RF Exposure Procedures

- Portable PTT Two-way Radio
  Test-Plan and PBA Inquiries -

FCC / OET
Laboratory Division

April 2010
TCB Workshop
Overview

SAR evaluation considerations for portable push-to-talk (PTT) two-way radio devices
- Considerations for \( f < 300 \) MHz SAR
- Reducing number of SAR standard test conditions for PTT devices with multiple feature and accessory configurations

Guidance discussed intended for:
- Pre-application KDB test-plan inquiries
- TCB PBA KDB inquiries
Portable PTT Devices
- Considerations for
\( f < 300 \text{ MHz} \) SAR -
f<300 MHz PTT - Review

TCB processing is excluded if SAR evaluation is required [KDB 628591 (D01 v12) item 2) c)]

KDB 447498 (D01 v04) includes:

- General power threshold for SAR evaluation; may contact FCC if SAR is expected to be very low [item 1) c)]
- PTT device operational duty factor, power thresholds for SAR evaluation, and operating conditions [item 5])
- Use of occupational SAR limits [item 9])
In case SAR report is available

- FCC has not established uniform system validation and verification requirements and procedures, etc., for $f<300$ MHz SAR evaluation
- TCB processing under PBA may qualify [KDB 388624 (D02 v08) item b) ix)]

When SAR evaluation is not performed

- KDB inquiry (not from TCB log-in) may be submitted providing certain device details
- Interim FCC uniform guidance is sent in first response to KDB $f<300$ MHz SAR inquiries
- FCC can review details to determine whether SAR evaluation will not be requested
Portable PTT Devices
- Test Reduction Considerations -
Standard Test Conditions

**EXAMPLE** PTT device and options:
- 406.1-470 MHz; 2 antennas; 1 battery
- accessories: 3 body-mount (att.); 2 audio

For this **EXAMPLE**

- \( N_c = 5 \) = number of test frequencies per device (antenna) tuning (sub-) range [KDB 447498 (D01 v04) item 6) c)] (see also KDB 634817 about rule allocation freqs.)
  - Number of tests – body (body-worn):
    \[ 5 \text{ ch.} \times 2 \text{ ant.} \times 1 \text{ batt.} \times 3 \text{ att.} \times 2 \text{ aud.} = 60 \]
  - Number of tests – head (held-near-face):
    \[ 5 \text{ ch.} \times 2 \text{ ant.} \times 1 \text{ batt.} = 10 \]
### Standard Test Conditions

- Use this format for test conditions and SAR data tabulations
- This table for above “EXAMPLE PTT device and options”

<table>
<thead>
<tr>
<th>Body or Head (face)</th>
<th>A) antenna</th>
<th>B) battery</th>
<th>C) body-worn</th>
<th>D) audio</th>
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Submit KDB inquiry requesting guidance for test reduction prior to commencement of testing, where testing involves:

– Reduced number of channels

– For multiple optional passive accessories:
  • Detailed test plan based on the SAR impact of each accessory.
  • Detailed explanation of the features and parameters considered; for example, material, construction, separation distance and similarity, etc.

– FCC will determine whether TCB PBA appropriate

Multiple and optional antennas do not qualify for the same test reduction intended for passive accessories

FCC interim uniform guidance may be sent in first response to KDB test-planning inquiries
Test Reductions - Pending

FCC Lab are looking to develop standard procedures that could apply for test reductions for portable PTT two-way radio devices.

Goal is to publish a KDB to move away from pre-test review and PBA requirements.

Motorola has some initial proposals and we are asking for people to comment.

FCC are still considering the appropriate venue or forum for this discussion and we encourage and welcome feedback.