RF-PHY Test Report

Report No.: AGC08509200801RB01

TEST NAME	:	BLUETOOTH RF-PHY CONFORMANCE TESTING
PRODUCT DESIGNATION	:	Bluetooth Low Energy Data Transmission Module
BRAND NAME	:	HOPERF
MODEL NAME	:	HM-BT2204, HM-BT2201, HM-BT2202, HM-BT2206, HM-BT2208, HM-BT2210
CLIENT	:	WUXI HOPE SENSOR TECHNOLOGY CO., LTD
DATE OF ISSUE	:	Sep. 04, 2020
STANDARD(S)	:	Radio Frequency Physical Layer (RF PHY) *Bluetooth®* Test Suite, Revsion RF-PHY.TS.p15
REPORT VERSION	:	V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd.

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Sep. 04, 2020	Valid	Initial release

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1. TEST RESULT CERTIFICATION

Applicant	WUXI HOPE SENSOR TECHNOLOGY CO., LTD
Applicant Address	No.5, Guanshan Road, Xin 'an Street, Xinwu District, Wuxi, Jiangsu, China
Manufacturer	SHEN ZHEN HOPE MICROELECTRONICS CO., LTD
Manufacturer Address	30th Floor, Block A, Building 8, Vanke Cloud City Phase III, Xili Street, Nanshan District, Shenzhen, GD, P.R. China
Product Designation	Bluetooth Low Energy Data Transmission Module
Brand Name	HOPERF
Test Model	HM-BT2204
Series Model	HM-BT2201, HM-BT2202, HM-BT2206, HM-BT2208, HM-BT2210
Model Difference	All the same except for the model name
Test Standard	Radio Frequency Physical Layer (RF PHY) *Bluetooth*® Test Suite, Revision RF-PHY.TS.p15
Date of Test	Aug. 12, 2020 to Sep. 02, 2020

We (AGC), Attestation of Global Compliance (Shenzhen) Co., Ltd. for compliance with the requirements set forth in the Radio Frequency Physical Layer (RF PHY) *Bluetooth*® Test Suite, revision RF-PHY.TS.p15. The results of testing in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By _____
Cool Cheng(Cheng Mengguo) Sep. 04, 2020

Reviewed By _____
Forrest Lei(Lei Yonggang) Sep. 04, 2020

Approved By _____
Solger Zhang(Zhang Hongyi) Sep. 04, 2020
Authorized Officer

2. EUT DESCRIPTION

Product Designation	Bluetooth Low Energy Data Transmission Module
Brand Name	HOPERF
Test Model	HM-BT2204
Frequency Bands	2402~2480MHz
Bluetooth Version	V5.2
Type of modulation	GFSK
Hardware Version	V1.0
Software Version	V1.1
Sample ID Number	200803019
PICS	See Annex A
Test Setup	Connect EUT (Equipment under Test) directly to RF test system using low loss RF cable with SMA connector. Direct Test Mode (DTM) protocol defined in Bluetooth specification is activated to enable test execution.

3. ADMINISTRATIVE DATA OF TEST FACILITY

Facility	Attestation of Global Compliance (Shenzhen) Co., Ltd.
Location	1/F., Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Phone Number	0086-755-2523 4088
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Contact Person	Mr. Totti Huang

4. TESTING CHARACTERISTICS

PICS	See Annex A
PIXIT	See Annex B
Retention date for log reference	5 years
Test Specification	Radio Frequency Physical Layer (RF PHY) *Bluetooth*® Test Suite, Revision RF-PHY.TS.p15

TEST CONDITION:

Normal Operation Conditions defined in RF-PHY Test Specification

Temperature in the range manufacturer declared value±10°C	Yes
Relative Humidity in the range manufacturer declared min. value to max. value	Yes
Power Source Voltage shall be manufacturer declared nominal supply voltage	Yes

Actual Test Conditions

	NORMAL
Temperature	24.3°C
Relative Humidity	54.2%
Power Source (DC)	3.3V

The temperature and relative humidity are average value.

