Abstracts

Commercial Applications of Millimeterwaves History, Present Status, and Future Trends

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The possibility to apply millimeterwaves for various applications in the commercial arena has a long history, as the advantages being offered by such systems have been known for more than three decades. Within the last five years the necessity of turning their attention away from the military sector towards commercial products has caused more and more companies to look at millimeterwave communications and automotive radar. By chance, this was accompanied by the advent of low-cost integration procedures, i.e., hybrid- and monolithic-integration techniques, respectively. Thus, the necessary technology is mature and available now, opening a wide field of deployment areas. Millimeterwave systems have found an ever increasing interest, due to their specific advantages, as well as the lack of frequencies for new services. While the military market is decreasing, commercial applications in the area of microwave tags, radio communication, and traffic control are increasing rapidly. The two most important application areas right now are 38 GHz short-haul transmission links for PCN installations, an already valuable niche market, and 77 GHz automotive radar sensors-simple collision warning devices and intelligent cruise control sensors as well-which have the largest market potential for the very near future.

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