IEEE Transactions on Power Electronics (TPEL) Guidelines for Active Content/Multimedia Material

This document provides guidance for uploading active (digital) content with a paper that has been submitted to *IEEE Transactions on Power Electronics*. The information in the document is meant to supplement the IEEE Author Center: Preparing Supplementary Materials.

Active Content/Multimedia Materials

TPEL encourages authors to upload supplementary active content/multimedia material at the time of initial manuscript submission. Sometimes short videos, slides, simulation code, or even data from the field may provide valuable insight to the reader. Providing active content/multimedia material allows authors to prove the merits of their work to readers and reviewers by showing the steps followed to reach the conclusions of the paper. The additional material is not a factor in the decision to accept or reject a paper but is a means to enhance the paper's technical contribution. The associate editor will screen the active content/multimedia material for relevance before assigning the paper to volunteer reviewers. Only registered IEEE Xplore users can access the supplemental content of the accepted paper. The paper will have a footnote explaining the active content/multimedia material, and there is a special icon on IEEE Xplore that allows readers to download the multimedia.

Preparing Your Active Content/Multimedia Material

In addition to the main manuscript, authors may submit active content/multimedia material; however, the paper cannot rely on the additional material for its technical assessment. To be accepted, the active content/multimedia material must be scientific and add to the excellence of the paper. The use of active content/multimedia is not a medium for any commercial reference to a product, nor an avenue for additional material to be added to a paper that should normally be included within the manuscript for technical content. For example, additional proofs, appendices, or lab photos must still be included within the text of the paper, even if doing so increases page count. To be acceptable to appear online, the active content/multimedia material is subject to the same editorial standards as the main publication.

Authors should submit their active content/multimedia material files at the time of initial manuscript submission, and again at the revision stage. Before doing so, the authors should ensure the material is genuinely valuable and relevant to their manuscript.

Our TPEL guidelines will continue to evolve as more submitted papers include data, movies, source codes, or other active content/multimedia material. Current IEEE author instructions about proper multimedia material preparation can be found at https://journals.ieeeauthorcenter.ieee.org/create-your-ieee-journal-article/prepare-supplementary-materials/.

Submitting Your Active Content/Multimedia Material

A few additional steps need to be taken during the manuscript submission process in order to submit active content/multimedia files with your paper.

1. Cover Letter
   a. Make sure to submit a cover letter with your paper (this may be a separate .doc or PDF file or typed directly into the designated field in Step 4: Details & Comments during the manuscript submission process).
   b. In your cover letter clearly state that your submission contains active content/multimedia files.

2. Answer "Yes" to the question "Does your manuscript contain supplementary materials such as multimedia, extended objects, or any other item intended for publication but not included in the main body of the paper? Supplementary materials must go through review and may not be added after acceptance" (the fifth question) in Step 4: Details & Comments of the manuscript submission process.
3. Abstract
   a. Add a line to your abstract indicating the type of active content/multimedia accompanying the paper.
   b. For example, "This paper is accompanied by a video demonstrating   "
4. Create a document or letter with a brief explanation to reviewers of what active content/multimedia files are included with your paper. Include any details needed to correctly access and run the files. For example, "This paper has an active content program named "xyz." All three files must be in the same folder in order for the demonstration to run correctly. The file names are: x.m, y.fig, and z.m."
5. Upload this explanation file (.doc or PDF) as a supplementary file (under File Designation) in Step 5: File Upload of the manuscript submission process.
6. Upload your active content/multimedia files as "Active Content/Multimedia Files" (under File Designation) in Step 5: File Upload of the manuscript submission process.
   a. Each file should be uploaded individually with the correct file designation.
   b. If the files need to be part of a single folder in order for a program to work for reviewers, zip the files and upload the zipped folder as one "file."

Following these steps will ensure editors and reviewers will be able to find and review your active content/multimedia files.

Categories of Supplementary Materials

While the main manuscript should have sufficient details to justify the contribution of the paper and to enhance the logic of the text, TPEL encourages authors to provide the details of their designs, procedures, and experiments to readers as active content/multimedia materials.

In general, TPEL will accept the following categories of supplementary materials:

- detailed block diagrams,
- wiring diagrams,
- circuit level simulations (including necessary libraries),
- device models,
- board schematics,
- PCB design and Gerber files,
- bills of materials,
- 3D drawings in PDF,
- device models,
- extensive databases, spreadsheets (containing raw data),
- algorithms or software codes,
- micro-controller codes,
- FPGA designs,
- 3D graphs (e.g. mesh plots),
- conducted and emitted EMI measurements,
- necessary details describing the applied test methods,
- temperature, humidity, altitude, and other relevant information about the test conditions,
- movies,
- audio clips,
- description of automated testing systems used.

Note that TPEL does not allow modifications or enhancements of photographs, images, or video files in a way that would misrepresent the data presented. It is vital to ensure that data is presented in an unbiased way.

File Formats and Sizes

Preferred File Formats

Text: These items should be included in a single PDF file.

Data: Excel or CSV files are encouraged.

Figure: TIFF and PostScript formats are encouraged. If the image needs special software, it can be converted to the highest quality PDF format. No electronic modification or enhancement is acceptable. Animated figure formats are not acceptable.

Movies: AVI format and MPEG movies are accepted. Authors should select the minimum frame size and number of images with sufficient effective on-screen resolution.

Audio files: WAV and MP3 formats are accepted.

Other file formats: In most cases, the files will need to be opened with specific software not available to the reviewers and readers. Authors are encouraged to convert them to widely acceptable formats such as PDF.

File Size Limitations

When possible, we recommend that active content/multimedia file sizes do not exceed 25 MB.

Safety

When making a video, authors should exercise caution and keep their safety, and the safety of potential viewers, in mind. Presenters in the video should follow safe laboratory practices when performing experiments or demonstrations. This includes the use of protective equipment like safety glasses and hearing protection when appropriate. Depending on the voltage's levels, currents, and amount of potential energy release, presenters in the video should show their experiments in a protective enclosure, label potential hazards, and if necessary, wear appropriate protective clothing, such as insulated electrical gloves and arc flash face mask and clothing.

When appropriate, encourage viewers to be safe when replicating potentially hazardous experiments.