

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
Narrow-band direct-printing telegraph equipment
for receiving meteorological or navigational
information (NAVTEX);
Part 3: Harmonized EN covering essential requirements of
article 3.3(e) of the R&TTE Directive**



Reference

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Foreword

This Harmonized European Standard (Telecommunications series) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM), and is now submitted for the ETSI standards One-step Approval Procedure.

The present document has been produced by ETSI in response to a mandate from the European Commission issued under Council Directive 98/34/EC [i.1] laying down a procedure for the provision of information in the field of technical standards and regulations.

The present document is intended to become a Harmonized Standard, the reference of which will be published in the Official Journal of the European Communities referencing the Directive 1999/5/EC [i.2] of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity ("the R&TTE Directive").

Technical specifications relevant to Directive 1999/5/EC [i.2] are given in annex A.

The present document is part 3 of a multi-part deliverable covering the Narrow-Band Direct-Printing telegraph equipment for receiving meteorological or navigational information (NAVTEX), as identified below:

- Part 1: "Technical characteristics and methods of measurement";
- Part 2: "Harmonized EN covering the essential requirements of article 3.2 of the R&TTE directive";
- Part 3: "Harmonized EN covering the essential requirements of article 3.3(e) of the R&TTE Directive".**

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	18 months after doa

1 Scope

The present document states the minimum requirements for a Narrow-Band Direct-Printing (NBDP) maritime receiver operating in the NAVTEX system.

The present document is intended to cover the provisions of Directive 1999/5/EC [i.2] (R&TTE Directive) article 3.3(e), which states that radio equipment within the scope of the present document shall be so constructed that: "it supports certain features ensuring access to emergency services".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of article 3 of the R&TTE Directive will apply to equipment within the scope of the present document.

NOTE: A list of such ENs is included on the web site <http://www.newapproach.org/>.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
 - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
 - for informative references.

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 indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

- | | |
|-----|--|
| [1] | ETSI EN 300 065-1 (V1.2.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Narrow-band direct-printing telegraph equipment for receiving meteorological or navigational information (NAVTEX); Part 1: Technical characteristics and methods of measurement". |
| [2] | ETSI TR 100 028 (V.1.3.1) (All parts): " Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics". |

2.2 Informative references

The following referenced documents are not essential to the use of the ETSI deliverable but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

- [i.1] Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations.
- [i.2] Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity (R&TTE Directive).

3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

NBDP	Narrow-Band Direct-Printing
SAR	Search and Rescue

4 Technical requirements specifications

4.1 Environmental profile

The technical requirements of the present document apply under the environmental profile for operation of the equipment, which shall be determined by the environmental class of the equipment. The equipment shall comply with all the technical requirements of the present document at all times when operating within the boundary limits of the required operational environmental profile.

4.2 General, operational and technical requirements

4.2.1 General and operational requirements

4.2.1.1 Composition

The equipment shall comply with the requirements of EN 300 065-1 [1], clause 4.1.

4.2.1.2 Receivers

Receivers that are part of the equipment shall comply with the requirements of EN 300 065-1 [1], clause 4.2.

4.2.1.3 Message handling

Messages received by the equipment shall be handled according to EN 300 065-1 [1], clause 4.3.

4.2.1.4 Alarms

The equipment shall generate alarms in accordance with EN 300 065-1 [1], clause 4.4.

4.2.1.5 Safety precautions

The equipment shall comply with the requirements of EN 300 065-1 [1], clause 4.5.

4.2.1.6 Integrated printing device

The equipment incorporating an integrated printing device shall comply with the requirements of EN 300 065-1 [1], clause 7.

4.2.1.7 Dedicated display device

The equipment incorporating a dedicated display device shall comply with the requirements of EN 300 065-1 [1], clause 8.

4.2.1.8 Printer interface

The equipment that does not incorporate an integrated printing device shall comply with the requirements of EN 300 065-1 [1], clause 9.1.

4.2.1.9 Data interface

The equipment shall comply with the requirements of EN 300 065-1 [1], clause 9.2.

