Expanded unofficial version of Annex 1

to the decision of the State Commission on Radio Frequencies under the Security Council of the Republic of Belarus No. 12K/12 dated 28.08.2012

Version 2022

Non-specific short range devices

Scope of application

This Annex covers the radio frequency bands, as well as regulatory and informational parameters, mainly recommended for remote control, telemetry, telecontrol, signaling and data transmission systems in general, as well as for other similar applications. Video systems should preferably be used in bands above 2.4 GHz.

This Annex also includes references to the general rules for the use of ultra-wideband (UWB) systems, which were developed primarily to allow telecommunication systems using UWB technology, as well as other types of radio systems, to operate in radio frequency bands below 10.6 GHz.

Table 1: Regulatory parameters

Frequency Band	Power / Magnetic Field	Spectrum access and mitigation requirements	Modulation / maximum occupied bandwidth	Harmonised Standards/ Confirmation of compliance	Notes
13553-13567 kHz	**10 mW e.r.p.**	No requirement	Not specified	**EN 300 330/ No requirement**	• car immobilisers, • radio frequency identification (RFID) applications including for example automatic article identification, asset tracking, alarm systems, waste management, personal identification, access control, proximity sensors, anti-theft systems, location systems, NFC applications e.g. used for data transfer to handheld devices, anti-theft systems including RF antitheft induction systems (e.g. EAS), • wireless control systems, • animal identification, • cable detection, • wireless voice links, • automatic road tolling.
26957-27283 kHz	**10 mW e.r.p.**	No requirement	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	
26990-27000 kHz	**100 mW e.r.p.**	≤ 0.1 % duty cycle	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Non-specific short range devices, for the application of model control equipment, which is solely for the purpose of controlling the movement of the model, in the air, on land or over or under the water surface.
27040-27050 kHz	**100 mW e.r.p.**	≤ 0.1 % duty cycle	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Non-specific short range devices, for the application of model control equipment, which is solely for the purpose of controlling the movement of the model, in the air, on land or over or under the water surface.

Frequency Band	Power / Magnetic Field	Spectrum access and mitigation requirements	Modulation / maximum occupied bandwidth	Harmonised Standards/ Confirmation of compliance	Notes
27090-27100 kHz	**100 mW e.r.p.**	≤ 0.1 % duty cycle	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Non-specific short range devices, for the application of model control equipment, which is solely for the purpose of controlling the movement of the model, in the air, on land or over or under the water surface.vehicles.
27140-27150 kHz	**100 mW e.r.p.**	≤ 0.1 % duty cycle	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Non-specific short range devices, for the application of model control equipment, which is solely for the purpose of controlling the movement of the model, in the air, on land or over or under the water surface.vehicles.
27190-27200 kHz	**100 mW e.r.p.**	≤ 0.1 % duty cycle	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Non-specific short range devices, for the application of model control equipment, which is solely for the purpose of controlling the movement of the model, in the air, on land or over or under the water surface.vehicles.
40.66-40.7 MHz	**10 mW e.r.p.**	No requirement	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Non-specific short range devices
138.2-138.45 MHz	**10 mW e.r.p.**	≤ 0.1 % duty cycle	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Non-specific short range devices
433.05-434.79 MHz	**10 mW e.r.p.**	≤ 10% duty cycle	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications.

Frequency Band	Power / Magnetic Field	Spectrum access and mitigation requirements	Modulation / maximum occupied bandwidth	Harmonised Standards/ Confirmation of compliance	Notes
433.05-434.79 MHz	**1 mW e.r.p.**	No requirement (note 3)	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications. Power density limited to -13 dBm/10 kHz for wideband modulation with a bandwidth greater than 250 kHz
434.04-434.79 MHz	**10 mW e.r.p.**	No requirement (note 3)	**≤ 25 kHz**	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications.
862-863 MHz	**25 mW e.r.p.**	≤ 0.1% duty cycle	**≤ 350 kHz**	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications.
863-870 MHz (note 2)	**25 mW e.r.p.**	≤ 0.1% duty cycle (note 1)	**≤ 100 kHz for 47 or more hop channels**	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	FHSS. Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications.

