

**CGISS EME response to FCC correspondence reference number 26778**  
**Date 5/25/04**

Q1) Please clarify the following from Tables 1 thru 48 and the associated table of contents entry. Please answer each specific point in addition to any updates of the table.

- Clarify the frequency and antenna for Table 41
- Clarify the frequency and antenna for Table 42
- Clarify the frequency and antenna for Table 45
- Clarify the frequency and antenna for Table 46
- Please confirm frequency and antenna for all tables

R1)

- The frequency and antenna information presented in section 11 table 41 is correct. The associated reference in the table of content section is in error and should reflect a tested frequency of 149.00MHz.
- The frequency and antenna information presented in section 11 table 42 is correct. The associated reference in the table of content section is in error and should reflect a tested frequency of 149.00MHz.
- The frequency and antenna information presented in section 11 table 45 is correct. The associated reference in the table of content section is in error and should reflect a tested frequency of 149.00MHz.
- The frequency information presented in section 11 table 46 is incorrect. The associated reference in the table of content section is also incorrect and both should reflect a tested frequency of 149.00MHz.
- All other reported frequencies and antenna information presented in both the table of content and in section 11.0 of the report are accurate. A revised MPE report reflecting the changes is attached.

Q2) Please provide a summary table with the highest value from each table. For E field please include a percentage relative to the uncontrolled limit.

R2) Table 1 below is a summary of the reported highest maximum calculated power densities for all E and H fields MPE assessments along with the percent delta of limit for all E field assessments.

**Table 1**

<b>Summary of MPE Max calc results</b>		
	<b>Max Calc Pwr. Density</b>	<b>E Field % of Uncontrolled limit (0.2mW/c^2)</b>
Table 1	0.185	92.50
Table 2	0.822	> limit - SAR assessment
Table 3	0.097	H field assessment
Table 4	0.197	H field assessment

Table 5	0.101	H field assessment
Table 6	0.062	H field assessment
Table 7	0.097	48.50
Table 8	0.203	> limit - SAR assessment
Table 9	0.170	85.00
Table 10	0.476	> limit - SAR assessment
Table 11	0.167	H field assessment
Table 12	0.155	H field assessment
Table 13	0.121	H field assessment
Table 14	0.088	H field assessment
Table 15	0.122	61.00
Table 16	0.159	79.50
Table 17	0.133	66.50
Table 18	0.211	> limit - SAR assessment
Table 19	0.131	H field assessment
Table 20	0.292	H field; > limit - SAR assessment
Table 21	0.152	H field assessment
Table 22	0.207	H field; > limit - SAR assessment
Table 23	0.126	63.00
Table 24	0.208	> limit - SAR assessment
Table 25	0.164	82.00
Table 26	0.090	45.00
Table 27	0.162	H field assessment
Table 28	0.02	H field assessment
Table 29	0.109	H field assessment
Table 30	0.034	H field assessment
Table 31	0.085	42.50
Table 32	0.028	14.00
Table 33	0.112	56.00
Table 34	0.069	34.50
Table 35	0.123	H field assessment
Table 36	0.03	H field assessment
Table 37	0.086	H field assessment
Table 38	0.043	H field assessment
Table 39	0.051	25.50
Table 40	0.025	12.50
Table 41	0.180	90.00
Table 42	0.126	H field assessment

Table 43	0.105	52.50
Table 44	0.095	H field assessment
Table 45	0.204	> limit - SAR assessment
Table 46	0.134	H field assessment
Table 47	0.111	55.50
Table 48	0.089	H field assessment

Q3) Page 7 of 41 states that trunk to MPE point is 34 cm. The diagram provided suggests 64 cm. Please clarify.

R3) The 34cm distance from the trunk to the MPE vertical line was a typographical error and should be 64cm as presented in the diagram of APPENDIX A. A revised MPE report reflecting the change has been uploaded as a new exhibit of the type “RF Safety Info” and having the description “Amended MPE Test Report.”

Q4) To assure compliance with Occupational limits the operator should not transmit from the rear seat position according to the MPE results provided. Please explain how this condition will be assured. Please update training material accordingly.

R4) The internal vehicle MPE assessments presented in the report represents MPE performance of passengers to the applicable General Population/Uncontrolled exposure limit. The internal vehicle performances that exceeded the uncontrolled limit were assessed computationally to the applicable SAR exposure limit, and the results were presented in APPENDIX D of the report. Note that the operator is assessed to the Occupational/Controlled exposure limit and all MPE results presented in the report demonstrate compliance to the applicable Occupational/Controlled exposure limit.

Q5) The report appears to conclude on page 34 of 41 that rear of vehicle is worst case position compared to the corner and side. The results do not appear to demonstrate that. Please explain. Also, please explain the criteria used to select which configurations would be tested at the corner and side.

R5) The criteria for selecting the configuration used for the 45 and 90 degree assessments was based on the test configuration that produced the highest MPE results external to the vehicle with the MPE vertical line directly at the rear (Table 1). The assessment also included testing the offered antenna with the highest gain. In addition, note that APPENDIX D presents computational SAR assessment results using the worst case 45 degree MPE test configuration and the performance demonstrates compliance to the General Population/Uncontrolled SAR exposure limit. The attached MPE report has been revised to more clearly conclude the results presented.

Q6) The radio appears to have a VOX mode. Please explain how a 50 % usage duty will be assured under VOX operation. Please update the user instruction to provide information on VOX usage as appropriate.

R6) With VOX operation, the manual function of pressing the PTT button to speak is done automatically when the presence of voice is detected. When voice is not detected, the radio reverts to the receive mode. In a normal conversation consisting of alternate transmission and reception by two or more parties, the use of VOX or PTT does not have an impact on the 50% duty cycle of transmission. Circuitry and software algorithms, part of the VOX implementation, adjusts VOX sensitivity dynamically to ensure that the transmitter does not unintentionally transmit due to the presence of noise within the vehicle.

Q7) Please provide internal SAR values for the worst case configuration at 161 MHz.

R7) The highest 161 MHz MPE result presented in the report is  $0.123 \text{ mW/cm}^2$  which complies with the applicable exposure limits. Based on the MPE results it is understood that SAR assessment at 161MHz is not required.

Q8) Please provide external SAR value for the worst case configuration at one or both frequencies 156 and 161 MHz.

R8) The highest 161 MHz MPE result presented in the report is  $0.123 \text{ mW/cm}^2$  which complies with the applicable exposure limits. Based on the MPE results it is understood that SAR assessment at 161MHz is not required. The highest 156 MHz MPE result presented in the report is  $0.164 \text{ mW/cm}^2$  which complies with the applicable exposure limits. Based on the MPE results it is understood that SAR assessment at 156MHz is not required.

Q9) Please revise wording on page 5 of the user manual. The statement "lateral distance for bystanders..." could easily be misunderstood to only mean nonworkers. The operator should be trained that fellow workers falling under uncontrolled exposure conditions should also be included in this instruction.

R9) The manual has been revised and a new file has been submitted of the type "Users Manual" and having the description "Amended Exhibit 08d RF Safety Booklet."