

T54 Tune-up Procedure

During manufacturing each phone will be individually calibrated.

The measurement for GSM/WCDMA is done in a fully calibrated setup, which is based on Agilent 8960 (adjustment of gain factors) and Agilent 8960 or RS CMU200 (control of power levels).

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

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 via the Board-test SW using automatic adjustment arithmetic until the target value is met.
4. The tune-up target value is below:

GSM 850:

PCL =05, PWR = 32.0dBm, target = 32 ± 0.5 dBm

PCL =06, PWR = 29dBm, target = 29 ± 1 dBm

PCL =07, PWR = 27.0dBm, target = 27 ± 1 dBm

PCL =08, PWR = 26.0dBm, target = 26 ± 1 dBm

PCL =09, PWR = 24.0dBm, target = 24 ± 1 dBm

PCL =10, PWR = 22.0dBm, target = 23 ± 1 dBm

PCL =11, PWR = 20.0dBm, target = 21 ± 1 dBm

PCL =12, PWR = 18.0dBm, target = 19 ± 1 dBm

PCL =13, PWR = 16.1dBm, target = 17 ± 1 dBm

PCL =14, PWR = 14.0dBm, target = 15 ± 1 dBm

PCL =15, PWR = 12.0dBm, target = 13 ± 1 dBm

PCL =16, PWR = 10.0dBm, target = 11 ± 1 dBm

PCL =17, PWR = 8.0dBm, target = 9 ± 1 dBm

PCL =18, PWR = 6.0dBm, target = 7 ± 1 dBm

PCL =19, PWR = 4.5dBm, target = 5 ± 1 dBm

GPRS

1 uplink slots mode, target= 32 ± 0.5 dBm

2 uplink slots mode, target= 31 ± 1 dBm
3 uplink slots mode, target= 29 ± 1 dBm
4 uplink slots mode, target= 28 ± 1 dBm
EGPRS(8psk)
1 uplink slots mode, target= 28.0 ± 1 dBm
2 uplink slots mode, target= 26.0 ± 1 dBm
3 uplink slots mode, target= 24 ± 1 dBm
4 uplink slots mode, target= 22 ± 1 dBm

PCS 1900:

PCL =00, PWR = 29.0dBm, target = 29 ± 0.6 dBm
PCL =01, PWR = 26.5dBm, target = 27 ± 1 dBm
PCL =02, PWR = 25.0dBm, target = 25 ± 1 dBm
PCL =03, PWR = 23.0dBm, target = 24 ± 1 dBm
PCL =04, PWR = 21.0dBm, target = 22 ± 1 dBm
PCL =05, PWR = 19.0dBm, target = 20 ± 1 dBm
PCL =06, PWR = 17.2dBm, target = 18 ± 1 dBm
PCL =07, PWR = 15.0dBm, target = 16 ± 1 dBm
PCL =08, PWR = 13.0dBm, target = 14 ± 1 dBm
PCL =09, PWR = 11.0dBm, target = 12 ± 1 dBm
PCL =10, PWR = 9.0dBm, target = 10 ± 1 dBm
PCL =11, PWR = 7.0dBm, target = 8 ± 1 dBm
PCL =12, PWR = 5.6dBm, target = 6 ± 1 dBm
PCL =13, PWR = 3.5dBm, target = 4 ± 1 dBm
PCL =14, PWR = 1.8dBm, target = 2 ± 1 dBm
PCL =15, PWR = 0.4dBm, target = 0 ± 1 dBm

GPRS

1 uplink slots mode, target= 29 ± 0.6 dBm
2 uplink slots mode, target= 28 ± 1 dBm
3 uplink slots mode, target= 26 ± 1 dBm
4 uplink slots mode, target= 25 ± 1 dBm
EGPRS(8psk)
1 uplink slots mode, target= 28 ± 0.4 dBm
2 uplink slots mode, target= 26 ± 1 dBm
3 uplink slots mode, target= 24 ± 1 dBm
4 uplink slots mode, target= 22 ± 1 dBm

FDD V RMC 12.2k

PWR = 23dBm, target = 23 ± 0.5 dBm

The appropriate gain control settings are stored in RF table (a special section in Nor Flash marked with Read only and untouchable for end user) each phone individually (for each power level).

The user has no possibility to change these settings later on.