Frequency Band	Power / Magnetic Field	Spectrum access and mitigation requirements	Modulation / maximum occupied bandwidth	Harmonised Standards/ Confirmation of compliance	Notes
865-868 MHz	**25 mW e.r.p.**	≤ 0.1% duty cycle (note 1)	**≤ 50 kHz for 58 or more hop channels**	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	FHSS. Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications.
863-870 MHz (note 2)	**25 mW e.r.p. -4.5 dBm/100kHz**	≤ 0.1% duty cycle or LBT+AFA	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Non-FHSS. Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications, alarm systems that use radio communication for indicating an alert condition at a distant location and social alarms systems that allow reliable communication for a person in distress
863-865 MHz	**25 mW e.r.p.**	≤ 0.1% duty cycle	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications.
865-868 MHz	**25 mW e.r.p.**	≤ 0.1% duty cycle	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications.

Frequency Band	Power / Magnetic Field	Spectrum access and mitigation requirements	Modulation / maximum occupied bandwidth	Harmonised Standards/ Confirmation of compliance	Notes
868-868,6 MHz	**25 mW e.r.p.**	≤ 0.1% duty cycle	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications.
868,7-869,2 MHz	**25 mW e.r.p.**	≤ 0.1% duty cycle	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications.
869,4-869,65 MHz	**25 mW e.r.p.**	≤ 0.1% duty cycle	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications.
869,7-870 MHz	**5 mW e.r.p**	No requirement (note 3)	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications.

Frequency Band	Power / Magnetic Field	Spectrum access and mitigation requirements	Modulation / maximum occupied bandwidth	Harmonised Standards/ Confirmation of compliance	Notes
869,7-870 MHz	**25 mW e.r.p**	≤ 0.1% duty cycle	Not specified	**EN 300 220; IEC 62311/ Regulation of Belarus TR 024 By**	Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications.
2400-2483.5 MHz	**10 mW e.i.r.p.**	No requirement	Not specified	**EN 300 440; IEC 62311/ Regulation of Belarus TR 024 By**	For basic short range devices, including alarm devices, telecontrol command transmission system, telemetry, data transmission, etc.; - radio frequency identification devices (RFID); - radiodetermination devices, including detection, movement and warning applications.
5725-5875 MHz	**25 mW e.i.rp.**	No requirement	Not specified	**EN 300 440; IEC 62311/ Regulation of Belarus TR 024 By**	For basic short range devices, including alarm devices, telecontrol command transmission system, telemetry, data transmission, etc.; - radio frequency identification devices (RFID); - radiodetermination devices, including detection, movement and warning applications.

Frequency Band	Power / Magnetic Field	Spectrum access and mitigation requirements	Modulation / maximum occupied bandwidth	Harmonised Standards/ Confirmation of compliance	Notes
3100-4800 MHz	*	*	*	**EN 300 440; IEC 62311/ Regulation of Belarus TR 024 By The EN 302 065 standard has not been adopted in Belarus.**	Generic UWB regulation. * See detailed requirements in the related ECC Decision ECC/DEC/(06)04 For transceivers, transmitters and receivers utilizing Ultra WideBand (UWB) technologies and used for short range communication purposes. stand-alone radio equipment with or without its own control provisions; plug-in radio devices intended for use with, or within, a variety of host systems, e.g. personal computers, hand-held terminals, etc.; plug-in radio devices intended for use within combined equipment, e.g. cable modems, set-top boxes, access points, etc.; combined equipment or a combination of a plug-in radio device and a specific type of host equipment; equipment for use in road and rail vehicles.
6000-9000 MHz	*	*	*	**EN 300 440; IEC 62311/ Regulation of Belarus TR 024 By The EN 302 065 standard has not been adopted in Belarus.**	Generic UWB regulation. * See detailed requirements in the related ECC Decision ECC/DEC/(06)04 For transceivers, transmitters and receivers utilizing Ultra WideBand (UWB) technologies and used for short range communication purposes. stand-alone radio equipment with or without its own control provisions; plug-in radio devices intended for use with, or within, a variety of host systems, e.g. personal computers, hand-held terminals, etc.; plug-in radio devices intended for use within combined equipment, e.g. cable modems, set-top boxes, access points, etc.; combined equipment or a combination of a plug-in radio device and a specific type of host equipment; equipment for use in road and rail vehicles.

