ABSTRACT

**INTEGRATED CIRCUIT SYSTEM WITH BAND TO BAND TUNNELING AND METHOD OF MANUFACTURE THEREOF**

A method of manufacture of an integrated circuit system includes: providing a semiconductor substrate; implanting a well region, having a first conductivity, on the semiconductor substrate; patterning a gate oxide layer on the well region; implanting a source, having a second conductivity, at an angle for implanting under the gate oxide layer; selectively implanting a dopant pocket, having a third conductivity that is opposite the second conductivity, at the angle for forming the dopant pocket under the gate oxide layer; and implanting a drain, having the third conductivity, for forming a transistor channel asymmetrically positioned under the gate oxide layer.

**Fig. 1**