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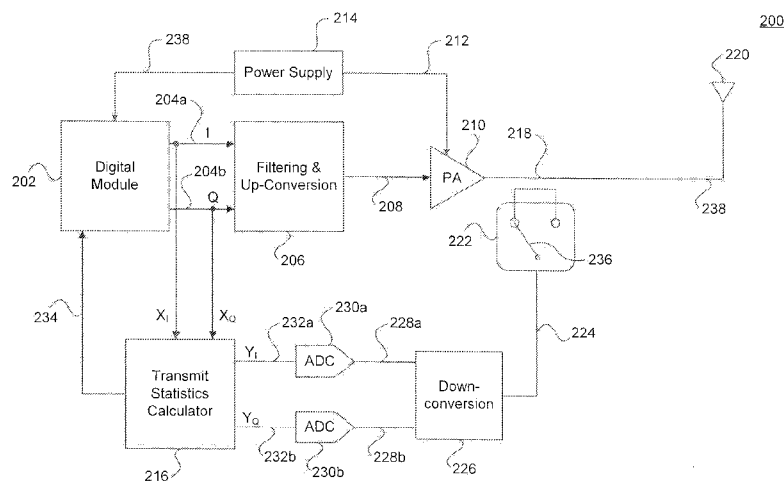
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2 May 2013(54) Title: CONTROLLING A TRANSMIT PATH BASED ON MONITORED ERROR VECTOR MAGNITUDE (EVM) PER-
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FIG. 2

(57) Abstract: Embodiments provide systems and methods to dynamically control a radio frequency (RF) transmitter based on mon-
itored error vector magnitude (EVM) performance. Embodiments are enabled by a feedback path that allows estimating the EVM at
the output of the transmitter and controlling the transmitter, including the power amplifier (PA), accordingly. As such, the transmit-
ter (and the PA) can be operated as close as possible to the ideal operating point that meets, based on actual conditions, a specified
EVM performance and desired output power. By doing so, the overall power consumption of the transmitter is reduced.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 12/41559

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H01Q 11/12 (2012.01)

USPC - 455/127.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

USPC: 455/127.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

USPC: 455/68, 115.2, 127.1; 330/75 (keyword limited - see terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWEST (PGPB, USPT, USOC, EPAB, JPAB); GOOGLE; GoogleScholar; Thomson Innovation

Search Terms: transmit, amplification, power amplifier, power, vector, phase, quadrature, error, magnitude, output, coupling, gain, driver, voltage, wireless, phase, estimate, comparison

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X — Y	US 2004/0137856 A1 (Kanazawa et al.) 15 July 2004 (15.07.2004), entire document, especially; abstract, para. [0014], [0019]-[0022], [0042], [0046], [0066]-[0069], [0076]	21 - 23 — 1 - 20
Y	US 2008/0032634 A1 (Magoon et al.) 07 February 2008 (07.02.2008), entire document, especially; abstract, para. [0012], [0037], [0045], [0046], [0062]	1 - 20
Y	US 2009/0285330 A1 (Premakanthan et al.) 19 November 2009 (19.11.2009), entire document, especially; abstract, para. [0013], [0014], [0023]-[0025], [0037]-[0039]	3, 4, 13



Further documents are listed in the continuation of Box C.



* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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Date of the actual completion of the international search

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