

بسم الله الرحمن الرحيم

قال تعالى:.

(225) اللَّهُ لَا إِلَهَ إِلَّا هُوَ الْحَيُّ الْقَيُّومُ لَا تَأْخُذُهُ سِنَّةٌ وَلَا نَوْمٌ لَهُ مَا فِي السَّمَاوَاتِ وَمَا فِي الْأَرْضِ مَنْ ذَا الَّذِي يَشْفَعُ عِنْدَهُ إِلَّا بِإِذْنِهِ يَعْلَمُ مَا بَيْنَ أَيْدِيهِمْ وَمَا خَلْفَهُمْ وَلَا يُحِيطُونَ بِشَيْءٍ مِّنْ عِلْمِهِ إِلَّا بِمَا شَاءَ وَسِعَ كُرْسِيُّهُ السَّمَاوَاتِ وَالْأَرْضَ وَلَا يَئُودُهُ حِفْظُهُمَا وَهُوَ الْعَلِيُّ الْعَظِيمُ (256)

صدق الله العظيم

سورة البقرة الآية من (225 - 256)

dedication

We dedicate this project to may teach us a word and gave us courage and knowledge and then.

To our parents ...

To our brothers ...

To our friends (BSC&MSC student)...

To our Academy of Engineering science ...

To our Sudan university of science Technology...

To our country...

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Abbreviation

<i>Abbreviation Name</i>	<i>Abbreviation</i>
ACK	Acknowledge
AWGN	additive white Gaussian noise
ADSL	asymmetric digital subscriber loop
BER	Bit Error Rates
BEP	bit error probability
CORDIC	Coordinate Rotation Digital Computer
CCDF	complementary cumulative distribution function
CTS	clear-to-send
CDMA	Code Division Multiple Access
DFT	Discrete Fourier Transform
DSL	digital subscriber line
DMT	discrete multi-tone
DAB	digital audio broadcasting

<i>Abbreviation Name</i>	<i>Abbreviation</i>
DSP	digital signal processing
DAC	digital-to-analog converter
DTVB	digital terrestrial video broadcasting
FIR	Finite Impulse Response Filter
FLASH-OFDM	Fast Low-latency Access with Seamless Handoff OFDM
FDM	frequency division multiplexing
FH	frequency hopping
FFT	fast Fourier transform
GSM	Global System for Mobile telecommunications
ICI	inter carrier interference
IDFT	Inverse Discrete Fourier Transform
IBI	Inter block interference
IEEE	Institute of Electrical Electronic Engineering

<i>Abbreviation Name</i>	<i>Abbreviation</i>
ISI	Inter-symbol interference
ICI	inter-carrier interference
IFFT	Inverse Fast Fourier Transform
LTE	Long Term Evolution
LAN	Local Area Network
LOS	line of sight
MAN	metropolitan area network
MIMO	multi input multi out put
MBWA	mobile broadband wireless access
OFDM	Orthogonal Frequency Division Multiplexing
OQAM	offset quadrature amplitude modulation
OA	operational amplifier
PAPR	peak-to-average power ratio
QAM	quadrature amplitude modulation
RTS	request-to-send

<i>Abbreviation Name</i>	<i>Abbreviation</i>
RF	Radio Frequency
SSPA	solid state power amplifiers
TDMA	Time division multiple access
TWTA	traveling wave tube amplifiers
TDM	time-division multiplexing
3GPP	Third Generation Partnership Project
3G	Third Generation
VDSL	very high speed DSL
VLSI	very large scale integrated circuits
Wi-MAX	Worldwide Interoperability for Microwave Access
WCDMA	Wide Band CDMA
WLAN	Wireless Local Area Network

Abstract

In the last years wireless communications have experienced a fast growth. However, wireless channels have some drawback just like the multi-path fading. Orthogonal Frequency Division Multiplexing (OFDM) has been an attractive solution for multi-path fading channels, An important problem of OFDM systems is the high peak-to-average power ratio (PAPR).

There are several ways to reduce the PAPR of OFDM systems .A simple technique is clipping such as circle clipping, and square clipping, those methods are called conventional clipping methods, clipping has an effect called Out-of-band noise (OOB), which degrade the system performance, this noise can be eliminated by filter.

In this project octagonal clipping has been proposed because it is less complex instead of conventional clipping and also using FFT-IFFT filter instead of traditional FIR filters .iterated octagonal clipping and filtering several times in order to reduce to high peak-to-average power ratio (PAPR).

The proposed method has been tested with MATLAB program, the simulation results show that the proposed technique performs better than the existing ones the improvement achieved compared to the old method is equal to 37.3% after third alteration process.

المستخلص

شهدت الإتصالات اللاسلكية تطوراً سريعاً في السنوات الأخيرة برغم من أن القنوات اللاسلكية لها عيوب مثل الإضمحلال المسارات المتعددة وأصبح المزج بتقسيم الترددات المتعامدة حل جاذب لإضمحلال المسارات المتعددة ومن أهم المشاكل لنظام المزج بتقسيم الترددات المتعامد هو إرتفاع نسبه قمم القدره لمتوسط القدره .

هنالك عدة طرق لتقليل إرتفاع نسبه قمم القدره لمتوسط القدره في أنظمة المزج بتقسيم الترددات المتعامد من أسهل هذه الطرق تقنيات التقسيم مثل تقسيم الدائره والتقسيم المربع هذه الطرق تسمى طرق التقسيم التقليدي، التقسيم له تأثير يسمى الضجيج خارج النطاق والزي يقلل من أداء النظام هذا الضجيج يمكن إزالته باستخدام المرشح .

في هذا المشروع تم اقتراح التقسيم الثماني بدلاً من التقسيم التقليدي لأنه أقل تعقيداً . أيضاً استخدام مرشح تحويل فوريل السريع – تحويل فوريل العكسي السريع بدلاً من مرشح استجابة النبضه المحدده، تم تكرار التقسيم الثماني والترشيح عدد مرات لتقليل ارتفاع نسبه قمم القدره لمتوسط القدره.

الطريقة المقترحه تم اختبارها ومحاكاتها بواسطة برنامج الماتلاب ، و نتائج المحاكاه اوضحت ان الطريقة المقترحه افضل من الطرق الموجوده وبمقارنتها بطرق القديمه وجد أن التحسين المحقق يساوي % 37.3 من الطريقة القديمه بعد التكرار الثالث.