

From: Mike Kuo
Sent: Wednesday, December 19, 2001 2:43 PM
To: 'Jeff Chiu'
Subject: RE: Application File

Dear Jeff:

Question #1:Answer: if this signal generator and the probe or antenna is used to generate the audio modulation, you can place these equipment on top of turn table near the EUT.

Question #2: Answer:Attached please find TCB invoice. I have checked with accounting department, we have not received any payment from Apices communications.

Best Regards

Mike Kuo

-----Original Message-----

From: Jeff Chiu [mailto:jeff@bestlab.com.tw]
Sent: Wednesday, December 19, 2001 3:28 AM
To: Mike Kuo
Subject: Application File
Importance: High

Dear Mike:

There are two questions as below:

(1) Is the signal generator and the probe or antenna must be placed on the table? Or it can be placed in far-end? Because my co-workers put them in far-end. If them must be placed on the table, I need to tell them.

(2) Do you have invoice to let me show to my client that you do receive the applicant fee? If you don't have that, can I give you one , then you sign back to me?

Thank you very much!!!

Best Regards!

----- Original Message -----

From: Mike Kuo
To: 'Jeff Chiu'
Sent: Wednesday, December 12, 2001 9:22 AM
Subject: FW: Application File

-----Original Message-----

From: Mike Kuo
Sent: Tuesday, December 11, 2001 5:22 PM
To: Mike Kuo
Subject: RE: Application File

Dear Jeff:

I have reviewed the PDF file that you sent to me on 12/04/2001. Some of questions are still not acceptable.

Question #1: O.K.

Question #2: O.K.

Question #3: If you are using the information provided in Page 31 of your PDF file. You can not copy the FCC rule part to be used as operational description. Operational Description should include but not limit to : the design theory of this RF device, how to prevent this device tune to outside the designed fundamental frequency, the antenna specification, DC power and grounding consideration etc..

Question #4: Please take a look Page 35 of PDF file. The schematic diagram is not readable. If you can not read it, so do I.

Question #5: Setup Photos: EUT is placed on the center of turn table. O.K.

Question #6: Page 15 of test report. O.K.

Question #7: Verified. O.K.

Question #8: O.K.

Question #9: O.K.

Question #10: O.K.

Question #11: As I indicated in my previous e-mail. You can not use background noise to provide the max. audio input signal. From the test setup photos as well as test configuration diagram. There is no external audio source was used to enable max. audio input signal. This is not acceptable. You must test this device with max. audio input signal. This test condition has been mentioned by FCC to caution all TCBs to watch out the test condition.

Question #12: Page 10 of test report. O.K.

Question #13: This is my mistake. The required information to be included in the user manual should be 15.21 of FCC rules. Please provide revised user manual.

Question #14: O.K.

Best Regards

Mike Kuo

-----Original Message-----

From: Mike Kuo

Sent: Thursday, November 08, 2001 4:13 PM

To: 'Jeff Chiu'

Subject: RE: Application File

Dear Jeff:

The Grantee code is P2B. The Microsoft Word file has not information in it. Please check it again.

Question #1: O.K. Grantee code is P2B.

Question #2: Can not verify

Question #3: Awaiting technical information.

Question #4: Awaiting technical information.

Question #5: Can not verify

Question #6: Awaiting modification report signed by the applicant.

Question #7: Based upon your statement, this device does not comply with FCC rules and regulation. You can not measure any fundamental and harmonic

emission but you can measured out spurious emissions. Since the fundamental emission field strength is not measurable but spurious emissions are measurable. This means spurious emissions are higher than fundamental field strengths. In accordance to 15.209(c) requirements, spurious emissions from intentional radiator can not higher than fundamental emission field strength.

Question #8: Can not verify

Question #9: Can not verify

Question #10: I do not understand the spectrum plot labeled Marker 1 and Delta 1. If you are trying to demonstrate compliance to 15.239(a) requirement by submitting Marker 1, then this plot does not comply with requirement. You can not use RBW of 200kHz and span 2MHz for this requirements. You should use the span of 200kHz and RBW = 1 % of span for the measurement. All emission has be within the 200kHz band. Delta 1 : what are you trying to show ?

Question #11: The test condition is max. input signal. You can not just use background noise to test condition, you should use external audio signal to generate max. input signal.

Question #12: Can not verify

Question #13: Can not verify

Question #14: User manual also indicates two frequencies. If only one fundamental frequency, user manual needs to be modified as well.

