Polarization of Unbalanced Antennas for Ear-to-Ear On-Body Communications at 2.45 GHz

The impact of antenna polarization on the ear-to-ear transmission channel at 2.45 GHz is investigated. Two antenna configurations have been considered for monopole antennas operated on small ground planes that are placed next to the human head. The two setups provide different current distributions on the ground planes, which has a drastic impact on the antenna polarization. Their performances are compared in terms of maximum path gain (|S21|) and obtainable bandwidth of the antenna structures.

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