Suruhanjaya Komunikasi dan Multimedia Malaysia

Malaysian Communications and Multimedia Commission

COMMUNICATIONS AND MULTIMEDIA ACT 1998

COMMISSION DETERMINATION ON THE MANDATORY STANDARDS FOR QUALITY OF SERVICE (WIRELESS BROADBAND ACCESS SERVICE)

DETERMINATION NO. 2 OF 2023

Pursuant to the Ministerial Direction on Quality of Service, Phase Two, Direction No. 3 of 2003, and in exercise of the powers conferred by sections 55, 56 and 104(2) and 106 of the Communications and Multimedia Act 1998 [Act 588] ("**Act**"), the Commission hereby determines as follows:

Citation and Commencement

1. This Determination may be cited as the **Commission Determination on the Mandatory Standards for Quality of Service (Wireless Broadband Access Service), Determination No. 2 of 2023**.

2. This Determination shall come into operation on **1 April 2024**.

Interpretation

3. For the purpose of this Determination, unless the context otherwise requires,
   (i) any terms used in this Determination shall have the same meaning as in the Act or the subsidiary legislations made under it;
   (ii) words in the singular include plural and vice versa; and
   (iii) the following terms used in this Determination shall have the stated meaning:

"4G" means Fourth generation of mobile networks;

"5G" means Fifth generation of mobile networks;

"ASP" means an application service provider, being a person who provides an applications service;

"end user" means a person who accesses the network in order to communicate via the services provided by the network;

"eNodeB" means 4G wireless access node that transmits and receives communications between the end user and the mobile network;

"FWA" means fixed wireless access, which is a wireless access application in which the location of the end-user termination and the network access point to be connected to the end-user are fixed;

"gNodeB" means a 5G wireless access node that transmits and receives communication between the end user and the mobile network;

"guidelines" means a guideline issued by the Commission pursuant to paragraph 9 of this Determination;

"HTTP" means HyperText Transfer Protocol, which is an application layer protocol used to transmit data over the World Wide Web;

"IMT" means International Mobile Telecommunications;

"Klang Valley" means area centered in the Federal Territories of Kuala Lumpur and surrounding cities in the districts of the state of Selangor;

"Licensee" means the service provider and the wholesale provider;

"National POI" means a POI located in Klang Valley;

"NSP" means a network service provider, being a person who provides network services;

"Point of interconnection" or "POI" means a physical connection between wholesale provider and service providers;

"PRB" means Physical Resource Block;

"regional POI" means a POI located in any states or federal territories in Malaysia;

"service provider" means an ASP or a NSP who provides 4G and 5G wireless broadband access service to the end user;

"test server" means a server deployed by the Commission, the service provider or the wholesale provider located in the Klang Valley for the purpose of conducting end-to-end quality of service measurements;

"URL" means Uniform Resource Locator;

"wholesale provider" means an ASP or a NSP who provides 5G network access to the service provider; and

"wireless broadband access service" means a wireless connectivity of communication bandwidth service that is faster than primary rate interface of Integrated Services Digital Network (ISDN) of 2.0 Mbps.

Licensees subject to these mandatory standards

4. Licensees providing wireless broadband access service are subject to the mandatory standards specified in this Determination ("**Mandatory Standards**"). Licensees should ensure that other providers who can affect the quality of service provided by the Licensees are bound by a service level agreement which enables the Licensees to meet these Mandatory Standards.

Obligation to maintain quality of service records

5. The relevant Licensees shall maintain complete and accurate quality of service records of all Key Quality Indicators stated in these Mandatory Standards for no less than 24 months from the date of the report submission to the Commission and the same shall be made available to the Commission upon request.

Quality of service report submission

6. The quality of service reports shall be submitted to the Commission in the form and format as may be prescribed by the Commission from time to time. Each report shall be accompanied by a declaration signed by the Chief Executive Officer (or any Chief Officer) of the Licensees, duly authorised by the board of directors, stating that each report is true and accurate.

Publication of quality of service results

7. The Commission may publish the Licensees' quality of service results and compliance for consumption by the general public in any form or manner as may be deemed appropriate by the Commission.

