

### **Processing Gain Report:**

The processing gain report filed for this application is identical to the one filed for the Bluetooth Module **CGK8001001**. The **PBY1130102** is based on the same Bluetooth module that is a variation of the previously granted Ericsson module approved under FCC ID: **CGK8001001**. This module uses the same basic chipset that was used in the module approved under FCC ID: **CGK8001001**. Repackaging of the module and the PCB board layout was required because the device this module was to be incorporated in a cell telephone. The package was too small to accommodate the previously approved design. Below you will find the confirmation from Ericsson of the implementation of the originally approved transmitter and receiver functions into the new module.

"For this measurement it is necessary to have access to the correlator output of the baseband chip. This correlator output is available as a pin on the TQFP packaged (implemented in the previously approved module) version of this baseband chip. The size of this package is too big to be used in the cell phone Bluetooth products. In Bluetooth products a microBGA package will be used. Since the number of available pins is slightly less, features like the correlator output pin had to be discarded. This output line is not bonded from silicon to a package pin, while the silicon die is still exactly the same. This makes it technically impossible to do processing-gain measurements on the the cell phone. In the processing gain report submitted, Ericsson measured and simulated the processing gain of the chipset that is common to the cell phone. This chipset consists of the radio chip (called Bluetooth radio module in the block-diagram) and the base-band controller (uP & memory). There is very good correlation between measurements and simulated results. The processing gain is in fact defined by the Bluetooth system itself. It could be affected by the radio implementation (noise equivalent bandwidth of receiver), however, this products use the same radio as was tested in the originally approved module, FCC ID: **CGK8001001**."

Since the chipset contain integrated transmit and receiver functions identical to the systems used in the original module, the data collected is applicable to the cell phone.

Just to make sure there is no misunderstanding, the processing gain report filed with this application is based on the report filed and accepted by the FCC with the original Ericsson module FCC ID: **CGK8001001**.

All receiver functions that could affect processing gain measurements, i.e., RF, IF, and demodulator are incorporated within the chip in this module and are identical to the receiver implementation in the chip used in the previously approved Ericsson Bluetooth module FCC ID: **CGK8001001**.