

P1848

Submitter Email: apd@dmu.ac.uk
Type of Project: New IEEE Standard
PAR Request Date: 29-Sep-2015
PAR Approval Date: 05-Feb-2016
PAR Expiration Date: 31-Dec-2020
Status: PAR for a New IEEE Standard

1.1 Project Number: P1848
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Title: Techniques & Measures to Manage Risks With Regard to Electromagnetic Disturbances

3.1 Working Group: TECHNIQUES AND MEASURES TO MANAGE RISKS WITH REGARD TO ELECTROMAGNETIC DISTURBANCES (EMC/SDCom/RISK MANAGEMENT)

Contact Information for Working Group Chair

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Contact Information for Working Group Vice-Chair

None

3.2 Sponsoring Society and Committee: IEEE Electromagnetic Compatibility Society/Standards Development Committee (EMC/SDCom)

Contact Information for Sponsor Chair

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4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 12/2017

4.3 Projected Completion Date for Submittal to RevCom: 05/2018

5.1 Approximate number of people expected to be actively involved in the development of this project: 15

5.2 Scope: This standard provides a set of practical methods for managing risks due to Electromagnetic (EM) disturbances throughout the life of a product.

This includes all types of errors, malfunctions or failures in products, equipment and systems that employ modern digital technologies (i.e. hardware and software).

5.3 Is the completion of this standard dependent upon the completion of another standard: No

5.4 Purpose: The purpose of this standard is to provide requirements for the techniques and measures used in the design, verification and validation of systems, hardware and software (firmware).

These would be applied where EM disturbances could cause errors, malfunctions or failures leading to unacceptable risks over the lifetime of equipment; whether safety or any other kind of risk is to be managed.

5.5 Need for the Project: Laboratory testing is generally all that is done regarding EMC, in applications where electronic errors, malfunctions or failures could cause unacceptable risks.

However, no practicable amount of EMC laboratory testing, whatever the immunity test levels, can - on its own - demonstrate that EM disturbances will not cause unacceptable levels of risk over the lifetime of an electronic equipment/system. Adding the techniques and measures in this proposed standard to the present EMC laboratory testing regime, will make it practicable to demonstrate that EM disturbances will not

be a cause of unacceptable risks.

5.6 Stakeholders for the Standard: Manufacturers of electronic products, equipment and/or systems. Designers of electronic products, equipment and/or systems. Installers of electronic products, equipment and/or systems. Specialized risk assessors, whether for safety or for any other issues where risk must be managed.

Intellectual Property

6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: Yes

If yes please explain: The Working Group is currently reviewing the following guides for potential input with modifications, copyright permissions might be required:

a) "Electromagnetic compatibility for functional safety", The Institution of Engineering and Technology (IET), August 2008,

www.theiet.org/factfiles/emc/emc-factfile.cfm

b) "Overview of techniques and measures related to EMC for Functional Safety", The IET, August 2013,

www.theiet.org/factfiles/emc/emc-overview.cfm

(The IET is the Institution of Engineering and Technology, based in London, UK, which used to be called the Institution of Electrical Engineers.)

6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

7.1 Are there other standards or projects with a similar scope?: Yes

If Yes please explain: The following two standards and one project have scopes that only cover safety risks, whereas the standard proposed will cover all risk types.

Also, the development timescales of the two standards below means that editions that include clear and correct expositions of the proposed practical techniques and measures (based upon a guide published by an IET Working Group in 2013) cannot be published before about 2022 (for a) or 2020 (for b), and will probably be later.

a) IEC 61000-1-2: "Electromagnetic Compatibility (EMC) - Part 1-2: General - Methodology for the achievement of functional safety of electrical and electronic systems including equipment with regard to electromagnetic phenomena"

b) IEC 60601-1-2, "Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral Standard: Electromagnetic disturbances - Requirements and tests"

c) "IET Code of Practice on EM Resilience" - currently only starting its initial draft stage, so the above working title is provisional.

and answer the following

Sponsor Organization: See above

Project/Standard Number: See above

Project/Standard Date:

Project/Standard Title: See above

7.2 Joint Development

Is it the intent to develop this document jointly with another organization?: No

8.1 Additional Explanatory Notes (Item Number and Explanation):