



RETLIF TESTING LABORATORIES

ARE YOU COMPLIANT? THE NEW EUROPEAN EMC  
DIRECTIVE (2014/30/EU) DEADLINE WAS APRIL 20TH



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# What We'll Cover

- General Provisions of the Directive
- Essential Requirements
- Fixed Installations
- Obligations of Economic Operators
- Presumption of Conformity
- Harmonized Standards
- Conformity Assessment Procedures
  - Internal Production Control
  - EU-Type Examination
- Application of Annex II – Internal Production Control
- Declaration of Conformity

# General Provisions

- The Directive regulates the electromagnetic compatibility of equipment.
- The Directive is applicable to 'equipment' which is defined in Chapter 1 Article 3 of the directive.

# Exclusions

- The EMC Directive does not apply to:
  - Equipment covered by the R&TTE (1999/5/EC) or from June 13, 2016 the new Radio Equipment Directive (RED) (2014/53/EU).
  - Aeronautical products, parts or appliances referred to in Regulation (EC) No 216/2008.
  - Amateur Radio Equipment.

# Making Available / Putting Into Service

- Member states are required to take all appropriate measures to ensure that equipment placed in service or made available complies with the Directive.

# Display and /or Demonstration

- Prior to demonstrating compliance, Members State cannot create any obstacles to display and/or demonstration at trade fairs, exhibitions etc.
  - Visible sign
    - May not be made available for sale until is has been brought into conformity
    - Adequate measures to avoid interference must be taken

# Annex I

## Essential Requirements

29.3.2014

EN

Official Journal of the European Union

L 96/97

### ANNEX I

#### ESSENTIAL REQUIREMENTS

##### 1. General requirements

Equipment shall be so designed and manufactured, having regard to the state of the art, as to ensure that:

- (a) the electromagnetic disturbance generated does not exceed the level above which radio and telecommunications equipment or other equipment cannot operate as intended;
- (b) it has a level of immunity to the electromagnetic disturbance to be expected in its intended use which allows it to operate without unacceptable degradation of its intended use.

##### 2. Specific requirements for fixed installations

Installation and intended use of components

A fixed installation shall be installed applying good engineering practices and respecting the information on the intended use of its components, with a view to meeting the essential requirements set out in point 1.

# Fixed Installations

- For fixed installation, many of the detailed requirements are not mandatory.
- Documentation must:
  - Identify the fixed installation
  - Its electromagnetic compatibility characteristics
  - Indicate precautions
  - Include the good engineering practices referred to point 2 of the essential requirements

# Obligations of Economic Operators

- The directive defines the obligations of:
  - Manufacturers
  - Authorized Representatives
  - Importers
  - Distributors

# Obligations of Manufacturers

- Design
- Documentation
- Conformity assessment
- Declaration and Labeling
- Instructions
- On going

# Obligations of Authorized Representatives

- The authorized representative cannot assume responsibility for:
  - Ensuring the design and manufacture of the apparatus in accordance with the Directive.
  - Drawing up the required technical documentation.

# Obligations of Importers

- Shall ensure that only compliant equipment is placed on the market.
- Prior to placing on the market, shall ensure that the appropriate conformity assessment procedure has been carried out by the manufacturer.

# Obligations of Distributors

- Obligations of distributors are identical to those of importer, with the exception that they do have to place their name and postal address with the equipment.

# Harmonized Standards

## Published in the Official Journal of the European Union

ESO <sup>(1)</sup>	Reference and title of the standard (and reference document)	Reference of superseded standard	Date of cessation of presumption of conformity of superseded standard Note 1
(1)	(2)	(3)	(4)
CEN CENELEC ETSI	EN 617:2001+A1:2010 Continuous handling e requirements for the e silos, bunkers, bins	EN 617:2001 Note 2.1	Date expired (30.6.2011)
CEN	EN 618:2002+A1:20 Continuous handling requirements for equipment except fixed belt conveyors	EN 618:2002 Note 2.1	Date expired (30.6.2011)

European  
Standardisation  
Organization

# Harmonized Standards

## Published in the Official Journal of the European Union

ESO <sup>(1)</sup>	Reference and title of the standard (and reference document)	Reference of superseded standard	Date of cessation of presumption of conformity of superseded standard Note 1
	(2)	(3)	(4)
CEN	EN 618:2002+A1:2010 Continuous handling equipment and systems — Safety and EMC requirements for the equipment for the storage of bulk materials in silos, bunkers, bins and hoppers	EN 618:2002	31/12/2011
CEN	EN 618:2002+A1:2010 Continuous handling equipment and systems — Safety and EMC requirements for equipment for mechanical handling of bulk materials except fixed belt conveyors	EN 618:2002	31/12/2011

