

TUNE-UP PROCEDURE

2.1033 (c)(9) Tune-Up Procedure and Power Tune-Up – Power Limiting

1. It must provide an operational voltage to turn on the GPRS module 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 GPRS module specific RF characteristics.
3. The maximum gain of each individual Camera is adjusted until the target value met.

For GSM 850 Class 5

MAX PWR = 33 dBm

For GSM1900 Class 0

MAX PWR = 30 dBm

RX sensitivity < -102Bm

Then these appropriate gain settings are stored in each GPRS Module 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 base station simulator. Furthermore, the highest power level is verified afterwards in a call measurement on three channels (low, middle and high).

GPRS/EGPRS (GMSK Modulation)

GSM850 GPRS				
Channel		251	190	128
1 Txslot	Target (dBm)	32.00	32.00	32.00
	Tolerance ±(dB)	1	1	1
2 Txslot	Target (dBm)	29.50	29.50	29.50
	Tolerance ±(dB)	1	1	1
3 Txslot	Target (dBm)	27.50	27.50	27.50

	Tolerance ±(dB)	1	1	1
4 Txslot	Target (dBm)	26.50	26.50	26.50
	Tolerance ±(dB)	1	1	1
GSM850 EDGE				
Channel		251	190	128
1 Txslot	Target (dBm)	31.50	31.50	31.50
	Tolerance ±(dB)	1	1	1
2 Txslot	Target (dBm)	29.50	29.50	29.50
	Tolerance ±(dB)	1	1	1
3 Txslot	Target (dBm)	27.50	27.50	27.50
	Tolerance ±(dB)	1	1	1
4 Txslot	Target (dBm)	26.50	26.50	26.50
	Tolerance ±(dB)	1	1	1
GSM1900 GPRS				
Channel		810	661	512
1 Txslot	Target (dBm)	29.00	29.00	29.00
	Tolerance ±(dB)	1	1	1
2 Txslot	Target (dBm)	26.50	26.50	26.50

	Tolerance ±(dB)	1	1	1
3 Txslot	Target (dBm)	24.50	24.50	24.50
	Tolerance ±(dB)	1	1	1
4 Txslot	Target (dBm)	23.50	23.50	23.50
	Tolerance ±(dB)	1	1	1
GSM1900 EDGE				
Channel		810	661	512
1 Txslot	Target (dBm)	29.00	29.00	29.00
	Tolerance ±(dB)	1	1	1
2 Txslot	Target (dBm)	26.50	26.50	26.50
	Tolerance ±(dB)	1	1	1
3 Txslot	Target (dBm)	24.50	24.50	24.50
	Tolerance ±(dB)	1	1	1
4 Txslot	Target (dBm)	23.50	23.50	23.50
	Tolerance ±(dB)	1	1	1

Tune Up Procedure

1. RX Gain Calibration

- a. Put DUT in test mode
- b. Put DUT in BCH mode
- c. Put DUT in selected channel band
- d. Total gain chain calibration at center ARFCN
- e. Frequency Ripple calibration
- f. Complete RX_AGC Gain table

2. TX Power Calibration

- a. Put DUT in test mode
- b. Put DUT in BCH mode
- c. Put DUT in selected channel band
- d. Calibrate Rampscale value at center ARFCN
- e. Frequency Ripple calibration
- f. Complete TX_APC table

3. AFC calibration

- a. Put DUT in test mode
- b. Put DUT in selected channel band
- c. Calibrate AFC at center ARFCN
- d. Complete AFC result table