Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**	
Title	**Replacement TSS&TP Sections 6.5.2-6.5.2.4**	
Date Submitted	**2003-03-06**	
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Re:	1802.16.2-03/01 Call for comments and contributions regarding C1802.16.2-03/01r1.	
Abstract	Edited Structure Section to be more in line with rest of document.	
Purpose	Replace current sections 6.5.2-6.5.2.4	
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Replacement TSS&TP Sections 6.5.2-6.5.2.4

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0.0.1 Radio Link Control- BS

0.0.1.1 Initial Ranging

0.0.1.1.1 Capabilities

Table 1 Initial Ranging- Capabilities

TP/BS/RLC/IRNG/CA-000	Reference: IEEE 1802.16.1, Table A143/1 Initial condition. BS operational Stimulus. BS is stimulated to allocate Initial Maintenance IEs. Expected behavior. BS allocates Initial Maintenance IEs.
TP/BS/RLC/IRNG/CA-001	Reference: IEEE 1802.16.1, Table A143//3 Initial condition. BS has allocated Initial Maintenance IEs. Stimulus: IUT receives a RNG-REQ in one of the allocated Initial Maintenance slots Expected behavior. BS determines correct timing and power adjustments, allocates Basic and Primary CID and transmits a properly formatted RNG-RSP, with status = Continue, and starts issuing Station Maintenance opportunities.
TP/BS/RLC/IRNG/CA-002	Reference: Initial condition. BS has allocated Station Maintenance IEs for a specific SS. Stimulus: IUT receives a RNG-REQ in allocated Station Maintenance slots, with timing and power adjusted within operational tolerances. Expected behavior. BS transmits a properly formatted RNG-RSP, with status = Success, and starts issuing Data Grant opportunities for the SS.

0.0.1.1.2 Valid Behavior

Table 2 Initial Ranging- Valid Behavior

TP/BS/RLC/IRNG/BV-000	Reference: IEEE 1802.16.1, Table A143 Initial condition. BS has sent RNG-RSP in response to initial RNG-REQ Stimulus. BS receives again initial RNG-REQ from SS to which it already sent a RNG-RSP. Expected behavior. BS retransmits RNG-RSP (with updated power adjust if necessary).
TP/BS/RLC/IRNG/BV-001	Reference: IEEE 1802.16.1, Table A143 Initial condition. SS at max Tx power. Stimulus: IUT receives RNG-REQ message indicating power at maximum level. RSL at BS drops further. Expected behavior. BS refrains from requesting SS to increase power until after SS has been asked to reduce power.
TP/BS/RLC/IRNG/BV-002	Reference: IEEE 1802.16.1, Table A143 Initial condition. SS at min Tx power. Stimulus: IUT receives RNG-REQ message indicating power at minimum level. RSL at BS drops further. Expected behavior. BS refrains from requesting SS to increase power until after SS has been asked to reduce power.
TP/BS/RLC/IRNG/BV-003	Reference: Initial condition. IUT is allocating initial maintenance or station maintenance IEs. Stimulus: BS receives RNG-REQ requesting change of DL PHY Mode to a mode the SS is allowed to operate at (knowledge via network management since no SBC at this point.) Expected behavior. BS sends a RNG-RSP message confirming the change.
TP/BS/RLC/IRNG/BV-004	Reference: Initial condition. IUT is allocating initial maintenance or station maintenance IEs. Stimulus: BS receives RNG-REQ requesting change of DL PHY Mode to a mode the SS is not allowed to operate at (knowledge via network management since no SBC at this point.) Expected behavior. BS sends a RNG-RSP message specifying to continue using the original PHY mode.
TP/BS/RLC/IRNG/BV-005	Reference: Initial condition. IUT is allocating initial maintenance or station maintenance IEs. Stimulus: BS receives RNG-REQ for an SS that is to operate on another channel (knowledge via network management) Expected behavior. BS sends a RNG-RSP message specifying status = abort and specifying the new downlink frequency.
TP/BS/RLC/IRNG/BV-006	Reference: Initial condition. IUT is allocating initial maintenance or station maintenance IEs. Stimulus: BS receives RNG-REQ for an SS that is not allowed (knowledge via network management) Expected behavior. BS sends a RNG-RSP message specifying status = abort but not specifying a new downlink frequency.

