



DRAFT INDUSTRY CODE

DR C674:2025

EMERGENCY CALLING – NETWORK AND MOBILE PHONE TESTING

DRAFT FOR PUBLIC COMMENT PUBLIC COMMENT STARTS – 21st MARCH 2025 PUBLIC COMMENT ENDS – 24th APRIL 2025 DR C674:2025 Emergency Calling – Network and Mobile Phone Testing Industry Code

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INTRODUCTORY STATEMENT

The **Emergency Calling – Network and Mobile Phone Testing** Industry Code (C674:2025) (the Code) is designed to provide testing requirements for Mobile Network Operators (MNOs) and Equipment Suppliers (ESs) in identifying the behaviours of Mobile Phones to ensure:

- (a) Mobile Phones have the ability to make Emergency Calls on an alternate network when:
 - i. there is a lack of coverage from the Home Mobile Network; or
 - ii. the Radio Access Network (RAN) of the Home Mobile Network has Wilted; and
- (b) behaviours of Mobile Phones in various network failure scenarios are documented.

EXPLANATORY STATEMENT

This Explanatory Statement outlines the purpose of the Code and the public interest factors which have been taken into account at the time of the registration of the Code.

Background

In response to the Bean Review report provided to government in March 2024, the Honourable Michelle Rowland MP, Minister for Communications, wrote:

The government acknowledges that it is not possible to guarantee there will never be another major outage, however there must be safeguards in place to prevent and/or minimise the significant disruption the community experienced on 8 November 2023.

Of the 18 recommendations made, this code has been developed to specifically address Recommendation 3¹.

Recommendation 3

To ensure (to the extent possible) continuous access to Triple Zero, carriers must conduct 6-monthly end-to-end testing of all aspects of the Triple Zero ecosystem within and across networks. The end to end detection testing should include:

- Network functionality and capability during outages of various types
- Behaviour of all known devices in different circumstances

• Interoperability of all parts of the ecosystem (from originating carrier, to ECP, to ESO answering point) during outages.

Any identified deficiencies must be reported to the ACMA and be accompanied by a remediation plan with timetable. This requirement should be mandated in a standard or determination.

1

https://www.infrastructure.gov.au/sites/default/files/documents/review_into_the_optus_o utage_of_8_november_government_response.pdf

The government response acknowledged Carriers undertake testing of devices and networks but considered there were gaps in testing and supported the development of an industry code to identify how a sustainable comprehensive testing regime could be implemented to address these gaps.

The Code sets out the 6-monthly end-to-end testing of all aspects of the Triple Zero ecosystem within and across networks testing that must be conducted in order to meet the objective of this recommendation.

Current Regulatory Arrangements

The ACMA specifies requirements for the supply of certain telecommunications customer equipment including that they must comply with the requirements of the Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2015 (the TLN).

Schedule 1 to the TLN specifies the applicable telecommunications technical standards that apply to certain customer equipment.

Unless an exemption in Schedule 2 to the TLN applies, if one or more telecommunications technical standards apply to the equipment, the supplier (manufacturer or importer) must apply a label (either a compliance label or a non-compliance label) indicating whether the equipment complies with the applicable technical standards, before supplying the equipment.

How the Code Builds on and Enhances the Current Regulatory arrangements

The Code supports the obligations to provide an Emergency Call Service set out in C536 Emergency Call Service Requirements Industry Code and the Telecommunications (Emergency Call Service Determination 2019) and recommendation 3 of the Bean Review. This is achieved by formalising a common set of testing criteria to test the expected behaviour of a set of Mobile Phones against a set of network Unavailable scenarios through cross-network testing and to start the process of building a Register that records Mobile Phone behaviours in a variety of scenarios.

