Australian Standard™

Methods of measurement on radio receivers for various classes of emission

Part 4: Radio-frequency measurements on receivers for frequency-modulated sound-broadcasting emissions

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This Australian standard was prepared by Committee TE/14, Radiocommunications. It was approved on behalf of the Council of the Standards Association of Australia on 15 September 1986 and published on 3 November 1986.

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Australian Electrical and Electronic Manufacturers Association

Confederation of Australian Industry

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AUSTRALIAN STANDARD

METHODS OF MEASUREMENT ON RADIO RECEIVERS FOR VARIOUS CLASSES OF EMISSION

Part 4 RADIO-FREQUENCY MEASUREMENTS ON RECEIVERS FOR FREQUENCY-MODULATED SOUND-BROADCASTING EMISSIONS

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PREFACE

This standard was prepared by the Association's Committee on Radiocommunications. It is identical with and has been reproduced from IEC 315-4(1982)* drawn up by IEC/TC 12, Radiocommunications.

The standard specifies conditions and methods of measurement for the comparative assessment of the performance of a complete FM radio receiver. It is a catalogue of selected measurements but does not specify limiting values.

This standard applies to radio receivers (including tuners) designed for monophonic or stereophonic frequency modulated sound-broadcast transmissions in the VHF band. Most of the methods are applicable to FM receivers designed to receive transmissions in other bands. The standard is intended to be used with IEC 315-1* and IEC 315-2* in which general conditions and methods of measurement are given for characteristics applicable to all types of radio receivers. The full text of the references to these IEC Publications is given in Annex 1 (for IEC 315-1) and Annex 2 (for IEC 315-2).

For the purpose of this Australian standard, the text of the IEC Publication used herein should be modified as follows:

(a) *Terminology:* The words 'Australian Standard' should replace the words 'IEC Publication' wherever they appear.

(b) *Cross-references:* The references to IEC Publications should be replaced by references to Australian Standards as follows:

Reference to IEC Publication		*Appropriate Australian Standards*	
IEC 98A:	Methods of Measuring Characteristics of Disk Record Playing Units	AS .... Part 8.	Sound System Equipment Record and Playing Equipment†
IEC 106:	Recommended Methods of Measurement of Radiated and Conducted Interference from Receivers for Amplitude-modulation, Frequency-modulation and Television Broadcast Transmissions	AS 1053	Radio Interference Limits and Measurements for Television and Radio Equipment
IEC 225:	Octave, Half-octave and Third-octave Band Filters Intended for the Analysis of Sounds and Vibrations	AS Z41:	Octave, Half-octave and Third-octave Band Filters Intended for the Analysis of Sounds and Vibrations
IEC 268:	Sound System Equipment	AS 1127	Sound System Equipment
IEC 268-2	Explanation of General Terms	AS 1127.1	General
IEC 268-3	Sound System Amplifiers	AS 1127.2	Sound System Amplifiers
IEC 315:	Methods of Measurement on Radio Receivers for Various Classes of Emission	No Australian equivalent	
IEC 315-1	General Conditions of Measurement and Measuring Methods Applying to Several Types of Receivers	No Australian equivalent. For convenience of readers the text of cross-references to IEC 315-1 is given in Annex 1 herein.	
IEC 315-2	Measurements Particularly Related to the Audio-frequency part of a Receiver	No Australian equivalent. For convenience of readers the text of cross-references to IEC 315-2 is given in Annex 2 herein.	

* IEC 315 Method of Measurement on Radio Receivers for Various Classes of Emission

Part 1: General Conditions of Measurements and Measuring Method Applying to General Types of Receivers

Part 2: Measurements Particularly Related to the Audio-Frequency Part of a Receiver.

Part 4: Radio-frequency Measurements on Receivers for Frequency-modulated Sound-broadcasting Emission

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IEC 315–5	Specialized Radio-frequency Measurements. Measurements on Frequency-modulated Receivers of the Response to Impulsive Interference	No Australian equivalent
CISPR 13	Limits and Methods of Measurement of Radio Interference Characteristics of Sound and Television Receivers	AS 1053 Radio Interference Limits and Measurements for Television and Radio Equipment
CCIR 412.4	A.F. Signal Interference Ratio	No Australian equivalent
447.1	A.F. and R.F. Protection Ratios	No Australian equivalent
468.2	A.F. and R.F. Protection Ratios	No Australian equivalent
458	Stereophonic Systems	No Australian equivalent

(c) *Page number references.* The text references apply to the IEC page number at the bottom left-hand corner of each page.

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METHODS OF MEASUREMENT ON RADIO RECEIVERS FOR VARIOUS CLASSES OF EMISSION

Part 4: Radio-frequency measurements on receivers for frequency modulated sound-broadcasting emissions

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CHAPTER I: GENERAL

SECTION ONE — INTRODUCTION

1. Object

This standard is intended to specify the conditions and methods of measurement to be used to determine the characteristics of a radio receiver, so as to make possible the comparison of results of measurements made by different observers. Limiting values of the various quantities for acceptable performance are not specified.

It constitutes a catalogue of selected measurements, recommended for assessing the essential properties of radio receivers. The methods of measurement are generally conceived to permit analyzing the overall performance of the receiver, considered as a quadripole (two-port) without any attempt to study its elements separately. However, depending on the characteristic to be measured and the type of receiver, it may be practicable, for experimental simplification, to carry out measurements on parts of the receiver by injection or extraction of signals at appropriate places in its circuits.

This standard is neither mandatory nor limiting, a choice of measurements being made in many cases. If necessary, additional measurements may be carried out, in accordance with standards laid down by other IEC Technical Committees or Sub-Committees or by other international standardization bodies.

2. Scope

This part describes methods of measurements to be applied to radio receivers (with or without audio amplifiers) designed for monophonic and stereophonic frequency modulated sound broadcast transmissions in ITU band 8 (VHF). Most of the methods are applicable to receivers designed for such broadcast transmission in other bands. It is intended to be used with IEC Publications 315-1: Methods of Measurement on Radio Receivers for Various Classes of Emission, Part 1: General Conditions for Measurements and Measuring Methods Applying to Several Types of Receivers, and 315-2: Part 2: Measurements Particularly Related to the Audio-frequency Part of a Receiver, in which general conditions and methods of measurement are given for various characteristics which are deemed to be applicable to all types of receivers.

Notes 1. — Methods of measurement of the immunity to impulsive interference entering through the antenna circuit are contained in IEC Publication 315-5, Part 5: Specialized Radio-frequency Measurements — Measurement on Frequency-modulated Receivers of the Response to Impulsive Interference.

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