

8. [10] Your ultrasonic hearing dog has requested that you buy Mega-Monster cables for your home stereo. This cable uses an insulation made of alumina with $\epsilon_r=9.5$ and non-magnetic conductors. The dog's favorite speakers are 150ft from the stereo amplifier. Will your dog notice even the slightest degradation of sound at 100kHz from his speakers?

* NOTE: THE SPEAKERS DO NOT MATCH THE Z_0 OF THE CABLE