

Łukasz John, Artur Dłużniewski: Electro-magnetic Compatibility Tests of the Rolling Stock

The article deals with issues concerning rolling stock research carried out at the premises of the Railway Research Institute's Test Track in Żmigród in the area of assessing radiated disturbances generated by the rolling stock, the level of conducted disturbances in the onboard low voltage power supply as well as AC and DC magnetic fields generated by electrical and electronic devices installed on the rolling stock taking into account permissible levels provided in the standards and other documents. The methodology of measuring radiated and conducted disturbances emission, as well as magnetic fields has been presented. Moreover the article outlines main sources of electro-magnetic disturbances that appear on railway premises and sources of radio-electric disturbances in the onboard power supply. In addition, exemplary results of normative measurements have been provided on the example of a diesel multiple unit. The method of assessing the uncertainty of measurements in tests of disturbances emission from the rolling stock has been described.

Keywords: electro-magnetic compatibility, radio-electric disturbances, rolling stock, methodology of measurements, magnetic flux density