



# **GUIDELINES FOR THE RADIO- FREQUENCY SPECTRUM USE**

**DURING MAJOR SPECIAL EVENTS IN LATVIA**

Electronic  
Communications  
Office of Latvia



Every year, major sports, culture and entertainment events take place in Latvia. During such events radio-frequency spectrum is used intensively and widely in order to ensure their successful process.

Several hundred wireless devices during major events are used for the provision of communication between event organizers, for the control of special effects, the event process reflection in mass media and for other purposes.

Considering the wide application of wireless equipment, it is essential to make sure timely – before the event, about your radio equipment use conditions, in order to avoid situations, when there may occur radio communication interferences for the radio equipment operation of both - your own and other radio frequency spectrum users.



This informative material is intended for public major special event organizers and/or their representatives, who are planning the use of radio communication equipment in Latvia for the purposes to provide the process of abovementioned events.

This informative material includes important information, which applies to radio equipment check before its use.

## WHAT MUST BE OBSERVED FOR THE RADIO FREQUENCY SPECTRUM USE IN LATVIA?

In accordance with the legislation of Latvia (see Clause 50 of the Law on the Electronic Communications), the radio frequency spectrum usage for radio equipment operation is permitted:

- If there is an individual radio frequency assignment, issued by Electronic Communications Office (hereinafter – **INDIVIDUAL LICENCE**)
- or
- If radio equipment operates in accordance with the licence for the shared radio frequency assignment use (hereinafter – **SHARED LICENCE**) according to the procedure stated in the Cabinet Regulations.

**INDIVIDUAL LICENCE** – is a licence, issued to a particular user, which gives the right to use frequency/-ies with the provided parameters. According to the legislation of Latvia, this licence is issued by Electronic Communications Office of Latvia for a particular term. It is also possible to issue short-term licence for one day.

During major events, most commonly used radio equipment, which operates based on the individual licence – portable radios for voice radio communications (working in 146 - 174 MHz and 406.2 – 470 MHz radio frequency bands), wireless microphones and in-ear monitors, video signal transmission radio links.

**SHARED LICENCE** – gives the right to use the radio equipment, which belongs to the radio equipment groups, provided in Annex No.3 of “National Radio Frequency Plan” (Cabinet Regulations No.1151 from October 6, 2009), and operates in particular shared radio frequency bands or channels, in compliance with technical requirements, conditions and restrictions for radio frequency spectrum use. The Shared licence for radio frequency spectrum users is not being issued individually in paper or in electronic form.

The most commonly used radio equipment, which operates based on the shared licence - PMR446 portable radios (operating in 446.0 – 446.2 MHz radio frequency band), car, alarm remotes, different WI-FI equipment (operating in 2.4 GHz and 5.2 GHz radio frequency band), Bluetooth headphones.

## MOST COMMONLY USED SHARED RADIO FREQUENCY BANDS AND USE CONDITIONS

FREQUENCY BAND	TRANSMISSION POWER THRESHOLD VALUE	CONDITIONS, RESTRICTIONS FOR USE
<b>PMR 446 and digital PMR 446 radio equipment for personal communication or communication in private electronic communication networks</b>		
<b>446.0 MHz– 446.2 MHz</b>	500 mW	Type of transmitted signal – analogue, digital. Channel bandwidth 6.25 kHz or 12.5 kHz Built-in antenna (without external antenna connection).
<b>Wireless microphones etc. (PMSE equipment)</b>		
<b>29.7–47 MHz</b>	10 mW e.r.p.	Tunable devices. Channel spacing not more than 50 kHz.
<b>863–865 MHz</b>	10 mW e.r.p.	
<b>1795–1804.8 MHz</b>	20 mW e.i.r.p. 50 mW e.i.r.p. (on a body)	Tunable devices. 50 mW e.i.r.p. power is permitted only for devices to be worn on a body.
<b>2400–2483.5 MHz</b>	10 mW e.i.r.p.	Shared licence together with other short-range devices
<b>5725–5875 MHz</b>	25 mW e.i.r.p.	Shared licence together with other short-range devices
<b>Non-specific short range devices (SRD)</b>		
<b>433.05–434.04 MHz</b>	1 mW e.r.p. and power density – 13 dBm/10 kHz for modulation with a bandwidth greater than 250 kHz	Voice application is permitted to use with progressive interference reduction methods
<b>433.05–434.04 MHz</b>	10 mW e.r.p.	Threshold value of the 10 % operation cycle
<b>434.04–434.79 MHz</b>	10 mW e.r.p.	Threshold value of the 100 % operation cycle, where the channel spacing does not exceed 25 kHz. Voice application is permitted to use with progressive interference reduction methods.

