

SAR Tune up procedure

Tune up procedure shall be over the power range or at specific operating power levels.

1. It must provide an operational voltage (5V DC) to turn on the device and on one certain channel in service mode by means of company proprietary software.
2. Base station simulator (CMW500) measures the Mobile phone device specific RF characteristics.
3. The maximum gains of each individual device are adjusted until the target value met.

Tune-up Power		
Mode	Frequency Bands	Tune-up Power
GSM	GSM 850	32.0 dBm±1.0
GPRS	GPRS 850 1Txslot	32.0 dBm±1.0
	GPRS 850 2Txslot	29.5 dBm±1.0
	GPRS 850 3Txslot	27.5 dBm±1.0
	GPRS 850 4Txslot	25.5 dBm±1.0
EGPRS	EGPRS 850 1Txslot	32.0 dBm±1.0
	EGPRS 850 2Txslot	29.5 dBm±1.0
	EGPRS 850 3Txslot	27.5 dBm±1.0
	EGPRS 850 4Txslot	25.5 dBm±1.0
GSM	GSM 1900	29.0 dBm±1.0
GPRS	GPRS 1900 1Txslot	29.0 dBm±1.0
	GPRS 1900 2Txslot	26.5 dBm±1.0
	GPRS 1900 3Txslot	25.0 dBm±1.0
	GPRS 1900 4Txslot	23.0 dBm±1.0
EGPRS	EGPRS 1900 1Txslot	29.0 dBm±1.0
	EGPRS 1900 2Txslot	26.5 dBm±1.0
	EGPRS 1900 3Txslot	25.0 dBm±1.0
	EGPRS 1900 4Txslot	23.0 dBm±1.0
WCDMA Band II	RMC 12.2kbps	22.0dBm ±1.0
	HSDPA	22.0dBm ±1.0
	HSUPA	22.0dBm ±1.0
WCDMA Band IV	RMC 12.2kbps	22.0dBm ±1.0
	HSDPA	22.0dBm ±1.0
	HSUPA	22.0dBm ±1.0
WCDMA Band V	RMC 12.2kbps	21.5dBm ±1.0
	HSDPA	21.5dBm ±1.0
	HSUPA	21.5dBm ±1.0
LTE Band	LTE Band 2 QASK	22.5dBm ±1.0
	LTE Band 2 16QAM	22.5dBm ±1.0
	LTE Band 4 QASK	22.5dBm ±1.0
	LTE Band 4 16QAM	22.5dBm ±1.0
	LTE Band 5 QASK	20.5dBm ±1.0
	LTE Band 5 16QAM	20.5dBm ±1.0
	LTE Band 7 QASK	21.5dBm ±1.0
	LTE Band 7 16QAM	21.5dBm ±1.0
	LTE Band 12 QASK	20.0dBm ±1.0
	LTE Band 12 16QAM	20.0dBm ±1.0
	LTE Band 17 QASK	20.0dBm ±1.0
	LTE Band 17 16QAM	20.0dBm ±1.0

	LTE Band 66 QASK	22.5dBm ±1.0
	LTE Band 66 16QAM	22.5dBm ±1.0
Bluetooth	GFSK	8.0 dBm±1.0
	Pi/4QPSK	8.5 dBm±1.0
	8DPSK	8.5 dBm±1.0

Then these appropriate gain settings are stored in each device individually.

The user has no possibility to change these settings later on, and during manufacturing each device will be individual calibrated. The measurement is done in fully calibrated setup, which is based on a CMW500 base station simulator. Furthermore, the highest power level is verified afterwards in a call measurement on three channels (low, middle and high).