Answers to points from ATCB (dated November 4, 2002)

EMC-report corrections are in blue letters

EMC Report

1) The EMC report states that the highest output power is 16.2 dBm (41.7 mW output). The 731 form provided listed 32 mW and the operational description provided states < 32 mW. Please note that all exhibits provided (731, test report, etc. should provide consistent numbers for the power of the device). Please explain and provide corrected exhibits as necessary. (ALSO SEE ISSUE 4 BELOW)

Our design is based on rated RMS output power of 32 mW (15 dBm) and thus we put that in data sheets and until now also in the FCC form 731. As FCC now wants Peak Power I will change FCC Form 731.

2) For compliance testing of the radio, this device was tested attached to a stand-alone laptop. However, the device is also considered as a PC Peripheral device and is subject to either a certification or DoC for these emissions. For this test the device must be configured as part of a minimum configuration (including a PC + 2 additional I/O connections) as specified by ANSI C63.4. Please explain whether the device is to be subject to a DoC or certification for the PC peripheral requirements. If the device is subject to a DoC, then please that the EUT has been properly configured as part of a fully configured system for its DoC authorization. Please note that the device does not contain DoC labeling information or a statement of compliance (2.1077) as required.

We have asked to get both radio and EMC certification (PC Peripheral) under the same FCC ID. I will send the applicable reports for this EMC part (report ***Age20559_3 FCCPart15B and its Annex B***).

SAR- report corrections are in blue letters
(see also report and cal. Data, ref. 4-0735-1-1a_02_FCC_SAR, and new Statement from Agere)

SAR Report

3) The Test report should reference the FCC ID of the unit, identify the device category ad mobile or portable, and whether the device is subject to Occupational/Controlled or General Population/Uncontrolled limits.

chapter 1.6. (page 5) has been updated

4) The peak power measured by the SAR facility must agree closely with the EMC report, but also be greater than or equal to the EMC result. The power measured in the SAR report page 18 of 47 was about 4 dB higher than the EMC facility. Note that conducted powers are expected to be +/- 0.5 dB from each other. Please explain.

The measurement was repeated using a peak power analyzer. EMC are confirmed now.

5) The measurement system should include more detail regarding handset holders, surroundings, absorber, noise floor, etc.

New chapters 2.4.2 and 2.4.5 (page 9/10)

6) The test procedure should explain the positioning procedures used to evaluate the highest exposure expected under normal operating configurations.

New chapter 2.5.1 (page 19), description of test positions and DUT set-up

7) All SAR plots are required to include actual test date(s), ambient temperature, liquid temperature, and channel frequencies.

SAR plots have been updated (complete re-test because of 15).

8) Four positions were tested and four plots provided. However 2 plots were identical. Please provide the missing plot.

SAR plots have been updated (complete re-test because of 15).

9) A copy of the z-axis scan is required at the maximum SAR location.

Z-axis scan has been included.

10) Please provide a brief description of the reference source used to verify the SAR system performance.
Additionally, information regarding the forward power into this should have been provided.

New chapter 2.4.14 : Validation procedure.

11) System performance verifications must be performed the same day and for each day testing is performed. This does not appear to have been done.

New validation with body liquid performed the same day as the re-test was done.

12) The tissue parameters for the system validation appear to be outside the 10% tolerance window. Validation outside of the window suggest problems with the system and should be corrected before proceeding.

New validation with body liquid performed the same day as the re-test was done.

13) Calibration and manufacturer information regarding the verification dipole must be provided.

See Calibration document.

14) Please include a description of the body phantoms used in the tests, including shell thickness and other tolerances.

See new chapter 2.4.4 (page 10) and Calibration document.

15) Please justify Crest Factor of 8. Please note that direct sequence is typically expected to be a crest factor of 1. Please note that the test report stated the device was in a permanent transmission mode. Please provide updated or corrected SAR plots if necessary.

Measurement with crest factor 8 was wrong. Test repeated with correct crest factor 1.

16) Calibration information as specified in Annex 4 was not provided. Please provide this.

Should now have been uploaded to FCC

17) Please provide a description of the probe, including tip diameter, internal sensor offset from tip, etc., a description of the probe measurement errors included, a description of probe calibration errors/uncertainties, most recent calibration date, and calibration certificate showing all factors used in report.

See new chapter 2.4.3 (page 9), and calibration document

18) The justification regarding testing the center channel only on page 17 of 47 is now considered by the FCC to be 3 dB, not 2 dB. Please correct.

For the re-test the 3 dB have been taken in to consideration.

19) Many pieces of test equipment (section 2.4.5) appear to be beyond a typical 1 year calibration cycle. Please explain.

Equipment list updated. All used measurement instruments marked with a cross. Measurement instruments are in a 1-year-cylcle, others, like validation dipoles in a 2-year-cycle.

20) FYI, page 9 of 47 referenced plots in Annex 1. Shouldn't this state Annex 2?

Reference has been corrected.