ANNUAL REPORT 2024

NSAI TECHNICAL COMMITTEES (NSAI/ETC/TC 16 - ELECTROMAGNETIC COMPATIBILITY)

Contents

1 Chair Statement

I am pleased to note that NSAI/ETC/TC 16 increased membership in 2024. The committee continues to be strongly supported by Irish industry and the relevant CENELEC and IEC committees are highly active.

NSAI hosted the CENELEC CLC/TC 210 meeting in Dublin during May 2024. The Chairman warmly thanked NSAI and the national committee for their hospitality.

The work of NSAI/ETC/TC16 is a reflection of new electrical and electronic technologies being adapted as a result of renewable energy, electric transport and communications developments in the electromagnetic spectrum.

Issues being covered include: Wi-Fi 6E & 7 protocol, Cyber Security, Common charger requirements and changes to wireless chargers. Incorporating equipment into vehicles has proven very difficult to resolve.

Work is progressing on limits for disturbance voltage and current in the frequency range from 2kHz to 9kHz produced by equipment connected to public low-voltage systems. A new standard is underway preparation for harmonic, interharmonic and supraharmonic emission limits <9kHz for installations.

Radio beam wireless power transfer (RB-WPT) equipment is a new technology that presents challenges for the EMC environment. Two main types of non-beam WPT applications are being considered. Inductive coupling is widely used for charging electronic devices where electrical power is transferred over a small air gap between wire coils. Magnetic resonance coupling allows electrical power to be transferred over a larger air gap. This technique allows flexibility in the physical arrangement of the primary coil relative to the secondary coil and could also be suitable for vehicle charging.

CLC/TC 210 are working on a proposed resolution to overcome the blockage for the use of 'alternative test methods' in harmonized standards in conjunction with the EMC Working Party and EC officials.

Following the success of the common charger delegated act the EU is considering a common wireless charging interface and charging communication protocol for radio equipment.

This will improve consumer convenience, reduce environmental waste and avoid market fragmentation. Over the years, different wireless charging technologies have emerged and continue to develop, such as Capacitive Power Transfer (CPT), Inductive Power Transfer (IPT), Magnetic Resonance Power Transfer (MRPT), Radio Frequency Radiation Power Transfer (RFRPT), Laser Power Transfer (LPT), and Acoustic Energy Transfer (AET). However, to this day, none of them have been transposed into European or international standards.

The CENELEC joint committee on Cybersecurity Management Systems has published three standards to meet the needs of the delegated act published under the Radio Equipment Directive. The CE Marking Requirements were implemented from August 1, 2024.

The commission has also recently published the Cyber Resilience Act (CRA), which has a more comprehensive coverage which will result in new standards that will impact the recently published radio equipment standards.

Then importance of these developments for NSAI/ETC/TC16 expert members will ensure continued strong support for the work of the committee.

John McAuley

Chair of NSAI/ETC/TC 16.

2 Introduction

NSAI/ETC/TC 16 focus on standardization related to electromagnetic compatibility across the entire frequency spectrum. Consideration extends to all aspects of the ability of equipment or a system to function satisfactorily in its electromagnetic environment without introducing intolerable electromagnetic disturbances to anything in that environment.

3 Scope of TC

NSAI/ETC/TC 16 prepare European standards in the field of electromagnetic compatibility across the entire frequency spectrum.

Standards are available from www.standards.ie.

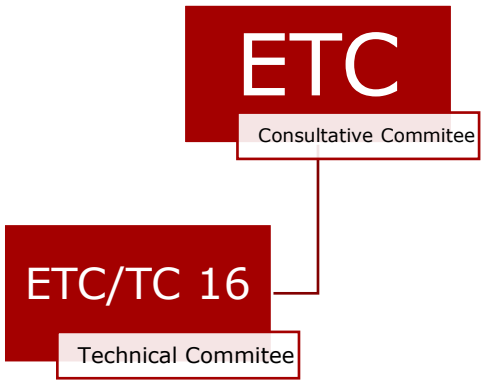
The committee mirrors the following international committees:

CLC/TC 210	Electromagnetic Compatibility (EMC)
CLC/TC 8x	System aspects of electrical energy supply
CLC/TC 47x	Semiconductor devices
CLC/TC 62	Electrical equipment in medical practice
IEC/TC 8	System aspects of electrical energy supply Related to 50160
IEC/TC 47	Semiconductor devices
IEC/TC 62	Medical equipment, software, and systems Related to 60601-1-2
IEC/TC 65	Industrial-process measurement, control and automation Related to 61326
IEC/TC 77	Electromagnetic compatibility
IEC/CISPR	International special committee on radio interference

4 Structure and Membership

4.1 Structure

The Figure below illustrates the structure of the Committee:



4.2 Irish Industry/Sector

NSAI/ETC/TC 16 is made up of manufacturers of electrical and electronic equipment, test houses, consultants, utilities, notified body, regulator, academia and equipment users.

4.3 Members

The committee welcomed 4 new organisations in 2024. ESB Networks, Siemens, Boston Scientific, and Huawei. The table below provides the committee members for the year 2024:

Organisation	Role
2RN	National committee member
Analog	National committee member
Apple	National committee member
Becton Dickinson	National committee member
Boston Scientific	National committee member
CEI	**National chairperson**
Dell	National committee member
E.M.T.	National committee member
EirGrid	National committee member
ESBN EMP	National committee member
Huawei	National committee member
Independent	National committee member
Intel	National committee member
IRTS	National committee member
NSAI	**National secretary**
Qorvo	National committee member
R-P-G	National committee member
Siemens	National committee member

5 Summary of 2024 Activities

5.1 National

5.1.1 Meetings

Committee members attended the following virtual National meetings:

Meeting No.	Date	Minutes Reference
1	2024/05/10	N0884
2	2024/12/06	N0909

5.1.2 National Work

John McAuley was re-appointed as the Chair of NSAI/ETC/TC 16 Committee on the 6th of December 2024 for a 3-year term. The committee held two national committee meetings and attended relevant IEC and CLC TC meetings during 2024. The committee are not developing any national work at present but are actively inputting Irish concerns into IEC & CENELEC development work under the scope of the committee.

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
CLC TC 210	Dublin	2024/05/13 to 2024/05/14	3 in person
CLC TC 210	Stockholm	2024/12/13 to 2024/12/14	1 in person 2 remote
2 remote"			
CLC TC 47x		24/01/2024	1
CLC TC 47x	Athens	22/10/2024	1
CLC TC 8x	Brussels	27/11/2024	1
IEC TC 62	Edinburgh	2024/10/23- 2024/10/25	1 in person 2 remote
IEC TC 62/SC 62A	Edinburgh	2024/10/21 to 2024/10/26	3
IEC TC 62/SC 62A/MT 23	San Diego	2024/01/22 – 2024/01/26	1 in person
IEC TC 62/SC 62A/WG 48		2024/04/29 to 2024/05/03	1 in person
IEC TC 62/SC 62A/WG 48		2024/09/17 to 2024/09/20	1 in person
IEC TC 62/SC 62D	Edinburgh	2024/10/21 to 2024/10/26	3
IEC TC 62A	Edinburgh	23/10/2024	1
IEC/CISPR Plenary		2024/11/14 to 2024/11/15	1
IEC/CISPR/CIS/I		06/11/2024	2
IEC/CISPR/CIS/I		2024/06/xx	1
IEC/TC 47	London	2024/11/25 to 2024/11/29	1
IEC/TC 47/SC 47A	London	2024/11/25 to 2024/11/29	1
IEC/TC 47/SC/47A/WG 2	Boston	2024/06/03 to 2024/06/06	1
IEC/TC 47/SC/47A/WG 2	London	2024/11/25 to 2024/11/29	1
IEC/TC 47/SC/47A/WG 7	Boston	2024/06/03 to 2024/06/06	1
IEC/TC 47/SC/47A/WG 7	London	2024/11/25 to 2024/11/29	1

5.2.2 International/Regional Work

Members of the committee attended maintenance teams and working group meetings. The Chair travelled to the CENELEC TC 210 Plenary meeting in Dublin in April and in Stockholm in December. Two members attended the meeting in Dublin in person. Two additional members joined the December meeting virtually. The committee members are active in both IEC and CLC plenary meetings and working group meetings and a list of meetings attended by committee members is shown in 5.2.1.

