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Technical Specification

3rd Generation Partnership Project;

Technical Specification Group Radio Access Network;

UTRAN Iuant interface: Layer 1

(Release 16)

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# Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x the first digit:

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2 presented to TSG for approval;

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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.

# 1 Scope

See TS 37.461 [7].

# 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.

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[1]-[6] Void.

[7] 3GPP TS 37.461: "Iuant interface: Layer 1".

# 3 to 4 Void

# 5 Iuant interface: Layer 1

See TS 37.461 [7].

Annex A:  
Void

Annex B (informative):  
Change history

| TSG # | TSG Doc. | CR | Rev | Subject/Comment | New |
| --- | --- | --- | --- | --- | --- |
| TSG-RAN#25 | RP-040344 | \_ | \_ | presentation to TSG-RAN for information | 1.0.0 |
| TSG-RAN#25 | RP-040344 | \_ | \_ | approved at TSG-RAN#25 and placed under change control | 6.0.0 |
| 26 | RP-040444 | 1 |  | DC power supply distribution | 6.1.0 |
| 26 | RP-040444 | 2 | 1 | Improved demodulator characteristics specification | 6.1.0 |
| 26 | RP-040444 | 3 | - | Requirements missing for when the RS485 bus shall not be driven by the secondary device | 6.1.0 |
| 26 | RP-040444 | 4 | 1 | RET DC power consumption modes | 6.1.0 |
| 26 | RP-040444 | 5 | - | Minor Corrections and editorial changes to 25.461 | 6.1.0 |
| 27 | RP-050061 | 7 | 1 | Minor Corrections and editorial changes to 25.461 | 6.2.0 |
| 27 | RP-050061 | 8 | 1 | Power consumption clarification of RET | 6.2.0 |
| 27 | RP-050061 | 9 |  | Modem Operating Bands | 6.2.0 |
| 27 | RP-050061 | 10 |  | Modem Return loss | 6.2.0 |
| 27 | RP-050061 | 11 |  | Modem Time Delay and Accuracy | 6.2.0 |
| 27 | RP-050061 | 12 |  | Modem Insertion Loss | 6.2.0 |
| 28 | RP-050237 | 13 | 1 | DC power on sequence | 6.3.0 |
| 28 | RP-050237 | 15 | - | BS Modem and RET Modem Filtering | 6.3.0 |
| 28 | RP-050237 | 16 | - | BS Modem and RET modem spectrum emission mode | 6.3.0 |
| 28 | RP-050237 | 17 | - | BS modem and RET modem return loss at modem frequency | 6.3.0 |
| 28 | RP-050237 | 18 | - | Time delay clarification | 6.3.0 |
| 28 | RP-050226 | 19 | - | Introduction of UMTS2600 requirements | 7.0.0 |
| 29 | RP-050438 | 21 | 1 | Power-Up period clarifications | 7.1.0 |
| 29 | RP-050438 | 23 |  | Insertion loss for RET | 7.1.0 |
| 29 | RP-050438 | 25 |  | Testing for RET | 7.1.0 |
| 29 | RP-050438 | 27 |  | Time delay for RET | 7.1.0 |
| 29 | RP-050438 | 29 |  | Intermodulation attenuation for RET | 7.1.0 |
| 29 | RP-050438 | 31 |  | BS and RET modem isolation | 7.1.0 |
| 30 | RP-050704 | 32 | 1 | Introduction of UMTS 1700 requirements | 7.2.0 |
| 30 | RP-050703 | 33 |  | Introduction of UMTS 900 | 7.2.0 |
| 30 | RP-050689 | 35 |  | Test Procedures | 7.2.0 |
| 30 | RP-050689 | 37 |  | Correction to modem isolation and emission | 7.2.0 |
| 30 | RP-050689 | 39 |  | correction of referencing | 7.2.0 |
| 30 | RP-050689 | 41 | 1 | RET Control Unit spurious emission simplified version | 7.2.0 |
| 34 | RP-060704 | 42 |  | Introduction of Band X (Extended UMTS 1.7/2.1 GHz) | 7.3.0 |
| 35 | RP-070058 | 44 | 1 | Update of DC Power Supply Requirements | 7.4.0 |
| 35 | RP-070058 | 45 |  | Tower Mounted Amplifier amendment | 7.4.0 |
| 36 | RP-070323 | 47 |  | Word alignment of station-device | 7.5.0 |
| 37 | RP-070576 | 48 |  | Introduction of UMTS1500 requirement | 8.0.0 |
| 39 | RP-080082 | 49 | 1 | Introduction of UMTS 700 MHz (Bands XII XIV) | 8.1.0 |
| 45 | RP-090822 | 51 |  | Introduction of E-UTRA operating bands | 9.0.0 |
| RP-090826 | 53 | 1 | Introduction of the extended UMTS/LTE 800 MHz bands |
| 46 | RP-091185 | 54 | 1 | Introduction of Extended UMTS/LTE1500 requirements for TS25.461 | 9.1.0 |
| 47 | RP-100223 | 58 |  | Introduction of UMTS/LTE in 800 MHz for Europe requirements in TS 25.461 | 9.2.0 |
| 49 | RP-100912 | 59 | - | Spectrum band definition additions for TDD 2600 MHz | 10.0.0 |
| 50 | RP-101361 | 59a | 1 | Introduction of L-band in TS 25.461 | 10.1.0 |
| 50 | RP-101278 | 61 | 2 | CR UMTS/LTE-3500 spectrum band definition additions for TDD Iuant interface to TS 25.461 | 10.1.0 |
| 50 | RP-101334 | 66 |  | Band XII channel arrangement correction on 25.461 | 10.1.0 |
| SP-49 | SP-100629 |  |  | Clarification on the use of References (TS 21.801 CR#0030) | 10.1.1 |
| 52 | RP-110699 | 70 |  | Add 2 GHz band LTE for ATC of MSS in North America to TS25.461 (Rel-10) | 10.2.0 |
| 52 | RP-110696 | 71 |  | Add Expanded 1900 MHz Band for UTRA and LTE to TS25.461 (Rel-10) | 10.2.0 |
| 52 | RP-110685 | 73 |  | Removal of unused references | 10.2.0 |
| 54 | RP-111733 | 76 |  | Removal of references to operating bands i) and h) | 10.3.0 |
| 03.2012 |  |  |  | Creation of Rel-11 version based on v. 10.3.0 | 11.0.0 |
| 55 | RP-120235 | 78 |  | Addition of new Band 26 for E850 | 11.0.0 |
| 56 | RP-120749 | 79 | 1 | Introduction of E850\_LB (Band 27) to TS 25.461 | 11.1.0 |
| 56 | RP-120750 | 80 | - | Introduction of Band 28 | 11.1.0 |
| 56 | RP-120750 | 81 | - | Introduction of Band 44 | 11.1.0 |
| 58 | RP-121736 | 82 | - | Introduction of band 22 in TS 25.461 | 11.2.0 |
| 58 | RP-121735 | 83 | 1 | Introduction of Band 29 into TS 25.461 | 11.2.0 |
| 62 | RP-131903 | 84 | 1 | Introduction of LTE 450 MHZ | 12.0.0 |
| 62 | RP-131904 | 85 | 1 | Introduction of Band 30 | 12.0.0 |
| 64 | RP-140900 | 87 | - | Introduction of Band 32, XXXII | 12.1.0 |
| 70 | RP-152105 | 91 | - | Introduction of band 65 | 13.0.0 |
| 70 | RP-152106 | 92 | - | Introduction of band 66 | 13.0.0 |
| 70 | RP-152104 | 93 | - | Introduction of band 67 | 13.0.0 |
| 70 | RP-152107 | 94 | 1 | Introduction of band 45 in 25.461 | 13.0.0 |
| 71 | RP-160446 | 95 | - | Introduction of Band 68 into 25.461 | 13.1.0 |
| 71 | RP-160450 | 96 | 1 | Introduction of Band 46 in TS 25.461 | 13.1.0 |
| 06/2016 |  |  |  | Creation of Rel-14 version based on v. 13.1.0 | 14.0.0 |
| 72 | RP-161040 | 97 | 1 | Introduction of band 70 | 14.0.0 |
| 72 | RP-161041 | 98 | - | Introduction of 2.6GHz SDL band | 14.0.0 |
| 74 | RP-162335 | 100 | - | Introduction of band 48 | 14.1.0 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Change history** | | | | | | | |
| **Date** | **Meeting** | **Tdoc** | **CR** | **Rev** | **Cat** | **Subject/Comment** | **New version** |
| 09/2017 | RP-77 | RP-171976 | 0102 | 1 | B | Introduction of Band 72 | 15.0.0 |
| 09/2017 | RP-77 | RP-171977 | 0104 | - | B | Introduction of the FDD L-band (Band 74) into TS 25.461 | 15.0.0 |
| 09/2017 | RP-77 | RP-171978 | 0105 | 1 | B | Introduction of the TDD L-band(Band 50 and Band 51) | 15.0.0 |
| 09/2017 | RP-77 | RP-171980 | 0106 | - | B | CR to 25.461: Introduction of Band 71 (600MHz FDD band for US) | 15.0.0 |
| 09/2017 | RP-77 | RP-171979 | 0107 | - | B | CR to 25.461: Introduction of B75 and B76 | 15.0.0 |
| 12/2017 | RP-78 | RP-172675 | 0101 | 3 | B | CR to 25.461: Introduction of Band 49 (3.5 GHz LAA in US) | 15.1.0 |
| 12/2017 | RP-78 | RP-172711 | 0108 | - | B | Introduction of Band 73 | 15.1.0 |
| 03/2018 | RP-79 | RP-180471 | 0109 | - | B | Introduction of band 85 | 15.2.0 |
| 03/2018 | RP-79 | RP-180470 | 0110 | - | B | Introduction of the TDD 3.3-3.4GHz band (Band 52) | 15.2.0 |
| 12/2018 | RP-82 | RP-182450 | 0112 | 1 | F | Replace Band table with reference to RAN4 specifications | 15.3.0 |
| 2019-04 | RAN#83 | RP-190557 | 0120 | - | F | Transfer of Iuant interface specification from 25-series to 37-series | 15.4.0 |
| 2020-07 | SA#88-e | - | - | - | - | Update to Rel-16 version (MCC) | 16.0.0 |