

PATENT N°: US 9384755 B2

Jurisdiction: US

Names of the Evaluators		
Lead Evaluator	Assistant Evaluator #1	Assistant Evaluator #2
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The above mentioned Evaluators hereby declare that the following claim(s):

- Claim 1
- Claim 14

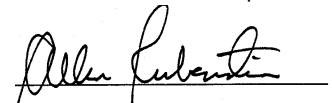
in the above referenced patent, is(are) essential to making, using in, selling within, or importing into, the countries of registration, any 3GPP product (the applicable Product Categories are given below) that is or purports to be in compliance with the following parts of the Third Generation Partnership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

- Document 3GPP TS 26.445 V12.1.0 (2014-12): Sections 2, 4.4, 6.1.1, 6.1.1.3, 6.1.1.3.4, 6.1.1.3.4.1, 6.1.1.3.4.2, 6.1.1.3.4.7, 6.1.1.3.4.8, 6.1.1.3.4.9, 6.1.1.3.4.10, 6.1.1.3.4.11 and 6.1.3

Claim 1 is relevant for 3GPP Terminal Products and 3GPP Base Station Products.
Claim 14 is relevant for 3GPP Terminal Products and 3GPP Base Station Products.

Authorized signature and date

December 12, 2017



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US009384755B2

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

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(54) **DEVICE AND METHOD FOR REDUCING QUANTIZATION NOISE IN A TIME-DOMAIN DECODER**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 101 days.

(21) Appl. No.: **14/196,585**

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Related U.S. Application Data

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(51) **Int. Cl.**
G10L 21/0208 (2013.01)
G10L 19/26 (2013.01)
(Continued)

(52) **U.S. Cl.**
CPC **G10L 21/0208** (2013.01); **G10L 19/26** (2013.01); **G10L 25/21** (2013.01); **G10L 25/78** (2013.01); **G10L 25/93** (2013.01)

(58) **Field of Classification Search**
CPC G10L 19/03; G10L 21/0208
See application file for complete search history.

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(57) **ABSTRACT**

The present disclosure relates to a device and method for reducing quantization noise in a signal contained in a time-domain excitation decoded by a time-domain decoder. The decoded time-domain excitation is converted into a frequency-domain excitation. A weighting mask is produced for retrieving spectral information lost in the quantization noise. The frequency-domain excitation is modified to increase spectral dynamics by application of the weighting mask. The modified frequency-domain excitation is converted into a modified time-domain excitation. The method and device can be used for improving music content rendering of linear-prediction (LP) based codecs. Optionally, a synthesis of the decoded time-domain excitation may be classified into one of a first set of excitation categories and a second set of excitation categories, the second set including INACTIVE or UNVOICED categories, the first set including an OTHER category.

30 Claims, 4 Drawing Sheets

