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Title:Phase-noise measurement system for the terahertz-band
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Abstract:We present phase-noise measurements in support of terahertz electronics. By combining even-harmonic mixers with a 2.5 GHz frequency comb, we achieve a phase-noise measurement system in waveguide (WR1.5) by use of cross-spectral and digital phase-noise measurement techniques. At 670 GHz an upper bound of this system's noise floor is found to be -20,-40, and $-60dBc/Hz at 1, 100, and 10000 Hz offsets, respectively. In addition, a commercial, low-phase-noise, 670 GHz source is measured at offset frequencies from 0.1 Hz to 1 MHz. © 2011-2012 IEEE.
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