4.2.1.10 Message memories

4.2.1.10.1 General

The equipment shall comply with the requirements of EN 300 065-1 [1], clause 10.1.

4.2.1.10.2 Equipment without an integrated printing device

The equipment shall comply with the requirements of EN 300 065-1 [1], clause 10.2.

4.2.1.10.3 Equipment with an integrated printing device

The equipment shall comply with the requirements of EN 300 065-1 [1], clause 10.3.

4.3 Environmental requirements

4.3.1 Vibration test

4.3.1.1 Definition

This test determines the ability of equipment to withstand vibration without resulting in mechanical weakness or degradation in performance.

4.3.1.2 Requirement

The equipment shall meet the requirements of EN 300 065-1 [1], clause 5.6.1.2.

4.3.1.3 Conformance

Relevant environmental tests as defined within clause 5.3.1.4 shall be carried out.

4.3.2 Temperature tests

4.3.2.1 Definition

The immunity against the effects of temperature is the ability of the equipment to maintain the specified mechanical and electrical performance after the following tests have been carried out.

4.3.2.2 Dry heat

4.3.2.2.1 Definition

This test determines the ability of equipment to be operated at high ambient temperatures and operate through temperature changes.

4.3.2.2.2 Requirement

The equipment shall meet the requirements of EN 300 065-1 [1], clause 5.6.2.1.2.

4.3.2.2.3 Conformance

Relevant environmental tests as defined within clause 5.3.1.5.1 shall be carried out.

4.3.2.3 Damp heat

4.3.2.3.1 Definition

This test determines the ability of equipment to be operated under conditions of high humidity.

4.3.2.3.2 Requirement

The equipment shall meet the requirements of EN 300 065-1 [1], clause 5.6.2.2.2.

4.3.2.3.3 Conformance

Relevant environmental tests as defined within clause 5.3.1.5.2 shall be carried out.

4.3.2.4 Low temperature

4.3.2.4.1 Definition

This test determines the ability of equipment to be operated at low temperatures. It also allows equipment to demonstrate an ability to start up at low ambient temperatures.

4.3.2.4.2 Requirement

The equipment shall meet the requirements of EN 300 065-1 [1], clause 5.6.2.3.2.

4.3.2.4.3 Conformance

Relevant environmental tests as defined within clause 5.3.1.6 shall be carried out.

4.4 Conformance requirements

4.4.1 Protection of input circuits

4.4.1.1 Definition

Protection of the input circuits is defined as the ability of the equipment to withstand excessive voltages applied to the input circuit.

4.4.1.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.6.

4.4.1.3 Conformance

Conformance tests as defined within clause 5.3.2.1 shall be carried out.

4.4.2 Sensitivity test

4.4.2.1 Definition

The sensitivity of the receiver is a defined level of the radio-frequency signal at which the receiver gives a character error ratio better than a defined value.

4.4.2.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.1.3.

4.4.2.3 Conformance

Conformance tests as defined within clause 5.3.2.2 shall be carried out.

4.4.3 Simultaneous reception test

4.4.3.1 Definition

This test is defined in EN 300 065-1 [1], clause 6.7.1.

4.4.3.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.7.3.

4.4.3.3 Conformance

Conformance tests as defined within clause 5.3.2.3 shall be carried out.

4.4.4 Message processing test, B1 characters

4.4.4.1 Definition

This test is defined in EN 300 065-1 [1], clause 6.8.1.

4.4.4.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.8.1.

4.4.4.3 Conformance

Conformance tests as defined within clause 5.3.2.4 shall be carried out.

4.4.5 Message processing test, B2 characters

4.4.5.1 Definition

This test is defined in EN 300 065-1 [1], clause 6.8.2.

4.4.5.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.8.2.

4.4.5.3 Conformance

Conformance tests as defined within clause 5.3.2.5 shall be carried out.

4.4.6 SAR alarm test

4.4.6.1 Definition

This test is defined in EN 300 065-1 [1], clause 6.8.4.

4.4.6.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.8.4.

4.4.6.3 Conformance

Conformance tests as defined within clause 5.3.2.6 shall be carried out.

