

## ***Exhibit 5 RF Exposure***

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Table 1 provides an analysis of the maximum permissible exposure (MPE) information for the RCOM100. The analysis was performed in reference to FCC OET Bulletin 65.

The minimum separation distance between the RCOM100 antenna and the user or bystander is 38.69 cm (15.2 inches). The antenna is designed to be mounted on top of an aircraft fuselage as specified in section 3.0 of the RCOM100 Installation Manual (570-8050). It is inherent in the mounting configuration and use of the RCOM100 antenna that the minimum separation distance will be maintained or exceeded under all operational conditions.

It should be noted that these separation distances were specified in reference to the more stringent IRPA Uncontrolled environment guidelines.

**ARNAV RCOM100 S/N 805003****Uncontrolled/General Public Maximum Permissible Exposure Distance Calculations**

	References	International Radiation Protection Association (IRPA) Guidelines on Protection Against Non-Ionizing Radiation, 1991			
		47 CFR Ch.1 (10-1-97 Edition) Part 1, Section 1.1310			
		FCC OET Bulletin No. 65, 1985			
Max. Conducted Power	=	1202	mW		
	=	30.80	dBm		
ax. Antenna Peak Gain	=	5.0	dBic		
	EIRP	=	3801	mW	
		=	35.80	dBm EIRP	
1991 IRPA Guidelines Uncontrolled MPE = $f/2000 \text{ mW/cm}^2$ ; $f$ = frequency in MHz					
1997 FCC Uncontrolled MPE = 1.0 mW/cm <sup>2</sup>					
				<b>Far-Field Power Density Calculations</b>	
Elemental Dipole Far-Field Distance = $\lambda/(2\pi)$		Free Space		P.d = $EIRP/(4 * \pi * r^2)$	
Aperture Near-Field Bound = $D^2 / (4\lambda)$		100% Ground Reflection		P.d = $EIRP/(\pi * r^2)$	
Radiating Near-Field Bound = $D^2 / \lambda$		Radio Broadcast Towers		P.d = $(1.6)^2 * EIRP/(4 * \pi * r^2)$	
		(60% Ground Reflection per EPA)		= 0.64 EIRP/(\pi * r^2)	
<b>IRPA Guideline Uncontrolled MPE Safe Approach Distance</b>					
Frequency (MHz)	Wavelength (cm)	Elemental Dipole Far-Field Dist. (cm)	IRPA MPE (mW/cm <sup>2</sup> )	Distance to Free Space MPE (cm)	Distance to 100% Ground Reflection MPE (cm)
1616.88	18.55	2.95	0.808	19.34	38.69
1618.11	18.54	2.95	0.809	19.34	38.67
1619.34	18.53	2.95	0.810	19.33	38.66
1620.57	18.51	2.95	0.810	19.32	38.64
<b>FCC Uncontrolled MPE Safe Approach Distance</b>					
Frequency (MHz)	Wavelength (cm)	Elemental Dipole Far-Field Dist. (cm)	FCC MPE (mW/cm <sup>2</sup> )	Distance to Free Space MPE (cm)	Distance to 100% Ground Reflection MPE (cm)
1616.88	18.55	2.95	1.000	17.39	34.78
1618.11	18.54	2.95	1.000	17.39	34.78
1619.34	18.53	2.95	1.000	17.39	34.78
1620.57	18.51	2.95	1.000	17.39	34.78

**Table 1 MPE Exposure Calculation**