**Name of Test**:   ERP Carrier Power (Radiated)

Specification: TIA/EIA 603A (Substitution Method)

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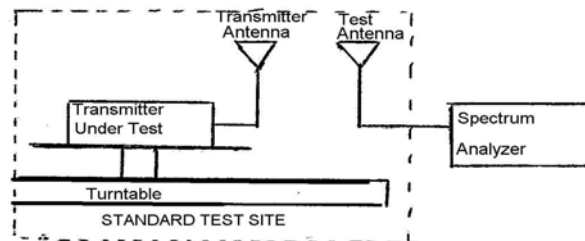
b) Raise and lower the test antenna from 1m to 6 m with the transmitter facing the antenna and record the highest received signal in dB as LVL.

c) Repeat step b) for seven additional readings at 45˚ interval positions of the turntable.

d) Replace the transmitter under test with a half-wave or horn vertically polarized 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 or LOSS.

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

average radiated power = $10 \log_{10} \Sigma\ 10(LVL - LOSS)/10$ (dBm)

Results

	450.0 MHz		470.0 MHz		490.0 MHz	
	LVL, dbm	Path Loss, db	LVL, dbm	Path Loss, db	LVL, dbm	Path Loss, db
0˚	31.9	-1.8	30.7	0	29.6	0.6
45˚	31.4	-1.8	31.7	0	30.1	0.6
90˚	31.2	-1.8	30.8	0	28.6	0.6
135˚	31.5	-1.8	32.0	0	28.7	0.6
180˚	31.7	-1.8	31.0	0	30.4	0.6
225˚	31.5	-1.8	31.8	0	30.7	0.6
270˚	31.1	-1.8	29.9	0	30.4	0.6
315˚	31.5	-1.8	31.5	0	30.8	0.6

	450.0 MHz	470.0 MHz	490.0 MHz
Av. Radiated Power:	29.66 dbm	31.18 dbm	30.51 dbm