Frequency Band	Power / Magnetic Field	Spectrum access and mitigation requirements	Modulation / maximum occupied bandwidth	Harmonised Standards/ Confirmation of compliance	Notes
6000-8500 MHz	*	*	*	**EN 300 440; IEC 62311/ Regulation of Belarus TR 024 By The EN 302 065 standard has not been adopted in Belarus.**	Generic UWB regulation. * See detailed requirements in the related ECC Decision ECC/DEC/(12)03 For transceivers, transmitters and receivers utilizing Ultra WideBand (UWB) technologies and used for short range communication purposes. stand-alone radio equipment with or without its own control provisions; plug-in radio devices intended for use with, or within, a variety of host systems, e.g. personal computers, hand-held terminals, etc.; plug-in radio devices intended for use within combined equipment, e.g. cable modems, set-top boxes, access points, etc.; combined equipment or a combination of a plug-in radio device and a specific type of host equipment; equipment for use in road and rail vehicles.
24-24.25 GHz	**100 mW e.i.r.p.**	No requirement	Not specified	**EN 300 440; IEC 62311/ Regulation of Belarus TR 024 By**	Application in detection, motion detection and signaling systems

Frequency Band	Power / Magnetic Field	Spectrum access and mitigation requirements	Modulation / maximum occupied bandwidth	Harmonised Standards/ Confirmation of compliance	Notes
61-61.5 GHz	**100 mW e.i.r.p.**	No requirement	Not specified	**EN 305 550/ No requirement**	For non-specific short-range device category covers all kinds of radio devices, regardless of the application or the purpose, which fulfil the technical conditions as specified for a given frequency band. Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications". For equipment: intended for fixed, mobile or nomadic use; either with a Radio Frequency (RF) output connection and dedicated antenna or with an integral antenna; with all types of modulation.
122-122.25 GHz	**10 dBm/250MHz e.i.r.p. -48 dBm/MHz at >30° elevation (note 4)**	No requirement	Not specified	**EN 305 550/ No requirement**	For non-specific short-range device category covers all kinds of radio devices, regardless of the application or the purpose, which fulfil the technical conditions as specified for a given frequency band. Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications". For equipment: intended for fixed, mobile or nomadic use; either with a Radio Frequency (RF) output connection and dedicated antenna or with an integral antenna; with all types of modulation.

Frequency Band	Power / Magnetic Field	Spectrum access and mitigation requirements	Modulation / maximum occupied bandwidth	Harmonised Standards/ Confirmation of compliance	Notes
122.25-123 GHz	**100 mW e.i.r.p.**	No requirement	Not specified	**EN 305 550/ No requirement**	For non-specific short-range device category covers all kinds of radio devices, regardless of the application or the purpose, which fulfil the technical conditions as specified for a given frequency band. Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications". For equipment: intended for fixed, mobile or nomadic use; either with a Radio Frequency (RF) output connection and dedicated antenna or with an integral antenna; with all types of modulation.
244-246 GHz	**100 mW e.i.r.p.**	No requirement	Not specified	**EN 305 550/ No requirement**	For non-specific short-range device category covers all kinds of radio devices, regardless of the application or the purpose, which fulfil the technical conditions as specified for a given frequency band. Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications". For equipment: intended for fixed, mobile or nomadic use; either with a Radio Frequency (RF) output connection and dedicated antenna or with an integral antenna; with all types of modulation.

Note 1: The duty cycle applies to the entire transmission (not to each hop channel).

Note 2: Frequency bands for alarms (see Annex 7) are excluded.

Note 3: Voice applications are allowed with a maximum bandwidth of 25 kHz, with a spectrum access technique such as LBT or equivalent and a maximum transmit period of 1 minute for each transmission. Other audio/video applications are excluded.

Note 4: These limits should be measured with an rms detector and an averaging time of 1 ms or less.

Additional information

Technical parameters also referred to in the harmonised standard

Listen before talk (LBT) with Adaptive Frequency Agility (AFA) technique feature may be used instead of duty cycle.
LBT is defined in EN 300 220.

DECISION OF THE STATE COMMISSION ON RADIO FREQUENCIES UNDER THE SECURITY COUNCIL OF THE REPUBLIC OF BELARUS
No. 12K/12:
«The allocation of radio frequency spectrum for short range radio electronics» (SRD)
is based on
the European Radiocommunications Committee/Recommendation 70-03
(ERC/REC 70-03).
All notes indicated in the tables (appendices 1-13 to decision 12K/12) are a mandatory requirement. Appendices 1-13 to Decision 12K/12 also partially take into account COMMISSION IMPLEMENTING DECISION 2013/752/EU on harmonization of the radio spectrum for use by short-range devices.

The current version of the technical regulations

Republic of Belarus "Means of telecommunication.Safety" (TR 2018/024/BY) **confirmation of compliance is required** for short-range radio communication devices, including radio modules that are part of other equipment operating in the radio frequency band from 25 MHz to 30 GHz (Annex 2, paragraph 10 of the technical regulations)