



**MOTOROLA**

**Date:** August 4, 2009

**Subject:** Request for additional information regarding FCC ID: IHDP56KM4

**Reference:**

Correspondence Reference Number: IHD90681  
Confirmation Number: 906010681-2  
Date of Original Email: July 28, 2009

**Prepared by:**

Andrew Bachler, Principal Staff Engineer  
Motorola Mobile Device Business  
Libertyville, Illinois 60048

Questions and responses follow:

1. Please resubmit the Block Diagram, listing all clock/oscillator values, as required.

**Response:** [Please refer to the revised Exhibit 4 submitted online.](#)

2. Please provide separate test reports for the licensed transmitter (demonstrating compliance with Part 27) and pc peripheral (Part 15B) portions of the EUT. The FCC requires that these be 2 separate filings.

**Response:** [Please refer to the revised test reports EX06 and EX6A3 submitted online.](#)

3. Is the User's Guide intended for the installer or the end-user? Please note that the Section 15.19 statement is not correct (it must reference Part 15, not Part 27). Also, the statement required by Section 15.105 is missing. Please revise.

**Response:** [Please refer to the revised Exhibit 8 submitted online. The manual is intended for OEM installers, not the end-users.](#)

4. Will the EUT be marketed to the end-user, or to OEM installers only? Or, is it end-user installable?

**Response:** [The device is not marketed to the end-users but to OEM only. It's not end-user installable.](#)

5. The MPE report states that the EUT is intended to be installed in a vehicle, but the User's Guide clearly shows installation in a laptop pc. Please clarify. Please note that the intended use of the device must be taken into account in the determination of its RFx category (i.e., mobile or portable).

**Response:** In accordance with KDB-447498, the original FCC application is based on mobile usage. Before the EUT is actually marketed in a host device, a class II permissive change with an SAR report will be submitted in accordance with KDB-61217.

6. The MPE report states that the "maximum source based time-averaged transmit power" is 0.196 W. This is the max level reported in the EMC test report. Source-based time averaging may not be taken into account when performing output power measurements for EMC compliance. Please address.

**Response:** Please refer to the revised MPE report submitted online.

7. Is the test lab (Professional Testing) ISO/IEC 17025 accredited to test a Part 27 transmitter? (Their scope, as listed on the NVLAP website, seems to focus on Part 15 measurements).

**Response:** The test lab PTI is accredited for doing licensed transmitters for Part 90, and is listed with the FCC. They are accredited by NVLAP to ISO 17025:2005 and NIST Handbook 150:2006 for making measurements on Part 90 licensed transmitters.

8. Page 7/80 of the EMC test report states that peak output power was measured with RBW = 1 MHz. Is this correct (for 5 and 10 MHz wide emissions)? What instrument settings and detector function was used to produce the data listed on p.17/80? Was Channel Power measured?

**Response:** The measurement has been integrated over the entire 5 or 10 MHz emissions using a gated average channel power measurement. Yes the RBW setting is correct- a 1 MHz RBW and 1 MHz VBW was used on the R&S FSQ Analyzer. These numbers come from the plots where the channel edge measurements were performed.

9. Regarding the spurious RF conducted emission measurements (pp. 50-61), a source-based time averaged correction may not be applied to the spurious RF conducted emissions of a licensed transmitter (I note that the correction which was applied is for a field strength duty cycle correction, which is, in any event, incorrect for this conducted power measurement). What detector function and instrument settings were used to make these measurements? The FCC Rules require RBW = 1 MHz, with the use of an average detector being permitted. If the emissions are over the limit at this point, then the EUT is failing. Please address.

**Response:** This issue was discussed in detail with the FCC and was specifically forwarded to them. Please read the KDB 540771 response from the FCC (attached) which states that duty cycle averaging is acceptable for this type of transmitter. Detector function is peak detect ("Max Hold") over a single, slow sweep. Average detector not used due to the 25% duty cycle employed by the DUT.

10. How was the EUT configured for spurious radiated emission measurements? Were antennae attached, or were the antenna ports terminated? If antennae were used, please describe them. Are any antennae marketed with the EUT?

**Response:** During the spurious radiated emission measurements, both EUT antenna ports were connected to dipoles through a test fixture. The EUT is not marketed with antennas.

11. The spurious radiated emission data plots all list "Class B" in their titles. Are these plots intended to demonstrate compliance of the Class B peripheral portion of the EUT with the Part 15B limits? If so, where is the spurious radiated emission data, specified by Section 2.1053, demonstrating compliance with the Section 27.53 limits?

**Response:** No this data is not intended to demonstrate Part 15B compliance. The data that has the Class B title is the spurious data that is required under rule part 2.1053. The limits shown on the plots is an estimated field strength limit which is derived from the radiated power limit being converted to field strength by using the Friis transmission formula. The limit is not an indication of compliance but instead used as a reference to choose points which antenna substitution should be performed. Near the end of the report we examined each worst case across all of the modes and performed antenna substitution to compare against the radiated power limit of -25 dBm.

12. Please provide the calculations used to reach the results listed in the MPE report.

**Response:** Please refer to the revised MPE report submitted online.

13. FYI: for the bandedge measurements on the 5 MHz channels, a RBW = 50 kHz was used, and 100 kHz for the 10 MHz channels. However, the measured occupied bandwidths slightly exceeded 5 and 10 MHz, respectively. In the future, please use a RBW for bandedge plots that is at least 1% of the measured occupied bandwidth, and not simply 1% of the channel bandwidth.

**Response:** Noted.