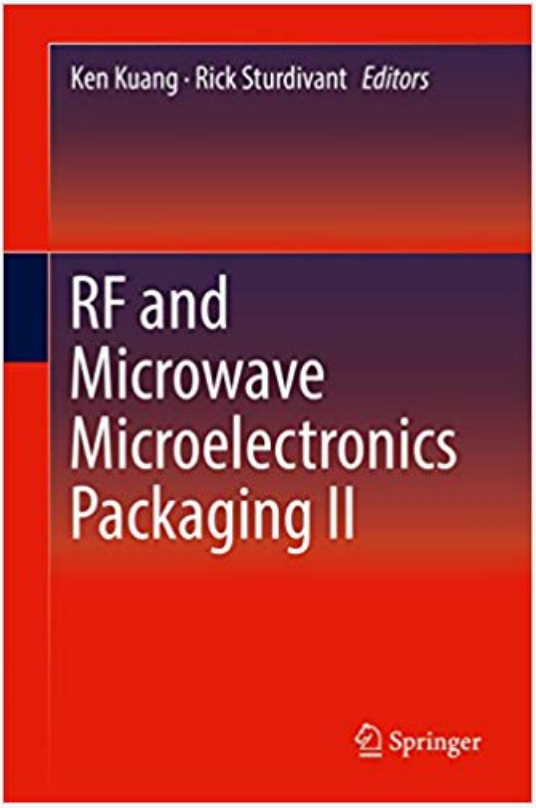
# What is 5G?

*5G will change the way we communicate for ever!*

SAN DIEGO, CA, UNITED STATES, March 12, 2019 /EINPresswire.com/ -- 5G (from "5th Generation") is the latest generation of cellular mobile communications. It succeeds the 4G, 3G and 2G. 5G performance targets high data rate, reduced latency, energy saving, cost reduction, higher system capacity, and massive device connectivity.
Like the earlier generation 2G, 3G, and 4G mobile networks, 5G networks are digital cellular networks, in which the service area covered by providers is divided into a mosaic of small geographical areas called cells. Analog signals representing sounds and images are digitized in the phone, converted by an analog to digital converter and transmitted as a stream of bits. All the 5G wireless devices in a cell communicate by radio waves with a local antenna array and low power automated transceiver (transmitter and receiver) in the cell, over frequency channels assigned by the transceiver from a common pool of frequencies, which are reused in geographically separated cells. The local antennas are connected with the telephone network and the Internet by a high bandwidth optical fiber or wireless backhaul connection. Like existing cellphones, when a user crosses from one cell to another, their mobile device is automatically "handed off" seamlessly to the antenna in the new cell.



RF and Microwave Microelectronics Packaging

Their major advantage is that 5G networks achieve much higher data rates than previous cellular networks, up to 10 Gbit/s; which is faster than current cable internet, and 100 times faster than the previous cellular technology, 4G. Because of the higher data rates, 5G networks will serve not just cellphones but are also envisioned as a general home and office networking provider, competing with wired internet providers like cable. Previous cellular networks provided low data rate internet access suitable for cellphones, but a cell tower could not economically provide enough bandwidth to serve as a general internet provider for home computers.

> 5G will have an impact similar to the introduction of electricity or the car, affecting entire economies and benefiting entire societies."
> *Steve Mollenkopf, Qualcomm CEO*

5G networks achieve these higher data rates by using higher frequency radio waves, in or near the millimeter wave band from 30 to 300 GHz, whereas previous cellular networks used frequencies in the microwave band between 700 MHz and 3 GHz. (Source: Wikipedia)

One of the technology drivers behind is called RF (Radio Frequency) and Microwave Packaging. Want to know more, please check out this book RF and Microwave Microelectronics Packaging by

Springer https://www.amazon.com/RF-Microwave-Microelectronics-Packaging-II-ebook/dp/B06XJK3HMB .

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