

# ETSI EN 301 443 V2.1.1 (2016-05)



**Satellite Earth Stations and Systems (SES);  
Harmonised Standard for Very Small  
Aperture Terminal (VSAT);  
Transmit-only, transmit-and-receive, receive-only satellite  
earth stations operating in the 4 GHz and 6 GHz  
frequency bands covering the essential requirements  
of article 3.2 of the Directive 2014/53/EU**

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Reference

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# Contents

Intellectual Property Rights .....	7
Foreword.....	7
Modal verbs terminology.....	7
Introduction .....	7
1 Scope .....	9
2 References .....	9
2.1 Normative references .....	9
2.2 Informative references.....	10
3 Definitions, symbols and abbreviations .....	10
3.1 Definitions .....	10
3.2 Symbols.....	13
3.3 Abbreviations .....	13
4 Technical requirements specifications .....	14
4.1 General .....	14
4.1.1 Environmental profile .....	14
4.1.2 Control and Monitoring Functions (CMF).....	14
4.1.3 Operational configurations .....	14
4.1.4 Transmit VSAT states and radio states .....	14
4.1.4.1 Definitions.....	14
4.1.4.2 Class A CMF.....	14
4.1.4.3 Class B CMF.....	15
4.1.4.4 Radio states .....	15
4.2 Conformance requirements .....	15
4.2.1 Off-axis spurious radiation .....	15
4.2.1.1 Justification .....	15
4.2.1.2 Specification.....	16
4.2.1.2.1 Transmit VSAT .....	16
4.2.1.2.2 Receive-only VSAT .....	17
4.2.1.3 Conformance tests.....	17
4.2.2 On-axis spurious radiation for transmit VSAT .....	17
4.2.2.1 Justification .....	17
4.2.2.2 Specifications .....	17
4.2.2.2.1 Specification 1: "Carrier-on" radio state.....	17
4.2.2.2.2 Specification 2: "Carrier-off" and "Emissions disabled radio states" .....	18
4.2.2.3 Conformance tests.....	18
4.2.3 Off-axis e.i.r.p emission density within the band.....	18
4.2.3.0 General .....	18
4.2.3.1 Justification .....	18
4.2.3.2 Specification.....	18
4.2.3.3 Conformance tests.....	19
4.2.4 Carrier suppression .....	19
4.2.4.1 Justification .....	19
4.2.4.2 Specification.....	19
4.2.4.3 Conformance tests.....	20
4.2.5 Mechanical (antenna pointing) for transmit VSAT .....	20
4.2.5.1 Justification .....	20
4.2.5.2 Specification.....	20
4.2.5.3 Conformance tests.....	20
4.2.6 Class A Control and Monitoring Functions .....	20
4.2.6.1 Control and Monitoring Functions (CMF).....	20
4.2.6.1.1 General .....	20
4.2.6.1.2 CMF state transition diagram .....	20
4.2.6.1.3 Specification of states.....	22
4.2.6.2 Control Channels (CC).....	22

4.2.6.2.1	Justification .....	22
4.2.6.2.2	Specification .....	22
4.2.6.2.3	Conformance tests .....	23
4.2.6.3	Self-monitoring functions .....	23
4.2.6.3.1	General .....	23
4.2.6.3.2	Processor monitoring .....	23
4.2.6.3.3	Transmit subsystem monitoring .....	24
4.2.6.3.4	VSAT transmission validation.....	24
4.2.6.4	Reception of commands from the CCMF .....	25
4.2.6.4.1	General .....	25
4.2.6.4.2	Disable message .....	25
4.2.6.4.3	Enable Message .....	26
4.2.6.5	Power-on/Reset .....	26
4.2.6.5.1	Justification .....	26
4.2.6.5.2	Specification.....	26
4.2.6.5.3	Conformance tests .....	26
4.2.7	Class B Control and Monitoring Functions .....	26
4.2.7.0	General .....	26
4.2.7.1	Processor monitoring .....	27
4.2.7.1.1	Justification .....	27
4.2.7.1.2	Specification .....	27
4.2.7.1.3	Conformance tests .....	27
4.2.7.2	Transmit subsystem monitoring .....	28
4.2.7.2.1	Justification .....	28
4.2.7.2.2	Specification .....	28
4.2.7.2.3	Conformance tests .....	28
4.2.7.3	Power-on/Reset .....	28
4.2.7.3.1	Justification .....	28
4.2.7.3.2	Specification .....	28
4.2.7.3.3	Conformance tests .....	28
4.2.7.4	Control Channel (CC) reception .....	28
4.2.7.4.1	Justification .....	28
4.2.7.4.2	Specification .....	28
4.2.7.4.3	Conformance tests .....	28
4.2.7.5	Network control commands .....	29
4.2.7.5.1	Justification .....	29
4.2.7.5.2	Specification.....	29
4.2.7.5.3	Conformance test.....	29
4.2.7.6	Initial burst transmission .....	29
4.2.7.6.1	Justification .....	29
4.2.7.6.2	Specification .....	29
4.2.7.6.3	Conformance tests .....	29
4.2.8	Receive antenna off-axis gain pattern .....	29
4.2.8.1	Justification .....	29
4.2.8.2	Specification.....	29
4.2.8.3	Conformance tests .....	30
4.2.9	Blocking performance.....	30
4.2.9.1	Justification .....	30
4.2.9.2	Specification.....	30
4.2.9.3	Conformance tests .....	30
4.2.10	Adjacent Signal Selectivity.....	30
4.2.10.1	Justification .....	30
4.2.10.2	Specification.....	30
4.2.10.3	Conformance tests.....	31
5	Testing for compliance with technical requirements.....	31
5.1	Environmental conditions for testing .....	31
5.2	Essential radio test suites.....	31
6	Test methods for the complete VSAT .....	31
6.1	General .....	31
6.2	Off-axis spurious radiation .....	32