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FREQUENCY BAND	TRANSMISSION POWER THRESHOLD VALUE	CONDITIONS, RESTRICTIONS FOR USE
863–868.6 MHz and 868.7–869.2 MHz	25 mW e.r.p.	Except analogue audio applications, which are not voice applications. Except analogue video applications
<b>Broadband data communication devices</b>		
2 400–2 483.5 MHz	100 mW e.i.r.p. and 100 mW/100 kHz e.i.r.p. density, if the frequency hopping modulation is used; 10 mW/MHz e.i.r.p. density, if another type modulation is used	
5150–5350 MHz	Maximum average e.i.r.p. is 200 mW. Maximum average density of e.i.r.p. is not bigger than 10 mW/MHz in any 1 MHz band	Only indoor use. Operation cycle: without restrictions. In 5250–5350 MHz band the radio equipment provides a dynamic frequency selection (DFS)
5470–5725 MHz	Maximum average e.i.r.p. 1W. Maximum average density of e.i.r.p. not bigger than 50 mW/MHz in any 1 MHz band	Indoor and outdoor use. Operation cycle: without restrictions. The radio equipment provides a dynamic frequency selection (DFS)

**e.r.p.** – Effective radiated power (multiplication of a power supplied to an antenna by the antenna amplification in a given direction relative to the half-wave dipole)

**e.i.r.p.** – Equivalent isotropically radiated power (a multiplication of a power supplied to an antenna by the antenna amplification in a given direction relative to the isotropic antenna)

## HOW MUCH DOES THE SHARED OR INDIVIDUAL LICENCE FOR A RADIO EQUIPMENT COST?

- There is no individual charge for the reception of a **SHARED LICENCE**.
- The charge for the reception of an **INDIVIDUAL LICENCE** depends on the type of the used radio equipment, radio equipment output power, radio channel bandwidth, etc. parameters, therefore to find out accurate costs for an individual licence please turn to the Electronic Communications Office specialists (see the contact information in the last page of the informative material).
  - Approximate costs of individual licence are EUR 3.00/per day for each radio channel.
  - Approximate costs of individual licence for *wireless microphones and in-ear monitors* are EUR 0.3/per day for each band or radio channel;
  - Approximate costs of an individual licence for *video signal transmission radio links* are EUR 1.00/per day for each band or radio channel.
- The charge for an individual licence application examination starts from EUR 35.

## WHAT IS NECESSARY TO RECEIVE AN INDIVIDUAL LICENCE FOR A RADIO EQUIPMENT?

In order to receive an **INDIVIDUAL LICENCE** for a radio frequency use, event organizers and/or their representatives, who are planning the use of radio communication equipment need to apply to Electronic Communications Office of Latvia (ECO) with a request (application) in a form of paper or electronic document. In the application, need to provide:

- *information about the licence demander;*
- *the necessary radio frequency band or the operation radio frequencies for the radio equipment;*
- *transmitter power, channel spacing;*
- *place or places scheduled for the radio equipment use;*
- *a scheduled duration for the radio equipment use from/to;*
- *the equipment type/manufacturer;*
- *the person responsible for the transmitting equipment use (contact phone).*

ECO may request to precise the submitted information or to request any additional information, for example, a detailed description of the radio equipment operation principle.

After receiving the application, the specialists of ECO make an assessment of the customer's application as soon as possible.

If ECO are unable to assign the frequency requested by a customer, then the customer is informed about it and an alternative frequency is offered.

## UNAUTHORISED USE OF RADIOFREQUENCY SPECTRUM

A use of wireless radio equipment, not complying with the requirements of regulatory enactments of Latvia, may cause harmful radio communication interferences for other radio frequency spectrum users, including the communications of safety and emergency services, the air traffic control radio communications, the voice and data communication of public mobile connections, the FM radio and TV broadcasting, etc.

An administrative penalty can be applied for the radio equipment use in Latvia without an issued individual licence (if an individual licence is necessary) or the radio equipment use, which does not conform to the conditions of the shared licence.

If the legislative requirements about the use of a radio frequency spectrum are violated, Electronic Communications Office of Latvia (ECO) has the right to demand an immediate termination of the equipment operation.