What the Code will Accomplish

Unexpected behaviours or unknown software bugs can result in an uncontrolled failure scenario in networks and the interaction of Mobile Phones with a Mobile Network may be inconsistent in certain network Unavailable scenarios. The Code contains the requirement to perform testing of the expected behaviour of Mobile Phones in various network Unavailable scenarios, to validate that the behaviour of the Mobile Phone being tested is consistent with that which has been declared and, and to record the results, including any variances in behaviour across each Mobile Network

The Code will provide a mechanism through which industry, Government and consumers can have certainty about the behaviour of the tested Mobile Phones in a variety of scenarios.

How the Objectives will be Achieved

By determining a key set of test scenarios to be conducted and a means by which to record the results of tests. This information will be used to validate the declared behaviour of Mobile Phones in a variety of scenarios.

At six monthly intervals, a small subset of Mobile Phones will be chosen for testing in a Controlled Test Facility (CTF) to validate the behaviours of the Mobile Phone against declared behaviours. In the initial stage, a Register will be populated with the behaviours of Mobile Phones which have been or will be supplied in the Australian market. The Mobile Phones entered into the Register will be restricted to Mobile Phones supplied by ESs with a known Australian presence.

Anticipated Benefits to Consumers

Once the Register is made publicly available, Consumers will benefit by being able to identify the different behaviours of Mobile Phones listed on the Register, and being able to make informed choices when purchasing a Mobile Phone to meet their individual needs.

Anticipated Benefits to Industry

The main benefit to the industry from the implementation of the Code will be to assist in building a Register of Mobile Phones and their behaviours identifying those that are compliant with the current regulatory arrangements, identifying those Mobile Phones that can make Emergency Calls. Industry will also have a common approach to testing Mobile Phones and Network Equipment in relation to various network failure scenarios.

Anticipated Cost to industry

There are costs associated with the establishment and maintenance of the equipment required to undertake both the Mobile Phone and network testing. There will also be costs associated with the set up and ongoing access to any CTF where testing to the requirements will be performed, along with the costs of resources to be available to perform and monitor the testing.

Ongoing costs will also be required as the testing is required to be performed at least every 6 months.

WC125: Emergency Calling – Network and Mobile Phone Testing Working Committee.

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1 INTRODUCTION AND REGISTRATION WITH THE ACMA

1.1 Introduction

- 1.1.1 Section 112 of the <u>Telecommunications Act 1997</u> (the Act) sets out the intention of the Commonwealth Parliament that bodies and associations representing sections of the telecommunications industry develop industry codes relating to the telecommunications activities of participants in those sections of the industry.
- 1.1.2 The development of the Code has been facilitated by Communications Alliance through a Working Committee comprised of representatives from the telecommunications industry, including Mobile Network Operators (MNOs), Equipment Suppliers (ESs), University Technology Sydney (UTS), the ACMA and the DITRDCA.
- 1.1.3 The Code is to be submitted to the Australian Communications and Media Authority (the ACMA) for registration pursuant to section 117 of the Act.
- 1.1.4 The Code should be read in the context of other relevant Standards, codes, guidelines and documents, including:
 - (a) AS/CA S042.1:2022 Requirements for connection to an air interface of a Telecommunications Network - Part 1: General
 - (b) 3GPP 22.016: International Mobile station Equipment Identities (IMEI)
 - (c) ETSI TS 122 016: International Mobile Equipment Identities (IMEI)
 - (d) 3GPP 22.101: Service aspects; Service principles
 - (e) ETSI TS 122 101: Service Aspects; Service Principals,
 - (f) 3GPP 21.905: Vocabulary for 3GPP Specifications
 - (g) ETSI TR 121 905: Vocabulary for 3GPP Specifications
- 1.1.5 The Code should be read in conjunction with related legislation, including:
 - (a) the Act; and
 - (b) the Telecommunications (Emergency Call Service) Determination 2019 (the Determination).
- 1.1.6 If there is a conflict between the requirements of the Code and any requirements imposed on a Carrier or Equipment Supplier by legislation, the Carrier or ES will not be in breach of the Code by complying with the requirements of the legislation.

- 1.1.7 Compliance with this Code does not guarantee compliance with any legislation. The Code is not a substitute for legal advice.
- 1.1.8 Statements in boxed text are a guide to interpretation only and not binding as Code rules.

1.2 Scope

- 1.2.1 The Code applies to the following sections of the telecommunications industry under section 110 of the Act:
 - (a) Carriers (Mobile Network Operators); and
 - (b) Customer Equipment Suppliers.
- 1.2.2 The Code deals with the following telecommunications activities as defined in section 109 of the Act:
 - (a) carrying on business as a Carrier (Mobile Network Operators only); or
 - (b) manufacturing or importing customer equipment or customer cabling; or
 - i. installing, maintaining operating or providing access to a telecommunications network or
 - ii. a facility (limited to Public Mobile Telecommunications Service (PMTS) Network Equipment Suppliers).
- 1.2.3 This Code applies to the testing of the following capabilities, by MNOs and ESs to ensure:
 - (b) Mobile Phones have the ability to make Emergency Calls on an alternate network when:
 - i. there is a lack of coverage from the Home Mobile Network; or
 - ii. the RAN of the Home Mobile Network has Wilted; and
 - (c) behaviours of Mobile Phones in various network failure scenarios are documented.
- 1.2.4 Any representations to ETSI, 3GPP and GSMA for specification or standards adoption is outside of the scope of this Code.

NOTES: The testing regime cannot guarantee that all failure scenarios and all error responses are captured.

While it is feasible to place calls to "000" using a VoIP service with a dialler app on a smartphone or other data device, this call case is out of scope for testing under this code.

The call cases in scope are UE-Detected Emergency Calls per ETSI TS 122 101 for Mobile Phones.

1.3 Objectives

The objectives of the Code are to:

- 1.3.1 identify the current behaviours of Mobile Networks and Mobile Phones in the event of the Home Mobile Network being Unavailable and document any relevant error codes and the Mobile Phone response (current behaviours) that may be identified during testing.
- 1.3.2 perform regular end to end cross network tests in a CTF to ensure the operational effectiveness of the Emergency Call ecosystem.

NOTE: ESs have existing obligations to make reasonable efforts to ensure their Mobile Phones are designed to support attempts to make Emergency Calls on another available Mobile Network in the absence of coverage on the Home Mobile Network.

1.3.3 establish a test regime with identified error codes which can form the basis for ongoing testing of selected Mobile Phones at six monthly intervals.

> NOTE: While testing is expected to be carried out at six monthly intervals this Code does not preclude testing at more frequent intervals and any such testing, resets the clock for when the next set of tests is due (e.g. an MNO conducts testing starting in February and the next set of tests is due to start in August to ensure no more than six months elapses from the previous test cycle).

1.3.4 supply information to the Register Owner to ensure the ongoing maintenance of a Register listing the behaviour of Mobile Phones when attempting an Emergency Call and in the event that the Home Mobile Network is Unavailable.

1.4 Code review

The Code will be reviewed after 1 year of being registered by the ACMA and every 5 years subsequently, or earlier in the event of significant developments that impact on the Code or a chapter within the Code.

2 ACRONYMS, DEFINITIONS AND INTERPRETATIONS

2.1 Acronyms

For the purposes of the Code:

3GPP

means 3rd Generation Partnership Project.

ACMA

means Australian Communications and Media Authority.

AMF

means Access and Mobility Management Function.

AS

means Australian Standard.

CA

means Communications Alliance.

CE

means Customer Equipment

CN

means Core Network.

CSP

means Carriage Service Provider

CTF

means Controlled Test Facility.

CTF Host

means a Controlled Test Facility Host.

ECP

means Emergency Call Person.

ES

means Equipment Supplier

ESN

means Emergency Service Number.

IMEI

means International Mobile Equipment Identity per ETSI TS 122 016.

MME

means Mobility Management Entity.