Audit and verification

8. The Commission may from time to time conduct audits on the reports submitted, perform broadband measurements, acquire more granular network data or make service observations to verify compliance with these Mandatory Standards.

Applicable guidelines

9. The Commission may at any time issue guidelines that set (but not limited to) the measurement methodology examples of computations, reporting format, explanatory notes and list of designated areas in respect of any provision in these Mandatory Standards.

Contravention to these Mandatory Standards

10. Licensee shall have contravened these Mandatory Standards if the Commission, after due consideration, finds that the Licensees has done any of the followings:

    (i) failed to perform the measurement according to the measurement methodology, reporting and record keeping tasks, within the stipulated time as set out in these Mandatory Standards and its applicable guidelines;
    (ii) failed to meet any of the Key Quality Indicators as set out in these Mandatory Standards;
    (iii) did not comply with any of the Commission direction(s) issued to remedy a contravention;
    (iv) reported false or misleading information about its quality of service, in the quality of service report submitted to the Commission; or
    (v) failed to provide relevant information, obstruct or prevent the Commission from conducting a quality of service investigation, inspection, audit or measurement.

Quality of service standard obligations

11. These Mandatory Standards establish a set of Key Quality Indicators formulated to assess the quality of service and quality of experience provided by the Licensees. The Key Quality Indicators defined are categorized as:

    a. "**Mandatory Key Quality Indicators**", which shall be monitored and mandated by the Commission. The Mandatory Key Quality Indicators shall also be monitored, reported, and rectified by the relevant Licensees based on the minimum requirements of these Mandatory Standards.

    b. "**Monitoring Key Quality Indicators**", which shall be monitored by the Commission. The Monitoring Key Quality Indicators shall also be monitored, reported, and rectified by the relevant Licensees based on the minimum requirements of these Mandatory Standards.

Mandatory Key Quality Indicators

12. The Mandatory Key Quality Indicators in Table 1 below shall be applicable to the relevant Licensees that provide wireless broadband access service and FWA using 4G network (all allocated IMT frequency band) or 5G network (all allocated IMT frequency band other than 703 – 743 MHz, 758 – 798 MHz, 3.4 – 3.6 GHz and 26.5 – 28.1 GHz).

13. Three (3) Key Quality Indicators which are the HTTP session time (web browsing), video streaming access time and service accessibility, shall be under the Monitoring Key Quality Indicators for the year 2024 and shall be under Mandatory Key Quality Indicators starting 1 January 2025 onwards.

Table 1: Mandatory Key Quality Indicators

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
i.	Download Throughput	This indicator measures the average data transfer rate in the downlink, measured throughout the entire connect time from the test server to the end user, in units of Megabits per second (Mbps). Formula: $\frac{DL_1 + DL_2 + \ldots + DL_n}{Total\ connected\ download\ test\ sample}$ where $DL = download\ throughput\ per\ session$	Download throughput for each location measured shall be at or not less than: i. 7.7 Mbps until 31 December 2024; and ii. 10 Mbps from 1 January 2025 onwards, averaged based on all test sample.
ii.	Latency	This indicator measures the average round-trip time taken by a standard packet to traverse the network between the end user and the test server. Formula: $\frac{RTT_1 + RTT_2 + \ldots + RTT_n}{Total\ packet\ successfully\ returned}$ where $RTT = Round\ trip\ time\ per\ packet$	Latency shall be at or not more than 100 ms, for each location measured between the end user to the test server in Klang Valley averaged based on all test sample.
iii.	Packet Loss	This indicator measures the percentage of data packet transmitted that fails to arrive at its destination between the end user and the test server.	Packet loss shall be at or not more than 0.5%, for each location measured between the end user to the test server in Klang Valley.

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
		Formula: $\frac{Total\ packet\ loss}{Total\ packet\ sent}\ x\ 100$	
iv.	HTTP session time (web browsing)	This indicator measures the average time period needed to successfully complete a packet switched data session. This represents the time when the user enters the web page URL until the complete web page appears. Formula: $\frac{WB_1 + WB_2 + \ldots + WB_n}{Total\ successful\ web\ browsing\ session}$ where $WB = web\ browsing\ session\ completion\ time\ per\ session$	HTTP session time for each location measured shall be at or not more than 5 seconds, averaged based on all test sample.
v.	Video streaming access time	This indicator measures the average time of a service access from requesting the stream at the portal until the reception of the first stream data packet at the user equipment. This represents the time from when the user clicks a button to access the service to the point of time when the streams start to play. Formula: $\frac{SA_1 + SA_2 + \ldots + SA_n}{Total\ connected\ streaming\ session}$ where $SA = Streaming\ access\ time\ per\ session$	Video streaming access time for each location measured shall be at or not more than 6 seconds, averaged based on all test sample.

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
vi.	Service Accessibility	This indicator measures the percentage of successful attempt ratio of user equipment to obtain service and establish connection to the server for download, upload, web browsing and video streaming. Formula: $$\frac{Total\ successful\ attempt\ to\ establish\ connection}{Total\ attempt\ to\ establish\ connection} \ x\ 100$$	The service accessibility ratio for all download, upload, web browsing and video streaming measurement shall be at or not less than 90% for each location.
vii.	PRB utilisation	This indicator measures the percentage of the average downlink PRB utilisation over one (1) busy hour window of each day, averaged over a one (1) month period for every serving sector of eNodeB and gNodeB. Formula: $$\frac{\sum_{day=1}^{day=N} Busy\ hour\ utilisation\ of\ each\ sector}{\sum_{day=1}^{day=N} Capacity\ of\ each\ sector} \ x\ 100$$ Busy hour shall be determined based on the highest downlink resources utilised and the highest number of connected users, in any one (1) hour window.	Percentage of PRB utilisation per serving sector for each eNodeB and gNodeB shall be at or not more than 80.0% of every month. If there is non-compliance, the service provider shall submit an approved rectification plan to the Commission within 14 days after the submission of the report.
viii.	Transport utilisation	This indicator measures the percentage of average downlink transport utilisation over one (1) busy hour window of each day, averaged over a one (1) month period, for each transport node.	Percentage of each transport node utilisation shall be at or not more than 80.0% for every month. If there is non-compliance, the service provider shall submit

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
		Each transport node for access layers (from eNodeB or gNodeB), aggregation layers, trunked and to the core network is measured separately. Formula: $$\frac{\sum_{day=1}^{day=N} Busy\ hour\ utilisation\ of\ each\ transport\ node}{\sum_{day=1}^{day=N} Capacity\ of\ each\ transport\ node} x\ 100$$ Busy hour shall be determined based on the highest downlink resources utilised, in any one (1) hour window.	an approved rectification plan to the Commission within 14 days after the submission of the report.
ix.	Core Network utilisation	This indicator measures the percentage of downlink core network utilisation over one (1) busy hour window of each day, averaged over a one (1) month period, for each service impacting network element or network function in the Evolved Packet Core (EPC) and 5G Core (5GC). Formula: $$\frac{\sum_{day=1}^{day=N} Busy\ hour\ utilisation\ of\ core\ network}{\sum_{day=1}^{day=N} Capacity\ of\ core\ network} x\ 100$$ Busy hour shall be determined based on the highest downlink resources utilised, in any one (1) hour window.	Percentage of each core network utilisation shall be at or not more than 80.0% for every month. If there is non-compliance, the service provider shall submit an approved rectification plan to the Commission within 14 days after the submission of the report.

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
x.	Network Availability (Access and aggregation)	This indicator measures the percentage of time the network is able to deliver service to the end user. Network shall be considered available if the eNodeB or gNodeB can provide service (Radio Bearer) between the end user and core network. Formula: $$\frac{Measured\ Time_A - UAT}{Measured\ Time_A}\ x\ 100$$ where $UAT = Unavailable\ time\ in\ minutes$ $Measured\ Time_A = Total\ measurement\ time\ in\ minutes\ for\ all\ access\ and\ aggregation$	Percentage of network availability (access and aggregation) shall be at or not less than 99.50% for each quarter.
xi.	Core Network availability	This indicator measures the percentage of time the core network is able to deliver service. This includes any service impacting network element or network function in the Evolved Packet Core (EPC) and 5G Core (5GC). Formula: $$\frac{Measured\ Time_C - UAT}{Measured\ Time_C}\ x\ 100$$ where $UAT = Unavailable\ time\ in\ minutes$ $Measured\ Time_C = Total\ measurement\ time\ in\ minutes\ for\ core\ network$	Percentage of a core network availability shall be at or not less than 99.97% for each quarter.

