



TECHNICAL SPECIFICATION

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
Conformance testing for Mode 1 of
the digital Private Mobile Radio (dPMR™);
Part 3: Interoperability Test Suite Structure and
Test Purposes (TSS&TP) specification**

Reference

RTS/ERM-TGDMM-353

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digital, interoperability, mobile, radio, testing,
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ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

The present document is part 3 of a multi-part deliverable covering the Conformance testing for Modes 1 and 2 of the digital Private Mobile Radio (dPMR™) as identified below:

Part 1: "Protocol Implementation Conformance Statement (PICS) proforma";

Part 2: "Test Suite Structure and Test Purposes (TSS&TP) specification";

Part 3: "Interoperability Test Suite Structure and Test Purposes (TSS&TP) specification".

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

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Executive summary

The present document describes the interoperability test requirements for digital Private Mobile Radio compliant to the ETSI TS102 658 standard.

It is intended to be used in conjunction with the Protocol Implementation Conformance standard (PICS) ETSI TS 102 726-1 [i.2] which describes the applicable functions of the equipment being evaluated. The actual test procedure and the required test result for each of those functions can be found in the present document.

1 Scope

The present document specifies the interoperability Test Purposes (TPs) for the Digital Private Mobile Radio (dPMR™) standard, ETSI TS 102 658 [1]. TPs are defined using the TPLan notation described in ETSI ES 202 553 [i.1]. Test purposes have been written based on the test specification framework described in ETSI TS 102 351 [2] and based on the methodology defined in ISO/IEC 9646-2 [3].

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

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The following referenced documents are necessary for the application of the present document.

- [1] ETSI TS 102 658 : "Digital Private Mobile Radio (dPMR) using FDMA with a channel spacing of 6,25 kHz".
- [2] ETSI TS 102 351 (V2.1.1): "Methods for Testing and Specification (MTS); Internet Protocol Testing (IPT); IPv6 Testing: Methodology and Framework".
- [3] ISO/IEC 9646-2: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification".
- [4] ETSI TS 102 587-3: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Peer-to-Peer Digital Private Mobile Radio; Part 3: Requirements catalogue".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI ES 202 553: "Methods for testing and Specification (MTS); TPLan: A notation for expressing test Purposes".
- [i.2] ETSI TS 102 726-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Conformance testing for Mode 1 of the digital Private Mobile Radio (dPMR™); Part 1: Protocol Implementation Conformance Statement (PICS) proforma".

3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

BS2L	Mode 2 Repeater using Limited Access Mode
BS2T	Mode 2 Repeater using Transparent Access Mode
CF	(Test) ConFIGuration
dPMR™	digital Private Mobile Radio
EUT	Equipment Under Test
M1	Mode 1
M2	Mode 2
OACSU	Off Air Call Set-Up
QE	Qualified Equipment

NOTE: That complies with TS 102 658 [1].

RC	Requirements Catalogue
RQ	ReQUIREment
TP	Test Purpose
TSS	Test Suite Structure

4 Test Suite Structure (TSS)

The Test Suite Structure is based on the dPMR™ Requirements Catalogue [4]. It is defined by the groups within the following TPLan specification of test purposes. The numbering is not contiguous so that new TPs can be added at a later date without the need to completely renumber the TSS groups.

The test purposes have been divided into four groups:

Group 1: Common requirements.

Group 2: Services.

Group 3: Channel access.

Group 4: Addressing

The sub-grouping of these three groups follows the structure of the RC. Some of the sub-groups of the RC contained no testable requirement. Headings for those sub-groups are in this test purpose document in the node group to give a full view on the relation between RQ and TSS&TP.

5.1	Framing
5.1.1	Addressing
5.1.1.1	All Call
5.1.1.2	Dialling Plan
5.1.1.3	Talking Party ID
5.1.2	Base Station framing
5.1.3	Channel Access
5.1.3.0	General
5.1.3.1	OACSU
5.1.3.2	PTT Call
5.1.4	END frame
5.1.5	Message frame
5.1.5.1	Message Information field
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5.1.6.3	T1 data
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5.1.6.5.3	Slow user data
5.1.7	Power save
5.1.8	Superframe
5.1.8.1	Traffic channel
5.1.8.2	Voice TCH

5 Test Purposes (TP)

5.0 Preamble

The test purposes have been written in the formal notation TPlan. Configurations that are referenced by test purposes are shown in annex A. TPlan user definitions are listed in annex B.

5.1 Framing

5.1.1 Addressing

5.1.1.1 All Call

Void.

5.1.1.2 Dialling Plan

```

TP id      : TP_PMR_1403_01
summary    : 'The user should enter or select a string of digits and then press a button to initiate
the call'
RQ ref     : RQ_001_1403
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    QE1 and EUT in standby and
    EUT Complies_with_Standard_User_Interface
}
ensure that {
    when { EUT_User enters or selects an address of QE1 }
    then { QE1_User does not receive the Call }
}

```

```
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

```

TP id      : TP_PMR_1403_02
summary    : 'The user should enter a string of digits and then press a button to initiate the call'
RQ ref     : RQ_001_1403
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    QE1 and EUT in standby and
    EUT Complies_with_Standard_User_Interface
}
ensure that {
    when { EUT_User enters or selects an address of QE1 before EUT_User
           presses the hash_key or dedicated_send_key }
    then { QE1_User receives the Call }
}

```

```
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

```

TP id      : TP_PMR_1412_01
summary    : 'Some numeric address are not permitted'
RQ ref     : RQ_001_1409
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    EUT Complies_with_Standard_User_Interface and
    QE1 and EUT in standby
}
ensure that {
    when { EUT_User enters or selects a non_dialable_address and
           presses dedicated_send_key }
    then { EUT indicates an error } -- audible or visible prompt
}

