
From: Lee, Grant (Gunpo)
Sent: Tuesday, December 07, 2010 5:05 AM
To: 'PCTEST - Gregory Czumak '
Subject: RE: Follow-up Questions Regarding FCC ID: BEJT325G

Dear Gregory

Please find attached document and see our comments in red after your inquiry.

Best regards

이수동 / Grant Lee
Wireless Div. RF Lab
Engineer
SGS-Testing Korea

From: PCTEST TCB/CB
Sent: Tuesday, December 07, 2010 7:29 AM
To: Jo, Jenny (Gunpo); Loh, Grace (Gunpo)
Subject: RE: Follow-up Questions Regarding FCC ID: BEJT325G

Dear Ms. Jenny,

Thank you for your email.

Please see below follow-up questions:

1. Regarding your response to question #1, the plots provided on pp. 40-41 demonstrate compliance at the bandedge, using a RBW that is greater than 1% of the emissions bw. However, beginning at points 1 MHz away from the bandedges the emission must meet the limit when measured with RBW = 100 kHz

(cellular band) and RBW = 1 MHz (PCS band). Please provide plots that show this compliance beginning 1 MHz away from the bandedges.

→ Test report's revised. (Page 42-43)

2. Please send us the unlocked document for Tune-Up Procedure.

→ Attached.

The items indicated above must be submitted before processing can continue on the above referenced application.

Sincerely,

Gregory Czumak
Senior Certification Engineer
Quality Manager

From: Jo, Jenny (Gunpo)
Sent: Monday, December 06, 2010 4:48 AM
To: PCTEST TCB/CB; Loh, Grace (Gunpo)
Subject: RE: Follow-up Questions Regarding FCC ID: BEJT325G

Dear Gregory

Please find attached document and see our comment in red after your inquiry.

Thank you.

Many thanks,
Jenny Jo(Ms)/ 조찬화
GSM Lab/Wireless Division
Assistant Section Chief/ 대리

From: PCTEST TCB/CB
Sent: Monday, December 06, 2010 11:34 AM
To: Jo, Jenny (Gunpo); Loh, Grace (Gunpo)
Subject: Follow-up Questions Regarding FCC ID: BEJT325G

Dear Ms. Jenny,

Thank you for your email.

Please see below follow-up questions:

1. Regarding the PCE EMC report, please provide WCDMA bandedge plots (both cellular and PCS bands) at points removed from the bandedges by 1 MHz and with RBW = 100 kHz in the cellular band and RBW = 1 MHz in the PCS band, as required by Sections 22.917(b) and 24.238(b). → Test report's revised. (Page 40-41)

→ Band edge for WCDMA is re-measured RBW = 50 kHz which is more than 1 % of 26 dB

bandwidth.

2. The revised DTS and DSS (WLAN and BT) Block Diagrams still lack sufficient detail. Please submit Block Diagrams for these transmitters that provide more detail regarding their rf sections, including listing all clock/oscillator values. → LBEH19UNBC is based on Broadcom BCM4325 chip solution. Therefore I attached additional information BCM4325 internal Block diagram and clock values.
3. Regarding your response to question #6, the information on p.4 of the BT test report addresses the requirements of Section 15.247(a)(1). Additional attestations of compliance with Sections 15.247(g) and (h) are also required. Please submit them. → Test report's revised. (page 4)
4. FYI: the PCE EMC report contains several plots where the marker is not set at the highest out-of-band emission, but rather exactly at the bandedge (e.g., the lower plot on p. 13). In the future when making these measurements, please be sure to set the marker on the highest emission outside of the band, even if it is not exactly at the bandedge. → Will make sure that.

The items indicated above must be submitted before processing can continue on the above referenced application.

Sincerely,

Gregory Czumak
Senior Certification Engineer
Quality Manager

From: Jo, Jenny (Gunpo)
Sent: Friday, December 03, 2010 2:16 AM
To: PCTEST TCB/CB; Loh, Grace (Gunpo)
Subject: RE: Questions Regarding FCC ID: BEJT325G

Dear Gregory

Please find attached document and see the comment in blue.

The client wants to get the certificate within this week.
I hate to urge you but please help to complete the certification as soon as possible.

Please let me know if you have any inquiry.

Many thanks,
Jenny Jo(Ms)/조찬화
GSM Lab/Wireless Division
Assistant Section Chief/ 대리

From: PCTEST TCB/CB
Sent: Saturday, November 27, 2010 7:41 AM

To: Loh, Grace (Gunpo)
Subject: Questions Regarding FCC ID: BEJT325G

To: Ms. Grace Loh / SGS Testing Korea Co., Ltd.
From: Mr. Gregory Czumak / PCTEST TCB

RE: FCC ID: BEJT325G

Applicant: LG Electronics Inc.

Correspondence Reference Number: BEJ101375
Confirmation Number: Y1011241375-78
Date of Original Email: November 26, 2010

Subject: Request for additional information

In regards to your recent TCB application referenced above, we kindly request that you provide the following additional information.

