

# 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 (3.5 ~ 4.2V 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 4G Smart Phone, Model: C145 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	GSM850	30.0dBm±2dB
	GSM1900	26.5dBm±2dB
GPRS	GPRS850(1 slots)	30.0dBm±2dB
	GPRS850(2 slots)	28.5dBm±2dB
	GPRS850(3 slots)	28.0dBm±2dB
	GPRS850(4 slots)	27.0dBm±2dB
	GPRS1900(1 slots)	26.5dBm±2dB
	GPRS1900(2 slots)	26.0dBm±2dB
	GPRS1900(3 slots)	24.5dBm±2dB
	GPRS1900(4 slots)	23.5dBm±2dB
EDGE	EDGE850(1 slots)	25.0dBm±2dB
	EDGE850(2 slots)	24.0dBm±2dB
	EDGE850(3 slots)	22.5dBm±2dB
	EDGE850(4 slots)	21.0dBm±2dB
	EDGE1900(1 slots)	22.5dBm±2dB
	EDGE1900(2 slots)	22.0dBm±2dB
	EDGE1900(3 slots)	20.5dBm±2dB
	EDGE1900(4 slots)	19.5dBm±2dB
WCDMA Band V	RMC	21.0dBm±2dB
	HSDPA	20.0dBm±2dB
	HSUPA	20.0dBm±2dB
WCDMA Band II	RMC	20.5dBm±2dB
	HSDPA	20.0dBm±2dB
	HSUPA	20.0dBm±2dB

WCDMA Band IV	RMC	20.5dBm±2dB
	HSDPA	20.0dBm±2dB
	HSUPA	20.0dBm±2dB
FDD-LTE	Band 2	22.0dBm±2dB
FDD-LTE	Band 4	22.5dBm±2dB
FDD-LTE	Band 7	22.0dBm±2dB
FDD-LTE	Band 12	22.0dBm±2dB
FDD-LTE	Band 17	22.0dBm±2dB
Wi-Fi 802.11b	2.4GHz	8.0dBm±2dB
Wi-Fi 802.11g	2.4GHz	6.0dBm±2dB
Wi-Fi 802.11n-HT20	2.4GHz	5.0dBm±2dB
Wi-Fi 802.11n-HT40	2.4GHz	6.0dBm±2dB
BT 3.0	2.4GHz	-2.0dBm±2dB
BT 4.0	2.4GHz	-9.0dBm±3dB

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).