5. TEST EQUIPMENT AND ACCESSORIES FOR TESTS

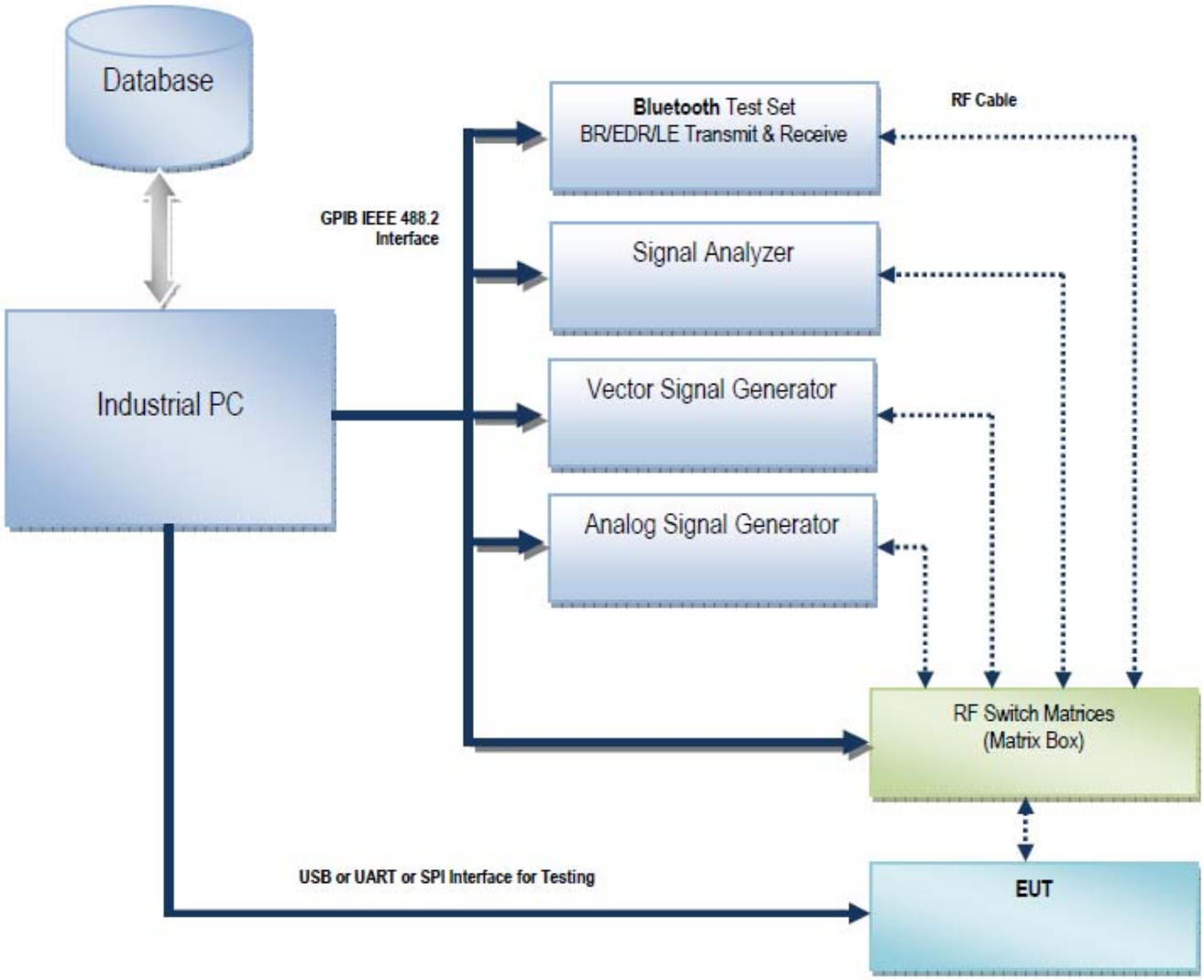
Setup 1: RTSB-A Test Systems

No.	Equipment Name	Manufacturer	Model Name	Series Number	Cal. Due
1	Bluetooth Tester	R&S	CMW270	100528	2021.08.20
2	Signal Analyzer	R&S	FSL	104484	2021.08.20
3	Vector Signal Generator	R&S	SMBV100A	260838	2021.08.20
4	Analog Signal Generator	R&S	SMF100A	104685	2021.08.20
5	RF Box	CTTL-Systems	N/A	N/A	N/A
6	Power Supply	HAMEG	HMP2020	021610781	2021.08.20
7	Shielding Box	JIACHEN	JC-P505	JE512L192P	2020.12.11
8	Bluetooth RF Test System Software	CTTL-Systems	RTSB-A	V2.0.0 (SW Version)	N/A

Setup 2: RTSB-A Test System

No.	Equipment Name	Manufacturer	Model Name	Series Number	Cal. Due
1	Bluetooth Tester	R&S	CBT32	100805	2020.12.14
2	Signal Analyzer	R&S	FSV	101857	2020.12.11
3	Vector Signal Generator	R&S	SMJ100A	100745	2021.03.16
4	RF Box	CTTL-Systems	N/A	N/A	N/A
5	Laboratory DC Power Supply	HP	6627A	3420A01542	2020.12.11
6	Shielding Box	JIACHEN	JC-P505	JE512L192P	2020.12.11
7	Bluetooth RF Test System Software	CTTL-Systems	RTSB-A	V2.0.0 (SW Version)	N/A

6. RF-PHY Test Setup



7. MEASUREMENT UNCERTAINTY

According to applied Bluetooth RF-PHY Test Specification the conducted measurement RF power uncertainties are as follows:

1. Absolute RF power(wanted channel):±1.2 dB
2. Absolute RF power(for unwanted emissions in the ISM band):±3 dB
