Abstracts

Recent Advances on Millimeterwave PCN System Development in Europe

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The possibility to apply millimeter-waves for various applications in the commercial arena has a long history, as the technical advantages being offered by such systems are known since more than 3 decades. Within the last 5 years the necessity of turning their attention away from the military sector towards commercial products has forced more and more companies to look at millimeterwave communications very thoroughly. As a matter of fact and fortunately this was accompanied by the advent of low-cost integration procedures, i.e. Hybrid- and Monolithic-Integration Techniques, respectively. Having the necessary technology at hand, mature and commercially available, a wide field of employment areas has been opened. From indoor high-speed radio communication systems at 10.6 GHz, as proposed by NTT of Japan, over "gateways" for mobile or new, 'deregulated' stationary telephone systems at 38 and 55 GHz, being available from northern telecom, UK, and WLAN's at 60 GHz, like the MBS project, being under research within the European RACE-programme, to the optic microwave hybrid approach for pico-cellular PCN's, as proposed by ALCATEL-SEL of Germany and CNET of France the scope of today's applications is spanning. While the military market is still decreasing, the commercial application of millimeterwaves is ongoing to increase very rapidly. The actual status and the upcoming technology trends, as they can be seen from Europe, will be surveyed.

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