



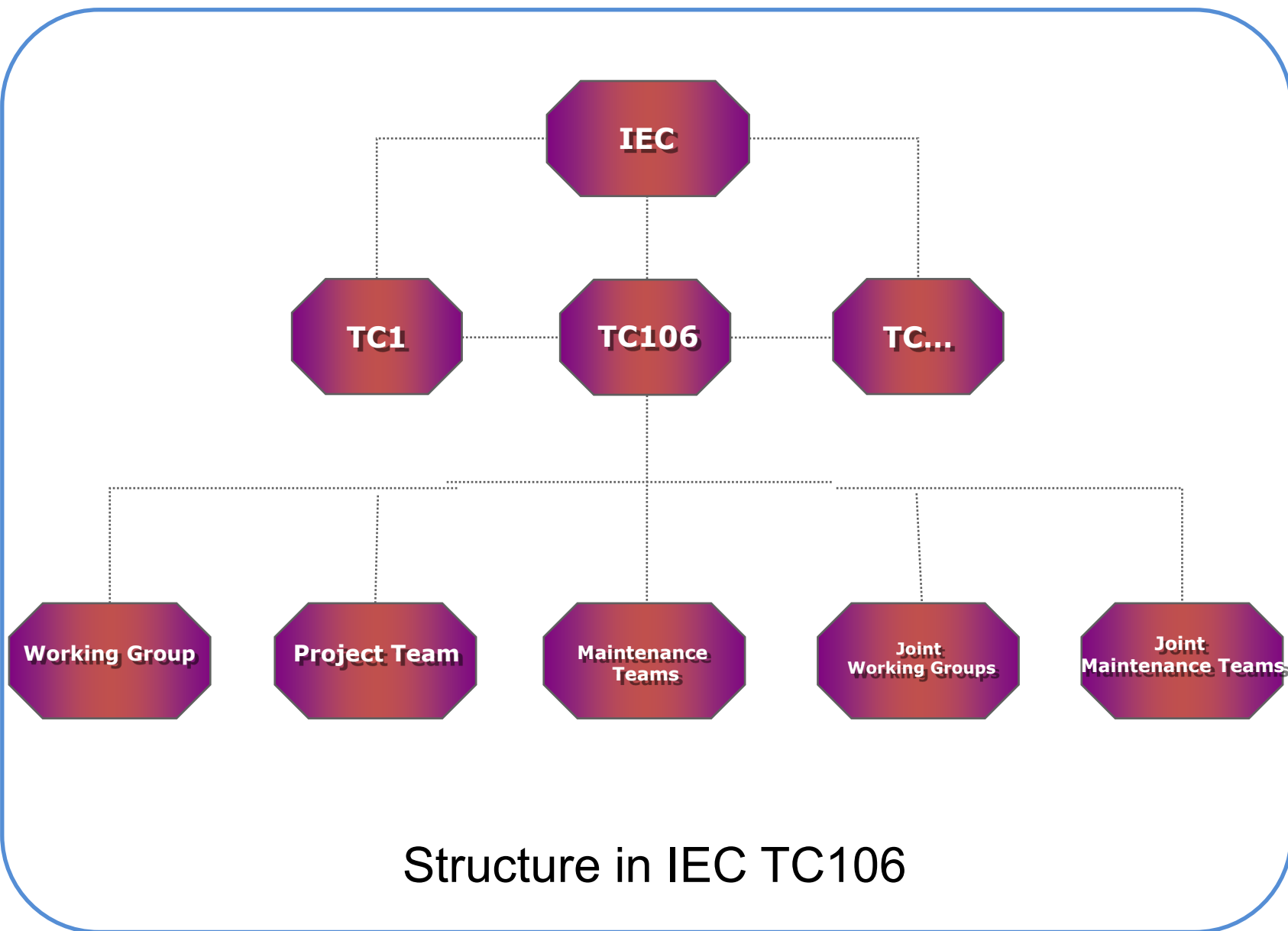
中国移动
China Mobile

An Introduction to the EMF standards in IEC

China Mobile
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- The IEC is a global, not-for-profit membership organization that brings together more than 170 countries and coordinates the work of 20 000 experts globally
- The IEC was founded on 26-27 June 1906 in London, UK. Ever since it has made electrical and electronic technologies safer, more efficient and reliable
- The IEC (International Electrotechnical Commission) saw its beginnings at the International Electrical Congress in St. Louis in 1904.

