

Digital Quadrature Spatial Combining: An Efficient mm-Wave Beamforming Transmitter

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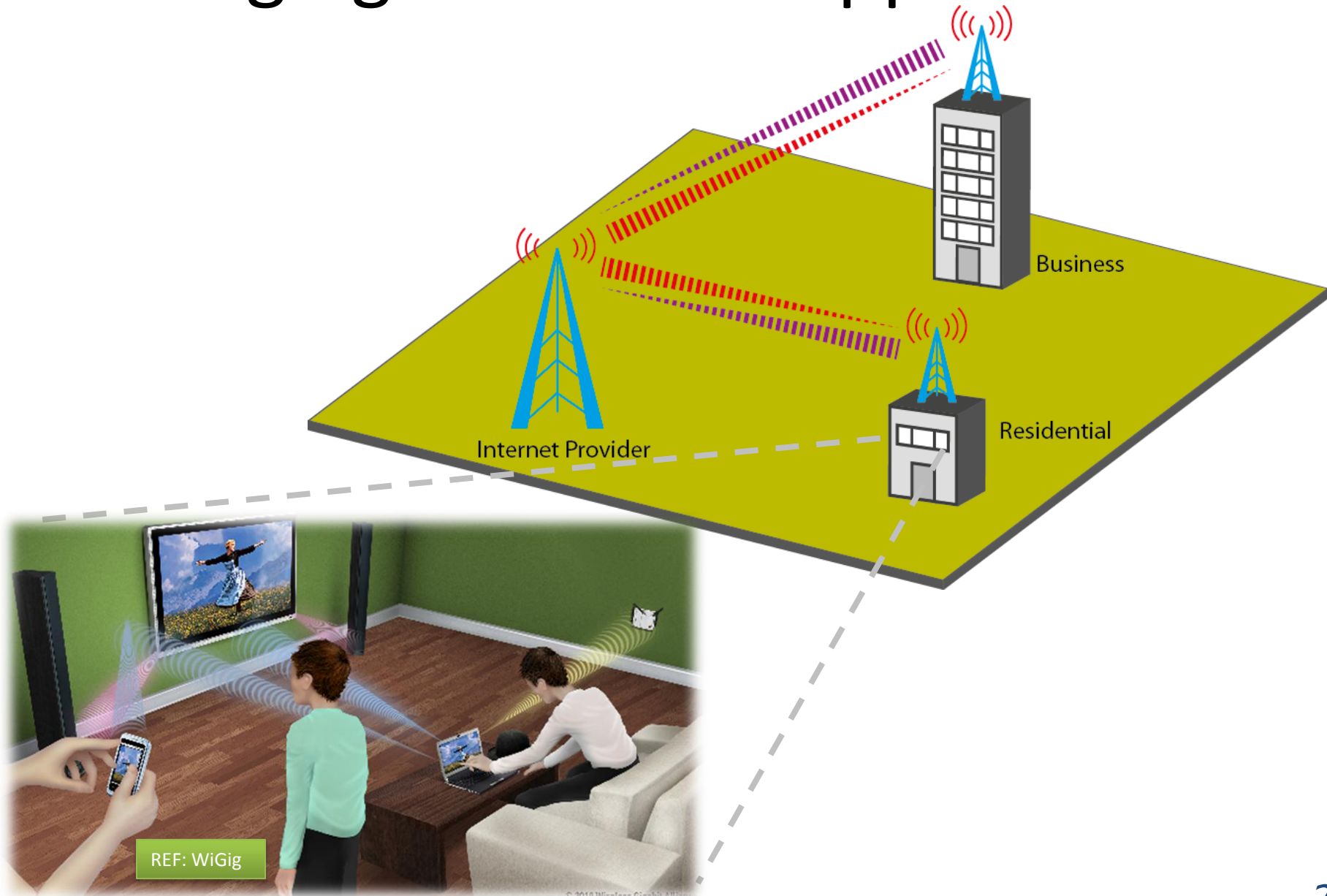
Feb. 14th, 2013 BEARS