3. Absolute RF power(for unwanted emissions outside the 2.4GHz ISM band): ±3 dB, ±4dB for frequencies above 4GHz.
4. Relative RF power (wanted channel):±1dB

According to applied Bluetooth RF-PHY Test Specification the radio frequency uncertainties are as follows:

1. Absolute frequency (RF frequencies):±5kHz
2. Absolute frequency (Frequency deviation of modulated signal):±4kHz
3. Relative frequency (Frequency drift of carrier during modulation):±1kHz

The measurement uncertainties of the used measurement equipment are better than what is described above. All measurements and results are recorded and maintained at the laboratory.

Measurement uncertainties are taken into account when concluding measurement to pass / fail criteria. The detailed measurement uncertainty is well defined in the test lab's internal documents.

8. SUMMARY OF TEST RESULTS

Test Standard: Radio Frequency Physical Layer (RF PHY) *Bluetooth*® Test Suite, Revision RF-PHY.TS.p15
The summary of test cases called for in RF-PHY.TS.p15 is given as below

Test Suites	Tested	Passed	Failed
RF-PHY Conformance Testing	27	27	0
Sum	27	27	0

Note:

"Tested" means the test cases applied and performed on EUT.
"Passed" means the test cases in which EUT can successfully meet the requirement of quoted test standard.
"Failed" means the test cases in which EUT cannot meet the requirement of quoted test standard.
"N/A" means the test cases which are not applicable for EUT according to PICS statements.

