Abstract—Sophisticated bandwidth requirement estimation method for wireless railway communications system is introduced in this paper. To derive optimized frequency requirement calculation method, ITU-R M.1390 and 1768 are analyzed and compared. After that, we define and segment the services required for the next generation railway communication system. A data on equipments that is installed on the actual fields are allocated to the parameters of the calculation process. Consequently expected frequency requirements of present, 5 years later, 10 years later will be presented.

Keyword—Bandwidth requirement estimation, Wireless railway communication system, Services for train operation

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