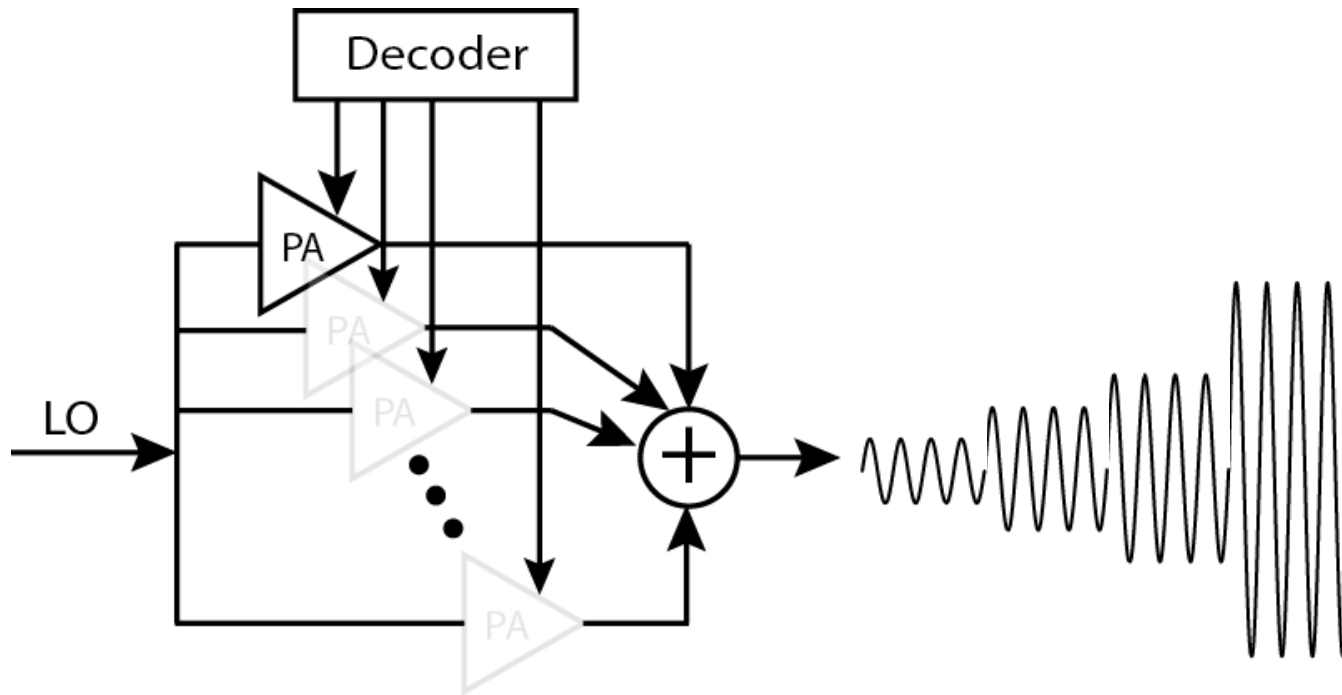
BWRC



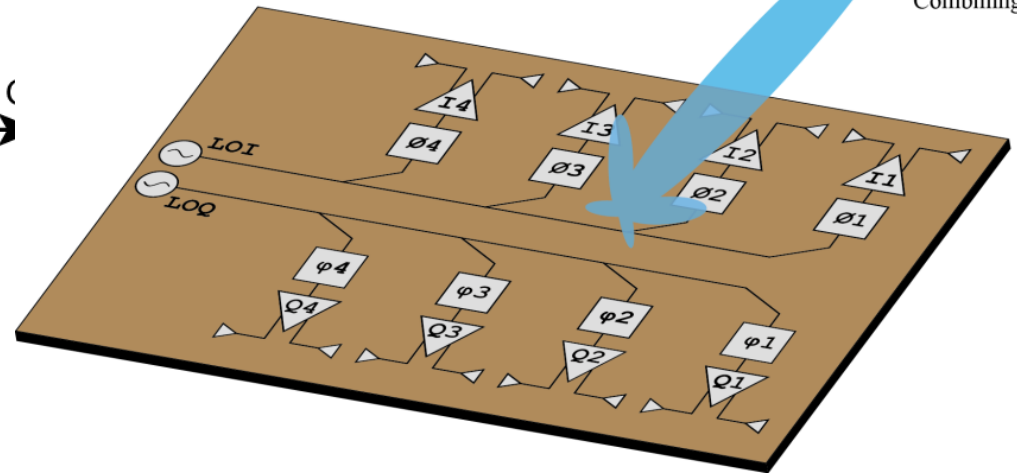