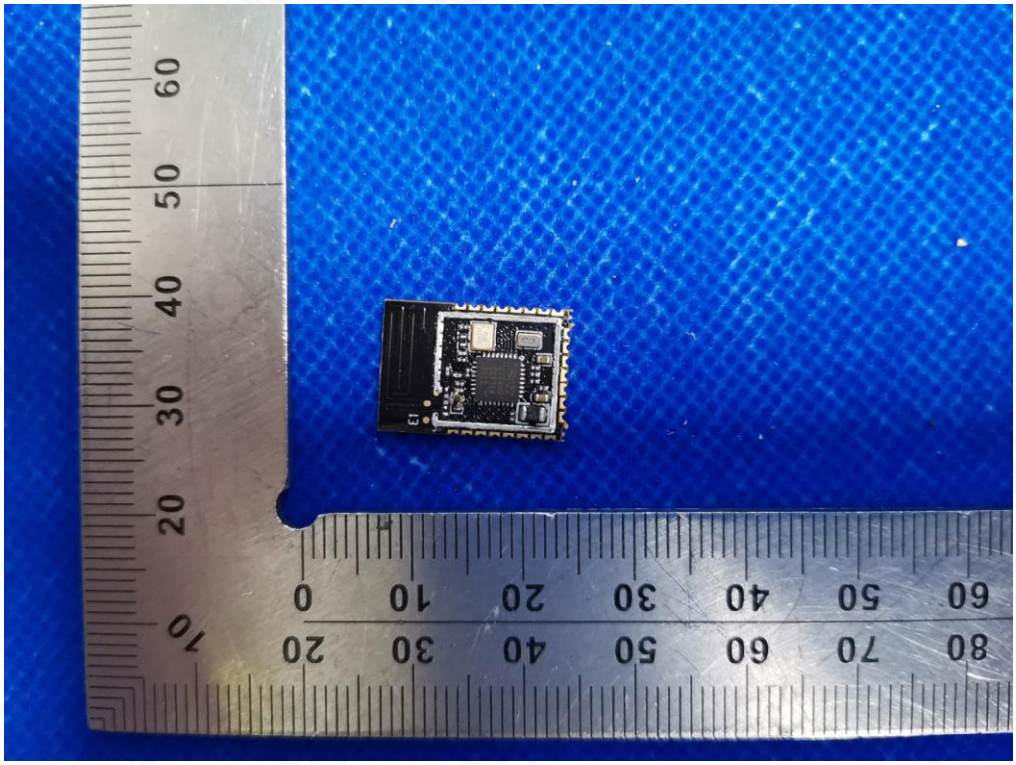
No.	Test Case Identifier	Description	Verdict	Category	Test System
1	RF-PHY/TRM/BV-01-C	Output Power	Passed	A	Setup 1
2	RF-PHY/TRM/BV-03-C	In-band Emission	Passed	A	Setup 1
3	RF-PHY/TRM/BV-05-C	Modulation Characteristics	Passed	A	Setup 1
4	RF-PHY/TRM/BV-06-C	Carrier frequency offset and drift	Passed	A	Setup 1
5	RF-PHY/TRM/BV-08-C	In-band emissions at 2 Ms/s	Passed	A	Setup 1
6	RF-PHY/TRM/BV-09-C	Stable Modulation Characteristics at 1 Ms/s	N/A	A	
7	RF-PHY/TRM/BV-10-C	Modulation Characteristics at 2 Ms/s	Passed	A	Setup 1
8	RF-PHY/TRM/BV-11-C	Stable Modulation Characteristics at 2 Ms/s	N/A	A	
9	RF-PHY/TRM/BV-12-C	Carrier frequency offset and drift at 2 Ms/s	Passed	A	Setup 1
10	RF-PHY/TRM/BV-13-C	Modulation Characteristics, LE Coded (S=8)	Passed	A	Setup 1
11	RF-PHY/TRM/BV-14-C	Carrier frequency offset and drift, LE Coded (S=8)	Passed	A	Setup 1
12	RF-PHY/TRM/BV-15-C	Output power, With Constant Tone Extension	N/A	A	
13	RF-PHY/TRM/BV-16-C	Carrier frequency offset and drift, uncoded data at 1 Ms/s, Constant Tone Extension	N/A	A	
14	RF-PHY/TRM/BV-17-C	Carrier frequency offset and drift at 2 Ms/s, Constant Tone Extension	N/A	A	
15	RF-PHY/TRM/PS/BV-01-C	[Tx Power Stability, AoD Transmitter at 1 Ms/s with 2 µs Switching Slot	N/A	A	