4.4.7 Integrated printer tests

4.4.7.1 Out of paper alarm and storage inhibition

4.4.7.1.1 Definition

This test is defined in EN 300 065-1 [1], clause 6.9.1.

4.4.7.1.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.9.1.

4.4.7.1.3 Conformance

Conformance tests as defined within clause 5.3.2.7 shall be carried out.

4.4.7.2 Automatic line and paper feed

4.4.7.2.1 Definition

This test is defined in EN 300 065-1 [1], clause 6.9.2.

4.4.7.2.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.9.2.

4.4.7.2.3 Conformance

Conformance tests as defined within clause 5.3.2.8 shall be carried out.

4.4.7.3 Corrupted characters

4.4.7.3.1 Definition

This test is defined in EN 300 065-1 [1], clause 6.9.3.

4.4.7.3.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.9.3.

4.4.7.3.3 Conformance

Conformance tests as defined within clause 5.3.2.9 shall be carried out.

4.4.7.4 Corrupted characters in the preamble

4.4.7.4.1 Definition

This test is defined in EN 300 065-1 [1], clause 6.9.4.

4.4.7.4.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.9.4.

4.4.7.4.3 Conformance

Conformance tests as defined within clause 5.3.2.10 shall be carried out.

4.4.7.5 Messages with B3, B4 = 00

4.4.7.5.1 Definition

This test is defined in EN 300 065-1 [1], clause 6.9.5.

4.4.7.5.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.9.5.

4.4.7.5.3 Conformance

Conformance tests as defined within clause 5.3.2.11 shall be carried out.

4.4.8 Memory storage tests

4.4.8.1 Storage, tagging and erasure

4.4.8.1.1 Definition

This test is defined in EN 300 065-1 [1], clause 6.10.1.

4.4.8.1.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.10.1.

4.4.8.1.3 Conformance

Conformance tests as defined within clause 5.3.2.12 shall be carried out.

4.4.8.2 Erasure of messages by timeout

4.4.8.2.1 Definition

This test is defined in EN 300 065-1 [1], clause 6.10.2.

4.4.8.2.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.10.2.

4.4.8.2.3 Conformance

Conformance tests as defined within clause 5.3.2.13 shall be carried out.

4.4.8.3 Storage of message identifications

4.4.8.3.1 Definition

This test is defined in EN 300 065-1 [1], clause 6.10.3.

4.4.8.3.2 Limit

The equipment shall meet the requirements of EN 300 065-1 [1], clause 6.10.3.

4.4.8.3.3 Conformance

Conformance tests as defined within clause 5.3.2.14 shall be carried out.

5 Test conditions, power supply and ambient temperatures

5.1 Test conditions, power supply and ambient temperatures

Tests shall be conducted according to EN 300 065-1 [1], clause 5.1.

5.2 Interpretation of the measurement results

The interpretation of the results recorded in a test report for the measurements described in the present document shall be as follows:

- the measured value related to the corresponding limit will be used to decide whether an equipment meets the requirements of the present document;
- the value of the measurement uncertainty for the measurement of each parameter shall be included in the test report;
- the recorded value of the measurement uncertainty shall be, for each measurement, equal to or lower than the figures in table 1.

For the test methods, according to the present document, the measurement uncertainty figures shall be calculated in accordance with TR 100 028 [2] and shall correspond to an expansion factor (coverage factor) $k = 1,96$ or $k = 2$ (which provide confidence levels of respectively 95 % and 95,45 % in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).

Table 1 is based on such expansion factors.

Table 1: Maximum measurement uncertainty

Parameter	Uncertainty
Radio frequency	$< \pm 1 \times 10^{-7}$
Audio frequency	$\pm 1 \times 10^{-5}$

5.3 Essential radio test suites

5.3.1 Environmental tests

5.3.1.1 Introduction

Environmental tests shall be carried out before tests are performed on the same equipment with respect to the other requirements of the present document.

5.3.1.2 Vibration test

The vibration test method is given in EN 300 065-1 [1], clause 5.6.1.1.

