

# 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 (3.3 ~ 4.3V DC) to turn on the device and on one certain channel in service mode by means of company proprietary software.
2. Base station simulator (CMU 200) measures Wireless Data Terminal, Model: JXJ-HM041 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	30.5dBm ± 2dB
	GSM1900	27.0dBm ± 2dB
GPRS	GPRS850(1 slots)	30.5dBm ± 2dB
	GPRS850(2 slots)	29.0dBm ± 2dB
	GPRS850(3 slots)	26.0dBm ± 2dB
	GPRS850(4 slots)	25.0dBm ± 2dB
	GPRS1900(1 slots)	27.0dBm ± 2dB
	GPRS1900(2 slots)	25.5dBm ± 2dB
	GPRS1900(3 slots)	24.5dBm ± 2dB
	GPRS1900(4 slots)	22.5dBm ± 2dB
EDGE	EDGE850(1 slots)	23.5dBm ± 2dB
	EDGE850(2 slots)	22.5dBm ± 2dB
	EDGE850(3 slots)	21.0dBm ± 2dB
	EDGE850(4 slots)	20.0dBm ± 2dB
	EDGE1900(1 slots)	23.0dBm ± 2dB
	EDGE1900(2 slots)	22.0dBm ± 2dB
	EDGE1900(3 slots)	20.5dBm ± 2dB
	EDGE1900(4 slots)	19.5dBm ± 2dB
WCDMA850	WCDMA	20.5dBm ± 2dB
	HSDPA	19.5dBm ± 2dB
	HSUPA	19.5dBm ± 2dB
WIFI 802.11b/g/n	2.4GHz	7.5dBm ± 2dB
BT	2.4GHz	2.0dBm ± 2dB
BT LE	2.4GHz	-2.0dBm ± 2dB

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 **CMU 200** base station simulator. Furthermore, the highest power level is verified afterwards in a call measurement on three channels (low, middle and high).