UltraTech

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Federal Communication Commission

Attention: Ms. Diane Poole

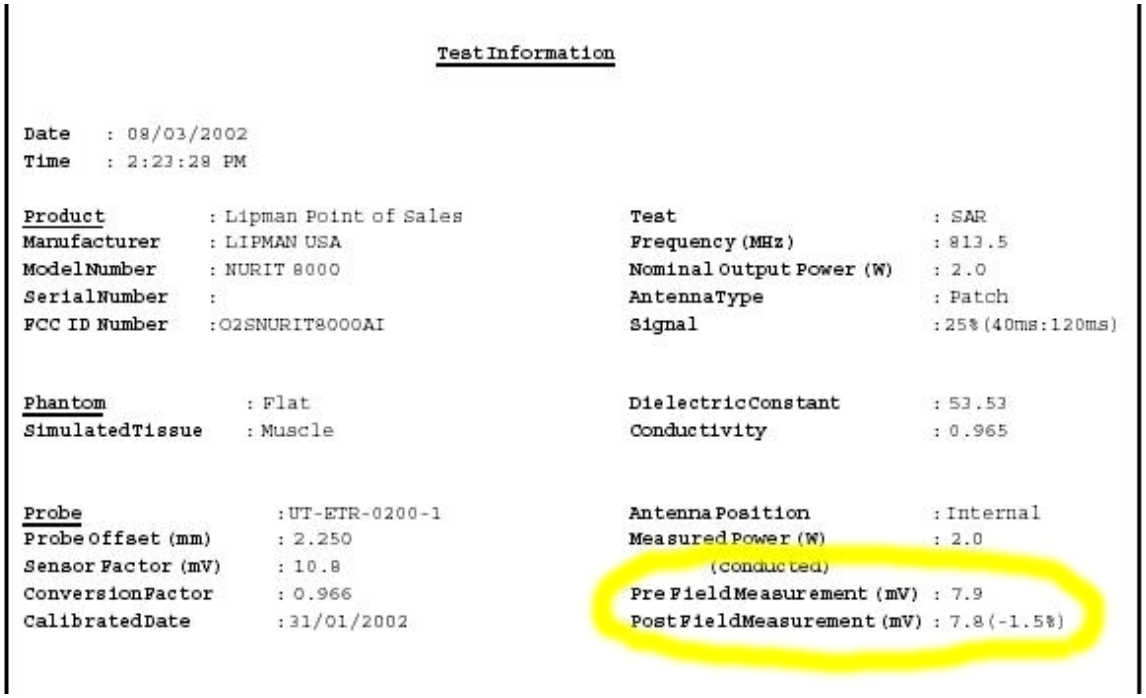
Re: FCC ID O2SNURIT8000AI
Applicant: Lipman USA, Inc
Correspondence Reference Number: 22844
731 Confirmation Number: EA733320

Dear Ms. Poole,

Please find the answer to your questions as follows:

<Answer 1>

The measured power data for before and after each test can be found on the test information pages, in terms of probe output [mV], as indicated in the picture below. The probe output is directly proportional to power density or SAR. The measurements were performed at the same reference position, which is (0, 0) coordinate in the area plot, before and after each test and the power drift during the measurement was presented in percentage.



Test Information

Date : 08/03/2002
Time : 2:23:28 PM

Product	: Lipman Point of Sales	Test	: SAR
Manufacturer	: LIPMAN USA	Frequency (MHz)	: 813.5
Model Number	: NURIT 8000	Nominal Output Power (W)	: 2.0
Serial Number	:	Antenna Type	: Patch
FCC ID Number	: O2SNURIT8000AI	Signal	: 25% (40ms:120ms)
Phantom	: Flat	Dielectric Constant	: 53.53
Simulated Tissue	: Muscle	Conductivity	: 0.965
Probe	: UT-ETR-0200-1	Antenna Position	: Internal
Probe Offset (mm)	: 2.250	Measured Power (W)	: 2.0
Sensor Factor (mV)	: 10.8	(conducted)	
Conversion Factor	: 0.966	Pre Field Measurement (mV)	: 7.9
Calibrated Date	: 31/01/2002	Post Field Measurement (mV)	: 7.8 (-1.5%)

For this case, the EUT must be configured to connect with AC power adapter all the time in order to put it into test mode, the power drifts were found to be less than 2% through all the SAR measurements.

The scan time for SAR measurement is dependent on the size of area to be scanned, the resolution of scan and the type of phantom. For 10 × 10 area size, 10mm/5mm resolution for the area/zoom scan and flat phantom, the scan time can be estimated approximately 10 ~ 12 minutes.

<Answer A2>

The probe calibration has performed for the major frequencies whose dielectric parameters are explicitly listed in IEEE 1528 standard for the specific tissue simulating liquid.

"The calibration parameters derived are rigorously valid only at that frequency and for those particular tissue parameters. However, due to the short electrical length of the dipole sensors the calibration factors are usually frequency 'Insensitive'. They change very slowly with the RF signal frequency."

The conversion factors, for the specific probe used in the SAR evaluation, from thermal transfer calibration at 450MHz, 835MHz and 915MHz for muscle tissue, are 0.8898, 0.9664 and 0.9765 respectively.

By linear interpolation, we could determine that the conversion factor at 835MHz could be applied to SAR evaluation at 815MHz with very negligible influence due to this frequency variance. The conversion factor sensitivity to the 2.45% (815MHz to 835MHz) frequency change was found to be approximately 0.5%.

Refer to “SARCalibration.doc” and “SARValidation.doc” for probe conversion factor in detail.

<Answer A3>

At 835MHz, the sensitivity of SAR(1g) to the percentage change from that proposed in IEEE 1528 for the dielectric constant and the conductivity, are -0.57 % and +0.59 % each. Thus the influence of SAR due to parameter error was found to be less than 1.0 %. (Refer to “SARSensitivity.pdf”.)

We were tracking down the tissue parameters statistically for time change and these information found were listed in the report.

The tissue was initially mixed and calibrated using the slotted coaxial waveguide as listed in page 2, Exhibit 8. Tissue Calibration (55.43(+0.4%)/0.97(0.0%)), on Jan 9 2002

A Dielectric constant of 54.9(-0.5%) and a conductivity of 0.96(-1.0%) were measured for the same tissue prior to the thermal transfer calibration which was performed at 835MHz on Jan 31 2002.

A HP 85070C dielectric probe kit was used to verify tissue parameters a second time prior to using the same tissue for SAR evaluation and a dielectric constant of 55.43(+0.4%) and a conductivity of 0.965(-0.5%) were measured as shown on page 1, Exhibit 8. Tissue Calibration and test reports, on Mar 08 2002.