



CITRA

الهيئة العامة لتنظيم الاتصالات وخدمات المعلومات
COMMUNICATIONS & INFORMATION TECHNOLOGY REGULATORY AUTHORITY

Quality of Service Regulation

V 1.0

Introduction:

The quality-of-service regulation was issued in accordance with the Authority's powers stipulated under Article 3 (d) of the Law No. 37 of 2014 concerning the establishment of the Communication and Information Technology Regulatory Authority, as amended by Law No. 98 of 2015, and the executive regulations issued by the Council of Ministers' Resolution No. 993 of 2015. These regulations shall be enforced after it is published in the Official Gazette and is subject to review and amendment from time to time as the Authority deems appropriate.

The relevant licensees were consulted on [REDACTED] in accordance with the general advisory regulations issued by the Authority.

Article (1)

Definitions

The words and phrases set out in these instructions shall have the same meanings as stated in Law No. 37 of 2014 concerning the establishment of the Communication and Information Technology Regulatory Authority, as amended by Law No. 98 of 2015, and its executive regulations. The following words and phrases shall have the meanings indicated next to each of them, unless the context requires otherwise:

Telecommunications Law: Law No. 37 of 2014 as amended by Law No. 98 of 2015 and its executive regulations.

Authority: The Communication and Information Technology Regulatory Authority established under the Telecommunications Law.

Regulation: The regulation for the quality of service.

Licensee: A person authorized to provide one or more telecommunications services to the public or who is authorized to administer or establish or operate a telecommunications network or Internet service to provide telecommunications services to the public, including providers of information or content provided by the communication network.

Communication Service: The communications service provided by the Licensee to subscribers, whether they are end users or licensed operators.

Voice Communications Service: A communications service whereby speech is transmitted by voice directly through a public communications network to the licensee. So that any user can use a device connected to a network end point to communicate with another user using a device connected to another end point of the network.

Fixed Telecommunication Service: Telecommunication service that can be used in one specific location, unlike the mobile service. This service is accomplished by connecting one point from or to the end points of the network associated with the end users, including but not limited to the copper telephone network, the optical fiber network, the DSL network, and the fixed wireless network.

Mobile Communications Service: Telecommunication service that can be used in motion, which uses mobile radio communications to provide communication to or from the network end points associated with end users.

Internet Service: A service provided to transfer data directly to or from the end points on the network connected to the end users and which has assigned Internet Protocol addresses to them.

Quality of Service: The overall characteristics of a telecommunications service that affect its ability to satisfy the expressly or implicitly specified needs of the user.

Quality of Experience: Indicators that reflect the tangible quality of service that the user perceives.

Target Values: the numerical value of specific indicators of the monitored service as set forth in this regulation, which the Authority uses to monitor service quality performance in accordance with the provisions of this regulation.

Key Performance Indicators (KPI): Measurable indicators that reflect how effectively systems and networks are performing to achieve the main objectives of service quality.

Indicator: A feature of the quality of service that can be measured.

Article (2)

Regulation Objectives

The purpose of this regulation is to develop a framework for measuring the quality of telecommunication services in the State of Kuwait and preparing reports thereon and monitoring their implementation through:



- 1) Imposing obligations on licensees on a regular basis to take measurements of the quality of services level provided to users and to submit such measurements to the Authority in accordance with this Regulation.
- 2) Developing a framework for measuring service quality and experience in order to improve the user experience and identify the minimum acceptable level of performance of the services provided.
- 3) Providing information that helps end users to choose telecommunication services through accurate information on quality of service that can be easily viewed and compared with other information.
- 4) Providing information that assists licensees in developing the level of services and their telecommunication networks.
- 5) Ensuring that licensees submit complete and accurate reports on time concerning service quality measurements.

Article (3)

Compliance Control

The Authority may verify the validity of the licensees' reports submitted through the measurement and audit methods set forth in this regulation. It may inspect the facilities and equipment of the licensees, or examine and review any documents, information, databases, or records, telecommunications equipment, telecommunications facilities, or other facilities deemed relevant by the Authority for the purpose of evaluating the completeness and accuracy of the information provided in the reports to ensure compliance with the minimum level of quality of services or the communications network.

Article (4)

Regulation Scope

This regulation applies to all telecommunication services provided to the user by infrastructure operators and service providers of virtual communications services licensed by the Authority - each within the scope of its services. As for wholesale-services, it will be organized through the reference offers.

