

**COMMUNICATIONS
ALLIANCE LTD**



AUSTRALIAN STANDARD

AS/CA S042.1:2022

Requirements for connection to an air interface
of a Telecommunications Network—
Part 1: General

Australian Standard – Requirements for connection to an air interface of a Telecommunications Network— Part 1: General

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FOREWORD

General

This Standard was prepared by Communications Alliance and most recently revised by the WC94 : *IMT-2020 Customer Equipment* Working Committee. It is one of a series of Telecommunication Standards developed under the Memorandum of Understanding between the Australian Communications Authority (ACA) and the Australian Communications Industry Forum (ACIF).

Note: On 1 July 2005 the ACA became the Australian Communications and Media Authority (ACMA) and the Memorandum of Understanding continues in effect as if the reference to the ACA was a reference to the ACMA.

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This Standard is a revision of AS/CA S042.1: *2020 Requirements for connection to an air interface of a Telecommunications Network— Part 1: General*.

This Standard is the result of a consensus among representatives on the Communications Alliance Working Committee to produce it as an Australian Standard.

The requirements in this Standard are consistent with the aims of s376 of the *Telecommunications Act 1997*. Specifically these aims are—

- (a) protecting the integrity of a Telecommunications Network or facility;
- (b) protecting the health and safety of persons;
- (c) ensuring access to an Emergency Call Service (ECS); and
- (d) ensuring interoperability with a Standard Telephone Service (STS).

It should be noted that some Customer Equipment (CE) may also need to comply with requirements in other Standards or other Parts of this Standard.

AS/CA S042 consists of the following Parts under the general title *Requirements for connection to an air interface of a Telecommunications Network*:

- Part 1: General
- Part 2: CDMA (IS-95) (withdrawn)
- Part 3: GSM Customer Equipment (withdrawn)
- Part 4: IMT-2000 and IMT-Advanced Customer Equipment
- Part 5: IMT-2020 Customer Equipment

Applicable electrical safety Standards, EMC, Radiocommunications and EMR Standards may apply under Commonwealth or State/Territory laws, or both.

Intellectual property rights

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Standards revision

Australian Standards (AS/ACIF and AS/CA Standards) developed by Communications Alliance are updated according to the needs of the industry, by amendments or revision. Users of these Standards should make sure that they possess the latest amendments or editions. Representations concerning the need for a change to this AS/CA Standard should be addressed to—

The Project Manager
Customer Equipment and Cable Reference Panel
Communications Alliance
PO Box 444
Milsons Point NSW 1565

Regulatory notice

The 2022 version of AS/CA S042.1 is intended to be mandated by a replacement for the ACMA *Telecommunications (Mobile Equipment Air Interface) Technical Standard 2018* (the 2018 ACMA Standard). Until a replacement for the 2018 ACMA Standard is published, AS/CA S042.1:2020 as mandated by the 2018 ACMA Standard, remains in force.

In the instance that the 2022 version of AS/CA S042.1 is mandated by the ACMA, the transition period for AS/CA S042.1:2020 will be 12 months commencing on the day the 2018 ACMA Standard is replaced.

Details on current compliance arrangements can be obtained from the ACMA website at <http://www.acma.gov.au> or by contacting the ACMA below at:

Australian Communications and Media Authority
PO Box 13112
Law Courts PO
Melbourne VIC 8010
Australia

Telephone: 1800 850 115 (Australia)
Telephone: +61 3 9963 6800
Facsimile: +61 3 9963 6899
Email: info@acma.gov.au

INTRODUCTION

This introduction for the AS/CA S042.1 **Requirements for connection to an air interface of a Telecommunications Network— Part 1: General** Standard is not an authoritative section of this Standard and is only provided as guidance for the user of the Standard to outline its objectives, the factors that have been taken into account in its development and to list the principal differences between the new and the previous edition.

The reader is directed to the clauses of this Standard for the specific requirements and to the Australian Communications and Media Authority (ACMA) for the applicable telecommunications labelling and compliance arrangements.

