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Specification of the Bluetooth System

Adopted Errata

Core & Profiles

Bluetooth™

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Revision History

Rev	Date	Comments
0.9	Sept 16th 2002	• 1st draft
0.91	Sept 16th 2002	• Replaced the editing instruction for E2009 on page 17.
0.92	Oct 11th 2002	• Deleted E2156, E2345 and E2109 • Added E2451 • Moved E2149 from H1 to H4 • Moved E2013 and E2014 to the already incorporated in v1.1 section • Test impact removed from E2196
0.93	Oct 15th 2002	• Test impact added to L2CAP erratum E2276
0.94	Nov 27th 2002	• Added the complete updated test cases for E2451, E2276 & E2112 at the end of the document.
1.0	May 26th 2003	• Changed to version 1.0 after adoption by BoD
1.01	June 5th 2003	• Test Specification Impact errors in 1.0 version corrected for E2040 and E2345. • Test case errata 394 added, is required by E2345 but was missing in 1.0 version
1.02	Aug 25th 2003	• By mistake edits in the TS Errata Req. 395, 392 & 212 was turned invisible in v1.01, this is now corrected. No other changes.

Bluetooth System Specifications are updated by errata. Errata published but not yet adopted are for information only. Once adopted and published, errata implementation is permitted and recommended.

This Errata Service Release (ESR) documents adopted errata. With publication, Members are encouraged but not required to implement these adopted errata. Errata contained within this ESR may be selectively implemented, except where dependency among errata is expressly indicated.

For the purpose of Bluetooth qualification, a product change incorporating Errata Service Release errata is considered a change within a specific System Specification version, unless otherwise noted in the errata. Implemented errata shall be reviewed by the listing BQB and documented as a product change within the Compliance Folder, and QPL documentation shall be appropriately updated indicating errata implemented. ESR compliance may be indicated if all errata within the ESR are implemented.

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Section B: BASEBAND SPECIFICATION

E2049 Default PIN

[12th paragraph of 14.2.1 original text]

If no PIN is available, a default value of zero is to be used.

[replace with]

If no PIN is available, a default value of zero may be used. The length of this default PIN is one byte, PIN(default) = 0x00. This default PIN may be provided by the host

[End of changes for Erratum E2049]

E2059 Little typo when referring to the last round key

[Specification version 1.1 Page 173 section 14.5.2.1 first paragraph last sentence replace]

After the last round is applied in a similar fashion as all previous odd numbered keys. $k_{17}[j]$

[with]

After the last round is applied in a similar fashion as all previous odd numbered keys. $K_{17}[j]$

[i.e. replace the lower case k with an upper case K in K17 j]

>Note from the editor: The placement of the correction shall be:
After the last round $K_{17}[j]$ is applied in a similar fashion as all previous odd numbered keys.<

[End of changes for Erratum E2059]

E2314 Reordering of sentences for clarification

[Page 118 section 10.8.4.6 replace]

The return packet in response to the POLL packet confirms that the slave has been unparked. If no response packet from the slave is received for newconnectionTO number of slots after Npoll slots after the end of the last access window, the master will send the unpark message to the slave again. If the slave does not receive the POLL packet for newconnectionTO number of slots after Npoll slots after the end of the last access window, it will return to park, with the same beacon parameters. After confirming that the slave is active, the master decides in which mode the slave will continue.

[with]

The return packet in response to the POLL packet confirms that the slave has been unparked. After confirming that the slave is active, the master decides in which mode the slave will continue. If no response packet from the slave is received for newconnectionTO number of slots after Npoll slots after the end of the last access window, the master will send the unpark message to the slave again. If the slave does not receive the POLL packet for newconnectionTO number of slots after Npoll slots after the end of the last access window, it will return to park, with the same beacon parameters.

[End of changes for Erratum 2314]

E2437 Relax slave listening requirements in scatternet

[Section 10.8.1 after the 6th sentence in the paragraph ending with "...to listen on the master-to-slave slots." add the following sentence]

When a unit is participating in multiple piconets it shall listen in the master-to-slave slot for the current piconet. It is recommended that a unit not be away from a piconet for more than Tpoll slots.

[**NOTE**: This erratum is intended to facilitate scatternet operation. The following errata are related to this erratum and are also intended to facilitate scatternet operation: E2438, E2439, E2440, E2441, E2442, E2443, E2444, E2445]

[End of changes for Erratum 2437]

E2438 Relax slave listening requirements in sniff during scatternet

[Add the following to the second sentence in the first paragraph of section 10.8.2]

unless that link is being treated as a scatternet link.

[Adding the following sentence at the end of the second paragraph of section 10.8.2]

A device may stop listening prior to Nsniff_timeout or the remaining Nsniff_attempt slots if it has activity in another piconet.

[**NOTE**: This erratum is intended to facilitate scatternet operation. The following errata are related to this erratum and are also intended to facilitate scatternet operation: E2437, E2439, E2440 & 2446, E2441, E2442, E2443, E2444, E2445]

[End of changes for Erratum 2438]

E2439 Reuse of AM_ADDR during master-activated unparking

[Add the following to the 5th sentence (ending in "...the master will unpark the slave again") in the second paragraph of section 10.8.4.5]

the master will use the same AM_ADDR on each unpark attempt until it has received a link supervision timeout for that slave or the unpark has completed successfully.

[**NOTE**: This erratum is intended to facilitate scatternet operation. The following errata are related to this erratum and are also intended to facilitate scatternet operation: E2437, E2438, E2440, E2441, E2442, E2443, E2444, E2445, 2446]

[End of changes for Erratum 2439]

E2440 Recommendations for slaves to tolerate more than 250ms master absence

[Add the following sentence after the 7th sentence (ending in "10us too early or 10us too late") in the second paragraph of section 9.2]

It is recommended that slaves implement variable sized windows or time tracking to accomodate a master's absence of more than 250ms.

[**NOTE**: This erratum is intended to facilitate scatternet operation. The following errata are related to this erratum and are also intended to facilitate scatternet operation: E2437, E2438, E2439, E2441, E2442, E2443, E2444, E2445]

[End of changes for Erratum 2440]

E2441 Re-write of high level scatternet description

[Replace the first paragraph in section 10.9.2 with the following text]

Time multiplexing must be used to switch between piconets. Units may achieve the time multiplexing necessary to implement scatternet by using sniff mode or remaining in an active ACL connection. For an active ACL connection in piconets where the unit is a slave, it may choose not to listen in every master slot. In this case it should be recognized that the quality of service on this link may degrade abruptly if the slave is not present enough to match up with the master polling that slave. Similarly, in piconets where the unit is master it may choose not to transmit in every master slot. In this case it is important to honor Tpoll as much as possible. Units in the sniff mode may have sufficient time to visit another piconet in between sniff slots. When the unit is a slave using sniff mode and there are not sufficient idle slots, the unit may choose to not listen to all master transmission slots in the sniff_attempts period or during the subsequent sniff_timeout period. A master is not required to transmit during sniff slots and therefore has flexibility for scatternet. If SCO links are established, other piconets can only be visited in the non-reserved slots in between. This is only possible if there is a single SCO link using HV3 packets. In the four slots in between, one other piconet can be visited. Since the multiple piconets are not synchronized, guard time must be left to account for misalignment. This means that only 2 slots can effectively be used to visit another piconet in between the HV3 packets.

[**NOTE**: This erratum is intended to facilitate scatternet operation. The following errata are related to this erratum and are also intended to facilitate scatternet operation: E2437, E2438, E2439, E2440, E2442, E2443, E2444, E2445]

[End of changes for Erratum 2441]

E2451 Slave may not extend sniff timeout if no data exchanged

[In Part B, section 10.8.2, 2nd paragraph should be changed to:]

The slave listens in receive slots starting at the sniff slots. It uses the following rules to determine whether to continue listening:

- If fewer than $N_{sniff\ attempt}$ receive slots have elapsed since the sniff slots then the slave continues listening.
- If the slave has received a packet with a matching AM_ADDR that contains ACL data (DM, DH, DV, or AUX1 packets) in the preceding $N_{sniff\ timeout}$ receive slots then it continues listening.
- If the slave has transmitted a packet containing ACL data (DM, DH, DV, or AUX1 packets) in the preceding $N_{sniff\ timeout}$ transmit slots then it continues listening.
- If the slave has received any packet with a matching AM_ADDR in the preceding $N_{sniff\ timeout}$ receive slots then it may continue listening.

It is possible that activity from one sniff timeout may extend to the slots immediately before the next sniff slots. Any activity from a previous sniff timeout does not affect activity after the next sniff slots. So in the above rules only the slots since the last sniff slots are looked at.

[**Note:** E2438 also applies to the same paragraph, the two errata may be resolved by adding the following text from E2438 as an extra bullet point at the end of the bulleted list above]

- A device may stop listening prior to $N_{sniff\ timeout}$ or the remaining $N_{sniff\ attempt}$ slots if it has activity in another piconet.

[End of changes for Erratum E2451]

Section C: LINK MANAGEMENT PROTOCOL

E2063 LMP Transaction Collision for Different Procedures

[Add a new line to table 5.4 on page 245 as follows]

0x2A	LMP Error Different Transaction Collision

[Add the following paragraph after paragraph 5 of section 7 on page 248 of the specification]

Since LMP PDUs are not interpreted in real time, collision situations can occur where both LMs initiate different procedures and both cannot be completed. In this situation, the master may reject the slave-initiated procedure by sending LMP_not_accepted with the reason code 'LMP Error Different Transaction Collision'. The master- initiated procedure shall then be completed

[End of changes for Erratum E2063]

E2084 Errata 1095 is not edited correctly

[Insert the following paragraph immediately before sequence 7 on page 197 of the 1.1 specification]

When the link key, combination or unit key, has been created mutual authentication must be made to confirm that the same link key has been created in both units. The first authentication in the mutual authentication is made with the initiator as verifier. When finalized an authentication in the reversed direction is made.

