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RO-IR SRD-04

TECHNICAL REGULATION

for the radio interface

concerning transport and traffic telematics devices (TTT)

(previous coding RO-IR 05)

1. Basic Considerations

Directive 2014/53/EU (RED Directive) of the European Parliament and of the Council of 16 April 2014 on the harmonization 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 license-exempt use of radio spectrum by transport and traffic telematics devices (TTT), including radar system installations to be used in vehicles, 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.

Nothing in this technical regulation shall preclude 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, p. 1-15).

All the 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) website at: https://www.ancom.ro/en/romanian-regulation_2719.

2. Radio Interface Specifications

Transport and Traffic Telematics Devices (TTT)

Frequency band	**Annex**
984 – 7 484 kHz	RO-IR SRD-04-01
7 300 – 23 000 kHz	RO-IR SRD-04-02
5 795 – 5 815 MHz	RO-IR SRD-04-03a
5 795 – 5 805 MHz	RO-IR SRD-04-03b
5 855 – 5 865 MHz	RO-IR SRD-04-04
5 865 – 5 875 MHz	RO-IR SRD-04-05
24.05 – 24.075 GHz	RO-IR SRD-04-06
24.075 – 24.15 GHz	RO-IR SRD-04-07a; RO-IR SRD-04-07b
24.15 – 24.25 GHz	RO-IR SRD-04-08
63.72 – 65.88 GHz	RO-IR SRD-04-09
76 – 77 GHz	RO-IR SRD-04-10a; RO-IR SRD-04-10b

For the purpose of this technical regulation, *a proximity radio device (short-range device - SRD)* means a radio device which provides either unidirectional or bidirectional communication and which receives and/or transmits signals over a short distance and at a low power. Transport and traffic telematics devices are also part of short-range device category.

For the purpose of this technical regulation, the *transport and traffic telematics* device category covers radio devices that are used in the fields of transports (road, rail, water or air, depending on the relevant technical restrictions), traffic management, navigation, mobility management and in intelligent transport systems (ITS). Typical applications comprise interfaces between different modes of transport, communications between vehicles (e.g., car to car), or between vehicles and fixed locations (e.g., car to infrastructure) as well as communications from and to users.

For the purpose of this technical regulation, *mean equivalent isotropically radiated power (e.i.r.p.)* means e.i.r.p. averaged for the duration of one transmission burst corresponding for the power setting to the highest level, if the power regulation was implemented to the transmitter.

For the purpose of this technical regulation, the *cycle of use* is defined as the ratio, expressed as a percentage, between Σ(*Ton*)/(*Tobs*), where *Ton* is the operating time of a single radio transmitter device and *Tobs* is the observation period. *Ton* is measured in a frequency observation band (*Fobs*). Unless otherwise specified in this technical regulation, *Tobs* represents a one-hour uninterrupted period and *Fobs* is the applicable frequency band of this technical regulation.

For the purpose of this technical regulation, *eurobalise/euroloop* means the transmission unit mounted on the track that uses the magnetic transponder technology. The main function of eurobalise/euroloop is to transmit and/or receive signals through the air. The eurobalise/*e*uroloop is a single device mounted on the track, which communicates with the 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, smart tachographs are defined in Appendix 14 to Commission Implementing Regulation (EU) 2016/799 (OJ L 139, 26.5.2016, p. 1) as the application of the tachograph remote communication functionality, and applications of the weights and dimensions are defined as the systems used to apply the weights and dimensions provisioned in Article 10d of Directive (EU) 2015/719 of the European Parliament and of the Council (OJ L 115, 6.5.2015, p. 1).

For the purpose of this technical regulation, *dwell time* means in general, a time interval for which a certain frequency range is occupied.

For the purpose of this technical regulation, *non-interference and non-protected basis* means that no harmful interference may be caused to any radio communications services and that no claim may be made for protection of these devices against harmful interferences originating from radio communications services.

The use of radio spectrum by proximity radio devices (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:

