Delivered-To: trephonc-tncokenias:org-tom@tncokenias.org
From: Mike Kuo <MKUO@CCSEMC.com>
To: "Tom Cokenias (E-mail)" <tom@tncokenias.org>
Subject: FW: Alvarion Ltd., FCC ID:LKT-ASU-900, AN03T2905
Date: Tue, 17 Jun 2003 12:06:38 -0700

-----Original Message-----
From: CERTADM
Sent: Tuesday, June 17, 2003 12:05 PM
To: 'mkuo@ccsemc.com'
Subject: Alvarion Ltd., FCC ID:LKT-ASU-900, AN03T2905

Notice_content

Question #1: The theory of operation did not provide enough technical information. Per the test report, this device is Hybrid system which consists of DTS and Frequency hopping functions. Please provide technical information to address how these two functions are used.

ANS 1 Attached is an expanded theory of operation. The description references FCC ID LKT-ASU-900 or FCC ID LKT-IF-900, depending on which product is being described.

Question #2: Per the test report and user manual, this 900MHz may be used with 2.4GHz radio (FCC ID:LKT-IF-24.) and configuration both radios as Cell Extender. Please address the co-location issue during the installation.

ANS 2 The updated manuals will include the following wording;

Manual changes to CX (AU-I version)
Page 2-3 changed to:

The higher the placement of the antennas, the better the achievable link quality. (Locate the antennas at least 20 cm (8 in.) away from each other or any other antenna.)

Page 2-8 changed to:

Installing the 900 MHz Antenna

Locate the 900 MHz antenna at least 20 cm (8 in.) away from the 2.4 GHz SU antenna or any other antenna. Refer to the installation instructions included in the antenna kit for proper mounting guidelines. Use only the antennas stated in Table 2-2 of this manual.

Page 2-3 of the CX (AU-IF version for FCC ID: LKT-IF-900)

The higher the placement of the antennas, the better the achievable link quality. (Locate the antennas at least 20 cm (8 in.) away from each other or any other antenna).

Question #3: The transmitter cannot coordinate its hopping sequence with the hopping sequence of other transmitters, or vice versa, for the purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters. Provide a description on how the device complies with this rule.

ANS 3 The requirements for hybrid DTS radios are that the psd is 8dBm or less when hop is stopped, and that dwell time is limited per 15.247, however, the updated technical description describes in some detail how the hopping function is employed.

Question #4: The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudorandom ordered list of hopping frequencies. Indicate how the pseudorandom hopping sequence is derived. Provide a list of channel frequencies and a sample of a few sequences.

ANS 4 The requirements for hybrid DTS radios are that the psd is 8dBm or less when hop is stopped, and that dwell time is limited per 15.247, however, the updated technical description describes in some detail how the hopping function is employed.

Question #5: Each frequency must be used equally on the average by each transmitter. Each new transmission cannot start on the same point in a sequence(except for voice systems.) Some transmissions may need only a few frequency hops to be completed and If the transmission started on the same frequency each time, this frequency would be used more than the others if many short transmissions were sent. Therefore, Describe where the next transmission starts when a sequence is not completed in a previous message.

ANS 5 The requirements for hybrid DTS radios are that the psd is 8dBm or less when hop is stopped, and that dwell time is limited per 15.247, however, the updated technical description describes in some detail how the hopping function is employed.

Question #6:Section 15.247(a)1 indicates that the system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals. Please explain how the device complies with this rule when a packet is repeated or when multiple packets are sent. What is the receiver input bandwidth? How does the receiver shift frequencies and determine which frequency to shift to in order to synchronize with this transmitter?

ANS 6 The requirements for hybrid DTS radios are that the psd is 8dBm or less when hop is stopped, and that dwell time is limited per 15.247, however, the updated technical description describes in some detail how the hopping function is employed.

Question #6: How many radios are in CX-2.4-900 Cell extender ? Per the packing in page 36 of user manual, there is only one 2.4GHz radio with 900MHz antenna However, Cell extender is capable of communicating with 900MHz SU. Please explain how this is done ?

ANS 6a There is a CX base station configuration with 10 baseT data input and a 902 MHz output. The CX base station also has a 350 MHz IF output (at F connector) to go to the already certified 2.4 GHz FCC ID LKT-IF-24 radio.

Question #7: Please provide proposed FCC ID label location.

ANS 7 Please refer to attached documents.

Question #8: Page 31 of user manual, please indicate which antenna is for p-t-p or p-t-m operation.

ANS 8 The 2.4 GHz unit was previously certified for use in a separate FCC action. It was qualified with its integral antenna as a subscriber unit that operates in a point to point communication mode with the associated 2.4 GHz base unit. The other antennas are 900 MHz antennas and as such the rules do not distinguish between point and multipoint, all antenna/cable/EUT configurations must not exceed 36 dBm EIRP. When the power settings of the radio unit are set for maximum output, and the antenna/cable combinations called out in the user manual are employed, EIRP is 36 dBi or less.

Question #9: In the user manual, there is no information provided about the output power shall be tuned to during the installation. The output at antenna connector end and the cable end are varies based upon the frequency. Please provide revised user manual to include output power information in the installation section of manual.

ANS 9 Even though power output varies with frequency, at maximum power output settings, when EUT is configured with the cable/antenna combination required by the user manual.

Best Regards

Mike Kuo
The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested

information within 60 days of the original e-mail date may result in application dismissal and forfeiture of the filing fee. Also, please note that partial responses increase processing time and should not be submitted. Any questions about the content of this correspondence should be directed to the e-mail address listed below the name of the sender.