```

```
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

```
TP id      : TP_PMR_1415_01
summary    : 'Radio receiving a talkgroup call - using wildcard'
RQ ref     : RQ_001_1415
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    QE1 and EUT in standby and
    QE1 Complies_with_Standard_User_Interface
}
ensure that {
    when { QE1_User enters or selects an EUT address
            containing an asterisk_symbol 'in one of the last four digits' and
            presses the hash_key or dedicated_send_key }
    then { EUT_User receives a TalkGroup_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_1415_02
summary    : 'Radio receiving a talkgroup call'
RQ ref     : RQ_001_1415
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    (EUT 'programmed with a talkgroup address') and
    QE1 Complies_with_Standard_User_Interface and
    QE1 and EUT in standby
}
ensure that {
    when { QE1_User enters or selects the talkgroup_address of the EUT and
            presses the hash_key or dedicated_send_key }
    then { EUT_User receives the TalkGroup_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_1417_01
summary    : 'Abbreviated dialled digit to address mapping'
RQ ref     : RQ_001_1417
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    (EUT Complies_with_Standard_User_Interface and
    abbreviated_dialling_available) and
    QE1 in standby
}
ensure that {
    when { EUT_User enters or selects an abbreviated_dialling_string of QE1 and
            presses the hash_key or dedicated_send_key }
    then { QE1_User receives the Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

```
TP id : TP_PMR_1417_02
summary : 'Abbreviated dialling string with wildcard and no match'
RQ ref : RQ_001_1417
TP type : interoperability
Role : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref : TBD
with {
    (EUT Complies_with_Standard_User_Interface and
     abbreviated_dialling_available)
    EUT and QE1 'addresses are same except for last two or more digits'
    EUT and QE1 in standby
}
ensure that {
    when { EUT_User enters or selects the asterisk_symbol and
           presses the hash_key or dedicated_send_key }
    then { QE1_User does not receive the Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id : TP_PMR_1417_03
summary : 'Abbreviated dialling string with wildcard'
RQ ref : RQ_001_1417
TP type : interoperability
Role : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref : TBD
with {
    (EUT Complies_with_Standard_User_Interface and abbreviated_dialling_available)
    EUT and QE1 'addresses are same except for the last digit'
    EUT and QE1 in standby
}
ensure that {
    when { EUT_User enters or selects the asterisk_symbol and
           presses the dedicated_send_key }
    then { QE1_User receives the Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id : TP_PMR_1418_01
summary : 'Talkgroup call'
RQ ref : RQ_001_1418
TP type : interoperability
Role : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref : TBD
with {
    (EUT Complies_with_Standard_User_Interface and
     'an address input mask enabled covering at least one of the last four digits') and
    (EUT and QE1 'addresses having the same digits outside of the mask' and
     in standby)
}
ensure that {
    when { EUT_User enters or selects a masked_dialling_string of QE1
           containing an asterisk_symbol 'as the last digit' and
           presses the hash_key or dedicated_send_key }
    then { QE1_User receives the TalkGroup_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

```

TP id      : TP_PMR_1418_02
summary    : 'Talkgroup call'
RQ ref     : RQ_001_1418
TP type    : interoperability
Role       : M1, M2
config ref : CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
  (EUT Complies_with_Standard_User_Interface and
   abbreviated_dialling_available and
   'an address input mask is enabled covering at least one of the last four digits') and
  (EUT and QE1 'addresses having the same digits outside of the mask' and
   in standby)
}
ensure that {
  when { EUT_User enters or selects an abbreviated_masked_dialling_string of QE1
         containing an asterisk_symbol 'as the last digit' and
         presses the hash_key or dedicated_send_key }
  then { QE1_User receives the TalkGroup_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_1420_01
summary    : 'Broadcast plan'
RQ ref     : RQ_001_1420
TP type    : interoperability
Role       : M1, M2
config ref : CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
  EUT Complies_with_Standard_User_Interface and
  QE1 'programmed with a talkgroup address'
  QE1 and EUT in standby
}
ensure that {
  when { EUT_User enters a broadcast_command
         containing a talkgroup_address of QE1 and
         presses dedicated_send_key }
  then { QE1_User receives the Broadcast_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_1420_02
summary    : 'Broadcast call - abbreviated dialling'
RQ ref     : RQ_001_1420
TP type    : interoperability
Role       : M1, M2
config ref : CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
  (EUT Complies_with_Standard_User_Interface and
   abbreviated_dialling_available) and
  EUT and QE1 'addresses differing in one or more of the last digits'
  QE1 and EUT in standby
}
ensure that {
  when { EUT_User enters a broadcast_command
         containing a valid abbreviated_dialling_string of QE1
         containing 'one or more asterisk symbols' and
         presses the hash_key or dedicated_send_key }
  then { QE1_User receives the Broadcast_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

```

```

TP id      : TP_PMR_1421_01
summary    : 'Status call'
RQ ref     : RQ_001_1421
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    EUT Complies_with_Standard_User_Interface and
    QE1 and EUT in standby
}
ensure that {
    when { EUT_User enters a status_command
            containing a code between 0 and 31 and
            containing the address of QE1 and
            presses the hash_key or dedicated_send_key }
    then { QE1_User receives the Status_Call indicating the selected code }
}

```

```
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

```

TP id      : TP_PMR_1421_02
summary    : 'Status call - wrong status code entered'
RQ ref     : RQ_001_1421
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    EUT Complies_with_Standard_User_Interface
    QE1 and EUT in standby
}
ensure that {
    when { EUT_User enters a status_command
            containing a code 'greater than' 31 and
            containing the address of QE1 and
            presses the dedicated_send_key }
    then { EUT indicates an error }
}

```

```
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

```

TP id      : TP_PMR_1423_01
summary    : 'Force talkgroup service'
RQ ref     : RQ_001_1423
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    EUT Complies_with_Standard_User_Interface and
    QE1 and EUT in standby
}
ensure that {
    when { EUT_User enters a talkgroup_command
            containing the address of QE1 and
            presses the dedicated_send_key }
    then { QE1_User receives the TalkGroup_Call }
}

```

