

Chris Harvey

From: Kyung-Taek LEE [leekt@digitalemc.com]
Sent: Wednesday, March 03, 2004 9:37 PM
To: Chris Harvey
Cc: MET Lab (Mrs. Marianne Bosley)
Subject: RE: Additional information needed for FCC ID:BEJTBLT20 MT#15074, & BEJNTLU20 MT#15075

Dear Mr. Chris Harvey,

Thank you very much for your help.
I send the revised rf exposure information. and please let us know the result as soon as possible.
because Our customer have to get certification for canada urgently.

Best regards,
K.T.LEE

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

From: Chris Harvey [mailto:Chrisharveyemc@comcast.net]
Sent: Wednesday, March 03, 2004 8:39 PM
To: 'Kyung-Taek LEE'
Cc: 'Marianne Bosley'
Subject: RE: Additional information needed for FCC ID:BEJTBLT20 MT#15074, & BEJNTLU20 MT#15075

KT, thank you for the reminder regarding the RF Exposure information submitted for these applications.

The section titled 'Body-worn Operation' implies that this Tablet is worn on the body with accessories. Can I suggest that the text be modified as follows to not imply that this is worn on the body:

Next-to-Body Operation

This device was tested for RF Exposure typical next-to-body (i.e. in the lap) operations with the device directly contacted to the human body. The power output of the wireless device or devices that may be embedded in your notebook is well below the RF exposure limits as known at this time. Because the wireless devices (which may be embedded into your notebook) emit less energy than is allowed in radio frequency safety standards and recommendations, LG Electronics believes these devices are safe for use. Regardless of the power levels, care should be taken to minimize human contact during normal operation.

Please contact me if you have any questions.

Best regards,

Chris Harvey

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

From: Kyung-Taek LEE [mailto:leekt@digitalemc.com]
Sent: Wednesday, February 25, 2004 12:03 AM
To: Chris Harvey
Subject: RE: Additional information needed for FCC ID:BEJTBLT20 MT#15074, & BEJNTLU20 MT#15075

Dear Mr.ChrisHarvey;

Thank you for your response.

3/3/2004

I attached the RF Exposure information.

Best regards,
K.T.LEE

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

From: charvey160@sprintpcs.com [mailto:charvey160@sprintpcs.com] **On Behalf Of** Chris Harvey

Sent: Wednesday, February 25, 2004 12:02 PM

To: 'Kyung-Taek LEE'

Cc: 'MET Lab (Mrs. Marianne Bosley)'; charvey@ieee.org

Subject: RE: Additional information needed for FCC ID:BEJTBTL20 MT#15074, & BEJNTLU20 MT#15075

KT, thank you for the explanation about the second antenna. With this information I do not need the additional RF or SAR testing as requested before. However I do still need the RF Exposure information for the manual as requested below.

Best regards,

Chris Harvey

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

From: Kyung-Taek LEE [mailto:leekt@digitalemc.com]

Sent: Tuesday, February 24, 2004 9:02 PM

To: Chris Harvey

Cc: MET Lab (Mrs. Marianne Bosley); charvey@ieee.org

Subject: RE: Additional information needed for FCC ID:BEJTBTL20 MT#15074, & BEJNTLU20 MT#15075

Dear Mr. ChrisHarvey;

Hello,

You tell me that since the sub-antenna can transmit, the RF and SAR tests must be performed. so I measured it. but Transmit Output Power is not appeared in sub-antenna port. so I searched all over the document of the WLAN module and asked LGE about it. I finally looked it in the Report of WLAN module(FCC ID: PD9WM3B2100). the WLAN module have two antenna port. one is transmit antenna and the other is receiver antenna. I am sorry that I provided a wrong information. and I requested a formal letter about it from LGE.

I am so sorry.

Best Regards,
K.T.LEE

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

From: Chris Harvey [mailto:Chrisharveyemc@comcast.net]

Sent: Tuesday, February 24, 2004 5:46 AM

To: 'Kyung-Taek LEE'

Cc: 'MET Lab (Mrs. Marianne Bosley)'

Subject: Additional information needed for FCC ID:BEJTBTL20 MT#15074, & BEJNTLU20 MT#15075

KT, I have received and reviewed all the documents submitted for both TCB applications and still have the following open issues:

The SAR reports now show compliance with the main antenna transmitting both

with Bluetooth on and off. However the sub-antenna operation still appears not to be tested. I understand that only the main antenna or the sub-antenna will be transmitting at one time, but since the sub-antenna can transmit, the RF and SAR tests must be performed and documented in the test reports.

The Users Manual RF Exposure indicates that the User should maintain 20cm separation, which in the regular PC mode with the antennas at the top of the screen is acceptable. However in the Tablet mode, this operation at 20 cm separation is not practical. The User would be expected to be able to transmit with the WLAN and BT transmitters while having the antenna in their lap or otherwise close to the body. The SAR testing which was performed represents operation close to the body. The Users Manual RF Exposure warnings should be consistent with the operation of this device. Please revise the RF Exposure information regarding the operation in tablet mode which can be close to the body.

I have reviewed a recent Tablet PC application which had the following information regarding the FCC RF Exposure. I am not suggesting that you use this text, but rather see examples of what can be acceptable:

Warning In order to comply with FCC requirements transmitters must not be operated (or co-located) in conjunction with any other transmitter or antenna installed in the convertible tablet PC.

