

13.5-mW, 5-GHz WLAN, CMOS Frequency Synthesizer Using a True Single Phase Clock Divider

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An integrated 5GHz frequency synthesizer consuming only 5.4mA from a 2.5V supply is demonstrated in 0.25 μ m CMOS technology. The divider within the synthesizer employs the True Single Phase Clock logic. The output frequency spans from 5.14 to 5.70GHz, with steps of 20MHz. The reference spurs are -70 dBc and the phase noise is lower than -116 dBc/Hz at 1MHz offset over the whole tuning range. The synthesizer is suitable for the HiperLAN II and for the IEEE 802.11a standards.