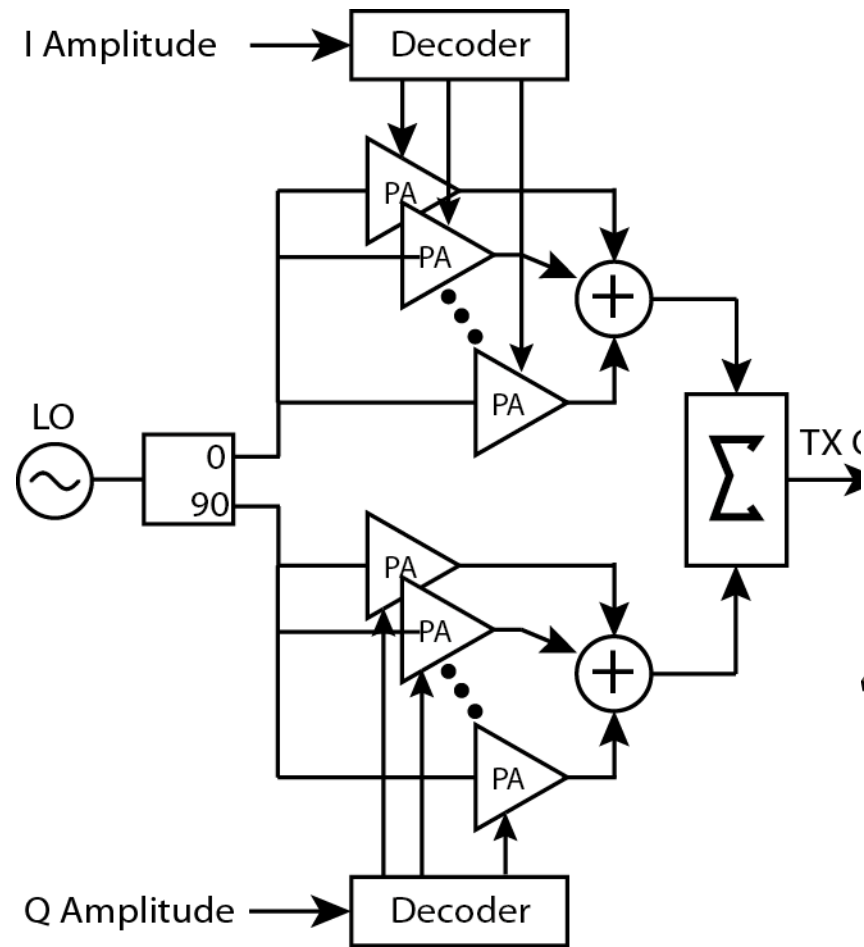
Emerging mm-Wave Applications



