PAG Process Improvement Plans

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–Note: The views expressed in this presentation are those of the author and may not necessarily represent the views of the Federal Communications Commission

Overview

1. Present Challenges in the PAG Processing
2. Proposed Changes
3. Preparing for the PAG Review
4. MPAG Review Timeline
5. Conclusions

Present Challenges in the PAG Processing (I)

- Large influx of PAG submissions
- Competing manufacturer deadlines
- Complexity of the file organization in Multiple PAG (MPAG) submissions
- Time-intensive process in identifying the items that need review
- Missing items leading to repeated review iterations

Present Challenges in the PAG Processing (II)

Filing Exhibit Organization

TCB View

Line Item	Exhibit Type	Long-Term Confidential	Short-Term Confidential	Description	File Location
1.	Operational Description	☐	☐	Description 1	Browse... Blank PDF Grant.pdf
2.	Operational Description	☐	☐	Description 2	Browse... Blank PDF Grant - Copy.pdf
3.	Operational Description	☐	☐	Description 3	Browse... Blank PDF Grant.pdf
4.	Test Report	☐	☐	Description4	Browse... Blank PDF Grant - Copy.pdf

FCC View

1 - ID Label/Location Info	1 Exhibit
2 - Attestation Statements	0 Exhibits
3 - External Photos	1 Exhibit
4 - Block Diagram	1 Exhibit
5 - Schematics	1 Exhibit
6 - Test Report	2 Exhibits
7 - Test Setup Photos	1 Exhibit
8 - Users Manual	1 Exhibit
9 - Internal Photos	1 Exhibit
10 - Parts List/Tune Up Info	0 Exhibits
11 - RF Exposure Info	0 Exhibits
12 - Operational Description	4 Exhibits
13 - Cover Letter(s)	0 Exhibits
14 - SDR Software/Security Info.	0 Exhibits
99 - Internal Documents	1 Exhibit
201 - Correspondence	0 Exhibits
202 - Short Term Conf Req	0 Exhibits

Description: test
Reviewed ☐ Supercede Flag ☐ 4901607
Attachment date: 09/11/2020 09:40:33 ○ Confidential ○ Short-Term Confidential
File Length: 36905 ◉ Non-Confidential ◉ Non-Short-Term Confidential

Description: Description 1
Reviewed ☐ Supercede Flag ☐ 5480188
Attachment date: 10/04/2021 08:18:58 ○ Confidential ○ Short-Term Confidential
File Length: 36905 ◉ Non-Confidential ◉ Non-Short-Term Confidential

Description: Description 2
Reviewed ☐ Supercede Flag ☐ 5480189
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Description: Description 3
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File Length: 36905 ◉ Non-Confidential ◉ Non-Short-Term Confidential

Present Challenges in the PAG Processing (III)

Filing Exhibit Organization

- Only file descriptions, not file names, are visible by the FCC reviewers
- All uploaded exhibits, including superseded ones, are retained in the "FCC view" of the applications
- File descriptions are required to be self-explanatory, possibly identical to the file names (for faster review and reference), using alpha-numerical character only

Line Item	Exhibit Type	Long-Term Confidential	Short-Term Confidential	Description	File Location
1.	Operational Description	☐	☐	Description 1	Browse... Blank PDF Grant.pdf
2.	Operational Description	☐	☐	Description 2	Browse... Blank PDF Grant - Copy.pdf
3.	Operational Description	☐	☐	Description 3	Browse... Blank PDF Grant.pdf
4.	Test Report	☐	☐	Description4	Browse... Blank PDF Grant - Copy.pdf

Proposed Changes (I)

Outline

- Process updates are currently being considered to streamline PAG reviews
- Focus:
  - FCC to define checklists with information required for clearance of PAG items
  - Help TCBs to provide to the FCC the information required for the review in a standard, self-contained format
- Timeline: a process will be made available to "book" the FCC review date for MPAGs of large complexity
- Present submission process will also stay in place
- Process change notifications to be provided via KDB Pub. 388624 D01 and D02 updates

