
P2520.2.1

Submitter Email: e.danesh@gmail.com
Type of Project: New IEEE Standard
Project Request Type: Initiation / New
PAR Request Date: 01 Aug 2020
PAR Approval Date: 24 Sep 2020
PAR Expiration Date: 31 Dec 2024
PAR Status: Active

1.1 Project Number: P2520.2.1
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Project Title: Standard for Machine Olfaction Devices and Systems Used for General Outdoor Odor Monitoring

3.1 Working Group: Machine olfaction devices and systems used for general outdoor odour monitoring(SEN/SC/TMODS/OOM/2520.2.1)

3.1.1 Contact Information for Working Group Chair:

Name: Ehsan Danesh

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3.1.2 Contact Information for Working Group Vice Chair:

None

3.2 Society and Committee: IEEE Sensors Council/Standards Committee(SEN/SC)

3.2.1 Contact Information for Standards Committee Chair:

Name: Gerard Hayes

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3.2.2 Contact Information for Standards Committee Vice Chair:

None

3.2.3 Contact Information for Standards Representative:

None

3.3 Co-Stds Committee(s):

3.3.1 IEEE Industrial Electronics Society/Industrial Electronics Society Standards Committee (IES/IES)

Contact Information for Standards Representative:

Name: Victor Huang

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4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot: Apr 2022

4.3 Projected Completion Date for Submittal to RevCom: Apr 2023

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

5.2 Scope of proposed standard: This standard specifies a step-wise approach with test methods for performance verification of machine olfaction systems and devices that are designed to monitor outdoor odors.

5.3 Is the completion of this standard contingent upon the completion of another standard? Yes

Explanation: This standard will build upon the requirements of Standard 2520.1 for baseline performance for odor analysis devices and systems.

5.4 Purpose: This standard defines procedures for assessing the performance of a device that is designed to monitor odorous chemicals in outdoor environments that may cause odor nuisance or safety risks. This standard contains important quantitative and technical specifications for odor testing methods intended to improve the reliability of odor analysis in the field and to realize broader use of odor monitoring devices.

5.5 Need for the Project: Electronic nose (e-nose) devices are representing an alternative to traditional analytical and sensorial techniques (e.g., chemical analyses and dynamic olfactometry), because they can evaluate and classify odors in real time. However, the performance of these devices can be significantly influenced by the varying environmental conditions (e.g., temperature and humidity) and the presence of non-odorous cross-interfering gases. Therefore, there is a need for standardized test protocols for performance verification of these measurement systems. This standard will allow manufacturers to establish

the quality assurance level (QAL) of their instruments. It will also provide tools for the end-user to evaluate instrument suitability, quantify measurement uncertainty, and establish an appropriate calibration/maintenance program.

5.6 Stakeholders for the Standard: -Sensor manufacturers, instrument manufacturers, companies purchasing instruments for general applications, users who monitor odors, academics and those in the research sector, regulatory agencies.

6.1 Intellectual Property

6.1.1 Is the Standards Committee aware of any copyright permissions needed for this project?

No

6.1.2 Is the Standards Committee aware of possible registration activity related to this project?

No

7.1 Are there other standards or projects with a similar scope? No

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

8.1 Additional Explanatory Notes: