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Power Amplifier Memory-less Pre-distortion for 3GPP LTE Application

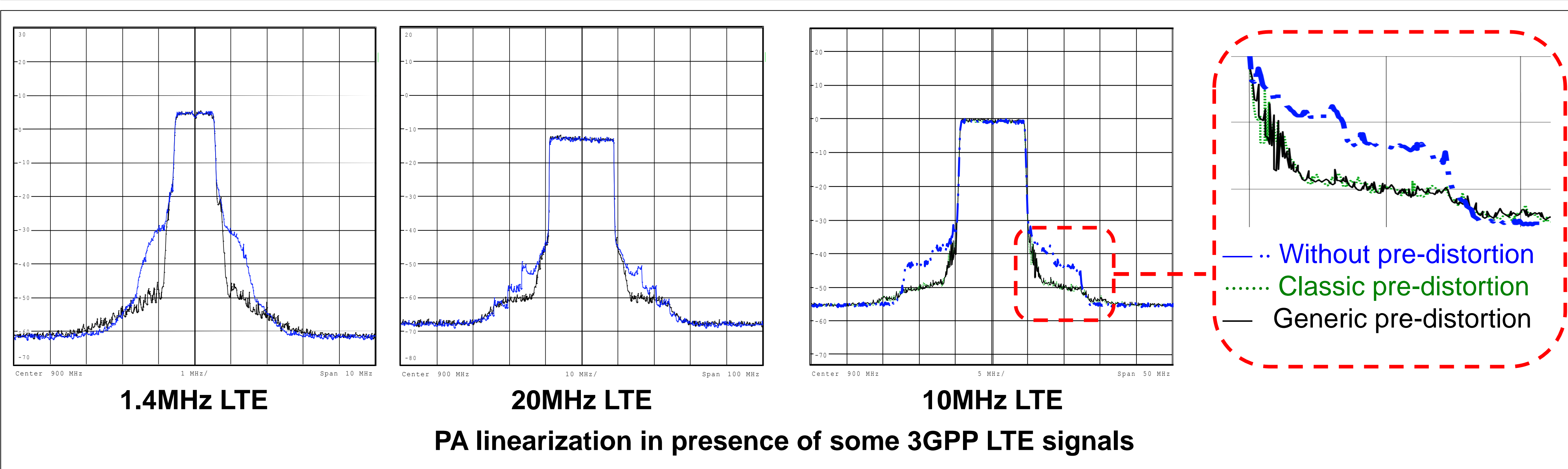
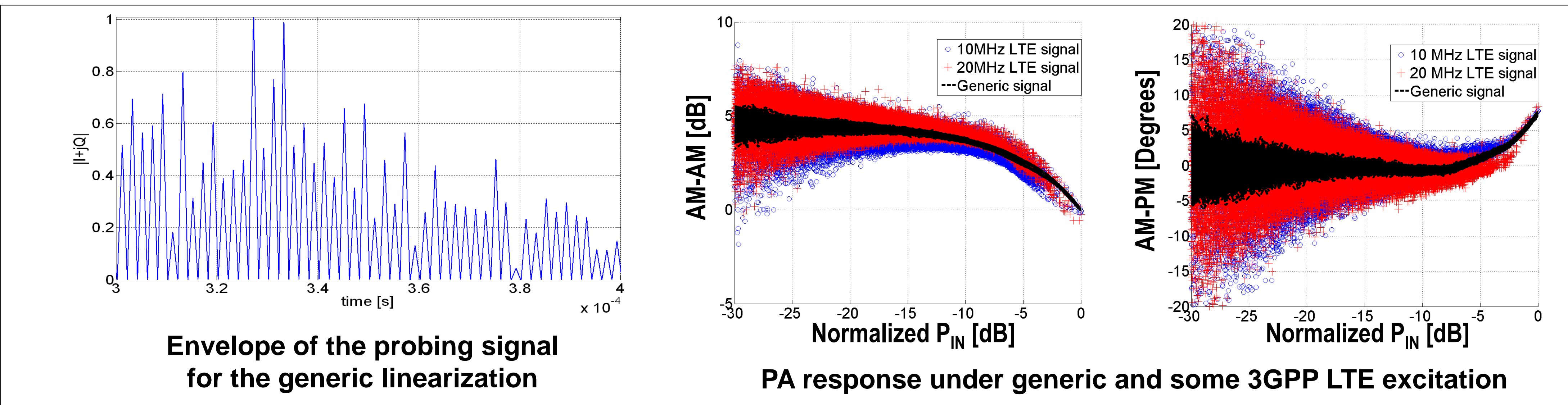
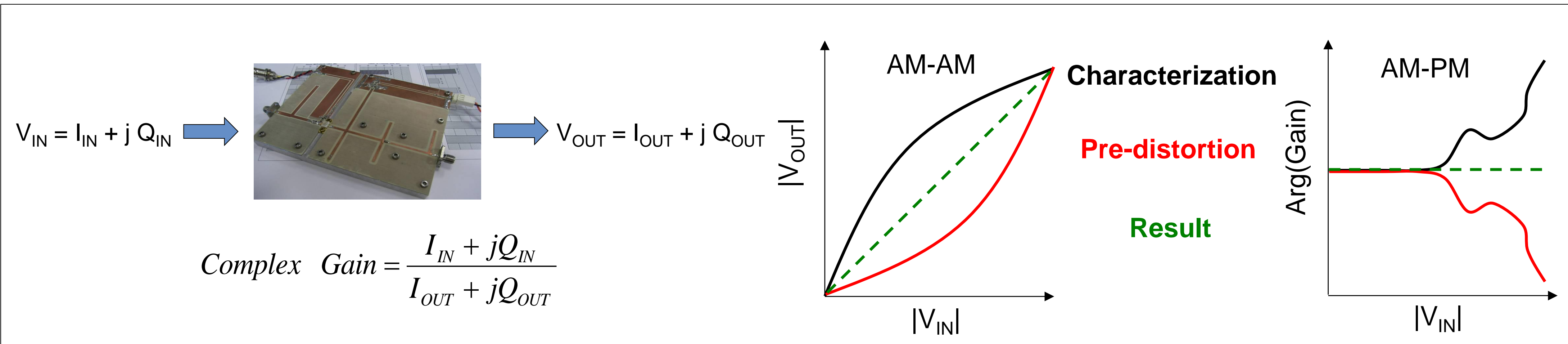
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ABSTRACT: Classic linearization of an RF Power Amplifier (PA) is based on measuring its response to a representative test signal in order to extract pre-distortion parameters. Characterizing an RF PA under 3GPP LTE RF signals requires high speed data acquisition instruments and customized algorithms to estimate its response. **In this work, a PA linearization method using a generic probing signal to extract pre-distortion parameters is proposed.** A 12W GaN HEMT inverse Class-F structure designed to operate at 900MHz is tested to demonstrate the proof of concept.



CONCLUSION: A Generic PA linearization method using a generic probing signal to extract pre-distortion parameters is proposed. Due to the use of a relatively slowly varying envelope, the extraction of the pre-distortion parameters is :

- Less sensitive to coarse delay estimation during AM-AM and AM-PM measurements.
- Valid in the presence of various LTE signals which relax the requirements on base band resources.