Next-Generation SiGe Technology for High Volume Consumer RF Applications

TowerJazz announced design kit availability for its next-generation 130 nm SiGe BiCMOS technology (SBL13) for high volume consumer RF applications. The SBL13 process combines SiGe bipolar performance with a mature 130 nm CMOS copper (Cu) backend to achieve high performance RF with more integrated digital logic. The technology is targeted at wireless RF and digital TV tuner applications which together are greater than $1B markets and where higher performance, lower cost and higher digital integration are required. SBL13 is the first SiGe BiCMOS process to be built in its Israeli fab, and TowerJazz is the only foundry with SiGe BiCMOS in more than one fab, enabling unique manufacturing flexibility for high-performance RF designs. The SBL13 process is well-suited for WLAN transceivers, cell phone transceivers, and TV tuners. By combining a mature 130 nm Cu CMOS platform and a rich IP offering, it enables the design of complex baseband and demodulator functions at less than one-half the die size of a 0.18um process. A 100GHz SiGe bipolar device enables integration of low-noise and low-power RF and a high voltage SiGe device enables integration of power amplifiers and drivers. The SBL13 process includes three NPN transistors with 40GHz, 74GHz and 100GHz Ft as well as high density passive elements such as an industry leading 5.6fF/um2 MIM capacitor and 3um thick copper inductors. 130nm CMOS with copper metallization achieves digital logic densities of up to 200Kgates/mm2 to result in higher performance and more highly integrated RF products.

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