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DRAFT AUSTRALIAN STANDARD

DR AS/CA S042.5:2025

Requirements for connection to an air interface
of a Telecommunications Network—
Part 5: IMT-2020 Customer Equipment

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Guidance for public comment on DR AS/CA S042.5:2025

This draft Standard is the outcome of the revision of AS/CA S042.5:2022 undertaken by the Communications Alliance WC107 : **PMTS and Satellite Service Customer Equipment Standards** Working Committee. The two-month public comment phase is a part of the requirements of Communications Alliance Operating Procedures for the development or revision of an AS/CA Standard.

The reader is invited to comment on the requirements for customer equipment scoped within this Standard and on the following proposed recommendations. All submissions received will be made publicly available on the Communications Alliance website unless the submitter requests otherwise.

Please return comments by 6 May 2025 to:

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This draft is available from www.commsalliance.com.au for download.

Background

The AS/CA S042 *Requirements for connection to an air interface of a Telecommunications Network* Standard specifies the general requirements and test methods for CE for use in connection with a PMTS or a Satellite Service in order to meet the regulatory arrangements for such equipment in Australia.

Changes to Part 1, 4 and 5

The primary objective of this revision is to update the Emergency Call Services (ECS) requirements and introduce new requirements for Emergency Cell Broadcast (ECB) for the National Messaging System (NMS), and to review the requirements for satellite services.

This edition of the Standard introduces new requirements for CE to support the NMS, which utilises Cell Broadcast (CB) technology to distribute targeted Emergency Warning Messages to compatible mobile phones and other devices in near real time. The requirements are based on ETSI Standards used for the European EU-Alert Public Warning System and follow a similar approach as in other jurisdictions, such as the US CMAS (Commercial Mobile Alert System) (also known as Wireless Emergency Alerts (WEA)) and the Japanese Earthquake and Tsunami Warning System (ETWS).

This Standard does not include general requirements for CE accessing Non-Terrestrial Networks (NTN). These requirements, including those for Emergency Call Services (ECS) and Emergency Cell Broadcast (ECB), are under development within the 3GPP and will be reviewed at a future point in time when they become stable. Radiofrequency (RF) requirements for NTN spectrum bands are specified in Part 4 of this Standard.

The objective of the revision of Parts 4 and 5 is to align the spectrum band requirements in the Standard with current CE capabilities and service offerings.

The principal differences between these editions of AS/CA S042.1, AS/CA S042.4 and AS/CA S042.5 and the previous editions are list in the Introduction of each Part.

Compliance arrangements

This Standard is intended to be enforceable by the ACMA under the ACMA *Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2015* (TLN) or its replacement. Information on the ACMA TLN is available from the ACMA *Find the right labelling notice* at <https://www.acma.gov.au/find-right-labelling-notice>.

The 2025 versions of AS/CA S042.1, AS/CA S042.4 and AS/CA S042.5 will be mandated by the ACMA *Telecommunications (Mobile Equipment Air Interface) Technical Standard 2022*. A 12-month transition period for all Parts will apply, commencing on the day all three Parts are published, targeting Q3 2025.

FOREWORD

General

This Standard was prepared by Communications Alliance and most recently revised by the WC107 : *PMTS and Satellite Service Customer Equipment Standards* 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 were a reference to ACMA.
Communications Alliance was formed in 2006 and continues the functions previously fulfilled by ACIF.

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.

The Standard should be read in conjunction with *AS/CA S042.1: General*.

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

Intellectual property rights

Equipment which is manufactured to comply with this Standard may require the use of technology which is protected by patent rights in Australia. Questions about the availability of such technology, under licence or otherwise, should be directed to the patent holder or Australian licensee (if known) or through enquiry at IP Australia which incorporates the Patent, Designs and Trade Marks and Offices. Further information can be found at www.ipaustralia.gov.au.

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 2025 version of AS/CA S042.5 is mandated by the ACMA *Telecommunications (Mobile Equipment Air Interface) Technical Standard 2022*. A 12-month transition period for AS/CA S042.5:2022 applies commencing on the day AS/CA S042.5:2025 is published.

