During manufacturing each phone will be individually calibrated.
The measurement is done in a fully calibrated setup, which is based on a R&S CMU 200
base station simulator (system tester). Furthermore, the highest power level is
verified afterwards in a call measurement on three channels (low, mid and high).
The target antenna power for GSM 900 is +33dBm; for DCS 1800 and PCS 1900 is +29dBm.

Procedure:
1. Set the phone to operational voltage and on one certain channel in a special service
mode by means of company proprietary software.
2. The actual power is measured at several power levels.
3. The gain factors of each individual phone are adjusted until the target value is met. The
appropriate gain control settings are stored in each phone individually (for each power
level).
The user has no possibility to change these settings later on.

Modulation System
The radio part realizes the conversion of the GMSK-HF-signals from the antenna to the
baseband and vice versa.
In receive direction, the signals are splitted into I- and Q-components and led to the D/Aconverter
of the logic part. In transmit direction, the GMSK-signal is generated by
modulating the baseband I- and Q-signals within an Up-conversion Modulation Phase
Locked Loop. After that the signals are amplified by the power amplifier.
Transmitter and Receiver are never active at the same time. Simultaneous receiving and
transmission in two or even three bands is impossible. However, monitoring can be done
independent from the receive and transmit band (RX- and TX timeslot of the band),
respectively.

The RF-part is designed for Multi-band operation (GSM900,DCS1800,PCS1900) supporting
GPRS functionality up to multi class 8.

The RF-circuit (see separate attachments) consists of the following components:
Transceiver : Si4206BM
Power Supply IC : 2106C
Baseband IC : Trident, Consists of two parts: ARM-7 micro-controller and DSP16000
Mixed Signal Processor IC : CSP1093C
Power Amplifier Module : RF3133
Antenna Switch Module : MURATA LMSP54CA-142
Crystal : 13-26 MHz