**Decision No. 1/21 of the Board of the Public Utilities Commission**

Adopted 3 December 2015

**Regulations Regarding Quality Requirements, Submission and Publication of Quality Reports for Electronic Communications Services**

*Issued pursuant to*

*Section 59, Paragraph one of the Electronic Communications Law and Section 25, Paragraph one of the law On Regulators of Public Utilities*

**I. General Provisions**

1. Regulations regarding quality requirements, submission and publication of quality reports for electronic communications services (hereinafter – the Regulation) determine quality requirements, the procedures for submission and publication of quality reports for electronic communications services (hereinafter – the service) provided by electronic communications merchants (hereinafter – the merchant).

2. The following terms are used in this Regulation:

2.1. **number of calls answered within 20 seconds**– a parameter which determines the number of calls answered within 20 seconds in per cent and which comprises connecting time and the time from the moment when a call control tone or notification regarding waiting in queue is detected until the answer from an employee of the service for acceptance of fault applications or comprehensive telephone directory enquiry service;

2.2. **response time to call**– a parameter which determines a time period from the moment of sending the number to be called until the answer from an employee of the service for acceptance of fault applications or comprehensive telephone directory enquiry service in seconds;

2.3. **a service for acceptance of fault applications**– a carrier service which ensures acceptance of fault applications from a subscriber;

2.4. **short message**– a text message which includes up to 160 characters (letters and numbers);

2.5. **a short message sending time**– a parameter which determines a time period from the moment of sending of the short message and number until the time when the short message is delivered to the addressee in seconds;

2.6. **a customer**– a natural or legal person who shall submit an application for the installation of a subscriber line to the merchant which ensures fixed electronic communications network;

2.7. **latency**1 – a parameter which characterises time delay between sending and receipt of packets in the stage from a terminal equipment of the end-user to the Latvian Internet Exchange point in both directions in milliseconds;

2.8. **unsuccessful call ratio**– a parameter which determines the ratio of the number of unsuccessful calls to total number of the call attempts made in per cent;

2.9. **unsuccessful short message ratio**– a parameter which determines the ratio of the number of unsuccessful short messages to total number of the sent short messages in per cent;

2.10. **packet loss ratio**2 – a parameter which determines ratio of the lost packets to total number of the sent packets in per cent;

2.11. **packet** – an indivisible data block which is sent in the electronic communications network for ensuring data transmission or public Internet access service;

2.12. **connection speed** – a parameter which characterises information exchange speed (uploading and downloading) in a data channel in the stage from a terminal equipment of the end-user to the Latvian Internet Exchange point in kilobits or megabits per second;

2.13. **call set-up time** – a parameter which determines a time period from the moment of sending the number to be called until the time when a call control tone, busy tone or answer is detected in seconds;

2.14. **jitter**3 – a parameter which determines time delay irregularity between packet sending and receipt in milliseconds which is caused due to restricted throughput rate of the electronic communications network, for example, overload, re-routing, packet loss and other;

2.15. **average response time to call**– a parameter which determines the ratio of the sum of the total response times to calls to the total number of calls made in seconds;

2.16. **average short message sending time**– a parameter which determines the ratio of the sum of the total short message sending times to the total number of messages successfully delivered to the addressee in seconds;

2.17. **average latency**– a parameter which determines average arithmetical value of latency of the total number of measurements in milliseconds;

2.18. **average packet loss ratio**– a parameter which determines average arithmetical value of packet loss ratio of the total number of measurements in per cent;

2.19. **average call set-up time**– a parameter which determines the ratio of the sum of the total call times to the total number of successful calls in seconds;

2.20. **average speech transmission quality**– a parameter which determines average arithmetical value of speech transmission quality of the total number of measurements in points.

2.21. **average jitter**– a parameter which determines average arithmetical value of jitter of the total number of measurements in milliseconds.

3. Upon commencing provision of services or upon request of the Public Utilities Commission (hereinafter – the Regulator), the merchant shall submit information to the Regulator in accordance with the procedures laid down by it regarding the services provided and electronic communications networks used for the provision of the service (Annex 1) regarding the following services:

3.1. voice telephony service:

3.1.1. domestic voice telephony service in a fixed electronic communications network;

3.1.2. domestic voice telephony service in a mobile electronic communications network (hereinafter the services referred to in Sub-paragraphs 3.1.1 and 3.1.2 of this Regulation – the domestic voice telephony service);

3.1.3. domestic voice telephony service using the interconnection of electronic communications networks (hereinafter – the voice interconnection service);

3.1.4. international voice telephony service in a fixed electronic communications network;

3.1.5. international voice telephony service in a mobile electronic communications network;

3.1.6. voice telephony roaming service;

3.1.7. voice telephony service using a specialised software – application;

3.1.8. radio communications service;

3.2. public payphone service;

3.3. public transmission service of data and electronic messages:

3.3.1. data transmission service in a fixed electronic communications network;

3.3.2. data transmission service in a mobile electronic communications network;

3.3.3. transmission service of electronic messages in a fixed electronic communications network;

3.3.4. transmission service of electronic messages in a mobile electronic communications network (hereinafter – the short message service4);

3.3.5. transmission service of electronic messages using the interconnection of mobile electronic communications networks (hereinafter – the short message interconnection service);

3.3.6. transmission service of electronic messages using a specialised software – application;

3.3.7. data transmission roaming service;

3.3.8. transmission roaming service of electronic messages;

3.4. public Internet access service;

3.4.1. narrowband Internet access service in a fixed electronic communications network;

3.4.2. narrowband Internet access service in a mobile electronic communications network;

3.4.3. broadband Internet access service in a fixed electronic communications network;

3.4.4. broadband Internet access service in a mobile electronic communications network (hereinafter the services referred to in Sub-paragraphs 3.4.1–3.4.4 – the Internet service);

3.4.5. Internet access roaming service.

3.5. transmission service of radio and television programmes (hereinafter – the transmission service of television programmes):

3.5.1. transmission service of radio and television programmes in a fixed electronic communications network;

3.5.2. transmission service of radio and television programmes in a mobile electronic communications network;

3.6. leased line service;

3.7. interconnection service;

3.8. access service.

4. In accordance with Chapters III and V of this Regulation the merchant shall submit a quality declaration of the service and a quality report on the quality of the provided services to the Regulator in accordance with the procedures laid down by it in respect of the following services laid down in Paragraph 3 of this Regulation and provided in retail trade:

4.1. the domestic voice telephony service;

4.2. the voice interconnection service;

4.3. the short message service;

4.4. the short message interconnection service;

4.5. the transmission service of television programmes;

4.6. the Internet service.

5. In accordance with Chapter VI of this Regulation the merchant for whom a duty to provide the universal service is determined in accordance with a decision of the Regulator (hereinafter – the provider of the universal service) shall submit a quality declaration of the service and a quality report on the quality of the provided services to the Regulator in accordance with the procedures laid down by it in respect of the following services:

5.1. the domestic voice telephony service in a fixed electronic communications network;

5.2. the service for acceptance of fault applications;

5.3. the comprehensive telephone directory enquiry service.

6. The merchant shall determine himself or herself the quality requirements for the services laid down in Sub-paragraphs 3.1.4–3.1.8, 3.2, 3.3.1–3.3.3, 3.3.6–3.3.8, 3.4.5 and 3.6 of this Regulation and provided in retail trade.

7. The merchant shall include the quality requirements for the services laid down in Paragraph 3 of this Regulation and provided in wholesale trade in the contract mutually entered into by the merchants.

8. The quality declarations and quality reports of the service submitted by the merchant to the Regulator shall be publicly accessible on the website of the Regulator www.sprk.gov.lv.

**II. Procedures for Determining Quality of Service Parameters and Values Thereof**

9. The merchant shall determine and declare quality of service parameter values in a quality declaration of the service for the quality of service parameters laid down by the Regulator, taking into account the conditions indicated in a form of the quality declaration of the services.

10. In the cases when the merchant provides the service by using the electronic communications network of other carrier and cannot ensure determination of the quality of service parameter values, the merchant has an obligation to obtain information regarding the quality of service parameter values from the carrier who ensures electronic communications network and submit to the Regulator.

11. The provider of the universal service shall determine and declare the quality of service parameter values in accordance with the procedures laid down in Chapter VI of this Regulation.

**III. Procedures for Submission of Quality Declarations of the Services Provided in Retail Trade**

12. The merchant who provides the domestic voice telephony service shall, once a year until 1 February, submit the quality declaration of the service provided for in Annex 2 to this Regulation to the Regulator regarding the current calendar year. If the merchant commences provision of the service after 1 February of the current calendar year, then the merchant shall submit the quality declaration of the service provided for in Annex 2 to this Regulation to the Regulator not later than one day after commencement of provision of the service.

