



(1)

A 0.18 μm CMOS current reuse ultra-wideband low noise amplifier (UWB-LNA) with minimized group delay variations

K. Yousef, H. Jia, R. Pokharel, A.Allam, M. Ragab, H. Kanaya

Abstract:

This paper presents the design of a CMOS low noise amplifier (LNA) with minimized group delay variations and optimized noise performance for ultra-wideband (UWB) applications. The proposed LNA employs a common source based current reuse topology. Through this configuration gain flatness of 12.25 ± 0.25 with noise figure (NF) less than 3.8 dB are achieved. This LNA achieves group delay variation of ± 25 ps using the standard 0.18 μm CMOS technology. Weak Capacitive-Resistive shunt feedback technique is implemented across the input stage for wideband input matching. Series peaking with output resistive termination are adopted for group delay variations optimization. This UWB LNA has a measured 1dB compression point (P1dB) and an input third-order inter-modulation point (IIP3) of -7.0 dBm and 2.5 dBm respectively at 5.5 GHz. The implemented UWB LNA chip area is only 560 μm x 590 μm .

Keywords:

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(2)

A 2-16 GHz CMOS Current Reuse Cascaded Ultrawideband Low Noise Amplifier

K. Yousef¹, H. Jia², R. Pokhare², A. Allam¹, M. Ragab¹ and K. Yoshida³

Abstract:

This paper presents the design of a 2-16 GHz ultra wide band low noise amplifier (UWB LNA). The proposed LNA as again of 11.5 ± 0.85 dB with NF less than 2.82 dB. Good input and output impedance matching, good isolation and linearity are achieved over the operating frequency band. The proposed UWB LNA consumes 18.14 mW of power from 1.8V supply. This UWB LNA is designed and simulated in 0.18 μ m CMOS process.

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IEEE , , 1-5



(3)

A Low Phase Noise CMOS Ring Oscillator Using Phase Modulation and Pulse Injection Techniques

K. Yousef, A. Allam, H. Jia and R. Pokharel

Abstract:

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Keywords:

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Published In:

IEICE Technical Report , vol. 114, no. 45, MW2014-40 , 95-98



(4)

An Eight Phase CMOS Injection Locked Ring Oscillator with Low Phase Noise

K. Yousef, H. Jia, A. Allam, and R. Pokharel

Abstract:

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Keywords:

NULL

Published In:

2014 IEEE International Conference on Ultra-Wideband (IEEE ICUWB 2014) , NULL , 337-340



(5)

CMOS Ultra-Wideband Low Noise Amplifier Design

K. Yousef, H. Jia, R. Pokharel, A.Allam, M. Ragab and H. Kanaya

Abstract:

This paper presents the design of Ultra-Wideband Low Noise Amplifier (UWB LNA) beside the illustration of wideband amplifiers design using 3D inductors. The proposed UWB LNA whose bandwidth extends from 2.5 GHz to 16 GHz is designed using a symmetric 3D RF integrated inductor. This UWB LNA has a gain of 11 ± 1.0 dB and a NF less than 3.3 dB. Good input and output impedance matching and good isolation are achieved over the operating frequency band. The proposed UWB LNA is driven from a 1.8V supply. The UWB LNA is designed and simulated in standard TSMC 0.18 μm CMOS technology process.

Keywords:

NULL

Published In:

International Journal of Microwave Science and Technology , 2013 , Article ID 328406, 6 pages, 2013.
doi:10.1155/2013/3284



(6)

0.5 - 5.5 GHz Ring Oscillator with Pulse Injection in 0.18 μm CMOS Technology, Proceedings of 35th IEICE Technical Report on Silicon Analog RF (IEICE- SiRF) Technologies, pp. 8-8

A. Anand, K. Yousef, H. Jia and R. Pokharel

Abstract:

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Keywords:

NULL

Published In:

35th IEICE Technical Report on Silicon Analog RF (IEICE- SiRF) Technologies , NULL , 8-8



(7)

Multi-Phase Ring Oscillator with Minimized Phase Noise for Ultra-Wideband Applications

K. Yousef, H. Jia, A. Allam, A. Awinash, R. Pokharel and T. Kaho

Abstract:

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Keywords:

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Published In:

2014 International Conference on Information Science, Electronics and Electrical Engineering (ISEEE 2014) , NULL , 1151-1153



(8)

[9] K. Yousef, H. Jia, R. Pokharel, A. Allam, M. Ragab, H. Kanaya and K. Yoshida, "Low Power, Low Voltage CMOS Ultra Wideband Low Noise Amplifier for Portable Devices," Proceeding of 2013 Second Japan-Egypt Conference on Electronics, Communications and Co