16	RF-PHY/TRM/PS/BV-02-C	[Tx Power Stability, AoD Transmitter at 1 Ms/s with 1 µs Switching Slot	N/A	A	
17	RF-PHY/TRM/PS/BV-03-C	Tx Power Stability, AoD Transmitter at 2 Ms/s with 2 µs Switching Slot	N/A	B	
18	RF-PHY/TRM/PS/BV-04-C	Tx Power Stability, AoD Transmitter at 2 Ms/s with 1 µs Switching Slot	N/A	B	
19	RF-PHY/TRM/ASI/BV-05-C	Antenna switching integrity, AoD Transmitter at 1 Ms/s with 2 µs Switching Slot	N/A	B	
20	RF-PHY/TRM/ASI/BV-06-C	Antenna switching integrity, AoD Transmitter at 1 Ms/s with 1 µs Switching Slot	N/A	B	
21	RF-PHY/TRM/ASI/BV-07-C	Antenna switching integrity, AoD Transmitter at 2 Ms/s with 2 µs Switching Slot	N/A	B	
22	RF-PHY/TRM/ASI/BV-08-C	Antenna switching integrity, AoD Transmitter at 2 Ms/s with 1 µs Switching Slot	N/A	B	
23	RF-PHY/RCV/BV-01-C	Receiver sensitivity	Passed	A	Setup 1
24	RF-PHY/RCV/BV-03-C	C/I and receiver selectivity performance	Passed	A	Setup 1
25	RF-PHY/RCV/BV-04-C	Blocking Performance	Passed	A	Setup 1
26	RF-PHY/RCV/BV-05-C	Intermodulation Performance	Passed	A	Setup 1
27	RF-PHY/RCV/BV-06-C	Maximum input Level	Passed	A	Setup 1
28	RF-PHY/RCV/BV-07-C	PER Report Integrity	Passed	A	Setup 1
29	RF-PHY/RCV/BV-08-C	Receiver sensitivity at 2 Ms/s	Passed	A	Setup 1
30	RF-PHY/RCV/BV-09-C	C/I and Receiver Selectivity Performance at 2 Ms/s	Passed	A	Setup 1
31	RF-PHY/RCV/BV-10-C	Blocking performance at 2 Ms/s	Passed	A	Setup 1
32	RF-PHY/RCV/BV-11-C	Intermodulation performance at 2 Ms/s	Passed	A	Setup 1
33	RF-PHY/RCV/BV-12-C	Maximum input signal level at 2 Ms/s	Passed	A	Setup 1
34	RF-PHY/RCV/BV-13-C	PER Report Integrity at 2 Ms/s	Passed	A	Setup 1
35	RF-PHY/RCV/BV-14-C	Receiver Sensitivity at NOC, Stable Modulation Index	N/A	A	
36	RF-PHY/RCV/BV-15-C	C/I and Receiver Selectivity Performance, Stable Modulation Index	N/A	A	
37	RF-PHY/RCV/BV-16-C	Blocking Performance, Stable Modulation Index	N/A	A	
38	RF-PHY/RCV/BV-17-C	Intermodulation Performance, Stable Modulation Index	N/A	A	