MNO

means Mobile Network Operator.

O&M

means Operations and Management.

RAN

means Radio Access Network.

RCM

means Regulatory Compliance Mark.

UE

means User Equipment.

2.2 Definitions

For the purposes of the Code:

Act

means the Telecommunications Act 1997 (Cth).

Carriage Service

has the meaning given by section 7 of the Act.

Carriage Service Provider

has the meaning given by section 87 of the Act.

Carrier

has the meaning given by section 7 of the Act.

Controlled Test Facility

means a secure environment equipped with a large Faraday Cage or RFshielded infrastructure to evaluate Mobile Network and Mobile Phone performance and failure scenarios in a controlled RF setting.

Controlled Test Facility Host

means a host of a secure environment equipped with a large Faraday Cage or RF-shielded infrastructure used to evaluate Mobile Network performance and failure scenarios in a controlled RF setting.

Core Network

means, in the context of 3GPP mobile telecommunications specifications, central part of a Mobile Network that provides various services to users who are connected via the Radio Access Network (RAN).

NOTE: The Core Network is responsible for functions including:

- Subscriber Management: Authentication, authorisation, and accounting (AAA) of users.
- Session Management: Establishment, maintenance, and release of user sessions.
- Mobility Management: Tracking the locations of mobile users and handling handovers between different cells or networks.

Customer

means the person who is contracted to a CSP for the supply of a Carriage Service in association with a Public Number.

Determination

means the Telecommunications (Emergency Call Service) Determination 2019.

Emergency Call

has the meaning given by the Determination.

Emergency Call Person

has the meaning given by section 7 of the Act.

Emergency Call Service

has the meaning given by section 7 of the Act.

Emergency Service Number

has the meaning given by the Telecommunications Numbering Plan 2015.

NOTE: The Numbering Plan specifies that 000 is the primary ESN and 112 is a secondary ESN.

Equipment Supplier

has the meaning given under paragraph 110 (2) (h) of the Act.

Home Mobile Network

means the network of a Carrier used by the Carriage Service Provider which provides service to the Customer.

Key

means a unique identifier consisting elements of the IMEI/SV including the TAC (Type Allocation Code), of a Mobile Phone model.

NOTE: Refer to ETSI TS 122 016

Mobile Network

has the meaning given by section 6 of the Determination.

Mobile Network Operator

means the operator of a Mobile Network.

Mobile Phone

has the meaning given by part 4, section 62 of the Telecommunications (Emergency Call Service) Amendment Determination 2024 (No. 1).

Network Equipment

means the equipment consisting of the RAN and the CN.

Public Mobile Telecommunications Service

has the meaning given by section 32 of the Act.

Public Number

has the meaning given by schedule 2, part 4, clause 10(3) of the Act.

Register

means a repository of Mobile Phone behaviour under different network failure scenarios impacting Emergency Calls.

Register Owner

means the entity responsible for the definition, implementation, operation and maintenance of the Register.

Unavailable

means the Home Network is not available, has Wilted, or is unable to progress an Emergency Call based on the known failure scenarios to be tested.

User Equipment

means equipment that allows a user access to network services; Refer to / ETSI TR 121 905.

Wilt

has the meaning given by part 1, section 6 of the proposed Telecommunications (Emergency Call Service) Amendment Determination 2025 (No. 1).

2.3 Interpretations

In the Code, unless the contrary appears:

- (a) headings are for convenience only and do not affect interpretation;
- (b) a reference to a statute, ordinance, code or other law includes regulations and other instruments under it and consolidations, amendments, re-enactments or replacements of any of them;
- (c) words in the singular includes the plural and vice versa;
- (d) words importing persons include a body whether corporate, politic or otherwise;
- (e) where a word or phrase is defined, its other grammatical forms have a corresponding meaning;
- (f) mentioning anything after include, includes or including does not limit what else might be included;
- (g) words and expressions which are not defined have the meanings given to them in the Act; and
- (h) a reference to a person includes a reference to the person's executors, administrators, successors, agents, assignees and novatees.