13. The merchant who provides the voice interconnection service shall, once a year until 1 February, submit the quality declaration of the service provided for in Annex 3 to this Regulation to the Regulator regarding the current calendar year. If the merchant commences provision of the service after 1 February of the current calendar year, then the merchant shall submit the quality declaration of the service provided for in Annex 3 to this Regulation to the Regulator not later than one day after commencement of provision of the service.

14. The merchant who provides the short message service shall, once a year until 1 February, submit the quality declaration of the service provided for in Annex 4 to this Regulation to the Regulator regarding the current calendar year. If the merchant commences provision of the service after 1 February of the current calendar year, then the merchant shall submit the quality declaration of the service provided for in Annex 4 to this Regulation to the Regulator not later than one day after commencement of provision of the service.

15. The merchant who provides the short message interconnection service shall, once a year until 1 February, submit the quality declaration of the service provided for in Annex 5 to this Regulation to the Regulator regarding the current calendar year. If the merchant commences provision of the service after 1 February of the current calendar year, then the merchant shall submit the quality declaration of the service provided for in Annex 5 to this Regulation to the Regulator not later than one day after commencement of provision of the service.

16. The merchant who provides the transmission service of television programmes shall, once a year until 1 February, submit the quality declaration of the service provided for in Annex 6 to this Regulation to the Regulator regarding the current calendar year. If the merchant commences provision of the service after 1 February of the current calendar year, then the merchant shall submit the quality declaration of the service provided for in Annex 6 to this Regulation to the Regulator not later than one day after commencement of provision of the service.

17. The merchant who provides the Internet service shall, once a year until 1 February, submit the quality declaration of the service provided for in Annex 7 to this Regulation to the Regulator regarding the current calendar year. If the merchant commences provision of the service after 1 February of the current calendar year, then the merchant shall submit the quality declaration of the service provided for in Annex 7 to this Regulation to the Regulator not later than one day after commencement of provision of the service.

**IV. Performance of the Measurements of the Quality of Services Provided in Retail Trade**

18. The measurements of the quality of services (hereinafter – the measurements) shall be carried out by the merchant or Regulator for the parameters laid down in this Regulation.

19. The measurements of the domestic voice telephony service shall be carried out for the following parameters:

19.1. the time for installation in days;

19.2. the number of faults;

19.3. the fault repair time in hours;

19.4. the number of unsuccessful calls;

19.5. the call set-up time in seconds;

19.6. the speech transmission quality in points;

19.7. the bill correctness in per cent.

20. The measurements for the parameters laid down in Paragraph 19 of this Regulation shall be carried out by the merchant who provides the domestic voice telephony service or the Regulator in conformity with the conditions laid down in this Regulation (Annex 8, Table 1), by ensuring the confidence level of the results of the measurements not less than 95 per cent and relative accuracy of the measurements not less than 10 per cent.

21. The measurement of the voice interconnection service shall be carried out for the following parameters:

21.1. the number of unsuccessful calls;

21.2. the call set-up time in seconds.

22. The measurements for the parameters laid down in Paragraph 21 of this Regulation shall be carried out by the merchant who provides the voice interconnection service or the Regulator in conformity with the conditions laid down in this Regulation (Annex 8, Table 2), by ensuring the confidence level of the results of the measurements not less than 60 per cent and relative accuracy of the measurements not less than 10 per cent.

23. The measurements of the short message service and short message interconnection service shall be carried out for the following parameters:

23.1. the number of unsuccessful short messages;

23.2. the time for sending a short message in seconds.

24. The measurements for the parameters laid down in Paragraph 23 of this Regulation shall be carried out by the merchant who provides the short message service and short message interconnection service in a mobile electronic communications network, or by the Regulator in conformity with the conditions laid down in this Regulation (Annex 8, Tables 3 and 4), by sending not less than 1 000 short messages.

25. The measurements of the transmission service of television programmes shall be carried out for the following parameters:

25.1. the time for installation in days;

25.2. the number of faults;

25.3. the fault repair time in hours;

25.4. the subjective visual assessment of the image quality in points.

26. The measurements for the parameters laid down in Paragraph 25 of this Regulation shall be carried out by the merchant who provides the transmission service of television programmes, or by the Regulator in conformity with the conditions laid down in this Regulation (Annex 8, Table 5).

27. The measurements of the Internet service shall be carried out for the following parameters:

27.1. the time for installation in days;

27.2. the number of faults;

27.3. the fault repair time in hours;

27.4. the upload and download speed in megabits per second;

27.5. the latency in milliseconds;

27.6. the jitter in milliseconds;

27.7. the packet loss ratio in per cent;

27.8. the availability of the service in per cent.

28. The measurements for the parameters laid down in Paragraph 27 of this Regulation shall be carried out by the merchant who provides the Internet service, or by the Regulator in conformity with the conditions laid down in this Regulation (Annex 8, Table 6).

29. The Regulator upon its own initiative shall randomly carry out the measurements of the quality of service parameters laid down in this Regulation and inform the merchant thereof in writing not later than 30 days before commencement of the measurements.

**Procedures for Submission of Quality Reports of the Services Provided in Retail Trade**

30. The merchant shall carry out measurements and determine the quality of service parameter values in a quality report by taking into account the conditions provided for in a form of the quality report.

31. In the cases when the merchant provides services by using the electronic communications network of other carrier and cannot ensure the measurements of the quality of service parameters, the merchant has an obligation to obtain information regarding the quality of service parameter values from the carrier who ensures electronic communications network and submit to the Regulator.

32. The merchant who provides the domestic voice telephony service for more than 1 000 end-users in the end of the 1st half-year of the previous calendar year and who in accordance with this Regulation carries out the measurements (Annex 8, Table 1) shall, once a year until 1 February, submit the quality report provided for in Annex 9 to this Regulation to the Regulator regarding the previous calendar year.

33. The merchant who provides the voice interconnection service for more than 1 000 end-users in the end of the 1st half-year of the previous calendar year and who in accordance with this Regulation carries out the measurements (Annex 8, Table 2) shall, once a year until 1 February, submit the quality report provided for in Annex 10 to this Regulation to the Regulator regarding the previous calendar year.

34. The merchant who provides the short message service for more than 1 000 end-users in the end of the 1st half-year of the previous calendar year and who in accordance with this Regulation carries out the measurements (Annex 8, Table 3) shall, once a year until 1 February, submit the quality report provided for in Annex 11 to this Regulation to the Regulator regarding the previous calendar year.

35. The merchant who provides the short message interconnection service for more than 1 000 end-users in the end of the 1st half-year of the previous calendar year and who in accordance with this Regulation carries out the measurements (Annex 8, Table 4) shall, once a year until 1 February, submit the quality report provided for in Annex 12 to this Regulation to the Regulator regarding the previous calendar year.

36. The merchant who provides the transmission service of television programmes for more than 1 000 end-users in the end of the 1st half-year of the previous calendar year and who in accordance with this Regulation carries out the measurements (Annex 8, Table 5) shall, once a year until 1 February, submit the quality report provided for in Annex 13 to this Regulation to the Regulator regarding the previous calendar year.

37. The merchant who provides the Internet service for more than 1 000 end-users in the end of the 1st half-year of the previous calendar year and who in accordance with this Regulation carries out the measurements (Annex 8, Table 6) shall, once a year until 1 February, submit the quality report provided for in Annex 14 to this Regulation to the Regulator regarding the previous calendar year.

**VI. Quality Requirements of the Universal Service**

38. The quality parameters and parameter values for the provider of the universal service shall be determined by the Regulator in respect of the services laid down in Paragraph 4 of this Regulation.

39. The quality of service parameter values (Annex 15) for the provider of the universal service shall be determined by the Regulator.

40. The provider of the universal service shall determine and declare the quality of service values for those quality of service parameters for which in accordance with this Regulation (Annex 15) the Regulator has not determined the quality of service parameter values.

41. In determining the quality of service parameter values in a quality declaration of the service, the provider of the universal service shall take into account the conditions provided for in the form of the quality declaration.

42. The provider of the universal service shall, once a year until 1 February, submit the quality declaration of the service provided for in Annex 16 to this Regulation to the Regulator regarding the current calendar year.

