

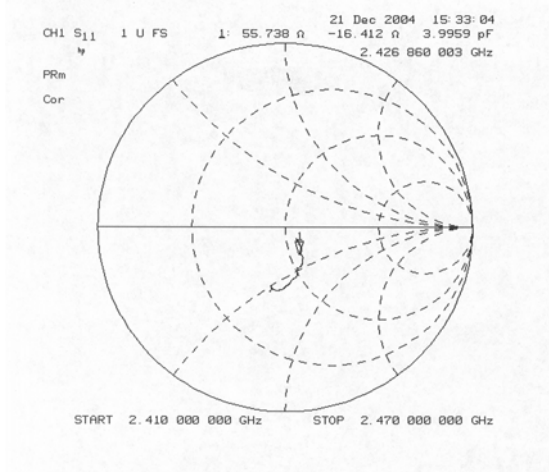
Question:

3) Please describe steps taken to ensure wood block supporting antenna for radiated tests does not de-tune antenna or decrease/absorb maximum emissions, or repeat worst-case configuration with low-loss low-dielectric-constant support.

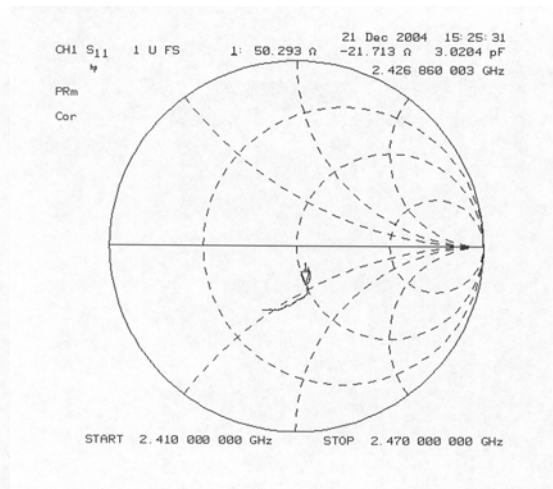
Response:

The electrical properties of the Hypergain HG2409 U antenna were measured in order to determine if any changes occurred as a result of using a wooden support structure versus a low-loss foam support. The antenna was connected to a calibrated S_{11} port of a network analyzer. With the antenna next to the wooden block the VSWR measured 1.5362:1 or 0.199dB of return loss @ 2.426GHz. With the antenna next to the foam block the VSWR measured 1.4024:1 or 0.124dB of return loss @ 2.426GHz. There was an overall change of 0.075dB between the wooden block and the foam block. Therefore it is assumed that the reported emissions would not alter if a foam block was used in place of the wooden block.

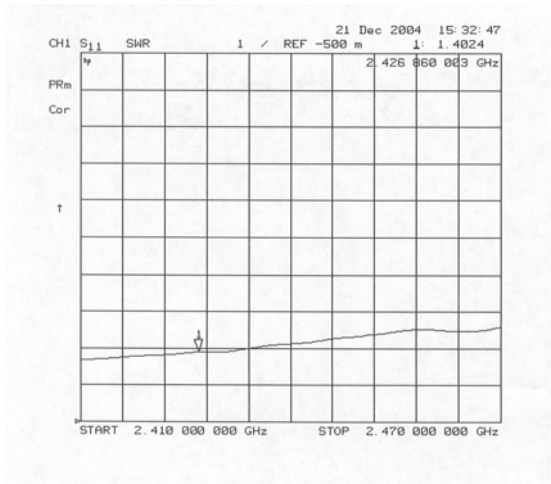
Please see following:



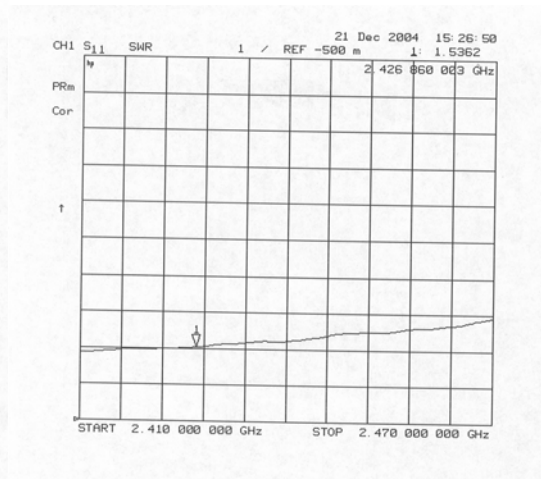
Smith Chart - Antenna against Wood Block



Smith Chart - Antenna against Foam Block



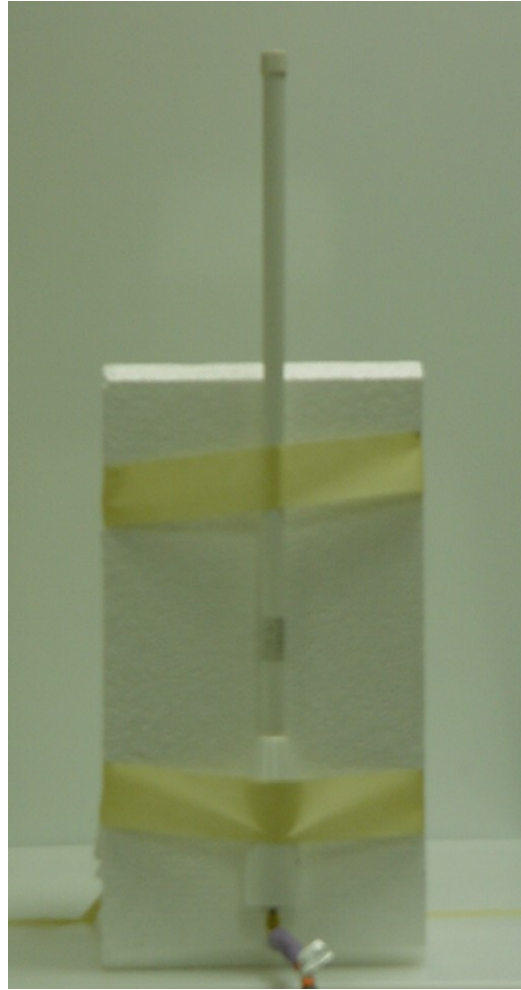
VSWR - Antenna against Wood Block



VSWR - Antenna against Foam Block



Hypergain HG2409 U Antenna
against wood block



Hypergain HG2409 U Antenna
against foam block