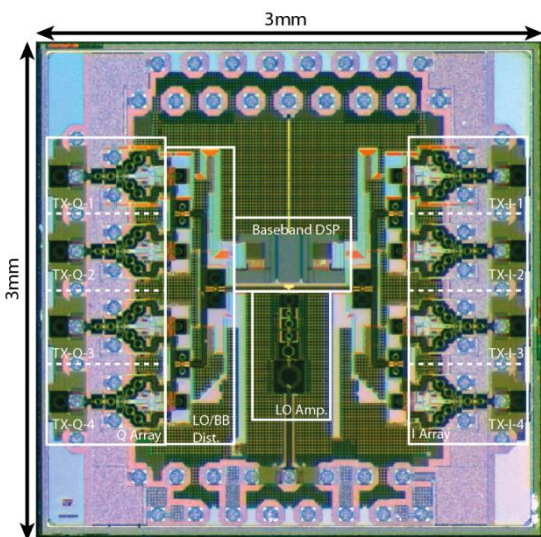
“Digital” Transmitters



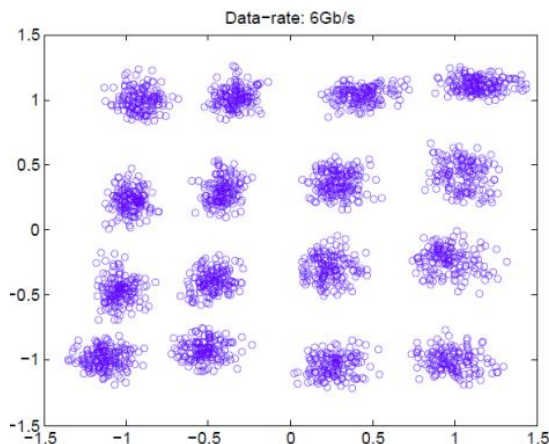
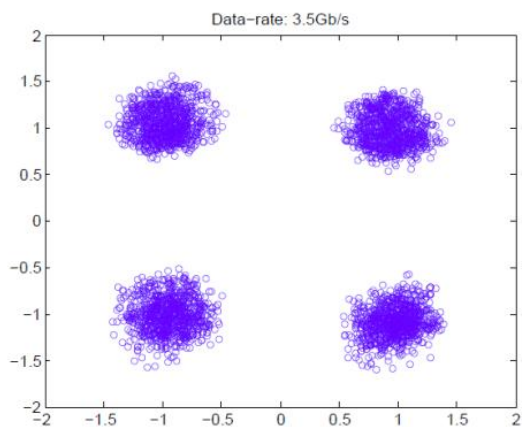
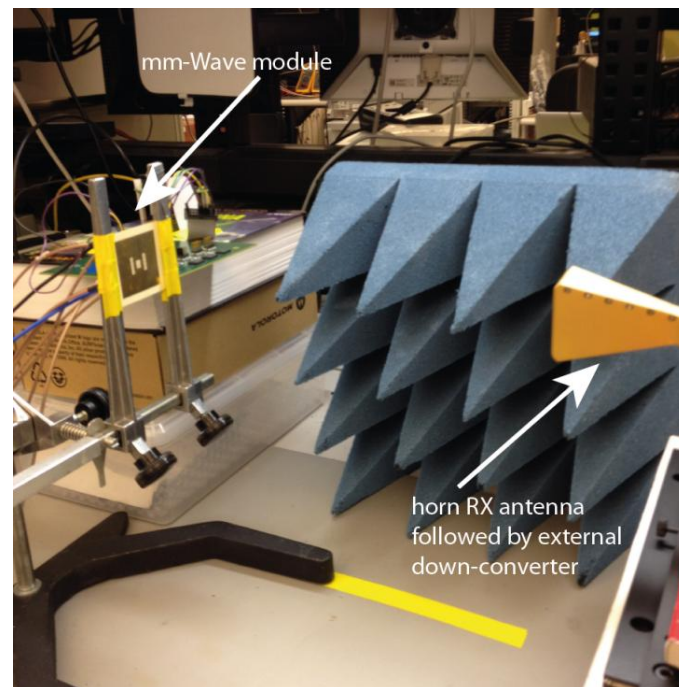
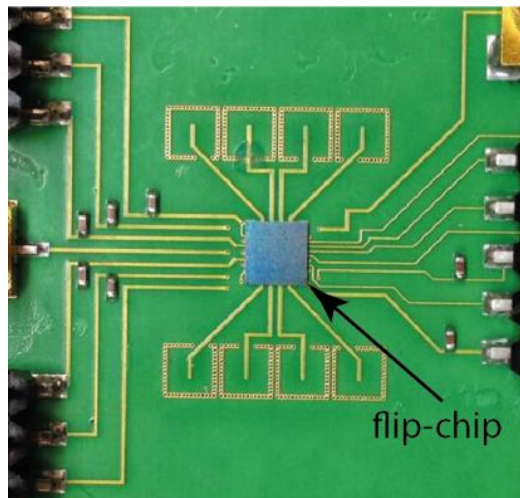
Digital Quadrature Spatial Combining



WiGig Prototype Demonstration



Package frontside



CW Mode

Peak EIRP (dBm)	22
PA peak efficiency (%)	28.5
6dB Backoff (Transmission Mode)	
PA average efficiency (%)	16.5
Peak data rate (Gb/s)	6
EVM (dB)	-16.2