



Steven Dayhoff
FCC Application Processing Branch
Federal Communications Commission

Re: FCC ID JF6-8705U-8
Applicant: Alcatel USA Marketing, Inc.
Correspondence Reference Number: 29541
731 Confirmation Number: EA244352

Dear Steven:

The following are Alcatel's responses to the questions presented in your recent e-mail, dated August 30, 2005:

The Test Report (Section 4.7 Antenna Requirements) incorrectly states "This radio is sold without antenna and the customer chooses from commercially available antennas." Section 15.204(b) states that this is a transmission system and must be marketed with the selected antenna.

Test report states: "This radio is sold without antenna and the customer chooses from commercially available antennas". There seems to be 15.204 compliance problems.

The proposed JF6-8705U-8 radio will use the same antennas as five lower capacity radios that were granted equipment authorization in November of 2002. These radios are the JF6-8705U-2, JF6-8505U-4, JF6-8505U-8, JF6-8505U-16, and JF6-8605U-45. The Grant Notes for the JF6-8505U-4 states:

Output is peak conducted. This grant is valid only when the radio is used and marketed with 2ft – 10ft parabolic antennas or 1ft and 2ft flat panels as indicated in the Certification filing. The device must be professionally installed. The antenna(s) used for this transmitter must be fixed-mounted on outdoor permanent structures and must not be co-located or operating in conjunction with any other antenna or transmitter. The separation distance for the 1 ft flat panel must be at least 5 feet from all persons. Users and installers must be provided with antenna installation and transmitter operating conditions for satisfying RF exposure compliance.

The proposed JF6-8705U-8 radio will use 2 foot to 10 foot diameter parabolic or 1 foot and 2 foot flat panel antennas. Figures 1 and 2 list typical parabolic and flat panel antennas from Andrew Corporation and Radio Frequency Systems, which is a division of Alcatel. Figures 3 and 4 show photos of the antennas. Parabolic and flat panel antennas from other manufacturers

typically have antenna gains within a few tenths of a dB, as compared to the antennas listed in the attached tables.

There are a large variety of parabolic and flat panel antennas available for different applications. Standard performance dishes may be purchased with a spherical or conical radome cover to reduce wind loading and protect the antenna from snow and icing conditions. High performance and ultra-high performance parabolic antennas have a shroud and integrated flat radome on the front of the dish to improve the antenna discrimination characteristics. Some antennas cover a wide frequency range, including the FCC Part 101 bands from 5.925-6.425 GHz and 6.525-6.875 GHz. Using these antennas, it is possible to convert the radio from unlicensed Part 15 to licensed Part 101 operation without an antenna change. The change to licensed operation requires frequency coordination under Part 101 rules.

Operators select the antenna size, type, and model from commercial antenna manufacturers for a specific application. The antenna size and type must meet the requirements of the equipment authorization.

Part 15.204(c) states that “An intentional radiator may be authorized with multiple antenna types”. Part 15.204(c)(3) states that “Manufacturers shall supply a list of acceptable antenna types with the application for equipment authorization of the intentional radiator”. With the attached submittal, Alcatel believes that the proposed JF6-8705U-52 radio is in compliance with Part 15.204.

Professional installation – To qualify for professional installation, you must explain why the hardware cannot simply be purchased and installed by the average (technically inclined) person.

The proposed JF6-8705U-8 is a point-to-point microwave radio that operates over long distances (e.g., 10 to 20 miles). The antennas used with the radio are mounted on permanent structures (e.g., 100 to 200 foot self-supporting or guyed towers). A crane is normally used to hoist the antennas into position. Due to the narrow beamwidth of the antennas (e.g., 3 degrees or less), experienced antenna installers are required to align the antennas with the far end transmitter. Many installations use elliptical waveguide between the radio and antenna, which is pressurized with nitrogen. Installation is far beyond the capabilities of the average technically inclined person.

Troy Taylor
Product Line Manager