



**TELECOMMUNICATIONS
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By Electronic Delivery

June 30, 2012

Attn: Dr. Rashmi Doshi
Chief, Laboratory Division
Office of Engineering and Technology
Federal Communications Commission
7435 Oakland Mills Rd.
Columbia, MD 21046

**Re: *Comments of the Telecommunications Industry Association on
Draft Knowledge Database Publication 643646***

Dear Dr. Doshi:

The Telecommunications Industry Association (“TIA”) hereby submits input to the Federal Communications Commission’s (“FCC”) Office of Engineering and Technology (“OET”) on draft Laboratory Division Knowledge Database (“KDB”) publication 643646 (What are the Specific Absorption Rate [“SAR”] test requirements for occupational push-to-talk [“PTT”] radios?) (“KDB 643646”). Specifically, TIA submits the following input for OET’s consideration:

- In item 4(i) (page 13), the ability of Public Safety officers to continue to use important Mobile PTT 2-way radios installed in vehicles is a primary concern because of the newly proposed compliance evaluation distances for testing (90 cm from the antenna, 20 cm from vehicle, and 10 cm from back seat). To be in compliance at these distances, Public Safety customers may no longer be able to buy 75-100 Watt (or higher) 2-way mobile radios and may need to purchase additional or new infrastructure to retain their present communications range provided by 75-100 Watt mobiles. This could cause problems for safety communication in rural areas where high power radios are needed.

Based on item 4(ii), the bystander exposure should be evaluated at a 90 cm

maximum distance from the vehicle if the antenna is mounted on the edge of the vehicle. We propose that the bystander separation distance from the vehicle should be at least 20 cm or 8 inches and no more than 90 cm or 3 ft. (about a small vehicle door width), which is consistent with the drafted KDB guidance. But we propose that the evaluation distance between the bystander and the antenna should not be restricted to 90 cm, which will limit the power of radios.

In addition we propose that the guideline for backseat passenger testing should remain at 20 cm from the backseat to be consistent with IEEE C95.3-2002 standard and to avoid potential interaction of the measuring probe with any metallic content in the backseat.

- The SAR simulation validation requirements set forth in the proposed KDB 643646 revision is unduly restrictive because they do not allow for a conservative bias in the simulated power density levels versus measurements. Where a product meets the FCC requirements even when the method used to evaluate the product overstates the exposure level, and the manufacturer uses that test method because it reduces test time and complexity, this is an efficient and safe approach for product evaluation. The FCC has consistently accepted and even promoted a conservative bias in exposure assessments and we propose that you continue to do so.
- Our interpretation of the requirements described in Sections III(A) and III(B) is that following this guidance obviates the need for submission of KDB inquiries. Please advise if such an interpretation is correct.
- Section IV wording implies that testing/evaluation of mobile PTT radios operating with vehicle-mounted antennas must now be accomplished using actual vehicle installations. Is this correct? If correct, what is a large vehicle, and what is a small vehicle? Do the definitions vary according to actual antenna placement, i.e. roof mount vs. trunk mount, etc.?
- Section IV(3iii) states “The minimum separation distances required to install an antenna on a vehicle must be larger than those tested for compliance and

must be disclosed separately to antenna installers and radio operators to ensure compliance.” Please identify exactly what this means. Furthermore, please indicate if the disclosure requirements are something new, different and/or additional to what has been previously included in installation and operator manuals.

- Section IV(4) requires MPE evaluation procedures consistent with KDB 447498. What exactly does this require? Are MPE and/or SAR evaluation procedures allowed/required? How exactly is the ≤ 10 cm distance determined? (a diagram would be helpful.)
- Section IV(4ii) states “Bystander exposure should be evaluated at a distance ≥ 20 from the edge of the vehicle, at the required locations, and must be ≤ 90 cm from the antenna. The test separation distance from the antenna must be in multiples of 15 cm or 6”.” What is the basis for the 20 cm, 90 cm and 15 cm or 6” distances?
- Section IV(6) states “When more than 60 cm separation is required between the antenna and bystanders outside of the vehicle to maintain compliance, a caution label is required to alert the radio operator about his or her obligations to maintain bystander RF exposure requirements.
 - o (i) This must be implemented as a permanent label on the microphone or at the end of the cord next to the microphone; for example, “Caution: Persons outside of the vehicle must be kept x cm, or x.x ft, away from the antenna to comply with FCC RF exposure requirements during radio transmission”.
 - o (ii) The required bystander separation distance should be rounded up to the next 15 cm or 6 inches to facilitate applying the instruction
- Regarding the required labeling, what is required in view of the fact multiple combinations of antennas and radio power outputs will be allowed proving differing separation distances? Please identify the basis for the additional 15 cm distance and identify how that works? For example if a required separation distance is determined to be 85 cm, does that mean the label should

identify a distance of 90 cm (60 cm plus 2 times 15 cm) or 100 cm (85cm plus 15 cm)?

- Since the word “Caution” has specific legal meaning in accordance with international norms should it be used as proposed? Maybe the word “Attention” would be appropriate, particularly in view of the fact there will likely be no control on maintaining the correct label for each installation once the initial configuration, installation and label attachment is completed.
- Who owns the responsibility for the Class II changes identified in Section IV (B2) states when differing manufacturers of the simultaneous transmitting equipment are involved?
- Section IV (B4) states “All prohibited configurations must also be clearly identified in the antenna installation requirements and radio operator instructions.” This is potentially a never ending list that is unknown to any reasonable person. We suggest the installation and operator manuals clearly identify the allowed combinations and specifically state that installation or operation of any other configurations is not allowed.
- The phrase “may be acceptable” is used in the introductory part of Section IV(C). Please identify the specific circumstances when utilization of FDTD simulations will be appropriate, or is a KBD inquiry for permission required in all cases?

Given the potential impact of the proposed KDBs on test time, lab capacity, and even product design, we request that OET determine and announce a reasonable transition period for implementation of the KDBs once finalized. TIA members recommend that a transition period of at least ninety days in order to mitigate the impact that such extensive changes to testing protocols will have.

TIA has previously requested an extension of the due date for comments on draft KDBs as critical to industry’s ability to provide thoughtful comments. In order to facilitate review of industry’s concerns, TIA may submit comments to selected KDBs, subject to supplementation, after June 30, 2012.

We therefore respectfully submit this comment to draft KDB 643646, and urge the Commission to act consistent with the above.

Respectfully submitted,

TELECOMMUNICATIONS INDUSTRY ASSOCIATION

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