

## An Ultra-Low Output Impedance Power Amplifier for Tx Array in 7-Tesla Magnetic Resonance Imaging

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**Abstract :** In Ultra high-field MRI scanners (3T and higher), parallel RF transmission techniques using multiple RF chains with multiple transmit elements are a promising approach to overcome the high-field MRI challenges in terms of inhomogeneity in the RF magnetic field and SAR. However, mutual coupling between the transmit array elements disturbs the desirable independent control of the RF waveforms for each element. This contribution demonstrates a 18 dB improvement of decoupling (isolation) performance due to the very low output impedance of our 1 kW power amplifier.

**Keywords :** EM coupling, inter-element isolation, magnetic resonance imaging (mri), parallel transmit

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