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<i>FCC ID:</i>	P57-AU2006
<i>Report NO:</i>	2001345
<i>Model NO:</i>	Fiber Leap
<i>Customer:</i>	Telaxis Communications Corp.

RF Exposure Calculation (4/9/02)

The previously submitted calculation for RF exposure, APPENDIX A: RF EXPOSURE CALCULATION, reference FCC ID P57-AU2006 and FRN 0005084207, was done using a far field calculation, not consistent with the method prescribed in Bulletin 65. The analysis has been repeated using the method directed by Bulletin 65 for a point-to-point microwave antenna, and is hereby resubmitted.

From FCC rules and regulation 1.1310, Table 1A, the maximum permissible exposure for general population/uncontrolled environment is 1 mW/cm². For occupational/controlled environment this limit is 5 mW/cm².

The maximum power density on the surface of the antenna is given by the equation 11 from OET Bulletin 65:

$$S_{\text{SURFACE}} = \frac{4P}{A} \quad \text{where } S_{\text{SURFACE}} \text{ is the power density of the antenna in mW/cm}^2$$

P is the power into the antenna in mW, and
A is the surface area of the antenna aperture in cm²

The diameter of the antenna aperture for this product is 24.13 cm (9.5 inches). This translates to an aperture area of 457.3 cm².

Calculation for Power Density

The power density, *S_{SURFACE}*, on the antenna surface of Access Unit - A and Access Unit - B antennas is calculated from the equation above and using the CW Output Power of the two Access Units derived from the testing (see Section 2.1 of the test report). The table below summarizes the results compared to the general population/uncontrolled exposure limit of 1mw/cm². The uncontrolled exposure limit is chosen since it is the more stringent requirement.

Antenna Type	P		A	Maximum <i>S_{SURFACE}</i>	Exposure Limit	Results
	mW	dBm				
Access Unit - A	0.117	-9.32	457.3	.00102	1.0	Pass
Access Unit - B	0.295	-5.30	457.3	.00258	1.0	Pass

Referring to the table above, it is evident that the power density at the antenna surface is below the exposure limit. The power density at greater distances, based on Bulletin 65 calculations, decreases even further below the limit. The antenna surface is sealed and



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area below it is not accessible. Therefore, there are no restrictions on either general population or occupational exposure at any distance or location external to the Access Unit. Photos of the Access Unit are provided below for reference.

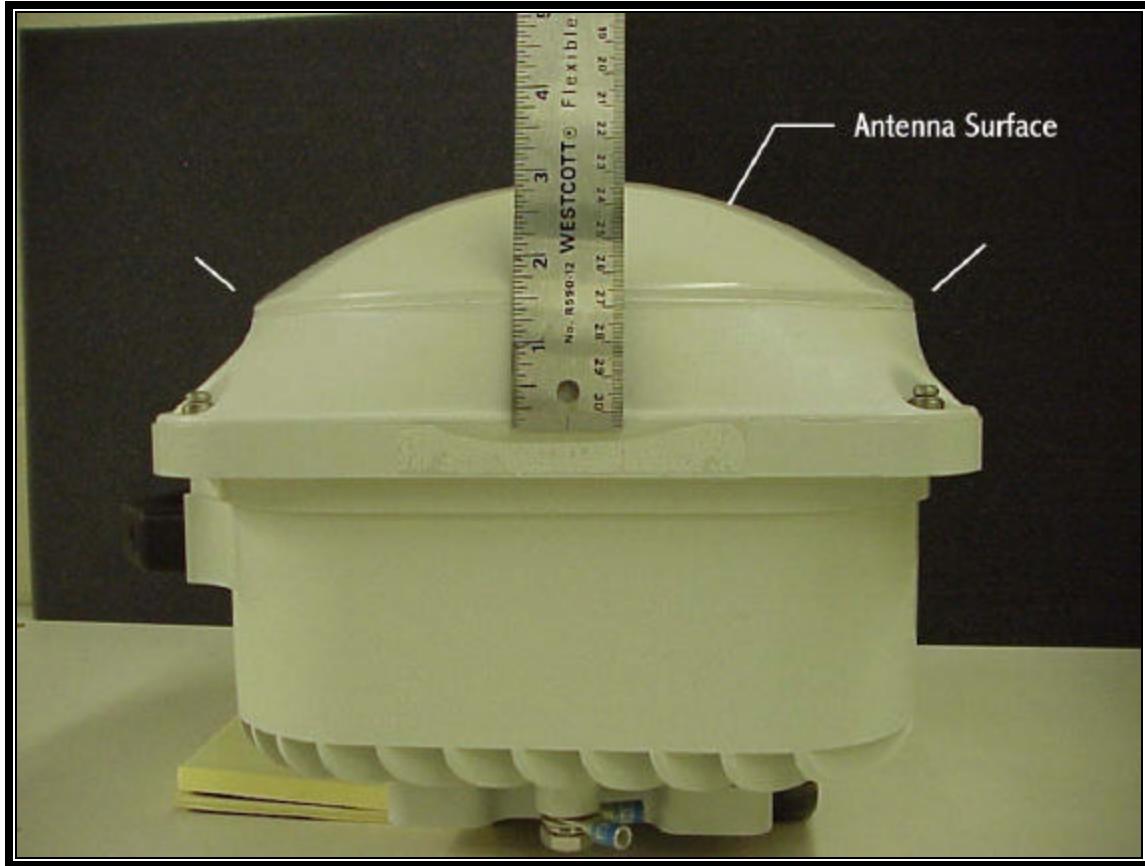


Photo 1: Antenna Surface, Side View



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Photo 2: Antenna, Internal Configuration

Maximum Input Power

The power density values calculated for the two antennas in the table above are considerably lower than the maximum exposure limit. Therefore, as a technical exercise, a calculation is made below to determine the maximum input power to the antenna for which the power density at the antenna surface would not exceed 1 mW/cm^2 .

The equation above is used in the computation.

$$\begin{aligned}\therefore P &= (S_{\text{SURFACE}})(A)/4 = (1 \text{ mW/cm}^2) (457.3 \text{ cm}^2)/4 \\ &= 114.325 \text{ mW} \\ &= +20.58 \text{ dBm}\end{aligned}$$

Therefore, the maximum permissible exposure for the general population would not be exceeded even when an input power of 114 mW is applied to the antenna of Access Unit - A or Access Unit - B antennas.