

Channel Sounding (CS)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

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1 Identification of the implementation

1.1 Implementation Under Test (IUT) identification

Identification of the Implementation Under Test (IUT) is to be filled in to provide as much detail as possible regarding version numbers and configuration options.

An ICS contact person to respond to queries regarding information supplied in this ICS proforma is named in the Declaration of Compliance: Summary of Selected Specifications in Implementation.

1.2 Roles

Table 1: Role Requirements

Item	Version	Reference	Status	Inter-Layer Dependency
1	CS Initiator	[1] 4.3	C.1	[2] LL 1/7
2	CS Reflector	[1] 4.3	C.1	[2] LL 1/8

C.1: Mandatory to support at least one.

1.3 Supported Features

Table 2: Supported Features

Item	Feature	Reference	Status	Inter-Layer Dependency
1	Channel Sounding	[1]	M	[2] LL 9/56
2	CS_SYNC LE 2M PHY	[1] 2	O	[2] LL 13/10
3	CS Mode-0	[1] 4.3.1	M	N/A
4	CS Mode-1	[1] 4.3.2	M	[2] LL 13/1
5	CS Mode-2	[1] 4.3.3	M	[2] LL 13/2
6	CS Mode-3	[1] 4.3.4	O	[2] LL 13/3
7	Round Trip Time	[1] 3.2	M	N/A
8	More than one antenna element	[1] 4.7	O	N/A
9	Multiple CS Configurations	[1] 4.2	O	N/A
10	Procedure Repeat	[1] 2.4	O	[2] LL 13/12
11	Channel Selection #3c	[1] 4.1.4	O	[2] LL 13/13
12	Phase-based Distance Estimate with Sounding Sequence	[1] 3.3.1.1	O	N/A
13	LE 2M 2BT	[1] 2	O	[3] RFPHY 3/9
14	Phase-based Normalized Attack Detector Metric	[1] 3.5.1	O	N/A
15	CS Tone Quality Indication	[1] 4.6	O	[2] LL 9/57

Table 3: Round Trip Time Feature

Prerequisite: CS 2/6 “Round Trip Time”

Item	Version	Reference	Status
1	RTT AA Only	[1] 3.2	M
2	RTT w/ Sounding Sequence, 32-bit	[1] 3.3	C.3
3	RTT w/ Sounding Sequence, 96-bit	[1] 3.3	O
4	RTT w/ Random Bit Sequence, 32-bit	[1] 3.4	O
5	RTT w/ Random Bit Sequence, 64-bit	[1] 3.4	O
6	RTT w/ Random Bit Sequence, 96-bit	[1] 3.4	O
7	RTT w/ Random Bit Sequence, 128-bit	[1] 3.4	O
8	RTT AA Only w/ 10 ns accuracy	[1] 3.2	O



Item	Version	Reference	Status
9	RTT w/ Sounding Sequence w/ 10 ns accuracy	[1] 3.3	C.1
10	RTT w/ Random Bit Sequence w/ 10 ns accuracy	[1] 3.4	C.2

- C.1: Optional IF CS 3/2 “RTT w/ Sounding Sequence, 32-bit” OR CS 3/3 “RTT w/ Sounding Sequence, 96-bit”, otherwise Excluded.
- C.2: Optional IF CS 3/4 “RTT w/ Random Bit Sequence, 32-bit” OR CS 3/5 “RTT w/ Random Bit Sequence, 64-bit” OR CS 3/6 “RTT w/ Random Bit Sequence, 96-bit” OR CS 3/7 “RTT w/ Random Bit Sequence, 128-bit”, otherwise Excluded.
- C.3: Mandatory IF CS 2/11 “Phase-based Distance Estimate with Sounding Sequence”, otherwise Optional.

Table 4: Round Trip Time Feature

Prerequisite: CS 2/7 “More than one antenna element”

Item	Version	Reference	Status
1	2 antennas	[1] 4.7	C.1
2	3 antennas	[1] 4.7	C.1
3	4 antennas	[1] 4.7	C.1

- C.1: Mandatory to support one and only one.

2 References

- [1] Specification of the Bluetooth System, Volume 6, Part H (Channel Sounding), Version 6.0 or later
- [2] ICS Proforma for Link Layer (LL)
- [3] ICS Proforma for Radio Frequency Physical Layer (RFPHY)

3 Revision history and acknowledgments

Revision History

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0	p0	2024-09-04	Approved by BTI on 2024-08-14. Prepared for TCRL 2024-2 publication.

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