-----Original Message-----
From: Tom Cokenias [mailto:tom@tncokenias.org]
Sent: Sunday, March 16, 2003 11:25 PM
To: Mike Kuo
Subject: RE: RE: FW: FOXCOM WIRELESS LTD., FCC ID:OJFMODULITE810, AN03T258 9

Mike,

Attached please find a revised user manual pages and revised block diagram for the 810 stand alone system. Foxcom would like to change the EUT being submitted for certification to be a 2.4 GHz stand-alone device.

I think I have addressed the maximum antenna gain, the 20cm separation, and the 2 m separation issues in the modified user manual. I also inserted the stand-alone block diagram in the user manual.

The changes I made are in red ink.

I think you will be able to issue a grant for this stand alone item since we don't have to be concerned with multiple frequencies coming out of the antenna.

If you still have questions or need changes in the manual, let me know, I'll make them and tell Foxcom this is how it has to be. At this point they are open to making the changes that will get them a Part 15 grant for this stand-alone product.

best regards

Tom

From: Tom Cokenias [tom@tncokenias.org]
Sent: Monday, March 10, 2003 10:46 AM
To: Mike Kuo
Subject: RE: RE: FW: FOXCOM WIRELESS LTD., FCC ID:OJFMODULITE810, AN03T258 9

Hi Mike,

I spoke to Shlomo Cohen and confirmed that the 10 dBi antenna is a mistake, there will only be a maximum of 5 dBi antenna used with this 840/4x4 product.

The 24 dBm is the maximum non- ISM level that will get to the remote antenna.

The maximum power presented to antenna is via the amp and is 21.3 dBm.

At 20 cm from any antenna, the worst case exposure condition would be if there were 3 cell channels and 1 WLAN channel.

If the other 3 antennas were all configured same way (3 cell, 1 WLAN) this would be worst case exposure configuration for the product.

I did calculations and determined that if all antennas are at least 2m from each other, and any one antenna is at least 20 cm from persons, then exposure would be met.

Please look this over before you submit to FCC and let me know if this would be sufficient analysis for you to justify notes on grant as proposed.

best regards

Tom

>Hi Tom:
>
>Additional questions to be addressed based upon the replies from the applicant :
>
>Question #7: Based upon the reply to question#2 (c), since cellular/PCS and WLAN are transmitting simultaneously via single antenna, such configuration has been mentioned during April 2002 TCB/FCC training. FCC defines single antenna transmitting multiple frequency signals is defined as " self co-located ". There are several areas to be addressed:
>
>1)apply multiple frequency exposure criteria to the operating configurations and exposure conditions of the antenna operating configuration. (FCCtraining)
>
>The grant condition stated in Litenna FCC ID:OJFLITENNA0DB0P1 is " The antenna(s) used for this transmitter are to be fixed- mounted on indoor permanent structures providing a separation distance of at least 20 cm from all persons during normal operation. The maximum radiated output power at each antenna must satisfy the MPE Categorical Exclusion Requirements of §2.1091. RF exposure compliance may need to be addressed at the time of licensing, as required by the responsible FCC Bureau(s), including antenna co-location requirements of §1.1307(b)(3).". When the Modulite system is
>installed as part of Litenna RF distribution system, the entire system will be subject to section 2.1091 categorical exclusion requirement and section 1.1307(b)(3)at the time of licensing. Such grant condition will be included
>in the Modulite system DTS application.
>
>2)Evaluate RF exposure compliance for all frequency bands (FCC training)
>
>The MPE estimate provided to address question #2 used 24dBm as output power and max. 10dBi antenna gain for estimating the RF exposure separation distance for 2.4WLAN device. The highest reported output power measured at
>Smart amplifier end is 21.3dBm, and the highest antenna gain measured during Radiated spurious emission test is 5dBi antenna gain. There is no test data to support the type of antenna for 10dBi gain. Please explain the
>differences in output power and antenna gain.
>
>In addition, no information has been provided to address RF exposure requirement when the device is transmitting at multiple frequency bands and the effect on RF exposure compliance. Please provide the MPE estimate based
>upon when the WLAN amplifier is used and transmitting simultaneously with Cellular/PCS operation.
>
>3)could potentially influence the operating conditions of another transmitter within that group of transmitters.(FCC training)
>
>As indicated in FCC grant for CISCO AP FCC ID:LDK102042, this access point can not be co-located with any other antenna or transmitter. This is to repeat the question #2 (E)which has not been addressed in your reply. The