14. The Mandatory Key Quality Indicator in Table 2 below shall be applicable to the relevant Licensees that provide wireless broadband access service and FWA using 4G and 5G network for all allocated IMT frequency band.

Table 2: Mandatory Key Quality Indicators for all allocated frequency bands.

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
i.	Download throughput per area (all technology)	This indicator measures the average data transfer rate in the downlink, measured throughout the entire connect time from the test server to the end user, in units of Megabits per second (Mbps). Formula: $$\frac{DL_1 + DL_2 + \ldots + DL_n}{Total\ connected\ download\ test\ sample\ for\ each\ state\ and\ federal\ territories}$$ where DL = download throughput per session	Download throughput for each state and federal territories for all technology (4G and 5G) shall be at or not less than 50 Mbps, averaged based on all test sample measured for each quarter.

Monitoring Key Quality Indicators

15. The Monitoring Key Quality Indicators in Table 3 below shall be applicable to the relevant Licensees that provide wireless broadband access service and FWA using 4G network (all allocated IMT frequency band) or 5G network (all allocated IMT frequency band other than 703 – 743 MHz, 758 – 798 MHz, 3.4 – 3.6 GHz and 26.5 – 28.1 GHz).

Table 3: Monitoring Key Quality Indicators.

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
i.	Upload Throughput	This indicator measures the average data transfer rate in the uplink, measured throughout the entire connect time from	Upload throughput for each location measured shall be at or not less than:

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
		the end user to the test server, in units of Megabits per second (Mbps). Formula: $$\frac{UL_1 + UL_2 + \ldots + UL_n}{Total\ connected\ upload\ test\ sample}$$ where $UL = upload\ throughput\ per\ session$	i. 1.0 Mbps until 31 December 2024; and ii. 1.3 Mbps from 1 January 2025 onwards, averaged based on all test sample.

16. The Monitoring Key Quality Indicators in Table 4 below shall be applicable to the relevant Licensees that provide wireless broadband access service and FWA using 5G network (including 5G anchor band), operating in the IMT frequency band 703 – 743 MHz, 758 – 798 MHz, 3.4 – 3.6 GHz and 26.5 – 28.1 GHz.

Table 4: Monitoring Key Quality Indicators for 5G only.

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
i.	Download Throughput	This indicator measures the average data transfer rate in the downlink, measured throughout the entire connect time from the test server to the end user, in units of Megabits per second (Mbps). Formula: $$\frac{DL_1 + DL_2 + \ldots + DL_n}{Total\ connected\ download\ test\ sample}$$ where $DL = download\ throughput\ per\ session$	Download throughput for each location measured shall be at or not less than 100 Mbps averaged based on all test sample.

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
ii.	Upload Throughput	This indicator measures the average data transfer rate in the uplink, measured throughout the entire connect time from the end user to the test server, in units of Megabits per second (Mbps). Formula: $$\frac{UL_1 + UL_2 + \ldots + UL_n}{Total\ connected\ upload\ test\ sample}$$ where $UL = upload\ throughput\ per\ session$	Upload throughput for each location measured shall be at or not less than: i. 5 Mbps for 5G standalone; and ii. 3 Mbps for 5G non-standalone, averaged based on all test sample.
iii.	Latency	This indicator measures the average round-trip time taken by a standard packet to traverse the network between the end user and the test server. Formula: $$\frac{RTT_1 + RTT_2 + \ldots + RTT_n}{Total\ packet\ successfully\ returned}$$ where $RTT = Round\ trip\ time\ per\ packet$	Latency shall be at or not more than 40 ms measured between the end user to the test server in Klang Valley averaged based on all test sample.
iv.	Packet Loss	This indicator measures the percentage of data packet transmitted that fails to arrive at its destination, between the end user and the test server. Formula: $$\frac{Total\ packet\ loss}{Total\ packet\ sent}\ x\ 100$$	Packet loss shall be at or not more than 0.25%, measured between the end user to the test server in Klang Valley.