1. Please submit the PCE EMC test report for part 22/24 operation (2 copies of the SAR report were submitted). → [Test Report' attached.](#)
2. The DTS and DSS (WLAN and BT) Operational Descriptions lack sufficient detail. Please submit Operational Descriptions for these transmitters that provide more detail regarding the generation of RF, modulation, power control, frequency control, filtering of unwanted emissions, etc. → [Revised document's attached.](#)
3. The DTS and DSS (WLAN and BT) Block Diagrams lack sufficient detail. Please submit Block Diagrams for these transmitters that provide more detail regarding their rf sections, listing all clock/oscillator values. → [Revised document's attached.](#)
4. The External Photos do not show all 6 sides of the EUT. Please submit the missing external photos. → [Attached.](#)

The Internal Photos apparently show the pcb with an RF shield can still in place. Please submit a photo of the pcb with all shielding removed. → [It is for Micro SD slot, not for RF shield cap.](#)

5. Please confirm that the EUT is not intended for use as a wireless router ("mobile hotspot"). → [Confirm. It's not intended for use as wireless router.](#)

The bandedge compliance plots on pp. 14-19 of the DTS EMC report do not provide measurements at the lower bandedge (2400 MHz), instead the marker is set at 2390 MHz (which is the upper edge of a restricted band). Please provide new data showing compliance with the out-of-band limits at the lower bandedge (2400 MHz). → [As you can see in the test plot of lower band edge, level at 2400 MHz is 20 dB](#)

lower than fundamental. For the future application, I will add marker at 2400 MHz for the out-of-band limits.

6. Please address Sections 15.247(g) and (h) for the DSS (BT) transmitter. → It is on the page 4 for BT test report.

In the DSS (BT) EMC report, Section 1.8 states that the 2 highest output power modulation types were tested, but it then states, “(GFSK and 8DPSK)...”, while the output power levels listed in the table above this statement show the highest levels as being in pi/4DQPSK and 8DPSK. Please clarify- which modulations were tested, and why? → GFSK is only modulation for BDR mode. So GFSK is tested as basic.

In the EDR mode, there are two modulations (pi/4DQPSK and 8DPSK). The output power of 8DPSK is higher between pi/4DQPSK and 8DPSK. 8DPSK is chosen for EDR mode.

The RF conducted lower bandedge plots in the DSS (BT) report are also measured at 2390 MHz, instead of at the actual bandedge at 2400 MHz. Please revise to show compliant measurement data at the lower bandedge (2400 MHz). → As you can see in the test plot of lower band edge, level at 2400 MHz is 20 dB lower than fundamental. For the future application, I will add marker at 2400 MHz for the out-of-band limits.

7. In the JBP 15B EMC report, please provide peak field strength data for $f > 1$ GHz for the radiated emission tests, to demonstrate compliance with Section 15.35(b). --> Test report's revised (Page 8)
8. In the JBP 15B EMC report, please indicate the highest frequency scanned for radiated emission measurements. → Test report's revised (Page 8)
9. The Tune- Up Procedure lists the maximum power level for PCS WCDMA as $22.5 + 0.5 = 23$ dBm, but the measured data levels in the SAR report are up to 0.73 dB higher than this. Please confirm that the EUT was not over-driven during testing, causing non-linear behavior and resulting in the need to retest a unit with an output level within the range specified in the tune-up procedure. → After check the document, we found that the tune-up procedure is not correct. The maximum power level for W850&W1900 is 23 dBm. I attached revised Tune-up procedure.
10. Please submit a photo/drawing showing the location of the various antennas within the EUT and the distance(s) between them. → Attached.
11. If the SAR dipoles are calibrated every 2 years, as it appears from the equipment list, then please provide the data required to justify an extended calibration period for the dipoles, pursuant to FCC KDB 450824. → Our dipoles were calibrated just 6

months ago, so I think any other information or justification for extending calibration is not needed yet.

12. In the SAR report, please provide the WLAN output power data at the different data rates, as required by the FCC, in order to justify the choice of data rates used for testing. → [Test report's revised.](#)
13. The SAR report must include a statement justifying the inclusion of front body SAR data (i.e., to cover potential accessories which position the EUT in that manner). Please revise and resubmit. → [Test report's revised.](#)
14. Please revise the SAR report to include a statement specifying the WCDMA mode used during SAR testing. → [Test report's revised.](#)
15. Note 6 on p. 20/136 of the SAR report states that the worst-case number of transmit slots (GPRS 1 TX) was used for the measurements, but the data on p. 15/136 shows that cellular band GPRS 2 TX has a higher source-based time-averaged output power level than 1 TX. Please provide 2 TX cellular GPRS SAR data. → [Test report's revised.](#)
16. Note 6 on p. 22/136 of the SAR report states that the worst-case number of transmit slots (GPRS 1 TX) was used for the measurements, but the data on p. 15/136 shows that PCS band GPRS 4 TX has a higher source-based time-averaged output power level than 1 TX. Please provide 4 TX PCS GPRS SAR data. → [Test report's revised.](#)
17. In the SAR report Table 1, p. 10/136, none of the Target levels listed for the dipoles match the levels listed in the corresponding dipole calibration reports (after taking into account that 0.25 W power level was used, with the results compared to the normalized targets). Please correct the Target levels listed in this Table, revise the % deviation values, and resubmit. → [Test report's revised.](#)
18. FYI: for Part 15B testing according to ANSI C63.4, when the EUT is a handheld device, such as a phone, it should be positioned at the front of the test stand, 10 cm from the mouse or 10 cm from the other side of the keyboard, and not flush with the rear of the test stand. In the future, please be sure to make this adjustment.--> [Okay, make sure that.](#)

The items indicated above must be submitted before processing can continue on the above referenced application.

Sincerely,

Gregory Czumak
Senior Certification Engineer
Quality Manager

PCTEST Engineering Laboratory, Inc.
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410-290-6652
410-290-6654 (Fax)

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