5.2.3 International/Regional Standards Reviewed

The committee continue to review standards as they arise in IEC & CLC.

The committee has been actively attending IEC & CLC meeting in relation to standard within the scope of the committee.

5.2.4 International/Regional Voting Results

NSAI/ETC/TC 16 propose a vote where required for IEC or CENELEC documents, which NSAI submits to the relevant bodies.

The committee have actively voted on 69 documents in 2024 and have submitted 14 sets of comments.

Active votes were broken down as 58 for IEC documents and 11 for CENELEC documents.

CLC/TC 210	Electromagnetic Compatibility (EMC)	Voted 5 times
CLC/TC 8x	System aspects of electrical energy supply	Voted 0 time
CLC/TC 47x	Semiconductors and Trusted Chips Implementation	Voted 3 times
CLC/TC 62	Electrical equipment in medical practice	Voted 3 times
IEC/TC 8	TC 8 Related to 50160	Voted 0 time
IEC/TC 62	TC 62 Related to 60601-1-2	Voted 0 time
IEC/TC 65	TC 65 Related to 61326	Voted 0 time
IEC/TC 47	Semiconductor devices	Voted 0 time
IEC/TC 47A	Integrated circuits	Voted 2 times
IEC/TC 47D	Semiconductor devices packaging	Voted 5 times
IEC/TC 62A	Common aspects of medical equipment, software, and systems	Voted 7 times
IEC/TC 62D	Particular medical equipment, software, and systems	Voted 13 times
IEC/TC 77	Electromagnetic compatibility	Voted 4 times
IEC/TC 77A	EMC - Low frequency phenomena	Voted 5 times
IEC/TC 77B	High frequency phenomena	Voted 3 times
IEC/TC 77C	High power transient phenomena	Voted 2 times
IEC/CISPR	International special committee on radio interference	Voted 3 times
IEC/CIS/A	Radio-interference measurements and statistical methods	Voted 3 time
IEC/CIS/B	Interference relating to industrial, scientific and medical radio-frequency apparatus, to other (heavy) industrial equipment, to overhead power lines, to high voltage equipment and to electric traction	Voted 3 times
IEC/CIS/D	Electromagnetic disturbances related to electric/electronic equipment on vehicles and internal combustion engine powered devices	Voted 1 time
IEC/CIS/F	Interference relating to household appliances tools, lighting equipment and similar apparatus	Voted 2 time
IEC/CIS/H	Limits for the protection of radio services	Voted 5 times
IEC/CIS/I	Electromagnetic compatibility of information technology equipment, multimedia equipment and receiver	Voted 0 time

Body	Vote Reference	Comments Submitted	Decision	WIID
CLC	EN IEC 55015:2019/FprA1:2024	No	In Favour	73696
CLC	EN IEC 55016-1-1:2019/prA1:2024 (Frag 2)	No	Abstain	76719
CLC	EN IEC 61000-6-3:2021/prA1(frag3):2024	No	Abstain	74848
CLC	prEN IEC 55012:2024	No	Approve	79517
CLC	prEN IEC 61000-4-2:2024	No	Approve	73976