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:

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INTRODUCTION

This introduction for the AS/CA S042.5 **Requirements for connection to an air interface of a Telecommunications Network— Part 5: IMT-2020 Customer Equipment** 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, and the factors that have been taken into account in its development.

The reader is directed to the clauses of this Standard for the specific requirements and to the 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) Instrument 2015* (the TLN) can be obtained from the ACMA website at www.acma.gov.au.

The objective of Part 5 is to align the spectrum band requirements and associated test methods for IMT-2020 CE in order to comply with the regulatory arrangements for such CE in Australia.

The objective of this revision is to align the spectrum band requirements in the Standard with current CE capabilities and service offerings.

The principal differences between this edition of AS/CA S042.5 and the previous edition are—

- (a) clarification of the applicability of ETSI Standards Releases and versions;
- (b) the addition of 5G NR FR1 Bands n5 and n26 (850 MHz) and associated compliance against FCC requirements for Bands n5 and n26;
- (c) update of compliance requirements to reference recently published ETSI standards;
- (d) separation of compliance requirements between RED bands and FCC bands to provide clearer compliance paths; and
- (e) a new informative appendix on the minimum band support to enable emergency calling on all networks, supporting amendments to the *Telecommunications (Emergency Call Service) Determination 2019*.

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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 IMT-2020 CE. It defines the technical conditions and requirements for IMT CE that is designed or intended for use in connection with an IMT-2020 public mobile telecommunications service (PMTS) and is an addressable device.

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 applies to IMT CE based upon the following IMT-2020 technologies:

- (a) 5G New Radio; and
- (b) 5G New Radio and E-UTRA (LTE).

- 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.

3 REFERENCES

For ETSI Standards where a Release is cited (e.g. Release 14, 15 or 18), the applicable minimum Standard is the latest version of that Standard in the same Release.

However, parties to agreements based on this Standard are encouraged to investigate the possibility of applying the most recent Releases and versions of the cited documents.

	Publication	Title
	Australian Standards	
[1]	AS ISO 1000 -1998	The international System of Unit (SI) and its application.
	EC Publication	
[2]	Radio Equipment Directive (RED)	Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC
	ETSI publications	
[3]	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)
[4]	ETSI TS 133 501	5G; Security architecture and procedures for 5G System (3GPP TS 33.501)
[5]	ETSI TS 138 101-1 V15.7.0 (2019-10)	5G; NR; User Equipment (UE) radio transmission and reception; Part 1: Range 1 Standalone (3GPP TS 38.101-1 version 15.7.0 Release 15)
[6]	ETSI TS 138 101-2 V15.7.0 (2019-10)	5G; NR; User Equipment (UE) radio transmission and reception; Part 2: Range 2 Standalone (3GPP TS 38.101-2 version 15.7.0 Release 15)
[7]	ETSI TS 138 101-3 V15.7.0 (2019-10)	5G; NR; User Equipment (UE) radio transmission and reception; Part 3: Range 1 and Range 2 Interworking operation with other radios (3GPP TS 38.101-3 version 15.9.0 Release 15)
[8]	ETSI TS 138 321	5G; NR; Medium Access Control (MAC) protocol specification (3GPP TS 38.321)

