1. The Subject and Aims of Research
(1) Design and implement analog front-end circuits using the CMOS & other technologies.
The aim is to develop new circuits for RF, analog system or mixed-signal integrated systems.
The circuits include power amplifier, low noise amplifier, mixer, voltage controlled oscillators, and injection locked frequency dividers.
Design and implementation of passive on-chip components: microstrip line, inductor, filter and antenna.
RF system design

(2) Nanometer semiconductor devices: modeling and characterization.
Study the characteristics of nanometer semiconductor devices: the I-V characteristics,

3) Photonics

OptoElectronic Integrated Circuits (OEIC). Optoical and RF Electronic system design.

Publications:

Journals:

REFERENCES


Conferences

[147] Cheng Chen Liu, Che Yi Lin, Chien-Feng Lee and Sheng-Lyang Jang, "A dual LC tanks CMOS VCO," 2007 IEDMS.


USA Patents:


[184] Sheng-Lyang Jang, Hsueh-Ming Lu, James Liu, and Jimmy Hsieh, "Electrostatic discharge protection circuit", 05/26/05 USA patent, #20050111150

[185] Sheng-Lyang Jang, and Shao-Hua Lee, "Dual-band voltage controlled oscillator utilizing switched feedback technology", 06/05/07 USA patent, #200722745B2.

[186] Sheng Lyang Jang, and Yun Hsueh Chuang, "Low power consumption frequency divider circuit", USA patent #7446617, 2008.

Taiwan Patents:

[187] 劉碩彰,謝志明,張勝良,呂學銘,靜電放電保護電路, Taiwan patent number is I221668.

[188] 劉碩彰,謝志明,張勝良,呂學銘,不會鎖住（Latchup-free）之電控整流子靜電放電保護電路, Taiwan patent number 200532889.

[189] 張勝良,王學銘,雙共振腔架構雙頻帶LC電壓控制振盪器, Sheng-Lyang Jang, Yuanhsueh Chuang, The two stacked LC-tank dual band voltage controlled oscillator, Taiwan patent number is I261962. issued date:11, Sep., 2006

[190] 張勝良,李少華,利用切換回授路徑技術的雙頻帶壓控振盪器"A dual-band voltage controlled oscillator utilizing switched feedback technology", 2008, Taiwan patent number is I298579.

Patents in application:


[192] Sheng-Lyang Jang, Chun-Chieh Chao, Yun-Hsueh Chuang, Shao-Hwa Lee," Injection locker frequency divider", USPTO Application #: 20080231379

[193] Sheng-Lyang Jang Cheng-Chen Liu Jui-Cheng Han, "Injection locker frequency divider embedded an active inductor,"

Dissertations and books:

[194] Sheng Lyang Jang, MS thesis.