Note: Further information on the telecommunications labelling and compliance arrangements can be found in the *Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Amendment Instrument 2018* (the TLN). The TLN can be obtained from the ACMA website at www.acma.gov.au.

The objective of this Standard is to provide the requirements and test methods for customer equipment for use in connection with a PMTS or a Satellite Service in order to meet the regulatory arrangements for such equipment in Australia. Additional requirements for specific technologies are addressed in other Parts of this Standard.

The primary objective of this revision is to update the Emergency Call Service (ECS) requirements to support 5G Customer Equipment (CE).

The principal differences between this edition of AS/CA S042.1 and the previous edition are—

- (i) updates to the references (Section 3);
- (ii) updating the acronyms and definitions in line with the introduction of the new Part 5 for 5G CE (IMT-2020) requirements;
- (iii) introduction of the term ECS Access Mode to replace the STS Access Mode term;
- (iv) updating the ECS requirements with device identifiers used by 5G CE;
- (v) introduction of the new Permanent Equipment Identifier (PEI) for 5G CE;
- (vi) updating the reference to C536 with regards to the programming of the Identity Module ECC field; and
- (vii) locating of all IMEI and PKC security requirements into Part 1 of the Standard.

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1 INTERPRETATIVE GUIDELINES

1.1 Categories of requirements

This Standard contains mandatory requirements as well as provisions that are recommendatory only. Mandatory requirements are designated by the words '**shall**' or '**shall not**'. All other provisions are voluntary.

1.2 Compliance statements

Compliance statements, in italics, suggest methodologies for demonstrating CE's compliance with the requirements.

1.3 Definitions, expressions and terms

If there is any conflict between the definitions used in this Standard and the definitions used in the *Telecommunications Act 1997*, the definitions in the Act take precedence.

1.4 Notes

Text denoted as 'Note' is for guidance in interpretation and is shown in smaller size type.

1.5 References

- (a) Applicable editions (or versions) of other mandatory documents referred to in this Standard are specified in Section 3: REFERENCES. The bibliography contains information about other publications referred to in this Standard e.g. publications only referred to in notes and informative appendices.
- (b) If a document refers to another document, the other document is a sub-referenced document.
- (c) Where the edition (or version) of the sub-referenced document is uniquely identified in the reference document, then that edition (or version) applies.
- (d) Where the edition (or version) of the sub-referenced document is not uniquely identified in the reference document, then the applicable edition (or version) is that which is current at the date the reference document is legislated under the applicable regulatory framework, or for a non- legislated document, the date upon which the document is published by the relevant standards organisation.
- (e) A number in square brackets '[]' refers to a document listed in Section 3: REFERENCES.

1.6 Units and symbols

In this Standard the International System (SI) of units and symbols is used in accordance with Australian Standard AS ISO 1000 [1].

1.7 Parts of Standards

CE scoped by this Standard is to comply with the applicable technology-specific Part(s) of this Standard.

2 SCOPE

2.1 This Standard applies to Customer Equipment (CE) that is designed or intended for connection to—

(a) a PMTS and is an addressable device; or

(b) a Satellite Service and is an addressable device;

or both.

Note: In the context of this scope, CE intended for connection to a service includes CE capable of connection to a service.

2.2 This Standard does not apply to CE which is not an addressable device such as GPS terminal and satellite navigation system.

2.3 CE is not excluded from the scope of this Standard by reason only that it is capable of performing functions additional to those described in this Standard.

2.4 For additional technical requirements applying to a particular CE, this Standard should be read in conjunction with those Standards listed in the REFERENCES of this Standard.

3 REFERENCES

For dated references, only the edition cited applies. However, parties to agreements based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below.

For undated references, the latest edition of the referenced document (including any amendments) applies. For ETSI Standards that are issued in Releases, the latest version of the relevant Release applies.