Article (5)

Principles of Service Quality



In conducting service quality measurements, the following must be considered:

- 1 - Applying service quality measurements to all monitored services as specified in this regulation.
- 2 - Publishing KPI reports for service providers licensed by the Authority to be available to the public to enable end users to compare the performance of licensees with respect to the quality of the monitored services.
- 3- Enabling the Authority to set appropriate goals to improve the minimum level of service quality and its maintenance, in the manner deemed acceptable by the Authority to fulfill the needs and expectations of the end users.

Article (6)

Quality of Service Reports

Licensed operators are obligated to periodically take measurements of the indicators of the service they provide to users as specified in the appendices of this Regulation. Licensees shall provide current, complete and accurate information, which can be compared with other information on making measurements to the Authority.

Article (7)

All information regarding service quality measurements and other information submitted to the Authority in accordance with the provisions of these Regulations should not be considered confidential.

Article (8)

The licensed operators shall, in each reporting period, comply with the following:

1. Conduct measurements, either directly or through a qualified third party.
2. Submit a report containing the required measurements to the Authority as demonstrated in the appendices of this Regulation, in the form required by the Authority.
3. Provide any information that was used in making the measurements, if requested by the Authority, including details relating to the observations and calculations made to make measurements.
4. Maintain the measurements and any information that was used in making the measurements for a period of no less than 12 months after the end of the relevant reporting period, or if the Authority so requests.



Article (9)

The Authority shall have the right to add, cancel or modify performance indicators, target values and the method of reporting. This amendment may include setting more stringent target values, without the need to update this regulation, provided that the licensees are notified before making any changes. In addition, the Authority has the right to suspend specific requirements and resume them whenever it deems this necessary.

Article (10)

If the Authority finds that the licensee has failed to provide a report or complete information regarding the quality of service within the time frame specified and in accordance with the provisions of these Regulations, the Authority may apply the penalties stipulated by the law and applicable regulations.

Article (11)

Publishing Information about Service Quality Reports

The Authority may, from time to time, publish a quality report on its website or in any manner or format it deems appropriate, using all or some of the measurements provided by licensees in accordance with the provisions of this regulation. In addition, the Authority may specify other channels for publication in a manner it allows users to evaluate and compare the performance of licensees. Licensees are requested to publish indicator reports on their websites as well.

Article (12)

Without prejudice to the Authority's right to implement the procedures set out in this regulation. The Authority may in the event of the failure of one or more of the licensees to submit the reports on time, including complete and accurate information regarding with one or more of the indicators included in the report, do the following:

- 1- Publish the indicated quality of service reports with the deletion of information that was not submitted completely and accurately on time.
- 2- Indicate in its report of a failure by one or more of the licensees to submit its report regarding the information related to the quality of service completely and accurately on time.

Article (13)

Licensees are required to provide a link on their websites to view the service quality reports published by the Authority. It must be declared that this link demonstrates the quality-of-service report to the public and is clearly visible at the bottom of the licensed operator's home page.

Article (14)

Measuring the Quality of Service by the Authority

The Authority may, directly or through a qualified third party, conduct measurements on the indicators of service quality. In the event of recording differences between the measurements obtained from any information in the reports submitted by the licensed operator for the same indicator, and the monitored service for the same reporting period, the Authority shall have the right to publish in its report the measurements it reported by the Authority or by a qualified third party.

Article (15)

The Authority may set key performance indicators for all or some of the licensees if it finds that users are not provided with adequate levels of quality of service and may also impose indicators on the licensed operator individually if this operator failed to provide complete and accurate measurements of the quality of services on time in accordance with the provisions of these regulations.

Article (16)

If the licensee fails to achieve the target values for a specific indicator, the Authority has the right to request the licensee to submit a compliance plan for review and approval by it within thirty days, including corrective actions that it must implement to achieve target value and maintain it. The Authority shall, within thirty calendar days of receiving the plan, review it and approve it as proposed and the Authority may publish a summary of it on its website that includes the main actions that will be taken and the expected results and the deadlines for their achievement, or to provide its reasoned observation and request amendments to the proposed compliance plan.

Article (17)

The Authority shall have the right, when the licensee fails to achieve the target value of a specific indicator included in the plan for any two reporting periods within four consecutive periods, to deal with it as a grave breach, and any appropriate measures shall be taken in accordance with the law.

Article (18)

The Authority has the right to apply various methods of measurement and auditing, including - but not limited to - surveying users' opinions or field measurement campaigns (Drive Test) or using special systems meters to extract performance indicators measurement directly from the network.

