

Title (en)  
Method for estimating speech quality

Title (de)  
Verfahren zur Schätzung der Sprachqualität

Title (fr)  
Procédé d'évaluation de la qualité vocale

Publication  
**EP 2474975 A1 20120711 (EN)**

Application  
**EP 12000483 A 20100521**

Priority  

- EP 12000483 A 20100521
- EP 10005327 A 20100521

Abstract (en)  
The invention relates to a method for estimating speech quality, wherein a reference speech signal (301) enters a telecommunication network resulting in a test speech signal (302) and wherein the method comprises the following steps of aligning the reference speech signal (301) and the test speech signal (302) by matching signal parts of the reference speech signal (301) with signal parts of the test speech signal (302), wherein matched signal parts (303, 304) are of similar length in the time domain and have similar intensity summed over their length, and computing and comparing the speech spectra of the reference speech signal (301) and the test speech signal (302) that are aligned, resulting in a difference measure, the difference measure being indicative of the speech quality of the test speech signal.

IPC 8 full level  
**G10L 19/00** (2006.01); **G10L 25/69** (2013.01)

CPC (source: EP)  
**G10L 25/69** (2013.01)

Citation (applicant)  

- PAULUS, E.; ZWICKER, E.: "Programme zur automatischen Bestimmung der Lautheit aus Terzpegeln oder Frequenzgruppenpegeln", ACUSTICA, vol. 27, no. 5, 1972
- BEERENDS, J.G.; HEKSTRA, A.P.; RIX, A.W.; HOLLIER, M.P.: "Perceptual Evaluation of Speech Quality (PESQ), the new ITU standard for end-to-end speech quality assessment. Part I - Time alignment", J. AUDIO ENG. SOC., vol. 50, October 2002 (2002-10-01)
- BEERENDS, J.G.; HEKSTRA, A.P.; RIX, A.W.; HOLLIER, M.P.: "Perceptual Evaluation of Speech Quality (PESQ), the new ITU standard for end-to-end speech quality assessment. Part II - Psychoacoustic model", J. AUDIO ENG. SOC., vol. 50, no. 10, October 2002 (2002-10-01)
- BEERENDS, J.G.; STEMERDINK, J.A.: "A perceptual speech quality measure based on a psychoacoustic sound representation", J. AUDIO ENG. SOC., vol. 42, no. 3, December 1994 (1994-12-01)
- "TOSQA - Telecommunication objective speech quality assessment", COM12-34-E, December 1997 (1997-12-01)
- "Methods for subjective determination of transmission quality", ITU-T RECOMMENDATION, 1996, pages 800
- "Objective measurement of active speech level", ITU-T RECOMMENDATION, 1993, pages 56

Citation (search report)  

- [A] EP 1104924 A1 20010606 - KONINKL KPN NV [NL]
- [A] EP 0946015 A1 19990929 - ASCOM INFRASYS AG [CH]
- [A] DE 19840548 A1 20000302 - DEUTSCHE TELEKOM AG [DE]

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)  
BA ME RS

DOCDB simple family (publication)  
**EP 2388779 A1 20111123; EP 2388779 B1 20130220; EP 2474975 A1 20120711; EP 2474975 B1 20130501**

DOCDB simple family (application)  
**EP 10005327 A 20100521; EP 12000483 A 20100521**