



**SURUHANJAYA KOMUNIKASI DAN MULTIMEDIA MALAYSIA
MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION**

**GUIDELINE ON THE TESTING PROCEDURE FOR ENDPOINT
SERVICE AVAILABILITY AND DROPPED CALLS**

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AVAILABILITY AND DROPPED CALLS

1. OBJECTIVE AND SCOPE

1.1 This guideline is developed by the Malaysian Communications and Multimedia Commission (the "Commission") pursuant to paragraph 18 of the **Variation to the Commission Determination on the Mandatory Standards for Quality of Service (Public Cellular Service) (Determination No. 2 of 2002), Determination No. 1 of 2013** ("the Mandatory Standard"). It sets out the testing procedure (the drive test and the static test) for the endpoint service availability ("ESA") standard and the dropped call ("DC") standard respectively.

1.2 The Mandatory Standard was put in place to ensure that minimum standards of quality of service are adhered to by applications service provider class licensees, providing public cellular services ("PCS Providers").

1.3 The following standards are imposed by the Commission in the Mandatory Standard:-

(a) The ESA rate shall not be less than 95% and is described as:

$$\frac{\text{Number of Successful Call Attempts}}{\text{Number of Call Attempts}} \times 100\%$$

(b) The DC rate shall not be more than 3% and is described as:

$$\frac{\text{Number of dropped calls}}{\text{Number of succesful call attempts}} \times 100\%$$

- 1.4 Number of successful call attempts means the number of call attempts minus the number of blocked calls. A blocked call means that the call failed to be established due to no available resources or no alerting within the call setup timeout.
- 1.5 This guideline provides information on how the tests to establish the ESA and DC rates will be carried out in order to determine compliance with the Mandatory Standard by the PCS Providers.

2. TEST PROCEDURES FOR MEASUREMENT OF COMPLIANCE

A) General

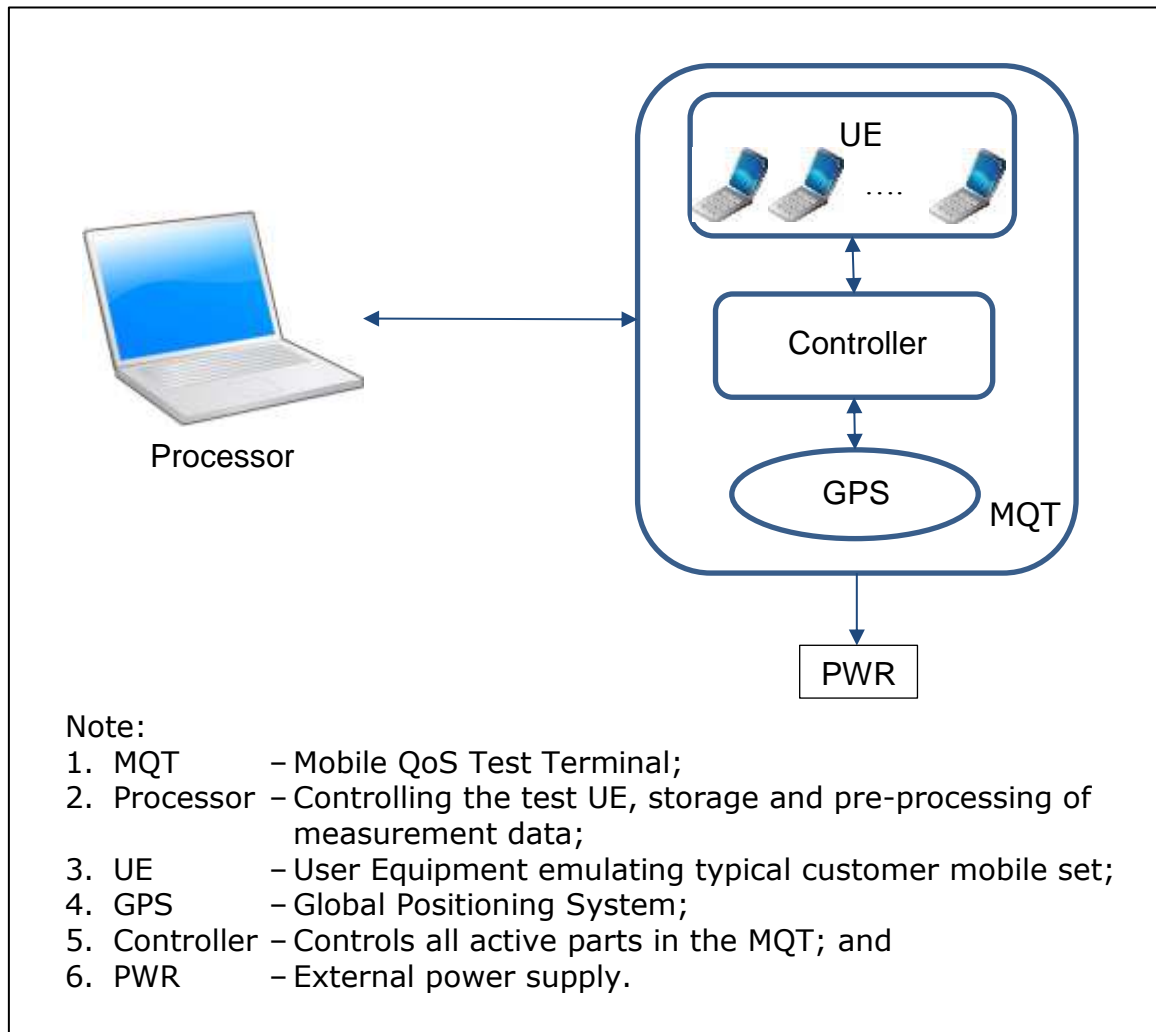
- 2.1 The tests to measure the compliance with the standards on the ESA and the DC shall be by way of the drive test, the static test or both (drive and static) tests. The Commission will, at its sole discretion, decide on which test should be conducted.
- 2.2 These tests will be carried out by the Commission or the Commission's appointed consultant in accordance with this guideline. However, the Commission may, at its sole discretion, request the PCS Providers to conduct the tests, if necessary.

