



TECHNICAL SPECIFICATION

**Universal Mobile Telecommunications System (UMTS);  
LTE;  
Universal Terrestrial Radio Access (UTRA)  
and Evolved UTRA (E-UTRA) and Evolved Packet Core (EPC);  
User Equipment (UE)  
conformance specification for UE positioning;  
Part 4: Test suites  
(3GPP TS 37.571-4 version 13.5.0 Release 13)**



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**Reference**

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# Foreword

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Version x.y.z

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- x the first digit:
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  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

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# Introduction

The present document is part 4 of a multi-part conformance test specification. The specification contains a TTCN design frame work and the detailed test specifications in TTCN for the UE:

- A-GPS at the UTRA Uu interface in TTCN-2;
- A-GNSS at the UTRA Uu interface in TTCN-3;
- LTE positioning at the LTE-Uu interface in TTCN-3.

The present document is part 4 of a multi-parts TS:

- 3GPP TS 37.571-1: Universal Terrestrial Radio Access (UTRA) and Evolved UTRA (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification for UE positioning; Part 1: Terminal conformance.
- 3GPP TS 37.571-2: Universal Terrestrial Radio Access (UTRA) and Evolved UTRA (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification for UE positioning; Part 2: Protocol conformance.
- 3GPP TS 37.571-3: Universal Terrestrial Radio Access (UTRA) and Evolved UTRA (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification for UE positioning; Part 3: Implementation Conformance Statement (ICS).
- **3GPP TS 37.571-4: Universal Terrestrial Radio Access (UTRA) and Evolved UTRA (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification for UE positioning; Part 4: Test suites.**
- 3GPP TS 37.571-5: Universal Terrestrial Radio Access (UTRA) and Evolved UTRA (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification for UE positioning; Part 5: Test scenarios and assistance data.

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# 1 Scope

The present document specifies the protocol and signalling conformance testing in TTCN for the UE:

- A-GPS at the UTRA Uu interface;
- LTE positioning at the LTE-Uu interface;
- A-GNSS at the UTRA Uu interface.

The following TTCN test specification and design considerations can be found in the present document:

- Test system architecture;
- Test models and ASP definitions;
- Test methods and usage of communication ports definitions;
- Test configurations;
- Design principles and assumptions;
- TTCN styles and conventions;
- Partial PIXIT proforma;
- Test suites in TTCN-2 and TTCN-3;
- The Test Suites designed and implemented in the present document are based on the test specifications in prose in 3GPP TS 37.571-2 [3];
- The applicability of the individual test cases is specified in the test ICS proforma specification in 3GPP TS 37.571-3 [4].

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# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
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[1] to [23] (void)

[24] 3GPP TS 37.571-4 Release 14: "Universal Terrestrial Radio Access (UTRA) and Evolved UTRA (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification for UE positioning; Part 4: "

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# 3 Definitions, symbols and abbreviations

Void

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## 4 A-GPS system architecture and test model

The requirements of the present document are provided in 3GPP TS 37.571-4 Release 14 [24].