	Publication	Title
[9]	ETSI TS 138 322	5G; NR; Radio Link Control (RLC) protocol specification (3GPP TS 38.322)
[10]	ETSI TS 138 323	5G; NR; Packet Data Convergence Protocol (PDCP) specification (3GPP TS 38.323)
[11]	ETSI TS 138 331	5G; NR; Radio Resource Control (RRC); Protocol specification (3GPP TS 38.331)
[12]	ETSI TS 138 521-1	5G; NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Range 1 standalone (3GPP TS 38.521-1)
[13]	ETSI TS 138 521-2	5G; NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 2: Range 2 standalone (3GPP TS 38.521-2)
[14]	ETSI TS 138 521-3	5G; NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 3: Range 1 and Range 2 Interworking operation with other radios (3GPP TS 38.521-3)
[15]	ETSI TS 138 523-1	5G; 5GS; User Equipment (UE) conformance specification; Part 1: Protocol (3GPP TS 38.523-1)
[16]	ETSI TS 138 523-2	5G; 5GS; User Equipment (UE) conformance specification; Part 2: Applicability of protocol test cases (3GPP TS 38.523-2)
[17]	ETSI TS 138 523-3	5G; 5GS; User Equipment (UE) conformance specification; Part 3: Protocol Test Suites (3GPP TS 38.523-3)
[18]	ETSI EN 301 908-25	IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 25: New Radio (NR) User Equipment (UE)
	FCC Requirements	
[19]	FCC Part 22 Rules	Public Mobile Services (URL: https://www.ecfr.gov/current/title-47/chapter-I/subchapter-B/part-22)
[20]	FCC Part 90s Rules	PRIVATE LAND MOBILE RADIO SERVICES(URL: https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-90)

	Publication	Title
[21]	FCC Part 30 Rules	UPPER MICROWAVE FLEXIBLE USE SERVICE(URL: https://www.ecfr.gov/current/title-47/part-30)

4 ABBREVIATIONS AND DEFINITIONS

For the purposes of this Standard, the following abbreviations, acronyms and definitions and those of Part 1 apply.

4.1 Abbreviations

CA	Carrier Aggregation
EN-DC	E-UTRA/NR Dual Connectivity
FR1	Frequency Range 1
FR2	Frequency Range 2
NR-DC	New Radio Dual Connectivity
SUL	Supplementary uplink

4.2 Definitions

4.2.1 Carrier Aggregation (CA)

Carrier Aggregation is the aggregation of two or more LTE component carriers in the downlink, uplink or both, in order to support wider transmission bandwidths. FDD and TDD LTE component carriers in both licensed and unlicensed spectrum can be part of any Carrier Aggregation combination.

4.2.2 Frequency Range 1 (FR1)

The frequency band 410 MHz to 7.125 GHz.

Note: Refer to ETSI EN 301 908-25 [18].

4.2.3 Frequency Range 2 (FR2)

The frequency band 24.25 to 52.6 GHz.

Note: Refer to ETSI EN 301 908-25 [18].

4.2.4 Supplementary uplink (SUL)

CE configured with two uplink carriers for one downlink carrier of the same cell.

Note: This use here of 'carriers' is about carrier frequencies and is not the regulatory term 'Carrier' defined in legislation.

4.2.5 E-UTRA/NR Dual Connectivity EN-DC

CE connected to E-UTRA access as a master node and 5G NR access as a secondary node.

4.2.6 NR Dual Connectivity NR-DC

CE connected to two different 5G NR accesses, one as a master node and the other as a secondary node.

5 REQUIREMENTS

5.1 5G NR

5.1.1 Applicability

The requirements in Clause 5.1 are applicable to CE based upon 5G NR technologies.

5.1.2 IMEI/PEI security

CE using 3GPP technologies excluding CE for which PEI is the equipment identifier **shall** comply with IMEI security requirements of ETSI TS 122 016 [3].

CE using 3GPP technologies for which PEI is the equipment identifier **shall** comply with PEI security requirements of ETSI TS 133 501 [4] and IMEI security requirements of ETSI TS 122 016 [3].

Note: This requirement has been reproduced from Part 1 to avoid a potential compliance gap during the transition period of the applicable Standards. It will be removed from Part 5 during the next revision of this Part.

Compliance with Clause 5.1.2 should be demonstrated by way of a manufacturer's DoC.

5.1.3 Core protocol specifications

CE **shall** comply with the applicable mandatory requirements of the following ETSI Core Specifications:

- (a) ETSI TS 138 321 [8]
- (b) ETSI TS 138 322 [9]
- (c) ETSI TS 138 323 [10]
- (d) ETSI TS 138 331 [11]

Note: The applicable mandatory requirements mean the relevant mandatory requirements in the ETSI specifications which have been implemented in the CE and commercially deployed by the manufacturer.

Compliance with Clause 5.1.3 should be demonstrated by way of a manufacturer's DoC for the applicable mandatory requirements.