39	RF-PHY/RCV/BV-18-C	Maximum input signal level, Stable Modulation Index	N/A	A	
40	RF-PHY/RCV/BV-19-C	PER Report Integrity, Stable Modulation Index	N/A	A	
41	RF-PHY/RCV/BV-20-C	Receiver sensitivity at 2 Ms/s, Stable Modulation Index	N/A	A	
42	RF-PHY/RCV/BV-21-C	C/I and Receiver Selectivity Performance at 2 Ms/s, Stable Modulation Index	N/A	A	
43	RF-PHY/RCV/BV-22-C	Blocking performance at 2 Ms/s, Stable Modulation Index	N/A	A	
44	RF-PHY/RCV/BV-23-C	Intermodulation performance at 2 Ms/s, Stable Modulation Index	N/A	A	
45	RF-PHY/RCV/BV-24-C	Maximum input signal level at 2 Ms/s, Stable Modulation Index	N/A	A	
46	RF-PHY/RCV/BV-25-C	PER Report Integrity at 2 Ms/s, Stable Modulation Index	N/A	A	
47	RF-PHY/RCV/BV-26-C	Receiver sensitivity, LE Coded (S=2)	Passed	A	Setup 1
48	RF-PHY/RCV/BV-27-C	Receiver sensitivity, LE Coded (S=8)	Passed	A	Setup 1
49	RF-PHY/RCV/BV-28-C	C/I and Receiver Selectivity Performance, LE Coded (S=2)	Passed	A	Setup 1
50	RF-PHY/RCV/BV-29-C	C/I and Receiver Selectivity Performance, LE Coded (S=8)	Passed	A	Setup 1
51	RF-PHY/RCV/BV-30-C	PER Report Integrity, LE Coded (S=2)	Passed	A	Setup 1
52	RF-PHY/RCV/BV-31-C	PER Report Integrity, LE Coded (S=8)	Passed	A	Setup 1
53	RF-PHY/RCV/BV-32-C	Receiver sensitivity, LE Coded (S=2), Stable Modulation Index	N/A	A	
54	RF-PHY/RCV/BV-33-C	Receiver sensitivity, LE Coded (S=8), Stable Modulation Index	N/A	A	
55	RF-PHY/RCV/BV-34-C	C/I and Receiver Selectivity Performance, LE Coded (S=2), Stable Modulation Index	N/A	A	
56	RF-PHY/RCV/BV-35-C	C/I and Receiver Selectivity Performance, LE Coded (S=8), Stable Modulation Index	N/A	A	
57	RF-PHY/RCV/BV-36-C	PER Report Integrity, LE Coded (S=2), Stable Modulation Index	N/A	A	
58	RF-PHY/RCV/BV-37-C	PER Report Integrity, LE Coded (S=8), Stable Modulation Index	N/A	A	
59	RF-PHY/RCV/IQC/BV-01-C	IQ Samples Coherency, AoD Receiver at 1 Ms/s with 2 µs Slot	N/A	B	
60	RF-PHY/RCV/IQC/BV-02-C	IQ Samples Coherency, AoD Receiver at 1 Ms/s with 1 µs Slot	N/A	B	
61	RF-PHY/RCV/IQC/BV-03-C	IQ Samples Coherency, AoD Receiver at 2 Ms/s with 2 µs Slot	N/A	B	
62	RF-PHY/RCV/IQC/BV-04-C	IQ Samples Coherency, AoD Receiver at 2 Ms/s with 1 µs Slot	N/A	B	
63	RF-PHY/RCV/IQC/BV-05-C	IQ Samples Coherency, AoA Receiver at 1 Ms/s with 2 µs Slot	N/A	B	

64	RF-PHY/RCV/IQC/BV-06-C	IQ Samples Coherency, AoA Receiver at 2 Ms/s with 2 µs Slot	N/A	B	
65	RF-PHY/RCV/IQDR/BV-07-C	IQ Samples Dynamic Range, AoD Receiver at 1 Ms/s with 2 µs Slot	N/A	B	
66	RF-PHY/RCV/IQDR/BV-08-C	IQ Samples Dynamic Range, AoD Receiver at 1 Ms/s with 1 µs Slot	N/A	B	
67	RF-PHY/RCV/IQDR/BV-09-C	IQ Samples Dynamic Range, AoD Receiver at 2 Ms/s with 2 µs Slot	N/A	B	
68	RF-PHY/RCV/IQDR/BV-10-C	IQ Samples Dynamic Range, AoD Receiver at 2 Ms/s with 1 µs Slot	N/A	B	
69	RF-PHY/RCV/IQDR/BV-11-C	IQ Samples Dynamic Range, AoA Receiver at 1 Ms/s with 2 µs Slot	N/A	B	
70	RF-PHY/RCV/IQDR/BV-12-C	IQ Samples Dynamic Range, AoA Receiver at 2 Ms/s with 2 µs Slot	N/A	B	

