

Applicant: At Road, Incorporated
FCC ID: PDCILM-2500
Confirmation Number EA99345

Test: RF Power Output Radiated
Specification: 47 CFR 2.1046(a)
Guide: EIA / IS-19-B-1988
 TIA / EIA / IS-137-A-1996

Radiated Measurement Procedure

The EUT was placed on an open-field site and its radiated field strength at a known distance was measured by means of a spectrum analyzer. Using freshly charged batteries, data packets were transmitted numerous times, while the receiving antenna placed 3 meters from the transmit antenna captured the signal power. Equivalent loading was calculated from the equation. Only 3 data frequencies are used for ERP Calculation as represented in this report.

$P_t = ((E \times R)^2 / 49.2)$ watts, where R = 3m.

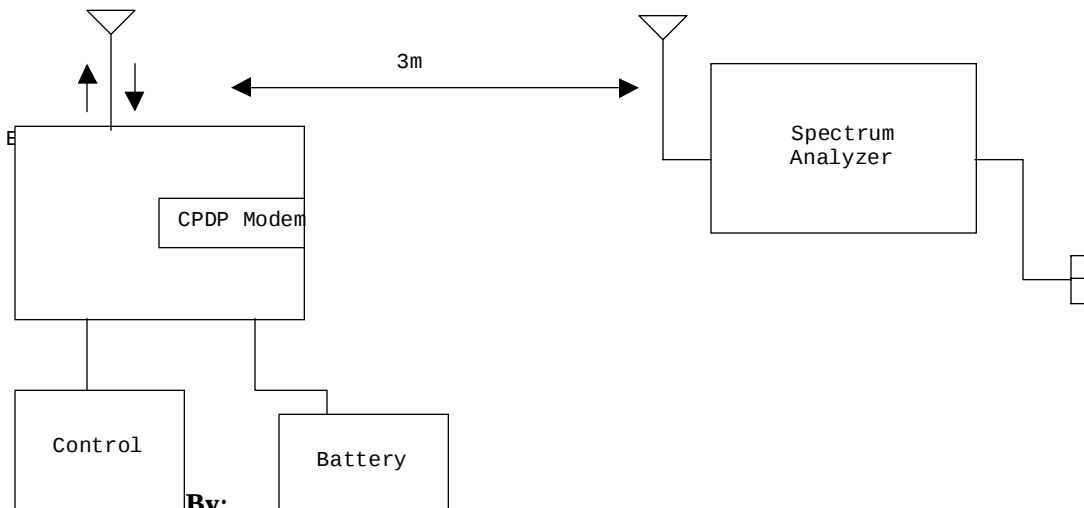
E = Signal amplitude in v / m

Measurement accuracy is ± 1.5 dB

Frequency MHz	dBuV / m	Corr. Factor dBuV / m	Corr. Amp. dBuV / m	uV / m @ 3m	V / m @ 3m	ERP Watts
847.040000	72.72	25.66	98.38	82985	0.0829	0.005
845.403000	73.03	26.90	99.93	99197	0.0991	0.006
848.970000	72.15	25.61	97.76	77268	0.0772	0.005

$$20 \text{ Log } X = Z \text{ uV / m} \quad \text{Log } X = \frac{Z \text{ uV / m}}{20}$$

$$X = 10^{(Z \text{ uV / m}) / 20}$$



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RF Safety Exposure per FCC Requirement

The Maximum Permissible Exposure (MPE) distance per ANSI C95.1 table 2 for uncontrolled cellular phone environment is $f(\text{MHz}) / 1500 [\text{mW} / \text{cm}^2]$. The numeric value of the gain for both antennas is 2(3dBi). Therefore the power density is

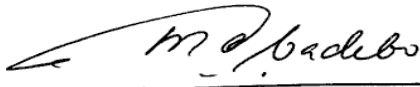
$$850\text{mW} \times 2.0 / (4\pi r^2) = 848 / 1500 [\text{mW} / \text{cm}^2]$$

$$r = [(848\text{MHz} / 1500\text{mW} / \text{cm}^2) (4\pi) / 850\text{mW}]^{1/2}$$

$$r = 4.1\text{cm}$$

Therefore, the maximum calculated MPE distance r is 4.1cm. The installation instructions shall indicate that at least 6.1cm (4.1 + 2 margin) separation shall be provided between the antennas and the people.

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