

JAPAN TBL TEST REPORT

BLUETOOTH

Applicant : HTC Corporation

Product Name : VIVE Headset

Model Name : 2Q27200

Applicant : HTC Corporation
88 Section 3, Zhongxing Road, Xindian District,
New Taipei City 231, Taiwan

Manufacturer : HTC Corporation
88 Section 3, Zhongxing Road, Xindian District,
New Taipei City 231, Taiwan

Type Emissions : 78M1F1D(BR);
78M7G1D(EDR);
19M6F1D(BR_AFH);
1M04F1D(LE)

Declaration : 0.2 mW/MHz (BR);
Output Power : 0.2 mW/MHz (EDR);
0.8 mW/MHz (BR_AFH);
5 mW (LE)

Standard : Ordinance Concerning Terminal Facilities etc.
(MPT (Ministry of Posts and
Telecommunications) No.31 of April 1, 1985)
and relevant notices



The product sample received on Apr. 19, 2018 and testing was started from Apr. 23, 2018 and completed on May 21, 2018. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in Ordinance Concerning Terminal Facilities etc. (MPT (Ministry of Posts and Telecommunications) No.31 of April 1, 1985) and relevant notices and shown to be compliant with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Reviewed by: Jones Tsai

SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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Summary of Test Result

Report Clause	Test Items	Result (PASS/FAIL)
3.1	Article 3 - Network-Terminal Demarcation	Pass
3.2	Article 4 - Prohibition of Leaked Signal Detection	N/A
3.3	Article 6 - Insulation Resistance, etc.	Pass
3.4	Article 7 - Prevention of the occurrence of excessive acoustic shock	N/A
3.5	Article 9 - Terminal Equipment That Use Radio Wave	Pass

Reviewed by: Louis Wu

Report Producer: Wii Chang

1 General Description

1.1 Feature of Equipment Under Test

Product Feature & Specification		
Product Name	VIVE Headset	
Model Name	2Q27200	
Support Category / Frequency Range	Article 2-1-19 / 2400MHz ~ 2483.5MHz	
Type of Modulation	<input type="checkbox"/> Direct Spreading (DS) <input type="checkbox"/> Orthogonal frequency-division multiplexing (OFDM) <input checked="" type="checkbox"/> Frequency Hopping (FH) <input checked="" type="checkbox"/> Other :GFSK	
Declaration Output Power	0.2 mW/MHz (2.4GHz_BT_BR) ; 0.2 mW/MHz (2.4GHz_BT_EDR) ; 0.8 mW/MHz (2.4GHz_BT_BR_AFH) ; 5 mW (2.4GHz_BT_LE)	
Power Source	<input checked="" type="checkbox"/> Commercial power	AC 100 ~ 240V
	<input checked="" type="checkbox"/> External Power Source	DC 12V, 1.25A DC 9.0V, 1.7A DC 5.0V, 2.5A
	<input checked="" type="checkbox"/> Lithium battery	DC 3.85V, 4000mAh
	<input type="checkbox"/> UM battery	DC 1.5V

NOTE:An AC Charger is not provided by manufacturer during testing.

Antenna Information		
Main Antenna	Antenna Type : Dipole	Antenna Gain : -5 dBi

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.2 Modification of EUT

No modifications are made to the EUT during all test items.

1.3 Testing Site

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978
Test Site No.	Sporton Site No.: TH02-HY

Test Items	Uncertainty	Remark
Insulation Resistance	+/- 9.0mΩ/Ω	Confidence 95%
Temperature	+/- 0.7 degree	Confidence 95%
Humidity	+/- 3.2 %	Confidence 95%

1.4 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ◆ Ordinance Concerning Terminal Facilities etc. (MPT (Ministry of Posts and Telecommunications) No.31 of April 1, 1985) and relevant notices
 - Annex.1 of MIC Notification No.99 "2.Insulation Resistance,etc"[Wired]
 - Annex.2 of MIC Notification No.99 "1.Insulation Resistance,etc"[Wireless]
 - Annex.1 of MIC Notification No.99 "4-3.Terminal Equipment using Radio wave Internally"
- ◆ MIC (Ministry of Internal Affairs and Communications) Notification No.99 of January 26, 2004