43. The measurements of the universal service shall be carried out for the following parameters:

43.1. the time for installation of subscriber lines in days:

43.1.1. the number of days from the day of receipt of the application until the day of installation for 95 per cent of the installed subscriber lines;

43.1.2. the number of subscriber lines in per cent from all installed subscriber lines which have been installed within the time period agreed with a customer;

43.2. the number of faults applied per one subscriber line;

43.3. the fault repair time:

43.3.2. the number of hours from the time of receipt of the fault application until the time of repair of the fault in order to repair 95 per cent of the faults in subscriber lines;

43.3.3. the number of faults in per cent of the applied fault which have been repaired within three days;

43.4. the number of unsuccessful calls;

43.5. the call set-up time in seconds;

43.6. the bill correctness in per cent;

43.7. response time of the comprehensive directory service in seconds;

43.8. response time of the service for acceptance of fault application in seconds.

44. The measurements for the parameters laid down in Paragraph 43 of this Regulation shall be carried out by the provider of the universal service or by the Regulator in conformity with the conditions laid down in this Regulation (Annex 8, Table 7).

45. The provider of the universal service shall carry out measurements and determine the quality of service parameter values in a quality report by taking into account the conditions provided for in the form of the quality report.

46. The provider of the universal service shall, once a year until 1 February, submit the quality report provided for in Annex 17 to this Regulation to the Regulator regarding the previous calendar year.

**VII. Closing Provisions**

47. Public Utilities Commission Decision No. 1/31 of 4 December 2013, Regulations Regarding Quality Requirements, Submission and Publication of Quality Reports for Electronic Communications Services (Latvijas Vēstnesis, 2013, No. 241), is repealed.

48. This Regulation shall come into force on 1 January 2016.

**Informative Reference to European Union Directives**

This Regulation contains legal norms arising from the following European Union Directives:

1) Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users’ rights relating to electronic communications networks and services (Universal Service Directive);

2) Directive 2009/136/EC of the European Parliament and of the Council of 25 November 2009 amending Directive 2002/22/EC on universal service and users’ rights relating to electronic communications networks and services, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on cooperation between national authorities responsible for the enforcement of consumer protection laws.

1 English – *Latency (Round Trip Delay)*

2 English – *Packet Loss Ratio*

3 English – *Jitter*

4 English – *Short Message Service*

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 1**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Information Regarding Provided Electronic Communications Services and Electronic Communications Networks Used for the Provision of the Service**

|  |  |  |
| --- | --- | --- |
| **Name of the electronic communications merchant** |  |  |
|  |  |  |
| **Unified registration number** |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Electronic communications service** | **Access network** | **Main network** | **Wholesale/ Retail trade** |
| **Voice telephony service** |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Domestic voice telephony service in a fixed electronic communications network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\* : |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Domestic voice telephony service in a mobile electronic communications network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Domestic voice telephony service using the interconnection of electronic communications networks | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | International voice telephony service in a fixed electronic communications network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | International voice telephony service in a mobile electronic communications network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Voice telephony roaming service | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Voice telephony service using a specialised software – application | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Type of the access network: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Radio communications service | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| **NOTES:** |
| **Public payphone service** |
| ☐ | Public payphone service | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other |  |  | Territory\*: |
| Name of the merchant: |  |  |
| **NOTES:** |
| **Public transmission service of data and electronic messages** |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Transmission service of data in a fixed electronic communications network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Transmission service of data in a mobile electronic communications network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Transmission service of electronic messages in a fixed network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Transmission service of electronic messages in a mobile network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Transmission service of electronic messages using the interconnection of mobile electronic communications networks | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Transmission service of electronic messages using a specialised software – application | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Type of the access network: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Data transmission roaming service | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Transmission roaming service of electronic messages | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| **NOTES:** |
| **Public Internet access service** |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Narrowband Internet access service in a fixed electronic communications network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Narrowband Internet access service in a mobile electronic communications network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Broadband Internet access service in a fixed electronic communications network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Broadband Internet access service in a mobile electronic communications network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Internet access roaming service | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| **NOTES:** |
| **Transmission service of radio or television programmes** |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Transmission service of radio or television programmes in a fixed electronic communications network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Transmission service of radio or television programmes in a mobile electronic communications network | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| Name of the merchant: | Name of the merchant: | Territory\*: |
| **NOTES:** |
| **Leased lines service** |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Leased lines service | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Own | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | wholesale trade |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Other | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | retail trade |
| **NOTES:** |
| **Interconnection service** |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Interconnection service |
| **NOTES:** |
| **Access service** |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Access service |
| **NOTES:** |
| http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Service other than electronic communications service |
| **NOTES:** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

\* The merchant shall indicate a territory where the relevant service is provided in conformity with the following division: the Republic of Latvia, the Kurzeme region, Liepāja, Ventspils, the Latgale region, Daugavpils, Rēzekne, the Riga region Riga, Jūrmala, the Vidzeme region, Valmiera, the Zemgale region, Jelgava, Jēkabpils. See a detailed list of territories comprised in the regions in Cabinet Regulation No. 391 of 5 May 2009, Regulations Regarding Territories of Planning Regions.

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 2**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Declaration of Domestic Voice Telephony Service\***

|  |  |
| --- | --- |
| **Name of the electronic communications merchant** |  |
|  |  |
| **Unified registration number** |  |
|  |  |
| **Year of the declaration** |  |

|  |  |
| --- | --- |
| **Quality of service parameter** | **Quality of service parameter value** |
| In a fixed electronic communications network | In a mobile electronic communications network |
| 1. Average time for installation in days(1) | ≤ | – |
| 2. Number of faults(2) | ≤ | – |
| 3. Average fault repair time in hours(3) | ≤ | ≤ |
| 4. Unsuccessful call ratio in per cent(4) | ≤ | ≤ |
| 5. Average call set-up time in seconds(5) | ≤ | ≤ |
| 6. Average speech transmission quality in points(6) | ≥ | ≥ |
| 7. Bill correctness in per cent(7) | ≥ | ≥ |

The merchant who uses a carrier pre-selection service or a carrier selection service for ensuring of the voice telephony service shall determine the quality of services parameter values from Paragraph 2 to 7.

(1) Average number of days from the day of receipt of the application until the day of installation for ensuring the voice telephony service in a fixed electronic communications network.

(2) Number of faults applied per one connection point in a fixed electronic communications network.

(3) A parameter value shall be indicated in the following format – HH:mm (H – hours, m – minutes).

(4) Unsuccessful call ratio – a parameter which determines the ratio of the number of unsuccessful calls to total number of the call attempts made in per cent.

Unsuccessful call:

1) a call attempt with a correctly dialled number granted to the end-user for use, without detecting a call control tone, busy tone or answer within 30 seconds;

2) a call attempt with a correctly dialled number granted to the end-user for use, detecting a call control tone in the case of a wrong call;

3) a call attempt with a correctly dialled number granted to the end-user for use, detecting a busy tone if this number is not used for other call;

4) a call attempt with a correctly dialled number granted to the end-user for use, detecting an answer in the case of a wrong call;

5) a call attempt from a fixed electronic communications network with a correctly dialled number granted to the end-user for use, detecting dial tone;

6) a call attempt to a mobile electronic communications network with a correctly dialled number granted to the end-user for use, detecting a notification that the terminal equipment is switched off or is out of the coverage area when the terminal equipment is switched on and is within the coverage area;

7) a call attempt from a mobile electronic communications network with a correctly dialled number granted to the end-user for use when the call is failed;

8) a call attempt with a correctly dialled number granted to the end-user for use, losing the call during the calling.

(5) Average call set-up time – a parameter which determines the ratio of the sum of the total call times to the total number of successful calls in seconds.

Call set-up time – a parameter which determines a time period from the moment of sending the number to be called until the time when a call control tone, busy tone or answer is detected in seconds.

(6) Average speech transmission quality – a parameter which determines average arithmetical value of the total number of measurements in seconds.

Speech transmission quality is determined by using PESQ1 or POLQA2 algorithm.

(7) Bill correctness shall be determined in accordance with the following formula:

,

where:

R – bill correctness per year, in per cent;

nS – the number of justified claims (complaints) which the merchant has received in respect of incorrect bills per year;

*Note*: A claim (complaint) shall be considered to be justified if the merchant has received it for incorrect bills, and it has been assessed as justified.

nR – total number of bills issued by the merchant per year.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

\* the domestic voice telephony service in a fixed electronic communications network and domestic voice telephony service in a mobile electronic communications network

1 English – *Perceptual Evaluation of Speech Quality*

2 English – *Perceptual Objective Listening Quality Assessment*

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 3**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Declaration of Voice Interconnection Service\***

|  |  |
| --- | --- |
| **Name of the electronic communications merchant** |  |
|  |  |
| **Unified registration number** |  |
|  |  |
| **Year of the declaration** |  |

|  |  |
| --- | --- |
| **Quality of service parameter** | **Quality of service parameter value** |
| 1. Unsuccessful call ratio in per cent(1) | ≤ |
| 2. Average call set-up time in seconds(2) | ≤ |

1. In the interconnection combination from or to a fixed electronic communications network the quality of service parameter values shall be determined for call attempts from any connection point of the fixed electronic communications network to any connection point of other fixed electronic communications network.