3 GENERAL PRINCIPLES

These general principles relate to the testing of Mobile Phones under this Code.

- 3.1.1 It should be practically possible to test the efficacy of these requirements through Mobile Network and Mobile Phone testing in a controlled environment.
- 3.1.2 Expectations on the level of testing to be conducted should be realistic, i.e. it is not realistic to test every Mobile Phone variant and Mobile Network Equipment configuration and combination.
- 3.1.3 It is not a replacement for the required Mobile Phone certification testing for applying the RCM label, rather it is using selected Mobile Phones to perform end-to-end ecosystem testing in a controlled multi-operator environment.
- 3.1.4 Network Equipment and Mobile Phones are assumed to be functioning as per ETSI Standards, any unexpected behaviour will be reported to the MNOs or ES to address.
- 3.1.5 It should focus on the ecosystem behaviour in different network failure scenarios, in particular the effects of failures at different points in the Emergency Call Service chain from the Mobile Phone to the ECP's Relevant Termination Point.
- 3.1.6 It needs to accommodate technology and architecture lifecycles (e.g. introduction, changes and retirements).
- 3.1.7 It needs to consider Australia's multi-operator and multi-vendor environment.
- 3.1.8 It needs to consider Mobile Phone testing based on a variety of Mobile Phones as well as testing for new Mobile Network architecture changes.
- 3.1.9 It should focus testing on any potential technical disruption caused by misalignment in expected behaviours between Mobile Networks and Mobile Phones that may limit consumer's continuous access to make a call to Triple Zero and have that call delivered.
- 3.1.10 It should lead to the development and maintenance of a test suite of ecosystem failure modes which can be replicated and executed in subsequent testing.

4 CODE RULES

4.1 Considerations

The Code considers the following parts of testing the Triple Zero Ecosystem:

- i. Cell Wilting with CN connection loss, and the resultant Mobile Phone behaviour; and
- ii. a variety of Mobile Network failures resulting in error codes being returned or timeouts, and the resultant Mobile Phone behaviour.

NOTE: Cell Wilting is not defined in ETSI specifications. However, a number of Network Equipment Providers have delivered Wilting capability for loss of RAN physical and control plane connectivity to the CN control nodes (MME/AMF).

Wilting may be accomplished through manually entered operations and management (O&M) commands to remotely force cells to Wilt, if there is connectivity to the cell site or automated solutions, that replicate the production Mobile Network.

Testing of a variety of Mobile Network failures, whilst ideally performed in a production Mobile Network, is unreasonable, as the method to generate the failure conditions could result in widespread impact to the public.

4.1.1 Testing, to meet the objectives of the Code, must be performed in a CTF that incorporates Mobile Network infrastructure that represents the MNOs production Mobile Networks as closely as possible.

NOTE: A fundamental resilience principle is to always keep model/lab equipment separate from production Mobile Networks. This removes the risk for activity conducted on model/lab equipment (including activities not generally performed in production) to inadvertently and unexpectedly cause impact to a production node and cause widespread impacts - potentially catastrophic.

Given this, connectivity and testing of the Network Equipment in a CTF should be conducted using model/lab networks, that have connectivity to the MNO's model/lab networks and are representative of the MNO's production networks and supporting the ability to make Triple Zero calls.

- 4.1.2 Testing to meet the objectives of the Code must incorporate cross Mobile Network failure testing between all MNOs.
- 4.1.3 Where an MNO supplies the Network Equipment to a CTF it should be representative of the equipment and configuration in the MNO's production Mobile Network, unless a non-production configuration is required to test a specific architecture or technology.

NOTE: Error code generation for failure scenarios is not specifically defined in 3GPP specifications, nor is the expected Mobile Phone behaviour in response to an error code.