```
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

```

TP id      : TP_PMR_1423_02
summary    : 'Force talkgroup service - abbreviated dialling'
RQ ref     : RQ_001_1423
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    (EUT Complies_with_Standard_User_Interface and
     abbreviated_dialling_available) and
    EUT and QE1 'addresses differing in one or more of the last digits'
    QE1 and EUT in standby
}
ensure that {
    when { EUT_User enters a talkgroup_command
           containing a valid abbreviated_dialling_string of QE1 and
           presses hash_key or dedicated_send_key }
    then { QE1_User receives the TalkGroup_Call }
}
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

```

5.1.1.3 Talking Party ID

```

TP id      : TP_PMR_0803_01
summary    : 'Support of Talking Party ID'
RQ ref     : RQ_001_0803
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    (EUT and QE1 with powersave_disabled) and
    EUT in standby
}
ensure that {
    when { QE1_User makes an Individual_Call to EUT }
    then { EUT indicates the address of QE1 }
}
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0803_02
summary    : 'Support of Talking Party ID'
RQ ref     : RQ_001_0803
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    (EUT and QE1 with powersave_disabled) and
    EUT in standby
}
ensure that {
    when { QE1_User makes a Group_Call to EUT }
    then { EUT indicates the address of QE1 }
}
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

```

5.1.2 Base Station framing

```

TP id   : TP_PMR_0409_01
summary : 'Mode 2 BS'
RQ ref  : RQ_001_0409
TP type : interoperability
Role    : BS2L, BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3  -- QE1, QE2 and EUT
TD ref  : TBD
with {
    { QE1 using a valid address and
      EUT in standby
    }
}
ensure that {
    when { QE1_User makes a Connection_Request addressed to QE2 to EUT }
    then { EUT transmits the Connection_Request on the downlink and
          QE2 receives the Connection_Request }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id   : TP_PMR_0410_01
summary : 'Mode 2 BS'
RQ ref  : RQ_001_0410
TP type : interoperability
Role    : BS2L, BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3  -- QE1, QE2 and EUT
TD ref  : TBD
with {
    { QE1 and QE2 in standby and configured polite_to_own_CC
      and EUT transmits a Connection_Request addressed to QE2 on the downlink
    }
}
ensure that {
    when { QE2 makes an acknowledgement }
    then { EUT transmits the acknowledgement on the downlink and QE1 receives the acknowledgement }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id   : TP_PMR_0411_01
summary : 'Mode 2 BS'
RQ ref  : RQ_001_0411
TP type : interoperability
Role    : BS2L, BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3  -- QE1, QE2 and EUT
TD ref  : TBD
with {
    { QE1 using a valid address and
      EUT in standby
    }
}
ensure that {
    when { QE1_User makes a PTT_Call to QE2 to EUT }
    then { EUT transmits the PTT_Call on the downlink and QE2 receives the PTT_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id   : TP_PMR_0411_02
summary : 'Mode 2 BS'
RQ ref  : RQ_001_0411
TP type : interoperability
Role    : BS2L
config ref: Clause A.1.3.2, Clause A.1.3.3  -- QE1, QE2 and EUT
TD ref  : TBD
with {
    { QE1 using a valid address and another channel_code and
      EUT in standby
    }
}
ensure that {
    when { QE1_User makes a PTT_Call to QE2 to EUT }
    then { EUT does not transmit the PTT_Call on the downlink }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id   : TP_PMR_0411_03
summary : 'Mode 2 BS'
RQ ref  : RQ_001_0411
TP type : interoperability
Role    : BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3  -- QE1, QE2 and EUT
TD ref  : TBD

```

```

with {
  ( QE1 using a valid address and another channel_code and
    EUT in standby
  )
}
ensure that {
  when { QE1_User makes a PTT_Call to QE2 to EUT }
  then { EUT transmits the PTT_Call on the downlink and QE2 receives the PTT_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0413_01
summary    : 'Mode 2 BS'
RQ ref     : RQ_001_0413
TP type    : interoperability
Role       : BS2L, BS2T
config ref : Clause A.1.3.2, Clause A.1.3.3 -- QE1, QE2 and EUT
TD ref     : TBD
with {
  ( QE1 using a valid address and
    EUT in standby
  )
}
ensure that {
  when { QE1_User makes a Disconnection_Request to EUT }
  then { EUT transmits the Disconnection_Request to QE2 on the downlink and returns to idle }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0414_01
summary    : 'Mode 2 BS'
RQ ref     : RQ_001_0414
TP type    : interoperability
Role       : BS2L, BS2T
config ref : Clause A.1.3.2, Clause A.1.3.3 -- QE1, QE2 and EUT
TD ref     : TBD
with {
  ( QE1 and QE2 using valid addresses and
    EUT in standby
  )
}
ensure that {
  when { QE1_User makes a Status_Request to QE2 to EUT }
  then { EUT transmits the Status_Request on the downlink and QE2 receives the Status_Request }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0415_01
summary    : 'Mode 2 BS'
RQ ref     : RQ_001_0415
TP type    : interoperability
Role       : BS2L, BS2T
config ref : Clause A.1.3.2, Clause A.1.3.3 -- QE1, QE2 and EUT
TD ref     : TBD
with {
  ( QE1 and QE2 using valid addresses and
    EUT in standby
  )
}
ensure that {
  when { QE2 makes a Status_Response to QE1 to EUT }
  then { EUT transmits the Status_Response to QE1 on the downlink and returns to idle }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0417_01
summary    : 'Mode 2 BS'
RQ ref     : RQ_001_0417
TP type    : interoperability
Role       : BS2L, BS2T
config ref : Clause A.1.3.2, Clause A.1.3.3 -- QE1, QE2 and EUT
TD ref     : TBD
with {
  ( QE1 and QE2 using valid addresses and
    QE3 configured with Divert_Address
    EUT in standby and QE1_User makes a Call_Divert to EUT
  )
}
ensure that {
  when { QE2_User makes a Call to QE1 }
  then { EUT transmits the Call to the Divert_Address on the downlink
        and QE3 receives the Call then returns to idle }
}