Now EN

Reference and  
Title of Standard  
(Now EN)

# Harmonized Standards

## Published in the Official Journal of the European Union

Reference of Superseded Standard		Reference of superseded standard	Date of cessation of presumption of conformity of superseded standard Note 1
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CEN	EN 617:2001+A1:2010 Continuous handling equipment and systems — Safety and EMC requirements for the equipment for the storage of bulk materials in silos, bunkers, bins and hoppers	EN 617:2001 Note 2.1	In this case, A1:2010 has been adopted
CEN	EN 618:2002+A1:2010 Continuous handling equipment and systems — Safety and EMC requirements for equipment for mechanical handling of bulk materials except fixed belt conveyors	EN 618:2002 Note 2.1	Date expired (30.6.2011)

# Harmonized Standards

## Published in the Official Journal of the European Union

Date of Cessation  
of Presumption of  
Conformity of  
Superseded  
Standard

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CEN	EN 618:2002+A1:2010 Continuous handling equipment and systems — Safety and EMC requirements for equipment for mechanical handling of bulk materials except fixed belt conveyors	EN 618:2002 Note 2.1	Date expired (30.6.2011)

In this case  
June 30  
2011

(1)	(2)	(3)	(4)
Cenelec	EN 61000-3-11:2000 Electromagnetic compatibility (EMC) — Part 3-11: Limits — Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems — Equipment with rated current $\leq 75$ A and subject to conditional connection IEC 61000-3-11:2000	Relevant generic standard(s) Note 2.3	Date expired (1.11.2003)
Cenelec	EN 61000-3-12:2011 Electromagnetic compatibility (EMC) — Part 3-12: Limits — Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current $> 16$ A and $\leq 75$ A per phase IEC 61000-3-12:2011 IEC 61000-3-12:2011/IS1:2012	EN 61000-3-12:2005 Note 2.1	Date expired (16.6.2014)
Cenelec	EN 61000-6-1:2007 Electromagnetic compatibility (EMC) — Part 6-1: Generic standards — Immunity for residential, commercial and light-industrial environments IEC 61000-6-1:2005	EN 61000-6-1:2001 Note 2.1	Date expired (1.12.2009)
Cenelec	EN 61000-6-2:2005 Electromagnetic compatibility (EMC) — Part 6-2: Generic standards — Immunity for industrial environments IEC 61000-6-2:2005	The 61000-4-X series of standards are not published in the OJ	
	EN 61000-6-2:2005/AC:2005		

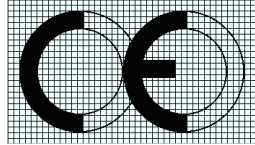
# Conformity Assessment Procedures

- Compliance shall be demonstrated by either of the following conformity assessment procedures:
  - Internal production control (Annex II).
  - EU type examination followed by conformity to type based on internal production control (Annex III).

# Internal Production Control

- Electromagnetic Compatibility Assessment
- Technical Documentation
- Manufacturing

# Internal Production Control

- The manufacturer shall affix the CE marking to each individual apparatus that complies (Article 16 & 17) 
- The manufacturer shall draw up a written EU declaration of conformity for an apparatus model and keep it together with the technical documentation (Article 15).

# Annex III – Part A

## EU – Type Examination

- A Notified Body examines the technical design of an apparatus and verifies and attests that the **TECHNICAL DESIGN** of the apparatus meets the essential requirements.

# Annex III – Part A

## EU – Type Examination

- The manufacturer lodges an application for EU-type examination with a single notified body.
- The application must specify the aspects of the essential requirements which are requested to be examined.
- Role of the Notified Body
- Manufacturers Obligation after EU-type examination

# Application of Annex II

## Internal Production Control

- Electromagnetic Compatibility Assessment
  - Selecting the appropriate standards
  - Applying the appropriate test methods
  - Operating conditions
  - Configurations
  - Performance criteria

# Select the Appropriate Harmonized Product Family Standard

Cenelec	EN 61326-1:2006 Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 1: General requirements IEC 61326-1:2005	EN 61326:1997 + A1:1998 + A2:2001 + A3:2003 Note 2.1	Date expired (1.2.2009)
Cenelec	EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 1: General requirements IEC 61326-1:2012	EN 61326-1:2006 Note 2.1	Date expired (14.8.2015)
Cenelec	EN 61326-2-1:2006 Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 2-1: Particular requirements — Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications IEC 61326-2-1:2005	EN 61326:1997 + A1:1998 + A2:2001 + A3:2003 Note 2.1	Date expired (1.2.2009)
Cenelec	EN 61326-2-1:2013 Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 2-1: Particular requirements — Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications IEC 61326-2-1:2012	EN 61326-2-1:2006 Note 2.1	Date expired (6.11.2015)