Edition	Changes
Edition 1/2014	Notification number according to Directive 98/34/EC: 2014/601/RO.
Edition 2/2018 (06.08.2018)	Update according to Commission 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: • All technical specifications are updated, except RO-IR 05-03b; • At RO-IR 05-03a, 5795 – 5805 MHz frequency band was changed and becomes 5795 – 5815 MHz, for road tolling infrastructure applications; • RO-IR 05-12b was introduced for 76 – 77 GHz frequency band, concerning the conditions for the use of obstacle detection systems on gyroplanes (generic name given to aircraft with wings having a roundabout movement). Update of the legal framework according to Point 1 – „Basic considerations" and reference documents (line 13); Formal changes according to TCAM-RSC model of November 2017.
Edition 3/2020 (23.12.2020)	Update according to Commission Implementing Decision (EU) 2019/1345 amending Decision 2006/771/EC in order to update the harmonised technical conditions for the use of radio spectrum for short-range devices: • Two new frequency bands: 5855 – 5865 MHz (RO-IR 05-04) and 5865 – 5875 MHz (RO-IR 05-05) are added; • Radio interfaces corresponding to the following frequency bands: 24.25 – 24.495 GHz, 24.25 – 24.5 GHz and 24.495 – 24.5 GHz were eliminated; • Change of 63 – 64 GHz frequency band corresponding to the former radio interface RO-IR 05-11, with the 63.72 – 65.88 GHz frequency band (current RO-IR 05-09); • Extending the scope of the RO-IR 05–03a radio interface; • Renumbering of the annexes; • Introduction/updating of definitions and terms. Update according to the list of Class 1 radio equipment subclasses (version of January 2020) published according to Article 1 Paragraph (3) of Commission Decision 2000/299/EC (https://ec.europa.eu/docsroom/documents/40361); Update of the legal framework according to Point 1 – „Basic considerations" and reference documents (line 13).
Edition 4/2022 (11.10.2022)	Update according to Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices • Reference documents

	No	Parameter	Description	Comments
Normative part	1	**Radiocommunication Service**	Mobile	
	2	**Application**	Proximity radio device (short-range) / Transport and traffic telematics devices (TTT)	*This set of usage conditions applies only to transmissions (Eurobalises) in the presence of trains and using the 27090-27100 kHz band for tele feed, in accordance with the conditions established for the 26957-27283 kHz band (see RO-IR SRD-01-04)*
	3	**Frequency band**	984 – 7 484 kHz	*Harmonised radio spectrum for use by short-range devices (Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices)*
	4	**Channelling (channel distribution)**	-	
	5	**Modulation/Occupied bandwidth**	-	
	6	**Direction/Separation**	-	
	7	**Transmit power / Power density**	9 dBµA/m at 10 meters	
	8	**Channel occupation and access rules**	Duty cycle limit: 1%	
	9	**Authorisation regime**	Licence exemption	
	10	**Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)**	-	
	11	**Assumptions on spectrum planning**	-	
Informative part	12	**Planned changes**	-	
	13	**Reference**	EN 302 608; Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices; ERC/REC 70-03	
	14	**Notification number**	-	
	15	**Remarks**	-	

	No	Parameter	Description	Comments
Normative part	1	**Radiocommunication Service**	Mobile	
	2	**Application**	Proximity radio device (short-range) / Transport and traffic telematics devices (TTT)	*This set of usage conditions applies only to transmissions (Eurobalises) in the presence of trains and using the 27090-27100 kHz band for tele feed, in accordance with the conditions established for the 26957-27283 kHz band (see RO-IR SRD-01-04)*
	3	**Frequency band**	7 300 – 23 000 kHz	*Harmonised radio spectrum for use by short-range devices (Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices)*
	4	**Channelling (channel distribution)**	-	
	5	**Modulation/Occupied bandwidth**	-	
	6	**Direction/Separation**	-	
	7	**Transmit power / Power density**	– 7 dBµA/m at 10 meters	
	8	**Channel occupation and access rules**	Antenna restrictions apply	*Antenna restrictions shall ensure an adequate performance level to meet the essential requirements provided in Directive 2014/53/EU. If the relevant restrictions are described in the harmonized standards (or parts thereof) the references of which have been published in the Official Journal of the European Union under Directive 2014/53/EU, performances at least equivalent to these restrictions shall be ensured.*
	9	**Authorisation regime**	Licence exemption	
	10	**Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)**	-	
	11	**Assumptions on spectrum planning**	-	
Informative part	12	**Planned changes**	-	
	13	**Reference**	EN 302 609; Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices; ERC/REC 70-03	
	14	**Notification number**	-	
	15	**Remarks**	-	

