

October 29, 2004

American TCB, Inc.  
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Subject: FCC ID: BV8P800  
Class II Permissive Change

**SAR TEST REPORT – FILING EXCLUSION JUSTIFICATION**

Reviewer question issued:

... since no changes were made no SAR is needed. How did you determine that the 16K0F3E was not worse than the 13K5F1E or the 13K5F1D ...

SAR testing for the requested emission designator addition (F3E) and subsequent analog voice mode of operation for this requested Class II Permissive Change, is not being submitted as an exhibit for the reasons given.

Also, the 16K0 versus 13K5 bandwidth potential SAR difference is addressed.

The reasons for no additional SAR report submittal are as follows:

- A SAR report was submitted with the May 2004 band addition Class II Permissive Change.
- The May 2004 submitted SAR report is worse case (continuous carrier), and is intended to cover the band addition request of May 2004 and this present request for analog voice mode due to purposes of testing expense and workload timing. Any other modes of operation can only be less.
- Nothing has changed with the radio from the original filing, nor the granted Class II Permissive Change, that would impact SAR previously reported; no enclosure changes, no power level changes, no PA changes, etc. The analog voice emission designator is a feature that has been finalized for production and will be made available for sale.

**tyco**

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Bandwidth reasons are:

- 13K5 bandwidth designators were obtained through measurement. The 16K0 bandwidth value of this change request was obtained through calculation. Experience and numerous past measurement comparisons show that calculated values produce a result, which is larger than that obtained by measurement and realized in practical application.
- Previously measured SAR is far below maximum limit (about 40%), and any slight variations in 99% waveform power between calculated and measured, would not substantially contribute to approach of the maximum limit, and most likely be lost in measurement variance.
- The May 2004 reported SAR is based on a huge safety factor of 50% duty cycle (as prescribed by Commission rules for PTT devices), which is totally unrealistic for the duty cycle experienced in M/A-COM studies of trunked radio system usage by terminal users (i.e. 5% transmit, 5% receive, 90% idle) as found in system/talk group architected systems. This translates to a very large and conservative safety factor, further diminishing any variation as not being a significant contributor.
- The product under consideration for the Class II Permissive Change is categorized for use in occupational/controlled applications, where users receive SAR training addressing short transmission periods, bystander consideration, approved accessory types, etc.

The May 2004 SAR report clearly covers the addition of this mode emission type in the worst case with no further testing needed.

Thank you for your consideration and attention to this matter.



Daryl Popowitch  
Regulatory Manager  
Engineering Project Manager

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