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61326-1**

January 2013

ICS 17.220; 19.080; 25.040.40; 33.100

English version

**Electrical equipment for measurement, control and laboratory use -  
EMC requirements -  
Part 1: General requirements  
(IEC 61326-1:2012)**

Matériel électrique de mesure, de  
commande et de laboratoire -  
Exigences relatives à la CEM -  
Partie 1: Exigences générales  
(CEI 61326-1:2012)

Elektrische Mess-, Steuer-, Regel- und  
Laborgeräte -  
EMV-Anforderungen -  
Teil 1: Allgemeine Anforderungen  
(IEC 61326-1:2012)

## Foreword

The text of document 65A/628/FDIS, future edition 2 of IEC 61326-1, prepared by SC 65A, "System aspects", of IEC TC 65, "Industrial-process measurement, control and automation" was submitted to the IEC-GENELEC parallel vote and approved by CENELEC as EN 61326-1:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-07-11
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-08-14

This document supersedes EN 61326-1:2006.

EN 61326-1:2013 includes the following significant technical changes with respect to EN 61326-1:2006:

- the immunity test levels and performance criteria have been reviewed;
- requirements for portable test and measurement equipment have been clarified and amended;
- the description of the electromagnetic environments has been improved.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

## Endorsement notice

The text of the International Standard IEC 61326-1:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60359	NOTE Harmonized as EN 60359.
IEC 61000-6-1:2005	NOTE Harmonized as EN 61000-6-1:2007 (not modified).
IEC 61000-6-2:2005	NOTE Harmonized as EN 61000-6-2:2005 (not modified).
IEC 61010 series	NOTE Harmonized in EN 61010 series (not modified).

**Table 1 – Immunity test requirements for equipment  
intended to be used in a basic electromagnetic environment**

Port	Phenomenon	Basic standard	Test value	Performance criterion
Enclosure	Electrostatic discharge (ESD)	IEC 61000-4-2	4 kV contact discharge 8 kV air discharge	B B
	Electromagnetic field	IEC 61000-4-3	3 V/m (80 MHz to 1 GHz) 3 V/m (1,4 GHz to 2 GHz) 1 V/m (2,0 GHz to 2,7 GHz)	A A A
	Power frequency magnetic field	IEC 61000-4-8	3 A/m (50 Hz, 60 Hz) <sup>f</sup>	A
AC power (including protective earth)	Voltage dip	IEC 61000-4-11	0 % during half cycle 0 % during 1 cycle 70 % during 25/30 <sup>g</sup> cycles	B B C
	Short interruptions	IEC 61000-4-11	0 % during 250/300 <sup>g</sup> cycles	C
	Burst	IEC 61000-4-4	1 kV (5/50 ns, 5 kHz)	B
	Surge	IEC 61000-4-5	0,5 kV <sup>a</sup> /1 kV <sup>b</sup>	B
	Conducted RF	IEC 61000-4-6	3 V (150 kHz to 80 MHz)	A
DC power <sup>d, e</sup> (including protective earth)	Burst	IEC 61000-4-4	1 kV(5/50 ns, 5 kHz)	B
	Surge	IEC 61000-4-5	0,5 kV <sup>a</sup> /1 kV <sup>b</sup>	B
	Conducted RF	IEC 61000-4-6	3 V (150 kHz to 80 MHz)	A
I/O signal/control (including functional earth )	Burst	IEC 61000-4-4	0,5 kV <sup>d</sup> (5/50 ns, 5 kHz)	B
	Surge	IEC 61000-4-5	1 kV <sup>b, c</sup>	B
	Conducted RF	IEC 61000-4-6	3 V <sup>d</sup> (150 kHz to 80 MHz)	A
I/O signal/control connected directly to mains supply	Burst	IEC 61000-4-4	1 kV(5/50 ns, 5 kHz)	B
	Surge	IEC 61000-4-5	0,5 kV <sup>a</sup> /1 kV <sup>b</sup>	B
	Conducted RF	IEC 61000-4-6	3 V (150 kHz to 80 MHz)	A
<sup>a</sup> Line to line. <sup>b</sup> Line to ground. <sup>c</sup> Only in the case of long-distance lines (see 3.10). <sup>d</sup> Only in the case of lines >3 m. <sup>e</sup> For example "25/30 cycles" means "25 cycles for 50 Hz test" or "30 cycles for 60 Hz test". <sup>f</sup> Only to magnetically sensitive equipment. CRT display interference is allowed above 1 A/m. <sup>g</sup> DC connections between parts of equipment/system which are not connected to a d.c. distribution network are treated as I/O signal/control ports.				

