



NSAI

ANNUAL REPORT 2021

**NSAI TECHNICAL COMMITTEES
(NSAI/ETC/TC 15 HUMAN
EXPOSURE TO
ELECTROMAGNETIC FIELDS)**

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1 Chairman's Statement

NSAI/ETC/TC 15 continues to function well with good input and participation from our experts for which we are grateful.

The issues with having standards listed as Harmonised in the OJEU continues. This places an additional burden on manufacturers to determine compliance with EU Directives including the Radio Equipment, Low Voltage and Medical Device Directives.

New challenges for TC 15 include the verifying emissions from wireless charging including electric cars.

We look forward to another productive year in TC 15.

2 Introduction

This TC serves the telecommunication, ICT and power transmission sectors in Ireland. The protection of the general consumer and users of electrical products that emit electromagnetic fields from 0 Hz to 300 GHz are addressed by the standards programme of this committee. This includes products such as mobile phones, laptops, tablets, medical devices, EV's and other products that may emit EMF. Transmitting devices using Radiofrequency are also under the remit of this committee.

The main activity for this committee is to monitor and provide input on the IEC and CLC standards developed to assess electromagnetic fields associated with human exposure or in the Human Environment. Some of the standards produced are listed in the OJEU as harmonized standards under the Radio Equipment Directive and Low Voltage Directive.

The industry currently has 5 experts involved in international work.

A total of 15 active national members

3 Scope of TC

NSAI/ETC/TC 15 provides a national forum for the review and contribution to the development of standards in the area of Electromagnetic fields and Human Health. The main focus of this committee is the work of CLC/TC 106X and IEC/TC 106.

Members of TC also play a role in promoting best practice nationally in relation to use of appropriate standards to ensure safety for human exposure to electromagnetic fields.

The committee mirrors the following international committees:

Committee Name	Committee Title
IEC/TC 106	Methods for the assessment of electric, magnetic and electromagnetic fields associated with human exposure
CLC/TC 106	Electromagnetic fields in the human environment

4 Structure and Membership

There are no working groups under this committee. See the list of organizations currently involved in NSAI/ETC/TC 15 in 4.1.

4.1 Members

This year saw the appointment of a new Chair following a decision taken by the outgoing chair to step down after more than 25 years. NSAI and the committee is grateful to the outgoing chair for their leadership and contribution to the work of ETC TC 15 over their tenure. The appointment of a new chair, also from Compliance engineering, was welcomed and approved by NSAI. The committee look forward to the continued support from Compliance Engineering and welcomed the new Chair. The list below are the organizations represented on NSAI ETC TC 15 for the year:

Organisation	Role
Compliance Engineering Ireland	2 expert members (Chair & 1 member)
ESB	2 Expert members
Johnson Controls	1 Expert member
2RN	1 Expert member
EPA	2 Expert members
EIR	1 Expert member
Dell	1 Expert member
Apple	2 Expert members
Intel	1 Expert member
Vodafone	1 Expert member
NSAI	Committee secretary

There was one retirement this year.

5 Summary of 2021 Activities

5.1 National

5.1.1 Meetings

Committee members attended the following national meetings in NSAI as follows:

Meeting No.	Date	Minutes Reference ** optional**
1	10 th May 2021	N1059
2	15 th Nov 2021	N1061

5.1.2 National Work

There were no national projects assigned to ETC TC 15 in 2021

5.2 International/Regional

5.2.1 Meetings

Committee members attended international CENELEC (CLC) and IEC meetings as follows:

Committee Name	Location	Date	No. of Attendees
IEC TC 106 Plenary	Virtual	27 th Oct 2021	1
CLC TC 106X	Virtual	29 th April 2021	4
	Virtual	1 st Dec 2021	3

5.2.2 International/Regional Work

Pandemic impact:

During 2021 the pandemic, continued to impact on standards work. International and national Technical committees continued to use virtual or on-line tools for meeting. The use of online tools has facilitated better national participation without the need to travel to attend meetings.

Up to 4 national experts participated CLC/TC 106X meetings with some participating for the first time. Use of online tools also has some disadvantages. Collaboration on-line for drafting groups can be more difficult due to connectivity issues, different time zones etc. Some meetings are held late evening or very early mornings in order to facilitate different country time zones. However there was still good representation at plenary meetings.

International Working group activities:

Most of the international contributions of NSAI/ETC/TC 15 is focused on European work. A number of national experts are members of the following CLC/TC 106X working groups:

WG 1 - Mobile phones and base stations – scope covers basic and product standards. 3 national experts are signed up to this this WG but there are no active work items at present.

WG 2 – Anti-theft devices – scope covers basic and product standards for electronic article surveillance (EAS) and Radio Frequency Identification (RFID) and similar applications. An Irish expert is the convenor of this international WG, with one national expert participating in the group. At the moment there is no active work items under this group.

WG 7 – Broadcasting – scope covers TV and radio broadcasting. There are 3 national experts participating in this group. This group finalised EN 50554 - *Basic standard for the in-situ assessment of a broadcast site related to general public exposure to radio frequency electromagnetic fields*, which was published in 2021.