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
v.	HTTP session time (web browsing)	This indicator measures the average time period needed to successfully complete a packet switched data session. This represents the time when the user enters the web page URL until the complete web page appears. Formula: $$\frac{WB_1 + WB_2 + \ldots + WB_n}{Total\ successful\ web\ browsing\ session}$$ where WB = *web browsing session completion time per session*	HTTP session time for each location measured shall be at or not more than 5 seconds averaged based on all test sample.
vi.	Video streaming access time	This indicator measures the average time of a service access from requesting the stream at the portal until the reception of the first stream data packet at the user equipment. This represents the time from when the user clicks a button to access the service to the point of time when the streams start to play. Formula: $$\frac{SA_1 + SA_2 + \ldots + SA_n}{Total\ connected\ streaming\ session}$$ where SA = *Streaming access time per session*	Video streaming access time for each location measured shall be at or not more than 6 seconds averaged based on all test sample.

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
vii.	Service Accessibility	This indicator measures the percentage of successful attempt ratio of user equipment to obtain service and establish connection to the server for download, upload, web browsing and video streaming. Formula: $\frac{Total\ successful\ attempt\ to\ establish\ connection}{Total\ attempt\ to\ establish\ connection} x\ 100$	The service accessibility ratio for all download, upload, web browsing and video streaming measurement shall be at or not less than 90% for each location.
viii.	PRB utilisation	This indicator measures the percentage of the average downlink PRB utilisation over one (1) busy hour window of each day, averaged over a one (1) month period, for every serving sector of gNodeB. Formula: $\frac{\sum_{day=1}^{day=N} Busy\ hour\ utilisation\ of\ each\ sector}{\sum_{day=1}^{day=N} Capacity\ of\ each\ sector} x\ 100$ Busy hour shall be determined based on the highest downlink resources utilised and the highest number of connected users over one (1) hour window.	Percentage of PRB utilisation per serving sector for each gNodeB shall be at or not more than 80.0% of every month. If there is non-compliance, the Licensees shall submit an approved rectification plan to the Commission within 14 days after the submission of the report.
ix.	Transport utilisation	This indicator measures the percentage of average downlink transport utilisation over one (1) busy hour window of each day, averaged over a one (1) month period, for each transport node.	Percentage of utilisation for each transport node shall be at or not more than 80.0% for every month. If there is non-compliance, the Licensees shall submit an approved rectification plan to the

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
		Each transport node for access layers (from gNodeB), aggregation layers, trunked and to the core network is measured separately. Formula: $$\frac{\sum_{day=1}^{day=N} Busy\ hour\ utilisation\ of\ each\ transport\ node}{\sum_{day=1}^{day=N} Capacity\ of\ each\ transport\ node} \ x\ 100$$ Busy hour shall be determined based on the highest downlink resources utilised, in any one (1) hour window.	Commission within 14 days after the submission of the report.
x.	POI utilisation	This indicator measures the percentage of average downlink POI utilisation over one (1) busy hour window of each day, averaged over a one (1) month period, for POI. Point of interconnection is the demarcated point for exchange traffic between 5G wholesale provider network and 5G access seekers network. Formula: $$\frac{\sum_{day=1}^{day=N} Busy\ hour\ utilisation\ of\ POI}{\sum_{day=1}^{day=N} Capacity\ of\ POI} \ x\ 100$$ Busy hour shall be determined based on the highest downlink resources utilised, in any one (1) hour window.	Percentage of utilisation shall be at or not more than 80.0% for every month for each state and national POI. If there is non-compliance, the Licensees shall submit an approved rectification plan to the Commission within 14 days after the submission of the report.

