

Experimental Investigation of the Characteristics of the Electromagnetic Reverberation in the UWB bands

Author(s) - Institution(s):

Aliou Bamba, Ugent
Wout Joseph, Ugent
Emmeric Tanghe, Ugent
Luc Martens, Ugent
Davy Gaillot, USTL
Martine Lienard, USTL
Jose-Maria Molina-Garcia-Pardo, UPCT
Maria-Teresa Martinez-Ingles, UPCT

Corresponding author email: aliou.bamba@intec.ugent.be

Corresponding WG group: TWGI , WG1

Abstract:

Room electromagnetics characteristics are investigated at Ultra-Wide Band (UWB) frequencies from 2 to 10 GHz in an indoor environment for various Tx-Rx positions. The reverberation time is found to be bandwidth independent and decreases as the frequency is increased. Besides, the reverberation ratio, i.e. the contribution of the diffuse fields to the total power, increases also with larger Tx-Rx separation. A maximum value of the reverberation ratio of 0.6 is obtained for the investigated scenarios in the room.