Article (19)

Final Provisions

- 1- Licensees shall bear all costs resulting from implementing and complying with this regulation, including costs resulted from the potential opinion polls conducted by the Authority, as well as from measurement procedures set forth in this regulation.
- 2- Licensees are required to make necessary changes to their systems and to their operational processes, whenever there is a need for that, to ensure compliance with the provisions of this regulation and with any decisions issued by the Authority in relation to this regulation.
- 3- Licensees are required to start conducting measurements in accordance with this regulation as the first reporting period immediately after the date on which this regulation enters into force.

Annex (1)

Service Quality Requirements

Mobile Communication Services

- 1) Subscriber Experience Indicators (Quality of Experience)

Indicator	Definition	Measurement	Target Value	Measurement Period
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1	Service provision time	The time taken from the moment of receipt and acceptance of an application for Service provision until the moment of readiness of service to use	Measurement method: Time period <ul style="list-style-type: none"> Working days and public holidays must be counted within service provision delivery. Time taken is not counted if the delay is at the request of the subscriber 	Achieving 90% of service provision applications within 24 hours	Every months (3)
2	Call Center's Time of response	The time taken from the moment of receiving a subscriber's call until the moment the Customer Service Agent answers, except for services that are automatically provided in full like voice answers services. This includes waiting time for busy customer service employee as well as passing time in voice response systems to get to Customer Service Agent.	Measurement method: Time period <ul style="list-style-type: none"> The following information shall be provided: <ol style="list-style-type: none"> The average value of the response time through electronic communication channels. Average value of response time on incoming dial-up requests. 	Responding to 90% of the incoming dial-up requests within 60 seconds. Responding to 90% of the incoming electronic media requests within 60 seconds.	Every months (3)



3	Percentage of Complaints about bills' validity	The percentage of bills that result in a complaint from the subscriber regarding their validity, and the complaint is an expression of lack of satisfaction about the accuracy of the bill received by the subscriber.	Measurement method: Number of complaints per a thousand bills	Less than 2%	Every (3) months
4	Percentage of subscribers' complaints to the total number of subscribers (excluding complaints about bills)	Percentage of complaints received by a customer service center to the total number of subscribers	Measurement method: a percentage of the total number of subscribers	Less than 5%	Every (3) months
5	Percentage of bills' complaints that are resolved within 10		Measurement method: a percentage	More than 90%	Every (3) months



	working days.				
6	Percentage of bills' complaints that are resolved within 20 working days.		Measurement method: a percentage	More than 97%	Every (3) months
7	Percentage of overall satisfaction	Percentage of subscribers' satisfaction about the services provided by the licensee, including the customer service center	Measurement method: 5-point scale. To measure the percentage of overall satisfaction, the licensee may use electronic or other means of measurement	More than 4 marks	Every (12) months

2) Key Performance Indicators (Quality of Service)

a. Mobile Phone Services

	Indicator	Definition	Measurement	Target Value	Measurement Period
1	Percentage of unsuccessful calls	Unsuccessful calls are an attempt to call a valid number from an area covered by	Measuring method: percentage The following statistics must be submitted	Less than 1%	Every (3) months



		the network so that it does not form a ring tone or a busy line tone on the other end.	separately for each reporting period: a) The percentage of successful calls to local calls. b) Percentage of successful calls for international calls c) Total number of calls • The time taken is not calculated if the delay was at the request of the subscriber		
2	Percentage of Dropped Calls	Percentage of Correctly incoming and outgoing calls and allocating a traffic channel to them that were naturally interrupted by the subscriber before their completion, so that the reason for the interruption was attributed to the licensee's network	Measurement method: Percentage • Measurements should be made on the basis of using an automated system to collect data through network elements meters, and data collection is 24 hours a day throughout the year. • The percentage of dropped calls should be provided	Less than 1 %	Every (3) months



			<p>out of the total calls in a given period.</p> <ul style="list-style-type: none"> The average value of the response time through electronic communication channels Average value of response time on incoming dial-up requests 		
3	Time of call making	It is the period that begins when the licensee's network receives the number of the caller to make the call and ends upon receiving the busy line tone, the ring tone, or the answer of the calling party	<p>Measurement method:</p> <p>Time period</p> <p>The following information should be provided:</p> <ol style="list-style-type: none"> The average value of calls in seconds Time in seconds for the duration in which 95% and 99% of the calls are made separately 	<p>Generating 95% of calls within less than 10 seconds.</p> <p>Generating 99% of calls withing less than 13 seconds</p>	Every (3) months
4	Quality of calls (voice)	A value that expresses the level of sound quality transmitted over the communication links	<p>Measurement method:</p> <p>Average scale (1 to 5)</p> <p>This value is obtained through special software that analyzes the sound after transmitting it</p>	Ratio greater than 3.5 marks	Every (6) months