6.2.1	Test method .....	32
6.2.1.a	General .....	32
6.2.1.0	Multi-carrier operation .....	33
6.2.1.1	Up to 1 000 MHz .....	33
6.2.1.1.1	Test site.....	33
6.2.1.1.2	Measuring receivers.....	33
6.2.1.1.3	Procedure.....	33
6.2.1.2	Above 1 000 MHz.....	34
6.2.1.2.0	General .....	34
6.2.1.2.1	Identification of the significant frequencies of spurious radiation .....	34
6.2.1.2.2	Measurement of radiated power levels of identified spurious radiation .....	34
6.2.1.2.3	Measurement of conducted spurious radiation at the antenna flange .....	36
6.3	On-axis spurious radiation for transmit VSAT.....	36
6.3.1	Test method .....	36
6.3.1.1	Test site .....	36
6.3.1.2	Method of measurement.....	37
6.3.1.2.1	General .....	37
6.3.1.2.2	Method of measurement at the antenna flange .....	37
6.3.1.2.3	Method of measurement with a test antenna .....	38
6.4	Off-axis e.i.r.p emission density within the band .....	39
6.4.0	General.....	39
6.4.1	Test method .....	39
6.4.1.1	General .....	39
6.4.1.2	Transmit output power density.....	39
6.4.1.2.1	General .....	39
6.4.1.2.2	Test site.....	39
6.4.1.2.3	Method of measurement .....	40
6.4.1.3	Antenna transmit gain .....	41
6.4.1.3.1	General .....	41
6.4.1.3.2	Test site.....	41
6.4.1.3.3	Method of measurement .....	41
6.4.1.4	Antenna transmit radiation patterns .....	42
6.4.1.4.1	General .....	42
6.4.1.4.2	Test site.....	42
6.4.1.4.3	Method of measurement .....	42
6.4.1.4.4	Co-polar radiation pattern -azimuth.....	42
6.4.1.4.5	Co-polar radiation pattern - elevation.....	43
6.4.1.4.6	Cross-polar radiation pattern - azimuth .....	44
6.4.1.4.7	Cross-polar radiation pattern - elevation .....	44
6.4.2	Computation of results.....	45
6.5	Carrier suppression.....	45
6.5.1	Test method .....	45
6.6	Antenna pointing for transmit VSAT .....	45
6.6.1	Test method .....	45
6.7	Class A Control and Monitoring Functions.....	46
6.7.1	General.....	46
6.7.2	Test arrangement .....	46
6.7.3	Control Channels (CC) .....	47
6.7.3.1	Test method.....	47
6.7.3.1.0	General .....	47
6.7.3.1.1	Test method for internal CC .....	47
6.7.3.1.2	Test method for external CC .....	47
6.7.4	Processor monitoring .....	48
6.7.4.1	Test method.....	48
6.7.5	Transmit subsystem monitoring.....	48
6.7.5.1	Test method.....	48
6.7.6	VSAT transmission validation.....	48
6.7.6.1	Test method for VSAT validation by the CCMF for VSAT using internal CC .....	48
6.7.6.2	Test method for VSAT validation by receiving station(s) for VSAT using internal CC.....	48
6.7.6.3	Test method for transmission validation for VSAT using external CC.....	48
6.7.7	Reception of commands from the CCMF .....	49
6.7.7.1	Test method.....	49

6.7.8	Power-on/Reset .....	49
6.7.8.1	Test method .....	49
6.8	Class B Control and Monitoring Functions .....	49
6.8.0	General .....	49
6.8.1	Test arrangement .....	50
6.8.2	Processor monitoring - Test method .....	50
6.8.3	Transmit subsystem monitoring - Test method .....	51
6.8.4	Power-on/Reset - Test method .....	51
6.8.5	Control Channel (CC) reception - Test method .....	51
6.8.6	Network Control commands - Test method .....	52
6.8.7	Initial burst transmission - Test method .....	54
6.9	Receive antenna off-axis gain pattern .....	54
6.9.1	Test method .....	54
6.9.1.1	Test site .....	54
6.9.1.2	Method of measurement .....	54
6.9.1.3	Computation .....	55
6.10	Blocking performance .....	55
6.10.1	Test method .....	55
6.11	Adjacent Signal Selectivity .....	56
6.11.1	Test method .....	56
7	Test methods for modified VSAT .....	56
7.1	General .....	56
7.2	Antenna subsystem replacement .....	56
<b>Annex A (normative):</b>	<b>Relationship between the present document and the essential requirements of Directive 2014/53/EU .....</b>	<b>58</b>
<b>Annex B (informative):</b>	<b>Pointing stability methodology .....</b>	<b>60</b>
<b>Annex C (informative):</b>	<b>Bibliography .....</b>	<b>61</b>
History .....		62

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## Foreword

This Harmonised European Standard (EN) has been produced by ETSI Technical Committee Satellite Earth Stations and Systems (SES).

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.2] 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 [6].

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:	16 May 2016
Date of latest announcement of this EN (doa):	31 August 2016
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	28 February 2017
Date of withdrawal of any conflicting National Standard (dow):	28 February 2018

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## 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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## Introduction

The present document is part of a set of standards developed by ETSI and is designed to fit in a modular structure to cover all radio equipment within the scope of the RE Directive [6]. The modular structure is shown in ETSI EG 201 399 [i.1].

**Figure 1: Void**

## Remarks on the present document

The determination of the parameters of the user earth stations using a given geo-stationary satellite for the protection of the spectrum allocated to that satellite is considered to be under the responsibility of the satellite operator or the satellite network operators. For this reason the requirement on the cross polarization discrimination which was in ETSI TBR 043 [i.3] has not been copied in the present document and inter-modulation limits inside the band 5,850 GHz to 7,075 GHz are to be determined by system design and are subject to satellite operator specifications.

The requirements have been selected to ensure an adequate level of compatibility with other radio services. The levels, however, do not cover extreme cases which may occur in any location but with a low probability of occurrence.

The present document may not cover those cases where a potential source of interference which is producing individually repeated transient phenomena or a continuous phenomenon is 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.

The present document does not contain any requirement, recommendation or information about the installation of the VSAT.

All parts of the indoor unit related to reception, processing and presentation of the received information except the control channel are not within the scope of the present document. The syntax of the control channel messages is outside the scope of the present document.



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# 1 Scope

The present document applies to any Very Small Aperture Terminal (VSAT) which has the following characteristics:

- the VSAT is operating in one or more frequency ranges within the following bands allocated to the Fixed Satellite Service (FSS), shared with other services, e.g. the Fixed Service (FS) and the Mobile Service (MS):
  - 5,850 GHz to 7,075 GHz (earth-to-space);
  - 3,400 GHz to 4,200 GHz (space-to-earth);
- the VSAT uses linear or circular polarization;
- the VSAT operates through a geostationary satellite at least 3° away from any other geostationary satellite operating in the same frequency band and covering the same area;
- the VSAT antenna diameter does not exceed 7,3 m, or equivalent effective area;
- the VSAT is either:
  - a transmit-only VSAT: designed for transmission-only of radio-communications signals in the frequency band (earth-to-space) specified above; or
  - a transmit-and-receive VSAT: designed for transmission-and-reception of radio-communications signals in the frequency bands specified above; or
  - a receive-only VSAT: designed for reception-only of radio-communications signals in the frequency band (space-to-earth) specified above;
- the VSAT is designed usually for unattended operation;
- the VSAT is operating as part of a satellite network (e.g. star, mesh or point-to-point) used for the distribution and/or exchange of information between users;
- the transmit-only and transmit-and-receive VSAT is controlled and monitored by a Centralized Control and Monitoring Function (CCMF). The CCMF is outside the scope of the present document.

The present document applies to the VSAT with its ancillary equipment and its various terrestrial ports, and when operated within the boundary limits of the operational environmental profile declared by the applicant and when installed as required by the applicant by declaration or in the user documentation.

The present document is intended to cover the provisions of Directive 2014/53/EU (RE Directive) [6] article 3.2, which states that "... *radio equipment shall be so constructed that it both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference*".

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 RE Directive [6] may 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/>.

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## 2 References

### 2.1 Normative 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 referenced document (including any amendments) applies.

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