ICT10-017 - PWM-based transmitter for green base-stations (TX4Green)

Zusammenfassung

A new approach for improving the efficiency of high frequency power amplifiers without influencing linearity shall be investigated: This shall be achieved by a holistic approach combining power efficient amplifiers with digital pulsewidth-modulated (PWM) excitation, and suitable linearization concepts. This requires new characterization techniques, specially adapted for the use of PWM-signals. Based on simulation and characterization results the potential of the concept will be demonstrated and further evaluated with prototype amplifiers allowing an in-depth understanding of this new approach. By concentrating the already existing core competences this project shows high potential for a new generation of radio frequency power amplifiers. This would allow a sustainable reduction of mobile communication networks' power consumption and, therefore, less environmental impact.

Schlagworte:
RF, power amplifier, efficiency, linearity, linearization, SMPA, switched mode, class J, PWM, pulse width modulation, spectral shaping

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Weiterführende Links zu den beteiligten Personen und zum Projekt finden Sie unter
https://wwtf.at/funding/programmes/ict/ICT10-017/