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Safari Transmit Power tune-up procedure for SCU:

The following procedure will be used to maintain a constant transmit power level.

RF output power can be regulated using a closed loop feedback system. An RF power detector circuit at the output of the Safari RF amplifier stage provides a DC voltage proportional (RF_DET) to the transmitted power. The DC voltage is then compared against a previously generated look-up table of DC voltage versus output power and stored in the digital processor's memory. The processor controls RF output power by adjusting the transmit amplifier gain (TX_AGC) to maintain the detected DC voltage as close as possible to the desired RF power level.

Characterization of the look-up table is done in the factory using an RF power meter and manually varying the TX-AGC voltage while recording the detected DC voltage. The result will be a table containing RF power levels and corresponding DC voltage levels.

In the field, depending on the data rate selected, the maximum output power available will be limited by the firmware and in accordance with FCC 15.247 spectral density limits and out-of-band intermodulation limits.

For the Safari SR7100 SCU product, the maximum power level available for the 3 data rates across the band is:

512 KBPS +26.1 dBm
240 KBPS +23.0 dBm
96 KBPS +20.0 dBm