K. Yousef, H. Jia, R. Pkharel, A. Allam, M. Ragab, H. Kanaya and K. Yoshida

Abstract:

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Keywords:

NULL

Published In:

2013 Japan-Egypt Conference on Electronics, Communications and Computers (JEC-ECC 2013) , NULL , 68-70



(9)

CMOS Ultra-Wideband Low Noise Amplifier (UWB-LNA) Using Symmetric 3D RF Integrated Inductor

K. Yousef, H. Jia, R. Pokharel, A. Allam, M. Ragab, H. Kanaya and K. Yoshida

Abstract:

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Keywords:

NULL

Published In:

Proceeding of 2013 IEEE International Conference on Ultra Wide-band (IEEE ICUWB 2013) , NULL , 273-275



(10)

Design of 3D Integrated Inductor for RFICs

K. Yousef, H. Jia, A. Allam, R. Pokharel, M. Ragab and K. Yoshida

Abstract:

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Keywords:

NULL

Published In:

Japan Egypt Conference on Electronics, Communications and Computing (JECECC-2012) , NULL , 22-25



(11)

RFIC design challenges and LNA importance

K. Yousef and A. Allam

Abstract:

NULL

Keywords:

NULL

Published In:

Proceedings og Research Inducstry Day 2011 , NULL , NULL



(12)

[3] K. Yousef, H. Jia, R. Pokharel, et al., "A 0.18 μm CMOS -Current Reuse Ultra-Wideband Low Noise Amplifier (UWB LNA) with Minimized Group Delay Variations," Proceedings of 44th European Microwave Conference (EuMC 2014), pp. 1392-1395.

K. Yousef, H. Jia, R. Pokharel

Abstract:

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Keywords:

NULL

Published In:

44th European Microwave Conference (EuMC 2014) , NULL , 1392-1395



(13)

A -193 (dBc/Hz) FoM AND -126 (dBc/Hz) PHASE NOISE OCTAGONAL RING OSCILLATOR USING PULSE INJECTION TECHNIQUE

K. Yousef, A. Allam, H. Jia, R. Pokharel, H. Kanaya and A. Abdel-rahman

Abstract:

This manuscript presents the design of a low phase noise, high figure of merit (FoM) single-ended octagonal ring oscillator (RO). The proposed RO employs the pulse injection (PI) technique for performance enhancement. The PI technique is used for suppression of phase noise and spurious harmonics. Besides, a novel voltage dependent phase shifter is employed. The proposed RO has an output signal with voltage controlled phase. Different output signal phases can be obtained employing different selected voltages to control the output signal phase. The proposed injection locked ring oscillator (ILRO) represents a suitable implementation for phase shift keying (PSK). The proposed ILRO has a measured oscillation frequency of 4.9 GHz with a fine tuning range of 500 MHz. It has a measured phase noise of -126.17 dBc/Hz @ 1MHz offset while consuming only 4.8 mW of DC power. The proposed ILRO has a FoM of -193.17 dBc/Hz. This RO has been designed and implemented in 0.18 μ m CMOS technology.

Keywords:

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Microwave and Optical Technology Letters , 58 , 1760-1762



(14)

A 61-nW Level-Crossing ADC with Adaptive Sampling for Biomedical Applications

Yuting Hou , Jiali Qu , ZhenZhen Tian , Mohamed Atef , Khalil Yousef , Guoxing Wang Lian Young

Abstract:

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Published In:

TCAS II , NULL , NULL



(15)

A 1-to-1kHz, 4.2-to-544-nW, Multi-level Comparator Based Level-Crossing ADC for IoT Applications

4. Yuting Hou, Khalil Yousef, Mohamed Atef, Guoxing Wang, Yong Lian

Abstract:

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Keywords:

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Published In:

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(16)

A 61-nW Level-Crossing ADC With Adaptive Sampling for Biomedical Applications

Yuting Hou, Jiali Qu, Zhenzhen Tian, Mohamed Atef, Khalil Yousef, Yong Lian, Guoxing Wang

Abstract:

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(17)

A 0.0129 mm² DPLL with 1.62.0 ps RMS period jitter and 0.25-to-2.7 GHz tunable DCO frequency range in 55-nm CMOS

Luo, Zhihong; Wang, Guoxing; Yousef, Khalil; Lau, Benjamin; Lian, Yong; Heng, Chun-Huat

Abstract:

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Keywords:

NULL

Published In:

IEEE Transactions on Circuits and Systems II: Express Briefs , v 65, n 12 , p 1844-1848



(18)

A low phase noise, high figure of merit, 3.1 GHz-3.5 GHz ring oscillator using edge injection technique

Yousef, Khalil

Abstract:

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