5.3.1.3 Temperature tests

5.3.1.3.1 Dry heat

The dry heat test method is given in EN 300 065-1 [1], clause 5.6.2.1.1.

5.3.1.3.2 Damp heat

The damp heat test method is given in EN 300 065-1 [1], clause 5.6.2.2.1.

5.3.1.4 Low temperature

The low temperature test method is given in EN 300 065-1 [1], clause 5.6.2.3.1.

5.3.2 Conformance tests

5.3.2.1 Protection of input circuits

The test method is given in EN 300 065-1 [1], clause 6.6.

5.3.2.2 Sensitivity test

The test method is given in EN 300 065-1 [1], clause 6.1.2.

5.3.2.3 Simultaneous reception test

The test method is given in EN 300 065-1 [1], clause 6.7.2.

5.3.2.4 Message processing test, B1 characters

The test method is given in EN 300 065-1 [1], clause 6.8.1.

5.3.2.5 Message processing test, B2 characters

The test method is given in EN 300 065-1 [1], clause 6.8.2.

5.3.2.6 SAR alarm test

The test method is given in EN 300 065-1 [1], clause 6.8.4.

5.3.2.7 Out of power alarm and storage inhibition

The test method is given in EN 300 065-1 [1], clause 6.9.1.

5.3.2.8 Automatic line and paper feed

The test method is given in EN 300 065-1 [1], clause 6.9.2.

5.3.2.9 Corrupted characters

The test method is given in EN 300 065-1 [1], clause 6.9.3.

5.3.2.10 Corrupted characters in the preamble

The test method is given in EN 300 065-1 [1], clause 6.9.4.

5.3.2.11 Messages with B3, B4 = 00

The test method is given in EN 300 065-1 [1], clause 6.9.5.

5.3.2.12 Storage, tagging and erasure

The test method is given in EN 300 065-1 [1], clause 6.10.1.

5.3.2.13 Erasure of messages by timeout

The test method is given in EN 300 065-1 [1], clause 6.10.2.

5.3.2.14 Storage of message identifications

The test method is given in EN 300 065-1 [1], clause 6.10.3.

Annex A (normative): HS Requirements and conformance Test specifications Table (HS-RTT)

The HS Requirements and conformance Test specifications Table (HS-RTT) in table A.1 serves a number of purposes, as follows:

- it provides a statement of all the requirements in words and by cross reference to (a) specific clause(s) in the present document or to (a) specific clause(s) in (a) specific referenced document(s);
- it provides a statement of all the test procedures corresponding to those requirements by cross reference to (a) specific clause(s) in the present document or to (a) specific clause(s) in (a) specific referenced document(s);
- it qualifies each requirement to be either:
 - Unconditional: meaning that the requirement applies in all circumstances, or
 - Conditional: meaning that the requirement is dependant on the manufacturer having chosen to support optional functionality defined within the schedule.
- in the case of Conditional requirements, it associates the requirement with the particular optional service or functionality;
- it qualifies each test procedure to be either:
 - Essential: meaning that it is included with the Essential Radio Test Suite and therefore the requirement shall be demonstrated to be met in accordance with the referenced procedures;
 - Other: meaning that the test procedure is illustrative but other means of demonstrating compliance with the requirement are permitted.

Table A.1: HS Requirements and conformance Test specifications Table (HS-RTT)