9. PHOTOS OF EUT



Annex A: Protocol Implementation Conformance Statement (PICS)

Table 1: Bluetooth Low Energy RF-PHY Capabilities

Item	Capability	Status	Support [Yes] or [No]
1	LE Transmitter	C.1	No
2	LE Receiver	C.1	No
3	LE Transceiver	C.1	Yes
4	LE 2M PHY	C.2	Yes
5	Stable Modulation Index - Transmitter	C.3	No
6	Stable Modulation Index - Receiver	C.4	No
7	LE Coded PHY	C.2	Yes
8	Transmitting Constant Tone Extensions	C.3	No
9	2 μs Antenna Switching During Constant Tone Extension Transmission (AoD)	C.5	No
10	1 μs Antenna Switching During Constant Tone Extension Transmission (AoD)	C.6	No
11	2 μs Antenna Sampling During Constant Tone Extension Reception (AoD)	C.4	No
12	2 μs Antenna Switching and Sampling During Constant Tone Extension Reception (AoA)	C.7	No
13	1 μs Antenna Sampling During Constant Tone Extension Reception (AoD)	C.7	No
14	1μs Antenna Switching and Sampling During Constant Tone Extension Reception (AoA)	C.8	No

C.1: Mandatory to support at least one of these capabilities. Note that selecting both RF PHY 1/1 “LE Transmitter” and RF PHY 1/2 “LE Receiver” is equivalent to selecting RF PHY 1/3 “LE Transceiver” and vice versa.
C.2: Excluded IF SUM ICS 21/14 “Core v4.2” is supported, otherwise Optional.
C.3: Excluded IF SUM ICS 21/14 “Core v4.2” is supported, otherwise Optional IF RF PHY 1/1 “LE Transmitter” OR RF PHY 1/3 “LE Transceiver” is supported, otherwise Excluded.
C.4: Excluded IF SUM ICS 21/14 “Core v4.2” is supported, otherwise Optional IF RF PHY 1/2 “LE Receiver” OR RF PHY 1/3 “LE Transceiver” is supported, otherwise Excluded.
C.5: Optional IF RF PHY 1/8 “Transmitting Constant Tone Extensions” is supported, otherwise Excluded.
C.6: Optional IF RF-PHY 1/9 “2 μs Antenna Switching During Constant Tone Extension Transmission (AoD)” is supported, otherwise Excluded.
C.7: Optional IF RF PHY 1/11 “2 μs Antenna Sampling During Constant Tone Extension Reception (AoD)” is supported, otherwise Excluded.
C.8: Mandatory IF RF PHY 1/12 “2 μs Antenna Switching and Sampling During Constant Tone Extension Reception (AoA)” and RF/PHY 1/13 “1 μs Antenna Sampling During Constant Tone Extension Reception (AoD)” are supported, otherwise Excluded.

Table 2：Bluetooth LE Test Interface Capabilities

Item	Capability	Status	Support [Yes] or [No]
1	HCI Test Interface	C.1	No
2	UART Test Interface	C.1	Yes

C.1: At least one of the capabilities shall be supported

Annex B: Protocol Implementation Extra Information for Testing (PIXIT)

