

STN	Rekonfigurovateľné rádiové systémy (RRS) Informačné modely a protokoly mobilných zariadení (MD) Rádiové programovacie rozhranie (RPI)	STN EN 303 146-4 V1.1.2
		87 3146

Reconfigurable Radio Systems (RRS); Mobile Device (MD) information models and protocols; Part 4: Radio Programming Interface (RPI)

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

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 09/18

Obsahuje: EN 303 146-4 V1.1.2:2017

127264

ETSI EN 303 146-4 V1.1.2 (2017-04)



Reconfigurable Radio Systems (RRS); Mobile Device (MD) information models and protocols; Part 4: Radio Programming Interface (RPI)

ReferenceREN/RRS-0214

Keywords

architecture, mobile, radio, SDR, software,
system

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important noticeThe present document can be downloaded from:
<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.
Information on the current status of this and other ETSI documents is available at
<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:
<https://portal.etsi.org/People/CommitteeSupportStaff.aspx>

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2017.
All rights reserved.

DECT™, PLUGTESTS™, UMTS™ and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE™** are Trade Marks of ETSI registered for the benefit of its Members and
of the 3GPP Organizational Partners.
oneM2M logo is protected for the benefit of its Members
GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Contents

Intellectual Property Rights	4
Foreword.....	4
Modal verbs terminology.....	4
1 Scope	5
2 References	5
2.1 Normative references	5
2.2 Informative references.....	5
3 Definitions and abbreviations.....	6
3.1 Definitions	6
3.2 Abbreviations	7
4 Introduction	8
5 System Requirement Mapping	10
6 Radio Virtual Machine specification.....	10
6.1 Concept of RVM	10
6.2 Elementary RVM (eRVM)	11
6.3 RVM Hierarchy.....	15
6.4 Data types	17
6.4.1 Types and Values.....	17
6.4.2 Run-Time Data	17
6.5 Arithmetic.....	17
6.6 Exceptions	17
6.7 Control, Synchronization and Execution.....	17
6.8 Operations with Memory.....	18
6.9 RVM run-time environment.....	18
7 Configcodes for RVM	19
7.0 Introduction	19
7.1 Configcodes generation.....	19
7.2 Binary format for Configcodes.....	20
7.3 XML schema for Configcodes	24
8 Radio Library	30
8.0 Introduction	30
8.1 Reference Radio Library	30
8.2 Native Radio Library.....	31
9 Loading, Linking and Initialization.....	32
10 Compiling for RVM (Front-End Compilation)	33
Annex A (informative): Mapping between XML and Binary	34
Annex B (informative): SFB Candidate	35
Annex C (informative): Replacement of selected components of an existing RAT	37
Annex D (informative): Introducing new SFBs	38
History	39

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org/>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Reconfigurable Radio Systems (RRS).

The present document is part 4 of a multi-part deliverable. Full details of the entire series can be found in part 1 [i.3].

National transposition dates	
Date of adoption of this EN:	10 April 2017
Date of latest announcement of this EN (doa):	31 July 2017
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 January 2018
Date of withdrawal of any conflicting National Standard (dow):	31 January 2018

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).

"must" and "must not" are NOT allowed in ETSI deliverables except when used in direct citation.

1 Scope

The scope of the present document is to define the Radio Programming Interface (RPI) for mobile device reconfiguration. The work is based on the Use Cases defined in ETSI TR 102 944 [i.1], on the system requirements defined in ETSI EN 302 969 [1] and on the radio reconfiguration related architecture for mobile devices defined in ETSI EN 303 095 [i.2]. Furthermore, the present document complements the mobile device information models and protocols related to the Multiradio Interface ETSI EN 303 146-1 [i.3], to the Reconfigurable Radio Frequency Interface ETSI EN 303 146-2 [i.4] and to the Unified Radio Application Interface ETSI EN 303 146-3 [i.5].

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.

Referenced documents which are not found to be publicly available in the expected location might be found at <https://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.

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

- [1] ETSI EN 302 969 (V1.2.1): "Reconfigurable Radio Systems (RRS); Radio Reconfiguration related Requirements for Mobile Devices".

2.2 Informative 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.

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

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] ETSI TR 102 944: "Reconfigurable Radio Systems (RRS); Use Cases for Baseband Interfaces for Unified Radio Applications of Mobile Device".
- [i.2] ETSI EN 303 095 (V1.2.1): "Reconfigurable Radio Systems (RRS); Radio Reconfiguration related Architecture for Mobile Devices".
- [i.3] ETSI EN 303 146-1: "Reconfigurable Radio Systems (RRS); Mobile Device Information Models and Protocols; Part 1: Multiradio Interface (MURI)".
- [i.4] ETSI EN 303 146-2: "Reconfigurable Radio Systems (RRS); Mobile Device (MD) information models and protocols; Part 2: Reconfigurable Radio Frequency Interface (RRFI)".
- [i.5] ETSI EN 303 146-3: "Reconfigurable Radio Systems (RRS); Mobile Device (MD) information models and protocols; Part 3: Unified Radio Application Interface (URAI)".

koniec náhľadu – text d'alej pokračuje v platenej verzii STN