

#### UNIVERSITI M A L A Y A

# IP MARKETPLACE CONNECTING INNOVATION TO YOUR BUSINESS

### TECH OFFER

# NOVEL DESIGN OF A PORTABLE LOW PHASE NOISE FOR .8 TO 64 GHZ SIGNAL GENERATOR



# MORE INFORMATION

#### **MEGA-TREND**

Chemicals and Materials

#### **TECHNOLOGY READINESS LEVEL (TRL)**

• TRL 3

#### PATENT/ GRANTED NUMBER

MY-186277-A

## TECHNOLOGY OVERVIEW

A signal generator which comprises: a frequency synthesizer of a phaselocked loop structure, comprising: a first oscillator for producing first signal of a reference frequency; a phase detector, connected to the first oscillator, for detecting phase difference between the first signal and feedback signal (SFB), and producing second signal which represents the phase difference; a loop filter, connected to the phase detector, for removing unwanted frequency components of the second signal to produce third signal; a second oscillator, connected to the loop filter, for receiving the third signal, and



producing fourth signal; and a frequency divider, connected between the second oscillator and the phase detector, for dividing frequency of the fourth signal, and impressing frequency-divided signal back to the phase detector as the feedback signal (SFB); such that a low-phase-noise signal (SLP) of the second oscillator is derived as an output signal of the synthesizer; a multiplier, connected to the synthesizer, for multiplying the output signal of the synthesizer; a band-pass filter, connected to the multiplier; connected to the multiplier; and an amplifier, connected to the filtering multiplied signal output from the multiplier; and an amplifier, connected to the filter band-pass filter.

#### **CONTACT US!**

Dr. Lee Ching Shya UMCIE Business Officer Email: <u>leecs@um.edu.my</u> Phone: +603 – 7967 7351 / 7352