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

1.5 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	JRL Certification	TBL Certification	Note
1.	Notebook	Lenovo	TP00034A	007WWCUL0700	D11-5003 201	

2 Test Configuration of Equipment Under Test

2.1 Carrier Frequency Channel

Support Band	Channel (LE Channel)	Frequency (MHz)	Channel (LE Channel)	Frequency (MHz)	Channel (LE Channel)	Frequency (MHz)
2.4GHz	0 (0)	2402	27	2429	54 (27)	2456
	1	2403	28 (14)	2430	55	2457
	2 (1)	2404	29	2431	56 (28)	2458
	3	2405	30 (15)	2432	57	2459
	4 (2)	2406	31	2433	58 (29)	2460
	5	2407	32 (16)	2434	59	2461
	6 (3)	2408	33	2435	60 (30)	2462
	7	2409	34 (17)	2436	61	2463
	8 (4)	2410	35	2437	62 (31)	2464
	9	2411	36 (18)	2438	63	2465
	10 (5)	2412	37	2439	64 (32)	2466
	11	2413	38 (19)	2440	65	2467
	12 (6)	2414	39	2441	66 (33)	2468
	13	2415	40 (20)	2442	67	2469
	14 (7)	2416	41	2443	68 (34)	2470
	15	2417	42 (21)	2444	69	2471
	16 (8)	2418	43	2445	70 (35)	2472
	17	2419	44 (22)	2446	71	2473
	18 (9)	2420	45	2447	72 (36)	2474
	19	2421	46 (23)	2448	73	2475
	20 (10)	2422	47	2449	74 (37)	2476
	21	2423	48 (24)	2450	75	2477
	22 (11)	2424	49	2451	76 (38)	2478
	23	2425	50 (25)	2452	77	2479
	24 (12)	2426	51	2453	78 (39)	2480
	25	2427	52 (26)	2454	-	-
26 (13)	2428	53	2455	-	-	

2.2 EUT Operation Test Setup

The equipment under test (EUT) was linked with Bluetooth simulator in order to make the EUT into the engineering modes for transmitting, receiving signals continuously, and hopping mode.

3 Test Result

3.1 Article 3 - Network-Terminal Demarcation

3.1.1 Description

Article 3

Terminal facilities connected by a user (hereinafter terminal facilities) shall have a demarcation point between the terminal facilities and the telecommunication facilities for telecommunications business, to clarify the demarcation of responsibility between the terminal facilities and the telecommunications facilities for telecommunications business.

2. The connection method at the demarcation point shall enable easy detachment of the terminal facilities from the telecommunication facilities for telecommunications business for each telecommunication circuit.

3.1.2 Test Result and Report

Please refer to Appendix B.



3.2 Article 4 - Prohibition of Leaked Signal Detection

3.2.1 Description

Article 4

Terminal facilities shall not have functions for the intentional discrimination of the content of communications leaked from the telecommunications facilities used for telecommunications business.

3.2.2 Test Result and Report

Please refer to Appendix B.

3.3 Article 6 - Insulation Resistance, etc.

3.3.1 Description

Article 6

Equipment in terminal facilities shall meet the following insulation resistance and dielectric strength between its power circuit and its box, and between its circuits and the telecommunications facilities for telecommunications business.

- (1) Insulation resistance shall be $0.2\text{ M}\Omega$ or greater when the service voltage is 300 V or less, and shall be $0.4\text{ M}\Omega$ or greater when the service voltage is greater than 300 V_{DC} and 750 V_{DC} less than or less, and when the service voltage is greater than 300 V_{AC} and less than 600 V_{AC} or less.
 - (2) Dielectric strength shall be sufficient to endure 1.5 times the service voltage (in case of greater than 750 VDC and 600 VAC) applied continuously to the equipment for 10 minutes.
2. The metallic base and housing of equipment in terminal facilities shall be securely earth grounded to establish an earth resistance of 100 or less. However, where they are established safely, this requirement shall not be applied.

3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Measuring method

<input checked="" type="checkbox"/> Measured by measuring methods specified in MIC ministerial notice
<input type="checkbox"/> Measured by more suitable measuring method than those being specified in the MIC Ministerial notice, and describe following items in sheets attached 1) Measuring Circuit, 2) Measuring method

3.3.4 Test Result and Report

Please refer to Appendix B.



3.4 Article 7 - Prevention of the occurrence of excessive acoustic shock

3.4.1 Description

Article 7

Terminal facilities with a voice communication feature shall have a function that prevents the occurrence of excessive acoustic shock in a telephone receiver while being used for conversation.

3.4.2 Test Result and Report

Please refer to Appendix B.

3.5 Article 9 - Terminal Equipment That Use Radio Wave

3.5.1 Description

Article 9

Terminal equipment using electrical wave between constituent parts of terminal facilities itself, shall conform to the requirements show in each of following paragraphs.

- (1) The equipment shall have an identification code (code used to identify radio facilities used as terminal facilities; collation of this code is done before a communication channel is established) confirming to the requirements stated in the separately shown notification by Minister of Posts and Telecommunications.
- (2) Whether a radio wave frequency to be used is in vacant is judged according to the separately shown notification by the Minister of Posts and Telecommunications. A communication channel shall be established only when that radio frequency is vacant. Frequencies, however, that are listed in the separately shown notification by the Minister of Posts and Telecommunications, are exempt from this provision.
- (3) The radio facility should be enclosed in one chassis which is not easily opened. However, an exception applies where the MPHPT prescribes otherwise.

3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Measuring method

<input checked="" type="checkbox"/> Measured by measuring methods specified in MIC ministerial notice
<input type="checkbox"/> Measured by more suitable measuring method than those being specified in the MIC Ministerial notice, and describe following items in sheets attached 1) Measuring Circuit, 2) Measuring method

(1) Verify the identifying code output

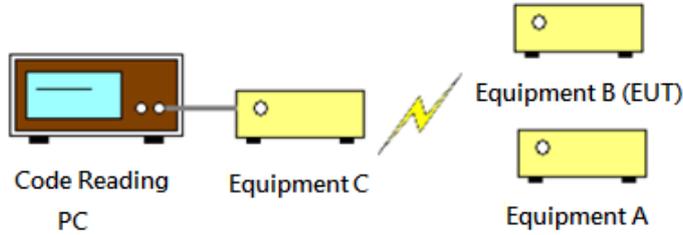
1. Set the equipment C frequency to the ones for the equipment A and B/the EUT's communication frequency.
2. Establish a communication path between the equipment A and B/the EUT.
3. Print out its result of the code reading PC as the identifying code of the equipment A being emitted and received by the equipment C.
Note: Code reading PC can be connected to the equipment B/the EUT.
4. Prepare the equipment B/the EUT whose ID matches with the equipment C and the equipment A whose ID doesn't match with the equipment C.
5. Verify that a communication path can be established between the equipment C and the equipment B/the EUT, but not between C and A.

