



Date: 29th March 2010

Gregory Czumak
PCTEST Engineering Laboratory, Inc.
6660-B Dobbin Road
Columbia, MD 21045

Re: Correspondence Number AZ410315 with FCC ID: AZ489FT7038
Confirmation Number: 1Y1003190315-18

Dear Mr. Czumak;

Motorola Inc., 8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322, herein submits its response to the 22nd March 2010 request for information in Correspondence Number AZ410315.

Q1. The DSS (BT) block diagram does not list the values for the XTAL or LPO- please revise and resubmit.

R1. Block Diagram is revised and attached.

Q2. The RF exposure (RFx) information is not in the user's manual. Please submit the Product Regulatory, Safety and RFx Guide referenced in the manual, and be sure that it contains the required RFx warning statement to the user.

R2. RF Safety Booklet including Product Regulatory is attached.

Q3. Is short-term confidentiality requested for any of the exhibits? If so, please submit an official request.

R3. Short-term Confidentiality is not requested.

Q4. Please address the 4 requirements of Section 15.247(a)(1) and the requirements of Sections 15.247(g) and 15.247(h) for the DSS (BT) transmitter.

R4. Below please find the answers 15.247(a) (1). Below please find the answer:

A) Is the hopping sequence is pseudorandom? **Response: Yes**

B) Are all channels are used equally on average? **Response: Yes**

C) Does the receiver input bandwidth equal the transmit bandwidth? **Response: Yes**

D) Does the receiver hop in sequence with the transmit signal? **Response: Yes**

Q4. 7(g): In accordance with the Bluetooth Industry Standard, the system is designed to comply with all of the regulations in Section 15.247 when the transmitter is presented with a continuous data (or information) stream. **Response: We comply.**

15.247(h): In accordance with the Bluetooth Industry Standard, the system does not coordinate its channel selection/hopping sequence with other frequency hopping systems for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters.

- R4. We comply with the BT frequencies hopping independently and randomly. See the attached BQ Approval.
- Q5. Please submit data for the DSS transmitter demonstrating compliance with Section 15.207.
- R5. See Test report Part 4 Rev.2 sec. 2.2 (p.6) and sec. 4.2 (p.21)
- Q6. Please confirm that output power measurements were performed on the DSS at all data rates, and that the data submitted represents worst case.
- R6. Output power results are worst case for all data rates.
- Q7. In the DTS (15.247 WLAN) EMC report, the output power and psd measurements were performed at the lowest available data rate (which is the default), however, spurious emissions (both RF conducted and radiated) were measured at the highest data rates. You must justify this choice: please either submit peak output power data at these rates, or else provide spurious emission data at the lowest available data rates.
- R7. The results for output power, psd, and spurious emissions for this data rate were the worst-case measured results.
- Q8. Please submit data for the DTS transmitter demonstrating compliance with Section 15.207.
- R8. See Test report Part 4 Rev.2 sec. 2.2 (p.6) and sec. 4.2 (p.21)
Revised test reports on page#1 (R5).
- Q9. In the NII (15E WLAN) EMC report, what data rate(s) was (were) used to produce the output power measurement data on pp. 20-21 and the peak excursion data on pp. 30-37?
- R9. Data rate was added, see Test report Part 3 Rev.2.
Revised test reports on page#1 (R5).
- Q10. In the NII EMC report, the spurious out-of-band (OOB) emissions (pp. 38-102) were performed at the highest data rate. Please justify this choice. Did these rates produce the highest output power (from question #9, above)? Please either submit output power data at this rate, or else provide spurious emission data at the lowest available data rate.
- R10. The worst case out of band emissions were measured at the reported data rates.
- Q11. The NII EMC report provides frequency stability data demonstrating compliance with Section 15.407(g). Normally, a frequency tolerance value is listed on the grant of certification (e.g., 2.5 ppm). What value would you prefer to have listed on this grant?
- R11. The PPM values were not listed in prior Certifications. See FCC ID: AZ489FT7031 or AZ489FT7032. However, we have no issues if it is now required.
- Q12. Please submit data for the NII transmitter demonstrating compliance with Section 15.207.
- R12. See Test report Part 4 Rev.2 sec. 2.2 (p.6) and sec. 4.2 (p.21)
Revised test reports on page#1 (R5) attached.
- Q3. The NII DFS report does not provide a summation of aggregated transmissions during the channel move time. Please provide this aggregate (summed) time.
- R13. Summation of aggregated transmission added, see Test report Part 3 Rev.2.
Revised test reports on page#1 (R5) attached.
- Q14. Please address Section 15.407(c).

