AS 4294(Int)—1995
(Expires 5 July 1999)

Interim Australian Standard®

AMPS receiver immunity to interfering signals employing amplitude modulation

This Interim Australian Standard was prepared by Committee TE/3, Electromagnetic Interference. It was approved on behalf of the Council of Standards Australia on 9 March 1995 and published on 5 July 1995.

The following interests are represented on Committee TE/3:

Association of Consulting Engineers, Australia
Association of New Zealand Electrical Appliance Distributors
Australian Broadcasting Corporation
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Australian Information Industry Association
Australian Telecommunications Authority
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National Standards Commission, Australia
Optus Communications
Public Transport Corporation (Melbourne)
Society of Automotive Engineers, Australia
Spectrum Management Agency, Australia
Telecom Australia
Wireless Institute of Australia

Additional interests participating in preparation of Standard:

Australian Mobile Telecommunications Association

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TE/3 on Electromagnetic Interference as an Interim Australian Standard and is the result of a consensus among Australian and New Zealand representatives on the Joint Committee to produce it as an Australian document only.

The object of this Standard is to confer protection to an Advanced Mobile Phone System cellular mobile station receiver against the interfering effects of radiated signals employing amplitude modulation in the band immediately above the AMPS B mobile receive band, between 890 MHz and 915 MHz. It is referenced by Austel Technical Standard TS 005/Amdt 2/1994 and should be read in conjunction with Austel Technical Standard TS 005–1992, *Analogue Cellular Mobile Telecommunications System—AMPS Mobile Station*, including amendments TS 005/Amdt 1/1994-04-18 and TS 005/Amdt 2/1994, which apply.

Standards Australia invites comment on this Interim Standard from persons and organizations concerned with this subject. The date of expiry for comment is two years after publication at which time this Interim Australian Standard will be confirmed, withdrawn or revised in the light of public comment or published as an Australian Standard. During the life of this document the Committee will monitor all comment as it is received.

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STANDARDS AUSTRALIA

Australian Standard

AMPS receiver immunity to interfering signals employing amplitude modulation

1 SCOPE This Standard describes methods of measurement and test levels to determine the radiofrequency immunity of advanced mobile phone system (AMPS) cellular mobile station receivers against the interfering effects of amplitude modulated signals radiated in the frequency band between 890 MHz and 915 MHz inclusive.

This Standard applies to all AMPS analogue cellular mobile stations incorporating an integral antenna or with provision for the direct attachment of an antenna, that have been based upon the mobile station and air interface parts of the USA Electronic Industries Association (EIA) Standards ANSI/EIA/TIA-553 and EIA IS-19-B. Methods of test are described for hand-held mobile stations. Methods of test for transportable mobile stations are under consideration.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

EIA

IS-19-B EIA Interim Standard IS-19-B: Recommended Minimum Standards for 800 MHz Cellular Subscriber Units

TIA-553 Mobile Station—Land Station Compatibility Specification

3 DEFINITIONS For the purpose of this Standard the definitions below apply.

3.1 Hand-held cellular mobile station—a mobile station containing radiofrequency transmitter and receiver, and acoustic transmitter and receiver transducers in a single unit intended to access public mobile telecommunications services over an air interface.

3.2 SINAD—an acronym of **SI**gnal, **N**oise, **A**nd **D**istortion. It is the ratio of the rms value of signal-plus-noise-plus-distortion to the rms value of the noise-plus-distortion, expressed in dB (EIA IS-19-B).

3.3 Transportable cellular mobile station—a mobile station containing a radio-frequency transmitter and receiver in one unit and acoustic transmitter and receiver transducers in a separate handset connected to the first unit by cable. It is intended to access public mobile telecommunication services over an air interface.

4 IMMUNITY CRITERIA To meet the requirements of this Standard the equipment under test (EUT), shall—

(a) when subjected to test field strength level 1 (Clause 6.1) with interrupted carrier modulation as described in Figure 1, produce a SINAD equal to or greater than 20 dB during testing at 63 or more (approximately 80%) of the 78 test frequency and EUT channel combinations (3 AMPS channels × 26 immunity test field frequencies);

(b) when subjected to test field strength level 2 (Clause 6.1) with interrupted carrier modulation as described in Figure 1, produce a SINAD equal to or greater than 20 dB during testing at 69 or more (approximately 90%) of the 78 test frequency and EUT channel combinations (3 AMPS channels × 26 immunity test field frequencies); and