Proposed Changes (II)

PAG List Revision Plans

- Checklists to be introduced for all PAG items
- "Generic" PAG items to be revised by pointing out specific concerns that we are keeping under scrutiny
- Some PAG items may point to dedicated publications where the PAG checklist is detailed (typically for more complex procedures)
- PAG list and publications to be kept in synch
- KDB 388624 is meant to be a frequently updated guidance, following evolution of technology and developments in the testing techniques

Proposed Changes (III)

PAG Checklist

- Review "checklist" provided in KDB 388624 for each PAG Item
  - Help TCB's to provide all the information that is needed for the review
  - Less missing documentation, less review iterations
  - Help FCC to identify applicable document(s) faster
  - Reduces review and response time to stakeholders
- TCBs to provide summary for each PAG Item
  - Summaries are for helping the review, not to replace EAS required exhibits
  - Describe how the data provided are addressing the PAG item checklist
  - Point to the data location in the exhibits (TC#, exhibit type, file description, location in the file)

Proposed Changes (IV)

Timeline for FCC MPAGs Review

- Updated processes designed to account for industry constraints/deadlines in launching new products
- Process change is intended to allow FCC to more effectively plan and allocate staff resources to reduce review time and minimize delays in reviews.
- Specified criteria will identify MPAGs inherent complexity level, and make them eligible for "reserving" ahead of time a dedicated FCC review session
- This "Review Appointment" may be booked before the lab data and filing become available: need only PAG item list and FCC IDs

Preparing for the PAG Review (I)

1. TCB Select applicable PAG Item(s)
2. Look at the 388624 checklist of each item
3. Develop a PAG review Exhibit based on the checklist

KDB 388624 – D02

OET

Federal Communications Commission
Office of Engineering and Technology
Laboratory Division

PRE-APPROVAL GUIDANCE LIST

1. INTRODUCTION

In establishing the requirements for the Telecommunications Certification Body (TCB) program, the Commission stated that while it intended to allow TCBs to certify a broad range of equipment, certain functions should continue to be performed by the Commission.

To certify certain types of equipment for which the Commission has not yet established specific guidelines, where a new technology or new rule part is integral, where there is an obligation by the Commission to approve an authorization, or where there is a need to provide case-by-case guidance, the Commission has adopted the Pre-Approval Guidance (PAG) procedure described in KDB Publication 388624 D01.

1

PAG Item ABCDEF Checklist

1. *Verification 1*
2. *Verification 2*
3. *Verification 3*

….

2

PAG Review Exhibit for Item ABCDEF

1. Verification 1

…Test Data 3…

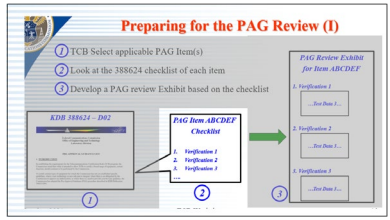
2. Verification 2

…Test Data 3…

3. Verification 3

…Test Data 3…

3

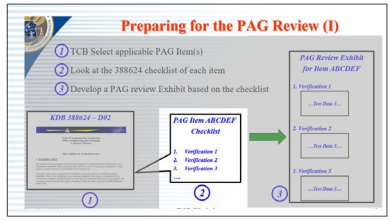


Preparing for the PAG Review (II)

Example: UNIDFS PAG Checklist

- S/W security description (including cases for permissive changes)
- DFS test report
  - Includes complete radar waveform information
  - Chirp width and center frequency varied for type 5
  - All operational modes are tested for DFS
- ……
- ……

For illustration only – Not to be use for filing

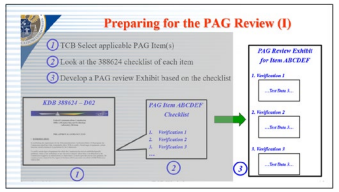


Preparing for the PAG Review (III)

Example: PAG Checklist UN6GHZ

- Contention-Based Protocol description
- Low power indoor devices must detect RF energy throughout their intended operating channel
- Software security description
- Attestation for operate under the control of a low-power indoor access point and subordinate
- Spurious emissions detected with proper antenna height variations
- …..
- …..