- General Assembly (GA)
- IEC Board (IB)
- Business Advisory Committee (BAC)
- President's Committee (PresCom)
- Advisory Groups
- Market Strategy Board (MSB)
- Standardization Management Board (SMB)
- Conformity Assessment Board (CAB)
- Secretariat (SEC)



Structure in IEC TC106

- TC106: Methods for the assessment of electric, magnetic and electromagnetic fields associated with human exposure

TC 106 Scope:

- ✓ To prepare international standards on measurement and calculation methods to assess human exposure to electric, magnetic and electromagnetic fields.
- ✓ The task includes: characterisation of the electromagnetic environments with regard to human exposure; – measurement methods, instrumentation and procedures; – calculation methods; – assessment methods for the exposure produced by specific sources (in so far as this task is not carried out by specific product committees); – basic standards for other sources; – assessment of uncertainties. It covers the whole frequency range from 0 Hz to 300 GHz. It applies to basic restrictions and reference levels.
- ✓ Excluded are: – the establishment of exposure limits (see AC/38/2009 of 2009-11-27); – mitigation methods which have to be dealt with by the relevant product committees; – electrical safety (however, the issue of contact current related to the indirect effect of human exposure to electromagnetic fields is included).

- Working Group
 - ✓ WG 8: Addressing methods for assessment of contact current related to human exposures to electric, magnetic and electromagnetic fields
 - ✓ WG 9: Addressing methods for assessment of Wireless Power Transfer (WPT) related to human exposures to electric, magnetic and electromagnetic fields
- Project Team
 - ✓ PT 62764-1: Determining procedures for the measurement of field levels generated by electronic and electrical equipment in the automotive environment with respect to human exposure.
 - ✓ PT 63480: Assessment of Human Exposure to Electromagnetic Fields from Radiative Wireless Power Transfer Systems: Measurement and Computational Methods (Frequency Range of 30 MHz to 300 GHz)

- Maintenance Teams
- ✓ MT 2: Maintenance of IEC 61786: 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
- ✓ MT 3: Maintenance Team for IEC 62232: Determination of RF field strength, power density and SAR in the vicinity of base stations for the purpose of evaluating human exposure
- ✓ MT 62226-3-1 Maintenance of IEC 62226-3-1: Exposure to electric or magnetic fields in the low and intermediate frequency range - Methods for calculating the current density and internal electric field induced in the human body - Part 3-1: Exposure to electric fields - Analytical and 2D numerical models
- ✓ MT 62233: Maintenance of IEC 62233
- ✓ MT 62311: Maintenance of IEC 62311

- Maintenance Teams
- ✓ MT 62233: Maintenance of IEC 62233: Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure
- ✓ MT 62311: Maintenance of IEC 62311: Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz to 300 GHz)

- Joint Working Groups
- ✓ JWG 11 Computational Methods to assess the power density in close proximity to the head and body linked to IEEE
- ✓ JWG 12 Measurement Methods to assess the power density in close proximity to the head and body linked to IEEE
- ✓ JWG 13 Measurement Procedures to Determine the Specific Absorption Rate (SAR) linked to IEEE
- ✓ JWG 63184 Human exposure to electric and magnetic fields from wireless power transfer systems linked to IEEE

- Joint Maintenance Teams
- ✓ JMT 62209-3 Maintenance of IEC 62209-3: "Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 3: Vector measurement-based systems (Frequency range of 600 MHz to 6 GHz)" linked to IEEE
- ✓ JMT 62704-1 Maintenance of IEC/IEEE 62704-1: "Determining the peak spatial-average specific absorption rate (SAR) in the human body from wireless communications devices, 30 MHz to 6 GHz - Part 1: General requirements for using the finite difference time-domain (FDTD) method for SAR calculations" linked to IEEE

- Joint Maintenance Teams
- ✓ JMT 62704-2 Maintenance of IEC/IEEE 62704-2: "Determining the peak spatial-average specific absorption rate (SAR) in the human body from wireless communications devices, 30 MHz to 6 GHz - Part 2: Specific requirements for finite difference time domain (FDTD) modelling of exposure from vehicle mounted antennas" linked to IEEE
- ✓ JMT 62704-3 Maintenance of IEC/IEEE 62704-3: "Determining the peak spatial-average specific absorption rate (SAR) in the human body from wireless communications devices, 30 MHz to 6 GHz - Part 3: Specific requirements for using the finite difference time domain (FDTD) method for SAR calculations of mobile phones" linked to IEEE linked to IEEE

- Joint Maintenance Teams
- ✓ JMT 62704-4 Maintenance of IEC/IEEE 62704-4: "Determining the peak spatial-average specific absorption rate (SAR) in the human body from wireless communication devices, 30 MHz to 6 GHz - Part 4: General requirements for using the finite element method for SAR calculations" linked to IEEE

Thank you!