2. In the interconnection combination from or to a mobile electronic communications network the quality of service values shall be determined for call attempts from any connection point of the mobile electronic communications network to any connection point of other mobile electronic communications network.

(1) Unsuccessful call ratio – a parameter which determines the ratio of the number of unsuccessful calls to total number of the call attempts made in per cent.

Unsuccessful call:

1) a call attempt with a correctly dialled number granted to the end-user for use, without detecting a call control tone, busy tone or answer within 30 seconds;

2) a call attempt with a correctly dialled number granted to the end-user for use, detecting a call control tone in the case of a wrong call;

3) a call attempt with a correctly dialled number granted to the end-user for use, detecting a busy tone if this number is not used for other call;

4) a call attempt with a correctly dialled number granted to the end-user for use, detecting an answer in the case of a wrong call;

5) a call attempt from a fixed electronic communications network with a correctly dialled number granted to the end-user for use, detecting a dial tone;

6) a call attempt to a mobile electronic communications network with a correctly dialled number granted to the end-user for use, detecting a notification that the terminal equipment is switched off or is out of the coverage area when the terminal equipment is switched on and is within the coverage area;

7) a call attempt from a mobile electronic communications network with a correctly dialled number granted to the end-user for use when the call is failed;

8) a call attempt with a correctly dialled number granted to the end-user for use, losing the call during the calling.

(2) Average call set-up time – a parameter which determines the ratio of the sum of the total call times to the total number of successful calls in seconds.

Call set-up time – a parameter which determines a time period from the moment of sending the number to be called until the time when a call control tone, busy tone or answer is detected in seconds.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

\* domestic voice telephony service using the interconnection of electronic communications networks

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 4**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Declaration of the Short Message Service\***

|  |  |
| --- | --- |
| **Name of the electronic communications merchant** |  |
|  |  |
| **Unified registration number** |  |
|  |  |
| **Year of the declaration** |  |

|  |  |
| --- | --- |
| **Quality of service parameter** | **Quality of service parameter value** |
| 1. Unsuccessful short message ratio in per cent(1) | ≤ |
| 2. Average time for sending a short message in seconds(2) | ≤ |

(1) Unsuccessful short message ratio – a parameter which determines the ratio of the number of unsuccessful short messages to total number of the sent short messages in per cent.

Unsuccessful short message:

1) an attempt to send a short message text to a correctly dialled number granted to the end-user for use, detecting a notification that sending of the short message was failed;

2) an attempt to send a short message text to a correctly dialled number granted to the end-user for use, without receiving the short message by an addressee within 300 seconds.

(2) Average short message sending time – a parameter which determines the ratio of the sum of the total short message sending times to the total number of messages successfully delivered to the addressee in seconds.

A short message sending time – a parameter which determines a time period from the moment of sending of the short message and number until the time when the short message is delivered to the addressee in seconds.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

\* transmission service of electronic messages in a mobile electronic communications network

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 5**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Declaration of Short Message Interconnection Service\***

|  |  |
| --- | --- |
| **Name of the electronic communications merchant** |  |
|  |  |
| **Unified registration number** |  |
|  |  |
| **Year of the declaration** |  |

|  |  |
| --- | --- |
| **Quality of service parameter** | **Quality of service parameter value** |
| 1. Unsuccessful short message ratio in per cent(1) | ≤ |
| 2. Average time for sending a short message in seconds(2) | ≤ |

Quality of service parameters shall be determined for attempts of sending short messages from any connection point of the mobile electronic communications network to any connection point of other mobile electronic communications network.

(1) Unsuccessful short message ratio – a parameter which determines the ratio of the number of unsuccessful short messages to total number of the sent short messages in per cent.

Unsuccessful short message:

1) an attempt to send a short message text to a correctly dialled number granted to the end-user for use, detecting a notification that sending of the short message was failed;

2) an attempt to send a short message text to a correctly dialled number granted to the end-user for use, without receiving the short message by an addressee within 300 seconds.

(2) Average short message sending time – a parameter which determines the ratio of the sum of the total short message sending times to the total number of messages successfully delivered to the addressee in seconds.

A short message sending time – a parameter which determines a time period from the moment of sending of the short message and number until the time when the short message is delivered to the addressee in seconds.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

\* transmission service of electronic messages using the interconnection of mobile electronic communications networks

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 6**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Declaration of the Transmission Service of Television Programmes\***

|  |  |
| --- | --- |
| **Name of the electronic communications merchant** |  |
|  |  |
| **Unified registration number** |  |
|  |  |
| **Year of the declaration** |  |

|  |  |
| --- | --- |
| **Quality of service parameter** | **Quality of service parameter value** |
| In a fixed electronic communications network | In a mobile electronic communications network |
| 1. Average time for installation in days(1) | ≤ | - |
| 2. Number of faults(2) | ≤ | - |
| 3. Average fault repair time in hours(3) | ≤ | ≤ |
| 4. Average subjective visual assessment of the image quality(4) | ≥ | ≥ |

(1) Average number of days from the day of receipt of the application until the day of installation of the connection point for ensuring of the transmission service of television programmes in a fixed electronic communications network.

(2) Number of faults applied per one connection point in a fixed electronic communications network.

(3) A parameter value shall be indicated in the following format – HH:mm (H – hours, m – minutes).

(4) Average subjective visual assessment of the image quality – a parameter which determines a weighted average of the image quality assessment of the total number of assessments.

The image quality shall be determined for each television programme at not less than three randomly selected connection points as a quantitative value which is obtained by subjective visual assessment of the image in accordance with Table 1.

**Image Quality Assessment**

Table 1

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Assessment** | **Explanation of the assessment** | **Value in points** |
| 1 | 2 | 3 | 4 |
| 1. | Excellent quality | Disturbances and distortions are not visible | **5** |
| 2. | Good quality | Disturbances and distortions are visible, but not annoying | **4** |
| 3. | Fair quality | Disturbances and distortions are slightly annoying | **3** |
| 4. | Poor quality | Disturbances and distortions are annoying | **2** |
| 5. | Bad quality | Disturbances and distortions are very annoying | **1** |

The image quality shall be assessed by taking into account the most characteristic image disturbances and distortions in accordance with Table 2.

**Characteristic Image Disturbances and Distortions of the Transmission Service of Television Programmes**

Table 2

|  |  |  |
| --- | --- | --- |
| **No.** | **Transmission service of television programmes** | **Description of disturbances and distortions** |
| 1 | 2 | 3 |
| 1. | Transmission of television programmes in analogue format | 1.1. Moving or unmoving bandlike, grainy layering or layering of other type on the image |
| 1.2. Irregularity of the brightness and colours of the image |
| 1.3. Multiplication of the image |
| 2. | Transmission of television programmes in digital format and transmission of television programmes using Internet protocol | 2.1. Temporary or complete freezing of the image |
| 2.2. Individual missing fragments of the image |
| 2.3. Side effects of the picture near moving details of the image which are not related to the design of the programme image to be transmitted (image artefacts) |
| 2.4. Distortions of vertical lines on the right side of the image |
| 2.5. Time difference between the image and sound |
| 2.6. Accompanying sounds which are not related to the acoustic design of the programme to be transmitted (sonic artefacts) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

\* transmission service of radio and television programmes

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 7**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Declaration of the Internet Service1**

|  |  |  |
| --- | --- | --- |
| **Name of the electronic communications merchant** |  |  |
|  |  |  |
| **Unified registration number** |  |  |
|  |  |  |
| **Year of the declaration** |  |  |
|  |  |  |
| **Type of the electronic communications network** | Fixed http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Mobile http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Connection speed range(1)\* | Average time for installation in days(2) | Number of faults(3) | Average fault repair time(4) | Average packet loss ratio in per cent(5)\* | Average latency in milliseconds(6)\* | Average jitter in milliseconds(7)\* | Availability of the service in per cent\*(8) |
| ≥256kbits/s up to <2Mbits/s | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | ≤ | ≤ | ≤ | ≤ | ≤ | ≤ | ≥ |
| ≥2Mbits/s up to <10Mbits/s | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF |
| ≥10Mbits/s up to <30Mbits/s | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF |
| ≥30Mbits/s up to <100Mbits/s | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF |
| ≥100Mbits/s | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF |

***Note:*** The merchant shall note the range of the connection speed values within which the merchant ensures provision of the Internet service regardless of the technologies used for the provision of the service and tariff plans offered.