(2) Recognizing the frequency of the radio wave being open

1. Carrier Sensing Method
 - i. Turn 3 channels on, other than the frequency being used by the EUT A, using the multiple channel signal emitter.
 - ii. Verify that a communication path can be established between the EUT A.
 - iii. Verify that a communication path cannot be established when an interfering signal exceeding 100mV/m is generated at the channel EUT A use, using the standard signal emitter.
 - iv. Switch the EUT A and B, and repeat the procedure described above, in (iii).
2. Correlating Signal Sensing Method
 - i. Emit a radio wave from the EUT A and verify its level using the spectrum analyser.
 - ii. Emit a radio wave from the EUT B, with its frequency fixed to one particular band.
Adjust the variable attenuator so it will distinguish the emission level of the device from the one of the EUT.
 - iii. Turn off the EUT B, have the applying equipment emit a radio wave which includes the frequency of the device.
 - iv. Turn off the radio wave of the EUT A, have the device emit a radio wave and then put the applying equipment in the emission mode.
 - v. Verify using the spectrum analyser that the applying equipment avoids the frequency of the device while emitting a radio wave.
3. Verifies the normal conditions of a communication path
 - i. A communication path is established between the EUT and base station simulator.
 - ii. Decrease the signal level of base station simulator.
 - iii. Verify that a communication path cannot be established between the EUT and simulator.

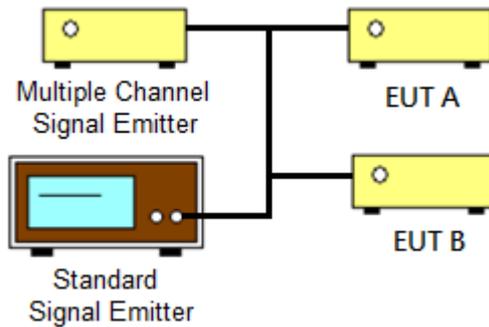
3.5.4 Test Setup

- (1) Verify the identifying code output

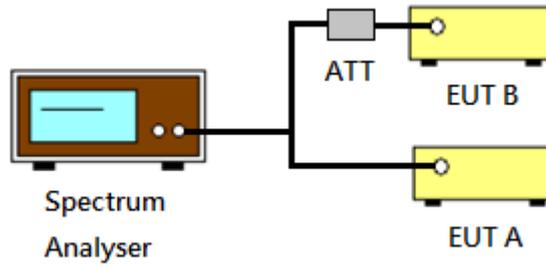


- (2) Recognizing the frequency of the radio wave being open

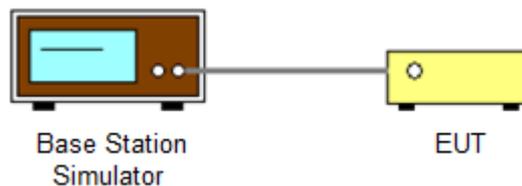
1. Carrier Sensing Method



2. Correlating Signal Sensing



3. Verifies the normal conditions of a communication path



3.5.5 Test Result and Report

Please refer to Appendix B.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Test Periods	Due Date	Calibration Body	Calibration Method
BT Base Station	Rohde & Schwarz	CBT	101136	Sep. 20, 2017	Apr. 23, 2018~ May 21, 2018	Sep. 19, 2018	ETC , R.O.C	C
Digital Insulation Tester	Yokogawa	MY40-01	88NA2869	Aug. 30, 2017	Apr. 23, 2018~ May 21, 2018	Aug. 29, 2018	ETC , R.O.C	C

Note: Above test equipment was used and kept valid calibration period during test.

Calibration Method :

a) : Calibration conducted by the National Institute of Information and Communications Technology~
NICT~ or a designated calibration agency under Article 102-18 paragraph

(1) TELEC Engineering Center, Intertek Japan K.K., Keysight Technologies, Inc~.

b) : Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992)~Japan Calibration Service System~

c) : Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph

(1)~ TELEC Engineering Center, Intertek Japan K.K., Keysight Technologies, Inc~.

Appendix A. Setup Photographs

Front View



Near View



Appendix B. Test Result and Report

Information of Testing Environment			
Temperature	23~25 °C	Humidity	50`55 %
		Test Engineer	Ethan Lin

B.1. Article 3 - Network-Terminal Demarcation

1. Mark how to connect between a terminal facility and EUT.

<input type="checkbox"/>	Line Connector, Kind of a connector : RJ-45
<input type="checkbox"/>	Screw onto terminal strip
<input type="checkbox"/>	F-connector
<input type="checkbox"/>	Radio Wave
<input checked="" type="checkbox"/>	By certified equipment placed in front
<input type="checkbox"/>	Other :

2. Mark method for separating the EUT from the terminal facility.

<input type="checkbox"/>	Line can be separated easily by pulling connector plug out from jack.
<input type="checkbox"/>	Line can be separated easily by unscrewing screw on terminal strip.
<input type="checkbox"/>	Line can be separated easily by unscrewing a lock nut and pulling a F-connector plug out from jack.
<input type="checkbox"/>	The communication method is wireless, and line can be separated easily by turn off the power of EUT.
<input type="checkbox"/>	The communication method is wireless, and line can be separated easily by disabling the wireless function of EUT. The method for disabling the wireless function: Enable an Airplane mode
<input checked="" type="checkbox"/>	By certified equipment placed in front
<input type="checkbox"/>	Other :

B.2. Article 4 - Prohibition of Leaked Signal Detection

1. Does EUT have a function that can detect the leaked signals?

<input type="checkbox"/>	Yes
<input checked="" type="checkbox"/>	No

2. Does EUT have a function that amplify the line signal received from the communication line?

<input type="checkbox"/> Yes
<input checked="" type="checkbox"/> No

B.3. Article 6 - Insulation Resistance, etc.

1. Power Source

a. Applicable Power Source

Input Voltage	Applicable power source
<input checked="" type="checkbox"/> AC 100 ~ 240 V	Commercial power
<input checked="" type="checkbox"/> DC 12.0 V DC 9.0 V DC 5.0 V	External Power Source device
<input checked="" type="checkbox"/> DC 3.85 V	Lithium battery
<input type="checkbox"/> DC 1.2 V	UM battery

b. Insulation resistance

Measuring Voltage	Condition	Resistance (ohm)
<input checked="" type="checkbox"/> DC 500 V	Power_L1 to Housing	> 2000M
	Power_L2 to Housing	> 2000M
<input type="checkbox"/> EUT is never connected with the external power supply.		N/A
<input type="checkbox"/> Power source is less than 30V		
<input type="checkbox"/> Power source is from central office.		

2. Ground Part

Measuring Voltage	Condition	Resistance (ohm)
<input type="checkbox"/> DC 500 V	Ground to Housing	N/A
	Ground to Metallic Surface	N/A
<input checked="" type="checkbox"/> EUT does not possess ground port	<input checked="" type="checkbox"/> Because Chassis of synthetic resin (isolator)	N/A
	<input type="checkbox"/> Isolated power source of 30V or less	
	<input type="checkbox"/> Other :	

B.4. Article 7 - Prevention of the occurrence of excessive acoustic shock

1. Does EUT have a receiver, or interfaces such as earphone and headset jack?

<input type="checkbox"/> Yes – go to Item 2
<input checked="" type="checkbox"/> No

2. Please select the reason why EUT prevents the occurrence of excessive acoustic shock.

<input type="checkbox"/> The maximum level of the volume is limited by D/A converter.
<input type="checkbox"/> It is prevented using speech IC saturation properties.
<input type="checkbox"/> It is prevented with a varistor.
<input type="checkbox"/> It is prevented with a zener diode.
<input type="checkbox"/> Other :

