AS 1417:2015

Receiving antennas for radio and television in the VHF and UHF broadcast bands—Design, manufacture and performance of outdoor terrestrial television antennas

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- Australian Communications and Media Authority
- Australian Digital and Telecommunications Industry Association
- Australian Industry Group
- Australian Information Industry Association
- Australian Subscription Television and Radio Association
- CHOICE
- Commercial Radio Australia
- Community Broadcasting Association of Australia
- Consumer Electronics Suppliers Association
- Department of Communications (Australian Government)
- Free TV Australia
- Media Access Australia

This Standard was issued in draft form for comment as DR AS 1417.1:2014.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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PREFACE

This Standard was prepared by the Standards Australia Committee CT-002, Broadcasting and Related Services, to supersede AS 1417.1(Int)—2011 (in part), *Receiving antennas for radio and television in the VHF and UHF broadcast bands—Design, manufacture and performance of outdoor terrestrial TV antennas*, and AS 1417.2—1991, *Receiving antennas for radio and television in the frequency range 30 MHz to 1 GHz—Performance*. This Standard is the result of consensus among representatives of the Joint Standards Australia/Standards New Zealand Committee CT-002 to prepare it as an Australian Standard.

The objective of this Standard is to specify requirements for the design and manufacture of outdoor antennas for the reception of digital terrestrial television transmitted in the high VHF and UHF bands and to provide the necessary performance specification and recommended values for manufacturers to make products suitable for the Australian environment.

This Standard now requires that figures for antenna gain be referenced to an isotropic antenna and consequently expressed in dBi whereas previous versions referenced antenna gain to a dipole and thus were expressed in dBd.

The term ‘informative’ has been used in this Standard to define the application of the appendices to which it applies. An ‘informative’ appendix is only for information and guidance.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for outdoor terrestrial TV antennas for the reception of digital television. It provides specifications for minimum electrical performance and aspects of mechanical design for reception of terrestrial digital television broadcasts.

This Standard also provides a number of alternate measurement techniques that may be used to determine the performance of the antenna, along with information and guidance on their use.

Requirements for the reception of analog television transmissions are not specified in this Standard, as analog terrestrial television transmissions in Australia have ceased.

This Standard only considers receiving antennas suitable for Australian digital terrestrial television (DTT) services that operate in VHF Band III (174 to 230 MHz), and UHF Bands (519 to 694 MHz).

This Standard does not include Band I or Band II reception capabilities that are not required for Australian DTT. Band II reception for FM radio is not covered by this Standard.

VHF reception capability for analog channels below Channel 6 should not be included, because this may be detrimental to the required antenna performance for digital television reception.

The 694 MHz to 820 MHz section of Band V (Channels 52 to 69) has been reallocated to transmissions for mobile broadband services plus other uses. Reception capability in that part of the spectrum should be minimized as it may also be detrimental to good DTT reception.

NOTES:

1 Appendix A gives information and guidance on antenna parameter measurements for a range of signal conditions and different antenna types.

2 Appendix E gives further information about expected signal levels and failure mechanisms of digital TV reception.

3 For details of how an antenna output should be distributed to multiple outlets as is required in single and multi-dwelling installations, refer to the latest edition of AS/NZS 1367.

4 Additional ancillary requirements may include (integral) filters for rejection of interference from devices using an adjacent spectrum, such as mobile broadband services.

5 Installation advice may be found in *Digital TV Antenna Systems*, published by the Australian Building Codes Board (http://www.abcb.gov.au). Certificate III in Telecommunications Technology also provides guidance (refer to http://www.training.gov.au).

1.2 APPLICATION

This Standard is applicable to outdoor television antennas capable of receiving Australian digital television signals. This includes various types of antennas, such as Yagi, phased-array and panels log-periodic designs which can operate over VHF Band III and UHF frequency bands.

