



CYW20704A2 BT Chipset SW Technical Support

2024/5/24 Yanni YEH



Realtek is Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA

2024-03-19 **restricted**

BLE remote end does not reply during valid connection interval

The image shows a Wireshark capture of BLE L2CAP traffic. A pink oval highlights a sequence of 12 'Empty LE Packets' sent by the central device to the peripheral. The peripheral does not respond during this interval. The right-hand pane shows 'Link-Layer Information' for the connection.

Packet #	Time (s)	Source	Destination	Length	Status
1	1'079.514 5...	Central	Peripheral	10 bytes	Error
2	1'079.514 5...	Central	Peripheral	14 bytes	OK
3	1'079.368 0...	Central	Peripheral	0 bytes	OK
4	1'079.368 0...	Central	Peripheral	0 bytes	OK
5	1'079.368 2...	Central	Peripheral	0 bytes	OK
6	1'079.514 3...	Central	Peripheral	0 bytes	Warning
7	1'079.379 3...	Central	Peripheral	0 bytes	No Respons...
8	1'079.379 3...	Central	Peripheral	0 bytes	OK
9	1'079.390 5...	Central	Peripheral	0 bytes	No Respons...
10	1'079.390 5...	Central	Peripheral	0 bytes	OK
11	1'079.401 8...	Central	Peripheral	0 bytes	No Respons...
12	1'079.401 8...	Central	Peripheral	0 bytes	OK
13	1'079.413 0...	Central	Peripheral	0 bytes	No Respons...
14	1'079.424 3...	Central	Peripheral	0 bytes	No Respons...
15	1'079.424 3...	Central	Peripheral	0 bytes	OK
16	1'079.435 5...	Central	Peripheral	0 bytes	No Respons...
17	1'079.446 8...	Central	Peripheral	0 bytes	No Respons...
18	1'079.458 0...	Central	Peripheral	0 bytes	No Respons...
19	1'079.469 3...	Central	Peripheral	0 bytes	No Respons...
20	1'079.480 5...	Central	Peripheral	0 bytes	No Respons...
21	1'079.491 8...	Central	Peripheral	0 bytes	No Respons...
22	1'079.503 0...	Central	Peripheral	0 bytes	No Respons...

Link-Layer Information

- Sniffer Radio**
 - RSSI: -43.0 dBm
 - RX Quality: Average
 - RF Gain: 0.0 dB
- RF Channel**
 - RF Channel Number: 2
 - RF Channel Index: 1 (data)
 - Initial Center Frequency Offset: +0 Hz
- Link Layer**
 - PHY: LE 1M
 - Coding Scheme: Uncoded (1 Mbps)
 - Access Address: 0x5065649B
 - CRC Initial Seed: 0xC23602
 - Physical Channel: LE Connection (38:D5:7A:...
- Timing**
 - Start Time: 1'079.424 308 500
 - Duration: 80 us
 - Delta from Previous: 11.249 ms (18.0 slots)
 - Connection Interval: 11.249 ms
 - Connection Event Counter: 17'448
- Devices**
 - Originator: Central
 - Transmitter: Central: 38:D5:7A:D7:42:FE
 - Receiver: Peripheral: "BRM_BA02_26..."
 - Central Address: 38:D5:7A:D7:42:FE
 - Peripheral Address: 20:44:41:3E:12:61
- Security**
 - Encryption: Not Encrypted
- Acknowledgement and Flow Control**
 - Reception: NAK
- Link-Layer Packet**
 - Header
 - LLID: L2CAP Continuation Fram...

Data

Data type: Raw Data

BLE remote end does not reply during valid connection interval

ALT_disconnect_240522_03.btt* - Ellisis Bluetooth Analyzer

File View Layout Search Record Tools Help

Record Stop Restart Save & Continue Navigate Markers Filtering: Involving BRM_BA02_261, BRM_SA01_76C, BRM_BA... | No LE Anonymous Adv | No Unknown Broadcast