Note 1: Compliance with Clause 5.1.3 should be demonstrated by way of a manufacturer's DoC for the applicable mandatory requirements.

Note 2: Formal conformance test cases covering mandatory requirements are defined in ETSI TS 138 523-1 [15], ETSI TS 138 523-2 [16] and ETSI TS 138 523-3 [17].

5.2 Operation Bands

Requirements for CE capable of operating in all or any part of the frequency bands given in Tables 1 to 4 are defined in Clauses 5.3 to 5.6.

TABLE 1
5G NR FR1 Bands

Band No.	Band frequency
FDD Band n1	2.1 GHz
FDD Band n3	1.8 GHz
FDD Band n5	850 MHz
FDD Band n7	2.6 GHz
FDD Band n8	900 MHz
FDD Band n26	850 MHz
FDD Band n28	700 MHz
TDD Band n40	2.3 GHz
TDD Band n78	3.6 GHz

TABLE 2
5G NR FR2 Bands

Band No.	Band frequency
TDD Band n257	26.50 – 29.50 GHz
TDD Band n258	24.25 – 27.50 GHz
TDD Band n261	27.50 – 28.35 GHz

TABLE 3
5G NR SUL Bands

Band No.	Band frequency
FDD Band n81	880 - 915 MHz
FDD Band n82	832 - 862 MHz

TABLE 4
E-UTRA Bands in EN-DC

Band No.	Band frequency
FDD Band 1	2.1 GHz
FDD Band 3	1.8 GHz
FDD Band 5	850 MHz
FDD Band 7	2.6 GHz
FDD Band 8	900 MHz
FDD Band 26	850 MHz
FDD Band 28	700 MHz
TDD Band 38	2.6 GHz
TDD Band 40	2.3 GHz
TDD Band 42	3.5 GHz

5.3 5G NR FR1 standalone

5.3.1 Single Carrier

5.3.1.1 RED NR FR1 Bands

CE used in the NR bands listed in Table 5 **shall** comply with the requirements of ETSI EN 301 908-25 [18] for RF compatibility, network integrity and interoperability with the STS.

TABLE 5
ETSI 5G NR FR1 Bands

Band No.	Band frequency
FDD Band n1	2.1 GHz
FDD Band n3	1.8 GHz
FDD Band n7	2.6 GHz
FDD Band n8	900 MHz
FDD Band n28	700 MHz
TDD Band n40	2.3 GHz
TDD Band n78	3.6 GHz

Compliance with Clause 5.3.1 should be demonstrated by way of a—

- (a) test report;
- (b) EU-Type Examination by a Notified Body (NB), based on conformity assessment procedures described in the RED, Annex III [2]; or
- (c) manufacturer's DoC based on conformity assessment procedures described in the RED, Annex III [2].

5.3.1.2 FCC NR FR1 Bands

CE used FCC NR band listed in Table 6 **shall** comply with the requirements of FCC Part 22 Rules [19] and Part 90s Rules [20] for RF compatibility, network integrity and interoperability with the STS.

TABLE 6
FCC 5G NR FR1 Bands

Band No.	Band frequency
FDD Band n5	850 MHz
FDD Band n26	850 MHz

Compliance with Clause 5.3.1.2 should be demonstrated by way of a—

- (a) test report;
- (b) FCC/TCB Grant of Equipment Authorization, based on FCC ID to FCC requirements; or
- (c) manufacturer's DoC.

5.3.2 Carrier Aggregation (CA)

5.3.2.1 RED Carrier Aggregation combinations

CE used in any combination of bands listed in Table 5 **shall** comply with the requirements of ETSI EN 301 908-25 [18] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.3.2.1 should be demonstrated by way of a—

- (a) test report;
- (b) EU-Type Examination by a Notified Body (NB), based on conformity assessment procedures described in the RED, Annex III [2]; or
- (c) manufacturer's DoC, based on conformity assessment procedures described in the RED, Annex III [2].

Note 1: Conformance test cases covering mandatory transmitter and receiver requirements for Carrier Aggregation combinations are defined in ETSI TS 138 521-1 [12].