CLC	prEN IEC 60749-21:2024	No	Abstain	80400
CLC	prEN IEC 60749-24:2024	No	Abstain	80399
CLC	prEN IEC 60749-7:2024	No	Abstain	80401
CLC	prEN IEC 63322:2024	No	Abstain	73348
CLC	prEN IEC 80601-2-52:2024	No	Abstain	71771
CLC	prEN IEC 80601-2-89:2024	No	Abstain	71768
IEC	77C/341/Q	Yes	Approve	
IEC	77C/346/CDV	No	Abstain	
IEC	CIS/D/498/CDV	No	Approve	
IEC	CIS/F/851/FDIS	No	In Favour	
IEC	CIS/F/852/CD	No	No Comment	
IEC	CIS/A/1435/CDV	No	Abstain	
IEC	CIS/A/1453/DC	No	No Comment	
IEC	CIS/A/1456/Q	Yes	Comments Only	
IEC	CIS/B/839/CD	No	No Comment	
IEC	CIS/B/840/CD	No	No Comment	
IEC	CIS/B/847/Q	No	No Comment	
IEC	CIS/H/507/CDV	No	Abstain	
IEC	CIS/H/519/Q	Yes	Comments Only	
IEC	CIS/H/521/Q	Yes	Comments Only	
IEC	CIS/H/522/Q	Yes	Comments Only	
IEC	CIS/H/524/DTR	No	No Comment	
IEC	CISPR/1524/Q	No	Approve	
IEC	CISPR/1531/Q	Yes	Approve	
IEC	CISPR/1550/Q	Yes	Comments Only	
IEC	77B/879/Q	Yes	Comments Only	
IEC	77B/890/CDV	No	Approve	
IEC	77B/893/AC	No	Noted	
IEC	47A/1161/Q	No	Approve	
IEC	47A/1166/CD	Yes	Comments Only	
IEC	47D/964/NP	No	No Comment	
IEC	47D/965/NP	No	No Comment	
IEC	47D/966/NP	No	No Comment	
IEC	47D/967/CDV	No	Abstain	
IEC	47D/969/CD	No	No Comment	
IEC	62A/1585/Q	No	No Comment	
IEC	62A/1595/Q	No	No Comment	
IEC	62A/1612/CD	No	No Comment	
IEC	62A/1619/CD	No	No Comment	
IEC	62A/1620/CD	No	No Comment	
IEC	62A/1621/Q	No	No Comment	
IEC	62A/1623/Q	Yes	Comments Only	
IEC	62D/2113/CDV	No	Abstain	

IEC	62D/2114/CDV	No	Abstain
IEC	62D/2126/CD	No	No Comment
IEC	62D/2127/CD	No	No Comment
IEC	62D/2129/CD	No	No Comment
IEC	62D/2132/CD	No	No Comment
IEC	62D/2165/CDV	No	Abstain
IEC	62D/2166/CDV	No	Abstain
IEC	62D/2175/NP	No	No Comment
IEC	62D/2178/CDV	No	Abstain
IEC	62D/2181/NP	No	No Comment
IEC	62D/2186/CD	No	No Comment
IEC	62D/2192/NP	No	No Comment
IEC	77/608/Q	Yes	Comments Only
IEC	77/614/CD	No	No Comment
IEC	77/617/DC	No	No Comment
IEC	77/618/CD	No	No Comment
IEC	77A/1210/NP	No	No Comment
IEC	77A/1213/DC	No	No Comment
IEC	77A/1214/DC	No	No Comment
IEC	77A/1216/Q	Yes	Approve
IEC	77A/1230/CD	No	No Comment

5.3 Regulatory Development/Update

The committee follow and are aware of the following Directives:

- 2014/30/EU - Electromagnetic Compatibility (EMC).
- 2014/53/EU – Radio Equipment Directive (RED).

6 Irish publications/Reviews

6.1 Publications

The committee did not publish any deliverables this year.

6.2 Reviews

The committee continue to review documents issued by IEC and CENELEC. No Irish publications were reviewed this year.

7 Work programme for 2025 onwards

It is intended to hold at least two committee meetings and to attend the plenary and working group meetings of the relevant TCs during 2025.

The committee continue to monitor both IEC and CLC work and will vote and comment on documents as they arise.

It should be noted that there are 63 work programmes taking place within CLC 210.

The number of work programmes taking place in the relevant IEC committees are listed below:

- IEC TC 77 2 work programmes,
- IEC TC 77A 10 work programmes,
- IEC TC 77B 2 work programmes.
- IEC TC 77C 2 work programmes.
- IEC TC 47A 8 work programmes.
- IEC TC 47D 13 work programmes

8 Additional Information

No additional information.