RF Hazard Information Per Sec. 1.1307

For transmitters operating in the 902-928 MHz frequency range, paragraph 1.1310 limits maximum permissible exposure (MPE) to f/1500 mW/cm2 for uncontrolled environments and f/300 mW/cm2 for controlled environments.

The maximum distance from the antenna at which MPE is met or exceeded is calculated from the equation relating field strength in V/m, transmit power in watts, transmit antenna gain, and separation distance in meters:

E,V/m = (√(30*P*G))/d

Power density, mW/m2 = E^2/3770

E for MPE : √((902/1500)*3770) = 47.6 V/m

Simplifying and rearranging terms:

d = (√(30*P*G))/47.6 Converting to decibels:

20 log d = 10 log 30 + 10 log P watts + G dBi –33.6 dB

20 log d = 14.77dB + PdBm - 30 dB –33.6 dB + GdBi

20 log d = P dBm + G dBi –48.8 ; d = 10^(PdBm+GdBi-48.8)/20

Worst-case assumption is for 0.61 mW/cm2 uncontrolled environment:
Max RF Output Power: 28.7 dBm

Antenna Type	**Gain, dBi**	**MPE distance, cm**
Short whip	0	9.8
MaxRad	2.3	12.9
Single coil	5	17.6
Double coil	7	22.1

The Trimble 900IP is designed to be mounted on a surveyor's tripod or on the fender or roof of large vehicles such as earthmovers, bull dozers, dump trucks, and the like. The radio uses a single antenna, and is designed to operate in open spaces, and certainly at distances greater than 20 cm from equipment operators, bystanders, and radio users.

Instructions will be placed in the user manual instructing installers and users to maintain the MPE distances during operation of the EUT:

NOTICE: During transmiiter operation, a minimum distance of 22 cm (9 in.) shall be maintained between the antenna and personnel, in order to meet the maximum permissible exposure (MPE) limits in section 1.1310 of FCC Rules.