

## **RO-IR 11**

### **TECHNICAL REGULATION**

**for the radio interface**

**concerning radio frequency identification (RFID) devices**

## 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.

This technical regulation contains the requirements for the use of licence exempt radio frequency identification devices in the specified frequency bands and considers especially compliance with the provisions of Article 3 Paragraph 2 and Articles 6, 7 and 8 of Directive 2014/53/EU.

Nothing in this Technical Regulation shall preclude the need for equipment placed 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 rules on Information Society services have been met (OJ L 241, 17.9.2015, p. 1-15).

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

## 2. Radio Interface Specifications

### Radio frequency identification (RFID) applications

Frequency band	Annex
400 – 600 kHz	RO-IR 11-01
13 553 – 13 567 kHz	RO-IR 11-02
2 446 – 2 454 MHz	RO-IR 11-03a; RO-IR 11-03b
865 – 868 MHz	RO-IR 11-07

For the purpose of this technical regulation, *Short Range Device* (SRD) means radio transmitters which provide either unidirectional or bidirectional communication and which transmit over a short distance at low power.

The *radio frequency identification device* (RFID) category covers tag/interrogator based radio communications systems, consisting of radio devices (tags) attached to animate or inanimate items and of transmitter/receiver units (interrogators) which activate the tags and receive data back. Typical uses include the tracking and identification of items, such as for example, electronic article surveillance (EAS), and collecting and transmitting data relating to the items to which tags are attached, which may be either battery-less, battery assisted or battery powered. The responses from a tag are validated by its interrogator and passed to its host system.

For the purpose of this technical regulation, *non-interference and non-protected basis* means the interdiction that no harmful interference may be caused to any radio communications service and that no claim may be made for 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.

### 3. Document history:

Edition	Changes
Edition 1/2014	Notification number according to Directive 98/34/EC: 2014/606/RO.
Edition 2/2018 (06.08.2018)	<p>Update according to implementing Decision (EU) 2017/1483 amending Decision 2006/771/EC on harmonizing the radio spectrum for the use of short range devices and repealing Decision 2006/804/EC:</p> <ul style="list-style-type: none"> <li>- RO-IR 11-01, RO-IR 11-02, RO-IR 11-03a were updated;</li> <li>- RO-IR 11-07 new specification was implemented replacing RO-IR 11-04, RO-IR 11-05 and RO-IR 11-06.</li> </ul> <p>Update of the legal framework according to Point 1 – „Basic considerations” and reference documents (row 13).</p> <p>Formal changes according to TCAM-RSC model of November 2017.</p>

ROMANIA	Radio Interface Specification	SRD / RFID	RO-IR 11-01	Edition2/ 2018
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	Nr	Parameter	Description	Comments
Normative part	1	Radiocommunication Service	Mobile	
	2	Application	Short Range Devices / Radio frequency identification devices (RFID)	
	3	Frequency band	400 - 600 kHz	<i>Harmonised radio spectrum for use by short range devices (Implementing Decision (EU) 2017/1483 amending Decision 2006/771/EC on the harmonization of radio frequencies spectrum for the use of short range devices and repealing Decision 2006/804/EC)</i>
	4	Channeling (channel distribution)	-	
	5	Modulation / Occupied bandwidth	-	
	6	Direction / Separation	-	
	7	Transmit power / Power density	- 8 dBµA/m at 10 meters	
	8	Channel access and occupation rules	-	
	9	Authorisation regime	Licence exemption	
	10	Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)	-	
	11	Frequency planning assumptions	-	
Informative part	12	Planned changes	-	
	13	Reference	EN 300 330; Implementing Decision (EU) 2017/1483 amending Decision 2006/771/EC on the harmonization of radio frequencies spectrum for the use of short range devices and repealing Decision 2006/804/EC; ERC/REC 70-03	
	14	Notification number	-	
	15	Remarks	-	

F1- RTIR Edition:1; Revision:1

ROMANIA	Radio Interface Specification	SRD / RFID	RO-IR 11-02	Edition2/ 2018
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	Nr	Parameter	Description	Comments
Normative part	1	<b>Radiocommunication Service</b>	Mobile	
	2	<b>Application</b>	Short Range Devices / Radio frequency identification devices (RFID)	
	3	<b>Frequency band</b>	13 553 - 13 567 kHz	<i>Harmonised radio spectrum for use by short range devices (Implementing Decision (EU) 2017/1483 amending Decision 2006/771/EC on the harmonization of radio frequencies spectrum for the use of short range devices and repealing Decision 2006/804/EC)</i>
	4	<b>Channeling (channel distribution)</b>	-	
	5	<b>Modulation / Occupied bandwidth</b>	-	
	6	<b>Direction / Separation</b>	-	
	7	<b>Transmit power / Power density</b>	60 dBμA/m at 10 meters	
	8	<b>Channel access and occupation rules</b>	The transmission mask and antenna requirements for all combined frequency segments shall provide at least equivalent performance to the techniques described in the harmonized standards adopted on the ground of Directive 2014/53/EU.	
	9	<b>Authorisation regime</b>	Licence exemption	
	10	<b>Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)</b>	-	
	11	<b>Frequency planning assumptions</b>	-	
Informative part	12	<b>Planned changes</b>	-	
	13	<b>Reference</b>	EN 300 330; Implementing Decision (EU) 2017/1483 amending Decision 2006/771/EC on the harmonization of radio frequencies spectrum for the use of short range devices and repealing Decision 2006/804/EC; ERC/REC 70-03	
	14	<b>Notification number</b>	-	
	15	<b>Remarks</b>	-	

