

**Table 11.** Effect of near-field microwave exposure on the ocular system.

Frequency/ pps (MHz)/(Hz) Effect	Pulse Width/ Duration (us)/(min)	Power Density Ave/Peak (mW/cm <sup>2</sup> )	SAR (W/kg)	Effect	Author Year
918/1-100	10/6	30/3 kW	231	Rat Lens Damage	Stewart-DeHaan et al [1985] Creighton et al [1987]
2450 /100	10/4 hr	10/10,000	2.6(Ave) 2600 (Peak)	Primate Corneal Lesion	Kues et al [1985, 1992]
2450 CW	CW/100	150	138	Rabbit Cataract	Carpenter & van Ummerson [1968] Guy et al [1975] Kramar et al [1975]

Corneal lesions have been reported in juvenile monkeys after repeated 4-hr/day exposures to 2450 MHz microwaves [Kues et al., 1985, 1992; Kues and Monahan, 1992]. Monkeys were maintained under halothane gas anesthesia. These effects on the eye were observed under both CW and pulsed exposure conditions. The power density and SAR required to produce similar changes by CW radiation were approximately twice as high as that for pulsed exposures. For pulsed microwave fields, effects were observed at average incident power densities of 10 mW/cm<sup>2</sup> (local SAR of 2.6 W/kg). The corresponding peak power density and local SAR are 10 W/cm<sup>2</sup> and 2600 W/kg, respectively, for 10 microsecond pulses repeated at 100 pulse/sec. It is noteworthy that a recent study, purportedly used the same experimental protocols except that the monkeys were not anesthetized, showed none of the reported corneal abnormalities [Kamimura et al., 1994]. Clearly, further study is needed to examine these findings.