

Exhibit 5 RF Exposure

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						
Max. 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^2									
Far-Field Power Density Calculations							(in phase addition, worst case)		
Elemental Dipole Far-Field Distance = $\lambda/(2 \pi)$				Free Space			$P.d = \text{EIRP}/(4 * \pi * r^2)$		
Aperture Near-Field Bound = $D^2 / (4 \lambda)$				100% Ground Reflection			$P.d = \text{EIRP}/(\pi * r^2)$		
Radiating Near-Field Bound = D^2 / λ				Radio Broadcast Towers			$P.d = (1.6)^2 * \text{EIRP}/(4 * \pi * r^2)$		
				(60% Ground Reflection per EPA)			$= 0.64 \text{EIRP}/(\pi * r^2)$		
IRPA Guideline Uncontrolled MPE Safe Approach Distance									
Frequency (MHz)	Wavelength (cm)	Elemental Dipole Far-Field Dist. (cm)	IRPA MPE (mW/cm^2)	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				
FCC Uncontrolled MPE Safe Approach Distance									
Frequency (MHz)	Wavelength (cm)	Elemental Dipole Far-Field Dist. (cm)	FCC MPE (mW/cm^2)	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