F1- RTIR Edition:1; Revision:1

ROMANIA	Radio Interface Specification	SRD / RFID	RO-IR 11-03a	Edition2 / 2018
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	Nr	Parameter	Description	Comments
Normative part	1	Radiocommunication Service	Mobile	
	2	Application	Short Range Devices / Radio frequency identification devices (RFID)	
	3	Frequency band	2 446 – 2 454 MHz	<i>Harmonised radio spectrum for use by short range devices (Implementing Decision (EU) 2017/1483 amending Decision 2006/771/EC on the harmonization of radio frequencies spectrum for the use of short range devices and repealing Decision 2006/804/EC)</i>
	4	Channeling (channel distribution)	-	
	5	Modulation / Occupied bandwidth	-	
	6	Direction / Separation	-	
	7	Transmit power / Power density	500 mW equivalent isotropic radiated power (e.i.r.p.)	
	8	Channel access and occupation rules	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU shall be used.	
	9	Authorisation regime	Licence exemption	
	10	Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)	-	
	11	Frequency planning assumptions	-	
Informative part	12	Planned changes	-	
	13	Reference	EN 300 440; Implementing Decision (EU) 2017/1483 amending Decision 2006/771/EC on the harmonization of radio frequencies spectrum for the use of short range devices and repealing Decision 2006/804/EC; ERC/REC 70-03	
	14	Notification number	-	
	15	Remarks	-	

F1- RTIR Edition:1; Revision:1

ROMANIA	Radio Interface Specification	SRD / RFID	RO-IR 11-03b	Edition2/ 2018
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	Nr	Parameter	Description	Comments
Normative part	1	<b>Radiocommunication Service</b>	Mobile	
	2	<b>Application</b>	Short Range Devices / Radio frequency identification devices (RFID)	
	3	<b>Frequency band</b>	2 446 – 2 454 MHz	
	4	<b>Channeling (channel distribution)</b>	-	
	5	<b>Modulation / Occupied bandwidth</b>	-	
	6	<b>Direction / Separation</b>	-	
	7	<b>Transmit power / Power density</b>	> 500 mW to 4 W e.i.r.p.	<i>Power levels above 500 mW are restricted to be used only inside the boundaries of a building and in this case, the duty cycle of all transmissions shall be ≤ 15 % in any 200 ms period (30 ms on / 170 ms off).</i>
	8	<b>Channel access and occupation rules</b>	Duty cycle: ≤ 15% Only FHSS (Frequency Hopping Spread Spectrum) techniques should be used	
	9	<b>Authorisation regime</b>	Licence exemption	
	10	<b>Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)</b>	-	
	11	<b>Frequency planning assumptions</b>	-	
Informative part	12	<b>Planned changes</b>	-	
	13	<b>Reference</b>	EN 300 440; ERC/REC 70-03	
	14	<b>Notification number</b>	2014/606/RO	
	15	<b>Remarks</b>	-	

F1- RTIR Edition:1; Revision:1

ROMANIA	Radio Interface Specification	SRD / RFID	RO-IR 11-07	Edition 2 / 2018
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	Nr	Parameter	Description	Comments
Normative part	1	<b>Radiocommunication Service</b>	Mobile	
	2	<b>Application</b>	Short Range Devices / Radio frequency identification devices (RFID)	
	3	<b>Frequency band</b>	865 – 868 MHz	<i>Harmonised radio spectrum for use by short range devices (Implementing Decision (EU) 2017/1483 amending Decision 2006/771/EC on the harmonization of radio frequencies spectrum for the use of short range devices and repealing Decision 2006/804/EC)</i>
	4	<b>Channeling (channel distribution)</b>	-	
	5	<b>Modulation / Occupied bandwidth</b>	200 kHz	
	6	<b>Direction / Separation</b>	-	
	7	<b>Transmit power / Power density</b>	2 W effective radiated power (e.r.p.)	<i>The transmissions of the interrogator at 2 W e.r.p. are only allowed in four channels having channel centre frequencies 865.7 MHz, 866.3 MHz, 866.9 MHz and 867.5 MHz, each having a 200 kHz maximum bandwidth. RFID interrogator devices placed on the market prior to the date of repeal of Decision 2006/804/EC are allowed to continue to be used in accordance with the provisions of Decision 2006/804/EC before the date of repeal.</i>
	8	<b>Channel access and occupation rules</b>	<i>Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU shall be used.</i>	
	9	<b>Authorisation regime</b>	Licence exemption	
	10	<b>Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)</b>	-	
	11	<b>Frequency planning assumptions</b>		
Informative part	12	<b>Planned changes</b>	-	
	13	<b>Reference</b>	EN 302 208; Implementing Decision (EU) 2017/1483 amending Decision 2006/771/EC on the harmonization of radio frequencies spectrum for the use of short range devices and repealing Decision 2006/804/EC; ERC/REC 70-03	
	14	<b>Notification number</b>		
	15	<b>Remarks</b>	-	

F1- RTIR Edition:1; Revision:1