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
xi.	Core Network utilisation	This indicator measures the percentage of average downlink core network utilisation over one (1) busy hour window of each day, averaged over a one (1) month period, for each service impacting network element or functions in the 5G Core (5GC). Formula: $$\frac{\sum_{day=1}^{day=N} Busy\ hour\ utilisation\ of\ core\ network}{\sum_{day=1}^{day=N} Capacity\ of\ core\ network} x\ 100$$ Busy hour shall be determined based on the highest downlink resources utilised, in any one (1) hour window.	Percentage of each core network utilisation shall be at or not more than 80.0% for every month. If there is non-compliance, the Licensees shall submit an approved rectification plan to the Commission within 14 days after the submission of the report.
xii.	Network Availability (access and aggregation)	This indicator measures the percentage of time the network is able to deliver service to the end user. Network shall be considered available if the gNodeB can provide service (Radio Bearer) between the end user and the core network. Formula: $$\frac{Measured\ Time_A - UAT}{Measured\ Time_A} x\ 100$$ where $UAT = Unavailable\ time\ in\ minutes$ $Measured\ Time_A = Total\ measurement\ time\ in\ minutes\ for\ all\ access\ and\ aggregation$	Percentage of network availability (access and aggregation) shall be at or not less than 99.70% for each quarter.

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
xiii.	POI availability	This indicator measures the percentage of time the POI delivers services. Formula: $$\frac{Measured\ Time_P - UAT}{Measured\ Time_P}\ x\ 100$$ where $UAT = Unavailable\ time\ in\ minutes$ $Measured\ Time_P = Total\ measurement\ time\ in\ minutes\ for\ POI$	Percentage of each POI availability shall be at or not less than 99.97% for each quarter.
xiv.	Core Network availability	This indicator measures the percentage of time the core network is able to deliver service. This includes any service impacting network element or network function in 5G Core (5GC). Formula: $$\frac{Measured\ Time_C - UAT}{Measured\ Time_C}\ x\ 100$$ where $UAT = Unavailable\ time\ in\ minutes$ $Measured\ Time_C = Total\ measurement\ time\ in\ minutes\ for\ core\ network$	Percentage of a core network availability shall be at or not less than 99.97% for each quarter.

Monitoring Key Quality Indicators for 5G wholesale provider

17. The Monitoring Key Quality Indicators in Table 5 below shall be applicable to the 5G wholesale provider or any entities that provide 5G access network, operating in the IMT frequency band 703 – 743 MHz, 758 – 798 MHz, 3.4 – 3.6 GHz and 26.5 – 28.1 GHz. The data for these Key Quality Indicators shall be obtained from the 5G network statistics.

Table 5: Monitoring Key Quality Indicators for 5G network statistics

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
i.	Download Throughput	This indicator measures the volume of downloaded data traffic per second to the end user.	Mean download throughput for each service provider shall be at or not less than 100 Mbps calculated via network statistic from the regional or national POI to the end user.
ii.	Upload Throughput	This indicator measures the volume of uploaded data traffic per second from the end user.	Mean upload throughput for each service provider shall be at or not less than: i. 5 Mbps for 5G standalone; and ii. 3 Mbps for 5G non-standalone, calculated via network statistic from the end user to the regional or national POI.
iii.	Latency	This indicator measures the average round-trip time taken by a standard packet to traverse the network between the end user and the regional or national POI.	Mean latency for each service provider calculated via network statistic shall be at or not more than: i. 35 ms, between the end user to the national POI; or ii. 15 ms, between the end user to the regional POI.

No.	Key Quality Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality Standard
iv.	Packet Loss	This indicator measures the percentage of data packet transmitted that fails to arrive at its destination, between the end user and the regional or national POI.	Packet loss for each service provider shall be at or not more than 0.25% calculated via network statistics between the end user to the regional or national POI.
v.	Service Accessibility	This indicator measures the percentage of probability that a service can be obtained when requested by the user. Network statistics calculate the ratio of successful end user registration, to the number of attempts.	Service accessibility for each service provider shall be at or not less than 99.0% calculated via network statistic.

Revocation and transitional

18. The Commission Determination on the Mandatory Standards for Quality of Service (Wireless Broadband Access Service), Determination No. 2 of 2021 shall be revoked with effect from 1 April 2024. For avoidance of doubt, all actions under investigation initiated, actions taken and/or decisions made, under the aforesaid revoked Determination, shall continue to be valid and effective in relation to whom they apply, until discontinued or revoked, as the case may be.

Made on 29 December 2023

TAN SRI MOHAMAD SALIM BIN FATEH DIN
Chairman
Malaysian Communications and Multimedia Commission