# Emissions Limits

– 18 –

BS EN 61326-1:2013

61326-1 © IEC:2012

## 7.2 Emission limits

The equipment shall be classified and respective information shall be provided per the applicable group and class as specified within CISPR 11:2009, Clause 5. Equipment classification and choice of respective limits shall be determined after taking into account the intended environment and emission requirement in the areas of use.

For Class A equipment, the limits, the measuring methods and the provisions given in CISPR 11 apply.

For Class B equipment, the limits, the measuring methods and the provisions given in CISPR 11, IEC 61000-3-2 (or IEC 61000-3-12) and IEC 61000-3-3 (or IEC 61000-3-11) apply.

For equipment using frequencies in the ISM bands, see CISPR 11.

# Normative References

BS EN 61326-1:2013  
EN 61326-1:2013

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, in this document, the relevant modification is indicated.

Publication	Year	Title	Publication	Year
IEC 60050	Series	International Electrotechnical Vocabulary		
IEC 61000-3-2	2005	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current $\leq 16$ A per phase)		
+ A1	2008			
+ A2	2009			
IEC 61000-3-3	2008	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current $\leq 16$ A per phase and not subject to conditional connection		
IEC 61000-3-11	2000	Electromagnetic compatibility (EMC) - Part 3-11: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems - Equipment with rated current $\leq 75$ A and subject to conditional connection	EN 61000-3-11	2000
IEC 61000-3-12	2011	Electromagnetic compatibility (EMC) - Part 3-12: Limits - Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current $> 16$ A and $\leq 75$ A per phase	EN 61000-3-12	2011
IEC 61000-4-2	2008	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	2009
IEC 61000-4-3	2006	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated electromagnetic immunity test		
+ A1	2007			
+ A2	2010			
IEC 61000-4-4	2004	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electromagnetic immunity test		
+ corr. June	2007			
+ A1	2010			
IEC 61000-4-5	2005	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Immunity to radio frequency interference	EN 61000-4-5	2006
+ corr. October	2008			

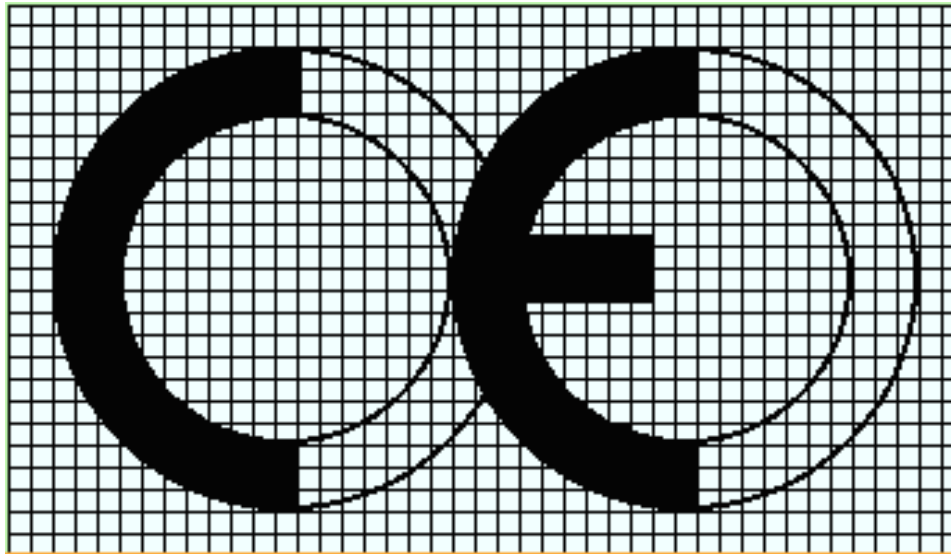
For dated references, only the edition cited applies.

IEC 61000-4-4: 2012

# Application of Annex II

## Internal Production Control

- Establish Technical Documentation.
- Ensure manufacturing processes.
- CE Mark



## EU Declaration of Conformity (DoC)

We

Company name: Name of manufacturer or authorised representative  
 Postal address: Any street  
 Postcode and City: Postcode Any city  
 Telephone number: Telephone number  
 E-Mail address: E-Mail@anyway.com

declare that the DoC is issued under our sole responsibility and belongs to the following product:

Apparatus model/Product: Apparatus  
 Type: Type  
 Batch: Batch  
 Serial number: Serial number

Object of the declaration (identification of apparatus allowing traceability; it may include a colour image of sufficient clarity where necessary for the identification of the apparatus):



The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

Directive 2004/108/EC (until 19th April, 2016) and Directive 2014/30/EU (from April 20th, 2016)

e.g. Low Voltage Directive (LVD) 2006/95/EC  
 e.g. Ecodesign Directive 2009/125/EC

The following harmonised standards and technical specifications have been applied:

Title:	Date of standard/specification
e.g. EN 55014	2006 + A1:2009 + A2:2011
...	...
...	...
...	...
...	...