\* A parameter value shall be determined in the stage from the connection point up to the Latvian Internet Exchange point by carrying out the measurements:

1) at not less than 3 randomly selected connection points in a fixed electronic communications network by carrying out not less than 100 measurements at each connection point;

2) at not less than 100 randomly selected geographic places in a mobile electronic communications network by carrying out not less than 3 measurements at each place;

(1) Connection speed – a parameter which characterises information exchange speed (uploading and downloading) in a data channel in the stage from a terminal equipment of the end-user to the Latvian Internet Exchange point in kilobits or megabits per second.

(2) Average number of days from the day of receipt of the application until the day of installation of the connection point for ensuring of the Internet service in a fixed electronic communications network.

(3) Number of faults applied per one connection point in a fixed electronic communications network.

(4) A parameter value shall be indicated in the following format – HH:mm (H – hours, m – minutes).

(5) Average packet loss ratio – a parameter which determines average arithmetical value of packet loss ratio of the total number of measurements in per cent.

Packet loss ratio2 – a parameter which determines ratio of the lost packets to total number of the sent packets in per cent.

The packet loss ratio shall be determined in accordance with the following formula:

,

where:

Z – packet loss ratio in per cent;

n – total number of packets sent during the measurement cycle;

D – number of lost packets during measurements.

(6) Average latency – a parameter which determines average arithmetical value of latency of the total number of measurements in milliseconds.

Latency3 – a parameter which characterises time delay in milliseconds between sending and receipt of packets in the stage from a terminal equipment of the end-user to the Latvian Internet Exchange point in both directions.

Latency shall be determined in accordance with the formula:

,

where:

 – average latency in milliseconds during the measurement cycle;

t1 – packet receipt time in milliseconds;

t2 – packet sending time in milliseconds;

n – total number of packets sent during the measurement cycle.

(7) Average jitter – a parameter which determines average arithmetical value of jitter of the total number of measurements in milliseconds.

Jitter4 – a parameter which determines time delay irregularity between packet sending and receipt in milliseconds which is caused due to restricted throughput rate of the network, for example, overload, re-routing, packet loss and other.

Jitter shall be calculated in accordance with the formula:

,

where:

J – jitter in milliseconds;

 – average latency in milliseconds during the measurement cycle;

n – total number of packets sent during the measurement cycle;

Li – latency of i-packet in milliseconds.

(8) Availability of the service (a possibility to receive the service) shall be determined as an average arithmetical value of the total number of the service availability of the calculated settlement cycles.

Availability of the service for the settlement cycle shall be determined in accordance with the formula:

,

where:

p – availability of the services in per cent;

T – total time in hours of availability of the service for all connection points;

tk – total time in hours of provision of the service for all connection points.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

1 the narrowband Internet access service in a fixed electronic communications network, the narrowband Internet access service in a mobile electronic communications network, the broadband Internet access service in a fixed electronic communications network and the broadband Internet access service in a mobile electronic communications network

2 English – *Packet Loss Ratio*

3 English – *Latency (Round Trip Delay)*

4 English – *Jitter*

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 8**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Performers of Measurements of Electronic Communications Service Quality Parameters**

**I. Domestic Voice Telephony Service1**

Table 1

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Quality of service parameter** | **Performer of the measurements of the service quality** | **Notes** |
| **Regulator** | **Merchant** |  |
| 1 | 2 | 3 | 4 | 5 |
| 1. | Time for installation in days | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | Measurements shall not be carried out by the merchant who provides the domestic voice telephony service:• in a mobile electronic communications network;• by using a carrier pre-selection service;• by using a carrier selection service. |
| 2. | Number of faults | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | Measurements shall not be carried out by the merchant who provides the service in a mobile electronic communications network. |
| 3. | Fault repair time in hours | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |   |
| 4. | Number of unsuccessful calls | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | • The Regulator shall carry out measurements if a carrier has at least 20 000 end-users in the end of the 1st half-year of the previous calendar year.• A carrier who has more than 20 000 end-users in the end of the 1st half-year of the previous calendar year shall not carry out measurements. |
| 5. | Call set-up time in seconds | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | The Regulator shall carry out measurements if a carrier has at least 20 000 end-users in the end of the 1st half-year of the previous calendar year. |
| 6. | Speech transmission quality in points | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | • The Regulator shall carry out measurements if a carrier has at least 20 000 end-users at the end of the 1st half-year of the previous calendar year.• A carrier who has more than 20 000 end-users in the end of the 1st half-year of the previous calendar year shall not carry out measurements. |
| 7. | Bill correctness in per cent | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |   |

**II. Voice Interconnection Service2**

Table 2

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Quality of service parameter** | **Performer of the measurements of the service quality** | **Notes** |
| **Regulator** | **Merchant** |  |
| 1 | 2 | 3 | 4 | 5 |
| 1. | Number of unsuccessful calls | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | The Regulator shall carry out measurements if the following conditions are met:• at the beginning of the calendar year, carriers are providing the voice interconnection service for at least six months from the time of entering into the interconnection contract;• each carrier has at least 5 000 end-users in the end of the 1st half-year of the previous calendar year.A carrier shall not carry out measurements if in the corresponding interconnection combination each carrier has more than 5 000 end-users in the end of the 1st half-year of the previous calendar year. |
| 2. | Call set-up time in seconds | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |

**III. Short Message Service3**

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Quality of service parameter** | **Performer of the measurements of the service quality** | **Notes** |
| **Regulator** | **Merchant** |  |
| 1 | 2 | 3 | 4 | 5 |
| 1. | Number of unsuccessful short messages | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | • The Regulator shall carry out measurements if the number of justified complaints which have been received by the Regulator in the previous calendar year regarding the quality of the short message service is more than one complaint per 1 000 end-users of the merchant.• Measurements shall not be carried out by the merchant regarding which the number of justified complaints received by the Regulator in the previous calendar year regarding the quality of the short message service is more than one complaint per 1 000 end-users of the merchant. |
| 2. | Time for sending a short message in seconds | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |

**IV. Short Message Interconnection Service4**

Table 4

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Quality of service parameter** | **Performer of the measurements of the service quality** | **Notes** |
| **Regulator** | **Merchant** |  |
| 1 | 2 | 3 | 4 | 5 |
| 1. | Number of unsuccessful short messages | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | • The Regulator shall carry out measurements if the number of justified complaints which have been received by the Regulator in the previous calendar year regarding the quality of the short message interconnection service is more than one complaint per 1 000 end-users of the merchant.• Measurements shall not be carried out by the merchant regarding which the number of justified complaints received by the Regulator in the previous calendar year regarding the quality of the short message interconnection service is more than one complaint per 1 000 end-users of the merchant. |
| 2. | Time for sending a short message in seconds | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |

**V. Transmission Service of Television Programmes5**

Table 5

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Quality of service parameter** | **Performer of the measurements of the service quality** | **Notes** |
| **Regulator** | **Merchant** |  |
| 1 | 2 | 3 | 4 | 5 |
| 1. | Time for installation in days | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | • Measurements shall be carried out by the merchant who provides the transmission service of television programmes in a fixed electronic communications network.• Measurements shall not be carried out by the merchant who provides the service in a mobile electronic communications network. |
| 2. | Number of faults | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |
| 3. | Fault repair time in hours | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |   |
| 4. | Subjective visual assessment of the image quality | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | • The Regulator shall carry out measurements if the number of justified complaints which have been received by the Regulator in the previous calendar year regarding the quality of the transmission service of television programmes is more than one complaint per 1 000 end-users of the merchant.• Measurements shall not be carried out by the merchant regarding which the number of justified complaints received by the Regulator in the previous calendar year regarding the quality of the transmission service of television programmes is more than one complaint per 1 000 end-users of the merchant. |

