

## ABSTRACT

## Linearization device for a power amplifier

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Linearization device for a power amplifier (10) using adaptive digital baseband predistortion including a pre-inverse block (21) receiving a complex discretized input signal  $\tilde{x}_e(n)$  and restoring a complex predistorted signal  $\tilde{x}_p(n)$  at the power amplifier (10) input, characterized in that the pre-inverse block includes a first module (211) and a second module (212) receiving the modulus of the complex input signal  $|\tilde{x}_e(n)|$  at the input whose value is included in an amplitude domain varying between two values 0 and  $A_{\max}$ , the amplitude domain being split into a plurality of segments, the first module (211) associating with each value of the complex input signal modulus  $|\tilde{x}_e(n)|$  contained in a given segment, a set of several parameters defining a model implemented in the second module (212) via a function  $F_j$ , the second module (212) restoring a value  $F_j(|\tilde{x}_e(n)|)$ , the complex predistorted signal resulting from multiplying the complex input signal  $\tilde{x}_e(n)$  by the value  $F_j(|\tilde{x}_e(n)|)$ .

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Figure 2



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