			between the two ends of the connection.		
5	Delivering the text messages (SMS)	Percentage of SMS which are sent and received via terminal devices between the two sides.	Measurement method: Percentage The measurements must be calculated on the actual traffic of SMS messages in the network of the authorized service provider	Delivering more than 90% of the SMS messages within 5 minutes. Delivering more than 99% of the SMS messages within 30 minutes.	Every (6) months
6	Network Coverage	It is the specific level at which a mobile device can access the licensed telecom service provider's network.	The following parameters should be used as a minimum: <ul style="list-style-type: none"> • GSM 2G: signal strength indicator = <95 db mw • 3G: signal strength indicator < 105 db mw. • LTE: Signal strength indicator =< 115 db mw 	More than 4 marks	Every (6) months



B – Broadband Services

	Indicator	Definition	Measurement	Target Value	Measurement Period
1	Data transfer success rate	The success rate of data transferring separately for downloading or uploading specific files between the user's device and a server or website.	<p>Measurement method: a percentage by dividing the size of the test file by the entire error-free transmission time.</p> <p>Transmission time is the period of time that begins when the network receives the information needed to start transmitting and ends when the last "bit" of the file in use is transmitted.</p>	More than 98 %	Every (3) months
2	Data transfer failure rate	The rate of failure of data transferring separately between the user's device and a server or website.	<p>Measurement method: a percentage by dividing the size of the test file by the entire error-free transmission time.</p> <p>Transmission time is the period of time that begins when the</p>	Less than 2 %	Every (3) months



			network receives the information needed to start transmitting and ends when the last "bit" of the file in use is transmitted.		
3	Average of data transfer delay (Latency)	It is the time required for data packets to travel from the source to a specific destination (for example, a website) and returning back to the source.	<p>Measurement method:</p> <p>Time period</p> <p>The service provider is obligated to conduct test campaigns using specific test equipment to measure indicators related to the quality of the connection with the Internet, such as delay, jitter and others.</p> <p>The Authority has the right to locate the test server locally or internationally as it deems appropriate.</p>	Less than 120 milli/second	Every (3) months
4	Data Transfer Speed	The rate of data transfer separately or downloading or uploading files between	Measurement method: (Mb/s)		Every (3) months



		the user's device and a server or website.	<p>The following information should be provided for downloading or uploading according to the test samples:</p> <p>1) More than 95% of the achieved data transfer (Mb/s)</p> <p>2) Less than 5% of the achieved data transfer (Mb/s)</p> <p>3) Average value and standard deviation value of the data transfer (Mb/s)</p>		
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Annex (2)

Quality of Service Requirements

Fixed Telecommunication Services

1) Subscriber Experience Indicators (Quality of Experience)

	Indicator	Definition	Measurement	Target Value	Measurement Period
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1	Time of Service Provision	The time taken from the moment the service request is received and accepted to the moment the service is ready for use.	Measurement method: time period <ul style="list-style-type: none"> • Working days and public holidays must be counted within service delivery time. • Time taken is not counted if the delay is at the request of the subscriber. 	Achieving 90% of service provision applications within 10 days for audio lines services and 5 days for the broadband	Every (3) months
2	Call Center's Response Time	The time taken from the moment of receiving a subscriber's call until the moment the Customer Service Agent answers, except for services that are automatically provided in full, like voice answers services. This includes waiting time for busy customer service employee as well as consumed time in checking voice response systems to	Measurement method: time period <ul style="list-style-type: none"> * The following information shall be provided: <ul style="list-style-type: none"> • Average value of the response time through electronic communication channels. • Average value of response time on incoming dial-up requests 	Responding to 90% of the incoming dial-up requests within 100 seconds for voice communications services, and 60 seconds for the broadband. Responding to 90% of the requests received through electronic means.	Every (3) months



		get to Customer Service Agent.			
3	Number of Faults per 100 Subscribers	Troubleshooting is the period from the moment the user informs the licensed service provider of a fault until the moment the service is restored to its operational status.	Measurement method: Percentage	Less than 3%	Every (3) months
4	Percentage of Faults that shall be repaired within 3 days	It is the period from the moment the user informs the licensed service provider of a fault until the moment the service is restored to its operational status.	Measurement method: Time period	More than 90 %	Every (3) months
5	Percentage of Faults that shall be repaired within 10 days		Measurement method: Time period	More than 99%	Every (3) months
6	Percentage of complaints	The percentage of bills that result in a complaint from the	Measurement method: Number of	Less than 2%	Every (3) months



