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(54) Title: NON-COHERENT SIX-PORT RECEIVER**(57) Abstract**

According to the present invention, a method and a receiver for high-frequency signals is provided. The receiver comprises a power divider (4) to divide a modulated RF input signal in at least two branches. At least one delay line (5, 6) provides for a delay of the branches relatively to each other by a predetermined delay constant. A calculation circuit (7, 8) calculates at least three power levels based on combinations (12, 13, 14) of the two branches of the input signal relatively delayed (5, 6) to each other. A processing means (10) calculates the phase and the amplitude of a complex signal representing the relation between the two branches of the input signal relatively delayed to each other, on the basis of the said at least three power levels (8). The invention therefore provides for a direct 6-port receiver based on non-coherent detection. The concept of the invention is inherently cheap and features high integration ability and low-cost processes. Ideally the whole RF front end can be placed on one chip.

