

ICS 33.100
CCS M 04

YD

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

YD/T 1484.6-2013

**Measurement method for radiated RF power and receiver
performance of wireless device. Part 6: LTE wireless device
(English Translation)**

Issued on: December 20, 2012

Implemented on: February 1, 2012

Issued by: Ministry of Industry and Information Technology of the PRC

Table of Contents

Foreword...	4
Introduction...	5
1 Scope...	7
2 Normative references...	8
3 Terms and definitions...	8
4 Symbols and abbreviated terms...	13
4.1 Physical quantities...	13
4.2 Constants...	13
4.3 Abbreviations...	13
5 Measurement system specifications...	14
5.1 General requirements...	14
5.2 Phantom specifications (shell and liquid)...	15
5.3 Measurement instrumentation system specifications...	18
6 Protocol for SAR evaluation...	20
6.1 Measurement preparation...	20
6.2 Tests to be performed...	34
6.3 Measurement procedure...	39
6.4 Post-processing...	44
7 Uncertainty estimation...	45
7.1 General considerations...	45
7.2 Components contributing to uncertainty...	47
7.3 Uncertainty estimation...	72
8 Measurement report...	79
8.1 General...	79
Annex A (informative) Phantom rationale...	82
Annex B (normative) Measurement system verification...	86
Annex C (informative) Fast SAR testing...	98

Foreword

This Part is one of "Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - human models, instrumentation, and

procedures", which is intended to consist of the following parts.

- Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 1. Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz);
- Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 2. Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz).

This Part is identical to International Electrotechnical Commission IEC 62209-2 (1st version, March 2010) "Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 2. Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)".

This Part is proposed and is under the jurisdiction of China Communications Standards Association.

Drafting organizations of this Part. Institute of Telecommunications under Ministry of Industry and Information Technology of the PRC, China Mobile Communications Corporation, China Telecommunications Corporation, Huawei Technology Co., Ltd., Nokia Communications Co., Ltd., Hangzhou Motorola Mobile Communication Device Co., Ltd., Nanjing Ericsson Panda Communication Co., Ltd.

Main drafters of this Part. Qi Dianyan, Lin Hao, Sun Qian, Lin Jun, Yang Jun.

Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 2. Procedure

to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)

1 Scope

This Part is applicable to any wireless communication device capable of transmitting electromagnetic fields (EMF) intended to be used at a position near the human body, in the manner described by the manufacturer, with the radiating part(s) of the device at distances up to and including 200 mm from a human body, i.e. when held in the hand or in front of the face, mounted on the body, combined with other transmitting or non-transmitting devices or accessories (e.g. belt-clip, camera or Bluetooth add-on), or embedded in garments. For transmitters used in close proximity to the human ear, the procedures of YD/T 1644.1 (IEC 62209-1:2005) are applicable.

This Part is applicable for radio frequency exposure in the frequency range of 30 MHz to 6 GHz, and may be used to measure simultaneous exposures from multiple radio sources used in close proximity to human body. Definitions and evaluation procedures are provided for the following general categories of device types: body-mounted, body-supported, desktop, front-of-face, hand-held, laptop, limb-mounted, multi-band, push-to-talk, clothing-integrated. The types of devices considered include but are not limited to mobile telephones, cordless microphones, auxiliary broadcast devices and radio transmitters in personal computers.

This Part gives guidelines for a reproducible and conservative measurement methodology for determining the compliance of wireless devices with the SAR limits. Because studies suggest that exclusion of features to represent a hand in human models constitutes a conservative case scenario for SAR in the trunk and the head, a representation of a hand is not included if the device is intended to be used next to the head or supported on or near the torso [73], [80]. This Part does not apply for exposures from transmitting or non-transmitting implanted medical devices. This Part does not apply for exposure from devices at distances greater than 200 mm away from

the human body.

This Part makes cross-reference to YD/T 1644.1 (IEC 62209-1.2005) where complete clauses or subclauses apply, along with any changes specified.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

YD/T 1644.1-2007 Human exposure to radio frequency fields from...

.....