PIXIT Reference	Identifier	Sub-Identifier (Optional)	Value	Units
RF-PHY:P1:1	In band Image frequency	Low frequency	3	MHz
RF-PHY:P1:2		Middle frequency	3	MHz
RF-PHY:P1:3		High frequency	3	MHz
RF-PHY:P2:1	Value n for Intermodulation test	Low frequency	5	Integer
RF-PHY:P2:2		Middle frequency	5	Integer
RF-PHY:P2:3		High frequency	5	Integer
RF-PHY:P4	Power source voltage	Nominal (NOC)	3.3	V
RF-PHY:P5	Operating temperature	Nominal (NOC)	24.3	°C
RF-PHY:P6:1	Operating air humidity range (relative)	Maximum	75	%
RF-PHY:P6:2		Minimum	20	%
RF-PHY:P6:3	Air humidity level for NOC tests	Normal	54.2	%
RF-PHY:P7:1	Test interface implementation	HCI or 2-wire UART	UART	N/A
RF-PHY:P7:2		Data rate	115200	bps
RF-PHY:P9:1	Maximum TX packet length (MAX_TX_LENGTH)	(37 ~ 255)	244	Bytes
RF-PHY:P9:2	Maximum RX packet length (MAX_RX_LENGTH)	(37 ~ 255)	244	Bytes
RF-PHY:P9:3	Maximum TX packet length (MAX_TX_LENGTH) 2M	(37 ~ 255)	244	Bytes
RF-PHY:P9:4	Maximum TX packet length (MAX_TX_LENGTH) S=2	(37 ~ 255)	244	Bytes
RF-PHY:P9:5	Maximum TX packet length (MAX_TX_LENGTH) S=8	(37 ~ 255)	244	Bytes
RF-PHY:P9:6	Maximum RX packet length (MAX_RX_LENGTH) 2M	(37 ~ 255)	244	Bytes
RF-PHY:P9:7	Maximum RX packet length (MAX_RX_LENGTH) S=2	(37 ~ 255)	244	Bytes
RF-PHY:P9:8	Maximum RX packet length (MAX_RX_LENGTH) S=8	(37 ~ 255)	244	Bytes
RF-PHY:P10:1	Maximum TX mode output power	-20 to 10 (w/o CSA5) -20 to 20 (w CSA5)	<10	dBm
RF-PHY:11:1	Inband Image Frequency (2Ms/s)	Low frequency	3	MHz
RF-PHY:11:2		Middle frequency	3	MHz

RF-PHY:11:3		High frequency	3	MHz
RF-PHY:12:1	Value n for Intermodulation test (2Ms/s)	Low frequency	5	Integer
RF-PHY:12:2		Middle frequency	5	Integer
RF-PHY:12:3		High frequency	5	Integer
RF-PHY:13:1	Inband Image Frequency (Stable Modulation Receiver)	Low frequency	N/A	MHz
RF-PHY:13:2		Middle frequency	N/A	MHz
RF-PHY:13:3		High frequency	N/A	MHz
RF-PHY:14:1	Value n for Intermodulation test (Stable Modulation Receiver)	Low frequency	N/A	Integer
RF-PHY:14:2		Middle frequency	N/A	Integer
RF-PHY:14:3		High frequency	N/A	Integer
RF-PHY:15:1	Inband Image Frequency (Stable Modulation Receiver, 2Ms/s)	Low frequency	N/A	MHz
RF-PHY:15:2		Middle frequency	N/A	MHz
RF-PHY:15:3		High frequency	N/A	MHz
RF-PHY:16:1	Value n for Intermodulation test (Stable Modulation Receiver, 2Ms/s)	Low frequency	N/A	Integer
RF-PHY:16:2		Middle frequency	N/A	Integer
RF-PHY:16:3		High frequency	N/A	Integer
RF-PHY:17	IQ Report Rate (N)	(0x0006 ~ 0xFFFF), Interval = N * 1.25ms	N/A	N/A
RF-PHY:18	The length of the Constant Tone Extension(1Ms/s)	(16 ~ 160)	N/A	bits
RF-PHY:19	The length of the Constant Tone Extension(2Ms/s)	(32 ~ 320)	N/A	bits
RF-PHY:20	The number of antennae	(≥1)	N/A	N/A

Conditions of Issuance of Test Reports

1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the "Clients").

2. Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.

3.The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.

4. The non-CMA report issued by AGC is only permitted to be used by the client as internal reference use and shall not be used for public demonstration purpose.

5. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.

6. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.

7. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.

8.Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.

9. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.

10. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.