

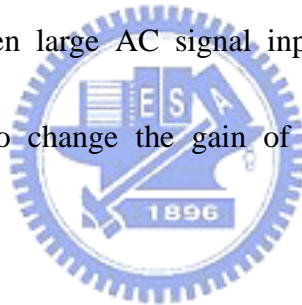
Chapter 5

Conclusion

This thesis illustrates the 15GHz linear RF power control system. The architecture is different from the circuit RF attenuation and linearizer are apart.

In the linear region, I set the gate DC voltage to control the RF attenuation value from positive gain to the negative gain. A variable gain amplifier is made use to achieve wide power control range.

I control the gate DC voltage of the power amplifier to compensate the movement of bias point when large AC signal input the device. And utilize the different gate bias voltage to change the gain of device to achieve power gain linearizer.



Finally, A variable gain amplifier is employed to achieve 40 dB power control range. With controlling the gate voltage, improvement of 10 dB linear region have been achieved for the power amplifier. The advance of IMD is 3 dBc at 20.83 dBm output power point.