```

```
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id    : TP_PMR_0418_01
summary  : 'Mode 2 BS'
RQ ref   : RQ_001_0418
TP type  : interoperability
Role     : BS2L, BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3 -- QE1, QE2, QE3 and EUT
TD ref   : TBD
with {
    ( QE1 and QE2 using valid addresses and
      QE3 configured with Divert_Address
      EUT in standby and QE1_User makes a Call_Divert to EUT
      and QE2_User makes a Call_Divert cancel to EUT
    )
}
ensure that {
    when { QE2_User makes a Call to QE1 }
    then { EUT transmits the Call to the Divert_Address on the downlink and QE3 receives the Call
    then returns to idle}
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id    : TP_PMR_0418_02
summary  : 'Mode 2 BS'
RQ ref   : RQ_001_0418
TP type  : interoperability
Role     : BS2L, BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3 -- QE1, QE2, QE3 and EUT
TD ref   : TBD
with {
    ( QE1 and QE2 using valid addresses and
      QE3 configured with Divert_Address
      EUT in standby and QE1_User makes a Call_Divert to EUT
      and QE1_User makes a Call_Divert cancel to EUT
    )
}
ensure that {
    when { QE2_User makes a Call to QE1 }
    then { EUT transmits the Call to the Divert_Address on the downlink and QE1 receives the Call
    then returns to idle}
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id    : TP_PMR_0432_01
summary  : 'Mode 2 BS'
RQ ref   : RQ_001_0432
TP type  : interoperability
Role     : BS2L, BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3 -- QE1, QE2, QE3 and EUT
TD ref   : TBD
with {
    ( QE1 using a valid address and
      EUT in standby and using preservation_frames
    )
}
ensure that {
    when { QE1_User makes a PTT_Call to QE2 to EUT }
    then { EUT transmits the PTT_Call on the downlink and QE2 receives the PTT_Call }
    when { QE1_User releases PTT_Key }
    then { while EUT transmits preservation_frames on the downlink QE2_User makes a PTT_Call to
    QE1 to EUT and QE1 receives the PTT_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id    : TP_PMR_0432_02
summary  : 'Mode 2 BS'
RQ ref   : RQ_001_0432
TP type  : interoperability
Role     : BS2L, BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3 -- QE1, QE2, QE3 and EUT
TD ref   : TBD
with {
    ( QE1 using a valid address and
      EUT in standby and using preservation_frames
    )
}
ensure that {
    when { QE1_User makes a PTT_Call to QE2 to EUT }
    then { EUT transmits the PTT_Call on the downlink and QE2 receives the PTT_Call }
    when { QE1_User releases PTT_Key }
    then { while EUT transmits preservation_frames on the downlink QE3_User makes a PTT_Call to
```

```

    QE1 to EUT and QE1 does not receive the PTT_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0433_01
summary    : 'Mode 2 BS'
RQ ref     : RQ_001_0433
TP type    : interoperability
Role       : BS2L, BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3  -- QE1, QE2, QE3 and EUT
TD ref     : TBD
with {     ( QE1 using a valid address and
            EUT in standby and using idle_frames
          )
}
ensure that {
  when { QE1_User makes a PTT_Call to QE2 to EUT }
  then { EUT transmits the PTT_Call on the downlink and QE2 receives the PTT_Call }
  when { QE1_User releases PTT_Key }
  then { while EUT transmits idle_frames on the downlink QE2_User makes a PTT_Call to
        QE1 to EUT and QE1 receives the PTT_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0433_02
summary    : 'Mode 2 BS'
RQ ref     : RQ_001_0433
TP type    : interoperability
Role       : BS2L, BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3  -- QE1, QE2, QE3 and EUT
TD ref     : TBD
with {     ( QE1 using a valid address and
            EUT in standby and using idle_frames
          )
}
ensure that {
  when { QE1_User makes a PTT_Call to QE2 to EUT }
  then { EUT transmits the PTT_Call on the downlink and QE2 receives the PTT_Call }
  when { QE1_User releases PTT_Key }
  then { while EUT transmits idle_frames on the downlink QE3_User makes a PTT_Call to
        QE1 to EUT and QE1 receives the PTT_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0434_01
summary    : 'Mode 2 BS'
RQ ref     : RQ_001_0434
TP type    : interoperability
Role       : BS2L, BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3  -- QE1, QE2 and EUT
TD ref     : TBD
with {     ( QE1 using a valid address and
            EUT in standby and preset_with_MAX_voice_call_time
          )
}
ensure that {
  when { QE1_User makes a PTT_Call to QE2 to EUT and 'continuously exchange transmissions' }
  then { EUT transmits the PTT_Call on the downlink 'for a maximum of 10 minutes' and then
        terminates the PTT_Call and returns to idle }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0435_01
summary    : 'Mode 2 BS'
RQ ref     : RQ_001_0434
TP type    : interoperability
Role       : BS2L, BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3  -- QE1, QE2 and EUT
TD ref     : TBD
with {     ( QE1 using a valid address and
            EUT in standby and preset_with_MAX_Emergency_call_time
          )
}
ensure that {

```

```

when { QE1_User makes a Emergency_Call to QE2 to EUT and 'continuously exchange transmissions' }
then { EUT transmits the Emergency_Call on the downlink 'for a maximum of 20 minutes' and then
terminates the Emergency_Call and returns to idle }
}

```

```
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

```

TP id   : TP_PMR_0436_01
summary : 'Mode 2 BS'
RQ ref  : RQ_001_0436
TP type : interoperability
Role    : BS2L, BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3 -- QE1, QE2 and EUT
TD ref  : TBD
with {   ( QE1 using a valid address and
          EUT in standby and using preservation_frames
        )
}
ensure that {
  when { QE1_User makes a PTT_Call to QE2 to EUT }
  then { EUT transmits the PTT_Call on the downlink and QE2 receives the PTT_Call }
  when { QE1_User releases PTT_Key }
  then { EUT transmits preservation_frames on the downlink 'for approximately 8 seconds' and
        returns to idle }
}
}

```