### WHAT TO DO IF RADIO INTERFERENCES OCCUR?

The mutual radio interferences of the radio equipment, used and installed according to the conditions of the Shared licence, shall be considered as permitted or acceptable, and applications for their elimination shall not be examined.

In case if you have received an individual licence, and after the testing of your radio equipment there confirms that radio communication interference occurs, you must contact ECO specialists, who will provide a support to eliminate the radio communication interferences.

### ENFORCEMENT ACTIVITIES OF ELECTRONIC COMMUNICATIONS OFFICE OF LATVIA DURING AN EVENT

In order to provide fast investigation of radio interference case or an unauthorised radio equipment usage case during major events, the ECO specialists, if necessary perform the radio monitoring on site. In such cases the event organizers provide the ECO specialists a possibility to be at the venue of the event and access to all the areas of the venue of the event, where the radio equipment is scheduled to be used.

## WHAT NEED TO BE DONE BEFORE COMMENCING THE RADIO EQUIPMENT USE?



Electronic Communications Office (ECO) of Latvia asks the event organizers to make sure, if the radio equipment, used during the events, is installed in compliance with the requirements, stated by the manufacturer, and used according to the legislation of Latvia. Before the radio equipment use, especially during major events, it is important to check the radio equipment and its installation.

### ▪ CHECK, WHAT LICENCE IS NECESSARY FOR YOUR EQUIPMENT

*If technical parameters of your transmitting radio equipment does not conform to the Shared licence (Annex No.3 to the Cabinet Regulations No.1151 from October 6, 2009), you need an Individual licence, issued by ECO. If you have any doubt, please contact ECO specialists:*

- **about the issues of private mobile radio (PMR) communications** call: +371 67331789;
- **about the issues for use of PMSE equipment** (wireless microphones, etc.) call +371 67333157.

### ▪ CHECK, IF YOUR RADIO EQUIPMENT IS SET ON A RADIO FREQUENCY, WHICH IS PROVIDED IN THE LICENCE

- If your radio communications system uses the radio frequency couple (separate radio frequencies for reception (Rx) and transmission (Tx)), **MAKE SURE THAT THE COUPLE RADIO FREQUENCIES ARE CONFIGURED IN CONFORMITY WITH YOUR LICENCE**

### ▪ MAKE SURE THAT THE SET POWER OF YOUR RADIO EQUIPMENT DOES NOT EXCEED THE POWER PROVIDED IN THE LICENCE

### ▪ MAKE SURE THAT YOUR RADIO EQUIPMENT DOES NOT CAUSE UNWANTED EMISSIONS OUTSIDE THE INTENDED (PROVIDED IN THE LICENCE) RADIO CHANNEL

### ▪ USE SHIELDED, HIGH QUALITY CABLES

### ▪ IF NECESSARY, USE RADIO FREQUENCY FILTERS

### ▪ CHECK THE CABLE CONNECTIONS AND BATTERIES

### ▪ MAKE SURE THAT THE RECEIVING ANTENNAS ARE PLACED FAR ENOUGH FROM THE TRANSMITTING ANTENNAS

PROPERLY AND CAREFULLY PERFORMED CHECK WILL ESSENTIALLY REDUCE THE RISK FOR OCCURRENCE OF RADIO COMMUNICATION INTERFERENCES.

## About Electronic Communications Office of Latvia

Electronic Communications Office of Latvia is the State Joint-stock Company, which, according to the Law of the Electronic Communications and other laws and regulations, performs the management function of the radio frequency spectrum use in Latvia – determines the radio frequency assignments for radio equipment operation, performs radio equipment operation monitoring, prevents radio communication interference and cooperates with communication administrations in other countries.

Electronic Communications Office of Latvia, realizing the functions, delegated by the state in the Law on Electronic Communications, participates in maintenance of a stable market environment of the electronic communication services and in promotion of the development of new electronic communication technologies and services.

### Contact us:

GENERAL QUESTIONS:

+371 67 333 034, [vases@vases.lv](mailto:vases@vases.lv)

RADIO COMMUNICATION  
INTERFERENCES:

+371 67 224 870 (Weekdays from 8:30 am – 5:30 pm)

RADIO COMMUNICATION  
INTERFERENCES TO BE  
ELIMINATED URGENTLY:

+371 29 360 883 (Weekdays after 5:30 pm and weekends)

QUESTIONS RELATED TO  
LICENCE OBTAINING:

+371 67 331 789