JJ-201.11

IP 携帯電話の通話品質評価法

Ⅰ.＜概要＞

本標準では，VoLTE 等の IP 携帯電話サービスの総合品質指標として ITU-T 勧告 G.107.1[1]に準拠した R 値を用いることを前提として，この算出のためにサービス提供事業者が考慮すべき品質パラメータを特定し，その評価法を規定する．品質パラメータや評価法に関しては，該当する ITU-T 勧告に準拠することを基本とし，国際標準化との整合を図ることとする．

JJ-201.11

A Method for Speech Quality Assessment of IP Mobile Telephony

Ⅰ.＜Overview＞

The purpose of this standard

- taking account of the standardization trends of ITU-T and other organizations, to define a method of assessment with the overall quality index, the R value, specified in the ITU Recommendation G.107.1 as the overall quality index for IP mobile telephony services such as VoLTE and a method of assessment of parameters to complement the R value.

TTC Study Policies

- In principle, make sure that the standard conforms to related international/regional standards (ITU-T, ETSI, and TIA standards).
- Use the overall quality index, the R value, for IP mobile telephony services.
- Specify evaluation conditions and method of assessment for the calculation of the R value.
- In defining conditions and method of assessment, ensure the ease of assessment and fairness (strictness).

Ⅱ.＜参考＞

1. 国際勧告等の関連

本標準に対応する国際標準は無い.

2. 参照文書

[1] ITU-T G.107.1 (06/2015)

Wideband E-model

[2] ITU-T G.107 (06/2015)

The E-model, a computational model for use in transmission planning

JT-G.107 E-model 伝送計画のための計算モデル, 2003 年 4 月

[3] ITU-T P.76 (11/1988)

Determination of loudness ratings; fundamental principles

[4] ITU-T P.79 (11/2007)

Calculation of loudness ratings for telephone sets

ITU-T P.79 Annex G (11/2001)

Wideband loudness rating algorithm

[5] ITU-T G.113 (11/2007)

Transmission impairments due to speech processing

ITU-T G.113 Amendment 1 (03/2009)

ITU-T G.113 Amendment 1 (06/2006)

New Appendix IV – Provisional planning values for the wideband equipment impairment factor Ie,wb Revised Appendix IV – Provisional planning values for the wideband equipment impairment factor and the wideband packet loss robustness factor

JT-G.113 音声信号処理による伝送劣化, 2003 年 4 月

Ⅱ.＜References＞

1. Relation with international standards and national standards

This standard is TTC original.

2. References

[1] ITU-T G.107.1 (06/2015)

Wideband E-model

[2] ITU-T G.107 (06/2015)

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New Appendix IV – Provisional planning values for the wideband equipment impairment factor Ie,wb Revised Appendix IV – Provisional planning values for the wideband equipment impairment factor and the wideband packet loss robustness factor

[6] ITU-T P.833.1 (04/2009)
Methodology for the derivation of equipment impairment factors from subjective listening-only tests for wideband speech codecs

[7] ITU-T P.834.1 (06/2015)
Extension of the methodology for the derivation of equipment impairment factors from instrumental models for wideband speech codecs

[8] ITU-T P.862.2 (11/2007)
Wideband extension to Recommendation P.862 for the assessment of wideband telephone networks and speech codecs

[9] ITU-T P.863 (09/2014)
Perceptual objective listening quality assessment

[10] ITU-T P.863.1 (09/2014)
Application guide for Recommendation ITU-T P.863

[11] ITU-T P.501 (01/2012)
Test signals for use in telephonometry
ITU-T P.501 Amendment 1 (07/2012)
Test signals for use in telephonometry
ITU-T P.501 Amendment 2 (10/2014)
New Annex C - Speech files prepared for use with ITU-T P.800 conformant applications and perceptual-based objective speech quality prediction

[12]ITU-T P.Imp863(11/2011)

[6] ITU-T P.833.1 (04/2009)
Methodology for the derivation of equipment impairment factors from subjective listening-only tests for wideband speech codecs