```
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

```

TP id   : TP_PMR_0437_01
summary : 'Mode 2 BS'
RQ ref  : RQ_001_0437
TP type : interoperability
Role    : BS2L, BS2T
config ref: Clause A.1.3.2, Clause A.1.3.3 -- QE1, QE2 and EUT
TD ref  : TBD
with {   ( QE1 using a valid address and
          EUT in standby and using preservation_frames
        )
}
ensure that {
  when { QE1_User makes a Emergency_Call to QE2 to EUT }
  then { EUT transmits the PTT_Call on the downlink and QE2 receives the Emergency_Call }
  when { QE1_User releases PTT_Key }
  then { EUT transmits preservation_frames on the downlink 'for approximately 20 seconds' and
        returns to idle }
}
}

```

```
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

5.1.3 Channel Access

5.1.3.0 General

```

TP id   : TP_PMR_1008_01
summary : 'Channel access in own call'
RQ ref  : RQ_001_1008
TP type : interoperability
Role    : M1, M2
config ref: CF_dPMR_02_I -- QE1, QE2 and EUT
TD ref  : TBD
with {   ((EUT and QE1 and QE2) using the same Group_ID and
          using_compatible_vocoders) and
        QE1 is transmitting
}
ensure that {
  when { EUT_User makes PTT_Call }
  then { QE2_User receives the PTT_Call from EUT }
}

```

```
-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

```

TP id   : TP_PMR_1008_02
summary : 'Channel access in own call'
RQ ref  : RQ_001_1008
TP type : interoperability

```

```

Role      : M1, M2
config ref: CF_dPMR_02_I -- QE1, QE2 and EUT
TD ref    : TBD
with {    ((EUT and QE1 and QE2) using the same call_group and
           using_compatible_vocoders) and
           QE1 is transmitting Voice_Transmission to EUT
}
ensure that {
  when { EUT_User makes a Voice_Transmission to QE2 }
  then { QE2_User receives the Voice_Transmission from EUT }
}

-- XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

TP id     : TP_PMR_1009_01
summary   : 'Channel access when polite to own channel code'
RQ ref    : RQ_001_1009
TP type   : interoperability
Role      : M1, M2
config ref: CF_dPMR_02_I -- QE1, QE2 and EUT
TD ref    : TBD
with {    ((EUT and QE1 and QE2) using same Group_ID and
           using_compatible_vocoders) and
           and using same channel_code ) and
           EUT is polite_to_own_CC and
           QE1 is transmitting to QE2
}
ensure that {
  when { EUT_User makes PTT_Call }
  then { QE2_User does not receive PTT_Call from EUT }
}

-- XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

TP id     : TP_PMR_1010_01
summary   : 'Channel access when impolite'
RQ ref    : RQ_001_1010
TP type   : interoperability
Role      : M1, M2
config ref: CF_dPMR_02_I -- QE1, QE2 and EUT
TD ref    : TBD
with {    ((EUT and QE1 and QE2) using_compatible_vocoders) and
           (EUT and QE2 using the same Group_ID) and
           (EUT and QE1 not using the same Group_ID) and
           EUT is impolite and
           QE1 is transmitting
}
ensure that {
  when { EUT_User makes PTT_Call }
  then { QE2_User receives PTT_Call from EUT }
}

-- XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

TP id     : TP_PMR_1011_01
summary   : 'Channel access when polite to own group and channel occupied by members of own group'
RQ ref    : RQ_001_1011
TP type   : interoperability
Role      : M1, M2
config ref: CF_dPMR_02_I -- QE1, QE2 and EUT
TD ref    : TBD
with {    ((EUT and QE1 and QE2) using same channel_code ) and
           ((EUT and QE1 and QE2) are 'member of same talkgroup') and
           EUT is polite_to_own_group and
           QE1 is transmitting to QE2
}
ensure that {
  when { EUT_User makes a Voice_Transmission to QE2 }
  then { QE2_User receives Voice_Transmission from QE1 }      -- Indicating EUT does NOT transmit
}

-- XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

TP id     : TP_PMR_1012_01
summary   : 'Repeated acknowledgements when RF channel is busy'
RQ ref    : RQ_001_1012
TP type   : interoperability
Role      : M1, M2

```

```

config ref: CF_dPMR_02_I -- QE1, QE2 and EUT
TD ref    : TBD
with {    ((EUT and QE1 and QE2) using same channel_code ) and
          ((EUT and QE2) are 'member of same talkgroup') and
          QE1 is transmitting
      }
ensure that {
  when { QE2_User makes a connect_request to EUT }
  then { QE2_User receives 'no more than four' acknowledgement from EUT }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id     : TP_PMR_1024_01
summary   : 'Automatic call termination by timeout timer '
RQ ref    : RQ_001_1024
TP type   : interoperability
Role      : M1, M2
config ref: CF_dPMR_02_I -- QE1 and EUT
TD ref    : TBD
with {    (EUT and QE1 powersave_disabled and
          using_compatible_vocoders)
          QE1 in standby and EUT configured with a valid TOT_value
      }
ensure that {
  when { EUT_User makes a Voice_Transmission addressed to QE1 and
        PTT_Key is not released }
  then { QE1_User receives Voice_Transmission and
        EUT terminates the Voice_Transmission after TOT_value seconds }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id     : TP_PMR_1024_02
summary   : 'Automatic call termination by timeout timer and call resume'
RQ ref    : RQ_001_1024
TP type   : interoperability
Role      : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref    : TBD
with {    (EUT and QE1 powersave_disabled) and EUT configured with a valid TOT_value and
          EUT in call_timeout_terminated
      }
ensure that {
  when { EUT_User releases and presses the PTT_Key again }
  then { QE1_User receives Voice_Transmission }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

```

5.1.3.1 OACSU

```

TP id     : TP_PMR_0840_01
summary   : 'Support receiving of OACSU call'
RQ ref    : RQ_001_0840
TP type   : interoperability
Role      : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref    : TBD
with {    (EUT and QE1 powersave_disabled and
          using_compatible_vocoders and
          OACSU_enabled) and
          EUT in standby
      }
ensure that {
  when { QE1_User makes an OACSU_Call addressed to the EUT }
  then { EUT_User receives the OACSU_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id     : TP_PMR_0840_02
summary   : 'Support sending of OACSU call'
RQ ref    : RQ_001_0840
TP type   : interoperability
Role      : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT

```


5.1.5 Message frame

5.1.5.1 Message Information field

Void.