**VI. Internet Service6**

Table 6

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Quality of service parameter** | **Performer of the measurements of the service quality** | **Notes** |
| **Regulator** | **Merchant** |  |
| 1 | 2 | 3 | 4 | 5 |
| 1. | Time for installation in days | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | • Measurements shall be carried out by the merchant who provides the Internet service in a fixed electronic communications network.• Measurements shall not be carried out by the merchant who provides the Internet service in a mobile electronic communications network. |
| 2. | Number of faults | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |
| 3. | Fault repair time in hours | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |   |
| 4. | Download and upload speed in megabits per second | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | The Regulator shall carry out measurements if the following conditions are met:• a carrier provides the Internet service in a mobile electronic communications network;• a carrier has at least 20 000 end-users in the end of the 1st half-year of the previous calendar year.A carrier shall not carry out measurements if the following conditions are met:• a carrier provides the Internet service in a mobile electronic communications network;• a carrier has at least 20 000 end-users in the end of the 1st half-year of the previous calendar year. |
| 5. | Packet loss ratio in per cent | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |
| 6. | Latency in milliseconds | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |
| 7. | Jitter in milliseconds | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |
| 8. | Availability of the service in per cent | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |   |

**VII. Universal Service**

Table 7

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Quality of service parameter** | **Performer of the measurements of the service quality** | **Notes** |
| **Regulator** | **Provider of the universal service** |  |
| 1 | 2 | 3 | 4 | 5 |
| 1. | Time for installation of subscriber lines in days |
| 1.1. | Number of days from the day of receipt of the application until the day of installation for 95 per cent of the installed subscriber lines | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |   |
| 1.2. | Number of subscriber lines in per cent from all installed subscriber lines which have been installed within the time period agreed with a customer | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |   |
| 2. | Number of faults applied per one subscriber line | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |   |
| 3. | Fault repair time |
| 3.1. | Number of hours from the time of receipt of the fault application until the time of repair of the fault in order to repair 95 per cent of the faults in subscriber lines | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |   |
| 3.2. | Number of faults in per cent of the applied fault which have been repaired within 3 days | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |   |
| 4. | Number of unsuccessful calls | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | **–** |   |
| 5. | Call set-up time in seconds | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG | **–** |   |
| 6. | Bill correctness in per cent | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |   |
| 7. | Response time of the comprehensive directory service in seconds | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |   |
| 8. | Response time of the service for acceptance of fault application in seconds | **–** | http://www.likumi.lv/wwwraksti/BILDES/KEKSIS.PNG |   |

1 domestic voice telephony service in a fixed electronic communications network and domestic voice telephony service in a mobile electronic communications network

2 domestic voice telephony service using the interconnection of electronic communications networks

3 transmission service of electronic messages in a mobile electronic communications network

4 transmission service of electronic messages using the interconnection of mobile electronic communications networks

5\* transmission service of radio and television programmes

6 the narrowband Internet access service in a fixed electronic communications network, the narrowband Internet access service in a mobile electronic communications network, the broadband Internet access service in a fixed electronic communications network and the broadband Internet access service in a mobile electronic communications network

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 9**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Report on Fulfilment of Quality Requirements of the Domestic Voice Telephony Service\***

|  |  |
| --- | --- |
| **Name of the electronic communications merchant** |  |
|  |  |
| **Unified registration number** |  |
|  |  |
| **Reporting year** |  |

|  |  |
| --- | --- |
| **Quality of service parameter** | **Quality of service parameter value** |
| In a fixed electronic communications network | In a mobile electronic communications network |
| 1. Average time for installation in days(1) |   | – |
| 2. Number of faults(2) |   | – |
| 3. Average fault repair time in hours(3) |   |   |
| 4. Unsuccessful call ratio in per cent(4) |   |   |
| 5. Average call set-up time in seconds(5) |   |   |
| 6. Average speech transmission quality in points(6) |   |   |
| 7. Bill correctness in per cent(7) |   |   |

The merchant shall ensure accounting only for a standard level of each quality of service parameter. The cases when a subscriber chooses to pay more for the enhanced level of quality of service or less for the decreased level of quality of service shall not be included.

The merchant who uses a carrier pre-selection service or a carrier selection service for ensuring of the voice telephony service shall determine the quality of service parameter values from Paragraphs 2 to 7.

(1) Average number of days from the day of receipt of the application until the day of installation for ensuring the voice telephony service in a fixed electronic communications network.

(2) Number of faults applied per one connection point in a fixed electronic communications network.

(3) A parameter value shall be indicated in the following format – HH:mm (H – hours, m – minutes).

(4) Unsuccessful call ratio – a parameter which determines the ratio of the number of unsuccessful calls to total number of the call attempts made in per cent.

Unsuccessful call:

1) a call attempt with a correctly dialled number granted to the end-user for use, without detecting a call control tone, busy tone or answer within 30 seconds;

2) a call attempt with a correctly dialled number granted to the end-user for use, detecting a call control tone in the case of a wrong call;

3) a call attempt with a correctly dialled number granted to the end-user for use, detecting a busy tone if this number is not used for other call;

4) a call attempt with a correctly dialled number granted to the end-user for use, detecting an answer in the case of a wrong call;

5) a call attempt from a fixed electronic communications network with a correctly dialled number granted to the end-user for use, detecting dial tone;

6) a call attempt to a mobile electronic communications network with a correctly dialled number granted to the end-user for use, detecting a notification that the terminal equipment is switched off or is out of the coverage area when the terminal equipment is switched on and is within the coverage area;

7) a call attempt from a mobile electronic communications network with a correctly dialled number granted to the end-user for use when the call is failed;

8) a call attempt with a correctly dialled number granted to the end-user for use, losing the call during the calling.

(5) Average call set-up time – a parameter which determines the ratio of the sum of the total call times to the total number of successful calls in seconds.

Call set-up time – a parameter which determines a time period from the moment of sending the number to be called until the time when a call control tone, busy tone or answer is detected in seconds.

(6) Average speech transmission quality – a parameter which determines average arithmetical value of the total number of measurements in seconds.

Speech transmission quality is determined by using PESQ1 or POLQA2 algorithm.

(7) Bill correctness shall be determined in accordance with the following formula:

,

where:

R – bill correctness per year, in per cent;

nS – the number of justified claims (complaints) which the merchant has received in respect of incorrect bills per year;

*Note*: A claim (complaint) shall be considered to be justified if the merchant has received it for incorrect bills, and it has been assessed as justified.

nR – total number of bills issued by the merchant per year.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

\* the domestic voice telephony service in a fixed electronic communications network and domestic voice telephony service in a mobile electronic communications network

1 English – *Perceptual Evaluation of Speech Quality*

2 English – *Perceptual Objective Listening Quality Assessment*

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 10**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Report on Fulfilment of Quality Requirements of the Voice Interconnection Service\***

|  |  |
| --- | --- |
| **Name of the electronic communications merchant** |  |
|  |  |
| **Unified registration number** |  |
|  |  |
| **Reporting year** |  |

|  |  |
| --- | --- |
| **Quality of service parameter** | **Quality of service parameter value** |
| 1. Unsuccessful call ratio in per cent(1) |   |
| 2. Average call set-up time in seconds(2) |   |

1. In the interconnection combination from or to a fixed telephone network the quality of service parameter values shall be determined for call attempts from any connection point of the fixed telephone network to any connection point of other fixed telephone network.

2. In the interconnection combination from or to a mobile telephone network the quality of service values shall be determined for call attempts from any connection point of the mobile telephone network to any connection point of other mobile telephone network.

(1) Unsuccessful call ratio – a parameter which determines the ratio of the number of unsuccessful calls to total number of the call attempts made in per cent.

Unsuccessful call:

1) a call attempt with a correctly dialled number granted to the end-user for use, without detecting a call control tone, busy tone or answer within 30 seconds;

2) a call attempt with a correctly dialled number granted to the end-user for use, detecting a call control tone in the case of a wrong call;

3) a call attempt with a correctly dialled number granted to the end-user for use, detecting a busy tone if this number is not used for other call;

4) a call attempt with a correctly dialled number granted to the end-user for use, detecting an answer in the case of a wrong call;

5) a call attempt from a fixed telephone network with a correctly dialled number granted to the end-used for use, detecting dial tone;

6) a call attempt to a mobile telephone network with a correctly dialled number granted to the end-user for use, detecting a notification that the terminal equipment is switched off or is out of the coverage area when the terminal equipment is switched on and is within the coverage area;

7) a call attempt from a mobile telephone network with a correctly dialled number granted to the end-user for use when the call is failed;

8) a call attempt with a correctly dialled number granted to the end-user for use, losing the call during the calling.

(2) Average call set-up time – a parameter which determines the ratio of the sum of the total call times to the total number of successful calls in seconds.