Harmonized Standard EN 300 065-3 The following requirements and test specifications are relevant to the presumption of conformity under the article 3.3(e) of the R&TTE Directive						
Requirement			Requirement Conditionality		Test Specification	
No	Description	Reference: Clause No	U/C	Condition	E/O	Reference: Clause No
1	Composition	4.2.1.1	U		X	
2	Receivers	4.2.1.2	U		X	
3	Message handling	4.2.1.3	U		X	
4	Alarms	4.2.1.4	U		X	
5	Safety precautions	4.2.1.5	U		X	
6	Integrated printing device	4.2.1.6	C	If printer is integrated	X	
7	Dedicated display device	4.2.1.7	C	If no integrated printer	X	
8	Printer interface	4.2.1.8	C	If no integrated printer	X	
9	Data interface	4.2.1.9	U		X	
10	Message memories - general	4.2.1.10.1	U		X	
11	Message memories - no integrated printer	4.2.1.10.2	C	If no integrated printer	X	
12	Message memories - with integrated printer	4.2.1.10.3	C	If printer is integrated	X	
13	Vibration	4.3.1	U		E	5.3.1.4
14	Dry heat	4.3.2.2	U		E	5.3.1.5.1
15	Damp heat	4.3.2.3	U		E	5.3.1.5.2
16	Low temperature	4.3.2.4	U		E	5.3.1.6
17	Protection of input circuits	4.4.1	U		E	5.3.2.1
18	Sensitivity test	4.4.2	U		E	5.3.2.2
19	Simultaneous reception	4.4.3	U		E	5.3.2.3
20	Message processing B1 characters	4.4.4	U		E	5.3.2.4
21	Message processing B2 characters	4.4.5	U		E	5.3.2.5
22	SAR alarm test	4.4.6	U		E	5.3.2.6
23	Integrated printer - out of paper alarm	4.4.7.1	C	If printer is integrated	E	5.3.2.7
24	Integrated printer - line + paper feed	4.4.7.2	C	If printer is integrated	E	5.3.2.8
25	Integrated printer - Corrupted characters	4.4.7.3	C	If printer is integrated	E	5.3.2.9
26	Integrated printer - Corrupted characters in preamble	4.4.7.4	C	If printer is integrated	E	5.3.2.10
27	Integrated printer - messages with B3,B4 = 00	4.4.7.5	C	If printer is integrated	E	5.3.2.11
28	Memory storage - storage tagging and erasing	4.4.8.1	U		E	5.3.2.12
29	Memory storage - erasure of messages by timeout	4.4.8.2	U		E	5.3.2.13
30	Memory storage - storage of message identifications	4.4.8.3	U		E	5.3.2.14

Key to columns:**Requirement:**

No	A unique identifier for one row of the table which may be used to identify a requirement or its test specification.
Description	A textual reference to the requirement.
Clause Number	Identification of clause(s) defining the requirement in the present document unless another document is referenced explicitly.

Requirement Conditionality:

U/C	Indicates whether the requirement is to be <i>unconditionally</i> applicable (U) or is <i>conditional</i> upon the manufacturers claimed functionality of the equipment (C).
Condition	Explains the conditions when the requirement shall or shall not be applicable for a technical requirement which is classified "conditional".

Test Specification:

E/O	Indicates whether the test specification forms part of the Essential Radio Test Suite (E) or whether it is one of the Other Test Suite (O).
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NOTE: All tests whether "E" or "O" are relevant to the requirements. Rows designated "E" collectively make up the Essential Radio Test Suite; those designated "O" make up the Other Test Suite; for those designated "X" there is no test specified corresponding to the requirement. The completion of all tests classified "E" as specified with satisfactory outcomes is a necessary condition for a presumption of conformity. Compliance with requirements associated with tests classified "O" or "X" is a necessary condition for presumption of conformity, although conformance with the requirement may be claimed by an equivalent test or by manufacturer's assertion supported by appropriate entries in the technical construction file.

Clause Number	Identification of clause(s) defining the test specification in the present document unless another document is referenced explicitly. Where no test is specified (that is, where the previous field is "X") this field remains blank.
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Annex B (informative): The EN title in the official languages

The enlargement of the European Union (EU) resulted in a requirement from the EU for a larger number of languages for the translation of the titles of Harmonized Standards and mandated ENs that are to be listed in the Official Journal to support the implementation of this legislation.

For this reason the title translation concerning the present document can be consulted via the [e-approval](#) application.

Annex C (informative): Bibliography

- Council Directive 89/336/EEC of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility (EMC Directive).
- Council Directive 73/23/EEC of 19 February 1973 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (LV Directive).
- ETSI EG 201 399: "Electromagnetic compatibility and Radio spectrum Matters (ERM); A guide to the production of candidate Harmonized Standards for application under the R&TTE Directive".

History

Document history		
V1.1.1	May 2001	Publication
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