

From: Mike Kriege
Sent: Monday, January 06, 2003 3:19 PM
To: Mike Kuo
Subject: Re: APPLE COMPUTER, FCC ID:BCGA1026, Assessment no:AN02T2503

Hello Mike

In response to Question #9.

1. Apple confirms all internal antennas will be installed by Apple Computer or Authorized OEM installer in desktop, portable or base station.
2. Apple confirms that for portable and desktop systems, end user will only be required to insert Wireless LAN card into the Apple custom Card Edge Connector and all the internal antennas will be installed in a location where the separation distance between the transmitter and the body of the end user will be more than 2.5 cm.
3. Apple confirms that Apple will allow the end user to install the external antennas as documented in the filing in a desktop or base station. End user installation instructions will be provided. A 20cm separation statement is not applicable because SAR tests have been performed on the external antennas. The results of the SAR tests demonstrate the external antennas are in compliance with the General Population/Uncontrolled Exposure Partial Body Limit of 1.6mW/g per OET65 Supplement C.

Mike

On Monday, January 6, 2003, at 11:52 AM, Mike Kuo wrote:

> Question #8: related to the reply to Question #1: Section 8.1 (page > 16 of > RF test report), it stated the worst configuration has been determined during preliminary tests for Radiated spurious emission tests.
> However, there is no description has been provided to state the mode of operation during RF conducted emission tests (6dB BW/RF conducted output power/ power spectra density tests etc....). In addition, the EUT description of RF test
> report still indicate that this device is 802.11g Wireless LAN card not 802.11 b/g Wireless LAN card. Please provide revised test report or additional test data.
>
> Reply to Question #2, #3, #6 and #7 are acceptable.
>
> Question #9: Related to the reply to Question #4. Per the technical description file, this Wireless LAN card with Apple Custom Card Edge Connector will be used in Apple's Desktop, Portable or base station as plug-in internal card. At this time, TCB has not receive antenna installation instruction for various type of antennas included in this filing. Based upon the construction of antennas, please confirm the following :
>
> 1. All internal antennas as documented in this filing will be installed by Apple Computer or Authorized OEM installer in desktop, portable or base station. End user installation of internal antenna is prohibited.
> 2. In case of portable and desktop devices, end user will only be required to insert the Wireless LAN card into the Apple custom design Card Edge connector. All the internal antenna will be installed in the locations where the separation distance between the transmitting antenna to the body of end user will be more than 2.5cm.

> 3. Apple will allow the end user to install the external antennas as
documented in this filing. When the external antennas are provided for end user
to install, such external antennas will only be installed in desktop or base
station only. Apple will provide a clear instruction to user to require such
external antenna to be installed to provide at least 20cm separation distance to
the body of end user.

>
> Awaiting information to be provided to address Question #5.
>
> Best Regards
>
> Mike Kuo
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> -----Original Message-----
> From: Christine Vu
> Sent: Friday, January 03, 2003 7:26 PM
> To: Mike Kuo; Michael Heckrotte; CLIENT ADVOCATES
> Cc: Steve Cheng; Mike Kriege (E-mail)
> Subject: RE: APPLE COMPUTER, FCC ID:BCGA1026, Assessment no:AN02T2503
>
>
> Hello Mike Kuo,
> Here are the reply to each question below.
>
> 1. Question 1: Testing was performed in the worst case modulation mode. The
FCC Test Report is revised to document the worst case mode of the 802.11b/g
(DSSS/OFDM) modulations. Attached is the Test Report.
>
> 2. Question 2: Yes, there are four antennas. Attached below is the additional
3 antenna data of the spurious radiated emission. Note: The data is for below
1GHz and Above 1GHz.
>
> 3. Question 3: AC Line Conduction tests have been performed from 150kHz-30MHz.
Attached below is the data.
>
> 4. Question 4: Attached below is provided by client to address the module
approval requirement per FCC public notice 00-1407.
>
> 5. Question 5: To be provided on Monday 1/6/03 by client.
>
> 6. Question 6: Attached below is the second label that will be placed on the
outside of the device that contains FCC ID. The attachment is called
Certification Sheet.
>
> 7. Question 7: On the Technical Description, it did state 15dBm RF conducted
output power. However, this 15dBm is the average RF conducted output power.
> The SAR Test Report and FCC Test Report was measured with Peak Power Meter,
therefore, it is 18dBm.
>
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> -----Original Message-----
> From: Mike Kuo
> Sent: Thursday, January 02, 2003 6:16 PM
> To: Michael Heckrotte; CLIENT ADVOCATES
> Cc: Steve Cheng; Mike Kriege (E-mail)

> Subject: FW: APPLE COMPUTER, FCC ID:BCGA1026, Assessment no:AN02T2503
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> -----Original Message-----
> From: CERTADM
> Sent: Thursday, January 02, 2003 6:14 PM
> To: 'mkuo@ccsemc.com'
> Subject: APPLE COMPUTER, FCC ID:BCGA1026, Assessment no:AN02T2503
>
>
> Notice_content
> -----
> Question #1: In accordance with Technical Description attachment file, this transmitter module is capable of 802.11 b/g (DSSS and OFDM) modulations.
> The radio spectrum test report only has test data to show 802.11g OFDM modulation. Please provide additional radio spectrum data for 802.11 b mode or harmonize the technical description file and description in the radio spectrum test report.
>
> Question #2: Those four antennas listed are with four antenna types (> Internal Inverted F, Internal Patch, External Patch and External Dipole), in the radiated spurious data plots, only external patch antenna was tested, please provide additional three sets of spurious radiated emission data for the other three type of antennas.
>
> Question #3: The AC line conducted emission tests performed by Apple Computer were investigated from 400kHz to 30MHz. Per FCC public notice 02-157, for those devices investigated that did not demonstrate new AC line conducted emission limits will have grant conditions which indicate the manufacture and importation of this device must cease on July 10,
> 2005. If such grant condition is not desirable, please provide new AC line conducted emission tests from 150kHz to 30MHz based upon CISPR 22 Class B requirements. Please confirm or provide additional test data.
>
> Question #4: Please provide a cover letter to address module approval requirement per FCC public notice 00-1407.
>
> Question #5: There is no installation instruction provided for this module approval. However, in the page 4 of user manual, it stated that this transmitter module can be installed by the end user. Please provide the installation instructions for each of antenna to be given to the end user.
>
> Question #6: Per FCC public notice 00-1407 module approval requirements, if the FCC ID label is not visible after the module is installed in the final product, a second label is required to be placed on the outside of device to
> identify the FCC ID label. This second label shall have the following wording
" Contains FCC ID:BCGA1026 ". Please provide a second label format to comply this requirement.
>
> Question #7: In the technical description file, it states that RF conducted output power is 15dBm. However, SAR test report and Radio Spectrum 15.247 test report measured the max. conducted output is 18dBm. Please explain or harmonize the specification.
>
> 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.