RF Exposure Procedures

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

FCC / OET

Laboratory Division

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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 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)]

f<300 MHz PTT - Review

- 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 ch. × 2 ant. × 1 batt. × 3 att. × 2 aud. = 60
  - Number of tests – head (held-near-face):
    5 ch. × 2 ant. × 1 batt. = 10

Standard Test Conditions

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

Body or Head (face)	A) antenna	B) battery	C) body-worn	D) audio	*f*1 406.1	*f*2 422	*f*3 438	*f*4 454	*f*5 470
B	1	1	1	1					
B	1	1	2	1					
B	1	1	3	1					
B	1	1	1	2					
B	1	1	2	2					
B	1	1	3	2					
B	2	1	1	1					
B	2	1	2	1					
B	2	1	3	1					
B	2	1	1	2					
B	2	1	2	2					
B	2	1	3	2					
H	1	1	0	0					
H	2	1	0	0					

Test Reductions - Review

- 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