Table 2 Initial Ranging- Valid Behavior

TP/BS/RLC/IRNG/BV-007	Reference: Initial condition. BS has allocated Station Maintenance IEs for a specific SS. Stimulus.IUT receives a RNG-REQ in allocated Station Maintenance slots, with timing or power still outside operational tolerances. Expected behavior. BS transmits a properly formatted RNG-RSP, with status = Continue, and the necessary timing and power adjustments, and continues issuing Station Maintenence opportunities.

0.0.1.1.3 Invalid Behavior

Table 3 Initial Ranging- Invalid Behavior

TP/BS/RLC/IRNGMF/BI-000	Reference. Initial condition. BS has allocated Initial Maintenance IEs. Stimulus. BS has receives an improperly formatted RNG-REQ in an initial ranging slot with CID=0x0000 Expected behavior. BS ignores message and continues operation.
TP/BS/RLC/IRNGMF/BI-001	Reference. Initial condition. BS has allocated Station Maintenance IEs. Stimulus. BS has receives an improperly formatted RNG-REQ in a Station ranging slot with CID = Basic CID Expected behavior. BS ignores message and continues operation.
TP/BS/RLC/IRNG/BI-002	Reference. Initial condition. BS has allocated invited Initial Maintenance IEs. Stimulus. BS receives RNG-REQ message with incorrect CID in allocated slot. Expected behavior. IUT ignores RNG-REQ.

0.0.1.1.4 Inopportune Behavior

Table 4 Initial Ranging- Inopportune Behavior

TP/BS/RLC/IRNG/BO-000	Reference. Initial condition. BS has allocated Initial Maintenance IEs. Stimulus. BS receives a message other than RNG-REQ message in Initial Maintenance slot. Expected behavior. IUT ignores message.
TP/BS/RLC/IRNG/BO-001	Reference. Initial condition. BS has allocated Data Grant IEs. Stimulus. BS receives a RNG-REQ message in a Data Grant interval, when the RNG-REQ was not in response to an unsolicited RNG-RSP with a change of DL PHY Mode. Expected behavior. IUT may ignore the message, or may use the requested DL PHY Mode in place of a DBPC-REQ..

0.0.1.1.5 Timer

Table 5 Initial Ranging- Timer

TP/BS/RLC/IRNG/TI-000	Reference. Initial condition. BS has transmitted a RNG-RSP with status= success to an SS and has allocated Data Grants to the SS. Stimulus. T9 expires without receipt of an SBC-REQ from the SS. Expected behavior. IUT resends the RNG-RSP..
TP/BS/RLC/IRNG/TI-001	Reference. Initial condition. BS has transmitted a RNG-RSP with status= continue to an SS and has allocated Station Maintenence IEs to the SS. Stimulus. “SS ranging response processing time” expires without receipt of a RNG-REQ from the SS. Expected behavior. IUT resends the RNG-RSP.

0.0.1.1.6 Message Formats

For all TP/BS/RLC/IRNG tests ensure that messages transmitted by the BS contain the correct parameters in the correct order.

0.0.1.2 Periodic Ranging

0.0.1.2.1 Capabilities

Table 6 Periodic Ranging- Capabilities

TP/BS/RLC/PRNG/CA-000	Reference: IEEE 1802.16.1, Table A149 Initial condition. SS registered and passing data. Stimulus: SS sends normal UL traffic with wrong timing offset. Expected behavior. BS detects timing adjustment required. BS correctly measures and calculates timing offset requirement. Sends unsolicited RNG-RSP message(s) with status = success or continue to adjust timing offset.
TP/BS/RLC/PRNG/CA-001	Reference: IEEE 1802.16.1, Table A149/3 Initial condition. SS registered and passing data. Stimulus. BS receives signal with a power outside the allowed envelope. Expected behavior. BS sends RNG-RSP message(s) with status = success or continue to SS to change power until desired level met.
TP/BS/RLC/PRNG/CA-002	Reference: IEEE 1802.16.1, Table A149/3 Initial condition. SS registered and passing data. Stimulus. BSdetects threshold crossing for UL PHY Mode. Expected behavior. BS sends RNG-RSP message with status = continue to SS to change UL PHY mode.

0.0.1.2.2 Valid Behavior

Table 7 Periodic Ranging - Valid Behavior

TP/SS/RLC/PRNG/BV-000	Reference: Initial condition. SS registered Stimulus. BS determines (TBD) SS message parameters are out of tolerance. Expected behavior. BS issues RNG-RSP with Ranging Status bit set to 4 to initiate re-ranging.
TP/BS/RLC/PRNG/BV-001	Reference. Initial condition. SS has registered and is passing data. IUT has initiated Periodic Ranging by sending a RNG-RSP (continue) to increase power. Stimulus. BS receives RNG-REQ message indicating SS at max power Expected behavior. BS stops sending RNG-RSP messages with request to increase power until it has asked SS to decrease power.
TP/BS/RLC/PRNG/BV-002	Reference. Initial condition. SS has registered and is passing data. IUT has initiated Periodic Ranging by sending a RNG-RSP (continue) to decrease power. Stimulus. BS receives RNG-REQ message indicating SS at min power Expected behavior. BS stops sending RNG-RSP messages with request to decrease power until it has asked SS to increase power.
TP/BS/RLC/PRNG/BV-003	Reference. Initial condition. IUT has transmitted a RNG-RSP with status = continue. Stimulus. BS receives RNG-REQ message that does not contain a request to change the DL PHY Mode. Changes requested in RNG-RSP have taken effect. Expected behavior. BS sends a RNG-RSP message with status = success.

0.0.1.2.3 Invalid Behavior

Table 8 Periodic Ranging- Invalid Behavior

TP/SS/RLC/PRNG/BI-000	Reference: Initial condition. SS registered Stimulus. BS receives invalid RNG-REQ message. Expected behavior. BS ignores the message.

0.0.1.2.4 Inopportune Behavior

Table 9 Periodic Ranging- Inopportune Behavior

TP/SS/RLC/PRNG/BO-000	Reference: Initial condition. SS registered. No outstanding RNG-RSP with status = continue. Stimulus. BS receives RNG-REQ message in Data Grant allocation. Expected behavior. BS may ignore the message or may honor the DL PHY mode change as if it were a DBPC message.

0.0.1.2.5 Timer

Table 10 Periodic Ranging- Timer

TP/SS/RLC/PRNG/TI-000	Reference: Initial condition. SS registered. Outstanding RNG-RSP with status = continue. Stimulus. “SS ranging response processing time” expires without receipt of a RNG-REQ from the SS. Expected behavior. IUT resends the RNG-RSP.

0.0.1.2.6 Message Formats

For all TP/BS/RLC/PRNG tests ensure that messages transmitted by the BS contain the correct parameters in the correct order.

0.0.1.3 Downlink Burst Profile Management

0.0.1.3.1 Capabilities

Table 11 Downlink Burst Profile Management **- Capabilities**

TP/BS/RLC/DBPC/CA-000	Reference: IEEE 1802.16.1, Table A149/5 Initial condition. BS communicating with SS at DIUC n. Stimulus. BS receives DBPC-REQ for more robust DIUC k. Expected behavior. BS sends DBPC-RSP indicating change to DIUC k using DIUC k.
TP/BS/RLC/DBPC/CA-001	Reference: IEEE 1802.16.1, Table A149/ 5 Initial condition. BS communicating with SS at DIUC n. Stimulus. BS receives DBPC-REQ for less robust DIUC k Expected behavior. BS sends DBPC-RSP indicating change to DIUC k using DIUC n. Check that subsequent DL transmissions utilize DIUC k.