5 EMERGENCY CALL SUPPORT AND TESTING

5.1 Mobile Phone Requirements

Mobile Phone Attachment and Emergency Call Initiation

Information relating to Emergency Call Requirements is contained within AS/CA S042.1:2022 Requirements for connection to an air interface of a Telecommunications Network - Part 1: General and the Determination.

Declaration of Error Codes and Mobile Phone Behaviour

MNO Obligations

- 5.1.1 MNO's must conduct testing at intervals of no more than six months.
- 5.1.2 MNOs must define the network behaviours including failure scenarios relevant to the Mobile Network nodes in the Emergency Call service chain and these failure scenarios should include but are not limited to:
 - i. a complete loss of connectivity to Mobile Network nodes in the Emergency Call Service chain; and
 - ii. a loss of the call traffic between each element (causing timeouts in the Mobile Network or Mobile Phone).
- 5.1.3 Test cases must include but not be limited to:
 - a) the Mobile Phone behaviour and capability following Wilting (with regards to an Emergency Call);
 - b) the network behaviour and capability during various types of failure scenarios in the Emergency Call service chain;
 - c) whether a Mobile Phone can make an Emergency Call on the Home Mobile Network;
 - d) whether the Mobile Phone has the ability to make an Emergency Call on an alternate Mobile Network when
 - i. there is a lack of coverage from the Home Mobile Network.
- 5.1.4 MNOs must arrange updates to the Register, with the following information:
 - a) the declared error codes that will be returned by their Mobile Networks to the Mobile Phone; or
 - b) if no response is expected to be returned to the Mobile Phone;

for each of the scenarios defined in clause 5.1.2.

- a) in the event that the behaviour is defined in the ETSI Standards, the defined behaviour of the Mobile Phone;
- b) if in the event there is no defined behaviour, then the desired behaviour (non-mandatory) of a generic Mobile Phone on receipt of the error code.
- 5.1.6 Testing to align with clause 5.1.4 must include but not be limited to:
 - a) the declared Mobile Phone behaviours:
 - i. validated against the declared network error codes in the Register; and
 - ii. validated against the declared Mobile Phone behaviours in the Register.
- 5.1.7 An MNO must record any initial failure scenarios in the Register relating to its Mobile Network, as per clause 5.1.2 within 3 months of the registration of the Code by the ACMA.
- 5.1.8 Any changes or anticipated changes to the initial failure scenarios must be updated in the Register, within 3 months of the change being understood or implemented by the MNO.
- 5.1.9 Any errors discovered in previous declarations by an MNO must be updated in the Register, within 1 month of being discovered.
- 5.1.10 An MNO must provide suitable SIM/eSIMs for use in conjunction with testing of its Mobile Network.
- 5.1.11 A SIM/eSIM provided by an MNO under clause 5.1.10 must be in an active state for the duration of the test period relating to the testing of that MNO Mobile Network

Mobile Phone Selection for Testing

Testing will focus on cross-network behaviour using a sample of Mobile Phone variants.

The Mobile Phones selected to be tested will be shared with MNOs and ESs, and a CTF Host where applicable, at least 2 months prior to commencement of testing.

- 5.1.12 If a sample of a selected Mobile Phone cannot be provided, then the MNOs, ESs and a CTF Host where applicable, must propose and agree an alternative Mobile Phone for testing, as soon as practicable to comply with clause 5.1.6.
- 5.1.13 The Mobile Phones chosen to be tested under clause 5.1.12 must be provided, on loan, by the relevant ES for testing at least 4 weeks prior to commencement of testing and remain available for the duration of the test period.

NOTE: The Mobile Phones provided on loan in clause 5.1.11 are to be returned by the CTF Host to the relevant ES within 2 weeks of the completion of testing.

