

## Impedance matching in active integrated antenna receiver front end design

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A.S. Andrenko, Y. Ikeda, M. Nakayama and O. Ishida. *"Impedance matching in active integrated antenna receiver front end design."* 2000 Microwave and Guided Wave Letters 10.1 (Jan. 2000 [MGWL]): 16-18.

The active integrated antenna (AIA) concept has been realized in the design of integrated amplifier front end, which enables its applications in novel adaptive antenna systems. To address the problem of mismatch between antenna element and amplifier, we present the matching renditions of both gain impedance and noise figure minimum impedance. In addition, the application of these principles is demonstrated in the design of ultra-compact helical AIA receiver front end for operation at 2.1 GHz. Amplifier simulation and measurements have been carried out to confirm the design procedure. It is shown that the proposed configuration can be successfully used in novel wireless handsets.

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