Note 2: Compliance options (a) and (b) may contain NR bands listed in Table 5 only. Subject to the CE Carrier Aggregation configurations, further evidence (DoC) may be required.

5.3.2.2 Other Carrier Aggregation combinations

For Carrier Aggregation combinations that are not defined in ETSI EN 301 908-25 [18], CE used in any combination of bands listed in Table 1 for Carrier Aggregation shall comply with the mandatory transmitter and receiver requirements for Carrier Aggregation of Clauses 6 and 7 of ETSI TS 138 101-1 [5] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.3.2.2 should be demonstrated by way of a manufacturer's DoC against the mandatory transmitter and receiver requirements for Carrier Aggregation of ETSI TS 138 101-1 [5] which are designated by the words 'shall' or 'shall not'.

5.3.3 Supplemental Uplink (SUL)

CE used in the SUL bands listed in Table 3 **shall** comply with the requirements of ETSI EN 301 908-25 [18] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.3.3 should be demonstrated by way of a—

- (a) test report;
- (b) EU-Type Examination by a Notified Body (NB), based on conformity assessment procedures described in the RED, Annex III [2]; or
- (c) manufacturer's DoC based on conformity assessment procedures described in the RED, Annex III [2].

Note: Formal conformance test cases covering mandatory transmitter and receiver requirements for SUL are defined in ETSI TS 138 521-1 [12].

5.4 5G NR FR2 standalone

5.4.1 Single Carrier

5.4.1.1 RED NR FR2 Bands

CE used in the bands n257 and n258 listed in Table 2 **shall** comply with the requirements of ETSI EN 301 908-25 [18] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.4.1 should be demonstrated by way of a—

- (a) test report;
- (b) EU-Type Examination by a Notified Body (NB), based on conformity assessment procedures described in the RED, Annex III [2]; or
- (c) manufacturer's DoC based on conformity assessment procedures described in the RED, Annex III [2].

Note: Formal conformance test cases covering mandatory transmitter and receiver requirements are defined in ETSI TS 138 521-2 [13].

5.4.1.2 FCC NR FR2 Bands

CE used in the FCC band (n261) listed in Table 2 **shall** comply with of FCC Part 30 Rules [21] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.4.1.2 should be demonstrated by way of a—

- (a) test report;
- (b) FCC/TCB Grant of Equipment Authorization, based on FCC ID to FCC requirements; or
- (c) manufacturer's DoC.

5.4.2 Carrier Aggregation (CA)

5.4.2.1 RED Carrier Aggregation combinations

CE used in any combination of bands listed in Table 1 **shall** comply with the requirements of ETSI EN 301 908-25 [18] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.4.2.1 should be demonstrated by way of a—

- (a) test report;
- (b) EU-Type Examination by a Notified Body (NB), based on conformity assessment procedures described in the RED, Annex III [2]; or
- (c) manufacturer's DoC, based on conformity assessment procedures described in the RED, Annex III [2].

Note 1: Conformance test cases covering mandatory transmitter and receiver requirements for Carrier Aggregation combinations are defined in ETSI TS 138 521-2 [13].

Note 2: Compliance options (a) and (b) may contain NR bands listed in Table 1 only. Subject to the CE Carrier Aggregation configurations, further evidence (DoC) may be required.

5.4.2.2 Other Carrier Aggregation combinations

For Carrier Aggregation combinations that are not defined in ETSI EN 301 908-25 [18], CE used in any combination of bands listed in Table 1 for Carrier Aggregation shall comply with the mandatory transmitter and receiver requirements for Carrier Aggregation of Clauses 6 and 7 of ETSI TS 138 101-2 [6] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.4.2.2 should be demonstrated by way of a manufacturer's DoC against the mandatory transmitter and receiver requirements for Carrier Aggregation of ETSI TS 138 101-2 [6] which are designated by the words 'shall' or 'shall not'.