Low Energy Overview Spectrum

Protocol: Single All layers 3'135 items displayed

Item	Communication	Payload	Status	Time	Applicati...	Transmitter
Out Of Sync Packets (Duratio...	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA		OK	3'098.671 648 375	LE-LL	Peripheral: "BRM_BA03_7BA" 20:...
Empty LE Packet	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	0 bytes	OK	3'098.671 648 375	LE-LL	Peripheral: "BRM_BA03_7BA" 20:...
Empty LE Packet	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	0 bytes	OK	3'098.739 147 375	LE-LL	Peripheral: "BRM_BA03_7BA" 20:...
Empty LE Packet	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	0 bytes	OK	3'098.806 645 500	LE-LL	Peripheral: "BRM_BA03_7BA" 20:...
Empty LE Packet	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	0 bytes	OK	3'098.874 144 750	LE-LL	Peripheral: "BRM_BA03_7BA" 20:...
Empty LE Packet	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	0 bytes	OK	3'099.087 890 250	LE-LL	Peripheral: "BRM_BA03_7BA" 20:...
Empty LE Packet	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	0 bytes	OK	3'099.155 388 375	LE-LL	Peripheral: "BRM_BA03_7BA" 20:...
Empty LE Packet	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	0 bytes	OK	3'099.222 888 500	LE-LL	Peripheral: "BRM_BA03_7BA" 20:...
Empty LE Packet	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	0 bytes	OK	3'099.290 386 625	LE-LL	Peripheral: "BRM_BA03_7BA" 20:...
Empty LE Packet	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	0 bytes	OK	3'099.504 131 125	LE-LL	Peripheral: "BRM_BA03_7BA" 20:...
Empty LE Packet	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	0 bytes	OK	3'099.571 630 250	LE-LL	Peripheral: "BRM_BA03_7BA" 20:...
LLCP Reserved (0x64)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	Warning	3'099.231 265 625	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Transfer (100 retries...	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	Warning	3'099.231 265 625	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.723 816 125	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Packet (Reser...	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	Warning	3'097.723 816 125	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.735 066 375	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.746 316 125	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Packet (Reser...	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	Warning	3'097.746 316 125	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.768 815 125	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.780 065 125	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.791 313 750	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.802 563 875	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.825 062 625	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.847 561 375	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.858 811 625	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.881 310 125	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.892 559 375	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.903 809 125	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.926 308 125	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.937 556 875	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.948 807 125	LLCP	Central: EC:5C:68:1D:BD:FF
LE-C Unit (Reserved (...)	Central: EC:5C:68:1D:BD:FF <-> Peripheral: "BRM_SA01_76C" 20:44:41:00:27:6C	5 bytes (64 CC 68 FC E2)	No Response From Peripheral	3'097.960 056 625	LLCP	Central: EC:5C:68:1D:BD:FF

Timing

origin: 3,097,850.37 ms span: 68.90 ms Bluetooth WiFi HCI WCI WPAN Logic Misc Display Logic inputs

Bluetooth

Details

All fields Show in overview Display Search

Link-Layer Information

- Sniffer Radio
 - RSSI -49.0 dBm
 - RX Quality Average
 - RF Gain 0.0 dB
- RF Channel
 - RF Channel Number 32
 - RF Channel Index 30 (data)
 - Initial Center Frequency O... +7.813 kHz
- Link Layer
 - PHY LE 1M
 - Coding Scheme Uncoded (1 Mbps)
 - Access Address 0x5065452C
 - CRC Initial Seed 0x9E1719
 - Physical Channel LE Connection (EC:5C:68:...
- Timing
 - Start Time 3'097.892 559 375
 - Duration 120 us
 - Delta from Previous 11.249 ms (18.0 slots)
 - Connection Interval 11.249 ms
 - Connection Event Counter 40/209
- Devices
 - Originator Central
 - Transmitter Central: EC:5C:68:1D:BD:FF
 - Receiver Peripheral: "BRM_SA01_76...
 - Central Address EC:5C:68:1D:BD:FF
 - Peripheral Address 20:44:41:00:27:6C
- Security
 - Encryption Not Encrypted
- Acknowledgement and Flow C...
 - Reception NAK
- Link-Layer Packet
 - Header
 - LLID Control Packet

Piconets Channels Counters

Data

The BLE remote supervision timeout is illegal.

Connection Supervision Timeout 494.61 s

ALT_disconnect_240522_03.btt* - Ellisys Bluetooth Analyzer

File View Layout Search Record Tools Help

Record Stop Restart Save & Continue Navigate Markers Filtering: Involving BRM_BA02_261, BRM_SA01_76C, BRM_BA... | No LE Anonymous Adv | No Unknown Broadcast

