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| <b>STN</b> | <b>Elektromagnetická kompatibilita a záležitosti rádiového spektra (ERM). Telematika v cestnej doprave a prevádzke (RTTT). Automobilové radarové zariadenia pracujúce vo frekvenčnom rozsahu od 24,05 GHz do 24,25 GHz alebo 24,50 GHz. Časť 1: Technické charakteristiky a skúšobné metódy.</b> | <b>STN<br/>EN 302 858-1<br/>V1.3.1</b><br><br>87 2858 |
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Electromagnetic compatibility and Radio spectrum Matters (ERM); Road Transport and Traffic Telematics (RTTT); Automotive radar equipment operating in the 24,05 GHz up to 24,25 GHz or 24,50 GHz frequency range; Part 1: Technical characteristics and test methods

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

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# ETSI EN 302 858-1 V1.3.1 (2013-11)



**Electromagnetic compatibility  
and Radio spectrum Matters (ERM);  
Road Transport and Traffic Telematics (RTTT);  
Automotive radar equipment operating in the  
24,05 GHz up to 24,25 GHz or 24,50 GHz frequency range;  
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.

Equipment compliant with the present document is intended for fitment into road vehicles, therefore it is subject to automotive EMC type approval and needs to comply with Directive 95/54/EC [i.3]. For use on vehicles outside the scope of Directive 95/54/EC [i.3] compliance with an EMC directive/standard appropriate for that use is required.

The present document is part 1 of a multi-part deliverable covering Electromagnetic compatibility and Radio spectrum Matters (ERM); Road Transport and Traffic Telematics (RTTT); Automotive radar equipment operating in the 24,05 GHz up to 24,25 GHz or 24,50 GHz frequency range, 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                                                           |                 |
|----------------------------------------------------------------------------------------|-----------------|
| Date of adoption of this EN:                                                           | 31 October 2013 |
| Date of latest announcement of this EN (doa):                                          | 31 January 2014 |
| Date of latest publication of new National Standard or endorsement of this EN (dop/e): | 31 July 2014    |
| Date of withdrawal of any conflicting National Standard (dow):                         | 31 July 2014    |

# 1 Scope

The present document specifies the technical requirements and methods of measurement for automotive radar equipment operating in the 24,05 GHz to 24,25 GHz frequency range or in the 24,05 GHz to 24,50 GHz frequency range intended for Narrow Band Short Range Radar (NB SRR) for Road Transport and Traffic Telematics (RTTT) applications such as Automotive Cruise Control (ACC), Collision Warning, Anti-Collision (AC) systems, obstacle detection, Stop and Go, blind spot detection, parking aid, precrash, backup aid and other safety relevant automotive applications.

The present document contains the technical characteristics and test methods for narrowband short range radar equipment fitted with integral antennas and applies to transmitters and receivers with integral antennas operating in all or part of the range from 24,05 GHz to 24,50 GHz.

The present document covers the basic NB SRR as provided by the EN 302 858-1 (V1.2.1) operating in the frequency range of 24,05 GHz to 24,25 GHz.

Additionally, the present document specifies the WLAM (Wideband Low Activity Mode) mode, operating from 24,05 GHz to 24,50 GHz. The operation of this mode is optional and specified in the normative annex B of the present document.

The present document does not necessarily include all the characteristics which may be required by a user, nor does it necessarily represent the optimum performance achievable.

The present document covers only NB SRR equipment for vehicles.

The present document complies with field limits for human exposure to electromagnetic fields as provided by the EC Recommendation 1999/519/EC [i.4] and the methods for compliance demonstration in EN 62479:2010 [i.5].

Table 1 shows the frequency bands as designated to narrow band short range radar devices.

**Table 1: Narrow band short range radar devices frequency of operation**

|                                     | Frequency Bands/frequencies | Applications                                          |
|-------------------------------------|-----------------------------|-------------------------------------------------------|
| Transmit and Receive                | 24,05 GHz to 24,25 GHz      | Short range radar for vehicle applications            |
| Transmit and Receive                | 24,05 GHz to 24,50 GHz      | Short range radar for vehicle applications (see note) |
| NOTE: For WLAM operation mode only. |                             |                                                       |

# 2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

## 2.1 Normative references

The following referenced documents are necessary for the application of the present document.

- [1] CISPR 16 (2006) (parts 1-1, 1-4 and 1-5): "Specification for radio disturbance and immunity measuring apparatus and methods; Part 1: Radio disturbance and immunity measuring apparatus".
- [2] ETSI TR 100 028 (V1.4.1) (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".



- [3] ETSI TR 102 273 (V1.2.1) (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Improvement on Radiated Methods of Measurement (using test site) and evaluation of the corresponding measurement uncertainties".
- [4] ETSI TS 103 051 (V1.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Expanded measurement uncertainty for the measurement of radiated electromagnetic fields".
- [5] ETSI TS 103 052 (V1.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Radiated measurement methods and general arrangements for test sites up to 100 GHz".

## 2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] CEPT/ERC Recommendation 70-03: "Relating to the use of Short Range Devices (SRD)".
- [i.2] CEPT/ECC Report #134 on analysis of potential impact of mobile vehicle Radars (vR) on Radar Speed Meters (RSM) operating at 24 GHz.
- [i.3] Commission Directive 95/54/EC of 31 October 1995 adapting to technical progress Council Directive 72/245/EEC on the approximation of the laws of the Member States relating to the suppression of radio interference produced by spark-ignition engines fitted to motor vehicles and amending Directive 70/156/EEC on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers.
- [i.4] Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz).
- [i.5] CENELEC EN 62479:2010: "Assessment of the compliance of low power electronic anelectrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz - 300 GHz)".
- [i.6] CEPT/ERC/REC 74-01: "Unwanted emissions in the spurious domain".
- [i.7] Recommendation ITU-R SM.328-10: "Spectra and Bandwidth of Emissions".
- [i.8] Recommendation ITU-R SM.329: "Variation of the boundary between the out-of-band and spurious domains".
- [i.9] Void.
- [i.10] CEPT/ECC Report #164: "Compatibility between wide band low activity mode (wlam) automotive radars in the frequency range 24.25 GHz to 24.5 GHz and other radiocommunication systems/services".

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**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**