5.5 5G NR FR1 and 5G NR FR2 Interworking with standalone

CE used in any dual connectivity configuration of bands listed in Tables 1 and 2 for Inter-band 5G NR-DC including both FR1 and FR2 **shall** comply with the mandatory transmitter and receiver requirements for Inter-band 5G NR-DC including both FR1 and FR2 of Clauses 6 and 7 of ETSI TS 138 101-3 [7] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.5.1 should be demonstrated by way of a—

- (a) test report; or
- (b) manufacturer's DoC against the mandatory transmitter and receiver requirements for Inter-band 5G NR-DC including both FR1 and FR2 of ETSI TS 138 101-3 [7] which are designated by the words 'shall' or 'shall not'.

Note: Formal conformance test cases covering mandatory transmitter and receiver requirements for Inter-band NR-DC including both FR1 and FR2 are defined in ETSI TS 138 521-3 [14].

5.6 5G NR FR1 and 5G NR FR2 Interworking with non-standalone

5.6.1 RED Inter-band EN-DC within FR1

CE used in any dual connectivity configuration of RED bands listed in Tables 1 and 4 for Inter-band EN-DC within FR1 **shall** comply with the requirements of ETSI EN 301 908-25 [18] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.6.1 should be demonstrated by way of a—

- (a) test report;
- (b) EU-Type Examination by a Notified Body (NB), based on conformity assessment procedures described in the RED, Annex III [2]; or
- (c) manufacturer's DoC based on conformity assessment procedures described in the RED, Annex III [2].

5.6.2 Other Inter-band EN-DC within FR1

CE used in any dual connectivity configuration of bands listed in Tables 1 and 4 for Inter-band EN-DC within FR1 which are not defined in ETSI EN 301 908-25 [18] **shall** comply with the mandatory transmitter and receiver requirements for Inter-band EN-DC within FR1 of Clauses 6 and 7 of ETSI TS 138 101-3 [7] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.6.2 should be demonstrated by way of manufacturer's DoC against the mandatory transmitter and receiver requirements for Inter-band EN-DC within FR1 of ETSI TS 138 101-3 [7] which are designated by the words 'shall' or 'shall not'.

Note: Formal conformance test cases covering mandatory transmitter and receiver requirements for Inter-band EN-DC including both FR1 and FR2 are defined in ETSI TS 138 521-3 [14].

5.6.3 RED Inter-band EN-DC including FR2

CE used in any dual connectivity configuration of bands listed in Tables 2 and 4 for Inter-band EN-DC within FR2 which are defined in ETSI EN 301 908-25 [18] **shall** comply with the requirements of

ETSI EN 301 908-25 [18] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.6.3 should be demonstrated by way of a—

- (a) test report;*
- (b) EU-Type Examination by a Notified Body (NB), based on conformity assessment procedures described in the RED, Annex III [2]; or*
- (c) manufacturer's DoC based on conformity assessment procedures described in the RED, Annex III [2].*

Note: Formal conformance test cases covering mandatory transmitter and receiver requirements for Inter-band EN-DC within FR2 are defined in ETSI TS 138 521-3 [14].

5.6.4 Other Inter-band EN-DC including FR2

CE used in any dual connectivity configuration of bands listed in Tables 2 and 4 for other Inter-band EN-DC within FR2 which are not defined in ETSI EN 301 908-25 [18] **shall** comply with the mandatory transmitter and receiver requirements for Inter-band EN-DC within FR1 of Clauses 6 and 7 of ETSI TS 138 101-3 [7] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.6.4 should be demonstrated by way of a—

- (a) test report; or*
- (b) manufacturer's DoC against the mandatory transmitter and receiver requirements for Inter-band EN-DC within FR1 of ETSI TS 138 101-3 [7] which are designated by the words 'shall' or 'shall not'.*

Note: Formal conformance test cases covering mandatory transmitter and receiver requirements for Inter-band EN-DC including both FR1 and FR2 are defined in ETSI TS 138 521-3 [14].

5.6.5 RED Inter-band EN-DC including both FR1 and FR2

CE used in any dual connectivity configuration of bands listed in Tables 1, 2 and 4 for Inter-band EN-DC including both FR1 and FR2 which are defined in ETSI EN 301 908-25 [18] **shall** comply with the requirements of ETSI EN 301 908-25 [18] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.6.5 should be demonstrated by way of a—

- (a) test report;*
- (b) EU-Type Examination by a Notified Body (NB), based on conformity assessment procedures described in the RED, Annex III [2]; or*
- (c) manufacturer's DoC based on conformity assessment procedures described in the RED, Annex III [2].*

5.6.6 Other Inter-band EN-DC including both FR1 and FR2

CE used in any dual connectivity configuration of bands listed in Tables 1, 2 and 4 for Inter-band EN-DC including both FR1 and FR2 which are not defined in ETSI EN 301 908-25 [18] **shall** comply with the mandatory transmitter and receiver requirements for Inter-band EN-DC within FR1 of Clauses 6 and 7 of ETSI TS 138 101-3 [7] for RF compatibility, network integrity and interoperability with the STS.

Compliance with Clause 5.6.6 should be demonstrated by way of a—

- (a) test report; or*
- (b) manufacturer's DoC against the mandatory transmitter and receiver requirements for Inter-band EN-DC within FR1 of ETSI TS 138 101-3 [7] which are designated by the words 'shall' or 'shall not'.*

Note: Formal conformance test cases covering mandatory transmitter and receiver requirements for Inter-band EN-DC including both FR1 and FR2 are defined in ETSI TS 138 521-3 [14].

6 TESTING

6.1 Verification of compliance with requirements

Compliance with all mandatory requirements in this AS/CA Standard is to be verified. This may be done by direct measurement, modelling and analysis, operation or inspection.

Methods for demonstrating compliance of CE with the requirements clauses specified in this AS/CA Standard are described in the requirements clauses and in the referenced Standards.

Verification of compliance with the referenced standards may be confirmed by test reports to later versions of the referenced standards provided that all clauses of the referenced standards are shown to be met.

Alternative methods of demonstrating compliance to those described may be used if the risk of passing non-compliant CE is not increased because of increased measurement uncertainty.

APPENDIX

A Minimum band support required for CE intended to be used with all mobile carriers (INFORMATIVE)

A1.1 FR1 bands

CE intended for use with any Mobile Carrier Network and based upon 5G NR and supporting FR1 bands—

- (a) may support FDD band n1, n5, n8, n26, and n28 and TDD band n78; and
- (b) may support the other bands in Tables 1 and 3.

Note: At the time of publishing 'Any Mobile Network', refers to Optus, Telstra and TPG Telecom.

A1.2 FR2 bands

CE intended for use with any Mobile Carrier Network and based upon 5G NR and supporting FR2 bands—

- (a) may support FDD band n258; and
- (b) may support the other bands in Table 2.

Note: At the time of publishing 'Any Mobile Network', refers to Optus, Telstra and TPG Telecom.

PARTICIPANTS

The Working Committee responsible for the revisions made to this Standard consisted of the following organisations:

Organisation	Membership
ACMA	Non-Voting
Apple	Voting
Certification Body Australia	Voting
Cisco Systems	Voting
Comtest Laboratories	Voting
EchoStar Global	Voting
Google	Voting
Motorola Mobility Australia	Voting
Omnispace Australia	Voting
nbn	Voting
Optus	Voting
Samsung	Voting
Telstra	Voting
TPG Telecom	Voting

This Working Committee was chaired by Steve Vodicka of Telstra. Mike Johns of Communications Alliance Ltd provided project management support.

HMD Global resigned from the Working Committee during the course of the project.

NOTES

Communications Alliance was formed in 2006 to provide a unified voice for the Australian communications industry and to lead it into the next generation of converging networks, technologies and services.

In pursuing its goals, Communications Alliance offers a forum for the industry to make coherent and constructive contributions to policy development and debate.

Communications Alliance seeks to facilitate open, effective and ethical competition between service providers while ensuring efficient, safe operation of networks, the provision of innovative services and the enhancement of consumer outcomes.

It is committed to the achievement of the policy objective of the *Telecommunications Act 1997* - the greatest practicable use of industry self-regulation without imposing undue financial and administrative burdens on industry.



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