Call set-up time – a parameter which determines a time period from the moment of sending the number to be called until the time when a call control tone, busy tone or answer is detected in seconds.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

\* domestic voice telephony service using the interconnection of electronic communications networks

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 11**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Report on Fulfilment of Quality Requirements of the Short Message Service\***

|  |  |
| --- | --- |
| **Name of the electronic communications merchant** |  |
|  |  |
| **Unified registration number** |  |
|  |  |
| **Reporting year** |  |

|  |  |
| --- | --- |
| **Quality of service parameter** | **Quality of service parameter value** |
| 1. Unsuccessful short message ratio in per cent(1) |   |
| 2. Average time for sending a short message in seconds(2) |   |

(1) Unsuccessful short message ratio – a parameter which determines the ratio of the number of unsuccessful short messages to total number of the sent short messages in per cent.

Unsuccessful short message:

1) an attempt to send a short message text to a correctly dialled number granted to the end-user for use, detecting a notification that sending of the short message was failed;

2) an attempt to send a short message text to a correctly dialled number granted to the end-user for use, without receiving the short message by an addressee within 300 seconds.

(2) Average short message sending time – a parameter which determines the ratio of the sum of the total short message sending times to the total number of messages successfully delivered to the addressee in seconds.

A short message sending time – a parameter which determines a time period from the moment of sending of the short message and number until the time when the short message is delivered to the addressee in seconds.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

\* transmission service of electronic messages in a mobile electronic communications network

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 12**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Report on Fulfilment of Quality Requirements of the Short Message Interconnection Service\***

|  |  |
| --- | --- |
| **Name of the electronic communications merchant** |  |
|  |  |
| **Unified registration number** |  |
|  |  |
| **Reporting year** |  |

|  |  |
| --- | --- |
| **Quality of service parameter** | **Quality of service parameter value** |
| 1. Unsuccessful short message ratio in per cent(1) |   |
| 2. Average time for sending a short message in seconds(2) |   |

Quality of service parameters shall be determined for attempts of sending short messages from any connection point of the mobile telephone network to any connection point of other mobile telephone network.

(1) Unsuccessful short message ratio – a parameter which determines the ratio of the number of unsuccessful short messages to total number of the successfully sent short messages in per cent.

Unsuccessful short message:

1) an attempt to send a short message text to a correctly dialled number granted to the end-user for use, detecting a notification that sending of the short message was failed;

2) an attempt to send a short message text to a correctly dialled number granted to the end-user for use, without receiving the short message by an addressee within 300 seconds.

(2) Average short message sending time – a parameter which determines the ratio of the sum of the total short message sending times to the total number of messages successfully delivered to the addressee in seconds.

A short message sending time – a parameter which determines a time period from the moment of sending of the short message and number until the time when the short message is delivered to the addressee in seconds.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

\* transmission service of electronic messages using the interconnection of mobile electronic communications networks

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 13**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Report on Fulfilment of Quality Requirements of the Transmission Service of Television Programmes\***

|  |  |
| --- | --- |
| **Name of the electronic communications merchant** |  |
|  |  |
| **Unified registration number** |  |
|  |  |
| **Reporting year** |  |

|  |  |
| --- | --- |
| **Quality of service parameter** | **Quality of service parameter value** |
| In a fixed electronic communications network | In a mobile electronic communications network |
| 1. Average time for installation in days(1) |   | – |
| 2. Number of faults(2) |   | – |
| 3. Average fault repair time in hours(3) |   |   |
| 4. Average subjective visual assessment of the image quality(4) |   |   |

(1) Average number of days from the day of receipt of the application until the day of installation of the connection point for ensuring of the transmission service of television programmes in a fixed electronic communications network.

(2) Number of faults applied per one connection point in a fixed electronic communications network.

(3) A parameter value shall be indicated in the following format – HH:mm (H – hours, m – minutes).

(4) Average subjective visual assessment of the image quality – a parameter which determines a weighted average of the image quality assessment of the total number of assessments.

The image quality shall be determined for each television programme at not less than three randomly selected connection points as a quantitative value which is obtained by subjective visual assessment of the image in accordance with Table 1.

**Image Quality Assessment**

Table 1

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Assessment** | **Explanation of the assessment** | **Value in points** |
| 1 | 2 | 3 | 4 |
| 1. | Excellent quality | Disturbances and distortions are not visible | **5** |
| 2. | Good quality | Disturbances and distortions are visible, but not annoying | **4** |
| 3. | Fair quality | Disturbances and distortions are slightly annoying | **3** |
| 4. | Poor quality | Disturbances and distortions are annoying | **2** |
| 5. | Bad quality | Disturbances and distortions are very annoying | **1** |

The image quality shall be assessed by taking into account the most characteristic image disturbances and distortions in accordance with Table 2.

**Characteristic Image Disturbances and Distortions of the Transmission Service of Television Programmes**

Table 2

|  |  |  |
| --- | --- | --- |
| **No.** | **Transmission service of television programmes** | **Description of disturbances and distortions** |
| 1 | 2 | 3 |
| 1. | Transmission of television programmes in analogue format | 1.1. Moving or unmoving bandlike, grainy layering or layering of other type on the image |
| 1.2. Irregularity of the brightness and colours of the image |
| 1.3. Multiplication of the image |
| 2. | Transmission of television programmes in digital format and transmission of television programmes using Internet protocol | 2.1. Temporary or complete freezing of the image |
| 2.2. Individual missing fragments of the image |
| 2.3. Side effects of the picture near moving details of the image which are not related to the design of the programme image to be transmitted (image artefacts) |
| 2.4. Distortions of vertical lines on the right side of the image |
| 2.5. Time difference between the image and sound |
| 2.6. Accompanying sounds which are not related to the acoustic design of the programme to be transmitted (sonic artefacts) |

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| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

\* transmission service of radio and television programmes

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 14**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Report on Fulfilment of Quality Requirements of the Internet Service\***

|  |  |  |
| --- | --- | --- |
| **Name of the electronic communications merchant** |  |  |
|  |  |  |
| **Unified registration number** |  |  |
|  |  |  |
| **Reporting year** |  |  |
|  |  |  |
| **Type of the electronic communications network** | Fixed http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF | Mobile http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Connection speed range(1)\* | Average time for installation in days(2) | Number of faults(3) | Average fault repair time(4) | Average packet loss ratio in per cent(5)\* | Average latency in milliseconds(6)\* | Average jitter in milliseconds(7)\* | Availability of the service in per cent\*(8) |
| ≥256kbits/s up to <2Mbits/s | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF |  |  |  |  |  |  |  |
| ≥2Mbits/s up to <10Mbits/s | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF |
| ≥10Mbits/s up to <30Mbits/s | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF |
| ≥30Mbits/s up to <100Mbits/s | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF |
| ≥100Mbits/s | http://www.likumi.lv/wwwraksti/BILDES/KVADRATS.GIF |

***Note:*** The merchant shall note the range of the connection speed values within which the merchant ensures provision of the Internet service regardless of the technologies used for the provision of the service and tariff plans offered.

\*A parameter value shall be determined in the stage from the connection point up to the Latvian Internet Exchange point by carrying out the measurements:

1) at not less than 3 randomly selected connection points in a fixed electronic communications network by carrying out not less than 100 measurements at each connection point;

2) at not less than 100 randomly selected geographic places in a mobile electronic communications network by carrying out not less than 3 measurements at each place.

(1) Connection speed – a parameter which characterises information exchange speed (uploading and downloading) in a data channel in the stage from a terminal equipment of the end-user to the Latvian Internet Exchange point in kilobits or megabits per second.

(2) Average number of days from the day of receipt of the application until the day of installation of the connection point for ensuring of the Internet service in a fixed electronic communications network.

(3) Number of faults applied per one connection point in a fixed electronic communications network.

(4) A parameter value shall be indicated in the following format – HH:mm (HS – hours, m – minutes).

(5) Average packet loss ratio – a parameter which determines average arithmetical value of packet loss ratio of the total number of measurements in per cent.

Packet loss ratio1 – a parameter which determines ratio of the lost packets to total number of the sent packets in per cent.

The packet loss ratio shall be determined in accordance with the following formula:

,

where:

Z – packet loss ratio in per cent;

n – total number of packets sent during the measurement cycle;

D – number of lost packets during measurements.

(6) Average latency – a parameter which determines average arithmetical value of latency of the total number of measurements in milliseconds;

Latency2 – a parameter which characterises time delay between sending and receipt of packets in the stage from a terminal equipment of the end-user to the Latvian Internet Exchange point in both directions in milliseconds.

Latency shall be determined in accordance with the formula:

,

where:

 – average latency in milliseconds during the measurement cycle;

t1 – packet receipt time in milliseconds;

t2 – packet sending time in milliseconds;

n – total number of packets sent during the measurement cycle.