5.1.6 Payload

5.1.6.1 Packet data

```
TP id : TP_PMR_0808_01
summary : 'Support receiving of type 3 short data messages'
RQ ref : RQ_001_0808
TP type : interoperability
Role : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref : TBD
with { ( EUT and QE1 with powersave_disabled ) and
      EUT in standby
}
ensure that {
  when { QE1 User sends a T3_Transmission addressed to EUT }
  then { EUT_User receives the T3_Transmission }
}
```

-- xxx

```
TP id : TP_PMR_0808_02
summary : 'Support sending of type 3 short data messages'
RQ ref : RQ_001_0808
TP type : interoperability
Role : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref : TBD
with { ( EUT and QE1 with powersave_disabled ) and
      QE1 in standby
}
ensure that {
  when { EUT_User sends a T3_Transmission addressed to QE1 }
  then { QE1_User receives the T3_Transmission }
}
```

-- xxx

5.1.6.2 Short data

```
TP id : TP_PMR_0502_01
summary : 'Short data delivery'
RQ ref : RQ_001_0502
TP type : interoperability
Role : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref : TBD
with { ( EUT and QE1 using same Group_ID and
      powersave_disabled ) and
      EUT in standby
}
ensure that {
  when { QE1_User makes a binary SDD_Call to EUT }
  then { EUT_User receives the binary SDD_Call }
}
```

-- xxx

```
TP id : TP_PMR_0502_02
summary : 'Short data delivery'
RQ ref : RQ_001_0502
TP type : interoperability
Role : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref : TBD
with { ( EUT and QE1 using same Group_ID and
      powersave_disabled ) and
      EUT in standby
}
```

```

    }
  ensure that {
    when { EUT_User makes a binary SDD_Call }
    then { QE1_User receives the binary SDD_Call }
  }
}

-- XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

TP id   : TP_PMR_0503_01
summary : 'Short data delivery'
RQ ref  : RQ_001_0503
TP type : interoperability
Role    : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref  : TBD
with { ( EUT and QE1 using same Group_ID and
         powersave_disabled ) and
       EUT in standby
      }
ensure that {
  when { QE1_User makes a bcd SDD_Call to EUT }
  then { EUT_User receives the bcd SDD_Call }
}

-- XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

TP id   : TP_PMR_0503_02
summary : 'Short data delivery'
RQ ref  : RQ_001_0503
TP type : interoperability
Role    : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref  : TBD
with { ( EUT and QE1 using same Group_ID and
         powersave_disabled ) and
       EUT in standby
      }
ensure that {
  when { EUT_User makes a bcd SDD_Call }
  then { QE1_User receives the bcd SDD_Call }
}

-- XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

TP id   : TP_PMR_0504_01
summary : 'Short data delivery'
RQ ref  : RQ_001_0504
TP type : interoperability
Role    : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref  : TBD
with { ( EUT and QE1 using same Group_ID and
         powersave_disabled ) and
       EUT in standby
      }
ensure that {
  when { QE1_User makes a ISO7 SDD_Call to EUT }
  then { EUT_User receives the ISO7 SDD_Call }
}

-- XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

TP id   : TP_PMR_0504_02
summary : 'Short data delivery'
RQ ref  : RQ_001_0504
TP type : interoperability
Role    : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref  : TBD
with { ( EUT and QE1 using same Group_ID and
         powersave_disabled ) and
       EUT in standby
      }
ensure that {
  when { EUT_User makes a ISO7 SDD_Call }
  then { QE1_User receives the ISO7 SDD_Call }
}

```

```

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id   : TP_PMR_0505_01
summary : 'Short data delivery'
RQ ref  : RQ_001_0505
TP type : interoperability
Role    : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref  : TBD
with {   ( EUT and QE1 using same Group_ID and
           powersave_disabled ) and
        EUT in standby
    }
ensure that {
    when { QE1_User makes a ISO8 SDD_Call to EUT }
    then { EUT_User receives the ISO8 SDD_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id   : TP_PMR_0505_02
summary : 'Short data delivery'
RQ ref  : RQ_001_0505
TP type : interoperability
Role    : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref  : TBD
with {   ( EUT and QE1 using same Group_ID and
           powersave_disabled ) and
        EUT in standby
    }
ensure that {
    when { EUT_User makes a ISO8 SDD_Call }
    then { QE1_User receives the ISO8 SDD_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id   : TP_PMR_0506_01
summary : 'Short data delivery'
RQ ref  : RQ_001_0506
TP type : interoperability
Role    : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref  : TBD
with {   ( EUT and QE1 using same Group_ID and
           powersave_disabled ) and
        EUT in standby
    }
ensure that {
    when { QE1_User makes a NMEA SDD_Call to EUT }
    then { EUT_User receives the NMEA SDD_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id   : TP_PMR_0506_02
summary : 'Short data delivery'
RQ ref  : RQ_001_0506
TP type : interoperability
Role    : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref  : TBD
with {   ( EUT and QE1 using same Group_ID and
           powersave_disabled ) and
        EUT in standby
    }
ensure that {
    when { EUT_User makes a NMEA SDD_Call }
    then { QE1_User receives the NMEA SDD_Call }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

