

Please see below regarding your request on radiation hazard and the R1400 radar. .

From the Introduction of the FCC OET Bulletin 65:

“This revised OET Bulletin 65 has been prepared to provide assistance in determining whether proposed or existing transmitting facilities, operations or devices comply with limits for human exposure to radiofrequency (RF) fields adopted by the Federal Communications Commission (FCC). The bulletin offers guidelines and suggestions for evaluating compliance. ***However, it is not intended to establish mandatory procedures, and other methods and procedures may be acceptable if based on sound engineering practice.***”

SRC performed an analysis of the R1400’s transmission in accordance with the guidelines provided within OET Bulletin 65 and based on sound engineering practice. The below table illustrates the result of that analysis.

Commercial HERP report		
Personnel		
FCC OET-65 RF Safe Distances		
Controlled	8.05	m
	26.40	ft
Uncontrolled	17.99	m
	59.04	ft

The FCC OET Bulletin 65 defines General Population/Uncontrolled exposure as follows, “For FCC purposes, applies to human exposure to RF fields when the general public is exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public always fall under this category when exposure is not employment-related.”

The FCC OET Bulletin 65 provides the following limits for maximum permissible exposure in Appendix A, Table 1. The R1400 operates between 9.3 and 9.8GHz (9300 – 9800 MHz).

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

The R1400 radar scans in both azimuth and elevation. The R1400 radar is capable of 360° rotation, as well as fixed position operations. When rotating, the radar will transmit in all azimuth directions assuming transmit blanking is not applied, and the safety distances shown above in the HERP report should be adhered to in all azimuth directions.

The below graphic depicts the power density of the radar as it scans in elevation. At 6ft (or lower) below the R1400 antenna, the power density falls below the FCC Uncontrolled Exposure threshold as shown in Appendix A, Table 1. Additional factors that mitigate power density of RF transmissions (and reduce minimum safe distances) include physical barriers between equipment and personnel (such as common construction materials, i.e. steel roofing).

