

# **Analog and Wireless IP from Signal Processing Group Inc.**

Updated December 31, 2009

*Note: Please read the following disclaimer about the available wireless IP from SPG.*

## **Disclaimer:**

- 1.0 Our company SPG is a design house for turnkey integrated circuit and modular products. I.e we design and supply complete end to end integrated and modular product designs, layout databases, system databases, reference designs, test programs, semiconductor fabricated prototypes and volume parts. All these services are part of a **CUSTOM** service where we are under NDA with our customers. We have obtained permission from our customers to briefly describe these devices and products but we cannot supply samples, databases, test programs etc to other customers for evaluation or any other purpose.
- 2.0 In some special cases we may be able to supply samples or databases with permission from our customers. These are rare events and we cannot guarantee that we will be able to do that.
- 3.0 We can modify our IP to any *new* requirements by *new* customers. However, these *new* devices/IP blocks *cannot violate* previous full chip / full module product IP. We can work with new customers to generate new IP blocks/ module blocks/ full chips/ full modules/ full databases/test programs etc.
- 4.0 All work done by us is covered under *strict* MNDAs ( mutual non disclosure agreements) and we are legally bound under **US laws** to live by these agreements. All work done by us for our customers is considered **strictly proprietary and confidential** by both ourselves and our customers.
- 5.0 The list of IP disclosed under these set of conditions are therefore very brief and non detailed to preserve the integrity of the IP. This description is meant to allow us to give any new customers, an understanding of the range of our capabilities only.
- 6.0 For further discussions please contact [spg@signalpro.biz](mailto:spg@signalpro.biz) for more information and direct contact with technical staff.

## Descriptions of IP:

Our work is divided into two categories,

- A: Analog products and services.
- B: Wireless and MMIC products and services.

We outsource all the semiconductor and module fabrication, including volume test to foundries in the US, Canada, Europe, Taiwan, China, Korea, Malaysia, Indonesia and the Phillipines. If there are any sensitivities to this, then we should be informed immediately by our prospective customers.

We have been doing this work for a long time so the numbers of IP blocks we have generated are numerous. Therefore we will not list every single functional block that we have in our libraries since some of them may be repetitive.

The semiconductor processes we work with are:

- I CMOS
- II BiCMOS
- III SiGe
- IV High voltage biCMOS
- V GaAs

We are currently evaluating the following process for designs that we do for our customers:

- VI GAN.

We can provide both **packaged** parts and also **die** level parts. We can supply low volume ( 20 – 100 ) parts or high volume parts.

We always strive to make sure that we have second sources.

**Ownership of IP:** If the customer pays for the **all** the work and **all expenses** then the IP for the complete device ( chip or module ) belongs to the customer. However, the building blocks ( functional blocks ) belong to SPG.

If the NRE ( non recurring engineering ) charges are **shared** then the IP will also belong to SPG.