Low Energy Overview Spectrum

Protocol: Single All layers 3'135 items displayed

Item	Communication	Payload	Status	Time	A...
L2CAP SDU (Basic, Dst=0xAB07)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	9 bytes (74 38 92 0E EA 24 13 30 C9)	Error	883.511 81...	L2CAP
L2CAP SDU (Basic, Dst=0x9F31)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	5 bytes (8B C1 3C 5D 04)	Error	883.523 29...	L2CAP
L2CAP SDU (Basic, Dst=0x209D)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	9 bytes (C1 51 3A FF 60 9E 13 D4 8A)	Error	883.534 31...	L2CAP
L2CAP SDU (Basic, Dst=0xAF4B)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	5 bytes (86 AA 06 E0 75)	Error	883.545 79...	L2CAP
L2CAP SDU (Basic, Dst=0x7919)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	9 bytes (0F A0 D2 F5 5A 73 DF 8A 3F)	Error	883.556 81...	L2CAP
L2CAP SDU (Basic, Dst=0xB361)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	10 bytes (12 8F 3F 80 BF 45 48 69 C1 BD)	Error	883.613 28...	L2CAP
LLCP Reserved (0x4F)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	16 bytes (4F CE 06 B3 2E 1E B1 6D D3 3...	Warning	883.860 55...	LLCP
L2CAP SDU (Basic, Dst=0xF1CE)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	5 bytes (AA 01 66 C2 23)	Error	884.018 27...	L2CAP
L2CAP SDU (Basic, Dst=0x7F57)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	9 bytes (F1 D1 C1 0C 39 4F C1 25 A0)	Error	884.051 79...	L2CAP
L2CAP SDU (Basic, Dst=0xCE41)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	5 bytes (93 D3 D6 25 67)	Error	884.063 27...	L2CAP
L2CAP SDU (Basic, Dst=0x0FEF)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	12 bytes (F8 CF 95 19 B1 03 3D B4 01 E...	Error	884.096 79...	L2CAP
L2CAP SDU (Basic, Dst=0x14D9)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	5 bytes (93 9D 32 2F 52)	Error	884.108 27...	L2CAP
L2CAP SDU (Basic, Dst=0x3AF2)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	16 bytes (60 B0 6E B1 D1 64 37 12 4C 4...	Error	884.108 80...	L2CAP
Empty LE Packets (x 397, 68 retries, 3.08 s)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61		No Respons...	884.119 29...	LE-LL
LLCP Reserved (0xFD)	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA		Warning	886.519 68...	LLCP
Empty LE Packets (x 227, 220 retries, 3.08 s)	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA		OK	886.520 01...	LE-LL
LLCP Reserved (0xCC)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	12 bytes (CC 12 56 05 5A D4 B4 8E 8F 5...	Warning	887.207 95...	LLCP
Empty LE Packets (x 529, 102 retries, 3.99 s)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61		OK	887.208 28...	LE-LL
LLCP Connection Update Indication (WinSz=217.5 ms, WinOfs=74.27625 s, Int=75.44 s, Lat=10'157, T/o=494....	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	12 bytes (00 AE 1D E8 C0 EB AD 27 35 C...	OK	889.602 08...	LLCP
LE-C Transfer (Connection Update Indication, WinSz=217.5 ms, WinOfs=74.27625 s, Int=75.44 s, Lat=10'157, T/o=494....	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	12 bytes (00 AE 1D E8 C0 EB AD 27 35 C...	OK	889.602 08...	LLCP
LE-C Unit (Connection Update Indication, WinSz=217.5 ms, WinOfs=74.27625 s, Int=75.44 s, Lat=10'157, T/o=494....	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	12 bytes (00 AE 1D E8 C0 EB AD 27 35 C...	OK	889.602 08...	LLCP
LE-C Packet (Connection Update Indication, WinSz=217.5 ms, WinOfs=74.27625 s, Int=75.44 s, Lat=10'157, T/o=494....	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	12 bytes (00 AE 1D E8 C0 EB AD 27 35 C...	OK	889.602 08...	LLCP
Empty LE Packet	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA	0 bytes	OK	889.602 41...	LLCP
Empty LE Packets (x 660, 641 retries, 9.18 s)	Central: 38:D5:7A:D7:43:03 <-> Peripheral: "BRM_BA03_7BA" 20:44:41:00:27:BA		OK	889.602 41...	LE-LL
LLCP Reserved (0x58)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	12 bytes (58 6D AF 1F 55 36 7B B9 D8 D...	Warning	891.212 81...	LLCP
Empty LE Packets (x 470, 253 retries, 4.74 s)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61		OK	891.213 14...	LE-LL
L2CAP SDU (Basic, Dst=0x31EB)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	10 bytes (74 61 46 9C 63 E2 8E DD 7B 5D)	Error	895.949 14...	L2CAP
LLCP Reserved (0x67)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	12 bytes (67 F6 46 7F E3 81 97 13 E9 FC...	Warning	895.949 48...	LLCP
L2CAP SDU (Basic, Dst=0x8C32)	Central: 38:D5:7A:D7:42:FE <-> Peripheral: "BRM_BA02_261" 20:44:41:3E:12:61	10 bytes (61 AC BB C8 6B 67 82 CE 70 0A)	Error	896.196 63...	L2CAP

Timing

origin: 889.601.95 ms span: 13.78 ms Bluetooth WiFi HCI WCI WPAN Logic Misc Display Logic inputs

Webex | 37:37 | Speaking: Li Cheng...