[7] ITU-T P.834.1 (06/2015)
Extension of the methodology for the derivation of equipment impairment factors from instrumental models for wideband speech codecs

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Wideband extension to Recommendation P.862 for the assessment of wideband telephone networks and speech codecs

[9] ITU-T P.863 (09/2014)
Perceptual objective listening quality assessment

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[12]ITU-T P.Imp863(11/2011)

Implementer's guide I for ITU-T P.863: Mapping function of P.863 results into MOS-LQO

[13] ITU-T G.122 (03/1993)
Influence of national systems on stability and talker echo in international connections

[14] ITU-T P.310 (05/2000)
Transmission characteristics for telephone-band (300-3400 Hz) digital telephones

[15] ETSI TS 101 329-5 (01/2002)
End-to-end quality of service in TIPHON systems; Part5: Quality of service (QoS) measurement methodologies

[16] ETSI TR 101 329-6 (02/2002)
End-to-end quality of service in TIPHON systems; Part 6: Actual measurements of network and terminal characteristics and performance parameters in TIPHON networks and their influence on voice quality

[17] ETSI TS 101 329-2 (01/2002)
End-to-end quality of service in TIPHON systems; Part2: Definition of speech quality of service (QoS) classes

[18] ITU-T E.500 (11/1998)
Traffic intensity measurement principles

[19] ETSI EG 201 769 (10/2000)

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Traffic intensity measurement principles

[19] ETSI EG 201 769 (10/2000)

QoS parameter definitions and measurements; Parameters for voice telephony service required under the ONP voice telephony directive

[20] ITU-T P.800 (08/1996)
Methods for subjective determination of transmission quality

[21] ITU-T G.114 (05/2003)
One-way transmission time

[22] ITU-T G.131 (11/2003)
Control of talker echo

[23] ITU-T G.165 (03/1993)
Echo cancellers
JT-G.165 エコーキャンセラ, 2003 年 4 月

[24] ITU-T G.168 (02/2012(04/2015))
Digital network echo cancellers

[25] ITU-T P.830 (02/1996)
Subjective performance assessment of telephone-band and wideband digital codecs

[26] ITU-T P.810 (02/1996)
Modulated noise reference unit (MNRU)

[27] ITU-T G.191 (03/2010)
Software tools for speech and audio coding standardization

QoS parameter definitions and measurements; Parameters for voice telephony service required under the ONP voice telephony directive

[20] ITU-T P.800 (08/1996)
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[21] ITU-T G.114 (05/2003)
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[22] ITU-T G.131 (11/2003)
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[23] ITU-T G.165 (03/1993)
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[24] ITU-T G.168 (02/2012(04/2015))
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[25] ITU-T P.830 (02/1996)
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[26] ITU-T P.810 (02/1996)
Modulated noise reference unit (MNRU)

[27] ITU-T G.191 (03/2010)
Software tools for speech and audio coding standardization

[28] ITU-T P.862 (02/2001)

Perceptual evaluation of speech quality (PESQ), an objective method for end-to-end speech quality assessment of narrow band telephone networks and speech codecs

[29] ITU-T P.56 (12/2011)

Objective measurement of active speech leve

[30] ITU-T P.50 (09/1999)

Artificial voices

3. 改版の履歴

版数	制定日	改版内容
第1版	2015 年 11 月 12 日	制定

4. 標準策定部門

網管理専門委員会

Ⅲ.＜目次＞

[28] ITU-T P.862 (02/2001)

Perceptual evaluation of speech quality (PESQ), an objective method for end-to-end speech quality assessment of narrow band telephone networks and speech codecs

[29] ITU-T P.56 (12/2011)

Objective measurement of active speech leve

[30] ITU-T P.50 (09/1999)

Artificial voices

3. Change history

Version	Date	Outline
1	Nov. 12, 2015	Published

4. Working Group that developed this standard

Network Management Working Group

Ⅲ.＜Table of contents＞