



Date: 31 July 2012

Federal Communications Commission
Office of Equipment Technology
Equipment Authorizations

Sent via E-Mail

Re: PBA Inquiry 811012 (23 July 2012); for FCC ID: IHDT56NG1.

Dear Greg,

Motorola Mobility, Inc., 8000 W. Sunrise Blvd.; Suite A; Plantation, FL, herein submits its response to the FCC's 30 July 2012 request for further information on FCC ID: IHDT56NG1.

Q 1. Please clarify whether the "maximum rated power level" in Note #1 of the Tune-up Procedure refers to the "Upper Limit" or the "Target" power level. It would be confusing if it is referring to the former (upper limit) because if Upper Limit+0.2 dB is possible in a production sample then the "upper limit" is really not the upper limit. Even with a transmitter module that does not require power tuning, the production process would still have to include testing for the maximum and minimum power outputs to prevent abnormality (e.g., improper soldering, layout error, or incorrect component). If a unit exceeds the upper limit, then the unit would be rejected because over-specification transmission could cause component reliability, heat dissipation, ACPR, EVM issues to name just a few. We are interested in the maximum power levels in a production unit; or equivalently the upper limit of the production test specification. Does the last column of the revised power table in Exhibit 10.1 provide this information?

Response:

The purpose of Note 1 is to convey the idea that, while the FCC permits power to be tuned within 2.0 dB of the stated range for SAR purposes (per draft KDB Publication 447498, and previous TCB Workshop presentations), Motorola's internal procedures are tighter (0.2 dB). For various reasons, this approach is convenient for us.

Despite this, and notwithstanding anything else presented in this exhibit, for any and all Factory tuning/verification processes, the upper limit shown in the table of Exhibit 10 is the maximum permissible power. Any unit measuring higher is rejected.

Q 2. Part 27.53(c)(6) asks for the use of 6.25 kHz resolution bandwidth and requires that "reading taken with any other resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment." This requirement is not just for compliance but also to provide a common basis for different technologies and designs. Therefore, although the use of 10 kHz would show worse results for out of band emission than 6.25 kHz, testing should be conducted per specific rule requirements.

Response:

Motorola acknowledges this requirement, and will ensure that future testing is conducted accordingly. Since our spectrum analyzer does not directly support a 6.25 kHz resolution bandwidth, we will apply the appropriate adjustments to readings to reflect the spectral energy in a 6.25 kHz segment.

Q 3. For EMC characteristics which are dominated by conducted output power, applying SAR test cases to EMC could be justified. However, for EMC properties which are also dependent on how the power is distributed over spectrum and space, it is not appropriate to apply the same principles without reasoning. Since the test report claims that worst cases are selected over all possible configurations (modulation types, resource block allocation and offset, data rate, etc.), I was simply wondering what configuration options had been considered before deciding on RB = 1 for 10 MHz band edge and out-of-band spurious emission tests.

Response:

The RB configurations below, for both modulations (QPSK and 16 QAM), were considered for band edge and out-of-band spurious emission tests. The worst-case was chosen for reporting.

- 1 RB – Start Low.
- 1 RB – Start High.
- 50 % RB's – Start 13.
- 100 % RB's – Start Low

If you have any questions, please contact me at (954) 723-6272, or via e-mail.

Sincerely,

John Lewczak (signed)

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