Details

All fields Show in overview Display Search

Name Value

- Delta from Previous 229.75 us (0.4 slots)
- T_IFS 149.750 us
- Connection Interval 11.250 ms
- Connection Event Counter 1'437
- Devices
 - Originator Central
 - Transmitter Central: 38:D5:7A:D7:43:03
 - Receiver Peripheral: "BRM_BA03_7BA"
 - Central Address 38:D5:7A:D7:43:03
 - Peripheral Address 20:44:41:00:27:BA
- Security
 - Encryption Not Encrypted
- Acknowledgement and Flow C...
 - Reception ACK
- Retransmission Information
 - Data Retries 0
 - Empty Retries 0
 - Total Retries 0
- Link-Layer Packet
 - Header
 - LLID Control Packet
 - NESN 1
 - SN 0
 - MD 0
 - CP 0
 - Payload Data Length 12 bytes
 - Data
 - Opcode LL_CONNECTION_UPDATE...
 - Transmit Window Size 217.5 ms
 - Transmit Window Offset 74.27625 s
 - Connection Event Interval 75.44 s
 - Connection Peripheral Lat... 10'157
 - Connection Supervision Ti... 494.61 s
 - Instant 55'028 (-11'945) | 755.22...

Please check Bluetooth Spec.

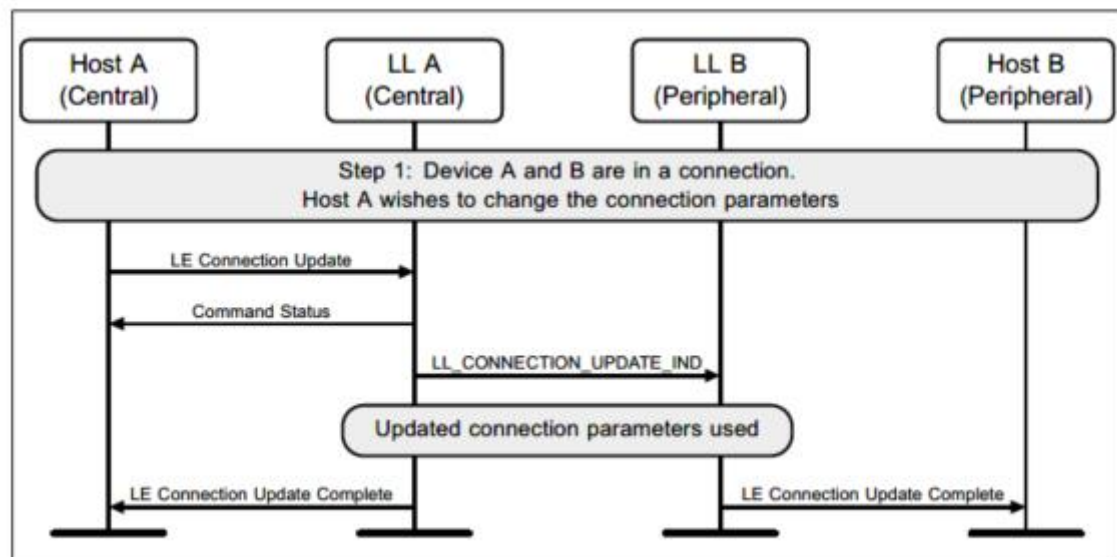


Figure 6.2: Connection update

7.8.18 LE Connection Update command

Command	OCF	Command Parameters	Return Parameters
HCI_LE_Connection_Update	0x0013	Connection_Handle, Connection_Interval_Min, Connection_Interval_Max, Max_Latency, Supervision_Timeout, Min_CE_Length, Max_CE_Length	none

Connection_Interval_Min: Size: 2 octets

Value	Parameter Description
N = 0xFFFF	Minimum value for the connection interval. This shall be less than or equal to Connection_Interval_Max. Range: 0x0006 to 0x0C80 Time = $N \times 1.25$ ms Time Range: 7.5 ms to 4 s.

