

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202411003974 A

(19) INDIA

(22) Date of filing of Application :19/01/2024

(43) Publication Date : 09/02/2024

(54) Title of the invention : IMPROVING GENERALIZED FREQUENCY DIVISION MULTIPLEXING PERFORMANCE THROUGH ZADOFF-CHU PRECODING TECHNIQUE

(51) International classification :H04L0027260000, H04L0005000000, H04J0013000000, H04L0001000000, H04B0007045600

(86) International Application No :NA
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA
Filing Date :NA

(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :

1)Mahatma Jyotiba Phule Rohilkhand University, Bareilly
Address of Applicant :M.J.P.Rohilkhand University, Bareilly, Uttar Pradesh , India -243006 Bareilly -----

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)Dr. CHHAVI SHARMA

Address of Applicant :M.J.P.Rohilkhand University, Bareilly, Uttar Pradesh , India -243006 Bareilly -----

2)DR. ARVIND KUMAR

Address of Applicant :National Institute of Technology, Kurukshetra, Haryana, India Kurukshetra -----

3)PROF. S.K. TOMAR

Address of Applicant :M.J.P.Rohilkhand University, Bareilly, Uttar Pradesh , India -243006 Bareilly -----

(57) Abstract :

Improving Generalized Frequency Division Multiplexing Performance through Zadoff-Chu Precoding Technique is the proposed invention. Nonlinearity introduced by the high-power amplifier (HPA) is a major obstacle for all multicarrier systems due to their high peak to average power ratio (PAPR). GFDM may be considered as a suitable modulation scheme for 5G wireless systems. For the purpose of maximum power transmission, HPA is used with GFDM system. In the proposed work, zadoff-chu precoding technique is investigated for GFDM systems to analyze the PAPR and BER performances. The simulation results show that the PAPR of the proposed GFDM is reduced by 4dB and 5dB as compared to conventional GFDM signal and conventional OFDM, respectively at CCDF of 10⁻².

No. of Pages : 20 No. of Claims : 4