Equipment Authorization Guidance for Hearing Aid Compatibility

Jim Szeliga

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Introduction

- 47 CFR 20.19 of the rules
- Manufacturers of wireless handsets must submit, as part of the equipment certification process
  - HAC report exhibits - supporting the HAC rating of the models marketed.
  - Tested according to the ANSI C63.19 standard
A HAC Test Report Exhibits Must Contain

Initial Application

#M Rated Models

EAS

one

M Report

or

C2PC Application

#M#T Rated Models

two

M Report

T Report
M and T rating must be based on the same ANSI C63.19 version.

* Only applicable for 2007
A HAC compliance report can only be submitted for bands, air interfaces are defined in the C63.19-2006/2007 standard.

<table>
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<tr>
<th>CDMA</th>
<th>TIA/EIA/IS-2000</th>
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<tr>
<td>UMTS (WCDMA)</td>
<td>T1/T1P1/3GPP</td>
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<td>GSM</td>
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<td>iDen TDMA</td>
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<td>TDMA</td>
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HAC test data for air interfaces and bands not defined in ANSI C63.19-2007 will not be accepted.
Cell-to-Wi-Fi Service

C63.19 Defined Air Interfaces

Licensed Base Station

Service Provider

PSTN

Hand-off

WiFi

Internet

Accepted
Licensed-to-Unlicensed Service

C63.19

Licensed Base Station

Service Provider

PSTN

Internet

UPCS Dect
Cat-ig
BT
WIFI

Hand-off

Case-by-Case

VOIP
Application

- Test report exhibit(s) can be submitted as an original or C2PC application.

- Test report exhibit must be either:
  - M report
  - M and T reports.

- Only version C63.19-2006 or -2007 are applicable.

- A HAC compliance report can only be submitted for all bands and/or air interfaces defined in C63.19-2006/2007.

- Exception - Digital handsets using WI-FI for in-door Cell to WIFI hand-off service are still eligible to be HAC rated (even though WIFI is not defined in C63.19 standards).
Application

- HAC test data for air interfaces and bands not defined in ANSI C63.19-2007 will not be accepted.

- Gant note of “HC” is required.

- Grant comment “HAC Rating M#T$-200N“.

- M4 or M4T4 results can not declare a lower rating (i.e. M3, M3T4).

- Multiple compliance reports under one FCC ID –to represent distinct models with different HAC ratings are permissible.
  - Grant comment “HAC Ratings: M#T$-200N, M#T$-200N”
Permissive Changes

- Changes that effect HAC rating (change rating) must be reported as a Class II Permissive Change & the handset must be given a new model designation distinct from that of the prior version.

- The manufacturer must evaluate the equipment modification to determine if there is a change in the rating and if a Class II Permissive Change is required. Equipment changes that do not result in a change of the HAC rating being marketed and reported to the WTB do not require a Class II Permissive Change application and can be considered a Class I Permissive Change.
Permissive Changes

• A Class II Permissive Change for an M report previously granted as a M#T$ is only acceptable if:
  – The handset is no longer going to be marketed or reported as a M#T$ and changed to M#.
  – The change is a HAC model variation.

• Adding T-coil rating can be done using the C2PC:
  – a complete M and complete T report.
  – If there has been no product change to the handset, the M report submitted may use the same results obtained for the previous application.

• If the manufacturer builds the product with alternative components it must be tested and must show compliance using the components representing the worst case situation.
Features to be Tested

- Only held to ear modes need to be tested.
- No external special parts or ancillary devices are permitted.
- User instructions are not permitted to disable any features or degrade performance, reduce RF output power, degrade battery performance for meeting HAC compliance.
- Any settings for processing audio signals to improve the performance for the hearing impaired must be documented in the application test report.
- The antenna must be tested in the optimum performance position. An antenna extension is not obvious, a declaration from the manufacturer regarding the optimum antenna position must be described in the test report.
Features to be Tested

• Only ANSI C63.9-2007 standard can decouple the M and T rating.
• Test report packages must document the appropriate measurement plane, gauge block measurement and offset values for ANSI C63.19 versions 2006 or 2007.
• list all marketed features radio services (by 47 CFR part), air interfaces, bands and user capabilities.
• A general declaration statement noting that specific transmission modes do not operate in the held to ear mode (i.e. WI-FI, Bluetooth profile is not in held to ear modes for phone service).
• Any feature discussed above that is disabled during testing must be instinctive, or clearly documented in the user’s manual.
Appendix A: Example of Test Report

- Summary
- Test Site Description
- Description of Test System
- Equipment List
- Description of EUT11
  - Model Modes Features and Capabilities
  - Justification of Held to Ear Modes Tested
- Test Procedure
- Test System Validation, Calibration and Alignment Procedures
- Detailed Measurements for M and T Ratings
- Measurement Uncertainty
- Calibration Certificates
- References and Supporting Test Data
- Detailed Test Measurement Plots