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5 to 8 Void

## Annex A to D: Void



## Annex E (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
2011-06	RAN#51	R5-112203	-	-	Initial proposal for A-GNSS		0.0.1
2011-09	RAN#52	R5-113037	-	-	Introduced positioning test model	0.0.1	0.1.0
2011-11	RAN#53	R5-115106	-	-	Imported A-GPS test model from 3GPP TS 34.123-3	0.1.0	1.0.0
2011-12	RAN#54	RP-111627	-	-	Presentation of V1.0.0	0.1.0	1.0.0
2012-05	RAN#55	R5-121083	-	-	Presentation of V1.1.0	1.0.0	1.1.0
2012-06	RAN#56	RP-120614	-	-	Presentation of V2.0.0	1.0.0	2.0.0
2012-06	RAN#56	-	-	-	Editorial corrections and formatings.	2.0.0	9.0.0
2012-06	RAN#56	-	-	-	Raised to v10.0.0 with no change.	9.0.0	10.0.0
2012-09	RAN#57	R5-123690	0001	-	37571-4: Routine maintenance and updates	10.0.0	10.1.0
2013-06	RAN#60	R5-131136	0003	-	37571-4: Routine maintenance and updates	10.1.0	10.2.0
2013-06	RAN#60	R5s130125	0004	-	Addition of EUTRA UE Positioning test case 7.1.1	10.1.0	10.2.0
2013-06	RAN#60	R5s130145	0005	-	Addition of EUTRA UE Positioning test case 7.3.1.1	10.1.0	10.2.0
2013-06	RAN#60	R5s130147	0006	-	Addition of EUTRA UE Positioning test case 7.3.2.1	10.1.0	10.2.0
2013-06	RAN#60	R5s130149	0007	-	Addition of EUTRA UE Positioning test case 7.3.2.2	10.1.0	10.2.0
2013-06	RAN#60	R5s130151	0008	-	Addition of EUTRA UE Positioning test case 7.3.2.3	10.1.0	10.2.0
2013-06	RAN#60	R5s130153	0009	-	Addition of EUTRA UE Positioning test case 7.3.5.1_6s	10.1.0	10.2.0
2013-06	RAN#60	R5s130155	0010	-	Addition of EUTRA UE Positioning test case 7.3.5.1_5s	10.1.0	10.2.0
2013-06	RAN#60	R5s130157	0011	-	Addition of EUTRA UE Positioning test case 7.3.4.2_5s	10.1.0	10.2.0
2013-06	RAN#60	R5s130159	0012	-	Addition of EUTRA UE Positioning test case 7.3.4.2_6s	10.1.0	10.2.0
2013-06	RAN#60	R5s130288	0013	-	Addition of EUTRA UE Positioning test case 7.3.4.4_5s	10.1.0	10.2.0
2013-06	RAN#60	R5s130290	0014	-	Addition of EUTRA UE Positioning test case 7.3.5.1_1s	10.1.0	10.2.0
2013-06	RAN#60	RP-130616	0015	-	CR to 37.571-4: Add new verified and e-mail agreed TTCN test cases in the TC lists in 37.571-4 (prose), Annex A	10.1.0	10.2.0
2013-09	RAN#61	R5s130421	0016	-	Correction to EUTRA UE Positioning test cases 7.3.4.2.5s and 7.3.4.4.5s	10.2.0	10.3.0
2013-09	RAN#61	R5s130457	0017	-	Correction to EUTRA UE Positioning test case 7.3.5.1.1s	10.2.0	10.3.0
2013-09	RAN#61	R5s130468	0018	-	Correction to EUTRA UE Positioning test cases 7.3.1.1	10.2.0	10.3.0
2013-09	RAN#61	RP-131167	0019	-	CR to 37.571-4: Add new verified and e-mail agreed TTCN test cases in the TC lists in 37.571-4 (prose), Annex A	10.2.0	10.3.0
2013-12	RAN#62	R5s130618	0020	-	Addition of EUTRA UE Positioning test case 7.3.4.1_1s	10.3.0	10.4.0
2013-12	RAN#62	R5s130627	0021	-	Addition of EUTRA UE Positioning test case 7.3.4.3_1s	10.3.0	10.4.0
2013-12	RAN#62	RP-131871	0022	-	CR to 37.571-4: Add new verified and e-mail agreed TTCN test cases in the TC lists in 37.571-4 (prose), Annex A	10.3.0	10.4.0
2014-03	RAN#63	R5-140326	0023	-	A-GNSS ASN.1 reference	10.4.0	10.5.0
2014-03	RAN#63	R5s130913	0024	-	Correction to function fl_TC_7_3_5_1_GNSS_TestBody	10.4.0	10.5.0
2014-03	RAN#63	R5s130914	0025	-	Correction to svID values in AcquisitionAssist and AuxiliaryInformation	10.4.0	10.5.0
2014-03	RAN#63	R5s131009	0026	-	Addition of EUTRA UE Positioning test case 7.3.5.1_2s	10.4.0	10.5.0
2014-03	RAN#63	R5s131011	0027	-	Addition of EUTRA UE Positioning test case 7.3.5.1_4s	10.4.0	10.5.0
2014-03	RAN#63	RP-140316	0028	-	CR to 37.571-4: Add new verified and e-mail agreed TTCN test cases in the TC lists in 37.571-4 (prose), Annex A	10.4.0	10.5.0
2014-06	RAN#64	R5s140086	0029	-	Addition of EUTRA UE Positioning test case 7.2.1.1	10.5.0	10.6.0
2014-06	RAN#64	R5s140088	0030	-	Addition of EUTRA UE Positioning test case 7.2.1.2	10.5.0	10.6.0
2014-06	RAN#64	R5s140090	0031	-	Addition of EUTRA UE Positioning test case 7.2.1.3	10.5.0	10.6.0