0.0.1.3.2 Valid Behavior

Table 12 Downlink Burst Profile Management **- Valid Behavior**

TP/BS/RLC/DBPC/BV-000	Reference: Initial condition. BS communicating with SS at DIUC n. After SBC, SS no longer authorized for DIUC k (vis network management). Stimulus. BS receives DBPC-REQ for less robust DIUC k Expected behavior. BS sends DBPC-RSP indicating DIUC n.

0.0.1.3.3 Invalid Behavior

Table 13 Downlink Burst Profile Management **- Invalid Behavior**

TP/BS/RLC/DBPC/BI-000	Reference. Initial condition. BS communicating with SS at DIUC n. Stimulus. BS receives DBPC-REQ for DIUC k not enabled in SBC exchange. Expected behavior. BS sends DBPC-RSP indication DIUC n.
TP/BS/RLC/DBPC/BI-001	Reference. Initial condition. BS communicating with SS at DIUC n. Stimulus. BS receives DBPC-REQ for DIUC k not enabled in UCD message. Expected behavior. BS sends DBPC-RSP indication DIUC n.
TP/BS/RLC/DBPC/BI-002	Reference. Initial condition. BS communicating with SS at DIUC n. Stimulus. BS receives invalid format DBPC-REQ message. Expected behavior. BS ignores message.

0.0.1.3.4 Inopportune Behavior

There are no TP/BS/RLC/DBPC/BO tests for the base station.

0.0.1.3.5 Timer

There are no TP/BS/RLC/DBPC/TI tests for the base station.

0.0.1.3.6 Message Formats

For all TP/BS/RLC/DBPC tests ensure that messages transmitted by the BS contain the correct parameters in the correct order.

0.0.1.4 Negotiate Basic Capabilities

0.0.1.4.1 Capabilities

Table 14 Negotiate Basic Capabilities **- Capabilities**

TP/BS/RLC/SBC/CA-000	Reference: IEEE 1802.16.1, Table A144/ 1,2 Initial condition. Initial ranging done. Stimulus. BS receives SBC-REQ Expected behavior. IUT determines which capabilities are usable based on capabilities reported and sends a corresponding SBC-RSP
TP/BS/RLC/SBC/CA-001	Reference: IEEE 1802.16.1, Table A144/1,2 Initial condition. Initial ranging done. Policies to restrict the use of supported features in place. Stimulus. BS receives SBC-REQ Expected behavior. BS disables reported capabilities as prescribed by policy and sends a corresponding SBC-RSP

0.0.1.4.2 Valid Behavior

Table 15 Negotiate Basic Capabilities **- Valid Behavior**

TP/BS/RLC/SBC/BV-000	Reference. Initial condition. BS operational, has sent SBC-RSP to SS. Stimulus. BS receives another SBC-REQ from SS before receiving a REG-REQ from the SS. Expected behavior. Check that IUT silently discards message and continues operation.

0.0.1.4.3 Invalid Behavior

Table 16 Negotiate Basic Capabilities **- Invalid Behavior**

TP/BS/RLC/SBC/BI-000	Reference. Initial condition. Initial Ranging of SS completes successfully Stimulus. BS Receives invalid SBC-REQ Expected behavior. Check that IUT silently discards message and continues operation.

0.0.1.4.4 Inopportune Behavior

Table 17 Negotiate Basic Capabilities **- Inopportune Behavior**

TP/BS/RLC/SBC/BO-000	Reference. Initial condition. BS operational, has sent SBC-RSP to SS and received REG-REQ from SS. Stimulus. BS receives another SBC-REQ from SS any time after the initial condition. Expected behavior. Check that IUT silently discards message and continues operation.
TP/BS/RLC/SBC/BO-001	Reference. Initial condition. BS operational Stimulus. BS receives SBC-REQ from unknown SS Expected behavior. Check that IUT silently discards message and continues operation.

0.0.1.4.5 Timer

There are no TP/BS/RLC/SBC/TI tests for the base station.

0.0.1.4.6 Message Formats

For all TP/BS/RLC/SBC tests ensure that messages transmitted by the BS contain the correct parameters in the correct order.