d) Set the frequency of the interfering test signal source to within 50 kHz to 100 kHz above the frequency of the transmitter under test. The frequency shall be chosen in such a way that the intermodulation components to be measured do not coincide with other spurious components.

e) Adjust the power output of the interfering test signal source to equal the carrier power level of the transmitter under test. This is the power level that was measured in 2.2.1.

f) Record the largest third order intermodulation component from the spectrum analyzer as $I_{LVL}$ .

g) Record the transmitter under test carrier power level from the spectrum analyzer as $C_{LVL}$ .

h) Calculate the intermodulation attenuation as:

*Intermodulation attenuation* = $C_{LVL}$ - $I_{LVL}$

i) Set the frequency of the interfering test signal source to within 50 kHz to 100 kHz below the frequency of the transmitter under test. The frequency shall be chosen in such a way that the intermodulation components to be measured do not coincide with other spurious components.

j) Repeat steps e) through h).

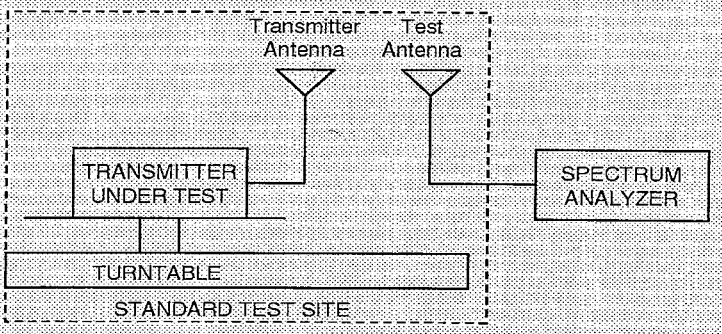
k) The lesser of the values recorded in steps h) and j) is the intermodulation attenuation.

## 2.2.17 Average Radiated Power Output

2.2.17.1 Definition

The average radiated power of a licensed device is the equivalent power required, when delivered to a half-wave dipole antenna, to produce at a distant point the same average received power as produced by the licensed device.

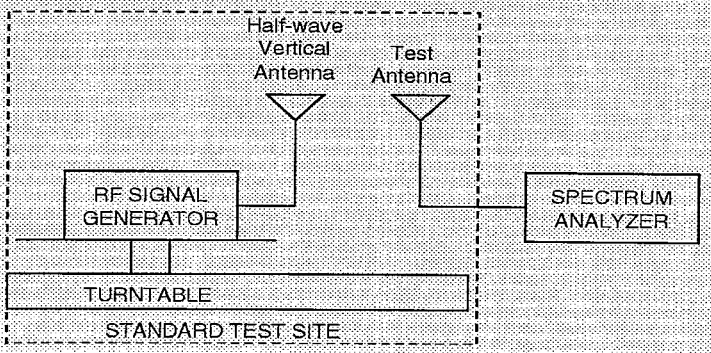
2.2.17.2 Method of Measurement




a) Connect the equipment as illustrated. Place the transmitter to be tested on the turntable in the standard test site.

b) Raise and lower the test antenna from 1 m to 6 m with the transmitter facing the antenna and record the highest received signal in dB as $LVL_i$.

c) Repeat step b) for seven additional readings at 45° interval positions of the turn table.




d) Replace the transmitter under test with a half-wave vertically polarized or horn antenna. The center of the antenna should be at the same location as the transmitter under test. Connect the antenna to a signal generator with a known output power and record the path loss in dB as *LOSS*.

e) Calculate the average radiated output power from the readings in step c) and d) by the following:

$$average\ radiated\ power = 10\ \log_{10} \sum_{i=1}^{i=8} 10^{\frac{LVL_i - LOSS}{10}} \quad \text{(dBm)}$$