

Tune up procedure

1. It must provide an operational voltage (3.6~4.2V DC) to turn on the phone and on one certain channel in service mode by means of company proprietary software.
2. Base station simulator (Rohde& Schwarz CMU200 or Agilent 8960) measures the Smart phone specific RF characteristics.
3. The maximum gain of each individual phone are adjusted until the target value met.

For GSM 850 band:

PCL = 5, PWR = 32.5 ± 0.5 dBm

For GPRS 850 band 1slot: Maximum Power for each burst = 32.5 ± 0.5 dBm

For GPRS 850 band 2slot: Maximum Power for each burst = 31.5 ± 0.5 dBm

For GPRS 850 band 3slot: Maximum Power for each burst = 30.0 ± 0.5 dBm

For GPRS 850 band 4slot: Maximum Power for each burst = 29.2 ± 0.5 dBm

For PCS 1900 band:

PCL = 0, PWR = 29.5 ± 0.5 dBm

For GPRS 1900 band 1slot: Maximum Power for each burst = 29.5 ± 0.5 dBm

For GPRS 1900 band 2slot: Maximum Power for each burst = 28.5 ± 0.5 dBm

For GPRS 1900 band 3slot: Maximum Power for each burst = 26.5 ± 0.5 dBm

For GPRS 1900 band 4slot: Maximum Power for each burst = 25.6 ± 0.5 dBm

For WCDMA Band II:

Max. PWR = 25.2 ± 1.0 dBm

For HSDPA Band II:

Max. PWR = 25.2 ± 1.0 dBm

For HSUPA Band II:

Max. PWR = 25.2 ± 1.0 dBm

For WCDMA Band V:
Max. PWR = 27.3 ± 1.0 dBm
For HSDPA Band V:
Max. PWR = 27.3 ± 1.0 dBm
For HSUPA Band V:
Max. PWR = 27.3 ± 1.0 dBm

For BT 2450 band:
DH5 Max. PWR = 4.5 ± 1 dBm
2DH5 Max. PWR = 4.5 ± 1 dBm
3DH5 Max. PWR = 4.5 ± 1 dBm
BLE Max. PWR = -4.0 ± 1 dBm

For WIFI 11b,g,n
802.11b Max. Average PWR = 15.5 ± 1 dBm
802.11g Max. Average PWR = 14.5 ± 1 dBm
802.11n(20MHz) Max. Average PWR = 13.5 ± 1 dBm
802.11n(40MHz) Max. Average PWR = 12.5 ± 1 dBm

Then this appropriate gain settings are stored in each phone individually. The user has no possibility to change these settings later on, and during manufacturing each phone will be individual calibrated. The measurement is done in fully calibrated setup, which is based on a Rohde& Schwarz CMU200 or Agilent 8960 base station simulator. Furthermore, the highest power level is verified afterwards in a call measurement on three channels (low, middle and high).