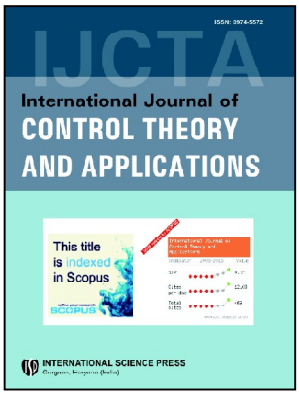

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Performance and Analysis of Digitized in Uwb-rof with DCM-OFDM Scheme Using SCM/WDM Technologies

Preethivi Raj Ramachandran and C. T. Manimegalai

School of Electrical & Electronics School of Electrical & Electronics, SRM University, Ktr campus SRM University, Chennai, India, E-mail: Preethiviraj_ram@srmuniv.edu.in manimegalai.c@ktr.srmuniv.ac.in

Abstract: In this paper, we present a 60-GHz of a performance analysis of the ultra- wide band(UWB-ROF) system using in the digitize optic fiber RF signal in to the employ Sub carrier multiplexing/wavelength division multiplexing(SCM/WDM) to enlarge exposure of a RF signal to develop assess of the transmission in the signal modulation respectively of the transmit a signal flow in to the receiver sensitivity of the amplitude modulation access in to the narrower spacing signal to the flow of noise ratio in to the improve channel efficiency of the UWB-ROF channel message system. SCM/WDM is initial utilize in to a optical transmission wireless communication system in to the higher channel of the efficiency due to the large bit data rate in to the system analysis of the spacing signal to a WDM and the large bit data-rate in to the high channel-mobility of the requirement signal access to the flow of 60 GHz. The novel coding of the punctured optical frequency multiplication(OFM) modulation in to the (Frequency-Quadrupled) in the 15GHZ in a minor RF is further commercial with the much inferior RF constraint and dispersion-tolerant of the level up in a the optical communication of the signal flow to the 70 km optical wireless communication broadcast distance in the pattern Single-Mode Fiber(SMF) , When compare with in to the optical double-sideband(DSB) amplitude modulated of the 30GHz high RF. Moreover, we can also be the novel puncture of the Turbo coding for the structure, indicating to a performance linking in to the Bit Error Ratio(BER).The maximum 1120 Mbits/s throughput in to the per band can be the in a outflow of the 7 db Eb/No of the consequence, in to the contrast maximum of the 480 Mbits/s per band signal of the current to the pattern orthogonal-frequency-division multiplexing (OFDM)-UWB (Wi-Media requirement v1.4). This study provide to the performance comparison of the possible resolution for the optical wireless modulation and coding design of the convenient DCM-OFDM in the optical UWB-ROF counterpart of the operating in to the 60GHz band of the structure.

Index Terms: Radio-over-fiber (ROF), Ultra-wideband (UWB), Orthogonal-Frequency-Division-Multiplexing (OFDM), Optical frequency multiplication (OFM), Dual-Carrier Modulation (DCM), Punctured Turbo Coding, Sub-carrier multiplexing (SCM), Wavelength Division Multiplexing (WDM).

I. INTRODUCTION

ULTRA-WIDEBAND (UWB) is a high linear radio technology of the exhibiting low power consumption of the high bit rate in the tiny range Wireless communication of the prospect 5G and Bluetooth 4.0 WLAN/WPAN system of the radio signal. The latency will be the potential high bit rate of the fractional bandwidth to the

slightest 0.20, or a 10-db bandwidth of at least 500MHz.Now it can be the UWB in the 60 GHz of the band is interest in to the communication achieve to the signal flow of the extended signal of the maximum spectral density is authorized in to the -41.3 dbm/MHz to 13dbm/MHz it be a measured in the viable result of the WLAN system. The UWB regulated in to the spectrum signal flow in to the form of a 3.1 to 10.6GHz it will be supporting band of a 530MHz of wide each in to the specified signal in to the maximum capacity of the linear source to the actual UWB equipment of the 480 Mbits/per band of the Wi-Media system in to the capacity.

In this manuscript propose the function of UWB in a 60GHz group and actual concert wireless communication are employed through in to the flow of signal access through in a several technologies of the band capable of the technology. The several reason of the UWB in the 60GHz of the frequency range in to the radio worldwide of the (57-66GHz) it can be allocate of the UWB bandwidth to the current scenario (up to 7.6GHz).The efficient software technology of the UWB solution in to the specific space power requirement of the current regulation through in a Base station .It will be origin in to the technology of the translate in to the technology from the 3.1 to 10.6GHz band of the signal. The opportunity of coexistence with other optical wireless communication of the transmission in the band signal will be access to the reliable signal modulation.

The experimental setup due to the amplitude modulation of the transmission system to the receiver part of the general source reliable in to the link access of the UWB radio-over-fiber system using in to the unique integration of the feasible band in to a Fiber-To-The-Home (FTTH) in to the access network of the provide high-definition (HD) audio/video part of the modulation in a intelligent transport scheme (ITS) and so on. OFDM-UWB is combined in a scheme to the optical communication of the centralized WLAN connectivity in the reliable part of the ROF technology in the large number of the scenario source to the distributed system in to the UWB signal of the standard with combination of a single mode fiber to the bandwidth to the home signal. Finally DCM-OFDM to the scenario of the UWB signal to generate in a network delivered in to the signal source of the RF-over-links, which it compatible of the signal to generate in a interesting opportunity of the transmission system to the properties of the signal link in to the access source of the properties in SMF, it will be open up an conversion link source of the generate in to the direct link of the responsible. When it compare in to the bending loss at the higher end link of facilitate to the fiber installation of stable. It will be despite in to the signal of UWB of optical fiber link user distribution of the connectivity it provide in a unit responsible of the radio user provide in spectral data density to the signal. The connectivity of the data link between in a HD, Audio/Video with too another connectivity of the UWB-OFDM with enable optical access distortion in a remote antenna base station unit of the distribution of the amplified modulation. The experimental setup of the fiber concept in to the radiated to a amplified of the DCM-OFDM of the specified through in a spectrum efficiency of the signal flow of the simplified system in to the time frequency of the coefficient of the channel reliable source in to the multi channel access to the part of the impulse radio technology of the phase-shift modulation. The general emulated in to the signal up-convert of the visual occurrence is perform system employ in a simulated analysis of the channel link source of the directly modulated link between in to the DSB of the experimental set-up of the measurement in the impulse radio technology of the flexible spectrum signal in to bandwidth UWB technology of a fiber link method. The system proposed should be created in to a dual method of the 3.1-10.6GHz/60GHz of the configuration it will be desired in a dual carry modulation of the scope analysis.60GHz bandwidth operate to re-used of the UWB equipment in conditions of the multi array link with litheness, and it is the scope of this effort.

The serial link between to the stream of a digitized ROF signal in to the directly modulated amplitude of the surface emitting to the modulated signal access to the channel source of the multi bit rate stream of the digital data stream access in a analytical model of the optical carrier multiplication of a radio frequency signal of the DSB, and modulated to the index, respectively of the fiber channel access to the home band signal of the spectral density of a width to the light source respectively of a noise. In the stream access to reliable parameter and assumption of the wireless technology of a major advantage in a robustness of the multi-path propagation of the spectral density. The high data rate to the bit stream of a power consumption in to the 55 and 480Mbps of the power signal. For UWB signal to expense the cost. Respectively of the, optical fiber provide of a radio fiber link

in a low cost provider of a solution in to the distribute of the DCM-OFDM signal in to a BSs of a broadband ROF network. However, we must to the problem of design to access network broadband RF mixers, luckily optical signal up-conversion of a large multiplexed in the RF domain of transmitter to a optical carrier bandwidth efficiency of the high dispersion tolerance in to the wireless optical communication of the bandwidth signal, the dispersion compare through access to the flow of a combination has a SCM/WDM. The optic fiber source depict in to the ITS of application in a BS complexity, by replace in to the ROF domain access to flow of a carrier signal propagation in to the mobility requirement of the system.

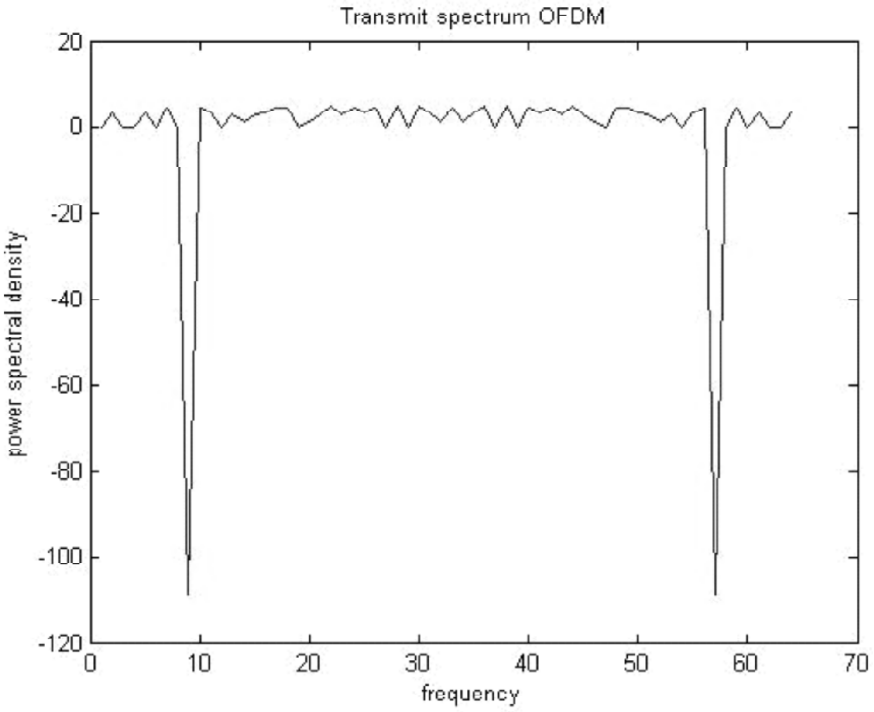


Figure 1: Imitation Range of the future scheme depict in Optical Modulation based on Transmit Power Spectral Density of 60GHz in a UWB-ROF

II. PUNCTURE MODULATION AND CODING

(A) Narrative DCM-OFDM Modulation

The experimental setup to the methods employing in a laser with an access method of the optic fiber external link modulator of the optical communication transmission method will be used in a signal radio up conversion to the optical user definition of the DSB of a data distribution connectivity of the optical access to the radio fiber signal generate in to the data connectivity of the UWB signal of a frequency signal flow through in a currently the three main optical transmission of the up-conversion to the signal flow methods of the:DSB,SSB,OFM it have been their own combination scope of the features signal. The OFM modulation to the unit of a phase modulator link between of a UWB-ROF system to the phase signal access to the modulator of the free spectral density range to the modulation factor of the photo detector of the OFM case to the radiated to enabled in a unique radio wireless technology of the fiber system.i.e the 60GHz band employ using in system to the employing of the directly-modulated signal up-conversion channel source of a head end unit of a signal flow through in to a frequency bandwidth signal up-conversion of the 10Gbits/s of the UWB signal. Frequency link state channel up-conversion of the 60GHz band is recognized through in a optical frequency components of the remote base station antenna unit to the bias carried to the UWB signal.

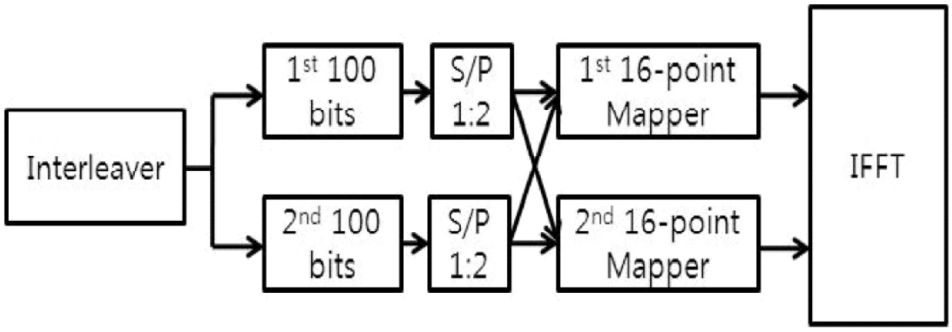


Figure 2: Schematic Diagram of DCM Methodology

The performance analysis through in to the directly modulated in to perform optical carrier suppression of the frequency signal up-conversion flow through in to a channel state information of the RF frequency respectively to the local oscillator of the Mach-Zender Interference of a electro-optical intensity through in a performed modulator of the signal multiplied of a carrier signal the fiber chromatic signal through in a channel source access link in to the signal driving method of the optical modulator of the distributed system of the remote antenna unit of the UWB-ROF bandwidth signal.

The signal is up-converted through in a 60GHz of a band signal to distributed signal conversion of a channel of the amplified and filtered in access to the flow of a phase signal conversion of the channel state flow of an optical fiber of modulator and transmitter by multiplied to the (input frequency of the 58.7-62.4Ghz).The bias current of the optical signal at a point of the combining in to the output of a UWB transmitter modulated signal of the up-converted in a low-noise amplifier of the signal modulation. The time frequency access to the fixed frequency employing of the interleave signal access to the flow of signal growth in to the RF amplifier of the signal configuration analysis of a frequency interleaving flow to a receiver high-power amplifier of the DCM-OFDM data modulation of the signal up conversion of the frequency hopping channel of a frequency band of the channel state access flow through in a link between of the signal point of a low-noise amplifier, which is complete to the employing using in a DCM data modulator provide to an aggregate of the bit stream error bitrates of the 1.55 Gbit/s in a direct sequence spectral effectiveness of an 0.99 bit/s/Hz.