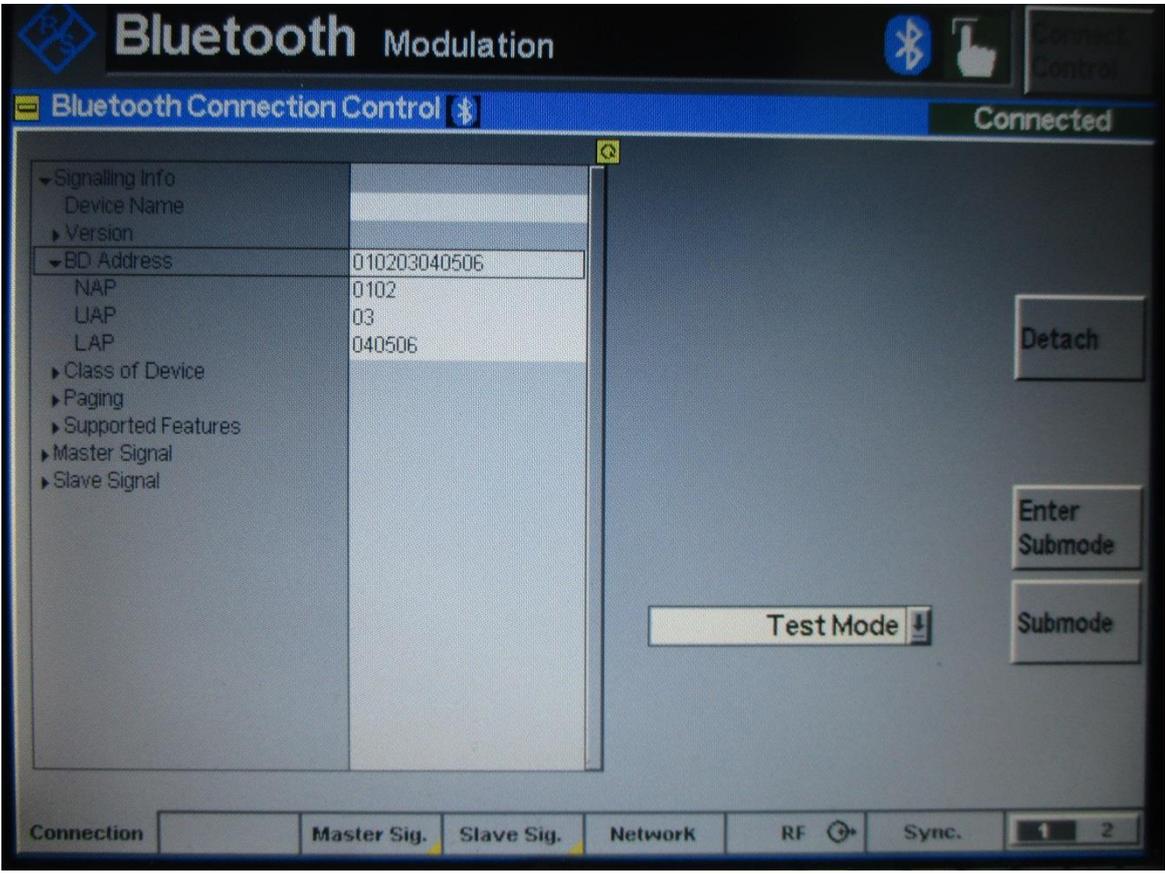
B.5. Article 9 - Terminal Equipment That Use Radio Wave

1. Identifying Code Length

<input type="checkbox"/> Above 19bit
<input type="checkbox"/> 25bit
<input type="checkbox"/> 28bit
<input type="checkbox"/> 29bit
<input checked="" type="checkbox"/> 48bit

a. Indicate the overall structure of the identifying code (ID code).

Category	MAC Address
Article 2-1-19	01:02:03:04:05:06



The screenshot shows the 'Bluetooth Modulation' software interface. The title bar reads 'Bluetooth Modulation' with a Bluetooth icon and a 'Connected' status indicator. Below the title bar is a 'Bluetooth Connection Control' panel with a Bluetooth icon and a 'Connected' label. The main area displays a tree view of signaling information:

- ▼ Signalling Info
 - Device Name
 - ▶ Version
 - ▼ BD Address: 010203040506
 - NAP: 0102
 - LIAP: 03
 - LAP: 040506
 - ▶ Class of Device
 - ▶ Paging
 - ▶ Supported Features
 - ▶ Master Signal
 - ▶ Slave Signal