Notified body (where applicable):

Name of notified body: 4 digit notified body number  
 Reference number of the certificate of notified body

Additional information:

Additional information

Signed for and on behalf of:

Place and date of issue

Place and date of issue

Name, function, signature

# Summary

- The new Directive provides 2 paths to conformity.
- Harmonized standards are still the primary means to demonstrate compliance.
- Specific labeling and user information requirements defined.
- DoC and Technical Documentation must be completed and held, made available to authorities on request.
- Questions?

# Questions and Answers

**Q. What would you recommend as the best method for keeping up-to-date on new harmonized standards?**

A. The harmonized standards once published in the OJ, are listed on the [Europa website](#). You may also subscribe to the RSS feed which provides automatic updates.

**Q. Will the European Commission eventually publish a list of harmonized standards in the OJ which actually state 201/30/EU, or shall it continue to refer to 2004/108/EC?**

A. It is anticipated that the EU will publish a new list and at that time will have reference to the new directive. It should be noted that while the OJ has not been published referencing the new directive, the Europa page does reference both 2004/108 and 2014/30.

# Questions and Answers

**Q. Please confirm that there is no need in the CE DoC to refer to the “AC” version of the harmonized standard (the version without an expiration date for the previous version, e.g., EN 60730-2-7:2010/AC:2011).**

A. While the AC is an administrative corrigendum only, it would be my recommendation to reference the standard applied exactly as published in the OJ, including the AC if that was in fact what was applied.

**Q. The manufacturing address may be printed only on the packaging instead of on the product itself, right?**

A. Only in those cases where it is not possible to place the required information on the device: Article 7, Point 6 states: *Manufacturers shall indicate, on the apparatus, their name, registered trade name or registered trademark and the postal address at which they can be contacted or, where that is not possible, on its packaging or in a document accompanying the apparatus.*

# Questions and Answers

**Q. How do tech docs differ from the former TCF?**

A. The technical documentation required under the new directive includes conceptual design and manufacturing drawings and schematics, not formally required under the old directive. In addition, the manufacturer is required to include an analysis and assessment of the risk(s).

**Q. Richard, your sound quality was much clearer than some other presenters. Could you please tell us what kind of Mic you are using?**

A. Logitech h390 USB Headset

# Questions and Answers

**Q. Why does 61000-6-2 or 61326-1 not reference 61000-4-34 for dips and interrupts for above 16A?**

A. This is a question better answered by the committee responsible for the product standard.

**Q. In practice, for the Declaration of Conformity documents which compliance with previous Directive 2004/108/EU, do we need to update to DOC Document?**

A. Yes, the directive needs to be updated to contain: a reference to the new directive, a statement that the declaration is issued under the sole responsibility of the manufacturer and a statement that the object of the declaration is in conformity with relevant Union harmonization legislation.

# Questions and Answers

**Q. What is new in 2014/30/EU compared to 2010/108/EU?**

A. The most significant change is related to the role of the Notified Body and the EU-Type examination process. There are, however, details in the technical documentation and declaration of conformity as well as the obligations of economic operators that need to be considered.

**Q. I am looking at [http://ec.europa.eu/growth/index\\_en.htm](http://ec.europa.eu/growth/index_en.htm) but do not see the RED on the list. Is this the right place to look?**

A. Information on the RED may be found [here](#).

# Questions and Answers

**Q. Who should write and sign a declaration if the manufacturer is outside the EU?**

A. The manufacturer is responsible for drawing up the EU declaration of conformity.

**Q. Who is responsible if the apparatus does not meet the requirements when the manufacturer is outside of EU?**

A. Importers and distributors have obligations under the directive to cooperate with national authorities to provide technical documentation to support conformance with the essential requirements when requested. They also have obligations in the case of non-conformities to take necessary corrective actions.

# Questions and Answers

**Q. Is software and firmware information mandatory to be added to the EMC DoC?**

A. The declaration of conformity is required to include those items identified in Annex IV. Software would need to be addressed in the technical documentation compiled by the manufacturer in support of the DoC.

**Q. Is there a centralized database setup for (on-RF) devices?**

A. No, not to my knowledge.