

## Unofficial Translation

(DRAFT)

### Notification of the National Broadcasting and Telecommunications Commission

on Technical Standards of User Equipment

in Cellular Land Mobile Service Using GSM-R Technology

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Whereas it is deemed appropriate to prescribe technical standards of user equipment in cellular land mobile service using Global System for Mobile Communications-Railway (GSM-R) technology in order to keep pace with the advancement of current technology and to support railway transportation;

Pursuant to Section 27 (10) and (24) and Section 81 of the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunication Services, B.E. 2553 (2010), in conjunction with Section 32 of the Telecommunications Business Act B.E. 2544 (2001) and Section 29 (4) of the Radiocommunications Act B.E. 2498 (1955), the National Broadcasting and Telecommunications Commission hereby issues a Notification as follows:

1. This Notification shall come into force as from the day following the date of its publication in the Royal Thai Government Gazette.
2. All other notifications, rules, regulations and orders, insofar as they deal with matters provided herein or are contrary hereto or inconsistent herewith, shall be replaced by this Notification.
3. Technical Standards of User Equipment in Cellular Land Mobile Service Using GSM-R Technology are detailed in the Technical Standards No. NBTC TS 10xx-256x appended hereto.

Issued on the xx day of xxx B.E. 25xx (20xx)

(Clinical Professor Sarana Boonbaichaiyapruck)

Chairman of the National Broadcasting and Telecommunications Commission



# Technical Standards for Telecommunication Equipment

NBTC TS 10XX – 256X

User Equipment  
in Cellular Land Mobile Service  
with GSM-R Technology

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NBTC TS 10XX – 256X  
User Equipment in Cellular Land Mobile Service Using GSM-R Technology

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**Technical Standards for Telecommunication Equipment**  
**NBTC TS 10XX – 256X**  
**User Equipment in Cellular Land Mobile Service Using GSM-R Technology**

**1. Scope**

These technical standards specify the minimum technical characteristics of user equipment in cellular land mobile service using Global System for Mobile Communications-Railway (GSM-R) technology.

**2. Operating Frequency**

Operating frequency of user equipment in cellular land mobile service with GSM-R technology shall comply with relevant National Broadcasting and Telecommunications Commission (NBTC) Notification on Frequency Plan or frequency specified by NBTC.

**3. Technical Requirements**

**3.1 Radio Frequency Requirements**

The technical requirements of user equipment in cellular land mobile service with GSM-R technology shall comply with the following standard:

ETSI EN 301 511: V12.5.1 or newer version	Global System for Mobile communications (GSM); Mobile Stations (MS) equipment; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
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**3.2 Electrical Safety Requirements**

The electrical safety requirements of user equipment in cellular land mobile service with GSM-R technology shall comply with one of the following standards:

- |       |  |   |
|-------|--|---|
| 3.3.1 | IEC 60950-1 :                                | Information Technology Equipment – Safety – Part 1: General Requirements                      |
| 3.3.2 | TIS 1561 – 2556 :<br>or current version      | Information Technology Equipment -Safety: General Requirements                                |
| 3.3.3 | IEC 62368–1 :                                | Audio/Video, information and Communication technology equipment - Part 1: Safety Requirements |
| 3.3.4 | TIS 62368 Part 1-2563:<br>or current version | Audio/Video, information and Communication technology equipment - Part 1: Safety Requirements |

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### 3.3 Radiation Exposure Requirements

The use of user equipment in cellular land mobile service using GSM-R technology shall comply with the safety standard for the use of radiocommunication equipment on human health and safety criteria and measure for the use of radiocommunication equipment on human health prescribed by NBTC.

### 4. Conformity with the Standard

The user equipment in cellular land mobile service using GSM-R technology shall present its conformity with these standards. It shall be regarded as telecommunication equipment Type B prescribed in the Notification of the National Telecommunication Commission on Conformity Assessment of Telecommunication Equipment.

In addition, the conformity with the electrical safety standards shall apply to secondary batteries that are either installed in telecommunication equipment or contained in a package of such telecommunication equipment. It shall conform to either the TIS 2217-2548 or current version or the IEC 62133 standard.

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- Note :**
1. TIS 2217-2548: Secondary cells and batteries containing alkaline or other non-acid electrolytes - safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications
  2. IEC 62133: Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications
  3. As for user equipment in cellular land mobile service using GSM-R technology that is not considered as portable or handheld and for its batteries that are either installed in user equipment or contained in a package of such equipment, NBTC, in a way that is appropriate to the particular circumstance, may define electrical safety requirement on a case-by-case basis.

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**Reference**

1. ETSI EN 301 511 (V12.5.1): Global System for Mobile communications (GSM); Mobile Stations (MS) equipment; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
2. ETSI TS 151 010-1 (V12.8.0): Digital Cellular Telecommunications System (Phase 2+) (GSM); Mobile Station (MS) Conformance Specification; Part 1: Conformance Specification (3GPP TS 51.010-1)
3. ETSI TS 102 933-1: Railway Telecommunications (RT); GSM-R improved receiver parameters; Part 1: Requirements for radio reception
4. IEC 60950-1: Information Technology Equipment – Safety – Part 1: General Requirements
5. TIS 1561 – 2556: Information Technology Equipment -Safety: General Requirements
6. IEC 62368–1: Audio/Video, information and Communication technology equipment - Part 1: Safety Requirements
7. TIS 62368 Part 1-2563: Audio/Video, information and Communication technology equipment - Part 1: Safety Requirements
8. TIS 2217-2548: Secondary cells and batteries containing alkaline or other non-acid electrolytes - safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications
9. IEC 62133: Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications