



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	Journal of Scientific Research and Reports
Manuscript Number:	Ms_JSRR_34425
Title of the Manuscript:	Interference Cancellation by Regenerated Signals in Cellular Network System

PART 2:

Editor's Comment:	Authors' response to final evaluator's comments
<p>The authors of this manuscript reviewed proceeded in an extensive revision, by considering the constructive comments of all reviewers who were involved in the review process. Nevertheless, there is still room for further narrative and argumentative improvements and, in this respect, the following review comments will systematize and reinforce the novel features of the authors' laborious work.</p> <p>1) In Figure 1 the source citation has to be explicitly denoted next to its Figure 1 legend and further to be added in the "References" section.</p> <p>2) In Figures 2, 3, 4, and 5, all variables at the y-axes have to be presented in the relevant (vertical) legends, respectively. Besides, all figures notation within the text content has to be written as "Figure.....", no "figure....."</p> <p>3) In the "Acronym-Meaning" Table the authors have to relocate the "CSSR" registration line: from the bottom of the list to the line that is just after the "CS" registration line.</p> <p>4) In the "5.0 Conclusion and Recommendations" section the authors can succinctly point out which limitations and wider/commercial applicability of their outcomes in an international telecommunication marketplace have to be considered from other researchers and at other regions worldwide. Three to four sentences are enough.</p> <p>5) The authors are highly recommended to expand the theoretical background of the "Introduction" section since the existing literature overview is very poor, comparing to the vast literature production upon the telecommunication advancements' prevailed. Three indicative issues that can be considered in the sections of "Introduction" and "References", are:</p> <ul style="list-style-type: none"> a) Introduction section: A brief and coherent historical recall/overview of the telecommunication technology at Nigeria. It can be indicatively noted that the current development of the 3G technology of Wideband Code Division Multiple Access (WCDMA) – without a prior development of a cable telecommunication grid in the mainland Nigeria– is characterized as "leapfrog" technology. Similarly, a text narrative expansion up to three paragraphs is enough. b) References section: All bold-typed text phrases within the "References" section citations have to be re-presented in normal-typing writing style, respectively. c) Introduction section: A literature refresh and strengthening with more and recently published papers is highly recommended. To this end, the following paper list can be supportive. Up to ten extra citations –to be included both at the text narrative of the "Introduction" section and at the "References" section– are enough. <p>Scopus EXPORT DATE:05 Jul 2017</p> <p>Yusoff, Z., Lees, J., Chaudhary, M.A., Cripps, S.C. Ferrite toroidal core with a trifilar wound RF broadband transformer design for tracking generators in wideband code division multiple access envelope tracking RFP systems (2016) Journal of Electromagnetic Waves and Applications, 30 (5), pp. 599-611. https://www.scopus.com/inward/record.uri?eid=2-s2.0-84961213460&doi=10.1080%2f09205071.2016.1138899&partnerID=40&md5=ff584db45f244d9df18ac261f85cd47f</p> <p>DOI: 10.1080/09205071.2016.1138899</p>	



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AFFILIATIONS: Faculty of Engineering, Multimedia University, Cyberjaya, Malaysia;
School of Engineering, Centre for High Frequency Engineering, Cardiff University, Cardiff, United Kingdom;
Department of Electrical Engineering, Ajman University of Science and Technology, Ajman, United Arab Emirates
ABSTRACT: In this paper, the design of an RF broadband transformer for wideband code division multiple access (WCDMA) tracking generators to be used in envelope tracking RF power amplifiers systems is presented. A ferrite toroidal core with a trifilar wound RF broadband transformer has been chosen to satisfy the (WCDMA) bandwidth requirement and also the power amplifier performance criteria that include the efficiency, electrical isolation, size and power consumption. The design components investigated comprises ferrite materials, number of turns on core windings and size. © 2016 Taylor & Francis.
AUTHOR KEYWORDS: Broadband; Ferrite; Toroid; Transformer; Trifilar; WCDMA
DOCUMENT TYPE: Article
SOURCE: Scopus

Purnomowati, I.E.B., Asmungi, G., Wirawan, A.Y.
Pathloss calculation and analysis using different carrier frequency on wideband code division multiple access technology
(2015) *Advanced Science Letters*, 21 (10), pp. 3185-3188.
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84960399307&doi=10.1166/asl.2015.6436&partnerID=40&md5=61329256ca652905e3162daa562bfab4>

DOI: 10.1166/asl.2015.6436
AFFILIATIONS: Department of Electrical Engineering, University of Brawijaya, Malang, Indonesia
ABSTRACT: Pathloss is a decrease in the power level that caused by path attenuation of radio waves. Pathloss is dependent on several factors, one of them is the carrier frequency used. At a distance of 0.41 km and a carrier frequency of 1920 MHz, the resulting loss is 127.41 dB. At the same distance with a carrier frequency of 2110 MHz, the resulting loss of 128.51 dB. So it can be concluded that the higher the carrier frequency used will result on the greater the loss. To support the demand of the downlink traffic, it would be better if the carrier frequency used in the downlink carrier frequency is lower than on the uplink. © 2015 American Scientific Publishers. All rights reserved.
AUTHOR KEYWORDS: Carrier frequency; Pathloss; WCDMA
DOCUMENT TYPE: Article
SOURCE: Scopus

Dhivya, R., Pradeepa, M., Raajan, N.R., Monisha, V., Ramkumar, R.
Modified rake receiver design for image transmission in wideband code division multiple access
(2014) *International Journal of Applied Engineering Research*, 9 (9), pp. 1035-1043.
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84896263756&partnerID=40&md5=f05273c6b16584f76776919f8a63613e>

AFFILIATIONS: Department of ECE, SEEE, SASTRA University, Thanjavur, India
ABSTRACT: In addition to raw data transmission, making use of the wireless channel, recent works are largely centered on transmitting the image through the wireless medium. The essence of this paper lies in transmitting an image using Wideband Code Division Multiple Access (WCDMA) system without causing considerable harm to Signal to Noise ratio SNR and Bit Error Rate BER. In the proposed work two different types of interleaver and equalizer are taken for consideration. Effectiveness regarding WCDMA system based on Maximum Likelihood Sequence Estimator (MLSE) and Least Mean Square Error (LMSE) equalizer has been examined. Rake receiver with five fingers additionally made to enhance the effectiveness simply by improving the system immunity against noise and other attributes that degrade the system behavior. Further different images with different sizes are also transmitted through the suggested system setup. Experimental results shows the elevation in system performance in terms of PSNR and BER. © Research India Publications.
AUTHOR KEYWORDS: BER; Interleaver; LMSE equalizer; MLSE; PSNR; WCDMA
DOCUMENT TYPE: Article
SOURCE: Scopus

Baghersalimi, G.
Performance assessment of a wideband code-division multiple access-based radio-over-fibre system with near-far effect: Downlink scenario
(2014) *IET Communications*, 8 (7), pp. 1056-1064. Cited 2 times.
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84899650309&doi=10.1049%2fiet-com.2013.0805&partnerID=40&md5=388948740ff85d9199e1269f92f53160>

DOI: 10.1049/iet-com.2013.0805



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AFFILIATIONS: Department of Electrical Engineering, University of Guilan, P.O. Box 3756, Rasht, Iran
ABSTRACT: The impact of a radio-over-fibre subsystem on the total degradation (TD) performance of downlink wideband codedivision multiple access with near-far effect is evaluated. The study investigates the use of pilot-aided channel estimation to compensate for the optical subsystem non-linearities for different channel conditions, estimation intervals, load factors (LFs) and near-far factors (NFFs). The results show that pilot-aided channel estimation is an effective method for compensating the composite impairments of the optical subsystem and the radio frequency channel. It is found that there is always a suitable quiescent point that optimises the system performance regardless of aforementioned conditions, however, the optimum achievable performance depends on the LF, spreading factor (SF) and NFF. Also, LF has more impact on the system performance in comparison to SF. Further, the optimum TD performance is only slightly affected by a decrease in the estimation interval over the optimum output backoff range. © The Institution of Engineering and Technology 2014.
DOCUMENT TYPE: Article
SOURCE: Scopus

Balyan, V., Saini, D.S.
Same rate and pattern recognition search of orthogonal variable spreading factor code tree for wideband code division multiple access networks
(2014) IET Communications, 8 (13), pp. 2366-2374. Cited 1 time.
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84907090452&doi=10.1049%2fiet-com.2013.0814&partnerID=40&md5=b2f1ac0fdb6363122beb0638c26c189d>

DOI: 10.1049/iet-com.2013.0814
AFFILIATIONS: Department of Electronics and Communication Engineering, Jaypee Institute of Information Technology, Noida, Uttar Pradesh, India;
Department of Electronics and Communication Engineering, Jaypee University of Information Technology, Solan, Himachal Pradesh, India
ABSTRACT: Orthogonal variable spreading factor-based code division multiple access systems allocate vacant codes when new call (s) arrive. This study proposes a same rate assignment scheme which allocates a new call to most favourable code in the region crowded by same rate calls. This does not add to blocked codes because of previous calls but utilise the unused scattered capacity created by previous calls. A vacant code whose parent code is handling maximum number of ongoing calls of same rate is the most favourable code for new call assignment under that sub tree. This reduces higher rate blocking because of scattering of lower rate calls due to the fact that same rate calls will be assigned in the same portion of code tree. If a tie occurs for two parent codes it is resolved using pattern recognition of codes. In the proposed scheme, the most favourable search starts from higher layers that reduce number of code searches before assignment significantly. The proposed single code and multi code schemes are compared with other schemes based on code blocking probability, throughput and number of code searches required before assignment. Simulation results indicate that the proposed scheme outperforms other schemes for various traffic distributions. © The Institution of Engineering and Technology 2014.
DOCUMENT TYPE: Article
SOURCE: Scopus

Baghersalimi, G., O'Farrell, T.
Pilot-aided estimation and equalisation of a radio-over-fibre system in wideband code division multiple access
(2013) IET Communications, 7 (10), pp. 999-1007. Cited 3 times.
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84881357658&doi=10.1049%2fiet-com.2012.0660&partnerID=40&md5=24c67bae89afbcae1798aa067d8dec0e>

DOI: 10.1049/iet-com.2012.0660
AFFILIATIONS: Department of Electrical Engineering, University of Guilan, P.O. Box 3756, Rasht, Iran;
Department of Electronic and Electrical Engineering, University of Sheffield, Mappin Street, S1 3JD, Sheffield, United Kingdom
ABSTRACT: In this study, the impact of a Radio-over-Fibre (RoF) subsystem on the capacity performance of wideband code division multiple access is evaluated. This study investigates the use of pilot-aided channel estimation to compensate for the optical subsystem non-linearities for different channel conditions, estimation intervals and coding schemes. The results show that pilot-aided channel estimation is an effective method for compensating the composite impairments of the optical subsystem and the radio frequency (RF) channel. It is found that there is always a suitable pilot power level which maximises the system capacity performance regardless of coding scheme and channel condition. Also, the peak capacity is only slightly affected by a decrease in the estimation interval. © The Institution of Engineering and Technology 2013.
DOCUMENT TYPE: Article
SOURCE: Scopus

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Saini, D., Gupta, A., Joshi, A.

Reducing code wastage in orthogonal variable spreading factor-based wideband code division multiple access networks

(2013) International Journal of Communication Systems, 26 (7), pp. 863-874. Cited 1 time.

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84879889495&doi=10.1002%2fdac.1374&partnerID=40&md5=0980ee16bc02fe251225a91e7e1096f3)

[84879889495&doi=10.1002%2fdac.1374&partnerID=40&md5=0980ee16bc02fe251225a91e7e1096f3](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84879889495&doi=10.1002%2fdac.1374&partnerID=40&md5=0980ee16bc02fe251225a91e7e1096f3)

DOI: 10.1002/dac.1374

AFFILIATIONS: Jaypee University of Information Technology, Solan, Himachal Pradesh, India

ABSTRACT: SUMMARY Most third-generation and beyond wideband code division multiple access networks use the orthogonal variable spreading factor code tree for channelization codes. The codes in this code tree are limited and the performance of a wireless network depends upon the code assignment for new calls. In this paper, we introduce a term called 'wastage capacity', which gives us the amount of wastage caused when a code (single or multiple) with a data rate higher than the rate of the incoming call is assigned to it. We suggest two methods to keep wastage capacity below an arbitrary threshold value or zero. In the first method, we devised an algorithm in which wastage up to a certain threshold would be tolerated and the minimum rakes to get this wastage capacity were identified. In the second approach, we reduced the wastage capacity to zero irrespective of the number of rakes at the expense of higher cost and complexity. Copyright © 2011 John Wiley & Sons, Ltd. The nonquantized rates in orthogonal variable spreading factor-based wireless networks require code with more call capacity. This leads to wastage of part of the code capacity and should Q9 be eliminated to improve the spectral efficiency of orthogonal variable spreading factor-based networks. The use of multicode for calls reduces wastage capacity significantly. The use of more rakes for one call may increase the complexity and cost of the system. The proposed design finds the optimum number of rakes to get zero wastage. The design proves to be better than most of the other novel designs. Copyright © 2011 John Wiley & Sons, Ltd.

AUTHOR KEYWORDS: code assignment and reassignment; code blocking; OVFS code; spreading factor; wastage capacity

DOCUMENT TYPE: Article

SOURCE: Scopus

Saini, D., Sharma, N.

Reduction in code blocking using scattered vacant codes for orthogonal variable spreading factor-based wideband code division multiple access networks

(2013) IET Communications, 7 (1), pp. 40-48. Cited 2 times.

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-84877817378&doi=10.1049%2fiet-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84877817378&doi=10.1049%2fiet-com.2011.0715&partnerID=40&md5=25db960af34227ebdff8cf932b41c200)

[com.2011.0715&partnerID=40&md5=25db960af34227ebdff8cf932b41c200](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84877817378&doi=10.1049%2fiet-com.2011.0715&partnerID=40&md5=25db960af34227ebdff8cf932b41c200)

DOI: 10.1049/iet-com.2011.0715

AFFILIATIONS: Department of Electronics and Communication Engineering, Jaypee University of Information Technology, Himachal Pradesh, India

ABSTRACT: 3G and beyond wideband code division multiple access networks use orthogonal variable spreading factor (OVFS) codes to handle multimedia traffic. OVFS codes suffer from the limitation of code blocking, which leads to new call blocking. Scattered vacant codes in the OVFS code tree are the main cause of code blocking. This study proposes compact single code and multicode assignment schemes to reduce code blocking. The vacant codes used for incoming calls are the ones surrounded by a minimum number of consecutive vacant codes. Furthermore, finding consecutive vacant codes at the leaves of the tree is sufficient to find the consecutive vacant codes for all other layers. Handling non-quantized rates with a single code assignment produces wastage of code capacity, which is avoided with the use of a multicode assignment. Multicode usage facility along with the use of vacant codes from the minimum consecutive vacant code groups results in minimum code blocking. Two categories of the multicode assignment schemes are considered: the first one uses the least number of codes and is suitable for rake limited OVFS system, and the second scheme uses maximum number of codes to reduce code blocking significantly. © The Institution of Engineering and Technology 2013.

DOCUMENT TYPE: Article

SOURCE: Scopus

Shahzad, K., Hussain, A.

Power aware implementation of wideband code division multiple access (WCDMA) based system for mobile consumer devices in ad hoc settings

(2013) ICET 2013 - 2013 IEEE 9th International Conference on Emerging Technologies, art. no. 6743544, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84896774580&doi=10.1109%2fICET.2013.6743544&partnerID=40&md5=644382be5429591108799ba961936f61)

[84896774580&doi=10.1109%2fICET.2013.6743544&partnerID=40&md5=644382be5429591108799ba961936f61](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84896774580&doi=10.1109%2fICET.2013.6743544&partnerID=40&md5=644382be5429591108799ba961936f61)

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DOI: 10.1109/ICET.2013.6743544

AFFILIATIONS: Department of Electrical Engineering, College of Electrical and Mechanical Engineering, NUST, Rawalpindi, Pakistan;
Department of Modern DSP, Harbin Engineering University, Harbin, China

ABSTRACT: This paper presents the use of WCDMA techniques in mobile consumer devices based communication system used in ad hoc settings. The paper presents power aware techniques by listing area/power tradeoffs while deciding different word lengths of the datapath. The WCDMA is used in an ad hoc setting that requires mitigation of multi path fading effects in the communication system. A hybrid approach for effective equalization and cancellation at the receiver is presented. The implementation of the technique is then optimized for low power operation. The use of QAM modulation is also incorporated for high data rate operation in higher SNR environment. © 2013 IEEE.

AUTHOR KEYWORDS: Ad hoc; Low Power; QAM; WCDMA

DOCUMENT TYPE: Conference Paper

SOURCE: Scopus

Zhang, Z., Lu, Z., Chen, Q., Yan, X., Zheng, L.-R.

Code division multiple access/pulse position modulation ultra-wideband radio frequency identification for Internet of Things: Concept and analysis

(2012) International Journal of Communication Systems, 25 (9), pp. 1103-1121. Cited 18 times.

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84865621915&doi=10.1002%2fdac.2312&partnerID=40&md5=4ace455fb3638d84cf6affaf46b8942c)[84865621915&doi=10.1002%2fdac.2312&partnerID=40&md5=4ace455fb3638d84cf6affaf46b8942c](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84865621915&doi=10.1002%2fdac.2312&partnerID=40&md5=4ace455fb3638d84cf6affaf46b8942c)

DOI: 10.1002/dac.2312

AFFILIATIONS: Institute of VLSI Design, Zhejiang University, Hangzhou 310027, China;
IPack VINN Excellence Center, Royal Institute of Technology (KTH), Stockholm 16440, Sweden

ABSTRACT: Radio frequency identification (RFID) is a compelling technology for Internet of Things (IoT). Ultra-wideband (UWB) technology is one promising wireless technique for future RFID, especially for high-throughput sensing applications. On-off keying UWB RFID system provides high pulse rate but suffers severe collisions that limit the system throughput. This paper proposes to utilize low pulse rate code division multiple access/pulse position modulation UWB in the tag-to-reader link to provide multiple tag access capability and build a high-throughput RFID system for IoT. We analyze asynchronous matched filter receiver and decorrelating receiver for multi-tag detection and design an effective medium access control scheme to optimize the network throughput. We propose an effective dynamic frame size adjustment algorithm on the basis of theoretical analysis and determine the preferable length of Gold codes. With a similar data rate, the throughput of the proposed system using the decorrelating receiver is 8.6 times higher than that of the electronic product code class 1 generation 2 system. Only using 1/10 pulse rate and 1/15 data rate, the proposed system outperforms the on-off keying UWB RFID system 1.4 times in terms of throughput. Copyright © 2012 John Wiley & Sons, Ltd. This paper proposes to utilize low pulse rate code division multiple access/pulse position modulation ultra-wideband (UWB) radio in the tag-to-reader link in a radio frequency identification (RFID) system. We analyze asynchronous matched filter receiver and decorrelating receiver for multi-tag detection, design an effective medium access control scheme and determine the preferable length of Gold codes. The proposed system outperforms the electronic product code class 1 generation 2 system and the on-off keying UWB RFID system in terms of throughput. Copyright © 2012 John Wiley & Sons, Ltd.

AUTHOR KEYWORDS: CDMA-PPM UWB; detection scheme; Internet of Things; medium access control; performance analysis; RFID

DOCUMENT TYPE: Article

SOURCE: Scopus

Mohan, N., Ravichandran, T.

A fuzzy logic based power control for wideband code division multiple access wireless networks

(2012) Journal of Computer Science, 8 (8), pp. 1372-1379. Cited 1 time.

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84864929704&doi=10.3844%2fjcssp.2012.1372.1379&partnerID=40&md5=f608adad4a3e9630be9e385d0f580e9f)[84864929704&doi=10.3844%2fjcssp.2012.1372.1379&partnerID=40&md5=f608adad4a3e9630be9e385d0f580e9f](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84864929704&doi=10.3844%2fjcssp.2012.1372.1379&partnerID=40&md5=f608adad4a3e9630be9e385d0f580e9f)

DOI: 10.3844/jcssp.2012.1372.1379

AFFILIATIONS: Department of IT, AVS Engineering College, Salem, Tamilnadu, India;
Anna University of Technology, Coimbatore, Tamilnadu, India;

Hindustan Institute of Technology, Coimbatore, Tamilnadu, India

ABSTRACT: Problem statement: Resource management is one of the most important engineering issues in 3G systems where multiple traffic classes are supported each being characterized by its required Quality of Service (QoS) parameters. Call Admission Control (CAC)



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is one of the resource management functions, which regulates network access to ensure QoS provisioning. Efficient CAC is necessary for the QoS provisioning in WCDMA environment. The effective functioning of WCDMA systems is influenced by the power control utility. Approach: In this study, we propose to design a fuzzy logic based power control for Wideband Code Division Multiple Access Wireless Networks. This proposed technique is aimed at multiple services like voice, video and data for multiclass users. The fuzzy logic technique is used to estimate the optimal admissible users group inclusive of optimum transmitting power level. This technique reduces the interference level and call rejection rate. Results: By simulation results, we demonstrate that the proposed technique achieve reduced energy consumption for a cell with increased throughput. Conclusion: The proposed technique minimizes the power consumption and call rejection rate. © 2012 Science Publications.

AUTHOR KEYWORDS: Call admission control (CAC); Quality of Service (qos); Universal Mobile Telecommunication System (UMTS); Wideband Code Division Multiple Access (WCDMA)

DOCUMENT TYPE: Article

SOURCE: Scopus

Horiguchi, K., Yamamoto, K., Nakayama, M.

Three-mode stage-bypass high-efficiency power amplifiers for wideband code division multiple access (W-CDMA) applications (2012) Mitsubishi Electric Advance, 138, pp. 2-4.

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84864809834&partnerID=40&md5=070dfe1955866c413e3a01fe5d9dd9f3>

AFFILIATIONS: Information Technology R and D Center, Japan;
High Frequency and Optical Device Works, Japan

ABSTRACT: We have developed a 3.4-V, 1.95-GHz band stage-bypass power amplifier capable of operating in three power modes. This amplifier switches the signal path to use different transistors and circuit configurations for high, medium and low power modes. The new amplifier satisfies the distortion specifications of the wideband code division multiple access (W-CDMA), while achieving superior performance of power added efficiency (PAE) of 40%, 23% and 12% at high, medium and low power mode, respectively.

DOCUMENT TYPE: Article

SOURCE: Scopus

Al-Nahari, A.Y., El-Dolil, S.A., Dessouky, M.I., Abd El-Samie, F.E.

Reservation-based dynamic admission control scheme for wideband code division multiple access systems (2012) Journal of Central South University of Technology (English Edition), 19 (2), pp. 393-401.

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84862749279&doi=10.1007%2fs11771-012-1017-2&partnerID=40&md5=3806da6f6e7cf70225a73842c2e94f08>

DOI: 10.1007/s11771-012-1017-2

AFFILIATIONS: Department of Electronics and Electrical Communications, Faculty of Electronic Engineering, Menoufia University, Menouf 32952, Egypt

ABSTRACT: Call admission control (CAC) and resource reservation (RR) for mobile communication are two important factors that guarantee system efficiency and quality of service (QoS) required for different services in a very scarce resource as the radio spectrum. A new scheme was proposed which extends the concepts of resource sharing and reservations for wideband code division multiple access (WCDMA) systems with a unique feature of soft capacity. Voice and data traffic were considered. The traffic is further classified into handoff and new requests. The reservation thresholds were dynamically adjusted according to the traffic pattern and mobility prediction in order to achieve the maximum channel utilization, while guaranteeing different QoS constraints. The performance of proposed scheme was evaluated using Markov models. New call blocking probability, handoff call dropping probability, and channel utilization were used as benchmarks for the proposed scheme. © Central South University Press and Springer-Verlag Berlin Heidelberg 2012.

AUTHOR KEYWORDS: Admission control; Resource reservation; Resource utilization; Wideband code division multiple access

DOCUMENT TYPE: Article

SOURCE: Scopus

Lee, J.H., Raju, A.B., Buehrer, R.M.

Characterisation of wideband code division multiple access uplink transmit power for typical mobile usage patterns (2011) IET Microwaves, Antennas and Propagation, 5 (5), pp. 535-544. Cited 1 time.

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84863250565&doi=10.1049%2fiet-map.2010.0101&partnerID=40&md5=7f56c22da1952dd17eae27c7b672c975>

DOI: 10.1049/iet-map.2010.0101



SDI FINAL EVALUATION FORM 1.1

AFFILIATIONS: Mobile and Portable Radio Research Group (MPRG), Wireless at Virginia Tech, Blacksburg, VA 24061, United States; Qualcomm Inc., 6455 Lusk Blvd., San Diego, CA 92121, United States

ABSTRACT: With the ever-increasing demand for higher data rates and longer talk times, designing low-power RF front ends in wideband code division multiple access (WCDMA) mobile handsets is an important task. However, the power efficiency of current WCDMA RF front ends, particularly power amplifiers, is very low over the range of typical output power levels. Thus, to improve the RF characteristics, it is important to understand typical output power requirements for WCDMA handsets in practical mobile usage conditions. In this study, the authors present a characterisation and analysis of WCDMA uplink power or handset transmit power for typical mobile usage patterns by location. Unlike previous studies, in this experimental study the authors take measurements using a real WCDMA phone over a commercial universal mobile telecommunications systems network while simulating practical mobile user behaviour. Specifically, the distribution and statistics of WCDMA uplink transmit power at various locations are investigated. Similar locations are then grouped to form four practical mobile usage scenarios, and their frequency histograms are analysed. Further, in each scenario the authors examine the dependency of uplink transmit power on several key factors (i.e. radio coverage, handset position and network loading) and the statistical properties of the transmit power variation. © 2011 The Institution of Engineering and Technology.

DOCUMENT TYPE: Article

SOURCE: Scopus

Paul, R., Sankey, L., Corradini, L., Popović, Z., Maksimovic, D.

Power management of wideband code division multiple access RF power amplifiers with antenna mismatch

(2010) IEEE Transactions on Power Electronics, 25 (4), art. no. 5325908, pp. 981-991. Cited 23 times.

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-77950972163&doi=10.1109%2FTPEL.2009.2036355&partnerID=40&md5=4957eeb9aa1af6d638b37b7f8d0332fc)

[77950972163&doi=10.1109%2FTPEL.2009.2036355&partnerID=40&md5=4957eeb9aa1af6d638b37b7f8d0332fc](https://www.scopus.com/inward/record.uri?eid=2-s2.0-77950972163&doi=10.1109%2FTPEL.2009.2036355&partnerID=40&md5=4957eeb9aa1af6d638b37b7f8d0332fc)

DOI: 10.1109/TPEL.2009.2036355

AFFILIATIONS: Department of Electrical, Computer and Energy Engineering, Colorado Power Electronics Center, University of Colorado at Boulder, Boulder, CO 80309, United States

ABSTRACT: This paper focuses on a combination of adaptive power supply and adaptive impedance tuning for WCDMA RF power amplifiers (RFPA) in wireless handsets in order to improve the system efficiency under different transmit power levels and antenna mismatch. The adaptive power supply is a noninverting buckboost power converter. It is shown that precise output voltage positioning and low output voltage ripple over a wide output voltage range, including buck, boost, and buck/boost transition modes, can be accomplished using Σ - Δ modulation in combination with a small, low-resolution DPWM core. A two-mode digital controller is presented, in which the compensator parameters are changed upon buck/boost mode transitions in order to improve closed-loop dynamic performance. Furthermore, improvements in system efficiency are demonstrated using this adaptive power supply combined with an adaptive RF impedance tuner between the RFPA and the antenna. The results are verified on an experimental test bed that consists of a discrete RFPA, impedance tuner, a prototype 0.5 μ m CMOS power stage IC that integrates power MOSFETs, drivers and deadtime control logic, and a digital power management controller implemented on an FPGA. © 2006 IEEE.

AUTHOR KEYWORDS: Digital controller; Noninverting buck-boost power converter; RF impedance tuner; RF power amplifier (RFPA); Sigma-delta (Σ - Δ) modulator

DOCUMENT TYPE: Conference Paper

SOURCE: Scopus

Scopus

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Raimi, L.

Leveraging CSR as a 'supportaid' for triple bottom-line development in Nigeria: Evidence from the telecommunication industry

(2016) Comparative Perspectives on Global Corporate Social Responsibility, pp. 208-225.

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85016022787&doi=10.4018%2f978-1-5225-0720-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85016022787&doi=10.4018%2f978-1-5225-0720-8.ch010&partnerID=40&md5=e2f8753eea5179e97c1cb226f7169e5f)

[8.ch010&partnerID=40&md5=e2f8753eea5179e97c1cb226f7169e5f](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85016022787&doi=10.4018%2f978-1-5225-0720-8.ch010&partnerID=40&md5=e2f8753eea5179e97c1cb226f7169e5f)

DOI: 10.4018/978-1-5225-0720-8.ch010

AFFILIATIONS: Centre for Entrepreneurship Development, (CED), Yaba College of Technology, Yaba Lagos, Nigeria;

De Montfort University Leicester, United Kingdom

ABSTRACT: This book chapter focuses on the developmental-oriented perspective of CSR which views corporate involvement as a 'support-aid' for meeting triple bottom-line development in Nigeria. Arising from the literature, the stakeholder, legitimacy and social contract theories provide the required theoretical grounding for the discourse. The qualitative research method was found appropriate for this discourse. From the list of 25 registered telecommunication companies in Nigeria, a sample of 8 functional companies was selected



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using purposive sampling technique. The data extracted from the annual reports and websites of these companies were analysed using the content analysis. The findings indicate that the telecommunication companies are practically leveraging their CSR initiatives for social, economic and environmental wellness in Nigeria through a number of developmental programmes. The chapter explicates the fact that CSR as a private sector development model can be a potent tool for bridging governance gap environment instead of leaving all social problems to governments. © 2017 by IGI Global. All rights reserved.

DOCUMENT TYPE: Book Chapter

SOURCE: Scopus

Oyeniran, W.I., Onikosi-Alliyu, S.

Information and telecommunication infrastructure and economic growth: An experience from Nigeria
(2016) Serbian Journal of Management, 11 (2), pp. 275-289.

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84994887806&doi=10.5937%2fsjm11-8174&partnerID=40&md5=04c38e49017b5f7f6e78094c929cc0db>

DOI: 10.5937/sjm11-8174

AFFILIATIONS: Al-Hikmah University, College of Management Sciences, Department of Economics, Adeta Road, Adewole Housing Estate, P.M.B. 1601, Ilorin, Kwara State, Nigeria

ABSTRACT: The study examines the effect of investment in telecommunication infrastructure on economic growth in Nigeria. Using time series data from 1980 and 2012, the study employs autoregressive distributed lag (ARDL) bounds testing approach proposed by Pesaran et al., (2001) to estimate the long run and short run effect of investment in telecommunication infrastructure on economic growth. The result from cointegration test showed presence of long run relationship between dependent and all explanatory variables. The study found foreign direct investment in information and communication technology more effective in improving and raising economic growth in Nigeria than government investment. The output from Chow breakpoint test shows that the liberalization of telecommunication industry introduced in 1992 has significant effect on economic growth in Nigeria. Therefore, it is imperative for Nigerian government to increase its spending on telecom and attract more foreign investment in telecommunication in order to boost productivity and economic growth.

AUTHOR KEYWORDS: Autoregressive distributed lag model; FDI; Growth; Investment; Telecommunication

DOCUMENT TYPE: Article

SOURCE: Scopus

Ajao, B.F., Oyebisi, T., Aderemi, H., Jegede, O.

Status and impact of strategic technology alliances among telecommunications firms in Nigeria
(2015) International Journal of Business Performance Management, 16 (2-3), pp. 339-351.

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84928016842&doi=10.1504%2fIJBPM.2015.068723&partnerID=40&md5=83f654eb4790cbaf4fdc01ef5e1b961b>

DOI: 10.1504/IJBPM.2015.068723

AFFILIATIONS: National Centre for Technology Management, Obafemi Awolowo University Ile-Ife, Nigeria;
African Institute for Science Policy and Innovation, Obafemi Awolowo University Ile-Ife, Nigeria;

Department of Management and Accounting, Obafemi Awolowo University Ile-Ife, Nigeria

ABSTRACT: This paper examined strategic technology alliance among telecommunications service providers in Nigeria and the benefits accrued to service providers and subscribers from the alliances. This was with a view to providing appropriate recommendation to improving the services rendered to subscribers. Primary data were collected from four GSM network operators, two CDMA network operators and three telecommunications service vendors in Nigeria. Findings revealed the existence of strategic technology alliances such as licensing, joint venture, turnkey, venture capital, franchising, merger and acquisition. Benefits derived from the strategic alliances in decreasing order were improved network coverage, decrease in call drops, decrease in signal down time and decrease in tariff of data and voice services. Furthermore, the allies enjoyed increased turnover when they engaged in strategic technology alliance. The study concluded that a well-structured strategic technology alliance relationship among telecommunications firms can bring about better services for sustainable development in the country. Copyright © 2015 Inderscience Enterprises Ltd.

AUTHOR KEYWORDS: CDMA; Global system of mobile; GSM; Licensing; STA; Strategic technology alliance; Subscribers; Telecommunications vendors

DOCUMENT TYPE: Article

SOURCE: Scopus

Didia, J.U.D., Nwokah, N.G.

Supply chain integration and business performance in the telecommunication industry in Nigeria
(2015) International Journal of Supply Chain Management, 4 (2), pp. 81-89.



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AFFILIATIONS: Department of Marketing, Faculty of Management Sciences, Rivers State University of Science and Technology, Port Harcourt, Nigeria

ABSTRACT: The purpose of this explanatory research is to evaluate the association between supply chain integration and business performance in the telecommunication industry in Nigeria. This study used a structured questionnaire to elicit responses from respondents from the Telecommunication firms in Nigeria. Returned copies of questionnaire were analyzed using both descriptive and inferential statistics. Descriptive statistics was used to determine the mean and standard deviation of the distribution, while the Spearman rank order correlation coefficient was used to ascertain the associations between the supply chain integration and the dimensions of business performance in the telecommunication firms in Nigeria. The results of the study reported herein, shows that supply chain integration associates with business performance in the Nigeria Telecommunication firms. It is the recommendation of this paper that managers of Nigerian Telecommunication firms should strengthen their practice of supply chain Integration strategy as a paradigm shift from the isolated functional dependence. The study reported in this paper can be carried out in other industry; and also, in other culture to ascertain whether the same, similar or different outcomes can be achieved. © ExcelingTech Pub, UK.

AUTHOR KEYWORDS: Business performance; Integration; Marketing; Supply-chain; Telecommunication

DOCUMENT TYPE: Article

SOURCE: Scopus

Olatokun, W.M., Ojo, F.O.

Influence of service quality on consumers' satisfaction with mobile telecommunication services in Nigeria

(2014) Information Development, 32 (3), pp. 398-408.

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84965135653&doi=10.1177%2f0266666914553316&partnerID=40&md5=7e64ba853e85caf313c214717dbf1739)

[84965135653&doi=10.1177%2f0266666914553316&partnerID=40&md5=7e64ba853e85caf313c214717dbf1739](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84965135653&doi=10.1177%2f0266666914553316&partnerID=40&md5=7e64ba853e85caf313c214717dbf1739)

DOI: 10.1177/0266666914553316

AFFILIATIONS: Africa Regional Centre for Information Science, University of Ibadan, No. 6, Benue Road, Nigeria

ABSTRACT: Using survey design, this study assessed customer satisfaction with mobile telecommunication services in Ibadan, a Nigerian municipality. A structured questionnaire, consisting of SERVQUAL dimensions of reliability, responsiveness, assurance, empathy and tangibility, was used to collect data. Convenience sampling technique was used to select 431 mobile telecommunication users to measure their satisfaction level. Collected data were analyzed using frequency and percentage distribution and Logistic Regression was used to determine if there existed any relationship between the SERVQUAL dimensions and customers' satisfaction. Findings revealed Responsiveness, Assurance and Empathy to be significant in explaining customer satisfaction. The findings may further strengthen the position of the regulatory authorities in developing policies that will address customers' satisfaction based on defined priorities. This study recommends that mobile operators should improve the quality of mobile services offered to customers in terms of responsiveness, assurance and empathy in order to achieve high level of customer satisfaction and brand loyalty. © 2014, © The Author(s) 2014.

AUTHOR KEYWORDS: consumer satisfaction; mobile telecommunication services; Nigeria; service quality

DOCUMENT TYPE: Article

SOURCE: Scopus

Adetayo, J.O., Apollos, E.A.

An overview of service delivery and customer satisfaction in the telecommunications industry in Nigeria

(2013) Indian Journal of Marketing, 43 (8), pp. 14-22. Cited 1 time.

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84886036929&partnerID=40&md5=1fd5e5b77396e458294c68d570a4a6d1>

AFFILIATIONS: Department of Management and Accounting, Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria;

Department of Banking and Finance, Bowen University, Iwo, Osun State, Nigeria

ABSTRACT: The study examined service delivery and customer satisfaction in the telecommunications industry in Nigeria. The study assessed the level of satisfaction of GSM subscribers and the discrepancies (if any) in the level of satisfaction among them. Data were collected using a structured questionnaire distributed to four hundred respondents in Lagos and Oyo states of Nigeria. Descriptive statistics such as frequency, percentages, weighted mean as well as inferential statistics such as analysis of variance (ANOVA) were used for analyzing the variables of interest. The results obtained showed a general mean of 3.66 on a 5 -point Likert scale. This means that the customers were satisfied with the services of the GSM operators operating in the mobile telecommunications industry in Nigeria. It is recommended that players in the mobile telecommunications industry should strive to raise the level of customer satisfaction by focusing on courtesy and upgrading of their operational facilities in order to widen their coverage area. Also, regulatory authorities, especially the Nigerian Communication Commission (NCC), should step up the level of supervision, while the Government should



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register and grant licenses to more mobile telecommunication companies to increase competition in the industry.
AUTHOR KEYWORDS: Customer satisfaction; GSM operators; Service delivery; Telecommunications
DOCUMENT TYPE: Article
SOURCE: Scopus

Ajayi, G.O., Salawu, R.I., Raji, T.I.
Nigeria: After a Century of Telecommunications Development, what Next?
(2011) Telecommunications in Africa, .
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84939863558&doi=10.1093%2facprof%3aoso%2f9780195102017.003.0010&partnerID=40&md5=5d063486672bc0f198f3e21ea7ab6eaa>

DOI: 10.1093/acprof:oso/9780195102017.003.0010
AFFILIATIONS: Obafemi Awolowo University, Ile-Ife, Nigeria;
University of Lagos, Lagos, Nigeria;
Oyo State University of Technology, Ogbomoso, Nigeria
ABSTRACT: This chapter describes the various stages of development in the telecommunications industry of Nigeria. The discussion revolves around the goals, accomplishments, and shortcomings of the development plans of the government, which gave considerable attention to regional cooperation in communication technology, domestic production of equipment, modification of information transmission system policies, approval and application of new technologies, and fund management and prospective efforts for the sector's sustenance. In addition, the Nigerian administration put emphasis on the expansion of telecommunication facilities to rural areas. Aside from telegraphs, telephones, and facsimiles, the eventual introduction of digital radio, digital switches, and optical fiber broadcasting was completed. Like any other developing nation, Nigeria must now regard telecommunications as a crucial ingredient to economic and industrial progress. © 1999 by Oxford University Press, Inc. All rights reserved.
AUTHOR KEYWORDS: Economic progress; Expansion; Nigeria; Rural areas; Telecommunications industry; Urban centers
DOCUMENT TYPE: Book Chapter
SOURCE: Scopus

Akinpelu, E.O., Eng, M.
Sizing and cost assessment of solar PV system for energy supply in the telecommunication industry in Nigeria
(2011) Journal of Engineering and Applied Sciences, 6 (2), pp. 130-134. Cited 2 times.
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-79953880799&doi=10.3923%2fjeasci.2011.130.134&partnerID=40&md5=b155f71e433d52214ef98d919eca53>

DOI: 10.3923/jeasci.2011.130.134
AFFILIATIONS: Department of Electrical and Electronics Engineering, Faculty of Technology, University of Ibadan, Ibadan, Nigeria
ABSTRACT: Electrical power from the grid is unreliable in Nigeria. This has forced mobile telecommunication operators to depend mainly on diesel generators. In this research, solar PV system is considered as an alternative power supply option. The PV system to power a Base Transceiver Station (BTS) was sized then Life Cycle Cost (LCC) method of economic assessment was used to compare the cost with the costs of diesel generator and grid utility over the life cycle period of the PV system which is 30 years. The LCC of PV system is \$0.84/kWh that of diesel generator, \$1.8/kWh and grid utility, \$0.063/kWh. Sensitivity, analysis was carried out using variations in module costs, diesel fuel escalation and grid utility escalation. The results suggest that the PV system is cheaper than the diesel generator and could be the best option out of the three in the future. © Medwell Journals, 2011.
AUTHOR KEYWORDS: Base transceiver station; Diesel; Generator; Grid utility; Life cycle cost sensitivity analysis
DOCUMENT TYPE: Article
SOURCE: Scopus

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