	No	Parameter	Description	Comments
Normative part	**1**	**Radiocommunication Service**	Mobile	
	2	**Application**	Proximity radio device (short-range) / Transport and traffic telematics devices (TTT)	*This set of usage conditions applies only to road tolling infrastructure, smart tachographs and applications of the weights and dimensions measurement*
	3	**Frequency band**	5 795 – 5 815 MHz	*Harmonised radio spectrum for use by short-range devices (Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices)*
	4	**Channelling (channel distribution)**	-	
	5	**Modulation/Occupied bandwidth**	-	
	6	**Direction/Separation**	-	
	7	**Transmit power / Power density**	2 W equivalent isotropic radiated power (e.i.r.p.)	
	8	**Channel occupation and access rules**	Requirements on techniques to access radio spectrum and mitigate interference apply.	*Techniques to access radio spectrum and mitigate interference are used, ensuring an adequate performance level to meet the essential requirements provided in Directive 2014/53/EU. If the relevant techniques are described in the harmonized standards (or parts thereof) the references of which have been published in the Official Journal of the European Union under Directive 2014/53/EU, a performance at least equivalent to the performance of these techniques shall be ensured.*
	9	**Authorisation regime**	Licence exemption	
	10	**Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)**	-	
	11	**Assumptions on spectrum planning**	-	
Informative part	**12**	**Planned changes**	-	
	13	**Reference**	EN 300 674-2-1; Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices; ERC/REC 70-03	
	14	**Notification number**	-	
	15	**Remarks**	-	

	No	Parameter	Description	Comments
Normative part	1	**Radiocommunication Service**	Mobile	
	2	**Application**	Proximity radio device (short-range) / Transport and traffic telematics devices (TTT)	
	3	**Frequency band**	5 795 – 5 805 MHz	
	4	**Channelling (channel distribution)**	-	
	5	**Modulation/Occupied bandwidth**	-	
	6	**Direction/Separation**	-	
	7	**Transmit power / Power density**	8 W e.i.r.p.	
	8	**Channel occupation and access rules**	-	
	9	**Authorisation regime**	Licence exemption	
	10	**Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)**	-	
	11	**Assumptions on spectrum planning**	-	
Informative part	12	**Planned changes**	-	
	13	**Reference**	EN 300 674; ERC/REC 70-03	
	14	**Notification number**	2014/601/RO	
	15	**Remarks**	-	

F1- RTIR Edition:1; Revision:1

	No	Parameter	Description	Comments
Normative part	1	**Radiocommunication Service**	Mobile	
	2	**Application**	Proximity radio device (short-range) / Transport and traffic telematics devices (TTT)	*This set of usage conditions applies only to vehicle-vehicle, vehicle-infrastructure and infrastructure-vehicle systems*
	3	**Frequency band**	5 855 – 5 865 MHz	*Harmonised radio spectrum for use by short-range devices (Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices)*
	4	**Channelling (channel distribution)**	-	
	5	**Modulation/Occupied bandwidth**	-	
	6	**Direction/Separation**	-	
	7	**Transmit power / Power density**	33 dBm e.i.r.p. and 23 dBm/MHz e.i.r.p. density The Transmit Power Control (TPC) range is 30 dB.	
	8	**Channel occupation and access rules**	Requirements on techniques to access radio spectrum and mitigate interference apply.	*Techniques to access radio spectrum and mitigate interference are used, ensuring an adequate performance level to meet the essential requirements provided in Directive 2014/53/EU. If the relevant techniques are described in the harmonized standards (or parts thereof) the references of which have been published in the Official Journal of the European Union under Directive 2014/53/EU, a performance at least equivalent to the performance of these techniques shall be ensured*
	9	**Authorisation regime**	Licence exemption	
	10	**Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)**	-	
	11	**Assumptions on spectrum planning**	-	
Informative part	12	**Planned changes**	-	
	13	**Reference**	EN 302 571; Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices; ECC/REC/(08)01	
	14	**Notification number**	-	
	15	**Remarks**	-	

	No	Parameter	Description	Comments
Normative part	1	**Radiocommunication Service**	Mobile	
	2	**Application**	Proximity radio device (short-range) / Transport and traffic telematics devices (TTT)	*This set of usage conditions applies only to vehicle-vehicle, vehicle-infrastructure and infrastructure-vehicle systems*
	3	**Frequency band**	5 865 – 5 875 MHz	*Harmonised radio spectrum for use by short-range devices (Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices)*
	4	**Channelling (channel distribution)**	-	
	5	**Modulation/Occupied bandwidth**	-	
	6	**Direction/Separation**	-	
	7	**Transmit power / Power density**	33 dBm e.i.r.p. and 23 dBm/MHz e.i.r.p. density. The Transmit Power Control (TPC) range is dB.	
	8	**Channel occupation and access rules**	Requirements on techniques to access radio spectrum and mitigate interference apply.	*Techniques to access radio spectrum and mitigate interference are used, ensuring an adequate performance level to meet the essential requirements provided in Directive 2014/53/EU. If the relevant techniques are described in the harmonized standards (or parts thereof) the references of which have been published in the Official Journal of the European Union under Directive 2014/53/EU, a performance at least equivalent to the performance of these techniques shall be ensured*
	9	**Authorisation regime**	Licence exemption	
	10	**Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)**	-	
	11	**Assumptions on spectrum planning**	-	
Informative part	12	**Planned changes**	-	
	13	**Reference**	EN 302 571; Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices; ECC/REC/(08)01	
	14	**Notification number**	-	
	15	**Remarks**	-	

F1- RTIR Edition:1; Revision:1

	No	Parameter	Description	Comments
Normative part	1	**Radiocommunication Service**	Mobile	
	2	**Application**	Proximity radio device (short-range) / Transport and traffic telematics devices (TTT)	
	3	**Frequency band**	24.05 – 24.075 GHz	*Harmonised radio spectrum for use by short-range devices (Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices)*
	4	**Channelling (channel distribution)**	-	
	5	**Modulation/Occupied bandwidth**	-	
	6	**Direction/Separation**	-	
	7	**Transmit power / Power density**	100 mW e.i.r.p.	
	8	**Channel occupation and access rules**	-	
	9	**Authorisation regime**	Licence exemption	
	10	**Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)**	-	
	11	**Assumptions on spectrum planning**	-	
Informative part	12	**Planned changes**	-	
	13	**Reference**	EN 302 858; Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices; ERC/REC 70-03	
	14	**Notification number**	-	
	15	**Remarks**	-	

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	No	Parameter	Description	Comments
Normative part	1	**Radiocommunication Service**	Mobile	
	2	**Application**	Proximity radio device (short-range) / Transport and traffic telematics devices (TTT)	*This set of usage conditions applies only to ground-based vehicle radars*
	3	**Frequency band**	24.075 – 24.15 GHz	*Harmonised radio spectrum for use by short-range devices (Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices)*
	4	**Channelling (channel distribution)**	-	
	5	**Modulation/Occupied bandwidth**	The range of frequency modulations provided in harmonized standards applies	
	6	**Direction/Separation**	-	
	7	**Transmit power / Power density**	100 mW e.i.r.p.	
	8	**Channel occupation and access rules**	Requirements on techniques to access radio spectrum and mitigate interference apply. *Dwell* time limits specified in harmonized standards shall apply.	*Techniques to access radio spectrum and mitigate interference are used, ensuring an adequate performance level to meet the essential requirements provided in Directive 2014/53/EU. If the relevant techniques are described in the harmonized standards (or parts thereof) the references of which have been published in the Official Journal of the European Union under Directive 2014/53/EU, a performance at least equivalent to the performance of these techniques shall be ensured.*
	9	**Authorisation regime**	Licence exemption	
	10	**Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)**	-	
	11	**Assumptions on spectrum planning**	-	
Informative part	12	**Planned changes**	-	
	13	**Reference**	EN 302 858; Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices; ERC/REC 70-03	
	14	**Notification number**	-	
	15	**Remarks**	-	

	No	Parameter	Description	Comments
Normative part	1	**Radiocommunication Service**	Mobile	
	2	**Application**	Proximity radio device (short-range) / Transport and traffic telematics devices (TTT)	
	3	**Frequency band**	24.075 – 24.15 GHz	*Harmonised radio spectrum for use by short-range devices (Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices)*
	4	**Channelling (channel distribution)**	-	
	5	**Modulation/Occupied bandwidth**	-	
	6	**Direction/Separation**	-	
	7	**Transmit power / Power density**	0.1 mW e.i.r.p.	
	8	**Channel occupation and access rules**	-	
	9	**Authorisation regime**	Licence exemption	
	10	**Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)**	-	
	11	**Assumptions on spectrum planning**	-	
Informative part	12	**Planned changes**	-	
	13	**Reference**	EN 302 858; Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices; ERC/REC 70-03	
	14	**Notification number**	-	
	15	**Remarks**	-	

	No	Parameter	Description	Comments
Normative part	1	**Radiocommunication Service**	Mobile	
	2	**Application**	Proximity radio device (short-range) / Transport and traffic telematics devices (TTT)	
	3	**Frequency band**	24.15 – 24.25 GHz	*Harmonised radio spectrum for use by short-range devices (Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices)*
	4	**Channelling (channel distribution)**	-	
	5	**Modulation/Occupied bandwidth**	-	
	6	**Direction/Separation**	-	
	7	**Transmit power / Power density**	100 mW e.i.r.p.	
	8	**Channel occupation and access rules**	-	
	9	**Authorisation regime**	Licence exemption	
	10	**Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)**	-	
	11	**Assumptions on spectrum planning**	-	
Informative part	12	**Planned changes**	-	
	13	**Reference**	EN 302 858; Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices; ERC/REC 70-03	
	14	**Notification number**	-	
	15	**Remarks**	-	

