

July 23, 2004

Re: Kyocera Wireless FCC ID: OVFKWC-K4X4

To Roland Gubisch:

Thank you for your feedback on the FCC application that I have submitted. Please find my responses to your questions below.

EMC REPORTS:

Question:

1. Question - the method of ERP/EIRP measurement documented in the test report appears to be different from that in TIA-603. Please provide an equation which relates the power meter reading to EUT ERP/EIRP, and/or describe the computation.

Response:

The ERP/EIRP measurements were measured using a power meter while testing the phones in a calibrated fully anechoic chamber. No equations were used in relating the power meter reading to the EUT ERP/EIRP maximum RF output power result.

Question:

2. Comment - The test setup photos in the Part 22/24 transmitter and 15B receiver spurious emission reports do not show any accessories attached. If the handset can be used with a headset or earbud, it should be tested with a typical accessory attached.

Response:

The Part 22/24 transmitter and receiver LO spurious reports included in this filing are the test results that test the phone only. The phone with accessories is tested for part 15B in a separate certification test effort.

SAR REPORTS:

Question:

1. Question - Please provide probe #1712 calibration factors for body tissue dielectric, or indicate where the information is located.

Response:

The probe in question, serial number 1772, was last calibrated on 10-10-2003. Previous to 10-10-2003 the probe was calibrated for both head and body. The probe vendor was contacted and it was found that when the probe was re-calibrated on 10-10-2003, only head calibration was performed. Therefore, the calibration certificate date for body testing using probe 1712 has expired. The body testing that occurred used the calibration factors that were valid up to 10-10-2003.

The SAR values that were tested using probe 1712 were verified to be valid by re-testing the worse-case positions using another probe, serial number 1663, which has valid calibration for both head and body. The re-test data taken with probe 1663 on 7/14/2004 was found to be equivalent with the original reported data that was taken with probe 1712. The SAR results were within 0.065 mW/g of the original values. Please see Appendix A of this correspondence for the 7/14/2004 validation plot and the re-test data of the worse case position plots.

Question:

2. Question - The system validation plots use a #1712 head tissue 1800 MHz probe factor of 5.4. However, the probe calibration factor supplied by the manufacturer is 5.3 Please explain.

Response:

The system validation data was checked. The liquid parameters have been found to be correct for each day. However, It appears that while performing the system validation, the test system was configured with incorrect probe parameters.

The SAR data was verified and found to be correct by re-testing the worse-case position again on 7/22/2004. The delta of the worse-case SAR results were within the allowable measurement standard. Please see Appendix B of this correspondence for the 7/22/2004 validation plot and the re-test data of the worse-case position plot.

Question:

3. Question - Liquid depth in the flat phantom should be 15mm. I do not find any reference to this in the test report. Please comment, or indicate where the information is located.

Response:

The minimum 15cm depth of the liquid is verified by the test operator when preparing the SAM phantom for testing. A measurement device with markings at 15cm is used to ensure that phantom is filled with the proper amount of liquid prior to performing the validation and SAR measurements.

In addition, the z-axis scans are performed on the worse case SAR measurements to verify adequate liquid depth.

The reference to the 15cm depth of the liquid in the phantom can be found in section "6.3 Tissue Stimulants" of the test report.

Question:

4. Question - The SAR plots using the #1712 probe contain the comment "probe not calibrated." Please explain.

Response:

This is the same issue as discussed in Question 1. All worse case data and validation data that exhibit the "probe not calibrated" was re-tested and the results were verified to be within the allowable measurement uncertainty. See Appendix A and B of this correspondence for the retest validation plots and the worse-case plots.

Question:

5. Comment - the EUT is shown tested with an accessory attached, but the accessory is not identified.

Response:

All Kyocera Wireless accessories that have been tested and are approved for use with the models listed in this filing are described in section "3 Accessories" of the SAR report. Section "11 Test Setup Photos" is used to show how the phones with the accessories were placed near the phantom during the tests.

Question:

6. Comment - Report references to IEEE 1528-200X should be replaced by IEEE 1528-2003.

Response:

Agreed. The references to IEEE 1528-200X will be replaced by IEEE 1528-2003 in future test reports. Both IEEE 1528-200X and IEEE 1528-2003 are considered equivalent.