For illustration only – Not to be use for filing



Preparing for the PAG Review (IV)

PAG Review Exhibit - Item ABCDEF

Verification #1

In reference to the device band of operation, (*x* MHz to *y* MHz), the maximum emissions have been tested as defined in KDB Pub. 123456, Fig. 1.

The test setup and data collection process is following the Section 2 of the referenced KDB Pub. 123456, and details as shown in Table 1.1 here below.

The results are summarized in the following Table 1.2 and are shown to be consistently less than 1.5 dB of the published limit. Detailed plots are shown in the exhibit with file descriptor "*Emission Plot rev. 2*", in the "Test Report" Section of the application TC000000.

Table 1.1

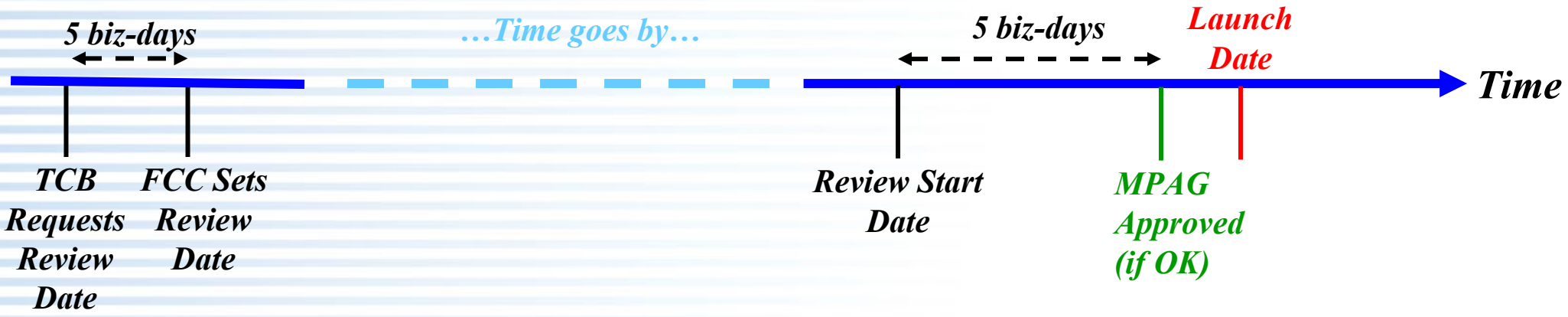
Table 1.2

MPAG Review Timeline (I)

- Updated review processes for "complex" MPAG submissions
  - Present, "conventional", approach still available
  - Definition - *Complex MPAG*: an application with *TBD* or more PAG items and/or more than *TBD* FCC IDs
  - Updated provision: *Complex MPAGs* are eligible for booking a "review appointment"
- "Review Appointment" details
  - TCB "makes a reservation" for a dedicated FCC review date via PAG KDB inquiry
  - FCC provides the reservation date within five business days
  - Availability on a first-come, first-served basis, on calendar managed by the FCC
  - MPAG Review feedback is provided within five business days from the start of the review
  - Review period may include TBD feedback iterations for explanation/additional requests, after that a new review is required

MPAG Review Timeline (II)

- Notional example of timeline for submission and review process of *complex-MPAGs*
- PAG items and applicable variants (w/FCC IDs) named at the request of reserving the review start date
- All exhibits need to be filed before the review start date



Conclusions

- TCBs feedback now open (discussion in the monthly TCBC calls)
- TCBs are encouraged to follow the checklist/review exhibit approach (helps grantees, TCBs and FCC)
- First new Pub. 388624 draft with most critical items planned before end of 2021
- "Lesson learned" approach will drive incremental changes to PAG list in early 2022
- New PAG items that will be introduced will be provided with its applicable the review "checklist" template
- Fully revised PAG list ready before Apr 2022 TCB Workshop