

## Tune-up Procedure of GV50VC

During manufacturing each phone will be individually calibrated.

The measurement is done in a fully calibrated setup, which is based on Agilent 8960 or RS CMU200 (TX power, AFC, LNA Gain.....).

Furthermore, the maximum transmit power is verified afterwards in a call measurement on three channels (low, mid and high).

### Procedure:

1. Set the module to operational voltage and on one certain channel in a special service mode by means of company proprietary software.
2. AFC test is first done by auto test software. The stop of device clock is recorded in each device. Temperature ADC and battery ADC are written to NVRAM.
3. TX power is calibration in middle of each channel. There are three gain stages for TX power amplifier; each gain stage is calibrated in 8 power points. The low gain stage will calibrate output power at -55.000, -45.000, -35.000, -25.000, -15.000, -5.000, 5.000 and 10.000dBm. The middle gain stage will calibrate output power at -10.000, 0.000, 10.000, 15.000 and 18.000dBm. The high gain stage will calibrate output power at 0.000, 10.000, 15.000, 20.000, 23.500, 24.000 and 25.000dBm. The power error at each power point is not exceeding 0.2dB.
4. The transmitting power in different channel is different, so the channel compensation is also calibrated in the factory. Temperature compensation table is also written to the device, the table covered the entire device operating frequency range. All these values are stored in special section in Nor Flash marked with Read only and untouchable for end user. The user has no possibility to change these settings later on.

The actual power in use is controlled by the base station with open loop power control algorithm and close loop power control algorithm. The minimum output power is less than -50dBm and the maximum output power is  $24 \pm 1$  dBm.

### CDMA2000 1x BC0&BC1 maximum power:

Normal out power(dBm)	24
Low limit(dBm)	23
High limit(dBm)	25