



## ***Standards and Advisory Coordination Committee (SACCom) Representative Report***



Date of Report: 7 Nov. 2017      Name of Representative: R. C. Petersen

Representative's Position: Past Chairman IEC TC106

Represented Technical Entity: IEC TC106

Technical Entity Scope/Function: Assessment of Human Exposure to Electric, Magnetic and Electromagnetic Fields, 0-300 GHz.

Current Activities of Entity: Maintenance Team 1: Revise IEC 62209-1-2016 (Procedure to Measure the Specific Absorption Rate (SAR) for Hand-Held Mobile Telephones in the Frequency Range of 300 MHz to 3 GHz"), and IEC 62209-2-2010 [Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)]. (IEC 62209-1 was published in May 2016.) Unification of Parts 1 and 2 as single IEC/IEEE dual logo standard is ongoing. A Joint IEC/IEEE WG was established at the Oct. 2017 IEC TC106 Melbourne meeting to combine IEC 62209-1 and IEC 62209-2 into a single IEC/IEEE standard with the following target dates: CDV – 6/2018; FDIS – 1/2019.

Project Team 62209-3: Human exposure to radio frequency fields from hand-held and body-mounted wireless communications devices – Human models, instrumentation, and procedures – Part 3: Vector probe systems (frequency range of 100 MHz to 6 GHz). Approved for 1CDV; publication target date – 8/2018.

MT3—Maintenance of IEC 62232: Determination of RF field strength and SAR in the vicinity of radio-communication base stations for the purpose of evaluating human exposure (standard published 2017).

IEC/IEEE P62704-4: Determining the Peak Spatial Average Specific Absorption Rate (SAR) in the Human Body from Wireless Communications Devices, 30 MHz – 6 GHz: General Requirements for Using the Finite-Element Method (FEM) for SAR Calculations and Specific Requirements for Modeling Vehicle-Mounted Antennas and Personal Wireless Devices. (IEC/IEEE jointly developed standards project.) Forecast publication date: September 2018.

IEC P62764-1: Procedures for the Measurement of Field Levels Generated by Electronic and Electrical Equipment in the Automotive Environment with Respect to Human Exposure. (Approved for CDV.)

New Work Items proposed/approved:	IEC TC106 decided at the Oct 2017 Melbourne Meeting to establish a project team to develop a standard titled: Basic standard for the assessment of the human exposure to electric and magnetic fields from wireless power transfer systems - models, instrumentation, numerical methods and procedures (Frequency range of 1 kHz to 10 MHz)
Standards <sup>1</sup> /Revisions recently voted on <sup>2</sup> :	IEC 62704-4: CDV in process.
Recently published Standards <sup>1</sup> :	<p><u>IEC 62232 ED 2-2017</u>: Determination of RF field strength, power density and SAR in the vicinity of radiocommunication base stations for the purpose of evaluating human exposure.</p> <p><u>IEC/IEEE P62704-1 ED 1-2017</u>: Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body from Wireless Communications Devices, 30 MHz - 6 GHz: General Requirements for using the Finite-Difference Time- Domain (FDTD) Method for SAR Calculations. (IEC/IEEE jointly developed standards project.)</p> <p><u>IEC/IEEE P62704-2 ED 1-2017</u>: Determining the Peak Spatial Average Specific Absorption Rate (SAR) in the Human Body from Wireless Communications Devices, 30 MHz - 6 GHz. -- Part 2: Specific Requirements for Finite Difference Time Domain (FDTD) Modelling of Exposure from Vehicle Mounted Antennas. (IEC/IEEE jointly developed standards project.)</p> <p><u>IEC/IEEE P62704-3-ED 1-2017</u>: Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body from Wireless Communications Devices, 30 MHz - 6 GHz: Specific Requirements for using the Finite-Difference Time-Domain (FDTD) Method for SAR Calculations of Mobile Phones. (IEC/IEEE jointly developed standards project.)</p> <p><u>IEC PAS 63083-ED 1-2017</u>: Specific absorption rate (SAR) measurement procedure for long term evolution (LTE) devices.</p>
Scheduled Future Projects:	Established Ad-hoc Group-6 (Guide to the drafting of EMF assessment publications). Request liaisons with ITU and IEEE. Draft guide "Compliance with electromagnetic exposure – Guide to the drafting of compliance testing publications" (similar to ACEC Guide 107) is being prepared for consideration of adoption by ACEC rather than ACOS because of similarities to EMC compliance standards. The goal is to achieve harmony across standards that address measurement/computation of

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<sup>1</sup> If Standards were harmonized with other organizations, e.g. IEC-CENELEC, please advise)

<sup>2</sup> Please provide results of vote. If disapproved, please advise major reasons, if known

human exposure with respect to safety limits. The Guide is being developed jointly by TC106 and ICES TC34.

Activities requiring technical support of the EMC-S:

None at this time

Activities requiring financial support of SACCom or EMC-S:

None at this time

Next meetings:

TC106 Plenary meeting (Main Committee): Stockholm Sweden, Sep 2018.

Additional Comments:

In response to a question to the IEC Standardization Board (SMB) from IEC TC 64 (Electrical Installations and protection from electric shock) regarding the establishment of limit values by IEC TC and SCs, TC106 recommends to the SMB that IEC TCs and SCs should abstain from establishing limit values (e.g., for electric shock and induced and contact current).

EN 50527-1 Procedure for the assessment of the exposure to electromagnetic fields of workers bearing active implantable medical devices – Part 1: General. This standard was offered to TC106 for inclusion in its program of work. The standard relates to EMC, e. g., possible interference of electromagnetic fields with active implants. A New Work Item Proposal (NWIP) was circulated—17/21 P-members approved but only 2 P-members provided the names of experts to participate. Therefore the NWIP was rejected.

Two new working groups and one ad hoc team are/have been formed:

WG8: Assessing methods for the assessment of contact current related to human exposure to electric, magnetic and electromagnetic fields.

WG9: Assessing methods for the assessment of wireless power transfer related to human exposure to electric, magnetic and electromagnetic fields.

AHG10: Measurement procedure for the evaluation of power density related to human exposure to radio frequency fields from wireless communication devices operating between 6 GHz and 100 GHz. The team was to prepare a technical report with high level test requirements for portable devices based on measurements of power density from 6 GHz to 100 GHz. However, a decision was made at the October 2017 Melbourne meeting to replace AHG10 with an IEC/IEEE Joint WG to develop a dual logo IEC/IEEE standard for the assessment of power density of wireless communication devices in close proximity to the head and body by measurement from 6 GHz – 300 GHz. Target dates: CD – 12/2018; CDV – 12/2019; FDIS/IS – 6/2020.