	about bills' validity	subscriber regarding their validity, and the complaint is an expression of lack of satisfaction about the accuracy of the bill received by the subscriber.	complaints per a thousand bills.		
7	Percentage of subscribers' complaints to the total number of subscribers (excluding complaints about bills)	Percentage of complaints received by the customer service center to the total number of subscribers	Measurement method: Percentage	Less than 2 %	Every (3) months
8	Percentage of bills' complaints that are resolved within 10 working days		Measurement method: Percentage	More than 90 %	Every (3) months
9	Percentage of bills' complaints that are resolved		Measurement method: Percentage	More than 97%	Every (3) months



	within 20 working days				
10	Percentage of Overall Satisfaction	Percentage of satisfaction of the subscribers about the services provided to them by the licensee including customer service center.	Measurement method: A scale of 5 marks	More than 4 marks	Every (12) months

2) Key performance Indicators (Quality of Service)

A. Fixed Telephone Services:

	Indicator	Definition	Measurement	Target Value	Measurement Period
1	Percentage of unsuccessful calls	Unsuccessful calls are an attempt to call a valid number from an area covered by the network so that it does not form a ring tone or a busy line tone on the other end.	Measuring method: Percentage The following statistics must be submitted separately for each reporting period: 1) The percentage of successful calls for local calls. 2) Percentage of successful calls for international calls 3) Total number of calls	Less than 1%	Every (3) months

			<ul style="list-style-type: none"> The time taken is not calculated if the delay was at the request of the subscriber. 		
2	Percentage of Dropped Calls	Percentage of correct incoming and outgoing calls and allocating a traffic channel to them that were naturally interrupted by the subscriber before their completion, so that the reason for the interruption was attributed to the licensee's network.	Measurement method: Percentage <ul style="list-style-type: none"> Measurements should be made on the basis of using an automated system to collect data through network elements meters, and data collection is 24 hours a day throughout the year. The percentage of dropped calls should be provided out of the total calls in a given period. The average value of the response time through electronic 	Less than 1 %	Every (3) months



			<p>communication channels</p> <ul style="list-style-type: none"> • Average value of response time on incoming dial-up requests 		
3	Time of Call making	It is the period that begins when the licensee's network receives the number of the caller to make the call and ends upon receiving the busy line tone, the ring tone, or the answer of the calling party.	<p>Measurement method:</p> <p>Time period</p> <p>The following information should be provided:</p> <ol style="list-style-type: none"> 1) The average value of calls in seconds 2) Time in seconds for the duration in which 95% and 99% of the calls are made separately 	<p>Generating 95% of calls within less than 10 seconds.</p> <p>Generating 99% of calls withing less than 13 seconds.</p>	Every (3) months
4	Quality of Calls (voice)	A value that expresses the level of sound quality transmitted over the communication links.	<p>Measurement method:</p> <p>Average scale (1 to 5)</p> <p>This value is obtained through special software that analyzes the sound after transmitting it between the two ends of the connection.</p>	Ratio greater than 3.5 marks	Every (6) months



5	Availability of the service in the Telephone Exchange			More than 99%	Every (6) months
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B – Fixed Broadband Services

	Indicator	Definition	Measurement	Target Value	Measurement Period
1	Data transfer success rate	The success rate of data transfer separately for downloading or uploading specific files between the user's device and a server or website.	Measurement method: A percentage by dividing the size of the test file by the entire error-free transmission time. Transmission time is the period of time that begins when the network receives the information needed to start transmitting and ends when the last "bit" of the file in use is transmitted.	More than 99 %	Every (3) months
2	Data transfer failure rate	The rate of failure of data transfer separately	Measurement method: A percentage by dividing the size of the	Less than 1 %	Every (3) months



		between the user's device and a server or website.	test file by the entire error-free transmission time. Transmission time is the period of time that begins when the network receives the information needed to start transmitting and ends when the last "bit" of the file in use is transmitted.		
3	Average of data transfer delay (Latency)	It is the time required for data packets to travel from the source to a specific destination (for example, a website) and coming back to the source.	Measurement method: Time period The service provider is obligated to conduct test campaigns using specific test equipment to measure indicators related to the quality of the connection with the Internet, such as delay, jitter and others. The Authority has the right to locate the test server locally or		Every (3) months



			internationally as it deems appropriate.		
4	Data Transfer Speed	The rate of data transfer separately or downloading or uploading files between the user's device and a server or website.	Measurement method: (Mb/s) The following information should be provided for downloading or uploading according to the test samples: 1) More than 95% of the contracted data transfer (Mb/s) 2) Less than 5% of the contracted data transfer (Mb/s)		Every (3) months