#31 or #43	Use two chokes in series: #1 — 4 turns on 5 toroids #2 — 3 turns on 5 toroids		Use two chokes in series: #1 — 6 turns on a big clamp-on #2 — 5 turns on a big clamp-on	
14-28		Two 4-turn chokes, each w/one big clamp-on		4 turns on 6 toroids, or 5 turns on a big clamp-on	
50		Two 3-turn chokes, each w/one big clamp-on			

Notes: Chokes for 1.8, 3.5 and 7 MHz should have closely spaced turns.
Chokes for 14-28 MHz should have widely spaced turns.
Turn diameter is not critical, but 6 inches is good.