Connection_Interval_Max: Size: 2 octets

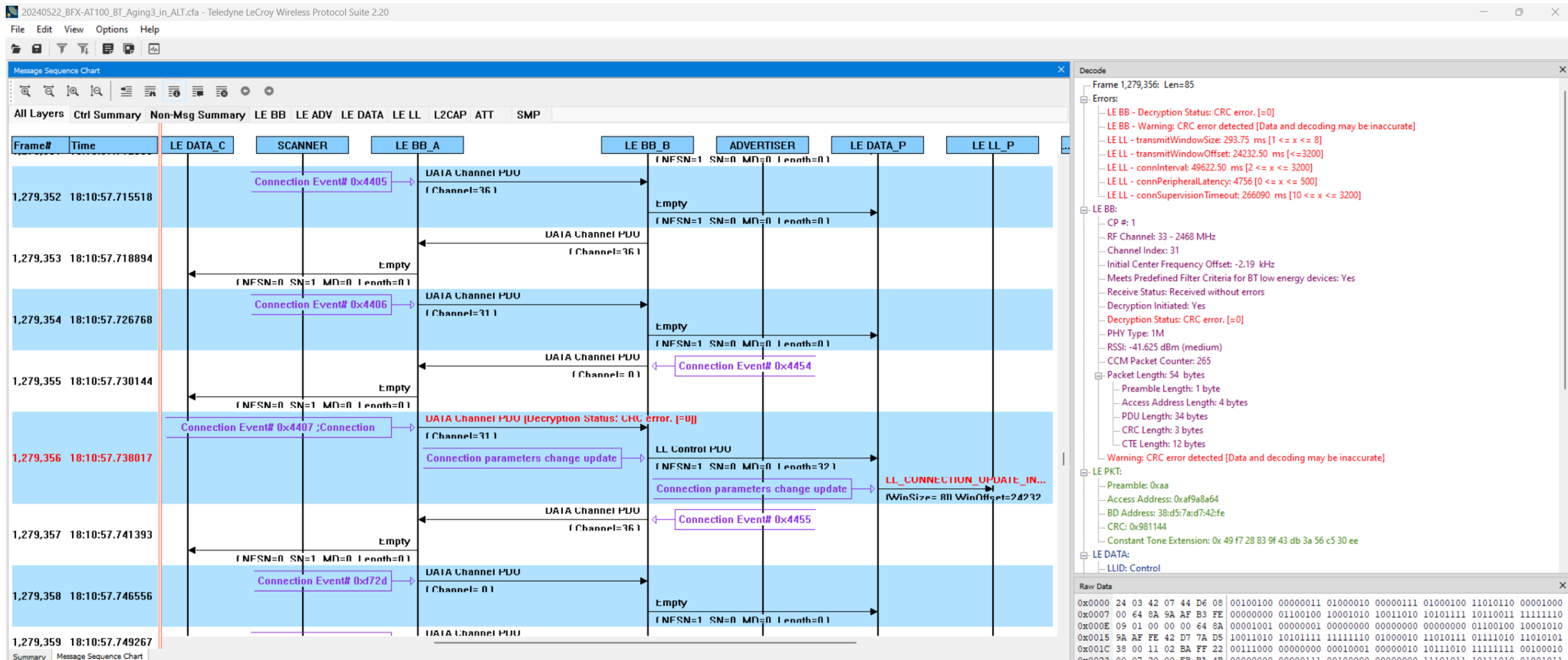
Value	Parameter Description
N = 0xFFFF	Maximum value for the connection interval. This shall be greater than or equal to Connection_Interval_Min. Range: 0x0006 to 0x0C80 Time = $N \times 1.25$ ms Time Range: 7.5 ms to 4 s.

Max_Latency: Size: 2 octets

Value	Parameter Description
0xFFFF	Maximum Peripheral latency for the connection in number of sub-rated connection events. Range: 0x0000 to 0x01F3

Supervision_Timeout: Size: 2 octets

Value	Parameter Description
N = 0xFFFF	Supervision timeout for the LE Link. Range: 0x000A to 0x0C80 Time = $N \times 10$ ms Time Range: 100 ms to 32 s



Propose and modify parameters for experiments.

- Can clarify the BT stack configuration with “Connection Supervision Timeout”
 - Please change to $< 32s$.
- Change the BLE Remote controller connection interval to 50ms or 100ms to check these difference.
- Force the BLE remote control not to enter power saving mode.
 - We suspect that the BLE remote has clock-shift (RF Deviation) when waking up from sleep mode.

