

P2816

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Type of Project: New IEEE Standard

PAR Request Date: 19-Apr-2019

PAR Approval Date: 13-Jun-2019

PAR Expiration Date: 31-Dec-2023

Status: PAR for a New IEEE Standard

1.1 Project Number: P2816

1.2 Type of Document: Recommended Practice

1.3 Life Cycle: Full Use

2.1 Title: Recommended Practice for Computational Electromagnetics Applied to Modeling and Simulation of Antennas

3.1 Working Group: Computational Electromagnetics (APS/SC/CEM)

Contact Information for Working Group Chair

Name: Vikass Monebhurrun

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Contact Information for Working Group Vice-Chair

None

3.2 Sponsoring Society and Committee: IEEE Antennas and Propagation Society/Antennas and Propagation Standards Committee (APS/SC)

Contact Information for Sponsor Chair

Name: Vikass Monebhurrun

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Contact Information for Standards Representative

None

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 10/2022

4.3 Projected Completion Date for Submittal to RevCom

Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 10/2023

5.1 Approximate number of people expected to be actively involved in the development of this project: 50

5.2 Scope: This recommended practice defines the concepts, techniques, benchmark models, validation procedures, uncertainties and limitations of computational electromagnetics techniques and tools used for modeling and simulation of antennas in free space. It recommends and provides guidance on the numerical modeling of antennas and benchmark results to verify the general approach for the numerical simulations of such antennas. It defines acceptable numerical modeling requirements and guidance on meshing.

5.3 Is the completion of this standard dependent upon the completion of another standard: No

5.4 Purpose: This document will not include a purpose clause.

5.5 Need for the Project: Guidance on numerical modeling of antennas is essential to ensure academia, industry, and governments have a common basis for establishing the validity of the results of the numerical modeling techniques. This recommended practice will provide guidance on the numerical modeling of antennas, describe the different techniques used, provide information about their limitations and recommend minimum requirements for acceptable numerical simulation results of computational electromagnetics tools. This recommended practice will add to the existing information provided in the IEC/IEEE 62704 series of standards, IEEE 1597.1, and IEEE 1597.2.

5.6 Stakeholders for the Standard: Academia, government, industry, software vendors and users.

Intellectual Property

6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No

6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

7.1 Are there other standards or projects with a similar scope?: No

7.2 Joint Development

Is it the intent to develop this document jointly with another organization?: No

8.1 Additional Explanatory Notes: 5.5 - IEC/IEEE 62704 series of standards (Determining the Peak Spatial Average Specific Absorption Rate (SAR) in the Human Body from Wireless Communications Devices, 30 MHz - 6 GHz) have already been developed for computational dosimetry using the finite difference time domain (FDTD) method (Part 1: General requirements for using the finite difference time-domain (FDTD) method for SAR calculations, Part 2: Specific requirements for finite difference time domain (FDTD) modelling of exposure from vehicle mounted antennas, and Part 3: Specific requirements for using the finite difference time domain (FDTD) method for SAR calculations of mobile phones) and the finite element method (FEM), (Part 4: General Requirements for Using the Finite Element Method (FEM) for SAR Calculations).

IEEE 1597.1, Standard for Validation of Computational Electromagnetics Computer Modeling and Simulations)

IEEE 1597.2: Recommended Practice for Validation of Computational Electromagnetics Computer Modeling and Simulations

IEEE 1597.1 and IEEE 1597.2 focus on the validation of computational electromagnetics computer modeling and simulations.