Question:

7. Comment - Both the system validation and measurement plots are very small, and details are obscured by bars across the scan field. Scan details should be visible.

Response:

The plots in the SAR report and Appendixes are the maximum size that will fit on a single 8.5" x 11" page. The bars on the plots illustrate the cube that was tested.

I hope the responses I have submitted answered all your concerns regarding filing OVFKWC-K4X4.

Please contact me at Tel: (858) 882-1552 or Email: <mailto:pbowen@kyocera-wireless.com> if there are any questions or if any additional information is needed.

Kyocera Wireless Corporation

A handwritten signature in black ink, appearing to read 'Patrick Bowen'.

Patrick Bowen
Staff Engineer

Appendix A

Page 1 of 1

Date/Time: 07/14/04 08:13:11

Test Laboratory: Kyocera

1900MHz Validation, Probe 1663, DAE 530, Dipole #5d005

Communication System: CW 1900, Frequency: 1900 MHz, Duty Cycle: 1:1

Medium: Head 1900 MHz, Medium parameters used (interpolated): $f = 1900$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 41.3$; $\rho = 1000$ kg/m³

Phantom: SAM 12, Phantom section: Flat Section

DASY4 Configuration:

Probe: ET3D/V6 - SN1663, ConvF(5.2, 5.2, 5.2), Calibrated: 10/10/2003

Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),

Electronics: DAE3 Sn530, Calibrated: 12/22/2003

Measurement SW: DASY4, V4.2 Build 44

Postprocessing SW: SEMCAD, V1.8 Build 112

Temperature:

Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

1900Mhz/Zoom Scan (7x7x7)/Cube 0; Measurement grid: dx=5mm, dy=5mm, dz=5mm

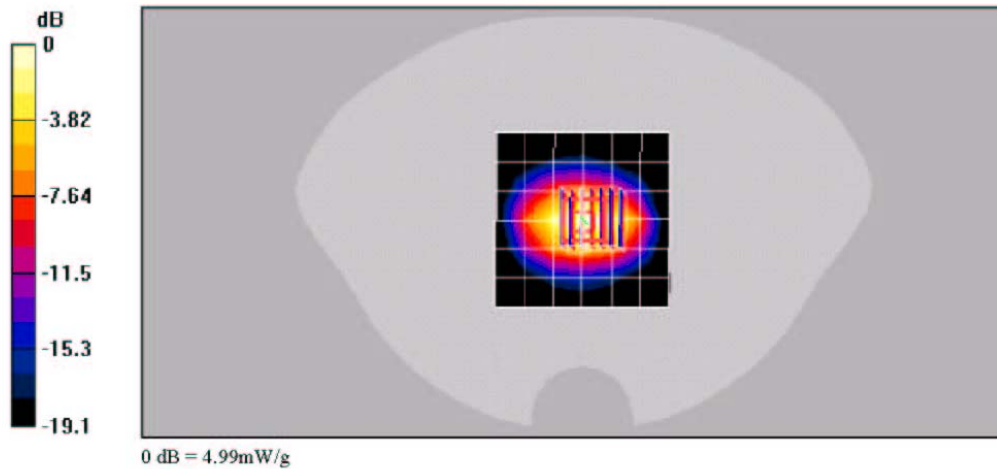
Reference Value = 61.1 V/A, Power Drift = 0.0001 dB

Maximum value of SAR (measured) = 4.99 mW/g

Peak SAR (extrapolated) = 7.75 W/kg

SAR(1 g) = 4.39 mW/g; SAR(10 g) = 2.28 mW/g

Info: Interpolated medium parameters used for SAR evaluation!