```

5.1.6.3 T1 data

```

TP id      : TP_PMR_0807_01
summary    : 'Support receiving of type 1 group short data messages'
RQ ref     : RQ_001_0807
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {     (EUT and QE1 using same Group_ID and
           powersave_disabled) and
           EUT in standby
}
ensure that {
  when {   QE1_User sends a T1_Transmission to EUT }
  then {   EUT_User receives the T1_Transmission }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0807_02
summary    : 'Support sending of type 1 group short data messages'
RQ ref     : RQ_001_0807
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {     (EUT and QE1 using same Group_ID and
           powersave_disabled) and
           QE1 in standby
}
ensure that {
  when {   EUT_User sends a T1_Transmission to QE1 }
  then {   QE1_User receives the T1_Transmission }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0810_01
summary    : 'Support of type 1 individual short data messages'
RQ ref     : RQ_001_0810
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {     (EUT and QE1 powersave_disabled) and
           EUT in standby
}
ensure that {
  when {   QE1_User sends a T1_Transmission addressed to EUT }
  then {   EUT_User receives the T1_Transmission }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0810_02
summary    : 'Support sending of type 1 individual short data messages'
RQ ref     : RQ_001_0810
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {     (EUT and QE1 with powersave_disabled) and
           QE1 in standby
}
ensure that {
  when {   EUT_User sends a T1_Transmission addressed to QE1 }
  then {   QE1_User receives the T1_Transmission }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

```



```

TP id      : TP_PMR_0844_02
summary    : 'Support sending of short attached data'
RQ ref     : RQ_001_0844
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {     (EUT and QE1 powersave_disabled and
            using_compatible_vocoders) and
            EUT preset_with_AD_test_data and
            QE1 in standby
        }
ensure that {
  when { EUT_User sends a Individual_AD_Call addressed to QE1 }
  then { QE1_User receives the Individual_Call and the AD_test_data }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

```

5.1.6.5.2 Late entry

```

TP id      : TP_PMR_0802_01
summary    : 'Support of Late Entry with individual address'
RQ ref     : RQ_001_0802
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {     (EUT and QE1 powersave_disabled and
            using_compatible_vocoders) and
            EUT switched_off and
            QE1 is transmitting an Individual_Call addressed to the EUT
        }
ensure that {
  when { EUT is switched_on }
  then { EUT_User receives the remainder of the Individual_Call after a 'short delay' }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0802_02
summary    : 'Support of Late Entry with wildcard address'
RQ ref     : RQ_001_0802
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {     (EUT and QE1 powersave_disabled and
            using_compatible_vocoders) and
            EUT switched_off and
            QE1 is transmitting a Group_Call addressed to the EUT
        }
ensure that {
  when { EUT is switched_on }
  then { EUT_User receives the remainder of the Group_Call after a 'short delay' }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

TP id      : TP_PMR_0802_03
summary    : 'Support of Late Entry with Talk Group address'
RQ ref     : RQ_001_0802
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {     (EUT and QE1 with powersave_disabled and
            using_compatible_vocoders) and
            EUT switched_off and
            QE1 is transmitting a TalkGroup_Call addressed to the EUT
        }
ensure that {
  when { EUT is switched_on }
  then { EUT_User receives the remainder of the TalkGroup_Call after a 'short delay' }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

```

5.1.6.5.3 Slow user data

```

TP id      : TP_PMR_0836_01
summary    : 'Support receiving of slow user data'
RQ ref     : RQ_001_0836
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    (EUT and QE1 using same Group_ID and
        powersave_disabled and
        using_compatible_vocoders) and
    QE1_preset_with_SLD_test_data and
    EUT in standby
}
ensure that {
    when { QE1_User makes a Group_SLD_Call to EUT }
    then { EUT_User receives the Group_Call and the SLD_test_data }
}

--
TP id      : TP_PMR_0836_02
summary    : 'Support sending of slow user data'
RQ ref     : RQ_001_0836
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    (EUT and QE1 using same Group_ID and
        powersave_disabled and
        using_compatible_vocoders) and
    EUT_preset_with_SLD_test_data and
    QE1 in standby
}
ensure that {
    when { EUT_User makes a Group_SLD_Call to QE1 }
    then { QE1_User receives the Group_Call and the SLD_test_data }
}

--
TP id      : TP_PMR_0843_01
summary    : 'Support receiving of slow user data'
RQ ref     : RQ_001_0843
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {
    (EUT and QE1 powersave_disabled and
        using_compatible_vocoders) and
    QE1_preset_with_SLD_test_data and
    EUT in standby
}
ensure that {
    when { QE1_User sends an Individual_SLD_Call addressed to EUT }
    then { EUT_User receives the Individual_Call and the SLD_test_data }
}

--

```

```

TP id      : TP_PMR_0843_02
summary    : 'Support sending of slow user data'
RQ ref     : RQ_001_0843
TP type    : interoperability
Role       : M1, M2
config ref: CF_dPMR_01_I -- QE1 and EUT
TD ref     : TBD
with {     (EUT and QE1 powersave_disabled and
            using_compatible_vocoders) and
            EUT preset_with_SLD_test_data and
            QE1 in standby
        }
ensure that {
    when { EUT_User sends an Individual_SLD_Call addressed to QE1 }
    then { QE1_User receives the Individual_Call and the SLD_test_data }
}

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

```

5.1.7 Power save

Void.

5.1.8 Superframe

5.1.8.1 Traffic channel

Void.

5.1.8.2 Voice TCH

Void.

Annex A (normative): dPMRTM interoperability test configurations

A.1 Generic test configurations

A.1.1 Mode 1 equipment

Mode 1 dPMRTM MS shall be tested between an EUT and Qualified Equipment. One or two QE may be required according to the Test Purpose (TP), in clause 5.

A.1.2 Mode 2 equipment - MS

Mode 2 dPMRTM MS shall be tested in conjunction with a Mode 2 Base Station (BS2) using an EUT and Qualified Equipment. One or two QE may be required according to the Test Purpose (TP), in clause 5.

The BS2 shall be operated in Limited Mode and each QE and EUT shall be configured with the corresponding Channel Code preprogrammed in the BS2.

A.1.3 Mode 2 equipment - BS

A.1.3.1 BS2 general configuration

Mode 2 dPMRTM BS shall be tested in conjunction with Mode 2 MS (M2) using Qualified Equipment. One or two QE may be required according to the Test Purpose (TP), in clause 5.