[End of changes for Erratum E2084]

E2114 LMP_unpark_PM_ADDR_req parameter order

[Replace the entry for LMP_unpark_PM_ADDR_req in table 3.16 on page 217 with the following]

O	LMP_unpark_PM_ADDR_req	timing control flags D_B (optional) AM_ADDR 1st unpark AM_ADDR 2nd unpark PM_ADDR 1st unpark PM_ADDR 2nd unpark AM_ADDR 3rd unpark AM_ADDR 4th unpark PM_ADDR 3rd unpark PM_ADDR 4th unpark AM_ADDR 5th unpark AM_ADDR 6th unpark PM_ADDR 5th unpark PM_ADDR 6th unpark AM_ADDR 7th unpark PM_ADDR 7th unpark

[Replace the entry in table 5.1 for LMP_unpark_PM_ADDR_req with the following]

LMP_unpark_PM_ADDR_req	variable	30	DM1	m → s	timing control flags	2
					D_B	3-4
					AM_ADDR 1st unpark	5:0-3
					AM_ADDR 2nd unpark	5:4-7
					PM_ADDR 1st unpark	6
					PM_ADDR 2nd unpark	7
					AM_ADDR 3rd unpark	8:0-3
					AM_ADDR 4th unpark	8:4-7
					PM_ADDR 3rd unpark	9
					PM_ADDR 4th unpark	10
					AM_ADDR 5th unpark	11:0-3
					AM_ADDR 6th unpark	11:4-7
					PM_ADDR 6th unpark	12
					PM_ADDR 6th unpark	13
					AM_ADDR 7th unpark	14:0-3
					PM_ADDR 7th unpark	15

[End of changes for Erratum E2114]

E2130 which BD_ADDRESS to use in slot offset message is unspecified

[Add the following to paragraph 2 of section 3,8 on page 205 of the specification]

In the case of master slave switch the BD_ADDR is that of the slave device.

[End of changes for erratum 2130]

E2137 Sequence chart label problem

[sequence 44 on page 224 replace the following label]

Sequence 44: The left-hand unit is configured to automatically change between DM and DH.

[with]

Sequence 44: A wants B to control A's packet type.

[Sequence 45 on page 244 replace the following label]

Sequence 45: A wants B to control A’s packet type.

[with]

Sequence 45: B changes A's packet type.

[Sequence 46 on page 225 replace the following label]

Sequence 46: B changes A’s packet type.

[with]

Sequence 46: Master notifies slave of quality of service,

[End of changes for E2137]

E2150 Wrong "possible direction" for LMP_park_req in Table 5.1

[Modify the entry for LMP_park_req in table 5.1 on page 236 to change the possible direction from m -> s to m <-> s.]

[End of changes for Erratum 2150]

E2160 Table 3.12 Caption Error

The second table on page 208 is missing a caption and a table number. The paragraph starting "PDUs used for master-slave switch.If the slave initiates the master-slave switch it…" is incorrect. The first sentence is a Table Title the balance is the post table paragraph.

[remove the following text from paragraph]

"PDUs used for master-slave switch."

[replace text into the second table creating a Caption]

Table 3.12: PDUs used for master-slave switch.

[End of changes for Erratum 2160]

E2174 Wrong "content" and "position in payload" for LMP_hold_req and LMP_hold

[The two rightmost columns for both PDUs LMP_hold_req and LMP_hold in table 5.1 on page 234 should read]

hold time 2-3
hold instant 4-7

[End of changes for Erratum 2174]

E2345 not accepting LMP_host_connection_req

[section 4 "CONNECTION ESTABLISHMENT" after the 2nd paragraph in the section (on page 232) add the following new paragraph]

If the paging device receives LMP_not_accepted in response to LMP_host_connection_req it shall immediately disconnect the link using the mechanism described in section 3.14 on page 211.

[End of changes for Erratum 2345]

E2442 Slight relaxation of master Tpoll requirement

[Replace the 5th paragraph in section 1 on page 189 with the following]

The LC normally attempts to communicate with each slave no less often than every Tpoll slots (see Section 3.20) based on the Tpoll for that slave.

[**NOTE**: This erratum is intended to facilitate scatternet operation. The following errata are related to this erratum and are also intended to facilitate scatternet operation: E2437, E2438, E2439, E2440, E2441, E2443, E2444, E2445]

[End of changes for Erratum 2442]

E2443 Clock use when BB ACK not received during force hold

[Replace the last sentence in the second paragraph of section 3.15.1 on page 212 with the following]

If the baseband-level acknowledgement for the LMP_hold is not received then the master may enter hold mode, but it shall not use its low accuracy clock during the hold.

[**NOTE**: This erratum is intended to facilitate scatternet operation. The following errata are related to this erratum and are also intended to facilitate scatternet operation: E2437, E2438, E2439, E2440, E2441, E2442, E2444, E2445]

[End of changes for Erratum 2443]

E2444 Relaxation of slave listening requirements during sniff

[Replace the second paragraph of section 3.16 on page 214 with]

When the link is in sniff mode the master can only start a transmission in the sniff slot. Two parameters control the listening activity in the slave. The sniff attempt parameter determines for how many slots the slave must listen when the slave is not treating this as a scatternet link, beginning at the sniff slot, even if it does not receive a packet with its own AM address. The sniff timeout parameter determines for how many additional slots the slave must listen when the slave is not treating this as a scatternet link if it continues to receive only packets with its own AM address.

[**NOTE**: This erratum is intended to facilitate scatternet operation. The following errata are related to this erratum and are also intended to facilitate scatternet operation: E2437, E2438, E2439, E2440, E2441, E2442, E2443, E2445]

[End of changes for Erratum 2444]

Section D: L2CAP

E2009 Default MTU size mandatory

[Replace text on page 295:]

5.10 INFORMATION REQUEST (CODE 0X0A)

Information requests are used to solicit implementation-specific information from a remote L2CAP entity. L2CAP entities MUST respond to well-formed Information Request packets with an Information Response packet.

[with:]

5.10 INFORMATION REQUEST (CODE 0x0A)

Information requests are used to solicit implementation-specific information from a remote L2CAP entity. L2CAP implementations shall respond to well-formed Information Request packets with an Information Response packet. It is optional to send Information Request packets.

An L2CAP implementation shall only use those features or attribute ranges for which the remote L2CAP entity has indicated support through an Information Response packet. Until an Information Response packet which indicates support for optional features or ranges has been received only mandatory features and ranges shall be used.

[Replace text on page 295:]

5.11 INFORMATION RESPONSE (CODE 0X0B)

Information responses are sent upon receiving Information Request packets. The identifier in the response MUST match the identifier sent in the Request. The optional data field may contain the contents of the data field in the Request, different data, or no data at all.

[with:]

5.11 INFORMATION RESPONSE (CODE 0x0B)

Information responses are sent upon receiving Information Request packets. The identifier in the response shall match the identifier sent in the Request. The data field shall contain the value associated with the InfoType field sent in the Request, or shall be empty if the InfoType is not supported.

[Replace text on page 295:]

The contents of the Data field depends on the InfoType. For the Connection MTU request, the data field contains the remote entity's 2-octet acceptable connectionless MTU.

[with:]

The contents of the Data field depends on the InfoType.
For InfoType = 0x0001 the data field contains the remote entity's 2-octet acceptable connectionless MTU. The default value is defined in section 4.2 on page 282.

[End of changes for Erratum 2009]

E2040 Configuration Request/Response sequence ambiguity

[Replace text on page 274:]

In the CONFIG state, both sides must issue L2CAP_ConfigReq messages – if only defaults are being used, a null message should be sent, see Section 5.4 on page 288. If a large amount of parameters need to be negotiated, multiple messages may be sent to avoid any MTU limitations and negotiate incrementally – see Section 6 on page 297 for more details.

[Change to:]

In the CONFIG state, both L2CAP entities shall issue L2CAP_ConfigReq messages. To avoid deadlock the initiator shall send its L2CAP_ConfigReq message after entering the CONFIG state and shall not delay this action by waiting for the acceptor to send its L2CAP_ConfigReq. The acceptor shall send its L2CAP_ConfigReq message after entering the CONFIG state but may wait until it receives the L2CAP_ConfigReq message from the initiator. If only default configuration values are being used, a null message should be sent, see Section 5.4 on page 288. If a large amount of parameters need to be negotiated, multiple messages may be sent to avoid any MTU limitations and negotiate incrementally – see Section 6 on page 297 for more details.

[Replace text at bottom of page 278:]

Figure 3.4 is an example and not all setup sequences will be identical to the one illustrated below.

[Change to:]

Figure 3.4 is given as an example and not all setup sequences will be identical to this.

[End of changes for Erratum 2040]

E2263 Use of configuration flag should be continuation flag

[Replace the following text on page 290:]

When used in the Configuration Request, the continuation flag indicates the responder should expect to receive multiple request packets. The responder must reply to each request packet. The responder may reply to each Configuration Request with a Configuration Response containing the same option(s) present in the Request, except for those error conditions more appropriate for a Command Reject, or the responder may reply with a “Success" Configuration Response packet containing no options, delaying those options until the full Request has been received. The Configuration Request packet with the configuration flag cleared shall be treated as the Configuration Request event in the channel state machine.

When used in the Configuration Response, the continuation flag must be set if the flag is set in the Request. If the configuration flag is set in the Response when the matching Request does not set the flag, it indicates the responder has additional options to send to the requestor. In this situation, the requestor shall send null-option Configuration Requests (with cleared Cflag) to the responder until the responder replies with a Configuration Response where the continuation flag is clear. The Configuration Response packet with the configuration flag cleared shall be treated as the Configuration Response event in the channel state machine.

[replace with the following:]

When used in the Configuration Request, the continuation flag indicates the responder should expect to receive multiple request packets. The responder must reply to each request packet. The responder may reply to each Configuration Request with a Configuration Response containing the same option(s) present in the Request, except for those error conditions more appropriate for a Command Reject, or the responder may reply with a "Success" Configuration Response packet containing no options, delaying those options until the full Request has been received. The Configuration Request packet with the continuation flag cleared shall be treated as the Configuration Request event in the channel state machine.

When used in the Configuration Response, the continuation flag must be set if the flag is set in the Request. If the continuation flag is set in the Response when the matching Request does not set the flag, it indicates the responder has additional options to send to the requestor. In this situation, the requestor shall send null-option Configuration Requests (with cleared Cflag) to the responder until the responder replies with a Configuration Response where the continuation flag is clear. The Configuration Response packet with the continuation flag cleared shall be treated as the Configuration Response event in the channel state machine.

[End of changes for Erratum 2263]

E2276 Remove L2CA_TimeoutInd from set of events sent to upper layer

[Replace the following text on page 266 and 267:]

While Requests for an action always result in a corresponding Confirmation (for the successful or unsuccessful satisfaction of the action), Indications do not always result into corresponding Responses. The latter is especially true, if the Indications are informative about locally triggered events, e.g., seeing the *LP_QoSViolationInd* in Section 3.1.1 on page 267, or *L2CA_TimeOutInd* in Section 3.2.4 on page 272.

[replace with the following text:]

While Requests for an action always result in a corresponding Confirmation (for the successful or unsuccessful satisfaction of the action), Indications do not always result into corresponding Responses. The latter is especially true if the Indications are informative about locally triggered events, e.g., seeing the *LP_QoSViolationInd* in Section 3.1.1 on page 267.

[Replace text on page 272:]

• *L2CA_ConnectCfmNeg*

Negative confirmation (failure) of a Connection Request (see *L2CA_ConnectReq* in Section 3.1.4). An RTX timer expiration (see Section 3.1.5 and *L2CA_TimeOutInd* below) for an outstanding Connect Request can substitute for a negative Connect Response and result in this action.

[Replace with the following]

• *L2CA_ConnectCfmNeg*

Negative confirmation (failure) of a Connection Request (see *L2CA_ConnectReq* in Section 3.1.4) either due to receipt of a negative Connect Response or the final RTX or ETRX timer expiration.

[replace text on page 273]

• *L2CA_ConfigCfmNeg*

Negative confirmation (failure) of a Configuration Request (see *L2CA_ConfigReq* in Section 3.1.4). An RTX timer expiration (see Section 3.1.5 and *L2CA_TimeOutInd* below) for an outstanding Connect Request can substitute for a negative Connect Response and result in this action.

[replace with the following:]

• *L2CA_ConfigCfmNeg*

Negative confirmation (failure) of a Configuration Request (see *L2CA_ConfigReq* in Section 3.1.4). An RTX timer expiration (see Section 3.1.5 and *L2CA_TimeOutInd* below) for an outstanding Connect Request can substitute for a negative Connect Response and result in this action.

[Replace text on page 273:]

• *L2CA_DisconnectCfm*

Confirms that a Disconnect Request has been processed by the remote device (see *L2CA_DisconnectReq* in Section 3.1.4) following the receipt of a Disconnection Response from the remote device. An RTX timer expiration (see Section 3.1.5 and *L2CA_TimeOutInd* below) for an outstanding Disconnect Request can substitute for a Disconnect Response and result in this action. Upon receiving this event the upper layer knows the L2CAP channel has been terminated. There is no corresponding negative confirm.

[Replace with the following:]

• *L2CA_DisconnectCfm*

Either confirms that a Disconnect Request has been processed by the remote device (see *L2CA_DisconnectReq* in Section 3.1.4) following the receipt of a Disconnection Response from the remote device, or that the final RTX or ERTX timer expiration has occurred. Upon receiving this event the upper layer knows the L2CAP channel has been terminated. There is no corresponding negative confirm.

[remove text on page 273;}

• *L2CA_TimeOutInd*

Indicates that a RTX or ERTX timer has expired. This indication will occur an implementation-dependant number of times before the L2CAP implementation will give up and send a L2CA_DisconnectInd.

[Replace last two rows of table 3.1 on page 277]

Event	Current State	Action	New State
Timer RTX	Any	Send upper layer L2CA_TimeOutInd message. If final expiration, return CID to free pool and go to CLOSE state, else resend Request.	N/C or Closed
Timer ERTX	Any	Send upper layer L2CA_TimeOutInd message. If final expiration, return CID to free pool and go to CLOSE state, else resend Request.	N/C or closed

[Replace with:]

Event	Current State	Action	New State
Timer RTC or Timer ERTX on signalling channel	Open	Send upper layer L2CA_DisconnectInd message. Return CID to free pool and go to CLOSED state.	N/C or Closed
Timer RTX or Timer ERTX	W4_L2CA_ CONNECT_ RSP	If final expiration, send upper layer L2CA_ConnectCfmNeg message, return CID to free pool and go to CLOSED state, else resend request	N/C or Closed
Timer RTX or Timer ERTX	CONFIG	If final expiration, send upper layer L2CA_ConfigCfmNeg message, return CID to free pool and go to CLOSED state, else resend request	N/C or Closed
Timer RTX or Timer ERTX	W4_L2CA_ DISCONNECT _RSP	If final expiration, send upper layer L2CA_DisConnectCfm message, return CID to free pool and go to CLOSED state, else resend request	N/C or Closed

[replace text on page 304]

This primitive initiates the sending of an L2CAP_ConfigReq message and blocks until a corresponding L2CA_ConfigCfm(Neg) event is received.

[replace with:]

This primitive initiates the sending of an L2CAP_ConfigReq message and blocks until a corresponding L2CA_ConfigCfm(Neg) event is received.

[replace text on page 307:]

This primitive initiates the sending of an L2CAP_ConfigReq message and blocks until a corresponding L2CA_ConfigCfm(Neg) event is received.

[Replace with:]

This primitive initiates the sending of an L2CAP_ConfigReq message and blocks until a corresponding L2CA_ConfigCfm(Neg) event is received.

[End of changes for Erratum 2276]

E2337 Identifier

[replace the following text on page 284:]

The Identifier field is one octet long and helps matching a request with the reply. The requesting device sets this field and the responding device uses the same value in its response. A different Identifier must be used for each original command. Identifiers should not be recycled until a period of 360 seconds has elapsed from the initial transmission of the command using the identifier. On the expiration of a RTX or ERTX timer, the same identifier should be used if a duplicate Request is re-sent as stated in Section 3.1.5 on page 270. A device receiving a duplicate request should reply with a duplicate response. A command response with an invalid identifier is silently discarded. Signalling identifier 0x0000 is defined to be an illegal identifier and shall never be used in any command.

[Replace with following text:]

The Identifier field is one octet long and matches responses with requests. The requesting device sets this field and the responding device uses the same value in its response. Between any two devices a different Identifier shall be used for each successive command. Following the original transmission of an Identifier in a command, the Identifier may be recycled, either after a period of 360 seconds, or if all other Identifiers have subsequently been used.

On the expiration of a RTX or ERTX timer, the same identifier shall be used if a duplicate Request is re-sent as stated in Section 3.1.5 on page 270. A device receiving a duplicate request should reply with a duplicate response. A command response with an invalid identifier is silently discarded. Signaling identifier 0x00 is defined to be an illegal identifier and shall never be used in any command.

[End of changes for Erratum 2337]

Section H1: HOST CONTROLLER INTERFACE

E1275 Read_Voice_Settings and Write_Voice_Settings

[In the two tables describing the Voice_Setting parameter on page 643-644 (4.7.29 Read_Voice_Setting) and page 645 (4.7.30 Write_Voice_Setting), replace the row']

XX11XXXXXX Reserved for Future Use

[with the following row:]

XX11XXXXXX Input Data Format: Unsigned

[and replace the row:]

XXXXXXXX11 Reserved

[with the following row]:

XXXXXXXX11 Air Coding Format: None (Transparent)

[End of changes for Erratum 1275]

E1548 Class of device field may be invalid in an HCI connection request event

[In 5.2.4 Connection Request Event on page 732, there is a table describing the Class_of_Device parameter (under Event Parameters). Add a new row to this table before the row where the value is defined as 0xXXXXXX. The value column in the new row should say:]

0x000000

[the parameter description column should say:]

Unknown Class of Device

[End of changes for Erratum 1548]

E2101 “Encryption disabled” means “Encryption not required”

[In 4.7.25 on page 658 and in 4.7.26 on page 659, in the two tables describing the Encryption_Mode parameter, change the description of Value 0x00 from:]

"Encryption disabled."

[Change this to]

Encryption not required.

[The change is to be made in both tables. (Note that it should still say "Default." in the table on page 659).]

[In 4.7.23 on page 656 and in 4.7.24 on page 657, in the two tables describing the Authentication_Enable parameter, change from]

Authentication disabled.

[Change this to]

Authentication not required.

[In the same two tables change from]

Authentication enabled for all connection(s)

[Change this to]

Authentication required for all connections

[(Note that it should still say "Default." in the table on page 657).]

[End of changes for Erratum 2101]

E2142 Math Error

[In 4.7.14 Write_Connection_Accept_Timeout on page 643, in the table describing the Conn_Accept_Timeout command parameter, change the last line that currently says:]

"Default: N = 0x1FA0 Time = 5 Sec"

[to the following:]

"Default: N = 0x1FA0 Time = 5.06 Sec"

[End of changes for Erratum 2142]

E2316 HCI Reset

[Sentence in 1st Paragraph in H:1, 4.7.2, Page 622, replace]

The reset command should not affect the used HCI transport layer since the HCI transport layers have reset mechanisms of their own.

[with]

The reset command shall not affect the used HCI transport layer since the HCI transport layers may have reset mechanisms of their own.

[End of changes for Erratum 2316]

E2317 Inquiry Command – Parameters on return event

[Delete the following sentence from Part H:1, Section 4.5.1, Page 561, first paragraph.]

The event parameters of Inquiry Complete event will have a summary of the result from the previous Periodic Inquiry process, which reports the number of nearby Bluetooth devices that responded.

[End of changes for Erratum 2317]

Section H4: HCI UART TRANSPORT LAYER

E2149 Erroneous description of out of synch. situation

[In 4 ERROR RECOVERY on page 826, the last sentence of the first paragraph currently says:]

"A loss of synchronization means that an incorrect HCI packet indicator has been detected, or that the length field in an HCI packet is out of range."

[Change this to:]

"A loss of synchronization means that an incorrect HCI packet indicator has been detected."

[End of changes for Erratum 2149]

Section K6: HEADSET PROFILE

E1516 Clarify "button press" events and connection releases

[Original version]

4.4. AUDIO CONNECTION

A call can be terminated either on the HS or the AG. On the HS based upon the button being pushed, on the AG based upon internal actions or user intervantion.

4.8.1.2 Connection Release

When the audio connection is released, the connection may be released as well. The AG always initiates connection release.

[New version]

[insert before 4.2]

USER INITIATED ACTION

Upon the receipt of a user initiated action (e.g. button press) on the headset, the headset shall send the AT+CKPD=200 command to the AG. The action performed by the AG on receipt of the AT+CKPD=200 command is implementation dependant. The actions performed by the AG may be dictated by the state the AG is in at the time it received the command.

[replace 4.4 with the following]

4.4 AUDIO CONNECTION (SCO) RELEASE

The AG may release the Audio connection (SCO) upon an internal event in the AG or after the AG receives an indication of a user initiated action (e.g. button press) from the AG or HS. The AG may initiate an ACL connection release when the Audio connection (SCO) is released as indicated in section 4.8.1.2.

The HS may initiate an Audio connection (SCO) release in circumstances such as power-down event while an Audio connection (SCO) is established. In cases where the HS initiated an Audio connection (SCO) release it shall initiate an ACL connection release as indicated in Section 4.8.1.2.

[Remove figure 4.3]

[Replace 4.8.1.2 with the following]

The ACL connection release can be initiated by either the AG or HS. The initiator of the ACL connection release shall also close the RFCOMM and L2CAP connections prior to the ACL connection release.

[End of changes specified by Erratum E1516]

E2112 Show that in-band ringing and RING are mutually exclusive

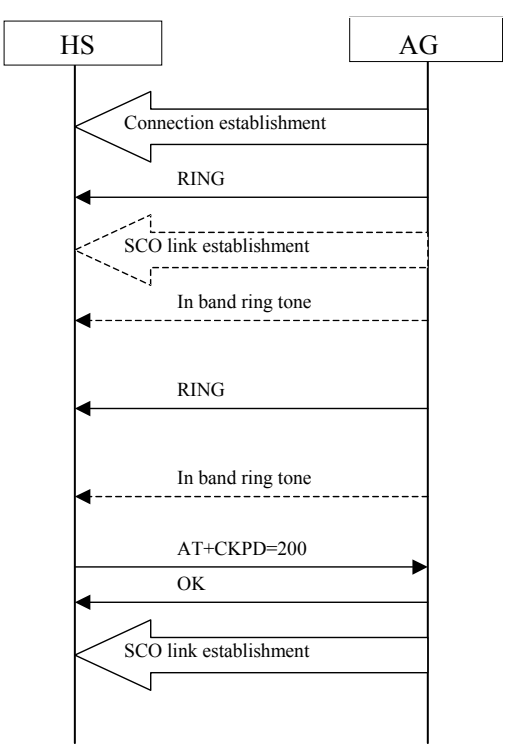
[section 4.2 original version quoted below is to be replaced]

4.2 AUDIO GATEWAY INITIATED ACL CONNECTION ESTABLISHMENT

Upon an internal or user generated event, the AG will initiate connection establishment (see Section 4.8), and once the connection is established, will end an unsolicited result code RING to alert the user (if necessary). The RING may be repeated for as long as the connection establishment is pending. The SCO link establishment can take place anytime after the ACL connection establishment

Optionally, the AG may provide an in-band ringing tone[1]. In this case, the SCO link establishment takes place first.

Figure 4.1 Incoming audio connection establishment



[replace with new version given below]

4.2 AUDIO GATEWAY INITIATED ACL CONNECTION ESTABLISHMENT

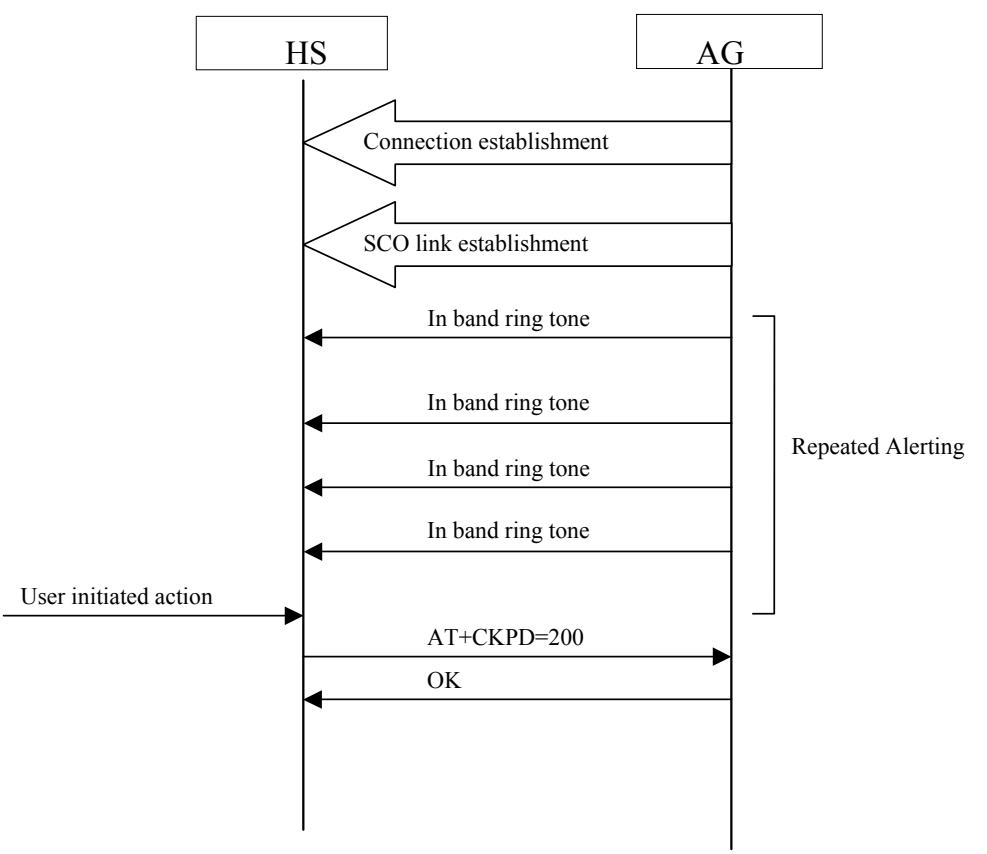
Upon an internal or user generated event, the AG will initiate connection establishment (see Section 4.8), once the connection is established, there are then two options as described in the Sections 4.2.1 and 4.2.2.

The SCO link establishment can take place anytime after the ACL connection establishment

4.2.1 Using In-Band Ringing

As shown in Figure 4.1, the AG may generate an in-band ring tone[1] using the SCO connection to the HS. The AG decides how to use this SCO connection. In this case the AG must not send the RING unsolicited result code to the HS.

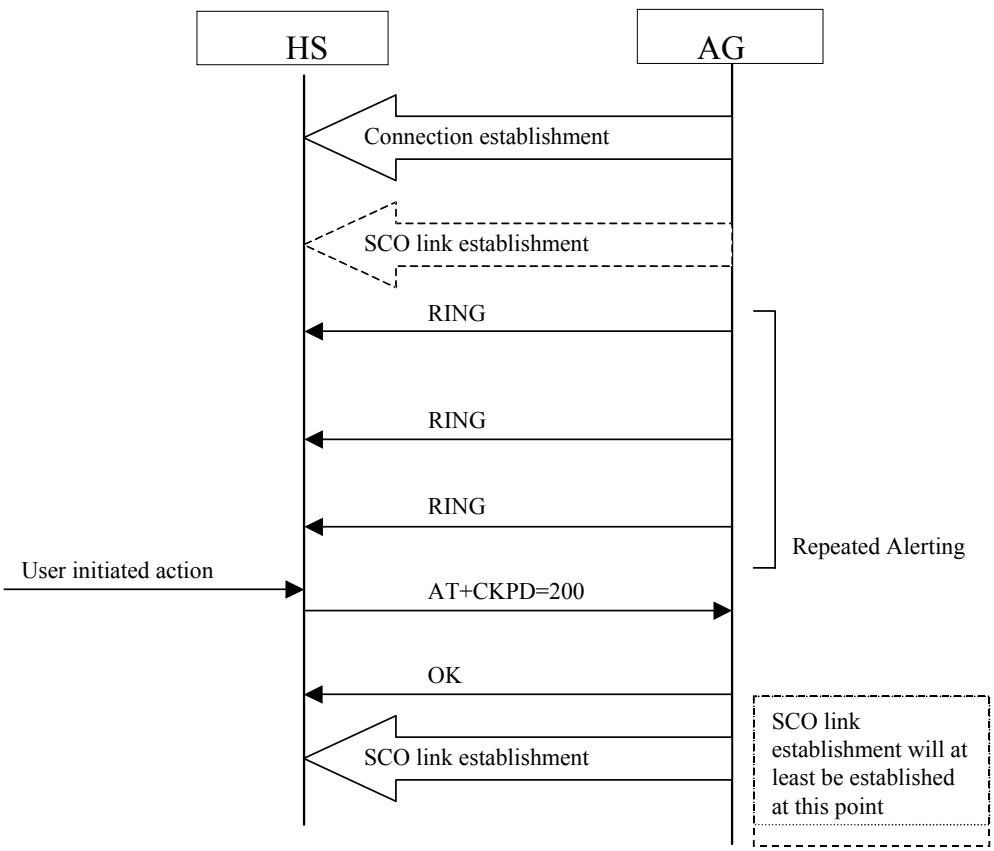
Figure 4.1 Incoming audio connection establishment (in-band ringing)



4.2.2 Using the RING message

As shown in Figure 4.2, the AG will repeatedly send the RING unsolicited result code to the HS for a time period decided by the AG. The RING may be repeated for as long as the connection establishment is pending.

Figure 4.2 Incoming audio connection establishment (using RING message)



[Note to editors: all figure numbers, and the references to those figures, would have to be updated to allow for this figure to be added.]

[Table 4.1 Mandatory AT capabilities replace original version quoted below]

AT Capability	Description
RING	The Incoming call indication of V.250 [1], Section 6.3.4.

[replace with new version]

AT Capability	Description
RING*	The Incoming call indication of V.250 [1], Section 6.3.4.

*. Optional for the AG device

[End of changes for erratum E2112]

E2206 Remove one of two very similar sentences

[Section 4.2 on page 209 replace]

In this case, first SCO link establishment takes place. In this case, the SCO link establishment takes place first.

[with]

In this case, the SCO link establishment takes place first.

[End of changes for Erratum 2206]

E2207 Errata 1215 not fully picked up in the spec

[Page 209 section 4.2 in the 1st sentence change the 2nd occurrence of "will" to "may" - so that section 4.2 begins]

Upon an internal or user generated event, the AG will initiate connection establishment (see Section 4.8), and once the connection is established, may send an unsolicited result code RING to alert the user (if necessary).

[Change the figure 4.1 so that the unsolicited result code RING alert to the user is optional – i.e. both RING arrows in figure 4.1 have dotted lines]

[**Note**: this change has already been adopted by the BoD when errata 1215 was approved.]

[End of changes for Erratum 2207]

E2213 Uncomplete correction of Errata 1214

[in the figures in section 4 of secftion K6 change all instances of]

AT+CKPD

[Change to]

AT+CKPD=200

[**Note** that this has already been edited correctly in the first figure which is figure 4.1. The same edit needs to be done in all other figures]

[End of changes for Erratum E2213]

Section K7: DIAL UP NETWORKING PROFILE

E2196 Make incoming calls optional in both DT and GW

[Add to the applicable restrictions list (in section 2.3) following the first paragraph the following:]

h) Neither the GW nor DT is required to implement acceptance of incoming data calls.

[Table 3.1 should also be updated to reflect requirements for both incoming and outgoing calls. Add the 2 extra rows shown unshaded below to the bottom of the table]

	Services	Support in DT	Support in GW
6	Incoming calls	O	O
7	Outgoing calls	M	M

[In table 4.1, change the "reference" cells for the commands “A” and “SO” to]

"should be supported as defined in [6]"

[In table 4.2, the reference cell corresponding to the result code "RING" should be changed to]

"should be supported as defined in [6]".

[End of changes for Erratum 2196]

Section K10: GENERIC OBJECT EXCHANGE PROFILE

E2092 Chapter should refer to SDAP instead of application profiles

[Section 6.3 replace]

These requirements are defined by the application profiles. Thus, none of the requirements defined in the SeP profile (Section 6 in [12]) apply to this profile.

[with]

For the SDP layer, no additions to the requirements stated in Section 6 of Serial Port Profile apply.

[End of changes for Erratum E2092]

Section K11 OBJECT PUSH PROFILE

E2070 wrong type header of Object Push Profile

[In table 4.3 and 4.4 of the Bluetooth 1.1 Object Push Profile specification replace the following text:]

“text/x-vcard”.

[with]

"text/x-vCard" (case insensitive).

[End of changes for Erratum E2070]

E2089 Unnecessary Mandatory PDU requirements

[remove section 6.2]

[Change section 6.3 replace]

These requirements are defined by the application profiles. Thus, none of the requirements defined in the SeP profile (Section 6 in [12]) apply to this profile.

[with]

For the SDP layer, no additions to the requirements stated in Section 6 of Serial Port Profile apply.

[End of changes for Erratum E2089]

Section K12 FILE TRANSFER PROFILE

E2090 Unnecessary Mandatory SDP PDU requirements

[Remove Section 6.2]

[Section 6.3 replace]

These requirements are defined by the application profiles. Thus, none of the requirements defined in the SeP profile (Section 6 in [12]) apply to this profile.

[with]

For the SDP layer, no additions to the requirements stated in Section 6 of Serial Port Profile apply.

[End of changes for Erratum E2090]

ERRATA WHICH ARE ALREADY INCORPORATED INTO VERSION 1.1

E2013 pause mode clarification

E2014 Timing of FH and whitening mode changes

These errrata were raised on section I1: Test Mode, but they have already been incorporated into version 1.1

E2035 Incorrect Opcode for SETPATH

This erratum was raised on section K12: File Transfer Profile, but it has already been incorporated into version 1.1

TEST SPECIFICATION IMPACTS

B: BASEBAND

E2049	no test specification impact
E2059	no test specification impact
E2314	no test specification impact
E2437	no test specification impact
E2439	no test specification impact
E2440	no test specification impact
E2441	no test specification impact
E2451	The following changes are required as specified in test specification erratum 395 LM test cases TP/LIH/BV-14-C, TP/LIH/BV-15-C Change annotation of timing diagrams in 6.6.8.1 and 6.6.8.2 from POLL packet to DM1 packet. Change text under diagram to: The tester must send DM1 data packets to the IUT according to the figure. Verify that DM1 packets 1-4 are acknowledged, but DM1 packet 5 must remain unacknowledged. Everything is checked at baseband level. Change text at end of MSC of 6.6,8.1 and 6.6.8.2 to: It is verified at baseband level that the IUT answers the DM1 data packets as necessary. For details, please see “TS ERRATA REQUEST 395” on page 52

C: LINK MANAGER

E2063	no test specification impact
E2084	no test specification impact
E2114	no test specification impact
E2130	no test specification impact
E2137	no test specification impact
E2150	no test specification impact
E2160	no test specification impact
E2174	no test specification impact
E2345	The following changes are required as specified in test specification erratum 394 LM test cases TP/LIH/BV-82-C For details, please see “TS ERRATA REQUEST 394” on page 50
E2442	no test specification impact
E2443	no test specification impact
E2444	no test specification impact

D: L2CAP

E2009	no test specification impact
E2040	In the following test cases, related to configuration, the IUT is acting as acceptor and a blocking may occur when the IUT has to send L2CAP_ConfigReq and the lower tester has not sent L2CAP_ConfigReq: TP/COS/CED/BV-03, -04, -07, -08 TP/COS/RCO/BV-01 The IUT should act as initiator to avoid blocking.
E2263	no test specification impact
E2276	In TPCOS/TMH/BV-01 and TP/COS/CED/BV-08 L2CATimeoutInd is removed. RTX or ETX expiration results in "RespNeg signal to the upper layer". Remove L2CATimeoutInd from MSC. For details, please see “TS ERRATA REQUEST 392 [TP/COS/CED/BV-08]” on page 55 “TS ERRATA REQUEST 392 [TP/COS/TMH/BV-01]” on page 58 “TS ERRATA REQUEST 392 [TPCOS/TMH/BV-02]” on page 61
E2337	no test specification impact

H1: HOST CONTROLLER INTERFACE

E1275	no test specification impact
E1548	no test specification impact
E2101	no test specification impact
E2142	no test specification impact
E2316	no test specification impact
E2317	no test specification impact

H4: HCI UART TRANSPORT LAYER

E2149	no test specification impact

K6: HEADSET PROFILE

E1516	no test specification impact
E2112	in PICS table K:6.2/2 and K:6.3/2 should be changed from Mandatory to Optional For details, please see “TS ERRATA REQUEST 212” on page 63
E2206	no test specification impact
E2207	no test specification impact
E2213	no test specification impact

K7: DUN PROFILE

E2196 no test specification impact

K10: GENERIC OBJECT EXCHANGE PROFILE

E2092 no test specification impact

K11: OBJECT PUSH PROFILE

E2070	no test specification impact
E2089	no test specification impact

K12: FILE TRANSFER

E2035	no test specification impact
E2090	no test specification impact

TS ERRATA REQUEST 394

Requested by:	Company:	E-mail address:	Date of Request:
Antonio Narváez	CETECOM (Sp)	anarvaez@cetecom.es	2002-10-21

Reference to Bluetooth Test Specifications

Test Specification:	Version:	Test Case (if applicable):	Test Case Category (if applicable):
LM	**0.92**	**TP/LIH/BV-82**	

Page:	Section:	Paragraph:
		Test Purpose, MSC

Owner of TS:	E-mail address:	Status/date (Submitted, Review, Sign off, Closed)

TS errata class: (1-not testable anymore , 2–still testable)	TS errata type: (Correction/Clarification/Editorial)	ID No.:	Approved:
-2	***Correction***	394	

Problem Statement (and / or existing text)

As a consequence of core erratum 2345, if Lmp_not_Accepted (Lmp_Host_Connection_request) is received, the detach procedure is started.

New Text Proposal

TP/LIH/BV-82-C

Verify that the IUT accepts that the Tester rejects the connection setup. Verify that the IUT closes the link correctly. IUT is Master and requests an ACL link.

Reference

C:4 in [1]

Initial Condition

See Appendix MSC.

Test Procedure

See Appendix MSC.

Test Condition

N/A

Expected Outcome

<u>Pass verdict:</u>

The IUT transmits PDU LMP_detach upon reception of PDU LMP_not_accepted.

<u>Fail verdict:</u>

The IUT does not transmit PDU LMP_detach upon reception of PDU LMP_not_accepted.

Inconclusive verdict:

N/A

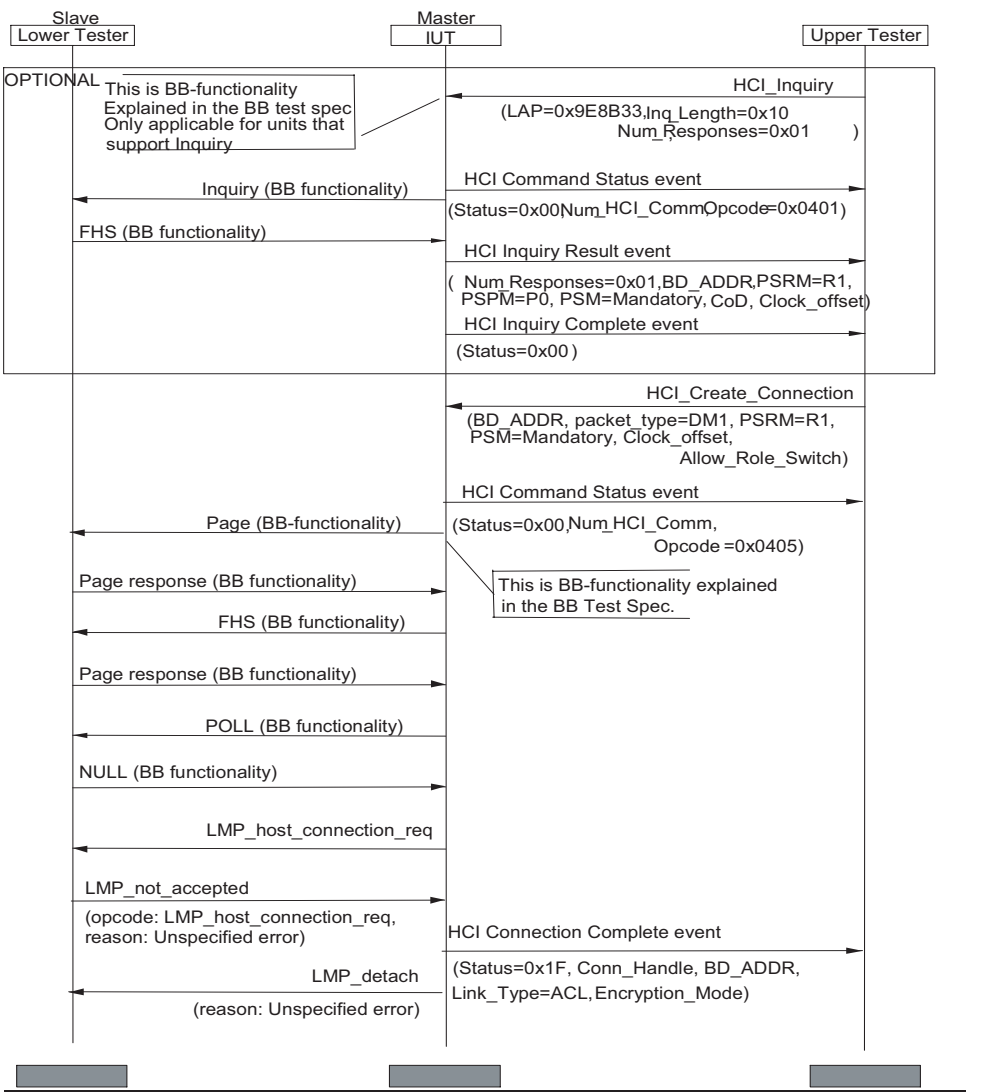
Uncertainties

N/A

Notes

N/A

TP/LIH/BV-82-C



TCMT

	Detach			
C:14/1	Detachconnection		TP/LIH/BV-04-C, TP/LIH/BV-05-C, TP/LIH/BV-82-C	

TS ERRATA REQUEST 395

Requested by:	Company:	E-mail address:	Date of Request: 2002-01-07

Reference to Bluetooth Test Specifications

Test Specification:	Version:	Test Case (if applicable):	Test Case Category (if applicable):
LM	**0.92**	**TP/LIH/BV-14, -15-C**	**B**

Page:	Section:	Paragraph:
		-

Owner of TS:	E-mail address:	Status/date (Submitted, Review, Sign off, Closed)
		Review version 1

TS errata class: (1-not testable anymore , 2–still testable)	TS errata type: (Correction/Clarification/Editorial)	ID No.:	Approved:
-2	***Correction***	395	

Problem Statement (and / or existing text)

Core Erratum No. 2451

New Text Proposal

TP/LIH/BV-14-C

Verify that the IUT enters Sniff Mode upon request from the Tester. Verify that the IUT interprets the sniff attempt and sniff timeout correctly.

IUT is Slave . The Tester is Master and initiates the service by requesting. Baseband functionality is tested in the test case.

- Applicable only for units supporting SNIFF mode.

Reference

C:3.16.1 in [1]

Initial Condition

See Appendix MSC.

Test Procedure

See Appendix MSC.
DM1 packets transmitted by the tester contain data.
Monitor the result for a period of 20*T_{SNIFF} slots.

Test Condition

It must be possible to check the Sniff interval on Baseband level.

Expected Outcome

Pass verdict:
The IUT transmits PDU LMP_accepted or PDU LMP_sniff_req upon reception of PDU LMP_sniff_req. The IUT must enter SNIFF mode and acknowledge DM1 packet 1-4 but DM1 packet 5 must remain unacknowledged.

Fail verdict:
The IUT does not transmit PDU LMP_accepted or PDU LMP_sniff_req upon reception of PDU LMP_sniff_req or if the IUT does not enter the Sniff mode or if DM1 packets 1-4 remain unacknowledged or DM1 packet 5 is acknowledged.

Inconclusive verdict:
The IUT transmits PDU LMP_detach

Uncertainties

Timing control flags and D_{sniff} are determined by the MSB of CLK_{27} of the master.

Notes

N/A

[MSC and text under MSC must change POLL to DM1]

TP/LIH/BV-15-C

Verify that the IUT can request the Tester to enter Sniff Mode. Verify that the IUT interprets the sniff attempt and sniff timeout correctly.

IUT is Slave and initiates the service by requesting. The Tester is master and accepts first request. Baseband functionality is tested in the test case.

- Applicable only for units supporting SNIFF mode.

Reference

C:3.16.1 in [1]

Initial Condition

See Appendix MSC.

Test Procedure

See Appendix MSC.
DM1 packets transmitted by the tester contain data.
Monitor the result for a period of $20*T_{SNIFF}$ slots.

Test Condition

It must be possible to check the Sniff interval on Baseband level.
It must be possible to control the IUT to initiate the sniff request.

Expected Outcome

Pass verdict:
The IUT transmits PDU LMP_sniff_req and accepts reception of PDU LMP_accepted. The IUT must enter SNIFF mode and acknowledge DM1 packet 1-4 but DM1 packet 5 must remain unacknowledged.

Fail verdict:
The IUT does not transmit PDU LMP_sniff_req or does not accept reception of PDU LMP_accepted or if IUT does not enter the Sniff mode or if DM1 packets 1-4 remain unacknowledged or DM1 packet 5 is acknowledged.

Inconclusive verdict:
The IUT transmits PDU LMP_detach

Uncertainties

Timing control flags and D_{sniff} are determined by the MSB of CLK_{27} of the master.

Notes

N/A

[MSC and text under MSC must change POLL to DM1]

TS ERRATA REQUEST 392 [TP/COS/CED/BV-08]

Requested by:	Company:	E-mail address:	Date of Request:
Emilio Mira	MC	emira@cetecom.es	2002-09-16

Reference to Bluetooth Test Specifications

Test Specification:	Version:	Test Case (if applicable):	Test Case Category (if applicable):
L2CAP	**0.81 +296**	**TP/COS/CED/BV-08**	**B**

Page:	Section:	Paragraph:
		-

Owner of TS:	E-mail address:	Status/date (Submitted, Review, Sign off, Closed)

TS errata class: (1-not testable anymore , 2–still testable)	TS errata type: (Correction/Clarification/Editorial)	ID No.:	Approved:
-2	***Correction***	392	

Problem Statement (and / or existing text)

According to core Spec. Erratum 2276, timeout events are never sent to the upper layer. L2CATimeoutInd is removed. RTX or ETX expiration results in "RespNeg signal to the upper layer".

Remove L2CA_TimeoutInd from MSC.

TP/COS/CED/BV-08

Verify that the IUT disconnects the data channel and shuts down this channel if no response occurs.

Reference

D:3.4 Table 3.1 in [1], D:5.6, 5.7 in [1], section 4 in [3]

Initial Condition

IUT is in OPEN state for data channel with assigned CID.

Test Procedure

See Appendix

Test Condition

N/A

Expected Outcome

Scenario 1:

<u>Pass verdict:</u>
The IUT sends L2CA_DisconnectCfm (result = timeout)
IUT retransmits the L2CAP_DisconnectCfm “maximum number or retransmissions” times

IUT retransmits the L2CAP_DisconnectCfm with a delay equal to the RTX timer and this Delay is twice the previous value for each additional retransmission

Fail verdict:
IUT fails to send L2CA_DisconnectCfm (result = timeout)
IUT does not retransmit the required number of messages
IUT does not double the interval with each transmission.

Scenario 2:

Pass verdict:
The IUT sends a correct L2CAP_DisconnectCfm
and when RTX timer expires the IUT sends L2CA_DisconnectCfm to upper tester with result=timeout.

Fail verdict:
The IUT does not transmit L2CA_DisconnectCfm to upper tester.

