FCC ID URK-ASN900 MPE-calculation

The ASN900 can operate as follows:

Modes	Frequency Range (MHz)	Antenna type	Maximum set TX power	Gain	EIRP (dBm)
802.11a	5745.0 5785.0 5825.0	Integral	10 dBm	23 dBi	33
		External	10 dBm	22 dBi	32
			18dBm	9 dBi	27
802.11b	2412.0 to 2462.0	External	18dBm	6dBi	24
802.11g	2412 to 2457	External	17 dBm	6dBi	23
	2462	External	13 dBm	6dBi	19

So worst case configuration would be Radio RF 1 transmitting with EIRP 33dBm (2W) and Radio RF2 transmitting with EIRP of 24dBm (0.25W) giving a total transmit power of 2.25W EIRP (2250 mW EIRP).

FCC Maximum Permissible Exposure (MPE) limits for equipment operating in the frequency range 1500 – 100,000 MHz is 1.0 mW/cm2.

Following installation and commissioning, the safe distance from the antenna is the greater of:

20cm

Or

r cm, where $r = \sqrt{(PG/4\pi S)}$

P: power input to antenna(s) in mW

G: numeric gain of antenna relative to isotropic radiator

S: power density in mW/cm2 = 1 mW/cm2

The safe distance from the antenna shall be the greater of:

20 cm or $\sqrt{(PG/4\pi S)}$

Which gives

20 cm or $\sqrt{(2250/4*\pi)}$ cm.

$\sqrt{(2250/4*\pi)}$ works out at 13.4cm so minimum safe distance is 20cm.