



American Telecommunications Certification Body Inc.
6731 Whittier Ave, McLean, VA 22101

July 23, 2002

RE: THE LINKSYS GROUP INC.

FCC ID: PKW-WPC11-V31

After a review of the submitted information, I have a few comments on the above referenced Application.

- 1) The Maximum output power (conducted) or SAR drift measured at same position in liquid before and after each SAR test must be shown on each SAR plot? Please update the report to include this.
- 2) Test report must state (recommended on page 19 of 30):
 - a) Identification of the device (was it considered mobile or portable transmitter device category)
 - b) whether test device is production unit or identical prototype (47 CFR §2.908)?
- 3) Please provide a means to verify a phantom liquid depth. Depth must be 15 cm or more, per suppl. C and draft IEEE STD 1528. Please use photos, SAR vs. depth data (z-axis scan), or other means to demonstrate/verify liquid depth.
- 4) IEEE STD 1528 requires that the SAR test be performed at the high, middle, and low frequency channels of each operating mode. However, if the SAR measured at the middle channel for each test configuration is at least 2.0 dB lower than the SAR limit, testing at the high channels is optional (Note: this procedure is stated on page 6 & 17 of 30. The data provided is for the low channel only. Please provide data for the middle channel.
- 5) Please provide a description of the material/holder used to support the laptop.
- 6) Please justify and explain the use of a crest factor of 8.
- 7) A z-axis scan at the max SAR location must be provided.
- 8) OET Bulletin 65, Supplement C make mention of using the Flat Phantom Box for system verification. Please justify the use of this box for over the SAM phantom containing a flat body cavity.
- 9) Description of the phantom should detail shell thickness and other tolerances necessary to show it meets the phantom shell specifications.
- 10) Scan procedures given in the report appear to be for different phantoms. Please explain for the course scan:
 - a) descriptions of coarse area scan procedures, including grid size, area shape and size
 - b) specify which peak SAR location(s) were used to evaluate max 1-g SAR(s)
 - c) report probe tip distance to phantom inner surface
- 11) Scan procedures given in the report appear to be for different phantoms. Please explain for the "zoom" scan:
 - a) descriptions of high-resolution cube volume or "zoom" scan procedures used for local scan; list measurement and interpolation resolutions
- 12) The tissue parameters appear to be that of head tissue and not body tissue, please explain.
- 13) The tissue dielectric parameters and temperature should be measured at device mid-band frequencies. It appears that these were performed at the lower frequency.
- 14) SAR Plots must show:
 - a) Ambient and liquid temperatures
 - b) liquid temperatures during SAR testing must stay within $\pm 2^{\circ}$ C.
- 15) The Tissue Parameters given on page 20 do not appear to match the parameters given on the test plots. Please explain.
- 16) Page 17 of 30 mentions "the above mentioned power values are conducted measured values..." . There is not any reported power values on this page.
- 17) Please provide a brief description of the reference source (e.g., 900, 1800 MHz dipoles) used to verify the SAR system performance.
- 18) Please provide the manufacturer/calibration reference dipole data.
- 19) Regarding the Field Probe:
 - a) description of the probe – including tip diameter, internal sensor offset from tip, etc
 - b) description of the probe measurement errors
 - c) Description of probe calibration errors/uncertainties
 - d) Please provide most recent calibration date and calibration certificate showing all factors used in report.

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- 20) A list of measured tissue dielectric parameters, ambient and tissue temperatures must be provide for the system verification. These values must be within 5% of the values used in system manufacturer's reference test.



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The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information may result in application termination. Correspondence should be considered part of the permanent submission and may be viewed from the Internet after a Grant of Equipment Authorization is issued.

Please do not respond to this correspondence using the email reply button. In order for your response to be processed expeditiously, you must submit your documents through the AmericanTCB.com website. Also, please note that partial responses increase processing time and should not be submitted.

Any questions about the content of this correspondence should be directed to the sender.