



# SLOVENSKI STANDARD

## SIST ETS 300 682:1998

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### Radijska oprema in sistemi (RES) - Standard elektromagnetne združljivosti (EMC) opreme internega osebne klica

Radio Equipment and Systems (RES); ElectroMagnetic Compatibility (EMC) standard for On-Site Paging equipment

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33.100.01	Elektromagnetna združljivost na splošno	Electromagnetic compatibility in general

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**ElectroMagnetic Compatibility (EMC) standard for**  
**On-Site Paging equipment**

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## Foreword

This European Telecommunication Standard (ETS) has been produced by the European Telecommunications Standards Institute (ETSI) in response to a mandate from the European Commission issued under Council Directive 83/189/EEC (as amended) laying down a procedure for the provision of information in the field of technical standards and regulations.

This ETS is intended to become a Harmonized Standard, the reference of which will be published in the Official Journal of the European Communities referencing the Council Directive on the approximation of the laws of the Member States relating to electromagnetic compatibility ("the EMC Directive") (89/336/EEC as amended).

Technical specifications relevant to the EMC Directive are given in annex A.

Other ETSs cover radio communication equipment not listed in the scope.

This ETS is based on EN 50081-1 [2] and EN 50082-1 [3] and other standards where appropriate.

<b>Transposition dates</b>	
Date of adoption:	6 June 1997
Date of latest announcement of this ETS (doa):	30 September 1997
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 March 1998
Date of withdrawal of any conflicting National Standard (dow):	31 March 1998

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## 1 Scope

This European Telecommunication Standard (ETS) covers the assessment of on-site paging equipment and ancillary equipment, used in privately owned and operated paging systems, in respect of ElectroMagnetic Compatibility (EMC). Technical specifications related to the antenna port and emissions from the enclosure port of the radio equipment are not included in this ETS. Such technical specifications are found in the radio product standard ETS 300 224 [1].

This ETS specifies the applicable EMC tests, the method of measurements, the limits and the minimum performance criteria for on-site paging equipment, as specified in ETS 300 224 [1], operating on frequencies between 9 kHz and 470 MHz and the associated ancillary equipment.

The environment classification used in this ETS refers to the environment classification used in the Generic Standards EN 50081-1 [2], EN 50082-1 [3].

The EMC requirements have been selected to ensure an adequate level of compatibility for apparatus at residential, commercial and light industrial environments. The levels however, do not cover extreme cases which may occur in any location but with low probability of occurrence.

This ETS may not cover those cases where a potential source of interference which is producing individually repeated transient phenomena or a continuous phenomena is permanently present, e.g. a radar or broadcast site in the near vicinity. In such a case it may be necessary to use special protection applied to either the source of interference or the interfered part or both.

Compliance of radio equipment to the requirements of this ETS does not signify compliance to any requirements related to spectrum management or any requirement related to the use of the equipment (licensing requirements).

Compliance to this ETS does not signify compliance to any safety requirements. However, it is the responsibility of the assessor of the equipment that any observation regarding the equipment becoming dangerous or unsafe as a result of the application of the tests of this ETS should be recorded in the test report.

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## 2 Normative references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] ETS 300 224: "Radio Equipment and Systems (RES); On-site paging service Technical and functional characteristics for on-site paging systems, including test methods".
- [2] EN 50081-1: "Electromagnetic compatibility - Generic emission standard. Part 1: Residential, commercial and light industry".
- [3] EN 50082-1: "Electromagnetic compatibility - Generic immunity standard. Part 1: Residential, commercial and light industry".
- [4] 89/336/EEC: "Council Directive on the approximation of the laws of the Member States relating to electromagnetic compatibility".
- [5] EN 55022 (1994): "Limits and methods of measurement of radio disturbance characteristics of information technology equipment".
- [6] CISPR 16-1 (1993): "Specification for radio disturbance and immunity measuring apparatus and methods - Part 1: Radio disturbance and immunity measuring apparatus".

- [7] EN 61000-4-3: "Electromagnetic Compatibility (EMC) - Part 4: Testing and measurements techniques - Section 3: Radiated, radio-frequency, electromagnetic field immunity test".
- [8] EN 61000-4-2 (1995): "Electromagnetic Compatibility (EMC) - Part 4: Testing and measurements techniques - Section 2: Electrostatic discharge immunity test. Basic EMC publication".
- [9] EN 61000-4-4 (1995): "Electromagnetic Compatibility (EMC); Part 4: Testing and measurements techniques - Section 4: Electrical fast transient/burst immunity test. Basic EMC publication".
- [10] EN 61000-4-6 (1996): "Electromagnetic Compatibility (EMC) - Part 4: Testing and measurements techniques - Section 6: Immunity to conducted disturbances induced by radio-frequency fields".
- [11] EN 61000-4-11 (1994): "Electromagnetic Compatibility (EMC); Part 4: Testing and measurements techniques - Section 11: Voltage dips, short interruptions and voltage variations immunity tests".
- [12] EN 61000-4-5: "Electromagnetic Compatibility (EMC) - Part 4: Testing and measurements techniques - Section 5: Surge immunity test".

