96
Accession number:20114214431746
Title:140 GHz data rate wireless communication technology research
Authors:Wang, Cheng (1); Lin, Chang-Xing (1); Deng, Xian-Jin (1); Xiao, Shi-Wei (1)
Author affiliation:(1) Institute of Electronic Engineering, China Academy of Engineering Physics, Mianyang 621900, China
Corresponding author:Wang, C.(c-w04@163.com)
Source title:Dianzi Yu Xinxi Xuebao/Journal of Electronics and Information Technology
Abbreviated source title:Dianzi Yu Xinxi Xuebao
Volume:33
Issue:9
Issue date:September 2011
Publication year:2011
Pages:2263-2267
Language:Chinese
ISSN:10095896
CODEN:DKXUEC
Document type:Journal article (JA)
Publisher:Science Press, 18,Shuangqing Street,Haidian, Beijing, 100085, China
Abstract:Utilizing the wide band characteristic of Terahertz spectrum is an important research aspect of high data rate information transmission. Low radiation power, high atmosphere attenuation and lack of efficient modulation/demodulation methods are important limiting factors of THz communication. This paper proposes to realize THz communication based on "Schottky diode subharmonic mixer + high data rate 16 QAM digital modulation/demodulation" scheme with the advantage of improving the spectrum efficiency. A 140 GHz wireless communication system is developed, which has validated the possibility of high data rate 16 QAM signal transmission over THz channel. 10 Gbps wireless data transmission and high difination video transmission is realized over 0.5 m, with -3 dBm transmission power and data error rate less than 1e-6.
Number of references:13