

**ElectroMagnetic Compatibility (EMC)
standard for radio equipment and services;
Part 50: Specific conditions for Cellular Communication
Base Station (BS), repeater and ancillary equipment;
Harmonised Standard for ElectroMagnetic Compatibility
(ETSI EN 301 489-50 V2.3.1 (2021-03))**

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ÖVE/ÖNORM EN 301 489-50 V2.2.1:2019-06-01.

ETSI EN 301 489-50 V2.3.1 (2021-03)



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Foreword

This Harmonised European Standard (EN) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.15] to provide one voluntary means of conforming to the essential requirements of Directive 2014/53/EU on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC [i.1].

Once the present document is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of the present document given in table A.1 confers, within the limits of the scope of the present document, a presumption of conformity with the corresponding essential requirements of that Directive and associated EFTA regulations.

National transposition dates	
Date of adoption of this EN:	9 March 2021
Date of latest announcement of this EN (doa):	30 June 2021
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 December 2021
Date of withdrawal of any conflicting National Standard (dow):	31 December 2022

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

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1 Scope

The present document specifies technical characteristics and methods of measurements in respect of ElectroMagnetic Compatibility (EMC) for the following equipment types:

- 1) digital cellular base station equipment, including BS with antenna ports and BS without antenna ports;
- 2) repeaters;
- 3) associated ancillary equipment.

Including individual and combinations of technologies listed in table 1.

Table 1: Cellular Mobile Communication Technologies

Technology (Air technology)	Technology Generation	Standard SET	ETSI Standard
GSM (GSM/EDGE)	2G/3G	IMT-2000 SC (single carrier)	ETSI EN 301 502 [8] ETSI TS 137 104 [21] ETSI TS 137 141 [12]
CDMA 2000	3G	CDMA2000 (IMT-MC multi carrier)	ETSI EN 301 526 [i.2] ETSI EN 301 908-5 [i.7] ETSI EN 301 908-7 [i.8] ETSI EN 301 449 [i.11] ETSI EN 302 426 [i.12]
UMTS (UTRA, W-CDMA)	3G	IMT-2000 Direct Spread	ETSI TS 125 104 [i.3] ETSI TS 125 105 [i.4] ETSI TS 125 106 [i.5]
LTE (see note 1) (E-UTRA)	4G	IMT-advanced	ETSI TS 136 104 [5] ETSI TS 136 141 [6] ETSI TS 136 106 [i.6] ETSI TS 136 143 [25]
LTE (see note 1) (E-UTRA), AAS	4G	IMT-advanced	ETSI TS 136 104 [5] ETSI TS 137 114 [31] ETSI TS 137 145-1 [13] ETSI TS 137 145-2 [14]
MSR (see note 2) AAS	4G	IMT-advanced	ETSI TS 137 104 [21] ETSI TS 137 141 [12] ETSI TS 137 114 [31] ETSI TS 137 145-1 [13] ETSI TS 137 145-2 [14]
WMAN (OFDMA)	3G	IMT-2000 OFDMA	ETSI EN 301 908-22 [16]
NR OTA	5G	IMT-advanced	ETSI TS 138 104 [20] ETSI TS 138 141-1 [10] ETSI TS 138 141-2 [17]
Standalone NB-IoT	4G	IMT-2000	ETSI TS 136 104 [5]

NOTE 1: Including LAA, inband NB-IoT or guard band NB-IoT.
NOTE 2: Combination of technologies GSM, W-CDMA, LTE and NR.

Technical specifications related to the antenna port and emissions from the enclosure port of Base Station (BS), combinations of radio and associated ancillary equipment or repeaters are not included in the present document. Such technical specifications are found in the relevant product standards for the effective use of the radio spectrum.

The environmental classification and the emission and immunity requirements used in the present document are as stated in ETSI EN 301 489-1 [1], except for any special conditions included in the present document.

NOTE: The relationship between the present document and essential requirements of article 3.1(b) of Directive 2014/53/EU [i.1] is given in Annex A.