WG 15 – EMF and implants – scope covers EMF assessment for active implantable medical devices in EMF fields. There are 3 national experts participating in this WG. The EN 50527 series has been developed by the group with 4 standards published to date. These set out risk assessment to consider for workers with active implants and are aimed at employers. EN 50527-2-3 *Procedure for the assessment of the exposure to electromagnetic fields of workers bearing implantable medical devices, Part 2-3 – Specific assessment for workers with implantable neurostimulators* was published in 2021. A proposal to develop a new standard prEN 50527-2-1 *Procedure for the assessment of the exposure to electromagnetic fields of workers bearing active implantable medical devices Part 2-1 Specific assessment for workers with cardiac pacemakers* is being considered.

WG 17 - EMF Assessment in the electricity supply industry – 1 national expert participating in this WG. This group published EN 50647:2017 – *Basic standard for the evaluation of workers exposure to electric and magnetic fields from equipment and installations for the production, transmission and distribution of electricity*. EN 62110:2009/AC:2015 – *Electric and magnetic fields generated by AC power systems – Measurement procedures with regard to public exposure* is also of interest to this group. Currently there are no active work items under this group at present.

WG 20 - Reasonably foreseeable use – 2 national members participating in this group. This WG developed TR 50713:2021 - *Reasonable and Foreseeable Use Conditions when referring to EMSS Exposure assessment*, published in 2021.

WG 21 - Basic standards and generic standards – There is 1 national expert participating in this group. Work continued on three work items during 2021:

- prEN 50663 – *Generic standard for the assessment of low power electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (10MHz – 300 GHz)*
- prEN 50664 – *Generic standard to demonstrate the compliance of equipment used by workers with limits on exposure to electromagnetic fields (0 Hz -300 GHz) when put into service or in situ.*
- prEN 50665 – *Generic standard for assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz)*

Progress is slow due to issues with HAS consultant approval.

There are two Working groups under IEC/TC 106 where 1 national expert is participating:

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.

There are a number of other groups set up under IEC/TC 106X including Project teams, maintenance teams, Joint working groups and joint maintenance teams – see link to current subcommittees and working groups of IEC/TC 106X:

[IEC - TC 106 Dashboard > Structure: Subcommittee\(s\) and/or Working Group\(s\), Membership, Officers, Liaisons](#)

5.2.3 International/Regional Standards Reviewed

The work programme of both CLC/TC 106X and IEC/TC 106 continued to be monitored during 2020.

For CLC/TC 106X see the links below for the full work programme.

List of [Published standards](#)

List of [revisions and new standards](#)

5.3 Regulatory Development/Update

The Radio Frequency Directive (RED) incorporates radio equipment, Low Voltage Directive (LVD) and EMF Directive. These directives do not specify limits and rely on standards to specify correct and safe limits. This Directive also refers to “reasonably foreseeable” conditions. The standards developed by CLC/TC 106X can be used to demonstrate compliance with these directives.

Different HAS consultants for RED, EMF & LV directives review and approve relevant standards which has caused some delays in getting harmonised standards finally approved. The list of standards being developed and proposed for citation under EU directives are listed in the table below:

Draft Standard	Directive
EN 50360:2017/prA1 – Product standard to demonstrate the compliance of wireless communication devices with the basic restrictions and exposure limit values related to human exposure to electromagnetic fields in the frequency range from 300 MHz TO 6 GHz: devices used next to the ear.	2014/53/EU (RED)
EN 50401:2017/prA1 – Product standard to demonstrate the compliance of base station equipment with radiofrequency electromagnetic field exposure limits (110 MHz – 100 GHz) when put into service.	2014/53/EU (RED)
EN 50566:2017/prA1 – Product standard do demonstrate the compliance of wireless communication devices with the basic restrictions and exposure limit values related to human exposure to electromagnetic fields in the frequency range form 30 MHz to 6 GHz: hand-held and body mounted devices, in close proximity to the human body	2014/53/EU (RED)
prEN 50364-1 – Product standard for human exposure to electromagnetic fields from devices operating in the frequency range 0 Hz TO 300 GHz used in Electronic Article surveillance (EAS), Radio Frequency Identification (RFID) and similar applications – Pt 1 General public	2014/35/EU (LVD 2014) 2014/53/EU (RED)
prEN 50663 – Generic standard for assessment of low power electronic and electrical equipment related to human exposure restriction for electromagnetic fields (10 MHz – 300 GHz)	2014/35/EU (LVD 2014) 2014/53/EU (RED)
prEN 50664 – Generic standard to demonstrate the compliance of equipment used by workers with limits on exposure to electromagnetic fields (9 Hz – 300 GHz) when put into service or in situ.	2014/35/EU (LVD 2014) 2014/53/EU (RED)
PrEN 50665 – Generic standard for assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz)	2014/35/EU (LVD 2014) 2014/53/EU (RED)

5.4 Publications

There were no national projects assigned to NSAI/ETC/TC 15 in 2021.

The Committee did not publish any national deliverables this year.

6 Work programme for 2022 onwards

NSAI/ETC/TC 15 plans to continue to monitor the work of CLC/TC 106X and IEC/TC 106. National experts nominated to WG's under CLC/TC 106X will contribute to the work programme of this international standards committee.

7 Additional Information

None