- R14. Our product is a VOIP WLAN-system phone based on IEEE 802.11 a/b/g standards. The WLAN subscriber is a non-continuous transceiver that means that only when data exists, will the WLAN processor prepare the data for transmission and turn on the transmitter. The transmission ceases after the sending of information data packets has been completed, according to the IEEE 802.11a/b/g protocols. Regarding operational failure scenario, one possibility would be high temperature which might hypothetically cause the radio to transmit unexpectedly. However, our product has a temperature sensing mechanism that turns the WLAN section completely off if a temperature limit is exceeded. This could also protect from unintentional transmission due to any other failure mode that would produce long continuous transmission causing the transmitter to heat up.
- Q15. The U-NII portion of this transmitter complies with Dynamic Frequency Selection (DFS) requirements in R&O FCC 03-287 as a client only device without radar detection capability. Please confirm that the EUT's client software and associated drivers will not initiate any transmission on DFS frequencies, which includes transmissions for beacon ad-hoc peer-to-peer modes.
- R15. This requirement is for master devices or client devices with in-service monitoring but not for a client w/o in-service monitoring. VoWLAN Client's S/W guarantees that the client will never transmit before having received appropriate control signals from the master device. See table 1 and sec. 5.1.1 & 5.12 of FCC 06-96. Also, see TCB workshop Oct. 2006 p.4: "DFS client devices required tests".
- Q6. Section 12.2.2 of the Theory of Operation lists maximum average transmit power levels that exceed the peak output power levels measured in the DTS EMC report for 802.11b and 802.11g operation, while the listed maximum average transmit power levels for 5 GHz operation are equal to the peak levels measured in the NII EMC report. The PAR for these emissions should vary between about 4 dB and 8 dB. Please clarify. If the levels listed in the Theory of Operation are accurate, then new testing must be performed on units with output levels approximately equal to the levels listed in the Theory of Operation. Please address.
- R16. See the attached for a revised Theory of Operation.
- Q17. Please provide a list of the support equipment used for 15B testing. I see the Compaq 6910P pc listed- is this approved under DoC? What about the mouse (please provide manufacturer, model, and FCC ID, or indicate if DoC)?
- R17. The second device details were added, See Test report Part 4 Rev.2 App B (p.27)| Revised test reports on page#1 (R5) attached.
- Q18. Please submit test set- up photos for the NII, DTS, DSS and JBP EMC tests.
- R18. Enclosed please find test set-up photos
- Q19. The SAR report references a 50% duty cycle throughout the report. Was this duty cycle taken into account in the SAR measurements and calculations? If so, how? And, if so, please provide a copy of the KDB response received by the SAR lab from the FCC permitting this for the EUT.
- R19. Part 1 of 3 Section 5.0 of the submitted SAR exposure report explains how the max calculated results are determined. The max-calculated results reported in the applicable tables account for drift and 50% duty cycle. Part 1 of 3 Section 6.0 of the submitted report noted that the device's CPU processing limits the maximum duty cycle to 50%. The device was assessed while transmitting at 100% duty cycle. 50% duty cycle was applied based on the noted CPU processing limitations. Therefore, permission from the FCC was not requested.

- Q20. Please provide average output power measurement data at the channels/data rates specified in FCC KDB 248227 so that the correct measurement modes for SAR testing can be determined (the EMC reports only provide peak output levels).
- R20. Please reference the attached PDF documents entitled "AZ489FT7038 Pwr meas SN 847SKW002L" and "AZ489FT7038 Pwr meas SN 847SKW002N" which shows the average output power measurements for the samples used to demonstrate EME compliance.
- Q21. FCC KDB 248227 lists the required channel/data rate combinations for 802.11a/b/g SAR testing. The SAR report submitted does not appear to provide the required channel/data rate combination data. Please address.
- R21. Please reference the attached PDF documents entitled "AZ489FT7038 Pwr meas SN 847SKW002L" and "AZ489FT7038 Pwr meas SN 847SKW002N" for the information requested. Note that all of the default channels required by FCC KDB 248227 were tested except for channels 104 (5220MHz) and 124 (5620MHz). Channels 108 (5540MHz) and 128 (5640MHz) were tested instead since these channels exhibited higher average power than the respective default channel. This is allowed per footnote 3 of FCC KDB 248227.

Please contact me at (954) 723-5793 if you require any additional information.

Sincerely,

/s/ Mike Ramnath (signed)

Manager, Regulatory Compliance

Email: Mike.Ramnath@motorola.com