Abstracts

Measurements of 1.8--2.7-GHz Microwave Attenuation in the Human Torso

I. Yamaura. "Measurements of 1.8--2.7-GHz Microwave Attenuation in the Human Torso." 1977 Transactions on Microwave Theory and Techniques 25.8 (Aug. 1977 [T-MTT]): 707-710.

For the purpose of diagnostic application of microwaves, establishment of techniques to measure the signal transmission through the human torso is attempted. Leakage effects are the most troublesome measuring problem above 1 GHz because of high attenuation within the body. Swept-frequency measurement and close coupling between the flanged aperture antenna and the body assure that the results are free from leakage effects. Experimentally obtained attenuation constants of the abdomen and left thorax are almost the same as those of muscle tissues. In the thorax record, changes of attenuation caused by heartbeats or respirations are observed.

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