Best Regards

Mike Kuo / TCB Certifier

-----Original Message-----

From: Jeff Chiu [mailto:jeff@bestlab.com.tw]

Sent: Thursday, November 08, 2001 7:36 AM

To: Mike Kuo

Subject: Re: Application File

Importance: High

Dear Mike:

The following questions have to be addressed in order for the review process to be continued:

Question #1: In order for us to apply the grantees code for your customer, please provide the following information:

Answer #1:

Company name : Apices Communication Co., Ltd.
Address: 3F, No. 115, Ming De Road, Hsintien,

Taipei, Taiwan

Director

Contact person's name and title: Geoff Lai /

Telephone number: 886-2-29136881

Fax number: 886-2-29137641

E-mail address of contact person:

apexcom@ms24.hinet.net

Question #2: This device is subject to 15.239 technical requirements. It is a Part 15 subpart C intentional radiator. It is not a Class B device. Please modify your test report.

Answer #2:

Please refer to the attachment

Question #3: Please provide operational description as outlined in section 2.1033(b)(4) of FCC rules.

Answer #3:

The applicant is trying to do this.

Question #4: The schematic diagram can not be read. Please provide a clear copy of schematic diagram.

Answer #4:

I will give you new one.

Question #5: In accordance to ANSI C63.4 section 6.2.1.1 " Placement of Tabletop EUT": " If the EUT is a stand-alone unit, it shall be placed in the center of tabletop.". As indicated from the test setup photo, EUT is placed on the table edge which does not comply such requirement. Please redo radiated emission tests.

Answer #5:

This is my fault. I use the wrong picture. I will replace the correct one.

Question #6: Modifications were made to the device by adding Copper tapes to inside of plastic cover. Please provide a detail modification report and marketing statement and signed by the applicant to indicate that the modifications listed will be incorporated into each unit sold in the United States.

Answer #6:

The modification is made by the applicant, not the Lab. But I have told them to do this part.

Question #7: Two fundamental frequencies are indicated in the user manual (88.7 MHZ and 106.4 MHz.). Though out the test report, there is no where to indicate the fundamental frequency was activated. The mode of operation indicated Transmitting. Which frequency that this device is transmitting ?

Answer #7:

The fundamental frequency is 88.7 MHz. When tested in OATS, it will not be detected. I have tried to measured it at " Anechoic Chamber, 7m * 4m * 3m ", but, It quite low. It will not higher than 33dBuV/m.

Question #8: Section 2.6 of test report indicated that device passed conducted emission limits but there is no data presented in appendix A . Please explain.

Answer #8:

I have correct the testing report. EUT is powered by one DC battery that putted inside the EUT. So, it won't have to do the Conducted Emission Test.

Question #9: Section 1.5 of test report, the frequency range of investigated is 0.5 MHz- 1.705MHz and frequency range investigated for radiated emission is from 88MHz - 108MHz. Per 15.207 of FCC rules, the frequency range for conducted emission is from 450MHz to 30 MHz, the frequency range to be investigated for intentional radiator will be up to tenth harmonics of fundamental frequency.

Answer #9:

I have correct the testing report. Please refer to the attachment.

Question #10: Please provide spectrum plot to demonstrate 15.239 (a)& (b)compliance.

Answer #10:

Please refer to the attachment(Marker-01 and Delta-01).

Question #11: The input signal to the device shall use the maximum input signal during the tests. Please explain the type of input signal was used ?

Answer #11:

If the button of EUT is pressed, then the EUT will continuous receiving the sound and transmitting out the sound, no matter the sound is background noise or human voice.

Question #12: Since the device is using retractable antenna, tests shall be performed with the antenna be fully extended and fully retracted.

Answer #12:

I have forgot added these words in the testing report, " The testing result of pretest was shown out that the emissions of testing mode: "antenna was fully extend" is higher than the emissions of testing mode: "antenna was fully retracted" . I do did these tests in my chamber. So, I will correct my testing report.

Question #13: User Manual does not contain information required under section 15.35 of FCC rules. Please provide revised user manual.

Answer #13:

The applicant will add these words on the User Manual.

Question #14: Only 88.7MHz is listed on the schematic diagram. Is this device can only be tuned to 88.7MHz or it can be tuned to 106.4MHz as well. If this device can be tuned to both frequencies, please make sure to describe how the tuning can be done in the operational description.

Answer #14:

As my applicant told me, it just can be operated at 88.7MHz. I will check this with the applicant.

Request:

Mike, can you do my a favor? Can you give me the grante code at first? The applicant need it so hurry. But I still will finish the application? Is that all these 13 questios are solved, then I will get the certificated? Or still have other problems? If you have any questions or requirement, please contact with me without any hesitate.

Best Regards

Jeff Chiu

Tel: 886-2-2646-2899; 886-2-2694-2199
Fax: 886-2-2646-2870; 886-2-2694-2160