

FCC ID: ALH415100 – Kenwood (TCB-p0970014)

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Form 731 Confirmation Number: TC765740

Response noted: **Blue lettering is from John Erhard, Engineering Manager for Compliance Testing**
Red lettering is from Jon Hughes, Project Manager for Celltech

- 1) Per 2.962(f)(1), applications processed by TCB must be in accordance with FCC rules, policies, and procedures. For this filing, the line-entry part 90-frequency listings encompass frequencies not authorized for part 90 - therefore filing does not appear to be in accordance with KDB pub. 634817. Please explain and/or revise all applicable parts of filing where appropriate.

The frequency band of this device does encompass small sections of bands that are available for use by and subject to other rule sections, however this application is for Part 90 only and the final sale and licensing of these radios will be under that rule section as stated on the grant and application.

- 2) Basic SAR evaluation considerations for PTT portable devices: a) SAR evaluations must address all device configuration options including all antennas, body-worn accessories, audio accessories, batteries, for each transmission band of all antenna options. See also KDB 447498 item 6). b) Note that the majority of procedures in OET B 65 Supplement C 01-01, especially Appendix D, are intended for cellphone SAR evaluations; similar considerations for test reduction based on SAR levels are available in KDB 447498 item 1) for certain other device configurations. These types of test reductions are applicable only for full and complete device test conditions, without application of other types of test reductions such as under KDB 447498 item 6) or certain similar reductions described in other KDB publications for specific devices. c) Provisions for "a priori" omitting some transmission-band channels for each antenna based on initial tests for the mid-band (and/or highest output) channel, have not been established for higher-output devices using mid-band and reduced testing of multiple accessory combinations and configurations; KDB 447498 item 1) e) i), for example, is not directly applicable for devices operating under higher occupational exposure limits. Reduction of number of test channels on top of reduction for certain accessory configurations requires beforehand FCC test plan approval; requests for such consideration must clearly explain device and configuration details and proposed subset of tests relative to full test requirements matrix. d) For belt-clips and/or body-worn accessories having a body-facing surface that is not parallel with main enclosure of the device, and/or having features or protrusions causing relative tilt of device housing and/or antenna, filing must clearly document all spacings to phantom / body along length of device, and provide details and rationale how and why SAR positions hold either enclosure parallel to phantom, or antenna parallel, or whatever feature establishes the body spacing and aspect angle and how that represents intended and expected use.

The SAR evaluations for this radio were performed on October 14-15, 2009. The test reduction provisions and requirements specified in KDB 447498 Section 6 were not mandated until the release of D01v04 on November 13, 2009. Prior to this KDB release date the FCC requirements as stated above for applying appropriate procedures were not evidently clear as they are being stated now after the fact. At the time when the SAR evaluations were performed there were no apparent guidance documents specifically addressed for PTT Radios in the Occupational



category and therefore procedures in OET B 65 Supplement C 01-01 and IEEE 1528-2003 were implemented. It is understood that the specific requirements stated in item 2) above are now in force and have been since the release of KDB 447498 D01v04; however prior to that it was not evidently clear at the time of the SAR evaluation of this device that these specific procedures should have been applied for a higher-output device and that the existing procedures in OET B 65 Supplement C 01-01 and IEEE 1528-2003 were not necessarily appropriate for this evaluation.

- 3) TCB please explain how KDB 447498 items 6) a) and 6) b) were addressed during this application review; otherwise test reduction considerations may remain to be addressed under this instant 2.962(f)(6) / 2.962(f)(5)(i) / 2.947(e) process.

The test reduction procedures of KDB 447498 Section 6) a) and b) were not released until November 13, 2009 and the SAR evaluations were performed in October 2009. At the time of the SAR evaluations it was not evidently clear that the 3 dB mid channel only provision should not apply to high power radios.

- 4) If not in SAR report already, TCB please coordinate with test lab / applicant to address the following concerning appropriate spacing positioning and reporting for belt-clip and different batteries:
- applicant / test lab must clearly identify and justify whatever reference points along device are used
 - for example if body-worn setup photos may indicate that some unspecified point along the antenna is being held at some X.X cm spacing while the belt-clip rocks front or back versus battery thickness
 - typically a flat belt-clip and specific battery will determine unambiguous device tilt
 - however in case of curved-surface belt-clip, device tilt and spacing at various reference points along length of device and antenna must be identified
 - other disambiguated positioning schemes might be antenna parallel to phantom, or battery surface parallel to phantom
 - where appropriate please revise test setup and/or setup photos accordingly

The body-worn SAR evaluations were performed with the flat center section of the belt-clip parallel to the planar phantom (note: only the center section of the belt-clip is flat; the top and bottom ends are curved). Depending on the thickness of the battery and the antenna type, the back of the radio (battery surface) and antenna were either parallel to the phantom or tilted to the phantom (please refer to the revised SAR test setup photos exhibit submitted with this response showing additional distance measurement points). When the SAR evaluations were performed back in October 2009 it was not evidently clear in the guidance documents available at the time that the conditions specified in item 4) above were required to be implemented with respect to applying a disambiguated positioning scheme such as antenna parallel to phantom or battery surface parallel to phantom regardless of belt-clip curvature or battery thickness. It is now fully understood that all future SAR evaluations of these types of devices will require a justifiable disambiguated positioning scheme.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of the original e-mail date may result in application dismissal pursuant to Section 2.917(c)