

Item 2:

CKC Laboratories, Inc. procedure for performing measurements for Licensed devices is to first calculate the ERP using an FCC approved formula $[P(W) = (ed)^2 / 30G]$. If the margin is sufficient enough, the calculated readings are reported. If the margins are not sufficient, actual substitution method is performed.

The spec limit is in dBc ($43+10\text{LOG}(P)$), however, this can be represented by an absolute value.

Example:

Antenna terminal testing:

1) If the measured power is 20dBm, this would equal 100mW.

$$43+10\text{Log}(0.1) = 33\text{dB}$$

$$20\text{dBm} - 33\text{dB} = -13\text{dBm} = 50\mu\text{W}$$

2) If the power measured is 50dBm, which equals 100W

$$43+10\text{Log}(100) = 63\text{dB}$$

$$50\text{dBm} - 63\text{dB} = -13\text{dBm} = 50\mu\text{W}$$

Substitution Testing:

3) If the Power measured using the substitution = 10W, this is equal to 40dBm

$$43+10\text{Log}(P) = 53\text{dB}$$

$$40\text{dBm} - 53\text{dB} = -13\text{dBm} = 50\mu\text{W}$$

4) If the Power measured using the substitution = 500mW, this is equal to 26.99dBm

$$43+10\text{Log}(P) = 39.99\text{dB}$$

$$26.99\text{dBm} - 39.99\text{dB} = -13\text{dBm} = 50\mu\text{W}$$

As can be seen by the above examples, regardless if one measures 10W or 500mW the $43+10\text{Log}(p)$ limit can be equated to an absolute value of 50uW (-13dBm in a 50ohm system).

In regards to Good Technologies, the field strength values were converted to ERP via the approved FCC formula and compared to the $43+10\text{Log}(P)$ limit (50uW). The highest measurement was -15.88dB from the limit and therefore there was no need to perform an actual substitution test.