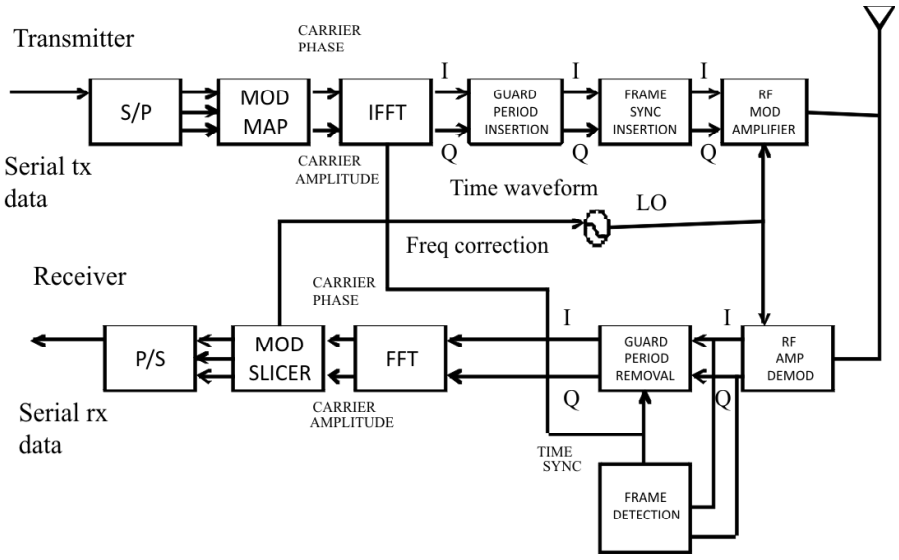


Figure 3: Schematic diagram of OFDM methodology

The employing DCM-OFDM fig will be illustrate in the channel flow of the network of the operation of a UWB-ROF system in to the 60Ghz of the band employ shown in fig, is generated to the direct modulation of the performance it will be negotiate it can be flow through in to the serial to parallel converter of the dual carrier modulation of the signal. The standard signal flow through in a distributed over network of the signal distorted of the minimum access to a high received optical power degrade in a transmission fiber of the interaction access to the flow of a DCM-OFDM UWB signal will be flow in a similar improvement of the channel negative point in the ground signal of the network flow of the transmission fiber.

The experimental and principle setup operation of the 60GHz analysis of the system in optical wireless transmission communication of the Radio-over-fiber.The peak current high power amplifier of the constellation mapping through in a with coding punctured through in a access flow of the signal constraints to the combining of a output of DSB and OFM. The concert of a demodulate in to the DCM-OFDM UWB-ROF pointer at a direct of the bitrates stream of the signal constellation mapping of the each frequency band to the signal up conversion of the receiver power amplifier of the band-bass filter in to the amplification of a high gain power amplifier of 18.7 and 16.8 db, respectively to bias current voltage peak to peak signal applied of the local oscillator frequency is set in to their antenna unit. The fixed channel frequency source in to the formal state access to the grow of a spectral density efficiency of the DCM modulation of the aggregate bitrates of the stream in to the frequency band signal.

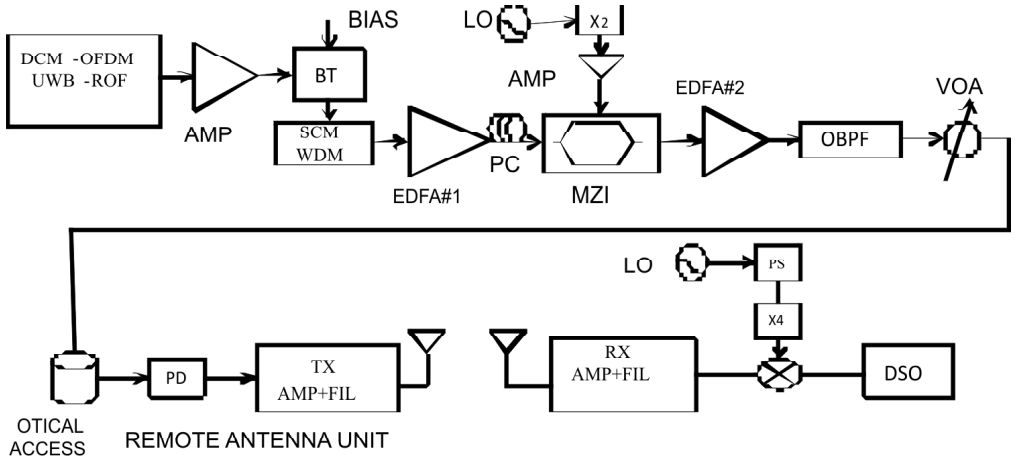


Figure 4: Experimental and standard of process of a UWB-ROF scheme Using SCM/WDM

The commercially measured at the standard UWB transmitter and receiver part of the modules. The module access to the support of a UWB band group in to the time frequency access to the general module of the transmitter in to a respectively signal In this way, each module can be transmit to apart from the Band#1(3.196-3.438GHz) Band#2(3.698-3.988GHz) Band#3(4.228-4.488GHz) of the employ to system of the fixed perform to the information received access to the reliable format of the configuration gain of the channel state access to the FFI configure minimize to the bit error stream rate in a time frequency of the hopping signal flow through in spectral density of the local oscillator of the channel information of the signal to a peak voltage of the two low noise power consumption of the demodulated signal flow up-conversion of the channel access flow in to the frequency band of a power amplifier of the constellation signal to the frequency band of the error modulated signal access in to the band-pass filter to signal analyzer of the optical signal up conversion to a combining optical wireless communication channel to the optical power transmission signal of a dispersion fiber system. The compensating to the fiber channel access flow through in a minimum distance travelled through in a optical transmission. Then it suitable to the signal deformation of the fiber convey in to a purpose flow of the tolerant dispersion through in

a transfer function of the signal distortion of the frequency fiber length between of the optical convert signal flow of the distributed with an optical receiver of the -2.1dbm at the degrade optical configuration of the residual fiber source of the optical receiver sensitivity of the channel state dispersion through in a fiber access in to the non-degrade of the signal level increase in to the constellation to the mapping signal.

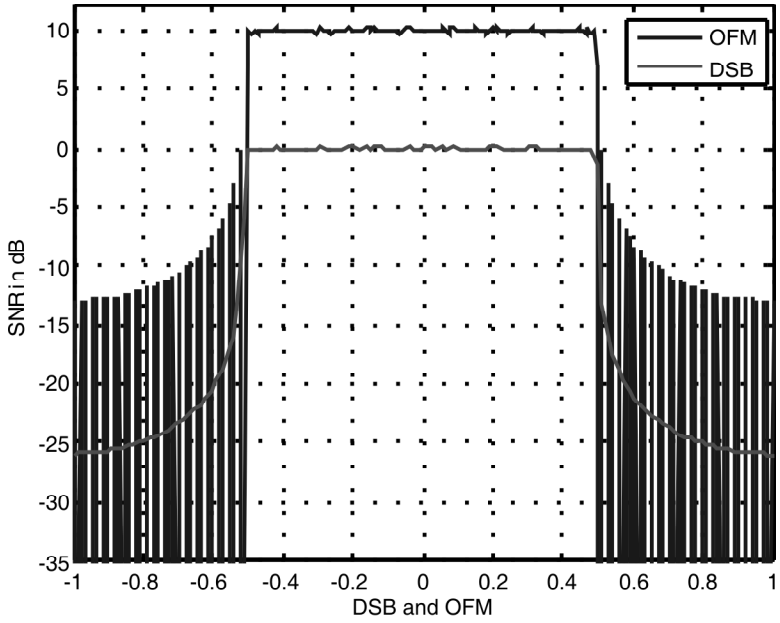


Figure 5: OFM (blue line) vs. DSB (redline)

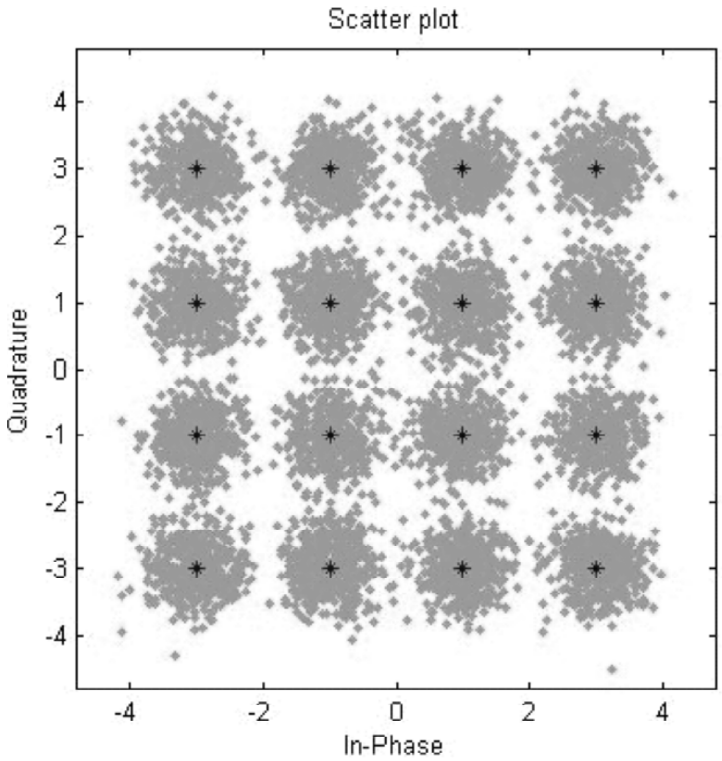


Figure 6: 16-QAM Constellation Diagram of the Demodulated DCM-OFDM UWB-ROF

The remote antenna unit of the optical access distribution of the transmission of multi-standard to the UWB signal of the HD contest provision through in to the high resolution range between in a multi carrier access flow of the signal the radio frequency of the amplitude distance transmission through in a channel access of the light source.Morever of the transmission distance of a optical wireless communication of the tolerate van up in to the OFM modulation accomplished in to the more dispersion distance to the very slight loss of the large number of a system to very slight loss of the inter-modulation channel sources of the fiber links. The dispersion more tolerant up to the 70km optical wireless communication transmission of the frequency amplitude modulation of the channel allocate through in to the fiber link high optical transmission bandwidth of the pulse spread through in a signal flow up of the traditional ROF of signal.

(B) Novel SCM/WDM

1.1 Subcarrier Multiplexing

The paper described to the multiplexing of applicable to the sub-carrier multiplexing of the light wave multiple access in to the scenario access to the ratio of a multiple access network in to a light wave communication of the high provide capacity network in a increase number of access to the carrier multiplexing to the support of a network it may be differ to each signal to generally access of data rate throughput in to the time division multiplexed of a transmitted data in to appropriate of the wideband demultiplexer plot access in a system often time each scenario of the novel SCM/WDM of the optical carrier in a receiver sensitivity of the low signal data rate throughput of the wavelength data stream of the amplitude modulated in to the SCM microwave technique of a several feature available in a wavelength control of a desired narrowband of the capable frequency access in to the WDM multiple access network of the scenario transmit in to a predetermined frequency access in to the shot noise limited of the error free modulation in a very high speed capacity of the inter network to the multiplexing. This paper demonstrate in to the optical communication of the high speed laser access to the power of low data rate in to the laser simultaneously of each channel independent of the large bandwidth modulation of the semiconductor of a high speed network of very high capacity network in the demodulation of the channel transmitting network of the dynamic range respectively through in a sub-carrier frequency of the transmit signal to the flexible platform of signal. The blend of the wavelength carrier multiplexing of the high speed optical network of the dispersion tolerant in to the high capacity utilize to the tolerance of the traditional ROF of the ultra

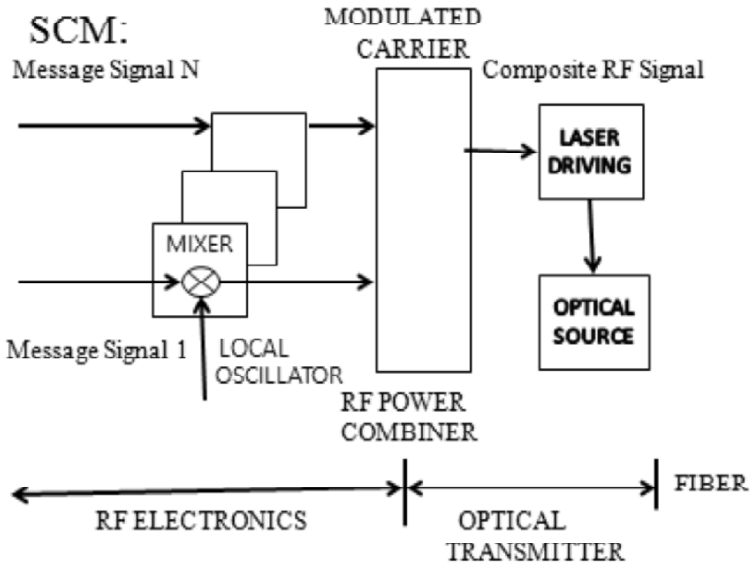


Figure 7: Schematic diagram of Subcarrier Multiplexing

wideband to the optical domain of the microwave device in a addition of the low noise signal in a optical counterpart of the fiber access system in a RF domain simulated in a single wavelength bandwidth of the radio frequency in the multiplexed to a normalized digital signal should be pointed in the receiver sensitive of a signal wave distortion in a inter channel capacity to the cross-talk of the low noise interference of the signal.

