Tune Up Procedure of TW-E3C

FCC ID: 2AKMBTW-E3C

During manufacturing each device is individually calibrated. Measurement is performed in a fully calibrated setup using an Spectrum analyzer 9k-30GHz FSP. Measurement procedure is outlined below:

Measurement Procedure:

1. Set the device to operational voltage and on a predefined channel in a special test mode.
2. The actual output power is measured at several power levels.
3. The gain factors of each individual device are adjusted until the target value is met. The appropriate gain control settings for each output power level are stored in each device individually (for each power level). The user has no possibility to change these settings later on.
4. The maximum gains of each individual device are adjusted and measured until the target value is met. The production target power with tolerance compiles with the maximum power in test report.

Maximum Target Conducted Power for Production Unit

Left Ear

Mode	Bluetooth Left ear Tune-up Limit (dBm)			
	GFSK	pi/4DQPSK	8DPSK	BLE
Low	10.5±1 dBm	7.5±1 dBm	8.0±1 dBm	8.0±1 dBm
Middle	10.5±1 dBm	7.5±1 dBm	8.0±1 dBm	8.0±1 dBm
High	10.5±1 dBm	7.5±1 dBm	8.0±1 dBm	8.0±1 dBm

Right Ear

Mode	Bluetooth Left ear Tune-up Limit (dBm)			
	GFSK	pi/4DQPSK	8DPSK	BLE
Low	11.5±1 dBm	9.0±1 dBm	9.0±1 dBm	9.0±1 dBm
Middle	11.5±1 dBm	9.0±1 dBm	9.0±1 dBm	9.0±1 dBm
High	11.5±1 dBm	9.0±1 dBm	9.0±1 dBm	9.0±1 dBm

Power unit: dBm

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 in this range. The measurement is done in a fully calibrated setup, which is based on the base station simulator. Furthermore, the highest power level is verified afterwards in a call measurement on three channels (low, middle and high).