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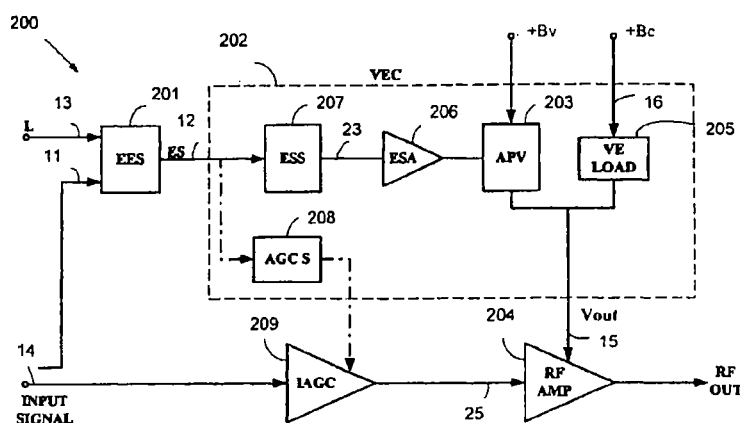
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(54) Title: IMPROVED METHOD AND APPARATUS FOR IMPROVING THE EFFICIENCY OF POWER AMPLIFIERS, OPERATING UNDER A LARGE PEAK-TO-AVERAGE RATIO



(57) Abstract: Method and apparatus for improving the efficiency and the dynamic range of a power amplifier operated with signals having a large peak-to-average ratio. A reference level is determined, above which at least a portion of the magnitude of an input signal being a modulated signal that is input to the power amplifier, or a baseband waveform that is used to generate the modulated signal, is defined as an excess input signal. The magnitude of the input signal is continuously sampled, for detecting an excess input signal. A lower level of operating voltage is supplied to the power amplifier, if no excess input signal is detected. The lower level of operating voltage is sufficient to effectively amplify input signals having a magnitude below the reference level. A higher level of operating voltage is supplied to the power amplifier, whenever an excess input signal is detected. The higher level of operating voltage is sufficient to effectively amplify input signals having a magnitude above the reference level.



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