

ETSI EN 302 729-1 V1.1.2 (2011-05)

European Standard

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
Short Range Devices (SRD);
Level Probing Radar (LPR) equipment operating in the
frequency ranges 6 GHz to 8,5 GHz, 24,05 GHz to 26,5 GHz,
57 GHz to 64 GHz, 75 GHz to 85 GHz;
Part 1: Technical characteristics and test methods**

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Foreword

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

For non-EU countries, the present document may be used for regulatory (Type Approval) purposes.

The present document is part 1 of a multi-part deliverable covering Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Level Probing Radar (LPR) equipment operating in the frequency ranges 6 GHz to 8,5 GHz, 24,05 GHz to 26,5 GHz, 57 GHz to 64 GHz, 75 GHz to 85 GHz, as identified below:

Part 1: "Technical characteristics and test methods";

Part 2: "Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive".

National transposition dates

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Introduction

Clauses 1 and 3 provide a general description on the types of equipment covered by the present document and the definitions and abbreviations used.

Clause 2 provides the information on normative and informative reference documentation.

Clause 4 provides a guide as to the number of samples required in order that tests may be carried out, and any markings on the equipment which the provider should provide. It also includes the general testing requirements and gives the maximum measurement uncertainty values.

Clauses 5 and 6 give guidance on the test and general conditions for testing of the LPR device.

Clause 7 specifies the LPR spectrum utilization parameters which are required to be measured. The clauses provide details on how the equipment should be tested and the conditions which should be applied. It also includes information on applicable interference mitigation techniques for LPR.

- Annex A (normative) provides specifications concerning radiated measurements.
- Annex B (normative) provides specifications concerning conducted measurements.
- Annex C (informative) provides specifications concerning the installation requirements for LPR.
- Annex D (informative) covers information on recommended Measurement antenna and preamplifier specifications.
- Annex E (informative) contains information on the practical test distances for accurate measurements.
- Annex F (normative) provides the range of modulation schemes for LPR.
- Annex G (informative) contains information on atmospheric absorptions and material dependent attenuations In the frequency range between 40 GHz and 246 GHz.
- Annex H (informative) Bibliography covers other supplementary information.

Test and measurement limitations

The ERA report 2006-0713 [i.7] has shown that there are practical limitations on measurements of RF radiated emissions. The minimum radiated levels that can be practically measured in the lower GHz frequency range by using a radiated measurement setup with a horn antenna and pre-amplifier are typically in the range of about -70 dBm/MHz to -75 dBm/MHz (e.i.r.p.) to have sufficient confidence in the measured result (i.e. EUT signal should be at least 6 dB above the noise floor of the spectrum analyser and the measurement is performed under far-field conditions at a onemetre distance).

The present document therefore recognizes these difficulties and provides a series of radiated test methods suitable for the different LPR technologies.

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