
EURO-COST

SOURCE: (1) Orange Labs, Belfort
(2) Telecom ParisTech

Millimeter-Wave Outdoor-to-Indoor Channel Measurements at 3, 10, 17 and 60 GHz

Cheikh A. L. Diakhate^(1,2), Jean-Marc Conrat⁽¹⁾, Jean-Christophe Cousin⁽²⁾, Alain Sibille⁽²⁾

Abstract—Millimeter-Wave (mmW) communication systems, capable of achieving high data rates thanks to the large bandwidth available in this frequency range, are a promising 5G technology. Studies in this paper investigate the radio propagation channel at 3, 10, 17 and 60 GHz in an Outdoor-to-Indoor (O2I) scenario.

Measurements were conducted using a wideband channel sounder to derive channel parameters such as building penetration losses and channel delay spread values. It was observed that signal attenuation is strongly material-dependent and also, to some extent, frequency-dependent as well. However, the delay spread is weakly correlated with the frequency.

Jean-Marc CONRAT
RD Belfort
1, rue Maurice et Louis de Broglie
CS 20383
90000 - Belfort
FRANCE
Phone: + 33 (0) 3 84 54 42 68
Fax: + 33 (0) 3 84 54 43 96
Email: jeanmarc.conrat@orange.com