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
2014-06	RAN#64	R5s140242	0032	-	Correction to LTE UE Positioning test case 7.3.5.1	10.5.0	10.6.0
2014-06	RAN#64	R5s140253	0033	-	Addition of EUTRA UE Positioning test case 7.3.4.4.1s	10.5.0	10.6.0
2014-06	RAN#64	R5s140255	0034	-	Addition of EUTRA UE Positioning test case 7.3.4.2.1s	10.5.0	10.6.0
2014-06	RAN#64	R5s140257	0035	-	Correction to LTE UE Positioning test case 7.3.4.3.1s	10.5.0	10.6.0
2014-06	RAN#64	R5s140316	0036	-	Addition of UTRAN UE Positioning test case 6.2.3.3	10.5.0	10.6.0
2014-06	RAN#64	R5s140318	0037	-	Addition of UTRAN UE Positioning test case 6.2.3.4	10.5.0	10.6.0
2014-06	RAN#64	R5s140320	0038	-	Addition of UTRAN UE Positioning test case 6.2.3.5	10.5.0	10.6.0
2014-06	RAN#64	R5s140433	0039	-	Addition of GCF WI-166 EUTRA UE Positioning test case 7.3.4.3.4s	10.5.0	10.6.0
2014-06	RAN#64	R5s140435	0040	-	Addition of GCF WI-166 EUTRA UE Positioning test case 7.3.4.4.4s	10.5.0	10.6.0
2014-06	RAN#64	RP-140825	0041	-	CR to 37.571-4: Add new verified and e-mail agreed TTCN test cases in the TC lists in 37.571-4 (prose), Annex A	10.5.0	10.6.0
2014-06	RAN#64	R5s140086	0029	-	Addition of EUTRA UE Positioning test case 7.2.1.1	10.5.0	10.6.0
2014-06	RAN#64	R5s140088	0030	-	Addition of EUTRA UE Positioning test case 7.2.1.2	10.5.0	10.6.0
2014-06	RAN#64	R5s140090	0031	-	Addition of EUTRA UE Positioning test case 7.2.1.3	10.5.0	10.6.0
2014-09	RAN#65	R5-144256	0042	-	Routine maintenance and updates	10.6.0	10.7.0
2014-12	RAN#66	R5s140739	0043	-	Addition of GCF WI-166 EUTRA UE Positioning test case 7.3.4.2.4s	10.7.0	10.8.0
2014-12	RAN#66	R5s140777	0044	-	Usage of <MULTIPLE_CNF> in UpperTesterFunctions	10.7.0	10.8.0
2014-12	RAN#66	RP-142067	0045	-	CR to 37.571-4: Add new verified and e-mail agreed TTCN test cases in the TC lists in 37.571-4 (prose), Annex A	10.7.0	10.8.0
2015-03	RAN#67	R5s141359	0047	-	Correction of errors in implementation of positioning CRs	10.8.0	10.9.0
2015-03	RAN#67	R5s150027	0048	-	Addition of GCF WI-166 EUTRA UE Positioning test case 7.3.4.1.4s	10.8.0	10.9.0
2015-03	RAN#67	RP-150336	0049	-	CR to 37.571-4: Add new verified and e-mail agreed TTCN test cases in the TC lists in 37.571-4 (prose), Annex A	10.8.0	10.9.0
2015-03	RAN#67	-	-	-	upgraded to Rel-11 with no change	10.9.0	11.0.0
2015-03	RAN#67	R5-150735	0046	-	Addition of BeiDou Test Model	11.0.0	12.0.0
2015-06	RAN#68	RP-150897	0050	-	CR to 37.571-4: Add new verified and e-mail agreed TTCN test cases in the TC lists in 37.571-4 (prose), Annex A	12.0.0	12.1.0
2015-06	RAN#68	R5s150013	0051	-	Addition of UTRAN UE Positioning test case 6.2.3.2.4s	12.0.0	12.1.0
2015-06	RAN#68	R5s150222	0052	-	Correction to POS ATS in TTCN-3 delivery 15wk10	12.0.0	12.1.0
2015-06	RAN#68	R5s150331	0053	-	Rel-12 baseline upgrade for POS Test Suite	12.0.0	12.1.0
2015-06	RAN#68	R5s150343	0054	-	Corrections to UTRAN UE Positioning functions	12.0.0	12.1.0
2015-06	RAN#68	R5s150344	0055	-	Correction to LTE UE Positioning test cases 7.3.5.1.5s and 7.5.1	12.0.0	12.1.0
2015-06	RAN#68	R5s150345	0056	-	Correction to GLONASS LPP test cases	12.0.0	12.1.0
2015-06	RAN#68	R5s150353	0057	-	Improvement of function f_POS_CheckGnssSupportList	12.0.0	12.1.0
2015-06	RAN#68	R5s150404	0058	-	Addition of GCF WI-166 EUTRA UE Positioning test case 7.3.3.1	12.0.0	12.1.0
2015-06	RAN#68	R5s150439	0059	-	Correction to selection of Assistance Data for sub-test 4	12.0.0	12.1.0