B) Route or Location Identification

- 2.3 The tests are to be carried out along routes (for the drive test) or locations (for the static test) that have been ascertained to have cellular coverage.
- 2.4 Cellular coverage will be ascertained in the following manner:
 - (a) confirmation from the public cellular service providers; or
 - (b) through the coverage information advertised by the public cellular service providers; or
 - (c) through the network indicator display on test phones.

C) Testing parameters

2.5 The test set up configuration is as shown below:



2.6 The test call number will be a switch terminating number (for inter and intra network testing) i.e. the test will only measure the ESA and DC rates of the mobile originated call network.

2.7 The tests would be based on the following parameters:

- (a) Call holding time = 180 seconds
- (b) Interval time = 30 seconds
- (c) Call setup timeout = 20 seconds
- (d) Test samples = minimum of 50 samples

Note: Call window = 230 seconds

(call holding time + interval time + call setup timeout)

- 2.8 The software/measurement tools used for the tests shall be in compliance with the relevant European Telecommunications Standards Institute (ETSI)'s standards.
- 2.9 For the purposes of multi-network testing, the test call windows must be synchronized. If there are calls that have failed or dropped, the next call attempt shall be made only when the next call window arrives.
- 2.10 Geographical positioning will be based on the Global Positioning System (GPS) and the WGS-84 digital map or its equivalent.

3 EFFECTIVE DATE

- 3.1 This guideline shall come into effect on 9 July 2013, and shall continue to be effective unless modified, varied or revoked by the Commission.

4 COMMISSION CONTACT

- 4.1 For any queries and further information on this guideline please contact:
The Infrastructure Development and Standard Division (IDSD)
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References:

1. ETSI TS 102 250-5: Speech Processing, Transmission and Quality Aspects (STQ); QoS aspects for popular services in GSM and 3G networks; Part 5: Definition of typical measurement profiles;
2. ETSI TS 102 250-2: Speech Processing, Transmission and Quality Aspects (STQ), QoS aspects for popular services in GSM and 3G networks; Part 2: Definition of Quality of Service parameters and their computation; and
3. MTFSB 009: 2005 document on Quality of service for voice, short messaging service and packet-switched traffic for public cellular services.