Low power, Radio transmitting type devices (radio frequency (RF) wireless communication devices), may be present (embedded) in your notebook system. These devices may operate in the 2.4 GHz (i.e. 802.11B/G LAN), 5.2 GHz (i.e. 802.11A LAN), and traditional cellular or PCS cellular bands (i.e. Cellular data modem). The following section is a general overview of considerations while operating a wireless device. Additional limitations, cautions, and concerns for specific countries are listed in the specific country sections (or country group sections). The wireless devices in your system are only qualified for use in the countries identified by the Radio Approval Marks on the system rating label. If the country you will be using the wireless device in, is not listed, please contact your local Radio Approval agency for requirements. Wireless devices are closely regulated and use may not be allowed.

The power output of the wireless device or devices that may be embedded in your notebook is well below the RF exposure limits as known at this time. Because the wireless devices (which may be embedded into your notebook) emit less energy than is allowed in radio frequency safety standards and recommendations, XXX believes these devices are safe for use. Regardless of the power levels, care should be taken to minimize human contact during normal operation.

Please let me know if you have any questions regarding these requests or FCC policy.

Best regards,

Chris Harvey

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

From: Kyung-Taek LEE [mailto:leekt@digitalemc.com]

Sent: Thursday, February 19, 2004 9:09 PM

To: Chris Harvey

Cc: MET Lab (Mrs. Marianne Bosley)

Subject: RE: Additional information needed for FCC ID:BEJTBLT20 MT#15074 1/2

Dear Mr. Chris Harvey,

Thanks for your help.

I send the revised SAR Test Report and additional SAR plots for BEJTBLT20 and BEJNTLU20.

mail: 1/2

Best regards,
K.T.LEE

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

From: Chris Harvey [mailto:Chrisharveyemc@comcast.net]
Sent: Friday, February 20, 2004 3:31 AM
To: 'Kyung-Taek LEE'
Cc: 'MET Lab (Mrs. Marianne Bosley)'; charvey@ieee.org
Subject: RE: Additional information needed for FCC ID:BEJTBLT20 MT#15074

KT, thank you for your reply. I will await your additional SAR information.

I think that your response about the sub-antenna opens up additional questions. I can not see any documentation for the radiated tests or the SAR measurements for the transmission from the sub-antenna. If the sub antenna ever transmits, then these tests must be performed in order to show compliance in this mode.

Please note that these same issues raised for this application also apply to MT#15075 FCC ID: BEJNTLU20.

Please let me know if you have any questions.

Best regards,

Chris Harvey

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

From: Kyung-Taek LEE [mailto:leekt@digitalemc.com]
Sent: Thursday, February 19, 2004 12:55 AM
To: Chris Harvey
Cc: MET Lab (Mrs. Marianne Bosley); charvey@ieee.org
Subject: RE: Additional information needed for FCC ID:BEJTBLT20 MT#15074

Dear Mr. Chris Harvey,

Thanks for your help.

1. I revised the test report and submit RF Exposure Information. please refer to the attached file.
2. For one transmitting hot spot:
 - > The WLAN transmitter have a main and a sub antenna. the Sub antenna operates if the main antenna did not operate. during the normal operating, it operate only the main antenna. so the SAR plots show only one transmitting hot spot.
3. We will do the measurement with the Bluetooth transmitter on and off.

Best regards,
K.T.LEE

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

From: Chris Harvey [mailto:Chrisharveyemc@comcast.net]
Sent: Thursday, February 19, 2004 4:06 AM
To: 'Kyung-Taek LEE'
Cc: 'Marianne Bosley'; charvey@ieee.org
Subject: RE: Additional information needed for FCC ID:BEJTBLT20 MT#15074

KT, I have confirmed that the SAR testing does need to be evaluated with the portable co-location Bluetooth transmitter on and off, while measuring the SAR for the higher powered WLAN device. This can be an investigation to show the effect on the worst case WLAN SAR measurement with the Bluetooth transmitter on and off. Please provide these measurements with the appropriate supporting documentation (i.e. dielectric property and validation measurements)

Best regards,

Chris Harvey

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

From: Chris Harvey [mailto:Chrisharveyemc@comcast.net]

Sent: Wednesday, February 18, 2004 7:29 AM

To: 'Kyung-Taek LEE'

Cc: 'Marianne Bosley'; 'charvey@ieee.org'

Subject: Additional information needed for FCC

ID:BEJTBLT20 MT#15074

KT, I have been reviewing the application for LG Electronics and have the following questions at this time.

The Test Report indicates an FCC ID number of WM3B2100 as a previous approval for the WLAN module, however this is not a valid FCC ID number. It is possible that the Grantee Code for this module was not included in the ID number provided in the report.

The FCC Requires RF Exposure warning information to be provided to the user for the WLAN device. This RF Exposure information could not be located in the user's manual. Please submit this RF Exposure information.

The photographs and description show 2 antennas for the WLAN transmitter; however the SAR plots show only one transmitting hot spot. Please explain.

I am still researching the current FCC policy for SAR when a Bluetooth transmitter is co-located with a WLAN portable transmitter. Since this policy has been discussed by the FCC in recent months, I need to see what they currently will require before accepting the SAR testing completely. I will let you know as I complete this research, but wanted to give you the opportunity to address the other issues at the same time.

Please respond directly to charvey@ieee.org with your answers.

Best regards,

Chris Harvey
charvey@ieee.org
443-622-3300