

## **RO-IR 04**

### **TECHNICAL REGULATION**

**for the radio interface**

**concerning railway applications**

## 1. Basic Considerations

Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC was implemented in national legislation by Government Decision No. 740/2016 on making available on the market of radio equipment with subsequent amendments and completions.

This technical regulation contains the requirements for the license exempted radio spectrum usage by the short-range devices intended for the applications on railways in the specified frequency bands and considers compliance, especially with the provisions of Article 3 Paragraph 2 and Articles 6-8 of Directive 2014/53/EU.

This technical regulation does not exclude the obligation for radio equipment placed on the market or made available on the market in Romania to comply with Directive 2014/53/EU.

The obligations arising from Directive (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services are met in this regulation (OJ L 241, 17.9.2015, pages 1–15).

All Romanian technical regulations for the radio interfaces notified under Directive (EU) 2015/1535 shall be published and made available on National Authority for Management and Regulation in Communications (ANCOM) web-site at: [http://www.ancom.ro/reglementari-interfete\\_2723](http://www.ancom.ro/reglementari-interfete_2723) .

## 2. Radio Interface Specifications

### Railway applications

Frequency band	Annex
27.090 – 27.100 MHz	RO-IR 04–01
76 – 77 GHz	RO-IR 04–02

For the purpose of this technical regulation, *Short-Range Device (SRD)* means a radio device which provides unidirectional or bidirectional communication, and which receives and/or transmits signals over a short distance and at low power.

For the purpose of this technical regulation, *Eurobalise/ Euroloop* means the transmission unit mounted on the railroad track that uses the magnetic transponder technology. The main function of Eurobalise/Euroloop is to transmit and/or receive signals through the air gap. The Eurobalise/Euroloop is a device mounted on the railroad track, which communicates with a device mounted on a train passing over it.

For the purpose of this technical regulation, *the magnetic transponder technology* means the method that uses magnetic coupling between a transmitter and a receiver for conveying data and energy.

For the purpose of this technical regulation, *mean equivalent isotropic radiated power (e.i.r.p.)* means mediated e.i.r.p. during a transmission burst for positioning the transmitter power control that corresponds to the highest power, if power control was implemented in the transmitter.

For the purpose of this technical regulation, *non-interference and non-protected* means that it is not allowed to cause any harmful interference to radio communications service and that it shall not be claimed the protection of these devices against harmful interference originating from radio communications services.

The use of radio spectrum by short-range devices is allowed on a non-interference and non-protected basis provided that such devices meet the conditions set out in the Annexes below.

### 3. Document history:

<b>Edition</b>	<b>Changes</b>
Edition 1/2014	Notification number according to Directive 98/34/EC: 2014/600/RO.
Edition 2/2018 (06.08.2018)	Update of the legal framework according to Point 1 – „Basic considerations“; Formal changes according to TCAM-RSC pattern of November 2017.
Edition 3/2020 (23.12.2020)	Update of the legal framework at Point 1 – „Basic considerations“ and definitions at Point 2 - “Radio Interface Specifications”.

<b>ROMANIA</b>	<b>Radio Interface Specification</b>	<b>SRD / Railway applications</b>	<b>RO-IR 04-01</b>	<b>Edition 3/2020</b>
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	<b>Nr</b>	<b>Parameter</b>	<b>Description</b>	<b>Comments</b>
<b>Normative Part</b>	<b>1</b>	<b>Radiocommunication Service</b>	Mobile	
	<b>2</b>	<b>Application</b>	Short Range Devices / Railway applications	<i>Balise tele-powering and train to ground down-link (railroad tracks) systems including Eurobalise and activation of the Loop / Euroloop.</i>
	<b>3</b>	<b>Frequency band</b>	27.090 – 27.100 MHz Center frequency is 27.095 MHz	
	<b>4</b>	<b>Channeling (channel distribution)</b>	-	
	<b>5</b>	<b>Modulation/Occupied bandwidth</b>	-	
	<b>6</b>	<b>Direction/Separation</b>	-	
	<b>7</b>	<b>Transmit power / Power density</b>	42 dBμA/m at 10 meters	
	<b>8</b>	<b>Channel occupation and access rules</b>	-	
	<b>9</b>	<b>Authorization regime</b>	License exemption	
	<b>10</b>	<b>Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)</b>	-	
	<b>11</b>	<b>Assumptions on spectrum planning</b>	-	
<b>Informative Part</b>	<b>12</b>	<b>Planned changes</b>	-	
	<b>13</b>	<b>Reference</b>	EN 302 608; ERC/REC 70-03; Decision 1999/569/EC	
	<b>14</b>	<b>Notification number</b>	2014/600/RO	
	<b>15</b>	<b>Remarks</b>	-	

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<b>ROMANIA</b>	<b>Radio Interface Specification</b>	<b>SRD / Railway applications</b>	<b>RO-IR 04-02</b>	<b>Edition 3/2020</b>
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	<b>Nr</b>	<b>Parameter</b>	<b>Description</b>	<b>Comments</b>
<b>Normative Part</b>	<b>1</b>	<b>Radiocommunication Service</b>	Mobile	
	<b>2</b>	<b>Application</b>	Short Range Devices / Railway applications	<i>Obstruction/Vehicle detection via radar sensor at railway level crossings</i>
	<b>3</b>	<b>Frequency band</b>	76 – 77 GHz	
	<b>4</b>	<b>Channeling (channel distribution)</b>	-	
	<b>5</b>	<b>Modulation/Occupied bandwidth</b>	-	
	<b>6</b>	<b>Direction/Separation</b>	-	
	<b>7</b>	<b>Transmit power / Power density</b>	55 dBm peak equivalent isotropic radiated power (e.i.r.p.) and 50 dBm mean e.i.r.p. for systems others than pulse radars 55 dBm peak e.i.r.p. and 23.5 dBm mean e.i.r.p. for pulse radars	
	<b>8</b>	<b>Channel occupation and access rules</b>	-	
	<b>9</b>	<b>Authorization regime</b>	License exemption	
	<b>10</b>	<b>Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)</b>	-	
	<b>11</b>	<b>Assumptions on spectrum planning</b>	-	
<b>Informative Part</b>	<b>12</b>	<b>Planned changes</b>	-	
	<b>13</b>	<b>Reference</b>	EN 301 091; ERC/REC 70-03	
	<b>14</b>	<b>Notification number</b>	2014/600/RO	
	<b>15</b>	<b>Remarks</b>	-	

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