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Date/Time: 07/14/04 18:22:32

Test Laboratory: Kyocera

K434LC #9LWQ, CDMA-1900 Flat ch600, with Belt Clip

Communication System: CDMA 1900, Frequency: 1880 MHz, Duty Cycle: 1:1
Medium: M1800, Medium parameters used: $f = 1880$ MHz, $\sigma = 1.53$ mho/m, $\epsilon_r = 53.8$, $\rho = 1000$ kg/m³
Phantom: SAM 12 Phantom section: Flat Section

DASY4 Configuration:

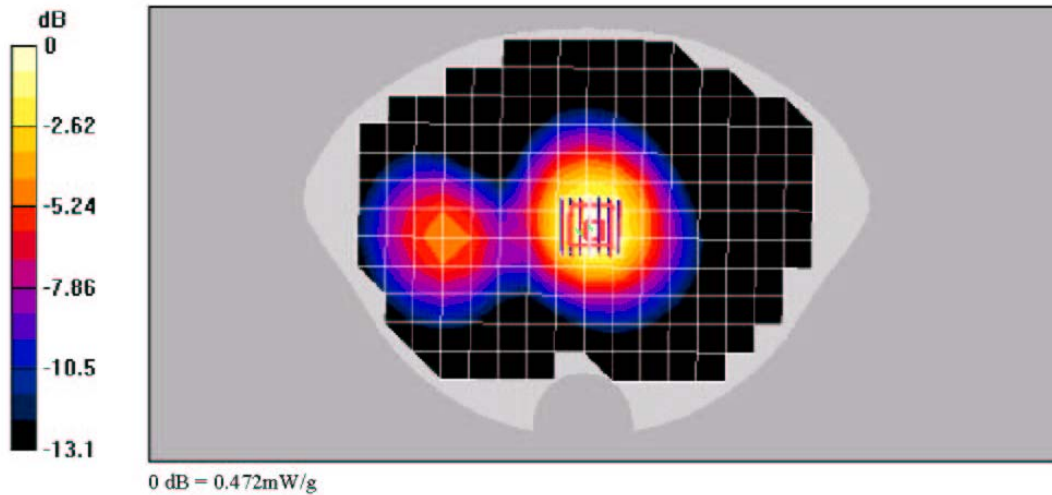
Probe: ET3DV6 - SN1663, ConvF(4.9, 4.9, 4.9), Calibrated: 10/10/2003
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn530, Calibrated: 12/22/2003
Measurement SW: DASY4, V4.2 Build 44
Postprocessing SW: SEMCAD, V1.8 Build 112

Temperature:

Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

CDMA-1900 Ch600/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.8 V/m, Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.472 mW/g
Peak SAR (extrapolated) = 0.666 W/kg
SAR(1 g) = 0.442 mW/g; SAR(10 g) = 0.286 mW/g



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Appendix B

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Date/Time: 07/22/04 18:00:46

Test Laboratory: Kyocera

1900MHz Validation, Probe 1712, DAE 530, Dipole #5d016, 07-22-04

Communication System: CW 1900, Frequency: 1900 MHz, Duty Cycle: 1:1

Medium: Head 1900 MHz, Medium parameters used (interpolated): $f = 1900$ MHz, $\sigma = 1.41$ mho/m, $\epsilon_r = 40$; $\rho = 1000$ kg/m³

Phantom: SAM 12, Phantom section: Flat Section

DASY4 Configuration:

Probe: ET3DV6 - SN1712, ConvF(5.3, 5.3, 5.3), Calibrated: 9/19/2003

Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),

Electronics: DAE3 Sn530, Calibrated: 12/22/2003

Measurement SW: DASY4, V4.2 Build 44

Postprocessing SW: SEMCAD, V1.8 Build 112

Temperature

Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

1900Mhz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

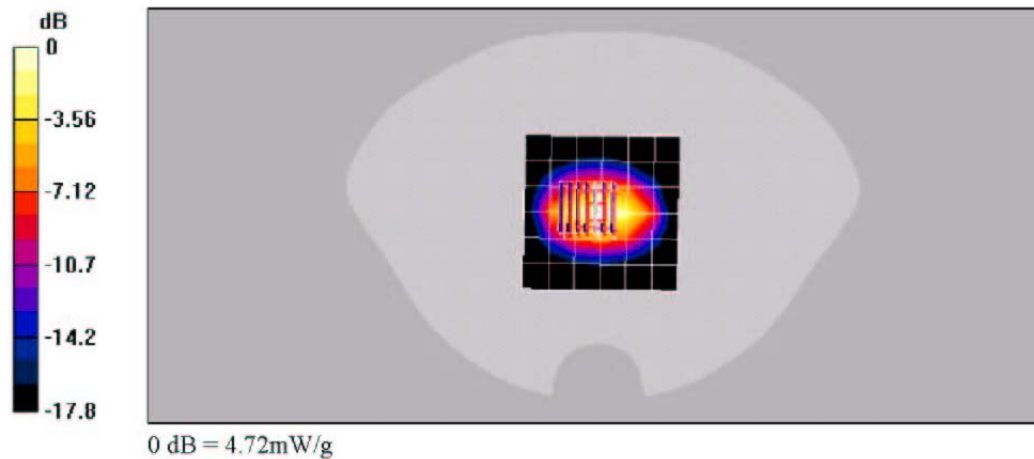
Reference Value = 61.1 V/m; Power Drift = -0.009 dB

Maximum value of SAR (measured) = 4.72 mW/g

Peak SAR (extrapolated) = 7.25 W/kg

SAR(1 g) = 4.14 mW/g; SAR(10 g) = 2.19 mW/g

Info: Interpolated medium parameters used for SAR evaluation!



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Date/Time: 07/22/04 18:26:31

Test Laboratory: Kyocera

K434LC #9LWQ, CDMA-1900 Left Cheek Ch1175

Communication System: CDMA 1900, Frequency: 1909 MHz, Duty Cycle: 1:1

Medium: Head 1900 MHz, Medium parameters used (interpolated): $f = 1909$ MHz, $\sigma = 1.41$ mho/m, $\epsilon_r = 40$, $\rho = 1000$ kg/m³

Phantom: SAM 1.2, Phantom section: Left Section

DASY4 Configuration:

Probe: ET3DV6 - SN1712, ConvF(5.3, 5.3, 5.3), Calibrated: 9/19/2003

Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),

Electronics: DAE3 Sn530, Calibrated: 12/22/2003

Measurement SW: DASY4, V4.2 Build 44

Postprocessing SW: SEMCAD, V1.8 Build 112

Temperature:

Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

1175 LC/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

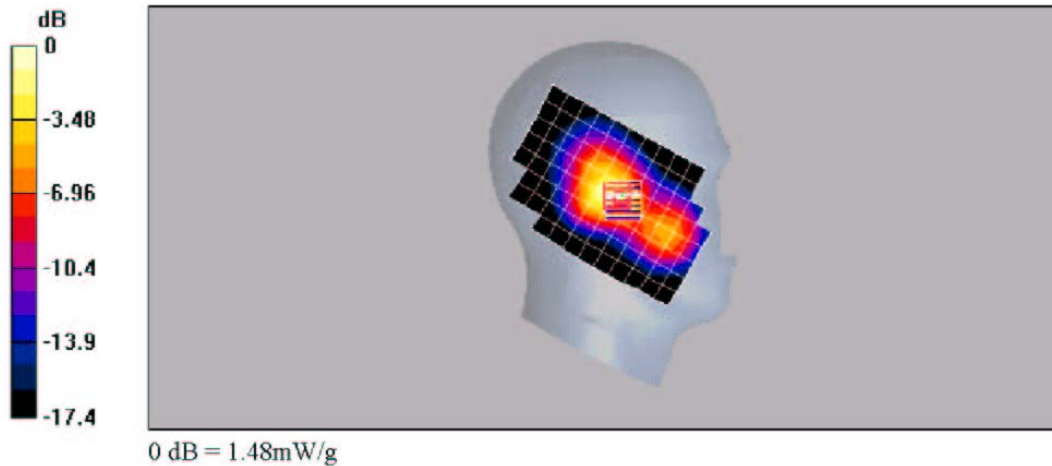
Reference Value = 29.4 V/m, Power Drift = -0.1 dB

Maximum value of SAR (measured) = 1.48 mW/g

Peak SAR (extrapolated) = 2.1 W/kg

SAR(1 g) = 1.34 mW/g; SAR(10 g) = 0.767 mW/g

Info: Interpolated medium parameters used for SAR evaluation!



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