Equipment Supplier Obligation

- 5.1.14 ESs must update the Register with the Key, or Keys, for each model of voice capable Mobile Phone which is to be tested as per clause 5.1.12.
- 5.1.15 ESs must arrange for the Register to be updated with, the behaviour of that Mobile Phone, which is to be tested as per clause 5.1.6, if it differs from the desired behaviour of a generic Mobile Phone declared by the MNOs for each of the network responses provided by MNOs per clause 5.1.5, including no response.
- 5.1.16 Updates made per clause 5.1.14 must be made within 2 months of the MNOs update of the Register, unless the ES has provided an update, then the Mobile Phone behaviour must be listed as "unknown".
- 5.1.17 If the behaviour of a Mobile Phone is modified by an ES (including updating a Mobile Phones behaviour from unknown to known) such that the information in the Register to be tested against is incorrect, then the ES must update the Register information within 2 months of those modifications being introduced.
- 5.1.18 The ES must update any errors discovered by them in the data contained in the Register within 2 months of discovery of the error.

Network Infrastructure Testing

5.1.19 Each MNO must test Wilting on Network Equipment connected to their model/lab CN, utilising Network Equipment to enable these test scenarios, or as agreed, to test new technologies and architectures.

NOTE: An MNO may choose to use a CTF Host to perform this function.

- 5.1.20 Each MNO must ensure its Mobile Phone testing including via a CTF Host where applicable, incorporates cross Mobile Network test failure scenarios for the delivery of Emergency Calls.
- 5.1.21 Where an MNO conducts Mobile Phone testing via a CTF Host, it must agree the representative set of Network Equipment to be used in the testing with the CTF Host in sufficient time prior to test execution to meet its obligation to conduct testing at six monthly intervals.

NOTE: This may result in more than one piece of Network Equipment being required, or installed from time to time, from an MNO. It is expected that to make the necessary technical arrangements with a CTF Host, an MNO should allow at least 3 months' notice prior to the commencement of testing. Depending on the test to be performed, Network Equipment may change to ensure it remains relevant to the tests being performed. 5.1.22 In the event of a test case failure the MNO must work with their respective Network Equipment supplier to investigate and determine the root cause of the failure and develop a remediation plan, including a remediation plan timeline.

6 REFERENCES

Publication	Title	
Australian/CA Stand	ards	
AS/CA \$042.1:2022	Requirements for connection to an air interface of a Telecommunications Network (Standard) – Part 1: General	
Industry Codes and	Guidelines	
C536	Emergency Call Services Requirements	
3GPP Specifications		
3GPP TS 22.101	Service aspects; Service principles	
	http://www.3gpp.org/ftp/specs/html-info/22101.htm	
ETSI Technical Repor	ts	
etsi tr 121 905	Universal Mobile Telecommunications System (UMTS);Vocabulary for 3GPP Specification	
	http://www.3gpp.org/ftp/Specs/html-info/21905.htm	
Legislation and Dete	rminations	
Telecommunications	<u>s Act 1997 (Cth)</u>	
Telecommunications (Emergency Call Service) Determination 2019		
<u>Telecommunications</u>	Numbering Plan 2015 (Cth)	
	(Emergency Call Service) Amendment Determination	

PARTICIPANTS

The Working Committee responsible for the revisions made to this Code consisted of the following organisations and their representatives:

Organisation	Membership	Representative
ACMA	Observer (non-voting)	Cuong Nguyen
ACMA	Observer (non-voting)	Paul Nicholas
Apple	Voting	Yan Gao
Aussie Broadband	Voting	Eric Erickson
DITRDCA	Observer (non-voting)	Jayden Pollard
DITRDCA	Observer (non-voting)	Angus Thompson
IOTAS	Voting	Tejesh Kumar
NBN Co	Observer	Peter Bull
Optus	Voting	Lachlan Cameron
Optus	Non - voting	Monica Liem
Samsung	Voting	Satya Vignesh
Samsung	Non-voting	Michael Sanchez
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Telstra	Non-voting	Gerard Tracey
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The Working Committee was chaired by Craig Purdon of Communications Alliance.

Communications Alliance was formed in 1997 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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