

PATENT N°: US 9252728 B2

Jurisdiction: US

Names of the Evaluators		
Lead Evaluator	Assistant Evaluator #1	Assistant Evaluator #2
Allen RUBENSTEIN	Jochen EHLERS	Kan ZU

The above mentioned Evaluators hereby declare that the following claim(s):

- Claim 1
- Claim 17

in the above referenced patent, is(are) essential to making, using in, selling within, or importing into, the countries of registration, any 3GPP product (the applicable Product Categories are given below) that is or purports to be in compliance with the following parts of the Third Generation Partnership Program (3GPP) technical standards:

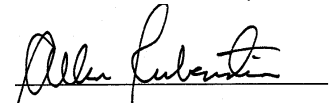
- Document 3GPP TS 26.445 V12.1.0 (2014-12): Sections 2, 4,4, 6.1.3, 6.8.1.1, 6.8.1.4.2, 6.8.1.4.2.1, 6.8.1.4.2.3.2, 6.8.1.4.2.3.3, 6.8.1.4.2.3.4, 6.8.1.4.2.3.5, 6.8.1.4.2.4 and 6.8.1.5
- 3GPP TS 26.447 V12.1.0 (2014-12): Section 5.1.2; Table 2

Claim 1 is relevant for 3GPP Terminal Products and 3GPP Base Station Products.

Claim 17 is relevant for 3GPP Terminal Products and 3GPP Base Station Products.

Authorized signature and date

December 12, 2017



Allen RUBENSTEIN, Esq.
Gottlieb Rackman & Reisman, P.C.



US009252728B2

(12) **United States Patent**
Vaillancourt et al.

(10) **Patent No.:** **US 9,252,728 B2**

(45) **Date of Patent:** **Feb. 2, 2016**

(54) **NON-SPEECH CONTENT FOR LOW RATE CELP DECODER**

USPC 381/22, 98; 704/206, 500, E19.001, 219
See application file for complete search history.

(71) Applicant: **VOICEAGE CORPORATION**, Town of Mount Royal (CA)

(56) **References Cited**

(72) Inventors: **Tommy Vaillancourt**, Sherbrooke (CA);
Milan Jelinek, Sherbrooke (CA)

U.S. PATENT DOCUMENTS
6,240,386 B1 5/2001 Thyssen et al.
6,704,711 B2 3/2004 Gustafsson et al.

(73) Assignee: **VoiceAge Corporation**, Town of Mount Royal, Quebec (CA)

(Continued)

FOREIGN PATENT DOCUMENTS

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 391 days.

WO 03102921 12/2003
WO 2007073604 7/2007

(Continued)

(21) Appl. No.: **13/667,921**

OTHER PUBLICATIONS

(22) Filed: **Nov. 2, 2012**

Johnston, et al., "Transform Coding of Audio Signals Using Perceptual Noise Criteria", IEEE Journal on Selected Areas in Communications, vol. 6, No. 2, pp. 314-323, Feb. 1988.

(65) **Prior Publication Data**

US 2013/0121508 A1 May 16, 2013

(Continued)

Related U.S. Application Data

(60) Provisional application No. 61/555,246, filed on Nov. 3, 2011.

Primary Examiner — Disler Paul

(74) Attorney, Agent, or Firm — K&L Gates LLP

(51) **Int. Cl.**

G10L 21/00 (2013.01)
H03G 3/20 (2006.01)
G10L 19/20 (2013.01)
G10L 19/26 (2013.01)
G10L 19/08 (2013.01)

(Continued)

(57)

ABSTRACT

A method and device for modifying a synthesis of a time-domain excitation decoded by a time-domain decoder, wherein the synthesis of the decoded time-domain excitation is classified into one of a number of categories. The decoded time-domain excitation is converted into a frequency-domain excitation, and the frequency-domain excitation is modified as a function of the category in which the synthesis of the decoded time-domain excitation is classified. The modified frequency-domain excitation is converted into a modified time-domain excitation, and a synthesis filter is supplied with the modified time-domain excitation to produce a modified synthesis of the decoded time-domain excitation.

(52) **U.S. Cl.**

CPC **H03G 3/20** (2013.01); **G10L 19/20** (2013.01);
G10L 19/26 (2013.01); **G10L 19/08** (2013.01);
G10L 19/22 (2013.01); **G10L 25/78** (2013.01);
G10L 25/81 (2013.01); **G10L 25/93** (2013.01)

(58) **Field of Classification Search**

CPC H03G 5/00; G10L 19/12; G10L 19/02

32 Claims, 4 Drawing Sheets