>test data submitted do no include any co-location evaluation when the AP is transmitting simultaneously with licensed frequency bands. Please provide additional test data.
>
>4)could potentially influence the exposure conditions of persons exposed by any one of the transmitters in the group (FCC training)
>
>Based upon the replies to address the question #7, the grant condition may be changed.
>
>Best Regards
>
>Mike Kuo
>
>
>-----Original Message-----
>From: Tom Cokenias [mailto:tom@tncokenias.org]
>Sent: Thursday, March 06, 2003 8:52 PM
>To: mkuo@ccsemc.com
>Subject: Fwd: RE: FW: FOXCOM WIRELESS LTD., FCC ID:OJFMODULITE810,
>AN03T2589
>
>
> >Hello Mike,
>
>Here are the answers to your questions. Hopefully you will have time to review this Friday, Foxcom has big order and there are bonuses if they get grant by Monday.
>
>
> >Answer for Question #1: See attached the update in the ModuLite
>Installation Guide, Litenna Installation Guide and pages 38 to 42 from Instalation Guide.
> >Also, page 18 of the Litenna guide and page 20 of the ModuLite guide for answer to question 1a.
>
>>Answer for Question #2:
> >C. Yes, during the normal operation, the same antenna will be used for WLAN as well as for Cellular /PCS band and will transmit simultaneously.
> >D. and E. What is written in page 4 under Warning is according to a FCC request for the ModuLite for Cellular/PCS band (FCC ID:OJFLITENNA0DB0P1) and a calculation of RF Hazard Limits (MPE) – see attached. Because in the MRC we can connect 4 antennas it is required not, to connect antenna near the other antenna because of RF Hazard Limits. Please see update in page 4 (see attached).
>
>Answer for Question #3: See attached file for Answer 3 – detail schematic diagram.
>
>Answer for Question # 4: See attached file for Answer 4.
>
>Answer for Question # 5: Attached please find sample label and location
>
>Answer for Question #6: See attached the schematic diagram of Shockwave - smart amplifier.
> >
> > >Notice_content
> > > ----------

> > >Question #1: Per section 15.204(b) of FCC rules, only the transmission system consisting of an intentional radiator (CISCO 1200 AP), an external radio frequency power amplifier (Smart Amplifier), and an antenna (4x4 hybrid combiner and with three types of antennas), may be authorized, marketed and used under this part. However, when a transmission system is authorized as a system, it must always be marketed as a complete system and must always be used in the configuration in which it was authorized.
> > >
> > >Based upon requirements, please address the following issues:
> > >
> > >a. Please provide FCC ID number of CISCO 1200 AP. In the user manual, it does not indicate any marketing restriction for Modulite 810 /840. Please describe how the marketing of Modulite 810 and 840 can comply 15.204(b)
> > >requirement. What design has been in placed to prevent the system installer to install any other RF transmitter to connect to Modulite 810 and 840.
> > >
> > >Question #2: Based upon the user manual for Modulite, the Module Remote Unit (MRC) is designed with single cabling and antenna system for all wireless services. MRC can be configured as repeater as In-building RF
>distribution system in Cellular or PCS band. On the other hands, MRC can also be configured as Wireless LAN distribution system in 2.4GHz. Since the proposed antennas are all wideband antennas which can provide coverage
>for Cellular/ PCS and WLAN frequency bands. Please address the following questions:
> > >c. During the normal operation, will the same antenna to be used for WLAN as well as for Cellular /PCS band and transmit simultaneously ?
> > >D. Page 4 of user manual mentioned that antenna must be separated from each other and indicated the antenna gain can not be higher than 10dBi. The highest antenna gain reported in this application is 5dBi. Please explain
the reason to support 10dBi gain limitation but not 5dBi limitations and what is the separation requirement for each antenna.
> > >E. Page 4 of user manual also mentioned the antenna must not be co-located with any other antenna. Since the RMU may be used for cellular /PCS operation, please explain how the co-location requirement can be met.
> > >
> > >Question #3: Please provide a detail schematic diagram. The schematic for Modulite 810 is connection diagram to show the connections between each components.
> > >
> > >Question #4: Please provide detail theory of operation to describe how the Cellular/PCS operation in related to WLAN.
> > >
> > >Question #5: Please provide FCC ID label format and location.
> > >
> > >Question #6: Please provide schematic diagram of Shockwave device inside the smart antenna.
> > >
> > >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.

> >
> >
> >********** Foxcom Wireless
> >**********
> >*** eSafe scanned this email for malicious content and found it to
> >be CLEAN ***
> >*** IMPORTANT: Do not open attachments from unrecognized senders ***
> >
> >Content-Type: application/x-zip-compressed; name="Answer for
> >FCC_March 5_2003.zip"
> >Content-Description: Answer for FCC_March 5_2003.zip
> >Content-Disposition: attachment;   filename="Answer for
> >FCC_March 5_2003.zip"
> >
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