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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 21288-2022

Replacing GB 21288-2007

**Limits for human exposure to electromagnetic fields emitted by
mobile communication terminals**

移动通信终端电磁辐射暴露限值

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 Directives for standardization - Part

1. Rules for the structure and drafting of standardizing documents. This document replaces GB 21288-2007 Limits for human local exposure to electromagnetic fields emitted by mobile phones. Compared with GB 21288-2007, except for the structural adjustment and editorial revisions, the main technical changes are as follows: -- The name of the document is changed from "Limits for human local exposure to electromagnetic fields emitted by mobile phones" to "Limits for human exposure to electromagnetic fields emitted by mobile communication terminals"; -- The scope of application is changed from "mobile phones used close to the head" to "mobile communication terminal equipment operating at 100 kHz~300 GHz and within 20 cm of the human body during use, such as mobile phones, cordless group telephones, satellite mobile terminals, wearable devices, and portable mobile terminals" (see Chapter 1); -- The definition of occupational exposure is added (see 3.2); -- The definition of absorbed power density is added (see 3.5); -- The exposure limits applicable to different frequencies and different body parts are added (see Chapter 5); -- The labeling content in the product manual is changed, and the annotation to the product manual is added (see Chapter 6; see Chapter 4 of the 2007 edition). This document was proposed and shall be under the jurisdiction of the Ministry of Industry and Information Technology of the People's Republic of China. The publication of previous versions of this document and the documents it replaces are as follows: -- In 2007, it was first released as GB 21288-2007; -- This is the first revision.

1 Scope

GB 21288-2022 is the Chinese national standard on limits for human exposure to

electromagnetic fields emitted by mobile communication terminals, in the field of environment and health protection, safety. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 29 December 2022 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 January 2024. Classification: ICS 13.280, CCS C71. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies limits for exposure to electromagnetic radiation of mobile communication terminals connected to public telecommunication networks. This document is applicable to mobile communication terminal equipment operating at 100 kHz~300 GHz and within 20 cm of the human body during use. NOTE. The mobile communication terminal equipment involved in this document includes but is not limited to mobile phones, cordless group telephones, satellite mobile terminals, wearable devices, portable mobile terminals, etc.

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 public exposure Under uncontrolled conditions, the exposure that is undergone by individuals, who are of various ages, in different health conditions, not aware of the occurrence of exposure and the harm to their bodies, and cannot effectively take protective measures.

3.3 electromagnetic radiation The phenomenon in which energy is emitted from a source into space in the form of electromagnetic waves.

3.4 specific absorption rate SAR It is electromagnetic wave energy (dW) absorbed by biological tissue per unit time (dt) and unit mass (dm or ρdV), as shown in formula (1).

4 Abbreviations

The following abbreviation applies to this document.

5 Basic limits for exposure to electromagnetic radiation

5.1 Basic limits for exposure to electromagnetic radiation of mobile communication

terminals

5.2 Public exposure

5.2.1 In the frequency range of 100 kHz~6 GHz, the average specific absorption rate (SAR) of local exposure (head and torso) of any 10 g tissue and any continuous 6 min shall not exceed 2 W/kg.

5.2.2 In the frequency range of 100 kHz~6 GHz, the average specific absorption rate (SAR) of local exposure (limbs) of any 10 g tissue and any continuous 6 min should not exceed 4 W/kg.

5.3 Occupational exposure

5.3.1 In the frequency range of 100 kHz~6 GHz, the average specific absorption rate (SAR) of local exposure (head and torso) of any 10 g tissue and any continuous 6 min shall not exceed 10 W/kg.

5.4 Total exposure ratio When there is public and occupational exposure to multiple frequencies of electric fields, magnetic fields, and electromagnetic fields, it shall be comprehensively calculated whether the exposure to multiple frequencies of electric fields, magnetic fields, and electromagnetic fields has a superimposed effect. When there is a superposition effect, the requirements of formula (6) shall be met within the frequency range of 100 kHz~300 GHz.

6 Labeling requirements

6.1 For the applicable exposure state1) of the product, the product identification shall meet the following requirements.