Mode 2 dPMRTM BS shall be programmed with the maximum value for each call timer, M2_CallV, M2_CallD, M2_CallE.

Where preservation frames are used the Mode 2 dPMRTM BS shall be programmed to use the maximum value available.

A.1.3.2 BS2 Limited Mode

The BS2 shall be operated in Limited Mode and each QE shall be configured with the corresponding Channel Code preprogrammed in the BS2.

A.1.3.3 BS2 Transparent Mode

The BS2 shall be operated in Transparent Mode and each QE shall be configured with a Channel Code that is different to that preprogrammed in the BS2.

Annex B (normative): dPMR™ TPLan interoperability testing user definitions

```

---**Cross references**

xref PICS_doc          {DTS/ERM-TGDMM-nnn-1}

-- Configurations
xref CF_dPMR_01_I {dPMR_IOT_Configurations.ppt} -- QE1, EUT
xref CF_dPMR_02_I {dPMR_IOT_Configurations.ppt} -- QE1, QE2, EUT

---**Definitions**

def header type -- TP type

-- Entities
def entity EUT
def entity QE1
def entity QE2
def entity QE3
def entity BS2L          -- Limited Mode BS2
def entity BS2T          -- Transparent Mode BS2

-- Note: user could be a human user, machine, or program
def entity QE1_User -- the user operating QE1
def entity QE2_User -- the user operating QE2
def entity QE3_User -- the user operating QE3
def entity EUT_User -- the user operating EUT

-- Messages or signals
def event PTT_Call -- user presses PTT button and payload transmisson starts immediately
def event Individual_Call
def event Emergency_Call
def event Group_Call          -- call with wilddcard(s)
def event TalkGroup_Call     -- call with only numeric address
def event Call                -- any dialled call
def event Voice_Transmission  -- Group or individual call
def event PTT_Key
def event T1_Transmission     -- Type 1 data message call
def event T2_Transmission     -- Type 2 data message call
def event T3_Transmission     -- Type 3 data message call
def event Individual_SLD_Call -- Individual call including slow user data
def event Group_SLD_Call      -- Group call including slow user data
def event Individual_AD_Call  -- Individual call including appended data
def event Group_AD_Call      -- Group call including appended data
def event SDD_Call           -- Short data delivery call
def event Broadcast_Call
def event OACSU_Call         -- Individual call using off air call set up
def event acknowledgement
def event Connection_Request -- call set up request
def event Disconnection_Request
def event Status_Call
def event dedicated_send_key
def event hash_key
def event broadcast_command   -- same as #1*
def event status_command { code } -- same as #0ss*
def event talkgroup_command   -- same as #6*
def event error
def event preservation_frames
def event Call_Divert
def event idle_frames

-- Values

def value Group_ID
def value RF_Channel
def value channel
def value binary          -- binary format short data
def value bcd             -- bcd format short data
def value ISO7            -- 7 bit ISO format short data
def value ISO8            -- 8 bit ISO format short data
def value NMEA            -- NMEA sentence format data

```

```

def value remainder
def value channel_code
def value call_group          -- "call group" means "group" in dPMR sense but needed since "group"
is already predefined TPLan keyword
def value SLD_test_data
def value AD_test_data
def value TOT_value
def value asterisk_symbol
def value dialling_string    -- keypad entry
def value addresses { address }
def value non_dialable_address -- '0000000', '1000000', '2000000', '3000000', '4000000', '5000000',
'6000000', '7000000', '8000000', '9000000'
def value abbreviated_dialling_string    -- address where some of the most signifact digits are
omitted
def value talkgroup_address              -- Group or Talk group address
def value masked_dialling_string         -- digits of an address that are covered by an input
mask
def value abbreviated_masked_dialling_string -- digits of an address that are covered by an input
mask where some of the most significant digits have been omitted
def value downlink
def value Divert_Address

def unit seconds

def condition standby
def condition switched_on
def condition switched_off
def condition powersave_enabled
def condition powersave_disabled
def condition call_timeout_terminated    -- State if radio is that call got terminated by timeout
(after 180 sec)
def condition polite_to_own_CC          -- Channel access policy is "Polite to own Channel Code"
def condition polite_to_own_group      -- Channel access policy is "Polite to own group or
talkgroup"
def condition impolite                  -- Channel access policy is "Impolite"
def condition abbreviated_dialling_available
def condition Complies_with_Standard_User_Interface
def condition OACSU_enabled            -- radio configured for Off Air Call Set-up
def condition preset_with_SLD_test_data -- buffering of slow data etc in the radio
def condition preset_with_AD_test_data  -- buffering of appended data etc in the radio
def condition preset_with_MAX_voice_call_time    -- M2_CallV time for BS2
def condition preset_with_MAX_Emergency_call_time -- M2_CallE time for BS2
def condition using_compatible_vocoders
def condition transparent_mode          -- BS2 accepts any CC
def condition limited_mode              -- BS2 only accepts preprogrammed CC

-- Keywords - (Pre)conditions
def word addressed
def word using
def word transmitting
def word while

-- Keywords - Stimuli
def word uses
def word makes
def word requested
def context {is ~requested to}
def word selects
def word terminates
def word releases
def word released
def context {is ~released}
def word presses
def word enters
def word cancels
def word stops

-- Keywords - Responses
def word receive
def word transmit
def word indicates

-- Keywords - Glue
def word on
def word for
def word both

```

```
def word between
def word same
def word being
def word are
def word another
def word valid -- valid for BS2 implies an address that is permitted to access
def word selected
def word does
def word again
def word not

-- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

Annex C (informative): Change History

Date	Version	Information about changes
	1.1.1	Mode 1
	2.1.1	Mode 2
April 2015	2.2.1	Including Limited and Transparent mode BS tests

History

Document history		
V1.1.1	October 2009	Publication
V2.1.1	June 2011	Publication
V2.2.1	October 2015	Publication