### 3 Definitions, abbreviations and symbols

#### 3.1 Definitions

For the purposes of this ETS, the following definitions apply:

**alignment range:** The frequency range over which the receiver or transmitter can be programmed and/or re-aligned to operate without any physical change of components other than programmable read only memories or crystals.

**ancillary equipment:** Equipment (apparatus), used in connection with a receiver, transmitter or transceiver is considered as an ancillary equipment (apparatus).

- if the equipment is intended for use in conjunction with a receiver, transmitter or transceiver to provide additional operational and/or control features to the radio equipment, (e.g. to extend control to another position or location); and
- if the equipment can not be used on a stand alone basis to provide user functions independently of a receiver, transmitter or transceiver; and
- if the receiver, transmitter or transceiver to which it is connected is capable of providing some intended operation such as transmitting and/or receiving without the ancillary equipment (i.e. it is not a sub-unit of the main equipment essential to the main equipment basic functions).

Examples of ancillary equipment to pocket paging receivers (transceivers) are single or multiple storage racks with or without absence/presence signalling.

**calling function:** Transmitting of a message via the base transmitter to the pocket receiver in order to alert and/or inform the carrier of the pocket receiver.

**enclosure port:** The physical boundary of the apparatus through which electromagnetic fields may radiate or impinge.

**manufacturer:** The legal entity under the terms of Council Directive 89/336/EEC [4] for placing the product on the market.

**on-site paging equipment:** A pocket receiver, a pocket transmitter, a pocket transceiver, a base transmitter or a base receiver, as defined in ETS 300 224 [1], used in a privately owned and operated paging system in a restricted and predefined area. The radio type of equipment operates in the frequency range 25 MHz to 470 MHz, and the loop type of equipment operates in the frequency range 16 kHz to 146 kHz.

**pocket receiver:** A stand alone pocket paging receiver or a receiver being part of a pocket paging transceiver.

**pocket transmitter:** A stand alone pocket paging transmitter using the return channel, or a transmitter being part of a pocket paging transceiver.

**port:** A particular interface, of the specified equipment (apparatus), with the electromagnetic environment (see figure 1).

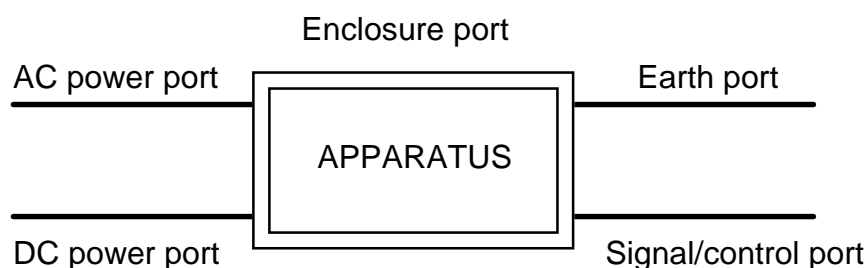


Figure 1: Examples of ports

**talk-back function:** Transmitting of a message from the pocket transmitter (normally combined in a transceiver) which is sent to a central receiver and further processed by the central processing unit.

### 3.2 Abbreviations

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For the purposes of this ETS, the following abbreviations apply:

CR	Continuous phenomena applied to Receivers
CT	Continuous phenomena applied to Transmitters
EMC	ElectroMagnetic Compatibility
EUT	Equipment Under Test
LISN	Line Impedance Stabilizing Network
RF	Radio Frequency
TR	Transient phenomena applied to Receivers
TT	Transient phenomena applied to Transmitters

### 3.3 Symbols

For the purposes of this ETS, the following symbols apply:

AC	Alternating Current
DC	Direct Current

## 4 Test conditions

### 4.1 General

The equipment shall be tested under conditions contained in the relevant product and basic standards or in the information accompanying the equipment, which are within the manufacturers declared range of humidity, temperature and supply voltage. The test conditions shall be recorded in the test report.

The test configuration shall be as close to normal intended use as possible and shall be recorded in the test report.