

# ISO 17534-1:2015-05 (E)

## Acoustics - Software for the calculation of sound outdoors - Part 1: Quality requirements and quality assurance

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		v
1	Scope .....	1
2	Terms and definitions .....	1
3	Quality assurance of software with calculation methods implemented .....	3
4	Requirements for consistently implementable calculation methods .....	4
4.1	Documentation .....	4
4.2	Completeness .....	4
4.3	Unambiguity .....	5
4.4	Consideration of software strategies .....	5
4.5	Test cases -- The verification of the correct implementation .....	5
4.5.1	The purpose of test cases .....	5
4.5.2	The design of test cases and test scenarios .....	5
4.5.3	The definition of a set of test cases .....	6
4.5.4	Single ray point to point calculation module P2P .....	6
5	Quality requirements for software products .....	7
5.1	Product description and user documentation .....	7
5.1.1	Functionality .....	7
5.1.2	User guidance and user support .....	7
5.2	Properties of the software to support quality assurance .....	8
5.2.1	General .....	8
5.2.2	Control of the model and the calculation .....	8
5.2.3	Determination of uncertainty caused by the application of approximation procedures .....	8
5.2.4	Quality assurance interface (QA) to allow data exchange .....	8
6	Declaration of Conformity (DoC) .....	8
7	Checks to be done by the program user .....	9
7.1	Applying the software with test cases .....	9
7.2	Determination of the uncertainty at receiver points introduced by a modified configurations .....	9
Annex A (normative)	Test cases/scenarios .....	10
Annex B (normative)	Declaration of Conformity (DoC) .....	15
Annex C (informative)	Estimation of uncertainty by statistical evaluation of level differences .....	18
Annex D (informative)	Quality Assurance Interface (QA) .....	22
Bibliography .....		23