Electronic Shelf Label Service (ESLS)

***Bluetooth*® Implementation Conformance Statement (ICS) Proforma**

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1 General principles

1.1 Implementation Under Test (IUT) identification

Using the Bluetooth SIG qualification tool, the implementer is expected to declare details about what will be implemented.

1.2 Enforcement of inter-layer dependencies

This ICS includes one or more tables with inter-layer dependencies (ILDs). ILDs are used for specification requirements that are dependent on other supporting specifications. ILDs can refer to an individual ICS item in a separate layer (individual ILD), or it can refer to the full layer (full-layer ILD).

ILDs residing in an X2Core layer will be enforced from the Bluetooth SIG qualification tool in the following conditions, depending on where the referred ILD is residing:

Referred ILD resides in	Individual ILD	Full-layer ILD
Controller layer	Core-Complete configuration, or Referred layer is supported	N/A
Lower HCI layer	HCI is supported	N/A
Upper HCI layer	Core-Host configuration, or UHCI is supported	N/A
Host layer	Core-Host configuration, or Core-Complete configuration, or Referred layer is supported	N/A
X2Core layer	Core-Host configuration, or Core-Complete configuration, or Referred layer is supported	Core-Host configuration, or Core-Complete configuration

Table 1.1: Enforcement of an ILD within the Bluetooth SIG qualification tool

2 ICS declarations

2.1 Versions

Table 0: X.Y Versions

Item	Version	Reference	Status
1	ESLS v1.0	[1]	M

Table 1: X.Y.Z Versions

Item	Version	Reference	Status
1	ESLS v1.0.1	[3]	C.1

C.1: Optional IF ESLS 0/1 “ESLS v1.0”, otherwise Excluded.

2.2 Transports

Table 2: Transport Requirements

Item	Transport	Reference	Status
1	Service supported over BR/EDR	[1] 2.3	C.1
2	Service supported over LE	[1] 2.3	C.2, C.3

C.1: Excluded for this Service.

C.2: Excluded for this Service IF CORE 41/1 “BR/EDR Core Configuration”.

C.3: Mandatory for this Service.

2.3 Service requirements

2.3.1 Electronic Shelf Label Service

Table 3: Electronic Shelf Label Service

Item	Capability	Reference	Status
1	ESL Address characteristic	[1] 3.1	M
2	AP Sync Key Material characteristic	[1] 3.2	M
3	ESL Response Key Material characteristic	[1] 3.3	M
4	ESL Current Absolute Time characteristic	[1] 3.4	M
5	ESL Display Information characteristic	[1] 3.5	C.1
6	ESL Image Information characteristic	[1] 3.6	C.1
7	ESL Sensor Information characteristic	[1] 3.7	C.2
8	ESL LED Information characteristic	[1] 3.8	C.3
9	ESL Control Point characteristic	[1] 3.9	M
10	One display	[1] 2.7.2.1	O
11	More than one display	[1] 2.7.2.1	O
12	One LED	[1] 2.7.2.2	O
13	More than one LED	[1] 2.7.2.2	O
14	One sensor	[1] 2.7.2.3	O

Item	Capability	Reference	Status
15	More than one sensor	[1] 2.7.2.3	O
16	Stored images	[1] 2.7.2.1.1	C.1
17	Vendor-specific sensor type	[1] 3.7.1.1	O
18	Monochrome LED	[1] 3.8.1.2	O
19	sRGB LED	[1] 3.8.1.1	O

C.1: Mandatory IF ESLS 3/10 “One display” OR ESLS 3/11 “More than one display”, otherwise Excluded.

C.2: Mandatory IF ESLS 3/14 “One sensor” OR ESLS 3/15 “More than one sensor”, otherwise Excluded.

C.3: Mandatory IF ESLS 3/12 “One LED” OR ESLS 3/13 “More than one LED”, otherwise Excluded.

Table 4: ESL Control Point Requirements

Prerequisite: ESLS 3/9 “ESL Control Point characteristic”

Item	Capability	Reference	Status
1	Ping	[1] 3.9.2.1	M
2	LED Control	[1] 3.9.2.10	M
3	LED Timed Control	[1] 3.9.2.11	M
4	Display Image	[1] 3.9.2.8	M
5	Display Timed Image	[1] 3.9.2.9	M
6	Unassociate from AP	[1] 3.9.2.2	M
7	Read Sensor Data	[1] 3.9.2.6	M
8	Refresh Display	[1] 3.9.2.7	M
9	Factory Reset	[1] 3.9.2.4	M
10	Vendor-specific Tag	[1] 3.9.2.12	M
11	Service Reset	[1] 3.9.2.3	M
12	Update Complete	[1] 3.9.2.5	M

2.4 GATT requirements

Table 5: GATT Requirements

Item	Capability	Reference	Status	Inter-Layer Dependency
1	Read Long Characteristic Values	[1] 2.5	M	[2] GATT 4/10
2	Write Characteristic Value	[1] 2.5	M	[2] GATT 4/14
3	Write without Response	[1] 2.5	M	[2] GATT 4/12
4	Single Notification	[1] 2.5	M	[2] GATT 4/17
5	Write Characteristic Descriptors	[1] 2.5	M	[2] GATT 4/21
6	GATT Server over LE	[1] 2.5	M	[2] GATT 1a/3

3 References

[1] Electronic Shelf Label Service Specification, Version 1.0 or later

[2] ICS Proforma for Generic Attribute Profile (GATT)

[3] Electronic Shelf Label Service Specification, Version 1.0.1

4 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
0	p0	2023-04-04	Approved by BTI on 2023-03-15. ESLS v1.0 adopted by the BoD on 2023-03-28. Prepared for initial publication.
	p1r00	2023-08-15	TSE 22893 (rating 1): Added “ESL” to the relevant characteristic names in Table 3 (Electronic Shelf Label Service).
1	p1	2024-07-01	Approved by BTI on 2024-04-21. Prepared for TCRL 2024-1 publication.
	p2r00–r01	2025-02-13 – 2025-05-07	TSE 27099 (rating 1): For Table 2, updated 2/2 Status value and added conditionals C.2 and C.3. Updated 5/4 Capability value and added 5/6. Applied current ICS template. TSE 27270 (rating 2): Added Table 1 and reference [3] to account for the publication of ESLS v1.0.1.
2	p2	2025-07-08	Approved by BTI on 2025-06-15. ESLS v1.0.1 adopted by the BoD on 2025-06-30. Prepared for TCRL pkg100 publication.

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