

## 2. Section 2.983 (d)(3).

### Range of Operating Power Levels and Description of Means for Variation of Operating Power

#### 2-1. Range of Operating Power Levels

##### 2-1-1. FM Mode

- Tx Power Level and Range

Power Level	Power Range
Level 0	27dBm +.5/-2dBm
Level 1	27dBm +.5/-2dBm
Level 2	27dBm +.5/-2dBm
Level 3	24dBm +2/-4dBm
Level 4	20dBm +2/-4dBm
Level 5	16dBm +2/-4dBm
Level 6	12dBm +2/-4dBm
Level 7	8dBm +2/-4dBm

##### 2-1-2. CDMA Mode

- Range of Open Loop Output Power

Open loop average output power of Mobile Station is estimated from the average input power. The estimation value is as follows.

$$\begin{aligned} \text{Average Output Power (dBm)} = & - \text{Mean Input Power (dBm)} \\ & - 73 \\ & + \text{NOM\_PWR (dB)} \\ & + \text{INIT\_PWR (dB)} \end{aligned}$$

- Range of Closed Loop Power Control

Range of closed loop power control should be at least within -50dBm ~ +23dBm. Range of maximum power output should be in the range of +23dBm ~ +26dBm. Maximum power is recommended from manufacturer of Mobile Station and this means the output power that expresses the maximum permissible ERP per every grade of Mobile Station using antenna gain.

#### 2-2. Means for Variation of Operating Power

The RF interface of MSM communicates with the RF analog circuitry. This RF interface performs gain controls of AGC (automatic gain control) amplifier using digital control signals.

The mid-range transmission frequency generated in IFT (Tx Base band-IF converter) is designed to be gain controlled for 84dB dynamic range. The 84dB dynamic range is 39dB when the voltage is 3.0V and -45dB in 0.1V. The 80dB range (0.1V ~ 3.0V) gain is used in this hand-held device. The RF power output level is detected and then this information is sent to the MSM. The software controlled power management in MSM controls the Tx AGC adjust signal.