ALCATEL

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TO: Federal Communications Commission
            Office of Engineering Technology Laboratory

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SUBJECT: RF Exposure Calculations for FCC ID JF69928RT

The 9928RT unit uses an integral parabolic antenna with a diameter of 26 cm. The antenna has a nominal gain of 34.5 dBi. The transmitter section of the 9928RT operates at a fixed gain over a nominal frequency range of 27500 to 27850 MHz. The RT gain is adjusted at installation to compensate for distance from the base station and for IF cable losses. The IF input level varies to compensate for fading conditions.

The maximum RF output power under normal operating conditions is +12 dBm (16 mW). However if the RT fixed gain has not been properly set, the unit can be driven into compression with a maximum RF power output of +18 dBm (63 mW). Calculations for RF exposure are based on this condition.

The maximum power density in mW/cm^2 for the near field of a parabolic antenna is

$$W = (16 \times P)/(\pi \times D^2)$$

where P = average transmitter power in mW and D = antenna diameter in cm.

This results in a near field power density of W = (16 x 63)/ (π x 33^2) = 0.295 mW/cm^2. This level is less than the maximum uncontrolled exposure limit of 1 mW/cm^2 for the general population as listed in Table 1 of 47 CFR Part 1.1310. Therefore the transmitter is safe for all distances outside of the interior of the antenna dish. The antenna on the 9928RT has a front cover that is sealed to the dish, preventing normal access to the interior.

A statement that the equipment meets the RF exposure limits of 47 CFR Part 1.1310 is included on the FCC ID label for the 9928RT.