Changes in EMC standards and European regulation

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The new European EMC Directive

- Directive 2014/30/EU of 26 February 2014
- Replaces 2004/108/EC, now formally repealed but this has no practical effect for manufacturers
- Comes into effect on 20 April 2016
- Can be cited in Declarations of Conformity ONLY when at least ONE Member State has implemented it in national legislation
No changes to technical requirements

The ‘technical requirements’ in the Directive are just the generalized ‘Essential requirements’:

– no unacceptable emissions
– no undue sensitivity to permitted emissions
– good engineering practices in fixed installations
Documentation 1

• No rush to change Declarations of Conformity
• For running products – Article 45 of the new Directive aliases references to the old one to the new one
• For new products – the new Directive cannot be cited in a DoC until at least one Member State has implemented it.
• DoC must be ‘continuously updated’. (This applies to the official document; it may not apply to copies supplied for information only.)

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Documentation 2

Manufacturers:
• Technical assessment file, kept for 10 years
• Intelligible instructions
• ‘External’ conditions for conformity: e.g. ‘class A’, cables
Marked on the product in acceptable language:
• Type, batch or serial number
• Name, trade name or registered mark
• Single postal address

Importers and distributors are ‘manufacturers’ if they modify the product

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The distribution chain 1

Not explicitly addressed previously.

Importers:
• shall not market non-compliant product and must apply due diligence to ensure that
• ‘External’ conditions for conformity: e.g. ‘class A’, cables

Mark on the product in acceptable language:
• Name, trade name or registered mark
• Single postal address
Distributors:

- must apply ‘due care’ concerning the Directive (less than ‘due diligence’, but very little less)
- must check for CE marking and intelligible instructions and ‘external’ conditions for conformity: e.g. ‘class A’, cables
- ensure that products are not damaged so as to no longer conform
Conformity assessment bodies

Radical changes in some countries

• Single ‘notifying authority’, usually the national accreditation body

• New legal requirements for conformity assessment bodies; some small ones may disappear.
New EMC standards for audio

Emission standard CISPR 32/ EN 55032
Published, but it is still being amended

Immunity standard CISPR 35/EN 55035
In deep trouble

EN55103-1 and -2 will be withdrawn, but we really don’t know when; Part 1 is due to go in 2017

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CISPR 32/EN 55032

This emission standard, which applies to all ‘multimedia’, was originally expected to be non-controversial, but that was a long time ago, and it wasn’t. Nevertheless, it contains few surprises.

Edition 1 published 2012 + two corrigenda
Edition 2 Five ‘fragments’ at the FDIS stage PLUS three ‘fragments’ of Amendment 1 at the CDV stage

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CISPR 35/EN 55035

This project ran out of time twice and has now effectively run out again, so in CISPR it has to be re-started. However, (identical) EN 55035 passed its vote in CENELEC, but with significant opposition. The outcome of this is not yet known. In any case, there might be amendments and even a new edition to follow.
Don’t take my word for it

... or anyone else’s
The new standards are large and complex, so it is important to obtain copies and study them. Any review or comparison with other standards is practically bound to leave out something that matters for YOUR product.
So what changed for emissions?

87 pages instead of 33, so this is ‘broad brush’:

• Classes A and B instead of five environments
• Particular requirements for ‘FM receivers’ (not restricted to broadcast receivers!)
• IEC/EN 61000-3-2, -3, -11 and -12 are not mentioned, because they apply in their own right
• Asymmetric and differential mode conducted emissions are included
• Magnetic field emissions are NOT included
...and what changed for immunity?

79 pages instead of 42, so this is ‘broad brush’:

- Totally new approach – requirements specified for each function, to cover multi-function products
- Enclosure ports tested up to 5 GHz and up to 30 V/m
- No magnetic field immunity tests
- (Based on the latest draft, that field its vote in CISPR)
Application to professional audio products

Professional audio users demand better EMC control than CISPR 32 and 35 provide. Our product standards in the IEC 60268 series can address this. In IEC 60268-4, the EU requirements are explained, and are supplemented by requirements ‘to preserve programme quality’. This approach can be used for products other than microphones, e.g. amplifiers in IEC 60268-3.
QUESTIONS?

I may need assistance to hear your question. Please speak slowly and clearly.

Thank you for your attention