



UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II  
DIPARTIMENTO DI INGEGNERIA ELETTRICA E  
DELLE TECNOLOGIE DELL'INFORMAZIONE

To the Guest Editors of the Special Issue of *Acta Imeko*  
(19th IMEKO TC-4 Symposium, Barcelona – Spain)

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*Naples, December 13, 2013*

*Dear Sirs,*

the submitted paper is the extended version of the one presented at the Imeko TC-4 Symposium held in Barcelona, Spain last July 2013 and has been chosen by the Imeko TC-4 Selection Committee for submission to the *Acta Imeko* Journal.

The paper contains the results of an extended experimental activity aimed to the statistical characterization of the propagation channel aboard trains.

The title has been changed from “Characterization of the Propagation Channel aboard Trains” to the more detailed “Statistical Characterization of the 2.45 GHz Propagation Channel aboard Trains,” which better defines the scope and aims of the experimental activity.

The main enhancements with respect to the conference version are the following:

1. Analysis of the **relative path loss** has been presented with more details: together with the overall behavior, graphs now show the centerline and off-axis propagation conditions separately;
2. The **delay spread**  $\tau_{\text{rms}}$  characterization now includes also the 5 meter and 15 meter distance between the transmitting and receiving antenna, not only the 10 meter distance presented before. The study of the main effects of Tx-Rx distance and signal polarization, and interactions between them is presented;

3. The characterization of the **coherence bandwidth**  $B_c$  has been introduced in this version, and the study of the main effects of Tx-Rx distance and signal polarization, and interactions between them is presented;
4. Finally, the model of  $B_c$  as a function of  $\tau_{\text{rms}}$  is introduced and studied with reference to the various propagation scenarios.

As indicated on the paper, I will serve as the corresponding author: my contact address, telephone/fax numbers and email are also reported on the first page of this cover letter.

Should the *Acta Imeko* policy require that a list of potential reviewers is provided, please do not hesitate to contact me and I'll send it as soon as possible.

Please accept my kindest regards.

Nicola Pasquino

*Professor of Electromagnetic  
Compatibility Measurements*