	Publication	Title
Australian Standards		
[1]	AS ISO 1000-1998	The international System of Unit (SI) and its application.
AS/CA Standards		
[2]	AS/CA S003.1:2010	Requirements for Customer Access Equipment for connection to a Telecommunications Network Part 1: General http://commsalliance.com.au/Documents/all/Standards/s003_1
[3]	AS/CA S004:2013	Voice performance requirements for Customer Equipment http://commsalliance.com.au/Documents/all/Standards/s004
Communications Alliance Codes		
[4]	C536:2020	Emergency Call Service Requirements Industry Code (incorporating Amendment No.1/2015)
Communications Alliance Guidelines		
[5]	G557.6:2019	Location Information for Emergency Calls Part 6: Advanced Mobile Location (AML)
[6]	G616:2013	Acoustic safety for telephone equipment
IEC Standard		
[7]	IEC 61672-1:2013	Electroacoustics – Sound level meters – Part 1: Specifications

	Publication	Title
ITU-R Recommendations		
[8]	M.1224-1 (03/2012)	Vocabulary of terms for International Mobile Telecommunications (IMT)
[9]	M.1457-14 (01/2019)	Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications-2000 (IMT-2000)
[10]	M.2012 2019-11)	Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications Advanced (IMT-Advanced)
[11]	M.2083-0 (09/2015)	IMT Vision - "Framework and overall objectives of the future development of IMT for 2020 and beyond"
ITU-T Recommendations		
[12]	P.57 (12/11)	Artificial ears
[13]	X.509 (10/16)	Information technology - Open Systems Interconnection - The Directory: Public-key and attribute certificate frameworks
ETSI Standards & Reports		
[14]	ETSI TS 103 465 V15.2.0 (2020-06)	Smart Cards; Smart Secure Platform (SSP); Requirements Specification (Release 15)
[15]	ETSI TS 103 625 V1.1.1 (2019-12)	Emergency Communications (EMTEL); Transporting Handset Location to PSAPs for Emergency Calls - Advanced Mobile Location
[16]	ETSI TR 121 905 V15.1.0 (2019-03)	Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Vocabulary for 3GPP Specifications (3GPP TR 21.905 version 15.1.0 Release 15)
[17]	ETSI TS 122 016 V15.0.0 (2018-07)	Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; International Mobile station Equipment Identities (IMEI) (3GPP TS 22.016 version 15.0.0 Release 15)
[18]	ETSI TS 122 022 V14.0.0 (2017-03)	Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE;

	Publication	Title
		Personalisation of Mobile Equipment (ME); Mobile functionality specification (3GPP TS 22.022 version 14.0.0 Release 14)
[19]	ETSI TS 122 101 V15.7.0 (2019-07)	Universal Mobile Telecommunications System (UMTS); LTE; Service aspects; Service principles (3GPP TS 22.101 version 15.7.0 Release 15)
[20]	ETSI TS 123 003 V15.10.0 (2020-10)	Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; Numbering, addressing and identification (3GPP TS 23.003 version 15.10.0 Release 15)
[21]	ETSI TS 124 008 V15.9.0 (2020-10)	Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Mobile radio interface Layer 3 specification; Core network protocols; Stage 3 (3GPP TS 24.008 version 15.9.0 Release 15)
[22]	ETSI TS 124 229 V15.11.0 (2020-10)	Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3 (3GPP TS 24.229 version 15.11.0 Release 15)
[23]	ETSI TS 124 301 V15.8.0 (2020-01)	Universal Mobile Telecommunications System (UMTS); LTE; Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS); Stage 3 (3GPP TS 24.301 version 15.8.0 Release 15)
[24]	ETSI TS 124 501 V15.6.0 (2020-01)	5G; Non-Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3 (3GPP TS 24.501 version 15.6.0 Release 15)
[25]	ETSI TS 131 111 V15.10.0 (2020-11)	Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Universal Subscriber Identity Module (USIM) Application Toolkit (USAT) (3GPP TS 31.111 version 15.10.0 Release 15)
[26]	ETSI TS 133 501 V15.10.0 (2020-11)	5G; Security architecture and procedures for 5G System (3GPP TS 33.501 version 15.10.0 Release 15)
[27]	ETSI TS 137 355 V15.0.0 (2020-01)	LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); LTE Positioning Protocol