

1 MAXIMUM PERMISSIBLE EXPOSURE (MPE) CALCULATIONS

The § 1.1310 Radiofrequency radiation exposure limits are listed in the table below.

	Frequency Range (MHz)	Power Density Limit (mW/cm²)
Limits for Occupational/Controlled Exposures	0.3-3.0	100
	3.0-30	900/ Frequency ²
	30-300	1.0
	300-1500	Frequency/300
	1500-100,000	5.0
Limits for General Population/Uncontrolled Exposure	0.3-1.34	100
	1.34-30	180/Frequency ²
	30-300	0.2
	300-1500	Frequency/1500
	1500-100,000	1.0

1.1 Test Procedure

The conducted RF power delivered to the radiating antenna was used to calculate the EIRP and then the maximum RF exposure at a 20 cm distance using the formula:

$$\text{Maximum RF Exposure at 20cm} = (\text{EIRP in mW}) / (4\text{Pi}(20\text{cm})^2)$$

Once the Maximum RF Exposure calculations were complete the results were compared to the MPE limits above.

1.2 Test Results

The following calculations show the Maximum RF Exposure from the Lexmark MarkNet N8052 at 20cm for the worst case measured EIRP. The MPE level is well below the limits for the general population described in the table above.

Mode	Channel	Frequency (MHz)	Conducted Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Max RF Exposure at 20cm (mW/cm ²)
802.11b	1	2411	14.87	2	16.87	48.641	0.010
802.11b	6	2437	17.93	2	19.93	98.401	0.020
802.11b	11	2462	11.52	2	13.52	22.491	0.004
802.11g	1	2411	14.23	2	16.23	41.976	0.008
802.11g	6	2437	16.44	2	18.44	69.823	0.014
802.11g	11	2462	11	2	13	19.953	0.004
802.11a	149	5745	13.25	2	15.25	33.497	0.007
802.11a	157	5785	12.73	2	14.73	29.717	0.006
802.11a	165	5825	10.72	2	12.72	18.707	0.004
802.11a	36	5180	15.28	2	17.28	53.456	0.011
802.11a	40	5200	15.29	2	17.29	53.580	0.011
802.11a	48	5240	15.72	2	17.72	59.156	0.012