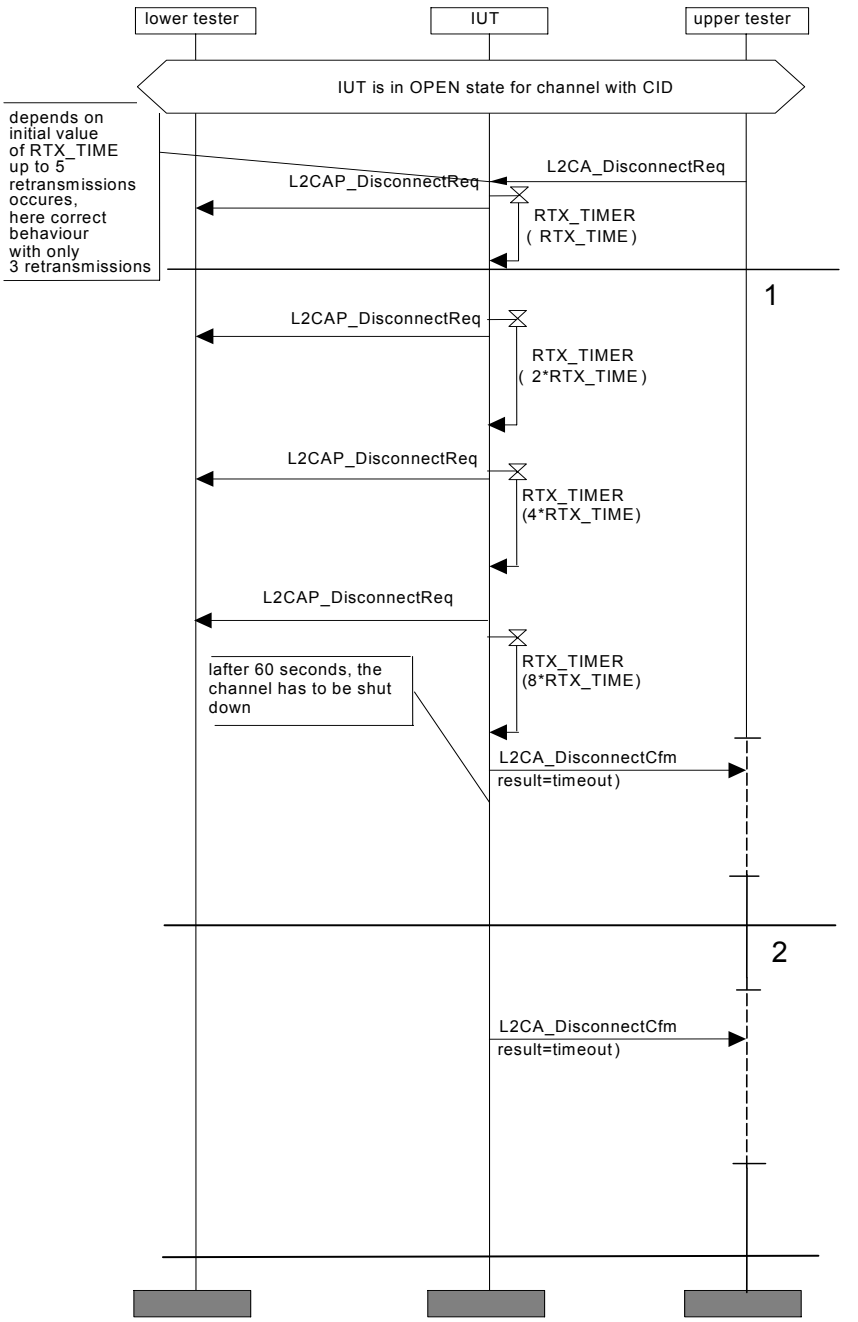
Inconclusive verdict:
N/A

Uncertainties

N/A

Notes

N/A


lower tester
IUT
upper tester
IUT is in OPEN state for channel with CID
depends on initial value of RTX_TIME up to 5 retransmissions occures, here correct behaviour with only 3 retransmissions
L2CA_DisconnectReq
L2CAP_DisconnectReq
RTX_TIMER (RTX_TIME)
1
L2CAP_DisconnectReq
RTX_TIMER (2*RTX_TIME)
L2CAP_DisconnectReq
RTX_TIMER (4*RTX_TIME)
L2CAP_DisconnectReq
RTX_TIMER (8*RTX_TIME)
lafter 60 seconds, the channel has to be shut down
L2CA_DisconnectCfm result=timeout)
2
L2CA_DisconnectCfm result=timeout)

TS ERRATA REQUEST 392 [TP/COS/TMH/BV-01]

Requested by:	Company:	E-mail address:	Date of Request:
Emilio Mira	MC	emira@cetecom.es	2002-09-16

Reference to Bluetooth Test Specifications

Test Specification:	Version:	Test Case (if applicable):	Test Case Category (if applicable):
L2CAP	**0.81 + 247 + 296 + 321**	**TP/COS/TMH/BV-01**	**B**

Page:	Section:	Paragraph:
		-

Owner of TS:	E-mail address:	Status/date (Submitted, Review, Sign off, Closed)

TS errata class: (1-not testable anymore , 2–still testable)	TS errata type: (Correction/Clarification/Editorial)	ID No.:	Approved:
-2	***Correction***	392	

Problem Statement (and / or existing text)

According to core Spec. Erratum 2276, timeout events are never sent to the upper layer. L2CATimeoutInd is removed. RTX or ETX expiration results in "RespNeg signal to the upper layer".

Remove L2CATimeoutInd from MSC.

New Test Case Proposal:

TP/COS/TMH/BV-01

Verify that the IUT is able to handle RTX timer and channel shut down.

Reference

D:3.1.5 in [1], section 4 in [3].

Initial Condition

IUT is in CLOSED state

Test Procedure

See Appendix

The time intervals between received L2CAP_ConnectReq messages are measured by the tester.
The tester compares the following time intervals.

Test Condition

N/A

Expected Outcome

Pass verdict:

The IUT sends L2CA_ConnectCfmNeg with CID = 0 and result=timeout to the upper tester.

The time measured by the tester for two following L2CAP_ConnectReq intervals is doubled for MSC Option 1. (See MSC).

Fail verdict:
The IUT does not send L2CA_ConnectCfmNeg message with CID = 0 and/or result=timeout to the tester.

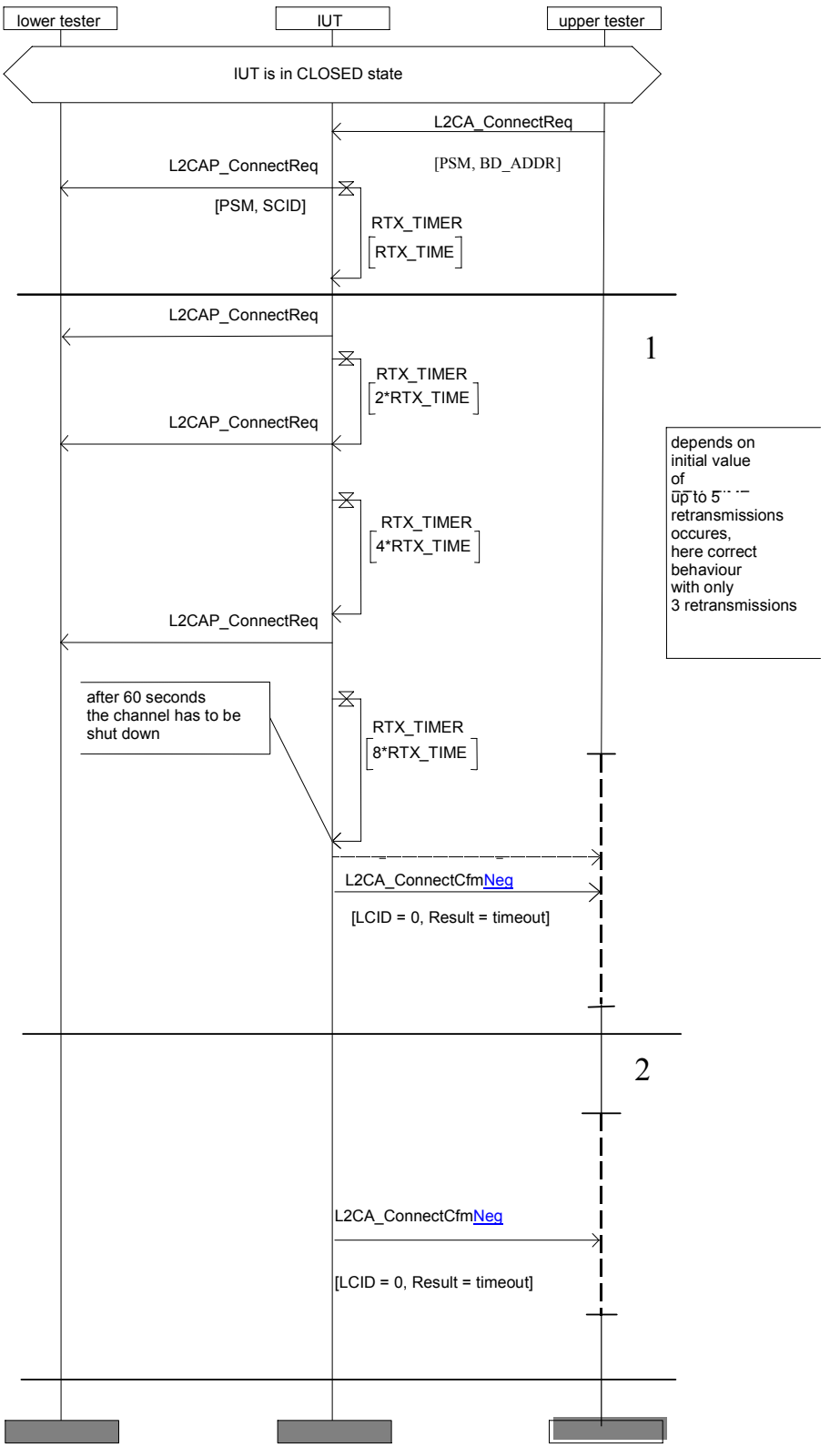
Inconclusive verdict:
N/A

Uncertainties

N/A

Notes

N/A


lower tester
IUT
upper tester
IUT is in CLOSED state
L2CA_ConnectReq
[PSM, BD_ADDR]
L2CAP_ConnectReq
[PSM, SCID]
RTX_TIMER
RTX_TIME
L2CAP_ConnectReq
1
RTX_TIMER
2*RTX_TIME
L2CAP_ConnectReq
depends on
initial value
of
up to 5
retransmissions
occures,
here correct
behaviour
with only
3 retransmissions
RTX_TIMER
4*RTX_TIME
L2CAP_ConnectReq
after 60 seconds
the channel has to be
shut down
RTX_TIMER
8*RTX_TIME
L2CA_ConnectCfmNeg
[LCID = 0, Result = timeout]
2
L2CA_ConnectCfmNeg
[LCID = 0, Result = timeout]