	No	Parameter	Description	Comments
Normative part	1	**Radiocommunication Service**	Mobile	
	2	**Application**	Proximity radio device (short-range) / Transport and traffic telematics devices (TTT)	*This set of usage conditions applies exclusively to vehicle-vehicle, vehicle-infrastructure and infrastructure-vehicle systems*
	3	**Frequency band**	63.72 – 65.88 GHz	*Harmonised radio spectrum for use by short-range devices (Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices)*
	4	**Channelling (channel distribution)**	-	
	5	**Modulation/Occupied bandwidth**	-	
	6	**Direction/Separation**	-	
	7	**Transmit power / Power density**	40 dBm e.i.r.p.	
	8	**Channel occupation and access rules**	TTT devices placed on the market previous to 1 January 2020 shall benefit from a pre-emption clause, i.e., they may use the previous 63-64 GHz frequency range; otherwise, the same conditions shall apply.	
	9	**Authorisation regime**	Licence exemption	
	10	**Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)**	-	
	11	**Assumptions on spectrum planning**	-	
Informative part	12	**Planned changes**	-	
	13	**Reference**	EN 302 686; Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices; ECC/DEC/(09)01; ERC/REC 70-03	
	14	**Notification number**	-	
	15	**Remarks**	-	

	No	Parameter	Description	Comments
Normative part	1	**Radiocommunication Service**	Mobile	
	2	**Application**	Proximity radio device (short-range) / Transport and traffic telematics devices (TTT)	*This set of usage conditions applies to terrestrial infrastructure vehicles and systems only.*
	3	**Frequency band**	76 – 77 GHz	*Harmonised radio spectrum for use by short-range devices (Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices)*
	4	**Channelling (channel distribution)**	-	
	5	**Modulation/Occupied bandwidth**	-	
	6	**Direction/Separation**	-	
	7	**Transmit power / Power density**	55 dBm peak e.i.r.p. and 50 dBm mean e.i.r.p. for other systems than the pulse radars 55 dBm peak e.i.r.p. and 23.5 dBm mean e.i.r.p. for the pulse radars	
	8	**Channel occupation and access rules**	Requirements on techniques to access radio spectrum and mitigate interference apply. Fixed radars for transport infrastructure shall be based on scanning in order to limit lighting time and ensure a minimum downtime, so that the coexistence with vehicle radar systems to be possible.	*Techniques to access radio spectrum and mitigate interference are used, ensuring an adequate performance level to meet the essential requirements provided in Directive 2014/53/EU. If the relevant techniques are described in the harmonized standards (or parts thereof) the references of which have been published in the Official Journal of the European Union under Directive 2014/53/EU, a performance at least equivalent to the performance of these techniques shall be ensured.*
	9	**Authorisation regime**	Licence exemption	
	10	**Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)**	-	
	11	**Assumptions on spectrum planning**	-	
Informative part	12	**Planned changes**	-	
	13	**Reference**	EN 301 091-1/-2/-3; Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices; ERC/REC 70-03	
	14	**Notification number**	-	
	15	**Remarks**	-	

	No	Parameter	Description	Comments
Normative part	1	**Radiocommunication Service**	Mobile	
	2	**Application**	Proximity radio device (short-range) / Transport and traffic telematics devices (TTT)	*This set of usage conditions applies to obstacle detection systems for use in gyroplanes*[1]
	3	**Frequency band**	76 – 77 GHz	*Harmonised radio spectrum for use by short-range devices (Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices)*
	4	**Channelling (channel distribution)**	-	
	5	**Modulation/Occupied bandwidth**	-	
	6	**Direction/Separation**	-	
	7	**Transmit power / Power density**	30 dBm peak e.i.r.p. and 3 dBm/MHz average power spectral density	
	8	**Channel occupation and access rules**	Duty cycle limit: ≤ 56%/s	
	9	**Authorisation regime**	Licence exemption	
	10	**Additional essential requirements (According to Article 3 Paragraph 3 of 2014/53/EU Directive)**	-	
	11	**Assumptions on spectrum planning**	-	
Informative part	12	**Planned changes**	-	
	13	**Reference**	EN 303 360; Commission Implementing Decision (EU) 2022/180 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices; ECC/DEC/(16)01; ERC/REC 70-03	
	14	**Notification number**	-	
	15	**Remarks**	-	

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[1] Member States may specify exclusion areas or equivalent measures in which the obstacles detection application for gyroplanes shall not be used because of the protection of radio astronomy services or due to other national usage. Gyroplanes are defined as EASA CS-27 and CS-29 (respectively JAR-27 and JAR-29 for previous certifications);