



Standards and Advisory Coordination Committee (SACCom) Representative Report



Date of Report: 10 March 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. Estimated publication date: early 2018.

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).
Estimated 1CDV submission date: Oct 2017.

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 – 1st Maintenance cycle. New technologies and assessment methods included in revision, intent is to simplify. FDIS approved Feb 2017. Forecast publication date: June 2017.

IEC/IEEE P62704-1: 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.) Balloting complete. On September 2017 IEEE SA RevCom agenda for approval as IEC/IEEE standard.

IEC/IEEE P62704-3: 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. Balloting complete. On September 2017 IEEE SA RevCom agenda for approval as IEC/IEEE standard.

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 – target publication date: June 2017.)

New Work Items
proposed/approved:

None since last report.

Standards¹/Revisions recently
voted on²:

IEC/IEEE 62704-1, IEC/IEEE 62704-2 and IEC/IEEE 62704-3. IEC 62704-4 is still in ballot.

Recently published Standards¹:

IEC 61786-2 (2014) Ed. 1.0: Measurement of DC magnetic, AC magnetic and AC electric fields from 1 Hz to 100 kHz with regard to exposure of human beings - Part 1: Requirements for measuring instruments.

IEC 62110-2009/Cor 1 (2015): Electric and magnetic field levels generated by AC power systems – measurement procedures with regard to public exposures.

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 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

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

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

Next meetings:

TC106 Plenary meeting (Main Committee): Melbourne-Australia, Oct 2017

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 being 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 prepares Technical Report (TR) with high level test requirements for portable devices based on measurements of power density from 6 GHz to 100GHz. Target date is October 2017.