TS ERRATA REQUEST 392 [TPCOS/TMH/BV-02]

Requested by:	Company:	E-mail address:	Date of Request:
Emilio Mira	MC	emira@cetecom.es	2002-09-16

Reference to Bluetooth Test Specifications

Test Specification:	Version:	Test Case (if applicable):	Test Case Category (if applicable):
L2CAP	**0.81 + 296 + 309**	**TPCOS/TMH/BV-02**	**B**

Page:	Section:	Paragraph:
		-

Owner of TS:	E-mail address:	Status/date (Submitted, Review, Sign off, Closed)

TS errata class: (1-not testable anymore , 2–still testable)	TS errata type: (Correction/Clarification/Editorial)	ID No.:	Approved:
-2	***Correction***	392	

Problem Statement (and / or existing text)

According to core Spec. Erratum 2276, timeout events are never sent to the upper layer. L2CATimeoutInd is removed. RTX or ETX expiration results in "RespNeg signal to the upper layer".

Remove L2CATimeoutInd from MSC.

New Test Case Proposal

TP/COS/TMH/BV-02

Verify that the IUT is able to handle ERTX timer.

Reference

3.1.5 in [1]

Initial Condition

IUT is in CLOSED state for datachannel.

Test Procedure

See Appendix

Test Condition

N/A

Expected Outcome

Pass verdict:

The IUT sends L2CA_ConnectCfmNeg with result=pending to the upper tester.

The IUT sends L2CA_ConnectCfmNeg with result = timeout to the upper tester.

Fail verdict:

The IUT does not send L2CA_ConnectCfmNeg with result = pending or timeout to the upper tester.

Inconclusive verdict:

N/A

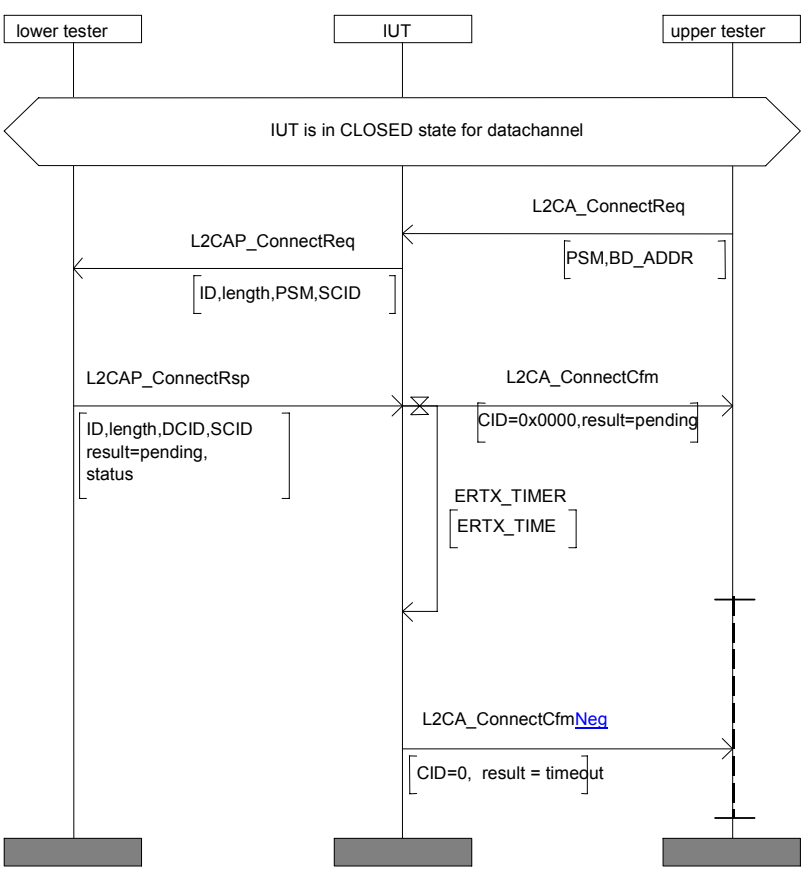
Uncertainties

N/A

Notes

N/A

TP/COS/TMH/BV-02



TS ERRATA REQUEST 212

Requested by:	Company:	E-mail address:	Date of Request:
Lan Brooks	Motorola	Lan.brooks@motorola.com	August 17 2001

Reference to Bluetooth Test Specifications

Test Specification:	Version:	Test Case (if applicable):	Test Case Category (if applicable):
Headset	**0.71+ 204 + 303**	**-**	**-**

Page:	Section:	Paragraph:
		ICS Document, TCMT

Owner of TS:	E-mail address:	Status/date (Submitted, Review, Sign off, Closed)
Siegfried Lehmann	siegfried.lehmann@cetecomusa.com	Sign off

TS errata class: (1-not testable anymore , 2–still testable)	TS errata type: (Correction/Clarification/Editorial)	ID No.:	Approved:
Class 2	***Correction***	212	

Problem Statement (and / or existing text)

Core erratum E2112

New Text Proposal

K:6.3.1 Audio Gateway Application Features

Table K:6.2: Application features (AG)

Prerequisite: K:6.1/1

Item	Feature	Reference	Status	Support
1	Incoming audio connection establishment	K:6, 4.2	M	
2	Ring (AT command)	K:6, 4.2	C.3	
3	Inband ring tone	K:6, 4.2	O	
4	Outgoing audio connection establishment	K:6, 4.3	O	
5	Audio connection release from HS	K:6, 4.4	M	
6	Audio connection release from AG	K:6, 4.4	M	
7	Audio connection transfer: AG to HS	K:6, 4.5.1	M	
8	Audio connection transfer: HS to AG	K:6, 4.5.2	M	
9	Remote audio volume control	K:6, 4.6	C.1	

Item	Feature	Reference	Status	Support
10	HS informs AG about local changes of audio volume	K:6, 4.6	O	
11	Audio volume setting storage by HS	K:6, 4.6	O	
12	Remote microphone gain control	K:6, 4.6	C.2	
13	HS informs AG about local changes of micro-phone gain	K:6, 4.6	O	
14	Microphone gain setting storage by HS	K:6, 4.6	O	
15	Connection Handling with Detach/Page	K:6, 4.8.1	M	
16	Connection handling with Park Mode	K:6, 4.8.2	O	
17	Audio connection release from external device/ terminal	K:6, 4.4	O	

C.1: Mandatory, if K:6.2/10 is supported, otherwise optional

C.2: Mandatory, if K:6.2/13 is supported, otherwise optional

C.3: Excluded , if K:6.2/3 (Inband ring tone) is supported, otherwise optional.

Comments:

Test Case Mapping Table

Item	Feature	Support HS	Support AG	Test case(s)	Test Case applicable
K:6.2/1 OR K:6.3/1	Incoming audio con-nection establishment			TP/IAC/BV-01-I [Inc Connect establ – AG]	
NOT K:6.2/3 OR K:6.3/2	Ring (AT command)			TP/IAC/BV-01-I [Inc Connect establ – AG]	
K:6.2/3 OR K:6.3/3	Inband ring tone			TP/IAC/BV-02-I [Inc Connect establ – Ring]	
K:6.2/4 OR K:6.3/4	Outgoing audio con-nection establishment			TP/OAC/BV-01-I [Outg Connect establ – HS]	
K:6.2/5 OR K:6.3/5	Audio connection release from HS			TP/ACR/BV-01-I [Connect release – HS]	

Item	Feature	Support HS	Support AG	Test case(s)	Test Case applicable
K:6.2/6 OR K:6.3/6	Audio connection release from AG			TP/ACR/BV-02-I [Connect release – AG] TP/ACR/BV-03-I [Connect release – ext terminal]	
K:6.2/7 OR K:6.3/7	Audio connection transfer: AG to HS			TP/ACT/BV-01-I [Connect transfer – HS initiated]	
K:6.2/8 OR K:6.3/8	Audio connection transfer: HS to AG			TP/ACT/BV-02-I [Connect transfer – AG initiated]	
K:6.2/9 OR K:6.3/9	Remote audio volume control			TP/RAV/BV-02-I [Speaker vol ctrl – remote]	
K:6.2/10 OR K:6.3/10	Local audio volume control			TP/RAV/BV-01-I [Speaker vol ctrl – remote/local]	
K:6.2/11 OR K:6.3/11	Audio volume setting storage			TP/RAV/BV-03-I [Speaker vol ctrl – store settings]	
K:6.2/12 OR K:6.3/12	Remote microphone gain control			TP/RAV/BV-05-I [micro gain ctrl – remote]	
K:6.2/13 OR K:6.3/13	Local microphone gain control			TP/RAV/BV-04-I [micro gain ctrl – remote/local]	
K:6.2/14 OR K:6.3/14	Microphone gain setting storage			TP/RAV/BV-06-I [micro gain ctrl – store settings]	
K:6.2/15 OR K:6.3/15	Connection Handling with Detach/Page			No specific Test Case	
K:6.2/16 OR K:6.3/16	Connection Handling with Park Mode			TP/PAR/BV-01-I [Inc Connect establ – Park mode] TP/PAR/BV-02-I [Outg Connect establ – Park mode] TP/PAR/BV-03-I [Connect transfer – Park mode]	