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
2015-09	RAN#69	RP-151421	0060	-	CR to 37.571-4: Add new verified and e-mail agreed TTCN test cases in the TC lists in 37.571-4 (prose), Annex A	12.1.0	12.2.0
2015-09	RAN#69	R5s150011	0061	-	Addition of UTRAN UE Positioning test case 6.2.1.1.4s	12.1.0	12.2.0
2015-09	RAN#69	R5s150589	0062	-	Correction to EUTRA Positioning functions	12.1.0	12.2.0
2015-09	RAN#69	R5s150590	0063	-	Correction to Upper Tester modules	12.1.0	12.2.0
2015-09	RAN#69	R5s150706	0064	-	Addition of UTRAN UE Positioning test case 6.2.2.1.4s	12.1.0	12.2.0
2015-09	RAN#69	R5s150708	0065	-	Addition of UTRAN UE Positioning test case 6.2.2.3.4s	12.1.0	12.2.0
2015-09	RAN#69	-	-	-	update of the "non-specific references" in section 2 according to the approved R5-153582 and an action point on ETSI MCC	12.1.0	12.2.0
2015-12	RAN#70	R5s150710	0068	-	Addition of GCF WI-166 EUTRA UE Positioning test case 7.3.4.2.7s	12.2.0	12.3.0
2015-12	RAN#70	R5s150712	0069	-	Addition of GCF WI-166 EUTRA UE Positioning test case 7.3.4.4.7s	12.2.0	12.3.0
2015-12	RAN#70	R5s150805	0070	-	Correction to POS capability check procedure	12.2.0	12.3.0
2015-12	RAN#70	R5s150911	0071	-	Code improvements in Positioning test cases	12.2.0	12.3.0
2015-12	RAN#70	RP-151697	0072	-	CR to 37.571-4: Add new verified and e-mail agreed TTCN test cases in the TC lists in 37.571-4 (prose), Annex A	12.2.0	12.3.0
2016-03	RAN#71	R5s151010	0073	-	Correction to POS type definition in ATS_15wk38	12.3.0	12.4.0
2016-06	RAN#72	<a href="#">R5s160479</a>	0074	1	Correction to LTE Positioning test cases	12.4.0	12.5.0
2016-06	RAN#72	<a href="#">R5s160480</a>	0075	1	Correction to UTRA Positioning test cases	12.4.0	12.5.0
2016-09	RAN#73	R5s160713	0076	-	Rel-13 baseline upgrade for POS Test Suite	12.5.0	13.0.0
2016-12	RAN#74	-	-	-	updated to deliver latest TTCN	13.0.0	13.1.0
2017-03	RAN#75	R5-171531	0082	-	Indoor Positioning: Introduction of Test Model	13.1.0	13.2.0
2017-03	RAN#75	<a href="#">R5s170127</a>	0078	1	Correction to GCF WI-166 EUTRA UE Positioning test case 7.3.4.4.7s	13.1.0	13.2.0
2017-03	RAN#75	<a href="#">R5s170128</a>	0079	1	Correction to function f_POS_CheckCapabilities() for OTDOA	13.1.0	13.2.0
2017-03	RAN#75	<a href="#">R5s170186</a> /RP-170104	0084	-	Update ASP changes due to inclusion of iPOS in 37.571-4 (prose), Annex D	13.1.0	13.2.0
2017-06	RAN#76	<a href="#">R5s170311</a>	0085	-	Addition of LTE UE Positioning test case 7.3.4.1.10s	13.2.0	13.3.0
2017-06	RAN#76	<a href="#">R5s170313</a>	0086	-	Addition of LTE UE Positioning test case 7.3.4.3.10s	13.2.0	13.3.0
2017-06	RAN#76	<a href="#">R5s170363</a>	0087	-	Aligning name of PICS used in TTCN to the TS 37.571-3 definition	13.2.0	13.3.0
2017-06	RAN#76	<a href="#">R5s170383</a>	0083	1	Corrections to UE Positioning test cases	13.2.0	13.3.0
2017-06	RAN#76	<a href="#">R5s170416</a>	0088	-	Update of TC list in 37.571-4 (prose), Annex A, due to merging of GNSS subtest	13.2.0	13.3.0
2017-09	RAN#77	<a href="#">R5s170630</a>	0089	1	Correction to function 'f_POS_CheckGnssSupportList'	13.3.0	13.4.0
2018-03	RAN#79	R5-180282	0098	-	Removal of technical content in 37.571-4 v13.4.0 and substitution with pointer to the next Release	13.4.0	13.5.0

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## History

<b>Document history</b>		
V13.0.0	November 2016	Publication
V13.1.0	January 2017	Publication
V13.2.0	April 2017	Publication
V13.3.0	August 2017	Publication
V13.4.0	October 2017	Publication
V13.5.0	April 2018	Publication