

# **Qualified Design Listing (QDL) Information:**

| Member Company:                          | Movon Corporation   |
|--|---|
| Declarer:                                | jeff song   |
| Design Description:                      | Bluetooth Mono Headset  |
| Qualified Design ID:                     | B014941   |
| Design Model number:                     | R2  |
| Product Type:                            | End Product   |
| Hardware version number:                 | 3.1   |
| Software version number:                 | 1.0   |
| Qualification Assessment Date:           | 12/22/2008  |
| Core Spec Version:                       | 2.1/2.1+EDR   |
| TCRL Release:                            | Core 2.1/2.1 + EDR TCRL-2008-1a (26-Jun-08)                                       |
| Location of Compliance Folder for Audit: | 6th Fl. Hyunjuk Bldg. 140-28, Samseong-Dong, Gangnam-Gu<br>Seoul, . 135-090 Korea |
| Member who will accompany the Audit:     | Taehyung Lee  |

# Declaration of Compliance (DoC)

WHEREAS, the name of the declarer listed above whose corporation, (hereinafter the "Declarer"), has executed the Bluetooth Adopters Agreement, Bluetooth Promoters Agreement or the Membership Agreement as applicable (hereinafter the "Applicable Agreement").

WHEREAS, Declarer has developed a design, which incorporates all or parts of the Interface as defined in the Applicable Agreement, as listed above, (hereinafter the "Design");

WHEREAS, based on best effort, the Declarer wishes to certify that the Design and the Interface fully complies (hereinafter "Bluetooth Compliant") and will continue to comply with all applicable provisions of the Bluetooth Specifications indicated in the attached Appendix A (hereinafter the "Specification");

WHEREAS, Design compliance with the Specification is a condition of patent licenses applicable to the Design granted under the Applicable Agreement;

WHEREAS, the Declarer issues this Declaration of Compliance, in order to certify that the Design is gualified as a Bluetooth Compliant Design;

WHEREAS, the Declarer is entrusted by the Bluetooth SIG, Inc., with the authority to list Designs as qualified;

WHEREAS, the Compliance Folder is the set of evidence required to demonstrate compliance of the Design to the Specification, and whereas the Compliance Folder is maintained by the Member.

FURTHERMORE, Declarer further undertakes and certifies that this Declaration of Compliance constitutes an essential element of the Design Qualification as required by the compliance requirements of the Specification, and acknowledges that the release of a Design which does not fully comply with all applicable provisions of the Specification may cause loss or harm to Fellow Adopters ("Fellow Adopters" as defined in the Specification).

NOW THEREFORE, the Declarer undertakes and certifies that the Design, as manufactured and marketed, fully complies with all applicable provisions of the Bluetooth Specifications indicated in Appendix A.

# Supplier Declaration of Conformity (SDoC)

WHEREAS, the Declarer undertakes and certifies that the Design, as manufactured and marketed, fully complies with all applicable requirements for the declared product type (as shown above) as required by the compliance requirements of the Specification and provisions of the current version of the Bluetooth Qualification Program Reference Document (PRD) and its Addendum (if applicable).

WHEREAS, the Declarer acknowledges that the Bluetooth SIG, Inc. gualification tools and related programs are provided AS IS and that the Bluetooth SIG. Inc. does not accept any liability for Member's use of such.

THEREFORE, the Declarer hereby recognizes that (i) license rights granted under the Applicable Agreement for this Design

only apply if this Design is compliant with the Requirements of the Bluetooth Qualification Program Reference Document (PRD), and (ii) hareby acknowleges a clear undertaking to comply with PRD policies (including QEP), and (iii) Declarer and Duly Authorized Officer of the Member Company authorizes Bluetooth SIG. Inc., to audit the qualification materials and any other materials necessary to verify compliance to the Qualification Requirements as specified in the Qualification Auditing. Surveillance and Enforcement (QEP) Policy document.

THAVE READ THE ABOVE DECLARATION AND HEREBY AGREE TO ITS TERMS AND CONDITIONS.

ATTESTED BY DECLARER, AUTHORIZED BY A DULY AUTHORIZED OFFICER OF THE MEMBER COMPANY

A.12. 23 By: [Date] Declarer [Duly Authorized Officer of Member Company ] 2008 12.23 [Date]

# Combined QD ID(s) Claimed

Combined QD ID(s): [ B013295 B013588 ]

# **Core PICS Information**

Summary ICS External to all Layers

# Controller Core Specification

|      | Table 21: Controller Core Specification                    |                                       |        |                          |  |  |  |
|------|--|---------------------------------------|--------|--------------------------|--|--|--|
| Item | Capability   | System<br>Spec<br>Reference           | Status | Support<br>[Yes] or [No] |  |  |  |
| 5    | Core Spec Version 2.1                                      | N/A                                   | M.1    | Х                        |  |  |  |
| 6    | Core Spec Version 2.1 + EDR (Ver. 2.1 + EDR)               | N/A                                   | M.1    | Х                        |  |  |  |
| 7    | Core Specification Addendum 1 (CSA1), Adopted 26 June 2008 | Volume 0,<br>Part B<br>Section<br>4.2 | C.2    | Х                        |  |  |  |

For implementations supporting Ver. 2.0 + EDR or Ver 2.1 + EDR, the Supplier shall indicate support for one or more Enhanced Data Rate features (per specification Volume 0, Part B) in Table 22.

For implementations supporting Ver. 2.0 or Ver 2.1, the Supplier may indicate support for one or more Enhanced Data Rate features in Table 22.

M.1 Mandatory to choose at least one version from Table 21.

C.2: Optional if one of 2-1/5 or 2-1/6 (Core Spec Version 2.1 / 2.1 + EDR) is supported; otherwise excluded

#### **Table 31: Host Core Specification**

| Item | Capability  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---|--------------------------|--------|--------------------------|
| 2    | Core Spec Version 1.2   |                          | C.1    | Х                        |
| 3    | Core Spec Version 2.0   |                          | C.1    | Х                        |
| 4    | Core Spec Version 2.0 + EDR                                       |                          | C.1    | Х                        |
| 5    | Core Spec Version 2.1   |                          | C.1    | Х                        |
| 6    | Core Spec Version 2.1 + EDR                                       |                          | C.1    | Х                        |
| 7    | Core Spec Addendum (CSA) 1, Volume 3, Part A Adopted June 26 2008 |                          | C.2    | Х                        |

C.1: Mandatory to select only one of items 31/2 – 31/6 (Core Spec Ver 1.2, Ver.2.0, Ver. 2.0 + EDR, Ver. 2.1, Ver. 2.1 + EDR) C.2: Optional if one of 31/3, 31/4, 31/5, or 31/6 (Core Spec Version 2.0 / 2.0 + EDR / 2.1 / 2.1 + EDR) is supported; otherwise excluded.

#### **EDR Features**

# Table 22: EDR Features

Prerequisite: 21/3 OR 21/4 OR 21/5 OR 21/6 (Ver. 2.0 or Ver. 2.0 + EDR or Ver. 2.1 or 2.1 + EDR)

| Item | Capability                                    | System<br>Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---|-----------------------------|--------|--------------------------|
| 1    | EDR for asynchronous transports (single slot) | 2.0+EDR,<br>2.1+EDR         | C.1    | Х                        |
| 2    | EDR for asynchronous transports (multi-slot)  | 2.0+EDR,                    | C.1    | Х                        |

|   |                                | 2.1+EDR                                 |             |   |   |
|---|--------------------------------|---|-------------|---|---|
| 3 | EDR for synchronous transports | 2.0+EDR,<br>2.1+EDR                     | C.1,<br>C.3 | Х |   |
| 4 | EDR for synchronous transports | CSA1:<br>Volume 0,<br>Part B<br>Section | C.1,<br>C.2 | 2 | Х |

C.1: Mandatory to support at least one of the EDR features if supporting 21/6 (Core 2.1+EDR) else Optional if 21/5 ELSE excluded. C.2: Pre-requisite 21/7 (CSA1)

C.3: Excluded if 22/4 is supported. (Cannot support both 22/3 and 22/4)

Product Type External to All Layers

#### **Product Types**

#### **Table 1: Product Types**

Please confirm the Product Type that was selected when Creating New Project

| Item | Capability             | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|------------------------|--------------------------|--------|--------------------------|
| 1    | End Product            | N/A                      | M.1    | Х                        |
| 2    | Component (Tested)     | N/A                      | M.1    | Х                        |
| 3    | Component (Non-Tested) | N/A                      | M.1    | Х                        |
| 4    | Host Subsystem         | N/A                      | M.1    | Х                        |
| 5    | Controller Subsystem   | N/A                      | M.1    | Х                        |
| 6    | Profile Subsystem      | N/A                      | M.1    | Х                        |
| 7    | Test Equipment         | N/A                      | M.1    | Х                        |
| 8    | Development Tool       | N/A                      | M.1    | Х                        |

*M.1: Must choose one and only one Product Type.* 

Radio Annex for Test Spec. Vol 2, Part A

#### **1.3.1 General Information**

| Table 1: RF Capabilities |                                   |                          |        |                          |  |  |
|--------------------------|-----------------------------------|--------------------------|--------|--------------------------|--|--|
| Item                     | Capability                        | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |  |  |
| 1                        | Power Class = 1                   | RF, 3                    | M.1    | Х                        |  |  |
| 2                        | Power Class = 2                   | RF, 3                    | M.1    | Х                        |  |  |
| 3                        | Power Class = 3                   | RF, 3                    | M.1    | Х                        |  |  |
| 4                        | Power Control                     | RF, 3                    | C.1    | Х                        |  |  |
| 5                        | 1-slot packets supported          | RF, 3.3                  | Μ      | Х                        |  |  |
| 6                        | 3-slot packets supported          | RF, 3.3                  | 0      | Х                        |  |  |
| 7                        | 5-slot packets supported          | RF, 3.3                  | 0      | Х                        |  |  |
| 8                        | 79 Channels                       | RF, 2                    | Μ      | Х                        |  |  |
| 9                        | Support for GFSK modulation       | RF, 3.1                  | Μ      | Х                        |  |  |
| 10                       | Support for pi/4-DQPSK modulation | RF, 3.2                  | C.2    | Х                        |  |  |
| 11                       | Support for 8DPSK modulation      | RF, 3.3                  | C.3    | Х                        |  |  |

M.1: Must choose One and only One Power Class

C.1: Mandatory to support IF Power Class 1 is supported, ELSE Optional

C.2: Mandatory IF SUM (21/4) OR SUM (21/6) is claimed, Optional IF SUM (21/3) OR SUM (21/5) is claimed, Excluded otherwise.

C.3: Mandatory IF SUM (21/4) OR SUM (21/6) is claimed, Optional IF RF(1/8) AND (SUM (21/3) OR SUM (21/5)) are claimed

Baseband Annex for Test Spec. Vol 2, Part B

## **Physical Channel**

# **Table 1: Physical Channel**

| Item | Capability                                | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---|--------------------------|--------|--------------------------|
| 1    | Support frequency band and 79 RF channels | BB, 2.1                  | М      | Х                        |
| 2    | Adaptive Frequency Hopping Kernel         | BB, 2.6                  | Μ      | Х                        |

### Table 1a: Modulation Schemes

| Item | Capability                                   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--|--------------------------|--------|--------------------------|
| 1    | Basic Data Rate, 1 Mbps payload data rate    | RF, 3.1                  | Μ      | Х                        |
| 2    | Enhanced Data Rate, 2 Mbps payload data rate | RF, 3.2                  | C.1    | Х                        |
| 3    | Enhanced Data Rate, 3 Mbps payload data rate | RF, 3.2                  | C.2    | Х                        |

C.1 Mandatory IF SUMMARY(21/6) is claimed, Optional IF SUMMARY(21/5) is claimed

C.2 Mandatory IF SUMMARY(21/6) is claimed, Optional IF BB(1a/2) AND SUMMARY(21/5) are claimed

# Physical Links

# Table 2: Link Types

| Item | Capability                               | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--|--------------------------|--------|--------------------------|
| 1    | Support of ACL link                      | BB, 5.2                  | Μ      | Х                        |
| 2    | Support of SCO link                      | BB, 5.4                  | 0      | Х                        |
| 3    | Support of eSCO link                     | BB, 4.3                  | 0      | Х                        |
| 4    | Support of Enhanced Data Rate ACL links  | BB, 6.5.4                | C.1    | Х                        |
| 5    | Support of Enhanced Data Rate eSCO links | BB, 6.5.3                | C.2    | Х                        |

C.1 Mandatory IF SUMMARY(22/1) OR SUMMARY(22/2) is claimed, Optional IF SUMMARY(21/5) OR SUMMARY(21/6) is claimed C.2 Mandatory IF SUMMARY(22/3) is claimed, Optional IF SUMMARY(21/5) OR SUMMARY(21/6) is claimed C.2 Mandatory IF SUMMARY(22/3) is claimed, Optional IF SUMMARY(21/5) OR SUMMARY(21/6) is claimed

#### Table 3: SCO Link Support

Prerequisite for Items (3/5-8):(2/3) (Support of eSCO link) Prerequisite for Items (3/1-4):(2/2) (Support of SCO link)

| Item | Capability                        | System Spec | Status  | Support   | Values        |     |
|------|-----------------------------------|-------------|---------|-----------|---------------|-----|
|      | Reference [Yes] or [No]           |             | Allowed | Supported |               |     |
| 1    | SCO links to same Slave           | BB, 4.3     | C.1     | Х         | (1,2,3)       | N/A |
| 2    | SCO links to different Slaves     | BB, 4.3     | 0       | Х         | (1,2,3)       | N/A |
| 3    | SCO links from same Master        | BB, 4.3     | C.1     | Х         | (1,2,3)       | N/A |
| 4    | SCO links from different Masters  | BB, 4.3     | 0       | Х         | (> 2)         |     |
| 5    | eSCO links to same Slave          | BB, 4.2     | C.2     | Х         | (1,2,3,4,5,6) | N/A |
| 6    | eSCO links to different Slaves    | BB, 4.2     | 0       | Х         | (2,3,4,5)     | N/A |
| 7    | eSCO links from same Master       | BB, 4.2     | C.2     | Х         | (1,2,3,4,5,6) | N/A |
| 8    | eSCO links from different Masters | BB, 4.2     | 0       | Х         | (2,3,4,5)     | N/A |

C.2: Mandatory to support at least One link (3/5 or 3/7)

C.1: Mandatory to support at least One link (3/1 3/3)

#### **Packet Types**

|      | Table 4: Common Packet Types |             |        |         |  |  |
|------|------------------------------|-------------|--------|---------|--|--|
| Item | Capability                   | System Spec | Status | Support |  |  |

|   |                             | Reference  |   | [Yes] or [No] |
|---|-----------------------------|--|---|---------------|
| 1 | Support of ID packet type   | BB, 6.5.1<br>BB,6.5.1.1                              | Μ | Х             |
| 2 | Support of NULL packet type | BB, 6.5.1<br>BB, 6.5.1.2                             | Μ | Х             |
| 3 | Support of POLL packet type | BB, 6.5.1<br>BB, 6.5.1.3                             | Μ | Х             |
| 4 | Support of FHS packet type  | BB, 6.5.1<br>BB,6.5.1.4                              | Μ | Х             |
| 5 | Support of DM1 packet type  | BB, 6.5.1<br>BB, 6.5.1.5<br>BB, 6.5.4<br>BB, 6.5.4.1 | Μ | Х             |

### Table 5: ACL Packet Types

| Item | Capability                  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|-----------------------------|--------------------------|--------|--------------------------|
| 1    | Support of DH1 packet type  | BB, 6.5.4<br>BB,6.5.4.2  | Μ      | Х                        |
| 2    | Support of DM3 packet type  | BB, 6.5.4<br>BB,6.5.4.3  | 0      | Х                        |
| 3    | Support of DH3 packet type  | BB, 6.5.4<br>BB,6.5.4.4  | 0      | Х                        |
| 4    | Support of DM5 packet type  | BB, 6.5.4<br>BB,6.5.4.5  | 0      | Х                        |
| 5    | Support of DH5 packet type  | BB, 6.5.4<br>BB,6.5.4.6  | 0      | Х                        |
| 6    | Support of AUX1 packet type | BB, 6.5.4<br>BB,6.5.4.7  | 0      | Х                        |

# Table 5a: Enhanced Data Rate ACL Packet Types

# Prerequisite: 2/4 (Support of Enhanced Data Rate ACL Links)

| Item | Capability                | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---------------------------|--------------------------|--------|--------------------------|
| 1    | Support 2-DH1 packet type | BB, 6.5.4.8              | C.1    | Х                        |
| 2    | Support 2-DH3 packet type | BB, 6.5.4.9              | C.2    | Х                        |
| 3    | Support 2-DH5 packet type | BB, 6.5.4.10             | C.2    | Х                        |
| 4    | Support 3-DH1 packet type | BB, 6.5.4.11             | C.3    | Х                        |
| 5    | Support 3-DH3 packet type | BB, 6.5.4.12             | C.4    | Х                        |
| 6    | Support 3-DH5 packet type | BB, 6.5.4.13             | C.5    | Х                        |

C.1 Mandatory IF SUMMARY(22/1) OR SUMMARY(22/2) is claimed, Optional IF BB(1a/2) is claimed

C.2 Mandatory IF SUMMARY(22/2) is claimed, Optional IF BB(1a/2) is claimed C.3 Mandatory IF SUMMARY(22/1) OR SUMMARY(22/2) is claimed, Optional IF BB(1a/3) is claimed C.4 Mandatory IF SUMMARY(22/2) is claimed, Optional IF BB(5a/2) AND BB(5a/4) are claimed

C.5 Mandatory IF SUMMARY(22/2) is claimed, Optional IF BB(5a/3) AND BB(5a/4) are claimed

# Table 6: SCO and eSCO Packet Types

Prerequisite for Items (6/1-4):(2/2) (Support of SCO link) Prerequisite for Items (6/5-7):(2/3) (Support of eSCO link)

| Item | Capability                 | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|----------------------------|--------------------------|--------|--------------------------|
| 1    | Support of HV1 packet type | BB, 6.5.2<br>BB,6.5.2.1  | C.1    | Х                        |
| 2    | Support of HV2 packet type | BB, 6.5.2<br>BB,6.5.2.2  | 0      | Х                        |
| 3    | Support of HV3 packet type | BB, 6.5.2<br>BB,6.5.2.3  | 0      | Х                        |
| 4    | Support of DV packet type  | BB, 6.5.2<br>BB,6.5.2.4  | C.1    | Х                        |
| 5    | Support of EV3 packet type | BB, 6.5.3<br>BB,6.5.3.1  | C.2    | Х                        |
| 6    | Support of EV4 packet type | BB, 6.5.3<br>BB,6.5.3.2  | 0      | Х                        |
| 7    | Support of EV5 packet type | BB, 6.5.3<br>BB,6.5.3.3  | 0      | Х                        |

# Table 6a: Enhanced Data Rate eSCO Packet Types

Prerequisite: 2/5 (Support of Enhanced Data Rate eSCO links)

| Item | Capability                | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---------------------------|--------------------------|--------|--------------------------|
| 1    | Support 2-EV3 packet type | BB, 6.5.3.4              | C.1    | Х                        |
| 2    | Support 2-EV5 packet type | BB, 6.5.3.5              | C.2    | Х                        |
| 3    | Support 3-EV3 packet type | BB, 6.5.3.6              | C.3    | Х                        |
| 4    | Support 3-EV5 packet type | BB, 6.5.3.7              | C.4    | Х                        |

C.1 Mandatory IF SUMMARY(22/3) is claimed, Optional IF BB(1a/2) is claimed

C.2 Optional IF BB(1a/2) is claimed

C.3 Mandatory IF SUMMARY, 2-2/3 is supported AND SUMMMARY, 2-2/4 is NOT supported; ELSE Optional IF BB, 1a/3 is supported; Excluded otherwise.

C.4 Optional IF BB(1a/3) is claimed

#### **Access Procedures**

#### Table 7: Page Procedures

| Item | Capability                                | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---|--------------------------|--------|--------------------------|
| 1    | Support paging                            | BB, 8.3.2                | М      | Х                        |
| 2    | Support page scan                         | BB, 8.3.1                | Μ      | Х                        |
| 3    | (Intentionally left blank)                |                          |        | Х                        |
| 4    | (Intentionally left blank)                |                          |        | Х                        |
| 5    | Supports Interlaced Scan during page scan | BB, 2.4                  | 0      | Х                        |

# Table 8: Paging Schemes

| Item | Capability                   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|------------------------------|--------------------------|--------|--------------------------|
| 1    | Supports mandatory scan mode | BB, 8.3<br>BB, table 6.5 | Μ      | Х                        |

# Table 9: Paging Modes

| Item | Capability              | System Spec<br>Reference   | Status | Support<br>[Yes] or [No] |
|------|-------------------------|----------------------------|--------|--------------------------|
| 1    | Supports paging mode R0 | BB, 8.3.1<br>BB, table 8.1 | C.1    | Х                        |
| 2    | Supports paging mode R1 | BB, 8.3.1<br>BB, table 8.1 | C.1    | Х                        |
| 3    | Supports paging mode R2 | BB, 8.3.1<br>BB, table 8.1 | C.1    | Х                        |

C.1: At least One of the paging scan modes Must be supported

#### **Table 9b: Paging Train Repetition**

| Item | Capability            | System Spec<br>Reference   | Status | Support<br>[Yes] or [No] |
|------|-----------------------|----------------------------|--------|--------------------------|
| 1    | Supports Npage >= 1   | BB, 8.3.2<br>BB, table 8.2 | 0      | Х                        |
| 2    | Supports Npage >= 128 | BB, 8.3.2<br>BB, table 8.2 | 0      | Х                        |
| 3    | Supports Npage >= 256 | BB, 8.3.2<br>BB, table 8.2 | Μ      | Х                        |

Note: The master should use Npage  $\geq$  256 unless it knows what SR mode the slave uses.

# Table 10: Inquiry Procedures

| Item | Capability                                 | System<br>Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--|-----------------------------|--------|--------------------------|
| 1    | Support inquiry                            | BB, 8.4.2                   | 0      | Х                        |
| 2    | Inquiry scan with first FHS                | BB, 8.4.2                   | 0      | Х                        |
| 3    | (Intentionally left blank)                 |                             |        | Х                        |
| 4    | (Intentionally left blank)                 |                             |        | Х                        |
| 5    | Supports the dedicated inquiry access code | BB, 6.3.1                   | 0      | Х                        |
|      |  |                             |        |                          |

| 6 | Supports interlaced Scan during inquiry scan | BB, 2.5                | 0 | Х |
|---|--|------------------------|---|---|
| 7 | Extended Inquiry Response                    | BB, 8.4.2,<br>BB 8.4.3 | 0 | Х |

## **Networking Capabilities**

| Table 11: Piconet Capabilities |                                 |                        |               |         |               |     |  |
|--------------------------------|---------------------------------|------------------------|---------------|---------|---------------|-----|--|
| Item                           | Capability                      | System Spec            |               | Val     | ues           |     |  |
|                                | Reference                       |                        | [Yes] or [No] | Allowed | Supported     |     |  |
| 1                              | Broadcast messages              | BB, 7.6.1<br>BB, 7.6.5 | 0             | Х       | (N/A)         |     |  |
| 2                              | Point-to-multipoint connections | BB, 1                  | 0             | Х       | (2,3,4,5,6,7) | N/A |  |

#### Table 12: Scatternet Capabilities

| Item | Capability  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---|--------------------------|--------|--------------------------|
| 1    | Act as Master in one piconet and Slave in another piconet | BB, 1                    | 0      | Х                        |
| 2    | Act as Slave in more than one piconet                     | BB, 1                    | 0      | Х                        |

#### **Synchronous Data Formats**

# Table 13: Synchronous Coding Schemes

Prerequisite: 2/2 (SCO link support)

| Item | Capability                   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|------------------------------|--------------------------|--------|--------------------------|
| 1    | A-law                        | BB, 9.1                  | 0      | Х                        |
| 2    | u-law                        | BB, 9.1                  | 0      | Х                        |
| 3    | CVSD                         | BB, 9.2                  | 0      | Х                        |
| 4    | Transparent Synchronous Data | BB, 5.4<br>BB, 5.5       | 0      | Х                        |

# **Erroneous Data Reporting**

#### Table 14: Erroneous Data Reporting Support Item Capability System Spec Status Reference [Yes] or [No] Erroneous Data Reporting for SCO 1 BB 7.7 C.1 Х C.2 2 Erroneous Data Reporting for eSCO BB 7.7 Х

C.1: Optional IF ((SUM ICS: 21/5 OR SUM ICS: 21/6) AND HCI: 9/6) is supported, ELSE excluded.

C.2: Optional IF ((SUM ICS: 21/5 OR SUM ICS: 21/6) AND HCI: 9/7) is supported, ELSE excluded.

#### Persistent Sniff

|      | Table 15: This table is intentionally left blank: DO NOT USE |                          |        |                          |  |  |
|------|--|--------------------------|--------|--------------------------|--|--|
| Item | Capability   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |  |  |
| 1    | (Intentionally left blank)                                   |                          |        | Х                        |  |  |

# Non-flushable Packet Boundary Flag

# Table 16: Non-flushable Packet Boundary Flag

| Item | Capability                                 | System<br>Spec<br>Reference        | Status | Support<br>[Yes] or [No] |
|------|--|------------------------------------|--------|--------------------------|
| 1    | Support Non-flushable Packet Boundary Flag | Vol 2, Part<br>B, Section<br>7.6.3 | C.1    | Х                        |

C.1 MANDATORY IF ((SUM ICS: 21/5 OR SUM ICS 21/6) AND HCI: 12/10) is supported, ELSE OPTIONAL IF (SUM ICS: 21/5 OR SUM ICS: 21/6) is supported, ELSE excluded.

# **Connection States**

**Table 17: Connection States** 

| Item | Capability           | System<br>Spec<br>Reference          | Status | Support<br>[Yes] or [No] |
|------|----------------------|--------------------------------------|--------|--------------------------|
| 1    | Sniff Subrating Mode | Vol 2, Part<br>C, Section<br>4.5.3.3 | C.1    | Х                        |

C.1 MANDATORY IF ((SUM ICS: 21/5 OR SUM ICS 21/6) AND LMP: 2/8) is supported, ELSE OPTIONAL IF (SUM ICS: 21/5 OR SUM ICS: 21/6) is supported, ELSE excluded.

Link Manager Annex for Test Spec. Vol 2, Part C

### **General Response Messages**

|      | Table 1: Response Messages |                          |        |                          |  |  |
|------|----------------------------|--------------------------|--------|--------------------------|--|--|
| Item | Capability                 | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |  |  |
| 1    | Accept message             | LMP, 2.7                 | М      | Х                        |  |  |
| 2    | Reject message             | LMP, 2.7                 | М      | Х                        |  |  |

. . . .

# **Supported Features (General Statement)**

# **Table 2: Supported Features**

Note: This table refers to the values in the LM feature request message. It is used within this PICS as a general statement that will be used as prerequisite for other tables.

| Item | Capability                       | System Spec<br>Reference         | Status | Support<br>[Yes] or [No] |
|------|----------------------------------|----------------------------------|--------|--------------------------|
| 1    | 3-slot packets                   | LMP, 4.1.10,<br>LMP,3.3          | 0      | X                        |
| 2    | 5-slot packets                   | LMP, 4.1.10,<br>LMP, 3.3         | 0      | Х                        |
| 3    | Encryption                       | LMP, 4.2.5,<br>LMP, 3.3          | C.5/M  | Х                        |
| 4    | Slot offset                      | LMP, 4.4.1,<br>LMP, 3.3          | 0      | Х                        |
| 5    | Timing accuracy                  | LMP, 4.3.1,<br>LMP, 3.3          | 0      | Х                        |
| 6    | Role switch (Master/Slave)       | LMP,4.4.2,<br>LMP, 3.3           | 0      | Х                        |
| 7    | Hold mode                        | LMP,4.5.1,<br>LMP, 3.3           | 0      | Х                        |
| 8    | Sniff mode                       | LMP,4.5.3,<br>LMP, 3.3           | 0      | Х                        |
| 9    | Park mode                        | LMP,4.5.2,<br>LMP, 3.3           | 0      | Х                        |
| 10   | Power Control                    | RF, 3<br>LMP, 4.1.3,<br>LMP, 3.3 | C.1    | Х                        |
| 11   | Channel quality driven data rate | LMP, 4.1.7,<br>LMP, 3.3          | 0      | Х                        |
| 12   | SCO link                         | LMP, 4.6.1,<br>LMP, 3.3          | 0      | Х                        |
| 13   | RSSI                             | LMP, 3.3                         | 0      | Х                        |
| 14   | Broadcast encryption             | LMP, 4.2.5,<br>LMP, 3.3          | 0      | Х                        |
| 15   | eSCO link                        | LMP, 4.6.2                       | 0      | Х                        |
| 16   | Adaptive frequency hopping       | LMP, 4.1.4                       | Μ      | Х                        |
| 17   | Enhanced Data Rate ACL           | BB, 6.5.4<br>LMP, 3.3            | C.2    | Х                        |
| 18   | Enhanced Data Rate eSCO          | BB, 6.5.3                        | C.3    | Х                        |

|    |                | LMP, 3.3  |     |   |
|----|----------------|-----------|-----|---|
| 19 | Simple Pairing | LMP 4.2.7 | C.4 | Х |

C.1: Mandatory IF (RF:1/1) supported, ELSE Optional

C.2 Mandatory IF (SUMMARY:22/1) OR (SUMMARY:22/2) is claimed, Optional IF (SUMMARY:21/5) OR (SUMMARY:21/6) is claimed C.3 Mandatory IF (SUMMARY:22/3) is claimed, Optional IF (SUMMARY:21/5) OR (SUMMARY:21/6) is claimed C.4 Mandatory IF (SUMMARY 2-1/5 OR SUMMARY 2-1/6) is claimed, ELSE Excluded.

C.5 Optional IF (SUMMARY 2-1/1 OR SUMMARY 2-1/2 OR SUMMARY 2-1/3 OR SUMMARY 2-1/4) ELSE Mandatory

# Authentication

|      | Table 3: Authentication                             |                          |        |                          |  |  |
|------|---|--------------------------|--------|--------------------------|--|--|
| Item | Capability  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |  |  |
| 1    | Initiate authentication before connection completed | LMP, 4.2.1               | 0      | Х                        |  |  |
| 2    | Initiate authentication after connection completed  | LMP, 4.2.1               | 0      | Х                        |  |  |
| 3    | Respond to authentication request                   | LMP, 4.2.1               | М      | Х                        |  |  |

# Pairing

# **Table 4: Pairing**

| Item | Capability  | System Spec<br>Reference      | Status | Support<br>[Yes] or [No] |
|------|---|-------------------------------|--------|--------------------------|
| 1    | Initiate pairing before connection completed            | LMP, 4.2.2                    | 0      | Х                        |
| 2    | Initiate pairing after connection completed             | LMP, 4.2.2                    | 0      | Х                        |
| 3    | Respond to pairing request                              | LMP, 4.2.2.1,<br>LMP, 4.2.2.3 | М      | Х                        |
| 4    | Use fixed PIN and request responder to initiator switch | LMP, 4.2.2.2                  | C.1    | Х                        |
| 5    | Use variable PIN  | LMP, 4.2.2.2                  | C.1    | Х                        |
| 6    | Accept initiator to responder switch                    | LMP, 4.2.2.2                  | C.2    | Х                        |

C.1: Mandatory to support at least One, (LMP:4/4) OR (LMP:4/5) OR both

C.2: Mandatory IF (LMP: 4/5) AND (LMP:4/1), OR (LMP: 4/5) AND (LMP:4/2) ) is supported.

# Link Keys

# **Table 5: Link Keys**

| Item | Capability                             | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--|--------------------------|--------|--------------------------|
| 1    | Creation of link key - Unit Key        | LMP, 4.2.2.4             | C.1    | Х                        |
| 2    | Creation of link key - Combination Key | LMP, 4.2.2.4             | C.1    | Х                        |
| 3    | Initiate change of link key            | LMP, 4.2.3               | 0      | Х                        |
| 4    | Accept change of link key              | LMP, 4.2.3               | Μ      | Х                        |
| 5    | (Intentionally left blank)             |                          |        | Х                        |
| 6    | (Intentionally left blank)             |                          |        | Х                        |
| 7    | Accept pairing with Unit Key           | LMP, 4.2.2.4             | 0      | Х                        |

C.1: Mandatory to support at least One - either (LMP:5/1) OR (LMP:5/2).

# Encryption

# **Table 6: Encryption**

# Prerequisite: 2/3 (Encryption supported)

| Item | Capability                  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|-----------------------------|--------------------------|--------|--------------------------|
| 1    | Initiate encryption         | LMP, 4.2.5.1             | C.1    | Х                        |
| 2    | Accept encryption requests  | LMP, 4.2.5.1             | M.1    | Х                        |
| 3    | (Intentionally left blank)  |                          |        | Х                        |
| 4    | (Intentionally left blank)  |                          |        | Х                        |
| 5    | Key size negotiation        | LMP, 4.2.5.2             | M.1    | Х                        |
| 6    | Start encryption, as master | LMP, 4.2.5.3             | M.1    | Х                        |
| 7    | Accept start of encryption  | LMP, 4.2.5.3             | M.1    | Х                        |
| 8    | Stop encryption, as master  | LMP, 4.2.5.4             | M.1    | Х                        |
| 9    | Accept stop of encryption   | LMP, 4.2.5.4             | M.1    | Х                        |

| 10 | Encryption Pause/Resume | LMP 4.2.5.3 | M.1 | Х |
|----|-------------------------|-------------|-----|---|
|    |                         |             |     |   |

M.1: Mandatory IF (LMP:2/3) - (Encryption) is supported.

C.1 Mandatory IF (SUMMARY 2-1/5 OR SUMMARY 2-1/6) is claimed, ELSE Optional.

#### Information Requests

# **Table 7: Clock Offset Information**

| Item | Capability                       | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|----------------------------------|--------------------------|--------|--------------------------|
| 1    | Request clock offset information | LMP, 4.3.2               | 0      | Х                        |
| 2    | Respond to clock offset requests | LMP, 4.3.2               | Μ      | Х                        |

# Table 8: Slot Offset Information

#### Prerequisite: 2/4 (Slot offset)

| Item | Capability                   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|------------------------------|--------------------------|--------|--------------------------|
| 1    | Send slot offset information | LMP, 4.4.1               | C.1    | Х                        |

C.1: Mandatory IF (LMP:13/1) - (Master/Slave switch) supported, ELSE Optional.

#### **Table 9: Timing Accuracy Information**

Prerequisite: 2/5 (Timing accuracy)

| Item | Capability                                      | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---|--------------------------|--------|--------------------------|
| 1    | Request timing accuracy information             | LMP, 4.3.1               | 0      | Х                        |
| 2    | Respond to timing accuracy information requests | LMP, 4.3.1               | M.1    | Х                        |
|      |   |                          |        |                          |

M.1: Mandatory IF (LMP:2/5) - (Timing Accuracy) supported

#### Table 10: LM Version Information

| Item | Capability                                 | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--|--------------------------|--------|--------------------------|
| 1    | Request LM version information             | LMP, 4.3.3               | 0      | Х                        |
| 2    | Respond to LM version information requests | LMP, 4.3.3               | Μ      | Х                        |

#### **Table 11: Feature Support**

| Item | Capability                             | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--|--------------------------|--------|--------------------------|
| 1    | Request supported features             | LMP, 4.3.4               | C.1    | Х                        |
| 2    | Respond to supported features requests | LMP, 4.3.4               | Μ      | Х                        |
| 3    | Request extended features mask         | LMP, 4.3.4               | C.2    | Х                        |
| 4    | Respond to extended features Request   | LMP, 4.3.4               | C.2    | Х                        |

C.1: Mandatory IF any of the Optional features in (LMP:2/1-3), (LMP:2/5), (LMP:2/7-12), (LMP:2/14-16), (LMP:26/1) is requested by the IUT, ELSE Optional.

C.2 Mandatory IF a feature requiring another features page is supported, ELSE Optional.

#### **Table 12: Name Information** Item Capability System Spec Status Support Reference [Yes] or [No] Request name information LMP, 4.3.5 Ο 1 Х Respond to name requests 2 LMP, 4.3.5 Μ Х

#### Link Handling

# Table 13: Role Switch

Prerequisite: 2/6 (Role switch)

| Item | Capability                          | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |  |
|------|-------------------------------------|--------------------------|--------|--------------------------|--|
| 1    | Request Master Slave switch         | LMP, 4.4.2               | 0      | Х                        |  |
| 2    | Accept Master Slave switch requests | LMP, 4.4.2               | M.1    | Х                        |  |
|      |                                     |                          |        |                          |  |

M.1 Mandatory IF LMP:(2/6) - (Role Switch) supported

#### Table 14: Detach

| Item | Capability | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|------------|--------------------------|--------|--------------------------|
|      |            |                          |        |                          |

| 1 Detach connection | LMP, 4.1.2 | М | Х |  |
|---------------------|------------|---|---|--|
|---------------------|------------|---|---|--|

# Table 14a: Setting Up and Removing Enhanced Data Rate ACL Connection

| Item | Capability               | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--------------------------|--------------------------|--------|--------------------------|
| 1    | Enter Enhanced Data Rate | LMP, 4.1.11              | C.1    | Х                        |
| 2    | Exit Enhanced Data Rate  | LMP, 4.1.11              | C.1    | Х                        |

C.1 Mandatory IF (LMP:2/17) supported, ELSE Excluded.

## Table 14b: Setting Up and Removing Enhanced Data Rate eSCO Connection

| Item | Capability   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--|--------------------------|--------|--------------------------|
| 1    | Enter and Exit eSCO Using Enhanced Data Rate Packets | LMP, 4.6.2               | C.1    | Х                        |

C.1 Mandatory IF (LMP:2/18) supported, ELSE Excluded.

## Table 15: Hold Mode

#### Prereauisite: 2/7 (Hold mode)

| Item | Capability                    | System Spec<br>Reference      | Status | Support<br>[Yes] or [No] |
|------|-------------------------------|-------------------------------|--------|--------------------------|
| 1    | Force hold mode               | LMP, 4.5.1,<br>LMP, 4.5.1.2   | 0      | Х                        |
| 2    | Request hold mode             | LMP, 4.5.1,<br>LMP, 4.5.1.3   | C.1    | Х                        |
| 3    | Respond to hold mode requests | LMP, 4.5.1,<br>LMP, 4.5.1.3   | Μ      | Х                        |
| 4    | Accept forced hold mode       | LMP, 4.5.1.1,<br>LMP, 4.5.1.2 | Μ      | Х                        |

C.1: Mandatory IF (LMP:15/1) - (Force hold mode) is supported, ELSE Optional.

# Table 16: Sniff Mode

# Prerequisite: 2/8 (Sniff mode)

| Item | Capability   | System Spec<br>Reference    | Status | Support<br>[Yes] or [No] |
|------|--|-----------------------------|--------|--------------------------|
| 1    | (Intentionally left blank)                             |                             |        | Х                        |
| 2    | Request sniff mode                                     | LMP, 4.5.3,<br>LMP, 4.5.3.2 | 0      | Х                        |
| 3    | Respond to sniff mode requests (renegotiate or reject) | LMP, 4.5.3.2                | M.1    | Х                        |
| 4    | (Intentionally left blank)                             |                             |        | Х                        |
| 5    | Request un-sniff                                       | LMP, 4.5.3.2                | C.1    | Х                        |
| 6    | Accept un-sniff requests                               | LMP, 4.5.3.2                | M.1    | Х                        |
| 7    | Sniff Subrating Mode                                   | LMP, 4.5.3.3                | C.2    | Х                        |

C.1: Mandatory IF (LMP:16/2) - (Request sniff mode) is supported, ELSE Optional. M.1: Mandatory IF (LMP:2/8) - (Sniff Mode) is supported.

C.2 Mandatory IF (SUMMARY 2-1/5 OR SUMMARY 2-1/6) is claimed, ELSE Excluded

#### Table 17: Park Mode

# Prerequisite: 2/9 (Park Mode)

| ltem | Capability                                  | System Spec<br>Reference                     | Status | Support<br>[Yes] or [No] |
|------|---|--|--------|--------------------------|
| 1    | (Intentionally left blank)                  |  |        | X                        |
| 2    | Request park mode                           | LMP, 4.5.2,<br>LMP, 4.5.2.2,<br>LMP, 4.5.2.3 | 0      | Х                        |
| 3    | Respond to park mode requests               | LMP, 4.5.2,<br>LMP, 4.5.2.2,<br>LMP, 4.5.2.3 | M.1    | Х                        |
| 4    | (Intentionally left blank)                  |  |        | X                        |
| 5    | Set up broadcast scan window                | LMP, 4.5.2.3                                 | 0      | Х                        |
| 6    | Accept changes to the broadcast scan window | LMP, 4.5.2.3                                 | M.1    | Х                        |
| 7    | Modify beacon parameters                    | LMP, 4.5.2.4                                 | 0      | Х                        |
| 8    | Accept modification of beacon parameters    | LMP, 4.5.2.4                                 | M.1    | Х                        |
| 9    | Request Unpark using PM_ADDR                | LMP, 4.5.2.5                                 | C.1    | Х                        |
| 10   | Request Unpark using BD_ADDR                | LMP, 4.5.2.5                                 | C.1    | Х                        |

| 11 | Slave requested Unpark      | LMP, 4.5.2.5,<br>BB, 5.9.6 | 0   | Х |
|----|-----------------------------|----------------------------|-----|---|
| 12 | Accept Unpark using PM_ADDR | LMP, 4.5.2.5               | M.1 | Х |
| 13 | Accept Unpark using BD_ADDR | LMP, 4.5.2.5               | M.1 | Х |

M.1: Mandatory IF (LMP:2/9) - (Park Mode) is supported

C.1: IF (LMP:17/3) - (Respond to park mode requests) is supported, THEN at least One of (LMP:17/9) - (Unpark using PM\_ADDR) OR (LMP:17/10) - (Unpark using BD\_ADDR) is Mandatory, ELSE Optional.

# **Table 18: Power Control**

Prerequisite for Items (18/1-2): (2/13) (RSSI)

Prerequisite for Items (18/3-4): (2/10) (Power Control)

| Item | Capability                     | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--------------------------------|--------------------------|--------|--------------------------|
| 1    | Request to increase power      | LMP, 4.1.3               | M.1    | Х                        |
| 2    | Request to decrease power      | LMP, 4.1.3               | M.1    | Х                        |
| 3    | Respond when max power reached | LMP, 4.1.3               | M.2    | Х                        |
| 4    | Respond when min power reached | LMP, 4.1.3               | M.2    | Х                        |

M.1: Mandatory IF (LMP:2/13) - (RSSI) is supported

M.2: Mandatory IF (LMP:2/10) - (Power Control) is supported

# **Table 19: Link Supervision Timeout**

| Item | Capability                              | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---|--------------------------|--------|--------------------------|
| 1    | Set link supervision timeout value      | LMP, 4.1.6               | 0      | Х                        |
| 2    | Accept link supervision timeout setting | LMP, 4.1.6               | Μ      | Х                        |

#### **Quality of Service**

#### Table 20: Quality of Service

| Item | Capability  | System Spec<br>Reference    | Status | Support<br>[Yes] or [No] |
|------|---|-----------------------------|--------|--------------------------|
| 1    | Channel quality driven change between DM and DH packet type | LMP, 4.1.7                  | C.1    | Х                        |
| 2    | Force/Request change of Quality of Service                  | LMP, 4.1.8,<br>LMP, 4.1.8.1 | Μ      | Х                        |
| 3    | Request Change of Quality of Service                        | LMP, 4.1.8,<br>LMP, 4.1.8.2 | Μ      | Х                        |

C.1: Mandatory IF support of (LMP:2/11) is stated in the feature request, ELSE Optional.

#### **SCO Links**

# Table 21: SCO Links

#### Prerequisite: 2/12 (SCO link)

| Item | Capability                               | System Spec<br>Reference                     | Status | Support<br>[Yes] or [No] |
|------|--|--|--------|--------------------------|
| 1    | Initiate SCO links, as Master            | LMP, 4.6.1,<br>LMP, 4.6.1.1                  | 0      | Х                        |
| 2    | Initiate SCO links, as Slave             | LMP, 4.6.1,<br>LMP, 4.6.1.2                  | 0      | Х                        |
| 3    | Accept SCO links                         | LMP, 4.6.1,<br>LMP, 4.6.1.1,<br>LMP, 4.6.1.2 | 0      | Х                        |
| 4    | Remove SCO links, as Master              | LMP, 4.6.1,<br>LMP,4.6.1.5                   | C.1    | Х                        |
| 5    | Remove SCO links, as Slave               | LMP, 4.6.1,<br>LMP,4.6.1.5                   | C.2    | Х                        |
| 6    | Negotiate SCO link parameters, as Master | LMP, 4.6.1,<br>LMP,4.6.1.3                   | C.3    | Х                        |
| 7    | Negotiate SCO link parameters, as Slave  | LMP, 4.6.1,<br>LMP,4.6.1.4                   | C.4    | Х                        |

C.1: Mandatory IF (LMP:21/1) - (Initiating SCO links, as Master) is supported, ELSE Optional.

C.2: Mandatory IF (LMP:21/2) - (Initiating SCO links, as Slave) is supported, ELSE Optional.

C.3: Mandatory IF (LMP:21/1) - (Initiating SCO links, as Master) OR (LMP:21/3) - (Accept SCO links) is supported, ELSE Optional. C.4: Mandatory IF (LMP:21/2) - (Initiating SCO links, as Slave) OR (LMP:21/3) - (Accept SCO links) is supported, ELSE Optional.

## **Multi-Slot Packages**

| Table 22: Multi-Slot Packag | es |
|-----------------------------|----|
|-----------------------------|----|

| rabio III man electri denageo |  |                          |        |                          |  |
|-------------------------------|--|--------------------------|--------|--------------------------|--|
| Item                          | Capability   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |  |
| 1                             | Accept maximum allowed number of slots to be used    | LMP, 4.1.10              | C.1    | Х                        |  |
| 2                             | Request maximum number of slots to be used           | LMP, 4.1.10              | C.1    | Х                        |  |
| 3                             | Accept request of maximum number of slots to be used | LMP, 4.1.10              | C.1    | Х                        |  |

C.1: Mandatory IF (LMP:2/1) AND/OR (LMP:2/2) is supported in the feature request, ELSE Optional.

# **Paging Scheme**

# Table 23: Paging Scheme

| Item | Capability                      | System<br>Spec<br>Reference    | Status | Support<br>[Yes] or [No] |
|------|---------------------------------|--------------------------------|--------|--------------------------|
| 1    | Request page mode to use        | LMP, 4.1.9,<br>LMP,<br>4.1.9.1 | 0      | Х                        |
| 2    | Accept suggested page mode      | LMP, 4.1.9,<br>LMP,4.1.9.1     | 0      | Х                        |
| 3    | Request page scan mode to use   | LMP, 4.1.9,<br>LMP,4.1.9.2     | 0      | Х                        |
| 4    | Accept suggested page scan mode | LMP, 4.1.9,<br>LMP,<br>4.1.9.2 | 0      | Х                        |

# **Connection Establishment**

# **Table 24: Connection Establishment**

| Item | Capability   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--|--------------------------|--------|--------------------------|
| 1    | Create connection for higher layers                            | LMP, 4.1.1               | Μ      | Х                        |
| 2    | Respond to requests to establish connections for higher layers | LMP, 4.1.1               | Μ      | Х                        |
| 3    | Indicate that link set-up is complete                          | LMP, 4.1.1               | М      | Х                        |

# **Test Mode**

# Table 25: Test Mode

| Item | Capability  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---|--------------------------|--------|--------------------------|
| 1    | Activate test mode  | LMP, 4.7.1               | 0      | Х                        |
| 2    | Ability to reject activation of test mode if test mode is disabled    | LMP, 4.7.1               | Μ      | Х                        |
| 3    | Control test mode   | LMP, 4.7.2               | 0      | Х                        |
| 4    | Ability to reject est mode control commands if test mode is disabled. | LMP, 4.7.2               | Μ      | Х                        |

# Table 26: Adaptive Frequency Hopping

# Prerequisite: 2/16 (AFH)

| Item | Capability  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---|--------------------------|--------|--------------------------|
| 1    | Support of AFH switch as master   | LMP, 4.1.4               | 0      | Х                        |
| 2    | Support of AFH switch as slave  | LMP, 4.1.4               | M.1    | Х                        |
| 3    | Support of Channel Classification reporting — post Role Switch (as Slave) | LMP, 4.1.5               | C.1    | Х                        |
| 4    | Support of Channel Classification reporting as slave                      | LMP, 4.1.5               | C.2    | Х                        |
| 5    | Support channel classification from host                                  | LMP, 4.1.5               | C.3    | Х                        |
| 6    | Support of Channel Classification   | LMP, 4.1.5               | 0      | Х                        |

C.1: Optional IF (LMP:26/6) is supported, ELSE Excluded.

C.2: Mandatory IF (LMP:26/6) is supported, ELSE Excluded. C.3: Mandatory IF (LMP:26/1) OR (LMP:26/4) is supported, ELSE Optional. M.1: Mandatory IF (LMP:2/16) - (AFH) supported

# Table 27: This Table is intentionally left blank.

| Item | Capability                             | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--|--------------------------|--------|--------------------------|
| 1    | This line is intentionally left blank. | N/A                      | 0      | Х                        |
| 2    | This line is intentionally left blank. | N/A                      | 0      | Х                        |
| 3    | N/A                                    | N/A                      | 0      | Х                        |
| 4    | N/A                                    | N/A                      | 0      | Х                        |

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# 1.3.1 Roles

### Table 1: Roles

| Item | Capability             | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|------------------------|--------------------------|--------|--------------------------|
| 1    | Data Channel Initiator | L2CAP                    | Μ      | Х                        |
| 2    | Data Channel Acceptor  | L2CAP                    | Μ      | Х                        |

# **1.3.2 General Operation**

# **Table 2: General Operation**

# Prerequisite: Core Specification Addendum 1 for items 2/12 - 2/28

|      |   |                          | 01.1   | 0                        |
|------|---|--------------------------|--------|--------------------------|
| Item | Capability  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
| 1    | Support of signalling channel   | L2CAP, 2.2               | Μ      | Х                        |
| 2    | Support of configuration process  | L2CAP, 7.1               | Μ      | Х                        |
| 3    | Support of connection oriented data channel   | L2CAP, 2.2               | М      | Х                        |
| 4    | Support of command echo request   | L2CAP, 4.8               | Μ      | Х                        |
| 5    | Support of command echo response  | L2CAP, 4.9               | М      | Х                        |
| 6    | Support of command information request  | L2CAP, 4.10              | 0      | Х                        |
| 7    | Support of command information response   | L2CAP, 4.11              | М      | Х                        |
| 8    | Support of a channel group  | L2CAP, 2.2               | 0      | Х                        |
| 9    | Support of packet for connectionless channel  | L2CAP, 3.2               | 0      | Х                        |
| 10   | Support retransmission mode   | L2CAP, 8.5               | 0      | Х                        |
| 11   | Support flow control mode   | L2CAP, 8.5               | 0      | Х                        |
| 12   | Enhanced Retransmission Mode  | L2CAP, 8.6               | C.1    | Х                        |
| 13   | Streaming Mode  | L2CAP, 8.7               | C.1    | Х                        |
| 14   | FCS Option  | L2CAP, 5.5               | C.2    | Х                        |
| 15   | Generate Local Busy Condition   | L2CAP, 8.6.4.3           | C.3    | X                        |
| 16   | Send Reject   | L2CAP 8.6.1.2            | C.3    | Х                        |
| 17   | Send Selective Reject   | L2CAP 8.6.1.3            | C.3    | Х                        |
| 18   | Mandatory use of ERTM   | L2CAP, 8.6               | C.4    | Х                        |
| 19   | Mandatory use of Streaming Mode   | L2CAP, 8.7               | C.5    | Х                        |
| 20   | Optional use of ERTM  | L2CAP, 8.6               | C.4    | Х                        |
| 21   | Optional use of Streaming Mode  | L2CAP, 8.7               | C.5    | Х                        |
| 22   | Send data using SAR in ERTM   |                          | C.6    | Х                        |
| 23   | Send data using SAR in Streaming Mode   |                          | C.7    | Х                        |
| 24   | Actively request Basic Mode for a PSM that supports the use of ERTM or Streaming Mode |                          | C.8    | Х                        |
| 25   | Supports performing L2CAP channel mode configuration fallback from SM to ERTM         |                          | C.9    | Х                        |
| 26   | Supports sending more than one unacknowledged I-Frame when operating in ERTM          |                          | C.10   | Х                        |
| 27   | Supports sending more than three unacknowledged I-                                    |                          | C.10   | Х                        |

|    | Frame when operating in ERTM                           |      |   |
|----|--|------|---|
| 28 | Supports configuring the peer TxWindow greater than 1. | C.11 | Х |

C.1: Mandatory to support at least one of L2CAP 2/12 or 2/13 IF SUM\_ICS 31/7 (CSA1) is supported, ELSE Excluded.

C.2: Optional IF (L2CAP 2/12 OR L2CAP 2/13) is claimed, ELSE Excluded.

C.3: Optional IF (L2CAP 2/12 AND L2CAP 2/28) is claimed, ELSE Excluded.

C.4: IF (L2CAP 2/12) is claimed THEN either L2CAP 2/18 OR L2CAP 2/20 are Mandatory, ELSE Excluded.

C.5: IF (L2CAP 2/13) is claimed THEN either L2CAP 2/19 OR L2CAP 2/21 are Mandatory, ELSE Excluded.

C.6: Optional IF (L2CAP 2/12) is claimed, ELSE Excluded.

C.7: Optional IF (L2CAP 2/13) is claimed, ELSE Excluded.

C.8: Optional IF (L2CAP 2/12 OR L2CAP 2/13) is claimed, ELSE Excluded.

C.9: Mandatory IF (L2CAP 2/12 AND L2CAP 2/13 AND L2CAP 2/21) is claimed, ELSE Excluded

C.10: Optional IF (L2CAP 2/12) is claimed, ELSE Excluded

C.11: Optional IF (L2CAP 2/12) is claimed, ELSE Excluded

#### **1.3.3 Configurable Parameters**

#### Table 3: Configurable Parameters

| Item  | Capability  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|-------|---|--------------------------|--------|--------------------------|
| 1     | Support of RTX timer  | L2CAP, 6.2.1             | М      | Х                        |
| 2     | Support of ERTX timer   | L2CAP, 6.2.2             | Μ      | Х                        |
| 3     | Support minimum MTU size 48 octets                              | L2CAP, 5.1               | М      | Х                        |
| 4     | Support MTU size larger than 48 octets                          | L2CAP, 5.1               | 0      | Х                        |
| 5     | Support of flush timeout value for reliable channel             | L2CAP, 5.2               | М      | Х                        |
| 6     | Support of flush timeout value for unreliable channel           | L2CAP, 5.2               | 0      | Х                        |
| 7     | Support of bi-directional quality of service (QoS) option field | L2CAP, 5.3               | C.1    | Х                        |
| 8     | Negotiate QoS service type                                      | L2CAP, 5.3               | 0      | Х                        |
| 9     | Negotiate and support service type 'No Traffic'                 | L2CAP, 5.3               | C.2    | Х                        |
| 10    | Negotiate and support service type 'Best effort'                | L2CAP, 5.3               | C.3    | Х                        |
| 11    | Negotiate and support service type 'Gauranteed'                 | L2CAP, 5.3               | C.2    | Х                        |
| 12    | (Intentionally left blank)                                      |                          |        | Х                        |
| 13    | (Intentionally left blank)                                      |                          |        | Х                        |
| 0 1 1 | landatan it 12000 2/0 (Nametista Octocomica tunc) is summe      | 1 1 11 1 1               |        |                          |

C.1: Mandatory if L2CAP, 3/8 (Negotiate QoS service type) is supported, otherwise optional.

C.2: Optional if L2CAP, 3/8 (Negotiate QoS service type) is supported, otherwise excluded.

C.3: Mandatory if L2CAP, 3/8 (Negotiate QoS service type) is supported, otherwise excluded.

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# 1.3.1 UUID Capabilities

# Table 1: Support Different Size Capabilities on UUID

| Item | Capability               | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--------------------------|--------------------------|--------|--------------------------|
| 1    | Support for 128 bit UUID | SDP, 2.7.1               | М      | Х                        |
| 2    | Support for 32 bit UUID  | SDP, 2.7.1               | Μ      | Х                        |
| 3    | Support for 16 bit UUID  | SDP, 2.7.1               | М      | Х                        |

#### Table 1b: Roles

| Item | Capability              | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|-------------------------|--------------------------|--------|--------------------------|
| 1    | Support for server role | SDP, 2.1                 | C.1    | Х                        |
| 2    | Support for client role | SDP, 2.1                 | C.1    | Х                        |

C.1 Mandatory to support at least one of the roles

#### 1.3.2 Service Search Request PDU

# Table 2: Valid Service Search Request Item Capability System Spec Reference Status Support [Yes] or [No]

|   | 1   | Support for respond on search of single Service, using ServiceSearchRequest. | SDP, 4.5 | C.2 | Х |
|---|---|--|----------|-----|---|
|   | 2   | Support for respond on search of Service, using continuation state           | SDP, 4.5 | 0   | Х |
|   | 3   | Search for services using the continuation state.                            | SDP, 4.3 | C.1 | Х |
| C | C.1 Mandatory to support IF the client role is supported (1b/2) |  |          |     |   |

C.2 Mandatory to support if the server role is supported (1b/2)

| Table 3: Invalid Service Search Request |   |                          |        |                          |  |
|---|---|--------------------------|--------|--------------------------|--|
| Item                                    | Capability  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |  |
| 1                                       | Support for error response on Service search request. | SDP, 4.4                 | Μ      | Х                        |  |

# 1.3.3 Service Attribute Request PDU

|      | Table 4: Valid Service Attribute Request                                       |                          |        |                          |  |  |
|------|--|--------------------------|--------|--------------------------|--|--|
| Item | Capability   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |  |  |
| 1    | Support for respond on search of Attribute(s)                                  | SDP, 4.6                 | М      | Х                        |  |  |
| 2    | Support for respond on search of Attribute, using continuation state.          | SDP, 4.6                 | 0      | Х                        |  |  |
| 3    | Support for respond on search on attribute<br>AdditionalProtocolDescriptorList | SDP, 4.5, 5.1.6          | 0      | Х                        |  |  |

|      | Table 5: Invalid Service Attribute Request              |                          |        |                          |  |
|------|---|--------------------------|--------|--------------------------|--|
| Item | Capability  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |  |
| 1    | Support for error response on Attribute search request. | SDP, 4.4                 | М      | Х                        |  |

# 1.3.4 Service Search Attribute Request PDU

# Table 6: Valid Service Search Attribute Request

| Item | Capability   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--|--------------------------|--------|--------------------------|
| 1    | Support for respond on search for Service(s) and Attribute (s)                                     | SDP, 4.7                 | Μ      | Х                        |
| 2    | Support for respond on search of Attribute, using continuation state.                              | SDP, 4.7                 | 0      | Х                        |
| 3    | Support for respond on search on attribute<br>AdditionalProtocolDescriptorList on existing service | SDP, 4.7, 5.1.6          | 0      | Х                        |

# Table 7: Invalid Service Search Attribute Request

| Item | Capability   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--|--------------------------|--------|--------------------------|
| 1    | Support for error response on Service and Attribute request. | SDP, 4.4                 | Μ      | Х                        |

#### 1.3.5 Service Browsing

# Table 8: Service Browsing

| Item | Capability   | System Spec<br>Reference         | Status | Support<br>[Yes] or [No] |
|------|--|----------------------------------|--------|--------------------------|
| 1    | Support for browsing, using SDP_ServiceSearchRequest and SDP_ServiceAttributeRequest | SDP, 4.5<br>SDP, 4.6<br>SDP, 2.8 | 0      | Х                        |
| 2    | Support for browsing, using<br>SDP_ServiceSearchAttributeRequest                     | SDP, 4.7 SDP,<br>2.8             | 0      | Х                        |

# 1.3.6 Attributes

#### **Table 9: Attributes Present in IUT** System Spec Support Item Capability Status Reference [Yes] or [No] ServiceID SDP, 5.1.4 0 1 Х SDP, 5.1.5 2 ProtocolDescriptorList 0 Х

| 3  | ServiceRecordState             | SDP, 5.1.3  | 0 | Х |
|----|--------------------------------|-------------|---|---|
| 4  | ServiceInfoTimeToLive          | SDP, 5.1.8  | 0 | Х |
| 5  | BrowseGroupList                | SDP, 5.1.6  | 0 | Х |
| 6  | LanguageBaseAttributedIdList   | SDP, 5.1.7  | 0 | Х |
| 7  | ServiceAvailability            | SDP, 5.1.9  | 0 | Х |
| 8  | IconURL                        | SDP, 5.1.13 | 0 | Х |
| 9  | ServiceName                    | SDP, 5.1.14 | 0 | Х |
| 10 | ServiceDescription             | SDP, 5.1.15 | 0 | Х |
| 11 | ProviderName                   | SDP, 5.1.16 | 0 | Х |
| 12 | VersionNumberList              | SDP, 5.2.3  | 0 | Х |
| 13 | ServiceDataBaseState           | SDP, 5.2.4  | 0 | Х |
| 14 | BluetoothProfileDescriptorList | SDP, 5.1.10 | 0 | Х |
| 15 | DocumentationURL               | SDP, 5.1.11 | 0 | Х |
| 16 | ClientExecutableURL            | SDP, 5.1.12 | 0 | Х |

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#### Modes

# Table 1: Modes

| Capability                | System Spec<br>Reference   | Status  | Support<br>[Yes] or [No]  |
|---------------------------|--|---|---|
| Non-discoverable mode     | GAP, 4.1.1   | C.1   | Х   |
| Limited-discoverable mode | GAP, 4.1.2   | 0   | Х   |
| General-discoverable mode | GAP, 4.1.3   | 0   | Х   |
| Non-connectable mode      | GAP, 4.2.1   | 0   | Х   |
| Connectable mode          | GAP, 4.2.2   | Μ   | Х   |
| Non-pairable mode         | GAP, 4.3.1   | 0   | Х   |
| Pairable mode             | GAP, 4.3.2   | C.2   | Х   |
|                           | Non-discoverable mode<br>Limited-discoverable mode<br>General-discoverable mode<br>Non-connectable mode<br>Connectable mode<br>Non-pairable mode | ReferenceNon-discoverable modeGAP, 4.1.1Limited-discoverable modeGAP, 4.1.2General-discoverable modeGAP, 4.1.3Non-connectable modeGAP, 4.2.1Connectable modeGAP, 4.2.2Non-pairable modeGAP, 4.3.1 | ReferenceNon-discoverable modeGAP, 4.1.1C.1Limited-discoverable modeGAP, 4.1.2OGeneral-discoverable modeGAP, 4.1.3ONon-connectable modeGAP, 4.2.1OConnectable modeGAP, 4.2.2MNon-pairable modeGAP, 4.3.1O |

C.1: IF GAP 1/2 is supported then M, ELSE O C.2: IF GAP 3/5 is supported then M, ELSE O

#### **Security Aspects**

#### **Table 2: Security Aspects**

| Item | Capability                    | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|-------------------------------|--------------------------|--------|--------------------------|
| 1    | Authentication procedure      | GAP, 5.1                 | C.1    | Х                        |
| 2    | Support of LMP-Authentication | GAP, 5.1                 | Μ      | Х                        |
| 3    | Initiate LMP-Authentication   | GAP, 5.2                 | C.5    | Х                        |
| 4    | Security mode 1               | GAP, 5.2.1               | C.2    | Х                        |
| 5    | Security mode 2               | GAP, 5.2.2               | 0      | Х                        |
| 6    | Security mode 3               | GAP, 5.2.3               | 0      | Х                        |
| 7    | Security mode 4               | GAP, 5.2.4               | C.4    | Х                        |

C.1: IF at least One of GAP, 2/5 or GAP, 2/6 is supported then M, ELSE O

Note: The Authentication Procedure in item GAP, 2/1 is the one described in Fig. 5.1 on page 198 in the GAP Profile Specification and not the LMP-Authenticaion.

C.2: IF GAP, 2/7 is supported THEN support of GAP, 2/4 is Excluded ,ELSE Optional.

C.5 IF GAP, 2/5 or GAP, 2/6 or GAP, 2/7 is supported THEN GAP 2/3 is Mandatory, ELSE Optional C.4: IF (SUMMARY 21/5 OR SUMMARY 21/6) is supported THEN GAP, 2/7 is Mandatory, ELSE excluded.

Note 2. If a legacy device (Core 2.0 and earlier) claims to support secure communcation it should support either Security mode 2 or 3.

Note 3. A Core 2.1 device shall always support secure communication in Security Mode 4, and shall use that mode to connect with another Core 2.1 device. It shall use Security Mode 2 or 3 only for backward compatibility purposes with Core 2.0 and earlier devices. Security Mode 1 is excluded for Core 2.1 devices based on condition C.2.

### Table 3: Idle Mode Procedures

| Item | Capability                      | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---------------------------------|--------------------------|--------|--------------------------|
| 1    | Initiation of general inquiry   | GAP, 6.1                 | C.1    | Х                        |
| 2    | Initiation of limited inquiry   | GAP, 6.2                 | C.1    | Х                        |
| 3    | Initiation of name discovery    | GAP, 6.3                 | 0      | Х                        |
| 4    | Initiation of device discovery  | GAP, 6.4                 | 0      | Х                        |
| 5    | Initiation of general bonding   | GAP, 6.5                 | 0      | Х                        |
| 6    | Initiation of dedicated bonding | GAP, 6.5                 | 0      | Х                        |

C1: If GAP, 3/5 is supported then at least one of GAP, 3/1 or GAP, 3/2 is Mandatory, else Optional.

# **Establish Procedures**

|      | Table 4: Establishment Procedures             |                          |        |                          |  |  |  |
|------|---|--------------------------|--------|--------------------------|--|--|--|
| Item | Capability                                    | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |  |  |  |
| 1    | Support link establishment as initiator       | GAP, 7.1                 | М      | Х                        |  |  |  |
| 2    | Support link establishment as acceptor        | GAP, 7.1                 | Μ      | Х                        |  |  |  |
| 3    | Support channel establishment as initiator    | GAP, 7.2                 | 0      | Х                        |  |  |  |
| 4    | Support channel establishment as acceptor     | GAP, 7.2                 | Μ      | Х                        |  |  |  |
| 5    | Support connection establishment as initiator | GAP, 7.3                 | 0      | Х                        |  |  |  |
| 6    | Support connection establishment as acceptor  | GAP, 7.3                 | 0      | Х                        |  |  |  |

# **Profile PICS Information**

Hands-Free Profile 1.5 External to Core

# 1.1 Roles

|                | Table 1: Roles  |                          |        |                          |  |
|----------------|---|--------------------------|--------|--------------------------|--|
| Item           | Capability  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |  |
| 1              | Audio Gateway (AG)  | 2.2                      | O.1    | Х                        |  |
| 2              | Hands-Free (HF)   | 2.2                      | O.1    | Х                        |  |
| $0 1 \cdot lt$ | is mandatory to support at least one of the defined roles |                          | ,      |                          |  |

O.1: It is mandatory to support at least one of the defined roles.

# 1.2 Audio Gateway Capabilities

#### Table 2: Audio Gateway Role

| Item | Capability  | System<br>Spec<br>Reference                 | Status | Support<br>[Yes] or [No] |
|------|---|---|--------|--------------------------|
| 1    | Connection Management   | 4.2; 4.3                                    | M.1    | Х                        |
| 1a   | SLC initiation during active ongoing call                     | 4.2   | 0      | Х                        |
| 2    | Phone Status Information                                      | 4.4; 4.5;<br>4.6; 4.7;<br>4.8; 4.9;<br>4.10 | M.1    | X                        |
| 3    | Audio connection handling                                     | 4.11; 4.12                                  | M.1    | Х                        |
| 3a   | Audio connection establishment independent of call processing | 4.11; 4.12                                  | 0      | Х                        |
| 3b   | eSCO support in Audio Connection                              | 5.16  | 0      | Х                        |
| 4a   | Accept an incoming voice call (in-band ring)                  | 4.13  | C.1    | Х                        |

| 4b  | Accept an incoming voice call (no in-band ring)        | 4.13   | C.1 | Х |
|-----|--|--------|-----|---|
| 4c  | Capability to change the "in-band ring" settings       | 4.13   | 0   | Х |
| 5   | Reject an incoming voice call                          | 4.14   | 0   | Х |
| 6   | Terminate a call                                       | 4.15   | M.1 | Х |
| 7   | Audio connection transfer during an ongoing call       | 4.17   | M.1 | Х |
| 7a  | HF-initiated Audio transfer to AG during ongoing call  | 4.17   | 0   | Х |
| 8   | Place a call with a phone number supplied by HF        | 4.18   | M.1 | Х |
| 9   | Place a call using memory dialing                      | 4.19   | M.1 | Х |
| 10  | Place a call to the last number dialed                 | 4.20   | M.1 | Х |
| 11  | Call waiting notification                              | 4.21   | M.1 | Х |
| 12  | Three Way Calling                                      | 4.22   | 0   | Х |
| 12a | User Busy (AT+CHLD value 0)                            | 4.22   | C.3 | Х |
| 12b | Call Hold Handling (AT+CHLD value 1,2)                 | 4.22   | C.2 | Х |
| 12c | Three Way Call (AT+CHLD value 3)                       | 4.22   | C.3 | Х |
| 12d | Explicit Call Transfer (AT+CHLD value 4)               | 4.22   | C.3 | Х |
| 13  | Calling Line Identification (CLI)                      | 4.23   | M.1 | Х |
| 14  | Echo canceling (EC) and Noise reduction (NR)           | 4.24   | 0   | Х |
| 15  | Voice recognition activation                           | 4.25   | 0   | Х |
| 15a | Initiate voice recognition from AG                     | 4.25   | C.6 | Х |
| 15b | Autonomous voice deactivation                          | 4.25   | C.6 | Х |
| 16  | Attach a phone number to a voice tag                   | 4.26   | 0   | Х |
| 17  | Ability to transmit DTMF codes                         | 4.27   | M.1 | Х |
| 18a | Remote audio volume control – speaker                  | 4.28.1 | 0   | Х |
| 18b | Remote audio volume control – microphone               | 4.28.1 | 0   | Х |
| 18c | Volume Level Synchronization – speaker and microphone  | 4.28.2 | C.5 | Х |
| 19  | Response and hold                                      | 4.29   | 0   | Х |
| 20  | Subscriber Number Information                          | 4.30   | M.1 | Х |
| 21a | Enhanced Call Status                                   | 4.31   | C.4 | Х |
| 21b | Enhanced Call Control                                  | 4.32   | C.3 | Х |
| 21c | Enhanced Call Status with limited network notification | 4.31   | C.4 | Х |
| 22  | Support for automatic link loss recovery               | 4.2    | 0   | Х |

C.2: Mandatory if (2/12); otherwise Excluded. C.3 Optional if (2/12); otherwise Excluded. M.1: Mandatory IF (1/1) Selected

C.4: The AG must support one of item 2/21a or 2/21c. C.6: Optional if 2/15 is supported, otherwise excluded.

C.5: Mandatory if 2/18a or 2/18b, otherwise optional.

C.1: The AG must support one of item 2/4a or 2/4b.

# **1.3 Hands-Free Capabilities**

|      | Table 3: Capabilities of the HF                               |                          |        |                          |  |  |
|------|---|--------------------------|--------|--------------------------|--|--|
| Item | Capability  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |  |  |
| 1    | Connection Management   | 4.2; 4.3                 | M.1    | Х                        |  |  |
| 2a   | Phone Status Information ("service" and "call" indicators)    | 4.4; 4.10                | M.1    | Х                        |  |  |
| 2b   | Phone Status Information ("callsetup" indicator)              | 4.10                     | 0      | Х                        |  |  |
| 2c   | Accept indicator of signal strength                           | 4.5                      | 0      | Х                        |  |  |
| 2d   | Accept indicator of roaming state ("roam:")                   | 4.6                      | 0      | Х                        |  |  |
| 2e   | Accept indicator of battery level ("battchg")                 | 4.7                      | 0      | Х                        |  |  |
| 2f   | Accept indicator of operator selection                        | 4.8                      | 0      | Х                        |  |  |
| 3    | Audio connection handling                                     | 4.11; 4.12               | M.1    | Х                        |  |  |
| 3a   | Audio connection establishment independent of call processing | 4.11; 4.12               | 0      | Х                        |  |  |
| 3b   | eSCO support in Audio Connection                              | 5.16                     | 0      | Х                        |  |  |
| 4a   | Accept an incoming voice call (in-band ring)                  | 4.13                     | M.1    | Х                        |  |  |

| 4b  | Accept an incoming voice call (no in-band ring)       | 4.13   | M.1 | Х |   |
|-----|---|--------|-----|---|---|
| 4c  | Accept an incoming voice call (in-band ring muting)   | 4.13   | 0   |   | Х |
| 5   | Reject an incoming voice call                         | 4.14   | M.1 | Х |   |
| 6   | Terminate a call                                      | 4.15   | M.1 | Х |   |
| 7   | Audio connection transfer during an ongoing call      | 4.16   | M.1 | Х |   |
| 7a  | HF-initiated Audio transfer to AG during ongoing call | 4.17   | 0   | Х |   |
| 8   | Place a call with a phone number supplied by the HF   | 4.18   | 0   |   | Х |
| 9   | Place a call using memory dialing                     | 4.19   | 0   |   | Х |
| 10  | Place a call to the last number dialed                | 4.20   | 0   | Х |   |
| 11  | Call waiting notification                             | 4.21   | 0   | Х |   |
| 12  | Three Way Calling                                     | 4.22   | 0   | Х |   |
| 12a | Three way calling (AT+CHLD values 0)                  | 4.22   | C.2 | Х |   |
| 12b | Three way calling (AT+CHLD values 1 and 2)            | 4.22   | C.1 | Х |   |
| 12c | Three way calling (AT+CHLD value 3)                   | 4.22   | C.2 | Х |   |
| 12d | Three way calling (AT+CHLD value 4)                   | 4.22   | C.2 | Х |   |
| 12e | Originate new call with established call in progress  | 4.22   | C.2 | Х |   |
| 13  | Calling Line Identification (CLI)                     | 4.23   | 0   | Х |   |
| 14  | Echo cancelling (EC) and Noise reduction (NR)         | 4.24   | 0   |   | Х |
| 15  | Voice recognition activation/deactivation             | 4.25   | 0   | Х |   |
| 16  | Attach a phone number to a voice tag                  | 4.26   | 0   |   | Х |
| 17  | Ability to transmit DTMF codes                        | 4.27   | 0   |   | Х |
| 18a | Remote audio volume control – speaker                 | 4.28.1 | 0   | Х |   |
| 18b | Remote audio volume control – microphone              | 4.28.1 | 0   |   | Х |
| 18c | Volume Level Synchronization – speaker                | 4.28.2 | C.3 | Х |   |
| 18d | Volume Level Synchronization – microphone             | 4.28.2 | C.4 |   | Х |
| 18e | HF informs AG about local changes of audio volume     | 4.28.2 | 0   | Х |   |
| 18f | HF informs AG about local changes of microphone gain  | 4.28.2 | 0   |   | Х |
| 19  | Response and hold                                     | 4.29   | 0   |   | Х |
| 20  | Subscriber Number Information                         | 4.30   | 0   |   | Х |
| 21a | Enhanced Call Status                                  | 4.31   | C.2 |   | Х |
| 21b | Enhanced Call Control                                 | 4.32   | C.2 |   | Х |
| 22  | Support for automatic link loss recovery              | 4.3    | 0   |   | Х |

C.2 Optional if (3/12); otherwise Excluded. M.1: Mandatory IF (1/2) Selected C.3 Mandatory if 3/18a or 3/18b, otherwise Optional. C.4 Mandatory if 3/18b, otherwise Optional

### **1.4 Audio Coding Requirements**

# Table 4: Requirements towards the Link Control Procedures of the Serial Port Profile (AG and HF)

| Item | Capability                 | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|----------------------------|--------------------------|--------|--------------------------|
| 1    | CVSD audio coding over SCO | 2.3                      | М      | Х                        |

**Headset Profile** External to Core

# Roles

|      | Table 1: Roles |                          |        |                          |
|------|----------------|--------------------------|--------|--------------------------|
| Item | Capability     | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|      |                |                          |        |                          |

| 1 Audio Gateway (AG) | HSP, 2.2 | O.1 | Х |
|----------------------|----------|-----|---|
| 2 Headset (HS)       | HSP, 2.2 | 0.1 | Х |

O.1 Mandatory to Support at least One of the defined roles.

# **Audio Gateway Application Features**

Table 2: Application Features (AG)

Prerequisite HSP:1/1

| Item | Capability   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|--|--------------------------|--------|--------------------------|
| 1    | Incoming audio connection establishment              | HSP, 4.2                 | M.1    | Х                        |
| 2    | Ring (AT command)                                    | HSP, 4.2                 | C.3    | Х                        |
| 3    | Inband ring tone                                     | HSP, 4.2                 | 0      | Х                        |
| 4    | Outogoing audio connection establishment             | HSP, 4.3                 | 0      | Х                        |
| 5    | Audio connection release from HS                     | HSP, 4.4                 | M.1    | Х                        |
| 6    | Audio connection release from AG                     | HSP, 4.4                 | M.1    | Х                        |
| 7    | Audio connection transfer: AG to HS                  | HSP, 4.5.1               | M.1    | Х                        |
| 8    | Audio connection transfer: HS to AG                  | HSP, 4.5.2               | M.1    | Х                        |
| 9    | Remote audio volume control                          | HSP, 4.6                 | C.1    | Х                        |
| 10   | HS informs AG about local changes of audio volume    | HSP, 4.6                 | 0      | Х                        |
| 11   | Audio volume setting storage by HS                   | HSP, 4.6                 | 0      | Х                        |
| 12   | Remote microphone gain control                       | HSP, 4.6                 | C.2    | Х                        |
| 13   | HS informs AG about local changes of microphone gain | HSP, 4.6                 | 0      | Х                        |
| 14   | Microphone gain setting storage by HS                | HSP, 4.6                 | 0      | Х                        |
| 15   | Connection handling with Detach/Page                 | HSP, 4.8.1               | M.1    | Х                        |
| 16   | Connection handling with Park Mode                   | HSP, 4.8.2               | 0      | Х                        |

M.1: Mandatory IF (1/1) Supported C.3: Excluded IF (2/3 AND 4/1) is Supported, otherwise Optional. C.1: Mandatory IF 2/10 is Supported, otherwise Optional. C.2: Mandatory IF 2/13 is Supported, otherwise Optional.

### **Headset Application Features**

# Table 3: Application features (HS)

Prerequisite HSP:1/2

| rereq |  |                          |        |                          |
|-------|--|--------------------------|--------|--------------------------|
| Item  | Capability   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
| 1     | Incoming audio connection establishment              | HSP, 4.2                 | M.1    | Х                        |
| 2     | Ring (AT command)                                    | HSP, 4.2                 | M.1    | Х                        |
| 3     | Inband ring tone                                     | HSP, 4.2                 | M.1    | Х                        |
| 4     | Outgoing audio connection establishment              | HSP, 4.3                 | M.1    | Х                        |
| 5     | Audio connection release from HS                     | HSP, 4.4                 | M.1    | Х                        |
| 6     | Audio connection release from AG                     | HSP, 4.4                 | M.1    | Х                        |
| 7     | Audio connection transfer: AG to HS                  | HSP, 4.5.1               | M.1    | Х                        |
| 8     | Audio connection transfer: HS to AG                  | HSP, 4.5.2               | M.1    | Х                        |
| 9     | Remote audio volume control                          | HSP, 4.6                 | C.1    | Х                        |
| 10    | HS informs AG about local changes of audio volume    | HSP, 4.6                 | 0      | Х                        |
| 11    | Audio volume setting storage by HS                   | HSP, 4.6                 | 0      | Х                        |
| 12    | Remote microphone gain control                       | HSP, 4.6                 | C.2    | Х                        |
| 13    | HS informs AG about local changes of microphone gain | HSP, 4.6                 | 0      | Х                        |
| 14    | Microphone gain setting storage by HS                | HSP, 4.6                 | 0      | Х                        |
| 15    | Connection handling with Detach/Page                 | HSP, 4.8.1               | M.1    | Х                        |
| 16    | Connection handling with Park Mode                   | HSP, 4.8.2               | 0      | Х                        |
|       |  |                          |        |                          |

M.1: Mandatory IF (1/2) Supported C.1: Mandatory IF HSP 3/10 is Supported, otherwise Optional. C.2: Mandatory IF HSP 3/13 is Supported, otherwise Optional.

#### **Errata Service Releases**

#### **Table 4: Errata Service Releases**

| Item | Capability  | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---|--------------------------|--------|--------------------------|
| 1    | E2112/TSE 1134 (212): Show that in-band ringing and RING are mutually exclusive | ESR 1                    | 0      | Х                        |

Note: ESR1 refers ro the Errata Service Release 1 v 1.02, released 25 August 2003

Interoperability Test Specification External to Core

# Interoperability

|      | Table 1: Interoperability Test Sp | ecification              |        |                          |
|------|-----------------------------------|--------------------------|--------|--------------------------|
| Item | Capability                        | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
| 1    | Interoperability                  | IOP                      | М      | Х                        |

**RFCOMM** with TS 07.10 External to Core

#### **1 Supported Procedures**

|      | Table 1: RFCOMM with                           | TS 07.10                 |        |                          |
|------|--|--------------------------|--------|--------------------------|
| Item | Capability                                     | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
| 1    | Initialize RFCOMM session                      | RFCOMM, 5.2.1            | C.2    | Х                        |
| 2    | Respond to initialisation of an RFCOMM session | RFCOMM, 5.2.1            | C.1    | Х                        |
| 3    | Shutdown RFCOMM session                        | RFCOMM, 5.2.2            | М      | Х                        |
| 4    | Respond to a shutdown for an RFCOMM session    | RFCOMM, 5.2.2            | Μ      | Х                        |
| 5    | Establish DLC                                  | RFCOMM, 5.2.1            | C.2    | Х                        |
| 6    | Respond to establishment of a DLC              | RFCOMM, 5.2.1            | C.1    | Х                        |
| 7    | Disconnect DLC                                 | RFCOMM, 5.2              | М      | Х                        |
| 8    | Respond to disconnection of a DLC              | RFCOMM, 5.2              | Μ      | Х                        |
| 9    | Respond to and send MSC command                | RFCOMM, 2.2              | М      | Х                        |
| 10   | Initiate Transfer Information                  | RFCOMM, 5.1              | М      | Х                        |
| 11   | Respond to Test command                        | RFCOMM, 4.3              | М      | Х                        |
| 12   | Send Test command                              | RFCOMM, 4.3              | 0      | Х                        |
| 13   | React to aggregate flow control                | RFCOMM, 6.3              | М      | Х                        |
| 14   | Respond to RLS command                         | RFCOMM, 5.5.2            | Μ      | Х                        |
| 15   | Send RLS command                               | RFCOMM, 5.5.2            | 0      | Х                        |
| 16   | Respond to PN command                          | RFCOMM, 5.5.3            | Μ      | Х                        |
| 17   | Send PN command                                | RFCOMM, 5.5.3            | C.3    | Х                        |
| 18   | Send NSC command                               | RFCOMM, 4.3              | 0      | Х                        |
| 19   | Respond to RPN command                         | RFCOMM, 5.5.1            | М      | Х                        |
| 20   | Send RPN command                               | RFCOMM, 5.5.1            | 0      | Х                        |
|      |  |                          |        |                          |

| 21 | Closing multiplexer by first sending a DISC command | RFCOMM, 5.2.2 | 0 | Х |
|----|---|---------------|---|---|
| 22 | Support of Credit Based Flow Control                | RFCOMM, 6.5   | Μ | Х |
| 23 | IUT Responds to Establishment of a DLC              | RFCOMM 5.2.1  | М | Х |

C.1: Mandatory to support, IF (SPP:1/2) supported, ELSE Excluded C.2: Mandatory to support, IF (SPP:1/1) supported, ELSE Excluded.

C.3: Mandatory for Initiating Device (Serial Port Profile as Device A), otherwise Optional.

Serial Port Profile External to Core

#### **1 Supported Device Role**

|      | Table 1: Device Role |                          |        |                          |
|------|----------------------|--------------------------|--------|--------------------------|
| Item | Capability           | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
| 1    | Device A (DevA)      | SPP, 2.2                 | O.1    | Х                        |
| 2    | Device B (DevB)      | SPP, 2.2                 | 0.1    | Х                        |

O.1: Mandatory to support at least One of the defined roles.

#### 2 Support of SPP service

| Table 2: Support of Serial Profile Service |                          |                          |                                 |  |  |
|--|--------------------------|--------------------------|---------------------------------|--|--|
|  | System Spec<br>Reference | Status                   | Support<br>[Yes] or [No]        |  |  |
| се   | SPP, 1.2                 | C.1                      | Х                               |  |  |
|  | ce                       | System Spec<br>Reference | System Spec Status<br>Reference |  |  |

C.1: Mandatory for devices that support Serial Profile for serial cable emulation as a Bluetooth service. Irrelevant for devices that support Serial Profile for usage by another application profile e.g. FAX, DUN, HFP

#### **3 Application procedures**

| Table 3: Application procedures |  |                          |        |                          |  |  |  |
|---------------------------------|--|--------------------------|--------|--------------------------|--|--|--|
| Item                            | Capability   | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |  |  |  |
| 1                               | Establish link and set up virtual serial connection                          | SPP, 3.1                 | C.1    | Х                        |  |  |  |
| 2                               | Accept link and virtual serial connection establishment                      | SPP, 3.1                 | C.2    | Х                        |  |  |  |
| 3                               | Register Service record for application in local SDP database                | SPP, 3.1                 | C.2    | Х                        |  |  |  |
| 4                               | No release in Sniff mode. Sniff mode enabled in the Link Manager             | SPP, 3.2                 | 0      | Х                        |  |  |  |
| 5                               | No release in Hold mode. Hold mode enabled in the Link Manager               | SPP, 3.2                 | 0      | Х                        |  |  |  |
| 6                               | No release in Park mode. Park mode enabled in the Link Manager               | SPP, 3.2                 | 0      | Х                        |  |  |  |
| 7                               | No release after Master/Slave switch. M/S switch enabled in the Link Manager | SPP, 2.4                 | 0      | Х                        |  |  |  |

C.1: Mandatory for DeviceA, Irrelevant for DeviceB

C.2: Mandatory for DeviceB, Irrelevant for DeviceA

# **4 Service Discovery Protocol**

# Table 4: Service Prot Profile Record Content (SerialPort UUID)

The Serial Port Profile requires compliance with the Service Discovery Protocol It inherits the "mandatory", "optional" and "conditional" definitions from the Service Discovery Protocol.

| Item | Capability                                | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---|--------------------------|--------|--------------------------|
| 1    | SerialPort service class (UUID16: 0x1101) | SPP, 6.1                 | C.1    | Х                        |
| 2    | Protocol0, L2CAP                          | SPP, 6.1                 | C.1    | Х                        |
| 3    | Protocol1, RFCOMM                         | SPP, 6.1                 | C.1    | Х                        |
| 4    | Server Channel number                     | SPP, 6.1                 | C.1    | Х                        |
| 5    | Displayable text name                     | SPP, 6.1                 | C.1    | Х                        |

C.1: Mandatory for role B, if capability Support of Serial Profile Service (SPP, 2/1) supported. Irrelevant for Role A. Note: If more than one Serial Port Profile Service is available, more than SerialPort record can be registered.

# **5 Link Manager Procedures**

# Table 5: Encryption

| Item | Capability                | System Spec<br>Reference | Status | Support<br>[Yes] or [No] |
|------|---------------------------|--------------------------|--------|--------------------------|
| 1    | Initiate Encryption       | SPP, 2.4                 | 0      | Х                        |
| 2    | Accept Encryption Request | SPP 2.4                  | Μ      | Х                        |
| 3    | Point to Point Encryption | SPP 7.1                  | М      | Х                        |
| 4    | Stop Encryption           | SPP 7.1                  | М      | Х                        |