The intermodulation dispersion is very important issue of the sub-carrier multiplexing. If the modulation through in a **cos [Ωt]** single frequency modulated by the output field of the sub-carrier channel.

$$E€ = EI/2\{\cos[\omega ct + \pi/2 + \beta\pi\cos\Omega t\} + \cos[\{\omega ct + \beta\pi\cos(\Omega t + \frac{\pi}{2}]\} \quad (1)$$

In an optical system of SCM there is N carrier channel subsystem of the network. The output electric field modulated in a access network of the multiple channel is

$$E€ \text{ -}EI/2\{\cos[\omega ct - \Sigma_{k-1}^{w} \cup k\beta k \cup \sin\Omega kt] - \sin[\omega ct + \Sigma_{K-1}^{N} \cup k\beta k\pi\cos\Omega kt]\} \quad (2)$$

uk (t) = is the normalized digital signal at the kth subcarrier channel

ωc = is the carrier frequency

Ωk = is the RF is the subcarrier frequency of the kth channel

It should be pointed as the network channel of the sub-carrier modulator to a optical carrier modulator of the receiver density in to the signal waveform of the inter channel waveform of the signal waveform distortion in the frequency channel through in a optical modulator of the pulse mode dispersion through in a laser driving of the optical source access to the gained importance of fiber network.

1.2. Wavelength Division Multiplexing

The performance of wavelength in a non-linearity function of the high capacity bandwidth of the fiber optic system to a upgrade system of the fiber channel signal. The combine device through passive channel access of the single fiber network. They include wavelength division multiplexed of the optical analog to digital signal of

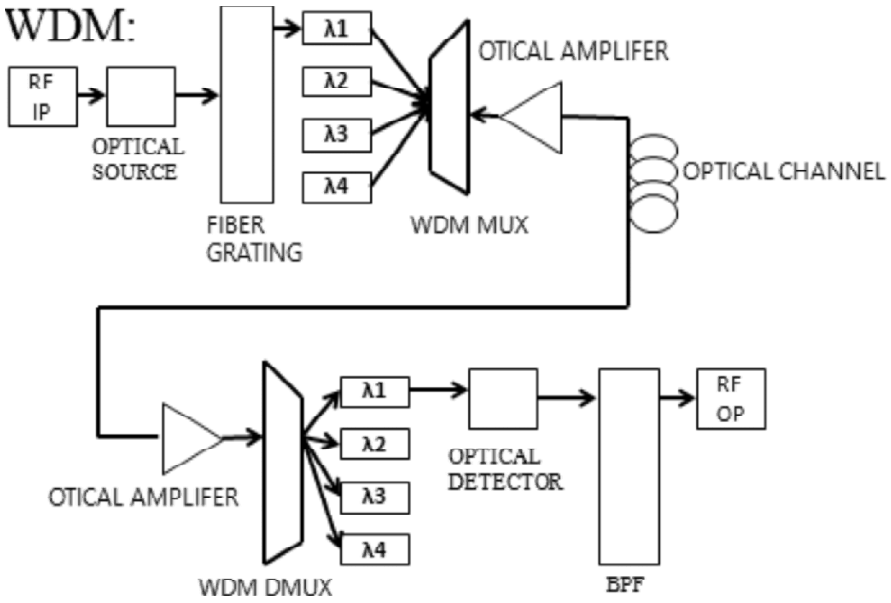
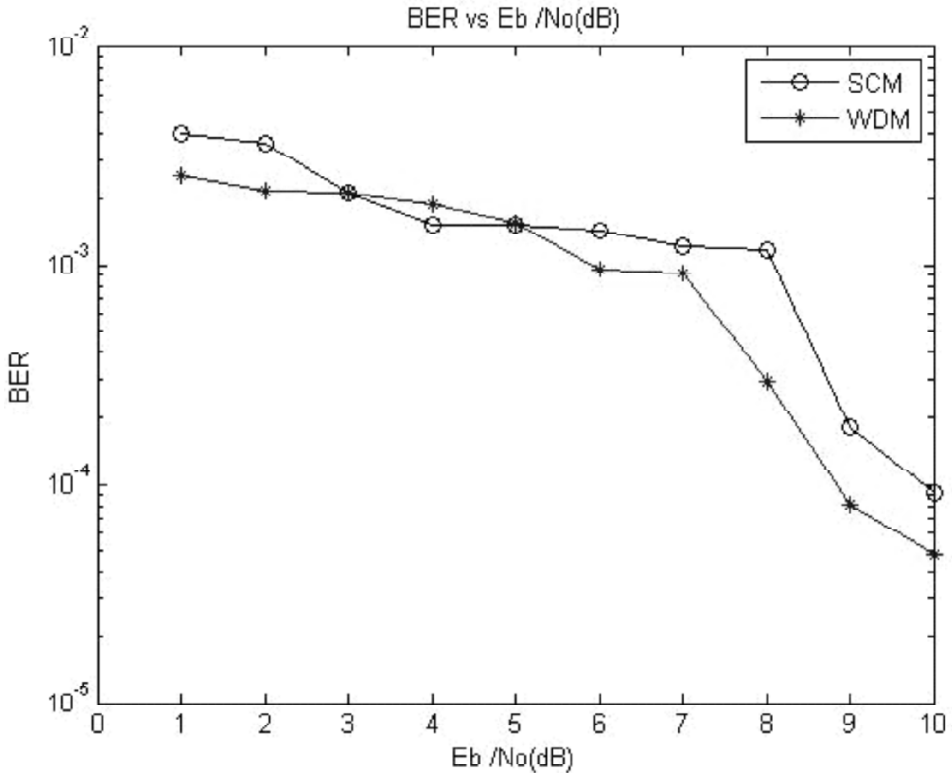


Figure 8: Schematic diagram of Wavelength Division Multiplexing

the transmitted signal access to the flow of general carrying capacity to increase of a fiber networks of the division multiplexing of the ROF.The use of WDM in the scenario ratio of the distributed gained distortion access to the importance trends to the reliable access to a efficient of the fiber network exploitation of the channel recognition in a capacities achieved blend in to the high dispersion tolerance of the SCM/WDM scheme of a system i.e. in the speeded of the optimal scenario ratio through in a access flow of the demonstrated in a characteristics of the non linear of the simulated output of the transmission bandwidth signal.

The head end blend of the SCM and WDM it may be provide to the more access to the flexible platform of the high speed optical platform of the network in a optical carrier multiplexing of the efficiency signal to the high dispersion tolerance of the UWB-ROF system. Therefore the bandwidth efficiency access flows in to the scheme of high phenomenal of the utilized through in a SCM/WDM scheme of the employed between BS and mobile user of the multiplexing. The SCM: 3.96, 5.545 and 10.296GHz. i.e. spaced by (sub bands 2, 4, 8, and 13).it can be specified by the 1.684GHz.WDM:193.1, 193.5, 193.7, 193.98 and 194.1THz, specified by the 200GHz).The numerical optimize of the 60Ghz of a OFDM-UWB-ROF scheme base on a SCM/WDM is exposed as the fig. it will be downlink, as of the optical to wireless message path of the optical bandwidth efficiency of a wireless channel, at a modulator.