(7) Average jitter – a parameter which determines average arithmetical value of jitter of the total number of measurements in milliseconds.

Jitter3 – a parameter which determines time delay irregularity between packet sending and receipt in milliseconds which is caused due to restricted throughput rate of the network, for example, overload, re-routing, packet loss and other.

Jitter shall be calculated in accordance with the formula:

,

where:

J – jitter in milliseconds;

 – average latency in milliseconds during the measurement cycle;

n – total number of packets sent during the measurement cycle;

Li – latency of i-packet in milliseconds.

(8) Availability of the service (a possibility to receive the service) shall be determined as an average arithmetical value of the total number of the service availability of the calculated settlement cycles.

Availability of the service for the settlement cycle shall be determined in accordance with the formula:

,

where:

p – availability of the services in per cent;

T – total time in hours of availability of the service for all connection points;

tk – total time in hours of provision of the service for all connection points.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

\* the narrowband Internet access service in a fixed electronic communications network, the narrowband Internet access service in a mobile electronic communications network, the broadband Internet access service in a fixed electronic communications network and the broadband Internet access service in a mobile electronic communications network

1 English – *Packet Loss Ratio*

2 English – *Latency (Round Trip Delay)*

3 English – *Jitter*

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 15**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Requirements for Quality of Service Parameters for the Provider of the Universal Service**

|  |  |
| --- | --- |
| **Quality of service parameter** | **Quality of service parameter value** |
| 1. Time for installation of subscriber lines | 1.1. Number of days from the day of receipt of the application until the day of installation for 95 per cent of the installed subscriber lines | The value of this parameter shall be declared by the provider of the universal service |
| 1.2. Number of subscriber lines in per cent from all installed subscriber lines which have been installed within the time period agreed with a customer |
| 2. Number of faults applied per one subscriber line | ≤ **0.20** |
| 3. Fault repair time | 3.1. Number of hours from the time of receipt of the fault application until the time of repair of the fault in order to repair 95 per cent of the faults in subscriber lines | The value of this parameter shall be declared by the provider of the universal service |
| 3.2. Number of faults in per cent of the applied fault which have been repaired within 3 days | ≥ **90.00** |
| 4. Unsuccessful call ratio in per cent | ≤ **0.85** |
| 5. Call set-up time in seconds | ≤ **1.90** |
| 6. Bill correctness in per cent | ≥ **99.50** |
| 7. Response time of the comprehensive telephone directory service | 7.1. Number of calls answered within 20 seconds in per cent | ≥ **90.00** |
| 7.2. Average response time to call in seconds | ≤ **10.00** |
| 8. Response time of the service for acceptance of fault application | 8.1. Number of calls answered within 20 seconds in per cent | ≥ **90.00** |
| 8.2. Average response time to call in seconds | ≤ **10.00** |

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 16**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Declaration of the Universal Service**

|  |  |
| --- | --- |
| **Name of the electronic communications merchant** |  |
|  |  |
| **Unified registration number** |  |
|  |  |
| **Year of the declaration** |  |

|  |  |
| --- | --- |
| **Quality of service parameters** | **Quality of service parameter value** |
| 1. Time for installation of subscriber lines(1) | 1.1. Number of days from the day of receipt of the application until the day of installation for 95 per cent of the installed subscriber lines | ≤ |
| 1.2. Number of subscriber lines in per cent from all installed subscriber lines which have been installed within the time period agreed with a customer | ≥ |
| 2. Fault repair time(2) | 2.1. Number of hours from the time of receipt of the fault application until the time of repair of the fault in order to repair 95 per cent of the faults in subscriber lines | ≤ |

Accounting of subscriber lines shall be referred to the connection points of the fixed electronic communications network, including subscriber lines which are using multiplexing technique, Integrated Services Digital Network Primary Rate Access (ISDN PRA1), connections of private automatic branch exchanges (PABX2) and other.

(1) The number of days up to which 95 per cent of the most rapidly installed subscriber lines are installed.

The accounting of the installed subscriber lines shall include the cases when:

1) a new subscriber line is installed regardless of the technology used;

2) a transfer of a subscriber line is carried out;

3) a subscriber line is re-registered to another subscriber;

4) an additional connection point of the subscriber line is installed for the subscriber.

(2) The number of hours when 95 per cent of the most rapidly repaired faults in subscriber lines are repaired. A parameter value shall be indicated in the following format – HH:mm (H – hours, m – minutes).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

1 English – *Integrated Services Digital Network Primary Rate Access*

2 English – *Private Automatic Branch Exchange*

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs

**Annex 17**

Public Utilities Commission

Decision No. 1/21

3 December 2015

**Quality Report on Fulfilment of Quality Requirements of the Universal Service**

|  |  |
| --- | --- |
| **Name of the electronic communications merchant** |  |
|  |  |
| **Unified registration number** |  |
|  |  |
| **Reporting year** |  |

|  |  |
| --- | --- |
| **Quality of service parameters** | **Quality of service parameter value** |
| 1. Time for installation of subscriber lines(1) | 1.1. Number of days from the day of receipt of the application until the day of installation for 95 per cent of the installed subscriber lines |  |
| 1.2. Number of subscriber lines in per cent from all installed subscriber lines which have been installed within the time period agreed with a customer |  |
| 2. Number of faults applied per one subscriber line |   |
| 3. Fault repair time(2) | 3.1. Number of hours from the time of receipt of the fault application until the time of repair of the fault in order to repair 95 per cent of the faults in subscriber lines |   |
| 3.2. Number of faults in per cent of the applied fault which have been repaired within 3 days |   |
| 4. Bill correctness in per cent(3) |   |
| 5. Response time of the comprehensive telephone directory service | 5.1. Number of calls answered within 20 seconds in per cent(4) |   |
| 5.2. Average response time to call in seconds(5) |   |
| 6. Response time of the service for acceptance of fault application | 6.1. Number of calls answered within 20 seconds in per cent(4) |   |
| 6.2. Average response time to call in seconds(5) |   |

The provider of the universal service shall ensure accounting only for a standard level of each quality of service parameter. The cases when a subscriber chooses to pay more for the enhanced level of quality of service or less for the decreased level of quality of service shall not be included.

Accounting of subscriber lines shall be referred to the connection points of the fixed electronic communications network, including subscriber lines which are using multiplexing technique, Integrated Services Digital Network Primary Rate Access (ISDN PRA1), connections of private automatic branch exchanges (PABX2) and other.

(1) The number of days up to which 95 per cent of the most rapidly installed subscriber lines are installed.

The accounting of the installed subscriber lines shall include the cases when:

1) a new subscriber line is installed regardless of the technology used;

2) a transfer of a subscriber line is carried out;

3) a subscriber line is re-registered to another subscriber;

4) an additional connection point of the subscriber line is installed for the subscriber.

(2) The number of hours when 95 per cent of the most rapidly repaired faults in subscriber lines are repaired.

A parameter value shall be indicated in the following format – HH:mm (H – hours, m – minutes).

(3) Bill correctness shall be determined in accordance with the following formula:

,

where:

R – bill correctness per year, in per cent;

nS – the number of justified claims (complaints) which the merchant has received in respect of incorrect bills per year;

*Note*: A claim (complaint) shall be considered to be justified if the merchant has received it for incorrect bills, and it has been assessed as justified.

nR – total number of bills issued by the merchant per year.

(4) the number of calls answered within 20 seconds – a parameter which determines the number of calls answered within 20 seconds in per cent and which comprises connecting time and the time from the moment when a call control tone or notification regarding waiting in queue is detected until the answer from an employee of the service for acceptance of fault applications or comprehensive telephone directory enquiry service.

(5) average response time to call – a parameter which determines the ratio of the sum of the total response times to calls to the total number of calls made in seconds.

Response time to call – a parameter which determines a time period from the moment of sending the number to be called until the answer from an employee of the service for acceptance of fault applications or comprehensive telephone directory enquiry service in seconds.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date \_\_\_ \_\_\_ \_\_\_\_\_\_ |  |  |  |  |
| Person entitled to represent the merchant |  |  |  |
|  |  | /signature and full name thereof/ |  |
|  |  |  |  |
| /given name, surname of the person who prepared the document/ |  |  |  |
| telephone |   |   |   |   |
| e-mail |   |   |   |   |

1 English – *Integrated Services Digital Network Primary Rate Access*

2 English – *Private Automatic Branch Exchange*

Chairperson of the Board of the Public Utilities Commission V. Lokenbahs