



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 2021

Pursuant to the Ministerial Direction on Quality of Service, 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 2021**.
2. This Determination shall come into operation on 1 August 2021.

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:

"ASP" means Applications Service Provider;

"end user" means a person who receives, requires, acquires, uses or subscribes to the public cellular service and may include a customer;

“FDD” means frequency division duplex;

“FWA” means Fixed Wireless Access;

“guidelines” means a guideline issued by the Commission pursuant to paragraph 8 of this Determination;

“LTE” means Long Term Evolution;

“NSP” means Network Service Provider;

“PRB” means Physical Resource Block;

“service provider” means an Applications Service Provider or a Network Service Provider which provide wireless broadband access service;

“TDD” means time division duplex; 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. All NSPs and ASPs providing wireless broadband access service are subject to the mandatory standards specified in this Determination (“**Mandatory Standards**”). NSPs and ASPs should ensure that other providers who can affect the quality of service provided by the NSPs and ASPs are bound by a service level agreement which enables the NSPs and ASPs to meet these Mandatory Standards.

Obligation to maintain quality of service records

5. The relevant NSPs and ASPs shall maintain complete and accurate performance records of all quality of service indicators stated in these Mandatory Standards.

Quality of service performance report submission

6. Quality of service performance 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 other person that holds an equivalent designation) of the service provider duly authorised by the board of directors, stating that each report is true and accurate.

Audit and verification

7. The Commission may, from time to time, conduct audits on the reports submitted, perform broadband measurements or make service observations, to verify NSPs and ASPs' compliance with these Mandatory Standards.

Applicable guidelines

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

Network performance quality of service

	Quality of Service Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality of Service Standard
i.	Network Latency	<p>This indicator measures the round-trip time taken by a standard packet to travel across the network between the end user and the test server.</p> <p>Formula:</p> $\frac{\text{Number of test samples} \leq \text{QoS latency standards}}{\text{Total number of test samples}} \times 100\%$	Network latency shall be at or not more than 150ms, 90% of the time based on test sample.

	Quality of Service Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality of Service Standard
ii.	Download Throughput (Broadband Speed)	<p>This indicator measures the speed of downloading data measured in units of megabits per second (Mbps) between the end user and test server.</p> <p>Formula:</p> $\frac{\text{Number of test samples} \geq \text{QoS throughput standards}}{\text{Total number of test samples}} \times 100\%$	<p>a) Download throughput for wireless broadband service for both TDD and FDD technology shall be at or not less than 2.5Mbps, 90.0% of the time, based on test sample.</p> <p>b) Download throughput for FWA service shall be at or not less than 25Mbps, 90% of the time, based on test sample.</p>
iii.	Packet Loss	<p>This indicator measures the percentage of data packets transmitted from the source that fails to arrive at their destinations. It is calculated based on the average of sample measurements between the end user and test server.</p> <p>Formula:</p> $\frac{\text{Total number of packet loss}}{\text{Total number of packet sent}} \times 100\%$	<p>Packet loss must be not more than 0.5 %, calculated based on the test sample.</p>
iv.	Network Utilization	<p>This indicator measures the percentage of utilization (including but not limited to PRB, backhaul, aggregation layer, etc.) in LTE network (per base station/eNodeB). PRB is calculated based on the aggregated utilization for each LTE eNodeB and backhaul or aggregated layer is calculated based on each transmission.</p>	<p>Monthly average percentage of network utilization per base station for the duration of 3 months (quarterly), shall not be more than 80% and shall be rectified within 7 days.</p>

Revocation and transitional

9. The Commission Determination on the Mandatory Standards for Quality of Service (Wireless Broadband Access Service), Determination No. 1 of 2016 shall be revoked with effect from 1 August 2021. For avoidance of doubt, all actions under investigation initiated, actions taken and/or decisions made, under the 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 16 July 2021



DR. FADHLULLAH SUHAIMI ABDUL MALEK
Chairman
Malaysian Communications and Multimedia Commission