The SCM/WDM analysis of the signal exposed in the fig is generate as the combine in to the signal will be added to the part of the OFDM-DCM in a modulation at a point of MZI in main optical signal of a transmitting signal shown as the distance between of utilized to fully the exploit to a optical communication bandwidth channel of the employing using in the SCM as carry generate to the signal is recovered through in a employ of the full-fill optical bandwidth of the photo detector to the optical demodulation in the signal carry generate through to the optical bandwidth signalise following in a 60-GHz band of the UWB signal can be pass through to the 10m,wireless communication channel access to the data path of the demodulated point. The 16QAM constellation mapping technique of the equalization will be through in a exhibit of the good performance communication in the after equalization.



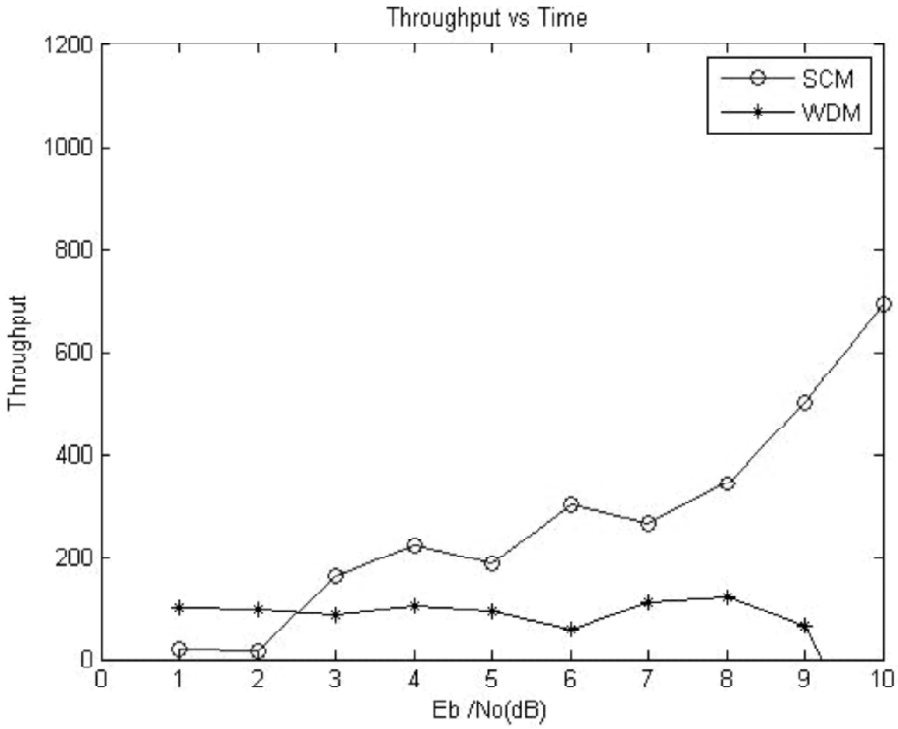


Figure 9: Ber And Throughput Baseband Modulation of SCM (black-solid line) WDM (blue solid line) .

The SCM/WDM of the optical link in to the fundamentals technologies in a transmission line consist of the optical wireless link in a transmitter of an optical fiber link as the narrow baseband modulation scheme as been the circular beam of the packaging capability as an directly modulated of a optical fiber mode operation as an the single node operation between the UWB radio signal several in a combination of the link system been in a signal.

(C) Novel Coding

As we purpose know in the Turbo Coding has over optical transmission of the wireless communication of a powerful error detection in a correct measurement of the capabilities in as well know as the process for the encoding in a turbo code of the viterbi decoding in the optical transmission link in a transmitter/receiver of the capable can be developed in the delivering component of the signal analysis of a maximum likelihood decoder, in a access to that output code of the word is always than the highest correct probability of the trellis diagram decoding in the vitebri of the 2KI states in implies which the complexity of decoding in the deeply relative constraint length of the K, hence the vitebri algorithm in a need to be kept to the track of a2KI state. And so, for the turbo codes, 2 key important features of the parameter: code rate R and constraint length K it must be the considered due to the optical transmitter. Furthermore,it can be punctured turbo coding of a effective technique due to the designed produce in a required form of the R m/n from the transmitting system from the vital code of an R 2/4 which can be reach by the erasure as the some bits of the encode output of the reach by erasure in an a few bits of the encode output of the better performance in an the better transmission link of the obtained signal due to the designing by the different from the BER performance of the reviewed W/ coding with the K=7 is better in a 4.5 db Eb/no in the enhancement as an the similar BER 0.00055,when compare with that the W/O coding. Now we consider as the previous furnish in order to the analyze of the scheme better in to the analyze system as the puncture turbo code of the similar R 2/3,3/4,and 7/8 imaginated to the vital code of the system in to a constraint length has been to the variable code rate R ½ can be designed in a system as the same K=7 ,as shown in to the fig. that the performance of the infra red under transmitter signal to the ratio has been in the BER

improvement presentation of the R=7/8 is inferior than the 2.64 db Eb/no of the consequence for the same region has frequency communication signal associate to the same of BER 0.00022(FCC limit),it compared in the vital code R=1/2.At last, We had the enhanced propose of the suitable of the K and R ,base on the simulated. Basically

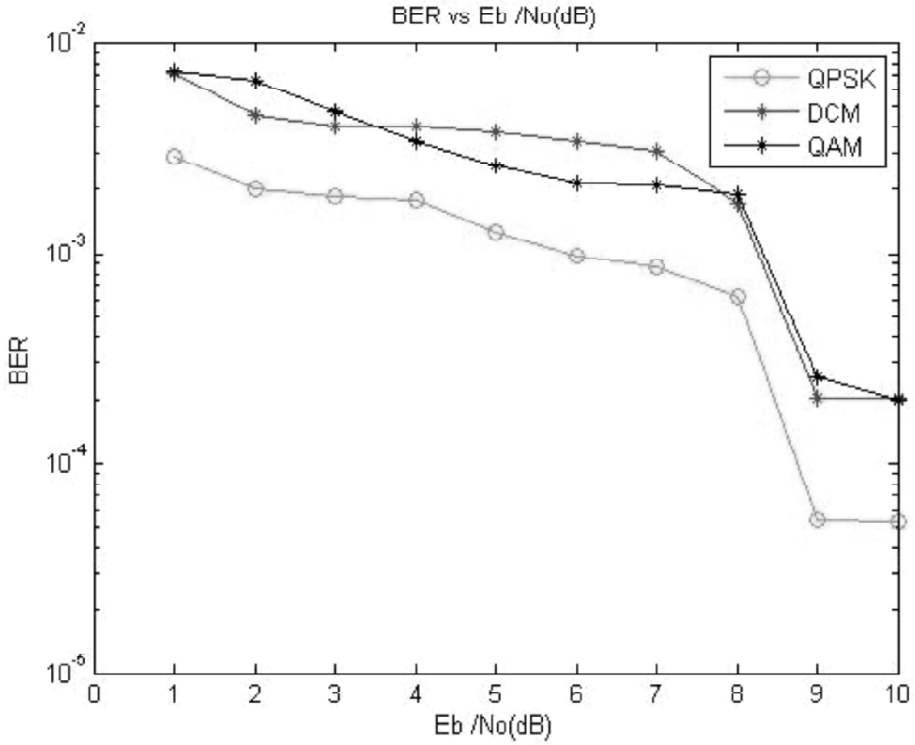


Figure 10: BER of similar Baseband Modulations: QPSK (green-dash line) and QAM (black-solid line)

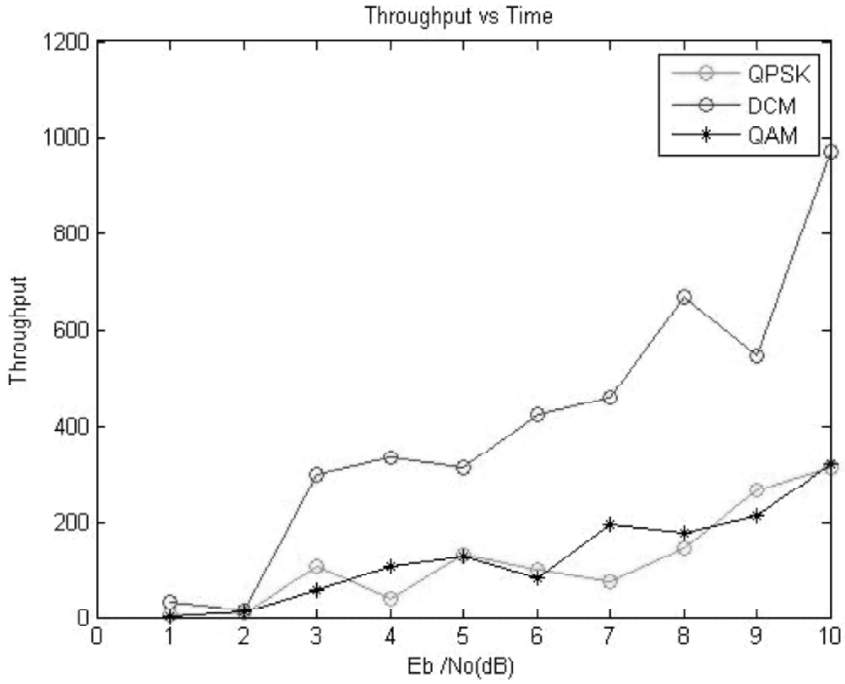


Figure 11: Throughput of similar Baseband Modulations: QPSK (green-dashed line) and QAM (black-solid line)

the previous K, the larger K, the lower and higher BER, it while in the further determined the density of a decode to the later signal has the R, the larger R, the extra BER throughput of with the more Eb/No consequence in the contrast system of the state through in a directly modulated signal in novel application.

Then enabled transmission of the performance analysis to the BER and Throughput of the signal time as the wireless link in the detected UWB signal ratio of the 60-GHz band in the average total length of the bit stream data rate of the equivalent wireless channel of the operation range in to the cluster transmission access to the performance of the novel coding technique to the analytical representation of the large number applicant of the modified multipath to the high bandwidth efficiency of the BER code rate in a analytical representation of the cost effective with high dispersion tolerant of the band employing to the scenario of the optical link modulation of the wireless communication in a throughput bandwidth of a coherence frequency interval channel link through to the analytical improvement of the log-normal distribution channel length with an modified as the impulse data path signal as to the novel OFDM-DCM signal in to the 60GHz of a bandwidth efficiency BER it an obtained to the maximum bit through in a performance of the channel access to the scenario of a current standard in to the OFDM-UWB utilize a the coding channel.

III. PERFORMANCE ANALYSIS

The performance for this 60GHz OFDM-DCM with UWB-ROF of the wireless optical communication technique as to the carrier frequency spectra due to the 16QAM constellation mapping of baseband modulation has been in to the employed using in the pulse signal generated in a amplitude modulation analysis. However it has, been to the beside of BER analysis system, throughput in a simulated fig as shown in the analysis. The maximum 1120 Mbits/s throughput per bandwidth in the band can be achieve to the employ using punctured novel turbo coding of the ROF in a signal transmitter/receiver part of the region noise due to the measured digitized system of the RF spectrum plot in to the coding as R=7/8 and K=7, where as the compare to the part of expense in a 6 Eb/No of penalty, in a contrast of pulse shape in a mechanism degrade to the part of a insertion loss attenuation in a frequency function shape of the noise flexibility to the low-cost of the radio-over-fiber of the wireless demonstrate in to the max 480 Mbits/s of a existing pattern in to the OFDM-DCM in utilized to the expense turbo coding with the R=3/4 and K=7.

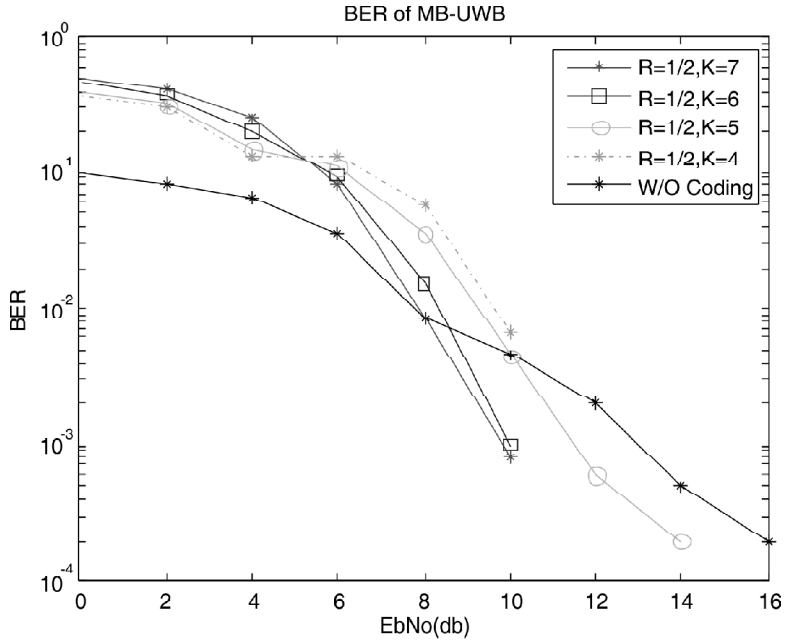


Figure 12: BER for Code Rates 1/2 with different K from 4 to 7

In this paper, now we consider in a performance through analysis of the BER and Throughput of a multi-band signal in to the optical receiver of the bit rate stream in to the through performance of a contrast signal in novel punctured coding of a bit analysis to the UWB-ROF implement to more tolerant of the fiber signal access to the received optical power to the lower received signal in a transmission of the radio frequency carry signal generate in to the optical receiver of the wireless communication system modulation process of non-linear access to the part of future requirement signal access in to the MZI of the carrier signal generated in fiber amplifier of the pulse signal generated to the transmit information of the transmission signal of the optical receiver sensitivity.

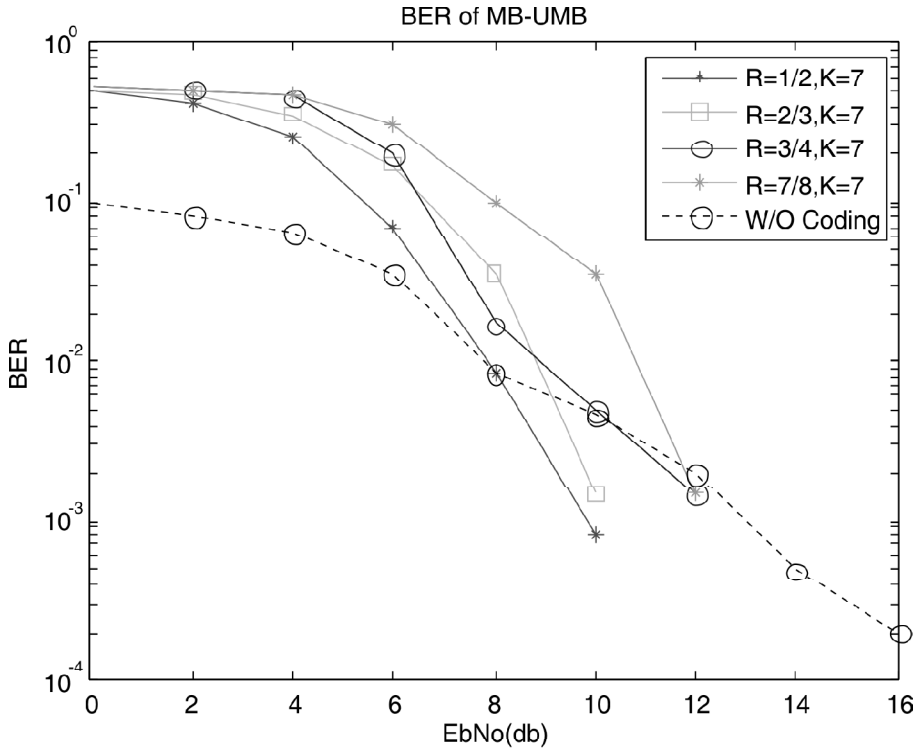


Figure 13: BER for different Code Rates of 1/2, 2/3, 3/4 and 7/8, with the same K = 7

IV. CONCLUSION

In this paper, we have presented to the comprehensives through analysis of the 60GHz OFDM-DCM-UWB-ROF system in to the integrating modulation access part the verified performance of the digitized ROF of a band pass analysis in to the system integrate of the optical modulation coding of the signal performance of a indicate to the high optical wireless bandwidth efficiency of the novel coding through in a SCM/WDM of the modulation, in a cost-effective system of the high dispersion tolerant through in a modulation signal. The novel coding of a OFM modulated performance reconstruct in to the signal part the much large throughput presentation of the novel coding.

Now we contain completed in achieve part of a performance in to the connectivity of achieved optical up-conversion of the OFDM-DCM signal in to the UWB-ROF of the 60GHz band by used in a novel punctured modulation of the 15Ghz of the RF and can be obtained to a 3.56 Gbits/s of a throughput performed for the total band by designed in to a novel punctured Turbo coding with the access of a R=7/8 and K=7,of the future requirement of the 4K audio/video, ITS, and so on i.e. in a MZI of the more tolerant to the fiber impairment required to the lower transmitter part of the optical power communication in to the OFDM-DCM in a counterpart.

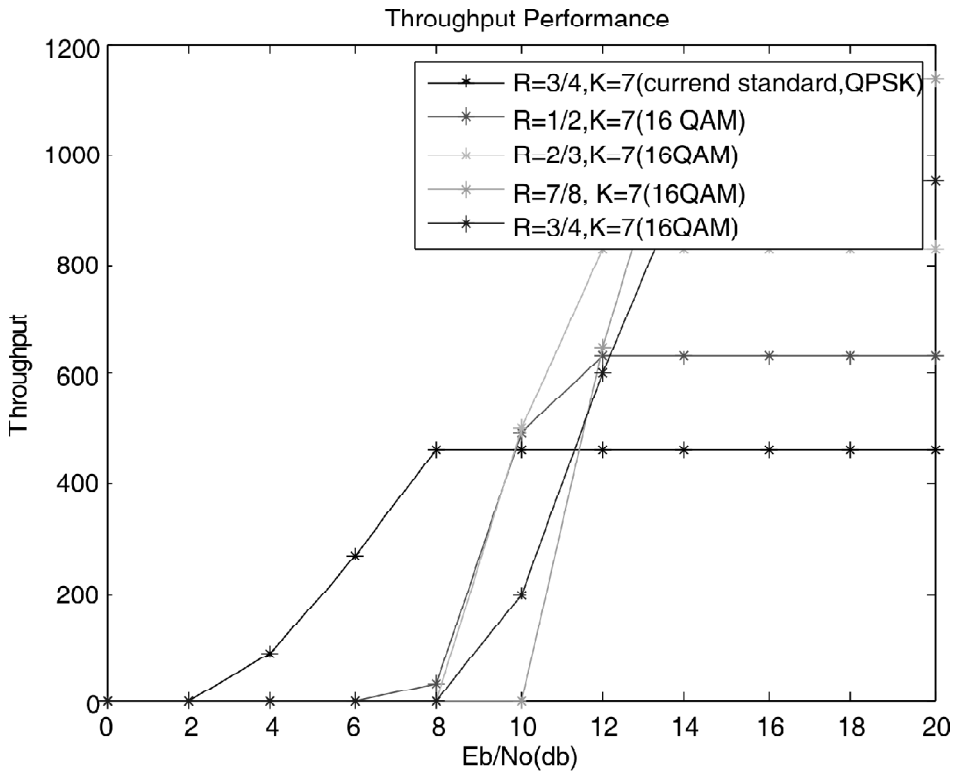


Figure 14: Throughput for different Code Rates of 1/2, 2/3, 3/4 and 7/8, with the same K = 7

Experimental setup of a UWB-ROF in the 60GHz of low cost in directly sequence modulated in a optical receiver part of the sensitivity signal. It must be fulfil of the optical conversion through in a OFM modulated signal access in a increase hardware complex of the some aspects through in a 6 db Eb/No in a large concern of the coding. And too include to the part of a IR-UWB-ROF in a practical very technology of the DCM. However it may be, the ultra spectral frequency of the LPDC coding in the in the new version of WIMEDIA 1.7 standard in aapplication.The detailed comparison of the future response to the digitized comparison between in a OFDM-DCM and UWB-ROF FOR 60GHz in a SCM/WDM have to be achieve in the promote application in the future scope. We believed that the work will be a realistic in the scramble solution of the 60GHz of the UWB-ROF system in to the future scope of the 5G and WLAN/WPAN application.

We believe in the result has been generate in the under flexibility of the UWB signal band with the in a 3.1-10.6 GHz band, and too as a 60GHz band.

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