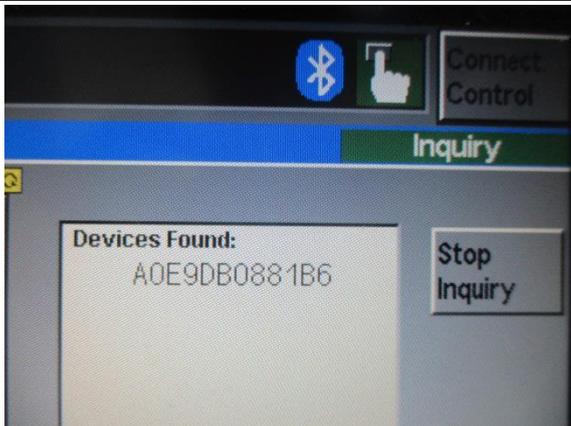
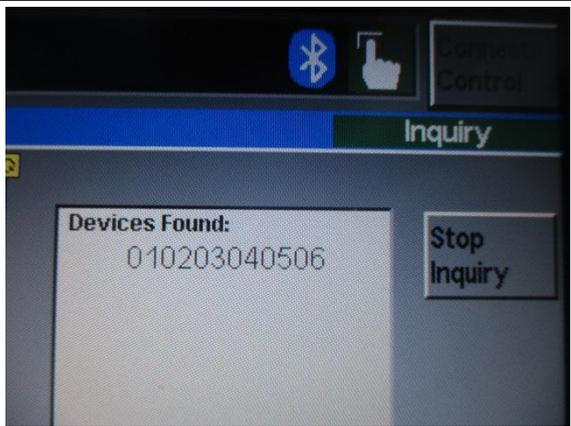
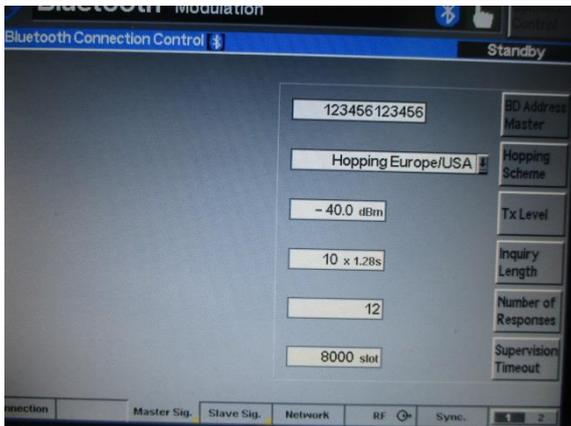
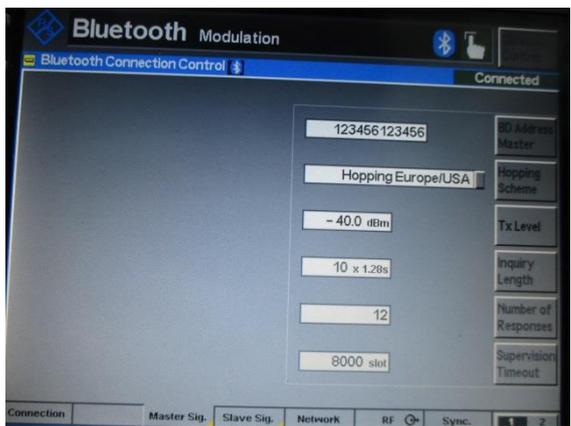
On the right side of the interface, there are buttons for 'Detach', 'Enter Submode', and 'Submode'. A 'Test Mode' dropdown menu is also visible. At the bottom, there is a status bar with indicators for 'Connection', 'Master Sig.', 'Slave Sig.', 'Network', 'RF', and 'Sync.', along with a numeric display showing '1' and '2'.

b. Verify the identifying code output

<input checked="" type="checkbox"/> A communication path is set/not set where the identifying code matches/does not match.
<input type="checkbox"/> Other :

