



Smart RF and mmWave powering on demand with ranging and focusing capabilities

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In this contribution recent techniques to selectively provide wireless EM energy to targets, in real time are presented. The novel architectures, based on the frequency diverse array technique, combined with smart duty cycling of the power sources, enable to choose not only the direction but also the position where the RF power need be concentrated, providing high level of reconfigurability in real time with demanding power control capabilities. Designs of such reconfigurable systems are presented in the microwave and millimeter wave ranges, demonstrating the possibility of reconfigurable wireless power transmitters to be pervasively distributed in harsh electromagnetic environments deployable in industrial and automotive sectors.