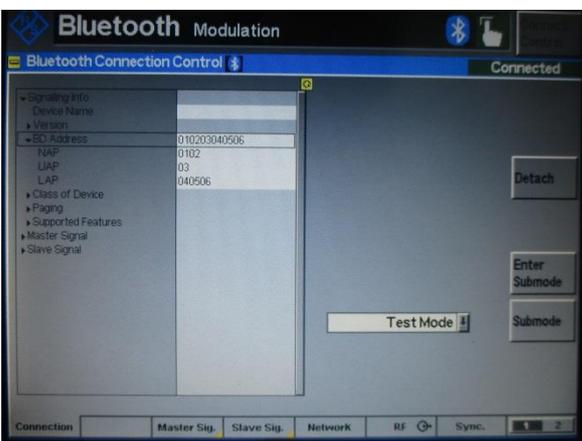
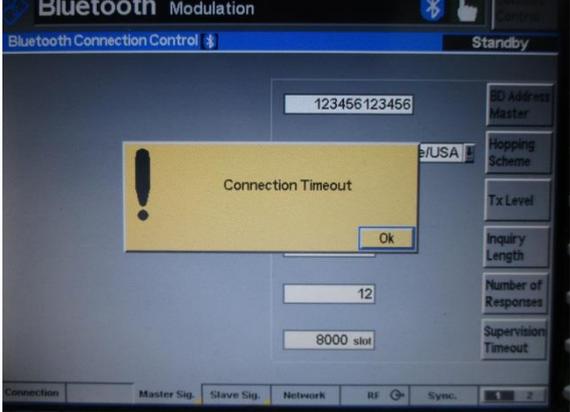
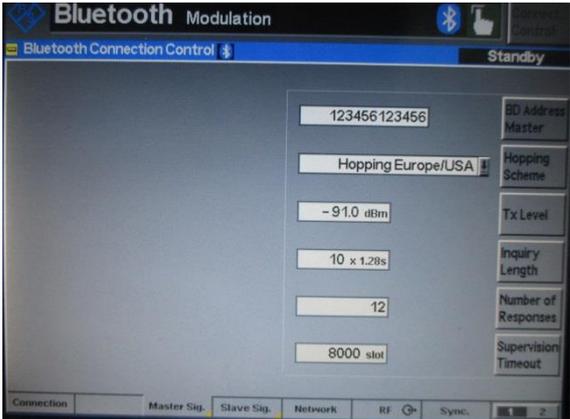
Equipment	MAC Address	Connected with the equipment C
A	A0:E9:DB:08:81:B6	NO
B/EUT	01:02:03:04:05:06	YES

a. Measurement Result

A	B/EUT
	
	

2. Recognizing the frequency of the radio wave being open

- Detects the signal level by calculating receiving and diffusing signals (Correlating Signal Sensing Method).
 - EUT A emitted a radio wave which includes the frequency of the EUT B while such a device was not in emission.
 - EUT A emitted a radio wave and avoided the frequency of the EUT B while such a device was in emission.
- Verifies the normal conditions of a communication path where a terminating function in case of the deteriorating communication exists.

Connected	Disconnected
	
	<p>Master Signal level = -91 dBm</p>
	

3. The radio facility should be enclosed in one chassis which is not easily opened. However, an exception applies where the MIC prescribes otherwise

<input type="checkbox"/>	Sealed with special screws.
<input type="checkbox"/>	Plastic chassis is being welded using ultrasonic waves.
<input type="checkbox"/>	Chassis is glued using a special adhesive.
<input type="checkbox"/>	Metal covers are spot-fused.
<input type="checkbox"/>	Cover is specially interlocked.
<input checked="" type="checkbox"/>	RF and Modulation components are covered with shielding case and this shielding case is soldered.
<input type="checkbox"/>	Shield case is welded at RF and modulation parts, and ID-ROM is welded using the BGA Method.
<input type="checkbox"/>	Shield case is welded at RF and modulation parts, and ID-ROM is glued at its lead with a special adhesive.
<input type="checkbox"/>	Shield case is welded at RF and modulation parts, and ID-ROM is glued with a non-transparent laminating agent.
<input type="checkbox"/>	Other :

